

MEMORANDUM

TO: Mayor and City Council

FROM: Faye Stewart, Public Works & Development Director

SUBJECT: APPROVAL OF WEST YOST TASK WORK ORDER 2023-1
FOR ENGINEERING SERVICES FOR COTTAGE GROVE
WATER RECLAMATION FACILITY BIO SOLIDS 30%
DESIGN DOCUMENTS

DATE: January 4, 2023

Background

Currently the Cottage Grove Water Reclamation Facility contracts with Heard Farms Inc. to haul and reprocess the bio solids generated at the facility. Approximately 175 dry tons of bio solids are generated each year and the City pays approximately \$80,000 to Heard Farms Inc. for additional processing.

Over the past 4 years City staff has researched options for drying the bio solids at the Water Reclamation Facility creating a Class "A" product that can be used as fertilizer. Centrisys CNP has a program that they will design, install, maintain, and provide a lease to own or purchase option for the equipment necessary to dry the City's bio solids. It is possible that the savings in energy, chemical, and current solids treatment costs will fund the debt or lease payments for the new equipment. West Yost (City Engineer of Record) has proposed a task work order for preliminary design of the solids project creating 30% design documents. The 30% design documents will be used by Centrisys to complete documents necessary to design and install new solids drying equipment.

The proposed new equipment will replace the current solids belt press, chemical thickener, and digesters allowing the solids to go directly from the clarifiers into the new drying equipment. Both the belt press and thickener are at the end of their useful life and replacement parts have limited availability. The City purchased both the belt press and thickener used in 2005 and have been in operation since 2009.

The new drying equipment will reduce energy consumption and chemical use. The dried solids will be used at Middlefield Golf Course, City Parks and Facilities reducing the purchase of fertilizer. The proposed dryer is a large composter that utilizes heat from the composting process for 75% of the drying process and Natural Gas to generate the final amount of heat necessary to dry the solids to a Class "A" product.

The proposal from West Yost is for \$161,353 with a completion date for preliminary design in July of 2023. West Yost will seek DEQ approval of the facility changes for drying the solids that will be necessary to the City's current approved operating/discharge permit.


Recommendation

City Council move to approve Task Work Order 2022-3 for the proposal from West Yost for engineering services to develop 30% design documents for the Cottage Grove Water Reclamation Facility's Solids Project in the amount of \$161,353 and authorize the City Manager to sign the Task Work Order.

Cost

The cost of the proposal is not-to-exceed \$161,353 and will be paid by the Wastewater Reserve Fund. This project was listed and approved in the 2022-2023 adopted City budget.


Richard Meyers, City Manager


Faye Stewart, Public Works &
Development Director

Task Order No. 2023-1
City of Cottage Grove
WRF Solids Preliminary Design

Dated: October 18, 2022

In accordance with the City Engineering Services Contract entered into between City of Cottage Grove (City) and West Yost (Engineer), dated March 7, 2022 (Contract), Engineer is authorized to complete the scope of work defined in this Task Order according to the schedule and budget defined herein.

SCOPE OF WORK

The scope of work includes: Engineering Services for Preliminary Design for the Cottage Grove Water Reclamation Facility Solids Project.

BUDGET

The costs for Engineer's services as defined herein, including reimbursables, shall not exceed \$161,353.00.

COMPENSATION

Compensation shall be paid in accordance with Section 3 of the Contract and the Engineer's Schedule of Rate and Charges attached to the Contract as Exhibit E.

In accordance with Section 2.3 of the Contract, if additional funds are required to complete the services defined herein beyond the limit set above, Engineer shall notify City in writing prior to reaching the authorized limit, and will not proceed with work in excess of the limit without the prior written approval of City.

SCHEDULE

Work shall be initiated immediately upon issuance of this Task Order and the Final Design completed July 31, 2023.

TERMS AND CONDITIONS

All work under this Task Order is governed by the terms and conditions of the Contract, unless otherwise specifically set forth herein.

Approved by:

Richard Meyers, City Manager



5 Centerpointe Drive
Suite 130
Lake Oswego OR 97035

503.451.4500 phone
530.756.5991 fax
westyost.com

October 18, 2022

SENT VIA: EMAIL

Mr. Faye Stewart
Public Works Director
400 East Main Street
Cottage Grove, OR 97424

SUBJECT: Proposal for Preliminary Design Engineering Services for Cottage Grove Wastewater Treatment Plant Solids Project Preliminary Design

Dear Faye:

This letter proposal summarizes West Yost's proposed design team, scope of services, budget, and schedule for providing preliminary design on the City of Cottage Grove's (City) wastewater treatment plant (WWTP) Solids Project. The project scope includes the installation of solids pumping, dewatering centrifuge, and solids dryer in the existing Solids Building at the WWTP.

West Yost previously submitted a proposal for this project in October 2021. The proposed scope of work in the previous proposal was to carry the design to approximately 10% completion. Due to the vendor coordination needs and reuse of an existing building, West Yost recommends carrying preliminary design to 30% completion in order to fully scope the vendor-supplied packages and identify any potential building modification or other needs associated with the project.

DESIGN TEAM

West Yost's team includes:

- Corie Moolenkamp (West Yost) – Principal-in-Charge
- Mel Damewood (West Yost) – City Engineer Coordination
- Preston Van Meter (West Yost) – Project Manager
- Walt Meyer (West Yost) – QA/QC, Technical Adviser
- Ace Engineers – Structural
- Strongwork Architecture – Architect
- Landis Consulting – Electrical, Instrumentation and Controls (EI&C)
- Interface Engineering – HVAC

SCOPE OF SERVICES

The Scope of Services is included in Attachment A and includes the following tasks:

- Task 1. Project Management
- Task 2. Preliminary Design

PROJECT BUDGET

West Yost's proposed level of effort and budget for each of the tasks described above is summarized in Table 1 and in Attachment B. West Yost will perform the Scope of Services described above on a time-and-expenses basis, with a not-to-exceed budget of **\$161,353**.

Any additional services not included in this Scope of Services will be performed only after receiving written authorization and a corresponding budget augmentation.

Table 1. Estimated Project Budget	
Task	Budget, \$
Task 1. Project Management	\$19,206
Task 2. Preliminary Design	\$142,147
Total Project Budget	\$161,353

SCHEDULE

West Yost team anticipates completing the project within the following key milestone dates:

- Project Start: January 3, 2023
- Project Kickoff Meeting: January 17, 2022
- Task 2 Preliminary Design: January to July 2023

Thank you for providing West Yost the opportunity to be of continued service to the City. We look forward to working with you on this important project. Please call, 503.784.9536, if you have any questions or require additional information.

Sincerely,
WEST YOST



Corie Moolenkamp, PE
Principal-in-Charge
RCE #73588



Preston Van Meter, PE
Principal Engineer
RCE #51615PE

Attachment(s): Scope of Services and Budget



Attachment A

Scope of Services

Attachment A

Scope of Services

The Scope of Services includes the following key task, which are further described below:

- Task 1. Project Management
- Task 2. Preliminary Design

Task 1. Project Management

Project management includes coordination of West Yost’s internal team and subconsultants, quality assurance and quality control (QA/QC) activities, and preparation of monthly project updates and invoices.

Task 1.01. Contracts and Project Management Plan (PMP)

Coordinate with the City to finalize contracts for West Yost and our subconsultants. Prepare a Project Management Plan to guide the completion of the project, summarizing team coordination activities, reporting requirements, project scope, key schedule milestones, staffing plan, contingency planning for unforeseen changes in project scope, and other related project elements.

Task 1.02. Monthly Project Status Reports and Invoices

Prepare monthly project updates, including a summary of project status, monthly invoice for services performed, earned value analysis (EVA) assessing project completion versus budget used, key upcoming project milestones, and any anticipated issues that may impact project budget or schedule.

Task 1.03. Team Coordination Activities

West Yost’s Project Manager and key team members will conduct monthly project check-in conference calls with the City staff to review progress compared with schedule milestones, confirm timing for upcoming meetings and site visits, review current budget status, discuss outstanding issues or requests for information, and items related to overall project progress. For budgetary purposes, monthly check-in conference calls will be attended by West Yost’s Project Manager, QC Lead and Project Engineer.

West Yost’s full design team will also conduct bi-monthly design team conference calls to discuss preliminary design progress, coordinate discipline design efforts and keep the project on schedule and budget. For budgeting purposes, six 30-minute design team conference calls are included.

Task 1 Assumptions

- The project duration is anticipated to be 7 months, therefore 7 monthly project progress reports and invoices are budgeted. Action items from monthly project check-in conference calls with the City will be sent to attendees via email.
- Action items from bi-weekly design team project check-in conference calls will be recorded and maintained in an action item log shared with the design team via Microsoft Teams.

Task 1 Deliverables

- One electronic (PDF) copy of monthly progress reports with invoices.
- One electronic (email) copy of meeting summaries and action items from monthly project check-in conference calls with the City.

Task 2. Preliminary Design

The preliminary design will evaluate the existing system and infrastructure to determine the existing conditions, assess process requirements, and identify recommended solutions to provide the process, mechanical, structural, electrical, and controls improvements required for solids dewatering and loadout upgrades along with the addition of cake drying. The results will be detailed within a Preliminary Design Report that will carry the design to approximately 30% completion.

Task 2.01. Collect and Review Background Information

Background information needed to complete the preliminary design will be collected and reviewed prior to the Project Kickoff Meeting. If during the review, it is found that any other information is required, a Request for Information log will be developed and submitted to the City.

Task 2.02. Project Kickoff Meeting

West Yost will conduct a Project Kickoff Meeting with key project team members from the City and West Yost. The project kickoff meeting will discuss the overall project scope and schedule, identify communication channels, and review major steps needed for successful completion of the project. Attendees at the Project Kickoff Meeting will include West Yost's Project Manager, Project Engineer, Electrical Lead and Structural Lead.

Task 2.03. Develop Design Standards and Criteria

The Project discipline standards and criteria will be defined based upon code, regulatory, and permitting requirements and City staff operation and maintenance (O&M) input. This O&M input will be solicited from the City during the Project Kickoff Meeting.

Task 2.04. Unit Process Sizing and Vendor Coordination

Unit process sizing will be performed based upon plant solids projection over a 20-year horizon and the historical solids treatment performance. The 20-year solids projections and historical solids treatment performance data will be developed from DMRs and additional information provided by the City. The unit process sizing will be coordinated with vendors for the proper equipment selection to meet the project goals and needs. The unit processes are limited to sludge pump, solids building odor control, solids dewatering, cake conveyance, cake drying, and dried product conveyance and loadout.

Task 2.05. Preliminary Design Development

Following the previous Task 2 subtasks, the facility will be laid out and preliminary drawings will be developed as summarized in Exhibit 1. A total of 23 drawings will be developed during preliminary design, which are summarized by discipline in Table 1.

Discipline	30% Design Drawings
General	3
Civil	2
Architectural	1
Structural	2
Mechanical	5
Electrical, Instrumentation and Controls	5
Total	20

Task 2.06. Major Equipment Specifications

Develop draft technical specifications for the following major equipment: 1) WAS and thickened sludge pumps; 2) dewatering centrifuge; 3) solids dryer; 4) hot water boiler; and 5) odor control system.

Task 2.07. Preliminary Design Report

Prepare a Draft Preliminary Design Report (PDR) consolidating design criteria, equipment vendor information and layouts, preliminary design drawings, major equipment specifications, Engineer’s Opinion of Probable Construction Cost (OPCC) and updated project schedule. A Draft PDR will be submitted prior to the Preliminary Design Review Workshop. The PDR will be finalized with City comments incorporated after the workshop.

Task 2.08. Preliminary Design Review Workshop

Conduct a meeting with City staff to review the Draft Preliminary Design Report and associated evaluations. The workshop will be conducted at the Cottage Grove WWTP.

Task 2 Assumptions

- No surveying or environmental site investigations will be required as part of preliminary design.
- A copy of the geotechnical report from the last plant expansion will be provided and utilized during preliminary design.
- Three (3) site visits are budgeted during preliminary design to be attended by West Yost’s Project Manager, QC Lead and staff engineer. Site visits will be conducted for the Project Kickoff Meeting and Preliminary Design Workshop and one during the development of process mechanical layouts.
- The Project Kickoff Meeting will be conducted at the Cottage Grove WWTP.
- All background data related to the Project will be provided based on the Background Data Request submitted by West Yost.
- The Project discipline standards and criteria will be defined based upon code, regulatory, and permitting requirements and City staff operation and maintenance (O&M) input
- The 20-year solids projections and historical solids treatment performance data will be provided to West Yost by the City. In addition, it is assumed that the City will provide characteristics of the thickened sludge and the aerobically digested sludge including viscosity, total solids (percent, mg/L), and flow rate (gpm) for each sludge stream. Pump calculations and sizing for non-Newtonian fluids will be conducted for the thickened sludge pump.

Attachment A

Scope of Services

- The Engineer's OPCC will be a Class 4 budget-level cost estimate as defined by the American Association of Cost Engineers (AACE) with a range of accuracy of -30% to +40%.
- The Preliminary Design TM will include, drawings, specifications, vendor equipment information, Engineer's OPCC and updated project schedule.
- The Final Preliminary Design Report will be completed three (3) weeks after the Preliminary Design Review Workshop with City staff.

Task 2 Deliverables

- One electronic (PDF) copy of the Background Data Collection Request.
- Five (5) hard copies and one electronic (PDF) copy of the Project Kickoff Meeting Agenda and Minutes.
- Three (3) hard copies and one electronic (PDF) copy of the Draft and Final Preliminary Design Report.
- Five (5) hard copies and one electronic (PDF) copy of the Preliminary Design Workshop Meeting Agenda and Minutes.



Attachment B

Budget

West Yost Associates PROJECT: Cottage Grove WWTP Solids Project	P \$318 Mechanical	PE/PS/RG II \$288 Van Meter	PE/PS/RG II \$288 Dames & Moore	SE/SS/SG II \$244	SE/SS/SG I \$244	CAD II \$165	ADM III \$131	P \$318 Mech	Labor		Technology & Admin 5%	ACE	SWA	LLC	IFE	LAN	Sub- w/markup 10%	Cont Other Direct	Total Costs
									Hours	Fco									
Task 1 - Project Management																			
1.01 Contracts and PMP	2	4	2				2		10	\$ 2,560	\$ 154								\$ 2,714
1.02 Monthly Project Status Reports and Invoices		8					8		16	\$ 3,352	\$ 201								\$ 3,553
1.03 Team Coordination Activities		28	4						32	\$ 9,216	\$ 553	\$ 500			\$ 800	\$ 900	\$ 2,970	\$ 200	\$ 12,939
Subtotal, Task 1 (hours)	2	40	4	2	0	0	10	0	58										
Subtotal, Task 1 (\$)	\$ 636	\$ 11,520	\$ 1,152	\$ 510			\$ 3,310			\$ 15,328	\$ 908	\$ 500			\$ 800	\$ 900	\$ 2,970	\$ 200	\$ 19,206
Task 2 - Preliminary Design																			
2.01 Collect and Review Background Information		2	2	4	4		1		12	\$ 3,148	\$ 189	\$ 200				\$ 400	\$ 860		\$ 4,217
2.02 Project Kickoff Meeting		4	4	4	4		1		17	\$ 4,551	\$ 273	\$ 1,000				\$ 1,000	\$ 2,200	\$ 250	\$ 7,774
2.03 Develop Design Standards and Criteria		2	8	8	8	2			20	\$ 4,898	\$ 294	\$ 200	\$ 1,500				\$ 1,870		\$ 7,062
2.04 Unit Process sizing and vendor coordination		4	8	16	16				29	\$ 7,414	\$ 445					\$ 900	\$ 990		\$ 8,849
2.05 Preliminary Design Development		12	24	48	48	80			165	\$ 34,005	\$ 2,038	\$ 1,600	\$ 3,500		\$ 3,900	\$ 9,500	\$ 20,350	\$ 250	\$ 57,494
2.06 Major Equipment Specifications		4	8	16	16		8		37	\$ 8,462	\$ 508	\$ 400				\$ 3,000	\$ 3,740		\$ 12,710
2.07 Preliminary Design Report		12	24	60	12		6		118	\$ 28,194	\$ 1,692	\$ 1,600	\$ 1,200			\$ 4,500	\$ 8,030		\$ 37,916
2.08 Preliminary Design Review Workshop		4	4	4	4		4		18	\$ 4,930	\$ 296					\$ 1,000	\$ 1,100	\$ 300	\$ 6,626
Subtotal, Task 2 (hours)	0	44	4	86	160	94	15	13	416										
Subtotal, Task 2 (\$)	\$ 12,672	\$ 21,930	\$ 1,152	\$ 39,040	\$ 15,510	\$ 1,965	\$ 4,134			\$ 96,403	\$ 5,784	\$ 4,000	\$ 7,400		\$ 3,900	\$ 20,300	\$ 39,160	\$ 600	\$ 142,147
TOTAL (hours)	2	84	8	88	160	94	25	13	474										
TOTAL (\$)	\$ 636	\$ 24,192	\$ 2,304	\$ 22,440	\$ 39,040	\$ 15,510	\$ 3,275	\$ 4,134		\$ 111,331	\$ 6,692	\$ 4,300	\$ 7,900		\$ 4,700	\$ 21,200	\$ 42,130	\$ 1,000	\$ 161,353

