

## Construction for the Career & Advanced Technology Center (RFP#10095)

### Community College of Philadelphia Career and Advanced Technology Center

The Community College of Philadelphia's West Philadelphia Regional Center is to be transformed into a destination center providing high-quality academic, career and technical programs supporting the career-focused students entering the region's workforce. The Career and Advanced Technology Center will provide students with the ideal learning environment to build industry-recognized skills using the most advanced technology and equipment, preparing them for careers with family-sustaining wages.

The project, located at 48th and Market Streets in West Philadelphia will include construction of a technology-rich facility of approximately 75,000 ft2. The Center will offer rigorous career-based education and training using the latest technology and equipment to provide hands-on training and employment skills, fulfilling a regional need for skilled workers in automotive technology, advanced manufacturing, and health care. Program design and development will respond to industry needs using regional and local assessments, surveys, and environmental scans, and will align with local and state workforce development priorities, such as the High Priority Occupation list from the PA Department of Labor and Industry and Fueling Philadelphia's Talent Engine, Philadelphia's citywide workforce development strategy.

The new facility will be a multi-story facility. Due to the grade drop along 48th Street, the facility will be three stories from Ludlow Street and four stories from Market Street. Auto-technology programs will be located off of Ludlow Street and Diesel Technologies will be located off of Market Street. The building will be steel structure with masonry cavity wall construction and curtainwall on the ground and first floors. The second and third floors will consist of light gauge metal framing construction with curtainwall, storefront and metal panel exterior construction. All interior construction will consist of light gauge metal framing and drywall. Ceiling systems will consist of varied systems specific to the use of the space. Floor finishes will vary and again will be specific to the use of the space.

The facility will have two distinct HVAC systems: a general system to serve the majority of the building (classrooms, etc.) and dedicated systems to serve the Auto Tech and Diesel/Heavy Equipment program spaces, with their unique code and operational requirements.

The general HVAC system will be a Variable Refrigerant Flow (VRF) system to generally heat and cool the spaces supplemented by a Dedicated Outdoor Air System (DOAS) to provide ventilation outdoor air.

Auto Tech and Diesel/Heavy Equipment HVAC Systems will be fairly specific. Approximately 15,000 SF will be occupied by the Auto Tech and Diesel/Heavy Equipment programs. Approximately 9000 SF will be for the Auto Tech Lift bays, 3000 SF for the Diesel bays, and 3000 for The Engine Component Labs. Dedicated tailpipe exhaust systems will be provided in the

vehicle repair areas. The ganged tailpipe exhaust systems will likely be a variable volume system with the fan drive modulated to maintain a constant static pressure in the ductwork as the hose reel automatic dampers open and close as the hose reels are rolled up or down. The General Exhaust air streams will be routed through a roof mounted plate heat exchanger (approximately 50% efficient) which will recover the otherwise lost sensible heat to preheat or precool the outdoor air to the rooftop units (RTUs). The vehicle repair areas will be served by gas fired direct expansion rooftop units. For the high exhaust vehicle bay areas these units, in order to make up the exhaust airflow tabulated above, will be nearly 100% outdoor air. These units will be units specifically designed for 100% outdoor air. Each unit will be provided with a gas fired furnace with heat exchanger and refrigerant hot gas reheat coil for humidity control. The vehicle bay units, due to the high exhaust air makeup requirements, will likely be constant volume units. Those serving the component labs, should the exhaust (and hence makeup air) requirements prove minimal, may be single zone VAV units.

Appropriate utilities will be provided throughout the facility. Plumbing fixtures will be provided per Philadelphia Plumbing code. Compressed air will be provided in a number of spaces.

Electrical systems will be designed in accordance with NFPA 70 – The National Electric Code (NEC) 2017, and the IBC, as adopted by the City of Philadelphia, and Commonwealth of Pennsylvania. A new 1600A, 480/277V, 3 phase, 4 wire electrical service from PECO via new utility owned pad-mounted transformer located on premises will be provided. Power will be distributed throughout the building at 480 volts, 3-phase. 480/277 volt, 3-phase, 4-wire distribution panels will be designed and located throughout the building, to deliver 480-volt power to respective loads.

Lighting fixtures will be LED type. The path of egress will be illuminated under emergency conditions to 1 foot-candle average with a minimum of 0.1 foot-candles. Exits will be marked with internally illuminated LED exit signs. Lighting power density levels will be designed to support meeting LEED Silver requirements. Occupancy sensors will be installed throughout the interior. Automatic lighting control via a lighting control panel and/or local switching will be provided. Where day-lighting is available, the light fixtures will be dimmable and controlled by a daylight sensor that will dim or turn the lights off when sufficient daylight is present. Lighting controls will significantly reduce maintenance costs and reduce energy use. Emergency lighting fixtures will be provided utilizing battery backed, inverter drivers and will be designed in compliance with NFPA 70 (NEC) and 101 (Life-Safety) Standards.

Telecommunications infrastructure will be provided throughout the building. Security systems will also be provided. The facility will be protected with an automatic wet sprinkler fire protection system and will be served by a fire water service connection from the domestic water main in the street. A new addressable fire alarm system will be installed. Manual and automatic Initiation devices (manual pull stations, smoke detectors and heat detectors) shall be installed throughout the facility.

Construction will minimize environmental impact through green roofs, site-based storm water management and reduced impervious surface area. The project budget includes the land purchase, demolition of existing auto technology structure, construction and outfitting of new facilities, and parking.

Contracted Trades are to include: GC, Mechanical, Electrical, and Plumbing

This Solicitation is being added to PennBid as a Placeholder to garner interest in this project. Plans and Specifications are estimated to be uploaded by the 7th of December 2019.

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