

January 22, 2020

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

1. RE: PART D - FORM OF AGREEMENT - SCHEDULE 2 - SPECIFICATIONS AND DRAWINGS -  
CHANGE TO DRAWINGS - Rev G - Issued for Amendment No. 3

The following drawings have been revised as part of Amendment No.3.

- 19017-551;
- 19017-522;
- 19017-528; and
- 19017-549.

The revisions to the above drawings are related to the Questions and Answers No 4.  
Associated revised Schedule 2 - Specification as described below.

2. RE: PART D - FORM OF AGREEMENT - SCHEDULE 2 - SPECIFICATIONS AND DRAWINGS -  
CHANGE TO SPECIFICATIONS - SECTION 01 20 00 MEASUREMENT AND PAYMENT

1.13 LANDFILL GAS SYSTEM EXPANSION

1. Item 7.14 – Vertical Gas Well Drilling, 900 mm (36 in.) Dia. Boring

*DELETE THE FOLLOWING:*

- c. Includes: All activities necessary to complete the well drilling to the required diameter, depth and alignment to allow installation of well components (well completion). Disposal of drill cutting is included under a separate pay item.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: All materials, labour, equipment, and activities necessary to complete the well drilling to the required diameter, depth and alignment to allow installation of well components (well

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

completion). Disposal of drill cutting is included under a separate pay item.

16. Item 7.16 – Vertical Gas Well Completion, 900 mm (36 in.) Dia. Boring

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, fabricating and installing PVC pipe and fittings, centralizers, filter pack material, bentonite seals, and miscellaneous appurtenances and fittings.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, fabricating and installing CPVC pipe and fittings, centralizers, geotextile, filter pack material, bentonite seals (or Owner selected alternates - bentonite grout, or high strength expandable foam), final backfill, and miscellaneous appurtenances and fittings.

55. Item 7.55 – Road Crossing, Type 2 for 150 mm (6-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. e Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

61. Item 7.61 – Road Crossing, Type 1 for 200 mm (8-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. e Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

67. Item 7.67 – Road Crossing, Type 1 for 250 mm (10-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. e Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

74. Item 7.74 – Road Crossing, Type 1 for 400 mm (16-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. Includes placement and grading of pipe. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment pre-construction and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints,

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

75. Item 7.75 – Road Crossing, Type 3 for 400 mm (16-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- d. Measurement: Per count of installation.
- e. Payment: Per Each.
- f. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. Includes placement and grading of pipe. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- a. Measurement: Per count of installation.
- b. Payment: Per Each.
- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

88. Item 7.88 – Road Crossing, Type 2 for 100 mm (4-in.) Condensate Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing, joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. Includes placement and grading of pipe. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment pre-construction and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

108. Item 7.108 – Road Crossing, Type 4 for 400 mm (16-in.) Gas Pipe

*DELETE THE FOLLOWING:*

- c. Includes: Furnishing, installing, casing pipe, joints, fittings, geosynthetics, concrete lock blocks, and appurtenances. Excavation in existing soils, refuse, and/or imported soils of

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

**AMENDMENT No. 3**

all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes shoring, de-watering, and disposal of excess material. Includes placement and grading of pipe. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment and road surface structure.

*REPLACE WITH THE FOLLOWING:*

- c. Includes: Furnishing, installing, casings (for all pipes at road crossing, including spare casings where shown on drawings), joints, fittings and appurtenances. Excavation in existing soils, refuse, and/or imported soils of all gradations and composition including cobbles and boulders less than the trench width. Also includes excavation for the range of trench widths and depths as shown on the Drawings. Also includes benching, sloping, and shoring, and all safety measures necessary for working in and around the trench. Also includes de-watering, and disposal of excess material. Payment also includes procurement, hauling, placing and compacting embedment material, final backfill material, embankment, and road surface structure.

**3. RE: PART D - FORM OF AGREEMENT - SCHEDULE 2 - SPECIFICATIONS AND DRAWINGS -  
CHANGE TO SPECIFICATIONS - SECTION 31 23 02 EARTHWORK FOR LANDFILL GAS SYSTEM**

**2.01 MATERIALS**

F. Seal – Bentonite:

*DELETE THE FOLLOWING:*

2. Bentonite shall be processed into chips meeting the gradation specified below:

Gradation of Bentonite Chips		
Sieve Size		Percent Passing by Weight
U.S. Std.	S.I. units	
13 mm	1/2 in	100
10 mm	3/8 in	90

**INVITATION TO TENDER "ITT" No. PS20191496**  
**CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -**  
**VANCOUVER LANDFILL**

**AMENDMENT No. 3**

6 mm	1/4 in	5
4.75 mm	No. 4	0

3. Acceptable products for fast hydrating bentonite chips include Enviroplug Medium as manufactured by Wyo-Ben, Incorporated, Billings, Montana. For another product to be an approved equivalent it shall have free swell characteristics the meet or exceed the requirements above.

*REPLACE WITH THE FOLLOWING:*

2. Bentonite shall be processed into chips and granules meeting the gradations specified below:

<b>Gradation of Bentonite</b>			
<b>Sieve Size</b>		<b>Percent Retained by Weight (min.)</b>	
<b>S.I. Units</b>	<b>U.S. Std.</b>	<b>Chips</b>	<b>Granules</b>
12.7 mm	1/2 in	17.0	-
9.51 mm	3/8 in	35.0	-
6.35 mm	1/4 in	41.5	-
4.75 mm	No. 4	6.0	0.5
2.38 mm	No. 8	-	41.0
1.68 mm	No. 12	-	41.0
0.841 mm	No. 20	-	17.0

3. Acceptable products for fast hydrating bentonite chips include Enviroplug Medium as manufactured by Wyo-Ben, Incorporated, Billings, Montana. Acceptable products for fast hydrating bentonite granules include Enviroplug No. 8 as manufactured by Wyo-Ben, Incorporated, Billings, Montana. For another product to be an approved equivalent it shall have free swell characteristics the meet or exceed the requirements above.

**G. Final Backfill Material:**

*DELETE THE FOLLOWING:*

1. Sand per Unified Soil Classification System, clean and dry.

*REPLACE WITH THE FOLLOWING:*



INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

1. For vertical gas wells, final backfill material shall consist of coarse sand per Unified Soil Classification System, clean and dry.

4. RE: PART D - FORM OF AGREEMENT - SCHEDULE 2 - SPECIFICATIONS AND DRAWINGS -  
CHANGE TO SPECIFICATIONS - SECTION 33 23 10 VERTICAL GAS WELL

3.04 WELL INSTALLATION

*DELETE THE FOLLOWING:*

- A. Geotextile Installation: A 2 metre by 2 metre (6.5 feet by 6.5 feet) piece of Geotextile shall be placed at the bottom of the boring prior to pipe installation. The Geotextile shall be wrapped around some of the filter pack material to ensure it drops to the bottom of the boring.

*REPLACE WITH THE FOLLOWING:*

- B. Geotextile Installation: A square piece of geotextile, of size shown on the drawings, shall be placed at the bottom of the boring prior to pipe installation. The geotextile shall be wrapped around some of the filter pack material, and secured with ties, to ensure it drops to the bottom of the boring.

5. RE: PART D - FORM OF AGREEMENT - SCHEDULE 2 - SPECIFICATIONS AND DRAWINGS -  
CHANGE TO SPECIFICATIONS - SECTION 33 51 10 LANDFILL GAS PIPE, FITTINGS, AND  
VALVES

PART 1 GENERAL

1.02 REFERENCES

*DELETE THE FOLLOWING:*

14. ASTM D-2855 Standard Practice for Making Solvent Cemented Joints using Poly (vinyl chloride) (PVC) Pipe and Fittings.

*REPLACE WITH THE FOLLOWING:*

14. ASTM D-2855 Standard Practice for Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

*DELETE THE FOLLOWING:*

19. ASTM F-439 Socket type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Schedule 80

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

*REPLACE WITH THE FOLLOWING:*

19. ASTM F-439 Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80

*DELETE THE FOLLOWING:*

20. ASTM F-441 Chlorinated poly (Vinyl Chloride) (CPVC) plastic pipe, schedules 40 and 80

*REPLACE WITH THE FOLLOWING:*

20. ASTM F-441 Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80

*DELETE THE FOLLOWING:*

22. ASTM F-493 CPVC solvent cement

*REPLACE WITH THE FOLLOWING:*

22. ASTM F-493 Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings

PART 2 PRODUCTS

*ADD THE FOLLOWING:*

1.10 CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE AND FITTINGS

- A. CPVC pipe shall be Schedule 80 and conform to the requirements of ASTM D1784 and ASTM F441. CPVC pipe shall also conform to U.S. Product Standard PS 21-70 as having the same outside diameter as iron pipe. The pipe shall be homogenous throughout and free of cracks, holes, foreign inclusions, or other injurious defects. Any pipe with nicks, scrapes, or gouges deeper than 5 percent of the nominal wall thickness shall be rejected. It shall be uniform in color, density, and other physical properties.
- B. Perforated (screened) CPVC pipe for gas wells shall meet the requirements of solid pipe and be shop fabricated as shown on the Drawings. Perforated CPVC pipe shall be shop fabricated with machining tools specifically designed for thermoplastic pipe. Pipe shall be cut smoothly and uniformly, with no burrs or melt down evident upon inspection by the Engineer.
- C. CPVC fittings shall be Schedule 80 and conform to the requirements of ASTM F439, Type 1, Grade 1. Fittings shall be socket spigot-type suitable for joining by solvent welding techniques except where indicated on the Drawings.

INVITATION TO TENDER "ITT" No. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL

AMENDMENT No. 3

- D. CPVC Pipe joints for vertical gas wells shall be made with bell end pipe or couplings including:
  - 1. Solvent welded with primer and cement.
  - 2. Stainless steel screws.
    - a. Six stainless steel self-tapping screws spaced equal distance around the pipe circumference at each joint (2 location for couplings).
    - b. Screws shall be of sufficient length for joint strength and no intrusion into inside of the pipe greater than 1/16 inch.
  - 3. Threaded pipe and fittings are not allowed.
- E. Solvent cement used for socket type joints on CPVC pipe and fittings shall conform to ASTM F493. The standard practice for safe handling of solvent cements shall be in accordance with ASTM F402.
- F. Primer used for CPVC pipe and fittings shall conform to ASTM D2855.

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**All other conditions and specifications remain unchanged.**

Brian Brennan, Contracting Specialist