



*Consulting Engineering*  
477 Queen Street East, Suite 204  
Sault Ste. Marie, ON P6A 1Z5  
Tel: (705) 942-3344 Fax: (705) 942-1477  
[www.meteng.on.ca](http://www.meteng.on.ca)

# **MECHANICAL EQUIPMENT ASSESSMENT REPORT WH COLLINS CENTRE *HILLSIDE DRIVE NORTH, ELLIOT LAKE, ON***



Submitted to:	Don Crain
Project No.:	20M74
Report By:	Tim Janzen, P.Eng.
Date:	November 2020
Revision:	0

## **1.0 GENERAL FACILITY INFORMATION**

The WH Collins Centre is located in on Hillside Drive North in Elliot Lake, ON. Mr. Tim Janzen visited the site on Thursday, November 12<sup>th</sup> to assess the site and its condition. The review of the site was conducted with Mr. Don Crain of the town of Elliot Lake. Mr. Crain was very knowledgeable regarding the operation of all of the equipment and on the history of the building.

The enclosed report is based upon review of the site and the information provided by Mr. Crain.

The current age of the building is not specifically known, but it is an older building with original mechanical equipment.

The building is used primarily for recreational activities and fitness, but also for other social events, concerts, and community events.

The intent of this report is to look at the major pieces of mechanical equipment at in the storage building, and to determine the useful life expectancy of this equipment. There are also other minor pieces of equipment that were looked at, but they are not the main focus of this report.

### **1.1 Property Profile**

<b>City &amp; Province:</b>	<b>Elliot Lake, Ontario</b>
<b>Location:</b>	<b>Hillside Drive North</b>
<b>Lot Size:</b>	<b>N/A</b>
<b>Area of Building (Typical):</b>	<b>N/A</b>
<b>Number of Stories:</b>	<b>1</b>
<b>Number of Tenant Spaces:</b>	<b>1</b>
<b>Year Built:</b>	<b>&gt; 40 years</b>
<b>Building Code:</b>	<b>OBC</b>

## **2.0 Review of Mechanical Systems**

### **2.1 Main Air Handling Unit and Boiler Plant**

The building is serviced by a single air handling unit located in a second floor mechanical room. This unit is the original equipment from when the building was constructed. Heating is provided by 3 medium efficiency modular boilers located in the same mechanical room. Cooling is provided by a DX coil in the ductwork and a remote outdoor condensing unit. The air handling unit can be seen below in Figure 2.1.1.



**Fig. 2.1.1: Primary Air Handling Unit**

The air handler can be kept in operation as long as continuous maintenance can occur, but it has surpassed its life expectancy. It still operates to heat and cool the building, but controls are minimal and most of the modulation of the dampers and valves are carried out manually. Heating is accomplished by a hot water heating coil located in the ductwork of this unit. The piping is deteriorating and will also have to be considered for replacement in the near future.

The boilers shown below in Figure 2.1.2 appear to be original to the building as well. These boilers are approximately 80% efficient, but are very old and could fail at any time. They were recently re-built with new tubes and heat exchangers. The benefit of this boiler plant is that you have 3 boilers and if one of them were to fail, you still have 2 boilers to provide heat to the building.



**Fig. 2.1.2 Boiler Plant for Heating**

### **3.0    Recommendations and Conclusions**

All mechanical systems in the building have surpassed their reasonable life expectancy, even though maintenance has been carried out on a regular basis. Systems in the building are old and inefficient and becoming more and more costly to maintain.

Upgrades could be done to keep the air handler operating, but there are very minimal controls and it is a highly in-efficient unit.

If this building is going to continue to be used, we would recommend that you budget to install a new air handler with a new heating plant which will provide you with energy savings, increased comfort, and reduced maintenance. This may involve a gas fired air handler with the removal of the boiler plant.

## 4.0 Budget



**MET ENERGY SYSTEMS**  
Consulting Engineering  
477 Queen Street East, Suite 204  
Sault Ste. Marie, ON P6A 1Z5  
Tel (705)942-3344  
Fax. (705)942-1477

**ELLIOT LAKE BUILDING**  
**ASSESSMENT**  
**WH COLLINS CENTRE**

**MET Project No.**  
**20M74**

### **Budget Pricing**

1	New Air Handler with gas heat and air conditioning	\$175,000.00
2	Perimeter heating upgrades	\$25,000.00
3	Washroom HRV	\$25,000.00

Sub-Total	\$225,000.00
20% Contingency:	\$45,000.00

<b>Total Budget Price: (HST Extra)</b>	<b>\$270,000.00</b>
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*These numbers are only high end budgets. Pricing will depend on design and market conditions at the time of construction.*