ENVIRONMENTAL NOISE ASSESSMENT R1

A.Y. JACKSON S.S. BUILDING ADDITION

OTTAWA, ON

For
Edward J. Cuhaci and Associates Architects Inc.

Prepared by
State of the Art Acoustik Inc.

Report Date: 2025-04-24

2025-04-24

Xu Feng, OAA | Senior Principal
Edward J Cuhaci and Associates Architects Inc.
171 Slater Street, Suite 100, Ottawa, Ontario K1P 5H7
t 613.236.7135 f 613.236.1944
xuf@cuhaci.com

Cuhaci – OCDSB A.Y. Jackson Secondary School
Stationary Noise Study R1

Dear Feng,

This report assesses the environmental noise impact of the proposed addition to A.Y. Jackson Secondary School at 150 Abbeyhill Drive, Kanata onto nearby noise-sensitive residences. The calculations and methodology presented here comply with the 2016 City of Ottawa Environmental Noise Control Guidelines (ENCG) as well as the Ministry of Environment, Conservation and Parks' (MECP) publication NPC-300. It was determined that a traffic noise study was not required for this project per NPC-300 and only a stationary noise assessment was required.

The noise impact from the mechanical and electrical equipment to the surrounding area is not expected to exceed the ENCG limit of 45 dBA at night. No acoustic mitigation measures are required.

Should you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Tiffany-Rose Filler, M.Sc.
Acoustic Consultant

Contents

1.0 Introduction & Site Description

Edward J. Cuhaci and Associates Architects Inc. has commissioned State of the Art Acoustik Inc. to conduct a noise study for a new two-storey addition to be located southeast of the existing A.Y. Jackson Secondary School at 150 Abbeyhill Drive in Kanata, Ontario. The site is situated in a predominantly residential area. We have assessed the site for traffic noise and environmental noise impact as per the 2016 City of Ottawa Environmental Noise Control Guidelines (ENCG) which are expanded upon in **Sections 2.0 and 3.0**, respectively.

1.1 Scaled Area Location Plan

Figure 1.1 shows a satellite view of the site and surrounding area and **Figure 1.2** shows the site plan for the new development. The site is adjacent to several noise sensitive buildings, primarily detached homes and townhouses.

Figure 1.1 – Surrounding area around the A.Y. Jackson Secondary School (Google Earth Pro)

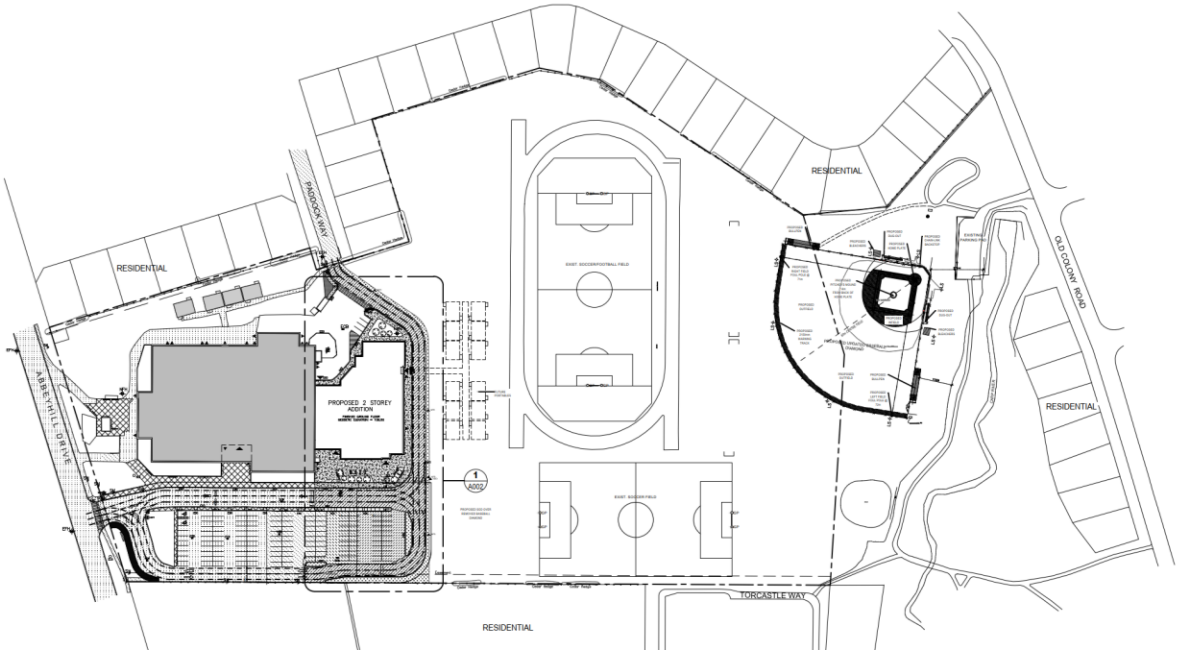


Figure 1.2 – Site plan of the A.Y. Jackson Secondary School

The A.Y. Jackson Secondary School and its surrounding area will be classified as a Class 2 area according to the 2016 City of Ottawa Environmental Noise Control Guidelines (ENCG).

2.0 Traffic Noise Assessment

Traffic noise sources for this site were identified using the City of Ottawa's geoOttawa website, which highlights roads and railways that should be considered as traffic noise sources. As the baseball diamond is not classified as a noise-sensitive area under ENCG (2016), the traffic noise analysis was conducted solely for the school addition. For the future building addition, the nearby road and rail noise sources are as follows:

Roads and Railways	Road/Rail Classification	Distance to Façade[1]	Exclusionary Distance Limit
Abeyhill Drive	Collector	116 metres	100 meters
Old Colony Road	Collector	220 metres	100 meters
Castlefrank Road	Major Collector	200 metres	100 meters

[1]Note: The Distance to the Façade Line is calculated from the façade of the proposed development to the right-of-way of the road/railway.

Table 2.1 – List of nearby road noise sources

The noise source must be analyzed when the listed distance to the property line is lower than the respective exclusionary distance limit. Based on the distances in **Table 2.1**, an analysis of the impact of traffic noise is not required for AY Jackson SS.

3.0 Environmental Noise Assessment

In this section, we provide our environmental noise assessment from the new building addition on both the surrounding residential area and the school itself. We detail the noise limits, noise sources, points of reception used in our modelling, modelling and calculation procedures, and predicted noise levels.

3.1 Environmental Noise Control Guidelines

This location and the surrounding environment has been classified as being a Class 2 area. Therefore, to comply with the City of Ottawa's Environmental Noise Control Guidelines (ENCG), the facility must meet the MECP limits for Class 2 daytime permissible Sound Pressure Levels (SPL) at nearby noise-sensitive areas, as indicated in **Table 3.1**.

	Class 2 Area	
Time of Day	**Outdoor Point of Reception**	**Plane of Window**
07:00 – 19:00	50	50
19:00 – 23:00	45	50
23:00 – 07:00	-	45

Table 3.1 – Guidelines for Stationary Noise for Class 2 Area (based on Table 3.2a in the ENCG)

For the school building, an institutional noise-sensitive land use, Table 3.2a in Ottawa's ENCG recommends a target of 50 dBA for stationary noise at the plane of the window during operational hours in a Class 2 Area. This is a recommendation rather than a strict requirement, as the noise sources are located on the same property and the school operates only during the day, consistent with typical institutional use considerations.

It should also be mentioned that the MECP allows emergency equipment, such as generators, to be analyzed separately from all other equipment, permitting a limit of 5 dBA over the sound level limits otherwise applicable to stationary sources during non-emergency daytime use, such as testing. However, as no emergency equipment is part of this development, no analysis of emergency equipment is required.

The points of reception (POR) were chosen at the nearest residential homes and the school itself, which will allow us to calculate the largest noise impact and mitigate it accordingly. These are discussed in further detail below.

3.2 Significant Noise Sources

The noise sources that are being considered for this assessment of the mechanical noise to nearby residences are listed in **Table 3.2** below and are placed at the locations indicated in **Figure 3.1**.

Noise Source	Noise Source ID	Quantity	Location
Packaged Rooftop Unit	RTU-1, RTU-2, RTU-3, and RTU-4	4	Rooftop

Table 3.2 – Quantity and location of noise sources considered.

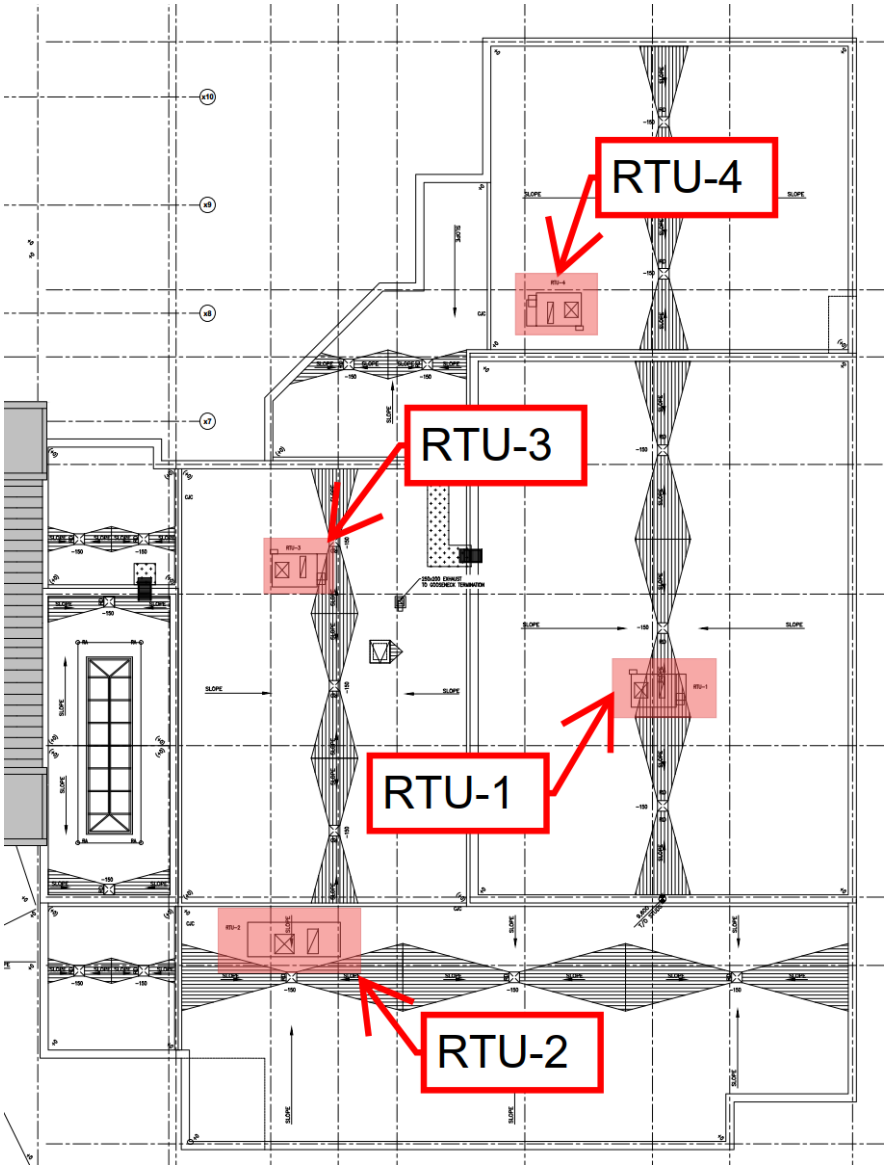


Figure 3.1 – Illustration showing locations of mechanical equipment on rooftop of A.Y. Jackson Secondary School addition (contoured in red).

The sound power data for the equipment is listed in **Table 3.3**. Cutsheets of sound data for all equipment analyzed are included in the **Appendix.**

Noise Source ID	Octave Band Sound Power Levels (dB)								dBA
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
RTU-1: Radiated	85	85	81	78	77	73	70	60	82
RTU-2: Radiated	80	74	76	76	76	75	75	66	82
RTU-3 and RTU-4: Radiated	85	85	81	78	76	71	68	60	81

Table 3.3 – Octave band sound power levels of noise sources

3.3 Points of Reception

Points of reception (PORs) have been selected to evaluate the noise levels at locations of nearby noise-sensitive buildings. **Figure 3.2** and **Table 3.4** detail the locations and heights of the PORs used.

For the school, PORs were not placed on the southeastern side of the building despite it being closest to the future addition because it features a brick façade with only stairwell windows, which are not considered noise-sensitive locations. Instead, one POR is positioned at the closest window to a noise-sensitive space on the southwestern side, and another at the closest window to a noise-sensitive space on the northeastern side. Both school PORs are located on the first floor.

POR Number	Height (m)	Address	POR Type (Environment / Building Itself)	Daytime Sound Pressure Level Limit (dBA)	Nighttime Sound Pressure Level Limit (dBA)
1	1.5	150 Paddock Way	Environmental	50	45
2	4.5	62 Stokes Crescent			
3	1.5	A.Y. Jackson – School POR A	Building Itself		N/A[1]
4	1.5	A.Y. Jackson – School POR B			

Note[1]: Nighttime limits do not apply to school PORs as the building is operational only during daytime hours.

Table 3.4 – POR Locations and Heights along with Daytime/Nighttime Sound Pressure Level Limit (dBA) (based on Table 3.2a in the ENCG)

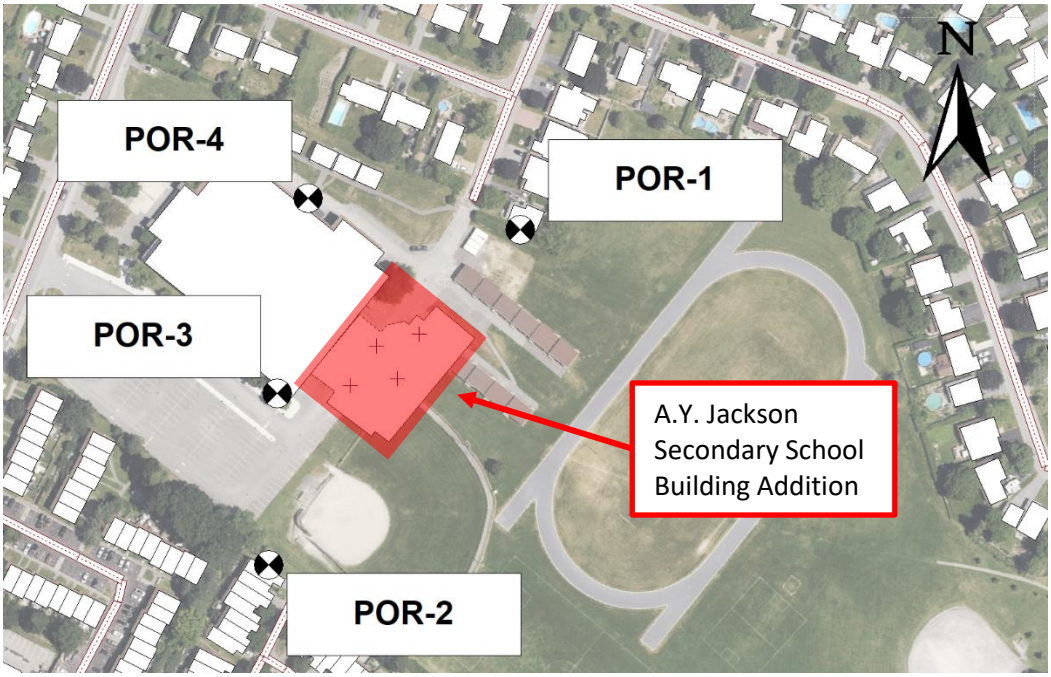


Figure 3.2 – Illustration showing locations of points of reception for stationary noise assessment of equipment at the new building addition to A.Y. Jackson Secondary School (in red).

3.4 Methodology Used in Environmental Noise Impact Calculation

The following sections describe the methodology and software used to model the sound pressure levels at the points of reception due to the noise sources while considering parameters such as source levels, distance, topography, barriers, and building geometry.

3.5 Procedure Used to Assess Noise Impact at Each Point of Reception

This environmental noise analysis was done using an environmental noise modeling software called CadnaA which references ISO 9613. CadnaA predicts environmental noise through calculations based on a 3D model which uses geometrical, landscape, and topographical data, combined with details of the proposed construction and the noise source power levels.

We created a 3D rendering of the neighbourhood around the building and placed the noise sources in the model at the appropriate locations and then applied the sound power levels described in this report. The resulting sound pressure levels are then calculated at each point of reception.

3.6 Other Parameters/Assumptions Used in Calculations

The parameters used in the CadnaA model are described in **Table 3.5.**

Parameter	Value/Condition
Ground Absorption	0
Building Reflections	On
Temperature (°C)	10
Relative Humidity (%)	70

Table 3.5 – Parameters used in CadnaA modelling

3.7 Environmental Noise Levels

This section summarizes the CadnaA noise mapping results. **Section 3.2** shows the sound levels from all noise sources with the current equipment for daytime operations. We analyzed the worst-case scenario with all equipment running at full power, as there is no emergency equipment in the building. This ensures we meet the strictest noise limit, which is 45 dBA for nighttime. Although not all equipment operates continuously or simultaneously most of the time, analyzing this worst-case scenario is required per ENCG (2016).

3.7.1 Results with Current Selections for Daytime and Nighttime Operations

Figure 3.3 presents the predicted noise grid at a 4.5-metre elevation, which reflects the noise map relative to the height of nearby buildings and the impact of rooftop equipment with all outdoor mechanical systems operating. The ENCG (2016) nighttime noise limit of 45 dBA must be met.

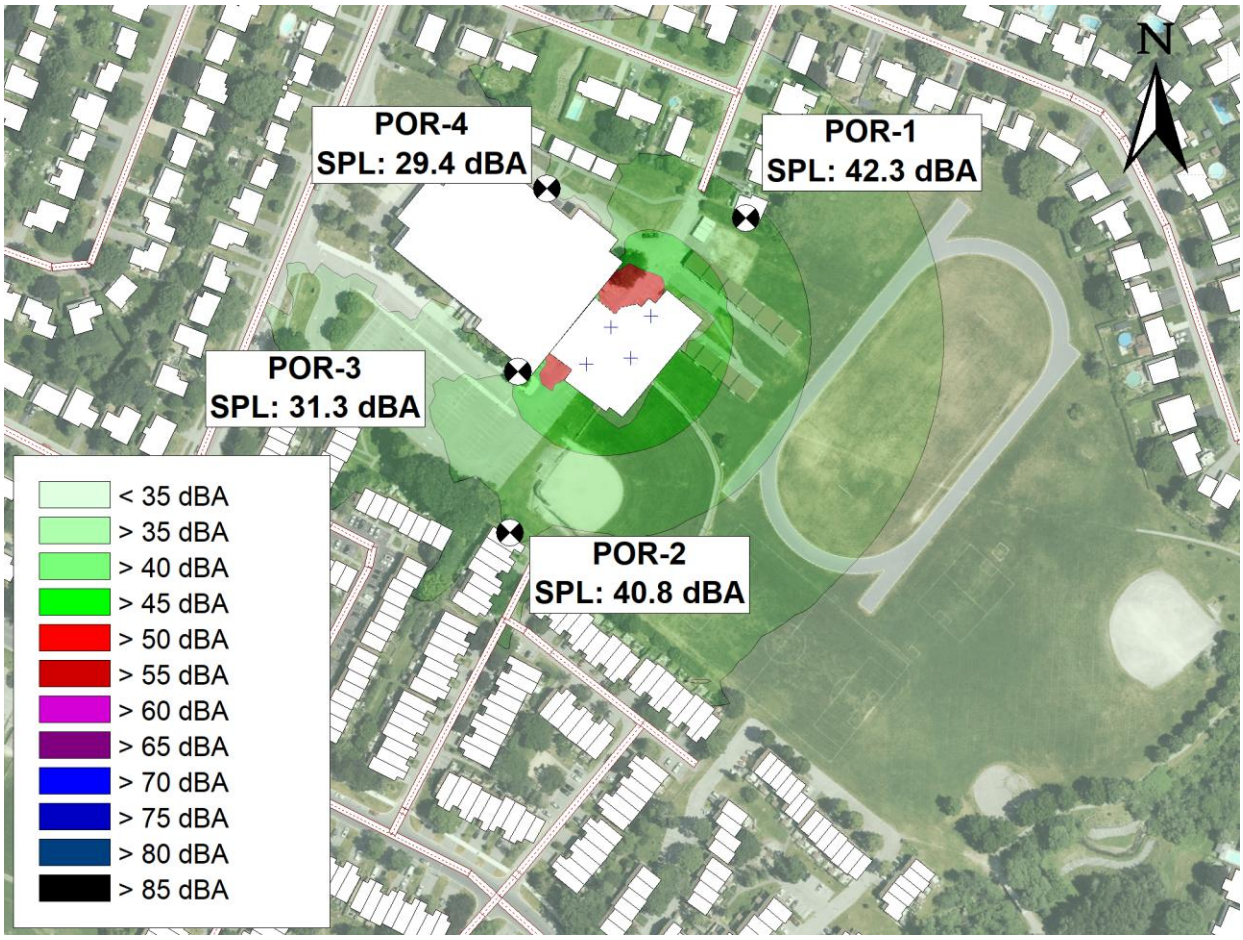


Figure 3.3 – Noise map with current equipment selections, including predicted sound pressure levels for PORs 1 and 2. Grid height shown at 4.5m.

ID	Predicted SPL (dBA)	Maximum SPL Limit (dBA)	Acoustic Compliance?
POR-1	42.3	45.0	Yes
POR-2	40.8		Yes
POR-3	31.3	50.0	Yes
POR-4	29.4		Yes

Table 3.6 – Comparison of Predicted SPL values at PORs to ENCG (2016) acoustic limits.

Based on our modelling and the results detailed in **Table 3.6**, the planned addition is compliant with the ENCG and NPC-300 acoustical requirements.

4.0 Conclusion

We have completed the environmental noise impact study for the new building addition at A.Y. Jackson Secondary School Addition at 150 Abbeyhill Drive in Kanata, Ontario. The addition has a total of four planned Rooftop Units, which do not generate noise exceeding the 45 dBA limit of ENCG and NPC-300. As such, no acoustical mitigation is required. All nearby traffic noise sources were outside the exclusionary limits, therefore no traffic noise study is required for this site. No traffic study was required for this building addition.

If you have any questions or concerns regarding this report, please let us know.

Sincerely,

Tiffany-Rose Filler, M.Sc.,
Acoustic Consultant

Approved By:

Donald Buchan, P.Eng
Principal
Buchan Lawton Parent Ltd.

APPENDIX

Mechanical Equipment Sound Data Cutsheets

Job Information	*Technical Data Sheet*
Job Name	A Y Jackson SS Addition
Date	10/29/2024
Submitted By	Mohammed Sadik
Software Version	12.83
Unit Tag	RTU-1

Unit Overview

Model Number	Voltage V/Hz/Phase	Design Cooling Capacity Btu/hr	AHRI 340/360 Standard Efficiency		ASHRAE 90.1-2022 Compliant
			EER	IEER	
DPSH15B	575/60/3	182935	11.1	19.6	ASHRAE 90.1-2022 compliant

Unit

Model Number:	DPSH15B
Model Type:	Heat Pump
Heat Type:	Gas
Hot Gas Reheat:	MHGRH
Energy Recovery:	ERW-Med Cab-Econ: 2835 cfm max, 100% OA: 5145 cfm max
Application:	Variable Air Volume, Single Zone (Mixed Air or 100% OA)
Controls:	Refrigeration only
Outside Air:	0-100% Economizer with Drybulb Control
Altitude:	370 ft
Approval	cETLus

Physical

Dimensions and Weight

Length	Height	Width	Weight
121.6 in	85.9 in	73.4 in	3287 lb

Corner Weights

L1	L2	L3	L4
1100 lb	726 lb	581 lb	880 lb

Construction

Exterior	Insulation and Liners	Air Opening Location	
		Return	Supply
Painted Galvanized Steel	1" Injected Foam, R-7, Galvanized Steel Liner	Bottom	Bottom

Electrical

Unit FLA	MCA	MROPD	SCCR
43.6 A	49.9 A	70 A	10 kAIC

Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.

Unit Discharge Conditions

AirTemperature				
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
16233	25.5	57.8	55.7	54.6

Minimum Airflows

Notes: Refer to fan curve for applicability of approximate airflows

Condensing Section

Compressor

Type	Quantity	Refrigerant Charge lb	Total Power	Capacity Control	Compressor Isolation
Inverter Scroll	1	33.7	11.04 kW	Mod Control with Inverter Compressor	Rubber in Shear

Compressor Amps:	
Compressor 1	25.4 A

Compressor Options: Suction and Discharge Isolation Valves

Condenser Coil

Type	Fins per Inch	Fin Material
Copper Tube - Aluminum Fin	23	Aluminum

Condenser Fan Motors

Number of Motors	Full Load Current (Total)
2	2.8 A

AHRI 340/360 Certified Data at AHRI 340/360 Standard Conditions

Net Capacity	EER	IEER	Heat Net Capacity at 47°F	COP at 47°F	Heat Net Capacity at 17°F	COP at 17°F	COP at 5°F
165427 Btu/hr	11.1	19.6	158630 Btu/hr	3.54	114573 Btu/hr	2.27	Pending

Internal Pressure Drop Calculation

External Static Pressure:	0.50 inH_2O
Filter:	0.30 inH_2O
Dirty Filter:	0.50 inH_2O
Outside Air:	0.40 inH_2O
Energy Recovery:	1.26 inH_2O
DX Coil:	0.63 inH_2O
Gas Heat:	0.21 inH_2O
Total Static Pressure:	3.79 inH_2O

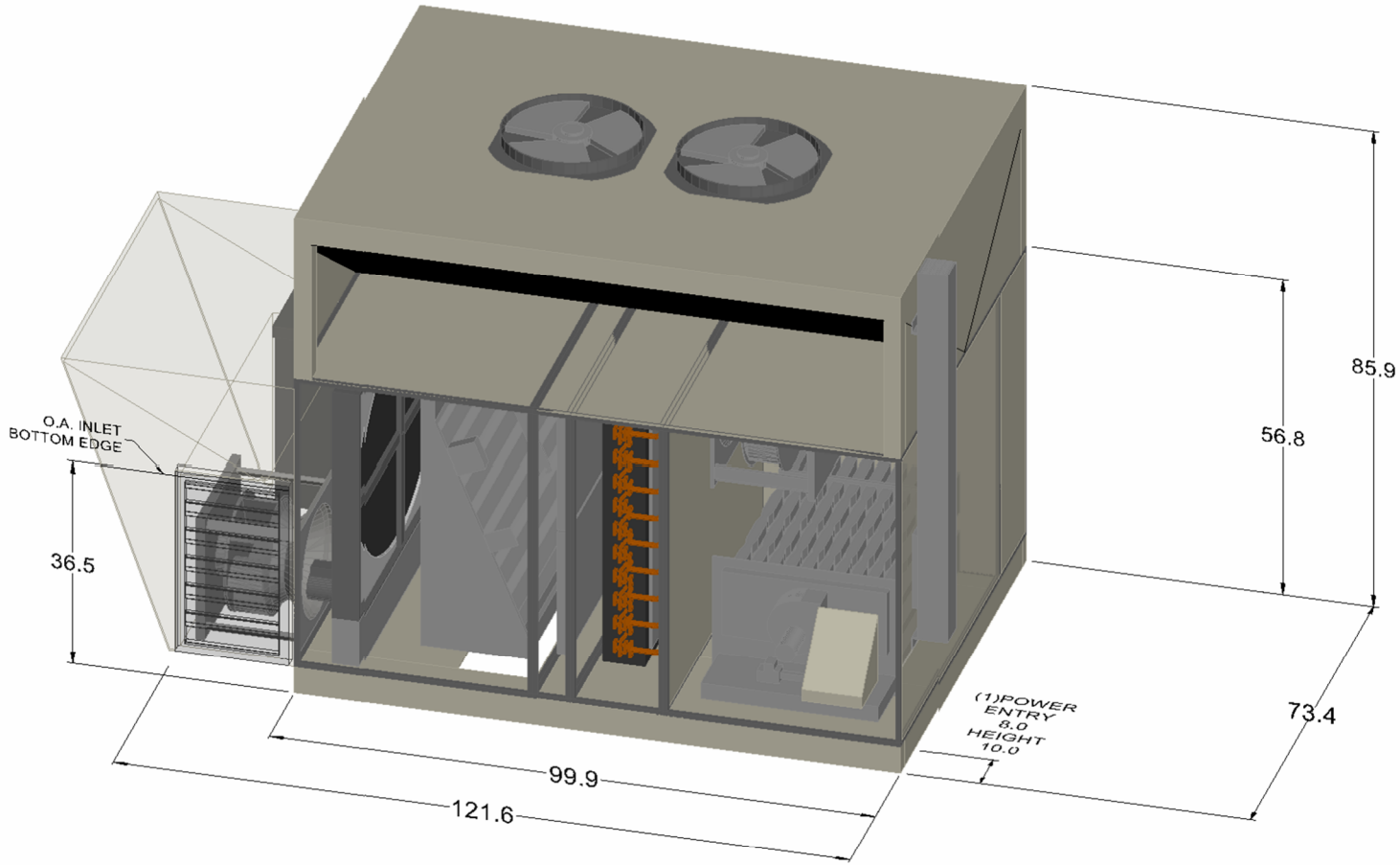
Sound

	Sound Power (db)							
Frequency	**63 Hz**	**125 Hz**	**250 Hz**	**500 Hz**	**1 kHz**	**2 kHz**	**4 kHz**	**8 kHz**
Inlet	82	84	92	89	92	91	88	83
Discharge	82	84	92	89	92	91	88	83
Radiated	85	85	81	78	77	73	70	60

Options

Electrical

Field Connection:	Single Disconnect
Powered Receptacle:	Field powered 115V GFI outlet
Power Options:	Phase Failure Monitor



Notes:
(1) Recommended location for optional field cut side power connection.
(2) Horizontal gas connection only. Gas pipe routing within the roofcurb is not available.

	Unit Tag: RTU-1			Sales Office: HTS Engineering Ltd.			DAIKIN 13600 Industrial Park Blvd. Minneapolis, MN 55441
Product: Rebel	Project Name: A Y Jackson SS Addition			Sales Engineer:			www.DaikinApplied.com Software Version: 12.83
Model: DPSH15B	Oct. 29, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25”	Dwg Units: in [mm]	

Job Name	A Y Jackson SS Addition
Date	10/29/2024
Submitted By	Mohammed Sadik
Software Version	12.83
Unit Tag	RTU-2

Unit Overview

Model Number	Voltage V/Hz/Phase	Design Cooling Capacity Btu/hr	AHRI 340/360 Standard Efficiency		ASHRAE 90.1-2022 Compliant
			EER	IEER	
DPSH16B	575/60/3	202924	10.8	20.3	ASHRAE 90.1-2022 compliant

Unit

Model Number:	DPSH16B
Model Type:	Heat Pump
Heat Type:	Gas
Energy Recovery:	ERW-Large Cab-Econ: 5145cfm max, 100% OA: 8820 cfm max
Application:	Variable Air Volume, Single Zone (Mixed Air or 100% OA)
Controls:	Refrigeration only
Outside Air:	0-100% Economizer with Drybulb Control
Altitude:	370 ft
Approval	cETLus

Physical

Dimensions and Weight

Length	Height	Width	Weight
222.5 in	72.1 in	76.5 in	4553 lb

Corner Weights

L1	L2	L3	L4
1650 lb	1501 lb	668 lb	734 lb

Construction

Exterior	Insulation and Liners	Air Opening Location	
		Return	Supply
Painted Galvanized Steel	2" Injected Foam, R13, Galvanized Steel Liner	Bottom	Bottom

Electrical

Unit FLA	MCA	MROPD	SCCR
42.0 A	47.2 A	60 A	10 kAIC

Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.

Unit Discharge Conditions

AirTemperature				
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
15912	45.5	57.2	54.4	52.8

Minimum Airflows

Notes: Refer to fan curve for applicability of approximate airflows

Condensing Section

Compressor

Type	Quantity	Refrigerant Charge lb	Total Power	Capacity Control	Compressor Isolation
Inverter Scroll	1	34.3	14.56 kW	Mod Control with Inverter Compressor	Rubber in Shear

Compressor Amps:	
Compressor 1	20.9 A

Compressor Options: Suction and Discharge Isolation Valves

Condenser Coil

Type	Fins per Inch	Fin Material
Copper Tube - Aluminum Fin	23	Aluminum

Coil Options: Vandal Guard

Condenser Fan Motors

Number of Motors	Full Load Current (Total)
2	6.4 A

AHRI 340/360 Certified Data at AHRI 340/360 Standard Conditions

Net Capacity	EER	IEER	Heat Net Capacity at 47°F	COP at 47°F	Heat Net Capacity at 17°F	COP at 17°F	COP at 5°F
194000 Btu/hr	10.8	20.3	0 Btu/hr	0	0 Btu/hr	0	Pending

Internal Pressure Drop Calculation

External Static Pressure:	1.25 inH_2O
Filter:	0.10 inH_2O
Dirty Filter:	0.50 inH_2O
Outside Air:	0.21 inH_2O
Energy Recovery:	0.96 inH_2O
DX Coil:	0.26 inH_2O
Gas Heat:	0.21 inH_2O
Total Static Pressure:	3.49 inH_2O

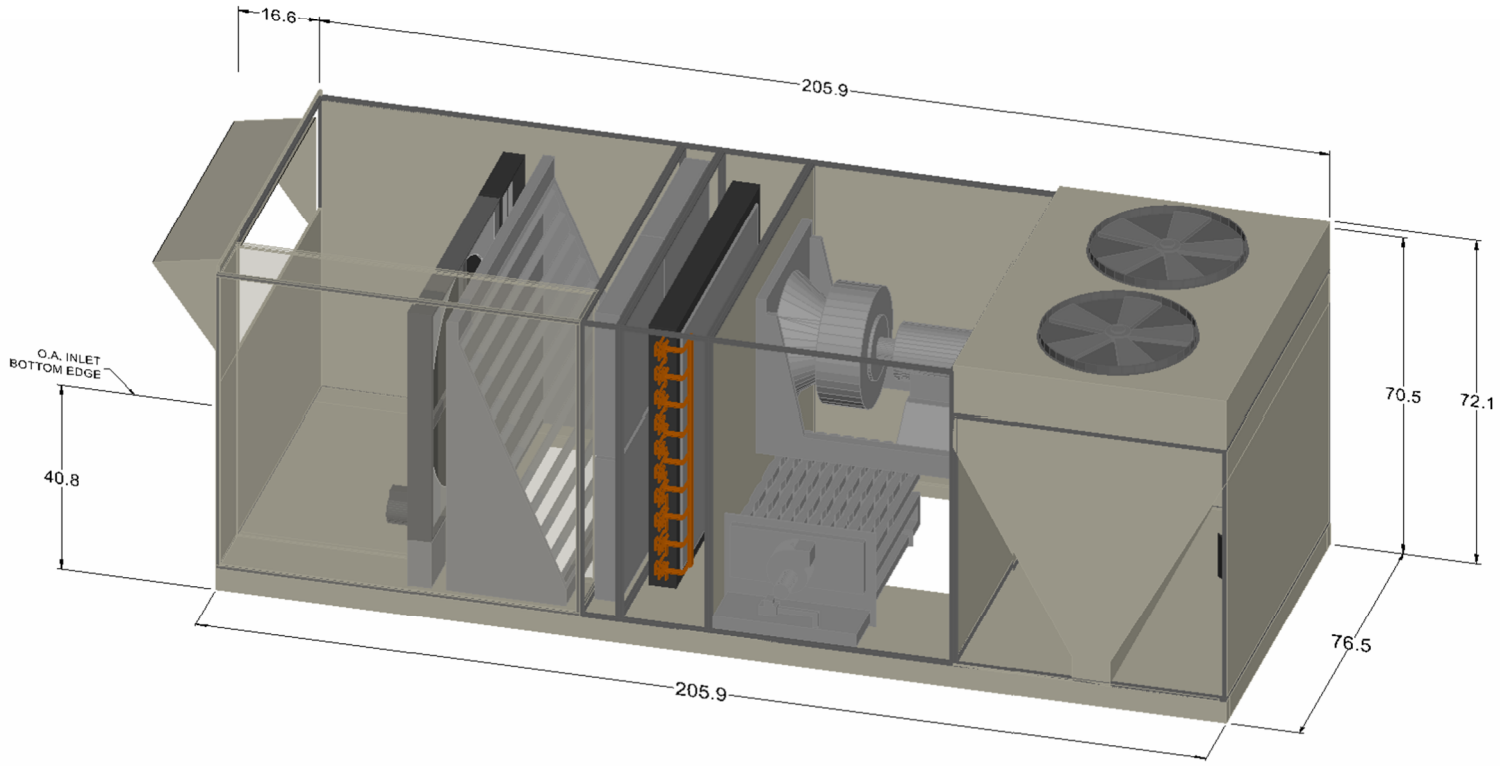
Sound

	Sound Power (db)							
Frequency	**63 Hz**	**125 Hz**	**250 Hz**	**500 Hz**	**1 kHz**	**2 kHz**	**4 kHz**	**8 kHz**
Inlet	76	75	83	75	70	69	64	61
Discharge	82	81	86	81	79	76	71	66
Radiated	80	74	76	76	76	75	75	66

Options

Electrical

Field Connection:	Single Disconnect
Powered Receptacle:	Field powered 115V GFI outlet
Power Options:	Phase Failure Monitor



Notes:
(1) Recommended location for optional field cut side power connection.
(2) Horizontal gas connection only. Gas pipe routing within the roofcurb is not available.

	Unit Tag: RTU-2			Sales Office: HTS Engineering Ltd.			DAIKIN
Product: Rebel	Project Name: A Y Jackson SS Addition			Sales Engineer:			13600 Industrial Park Blvd. Minneapolis, MN 55441
Model: DPSH16B	Oct. 29, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25”	Dwg Units: in [mm]	www.DaikinApplied.com Software Version: 12.83

Job Information	*Technical Data Sheet*
Job Name	A Y Jackson SS Addition
Date	10/29/2024
Submitted By	Mohammed Sadik
Software Version	12.83
Unit Tag	RTU-3, RTU-4

Unit Overview

Model Number	Voltage V/Hz/Phase	Design Cooling Capacity Btu/hr	AHRI 340/360 Standard Efficiency		ASHRAE 90.1-2022 Compliant
			EER	IEER	
DPSH07B	575/60/3	99301	13.3	20.7	ASHRAE 90.1-2022 compliant

Unit

Model Number:	DPSH07B
Model Type:	Heat Pump
Heat Type:	Gas
Energy Recovery:	ERW-Med Cab-Econ: 2835 cfm max, 100% OA: 5145 cfm max
Application:	Variable Air Volume, Single Zone (Mixed Air or 100% OA)
Controls:	Refrigeration only
Outside Air:	0-100% Economizer with Drybulb Control
Altitude:	370 ft
Approval	cETLus

Physical

Dimensions and Weight

Length	Height	Width	Weight
121.6 in	85.9 in	73.4 in	3069 lb

Corner Weights

L1	L2	L3	L4
1036 lb	676 lb	536 lb	822 lb

Construction

Exterior	Insulation and Liners	Air Opening Location	
		Return	Supply
Painted Galvanized Steel	1" Injected Foam, R-7, Galvanized Steel Liner	Bottom	Bottom

Electrical

Unit FLA	MCA	MROPD	SCCR
29.8 A	34.1 A	50 A	10 kAIC

Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.

Condensing Section

Compressor

Type	Quantity	Refrigerant Charge lb	Total Power	Capacity Control	Compressor Isolation
Inverter Scroll	1	14.9	5.64 kW	Mod Control with Inverter Compressor	Rubber in Shear

Compressor Amps:	
Compressor 1	17.2 A

Compressor Options:	Suction and Discharge Isolation Valves

Condenser Coil

Type	Fins per Inch	Fin Material
Copper Tube - Aluminum Fin	23	Aluminum

Coil Options:	Vandal Guard

Condenser Fan Motors

Number of Motors	Full Load Current (Total)
2	2.8 A

AHRI 340/360 Certified Data at AHRI 340/360 Standard Conditions

Net Capacity	EER	IEER	Heat Net Capacity at 47°F	COP at 47°F	Heat Net Capacity at 17°F	COP at 17°F	COP at 5°F
92658 Btu/hr	13.3	20.7	80895 Btu/hr	3.88	69152 Btu/hr	2.71	Pending

Internal Pressure Drop Calculation

External Static Pressure:	1.25 inH_2O
Filter:	0.09 inH_2O
Dirty Filter:	0.50 inH_2O
Outside Air:	0.12 inH_2O
DX Coil:	0.44 inH_2O
Gas Heat:	0.04 inH_2O
Total Static Pressure:	3.18 inH_2O

Sound

	Sound Power (db)							
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	83	81	89	84	86	80	75	69
Discharge	83	84	92	89	92	86	83	77
Radiated	85	85	81	78	76	71	68	60

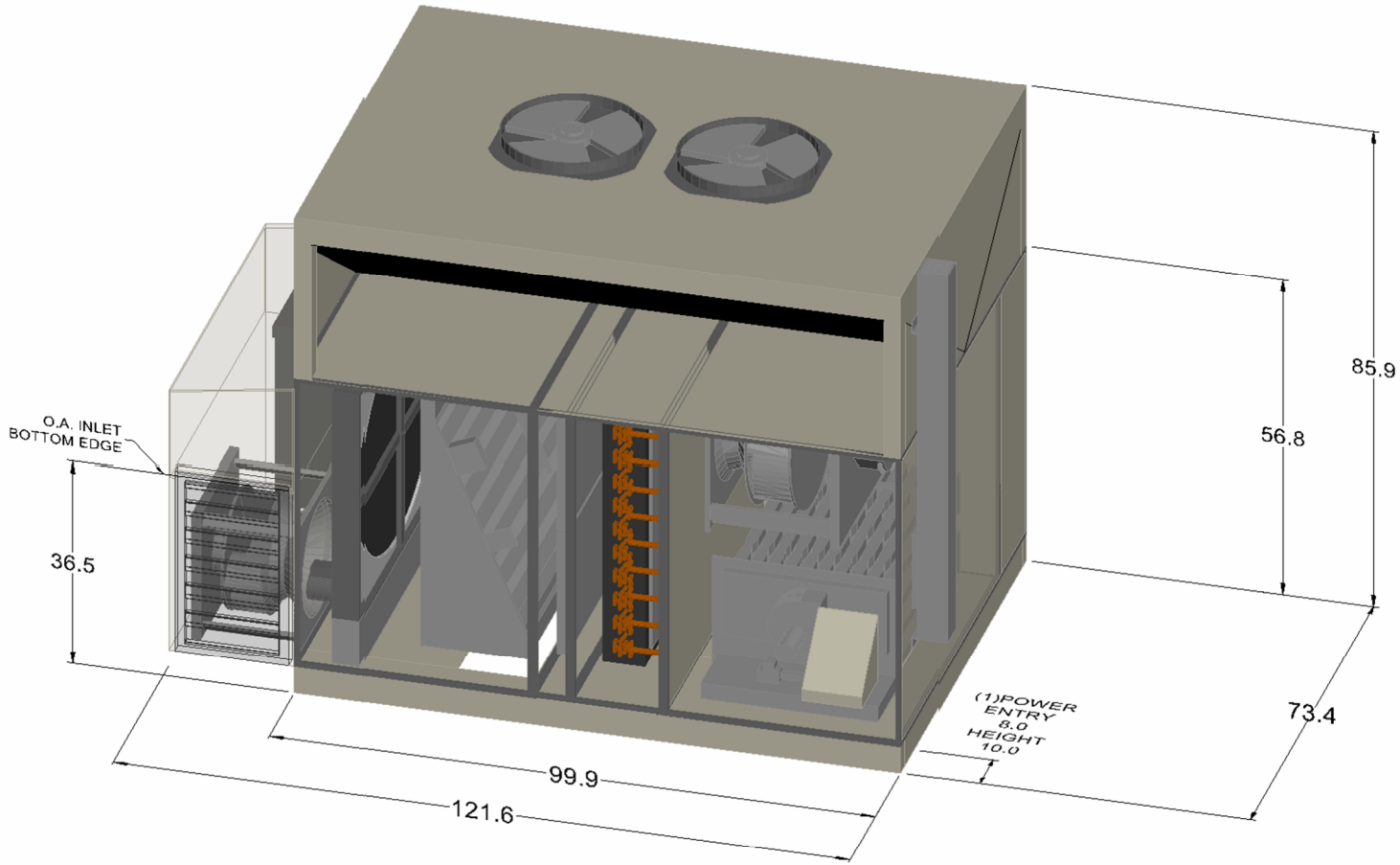
Options

Electrical

Field Connection:	Single Disconnect
Powered Receptacle:	Field powered 115V GFI outlet
Power Options:	Phase Failure Monitor

Sensors

Control Point	Installed By	Signal Type	Signal Value	As Shown on Wiring Diagram
Compressor Capacity - Command	Daikin	AI	0-10 VDC	Comp_CAP
Compressor Capacity – Current Capacity	Daikin	AO	0-10 VDC	Comp_Actual_CAP
Compressor Capacity – Status	Daikin	DO	Dry Contact	Inv_Comp_RDY_STATUS
Supply Fan - S/S	Daikin	DI	Dry Contact	SAF_Start_Stop
Supply Fan – Capacity	Daikin	AI	0-10 VDC	SAF_CAP
Exhaust Fan - S/S	Daikin	DI	Dry Contact	EAF_Start_Stop
Exhaust Fan – Capacity	Daikin	AI	0-10 VDC	EAF_CAP



Notes:
(1) Recommended location for optional field cut side power connection.
(2) Horizontal gas connection only. Gas pipe routing within the roofcurb is not available.

	Unit Tag: RTU-3,4			Sales Office: HTS Engineering Ltd.			DAIKIN 13600 Industrial Park Blvd. Minneapolis, MN 55441
Product: Rebel	Project Name: A Y Jackson SS Addition			Sales Engineer:			www.DaikinApplied.com Software Version: 12.83
Model: DPSH07B	Oct. 29, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25”	Dwg Units: in [mm]	