



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Energy, Fleet and Facilities Management Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	August 10, 2022
SUBJECT/REPORT NO:	City Hall Rear Door Mechanical Air Exhaust Relocation (PW22072) (Ward 2)
WARD(S) AFFECTED:	Ward 2
PREPARED BY:	Sam Ciardullo (905) 546-2424 Ext. 4924
SUBMITTED BY:	Rom D'Angelo, C.E.T.; CFM Director, Energy, Fleet and Facilities Management Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That the consultant report identified as “Project No 2022-0232-10 respecting Basement Mechanical Exhaust Air Feasibility study” (The WalterFedy Report)”, prepared by WalterFedy Integrated Design Firm, dated July 19th, 2022, attached as Appendix “A” to Report PW22072 be received;
- (b) That Option # 2, of The WalterFedy Report, to relocate the exhaust air discharge louvers from the south entrance (ground floor), rear doors at Hamilton City Hall (“City Hall”) to the adjacent wall be approved;
- (c) That a new Capital Project be set up and funded from the General Facility Capital Reserve #108039 to an upset limit amount of \$80,040 (HST not included) for the implementation of Option #2.

EXECUTIVE SUMMARY

The Energy, Fleet & Facilities Management Division (EFFM) engaged the services of WalterFedy Integrated Design firm to investigate the feasibility of relocating the air ducting system that originates from the basement mechanical room and exhausts at the south ground level rear doors at City Hall.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

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The current location of the exhaust ducts at the rear doors of City Hall have created some challenges over the years, particularly over the winter months. The discharge of warm exhaust air beneath the entrance overhang at the rear door has resulted in increased incidence of congregation and over-crowding from those experiencing homelessness and consequently have caused challenges for the City's ability to adhere to occupational health and safety requirements, property standards and the fire code.

All elevations at City Hall, including the rear (south) elevation are designated heritage. EFFM Division have retained a heritage consultant to explore options indicated in the study as part of the Heritage Permitting process. On July 19th, 2022 the Heritage Permit Review Sub-Committee approved the permit application endorsing Option 2 of the WalterFedy Report, allowing staff to proceed with the relocation of the air exhaust system to the adjacent wall.

In addition to Option 2, EFFM staff have demonstrated a will to incorporate an energy solution in order to achieve a return on investment on both the exhaust relocation project blended with an energy business case overview. Staff requested WalterFedy to explore and analyse an energy solution that recovers heat from the exhaust air stream back into the air handling units reducing the amount of energy needed to condition outside air and reducing the GHG emissions created when re-heating the cold, fresh air.

The recommendations in this report is strictly focused on the relocation of the exhaust system at the rear doors at City Hall. The energy portion will form a new project and will be referred to the 2023 Capital Budget process for consideration.

Alternatives for Consideration – See Page 5

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Staff recommend an in-year approval for a new Capital Project to be set up with funding of \$80,040 (soft costs & contingency included) (HST not included) from the General Facility Capital Reserve #108039 for the implementation of Option #2 as detailed in the WalterFedy Report.

Staffing: There is no staffing revisions required to implement this project.

Legal: There are no legal implications as a result of the recommendations in this report being approved.

HISTORICAL BACKGROUND

This past winter posed a grave concern on both public and employee safety at the rear doors of City Hall, with citizens that are experiencing homelessness congregating and

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over-crowding the space and encroaching into the doorway in order to position themselves for the warm-air being exhausted from the mechanical vents.

Security cameras have shown drug use and evidence of physical abuse and violence taking place; this entrance is accessible to and used by both staff and the public.

To address the increasing number of individuals occupying the space at the rear entrance of City Hall (also deemed as the building's emergency doors) and to ensure public safety around the property, mitigating measures were implemented immediately. Temporary hoarding around the first-floor exterior doors/heat vents were installed to block off the area being misused as shelter space and/or a warming center. Signage was installed to remind individuals the emergency exit area should not be blocked.

Staff are now looking at a more permanent solution to solve the challenges for the City in adhering to Occupational Health and Safety requirements, property standards and the fire code and would like to have this work completed before the next cold season begins.

On July 19th, 2022 staff from the EFFM Division accompanied by WalterFedy Integrated Design Firm presented a viable solution to the Heritage Permit Review Sub-Committee.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

N/A

RELEVANT CONSULTATION

The Energy, Fleet & Facilities Management Division retained WalterFedy to investigate the feasibility of relocating the exhaust air system from the basement mechanical room including the exhaust ducts that are located on the ground floor south side entrance/exit of the building.

The Manager of Heritage and Urban design was consulted to provide Heritage expertise. As all elevations, including the rear (south) elevation are designated as heritage, a heritage consultant has been engaged to review Option #2 as part of the Heritage Permitting process.

On July On July 19th, 2022 staff from the EFFM Division accompanied by WalterFedy Integrated Design Firm presented a viable solution to the Heritage Sub-Committee

ANALYSIS AND RATIONALE FOR RECOMMENDATION

The rear doors on the ground level of City Hall is deemed a critical location in the event of an emergency. The stated location is equipped with the fire & annunciator panel in the rear door vestibule, the emergency elevator is in close proximity to the rear doors and the fire standpipe is located at the loading docks adjacent to the rear doors.

There has been an increasing number of individuals occupying the space by the rear entrance of City Hall. This presents challenges for the City in adhering to occupational health and safety requirements, property standards and the fire code.

Security cameras have shown drug use and evidence of physical abuse/violence taking place; this entrance is accessible to and used by both staff and the public. The space around the rear entrance heat vents was cleared to allow for the installation of temporary hoarding to block off the area that was being misused as shelter space and as a result, led to issues with safety, drug use and violence as identified by camera footage and our Security staff.

Recommendation for a permanent solution to install new exhaust air louvers at the south side of the existing ducting shafts where air will discharge beneath the wish-bone bridge (adjacent wall) will mitigate the congregation and the over-crowding at the rear doors, as well as, help maintain a healthy and safe environment for both the public and staff, along with minimizing the operational expenses.

In addition to relocating the exhaust air stream, staff explored an energy solution by reclaiming the exhaust heat and reintroducing the warm air stream back into the building by installing a 'run-around loop' system. This device preserves the discharged heat in the building by exchanging and mixing it with the incoming fresh air. This saves energy and reduces the GHG emissions created when re-heating the cold, fresh air.

The Office of Energy Initiatives will be conducting a holistic review of City Hall for greater energy savings and reducing the building's GHG emissions in an effort to meet the climate change pathway to net zero initiative.

ALTERNATIVES FOR CONSIDERATION

Several alternative options were considered as follows:

The status quo scenario which would involve leaving the exhaust vents in their current location was considered but is not a reasonable option due to continued challenges with adherence to Occupational Health and Safety requirements, property standards and the fire code.

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Option #1:

As referenced from the WalterFedy Report: "Extend ducts from the top of current duct shafts up through Level 2 with exposed stainless-steel ductwork. This would require cutting and patching of the roof which may cause other issues. Also, would require new duct shaft through office and administration areas that would necessitate either a relocation of staff or a reduction in usable office space."

Financial: Estimated budget for Option 1 is \$140,760 (soft costs & contingency included).

Staffing: N/A

Legal: N/A

Option #3:

As referenced from the WalterFedy Report: "Extend new exhaust ducts from the shaft to the south at underside of bridge. Provide louvres to discharge air to the east and west directions at high-level. New ductwork to be encased in metal cladding to match underside of bridge."

Financial: Estimated budget for Option 3 is \$216,660 (soft costs & contingency included).

Staffing: N/A

Legal: N/A

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Healthy and Safe Communities

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Built Environment and Infrastructure

Hamilton is supported by state-of-the-art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" attached to Report PW22072 – WalterFedy Report - Hamilton City Hall
Basement Mechanical Exhaust Air
Feasibility Study, July 19th, 2022