Part 1 ADDENDUM NO.1

1.1 General

- .1 This Addendum is issued prior to tender closing and shall become an integral part of the Tender, Specifications, Drawings and Contract Documents for this project.
- .2 In the event of conflicts between the various Contract Documents, the order of precedence shall be as stipulated in the General Conditions of the Contract, except that this Addendum shall take overall precedence.

Part 2 Drawings Rocky Mountain House

2.1 Drawing A1.0 Rev 01

.1 Remove photo backdrop and salvage for re-installation

2.2 Drawing A2.0 Rev 01

- .1 Reduce length of wall south wall in room 140
- .2 Add 350mm end panel to cabinet A1.01
- .3 Remove 350mm to bench A1.04
- .4 Remove backdrop on existing south wall of room 140 and install in new location in room 140.
- .5 Add new Construction wall and door
- .6 Add 2 new duplex plugs 300mm from top of ceiling controlled by switch located on wall.

2.3 Drawing E1 Detail 3

- .1 Existing camera conduit located on north wall of room 140 to be extended to allow for new wall.
- .2 Add 2 new duplex plugs 300mm from top of ceiling controlled by switch located on wall.

Part 3 Drawings High Prairie Alberta

3.1 Drawing A2.0 Rev 01

- .1 Add construction wall as shown
- .2 Remove Fire extinguisher in Room 128

Three Cell Retrofits High Prairie, Chateh and Rocky Mountain House Alberta

Part 4	Drawings Chateh
4.1	Drawing A2.0
.1	Add to drawing note 2 – "Repaint entire door and frame"
Part 5	Specifications – Rocky Mountain House

5.1 Add attached section 23 05 93

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Testing, adjustment, and balancing of air systems.
- .2 Testing, adjustment, and balancing of hydronic systems.
- .3 Measurement of final operating condition of HVAC systems.
- .4 Sound measurement of equipment operating conditions.
- .5 Vibration measurement of equipment operating conditions.

1.2 RELATED SECTIONS

- .1 Section 01 20 13 Price and Payment Procedures.
- .2 Section 01 33 00 Administrative Requirements.
- .3 Section 01 44 00 Quality Assurance:
 - .1 Testing laboratory services.
 - .2 Employment of testing agency and payment for services.
 - .3 Inspection and testing allowances.
- .4 Section 01 61 00 Common Product Requirements.
- .5 Section 01 78 10 Execution Requirements:
 - .1 Starting of Systems.
 - .2 Testing, Adjusting, and Balancing of Systems.

1.3 ALLOWANCES

- .1 Cash Allowance: Section 01 20 13 for the Cash Allowance Sum applicable to this section.
- .2 Allowance includes testing, adjusting, and balancing of mechanical systems.
- .3 Work is included in this section and is part of the Contract Sum/Price.

1.4 **REFERENCES**

- .1 AABC National Standards for Total System Balance.
- .2 ADC Test Code for Grilles, Registers, and Diffusers.
- .3 ASHRAE 111 Practices for Measurement, Testing, Adjusting, and Balancing of Building Heating, Ventilation, Air-conditioning, and Refrigeration Systems.

- .4 NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.
- .5 SMACNA HVAC Systems Testing, Adjusting, and Balancing.

1.5 SUBMITTALS

- .1 Section 01 33 00: Procedures for submittals.
- .2 Submit name of adjusting and balancing agency for approval within 30 days after award of Contract.
- .3 Section 01 44 00: Procedures for submitting Field Reports.
- .4 Field Reports: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
- .5 Prior to commencing work, submit report forms or outlines indicating adjusting, balancing, and equipment data required.
- .6 Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Consultant and for inclusion in operating and maintenance manuals.
- .7 Provide reports in soft cover, letter size, 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.
- .8 Include detailed procedures, agenda, sample report forms and copy of AABC National Project Performance Guaranty prior to commencing system balance.
- .9 Test Reports: Indicate data on AABC National Standards for Total System Balance forms. Submit data in S.I. Metric units.

1.6 PROJECT RECORD DOCUMENTS

- .1 Section 01 78 10: Submittals for project closeout.
- .2 Record actual locations of flow measuring stations and balancing valves and rough setting.

1.7 QUALITY ASSURANCE

- .1 Perform total system balance to AABC National Standards for Field Measurement and Instrumentation, Total System Balance.
- .2 Maintain one copy of each document on site.

1.8 QUALIFICATIONS

- .1 Agency: Company specializing in the testing, adjusting, and balancing of systems specified in this Section with minimum three years documented experience certified by AABC/CAABC.
- .2 Perform Work under supervision of CAABC Certified Test and Balance Engineer.

1.9 PRE-BALANCING CONFERENCE

.1 Convene one week prior to commencing work of this section, to Section 01 33 00.

1.10 SEQUENCING

- .1 Sequence work to Section 01 10 13.
- .2 Sequence work to commence after completion of systems and schedule completion of work before Substantial Completion of Project.

1.11 SCHEDULING

- .1 Schedule work to Section 01 33 00.
- .2 Schedule and provide assistance in final adjustment and test of life safety and smoke control system with Fire Authority.

Part 2 Products

.1 Not used

Part 3 Execution

3.1 AGENCIES

- .1 Air Movement Services, Winnipeg.
- .2 Airdronics, Winnipeg.
- .3 Other AABC/CAABC certified balancing companies.

3.2 EXAMINATION

- .1 Verify that systems are complete and operable before commencing work. Ensure the following conditions:
 - .1 Systems are started and operating in a safe and normal condition.
 - .2 Temperature control systems are installed complete and operable.
 - .3 Proper thermal overload protection is in place for electrical equipment.
 - .4 Final filters are clean and in place. If required, install temporary media in addition to final filters.

- .5 Duct systems are clean of debris.
- .6 Fans are rotating correctly.
- .7 Fire and volume dampers are in place and open.
- .8 Air coil fins are cleaned and combed.
- .9 Access doors are closed and duct end caps are in place.
- .10 Air outlets are installed and connected.
- .11 Duct system leakage is minimized.
- .12 Hydronic systems are flushed, filled, and vented.
- .13 Pumps are rotating correctly.
- .14 Proper strainer baskets are clean and in place.
- .15 Service and balance valves are open.
- .2 Submit field reports. Report defects and deficiencies noted during performance of services which prevent system balance.
- .3 Beginning of work means acceptance of existing conditions.

3.3 PREPARATION

- .1 Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Consultant to facilitate spot checks during testing.
- .2 Provide additional balancing devices as required.

3.4 INSTALLATION TOLERANCES

- .1 Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
- .2 Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.
- .3 Hydronic Systems: Adjust to within plus or minus 10 percent of design.

3.5 ADJUSTING

- .1 Ensure recorded data represents actual measured or observed conditions.
- .2 Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
- .3 After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
- .4 Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.
- .5 At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by the Owner.

.6 Check and adjust systems approximately six months after final acceptance and submit report.

3.6 AIR SYSTEM PROCEDURE

- .1 Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities [at site altitude].
- .2 Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
- .3 Measure air quantities at air inlets and outlets.
- .4 Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.
- .5 Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters.
- .6 Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.
- .7 Provide system schematic with required and actual air quantities recorded at each outlet or inlet.
- .8 Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.
- .9 Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.
- .10 Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.
- .11 Where modulating dampers are provided, take measurements and balance at extreme conditions. [Balance variable volume systems at maximum air flow rate, full cooling, and at minimum air flow rate, full heating.]
- .12 Measure building static pressure and adjust supply, return, and exhaust air systems to provide required relationship between each to maintain approximately 12.5 Pa positive static pressure near the building entries.
- .13 Check multi-zone units for motorized damper leakage. Adjust air quantities with mixing dampers set first for cooling, then heating, then modulating.
- .14 For variable air volume system powered units set volume controller to air flow setting indicated. Confirm connections properly made and confirm proper operation for automatic variable air volume temperature control.
- .15 On fan powered VAV boxes, adjust air flow switches for proper operation.

3.7 WATER SYSTEM PROCEDURE

- .1 Adjust water systems to provide required or design quantities.
- .2 Use calibrated [Venturi tubes, orifices, or other metered] fittings and pressure gauges to determine flow rates for system balance. Where flow metering devices are not installed, base flow balance on temperature difference across various heat transfer elements in the system.
- .3 Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing.
- .4 Effect system balance with automatic control valves fully open to heat transfer elements.
- .5 Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.
- .6 Where available pump capacity is less than total flow requirements or individual system parts, full flow in one part may be simulated by temporary restriction of flow to other parts.

3.8 SCHEDULES

- .1 Equipment requiring testing, adjusting and balancing:
 - .1 Exhaust Fans
- .2 Report Forms
 - .1 Title Page:
 - .1 Name of Testing, Adjusting, and Balancing Agency
 - .2 Address of Testing, Adjusting, and Balancing Agency
 - .3 Telephone number of Testing, Adjusting, and Balancing Agency
 - .4 Project name
 - .5 Project location
 - .6 Project Architect
 - .7 Project Engineer
 - .8 Project Contractor
 - .9 Project altitude
 - .10 Report date
 - .2 Summary Comments:
 - .1 Design versus final performance
 - .2 Notable characteristics of system
 - .3 Description of systems operation sequence
 - .4 Summary of outdoor and exhaust flows to indicate amount of building pressurization
 - .5 Nomenclature used throughout report

- .6 Test conditions
- .3 Instrument List:
 - .1 Instrument
 - .2 Manufacturer
 - .3 Model number
 - .4 Serial number
 - .5 Range
 - .6 Calibration date
- .4 Exhaust Fan Data:
 - .1 Location
 - .2 Manufacturer
 - .3 Model number
 - .4 Serial number
 - .5 Air flow, specified and actual
 - .6 Total static pressure (total external), specified and actual
 - .7 Inlet pressure
 - .8 Discharge pressure
 - .9 Sheave Make/Size/Bore
 - .10 Number of Belts/Make/Size
 - .11 Fan RPM

END OF SECTION





									DOOK SCHEDUL	<u> </u>					
MARK	SIZE	DOOR TYPE	DOOR	DOOR	DOOR	DOOR	DOOR	FRAME	FRAME TYPE	FRAME	FRAME	FRAME	HARDWARE	RATING	REMARKS
			ELEV.	CORE	FINISH	COLOR	GAUGE	MATERIAL		FINISH	COLOR	GAUGE			
D118	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D124	910 X 2135	SOUND RATED	2	MANUF.	PAINTED		MANUF	STEEL	MANUFACTURES	PAINTED		MANUF	1	N/A	STC 50 RATED SOUND DOOR C/W VIEWING WINDOW AND VIEWING SLATS
D127	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D128	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D130	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D133	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D134	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D135	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D138	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS
D139	910 X 2135	DETENTION	1	MANUF.	PAINTED		MANUF	STEEL	EXISTING TO REMAIN	PAINTED		MANUF	SEE SPEC	N/A	SEE SPECIFICATIONS





ELEVATION - CORRIDOR SIDE

ELEVATION NO. 1

	1.	SEE PAGE A1.0 FOR PHASING REQUIREMENTS.	THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS DATUMS AND LEVELS PRIOR TO
	2.	CONTRACTOR IS TO MAKE GOOD ANY DAMAGE TO EXISTING QUARTZ FLOORING DONE BY THE INSTALLATION OF NEW DOORS AND FIXTURES	COMMENCEMENT OF WORK AND IS HELD RESPONSIBLE FOR REPORTING ANY DISCREPANCY OR OMISSION TO CAN-TEC SERVICES LTD. IMMEDIATELY.
EXISTING WALL		ETC. COLOR TO MATCH EXISTING	THIS DRAWING IS THE EXCLUSIVE PROPERTY OF CAN-TEC SERVICES LTD. AND CAN BE REPRODUCED ONLY WITH
NEW DOOR	3.	PAINTING OF ENTIRE ROOM INCLUDES DOORS AND FRAMES , ACCESS PANELS ETC.	THE PERMISSION OF CAN-TEC SERVICES LTD. IN WHICH CASE THE REPRODUCTION MUST BEAR THEIR NAME AS THE ENGINEERING/DRAFTING FIRM.
	4.	DETENTION STOOL: STANDARD OF ACCEPTANCE SWS DETENTION - 11	
		GAUGE TUBULAR STAINLESS STEEL C/W $\frac{1}{4}$ " FLOOR MOUNTING PLATE. STOOL TO BE STAINLESS STEEL	y y
	5.	NEW SPEAKER DISK: METAL FAB MODEL #820-SD	
	6.	EXISTING DOOR FRAMES IN ROOMS 118, 126, 127, 130, 131, 133, 134, 135	AF
HEDULE		138 AND 139 TO BE SCRAPED CLEAN PRIMED AND PAINTED . FRAMES TO BE PAINTED AS PER COLOR SCHEDULE. ALL DOORS ARE TO HAVE A NEW NUMBER 200mm HIGH ON EACH DOOR	
	7	DOOMS 118 124 126 127 120 121 122 124 125 128 AND 120 ADE TO	Q Q
	7.	HAVE NEW SECURITY CAULK ADDED ALL AROUND ALL NEW AND EXISTING FIXTURES AND FITTINGS	
ARY PHASING WALL TO U/S OF CEILING			<u> </u>
8 GA STEEL STUDS @ 400 O.C.			
S PLYWOOD			
	DRA	AWING NOTES #	
	1.	INSTALL NEW CELL TOILETS SEE MECHANICAL. ANY DAMAGE TO THE	
		EXISTING EPOXY FLOOR FINISH TO BE REPAIRED WITH THE SAME MATERIAL TEXTURE AND COLOR.	Z
	2.	INSTALL NEW CELL DOORS AND HARDWARE. EXISTING FRAME TO	Ш
	3.	REMAIN INSTALL NEW DOOR AND FRAME IN EXISTING OPENING	
	4.		స్ స్ స్ స్ స్ స్ స్ స్
	5.	ADD NEW CELL NUMBER TO WALL NUMBER TO BE LOCATED IN CENTER OF WALL IN LOCATION SHOWN	
	6.	NEW MILLWORK SEE SPECIFICATION FOR DETAIL	
	7.	INSTALL NEW BENCH SEE DETAIL A1.01 IN SPECIFICATION FOR	00 29 01 22 11 27
	8.	INSTALL NEW EPOXY FLOOR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	9.	INSTALL NEW WALL AND CEILING COATINGS/PAINT	7. ₩ ≥ ≥
	10.	NOT USED	
	11.	NUT USED. INSTALL NEW DETENTION STOOL - SITE LOCATED	
	12.	INSTALL NEW SECURE TELEPHONE	20 Å 1 Å
	14.	SECURE DOORS TO HOSE REEL CABINET	P C R C R C R C R C R C R C R C R C R C
	15.	NEW SPEAKER DISK	
	16.	INSTALL NEW PAPER TOWEL DISPENSER AND SOAP DISPENSER	
	17	FINAL LOCATION TO BE STELLOCATED INSTALL NEW STEEL ACCESS HATCH IN OPENING LEET BY REMOVAL	
	17.	OF COMBI UNIT. ACCESS HATCH TO BE LOCKABLE MINIMUM 10 GA	
	\wedge	POWDER COATED TO MATCH THE WALL COLOR.	А В 2
	/01\18.	INSTALL SALVAGED BACKDROP AT THIS LOCATION	
	01 19.	INSTALL NEW CONSTRUCTION WALL ALONG WITH 914 X 2134 STEEL DOOR AND KNOCK DOWN STEEL FRAME AND OFFICE LOCK.	SEALED BY:

GENERAL NOTES:

				CEIL	ING	
OUT	Ή	WEST		OEIEINO		REMARKS
	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
D	HG1	CONC BLOCK	HG	CONCRETE	HG	







THIS DRAWING MUST NOT BE SCALED.



·····

- NOTES. 3. ADD NEW CELL NUMBER TO WALL NUMBER TO BE LOCATED IN CENTER OF
- WALL IN LOCATION SHOWN
- 4. REMOVE AND RELOCATE EXISTING DETENTION STOOL. FINAL LOCATION BY OWNER. INFILL EXISTING HOLES AND MAKE GOOD FLOOR.
- INSTALL NEW SECURE TELEPHONE
- WALL MOUNT EXISTING FIRE EXTINGUISHER IN THIS LOCATION. NOT USED
- $1 \sqrt{01} \frac{7}{8}$ INSTALL NEW ACOUSTIC SOUND PANELS ON WALLS FROM FLOOR TO CEILING SEE SPECIFICATION FOR PANEL TYPE AND MOUNTING INSTALL NEW SPEAKER DISK. SPEAKER DISK TO BE: METAL FAB MODEL #820-SD
- 10. INSTALL NEW CONSTRUCTION WALL ALONG WITH 914 X 2134 STEEL DOOR AND KNOCK DOWN STEEL FRAME AND OFFICE LOCK.





- EXISTING DOOR
- FIRE RATED WALL

- ARE TO BE SCRAPED CLEAN AND BE PAINTED AS PER COLOR SCHEDULE. SEE DETAILS SHEET A8.0
- 2. ALL DOORS ARE TO HAVE A NEW CELL NUMBER 200mm HIGH ON EACH DOOR. OWNER TO ADVISE ON PREFERRED NUMBERING
- 3. ROOMS 100, 101, 102, 103, 104, 105, 106, 107, 108, 109 AND 125 ARE TO HAVE NEW SECURITY CAULK ADDED ALL AROUND ALL NEW AND EXISTING FIXTURES AND FITTINGS
- 4. NOT USED
- 5. ROOMS 100, 101, 102, 103, 104, 105, 106, 107, 108,109, 116, 121 AND 119 ARE TO HAVE ALL WALLS AND CEILING SCRAPED DOWN AND PREPARED FOR NEW EPOXY COATING. REPAIR ANY SPOTS THAT HAVE DAMAGE TO MAKE WALLS SMOOTH AND APPLY NEW EPOXY WALL FINISH. SEE FINISH SCHEDULE FOR TYPE
- 6. ROOMS 100, 101, 102, 103, 104, 105, 106, 107, 108, AND 109 HAVE DAMAGED COVING AT THE FLOORS AND AT THE TOP OF THE BUNKS. THE COST OF THIS REPAIR WILL COME OUT OF THE CASH ALLOWANCE. AS PER SPECIFICATION PROVIDE A UNIT COST PER METER TO REPAIR. CONSULTANT TO SPECIFY EXACT AREAS TO REPAIR ON SITE. COLOR TO MATCH EXISTING AS CLOSE AS POSSIBLE. (SEE PHOTO NO 1 APPENDIX B FOR TYPICAL DAMAGED COVE)



2 KEY PLAN A2.0 SCALE: 1:300



