



SENT VIA EMAIL

**AMENDMENT No. 8 to
CONTRACT No. 30003218
FOR
CBWTP Renewable Natural Gas Facility**

This Amendment No. 8 amends Contract No. 30003218 dated 7th day of February, 2013, by and between HDR Engineering, Inc. ("Contractor") a corporation of the State of Nebraska, and the City of Portland, a municipal corporation of the State of Oregon ("City") by and through their duly authorized representatives. This Amendment may refer to Contractor and City individually as a "Party" or collectively as the "Parties."

This Amendment is authorized by City Ordinance No.

The Effective Date of this Amendment is _____. The purpose of this Amendment is to extend the Term of the Contract, add funds to the Contract and revise the Scope of Work.

The Contract was previously amended as follows:

Amendment 1, dated January 16, 2014, which revised the Subconsultants and Hourly Rates section.

Pursuant to Ordinance No. 187022, Amendment 2, dated April 23, 2015, which revised the Scope of Work, increased the prior not-to-exceed amount of the Contract from \$298,600 by \$995,410 to a new total not-to-exceed amount of \$1,294,010, revised the subconsultants Hourly Rates, and extended the Term from June 30, 2016 to June 30, 2017.

Amendment 3, dated June 14, 2017, which extended the Term from June 30, 2017 to June 30, 2019.

Pursuant to Ordinance No. 189431, Amendment 4, dated May 28, 2019, which revised the Scope of Work, increased the prior not-to-exceed amount of the Contract from \$1,294,010 by \$222,800 to a new total not-to-exceed amount of \$1,516,810, and extended the Term from June 30, 2019 to December 31, 2019.

Amendment 5, dated January 24, 2020, which extended the Term from December 31, 2019 to December 31, 2020.

Pursuant to Ordinance No. 189874, Amendment 6, dated May 27, 2020, which revised the Scope of Work and increased the prior not-to-exceed amount of the Contract from \$1, 516,810 by \$229,000 to a new total not-to- exceed amount of \$1,745,810.

Amendment 7, dated December 3, 2020, which extended the Term from December 31, 2020 to June 30, 2021.

The Parties agree to Amend the Contract as follows:

1. The Term is extended from June 30, 2021 to March 31, 2022, unless terminated sooner under the provisions of the Contract.
2. The Contract not-to-exceed amount of \$1,745,810 is increased by \$283,039 to a new total not-to-exceed amount of \$2,028,849.
3. Due to additional and unanticipated construction changes, additional effort for construction and startup support services are necessary to complete the project. Summary of needed additional effort is in the attached Exhibit A.

All other terms and conditions of the Contract remain unchanged by this Amendment and in full force and effect.

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This Amendment may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same instrument. The Parties agree that they may execute this Amendment by electronic means, including the use of electronic signatures.

IN WITNESS WHEREOF, the Parties hereby cause this Amendment to be executed.

HDR ENGINEERING INC.

Authorized Signature Date

Printed Name and Title

Address: _____

Phone: _____

Prepared by Janie Garcilazo

Sent to HDR Engineering Inc. via email

Contract Number: 30003218

Amendment Number: 8

Contract Title: CBWTP Renewable Natural Gas Facility

CITY OF PORTLAND SIGNATURES

By: _____ Date: _____
Bureau Director

Approved:

By: _____ Date: _____
Office of City Auditor

Approved as to Form:

By: _____ Date: _____
Office of City Attorney

EXHIBIT A

Statement of Work and Payment Schedule

February 5, 2021

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I. Statement of Work

The CBWTP Renewable Natural Gas Facility (RNGF) Project, previously called the CBWTP Biogas Utilization Project, (BES Project E10033) is being implemented to increase the portion of biogas that is beneficially used by the plant to offset energy consumption, reduce operational costs, and promote sustainability practices. The first phase of the project was completed to evaluate the feasibility of different biogas use alternatives and select the alternative that provides the City of Portland (City) the best return on investment from financial, social, and environmental perspectives. The second phase of the project is to complete design of the selected alternative for biogas use and implement a renewable natural gas facility.

Seven amendments have been executed to date:

- Amendment 1 (dated January 16, 2014) was executed to add a subconsultant to the project.
- Amendment 2 (dated October 23, 2014) added Tasks 3 through 7 for the design and services during construction assuming an RNGF size of 400 scfm.
- Amendment 3 (dated June 14, 2017) was a no cost change to extend the contract duration to June 30, 2019.
- Amendment 4 (dated May 28, 2019) provided additional scope through December 31, 2019 to account for the increase in facility size to 1,245 scfm and extension of schedule.
- Amendment 5 (dated January 24, 2020) was a no cost change to extend the contract duration to December 31, 2020.
- Amendment 6 (dated May 27, 2020) revised the scope of work to provide additional services during construction for the schedule extension in Amendment 5.
- Amendment 7 (dated December 3, 2020) was a no cost change to extend the contract duration to June 30, 2021.

This Amendment 8 extends the contract to March 31, 2022 and describes the additional scope to be provided through December 31, 2021 with a contingency to extend scope until March 31, 2022. The scope includes additional contract duration and design services during construction including submittals, requests for information (RFIs), and design support services required for completion of the project.

VII. Scope of Work

Task 1 — Project Management

Subtask 1.1 – Project Administration

Subtask is ongoing. Update the project management plan to include updated schedule, budget, roles, contacts, and procedures. Prepare and execute subconsultant agreements. Prepare monthly invoices and subconsultant payment and utilization report.

Subtask 1.2 – Progress Reporting

Subtask is ongoing. Prepare monthly progress reports to advise BES project manager of project status. The report will accompany invoices and will include monthly progress by task, task budget status, and estimated percentage complete. A decision log, list of outstanding issues, and updated schedule will also be included.

Subtask 1.3 – Coordination Meetings

Subtask complete, these were Design Phase meetings. No additional work.

Task 1 Deliverables:

No change in task deliverables.

Task 1 Assumptions:

Extension of project management services from October 1, 2020 to December 31, 2021. Optional Task 14 extends services to March 31, 2022, included at the end of this document.

Task 2 — Predesign Services

Task completed in Phase 1. No additional work.

Task 3 — Design Services

Task complete. No additional work.

Task 4 — Bid Phase Services

Task complete. No additional work.

Task 5 — Services during Construction**Subtask 5.1 – Design Support Services**

Additional work to include:

- RFI responses, budget assumes 20 RFIs.
- Shop drawing and submittal reviews and responses, budget assumes a total of 25 submittals and resubmittals.
- Development of 3 Design Clarifications to assist change order proposal requests and work change directives outside of specific tasks listed separately, including Tasks 9 and 10.
- Attend weekly construction coordination meetings, budget assumes 17 meetings (once every 3 weeks) with attendance of Project Manager.
- Update design files in CAD for 3 Design Clarifications (does not include development of record drawings)
- Permitting assistance for Fire Systems Permit.

The design support services for the construction of Task 12 are included under this subtask.

Subtask 5.1 Deliverables:

No change in task deliverables.

Subtask 5.2 – Electrical, I&C Assistance

Subtask is ongoing. No additional work or effort is included in this amendment.

Subtask 5.2 Deliverables:

No change in task deliverables.

Subtask 5.3 – Final Field Inspection

Subtask is ongoing. No additional work or effort is included in this amendment.

Subtask 5.3 Deliverables:

No change in task deliverables.

Subtask 5.4 – O&M Manual Assistance and Start-up Training

Subtask is ongoing. No additional work or effort is included in this amendment.

Subtask 5.4 Deliverables:

No change in task deliverables.

Task 6 — Quality Control Activities**Subtask 6.1 – Design Phase Project Guide and QC Plan**

Subtask complete. No additional work.

Subtask 6.2 – Design Phase Management Reviews (60%, 90%)

Subtask complete. No additional work.

Subtask 6.3 – Phase II Project Approach and Resource Review (PARR)

Subtask complete. No additional work.

Subtask 6.4– Quality Control Reviews

Subtask is ongoing and additional review time is included in this amendment. Each deliverable will receive a quality control review prior to submittal. A quality control lead will perform an overall review, while discipline specific leads will review for technical correctness.

Subtask 6.5 – Construction Phase Project Guide and QC Plan

Subtask complete. No additional work.

Subtask 6.6 – Construction Phase Management Reviews (0%, 50%, 90%)

Subtask is ongoing. Additional management reviews added due to schedule extension.

Task 6 Deliverables:

No change in task deliverables.

Task 7 — Additional Services**Subtask 7.1 – Intraday Gas Production and Storage Evaluation**

Subtask complete. No additional work.

Subtask 7.2 – Gas Storage Specification Development

Subtask complete. No additional work.

Subtask 7.3 – Co-digestion Financial Evaluation

Subtask complete. No additional work.

Subtask 7.4 – Biogas Management Review and Optimization Support

Subtask is ongoing. No additional work or effort is included in this amendment.

Task 7 Deliverables:

No change to existing task deliverables.

Task 8 — Additional Services during Construction (July to Sept. 2020)

Task is complete. No additional work.

Task 9 — Submetering

The objective of this task is to provide submetering for natural gas and power to the RNG facility. HDR will provide updates to impacted drawings and specifications. Specific metering includes:

1. Natural gas metering for:
 - a. Regenerative Thermal Oxidizer (RTO)
 - b. Temporary Waste Gas Burner
2. Power metering for:
 - a. RNGF-PP1
 - b. Unison Blower VFDs – RNGF-GAS-BLWR1-VFD and RNGF-GAS-BLWR2-VFD
 - c. Unison Chiller – RNGF-GAS-CHILL1
 - d. Temporary Waste Gas Burner – PNL-4 at CKL019A

Submetering for the dedicated high pressure air system is included in Task 10.

Subtask 9.1 – Design

The design includes use of BES provided in-line natural gas meters and the new specification of Shark Model 250 power monitoring units. It is estimated the changes will include revisions to approximately 10 drawing sheets and up to 2 specifications. Also includes time for virtual review meeting with BES, assumed 1-hour in duration including Project Manager, Project Engineer, and Electrical Engineer. Subtask includes quality control review prior to submittal.

Subtask 9.2 – Services during Construction

This task includes the review of 2 submittals.

Task 9 Deliverables

- Design Clarification of submetering changes with updated drawings and specifications
- Submittal review comments and responses

Task 10 — Dedicated High Pressure Air Compressors

The objective of this task is to provide a dedicated high pressure air system to the RNG facility.

Subtask 10.1 – Site Visit

This subtask covers a site visit to CBWTP for review the location of new equipment and meet with BES staff. The site visit is anticipated to include three attendees: Project Manager, Project Engineer, and Electrical Engineer.

Subtask 10.2 – Design

The design of the high pressure air system includes the addition of dedicated compressors to supply instrument air to the RNG facility. HDR will work with BES and Contractor to finalize sizing criteria for the compressors. Structural effort includes the review of existing structural floor slab to verify suitable for equipment loading. The subtask does not include the design of any structural improvements. The design will include power monitoring for the new compressor system. The design anticipates the need for 1 new specification. The number of new drawings for the task is estimated as follows by discipline:

- Mechanical - 1
- Process - 1
- Electrical – 3

The design will include a 60% draft deliverable for BES review. Design team of Project Manager, Project Engineer, and Electrical Engineer will meet virtually with BES to review the draft deliverable, assumed 1-hour in duration. Subtask includes quality control review prior to submittal.

Subtask 10.3 – Services during Construction

This task includes the review of 2 submittals and 1 resubmittal.

Task 10 Deliverables

- 60% draft review submittal
- 60% review meeting notes
- Design Clarification of new drawings and specifications
- Submittal review comments and responses

Task 11 — HAZOP Reassessment

This objective of this task is for the participation in a hazard and operability (HAZOP) reassessment of Streams 5 and 8 from the Digester Gas Treatment System (Greenlane Biogas). The task includes participation in a 2-day HAZOP workshop on December 15 and 16, 2020, as well as follow up meetings to discuss the results of the workshop and implementation of design modifications. For the follow up coordination meetings with BES and Contractor it is assumed 2 hours per week for 8 weeks. The task also includes a 1-day follow up HAZOP on the agreed modifications to Streams 5 and 8. All workshops and meetings include time for 3 staff in attendance.

Task 11 Deliverables

- HAZOP meeting notes

Task 12 — Changes to Streams 5 & 8

The objective of this task is to design changes to two process streams for the Digester Gas Treatment System (Greenlane Biogas). These streams are known as 1) Stream 5 – Totara tail gas and 2) Stream 8 - VPSA Stage 1 off gas. Modifications to the streams are required as reviewed in the Task 11 HAZOP Reassessment. This task also includes the review of modifications to the RTO.

The design includes review of the capacity of the 2-inch RG pipeline to the Temporary Waste Gas Burner, the ability of the Temporary Waste Gas Burner to handle the Stream 8 composition, modifications to Stream 5 pipeline to the RTO, and modifications to the RTO. Review of the pressure

reducing valves at the Temporary Waste Gas Burner is also required. Close coordination with the Contractor is needed to understand the expected range of composition (flow, duration, methane and oxygen content, and pressure) of all process streams. Coordination meetings with BES and Contractor are covered under Task 11. It estimated the changes will include revisions to approximately 5 drawing sheets and 4 specifications. This task includes time for virtual review meeting of the design with BES and Contractor, assumed 2-hours in duration and 3 staff will attend. Task includes quality control review prior to submittal.

Services during Construction for this task are covered under Task 5.

Task 12 Deliverables

- Draft submittal of Design Clarification for BES and Contractor review
- Review meeting notes
- Final Design Clarification of Streams 5 and 8 changes

Task 13 — Incident Support

The objective of this task is to provide BES support in the review and investigation of the construction startup related incident that occurred on November 2, 2020. This task includes efforts related to site visits for initial site review and with the insurance company, an estimated six 1-hour meetings to review incident findings, as well as engineering support. An allowance of \$32,000 is allocated for this task.

Optional Task 14 — Additional Services during Construction (Jan. to March 2022)

This task is provided as contingency for possible extension of project schedule from January 1 to March 31, 2022. An allowance of \$40,000 is added for the subtask. If additional engineering support is required, the BES project manager will notify the HDR project manager in writing to request any of these services be completed and allow access to this task:

Subtask 14.1 – Project Administration

Tasks to be the same as Subtask 1.1 for 3-month duration.

Subtask 14.2 – Progress Reporting

Tasks to be the same as Subtask 1.2 for 3-month duration.

Subtask 14.3 – Design Support Services

Tasks to be the same types as listed in Subtask 5.1.

Subtask 14.4 – Quality Control Reviews

Tasks to be the same as Subtask 6.4.

2/5/2021

E10033: CBWTP Renewable Natural Gas Facility (previously named CBWTP Biogas Utilization Project) Amendment 8 Summary		
Task 1	Project Management	
	1.1 Project Administration	\$ 10,100
	1.2 Progress Reporting	\$ 7,781
	Subconsultant 5% Markup	\$ 123
	Sub-total	\$ 18,005
Task 5	Services During Construction	
	5.1 Design Support Services	\$ 53,326
	Subconsultant 5% Markup	\$ 569
	Sub-total	\$ 53,895
Task 6	Quality Control Activities	
	6.4 Quality Control Reviews	\$ 8,287
	6.6 Construction Phase Management Reviews	\$ 6,970
	Subconsultant 5% Markup	\$ -
	Sub-total	\$ 15,257
Task 9	Submetering	
	9.1 Design	\$ 9,337
	9.2 Services during Construction	\$ 2,134
	Subconsultant 5% Markup	\$ 195
	Sub-total	\$ 11,666
Task 10	Dedicated High Pressure Air Compressors	
	10.1 Site Visit	\$ 1,925
	10.2 Design	\$ 33,775
	10.3 Short Circuit Study	\$ 4,331
	10.4 Service during Construction	\$ 3,891
	Subconsultant 5% Markup	\$ 940
	Sub-total	\$ 44,862
Task 11	HAZOP Reassessment	
	Tasks	\$ 26,514
	Subconsultant 5% Markup	\$ -
	Sub-total	\$ 26,514
Task 12	Changes to Stream 5 & 8	
	Tasks	\$ 40,484
	Subconsultant 5% Markup	\$ 356
	Sub-total	\$ 40,840
Task 13	Incident Support	
	Tasks	\$ 32,000
	Subconsultant 5% Markup	\$ -
	Sub-total	\$ 32,000
	Tasks 1, 5, 6, 9, 10, 11, 12, & 13 TOTAL	\$ 243,039
Optional	Contingency Task	
Task 14	Additional Services During Construction (Jan. to March 2022)	
	14.1 Project Administration	\$ 2,490
	14.2 Progress Reporting	\$ 1,500
	14.3 Design Support Services	\$ 26,660
	14.4 Quality Control Reviews	\$ 9,000
	Subconsultant 5% Markup	\$ 350
	Sub-total	\$ 40,000
	Contingency Tasks TOTAL	\$ 40,000
	Tasks 1, 5, 6, 9, 10, 11, 12, 13, and Contingency TOTAL	\$ 283,039

Level of Effort E10033: CBWTP Renewable Natural Gas Facility (previously named CBWTP Biogas Utilization Project) Amendment 8 2/05/2021	HDR Engineering													MEC Electrical Engineering			Akana			
	Principal	Project Manager	Technical Advisor/QC	Project Engineer	Start Up and Operations	Fire and Life Safety Specialist	CAD Designer	Senior Engineer	Senior Engineer	Project Engineer	Project Accountant	Project Coordinator	Hours	Senior Engineer	Short Circuit Study Engineer	Project Admin	Hours	Project Manager	Project Engineer	Hours
	Billable Rates	\$276.15	\$188.54	\$236.65	\$142.82	\$233.80	\$136.18	\$169.07	\$331.48	\$200.17	\$183.71	\$94.30	\$141.61		\$ 150	\$100	\$ 60		\$ 140	\$ 103
Task Description																				
Task 1 Project Management																				
1.1 Project Administration		15									22.5	19	56.5	6		12	18	6		6
1.2 Progress Reporting		15									30	15	60				0			0
Sub-total	0	30	0	0	0	0	0	0	0	0	53	34	117	6	0	12	18	6	0	6
Task 5 Services During Construction																				
5.1 Design Support Services		120		120		16							256	48			48	24	8	32
Sub-total	0	120	0	120	0	16	0	0	0	0	0	0	256	48	0	0	48	24	8	32
Task 6 Quality Control Activities																				
6.4 Quality Control Reviews								25					25				0			0
6.6 Construction Phase Management Reviews	15	15											30				0			0
Sub-total	15	15	0	0	0	0	0	25	0	0	0	0	55	0	0	0	0	0	0	0
Task 9 Submetering																				
9.1 Design		9		9			12						30	20			20			0
9.2 Services during Construction		2		6									8	6			6			0
QC Hours Only								4					4				0			0
Sub-total	0	11	0	15	0	0	12	4	0	0	0	0	42	26	0	0	26	0	0	0
Task 10 Dedicated High Pressure Air Compressors																				
10.1 Site Visit		4		4									8	4			4			0
10.2 Design		20		42			30					4	96	64			64	20		20
10.3 Short Circuit Study		1		1									2	4	34		38			0
10.4 Service during Construction		2		12									14	12			12			0
QC Hours Only								18					18				0			0
Sub-total	0	27	0	59	0	0	30	18	0	0	0	4	138	84	34	0	118	20	0	20
Task 11 HAZOP Reassessment																				
2-day HAZOP participation (12/15-16/2020)		16		16				16					48				0			0
Weekly Coordination Meetings with BES and Contractor		16		16				16					48				0			0
1-day HAZOP participation for Streams 5 & 8 modifications		8		8				8					24				0			0
Sub-total	0	40	0	40	0	0	0	40	0	0	0	0	120	0	0	0	0	0	0	0
Task 12 Changes to Stream 5 & 8																				
Design		34		66			20			20			140	25			25	24		24
Review Meeting		2		2				2					6				0			0
QC Hours Only								24	6				30				0			0
Sub-total	0	36	0	68	0	0	20	26	6	20	0	0	176	25	0	0	25	24	0	24
Task 13 Incident Support																				
Site Visits	2	10											12				0			0
Meetings		6						6					12				0			0
Engineering Support		40		40				40					120				0			0
Sub-total	2	56	0	40	0	0	0	46	0	0	0	0	144	0	0	0	0	0	0	0
Hours	17	335	0	342	0	16	62	159	6	20	53	38	1,048	189	34	12	235	74	8	82
Contingency Tasks																				
Optional Task 14 Additional Services During Construction (Jan to March 2022)																				
14.1 Project Administration	3	3										5	3	14			3	3		0
14.2 Progress Reporting		3											6	3			0			0
14.3 Design Support Services		60		60									120	30			30	16		16
14.4 Quality Control Reviews								27					27				0			0
Sub-total	3	66	0	60	0	0	0	27	0	0	11	6	173	30	0	3	33	16	0	16
Hours	3	66	0	60	0	0	0	27	0	0	11	6	173	30	0	3	33	16	0	16