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Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

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K1A 0S5

Title - Sujet TSTS Architectural and Engineering Services	
Solicitation No. - N° de l'invitation EP938-212564/A	Amendment No. - N° modif. 007
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File No. - N° de dossier fe178.EP938-212564	CCC No./N° CCC - FMS No./N° VME
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F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Matende, Robinah	Buyer Id - Id de l'acheteur fe178
Telephone No. - N° de téléphone (873) 353-8472 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: PSPC PARLIAMENTARY PRECINCT BRANCH DIRECTION GENERALE DE LA CITE O CONNOR ST OTTAWA-ON K1A 0R5 CANADA	

Instructions: See Herein

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AMENDMENT 007

This amendment is raised to answer questions and to make the following changes to the RFP.

QUESTIONS AND ANSWERS	
Q44	Regarding the Industrial Hygiene Specialist - Could the LVA analysis be completed by an engineer who is not a certified "Industrial Hygienist"?
A44	LVA analysis is to be undertaken by professionals with demonstrated experience in analysis and evaluation of the intrinsic and project specific risks associated with the LVA analysis.
Q45	Regarding SRE 3.2.3, item 2: To clarify the wording in this requirement - Do proponents need to include CVs for personnel outside of the "10 Key Individuals" listed? And if so, where should these be placed in the Technical Proposal, and how do they affect the page count?
A45	No. The Proponent should provide summary resumes (c.v.) only for the 10 Key Individuals listed at SRE 3.2.3.
Q46	Regarding Section 3.2.5 Process and Methodology of the Proponent: Scale 5 for Section 3.2.5.2.i), information management and transfer of new personnel, addresses BIM content and is the same as the criteria for section 3.2.5.2.c), off-site and on-site BIM management and design prioritization. Could PWGSC please confirm the marking scale and criteria on Scale 5 for Section 3.2.5.2.i)?
A46	Please refer to question 28 of amendment 006
Q47	Regarding Section 3.2.5 Process and Methodology of the Proponent: 3.2.5.2.e) requests a resource allocation matrix by project stage. Could PWGSC please confirm the level of detail required in this matrix to be considered 'well detailed' for full marks?
A47	For full marks, proponents must demonstrate a very good process and methodology for time management, to respond to and control peaks in design production and on-site services, and describe a well-detailed logical resource matrix by project stage.
Q48	Regarding Section 3.2.1.3.f): As Performance Projects are now required to only be complete to Design Development, would PWGSC consider removing the rated requirement for industry/peer recognition for Performance Projects, as most projects that have recently completed Design Development have not yet had the chance to apply for recognition?
A48	Please refer to answer 30 in amendment 006.
Q49	Regarding Addendum 5, Question 24: Would PWGSC be able to re-issue Appendix C to remove the Commercial Kitchen Design Specialist role, as proponents are not to alter this form?

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A49	Please refer to amendment 008
Q50	Regarding R1250D (2017-11-28), General Condition (GC) 9 - Indemnification and Insurance: Would PWGSC please consider including a reasonable limitation of liability?
A50	No
Q51	Could Canada please issue a clean and consolidated version of the amended table B and Appendix C Fee Proposal form?
A51	Please refer to amendment 008
Q52	Are we to include named individuals for the specialty disciplines on the team organization chart being included in the technical proposal?
A52	Please refer to instructions under SRE 3.2.4 (Internal Structure of the Proponent), Project Brief section 10.2.1.6 and other sections pertaining to the organization's team structure
Q53	Could Canada further define the role of the 'property management' specialty consultant listed in Table B of Appendix C with regards to the information provided in 4.1.4.1 Preliminary Building Management Plan.
A53	The Property Management Specialist provides expertise in the development of the operating requirements, design for effective operations, maintenance, related property management budgeting, and adds value and input to the LCCA and Cost Specialist. See Project Brief for the full scope, including but not limited to Section 4.1.4 Operating Requirements.
Q54	Could Canada further define the role of the 'industrial engineer' specialty consultant listed in Table B of Appendix C.
A54	The Industrial Engineering can have multi-discipline understandings and will contribute the following expertise to the Design Team: <ul style="list-style-type: none">• Occupational Health & Safety expertise around science tasks, like safety cage and gates around jet engine test bed;• Additional and deeper design expertise and understanding of more complex, inter-connected building and science process systems;• Process engineering expertise defining independent and software needs, developing and testing for verification and validation;• Designing process system expertise that are or may be viewed as prototypical, possibly resolving previous failures; and• Design expertise in the creation of an integrated software driven SMART building solution for integration and interface with multiple subsystems and building dynamic operating system.

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Q55	Could Canada please clarify if our key personnel can be in the process of acquiring SECRET clearance at the time this proposal is submitted?
A55	Refer to PI10 Security and SC1 SECURITY REQUIREMENT
Q56	Could Canada please clarify if amendment #5 means that specialty consultants need to hold Reliability clearance?
A56	Refer to PI10 (Security), SC1, the SRCL and the Security Classification Guide
Q57	Would Canada consider granting another extension to the December 10th deadline?
A57	The RFP closing date was extended to January 12, 2021 in amendment 006
Q58	In article 1.4.3, the Project Brief requires the Proponent to anticipate high-resolution scanning and photogrammetry to create a shared coordinate system and capture the information necessary to build the model. Our understanding is that the building is entirely new construction, so there is no obvious need to scan existing buildings, an activity that is normally relevant for renovation projects. The land surveyor noted in article 1.4.5.2 is understood to be undertaking a topographic survey, so that party would be entirely capable of establishing a shared coordinate system. Based on the foregoing, we request that pre-design scanning and photogrammetry be deleted. If there is there a need to undertake point cloud scanning and photogrammetry of neighbouring buildings on the campus, can PSPC provide some boundaries for the extent of such scanning and specific elements to be scanned? This would help to price this service accurately
A58	Please refer to the Project Brief modifications outlined in this amendment.
Q59	How will PWGSC take recently awarded work as part of the Laboratories Canada program into consideration when evaluating capacity of a proponent?
A59	The evaluation of proponents' experience, achievements and capacity is laid out in the Submission Requirement and Evaluation section of the RFP. Please refer to this section for further details.
Q60	Appendix H - Project Brief: Can PSPC please confirm which Deliverables are required to be translated in both official languages, for instance every/all milestone submissions or only at 100% Construction Document submission?
A60	Please refer to the Project Brief modifications outlined in this amendment.
Q61	Appendix H - Project Brief: Does PSPC require a third-party Building Code/Life Safety/Fire Protection consultant separate from our core Consultant team?

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A61	Refer to the Project Brief, section 6.3 Specialist Consultant Services.
Q62	AGREEMENT, TERMS, CONDITIONS AND CLAUSES: GC 3.11 refers to a Construction Cost Limit. When will the Construction Cost Limit be set?
A62	We are assuming that this question is in reference to R1220D (2015-02-25) GC 3.11 Cost Control. Canada will utilize the Construction Cost Estimate indicated under section 1.3.2 of the Project Brief. The Design Team is required to optimize the design to achieve or come as close as possible to the overall Construction Cost Estimate. The final construction Cost will depend on PWGSC's priorities and requirements.
Q63	Appendix H - Project Brief According to 1.4.10 only when invited does the design team support the CM to define the pre-qualification criteria for the subcontractors and suppliers. The Consultant can add considerable value to the selection of subtrades during the procurement process. Would PSPC consider the involvement of the Consultant by the CM a mandatory requirement?
A63	At section 1.4.10 Design Packages and Tendering Strategy, 3rd paragraph <u>Delete:</u> When requested by the CM the Design Team/GEICs, in consultation with the DR, is required to support the CM to defined pre-qualification criteria for subcontractors and suppliers. <u>Replace with:</u> When requested by the DR, the Design Team/GEICs is required to support the CM to defined pre-qualification criteria for subcontractors and suppliers.
Q64	Appendix H - Project Brief According to 1.4.10 the Consultant can anticipate at least 45 DP's to be assembled during the procurement phase. Would PSPC consider a mechanism to adjust that element of the fee (upwards or downwards) in the event the number of DP's is materially different?
A64	Approximately 45 DP are anticipated. If the number is materially different, a change in contract will be considered.
Q65	Appendix H - Project Brief The review period by stakeholders of design submissions is critical to the timely delivery of the Service. However, there are no stipulated design review periods for stakeholders within in the agreement. Is it the intention of PSPC to establish these constraints, when the design schedule is agreed?
A65	Refer to the SD, DD, DP submissions process map in Appendix D of the Project Brief for details on the review period.

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Q66	Appendix H - Project Brief 1.2.2 details an overall Construction Cost Estimate of \$185.3m. In the absence of more specific facility data this estimate will be a significant determiner in the sizing of the Service Fee in the absence of a Construction Cost Limit. Would PSPC consider incorporating a mechanism within the agreement that adjust the Service Fee if the Construction Cost Limit is material different from the Construction Cost Estimate?
A66	Changes in the construction cost will be dealt with on a case by case basis.
Q67	3.2.1.3 Can the client please confirm whether the individual architect, structural, mechanical AND electrical engineers have to have been involved in the 3 projects being put forward for the Experience and Achievements of the Proponent? Or does the client simply want to know which disciplines were involved?
A67	Refer to instructions about evaluated criteria under SRE 3.2.1.3 (a) to (f)
Q68	3.2.1 In the event that the project was delivered under Design-Build or P3 Procurement model, is the client considered to contracting authority or the end user?
A68	Refer to the RFP, section 3.2.1 Experience and Achievements of the Proponent, sub-section 5 for details.
Q69	SRCL (Appendix D) The SRCL (Appendix D) indicates that we will be required to process, produce and/or store Protected B information. The IT, AV and Security sections of Appendix H - Design Brief all use the same language as the following, "The majority of security-related Services and deliverables are protected B, with a few documents at the secret (level II) security classification." This is in conflict with the SRCL. Please confirm if we will be required to process, produce or store Secret (Level II) information for this contract?
A69	Please refer to the amendment 005 for the security classification guide.
Q70	Appendix H - Project Brief RE App H-Project Brief, Section 4.3.7 Structural, Item f): does this also include monitoring of adjacent existing structures during the construction of the TSTS hub. If so please provide the quantity of and information on existing structures that require monitoring.
A70	We do not anticipate existing structures to be monitored at this time.
Q71	Appendix H - Project Brief Sentence 14.3.9 b) (page 235 of App H-Project Brief) states "temporary structural bracing/shoring requirements must be included in the structural model", however all temporary construction activities will be determined and designed by the CM and their

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	engineer. Does this mean that if the temporary bracing designed by the CM impacts the building structure, we should include that in the model?
A71	Refer to section the Project Brief, section 16.3 Model-Related Services, sub-section a) iii.
Q72	Appendix H - Project Brief RE App H-Project Brief: Please clarify the difference between the structural Monitoring program noted in item 14.3.9d) and the structural health Monitoring program noted in item 14.3.9f).
A72	The structural health monitoring item(14.3.9.f) has been deleted. Please refer to Project Brief amendment below.
Q73	Appendix H - Project Brief Appendix H Section 12.3.8.1e mentions "excavation and construction adjacent to and within occupied buildings and infrastructure.", however we are not able to find any specific scope related to existing structures within the RFP document. Please confirm that structural services are not required for existing structures as part of this project. If existing structures are affected by this project, please clarify scope so it can be included
A73	The existing structure on the proposed site will be demolished by the DR as identified in section 4.2.4 Enabling Works. The Design Team will have to take into consideration the buildings and infrastructure that are adjacent to the site. The comparative analysis between design options referred to in the Project Brief section 12.3.8.1.e includes a limitation of vibration and noise for excavation and construction that is adjacent to and within occupied buildings and infrastructure.
Q74	Appendix H - Project Brief: On page 368 of 388 of RFP, the chart indicates that the consultant team is responsible for preparing the Security Design Brief and the Threat Risk Assessment for the project. Please confirm, as this is typically handled by PSPC / Labs Canada Security team.
A74	The Security Design Brief and the Threat Risk Assessment will be completed by PSPC/LabsCanada Security Team, not the consultant team. Refer to the Project Brief modifications below.
Q75	Appendix H - Project Brief It is noted in Appendix H section 2.6.2 that there are environmental issues including soil and groundwater contamination and asbestos in building M21. Please confirm that the DR GEIC environmental consultant manage any environmental issues identified, including studies, remediations measures, documentation, specifications and monitoring of any remediation measures and will issue any required site environmental clearance certificates associated with municipal, provincial or federal regulations? If not, please clarify scope for this project team
A75	Remediation plans, if required, will be managed by the DR GEIC's environmental consultant. Coordination may be required by the A&E. The DR will be providing results for the geotechnical and environmental investigations at contract award.

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Q76	Appendix H, 4.1.2 Protection and Deconstruction: This scope will be greatly affected by the CMs means and methods of construction which can not be ascertained at this time. Please confirm if the design of temporary systems (e.g., floor and wall protection, temporary dust protection) can be delegated to the CM who is better suited to react to the ever-changing construction requirements.
A76	The CM will work in collaboration with the Design Team and implement the design of the temporary systems if required.
Q77	Appendix H - Project Brief Appendix H: 4.1.1 Investigations. Investigations are required to confirm all Site and building conditions which are either unclear or unknown. One of the identified investigations include a detailed examination of civil/municipal and Site and nearby mechanical, electrical, and Connectivity systems, their interconnection and dependencies on adjacent buildings and the overall Site and municipal infrastructure, or other Sites as they apply to enabling projects. The DR will tender and carry out investigations under the oversight of the Design Team discipline requiring the investigation. If infrastructure upgrades or additional project scope are established from investigations is design of these infrastructure upgrades and project scope additional services?
A77	Yes, these will be considered as additional services if required.
Q78	Appendix H - Project Brief Appendix H: 4.1.2 Protection and Deconstruction. The GEICs are required to undertake comprehensive Site investigations to validate the content, type, location and quantity of designated substances located in each building's interior, exterior and the Site. The resulting gap analysis and report from these investigations, along with the seismic, structural, physical security and functional programming requirements will dictate the degree and scope of abatement to be defined by the GEICs and deconstruction to be designed by the Design Team. As the resulting scope can not be determined at this time, will this be considered an additional service. If included in this scope, please clarify requirements
A78	The demolition of building M-21 will be under the responsibility of the DR. The relocation of underground services will be under the responsibility of the DR. The resulting drawings of these projects will be provided to the Design Team who will be responsible to connect the new TSTS facility with the campus services and utilities.
Q79	Appendix H - Project Brief Appendix H: 4.3.8 Mechanical (o) New storm water management systems; Exterior storm water management systems should be part of civil scope (4.3.3.2) and investigations by GEICs, and removed from 4.3.8.
A79	Refer to Project Brief changes below.
Q80	Appendix H - Project Brief Appendix H: Many of the Consultants scope of works include a statement, "All applicable investigations and enabling projects.", however, section 4.2.4. Enabling Works indicate the information in this Project Brief section (4.2.4 Enabling Works) is for the Design Team's information only and will be carried out in whole or part by the DR.

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	Please elaborate on what if any design is required by the consultant for enabling project or please remove this general statement. In addition, many of the investigation are the responsibility of the GEICs; therefore, please clarify what investigations are the responsibility of the Consultant with this general statement.
A80	<p>Please refer to amendment 006 for clarifications on the role of the DR and the Design Team with respect to the enabling projects.</p> <p>In the event of finding additional investigations during the gap analysis as described in section 11 Pre-Design Services, additional investigations will fall under the responsibility of the Design Team. The proponent should carry a provision in case.</p>
Q81	<p>Appendix H - Project Brief Appendix H, 4.3.9 Electrical (a) indicates "Connection to existing Hydro One high-voltage system, with relocation/reconfiguration as required to suit the Project requirements;"; however, 4.2.4.1 Enabling Works – Utilities Reconfiguration also indicates reconfiguration of electrical utilities is by the DR. Please clarify who is responsible for designing utility relocation/ reconfiguration for the site.</p>
A81	Please refer to amendment 006 for clarifications on the enabling projects. The DR will be responsible for relocating underground services located underneath the proposed site in order to prepare for the TSTS project. The Design Team will be responsible to integrate the TSTS project into the existing services.
Q82	<p>Appendix H - Project Brief Appendix H, 4.3.9 Electrical (b) indicates "IT and power duct banks coordinated with all civil/municipal works;"; however, 4.2.4.1 Enabling Works – Utilities Reconfiguration also indicates reconfiguration of electrical utilities and telecommunication systems is by the DR. Please clarify who is responsible for designing utility relocation/ reconfiguration for the site.</p>
A82	Please refer to amendment 006 for clarifications on the enabling projects. The DR will be responsible for relocating underground services located underneath the proposed site in order to prepare for the TSTS project. The Design Team will be responsible to integrate the TSTS project into the existing services.
Q83	<p>Appendix H - Project Brief Appendix H, Section 4 Scope identifies "The Project scope includes a yet to be determined Indigenous initiative. The DR will confirm the scope of this initiative with the input of Indigenous stakeholders." Please clarify how the consultant should price services associated with this yet to be determined initiative or will this be additional services.</p>
A83	Refer to the Project Brief, section 10.1.1.6 Frequency of Meetings and Workshops under the pre-design stage for subject matter specific. Allow for a minimum of 2 sessions with the subject matter expert.
Q84	<p>RFP To ensure timely coordination and receipt of the required APP E - Client Reference Forms, we respectfully request a 1 week extension to the DECEMBER 10th 2021 Closing Date.</p>

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A84	The RFP closing date was extended to January 12, 2021 in amendment 006
Q85	As we are pending responses for our previous questions, would PWGSC consider a two week extension to the current deadline of December 10 th ?
A85	The RFP closing date was extended to January 12, 2021 in amendment 006
Q86	In reference to Section 1.4.2.1 in Appendix H: Please provide detailed information as to what is meant by BIM enhanced commissioning.
A86	It is expected that the BIM will be used to support the commissioning process and deliverables will support information requirements.
Q87	In reference to Section 4.1.4.2 in Appendix H - regarding BIM Interoperability : What Software will be used by the NRC for FM/FF&E?
A87	The Custodian is currently utilizing Plant Management (PM) module in SAP as the building management software and Asyst software to manage service requests.
Q88	In reference to Section 10.3.2.1, h, ii in Appendix H: In which format must the information be derived?
A88	The information should be Native and IFC4.0 DT1.0.
Q89	In reference to Section 10.3.2.1 in Appendix H: Can you define the exact nature of the information that will need to be implemented in the models for O&M purposes?
A89	The Design Team will input the equipment requirements for design purposes. Once the specific make and model have been selected, the CM and will be responsible for inputting the detailed parameters.
Q90	In reference to Section 10.3.2.1 in Appendix H: "The Consultant must: h) xiv": Can you clarify the nature of the tests that are to be performed virtually on MEPF systems ?
A90	Please refer to the Project Brief modifications outlined in this amendment.
Q91	In reference to Section 10.3.2.1 in Appendix H: "The CM will: e) and g)": Is it required for the design team to solve clashes generated through the coordination process of the subcontractors, for components that would exceed the design team's LOD matrix, or will this be included in the CM's scope ?
A91	Design beyond the design team's LOD matrix will be the CM's responsibility.
Q92	In reference to Appendix H 10.1.1.5 e) and f) regarding Project control Workshops, Risk Management and Lessons Learned Workshops respectively, unlike other special (or atypical) workshops described in the RFP, there is no guidance as to the

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	<p>approximate number or frequency of these meetings. This makes it impossible to reliably estimate a level of effort for proposing a lump sum fee inclusive of these services. The cost differential of a workshop that occurs 5 or 10 times over the course of the project vs one which occurs monthly would represent a very significant cost difference.</p>
A92	<p>Please refer to the table in section 10.1.1.6 Frequency of Meetings and Workshops.</p>
Q93	<p>With respect to FF&E and Connectivity Integration under Appendix H 1.4.12 and various other places in the Project Brief, there are requirements to integrate equipment moved from the existing facilities. It is assumed that these equipment are of a portable nature and not physically fixed into the fabric of the building structure. For example, it is assumed that laboratory fume hoods would not be moved from the existing facilities and built into the building systems. Is this correct? If not, could PWGSC indicate what equipment of this nature may be moved from existing facilities?</p>
A93	<p>There are approximately 66 pieces of new and existing, non-embedded equipment that will be provided by the client and installed into the new facility during construction due to the large size, weight or complexity of the equipment. Embedded and physically affixed equipment will not be relocated.</p>
Q94	<p>1.4.3 of Annex H Who is responsible for the selection and costs of acquiring, implementing and managing the CDE?</p>
A94	<p>The Design Team will be responsible for the design phase CDE and the CM will be responsible for the construction phase CDE. A transition process between both is to be coordinated by the BIM management team. At a minimum, PSPC requires access to the published zone.</p>
Q95	<p>1.4.3 of Annex H Paragraph 2 refers to maintaining a continuous link between the digital and physical asset: What is the management system to which the information contained in the digital asset will be linked? Who is responsible for setting up such a system? Please list the parameters to be included in the digital model.</p>
A95	<p>The creation of the link between the management system and the digital asset is outside the scope of this contract.</p>
Q96	<p>1.4.3 of Annex H Paragraph 3: It is quite possible to establish a coordinate system by other methods, 1.4.3 of Annex H - probably less expensive than using scanning and photogrammetry. Is this method prescriptive, or might alternatives be acceptable?</p>
A96	<p>Please refer to the Project Brief modifications outlined in this amendment.</p>
Q97	<p>1.4.3 of Annex H Paragraph 3: It is entirely possible to optimize data collection by methods other than drone use. Is this method prescriptive, or could alternatives be acceptable?</p>

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A97	Please refer to the Project Brief modifications outlined in this amendment.
Q98	1.4.3 of Annex H Paragraph 4: This refers to processes that involve new or emerging technologies. Describe which new or emerging technologies are involved.
A98	Please refer section 10.3.2 BIM Services for detailed scope of work. Modifications to section 1.4.3 of Project Brief are detailed below.
Q99	1.4.3 of Annex H Paragraph 4: There is talk of integrating shop drawings into the model; shop drawings include a level of detail and a level of information that does not correspond to a 3D model. Please specify the extent of integration required in the model
A99	Please refer section 10.3.2 BIM Services for detailed scope of work. Modifications to section 1.4.3 of Project Brief are detailed below.
Q100	1.4.3 of Annex H Paragraph 4: Please confirm that the last sentence of this paragraph requires "for the whole structure" laser scans and integration of point clouds into the model. It is not possible to quantify the number of scans at this stage, which could have a significant impact on the costs associated with the level of effort, hardware and software. Please provide requirements for the expected frequency of scanning and/or the number of scans anticipated by the intended use of the scans.
A100	Please refer to the Project Brief modifications outlined in this amendment.
Q101	4.1.4.2 of Annex H What is the building management system we will need to interact with?
A101	The Custodian is currently utilizing Plant Management (PM) module in SAP as the building management software and Asyst software to manage service requests.
Q102	10.3.2.1.h) viii of Annex H Please detail the 7D interoperability requirements
A102	The model will be used to populate the custodian's Asset management database, including laboratory and scientific equipment.
Q103	10.3.2.1.h) x from Annex H Please detail the requirements for the production of still images, interactive and immersive models and animation: Quantity, frequency, etc.
A103	Please refer to section 10.3.2.3 BIM Services Deliverables.
Q104	With reference to the RFP Section 11.7.2 (Civil/Municipal Analysis): Item (a): Will an existing model of the NRC's watermain grid and/or a previous hydraulic capacity report be available to the Design Team? We note that the DR will be responsible for design of watermain relocations as part of the Enabling Works scope – will a watermain model be prepared as part of the DR's design to confirm sizing of the relocated watermains, and if so, will it be made available to the Design Team?

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A104	Drawings of the current NRC system will be made available to the Design Team upon contract award and the updated drawings created as part of the enabling project will be provided to the Design Team once available.
Q105	With reference to the RFP Section 11.7.2 (Civil/Municipal Analysis): Item (c): Will an existing model of the NRC's storm water management system and/or a previous hydraulic capacity report be available to the Design Team? We note that the DR will be responsible for design of storm sewer relocations as part of the Enabling Works scope – will a storm sewer model be prepared as part of the DR's design to confirm sizing of the relocated storm sewers, and if so, will it be made available to the Design Team?
A105	Drawings of the current NRC system will be made available to the Design Team upon contract award and the updated drawings created as part of the enabling project will be provided to the Design Team once available.
Q106	With reference to the RFP Section 11.7.2 (Civil/Municipal Analysis): Please confirm that the scope of the watermain and storm water modeling required under items (a) and (c) is limited to verification of the capacity of these systems to service the TSTS project (including identifying any on- or off-site upgrade needs) and does not include a wider assessment of any existing constraints in the NRC's watermain grid or storm sewers.
A106	The scope of work will be limited to systems servicing the TSTS project and will not include a wider assessment of any existing constraints in the NRC's watermain grid or storm sewers.
Q107	Can you confirm the number of design packages?
A107	Please refer to Project Brief, section 1.4.10 Design Packages and Tendering Strategy.
Q108	Regarding Section 3.2.3.a) and b): PWGSC requests that proponents include "the start date of assignment and the end date of assignment for each project". Given that many projects on the CVs go back a number of years and throughout many work places, it will be very difficult for team members to definitively remember or retrieve the exact start dates for their projects. Could PWGSC please clarify if indicating the start and end year for the projects for this requirement will suffice?
A108	Start and end dates should include, at a minimum, the month and year.
Q109	Further to Addendum #4 Q&A 23, and Addendum #5 Q&A 27 & 35: Canada has confirmed that traditional models (DBB) of delivery are acceptable for the performance-based project and that the list in Q35, which focuses fully on engineering attributes of the project, not architectural, is acceptable. Given that many JVs will consist of an architectural firm and a multidisciplinary engineering firm (to reflect the importance of engineering in the design and construction of laboratory buildings), would Canada accept a project from the multidisciplinary engineering partner in which they were not the prime (instead contracted to an architect) if it can fulfill all other criteria? We are concerned that limiting projects to ones in which the engineering firm must have

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	been contracted directly to the end client (prime), unfairly reduces the ability for the engineering firm in a JV to submit a highly relevant project for scoring in which the delivery model was DBB.
A109	Please refer to the question and answer 27 in amendment 006.
Q110	<p>We understand PWGSC's desire to use new and emerging digital technologies to achieve a fully coordinated work in progress and the most accurate digital representation of the built work, which we fully support. However, we are of the opinion that with regard to the use of laser scanning and photogrammetry, the requirements formulated are too broad and vague to allow all proposers to submit an adequate and justifiable price.</p> <p>Considering section 1.4.3 of the tender document, namely; "Also, as construction progresses, before and after concealment of each building assembly and site element, the design team shall perform laser scanning and photogrammetry, and integrate the point cloud data and photogrammetry to complete the as-built model as its development progresses".</p> <p>Several key elements are missing to fully appreciate the effort and work involved in this requirement;</p> <ul style="list-style-type: none">- The extent of the sweeps: For example, are site preparation works, piles and other foundations to be swept?- The timing of the sweeps? Specify when the sweeps start and finish. And how often?- What is the LOA (Level of Accuracy) of the items to be scanned? <p>- Knowledge of the construction schedule that will be developed by the construction management company is essential to assess the workload required;</p> <p>- The sequence of construction works will have a significant impact on the extent and timing required for laser scanning and photogrammetry;</p> <p>- The phrase "and every element of the site" suggests that there is a need to capture information from unconstructed elements on the site (equipment, tools, materials, etc.). If this is the case, should all these elements be captured; continuously; on a daily; weekly; or other basis?</p> <p>- The capacity to store such a large amount of information is impossible to assess. It is important to know the approximate number of analysis iterations for the project and the level of accuracy (LOA) of the analyses to estimate sufficient storage capacity. The current wording of this request can be interpreted in such a way that the monetary impact can vary by several million dollars. It is impossible at the proposal stage to adequately assess the amount of effort and work required to meet this requirement.</p> <p>In the interest of transparency and fairness among all proponents, we propose the following alternatives:</p> <ul style="list-style-type: none">- PWGSC must define the exact scope of this requirement to ensure that each proponent bids on the same terms;- All laser scanning and photogrammetry is excluded from the current proposal and is given as a separate mandate. <p>All laser scanning and photogrammetry is being passed on to the construction manager.</p>
A110	Please refer to the Project Brief modifications outlined in this amendment.

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Q111	In article 1.3.2 - Cost of Appendix H, Project Brief, an estimated cost of \$17.3M is included for "Building Components and Connectivity". However, no information is provided regarding this budget. Please provide a description of the items / work included in this budget.
A111	Please refer to section 1.3.2 of the Project Brief for the preliminary construction cost estimate. The actual construction costs will be further defined as the design progresses.
Q112	The work included in the cost estimate of \$17.3M for Building Components and Connectivity (article 1.3.2 - Cost of Appendix H, Project Brief) may form part or all of the scope of services of specialized subconsultants. To permit subconsultants to prepare clear and accurate proposals, please provide a breakdown of costs for the work in this budget.
A112	Please refer to section 1.3.2 of the Project Brief for the preliminary construction cost estimate. The actual construction costs will be further defined as the design progresses.
Q113	Please provide a breakdown of cost by discipline (civil, structure, mechanical, electrical and architectural works) included in the main construction budget of \$168M
A113	Please refer to section 1.3.2 of the Project Brief for the preliminary construction cost estimate. The actual construction costs will be further defined as the design progresses.
Q114	With BIM-based delivery, it is typical to have an early ramp-up of the design team. In Appendix C, the allocation of the fee by phase appears to be more aligned with a traditional CAD-based delivery, where the team peaks later (in the Design Packages phase). We foresee a situation where the successful Proponent's billings will be considerably behind the necessary labour to complete the schematic design and design development phases, and will not normalize until late in the Design Packages. Since this is a long period, this creates a liability for the Proponent, who will need to pay staff and consultants based on work done. Would PSPC consider a realignment of the fee allocation such that the Design Packages fee is reduced to no more than 40% and the balance is distributed into the preceding phases? If not, would Canada be willing to renegotiate the distribution of the fee following the demonstration of effort as part of the Contract Management Plan, post-award?
A114	The percentages will not be changed at this time.
Q115	With regards to SRE 3.2.1.4 as modified in Solicitation Amendment 006, is any entity directly contracted by the Client and fully engaged in the delivery of services under the representative project considered a Prime Consultant?
A115	Please refer to the question and answer 27 in amendment 006.
Q116	In article 1.3.2 - Cost of Appendix H, Project Brief, an estimated cost of \$168.0M is included for the "Main Construction". This cost includes construction contingencies and escalation contingencies. Please provide the percentage of construction contingency

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	included and provide the percentage of escalation contingency included. Please also provide the date to which the escalation contingency has been calculated.
A116	Please refer to section 1.3.2 of the Project Brief for the preliminary construction cost estimate. The actual construction costs will be further defined as the design progresses.
Q117	In article 1.3.2 - Cost of Appendix H, Project Brief, please confirm that the Main Construction cost excludes the costs of enabling works and includes the cost of Pre-Construction works.
A117	The provided preliminary cost estimate in section 1.3.2 of the Project Brief excludes enabling works and includes the pre-construction works identified in section 4.2 Enabling Projects and Pre-Construction Works.
Q118	<p>In article 1.3.3 - Milestones of Appendix H, Project Brief, Design Development is expected to be completed by June 2024. Design packages for enabling works will be prepared by the DR through other design contracts between October 2023 and June 2024, and construction of enabling works will commence in June 2024. Please confirm/clarify the following:</p> <p>a. Will enabling works, carried out by the DR through separate construction contracts, be completed prior to the start of the Main Construction, including Pre-Construction Works?</p> <p>b. What is the expected Milestone date for the start of the Pre-Construction works? What is the expected Milestone date for the start of the balance of the Main Construction work, following completion of the Pre-Construction works?</p>
A118	It is expected that the enabling works will be completed before the pre-construction and main construction work in this contract.
Q119	<p>Appendix H / Addendum #3</p> <p>Throughout the RFP, it is clear that during schematic design, two architectural responses are to be developed as options. Separately the GHG Options analysis will evaluate four (4) GHG options to be evaluated for energy, carbon and NPV (LCCA) performance. It is not clear that the GHG Options analysis be conducted for both the architectural options (thus a total of 8 GHG options, 4 for each architectural option). Since the architectural option will be responding to the same function program, we expect little meaningful difference in GHG and LCCA performance. However, some differences may occur in the LCA analysis due to differences in structural material requirements.</p>
A119	The GHG Options Analysis is to be completed prior to completion of the Schematic Design options. The GHG options analysis is limited to 4 options.
Q120	<p>Appendix H / Addendum #3</p> <p>Addendum #3 Sustainability Section 4.3.5(h) states that four (4) GHG Options per Appendix K be submitted for 50% SD, and the design team provide detailed cost analysis for two (2) complete, distinct and viable options at 100% SD. It is not clear if this will be based on two (of the 4) options from the GHG Options analysis, or the two</p>

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	Architectural options that are to be developed throughout SD, or both (e.g. 4 total options).
A120	The cost estimates required at 100% SD is to be based on the two Architectural options that are developed throughout Schematic Design.

CHANGES TO Appendix H – PROJECT BRIEF

The Following changes are effective immediately:

a) At section 4.3.8 Mechanical

DELETE:

o) New storm water management systems;

b) At section 4.3.3.2 Civil/Municipal

INSERT:

o) New storm water management systems;

c) At section APPENDIX F – CONNECTIVITY INTEGRATION WITH DESIGN DELIVERABLES, ISS Deliverables Mapping, row 3 of the table (Pre-Design)

DELETE:

Threat and Risk Assessment Recommendations (Sanitized)

Security Design Brief

c) At section 10.1.5 Official Languages, 2nd paragraph

DELETE:

The Design Team must provide deliverables produced in both official languages to a professional standard and be responsible for the translation accuracy, completeness and consistency unless otherwise approved in advance by the Department Representative. Both languages are considered equal in status, that is, neither is considered to be of lesser standing because it is a translation of the other.

Relace with:

The Design Team must provide final deliverables produced in both official languages to a professional standard and be responsible for the translation accuracy, completeness and consistency unless otherwise approved in advance by the Department Representative. Both languages are considered equal in status, that is, neither is considered to be of lesser standing because it is a translation of the other.

d) At section 1.4.3 Building Information Modelling, 3rd to 6th paragraphs

Delete:

The Design Team is required to use high-resolution scanning and photogrammetry to create a shared coordinate system and capture the information necessary to build the Model. Both the Design Team and CM are to employ drone technologies to maximize data collection in the shortest time possible during the pre-design, construction and post-construction phases of the Project.

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To establish essential Model parameters and future interoperability requirements, the Design Team and CM, when hired, are required to develop comprehensive processes that integrate established, new, and emerging digital technologies. These processes are to be detailed in a Project-specific BIM Execution Plan (BXP) which will be routinely updated to reflect the refined design, construction, commissioning and future operational requirements. Early in the design process, the Design Team is to confirm with the DR and TSTS occupants the extent of interoperability and level of information required for Model Elements in the final, as-built (record) Model. To facilitate the development of the as-built Model, the Design Team is required to incorporate submittals (i.e., shop drawings, etc.) provided by the CM or the CM's subcontractors and suppliers into the Model as they are approved. Likewise, as construction progresses, before and after concealment of each building assembly and Site element, the Design Team is required to complete laser scanning, photogrammetry, and incorporate the point-cloud data and photogrammetry to complete the as-built Model, as it is progressively built.

Given the above requirements, the BIM computing requirements necessary for the Project are significant. The Design Team and CM need to understand the information technology (IT), audio-visual equipment (AV), and the specialized software required for BIM in this Project. The Design Team and CM are to obtain said equipment and software, and plan and execute their collective and coordinated Services as detailed for the Design Team in this Project Brief, notably sections 10–ADMINISTRATION and DESIGN MANAGEMENT SERVICES through 17–POST-CONSTRUCTION SERVICES, inclusively. The CM's services will be detailed in the CM's terms of reference and contract.

The DR will provide the Design Team a rudimentary REVIT 3D Model developed for the siting analysis. The Design Team may choose to use this basic Model or develop a new Model in the development of their design. The rudimentary REVIT 3D Model will supplement other information identified in Project Brief section 8– REFERENCE INFORMATION.

Replace with:

The Design Team and CM, when hired, should consider developing comprehensive processes that integrate established, new, and emerging digital technologies to establish essential Model parameters and future interoperability requirements. These processes are to be detailed in a Project-specific BIM Execution Plan (BXP) which will be routinely updated to reflect the refined design, construction, commissioning and future operational requirements. Early in the design process, the Design Team, in coordination with the CM once hired, is to confirm with the DR and TSTS occupants the extent of interoperability and level of information required for Model Elements in the final, as-built (record) Model. To facilitate the development of the as-built Model, the CM will be required to incorporate submittals (i.e., shop drawings, etc.) into the Model as they are approved. Likewise, as construction progresses, before and after concealment of each building assembly and Site element, the CM will be required to complete 3D photos of all spaces and incorporate the point-cloud data and photogrammetry to complete the as-built Model, as it is progressively built.

Given the above requirements, the BIM computing requirements necessary for the Project are significant. The Design Team and CM need to understand the information technology (IT), audio-visual equipment (AV), and the specialized software required for BIM in this Project. The Design Team and CM are to obtain said equipment and software, and plan and execute their collective and coordinated Services as detailed for the Design Team in this Project Brief, notably sections 10–ADMINISTRATION and DESIGN MANAGEMENT SERVICES through 17–POST-CONSTRUCTION SERVICES, inclusively. The CM's services will be detailed in the CM's terms of reference and contract.

e) At section 10.2.2.1 Overview, 3rd paragraph

DELETE:

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The BXP must define the use and extent of high resolution scanning and photogrammetry, combined, to create a shared co-ordinate system and provide the information necessary to create and update the model.

f) At section 10.2.2.1 Overview, 4th paragraph

DELETE:

With the input of the DR, the combined BIM management team must re-evaluate the BXP monthly and provide recommendation for enhancement to and for the DR's approval.

Replace With:

With the input of the DR, the BIM management team must re-evaluate the BXP regularly and provide recommendation for enhancement to and for the DR's approval.

g) At section 10.2.2.1 Overview

DELETE:

k) Processes and methodologies to confirm all CM subcontractor and supplier information is accurately Modelled and integrated into the Project Model;

REPLACE WITH:

k) Processes and methodologies to confirm all agreed to CM subcontractor and supplier information is accurately Modelled and integrated into the Project Model;

DELETE:

l) When and where to use drone technology to increase the rate of data collection and accuracy, and to provide information necessary to develop the Model and manage the Site;

h) At section 10.3.2.1 Overview, Consultant Requirements

DELETE:

h.xiv) Mechanical-Electrical-Plumbing-Fire Suppression (MEPF) virtual balancing and testing for analysis of the MEPF design options through simulated testing and balancing;

h) At section 10.3.2.2 Model Management

DELETE:

g) Publish weekly interference/clash reports for review by the Design Team, CM and DR for resolution by the Design Team weekly with validation by the Consultant's BIM manager, including spatial coordination and clash detection as follows:

REPLACE WITH:

g) Publish interference/clash reports at each deliverable for review by the Design Team, CM and DR for resolution by the Design Team with validation by the Consultant's BIM manager, including spatial coordination and clash detection as follows:

i) At section 10.3.2.3 BIM Services Deliverables

DELETE:

a) Submit to the DR and the CM's BIM Manager weekly clash detection reports as defined in the BXP; and

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REPLACE WITH:

a) Submit to the DR and the CM's BIM Manager clash detection reports at each deliverable as defined in the BXP; and

j) At section 14.3.9 Structural Design

DELETE:

f) As a separate DP, the structural health Monitoring program to clearly define the scope of work details, instrumentation requirements, information to complete the installations, and operation, maintenance and data collection/management of Monitoring systems, all fully coordinated with geotechnical and building envelope Monitoring systems;