

AMENDMENT NO. 4CONTRACT NO. 37587

FOR

Bull Run Dam No. 2 Tower Improvements

Pursuant to Ordinance No. _____

This Contract was made and entered by and between Black & Veatch Corporation, hereinafter called Contractor, and the City of Portland, a municipal corporation of the State of Oregon, by and through its duly authorized representatives, hereinafter called City.

The contract is hereby amended as follows:

1. During the course of work it was decided to only modify the North Tower rather than both the North and South Towers. Due to this modification the duration of the Construction portion of the project will decrease from 25 months to 18 months. This shall revise the contract expiration date, unless otherwise terminated or extended, to May 31, 2013.
2. Funding in the amount of \$45,000 under the original scope of work for Task 8 shall be reassigned Subtask 4 - Continuation of service or transfer of PWB construction management system and data. Work under Subtask 4
3. Additional compensation is necessary and shall not exceed \$1,265,450. The new not-to-exceed amount of the Contract is \$4,826,310. Additional funding and assigned Funding shall be re-assigned to additional tasks as stated below. The re-assignment of funds and additional required funds shall be allocated per the Budget Detail, attached as Exhibit A and described as follows:
 - **Task 2 – Permitting:** The Contractor shall support the City to prepare documents for a letter to be prepared by the City addressed to Department State Lands and the Corps of Engineers. The Contractor shall provide to the City a revised permit drawing set, deleting drawings 05-C09 and 05-C009.1 and revising drawing 05-C007. The Contractor shall also provide up to 16 hours of on-call support to the City for requested clarifications from permitting agencies. This added work shall not exceed \$12,500.
 - **Task 6 – Construction Manager / General Contractor (CM/GC) Coordination:** The Contractor shall provide services in support of a timely finalization of a Guaranteed Maximum Price, maintain a high level of coordination to the benefit of the project, and provide improvement of the 100% design with input from the CM/GC. The Contractor shall also participate in additional Partnering Workshops. This added work shall not exceed \$32,000.
 - **Task 7 – Design:** The Contractor shall complete the following changes to the design task, in addition to providing an additional 52 drawings:
 - a) **Seismic Stability under Maximum Credible Earthquake (MCE):** The Contractor shall provide additional analysis and design effort to assure stability of the Towers during seismic events which include: initial analysis and identification of mitigation strategies, geotechnical input and analysis, structural modeling confirmation of seismic response, coordination with the City and CM/GC on a preferred solution, change of the Civil drawing C-007, provide four (4) additional drawings, and revise the Seismic Report and design memorandum for Federal Energy Regulatory Commission. This added work shall not

exceed \$117,850.

b) Civil Engineering – Fiber Optic: The Contractor shall attend additional coordination meetings with the City and perform design changes due to changes to the status of the fiber optic system and final configuration of the site. This added work shall not exceed \$12,000

c) Heating, Venting, and Air Conditioning (HVAC) Design: The Contractor shall provide six (6) additional HVAC drawings to the City due to larger than anticipated enclosures. This added work shall not exceed \$13,000.

d) Cathodic Protection: The Contractor shall provide the City with three (3) additional drawings of the Dual Impressed Current and Passive CP system. This added work shall not exceed \$10,500.

e) Printing addition documents: Work shall be determined by the City Project Manager. This provides funds for prints over ten (10) sets. The added work shall not exceed \$5,600.

f) Light Structural: As part of the design for the access improvements, the staircases were changed from aluminum to steel, requiring redesign. The Contractor shall revise the design of the access improvements, providing designs and calculations for steel rather than aluminum. The new design for access improvements shall also include vertical ladders instead of stair cases on the lower elevation for both the North and South towers. The Contractor shall also provide new design and details for the new, smaller boat dock. The Contractor shall provide an additional five (5) sheets of drawings, an increase from 21 drawings to 26 drawings. This added work shall not exceed \$14,700.

g) Electrical Design: The Contractor shall provide additional electrical engineering effort over what was originally described in the previous scope of work.

Portland General Electric (PGE) Coordination and Site Visits: As part of the work required for the upgrade to the generator building, the Contractor will conduct two (2) additional site visits. The Contractor shall also revise drawings to show the new design based on the site visits and coordination with PGE.

The Contractor shall also revise the design to revise conduit routing and add a new conduit run to the weather station and new locations of sample pumps. The Contractor shall participate in three (3) additional coordination meetings with PWB staff. The Contractor shall revise all sheets to show revised identification tags for equipment and instrumentation. This added work shall not exceed \$27,300.

h) South Tower Butterfly Valve & Flow Meter: The Contractor shall review the existing drawing and specifications for the South Tower Butterfly valve, perform a field visit to verify existing conditions, and provide revised, updated, final stamped drawings and technical specifications for the 72" x 54" x 12" Tee, and Flow Meter, and for installation of these items, plus the PWB-furnished butterfly valve. The Contractor shall participate in two (2) coordination meetings with the PWB Project Manager or their designee. This added work shall not exceed \$22,000.

i) Fish Flow Piping: The Contractor shall complete design drawings for the fish flow piping system in accordance with the 90% drawings of the Bull Run Supply Treatment project. The Contractor shall review the existing drawings and specifications, perform a field visit to verify existing conditions, and provide revised, updated, final stamped drawings and technical specifications for the outfall piping manifolds, PRV vault, PRV's and interior vault piping, intertie, valves, 96-inch steel outfall pipe, and outfall structure modifications. Design shall include civil, mechanical, structural, electrical, and instrumentation

disciplines. The Contractor shall participate in six (6) coordination meetings with the PWB Project Manager. This added work shall not exceed \$140,000.

j) Redesign of existing 95% FERC submittal drawings: The Contractor shall:

- Revise the existing design to create the necessary construction documents for the One Tower Option with agreed upon items to add to the South Tower, plus deleting the South Tower Wetwell. The Contractor shall make changes, additions, and deletions to the existing project drawings and specifications to comply with the PWB's direction to retain the full improvements to the North Tower, and to reduce the scope of improvements to the South Tower to a minimal level, with only the North Tower having selective withdrawal capability. The Contractor shall submit ten (10) copies of the revised documents to the PWB Project Manager for pre-submittal review. This added work shall not exceed \$149,000.
- Develop revised drawings for submittal to FERC. The Contractor shall incorporate PWB comments and provide one reproducible set of FERC resubmittal documents to the PWB. The PWB shall print copies as needed and prepare the submittal to FERC. This added work shall not exceed \$34,000.
- The Contractor shall incorporate FERC comments and prepare final, stamped contract documents upon completion of FERC review. This added work shall not exceed \$68,000.

Task 8 – Services During Construction

a) The Contractor shall provide Primavera P6 scheduling review and support to the Contractor's project team, assuming CM/GC's one initial schedule submittal and one monthly update to be reviewed by the Contractor and PWB is the primary reviewer, with the Contractor's review advisory to the PWB. The Contractor shall provide the PWB with up to three (3) licenses of Primavera P6 Enterprise Project Portfolio Management to be hosted with Primavera Contract Management as required below. The Contractor's schedule review will include the Dam 2 Towers project only. This added work shall not exceed \$77,000.

b) The Contractor shall provide Contract Management software, web hosting, and software support to the PWB. The Contractor shall provide Primavera Contract Management licenses for up to fifteen (15) users and licenses for all add-on software necessary to utilize the full functionality of Primavera Contract Management including the required report writing engine (up to three licenses), and web services (up to fifteen licenses). PWB will dedicate five of the additional licenses for use by the Contractor Project Team through the duration of the Bull Run Dam No. 2 Towers project. The PWB shall retain ownership of all licenses. The Contractor shall provide web hosting on a server dedicated to PWB for Primavera Contract Management (up to fifty licenses) and software add-ons necessary to utilize the full functionality of the software including, but not limited to, the required report writing engine (up to three licenses), web services (up to fifteen licenses), and integration with Primavera P6 Enterprise Project Portfolio Management (up to three licenses). Hosting on a dedicated server will meet or exceed the security and service levels of the current hosted server, shall be provided with a firewall and regular data archiving and recover, if required. The Contractor shall upgrade the existing Primavera Contract Management software to the most recent version and migrate existing data and customized reporting for projects using the existing system to the new dedicated server. The Contractor shall maintain the existing system until such time as the upgraded system is ready for use with all custom forms, reports, and data functioning on the new server. This added work shall not exceed \$500,000.

The Contractor shall retain the services of AECOM to support the use of PWB's existing Oracle Contract Management software for current and upcoming PWB Construction projects. This shall include procurement of the additional software licenses discussed

above for access by PWB and their contractors, annual update and maintenance of all procured licenses, support for training to PWB, the Contractor, and PWB construction contractors, as well as staff extension services on an as-needed basis.

Subtask 1 to Task 8 - Software Procurement

The Contractor shall perform the following:

- Procure up to fifteen licenses of Primavera Contract Management, up to three licenses of the required report writing engine, and up to fifteen licenses for web services
- Install additional Primavera Contract Management licenses on existing PWB Contract Management database until upgraded system is installed and ready for use on new dedicated server.
- Install licenses for other supporting software including the required report writing engine, web services, and Primavera P6 Enterprise Project Portfolio Management on new dedicated server.
- Pay annual update and maintenance fees for all procured licenses of Primavera Contract Management, the required report writing engine, web services, and Primavera P6 Enterprise Project Portfolio Management.

Subtask 1 Deliverables:

- Software installed and functional on hosting service with server dedicated to PWB.
- Create user accounts for new licenses.

Subtask 2 to Task 8 - General Support

The Contractor shall perform the following:

- Configure the Contract Management (CM) software applications for new projects including creating additional "Groups" in the software if requested by the PWB and transferring current custom fields, reports, and forms to the new "Groups".
- Support PWB in administering the CM software.
- Support the PWB CM administrator in training PWB, Contractor staff, and PWB construction contractors, as well as staff extension services on an as-needed basis.
- Assist the PWB CM administrator to generate necessary training documentation.
- Support to upgrade the existing system, including all data and customizations to the most recent version of Primavera Contract Management on to the dedicated hosted server.

Subtask 2 Deliverables:

- Implement Contract Management system in use on PWB-specified projects; migration of existing data to the new dedicated server.
- Support for CM Project Administrator for up to 200 hours.

Subtask 3 to Task 8 - Contract Management Custom Reports

During the configuration of CM for additional projects, PWB may request the creation of custom forms and reports from the CM software. The Contractor shall perform the following:

- Support the PWB Contract Management administrator to generate custom reports as requested.
- Configure the Contract Management software with necessary custom items in order to generate the custom reports.
- Support the PWB Contract Management administrator to recreate current custom forms and reports using the new report writing engine as requested.
- Support PWB in configuring web services as requested.

- Support PWB as requested in development of custom web service interfaces. Custom interfaces shall be developed by a developer specializing in API, ASP.net and web services.

Subtask 3 Deliverables:

- Support creating Contract Management Custom forms and reports and configuring web services for up to 285 hours.
- Support developing custom web service interfaces by specialized developer for up to 400 hours.

Subtask 4 to Task 8 - This is an Optional Task which requires prior written approval from the City's Project Manager to begin work. This is continuation of service or transfer of PWB construction management system and data

At the completion of the Contractors work under this Amendment, the Contractor shall transfer the construction management system and all of its accompanying data back to PWB or to another third party hosting partner as selected by PWB; or PWB may seek to continue the services of the Contractor in hosting and supporting the construction management system for a period of up to one year in lieu of the Contractor transferring the CM system to the PWB or a third party upon project completion. This optional task shall only be performed after the Contractor receives written authorization from the PWB Project Manager.

Subtask 4 Deliverables:

- Contract Management licenses and data migrated to PWB infrastructure.
- c) The Contractor shall incorporate the CM procedures, use by the Contractor, and training to use the Contract Management software for the construction period of the Dam 2 Towers project. The Contractor shall provide software training for the use of submittal reviews, Requests for Information, change order requests, and other construction management activities, in accordance with the PWB's overall procedures. This added work shall not exceed \$45,000.

Task 9 – Project Management Requirements: The redesign of the 95% FERC submittal drawings requires an extension of the timeframe of intensive design and review work of 6 months. The Contractor shall attend additional bi-weekly meetings, subconsultant coordination, and PWB coordination. Proposed Budget \$30,000.

4. The following subconsultant shall be added to the Contract:

Subconsultant	Role on Project
AECOM	Construction Management Assistance

All other terms and conditions shall remain unchanged and in full force and effect.

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CONTRACTOR SIGNATURE:

This contract 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 contract amendment.

The parties agree the City and Contractor may conduct this transaction by electronic means, including the use of electronic signatures.

Black & Veatch Corporation

By:  Date: 11-10-11

Name: Dan W Meyer

Title: Vice President

Address: 5885 Meadows Rd, Suite 700, Lake Oswego, OR 97035

Telephone: 503-443-4400

185081

Contract No. 37587 Amendment/Change Order No. 4

Contract Title: Bull Run Dam No. 2 Tower Improvements

CITY OF PORTLAND SIGNATURES:

By: _____ Date: _____
Chief Procurement Officer

By: _____ Date: _____
Elected Official

Approved:

By: _____ Date: _____
Office of City Auditor

Approved as to Form: **APPROVED AS TO FORM**

By: _____ Date: 6/15/11
Office of City Attorney *Shana Hengst*
CITY ATTORNEY

Black & Veatch Contract 37587																								
Design of Dam 2 Towers Improvements - Amendment 4 Exhibit A																								
WORK TASKS	B&V									Alcantar Associates	B&V Hours incl. Alcantar	Total BV Labor Cost	Allowable Expenses	Alcantar	Epsilon Engineering	nhc	Cornforth	ES&A	R2	BCG	Other Sub	Subconslt Markup	Total Costs	
	Principal	Project Manager	Senior Engineer	Project Engineer	Mechanical Engineer	Structural Engineer	Staff Engineer & CADD Manager	Electrical & I&C	Clerical															
	Rates	\$234	\$199	\$202	\$190	\$145	\$160	\$120	\$140	\$75	\$85				\$	\$	\$	\$	\$	\$	\$	\$		5%
Hourly Rates: Rates are based on the average of the category; actual billing will be based on PWB approved at no greater than a 3.1 multiplier.																								
1. KICKOFF MEETING																								
Attend Kickoff Meeting and Prepare Minutes	8	8		16	4		4		8		48	\$8,164	\$739	\$0									\$0	\$8,223
Hours	8	8	0	16	4	0	4	0	8	0	48													
Cost	\$1,872	\$1,592	\$0	\$3,040	\$580	\$0	\$480	\$0	\$600	0														\$8,223
2. PERMITTING ASSISTANCE																								
Permitting Strategy Memorandum	2	8		20					4		34	\$6,160	\$100	\$0				\$3,000	\$0		\$8,550	\$809	\$17,893	
Permitting Strategy Meetings / coordination		8		12	8						28	\$5,032	\$80	\$0					\$0		\$9,380	\$657	\$14,661	
Introduce Permitting Agencies to Project		8		40							48	\$9,192	\$140	\$0					\$0		\$9,450	\$662	\$18,116	
Assist with Completing and Submitting Permit Applications		8		80						40	128	\$16,792	\$1,542	\$3,400				\$6,880	\$0		\$31,090	\$2,658	\$59,834	
Regular Permitting Meetings		26		104							130	\$24,934	\$4,078	\$0	\$0			\$0	\$0	\$0	\$10,080	\$706	\$36,260	
5 a - Revise permit drawings for DSL and 404 Addendum		4	18	4			20				46	\$7,592	\$183					\$4,500	\$0	\$0	\$0	\$225	\$12,500	
Hours																								
Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0														\$159,264
3. DETAILED HYDRAULIC ANALYSIS																								
Physical Modeling - Design & Construction		2	2	4	4					80	92	\$2,142	\$280	\$6,800		\$101,400							\$7,098	\$117,524
Physical Model Testing											0	\$0	\$0	\$0		\$74,100							(\$1,523)	\$72,577
Physical Model Reporting	2	2	2	2	4						12	\$2,230	\$40	\$0		\$24,300			\$400				\$1,729	\$28,565
CFD Model North Tower - Develop and Runs			2	2							4	\$784	\$10	\$0		\$74,864							\$5,240	\$80,794
CFD Model South Tower - Develop and Runs			2	2							4	\$784	\$10	\$0		\$53,487							\$3,744	\$57,921
CFD Model Reporting	2	2	2	2	4						12	\$2,230	\$40	\$0		\$16,689							\$1,168	\$19,994
Witness Testing		8	8	8	2						26	\$5,018	\$80	\$0									\$0	\$4,554
Hydraulic Analysis Review Meeting		2		4	4						10	\$1,738	\$1,970	\$0		\$3,000							\$210	\$6,766
Hours	4	16	18	24	18	0	0	0	0	80	160													
Cost	\$936	\$3,184	\$3,636	\$4,560	\$2,610	\$0	\$0	\$0	\$0	\$6,800														\$388,695
4. PRELIMINARY DESIGN																								
Interviews with operations and maintenance personnel		8		24	24				4		60	\$9,932	\$180	\$0	\$1,320								\$92	\$10,676
Meeting with Corps and PWB operators		8		16	8				4		36	\$6,092	\$110	\$0									\$0	\$5,594
Site Visit	8	8	8	8	8	8					40	\$7,424	\$620	\$0	\$3,500		\$1,200	\$0	\$0	\$1,900			\$462	\$14,746
Basis of Design Memorandum	8	80	24	260	260	260	40		40	100	1072	\$159,140	\$5,220	\$8,500	\$2,800		\$30,700	\$0		\$600			\$2,387	\$198,947
Review Available Survey Data		4		16			24			60	104	\$6,716	\$310	\$5,100									\$0	\$11,102
Basis of Design Review Meetings (4)		40		40	40	40			12	16	188	\$28,660	\$560	\$351	\$3,000		\$1,200			\$1,900			\$427	\$34,258
Hours	16	148	24	364	340	308	64	0	60	176	1500													
Cost	\$3,744	\$29,452	\$4,848	\$69,160	\$49,300	\$49,280	\$7,680	\$0	\$4,500	\$14,960														\$275,323
5. 30% DESIGN																								
Geotechnical and Structural Analysis Review & Meeting	4	16	8	24	16	120			16		204	\$33,016	\$610	\$0			\$40,500			\$800			\$2,891	\$76,669
30% Design (drawings & updated cost est)	16	40	40	80	120	200	80	60	100	400	1136	\$109,884	\$3,410	\$34,000	\$14,800		\$7,800	\$0		\$800			\$1,638	\$166,228
30% Design Review Meeting		8		16							24	\$4,632	\$1,865	\$0	\$1,200		\$1,200			\$1,900			\$301	\$10,490
Hours	20	64	48	120	136	320	80	60	116	400	1364													
Cost	\$4,680	\$12,736	\$9,696	\$22,800	\$19,720	\$51,200	\$9,600	\$8,400	\$8,700	\$34,000														\$253,387
6. ASSIST WITH CM/GC FRAMEWORK AND COORDINATE WITH CONTRACTOR																								
Assist with RFP for CM/GC	4	4						16			24	\$3,972	\$70	\$0						\$7,500			\$525	\$11,847
Assist with Negotiations	6	18						120			144	\$21,786	\$430	\$0						\$2,700			\$189	\$23,623
Construction Documents	6	18					8	36	40	120	228	\$13,986	\$2,850	\$10,200									\$0	\$26,234
Partnering Workshops	4	24		24					6		58	\$10,722	\$170	\$0						\$4,300			\$301	\$14,393
CM/GC Facilitator											0	\$0	\$0	\$0								\$0	\$0	\$0
Additional CM/GC Coordination		24		24	16	16		32			112	\$18,696	\$1,304	\$0								\$0	\$0	\$20,000
Additional Partnering Workshops		16		16	16	16					64	\$11,104	\$896	\$0								\$0	\$0	\$12,000
Hours																								
Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0														\$108,097
7. FINAL DESIGN																								
30% Value Engineering (VE) Workshop and response	12	24	60	60					40		196	\$34,104	\$5,819	\$0	\$2,000		\$2,000	\$0		\$1,200	\$78,797	\$5,880	\$126,308	
60% Design (drawings, specifications & updated cost est)	12	60	40	400	250	660	220	200	80	630	2552	\$301,078	\$9,660	\$53,550	\$24,000		\$24,700	\$0		\$1,200	\$59,000	\$7,623	\$460,583	
60% Design Review Meeting	8	8		24	8						48	\$9,184	\$140	\$0	\$1,500							\$1,570	\$215	\$11,769
90% Design (drawings, specifications & updated cost est)	8	60	40	400	250	680	320	340	80	560	2738	\$334,942	\$12,030	\$47,600	\$30,000		\$4,000	\$0		\$1,200	\$69,000	\$7,294	\$482,434	
90% Design Review Meeting	8	8		24	8						48	\$9,184	\$140	\$0	\$1,500							\$1,500	\$210	\$11,694
Final Drawings and Specifications	8	16		40	40	40	60	40	24	80	348	\$39,456	\$1,540	\$6,800	\$1,200							\$13,200	\$1,008	\$60,156
Seismic Issue initial analysis /mitigation strategy	2	16		16		60	8				102	\$17,252	\$318	\$0									\$0	\$17,570
Geotechnical Input and Analysis (Cornforth)											0	\$0	\$0	\$0			\$21,600						\$1,080	\$22,680
Structural Modeling Confirmation		4		4		40					48	\$7,956	\$144	\$0									\$0	\$8,100
Coord w/PWB and CM/GC on Preferred Solution		4	8	4		8					24	\$4,452	\$48	\$0									\$0	\$4,500
Revisions to Drawings - Seismic Stability		8	32	16	8	16	64		4		148	\$22,796	\$1,204	\$0									\$0	\$24,000
Revise Seismic Report and FERC Coordination	4	8	8	16		80	16		16		148	\$23,104	\$781	\$0			\$16,300						\$815	\$41,000

BUDGET, Total all phases and amendments	\$4,826,310
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