

**Questions and Answers**  
**Port Granby Waste Water Treatment Plant**  
**Solicitation No.: EQ139-131604**

1. Who is responsible for obtaining a building permit for the plant?

ANSWER:

The Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work, See R2810D.

A building permit from the Municipality of Clarington will not be required for this project.

2. At the site visit it was mentioned that the owner's requirements for site security and for the security kiosk are not as extensive as the spec. Please clarify what is required.

ANSWER:

Considering the Contractor is responsible for site safety and security, the Contractor must decide on how to manage that aspect of the project. Therefore, the requirement to provide security staff at the kiosk during and/or after working hours is at the Contractor's discretion and in reference to Appendix F, PHAI Security Plan.

3. Further to the site visit please clarify the type and extent of any fence required inside the massive existing fenced compound. Specifically as it relates to the farmer and later to other contractors who will be using the site near the end of this work. Please update spec section 01 56 00 Item 1.5 which currently describes 3 different products to use as site enclosures.

ANSWER:

There is no requirement for additional fencing to delineate the Contractor's work area. Fencing/hoarding for worker safety will be identified in the Contractor's safety assessment/plan for the construction of the WWTP. A temporary site enclosure to delineate the WWTP construction zone, inside the already fenced site, using either snow fencing or chain link is at the discretion of the Contractor. However, once the area contracted out for farming as well as work area limits of other contracts have been identified in the field, the Contractor can erect a fence or other demarcation to delineate the limits of its construction zone from the rest..

4. Further to the site visit we are also unable to locate the soils report. Has this document been issued?

ANSWER:

The Geotechnical Report for the Project that includes the WWTP is provided as part of Addendum 3.

5. During the site visit it was mentioned that the contractor is responsible to maintain Elliott Rd during construction however I do not see specifically where Elliott Rd is indicated in the project

documents. They seem to relate only to construction roads. If the contractor is to assume the municipal road please specify the maintenance required and location/length of road. Please clarify.

ANSWER:

Refer to specification section 01 35 00 (Special Procedures for Traffic Control) Clause 1.11.3.

6. Further to the site visit it was mentioned that the contractor is responsible for maintaining the CN track crossing on Elliott Rd. From experience, CN is very specific about who is allowed to touch their tracks. Does cleaning & snow removal from the tracks have to be performed by a CN or PNR operative? Additionally, we are unable to locate this reference in the documents, please assist us.

ANSWER:

Refer to specification section 01 35 00, article 1.11.7.

7. With reference to spec section 01 52 00 Item 1.13.1&2, 1.13.5, and 1.13.6 each detail a project sign. Are 3 project signs required?

ANSWER:

No, only one project sign is to be erected. Other signs relating to safety or information are to be put up as required.

8. With reference to spec section 01 74 20 item 1.1.4: who is responsible to handle the contaminated waste created during the final stages of commissioning of the WWTP and then deposit this in the mound?

ANSWER:

The DR through AECL will be taking over operational responsibility of the facility for the facility level commissioning activities, referred to as Active Commissioning. AECL will be responsible for the management of the residual potentially contaminated waste.

9. The asphalt specification indicates HL3 while 1/L-06 indicates HL1. Which is correct?

ANSWER:

Specification 32 12 17, 2.1.2 indicates both HL3 and HL1. HL1 is to be provided for asphalt pavements where indicated on the Landscape Plans.

10. Regarding spec 27 05 13 Page 1 – 1.4 System Description .1 Telephone Incoming System: The contractor has to coordinate with the telephone utility company (Bell Canada) for the supply and installation of a 25 pair telephone cable, run on overhead poles from the utility service entrance cabinet owned by the telephone utility to the new building and terminated on a six block in the hub room. Is there a cash allowance for this coordination?

ANSWER:

No.

11. Regarding spec 28 13 00 Page 1 1.1.4 Work Included: Allow for carrying the Owner's ESS Contractor As A subcontractor Under A Specific Cash Allowance. What is the cash allowance amount?

ANSWER:

Deferred to next PWGSC Amendment.

12. Section 40 90 00 1-Q Page 3 of 3 shows one control room printer PRNT-ND-01. DWG E-34 shows Printer 1 and 2. Who is to provide the second printer?

ANSWER:

The receptacle and Ethernet port for Printer 2 are intended for future use (e.g. Client's own printer). The contractor is not required to provide a second printer.

13. Specification 40 90 00 1-U Page 1 of 6 specifies an alarm dialer. Where is this alarm dialer on the drawings?

ANSWER:

The alarm dialer location is not shown on the drawings, but is described in specification 40 90 00 Attachment 1-U, paragraph 2.01 (i.e. it is located on the face of Master Control Panel (ICP-01).

14. DWG DI-32 for Gas Detection Instrumentation Panels GDP-01030 and 01040 has a number of Analyzers and Strobes connected to them. It mentioned by Note 1 that the Gas Detection Panels are supplied by the gas detection equipment vendor. Are the instruments as well?

ANSWER:

Yes, the gas detection instruments are to be provided by the gas detection equipment vendor.

15. DWG E-11 and E-20 mention the 1000kVA diesel generator. Are there any physical elevations or details for this?

ANSWER:

The backup generator will be selected by the Contractor. The equipment vendor will provide the details for the diesel generator.

16. Is the effluent flow rate of the MBR to be 1189.4 m3/d?

ANSWER:

The Process and Instrumentation Drawings and the Design Rationale and Process Control Description (section 7.8) provide information relevant to the membrane bioreactor system with regards to equipment and capacities. Design Flows for the WWTP are provided in section 2.2.2.

The flow balance identifies 1189.4 m<sup>3</sup>/d as a daily maximum through the MBR. However the instantaneous filtration capacity (filtrate pump) will be higher as identified in table 7-17 and 7-18 of the Design Rationale and Process Control Description.

17. Can you please tell us what are the flows, discharge and suction pressures for the Antiscalant Feed system, the Urea Feed System, Sodium hydroxide feed system hydrochloric acid feed system, lime feed system, ortho phosphoric acid feed system, Soda ash feed system, biocide feed system, methanol and polymer feed system.

ANSWER:

The Process and Instrumentation Drawings and the Design Rationale and Process Control Description (section 7.18) provide information relevant to the chemical dosing systems with regards to application point, storage capacity and pump capacity. Systems that meet the design intent and performance requirements will be accepted. The Contractor will be required to provide justification (e.g. calculations) for the selection.

18. We respectfully submit for your review and approval of the following two (2) CertainTeed Gypsum & Insulation Canada products for use in the above named project.

ANSWER:

Products that meet the design intent and performance requirements will be accepted. The Contractor will be required to provide justification (e.g. calculations) for the selection.

19. Requesting a 3 month extension to the project and also a stipend of \$50,000 for the design of the Mechanical systems for the project. The stipend is required so that we can pay for the Engineering services that will be required.

ANSWER:

There will not be any consideration, compensation or honorarium for bidders. The closing date has been extended to December 11, 2012. No stipend will be considered.

20. Requesting an extension to the overall timeline of the project. Currently, the schedule shows a late February, 2013 mobilization and a January, 2014 completion (for the construction works). We do not believe 10 months is adequate for the construction of the facility. The commissioning period of 9 months is adequate. Can you please add 6 months to the construction schedule for a total of 16 months?

ANSWER:

No.

21. Can you please consider creating an allowance for all permits?

ANSWER:

No.

22. For the well, a Permit to Take Water will need to be applied for. Please consider doing this in advance. The PTTW will need to be applied for in owners name.

ANSWER:

Owner will address the need for a PTTW for the site water supply well.

23. Please clarify that no medical testing will be required for this project.

ANSWER:

Instances of work within potentially contaminated areas have been defined for this project (e.g. connection to active water source and troubleshooting during active commissioning). Contractor's staff that are designated to work in such instances will be trained by the owner for awareness of the requirements of protection against radioactive energy. Accordingly, bioassay record (urine sample testing by owner) will be required for such staff immediately prior to start of related work and periodically to completion (no more than monthly in this case).

24. Please clarify when the "half load" season is for the Municipality?

ANSWER:

Please refer to Municipality of Clarington Traffic By-Law No. 91-58 for heavy vehicle weight restrictions on Municipal roadways. The start and end dates for 'half load' season can vary from year to year, however it can be expected to be applicable for winter and spring months. We suggest contacting the Municipality of Clarington if more information regarding the typical start and end dates is required.

25. Please clarify the contractor's requirements for providing security personnel at the Kiosk.

ANSWER:

Considering the Contractor is responsible for site safety and security, the Contractor must decide on how to manage that aspect of the project. Therefore, the requirement to provide security staff at the kiosk during and/or after working hours is at the Contractor's discretion and in reference to Appendix F, PHAI Security Plan.

26. Section 01 35 00 – 1.5.3

Since we have no contract work on Concession Road 1, Lakeshore Road and Nichols Road, why do we have to have Road Occupancy Permits for these? Are we missing something?

ANSWER:

Road occupancy permits are required where roadwork is required within the Municipally-owned right-of-way(s). The sewer and forcemain crossings of Lakeshore Road are part of the scope of the Contract.

27. Section 01 35 00 – 1.9.4

We thought Elliott Road was the “primary construction access route to the site”, not Nichols Road as stated here. Please clarify.

ANSWER:

Correct, Elliott Road is the main access to the WWTP site. Nichols road north of Lakeshore Road is impassible but the section south of Lakeshore Road is the main access to the PGWMF as stated in article 1.9.4.

28. Section 01 35 00 – 1.10.7

Inspecting and cleaning of flange ways at the CN – Elliott Road at – grade crossing. Please provide contact information for person responsible at CNR.

ANSWER:

The Contact information for CN will be provided to the successful proponent by PWGSC.

29. Section 01 35 00 – 1.11.9

Please confirm grass cutting is included as per verbal instructions during site visit.

ANSWER:

Maintenance, including snow removal and grass cutting, along the right-of-way of Elliott Road from Concession Road 1 to the site entrance will be the responsibility of the Contractor.

30. Section 01 35 14 – 1.6

The appendix identification letters listed here are not present on many of the Appendixes? At the site visit, an Appendix Q was mentioned to source submittal references. Where is it?

ANSWER:

Appendix Q was mentioned in discussions as an example only. Submittal references are found in Appendix W.

31. Section 01 35 14 – 1.8

Training and awareness sessions. What requirement for the above will there be for the following personnel:

- a. Material delivery truck drivers, i.e, lumber, ready mix concrete, pipe, etc.
- b. Very short term duration subcontractors, i.e., on or two days on site
- c. Others?

On the Port Hope WWTP you set out parameters for the various short term on site personnel.

ANSWER:

The subject plant is not located at a contaminated site. Overall, as the Constructor, the Contractor will be responsible for all H&S related items for the site.

32. Section 01 35 14 – 1.9.2.6

“provide physical security of licensed work sites” We thought our site, while we occupy it, is not licensed. Please clarify the status of our site and what you mean by “physical security”.

ANSWER:

Contractor is responsible for safeguarding project supplies, owner assets as well as contractor’s tools and equipment by implementing procedures and methods that will deter and avoid unauthorized access to areas within its work zone limits.

33. Section 01 51 00 – 1.7

How many lines are we providing for departmental representatives?

ANSWER:

Provide adequate service of two phones, two internet connections, and one fax machine.

34. Section 01 52 00 – 1.9

Says we need to pay for security personnel to guard the site 24/7. At the site visit, we thought it was stated that the requirement for security personnel was at our discretion? Please clarify as this could be an expensive item if we need to provide a security guard 24/7 for the duration of the project.

ANSWER:

Considering the Contractor is responsible for site safety and security, the Contractor must decide on how to manage that aspect of the project. Therefore, the requirement to provide security staff at the kiosk during and/or after working hours is at the Contractor’s discretion and in reference to Appendix F, PHAI Security Plan.

35. Section 01 52 00 – 1.10.5

Security Kiosk – Who is this for? If occupied, what does this person do? At the site visit, it was mentioned that further clarification on this item would be provided by addendum.

ANSWER:

Considering the Contractor is responsible for site safety and security, the Contractor must decide on how to manage that aspect of the project. Therefore, the requirement to provide security staff at the kiosk during and/or after working hours is at the Contractor’s discretion and in reference to Appendix F, PHAI Security Plan.

36. Section 01 91 13

Who pays for power, chemicals, fuel, water etc. consumed during the individual equipment check outs, system check outs and inactive commissioning? Normally these are the Owner’s responsibility as they set up the account with the various suppliers under long term contacts. If

not, please provide consumption rates for the various consumables so we can estimate quantities and costs.

ANSWER:

It is the Contractor's responsibility to provide the power, chemicals, fuel and water etc. during the individual and the WWTP system checks out throughout the inactive commissioning phase. Contractor is to provide the first filling for each chemical.

37. We could not locate the soils report.

ANSWER:

The Geotechnical Report for the Project that includes the WWTP is provided as part of Addendum 3.

38. Section 01 56 00 – 1.5

Lists various types of temporary fencing. Which type do you want? At the site visit, it was mentioned an addendum would clarify this and the extent of any temporary fencing required.

ANSWER:

There is no requirement for additional fencing to delineate the Contractor's work area. Fencing/hoarding for worker safety will be identified in the Contractor's safety assessment/plan for the construction of the WWTP. A temporary site enclosure to delineate the WWTP construction zone, inside the already fenced site, using either snow fencing or chain link is at the discretion of the Contractor. However, once the area contracted out for farming and work areas of other contracts have been identified in the field, the Contractor can erect a fence or other demarcation to delineate its work zone from the rest.

39. Dwg L - 02

Note "hard landscape works to be coordinated with works under Contract "C". The area shown is part of Contract "B". Please explain what you mean by this note and what is the timing for Contract "C"?

ANSWER:

The construction of the West Mound Road is under Contract C (separate contract). The highlighted Contract B work (subject of this tender) that is adjacent to the West Mound Road cannot be finished until the road is constructed.

Contract C construction work expected to commence near the end of 2013 (i.e. late fall to early winter).

40. Dwg. L – 03

North of the Contract 'B' limit is a note that that says "...berm construction under Contract B". Please explain.

ANSWER:

The berm when constructed will take in part of the parking lot/laydown area which is being constructed under Contract A (by others). This section of the berm has been deferred to contract C (by others) so that the parking lot/laydown area is available for Contract C and to maintain site drainage in this area. Updated Landscape drawings are provided as part of Addendum 3.

41. Dwg L - 04

Where is the waterline feeding the fire hydrant on the east side of the plant? Where is the piping to /from the aeration tanks? At the aeration tanks, what is "TOT 122.00"? 3

ANSWER:

The waterline feeding the fire hydrant is being installed under Contract A (by others), drawings LTWMF-FM-01 and FM-02. The piping from the aeration tanks is to be provided as part of the process piping. Refer to drawings WWTP-DI-04 and WWTP-D-02 and the specifications. "TOT 122.00" is Top of Tank elevation.

42. Dwg. G – 14

The drawing is supposed to show shading to identify the various contracts. This drawing received from Merx is of poor shading quality making it difficult to identify the contracts. It is our understanding that the parking and laydown area to the north of the Contract "B" limit is available for us to use. Is this correct? Will it be gravelled by others? Does it have to be restored by Contract "B"?

ANSWER:

The parking lot and laydown area just north of the WWTP is available for use by this contract. It is constructed under Contract A (by others), including a layer of 150mm compacted gravel. Maintenance of any portion used will be this Contractors responsibility. Refer to specification section 01 35 00.

43. Dwg. C – 12

Where does the 50Ø forcemain get plugged?

ANSWER:

The 50mm forcemain is to be plugged adjacent to the plugs for the 150mm dia. forcemains from VC4. Please refer to SS-C-12 issued as part of Tender Addendum No.1.

44. Dwg C – 13

Where do the two – 100 Ø forcemains get plugged? (no dimensions given). Is there a AVC and DVC on each individual forcemain (100Ø, 150 Ø) at these locations?

ANSWER:

Please note that the two 100mm dia. forcemains have been revised to 150mm dia. forcemains as part of Tender Addendum No.1. The plugs are to be located approximately 5m east of VC2.

45. Dwg C – 15 Section B-B

Is the 600 Ø STM sewer included in our contract? If yes, from where to where?

ANSWER:

Please refer to the latest issuance of Drawing SS-C-40, issued under Addendum No. 1.

46. Dwg C – 17

Drain valve chamber (DVC) detail. Is a DVC chamber required for both the 100Ø and 150Ø forcemains? In each case, what size are the gate valves?

ANSWER:

Drain valves are required where specified on the plan and profile drawings for the forcemains. The gate valves in the drain chambers are to be 100 mm dia.

47. Dwg C – 20

Is the proposed 100mm temporary stainless steel pipe part of our scope? Temp. pumping station too?

ANSWER:

Yes. Please note that the location of the station and routing of the pipe were revised with issuance of Tender Addendum No.1 drawings.

48. Dwg C-33, C- 34, C-35

Is the 200Ø discharge pipe part of this contact?

ANSWER:

Yes.

49. Dwg C-35

Is the “temp at grade pipe” to the existing treatment pond part of our scope? If yes, please provide details. In MH7A note says to provide submersible pump; etc, is this part of our contact? If yes, please provide details.

ANSWER:

Yes. The successful proponent is responsible for providing a submersible pump in MH7A and a downstream pipe to manage the identified peak flow of 19L/s.

50. Dwg C – 41

Do we include all pipe and MHC – 4 in our scope of work?

ANSWER:

Yes.

51. What was the rationale behind the project being design-build

ANSWER:

This is a performance based design vice design build and was agreed to in consultation with the Client.

52. How was the electrical transformer sized?

ANSWER:

The electrical transformer has been designed for future expansion, 28% of the 2500KVA is for future expansion.

53. Schedule does not allow for Contractor to complete the mechanical design

ANSWER:

Submittal of complete designs is expected only after award of contract.

54. Is medical testing required? If it is, who pays for it?

ANSWER

Instances of work within potentially contaminated areas have been defined for this project (e.g. connection to active water source and troubleshooting during active commissioning). Contractor's staff that are designated to work in such instances will be trained by the owner for awareness of the requirements of protection against radioactive energy. Accordingly, bioassay record (urine sample testing by owner) will be required for such staff immediately prior to start of related work and periodically to completion (no more than monthly in this case).

55. Will the Contractor receive an honorarium for completing the mechanical design

ANSWER:

No. Submittal of complete designs is expected only after award of contract.

56. Is the closing extended

ANSWER:

Yes. Closing date has been extended to December 11, 2012

57. Work area delineation – will a fence be required between the farmers field and/or the Contract C contractor

ANSWER:

There is no requirement for additional fencing to delineate the Contractor's work area. Fencing/hoarding for worker safety will be identified in the Contractor's safety assessment/plan for the construction of the WWTP. A temporary site enclosure to delineate the WWTP construction zone, inside the already fenced site, using either snow fencing or chain link is at the discretion of the Contractor. However, once the area contracted out for farming as well as work area limits of other contracts have been identified in the field, the Contractor can erect a fence or other demarcation to delineate the limits of its construction zone from the rest.

58. Is on-site borrow material available to construct the berm on the west side of the WWTP

ANSWER:

In addition to any excavation spoils resulting from the scope of work for the subject contract (Contract R023276.212), approximately 18,000 cub.m of surplus topsoil is stockpiled on the LTWMF site north of the future mound. This material is available for use by the successful proponent.

59. Building permit – is it required and who pays

ANSWER:

The Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work, See R2810D.

A building permit from the Municipality of Clarington will not be required for this project.

60. Who is responsible for monitoring dust and noise

ANSWER:

Monitoring of dust and noise levels are the responsibility of the Contractor and forms part of the Contractor's environmental plan and procedures. Reporting of the same is to be included in the EILs, weekly and monthly reports. The owner will conduct additional monitoring by other at its own cost.

61. Could not find the geotechnical report in the appendices

ANSWER:

The Geotechnical Report for the Project that includes the WWTP is provided as part of Addendum 3.

62. Is ISO certification required at the time of submitting the bid

ANSWER:

No. Only completion and submittal of the related form is required at the time of submitting the bid.

63. Is the performance of the process the responsibility of the Contractor

ANSWER:

Contractor is responsible for the performance of the equipment and systems supplied and installed in accordance with the requirements outlined in the tender package.

64. Security Kiosk – Clarification of who is responsible, how it will be manned, etc.

ANSWER:

Considering the Contractor is responsible for site safety and security, the Contractor must decide on how to manage that aspect of the project. Therefore, the requirement to provide security staff at the kiosk during and/or after working hours is at the Contractor's discretion and in reference to Appendix F, PHAI Security Plan.

65. Specific number of plates – how much leeway must there be, if things are required to be specific it will limit on what machinery can be used.

ANSWER:

It is the bidder's responsibility to assess and evaluate the provided bid information (e.g. Process and Instrumentation Drawings, Design Rationale and Process Control Description, Pilot Trial Report) and size the appropriate filter press including any ancillary equipment. We do not object to a design with a different number of plates as long as the design and process intent is respected and footprint limits are not exceeded.

#### Question Lot 10

1. Division 43: For chemical feed systems, unfortunately the basic information like pumps flow rates and max back pressure are missing on spec and need a consulting engineer to do the design and let us know about required pump specification.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description provide information relevant to the chemical feed systems with regards to chemical, application point and dosing quantities (refer to section 7.18), but the contractor is required to provide his own design justification for process selection. The chemical dosing systems are further described in the individual chemical feed specifications.

2. Division 40 90 00: Please advise if you consider alternate manufacturers for instrumentation and control? Currently E& H is the sole acceptable manufacturer for all equipments like Analyzers: Ammonium, DO , Nitrate, pH, Turbidity, Magmeters and Ultrasonic levels.

ANSWER:

“As noted in Clause 1.1.1 of Section 40 90 00, it is the Contractor’s responsibility to select the equipment and instruments in the WWTP. Equipment/instruments that satisfy the requirements outlined in the specifications will be accepted.”)

3. After reviewing the specs for Section 43 21 39 – Submersible Liquid Pumps and Section 43 30 20, I could not determine the design flow rates for the pumping systems. If you could kindly advise to the flow rates for these systems it would be much appreciated.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 7.11, 7.19, 7.20,) provides information relevant to pump systems (service water, building drainage and process sump) with regards to equipment and capacities, but the contractor is required to provide his own design justification for process selection.

4. In this type of building and activities there in, there would be hazardous and corrosive areas present.  
Please provide hazardous location classifications by areas of the entire building.

ANSWER:

The building is an F3 classification and code requirements have been incorporated into the design documents.

5. Section 46 41 30 – Fine Bubble Aeration System and Section 46 43 39 - Bioreactor specifications but failed to find any information pertinent to process information like SOR, air requirement, SOTE, etc. If you could advise to these design requirements, it would be much appreciated.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 7.7,) provides information relevant to the biological pre-treatment with regards to equipment, dimensions and capacities. The contractor is to assess and evaluate the design documents to select, supply, and install the appropriate biological reactor and fine bubble aeration system in coordination with the process requirements including any ancillary equipment and provide his own design justification for the process selection.

6. Could you please provide information for block wall Masonry reinforcement?

ANSWER:

Refer to specification Section 04 20 00 and both architectural and structural drawings.

7. If you could please advise as to how many blowers are required for Section 43 12 19 – PD Blowers and the volume pressure for each one, it would be much appreciated.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 7.7 and 7.8,) provide information relevant to the process air requirements of biological

pre-treatment and membrane bioreactor system with regards to positive displacement blower equipment and capacities. It is the Contractor's responsibility to select the system. A system that meets the design intent and performance requirements will be accepted. The Contractor will be required to provide justification (e.g. calculations) for the selection.

8. Drawing No. WWTP-S-01; General Notes 6.1 References Geotechnical report by Alston Associates Inc. Ref. No. 10-094A Dated March 24, 2011. We cannot locate this report in the Tender documents supplied. Please provide.

ANSWER:

The Geotechnical Report will be included with an addendum.

9. Drawing No. WWTP-S-02 shows a number of Drain Trenches to be incorporated within the Base Slab and states "See Mech (TYP) See Typical Details for Section". Typical trench detail on Drawing No. WWTP-S-18 states "Refer to Mechanical Drawings and Specifications for Trench Width, Depth and Installation (Inserts) Instructions". We cannot locate this information on the Mechanical drawings or within the Contract specifications. Please clarify and provide the drain trench width, depth and Installation (Inserts) information as stated.

ANSWER:

Refer to specification section 22 42 01, article 2.1.5.

10. Drawing No. WWTP-M-04; shows 100mm dia. under-slab drainage lines. Please provide bedding and surround details required.

ANSWER:

Refer to specification section 31 23 33.01

11. On Drawing No. WWTP-L-01 two number Aeration Tanks are shown to the West of the new Waste Water Treatment Plant Building. We cannot locate any details of these Tanks, sizes, foundation details, stair walkway details etc. Please provide the information required or clarify where this information can be located in the documents.

ANSWER:

The Process instrumentation drawings, overall Process layout drawing WWTP-D-02 and the Design Rationale and Process description (section 7.7) provide information relevant to the biological pre-treatment with regards to equipment, dimensions and capacities. Details of these tanks, size, foundations stairs and walkways should be provided by the manufacturer/supplier during the equipment selection process. A system that meets the design intent and performance requirements will be accepted. The Contractor will be required to provide justification (e.g. calculations) for the selection.

12. Specification Section 03 30 00 – Cast-in-place Concrete part 2.4.3.4 & 2.4.3.6 - two different mix specifications apply to pipe bedding and duct bank and encasement. Please clarify.

ANSWER:

Article 2.4.3.6 is correct. Specification 03 30 00 will be provided as part of an addendum.

13. Drawing WWTP-S-04. Notes between gridline 1/2 to B/C 'Horizontal Monorail below (See typical details & note 11 below)' there is no note 11 on the drawing? Please clarify

ANSWER:

See note 10 vice note 11. Monorail beam size is W310 x 45.

14. Drawing WWTP-S-04, wall section 7, level 6 notes L203x152 (175 LG). Can you please confirm thickness of 203x152 supports? Please advise.

ANSWER:

Angle thickness is 6.4mm

15. Drawing WWTP-S-17, lateral support at top of masonry walls and partition' detail partition /wall parallel to composite slab. Can you confirm the extent i.e. centers etc., of the 200x6x400 plate anchored to metal deck? Please advise.

ANSWER:

Spacing of the plates is 2000mm centre to centre.

16. Drawing WWTP-S-17, lateral support at top of masonry walls and partition' can you confirm the dimensions of screws, incl. type, length, centers, etc? Please advise.

ANSWER:

Size of screws as note on the drawing, centres depends on the spacing of the flutes in one direction and the size of the plate in the other direction. Other details of the fasteners will be determined during the shop detailing process.

17. Drawing WWTP-S-17, 'Partition wall parallel to steel beam' can you confirm the sizes of 'C' channels and thickness for the various wall thickness and type? Please advise.

ANSWER:

Delete C channels and replace with angles. Vertical leg of angles to be 125, length of the horizontal leg is dependent on the width of the beam and will be determined during the production of the shop drawings.

18. Spec. section 05 50 01, page 6, items 2.9.1 type 1 to be hot dipped galvanized & 2.9.2 notes stainless steel bars. The tender drawing makes no reference to type 1 and type 2. Can you please clarify which grating is type 1 & type 2? Please clarify.

ANSWER:

Delete type 2 grating. Specification 05 50 01 will be provided as part of addendum.

19. Section 01 35 14 Special Project Procedures 1.8.4 indicates that supervisory personnel have to attend a PHAI MO Orientation Session. What is the duration of these sessions and where are they going to be held?

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

20. Section 01 35 29 Health & Safety Requirements. On the previous project in Port Hope there was a requirement for Medical Surveillance with blood testing etc. Is this Medical Surveillance required for this project? If so, please outline what is required.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

21. Please clarify, who is providing first fill for of all the chemical before and during commissioning.

ANSWER:

Contractor to provide first filling for each chemical. Specific volumes and quantities can be found in the relevant sections of the Design Rationale and Process description (section 7.18).

22. Please provide a Valve schedule.

ANSWER:

A valve schedule will not be provided for this project.

23. **Appendix S** --Please provide P & ID for East Reservoir Pump Station as referenced as PS-DI-02, PS-DI-03, and PS-DI-05

ANSWER:

The drawings requested reference the Pump Station P&IDs for Contract C. These PS-DI-XX drawings are not required by the Contract B bidder.

24. Please provide Process piping Material Schedule.

ANSWER:

The WWTP will comprise of a variety of process piping. The Process instrumentation drawings, the Design Rationale and Process description provide information relevant to the chemical feed systems with regards to chemical and application point (refer to section 7.18). The contractor is required to provide the size and select the appropriate pipe work equipment for each respective application. The Contractor must provide his design justification for the selection. The chemical dosing systems are further described in the individual chemical feed specifications.

25. **Appendix S – page 32** – Please provide drawing DR-PCD-01.

ANSWER:

Drawing is found in Appendix S – DR – PCD document.

26. Drawing WWTP-DI-02 – Blending / Equalization Process - P & ID.  
Please provide Reference drawing PS-DI-04

ANSWER:

The requested drawing pertains to Contract C and has no bearing on Contract B. Essential information about all pumping stations (flows, capacities etc.) is provided in the Design Rationale and Process description under section 2.2. and on the process flow diagram WWTP-DI-01.

27. Is there a requirement for a Building Permit for this project?

ANSWER:

Refer to specification section 01 33 00, article 1.9.1.

28. Refer to spec. Section 07 20 00 Insulation. Can you please confirm thickness of perimeter Insulation 1 & 2? Please advise.

ANSWER:

Thickness of perimeter insulation is 50 mm.

29. Refer to drawing WWTP-A-11, keynote # 2 notes '*Concrete foundation with waterproofing –Refer to structural drawings*'. From review of the structural drawings, waterproofing is not specified. Please clarify the full extent of waterproofing required?

ANSWER:

Specification 03 30 00 has been revised and is provided as part of an addendum.

30. Refer to drawing WWTP-A-27 detail 12 'Ceramic Tile Base' Notes porcelain floor tile and tile base. Ref. to drawing WWTP-A-30 calls for ceramic tiles to room no's 108, 109, 110, 111, 123, 124 & 125. We don't have a spec. section for ceramic tiles, but we do have Div. 09 30 14 Porcelain Tiles. Please clarify

ANSWER:

Delete the requirement for ceramic tile and replace with porcelain tile. Specification section 09 30 14 has been revised and is provided as part of an addendum.

31. Refer to drawing WWTP-A-34, detail 9, 'Sump Pit Section' notes waterproofing membrane within the sump pit. Can you please provide specifications to incl. manufacture, product type etc, Please advise.

ANSWER:

Specification 03 30 00 has been revised and is provided as part of an addendum.

32. Refer to drawing WWTP-A-34, detail 9, 'Sump Pit Section' notes Prefabricated Liner within the sump pit. Can you provide specifications to incl. manufacture and product, type etc. Please advise

ANSWER:

Specification section 03 30 00 has been revised to include the waterproofing of the sump pits. Specification will be provided as part of an addendum.

33. Refer to drawing WWTP-A-34, detail 9, 'Sump Pit Section' underneath the 200mm thick concrete slab shows a dashed line. Can you confirm extent and material type if required? Please clarify.

ANSWER:

Ignore the dashed line it does not appear in other details.

34. Refer to drawing WWTP-A-06. The storage room calls for type R.01. Refer to drawing WWTP-A-11 calls for R2? Please clarify.

ANSWER:

The roof type for the Storage Room is to be R1 as shown on drawing A-06.

35. Drawing WWTP-M-05 on Grid 5B between C & D indicates "Water Service Storage Tank (by Water Utilities 33 21 14). Please note this Section was not included in the Specifications and does not appear in the Index. Please clarify or provide the missing section.

ANSWER:

An allowance of \$25,000 for the well system package equipment (drawing WWTP-M-20) is provided on the Bid and Acceptance form under material. Provide the labour cost to install the equipment as the schematic shows on M-20. Once water volume and quality of water tests are available the specifications for the equipment will be provided.

36. Section 43 30 10 – 1.3. Submissions  
Item .1 – Shop Drawing: Submit in accordance with Section 01 33 00 and 46 07 00.

ANSWER:

All submissions are to be in accordance with specification section 01 33 00.

37. Section 46 07 00 is not available in the Documents. Please provide.

ANSWER:

Specification section 46 07 00 is titled "Packages Water and Wastewater Equipment" and is not required as specifications have been provided for each individual system.

38. Section 43 30 20 – 3.6 Factory Acceptance Testing:  
Item-2 Arrange and pay for Department Representative to witness Factory Testing.

Please confirm, if the Contractor is to pay for Department Representative to witness Factory Testing.

If yes, please provide the amount we need to include in our estimate.

ANSWER:

It is not required to pay for the Department Representative to witness Factory Testing. Revised specification will be provided as part of an addendum.

39. Please confirm the comments that were made at the Site Visit regarding the 'Design-Build' aspect of this project. There doesn't appear to be anything in the instructions to bidders or Division 1 regarding that type of construction in this project. Please clarify.

ANSWER:

Refer to specification section 01 11 00, article 1.2 reflects the general approach to represent project and to instruct bidders.

40. We hereby request an extension to the closing date by a minimum of 3 weeks, in order to complete the estimate and review changes that are anticipated by upcoming Addenda. Without this it is anticipated that completion of the tender pricing is not possible.

ANSWER:

Deferred to next PWGSC Solicitation Amendment.

41. With reference to spec. section 12 21 14 Horizontal Louvre Blinds. Can you please provide details and identify extent of works required? Please provide and advise.

ANSWER:

Horizontal blinds are required in Rm 103 – Office, Rm 104 – Meeting Room and Rm 106 – Control Room. The details are found in article 2.1 of the noted specification section. The details will be provided in the shop drawings submitted for review.

#### Question Lot 11

1. Can we be added to the list of acceptable Instrumentation and Control Subcontractors (Section 40 90 00, part 1.8.6)?

ANSWER:

As noted in Clause 1.1.1 of Section 40 90 00, it is the Contractor's responsibility to select the equipment and instruments in the WWTP. Equipment/instruments that satisfy the requirements outlined in the specification will be accepted.

2. The Slab Thickening Detail on S-16 shows a curb under masonry walls. Is this curb required and if so, then how high is this curb?

ANSWER:

The curb is required and is 200 high with 2 – 10M continuous bars and 10M stirrups at 200 centre to centre.

3. What is flooring type SF in room 113?

ANSWER:

SF refers to sheet vinyl flooring. See specification section 09 65 00.

4. What is flooring type RB in room S01? This stair has some flooring in the hall before the stair, is the stair MTL and what is the floor? Please clarify

ANSWER:

Specification section 09 91 00 has been revised and is provided as part of an addendum.

5. How many interior bollards are there? Key Note 4a on A-05 points to empty space

ANSWER: (Jim)

Interior bollards are required at overhead doors 117B, 118A, 118D, 126B and 131 for a total of 10. See drawing S-02.

6. What sizes are the white boards & bulletin boards?

ANSWER:

White boards – 1220 x 2440, bulletin boards – 1220 x 2240

7. Where is LV06?

ANSWER:

On GL A between GLs 1 and 2, see drawing A-06.

8. What sizes are Lv09 & LV10, they are not on the louver schedule

ANSWER: (Roman)

LV09 and LV10 do not exist. LV09 on the West Elevation drawing A-09 is actually LV06, see drawing A-06 and LV10 on the North elevation drawing A-10 is actually LV05, see drawing A-06.

9. Which windows receive the Horizontal Louvre Blinds (section 12 21 14)?

ANSWER:

Horizontal blinds are required in Rm 103 – Office, Rm 104 – Meeting Room and Rm 106 – Control Room. The details are found in article 2.1 of the noted specification section. The details will be provided in the shop drawings submitted for review.

10. Where is the Standing Seam Sheet Metal Roofing (spec section 07 61 13)?

ANSWER:

Delete the requirement for roof type R2, Standing Seam.

11. Do the circular tanks behind the building have a foundation? If so, please provide details

ANSWER:

If this question refers to the two tanks adjacent GL E between GLs 2 and 3 the pad dimensions are shown on drawing L-02 and the concrete pad details are shown on drawing S-18. If this question refers to the two aeration tanks information regarding the concrete base will be provided by the tank supplier.

12. It was mentioned at the site visit that the 12 month schedule provided does not include commissioning. Please confirm. Additionally, it was mentioned that the contractor will not be required to adhere to the schedule provided. Please confirm.

Deferred to the next PWGSC Solicitation amendment.

13. It was stated at the site visit that since the electrical is completely designed that any changes required as a result of equipment selection would be treated as a change order. Please confirm.

ANSWER:

Yes.

14. Who is responsible for the cost of start-up & commissioning chemicals & fuel?

ANSWER:

This is the contractor's responsibility.

15. Who is responsible for the cost of power during the ~6 months of commissioning?

ANSWER:

Contractor is responsible for the cost of all utilities until the facility is turned over to the Client.

16. Section 23 08 00, 1.4.3.4 says to " Provide specified inspections and maintenance services during warranty period". Can you indicate what is specified? Is this to mean things like changing air filters or maintenance cleaning?

ANSWER:

No, not to be changing filters or maintenance cleaning, but more to do with the controls and maintaining the sequence of operation following warranty inspections and repairs that might be affected by the routine maintenance.

17. Who is to provide start up biomaterial for the Bioreactors?

ANSWER:

Startup supplies are the Contractor's responsibility.

18. For contractors who are not ISO certified how it be determined that their quality management system meets the requirements if the ISO:9001:2008 standard? What happens if a contractor fails to meet these requirements?

Deferred to next PWGSC Solicitation amendment.

19. Reference Specifications Section 04 20 00, Item #2.1.3 (Stone)  
Please provide further details.

ANSWER:

The stonework shown on the architectural elevations is an accepted and approved standard available through regional suppliers. Colours TBD.

20. Reference Specifications Section 04 20 00, Item #2.1.11 (masonry flashing)  
Please provide further details.

ANSWER:

Disregard sentence 2.1.11 and 2.1.12 of specification section 04 20 00 flashing and trims are referenced in section 07 62 00. Revised specification will be provided as part of Addendum.

21. There are some drum screens (section 46 41 20) to be supplied as part of this project; is there an option for alternative suppliers or designs? I have attached a brochure for our SCS screen for your review, if this would be an acceptable option for the screening for this project I would appreciate the opportunity to provide pricing and proposals.

ANSWER:

A two dimensional drum screen is required.

22. Please confirm the stated lower and upper influent concentrations for  $\text{CaCO}_3$ ,  $\text{CaSO}_4$ ,  $\text{BaSO}_4$ , and  $\text{CaF}_2$ . The difficulties with the levels currently presented is that it is currently impossible to achieve 75% recovery without being limited by calcium fluoride scale formation while maintaining the design flows even and while also using anti-scale dosing solutions

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 2.2 and 2.3) provides information relevant to the projected water constituents.

Besides the lower and upper boundaries, which display a wide range, calculated weighted average and maximum concentrations are presented in section 2.2.4.4. Pilot trial data are presented in section 2.3. Consider also those data for your projections and modeling and reevaluate your results.

The contractor is to assess and evaluate information provided, including specifications, drawings, design rationale and process control description, and pilot trial report to appropriately select, supply, and install the appropriate reverse osmosis system in coordination with the process requirements including any ancillary equipment. Provide appropriate justification (i.e. process calculation) for the selection/configuration basis.

23. Please confirm that since no particular equipment is specified that if we offer equivalent equipment to occupy similar space and with similar energy use but with minor discrepancies it would not be rejected outright.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description provide important information for the Contractor related to the performance based specification. Process specifications for the described equipment are included in the submission.

Selected equipment/systems must retain the process as described in the tender documents. An equivalent proposal design is acceptable as long as the design and process intent is respected and footprint limits are not exceeded.

24. Has consideration been given to the influence/significance of life-cycle and/or operational cost differences between competing designs? Traditionally, lump sum pricing leaves the decision of which equipment to source to the contractor whose primary focus is almost certainly going to be on the lowest cost option irrespective of life-cycle costs and operational costs which tend to have more bearing on the end-user.

ANSWER:

It is the responsibility of the Contractor to assess and evaluate information provided including drawings, design rationale and process control description, and pilot trial report to appropriately select, supply, install and commission the process equipment system including any ancillary equipment within the building footprint. Together with shop drawing submittal, the contractor shall provide appropriate justification (i.e., process calculation) for the selection/configuration basis. Systems that meet the design intent and performance requirements will be accepted.

25. Is there a possibility that an extension will be granted in order to provide contractors an appropriate opportunity to estimate the costs associated with what is essentially a design-build specification (since little or no time has been allotted for the detailed design process such as piping layouts, etc.)?

Deferred to the next PWGSC Solicitation Amendment.

26. The need for equipment redundancy has been built into the biological portion of the process stream but not into the residuals handling section. Has consideration been given to the need for downtime (albeit infrequent) for the maintenance of the residuals handling equipment (i.e. when it becomes necessary to replace the bowl of the centrifuge or the drive on the filter press, for example)?

ANSWER:

The management of the bio process can be adjusted to allow for a temporary increase in biomass in the system to allow for a planned intervention such as maintenance of the dewatering unit. Short term interventions can be accommodated by storing biomass in the thickening stage.

The management of the brine residuals stream includes the possibility of storing solids in the thickening stage and by increasing the amount of flow through the evaporator. Both scenarios allow undertaking planned maintenance.

Overall maintenance for the residual stream may also be undertaken during seasonal low flow periods the year.

27. What is the classification of the residuals handling equipment room? Requiring that local control panels be explosion-proof will have a drastic impact on the cost of those controls.

ANSWER:

The building is an F3 classification and code requirements have been incorporated into the design documents.

28. Is it possible to get elevation and cross-sectional drawings of the glass-fused-to-steel tanks?

ANSWER:

There is no existing drawing of the tank at this stage. The top of the cylindrical portion (excluding dome) of the tanks is 122.00 m. The Process instrumentation drawings and the Design Rationale and Process description provide important information for the Contractor related to the tanks (refer to table 7-12). Process specifications for the described equipment are included in the submission. Please refer to specification 46 43 39 (Bioreactor System) and 43 41 17 (Glass Fused Steel tanks with Geodesic domes).

29. What is the classification of the area under the dome of the glass-fused-to-steel tanks?

ANSWER:

Assume no classification. The tanks are bioreactors which are constantly aerated with process air. The process air will be directed to the outside through an opening in the dome structure.

30. What are the ventilation requirements for the glass-fused-to-steel tanks?

ANSWER:

The tanks are bioreactors which are constantly aerated with process air. The process air will be directed to the outside through an opening in the dome structure.

31. Please confirm that foundation and slab design are not required for the glass-fused-to-steel tanks. If it is required, is there an existing geotechnical report that will be made available to bidders or are bidders expected to prepare their own?

ANSWER:

The slab design has to be provided as per specification 43 41 17 section 3.2, Concrete floor.

The Geotechnical Report for the Project that includes the WWTP is provided as part of Addendum.

32. Please confirm that the sizing for the centrifuge is to be based on 5 days per week, 7 hours per day at average conditions, and longer at the time the loads to the wastewater facility reaches the maximum condition.

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description provide important information for the Contractor related to the tanks (refer to table 7.91. biosolids dewatering). The centrifuge is intended to operate 5 days per week, 7 hours per day (at average conditions), and longer at the time the loads to the wastewater facility reaches the maximum condition.

33. Have provisions been made for the storage of sludge between operational periods of the dewatering equipment (i.e. weekends)?

ANSWER:

The management of the bio process can be adjusted to allow for an increase in biomass in the system between operational phases of the dewatering equipment.

The management of the brine residuals stream includes the possibility of storing solids in the thickening stage and by increasing the amount of flow through the evaporator. Both scenarios allow an interruption of the dewatering operation.

34. The specification package specifically mentions a number of filter plates, but will small discrepancies in the number of filter plates be accepted as long as the total volume, throughput and product dryness criteria are still respected?

ANSWER:

A design with a different number of plates is acceptable provided that the design and process intent is maintained and footprint limits are not exceeded.

35. Is there a reason that worm gear reducers are considered to be unacceptable? If desired, we could potentially provide a reference list of installations by highly reputable equipment manufacturers where worm gear reducers are used very successfully and in similar applications.

ANSWER:

An alternative design with worm gear reducers design is acceptable as long as the design and process intent is respected and footprint limits are not exceeded.

36. Is it possible to substitute the recommended chemical precipitant to one considered equivalent but which is potentially more suitable for use upstream of an inclined plate clarifier?

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description provide important information for the Contractor related to the performance based specification. Process specifications for the described equipment are included in the submission.

Selected equipment/systems must retain the process as described in the tender documents. An equivalent proposal design is acceptable as long as the design and process intent is respected and footprint limits are not exceeded.

37. DWG E-10 Notes 6, 7 and 8 all have fiber cable on the high voltage poles.  
Who is supplying and installing the fiber cable?  
What size and type of fiber is it?  
Who is supplying and installing the NS90 cable for the security cameras?

ANSWER:

1. Bell Canada supplies and installs the fiber cables for the building communication incoming service, PWGSC coordinates with bell Canada for the cable type and size.

2. Electrical contractor is to supply and install the NS90 cable and provide power connection or receptacle for security camera as per Phantom Security requirements.

38. Regarding Section 28 13 00. What is the scope of work for the ESS Contractor?

ANSWER:

Section 28 13 00 is a general specification for Access control and Security. The scope of work for ESS contractor shall refer to Phantom Security drawings and specifications.

39. Please provide size and colour of brick.

ANSWER:

Brick size is metric modular. Colour selection is TBD.

40. Please provide size, colour, and type of limestone veneer.

ANSWER:

See the response to question 19.

41. What is the spacing of the rebar in the masonry?

ANSWER:

The drawings do not show vertical reinforcing of the masonry walls.

42. Specification calls for stainless steel horizontal reinforcement while the drawings show galvanized. Please clarify.

ANSWER:

The horizontal reinforcing of the masonry is to be stainless steel as specified.

43. Detail E-13 refers to ducts as "Rigid PVC Duct" does that mean Type II Duct or Schedule 40 conduit? Section 26-05-34 only Specify Rigid PVC Conduit. Section 26-05-43.01 doesn't clearly specify type of duct to use.

ANSWER:

Provide Rigid Type DB-2. Revised specifications will e provided as part of Addendum.

44. Reference Specifications Section 04 20 00, Item #2.1.3 (Stone)  
Please provide further details.

ANSWER:

See the response to question 19.

45. Reference Specifications Section 04 20 00, Item #2.1.11 (masonry flashing)  
Please provide further details.

ANSWER:

See the response to question 20.

## Question Lot 12

1. Please clarify the limits of the contract, drawing L-03 shows certain limits but L-05 then shows work (planting) that is outside those limits.

### ANSWER:

Landscape drawings have been revised to show the limits of grading and planting. Revised drawings will be provided as part of an addendum.

2. From Drawing S-10 it appears the Granular B fill is used under the SOG and under the footings but there is no indication of how deep the Granular B fill is. What is the elevation at the underside of this Granular B?

### ANSWER:

The depth of the granular B material is determined by the amount of the existing material to be removed. It is recommended that the Bidder review the soils report for clarification.

3. Please clarify the limits of the contract, drawing G-14 shows "blue" for Contract B extending down to the lake. During the site visit it was stated that we don't go any closer to the lake than the existing treatment plant.

### ANSWER:

Correct refer to drawing SS-C-04 issued under Addendum 1.

4. Specification section 43 41 17 Glass Fused Steel Tanks requires a factory hydrostatic test. These tanks are bolted together on site and fitted to the custom concrete base on site making any factory testing irrelevant. Please remove this requirement from the specifications as it is not applicable to this style of tank.

### ANSWER:

Section 2.2.3 will be removed from specification 43 41 17 Glass fused steel tanks with geodesic domes. Revised section 43 41 17 provided as part of an addendum.

5. It was mentioned at the site meeting that we are able to use the existing well as a water source for construction. Please confirm.

### ANSWER:

The well may be used as a source of water but may not provide the quantities required for construction. The Contractor should be looking for another source as the main point of water supply for construction.

6. The following changes have been made to the Port Granby WWTP Issue for Tender Specifications (See attachment 010)

Section	Page	Article	Description
03 30 00	13	2.3.14	Replaced 'Dampproof membrane' with 'Sump Pit Waterproofing'.
	15	2.4.3.4	Revised "Exterior slab, pavements, sidewalk, curb, pipe bedding, duct bank and encasement:" to "Exterior slab, pavements, sidewalk, and curb:"
	19	3.2.10	Replaced 'Dampproof membrane' with 'Sump Pit Waterproofing'.
05 50 01	6	2.9.1.2	Item removed.
09 30 14	4	2.2	Item added.
43 30 20	10	3.6.2	Item removed.
43 41 17	9	2.2.3	Item removed.

#### Question Lot 13

- Appendix O describes the environmental monitoring plan scope and context for every phase of construction as well as "licence monitoring requirements". Item 4.2.2 lists the PWGSC contractors responsibilities. The Appendix then goes on to describe all sorts of monitoring including Radiological (8.1.1.2)  
Appendix P also provides a huge list of requirements in Sections 5, 6, 7, 8 involving everything from security to monitoring etc. Many of these requirements encompass a scope far greater than the requirements of specification Section 01.  
Appendix H is very general in scope but again, wide ranging.  
**Please clarify the contractors' scope and responsibilities during our time on site.  
What involvement do we have with Appendix K, L, M, N, O, P and Q?**

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

- Section 01 11 00 – 1.2.2 regarding Mechanical Process Design. This clause plus similar clauses in the various process mechanical equipment/piping specs asks us to submit "shop drawings" and "process calculations". We are being asked by design engineers if any additional contract style drawings are required such as plan/section views for the various mechanical systems using the new building layout template?

**Can designs be sourced from various engineers for the different mechanical systems or are you looking for an integrated single design source to compile all process mechanical design?**

**Please clarify what else you want for the process mechanical design submissions, i.e., P.Eng. Stamp, etc?**

ANSWER:

Yes, designs can be sourced from different engineers. Overall process is based on multiple vendor packages, the sourcing of which will likely involve various engineers

3. Are you still considering our previous request for an honorarium? We need to know in order for us to decide our continued interest in this project.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

4. Section 12 21 14 Horizontal Louvre Blinds Aluminum Slats. Nothing is shown on the drawings, please clarify where these go?

ANSWER:

Horizontal blinds are required in Rm 103 – Office, Rm 104 – Meeting Room and Rm 106 – Control Room. The details are found in article 2.1 of the noted specification section. The details will be provided in the shop drawings submitted for review.

5. **Please see drawing E-36. Is there a specification for the 3000A Busduct?**

ANSWER:

Yes, this was issued with the responses to question lot 7. Section 26 25 00.

6. **Refer to drawing E-11 - Note 4 - This note makes reference to Contract C. Where can we access Contract C documents?**

ANSWER:

Reference to Contract C was provided for information only and the documents are not required as they have no bearing on the bidding of this Contract.

7. **Please see drawing E-22 - The feeds for Leachate Pump Station and Equalization Pond Pump Station refer to Contract C. Are these feeds required?**

ANSWER:

No, the feeders to three pump stations are provided under Contract C which is not part of this project.

8. With reference to Drawing WWTP-A-30; note 8 States" All Exposed Conc. Floor Surfaces Finished with Sealer as Specified". We cannot locate the specification for the Floor Sealer, please provide.

ANSWER:

The floor sealer is included in section 09 91 00, issued as part of addendum.

9. The Typical Standard Construction Joints detail on drawing WWTP-S-15 shows items 1 & 2 Waterbar and 10mm reinforcing ties respectively. Note 7 states “items 1 and 2 may be omitted where specified”. The Sections through the Foundation Walls and Footings on drawing number WWTP-S-10 indicate the Construction Joint with a recess key but without a Waterbar and ties whereas the Typical Sump Pit section on drawing WWTP-S-18 indicates a Waterbar. Please confirm Waterbar is only required to the Sump Pits and not to all Foundation Walls and Footings.

ANSWER:

Confirmed that the “waterbar” is only required to the sump pits.

10. Reference Drawing WWTP-S-16; Equipment/Tank Pad Reinforcement Detail appear to show a 20mm isolation joint through the full depth of the Slab-on-grade all around the Equipment pads, please clarify as we do not understand the requirement.

ANSWER:

Correct, the isolation of the pad from the surrounding floor area is required due to equipment vibration. This detail does not pertain to the equipment located in the Blending Tank Room

11. With regard to Specification section 32 31 13 – Black Vinyl Chain Link Fences and Gates; Part 3.2.1 states “Erect fence along lines as indicated on drawings”. Please clarify the scope of fencing in this contract and which specific drawing the specification refers to.

ANSWER:

The specification refers to Contract “A” and the fence is shown on drawing WWTP-L-01 as N.I.C.

12. Section 23 05 00 Item 1.24 Boiler Removal. Please provide details where this work is to be carried out.

ANSWER:

This section is not relevant to the project.

13. Section 43 41 23 – Stainless Steel Tanks.  
This section refers to Stainless Steel Tanks for Port Hope, ON Water Treatment Plant.

Please issue revised documents related to Port Granby, WWTP

ANSWER:

Article 2.1.3.4 references Port Hope but should read Port Granby. Section will be revised under addendum.

14. Section 46 90 10 – Methanol Double-Walled Tank.  
Please clarify, who is providing first fill of Methanol

ANSWER:

The contractor.

15. With reference to spec. Section 07 81 00 Applied Fireproofing page 5 item 3.3.4 ‘Apply fireproofing to open web steel joists’. Refer to drawing WWTP-A-12, note 18 ‘Apply ULC rated spray fire protection to the u/s of exposed steel deck and supporting steel structure’ and note 18

points only to exposed metal deck a level 4.00m. Refer to drawing WWTP-A-36, Legend notes locations for 1 & 2 hr. fireproofing. The tender drawings make no reference for fireproofing to open web steel joists or main roof structures? Please clarify extent of fireproofing required.

ANSWER:

Article 3.3.4 of section 07 81 00 tells the Contractor how to apply the fireproofing. The complete statement is "Apply fireproofing directly to open web steel joists without use of expanded lath". Fireproofing requirements are as shown on the drawings.

16. Refer to drawing no's WWTP-A-11 & 12, note 17 refers to concrete curb with access floor hatch. Can you please confirm location of these hatches? Please advise.

ANSWER:

Refer to keynotes "7" and "8" on drawing WWTP-A-08 for locations.

17. Refer to drawing no WWTP-A-30 'Room Finish Schedule' Room no 113 Laboratory, floor finish is to be a SF Finish. Can you please confirm what a SF Finish is? Please advise.

ANSWER:

SF (sheet flooring) refers to sheet vinyl flooring. See specification section 09 65 00.

18. Refer to drawing no WWTP-A-29, detail 5, 'Clean room millwork section notes *'locker see plans for locations'*. Refer to drawing WWTP-A-26 Detail 2 'Maintenance room enlarged' makes no reference to locations of lockers. The lockers in Clean Room 125 indicate note 15, which says lockers on Concrete Base & this is shown on Section 9/WWTPA-27. Please clarify number of lockers required and all locations where the concrete bases occur and also the locations where the lockers with bench occur.

ANSWER:

Lockers are not required for the Maintenance Room. With the exception of the "Clean Room 125, all lockers are to be mounted on a concrete base.

19. Refer to drawing no WWTP-A-28, detail 6 'Computer Desk Detail'. Is this detail for the 4 desks as shown in drawing no WWTP-A-25 Control Room? If so, there would appear to be a discrepancy in dimensions when referring to note 18 versus the detail. Please clarify.

ANSWER:

Total length of computer station desks to be 3600 x 800

20. Refer to drawing WWTP-A-03 door frames F3 to F5. Can you please confirm if the large side panels to the doors are metal panels or glazing? Please advise.

ANSWER:

Similar Glazing characteristics to that of the doors.

21. In reference to Drawing WWTP-E-40. Note 3 and Drawing WWTP-E-41, Note 2. Please provide the

"Fixture Type", for the ten additional fixtures per page that are to be supplied and installed.

In reference to Drawing WWTP-E-10. Please provide specifications for CCTV Camera's shown as well as the overhead power cable for security camera's referenced on Drawing WWTP-E-12.

ANSWER:

1. Note 3 & note 2 requires that the contractor allows for the provision of extra 10 fixtures of any type specified to suit the final equipment installation layout during construction.

2. The CCTV camera is provided and specified Phantom Security.

3. The overhead power cable for the security camera has been provided on WWTP-E-10.

## 22. Reverse Osmosis

Projections were run using the Avista Advisor chemical projection programme to verify the proposed design conditions and they indicated a maximum product recovery of 35% (rather than the 75% required in the specification). Furthermore, the results of the pilot study "demonstrate(d)...that the cleaning frequency for the water tested is likely greater than once per week (pg. 5, paragraph 4)." It does not seem realistic to expect a 5 year membrane guarantee or to guarantee the minimum 75% recovery rate. Furthermore, given the uncertainty surrounding the cleaning requirements, it will be difficult to determine the appropriate size for the chemical storage tank that is capable of providing the requested minimum 3 month supply of antiscalant, Biocide, sodium hydroxide, and other clean-in-place chemicals. Please comment.

There is a conflict between the duration of the membrane guarantee required in the specification document. Section 46 63 23 mentions both a 5 year (see 1.2.5.19) and 6 year (see 2.1.4) guaranteed membrane life. Which is correct?

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 2.2 and 2.3) provide information relevant to the projected water constituents.

Besides the lower and upper boundaries, which display a wide range, calculated weighted average and maximum concentrations are presented in section 2.2.4.4. Pilot trial data are presented in section 2.3. Please consider also those data for your projections and modeling and reevaluate your results.

Size the system to meet a recommended storage capacity based on 14 days and based on average flow conditions

The membranes shall have a guaranteed lifetime of at least 5 years.

## 23. Gravity Sludge Thickeners

The specification document calls for 5 wt% from the WAS thickener. While the absence of settleability data makes rigorous examination of the settling process difficult, even if we assume that the WAS effluent from the MBR is 'typical' MBR sludge (which seems unlikely given the unusual nature of the waste stream in question), preliminary assessment indicates that achieving this level of thickening will require the use of polymers upstream of the thickener. Is this acceptable?

Furthermore, given the diameter of the thickeners depicted in the plan drawings of the proposed system, achieving the two days of storage time will be a challenge without using a relatively tall thickener. I have not seen a detailed arrangement drawing for the proposed gravity thickeners. Is there one available that I have overlooked?

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 7.9) provide information relevant to Biosolids thickening and storage.

5 % thickness requirement is for average condition.

Polymer use is acceptable.

There are no detailed arrangement drawings.

**24. Bioreactor/MBR**

Will alternative treatment technologies be considered as long as they are capable of achieving the required treated effluent quality in a similar or smaller footprint?

The specification requires that process calculations be provided to demonstrate the capacity of the process train to reach an as yet undefined treatment standard. Will a set of treated effluent criteria be provided?

ANSWER:

The equipment selection must satisfy the process as described in the tender documents. An alternative proposal design is acceptable as long as the design and process intent is respected and footprint limits are not exceeded.

At this time we do not have CNSC license details. These will be provided as soon as they become available.

**Chemical Dosing Systems**

**25. Section 43 85 23 – Polymer feed system, dry (General drawing WWTP-DI-27)**

I have not seen any drawing showing the polymer feed system arrangement, Are there any?

ANSWER:

There are no detailed arrangement drawings for the polymer feed system.

It is the bidder's responsibility to assess and evaluate the provided bid information (e.g. Process and Instrumentation Drawings, Design Rationale and Process Control Description, Pilot Trial Report) and size the appropriate polymer feed system including any ancillary equipment.

**Section 43 85 24 – Soda ash feed system (General drawing WWTP-DI-26)**

**26. I have not seen any drawing showing the soda ash feed system arrangement, Are there any?**

ANSWER:

There are no detailed arrangement drawings for the soda ash feed system

It is the bidder's responsibility to assess and evaluate the provided bid information (e.g. Process and Instrumentation Drawings, Design Rationale and Process Control Description, Pilot Trial Report) and size the appropriate soda ash feed system including any ancillary equipment.

Section 46 85 20 – Package Lime Storage silo and feed system (General drawing WWTP-DI-24)

27. I have not seen any drawing showing the lime system arrangement, Are there any?

ANSWER:

There are no detailed arrangement drawings for the package lime storage and feed system.

It is the bidder's responsibility to assess and evaluate the provided bid information (e.g. Process and Instrumentation Drawings, Design Rationale and Process Control Description, Pilot Trial Report) and size the appropriate package lime storage and feed system including any ancillary equipment.

28. In 1.1.1 – General: It is indicated hydrated lime solution and then in paragraph 2.8 they require a lime slaker. A lime slaker is used when customers purchase quick lime rather than hydrated lime. Finally, in paragraph 2.1.6 they indicate quick lime. Please confirm if they intend to use hydrated or quick lime.

ANSWER:

The chemical is hydrated lime.

29. In 1.2.2.5 – Silo level detector, level and volume indicators. What would a volume indicator be?

ANSWER:

The silo requires a high level indicator and an indicator to continuously indicate the level of the lime in the silo, which can be converted via calculation to represent the lime volume in the silo.

30. In 1.2.2.6 – Gravimetric feeders and wetting cone / educator systems. Once again this is used with hydrated lime

ANSWER:

The chemical is hydrated lime.

31. In 1.2.2.8 – Lime slurry tanks and mixers c/w tank level indicators. When we use a wetting cone/ educator systems there is no mixing tanks.

F) In 2.1.1 – They require a bolted silo. Why?

ANSWER:

Hydrated Lime slurry tanks and mixers are required. The silo can be of bolted/welded construction.

32. In 2.3.1 – Bin vent filter. We do not use fan in this type of application. The bin vent is used strictly during lime delivery and the air from the truck blower just blows the air through the filtering media. Furthermore, are polyester cartridges an acceptable alternative to the polyester bags which are specified?

ANSWER:

Polyester felt cartridges are acceptable.

33. In 2.4.1 – They indicate a 1.21m bin activator. For lime the bin activator diameter is 50% of the silo diameter. This means a 2,42m diameter silo; is this correct? Our standard is a WAM bin activator, would this be acceptable?

ANSWER:

Flow promotion is to be provided by a vibrating bin activator, complete with integral gyrator motor and discharge. Flexible connections shall be provided to isolate the vibration downstream of the equipment.

34. In 2.7.1 – In paragraph 1.2.6 they ask for a gravimetric feeder versus a volumetric feeder in 2.7.1. Please clarify.

ANSWER:

Volumetric feeders are required.

35. Regarding Plan Designation HU-1 (Humidifier): Does a written specification for the humidifier exist?

ANSWER:

There is no specification pertaining to the Humidifier. It should be noted that the drawing WWTP-M-19 provides a schedule that lists a specific manufacturer, model, and size and calls for specific components to be provided in the remarks/notes. Equipment shop submittal evaluation will be based on comparing the shop submittal to the performance and quality of the manufacturer and model as noted in the schedule, and subject to review prior to acceptance

36. We represent **Nepronic** Humidifiers. Can **Nepronic** be added as an acceptable product?

ANSWER:

Products that meet the design intent and performance requirements will be accepted. The Contractor will be required to provide justification (e.g. calculations) for the selection.

#### Question Lot 14

1. AECOM's drawings (issued for tender 2012/09/07) indicate that the Lab millwork, Maintenance millwork and the Kitchen millwork are to be Wood Veneer finish with solid wood edges. The Specifications indicate no wood species and refer to the use of Exposed Hardwood and softwoods, Exposed and concealed plywoods, Laminated Plastic and Melamine Board. What is the correct product?

ANSWER:

Please refer to the drawings for finishes and locations. Revised specifications will be provided as part of Addendum.

2. AECOM drawing WWTP –M-06 (note 20) makes reference to the Lab fume hood that should be specified and indicated on the architectural drawings. I can find no Fume Hood specification in divisions 23, 12, 09 or 06 and the architectural elevation 6/WWTP-A-25 shows no detail regarding the fume hood except that it is bench mounted and 1260mm wide. Can you please indicate where the specifications and details for this hood and base cabinets below can be found?

ANSWER:

There is no mechanical specification for the fume hood, it can be found in specification section 11 53 13.

3. If the Lab millwork is to be Plastic Laminate or Melamine board, will PWGSC entertain the alternate bidding of painted steel cabinetry supplied by Mott Manufacturing Limited through MottLAB Inc of Burlington, ON?

ANSWER:

No revisions are contemplated to this item.

4. Section 06 40 01 2.4.7 refers to the use of “hat-shaped channels spaced 760 mm oc maximum”, but the AECOM drawings call for “19mm veneer core plywood” on WWTP-A-29. Which is correct?

ANSWER:

Refer to revised specification (06 40 01) provided as part of addendum.

5. Refer to spec. section 08 71 11 Finishing Hardware Section 08 7 11, Page 3, item 2.1 Keying Accessories and Finish Part .7, High Security Cylinder: 6 Conventional Pins, Restricted Keyway, Patented Key Control to prevent unauthorized Duplication, etc. Who is going to supply these High Security cylinders with Restricted Keyway? Please advise.

ANSWER:

High security cylinders are to be supplied by the Contractor.

6. Refer to drawing WWTP-A-32, detail 4 ‘section at window jamb’ notes a B2 type wall buildup Refer to drawing WWTP-A-03 ‘wall types legend’ B2 calls for a 90mm thick concrete block wall. Please clarify

ANSWER:

Refer to detail reference 1/A11 WWTP-A-18 for wall type designation. CMU width will vary to suit. Disregard keynote ‘B2’ as it was intended to describe only the individual masonry unit.

7. Refer to drawing WWTP-A-08, note 13, '*Containment area 800x800x600mm deep 150 wide poured concrete curb c/w with acid proof liner with galvanized steel removable grating as per detail 1/A-35'*
  - a. Q1 – Please provide details of liner and specification.
  - b. Q2 – Detail 1/A35 shows aluminum checkered plate? But note 13 calls for removable cover? Please clarify

ANSWER:

Drawing WWTP-A-08, delete notes 12 and 13. However, refer to specification section 03 30 00 for,

- a. waterproofing of sump pits notes 7 and 8.
- b. specification section 08 31 00 Access Doors is added to replace the grating over the sumps. Section is provided as part of addendum.

8. **Drawing WWTP-M-09** indicates a 75mm Propane Gas Line to feed the Air Handling Units, which is on top of the roof and down the outside wall of the building.
  - a. Drawing WWTP-L-04 shows a Propane Storage Pad. What material is the buried Propane Gas Line to be?
  - b. Drawing WWTP-L-04 also indicates a Gas Meter and references Drawing WWTP-M-06 for further details. Upon reviewing said drawing, the connection refers to Note 35: "Contractor to coordinate with Propane Gas Supplier, Electrical and Structural Contractors to provide delivery storage and complete site gas equipment. Refer to landscaping plans for propane tank farm details to be included in Tender. Please provide details of Propane Tank Farm to be located in the yard, quantities, sizes, capacities...etc.

ANSWER:

- a. The material and installation shall be suitable for underground installation
- b. The Propane Tank farm design details are to be provided by a Propane Vendor Supplier under the Contractor. The details and specifics of the design are inherent to the Propane Vendor Supplier and shall be required to meet the Propane usage for the peak demand of the building and operations.

9. Please provide Process Equipment Hydraulic Profile drawing if available.

ANSWER:

The actual hydraulic profile will result/be developed during the equipment package - and tank selection phase when the actual design dimensions are known.

The Design Rationale and Process description provide general information regarding equipment sizes and capacities, but the contractor has to provide own design justification.

10. In reference to Specification 26 32 13.01 2.7.1-4 and 26 32 13.01 3.1.2.5-7. These sections address two fuel tanks, a sub-base fuel tank supplied with the generator and a primary tank to

be supplied and installed by Division 22. Please provide specifications, size, location and details for this tank being supplied by Division 22 as it appears to have been omitted from the drawings and specifications.

ANSWER:

Delete requirement for the primary tank.

11. In reference to Drawing WWTP-E-37. Is heat tracing required on the supply and return water lines for EWSS-4? If so please provide details.

ANSWER:

Refer to specification section 23 05 33.

12. In reference to Drawing WWTP-E-20, a 2000 Amp,600V Bus Duct is shown from Switchboard (SWBD-0), feeding MCC-01 AND A 103mm Conduit complete with 3 Runs of 3#400kcmil is shown feeding MCC-E01. On Drawing WWTP-E-36 the 2000Amp, 600Volt Bus Duct is shown feeding MCC-E01. Please provide clarification as to which drawing is correct?

ANSWER:

“MCC-E01” is a typo, drawing WWTP-E-36 should read “MCC-01”.

13. Drawing S-04 Grid B to C+ and between Grid 1 & 2 indicates a monorail. There is no specification for a monorail provided. Is the monorail part of this contract? If it is, please provide details and specifications.

ANSWER:

Drawing S-04, Monorail with 2 ton capacity refer to note 10. Monorail beam size is W310 x 45.

14. Section 01 32 16 indicates various dates including Award, Mobilization etc. Please revise these dates to incorporate the revised Tender Closing date and award period.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

15. Tender Form Page 14 Item BA06 Construction Time. We would suggest that the duration be left as a blank for the Contractor to enter the duration that is required to construct this contract. The 12 months shown in our opinion is not possible.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

16. Site Visit minutes. When can we expect to receive the minutes of the site visit?

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

17. Refer to drawing WWTP-A-07 'Roof Notes' *'Exact layout and location of fall arrest anchors shall be determined from shop drawings provided by the manufacture of the fall arrest equipment. Locations must be coordinated with the structural steel shop drawings sleeves around anchors shall be installed.'* The legend shows a symbol for fall arrest anchors, but are not marked on the roof plan and we have no specifications. Are roof anchors required? Please clarify

Answer:

Fall arrest anchors are not required for this project.

18. Refer to drawings WWTP-A-09 & 10, note 17 'Framed Openings in Aluminum cladding wall system for duct penetrations, but does not identify the location or any details. Please advise.

ANSWER:

Keynote "17" shall be read in conjunction with keynote "14" where shown.

19. Refer to drawing WWTP-A-18 detail 6 Section of prefin. metal roof siding notes *'lap water proofing membrane'* Waterproofing is not identified with wall type A-02? Please clarify. Also the same drawing notes *'prefinished metal flashing'* and *'wood blocking'* but no details are provided. Please clarify

ANSWER:

Waterproofing membrane will be applied strictly as a transition membrane . The air/vapour barrier must be continuous throughout the building envelope. The expectation is that a flexible A/V barrier membrane will tie into both roof and wall systems up and over the continuous steel "Z" girt at roof curb.

20. Refer to spec. section 09 91 00 Painting, item 2.2. 4 & 2.2.5 specifies epoxy floor finishes. Refer to drawing WWTP-A-30 Room finishes schedule makes no reference to epoxy floor finish? Is epoxy floor finish required? Please advise.

ANSWER:

Specification section 09 91 00 has been revised and provided as part of addendum.

21. Refer to spec. section 43 41 16 page 10 item 3.1.1 notes *'Complete the tank bases, including chemical resistant coating on the concrete tank base'*. Spec. section 9 91 00 makes no reference to chemical resistant coating. Please provide specifications for chemical resistant coating.

ANSWER:

This should be a standard acid/alkaline resistant coating (as an example only carboline semstone 140)

22. I have reviewed the tender drawings and specifications and I don't see any details for vertical wall reinforcement nor grouting in the concrete block walls. Is vertical wall reinforcement required? Please advise.

ANSWER:

There is no vertical wall reinforcing

23. Refer to drawing WWTP-A-30. Room Finish Schedule makes reference to ACO finish to rooms 102 & 114? Can you please clarify what ACO finish is? Please advise

ANSWER:

ACO is a typo, it should read ACU

24. Refer to drawing WWTP-A-30. Room Finish Schedule makes reference to 'CT' ceramic tiles to change rooms and washrooms etc. The specification does not call for ceramic tiling? Floor tiles to spec. section 09 30 14, item 3.6 Floor tiles calls for porcelain? Please clarify tile material.

ANSWER:

CT should read PT, Porcelain Tile is required and the drawing will revised to suit.

25. Refer to drawing WWTP-A-27, detail 12 shows detail of ceramic tile to include for 50mm mortar bedding. Refer to spec. section 09 30 14, item 2.1.8 specifies a pre-mixed, thin set mortar. Please clarify which setting method is to be used.

ANSWER:

The 50mm mortar bed is the maximum depth permitted. This is a leveling detail designed for shower swales to floor drains as noted in Det. 3/WWTP-A-27. Typically, thin set mortar to be used elsewhere.

26. Refer to drawing WWTP-A-27, detail 7 shows galv. wire mesh reinforcement details 9 to 12 does not show the galv. Mesh. Is galvanized wire mesh required? Please advise.

ANSWER:

Galvanized mesh is not required for this application.

27. Refer to drawing WWTP-A-30, Room finishes schedule, rooms 109 & 111 notes that CT and paint is the wall finish to north, south, east and west elevations. From the available elevations as per drawing WWTP-A-25, it would appear that CT is within the shower only? Please advise. Also refer to drawing WWTP-A-27, detail 10 calls for ceramic mosaic tiles? Ceramic mosaic tiles are not specified within the specifications. Please clarify.

ANSWER:

Shower Rooms do not have a separate room designation therefore the description for walls in Rooms 109, & 111 which include showers called for both finishes where shown. Please refer to interior elevations WWTP-A-25, 26 for extents of the required room finishes.

28. Specification section 31 22 13 part 2.1.4 states “Surplus excavated materials are to be stockpiled in areas designated by the Departmental Representative” whereas part 3.4.1 states “Remove surplus material unsuitable for fill, grading or landscaping off site as directed by the Departmental Representative”. These appear to be conflicting statements and in order to provide accurate pricing we require clarification. Section 31 22 13 part 3.4.2 provides clarification on the above stating “The contractor may only dispose of the surplus material off-site if the materials are deemed unsuitable and/or not required for future phases of the Port Granby Project by the Departmental representative”. Please provide direction regarding the quantity of material that will be deemed unsuitable and/or not required for future phases and to be disposed off site.

ANSWER:

All surplus excavated material from Contract R023276.212 is to be stockpiled on the LTWMF site. There is no material that needs to be hauled off-site. The Contract Drawings note designated areas for stockpiling surplus topsoil and earth materials. A revised specification section 31 22 13 is provided as part of addendum.

29. Specification section 31 23 33.01 part 1.8 Existing Conditions states” Examine soil report appended to Specifications”. As previously requested, we cannot locate this soils report please provide or clarify where this can be located.

ANSWER:

The soils report has been issued (Alston Geotech Report 10-094A).

#### Question Lot 15

1. Would you be able to provide me with a list of attendees to the site meeting and bidders conference from November 7 related to the above mentioned project?

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

2. Please confirm if Table 2-5 located in Section 2.2.4.2 of Appendix S (Design Rational and Process Control Description) is the influent design parameters to the facility?

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 2.2 and 2.3) provide information relevant to the projected water constituents.

Besides the lower and upper boundaries, which display a wide range, calculated weighted average and maximum concentrations are presented in section 2.2.4.4. Pilot trial data are presented in section 2.3. Please consider also those data for your projections and modeling.

3. Please confirm if Table 2-6 located in Section 2.2.4.2 of Appendix S (Design Rationale and Process Control Description) is the effluent design parameters for the facility?

ANSWER:

The treated effluent goals are currently based on pilot trial results listed in table 2-6 of section 2.2.4.3. Final treated effluent parameters will be included in the environmental license, which is currently not yet available.

4. Please provide the following reference documents:
  - a. Conestoga-Rovers Associates, 2008 Assessment of Water Treatment Requirements and Options, CRA, 2008.
  - b. Draft water treatment follow-up program-Port Granby waste management facility-Phase 2-pilot scale testing-Results report Golder, December 2010

ANSWER:

Deferred to the next PWGSC Solicitation Amendment.

5. Please provide influent TSS, BOD and COD values.

ANSWER:

Some of the parameters may be referenced, although not as design influent parameters, in the Pilot Trails Report: "Draft water treatment Follow-up program – Port Granby Waste Management facility – Phase 2 – Pilot Scale Testing – Results report Golder Associates Ltd. , December 2010.

6. Assuming Table 2-5 located in Section 2.2.4.2 of Appendix S (Design Rationale and Process Control Description) is the influent design parameters to the facility please confirm which column is to be used for the design lower and design upper limit for the parameters of concern.
  - a. We noticed Table 2-6 located in Section 2.2.4.3 of Appendix S (Design Rationale and Process Control Description) uses a combination of Upper values from the Existing & New Facility parameters included in Table 2.5 (Section 2.2.4.2 of the same document)

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description (section 2.2 and 2.3) provide information relevant to the projected water constituents.

Besides the lower and upper boundaries, which display a wide range, calculated weighted average and maximum concentrations are presented in section 2.2.4.4. Pilot trial data are presented in section 2.3. Please consider also those data for your projections and modeling.

7. Please confirm if the parameters included in Table 2-5 located in Section 2.2.4.2 of Appendix S (Design Rationale and Process Control Description) take into account the waste recycle stream from the process sump?

ANSWER:

No

8. Please confirm the influent and effluent design requirements:
- The MBR
  - the RO
  - the inclined plate clarifier
  - the evaporator

ANSWER:

The Process instrumentation drawings and the Design Rationale and Process description provide information relevant to the process systems with regards to equipment and capacities, but the contractor is required to provide his own design justification for process selection.

9. It is our understanding/interpretation of the specification that the contractor/equipment vendor(s) must complete an overall mass balance and process design to determine influent and effluent design criteria for each unit operation. Please confirm.

ANSWER:

That would be a reasonable approach.

10. If our understanding/interpretation noted above is correct, given the magnitude of this requirement we are requesting a 2 month extension in order to respond to this bid.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

11. The following equipment on drawing E-70, E-72 is not listed within Section 40 90 00 data sheets. Please provide specifications.

TE-02101  
AIT-01101  
AIT-01102  
AIT-01103  
AIT-01104

AIT-01105  
AIT-01106  
AIT-01107  
XA-01020  
XA-01040A  
XA-01040B  
XA-01030A  
XA-01030B  
XA-01030C  
XA-01030D  
GDP-01040  
GDP-01030  
CMP-03141  
CMP-03151  
CMP-03161  
CMP-03241  
CMP-03251  
CMP-03261

ANSWER:

TE-02101 – This is integral to the turbidity sensor AE-02101. Refer to drawing WWTP-DI-02 and attachment 1-E to section 40 90 00.

AIT-01101 to AIT-01107 – Refer to key note 2 on drawing WWTP-DI-33.

XA-01020 to XA-01030D – These are the strobes and horns for the gas detection equipment. Refer to drawing WWTP-DI-31 and WWTP-DI-32, and attachments 1-M, 1-N and 1-O to section 40 90 00.

GDP-01040 & GDP-01030 - Refer to key note 1 on drawing WWTP-DI-32.

CMP-03141 to CMP-03261 - These are the air compressors for self-cleaning feature of the corresponding sensors. Refer to drawing WWTP-DI-04, and attachments 1-A, 1-B and 1-C to section 40 90 00.

12. Appendix I-1 Page iii under Site Preparation indicates there are 73 wells which will be decommissioned within the excavation zone. Will these wells be decommissioned by others prior to this contractor arriving on site? If not is this cost to be included in the pricing?

ANSWER;

These 73 wells are on the PWGMF site and do not impact the construction of the WWTP on the LTWMF.

13. We have received confirmation from one of the major mechanical component suppliers that after placing an order, producing shop drawings, approvals, manufacturing and delivery this would be about 35 weeks. After delivery installation and commissioning would have to take place. With this duration in mind it is plain to see that the specified completion of 12 months is not possible. Please review and advise.

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

14. Referencing Drawing WWTP-E-11, Note 4 and Drawing WWTP-E-22. Please provide details on the feeder conduits and wiring as well as communication and control wiring for Leachate Pump Station Cell 1, Leachate Pump Station Cell 2 and the Equalization Pond Pump Station if they are to be included in this tender, and if they are, to what extent.

ANSWER:

The feeders to the pump stations are provided under Contract C which is not part of this project.

15. Specification section 31 23 33.01 part 3.9.1.6 states "place unshrinkable fill in areas as indicated" Please confirm unshrinkable fill is not required as we cannot find in the documents where it is required.

ANSWER:

The requirement for placement of unshrinkable fill would be referenced on the Contract Drawings or in the Contract Specifications, if not found in the documents then it is not required.

16. Specification section 31 23 33.01 part 3.11.8 states "Install drainage system in backfill as indicated and/or as directed by Departmental Representative". Does the drainage system as noted refer to the SAN and Storm Drains underneath the base slab and as such in the backfill as shown on the Drainage Piping and Fire Protection Ground Floor Plan, Drawing number WWTP-M-04, or is there a requirement for a Foundation drainage system around the perimeter of the building and/or structures which we cannot find indicated on any drawing? Please clarify.

ANSWER:

There is no requirement for a perimeter drainage system.

17. On a number of the DI Series drawings; for example: WWTP-DI-22 to WWTP-DI-30 inclusive; a thick black line shown underneath the various systems denoted as "Spill Containment". Is this "Spill Containment" meant to be a concrete curb or wall, or a vendor supplied containment tank of some description? Please clarify and supply details.

ANSWER:

The Contractor is to provide chemical spill containment for the chemical storage as required for 110% the capacity of the chemical volume.

18. Refer to spec. section 2.2.5 *Concrete floors 1. Int. 3.2c Epoxy finish (2 component waterborne), premium*. Also refer to drawing WWTP-A-30 room finishes schedule, under comments where it specifies floor sealer, is this sealer the epoxy floor finish? Please advise?

ANSWER:

Specification section 09 91 00 has been revised, drawing WWTP-A-30 will be revised accordingly. Both the drawing and specification will be provided as part of addendum.

19. Refer to spec. section 10 28 00, item 2.2.6 Deodorizing fixture & 2.2.11 Robe hook are specified within the specifications, but not identified within the tender drawings. Are deodorizing and robe hooks required? Please advise.

ANSWER:

Refer to drawing WWTP-A-26 Detail 7, "Miscellaneous Area elevation". Keynote '24' and Detail reference 5/WWTP-A-27. Deodorizing fixtures to be owner supplied.

20. Section 43 41 17 – Glass-Fused Steel Tanks.  
Item 2.2.3 – Please clarify, do you require Hydrostatically testing of Tanks in factory.

ANSWER:

No.

21. Drawing WWTP – DI-18 Compressed Air System P & ID. P & ID Drawing indicate two compressors AC-08310 & AC-08320 were as Drawing WWTP-D-04 indicate only one compressor unit. Please clarify which is correct.

ANSWER:

Please provide two systems as per process drawings. Drawing WWTP-D-04 shows only typical arrangement of air compressors.

22. Drawing M-105, grid lines D-5b indicate a water service storage tank, located on the East section of the plant. The comment attached to the water storage tank is, "By water utilities 33 21 14". This specification was not included in the tendering package. Please provide details on size and accessories of the tank. Is this tank to be supplied and installed by the water utilities? Please advise.

ANSWER:

Refer to the response to question 35 of Question Lot 10.

23. In section 23 07 15 Item 3.6.7 and 3.6.8 both mention to see an attached chart at the end of the section, which I assume is suppose to show us which systems require insulation and what thicknesses and types are required on those systems. Without these charts the Thermal Insulation for Piping Spec simply tells us how to put insulation on, but not what insulation to put on what system.

ANSWER:

Agreed, the charts have been deleted. At this point for tendering purposes, the systems requiring insulation would be as noted in ASHRAE 90.1 and have to meet the most stringent insulation requirements between 90.1 and the specifications.

The same can be said for the Thermal Insulation for Equipment spec which lists a large number of materials. However according to the spec the only piece of equipment getting insulation would be the domestic hot water tanks. Is this correct? Please provide any related charts for Insulation.

ANSWER:

Similarly for equipment, any equipment that is connected to the piping system requiring insulation to conserve energy (heat dissipation) shall be insulated according to ASHRAE 90.1 or industry standard practices.

24. Section 46 43 49 Membrane Bioreactor Filtration System  
Section 46 63 23 Packaged Reverse Osmosis Equipment

In order to bid the MBR and RO packages, we will need another 4 weeks not including the holiday break. Can the bid date be extended to the first week of January 2013?

ANSWER:

Deferred to the next PWGSC Solicitation Amendment

25. Section 46 50 10 Inclined Plate Settlers

Please delete the following requirements:

- o 1.3.2: "Tests on this model shall have been done within the last 3 years."
- o 1.3.3: "That the surface preparation and coating process was performed at a facility owned and operated by the manufacturer."
- o 2.1.1: "The manufacturer of the inclined plate clarifier and related components shall have been manufacturing clarifiers of the following specified design for at least five years."
- o 2.1.7: "The plates shall be produced by contact molding or machine extrusion, "hand or spray lay-up fabrication" will not be acceptable."

ANSWER:

Please identify conflicts with specification in submission

26. Section 46 35 10 Centrifuge System

Please provide minimum inside diameter (ID) for the centrifuge.

ANSWER:

The requirements of the system as described in the Process instrumentation drawings, specifications and the Design Rationale and Process description provide information relevant to the process systems with regards to equipment and capacities. The size of the centrifuge tank should be determined from the review of these documents.

27. Section 28 31 01, page 9, item # 2.1.1, although it references a specific supplier and system, it our interpretation that other suppliers and systems are acceptable providing they meet the functionality and operational intent of the specification and associated drawings. Please confirm that other systems would be acceptable.

ANSWER:

Yes, other systems would be acceptable providing they meet the functionality and operational intent as you have stated.

28. Section 28 31 01, page 13, item # 2.4.5, this item references a digital dialer (dact) for off premise monitoring, note that the fire alarm riser on drawing E-52 indicates signals to the security system. Please confirm the intent for fire alarm system monitoring, will it be done via the security interconnection or done directly by utilizing a digital dialer (dact) module in the fire alarm system? Please also confirm that all monitoring fees or contract are the not part of the contractor's responsibility.

ANSWER:

The fire alarm system monitoring shall be done directly by utilizing a digital dialer (dact) module in the fire alarm system.

The contract for the monitoring of the fire alarm and security systems is the responsibility of the Owner.

29. Section 28 31 01, page 29, item # 2.10, this item references a system printer, we cannot find the location of this printer of drawings E-50, E-52 or E-52. Please confirm if the system printer is required and if one is please identify the location.

ANSWER:

The system printer is required and the printer shall be provided with pre-installed program by fire alarm manufacturer. Location shall be co-ordinated on site.

30. Section 16 05 00, page 4, item # 1.6.7.1.3, this item references a framed fire alarm riser diagram to be located at the fire alarm control panel and annunciator. Please note that this item is not referenced in section 28 31 01 relating specifically to the fire alarm system nor is it referenced on drawings E-50 or E-51. Please confirm if a passive graphic riser and zone map is required.

ANSWER:

Yes, a passive graphic riser and zone map is required and at the location of fire alarm control panel and annunciator.

31. Can you please advise if the waste receptacle and deodorant block holder are to be included as they are not shown on the drawings.

ANSWER:

These items will be owner supplied.

32. Can you please advise if the mirrors in the washroom are regular or fixed tilt.

ANSWER:

Refer to drawing WWTP-A-26 Detail 7, "Mounting Heights for Typical Fixtures". We require 2 tilted mirrors in the Female washroom and one in the Male washroom. Everywhere else mirrors are considered as typical.

#### Question Lot 16

1. Refer to Detail 1 on drawing SS-C-42 where no insulation is asked whereas Detail 2 asks spray foam insulation. Please clarify insulation requirement for MHC-01 and if Rigid SM board insulation shall be acceptable.

ANSWER:

Detail 1 and 2 are for two different structures however, detail 1 is a plan view and none of the other plan views in the drawing series of the chambers show insulation whereas all section through show 50mm spray foam insulation to 1500mm below grade.

2. Tender drawing WWTP-M-19 has indicated to refer specification section of 33 21 14 under note 5 in pump schedule. Also it has indicated same spect section in drawing WWTP-M-20. The above specification section is not available with the tender document.

ANSWER:

Refer to the response to question 35 of Question Lot 10.

3. We would like clarification on who should include the Card Readers in their scope of work?

They are listed in the hardware groups, however these items are usually supplied by the Security Contractor as they have to work with the contractors prox cards, etc. When we refer to 28 13 00 Access Control & Security it appears that all security related items are to be furnished by the Owner's ESS contractor & will be covered by a cash allowance.

We would prefer to include the supply of electric strikes in our scope as this involves frame preps, etc., but would prefer that Card Readers are by others.

**ANSWER:**

Card Readers are by others.

4. Specification section 28 13 00 Access Control & Security refers to a cash allowance for Owner's ESS contractor. We have no other indication that a cash allowance is to be included, please clarify.

**ANSWER:**

Deferred to the next PWGSC Solicitation Amendment

**5. Section 46 45 10– Drawing WWTP-D1-13 - Packaged Evaporation Unit**

Type of stream to be processed (Feed):

- How is the feed generated,
- Composition (% dissolved solids, % Suspended solids, analysis, if available):
- Feed flow capacity (lbs/hr or kg/hr):
- Feed Temperature:
- Feed Viscosity (If not known – high or Low):
- Boiling point of feed solution at atmospheric pressure

Concentrate (or Slurry):

- Composition (% Dissolved solids):
- Flow quantity (lbs/hr or kg/hr):
- Viscosity at a given temperature:
- Top operating temperature & pressure:
- Boiling point of concentrate solution (or in case of crystallization, B.P. of saturated solution) at atmospheric pressure
- Product discharge temperature:

Water (or others) evaporation (lbs/hr):

Continuous operation 24 hours a day (or not): Yes (No)

Preferred materials of construction (if known):

Preferred type of evaporator (if known)

Space available (any Limitations on Height, Length, or Width):

Do you prefer a steam unit or an MVR (Mechanical vapour recompression)?

Utilities available:

Power: 3P, VOLTS, HZ, Cost USD/KWHR

Steam: Quantity available:

Pressure: Cost: USD/1000 LBS

Cooling water: Quantity available:

Temperature In/Out

Automation: Half Automated, Fully Automated, Computerized (PLC)

Preferred scope of supply:

- Skid mounted system, or
- All Equipment shipped loose, or
- Drawings for complete system supplied

ANSWER:

The Process instrumentation drawings, specification section 46 45 10 and the Design Rationale and Process description (section 7.15) provide information relevant to the evaporation process with regards to equipment and capacities, but the contractor is required to provide his own design justification for evaporator selection

6. With reference to drawing WWTP-A-25, what are the type of cabinets required under Fume Hood ie. are they Steel Cabinets or Wood, Acid, Flammable or just regular Fume Hood Base Cabinets.

ANSWER:

Cabinets are steel integrated with the fume hood.

7. Dimensions of 1260 mm is a non-standard size. The standard is 4 ft(1220 mm),5 ft,6ft and so on. Hope we can quote for a 4 ft fume hood,

ANSWER:

1220mm width is acceptable.

8. What is the type of Sash required. Page 5 of Specs. suggest different types of sashes. Our standard is tempered glass which is more resistant to breakage than normal float glass.

ANSWER:

If your product meets or exceeds the requirements of the specifications then it should be acceptable.

9. Do you need chain and sprocket system or a wire rope(cable). Specs suggests both. Chain-Sprocket has longer life and we offer lifetime warranty for our system.

ANSWER:

Provide chain and sprocket system

10. Sash Pulls - You have suggested two different types of pulls. Hope we can quote our standard SS-316 Pulls unless you have a specific requirement

ANSWER:

If your sash pull meets the requirements of the specifications then they should be acceptable.

11. What is the internal lining you need. Is it stainless steel or FRP. Can you please let us know the chemicals which will be used on this hood so that we can quote the best suitable lining to meet your requirement

ANSWER:

Please clarify this question and add spec or drawing reference

12. How many electrical receptacles are required.

ANSWER:

Gist of this question is unclear however, the receptacles are shown on the electrical drawing

13. What are the type and quantity service fixtures required.

ANSWER:

Please clarify this question and add spec or drawing reference

14. What is the height of Fume Hood Furring Panel required. Do you want that to be a fixed type of panel or accessible front panel for maintenance.

ANSWER:

Accessible front panel for maintenance

15. Drawing E-11 and E-22, tells us to refer to contract 'C' for three conduit and wire runs. Where do we find contract 'C'.

ANSWER:

Provide conduits and wire runs to HH-11 and HH-12 (numbers of conduits and power feeders are indicated on drawing E-11 and E-22). Beyond of HH-11 and HH-12 will belong to Contract C. Contract C drawings are not required to complete the pricing.

**16. Section 46 63 23 - Packaged Reverse Osmosis Equipment**

What are the allowable effluent discharge concentrations for the various contaminants that are of concern. Basically the values that we need to be below for RO permeate water.

ANSWER:

The treated effluent goals for the WWTP treated water discharge are currently based on pilot trial results and listed in table 2-6 of section 2.2.4.3. of the Port Granby Design rationale and Process Control Description. Final treated effluent parameters will be included in the environmental license, which is currently not yet available.