

**Wabush ATB Renovation – Wabush Airport, Wabush, NL  
EC015-180072/A**

**AMENDMENT # 5**

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THE FOLLOWING AMENDMENT TO THE TENDER DOCUMENTS IS EFFECTIVE IMMEDIATELY.  
THE AMENDMENT SHALL FORM A PART OF THE CONTRACT DOCUMENTS.

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**Addendum #3**

**Architectural**

**Reference Drawing #'s A-112 and A-113:**

Delete all reference to E10 - Magazine Rack shown in the Servery and on the Equipment List.

**Reference Drawing # A-113:**

Equipment List:

Remove reference to Contractor Installed items - E12, 13, 14, 15, 17, 19, 27, 33 and 43.

**Reference Drawing #'s A-112 and A-113:**

Delete all reference to E10 - Magazine Rack shown in the Servery and on the Equipment List.

**Reference Specification Section 00 00 01 Table of Contents**

.1 Delete Table of Contents and Replace with attached Tables of Contents.

**Reference Specification Section 08 33 44 Overhead Coiling Steel Doors**

.1 Delete Spec Section in its entirety

**Reference Specification Section 08 80 00 Glazing**

.1 Paragraph 2.1.1 Add Item .14 Location: Doors

.2 Paragraph 2.1.2 Add Item .17 Location: Curtainwall, sidelights and transoms

.3 Reference Section 2.2.4 Revise to read:

“4 Mirror: Washrooms

- .1 Thickness: 6 mm
- .2 No. 1 quality silvered glass.
- .3 All edges ground smooth and beveled.
- .4 Tempered
- .5 Mount to wall with stainless steel edge clips.
- .6 Refer to drawings for size

.4 Add Section 2.2.5

“ 5 Mirror: AW 24 Bar Back

- .1 Thickness: 6 mm
- .2 No. 1 quality silvered glass.
- .3 All edges ground smooth and beveled.
- .4 Tempered
- .5 Fully adhered with silicone adhesive.
- .6 Size is approximately 1535mm wide x 1135mm tall. Refer to drawings also.

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Reference Sheet A-110 New Partitions Plan – Level 1

- .1 Delete Legend. Plastic Laminate Panel indicated on Sheet A-702.

Reference Sheet A-114 Ceiling Plan – New Level 1

- .1 Mechanical Room 101 to receive new painted gypsum board on entire ceiling.

Reference Sheet A-701 Floor Finishes Plan, Level 1

- .1 Add dimensions and Floor Grille labeling to Rooms 100, 136, 106, 166, 120, 120A, 122 and 123 as per Sketch ASK-6 Floor finishes Plan, Level 1, attached.

Reference Amendment # 3

- .1 Item " Reference Sheet A-117 Fire Rating Plan – Level 1 and 2 "  
Delete this item in its' entirety from Amendment # 3.

Reference Drawing #'s A-108, A-109 and A-504:

- .1 Detail #'s 4/A-108, 6/A-109 and 3/A-504:  
Replace " Double Silicone Faced Precompressed Sealant " with " Expansion Joint Cover per 10 20 00.2.4.8 "

Reference Drawing # A-603:

- .1 Notes:  
Add .4 to read as follow:  
" There is no Floor Finish Plan for Level 2. Contractor to follow the Room Finish Schedule for floor finishes on Level 2 "

Reference Drawing # A-111:

- .1 Partition Types List:  
Partition Types P33-FH and P34-FH:  
Replace " Metal Liner Panel on 140mm z-bars " with " Preformed Metal Siding Panels "

Reference Drawing # A-114:

- .1 Add note at expansion joint, GL 7-8, " Provide ceiling expansion joint cover per 10 20 00 "

Reference Drawing # A-117:

- .1 Fire Rating Notes:  
Revise Note 2 to read:  
One hour fire rating required between Level 1 and Level 2. Provide cementitious fireproofing on underside of entire existing Level 2 floor deck and associated structure. Firestop all penetrations through Level 2 floor slab to provide 1 hour rating.  
Revise Note 3 to read:  
One hour fire resistance rating required for all columns supporting Level 2. Provide cementitious fireproofing on columns. Provide firestopping as required.

Reference Specification Section 07 21 16:

- .1 Add attached Section 07 21 16 to the Specifications.

Reference Specification Section 07 81 16:

- .1 Para 1.11.1:  
Revise to read:  
" Thickness and density testing of fireproofing to be carried out by a Testing Laboratory designated by the Departmental Representative "

Reference Specification Section 08 71 00:

- .1 Para 2.2.5:  
Add .10:  
Acceptable Alternate Manufacturer:  
Besam SW100 and SW200i.

**Reference Specification Section 09 51 00:**

- .1 Para 2.1.3.7:  
Add “.4: ACGI “

**Reference Specification Section 10 20 00:**

- .1 Para 2.4.1.7:  
Delete and replace with “.7 Ceiling Joint Standard of Acceptance: CS Expansion Joint Cover FCS Series “.

**Reference Specification Section 10 21 13:**

- .1 Delete this section in its' entirety and replace with the attached Section 10 21 13

**Reference Specification Section 10 51 13:**

- .1 Para 2.1.1.6.1:  
Delete  
.2 Para 2.1.1.11:  
Delete

**Mechanical****Reference Drawing M-706: HVAC Schedules**

1. Revise VAV Box Schedule with the following Schedule

Tag	Serving	Neck Size (mm)	Min Airflow (L/s)	Max Air Flow (L/s)	Voltage	Electric Heat (kW)	Remarks
VAV-1	116 / 121	400	450	1,800	208-3-60	15	
VAV-2	116 / 121	400	450	1,800	208-3-60	15	
VAV-3	117	125	57	212	208-3-60	5	
VAV-4	118	200	349	1,392	208-3-60	7	Revised to 7 kW
VAV-5	102	150	260	1,050	208-3-60	4	Revised to 4 kW
VAV-6	102	150	260	1,050	208-3-60	4	Revised to 4 kW
VAV-7	147	150	283	1,085	208-3-60	4	Revised to 4 kW
VAV-8	113	125	71	260	208-3-60	5	
VAV-9	107-112	125	118	472	208-3-60	8	
VAV-10	172	125	165	613	208-3-60	8	
VAV-11	114/115	125	47	165	208-3-60	5	
VAV-12	169 / 166	125	94	378	208-3-60	5	
VAV-13	151	125	71	212	208-3-60	5	
VAV-14	160 / 161	125	47	118	208-3-60	5	
VAV-15	155 / 156	125	47	142	208-3-60	5	
VAV-16	154	150	310	1,100	208-3-60	4	Revised to 4 kW
VAV-17	152 / 153	125	71	283	208-3-60	5	
VAV-18	150	125	118	448	208-3-60	5	
VAV-19	149	125	47	165	208-3-60	5	
VAV-20	105	125	71	212	208-3-60	5	
VAV-21	104	125	71	236	208-3-60	5	
VAV-22	174/168	124	100	400	208-3-60	5	**Shown on drawing M-701 as VAV-??
VAV-23	219 / 220	125	71	248	208-3-60	5	
VAV-24	204	150	283	991	208-3-60	4	Revised to 4 kW
VAV-25	206	125	94	378	208-3-60	5	
VAV-26	215/216	125	142	496	208-3-60	8	
VAV-27	221	125	47	189	208-3-60	5	
VAV-28	210 / 211	125	94	378	208-3-60	5	
VAV-29	212 / 213	125	71	260	208-3-60	5	
VAV-30	217	125	71	212	208-3-60	5	
VAV-31	127/128/134/135	125	100	300	208-3-60	5	**Shown on drawing M-701 as VAV-22
VAV-32	222	125	125	375	208-3-60	5	**Shown on drawing M-703 as VAV-22

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- 1- Reference Drawing M-801: Floor Plan Level 1 Heating New
    - a. See revised drawing M-801 R1 for revised Unit heater information.
    - b. Room 121 – Baseboard heater for room 121 to be 8.2 kW
    - c. Vest 144 – Baseboard heater to be 1.2 kW and mounted on the wall opposite as shown in the drawing.
    - d. Stair 103 – This unit is a surface mount Cabinet Heater
    - e. Room 169 – Baseboard heater to be 1.5 kW located in Room 169.
    - f. Room 166 - A new baseboard heater shall be added in 166 and located on the plan west wall. This heater shall be sized for 1.5 kW
    - g. Room 154 – Relocate 2.9 kW baseboard heater to West wall
    - h. Room 172 – Relocate 1.1 kW heater to East wall between exterior door and vestibule 171
    - i. Room 153 – Relocate Hydronic baseboard to South Wall.
    - j. Rooms 147, 143A, 146, 145, 135, 134 – Baseboards noted as 2@ xxx indicate that 2 such units should be installed. For instance, 147 Dining has a baseboard noted as 2@ 4870 mm x 9.4 kW ea. The actual length of the noted baseboard is approximately 9740 mm, requiring 2 such baseboard heaters.
    - k. Baseboard Heater located in 147 which continues into 101 is an error. Baseboard heaters to stop at walls.
    - l. Unit heaters are identified as hydronic, they are in fact electric.
  - 2- Reference Drawing M-803: Floor Plan Level 2 Heating New
    - a. See revised drawing M-803 R1 for revised Baseboard heaters placements and unit heater information.
    - b. Room 208 and 209 – These units were intended to be baseboard heaters, but is space constraints are too limiting, these units can be surface mounted cabinet heaters.
    - c. Stair 214 – This is a surface mounted cabinet heater.
    - d. Unit heater is identified as Hydronic, it is in fact Electric

## Questions and Answers

- 1- section 25 30 02 item 2.20, can Belimo ball valves be acceptable
  - a. Belimo Ball valves are an acceptable alternative
- 2- Are all radiation valves new? modulating or two position
  - a. Valve for baseboard radiators are new. Valves shall be modulating.
- 3- do FF heaters require valve ? modulating or two position
  - a. FF heaters require valves, and they shall be two position.
- 4- do vfds, dampers, actuators come with RTU, except for dampers at plenum.
  - a. VFD and mixed air dampers shall be part of the RTU, Plenum dampers are excluded.
- 5- are points shown on M-900 field installed or part of the BACnet points within the RTU BACnet controller?
  - i. VFD control will be part of BACnet control, but other points shall be field installed
  - ii.
- 6- are radiation heaters in kitchen under ddc control?
  - a. All radiators in building to be DDC controlled
- 7- is kitchen hood on ddc control
  - a. Kitchen hood to be standalone
- 8- is kitchen cooling connected to ddc
  - a. Kitchen cooling to be DDC controlled
- 9- are any exhaust fans on DDC control
  - a. all exhaust fans to be DDC controlled
- 10- are heating water pumps under ddc control
  - a. Existing Heating water pumps to be placed on DDC control.

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11- is there a sequence of operation for systems?

- a. Typical AHU Sequence of Operations
  - i. Modulate cooling coil and heating coil to satisfy supply air temperature. Supply air temperature shall be set to allow for cooling to the VAV with the lowest temperature setpoint, which is connected to the supply air trunk from the AHU.
    - a. AHU-1: VAV-1, VAV-2, VAV-5, VAV-6, VAV-7, VAV-8, VAV-9, labeled as VAV-22 on M-701 (now VAV-32)
    - b. AHU-2: VAV-3, VAV-4, VAV-10, VAV-11
    - c. AHU-3: VAV-12, VAV-13, VAV-14, VAV-15, VAV-16, VAV-17, VAV-18, VAV-19, VAV-20, VAV-21, VAV-22 (Labeled as VAV-??)
    - d. AHU-4: Kitchen Only
    - e. AHU-5: labeled as VAV-22 on M-703 (now VAV-33), VAV-23, VAV-24, VAV-25, VAV-26, VAV-27, VAV-28, VAV-29, VAV-30, VAV-31

VAV will modulate integral heating coil to satisfy VAV setpoint
  - ii. Cooling coil shall be locked out when OAT is below 10C. Cooling shall be provided through use of OA only when OAT is below 10C.
  - iii. Heating coil shall be locked out when OAT is above 18C.
  - iv. Modulate OA damper based on return air CO2 levels.
  - v. Modulate Humidifier based on return air humidity. Humidity setpoint to be user adjustable.
  - vi. Supply fan speed to be set to maintain SA static pressure. Pressure to be user adjustable and initially set to 1000 Pa for AHU-1 and 375 Pa for AHU-2 through -5.
  - vii. Return fan speed to be adjusted to match supply air airflow (utilizing the R/A and S/A airflow stations)

VAV Sequence of Operations

- i. VAV to modulate airflow based on temperature setpoint
- ii. VAV to modulate heating coil to satisfy temperature setpoint

Exhaust fan Sequence of Operations

- i. Exhaust fans to be placed on an occupancy schedule and shall operate continuously while occupied.

12- remove SCR on heating coil on control drawings and add valves

- a. SCR controllers for heating coils to be removed and replaced with modulating hydronic mixing valves, as these are not electric coils.

13- remove second set dampers in EA and SA ducts on control drawings

- a. Each AHU will be equipped with a set of mixing dampers within the unit, and a set of Exhaust and outdoor air dampers at the air plenums. Exhaust and outdoor air dampers to open fully while unit is in operation, and mixing air dampers to modulate based on setpoint conditions.

2.

14- add piping to hydronic heating coils in units

- a. Contractor shall install piping to hydronic heating coils located in each Air handling unit. Piping to be fed from existing hydronic loop.
  - i. Anticipated hydronic line sizes are as follows.
    1. AHU-1: 50mm with three way modulating valve
    2. AHU-2: 32mm with three way modulating valve
    3. AHU-3: 38mm with three way modulating valve
    4. AHU-4: 38mm with three way modulating valve
    5. AHU-5: 38mm with three way modulating valve

15- add refrigerant piping from condensing units to dx coils

- a. Contractor to provide refrigeration piping between condensing unit and DS coils, piping to be sized based on manufacturers written instructions.
  - i. Anticipated piping sizes are as follows
    1. AHU-1: Suction Line 40mm Connection 53mm Field Piping. Liquid Line 22mm Connection and field piping.
    2. AHU-2: Suction Line 34mm Liquid Line 12mm
    3. AHU-3: Suction Line 40mm Liquid Line 16mm (Two Circuits)
    4. AHU-4: Suction Line 19mm Liquid Line 9mm

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## 5. AHU-5: Suction Line 28mm Liquid Line 12mm (Two Circuits)

### 16- add humidifier schedule (capacity/type/etc) and piping

- a. Humidifiers shall be electric fired steam humidifiers which are compatible with all type of water use. Capacity for each AHU is listed below.
  - i. AHU-1: 70 kg/hr Provide electrical connection for 575-3-60 at. Piping between Humidifier and AHU to be 50 mm.
  - ii. AHU-2: 15 kg/hr Provide electrical connection for 575-3-60 at 11.5 A. Piping between Humidifier and AHU to be 25 mm.
  - iii. AHU-3: 22 kg/hr Provide electrical connection for 575-3-60 at 15.4 A. Piping between Humidifier and AHU to be 32 mm.
  - iv. AHU-4: 12 kg/hr Provide electrical connection for 575-3-60 at 10.1 A. Piping between Humidifier and AHU to be 25 mm.
  - v. AHU-5: 33 kg/hr Provide electrical connection for 575-3-60 at 24.1 A. Piping between Humidifier and AHU to be 32 mm.

Humidifiers shall supply steam to the AHU through the use of a steam dispersion tube system.

Humidifiers to be wall mounted, and installed within the mechanical room of the AHU they are to serve.

Connect water supply lines from the Domestic cold water line serving the building.

### 17- type and location of fan EF-3 serving area 126

- a. EF-3 serves area 125, and should be located on exterior wall at gridline 0. NO2 / CO sensors and controllers to be mounted on Wall at Gridline 1. Outdoor air intake damper to be located on roof, through a 400 x 400 gooseneck. Intake to be installed Near Gridline B' in front of double doors to mechanical room.

### 18- Larger VAV boxes have 15kw and 25kw electric reheat coils which is too high for the box sizes. We have checked this for the other VAV box manufacturers as well.

- a. Electric reheat coils have been reselected and this is reflected in the updated VAV schedule

### 19- General Information

- a. Baseboard heaters are intended to be single tier, but if required, 2-tier may be utilized to ensure the heaters fit within a specified distance as shown on the plans.

### 20- Approved Alternate equipment manufacturers

- a. The following equipment manufacturers have been approved.
  - i. Dampers – Balancing – **Alumavent**
  - ii. Dampers – Operating – Multi – Leaf – **Alumavent**
  - iii. Dampers – Operating – Backdraft – **Alumavent**
  - iv. Dampers – Fire and Smoke – **Alumavent**
  - v. HVAC Fans – Centrifugal – **Acme Eng & Mfg Co.**
  - vi. HVAC Fans – Cabinet Fans / General – **Acme Eng & Mfg Co.**
  - vii. Air Terminal Units – **Tuttle & Bailey**
  - viii. Diffusers, Registers, and Grilles - **Tuttle & Bailey, Krueger**
  - ix. Louvres, Intakes, and Vents - **Acme Eng & Mfg Co.**
  - x. Commercial Kitchen Hood – **Spring Air**
  - xi. Air Curtain – **Berner International**

### 21. Question: The typical Air handling Unit schematic shows a VFD for the Supply Fan and for the Return fan;

- i. Are the VFDs to be supplied by the AHU supplier?
  1. VFD to be supplied by AHU supplier
- ii. What is the required size in HP (or KW)? They all look to be 575V
  1. Fan kW to be selected based on airflow and static pressure requirements.
  2. Anticipated fan sizes are as follows
    - a. AHU-1: Supply and Return 13.5 kW
    - b. AHU-2: Supply and Return 2 kW
    - c. AHU-3: Supply and Return 4 kW
    - d. AHU-4: Supply and Return 2.6 kW
    - e. AHU-5: Supply and Return 4 kW

**Electrical**

Reference Specification Section 28 23 00 - CCTV

.1 Delete 1.1 in its entirety and replace with the attached.

Reference Drawing E1 – Site Plan – Electrical

.1 Provide three additional cameras (Type 6) as per attached sketch, ESK-1.

Reference Drawing E2 – Demolition Level 1 - Electrical

.1 Reference note #17 – These circuits are to be relocated to Panel LID  
.2 Reference note #18 – These circuits are to be relocated to Panel LND

Reference Drawing E5 – Level 1 – Lighting

.1 Clarification – Switches shown with a “D” are dimmers. These switches are to coordinate with the specific light fixture, equivalent to the Lutron Maestro Series, white in color with stainless steel cover plate.  
.2 Relay Panel RP – 1 to be located in the Electrical Room 131. This is the relay panel indicated in the specification section 26 09 23.

Reference Drawing E6 – Level 2 – Lighting

.1 Clarification – Switches shown with a “D” are dimmers. These switches are to coordinate with the specific light fixture, equivalent to the Lutron Maestro Series, white in color with stainless steel cover plate

Reference Drawing E12 – New Single Layer Riser

.1 Clarification – ATB Normal Switchboard main breaker to be 1200 amp frame.

Reference Drawing E8 – Level 1 – Power & Systems and Enlarged Kitchen & Equipment Schedule

.1 Three of the cameras are to be relabeled as Type 5 as per attached sketch, ESK-2.

**Attachments:**

- 00 00 01 - Table of Contents
- 07 21 16 – Acoustic Insulation
- 10 21 13 – Toilet Compartments
- ASK-6 – Floor Finishes Plan, Level 1
- M-801 – Floor Plan Level 1 Heating New
- M-803 – Floor Plan Level 2 Heating New
- M-706 – HVAC Schedules
- 28 23 00 - CCTV
- ESK-1 –
- ESK-2 –

By submission of its tender, the Tenderer confirms that it has read and understands the requirements expressed in all addenda and has included all costs of these requirements in its Total Tender Amount.

All other terms & conditions remain unchanged.

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