RFP
Design and Construction Services
Exhibit C
HVAC Assessment

1. Purpose and Use of This Exhibit

This exhibit summarizes the findings of a third-party HVAC assessment conducted for the Academy of Hope Adult Public Charter School facility. The assessment evaluates existing HVAC and related systems, identifies deficiencies and operational risks, and presents a conceptual replacement approach intended to support **design-build procurement, phased implementation, and development of order-of-magnitude cost estimates**.

This summary is provided to inform proposers of known conditions and performance challenges and to serve as a **technical baseline**, not a prescriptive design.

2. Existing HVAC System Overview

The building HVAC system is primarily served by **five roof-mounted packaged rooftop units (RTUs)** providing direct-expansion cooling and gas-fired heating, with air distributed through interior ductwork and **fan-powered variable air volume (VAV) terminal units**.

Additional split systems serve select spaces, including administrative and technology areas. Major HVAC equipment dates to approximately **2005** and utilizes **legacy refrigerant**, creating increasing maintenance, reliability, and regulatory risk. Systems are approaching or have exceeded typical service life.

Controls consist primarily of **stand-alone manufacturer controls** with limited or inoperable functionality. Reported conditions include inconsistent temperatures, hot/cold rooms, perceived lack of fresh air, and limited system controllability.

The facility also includes multiple toilets and janitorial exhaust fans, several of which are either **oversized, nonfunctional, or missing**, contributing to building pressurization and odor issues. Electric unit heaters are present in circulation and support spaces.

3. Summary of Key Deficiencies and Risks

The assessment identified the following material issues that will need to be addressed through HVAC modernization:

- Aging RTUs, VAV boxes, split systems, and exhaust fans at or beyond expected useful life
- Use of fan-powered VAV boxes with continuous fan operation, resulting in higher energy use
- Inadequate access clearances and blocked return air paths at multiple terminal units
- Improperly routed or undersized ductwork leading to airflow imbalance, noise, and comfort issues
- Obstructed or disconnected supply and return air devices above renovated ceiling areas
- Improperly applied motorized dampers restricting return air operation
- Inadequate cooling for critical spaces, including the server room, HVAC/BAS room, and elevator machine room
- Missing or non-operational exhaust fans, including the electrical room exhaust system
- Oversized toilet exhaust systems contribute to negative building pressure

Collectively, these deficiencies impact comfort, ventilation effectiveness, energy performance, and system reliability.

4. Conceptual HVAC Replacement Strategy

Based on observed conditions and load analysis, the assessment recommends a **distributed, zoned HVAC replacement approach** consisting of:

- Replacement of existing systems with **five new VAV rooftop units**, serving defined building zones
- **Right-sizing of equipment** based on updated thermal load calculations to reduce energy use and peak electrical demand
- Dedicated split systems serving **critical, continuously loaded spaces**, including the server room, HVAC/BAS room, elevator machine room, and principal/entry area
- Replacement of all existing exhaust fans with **properly sized, code-compliant systems**
- Restoration of proper air distribution, return air paths, and ventilation delivery

This approach is intended to correct oversizing, improve controllability, enhance ventilation compliance, and improve long-term maintainability.

5. Controls, Ventilation, and Building Pressurization

The conceptual approach incorporates a modern **building automation system (BAS)** capable of monitoring and controlling RTUs, VAV boxes, ventilation rates, and building pressure.

Ventilation is intended to comply with the applicable District of Columbia Mechanical Code and ASHRAE standards. Building pressure control strategies are intended to maintain a slightly positive interior pressure to support comfort, air quality, and odor control.

6. Electrical and Enabling Scope

The electrical scope associated with HVAC replacement is expected to include new power, disconnects, and control wiring for RTUs, split systems, exhaust fans, and BAS devices.

Preliminary findings indicate that **existing electrical infrastructure is generally adequate** and that replacement equipment is expected to have **similar or reduced electrical demand** compared to existing systems, subject to confirmation during design.

7. Phasing and Design-Build Considerations

The recommended HVAC approach supports **phased, multi-year implementation**, allowing individual systems to be replaced independently to align with funding availability, equipment lead times, and operational constraints of an occupied school facility.

Construction impacts are anticipated to be localized, with limited architectural work related primarily to ceilings, roof curbs, and equipment penetrations. The assessment is intended to support design-builders in developing options, validating phasing strategies, and identifying early-action priorities.

8. Summary

The assessment concludes that the Academy of Hope facility requires coordinated HVAC modernization due to age, declining reliability, ventilation deficiencies, and operational risk.

A phased replacement strategy using right-sized rooftop units, dedicated cooling for critical spaces, upgraded exhaust systems, and modern controls provides a practical technical foundation for design-build procurement and long-term capital planning.

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***Reliance and Verification**: This HVAC Assessment Summary is provided for informational and planning purposes only. Design-Builders shall not rely solely on this exhibit for design, pricing, or scope development. All proposers are expressly responsible for independently verifying existing conditions, equipment capacities, zoning, code compliance, controls functionality, and operational constraints through site investigation, field verification, and other due diligence deemed necessary to support their proposed approach.*