

**IMPACT STATEMENT**

**Legislation title:** Amend contract with HDR Engineering, Inc. for additional support services for the Columbia Boulevard Wastewater Treatment Plant Renewable Natural Gas Facility Project No. E10033 for \$283,039 (Ordinance; amend Contract No. 30003218)

**Contact name:** Paul Suto, Engineering Manager

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**Presenter name:** Paul Suto, Engineering Manager

**Purpose of proposed legislation and background information:**

The Bureau of Environmental Services (BES) owns and operates the Columbia Boulevard Wastewater Treatment Plant (CBWTP), which treats an average of 28 billion gallons annually of wastewater in accordance with State of Oregon Department of Environmental Quality (DEQ) issued National Pollutant Discharge Elimination System (NPDES) permit requirements.

Currently, the CBWTP produces approximately 600 million cubic feet annually of digester gas, or biogas, from its anaerobic digestion process. Approximately 20% of the biogas is used onsite for digester and building heating boilers, 20% is sold to a nearby industrial user, and 40% is used for the cogeneration process (power generation and heat recovery). The remaining 20% is flared through a waste gas burner onsite.

In January 2013, through Ordinance No. 185872, BES entered into Contract No. 30003218 with HDR Engineering, Inc. (HDR) to provide predesign engineering services to identify and assess alternatives for beneficial use of the remaining biogas, and to recommend an alternative for the most beneficial use for the CBWTP Biogas Utilization (Project). The original contract amount was \$298,600 for the pre-design phase only. BES was to report back to City Council with findings and recommendations at the conclusion of the predesign phase to obtain approval through an additional ordinance to proceed with completion of the Project.. The predesign phase was completed and an alternative, to reuse biogas for vehicle fuel, was the recommended alternative.

The recommended alternative, treating and utilizing biogas for vehicle fuel, was determined the most beneficial from various aspects, including financial, social and environmental aspects.

In February 2015, through Ordinance No. 187022 City Council authorized Ordinance No. 187022 HDR to further develop the gas treatment for vehicle fuel alternative, and proceed with final design and construction support services, in the amount of \$995,410, for total contract amount of \$1,294,010.

During the final design, it was further refined that treated biogas for vehicle fuel be best produced as Renewable Natural Gas (RNG) and transported via the gas utility pipeline network. Furthermore, it was determined that the RNG production capacity be increased to match the current total biogas production at the CBWTP (rather than capacity for only the excess biogas being flared). The increase in design capacity (from 400 standard cubic feet per minute for primarily the flared volume, to 1,100 standard cubic feet per minute) will help BES address the fluctuation issues in the biogas production process, and provide more flexibility to prioritize and distribute the biogas to the highest value and maximize revenue. The increase in the RNG production capacity required additional construction and start up support services by HDR, for the completion and operation of the RNG production facility. In March 2019, City Council authorized Ordinance No. 189431 to increase

Contract No. 30003218 by \$228,000, for total contract amount of \$1,516,810, for the required support services.

This project is unique and is one of the first owned and operated RNG projects for a wastewater facility in the country. For those reasons, extra effort on permitting, reviewing of equipment submittals during construction phase, and unanticipated equipment requirements that led to further changes, required additional construction support services by HDR, for the completion and operation of the RNG facility, which was delayed to the fall of 2020. The changes and schedule delays required additional construction support services from HDR. In March 2020, City Council authorized Ordinance No. 189874, to increase Contract No. 30003218 by \$229,000, for a total contract amount of \$1,745,810.

In November 2020, during the last stage of the testing and startup phase of the Project, an equipment malfunction resulted in an incident, causing damage to the piping and equipment components of the RNG production system. The system is being assessed, repaired and improved, before resuming with the testing and startup. The project completion is now anticipated for late summer/early fall of 2021.

This council item is to obtain City Council approval to authorize a contract amendment for HDR Engineering, Inc. for additional support services to complete the Project. The new RNG facility once operational is projected to provide significant revenue, clean air and climate benefits by generating renewable energy to displace dirty diesel in vehicle fuel.

The current contract provided for \$348,801, or 20.0% of the total contract dollars to State of Oregon certified M/W/ESB subconsultants. This amendment will provide \$399,375, or 19.7% of the total contract dollars to certified M/W/ESB subconsultants.

The established cost for the contract amendment is \$283,039 for a total amended contract amount of \$2,028,849. The level of confidence in the estimate high. Funds are available in the Bureau of Environmental Services FY 2020-21 Sewer System Operating Fund Budget, WBS Element E10033.

This will be the eighth amendment to the contract. The listing of the amendments is shown below.

Original Contract Amount	\$298,600	Pre-design Phase
Amendment No. 1	\$0	Add a State Certified ESB Subconsultant to Contract
Amendment No. 2	\$995,410	Final Design, Bidding, Construction Services
Amendment No. 3	\$0	Time Extension
Amendment No. 4	\$222,800	Additional Construction and Start Up Services
Amendment No. 5	\$0	Time Extension Only
Amendment No. 6	\$229,000	Additional Construction Support Services
Amendment No. 7	\$0	Time Extension
Amendment No. 8	<u>\$283,039</u>	Additional Support Services
<b>Revised Contract Amount:</b>	<b>\$2,028,849</b>	

**Financial and budgetary impacts:**

Due to some built-in contingency, the current approved budget for project E10033 is projected to be the same at \$20,093,440. The requested contract amendment for HDR, in the amount of \$283,039, is anticipated to be within the current approved project budget.

This is a revenue generating project. When the RNG Facility is complete and operational in 2021, it is expected to generate revenue in the range of \$3 million to \$8 million a year. The expected simple payback for the project is within 4 to 8 years.

The Receipt Point Facility by NW Natural has been built and ready to receive RNG, and the agreement for off-taking RNG with Clean Energy Renewable Fuels (CERF) has been signed.

In a separate funding, BES in partnership with NW Natural, has built and operated a Compressed Natural Gas (CNG) on at the CBWTP, with operating CNG vehicles. When the RNG production facility is complete and operational, RNG will be supplied to the CNG fueling station to offset natural gas, which will further the fuel savings, as well as the local environmental and social benefits.

### **Community impacts and community involvement:**

It is anticipated that there will be minimal to no impact to the community.

BES staff has developed and continue to maintain a relationship with North Portland businesses and residents through the CBWTP's longstanding Citizen's Advisory Committee. BES also drafts and mails an annual newsletter to North Portland neighbors, which provides construction and operational updates to residents. BES public involvement staff frequently provide updates on projects to neighborhood and business associations in North Portland, including the Kenton and Portsmouth Neighborhood Associations. Frequently, neighbors and business owners are interested in the biogas uses at the plant.

Throughout the project, BES public involvement staff has provided updates to neighbors and stakeholders in the area to provide information and solicit comments related to this project. To the extent practicable, BES staff has incorporated public feedback into project development and project communications.

BES primary contact for this public involvement process is Debbie Caselton, Community Outreach and Information Representative, 503-823-2831, [Debbie.Caselton@portlandoregon.gov](mailto:Debbie.Caselton@portlandoregon.gov).

This is a high profile renewable energy project, and hence, has included engagement and review by the Citizens Utility Board (CUB) and the Public Utility Board (PUB).

Once the project is complete, it will become one of the first owned and operated wastewater treatment facilities in the country to produce RNG for pipeline injection for vehicle fuel, as well as direct use for certain City Fleet vehicles. Because of the project's significance to the City's climate action goals, as well as projected clean air benefits, there have been many inquiries and interests in the project from the industry, professional associations, the media, as well as the general public. BES has created an RNG website to project information and updates. The BES information officer for the RNG project webpage and media relations is Diane Dulken, 503-823-5328, [diane.dulken@portlandoregon.gov](mailto:diane.dulken@portlandoregon.gov).

### **100% Renewable Goal:**

The completion of the project will result in nearly 100% beneficial use of the biogas produced at the CBWTP. It is well aligned with the City's renewable goals and Climate Action Plan. The project will

provide significant benefits in reducing greenhouse gas (ghg) emission by displacing the traditional petroleum fuels, and addition to generating revenue to the BES and its ratepayers.

**Budgetary Impact Worksheet**

**Does this action change appropriations?**

- YES:** Please complete the information below.
- NO:** Skip this section

<b>Fund</b>	<b>Fund Center</b>	<b>Commitment Item</b>	<b>Functional Area</b>	<b>Funded Program</b>	<b>Grant</b>	<b>Sponsored Program</b>	<b>Amount</b>