



Fairview Aquatic Centre
Request for Bid
Aquatic Centre Rooftop Unit Replacement
Bid# CS2025-05-20

Project Overview:

The Fairview Aquatic Centre is seeking bids to replace the pool rooftop unit (RTU-1) and change room rooftop unit (RTU-2) for the Aquatic Centre at the location of 11219-95 Avenue, Fairview, AB. The pool and change room rooftop unit have had operational issues in recent years, resulting in excessive maintenance and energy costs.

Project Timeline:

Bid submissions are required to be submitted to the Town by May 20, 2025 at 4:00 pm. Please inform the Town if you intend to submit on this bid by May 9, 2025.

The Fairview Regional Aquatic Centre has planned for the annual shutdown to take place in October, as the proposed pool rooftop units are backordered 20-22 weeks. It is expected that this project will be completed during the shutdown period. It is expected that the winning proponent will order equipment as soon as possible after the project award and enter into a contract to secure equipment inventory.

Project Scopes

Scope 1: RTU-1 Replacement Pool Unit

RTU-1 is currently an Engineered Air DJE-140-0 rooftop unit used to provide heating, ventilation, and humidity control to the main pool area. This unit has a total input heating capacity of 1,400 MBH and is mounted on the roof, straddling a structural beam in the pool area.

RTU-1 is to be replaced with an Engineered Air DJE140/HRP/O (Appendix B). This unit has a similar base footprint as the existing unit, with an additional footprint to the south for the heat recovery module. A structural assessment has been completed to verify the roof's structural capacity for the new unit, provided in Appendix C.

Scope 2: RTU-2 Replacement Pool Unit

RTU-2 is currently an Engineered Air DJE-40-0 rooftop unit used to provide heating, ventilation, and humidity control to the change room areas.

RTU-2 is to be replaced with a similar/equivalent rooftop unit with a new programmable thermostat and humidistat (adding common wire as needed) to improve energy usage during unoccupied hours.

Scope 3: Programmable Thermostat Upgrade

Programmable thermostats are to be installed for the activity room unit (RTU-4) and the pool storage room unit heater, including any required wiring upgrades to include a common wire.

Project Scope Requirements:

- The contractor shall remove and dispose of all existing equipment
- The contractor shall be responsible for shipping equipment to the site and all crane-related work to move units to the installation location
- The contractor shall provide all gas hookups to the new units
- The contractor shall be responsible for all re-roofing and curbing, with leak testing is to be completed prior to completion to ensure no leaks
- The contractor will be responsible for all required electrical work, including increased breaker sizing and wire runs for RTU-1 (Appendix B)
- The contractor will be responsible for all controls, including a programmable thermostat control and humidity controls
- All ducting will remain in place as much as possible
- The contractor will install supports in alignment with the approved structural assessment for the RTU-1 heat recovery module Appendix C.
- If the new changeroom unit is different from the existing weight and dimensions, the contractor will provide structural approval for the new unit
- The contractor shall apply for and receive all applicable building permits
- The contractor shall supply a construction contract for review prior to start of construction
- The contractor will provide all start-up commissioning, programming, and sequencing to ensure as-intended operation
- The design and construction shall meet all applicable building codes

Project evaluation:

The bids will be evaluated based on the following criteria:

1. Bid Price
2. Designs and products (RTU-1 to be specified as above)
3. Timelines
4. References
5. Qualifications
6. Warranty
7. Completion date

Bid Information:

Please include but not limit the bid information to:

- Bid price for the project, including all labour, engineering, design, materials, permits, and any other associated costs relevant to the above scopes.
- RTU-2 designs or structural approvals (if differing from existing equipment)
- Products and processes to be used
- Warranty
- References & Qualifications
- Estimated completion timeline
- Proof of Liability and WCB insurance
- Completed Schedule A & B
- Any other information deemed relevant to the bid

Terms of this Request for Bids

- The Town has the right to cancel the Bid for any reason without any liability to any proponent or to waive irregularities at its own discretion
- Bids may be withdrawn by written notice once provided prior to the closing date and time.
- No bidder shall have any claim for any compensation of any kind because of participating in the Bid process. By the submission of the bid each bidder shall be deemed to have agreed that it has no claim.
- A bid which contains an error, omission, or misstatement, which contains qualifying conditions, which does not fully address all the requirements of this bid, or which otherwise fails to conform to the requirements of this bid may be rejected in whole or in part by the Town at its sole discretion.
- The Town may waive any non-compliance with the bid, specifications or any conditions including the timing of delivery of anything required by the bid and may at its sole discretion elect to retain for consideration bids which are non-conforming, which do not contain the content or form required by the bid or because they have not complied with the process for submission set out herein.
- The Town has the right to contact the bidder for clarity on their submitted bid.
- All Bids will remain confidential
- It is the sole responsibility of the bidder to check for available updates and addendums. Updated information will also be provided upon request.

Site Visit

There shall be a pre-bid site visit on Wednesday, May 14th, between 9-11 AM, located at the Fairview Aquatic Centre, at 11219-95 Avenue, Fairview, Alberta.

Inquiries Regarding the Bid

Any questions before the tender closing can be forwarded to the Town of Fairview:

- To: Chief Administration Office, Daryl Greenhill, 780-835-5461 or at cao@fairview.ca, and
- CC: Energy Advisory, Kyle Boyko, 780-850-9980 or at Kyle@simplifyenergy.ca

Pricing and Submission

Pricing is to include all associated costs relevant to the projects, inclusive of all GST and taxes. The three project scopes are to be priced as one fee, with the expectation that all projects will be implemented in unison.

<u>Return Sealed Bid to:</u> Daryl Greenhill Chief Administrative Officer Box 730 Town of Fairview, AB T0H 1L0 Phone: 780-835-5461 Fax: 780-835-3576 Email: cao@fairview.ca Hand Deliver to: 101, 10209 – 109 Street	<u>Closing Date:</u> May 20, 2025 @ 4:00 pm MST Bid # CS2025-05-20 submissions are to be hand delivered in a marked sealed envelope, mailed, or emailed by the closing date & time. To: cao@fairview.ca CC: Kyle@simplifyenergy.ca
--	--

Schedule A

Conditions of Proposal-Privilege Clause

The Town of Fairview reserves the right to accept or reject any and all Bids and to waive irregularities and informalities at its discretion. The Town reserves the right to accept a bid other than the lowest without stating the reasons.

By the act of submitting its bid, the bidder waives any right to contest in any legal proceedings or action the right of the Town to award the bid to any bidder in its sole and unfettered discretion. Without limiting the generality of the foregoing, the Town may consider any other factor besides the price and capability to perform the work, that it deems in its sole discretion to be relevant to its decision including but not limited to:

- Bid Price
- Service history
- References
- Qualifications
- Warranty
- Timelines
- Designs

The Town of Fairview reserves the right to seek bid clarification with the bidders to assist the evaluation process.

The undersigned hereby acknowledges that the “Conditions of Proposal” has been read and accepted:

Legal Name of Firm _____

Signed by _____ Print Name _____

Date _____

Schedule 'B':

Bidder:

Contact Name:

Address:

City:

Province:

Postal Code:

Telephone:

Fax:

The undersigned Bidder, having carefully examined the documents and having knowledge of the project specifications required, hereby agrees to provide the above listed project scope, and fulfill everything as set forth and in strict accordance with the supplied documents for the prices stated:

The undersigned also agrees:

- That the Owner is in no way obligated to accept this bid;
- That the Owner may, at Owner's discretion, award to other than the low Bidder;
- That, if the Bid Form is improperly completed or incomplete, Owner shall have the right to disqualify and/or reject this bid;
- That this bid is made without knowledge of the bid prices to be submitted for this work by any other company, firm, or person;
- That this bid is made without any connection or arrangement with any other company, firm, or person submitting a bid for this work;
- Once formally given notice to proceed, and has entered into a contract, will fulfil all agreed upon conditions.
- That, in preparing this bid, the Bidder has drawn their own conclusions from the supplied information and any further requested information.
- The Bidder agrees to supply the equipment and services quoted at stated price in accordance with the attached Bid Terms and Conditions.

Legal Name of Firm_____

Authorized signature _____ Date_____

Print Name _____

This Bid request is subject to Chapter Five (Procurement) of the Agreement on Internal trade.

Bid# CS2025-05-20

Town of Fairview

Box 730

Fairview, AB

T0H 1L0

Appendix A: Existing Equipment

RTU-1

EngA ENGINEERED AIR

FORM NO. CG.SUB 10.90

SUBMITTAL RECORD

JOB NO: 35024 (E173)

NAME: FAIRVIEW POOL

CUSTOMER: AGS LTD

ENGINEER: KEEN ENGINEERING

MODEL: DJE-140-O

QTY: 1

TAG: RTU1

INSTALLATION: OUTDOOR BASE MOUNTED C/W PREFAB ROOF CURB

ACCESS: RIGHT HAND

WEIGHT: 9700 lb. (4409 kg)

NO. OF PIECES: 4(UNIT/CURB/2 HOODS)

RETURN AIR DATA

SUPPLY AIR DATA		RETURN AIR DATA	
AIRFLOW 21825 CFM (10300 l/s)	E.S.P. 2 in.w.c. (498 Pa.)	AIRFLOW 22920 CFM (10816 l/s)	E.S.P. 1 in.w.c. (249 Pa.)
QTY. 1		FANSIZE 36/30 FC DIDW	QTY. 1
TYPE 27 CL II AFDW - Greenheck	BHP 18.47 BHP (13.78 kw)	TSP 1.51 in.w.c. (375 Pa.)	RPM 338
RPM 1492		BHP 8.86 BHP (6.6 kw)	
TYPE ENERGY 'E' TEFC		MOTOR SIZE 10 HP (7.45 kw)	TYPE ENERGY 'E' TEFC

OPENING LOCATIONS

LOCATION	OPERATION
SUPPLY AIR DOWN DISCH.	
RETURN AIR BOTTOM	
OUTSIDE AIR SIDE LEFT	
EXHAUST AIR SIDE RIGHT	

DAMPER TYPE OPERATION

DAMPER	TYPE	OPERATION
SUPPLY AIR		
RETURN AIR	PARALLEL BLADE *	MODULATING
OUTSIDE AIR	PARALLEL BLADE *	MODULATING
EXHAUST AIR	FLAPPER	GRAVITY

*TAMCO 1500 SW SERIES

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

TYPE	SIZE	AREA	VELOCITY
8-24 x 24 x 2" 30-35% EFF PLEATED	609 x 609 x 50 mm.	45.33 SQ. FT. (4.21 SQ. MTRS.)	481 FPM (2.44 m/s)
4-20 x 24 x 2" 30-35% EFF PLEATED	508 x 609 x 50 mm.		

HEATING SECTION DATA

TYPE	POWER BURNER MODEL	INLET PRESSURE	FIELD CONNECTION SIZE
INDIRECT FIRED	EngA 'HT' SERIES	7 in.w.c. (1743 Pa.)	1.25 in. (31 mm.)
SUPPLY: NATURAL GAS			
HEAT INPUT: 1,400,000 Btu/h (410.19 kw)	HEAT OUTPUT: 1,120,000 Btu/h (328.15 kw)	TEMPERATURE RISE: 51.3 °F (28.5 °C)	
HEAT EXCHANGER MATERIAL: PRIMARY: STAINLESS STEEL		SECONDARY: STAINLESS STEEL	

ELECTRICAL DATA

TYPE	VOLTS	PHASE	HZ	BURNER MOTOR F.L.A.	CONTROL CIRCUIT
575	3	60	60	8A @ 120V	2.61 AMPS
SUPPLY MOTOR F.L.A.	19.3 AMPS	RETURN MOTOR F.L.A.	11.4 AMPS	MAX. BREAKER	60 AMPS
FEEDER AMPACITY	38.1 AMPS	MAX. FUSE (D.E.)	60 AMPS		

ADDITIONAL FEATURES

MECHANICAL

EngA (15:1) high turndown burner

Three pass stainless steel high efficiency heat exchanger c/w condensate drain connection

Heat Exchanger section has 1" (25 mm) 1.5 lb/cu.ft (24 kg/cu.m) insulation with 22 gauge solid liner

18 Gauge satin coat galvanized sheet metal casing c/w 2" (51 mm) 1.5 lb/cu.ft (24 kg/cu.m) insulation

18 Gauge satin coat galvanized sheet metal floor c/w each section from return section to the heat

DATE Feb 11/03

SUBMITTED BY DALE SMIGEROWSKY / TDL

JBMITTAL RECORD
35024 (E17373)

AG: RTU1

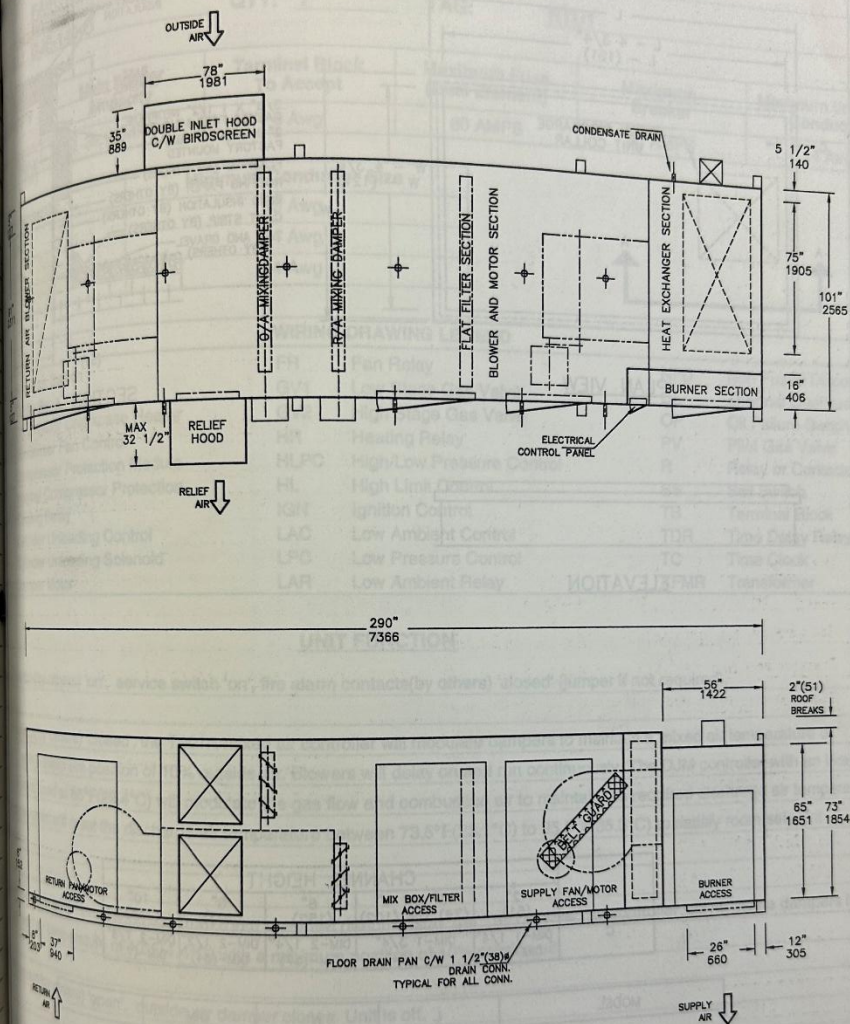
nel

ended grease line from far

ended grease line from far

ht flex

rough unit casing



NOTE: 1) UNIT ACCESS AS INDICATED.
2) DIMENSIONS ARE GIVEN IN INCHES AND MILLIMETRES.

RTU-1

EngA

ENGINEERED AIR

REVISIONS:			
DATE:	DRN.BY:	CHKD.BY:	DRWG.NO.:
FEB 03/03	TDL	JM	35024M-01-1

Heating Unit
DJ SERIES

SMIGEROWSKY / TDL



RTU-2

ENGINEERED AIR

FAIRVIEW POOL

QTY: 1

JOB NO: 35024(E17373)

TAG: RTU2

ELECTRICAL DATA

Main Feeder Ampacity	Terminal Block To Accept	Maximum Fuse (Dual Element)	Maximum Breaker	Minimum Unfused Conductor
4.9 AMPS	N/A	15 AMPS	15 AMPS	14 Awg

Minimum Conductor Size	
Components	14 Awg
Wiring	14 Awg

WIRING DRAWING LEGEND

Auto Fan Switch	FR Fan Relay	NFD Non Fused Disconnect
Compressor Crankcase Heater	GV1 Low Stage Gas Valve	OL Thermal Overload
Condenser Fan Control	GV2 High Stage Gas Valve	OP Oil Failure Switch
Compressor Protection Module	HR Heating Relay	PV Pilot Gas Valve
Internal Compressor Protection	HLPC High/Low Pressure Control	R Relay or Contactor
Cooling Relay	HL High Limit Control	SS Sail Switch
Cylinder Unloading Control	IGN Ignition Control	TB Terminal Block
Cylinder Unloading Solenoid	LAC Low Ambient Control	TDR Time Delay Relay
Damper Motor	LPC Low Pressure Control	TC Time Clock
	LAR Low Ambient Relay	XFMR Transformer

UNIT FUNCTION

switch (by others) 'on', service switch 'on', fire alarm contacts (by others) 'closed' (jumper if not required).

contact (by others) 'closed', and occupied/unoccupied contact (by others) 'closed', dampers open to the minimum position

Blower will delay on and run continuously. The DJM controller with an integral reference setpoint fixed at 80°F (26.7°C) will

gas flow and combustion air to maintain the required discharge air temperature. Room sensor/setpoint will reset the discharge

temperature between 59°F (15.0°C) to 103°F (39.4°C) to satisfy room setpoint requirements. On a call for cooling from a single stage room

temperature (by others), the heat is locked out and the T991A mixed air controller will modulate dampers to maintain a mixed air

temperature of 55°F (12.8°C) with a minimum position of 10% outside air.

unoccupied contact (by others) 'open', mixed air dampers revert to 100% return air position. Intermittent blower. When room

calls for heat, blower starts and the unit will discharge at high fire to maintain unoccupied room temperature.

contact (by others) 'open', outside air damper closes. Unit is off.

auto bypass low limit will stop unit operation if the discharge air temperature falls below 40°F (4.4°C).

to manuals shipped with unit for a more detailed explanation of maintenance, component(s) and/or controller(s).

DATE: FEBRUARY 10 2003

SUBMITTED BY: DALE SMIGEROWSKY/TDL

HEATING UNIT
DJ SERIES



Appendix B: Proposed RTU-1 Unit Selection

Fairview Pool **Replacment**

March 20, 2025

Product
DJE140/HRP/O/R

Advisor
Simplify Energy

Note:

These drawings are preliminary only

**ENGINEERED AIR****PRODUCT INFORMATION FORM(PIF)**

Page 1

JOB NAME Fairview Pool DIV. NO. EN06-24-00096 DATE Mar 20, 2025
CONTRACTOR _____ JOB NO. _____ SALES Alex Macleod
UNIT MODEL DJE140/HRP/O NO. OF UNITS 1 UNIT TAG(S) AHU-1
APPROVAL CETL(Std.) POWER SUPPLY 575 / 3 / 60 UNIT AMBIENT Minus 60°F ☐ SEA LEVEL ☒ HIGH ALTITUDE 2,219 FT

MOUNTING: Outdoor Base mounted. CURB: None ☐ EXT. ISOLATION ☐ 42" SERVICE PLATFORM
OPENING: DISCHARGE AIR As per drawing RETURN AIR As Per Drawing OUTSIDE AIR As Per
Drawing c/w ☐ HOOD ☐ LOUVRE
EXHAUST AIR As Per Drawing c/w ☐ HOOD ☐ LOUVRE ☐ GRAVITY ☐ MOTORIZED

SUPPLY AIR VOLUME 21,825 ACFM ESP 2 "WC BLOWER ACCESS: As per attached drawing
TYPE FC DIDW - Class II SIZE 270 QUANTITY 1 SCREEN: ☐ INLET ☐ OUTLET
MOTOR: Super 'E' TEFC HP 25 ESTIMATE TSP 4.5 "WC
ISOLATION 1" Spring deflection ☐ INERTIA BASE DETAIL _____
BEARINGS: Pillow Block EXT LUBE LINES: ☒ NONE ☐ TO ACCESS SIDE ☐ BOTH TO CASING
DRIVES: Standard DRIVE SAFETY 1 BELT GUARD: ☐ STANDARD ☐ OSHA
V.A.V.: ☒ NONE **New unit to be equipped with variable speed fans**

RETURN AIR VOLUME 22,920 ACFM ESP 1 "WC BLOWER ACCESS: As per attached drawing
TYPE FC DIDW SIZE 27/27 QUANTITY 1 SCREEN: ☐ INLET ☐ OUTLET
MOTOR: Super 'E' TEFC HP 20 ESTIMATE TSP 2.2 "WC
ISOLATION 1" Spring deflection ☐ INERTIA BASE DETAIL _____
BEARINGS: Pillow Block EXT LUBE LINES: ☒ NONE ☐ TO ACCESS SIDE ☐ BOTH TO CASING
DRIVES: Standard DRIVE SAFETY 1 BELT GUARD: ☐ STANDARD ☐ OSHA
V.A.V.: ☒ NONE **New unit to be equipped with variable speed fans**

CONSTRUCTION: Standard ☐ SPLIT (REASON) _____ CRITICAL DIM. _____
CASING: 18 GA (Std) INSULATION: 1 Inch 1.5 LB/CU FT
FLOOR: ☒ 18 GA (Std)
LINER: ☒ NONE

PAINT FINISH: EXTERIOR: ☒ ELECTROSTATICALLY APPLIED ALKYD ENAMEL IN ALUMINUM GRAY COLOR, LEVEL 1 - 500 HR _____
ACCESS DOORS: AIRSIDE: Hinged c/w Lever Handle c/w ☐ LOCKABLE ☐ WINDOWS OTHER _____
SERVICE(Elec./Gas/Comp(s)): Hinged c/w Lever handle c/w ☐ LOCKABLE ☐ WINDOWS OTHER _____
HOODS: _____ ENGA LOUVRE: ☐ STEEL ☐ ALUM. ☐ DRAINABLE OTHER _____

DAMPERS: ☒ PARALLEL BLADE ☒ LOW LEAK ☒ TAMCO 9000 INSUL. ALLOCATION: All dampers
☒ FACE & BYPASS ☒ LOW LEAK ☒ TAMCO 9000 INSUL. ALLOCATION: bypass heat pipe

AIR MIXERS: ☒ NONE DRIVE ROD TERMINATION: ☒ INSIDE ☐ THRU CASING
PIPING VESTIBULE: ☒ NONE SERVICE CORRIDOR: ☒ NONE

HUMIDIFIER: ☒ NONEDRAIN PAN: ☒ NONE

FILTER: PRE-FILTER ☐ ANGLE ☒ FLAT SPARE SETS QTY: _____ TYPE Std Pleated - 2"
☒ SIDE LOAD ☐ FACE LOAD ☐ HOOD ☐ METAL FRAME ☐ FILTER GAUGE
☐ P32 Signal to BMS ☐ P32 Signal to Remote Panel

GAS HEAT (DJE-140) HEAT EXCHANGER MATERIAL: Stainless Steel ☒ Double Wall Insulated Vent ☐ DRAFT HOOD ☐ SIDE WALL VENTOR
FUEL: ☒ NAT. GAS ☐ PROPANE PRESSURE 7 "W.C. MANIFOLD: ☒ STANDARD ☐ F.M. ☐ GAP
TEMP. RISE 51 °F BTUH IN 1,400,000 BTUH OUT 1,120,000 TURNDOWN 15 : 1

COILS FLUID HEATING ☒ NONE STEAM HEATING ☒ NONE ELECTRIC HEAT ☒ NONE FLUID COOLING ☒ NONE DX COOLING ☒ NONE

Continue on page 2



PRODUCT INFORMATION FORM(PIF)

Page 2

JOB NAME Fairview Pool DIV. NO. EN06-24-00096 DATE Mar 20, 2025
UNIT MODEL DJE140/HRP/O NO. OF UNITS 1 UNIT TAG(S) AHU-1

HEAT RECOVERY: ☒ NONE New unit to be equipped with heat recovery, as below

MAIN POWER DISCONNECT By Others

CONVENIENCE CIRCUITS ☒ NONE

REMOTE CONTROL PANEL ☒ NONE

THERMOSTAT AND SUBBASE DESC.

UNIT FUNCTION:

Non-fused disconnect switch (by others) 'on', service switch 'on', fire alarm contacts (by others) 'closed'
(jumper if not required) .

Unit on/off contact (by others) 'closed', outside air dampers open to the integral minimum position
setpoint of 30% (adjustable at CENCON display). Blower will delay on and run continuously. The
CENCON controller, with an internal setpoint of 85°F (29.4°C), will modulate heating economizer to
maintain the required discharge air temperature.

Dampers to have programmable
schedule (minimum 30% (adjustable),
when occupied, and 0% (adjustable)
when unoccupied). To modulate
dampers as needed to maintain
humidity

HEAT MODE

If there is a call for heating and the CENCON is in heating mode, the J-XM controller module will begin
modulating the gas heating. The discharge air temperature control band is from 50°F (10°C) to 100°F
(37.8°C) .

ECONOMIZER MODE (T991A if required)

the economizer will only be enabled above 65F ambient minimum outdoor air.
the economizer will modulate to 85F with a minimum outdoor air of 30%

ENERGY RECOVERY

The ER-XM will tilt the heatpipe as required to provide leaving air temperature regulation, summer/winter
changeover, and frost control when required. When frost build up is detected on the heat recovery
device, the ER-XM will enter defrost mode, the defrost setpoint is 35°F (1.7°C). When ambient is above
65F heat pipe bypass dampers open. (set at same pressure as heat pipe)

Unit on/off contact (by others) 'open', outside air damper closes, and blower shuts down. Unit is off.

If the fire alarm contacts 'open', equipment operation is disabled immediately. If the discharge air
temperature falls below 40° F (4.4° C), the CENCON will shut down the blower, close dampers and
indicate alarm.

Note - Refer to manuals shipped with unit for more detailed explanation of maintenance, components
and controls.

Note - Go to <http://www.engineeredair.com/index.php/manuals/> for online manual details

Continue on page 3



PRODUCT INFORMATION FORM(PIF)

Page 3

JOB NAME Fairview Pool DIV. NO. EN06-24-00096 DATE Mar 20, 2025
UNIT MODEL DJE140/HRP/O NO. OF UNITS 1 UNIT TAG(S) AHU-1

MISCELLANEOUS COMMENTS:

drains in each section
heresite heat pipe
epoxy coated unit interior (two part)
Epoxy coat BOTH fans
By special pricing:
Curb match/unit match adder
requirements.
coated fan shafts
offset mixing box
seal between control panel & air stream
damper operators mounted out of airstream,
damper shaft extended through casing
insulated box over high limit
dehumidistat
Function adds (as per old function) for thermostat & reset.
wiring in liquid tight flex

PIF, AUGUST, 01

Variable speed fans sequence of operations:

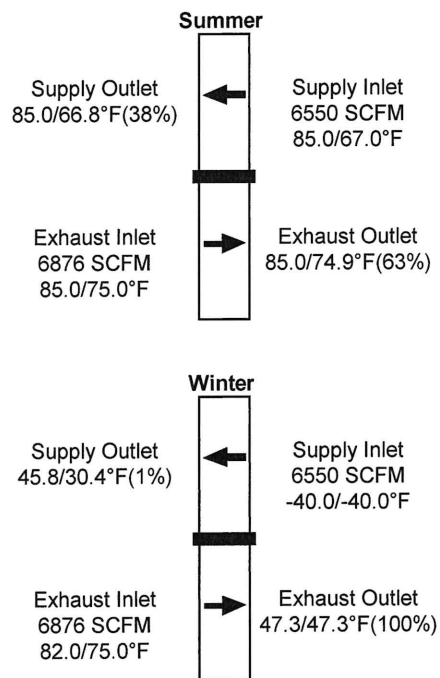
- Minimum fan speed set at 60% (adjustable), with increased fan speed as needed to maintain relative humidity
- Maximum fan speed change rate set at 10%/minute (adjustable) to minimize hunting

**ENGINEERED AIR****HEAT PIPE PERFORMANCE DATA**
Version 1.2.13Project Name: **Fairview Pool**Date: **20-MAR-2025**

Prepared for: _____

Unit Model: **DJE140/HRP/O**Qty: **1**Tag: **AHU-01**

Heat Pipe Selection Data - HVAC			
		Supply	Exhaust
Summer Design Without Evaporative Cooling	Fan Location	Heat Pipe Inlet	Heat Pipe Inlet
	Air Flow Through Pipe	6550 SCFM	6876 SCFM
	Standard Velocity Thr Pipe	478 fpm	481 fpm
	Entering Temp. DB/WB	85.0/67.0°F	85.0/75.0°F
	Leaving Temp. DB/WB(RH)	85.0/66.8°F(38%)	85.0/74.9°F(63%)
	Air Pressure Drop	0.54"wc	0.62"wc
	Energy Recovery	.0 Mbh	
	Supply Efficiency	56.5%	
	ASHRAE Effectiveness	56.5%	
Winter Design (Note 1)	Fan Location	Heat Pipe Inlet	Heat Pipe Inlet
	Air Flow Through Pipe	6550 SCFM	6876 SCFM
	Standard Velocity Thr Pipe	478 fpm	481 fpm
	Entering Temp. DB/WB	-40.0/-40.0°F	82.0/75.0°F
	Leaving Temp. DB/WB(RH)	45.8/30.4°F(1%)	47.3/47.3°F(100%)
	Air Pressure Drop	0.46"wc	0.78"wc
	Energy Recovery	607.0 Mbh	
	ASHRAE Effectiveness	70.3%	
	Tilt Control Factor		26071
	Moisture Condensed Out		5.2579263 Lbs/Min
	Frost Point		-45.1°F

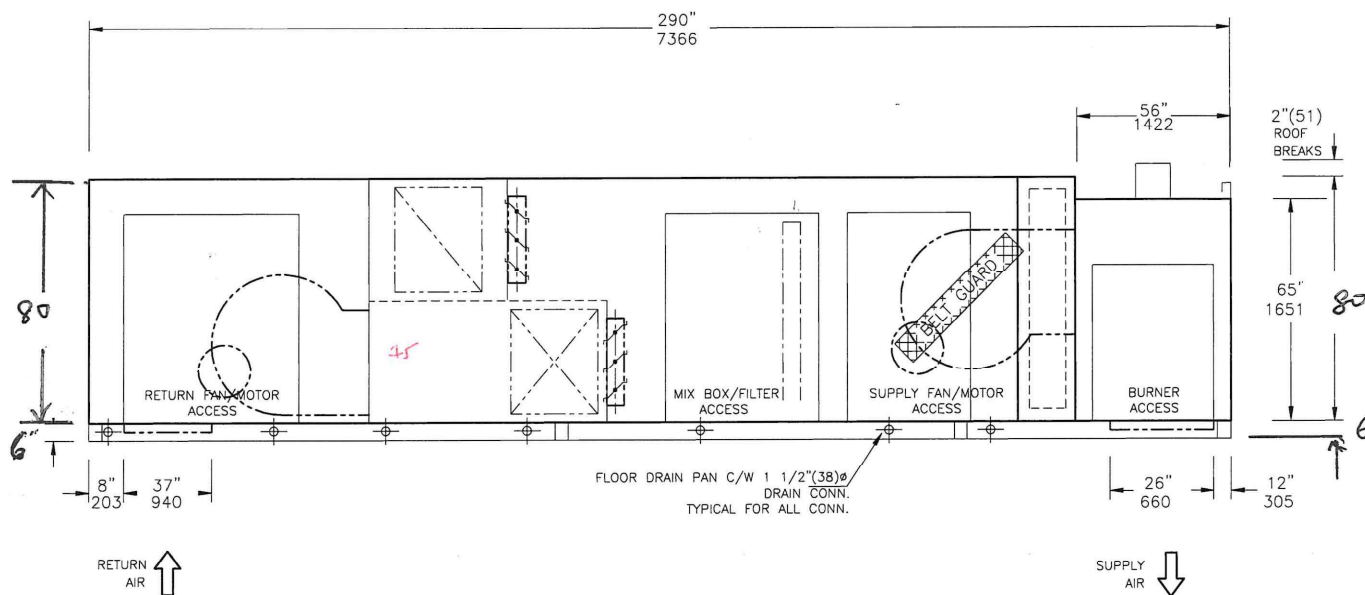
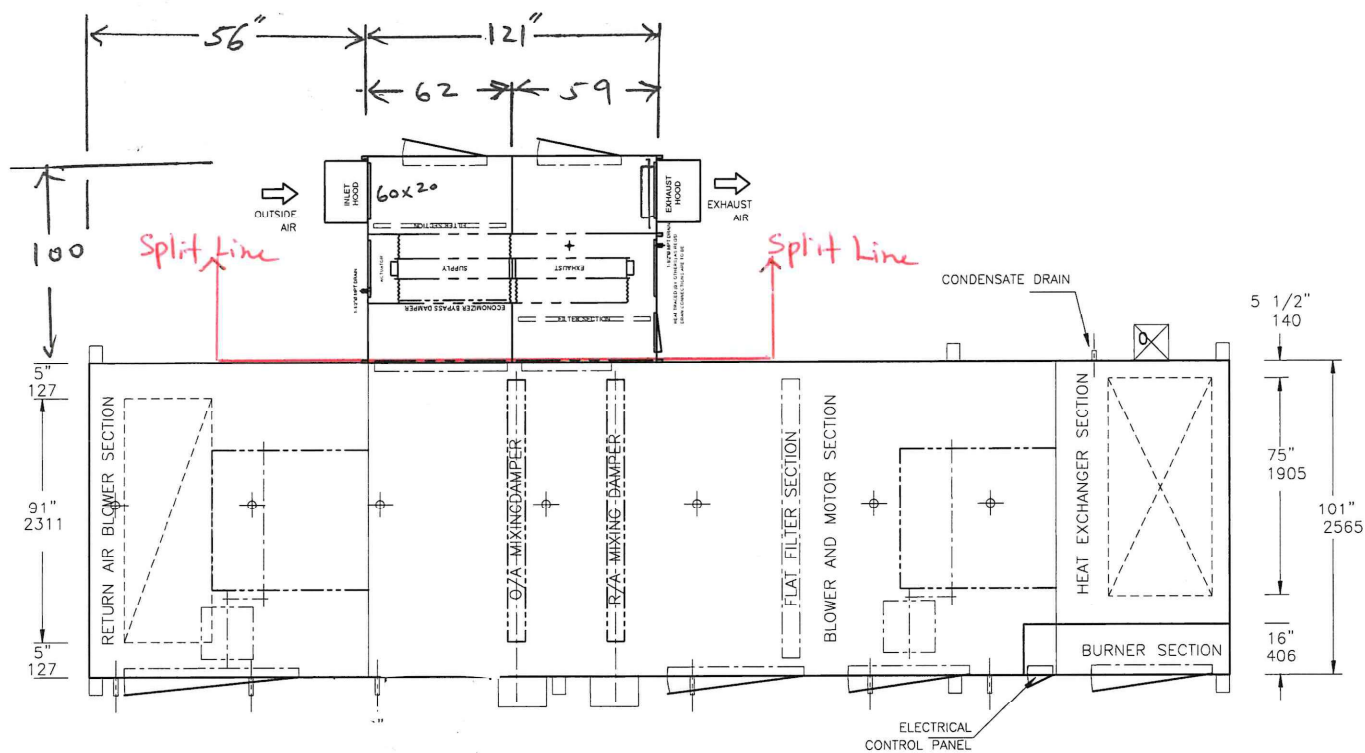


System: (1) Tru in an integrated tilt package										
Type: Corrugate Aluminum fin, 5/8" O.D. aluminum tube										
Unit ID	TRU Model	Face Height	Face Length	Row	Exh FPI	Sup FPI	Type	Exh Length	Sup Length	Weight (LBS)
1	TRU-120	- 42	- 96	- 6	- 12E	- 10S	- AC5	- 49	47	572

Unit	Weight in lbs
Total system weight	1492

Notes: 1. Supply efficiency under winter design condition is 70.3%.

2. Tilt control is required for summer/winter operation. Tru cannot be installed level and achieve full recovery at winter design conditions.



	24"	24"	24"	24"
20"				
24"				
24"				

NOTE: 1) UNIT ACCESS AS INDICATED.

2) DIMENSIONS ARE GIVEN IN INCHES AND MILLIMETRES.

TAG: RTU-1

DJE140/C/HRP/O/R

DJE/HRP SERIES

EngA

ENGINEERED AIR

REVISIONS: APRIL 1, 2025

DATE: DRN.BY: CHKD.BY: DRWG.NO.:

JULY 29/24

C5-12-61

Appendix C: Structural Assessment

May 6, 2025



Engineers

Adam Trovato
Simplify Energy Consultants Ltd.
10056 106 Street NW, 10th Floor
Edmonton AB T5J 2Y2
adam@simplifyenergy.ca

Dear Adam,

RE: Fairview Regional Aquatic Centre & Fitness Centre
Air Handling Unit Installation Load Review
11219 95 Avenue Fairview AB

RJC No. EDM.141225.0001

RJC Engineers performed a load review for the proposed replacement rooftop air handling unit (AHU) to be located at the above-noted site, approximately along gridline "4" and between gridlines "D" and "E". Our review was based on the following information provided by your office:

- The proposed AHU is a "DJE140/HRP/O" by Engineered Air.
 - The unit has a base weight of 9,700 lb and dimension of 290" long x 101" wide x 86" tall.
 - A heat recovery unit, as an add-on, will be attached to the south side of the AHU. It has a base weight of 4,500 lb and dimensions of 121" long x 100" wide x 86" tall. The edge of the add-on unit will be approximately 56" from the east edge of the AHU (Figure 1).

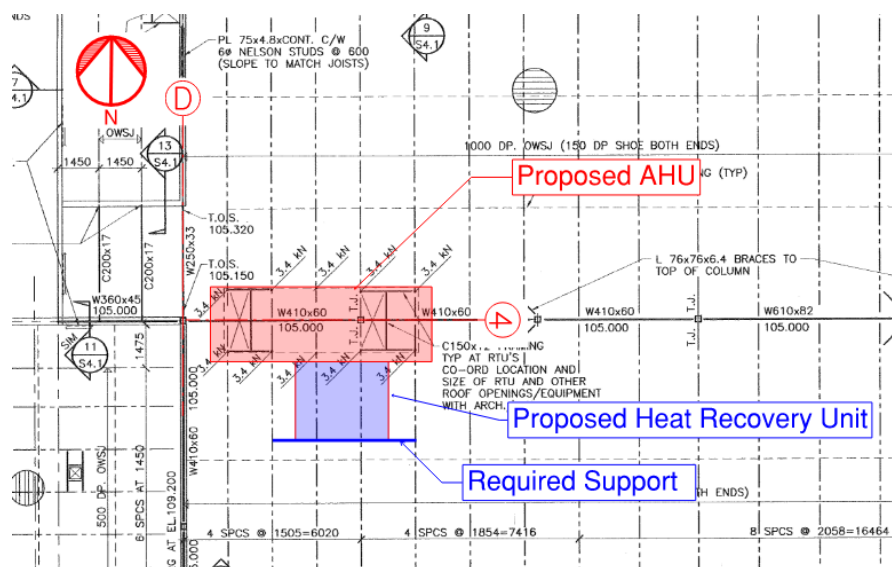


Figure 1: Partial location plan of proposed AHU



- It is RJC's understanding that the new unit will be replacing the existing AHU with similar size, weight, and placed in approximately the same location, centered along the existing beam on gridline "4", and that the intent is to re-use the existing supporting curb. A layout for a supporting curb/member has not been provided for the heat recovery unit; however, it has been noted by the manufacturer that some sort of support is required. Design of this support is beyond the scope of this review; however, RJC can assist in providing recommendations and/or design for a support as a separate service, if desired.
- A method and path of travel for transporting the unit to the final location has not been provided. A review of structural capacities for the purpose of transporting the unit to its proposed location has not been performed and should be completed prior to installation if the unit will be transported throughout the building or along the roof structure.

Equipment Load Review

The structural drawings for this building, prepared by BPTEC Engineering Group Ltd, were made available for review. These drawings were "Issued for Tender" and dated October 2002. The drawings indicate the building was constructed according to the Alberta Building Code 1997 and include design loads for the metal deck and open-web steel joists (OWSJ).

- The metal deck has a design dead load of 1.29 kPa (27 psf) and a design live load 2.02 kPa (42 psf) plus snow drift.
- The OWSJ has a design dead load of 1.75 kPa (35 psf) and a design live load of 2.02 kPa (42 psf) plus snow drift.
- The snow drift diagram indicates the maximum snow drift (as a total live load) alongside the existing AHU to be 4.0 kPa (83 psf).

As record drawings were not available for review, it is assumed the structure was constructed per the available drawings and confirmation of the construction details, beyond a visual review by others, was not performed as part of this scope.

The available drawings show the structure, where the unit is to be located, to be constructed of a 38 mm deep metal deck and 1,000 mm deep open-web steel joists, in turn supported by a W410x60 beam, steel column, and reinforced concrete piled foundations. Existing openings near the AHU are reinforced by C150x12 channels.

The available drawings indicate a ballasted roof assembly consisting of a ballast, EPDM membrane, R20 rigid insulation, mopped on 2-ply vapour barrier, 13 mm thick "Densdeck" sheathing, and the previously mentioned metal deck. The ASHRAE Level 2 Energy Audit Report, provided by Simplify Energy Consultants Ltd., indicates the roofing assembly was upgraded in 2019 to a modified roofing system consisting of a metal roof deck, felt layers, polyisocyanurate insulation, fiberboard, and a modified SBS membrane. Recent site pictures, provided by your office, confirmed the roofing assembly was modified. Test excavations to confirm the structure, roofing assembly, or any related finishes was not performed and not a part of RJC's scope.

It did not appear that any unusual finishes, mechanical or electrical systems, beyond typical systems, were installed in the immediate area of the proposed AHU (Photo 1). Given this condition and the fact that the roofing system was changed in 2019 (Photo 2), a reduced unfactored roof dead load of 0.82 kPa (excluding the joist self-weight) was used for our analysis.



Photo 1: Existing conditions at underside of RTU location



Photo 2: Existing conditions at roof topside at RTU location

As this area is exposed to the elements, a snow load and accumulation from snow drift was considered in our analysis. No storage or live loads other than those indicated on the information provided have been considered in our analysis.

Based on the above information, our review indicates the structure can safely support the loads arising from the proposed new unit, provided the following conditions are followed:

- A clear zone area around the new unit, which extends to the edge of each parapet in the north-south direction, and a minimum of 5'-0" (1524 mm) in the east-west direction must be maintained, including the underside of the roof deck (Figure 2). This area, including the top of the unit, must not be used to store any additional equipment or materials either on top of the roof or suspended at the underside.

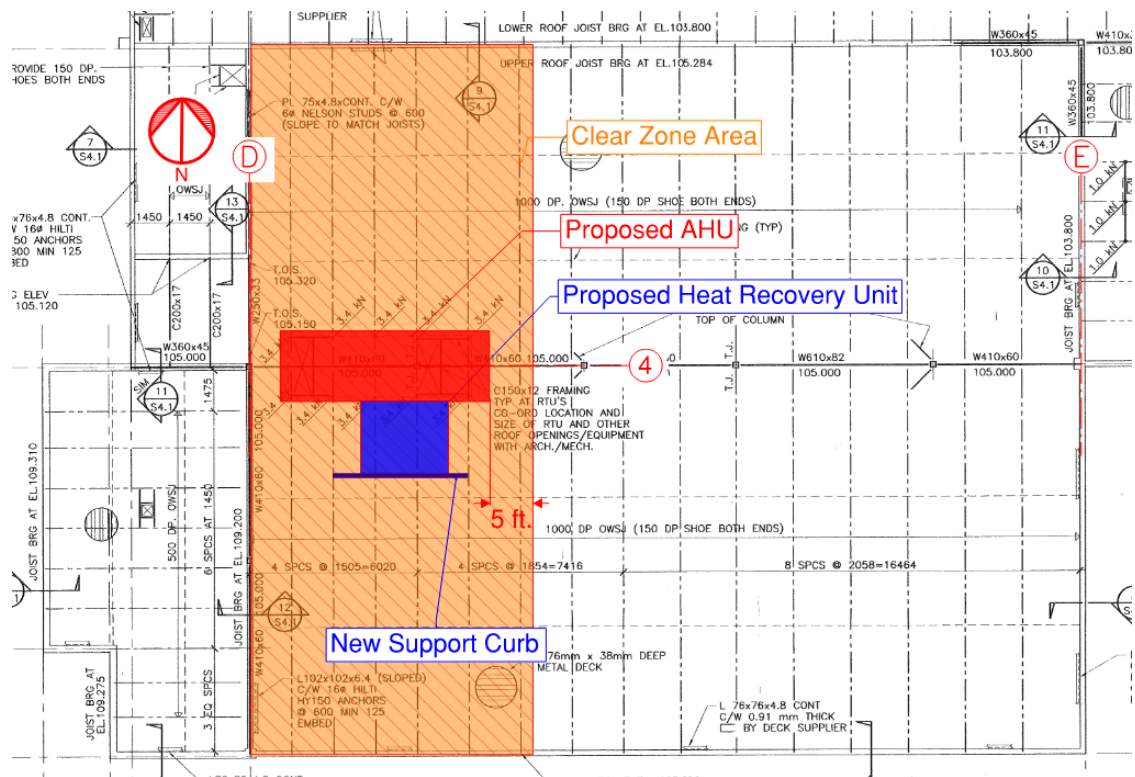


Figure 2: Roof partial framing with clear zone area

- The new AHU must be placed in the same location as the existing AHU and the existing curbing layout must be re-used.
- A supporting beam or curb must be provided to support the new heat recovery module to distribute the unit's weight to the structure. The curb should be secured to the roof structure and span along the outer edge of the module. The curb should enclose the entire perimeter of the add-on unit to prevent snow from accumulating below the unit.



- The length of the curb must extend to the nearest joists outside the module's footprint on each side and must span across a minimum of 4 joists. Localized reinforcement of the structure may be required depending on the final location of the curb. The impact of the proposed curb location should be reviewed by RJC prior to installation of the unit.

Note that minimum offset distances (e.g. spacing between the new unit and surrounding elements required for operation or servicing the unit) were not part of this review and may require review by a mechanical consultant.

Closing

Please note that with loads of this magnitude, there is a possibility that noticeable deflections may occur. While these deflections would not be of significant structural concern, they may cause distress to some building finishes on either the roof or the interior space below. An allowance for movement should be incorporated into all connections (wiring, piping, etc.) for the new unit.

Should there be any changes to the above conditions or assumptions, it is recommended the revised conditions be reviewed to determine if the structure is adequate to support the revised superimposed loads.

This report has been prepared in accordance with generally accepted engineering practices. Our review was based on the information noted on the available provided drawings and the assumption that the building was designed adequately and constructed in accordance with project drawings.

Thank you for selecting RJC to assist you with this project. We trust the above addresses your concerns. Should you have any questions, or if we may be of further assistance, please contact this office.

Yours truly,

READ JONES CHRISTOFFERSEN LTD.

Prepared by:

Reviewed by:

A handwritten signature in blue ink, appearing to read 'P. Lewko'.

Pavlo Lewko, BSc, EIT
Engineer-In-Training

Kristopher Bales, BSc, P.Eng., LEED® AP
Associate