

1. General

- .1 This addendum is to be read concurrently with the Tender Documents, Drawings and Specifications and Division 00.
- .2 If conflicts or inconsistencies exist between this Addendum and the Tender Documents, Drawings and/or Specifications, this Addendum prevails.
- .3 This Addendum forms part of the Contract Documents and will be included as such.
- .4 Failure by the Bidder to be familiar with this Addendum will not be reason to increase the Contract Price.
- .5 Bidders must include the number(s) of addenda received during the Bid Period on the appropriate Bid Form as acknowledgement of their receipt and inclusion in the Bid Value.

2. Clarifications

- .1 See Stantec issued Polaris Project – ADD_03 – 144214760
- .2 Tender Package 1 Electrical: Remove detail 2/E010 UGR7C Padmount from scope. By ATCO.
- .3 Tender Package 4 Foundation Works: Add Generator pad to scope. Refer to sheet structural sheet S003, detail 15 for pad detail. Final pad size and offset to be coordinated with generator selection.
- .4 Tender Package 3 Earthworks & Utilities:
 - i. Remove detail 2/E010 ATCO padmount excavation and fill from scope. By ATCO.
 - ii. Add to scope detail 9/L400 items 6 (100mm dia. perforated drain pipe with filter sock) and 7 (40mm drainage rock wrapped in filter fabric) required at HS-04 Concrete seat wall shown on Landscaping drawings
 - iii. Site visit has been requested for the earthworks scope and is scheduled for Friday December 6 at 10:30am meeting in front of A-Wing Parking Lot.

3. Answers to Questions

- .1 **Question:** Drawings clearly shows the knife plate for wood are to be designed by wood trade and supplied by steel trade. Can you confirm the following:
 - Should we assume we have to supply all field welding for glulam element? (12/S201)
 - For the gusset plate screwed into the wood, who have responsibility to install those? (11&13/S201)

Response: Yes include for all field welding for steel to steel connections and wood to steel as per the details shown on S201. Detail 11 and 13 S201 Tender Package 07 steel fabricator/subtrade to install gusset plate.

- .2 **Question:** please confirm the radon suction pit is part of this tender – typically covered by mechanical contractor

Response: Tender package 07 to include the supply of radon suction pit including all metal

components such as L angles, metal deck, posts, anchors, wire mesh

- .3 **Question:** Re: Previous RFI to confirm if Beaver Plastics Terrafoam is an acceptable alternative for 2.2.1, 2.1.2, 2.1.3 (HS40 Foundation wall insulation, HS40 Load Bearing Insulation for slabs, HS60 thickened slabs and footings). Data sheet attached. This product is commonly used on YG projects in the Yukon and has associated cost savings. See attached comparison and specs

Response: Acceptable. Any additional design time and costs required to accommodate alternative product to be covered by product vendor.

- .4 **Question:** We are pleased to provide the attached product information for approval of DELTA Fiberglass Windows for the exterior punched window supply scope of this project. Delta Fiberglass Windows can be supplied in a variety of glazing options, and exterior trims including nailing fin, exterior panning, installation clips, etc., to suit many projects such as this. Delta Fiberglass Windows are ideally suited for punched openings, and can also be supplied to be used as inserts into curtainwall. Information attached.

Response: Product information appears acceptable, Supplier to provide equal extent of warranty as per specification for all materials. Any additional design time and costs required to accommodate alternative product to be covered by product vendor.

- .5 **Question:** mottlab would like to qualify & bid Mott Manufacturing Lab Casework and Fume Hoods as an acceptable alternative. Is this acceptable?

Response: Provide product for review as an alternative per tender requirements. Mott is acceptable for casework and ducted fume hoods provided that they meet the required performance as specified. Any additional design time and costs required to accommodate alternative product to be covered by product vendor.

- .6 **Question:** It is clear that this is a proprietary/sole sourced fume hood spec based on the dimensions given. Does a fume hood with interior dimensions of 62"w x 48"h x 26.375"d meet the user requirements for ducted hood?

Response: Proposed Fume Hoods Interior dimensions are acceptable.

- .7 **Question:** Why is "Made in America" an important distinguishment for a Canadian University project? Is it acceptable to bid product from a manufacturer using raw material sourced in, and final product assembly in Canada?

Response: Specification to be updated. Specific location of manufacturing is not a requirement for supply

- .8 **Question:** If all fume hoods are all to come with services, than disassembly for travel through corridors is permitted?

Response: Temporary removal of a service fixture is acceptable to allow passing through a opening less than 38".

- .9 **Question:** All fume hoods are to be provided with cold water & hot water, is this one mixing faucet? Or separate fixtures at separate cup sinks?

Response: All fume hoods to have hot and cold water supplies. A single mixing faucet with hold and cold handles located above a single cup sink is acceptable.

- .10 **Question:** Ductless fume hoods are spec'd for 60 fpm face velocity whereas ducted are spec'd for 40fpm and 50fpm. These hoods will fight each other for supply air and create a turbulent environment when in the same room. Should all hoods be assumed to run at 60 fpm? Both ducted hoods on VAV system, & ductless hoods on CAV

Response: Ducted fume hood face velocity to be 60 FPM.

- .11 **Question:** Products/deliverables contained within this section/scope of work will be from multiple manufacturers as specified and detailed. Ie) Air Master Systems casework, Labconco Fume Hoods, WaterSaver fixtures, Franke sinks etc. The intent of this note is to have all of these provided by one lab casework supplier correct?

Response: The basis of design has been provided within tender package . A single casework supplier is not required. CM to coordinate.

- .12 **Question:** Reference Section 07 52 16 Membrane Roofing. Some of the Siplast products are incorrect/discontinued and the mfr. recommends the following products, please confirm acceptable (cut sheets attached) 2.5.1.2 Vapour Retarder: Siplast SA Vapor Retarder; 2.8.1.1.2 Field Base Sheet: Siplast Paradiene 20 TG; 2.8.2.1.2 Base Stripping: Siplast Paradiene 20 SA, 2.8.3.1.2 Field Cap Sheet: Siplast Paratech 250 Cap TG

Response: Acceptable. Any additional design time and costs required to accommodate alternative product to be covered by product vendor.

- .13 **Question:** Section 12 14 13 -2 Products -2.2.6 Do the areas below require blinds (these areas have not been identified): Student and Staff zones, East wall corridor, Motorized? Standard chain drive? Dual or single?

Response: No blinds will be required within these spaces.

- .14 **Question:** Is it the intent to have all motorized blinds incorporated into a central security system. Drawing E804 has reference to low voltage motors and AS485 data wire. This would require programming the motors and commissioning the system by a factory technician. The standard installation is 120 volt 4 wire motors with wired interface control modules with wall wired rocker switches. This is the system used in the French language High School and the Whistle Bend School. Wiring and commissioning done by local trades.

Response: The intent is the Blinds are not be incorporated into the Security system.

- .15 **Question:** We need a knife plate layout on the elevations to confirm quantity and backing locations. There is significant labor and structural materials required that cannot be properly quantified without layout or minimum spacings. Will there be additional engineering required on this assembly?

Response: For metal knife plate connections: Connections assume supports as follows: Minimum 2 supports for Fins over 600mm tall. Provide additional Connections for a max spacing of 2400mm or 1200mm Maximum cantilever. Refer to A201 - Exterior Elevations for extend of fins. Shop drawing to be stamped by engineer.

- .16 **Question:** Please confirm if 05 05 05 3.2.1 and 3.2.2 applies for sub-contractor own QA program or if it is the scope the third-party company paid by the owner.

Response: This scope applies to 3rd party inspection company but sub-contractor will need to provide the information for the inspection company's review.

- .17 **Question:** please confirm if section 05 12 23 1.4.1 applies for application of primer only (CISC/CPMA 2-75) as such certification (ANSI/NACE No.13) is not available locally, please confirm if approved equivalent experience will be acceptable

Response: Section 05 12 23 1.4.1 applies to all stages of coating not just primer. Equivalent is acceptable subject to approval.

- .18 **Question:** please confirm the radon suction pit is part of this tender – typically covered by mechanical contractor

Response: Tender package 07 to include the supply of radon suction pit including all metal components such as L angles, metal deck, posts, anchors, wire mesh

- .19 **Question:** What is the product spec and gauge for the deflection track at U/S of roof beam (Exterior Stud Wall Schedule) S103

Response: Deflection track is part of cold-formed steel which is delegated design. Delegated design engineer to determine spec and gauge.

- .20 **Question:** We would like to propose an alternate to the LVL in the Framing Materials Package as follows (data sheet attached): 38x140 Versa-Stud 1.7E SUBSTITUTE 38x140 West Fraser 1.8E 3000 LVL, 38x140 Versa-Stud 1.7E SUBSTITUTE 38x140 West Fraser 1.8E 3000 LVL, 38x184 Versa-Stud 1.8E 2400 Boise Cascade SUBSTITUTE 38x184 West Fraser 1.8E 3000 LVL, 38x184 Versa-Stud 1.8E 2400 Boise Cascade SUBSTITUTE 38x184 West Fraser 1.8E 3000 LVL

Response: Acceptable. Any additional design time and costs required to accommodate alternative product to be covered by product vendor.

- .21 **Question:** Will Chem-Frost inhibited glycol be accepted as an alternate for Dowfrost HD. I was informed that Chem-Frost is the product that YG keeps in inventory for their buildings (see attached cut sheets)

Response: Yes Dubois Chem-Frost 50% is an acceptable alternate for DowFrost HD 50% pre-mixed propylene glycol solution (reference specification section 23 25 00 clause 2.6.5)

- .22 **Question:** Re: the Reverse Osmosis System, we would like to confirm the below if at all possible: Feed water quality detailed test report, Feed water temperature, Feed water pressure. Reverse Osmosis systems require a proper pre-treatment system based on feed water analysis with water test results, feed water pressure and temperature which I am hoping someone can confirm for us.

Response: Domestic water supply to system is from the City of Whitehorse municipal water system. If water quality is required please request typical analysis from the City of Whitehorse. The City is currently in the early stages of design for a new water treatment plant that may start construction in spring 2025 (subject to funding) so the current water quality may change within the next 2-3 years.

- Typical domestic water supply temperatures in the City of Whitehorse are around 5°C. The range can be as cold as 3°C and as warm as 10°C.

- Currently the domestic water pressure to the building is too low for satisfactory performance of plumbing fixtures and will require a pressure boosting pump system. Pressure booster pump system will provide 413 kPa (60 PSI) to building.

- .23 **Question:** Following the walk through site review we have questions regarding routing of the economizer system piping through the tunnels. There are likely to be many more elbows and changes of direction than are indicated on the drawings which will affect performance. Has this been accounted for in the design? Is there a possibility of providing dedicated underground district heating piping similar to what was just installed for the WCC Biomass Project?

Response: Underground piping all the way or to the service tunnel by the Archives building is not acceptable. Given the distance required and the low temperature of the system too much heat will be lost from the piping resulting in too low of a supply temperature at Polaris. Additionally this would likely require trench and restoration of existing ground surface and may lead to many conflicts with existing Underground infrastructure. Due to the temperatures drops and inherent inefficiencies associated with heat exchangers, the economizer piping system will use treated water and not a glycol solution so minimizing exposure to conditions that may cause freezing is of high importance.

Yes it was anticipated there would be significantly more elbows than drawings indicate when piping is installed and this was allowed for in the pump head calculations. Note that the flow rate for the economizer piping system is relatively low for the pipe size and thus has a lower than typical piping and fitting head loss.

- .24 **Question:** We are looking for clarification around the access control portion of this tender. The Spec is conflicting as its naming Johnson Controls as the manufacturer, however the parts listed are not a JCI product. Please also note there needs to be alignment in the access control portion of this project with the main campus. That being said, the hardware (which is a Johnson Controls system) on the main campus is end of life and a road map for upgrade (with updated JCI hardware) has been presented to the University. Many components of the existing system can be re-used and flashed with new firmware to talk to the new system. The hardware that is spec'd for the new building needs to be in alignment with where the main campus is going. If a third party system is installed in the Science's building, it will not talk to the existing system or the one that is on the road map for upgrade. The CCTV System is also incorrect – the University is not running Genetec. I'm guessing the intrusion portion is incorrect also.

Response: Selected products to align with the campus security systems. Further spec coordination to be provided to coordinate with campus systems.

- .25 **Question:** Please provide a detail for the Gutter Heat Trace and Storm Water Heat Trace. Do these require controllers, and if so what type?

Response: To be installed per manufacturer recommendations. Controller required in order to provide a complete, functioning system.

- .26 **Question:** Can we get clarification on where we are to feed F-FGE, CP-FGE and CP-EM-HT-HEX from. Please provide a Panel and Circuit designation and Breaker/conductor size.

Response: Refer to sheet E701. Supplemental information provided in response RFI-E7_Response.

- .27 **Question:** Are we to conform to the Specification 26 05 21 3.1.10 where it states maximum allowable volt drop is 2% to furthest outlet. If we adhere to these specifications, there will be numerous outlets being fed with #8 AWG Cu RW90.

Response: Per CEC 8-102 Voltage Drop: Voltage drop shall not exceed:

a.) 3% in a feeder or branch circuit; and

b.) 5% from the supply side of the consumer's service to the point of utilization.

- .28 **Question:** Can we get the location of the A Wing Server Rm identified and the path intended for the 4- 4" EMT runs for the Polaris Building to the Server Rm?

Response: Refer to E2 response: "Refer to revised sheet RFI-E2_E801."

- .29 **Question:** Section 28: 1. Will the Owner accept an alternate ACS? Will the Owner accept Kantech Door Access System? 2. The university is currently upgrading there CCTV system to Hanwha Vision. Will the owner accept Hanwha Vision CCTV system in the new Polaris building to match ongoing upgrades at the university?

Response: 1. TBC with owner. 2. TBC with owner. Matching existing campus upgrades is logical.

- .30 **Question:** As per Specification 26 53 01 2.3.3; Are we to include 30M of conduit and wire/labor for each spare Exit Sign?

Response: Yes provide for (4) spare exit signs as indicated in specification. Provisioned for additional exit signage per final inspection requirements.

- .31 **Question:** As per Specification 26 53 01 2.3.1; Where is the EF140 Spare Material Form? Can we get access to it?

Response: Refer to Appendix A in the specification.

- .32 **Question:** As per Specification 26 09 23 1.17.3 and 26 09 23 2.7.6; Are blinds and outlets to be controlled by the Lighting Control System? If so which ones. Please indicate on the drawings.

Response: Refer to sheet E411 and E804, Detail 9 for information on motorized shades (location, qty. and zones). Motorized shades to have their own control station. No receptalces controlled by lighting controls in scope.

- .33 **Question:** As per specification 26 05 34 3.5.3; Is it necessary to have 1" and larger conduits encased in concrete with 2" of sand on top under the slab on grade?

Response: Yes, required per specification.

- .34 **Question:** Is Simplex hard specified for the Fire Alarm System? The university currently has a Notifier System installed. Can we use Notifier as an alternate?

Response: Notifier is acceptable. To be tied into existing campus FA monitoring station per spec 28 31 00 1.5.3.4. Note that fire alarm system to be installed as a 2-stage fire alarm system, but shall operate as a single stage fire alarm system upon initial completion of building per sheet E601.

- .35 **Question:** Note P19 E201 States Div 26 to provide junction box above accessible ceiling space for autoflush, hand dryers, urinals etc. Is Div 26 responsible to hook up each device or just provide the junction box with 120V?

Response: Div 26 to provide primary 120V connections to transformers. Transformers provided by Div 22.

- .36 **Question:** Are PVC sanitary service saddles an acceptable alternate to cast iron specified in Part 2.2 of Specification 33 31 11? If not, specify the cast iron saddle that is acceptable

Response: Materials outlined in the City's SSM Section 2.6.2 are approved alternatives.

- .37 **Question:** The 250 mm diameter storm is indicated as insulated and heat traced while the 150 mm diameter storm is indicated as insulated only. Confirm heat trace requirements for storm pipe.

Response: Heat trace required for 250mm pipe out of building. No heat trace is required for 150mm pipe.

- .38 **Question:** Confirm the civil contractor is to assume the rock pit dimensions are 3 m x 3 m at the base?

Response: Minimum rock pit size is 3m at bottom with 2:1 side slopes.

- .39 **Question:** Is PVC C900 pipe with Ductile Iron fittings to City of Whitehorse Standard an acceptable alternate to HDPE for the 150 mm water service?

Response: City's SSM Section 2.6 requires HDPE.

- .39 **Question:** One item that isn't specified correctly is in the following section. Item .3 which notes interior vestibule framing, then where the dimensions are noted there's a comment that it's to accommodate a 1" sealed unit. Then a list of manufacturer series is noted, but those series are thermal storefront, which conflicts with the description at the beginning noting pressure plate glazed, and a back section. If the vestibule framing just requires a non thermal system with sealed unit glazing, I've proposed in our submittal for an equal using the Metro 2000 series. It's a 2" x 4.5" storefront system, non thermal and will accept a sealed unit.

Response: Interior vestibule framing system does not need to be thermally broken system nor with a 25mm sealed unit. 6mm tempered glazing is acceptable. Proposed Metro system that meets the design intent noted here, will be acceptable. Of the systems noted within the Specification for Interior vestibule framing system the non-thermally broken series are the intent.

- .40 **Question:** Can you clarify requirements of 3.3.1 PMU testing? Does not specifically state which subtrade applies to but seems to imply the aluminum curtain wall subtrade needs to account for testing and travel to an independent lab?

Response: Performance Mock Up Testing at offsite independent lab not required. Provide testing specifications as required and a Mock-Up completed in-situ so (Stantec, YU, Colliers, Ketza) can review and analyze the curtainwall installation at an early stage.

4. Drawing Revisions

- .1 See Stantec file: RFI-E7_Response

5. Specification Revisions

- .1 See Stantec issued 09 06 06 Schedule of Finish_Polaris_addendum_ and Polaris Project – ADD_03 – 144214760.
- .2 See Stantec issued 07 46 90 Metal Soffit Panels revised per Addendum 1

END OF ADDENDUM