Date: April 10, 2026

[redacted]

National Park Service
U.S. Department of the Interior

Canaveral National Seashore

Replace Apollo District HVAC Systems

PMIS 252315

Version: 2026-04-10

1 PARK INTRODUCTION

Canaveral National Seashore contains nearly 58,000 acres of barrier island, open lagoon, coastal hammock, pine flatwoods, and offshore waters. With 24 miles of pristine beach, it is prime habitat for many threatened and endangered species providing nesting beaches for several thousand protected marine turtles. Two thirds of the park is in Mosquito Lagoon. The lagoon is designated an estuary of national significance and an outstanding Florida waterway. It is one of the most diverse and productive estuaries in North America. The national seashore also contains cultural resources that reflect human history in the Florida peninsula from 2000 BC to early 20th century Florida settlement.

2 PROJECT OVERVIEW

Replace HVAC systems at four facilities with high-efficiency, corrosion-resistant systems suitable for coastal conditions.

- Eldora State House (Historic)
- Schultz (Leeper) House (Historic)
- Fellers Research Facility
- Resource Management Facility

Contractor must provide all labor, materials, equipment, supervision, and incidentals for complete system installation. Contractor responsible for full system performance regardless of omissions. New units need to meet current energy requirements including current SEER2 rating as well as current A2L refrigerant. New units shall be Carrier, Trane, Lennox, or Daikin and shall be energy star rated as well as close to a 16 SEER2 unit as offered. The design, installation, and operation of the proposed HVAC system must comply with all applicable federal, state, county and municipal laws, ordinances, regulations, codes, standards, engineering guidelines, and the terms and conditions of this project, including, but not limited to:

- International Building Code - IBC
- Florida Building Code – Mechanical
- Florida Energy Conservation Code
- ASHRAE Standard 62.1 – Ventilation for Acceptable Indoor Air Quality
- ASHRAE Standard 90.1 – Energy Standard for Buildings
- SMACNA Phenolic Duct Construction Standards
- National Electrical Code (NEC), where applicable
- NFPA Standards applicable to mechanical systems and building safety
- OSHA 29 CFR 1926 – Construction Standards

Upon completion of installation, the HVAC system shall undergo commissioning and test and balance to verify proper operation. This should include airflow verification, system balancing and equipment startup verification, control system calibration, and performance testing.

3 ELDORA ESTATE HOUSE

3.1 DESIGN CONSTRAINTS

Built in 1913, The Eldora State house is a 3,330 square foot historic structure with architectural and structural characteristics that limit major alterations to the building envelope and interior spaces. The HVAC system currently provides conditioned air for the first floor through an underfloor air distribution system connected to downflow air handling equipment. If the existing HVAC system type is changed significantly, it can have a huge impact on the existing finishes and aesthetics of the historic building. Maintaining the current appearance of the building is paramount in consideration of the new HVAC system.

Primary HVAC components include:

- Downflow split system air handing unit for the first floor and a horizontal split system for the second floor
- Single stage heat pump units
- Underfloor sheet metal supply air distribution system
- Attic mounted externally wrapped sheet metal ductwork for the second floor
- Floor-mounted supply diffusers

Due to the historic nature of the building, the replacement HVAC system must minimize structural and architectural impacts. Major duct routing modifications or structural penetrations are not recommended.

- Preservation of historic architectural elements
- Avoidance of structural modifications
- Re-use of existing diffuser locations throughout the building

3.2 EQUIPMENT REPLACEMENT SPECIFICATIONS

Downstairs

- Split Heat Pump System
- Capacity: 3.5–4.0 tons
- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter for humidity control
- Cabinet: Powder-coated, salt-spray ≥1,000 hr; composite base pan
- Coastal Protection: Factory epoxy/phenolic coil coating or aluminum coils; stainless/rust-resistant fasteners
- Resilience: Florida Building Code hurricane anchoring kit; sloped drain pan
- Controls: Communicating thermostat; onboard diagnostics; EEV
- Safety: Loss-of-charge and high-pressure protection
- Commissioning: AHRI certificate; salt-spray/cyclic test reports; charge verification data

Upstairs

- Split Heat Pump System (outdoor condenser + indoor air handler)
- Capacity: 3.0 tons
- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter
- Air Handler: ECM variable-speed blower; corrosion-resistant drain pan
- Coastal Protection: Same as downstairs (coil coating or aluminum, powder-coated cabinet, stainless fasteners)
- Resilience: Hurricane anchoring kit; sealed penetrations
- Controls & Safety: Same as downstairs
- Commissioning: Same as downstairs

3.3 Phenolic Duct System Requirements

The deteriorated underfloor sheet metal ductwork shall be removed and replaced with an externally rated, pre-insulated phenolic duct system equal to Thermaround by Thermaduct. These systems incorporate rigid insulation panels with protective interior and exterior facings that provide thermal insulation and corrosion resistance. The mechanical contractor shall visit the site and provide a direct replacement of the existing ductwork based on interior dimensions. All ductwork shall be hung from the structure ensuring no contact with the ground. No flex ductwork or sheet metal ductwork shall be used for the new duct system. Duct dimensions can be modified from the existing as long as free area is maintained.

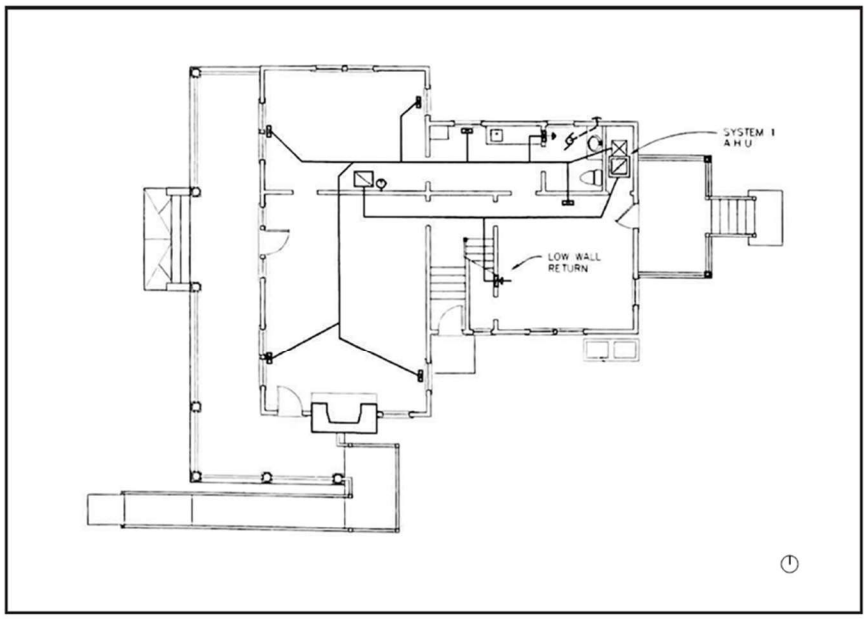
- Provide pre-insulated phenolic duct system (Thermaround, or approved equal).
- Minimum insulation value: R-12 for all underfloor and high humidity environments.
- Fiberglass duct board and uninsulated sheet metal duct are not permitted.
- Installer must be manufacturer-certified to maintain minimum 10-year warranty.
- Submit certification documentation prior to installation.

3.4 Diffusers

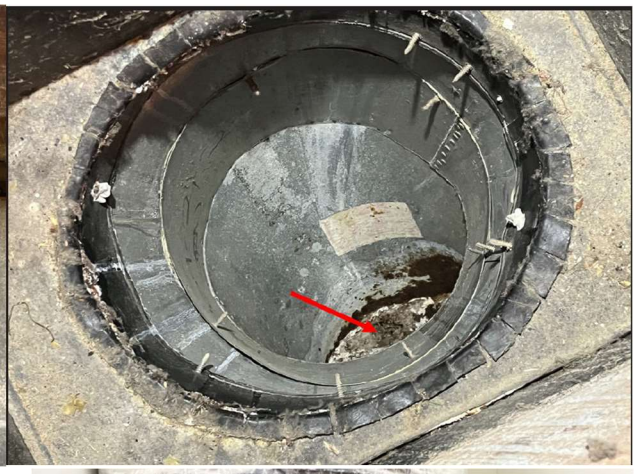
All existing diffusers shall be replaced with new while maintaining the size and design of the existing grills and registers. Contractor shall visit the site and provide new diffusers with opposed blade dampers, adjustable through face, for proper balancing abilities.

3.5 Refrigerant and Condensate Piping

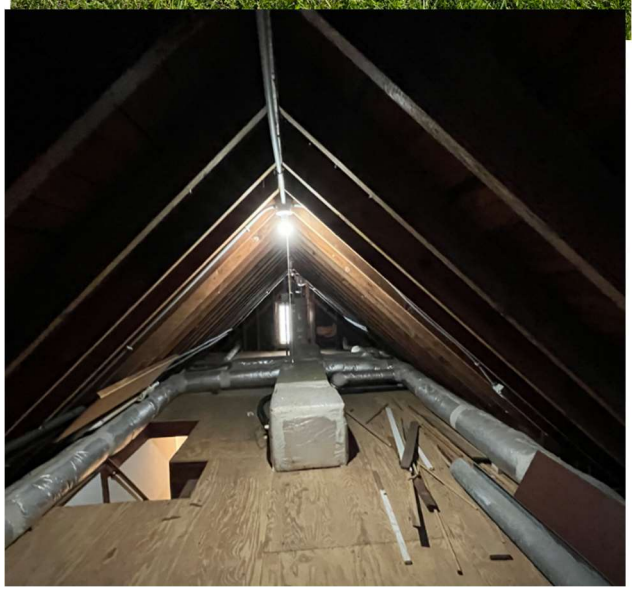
Re-use existing copper refrigerant and condensate piping to the extent possible. Clean and pressure test piping to ensure proper working order. Ensure pipe sizing is appropriate for new installation. Insulate piping with 1” thick Armaflex with UV protective coating. If any piping needs to be added, ensure the same material is used as the existing installation.



First Floor HVAC Plan showing the duct system pathway underneath the floor in the crawl space.
Image: *Eldora State House Rehabilitation and Restoration Drawings*, Stang and Newdow Architects, June 2, 1997.



Carrier



4 RESOURCE MANAGEMENT FACILITY

4.1 EQUIPMENT REPLACEMENT (OFFICE AREA)

- Split Heat Pump System
- Capacity: 3.0 tons
- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter for humidity control
- Cabinet: Powder-coated, salt-spray ≥1,000 hr; composite base pan
- Coastal Protection: Factory epoxy/phenolic coil coating or aluminum coils; stainless/rust-resistant fasteners
- Resilience: Florida Building Code hurricane anchoring kit; sloped drain pan
- Controls: Communicating thermostat; onboard diagnostics; EEV
- Safety: Loss-of-charge and high-pressure protection
- Commissioning: AHRI certificate; salt-spray/cyclic test reports; charge verification data

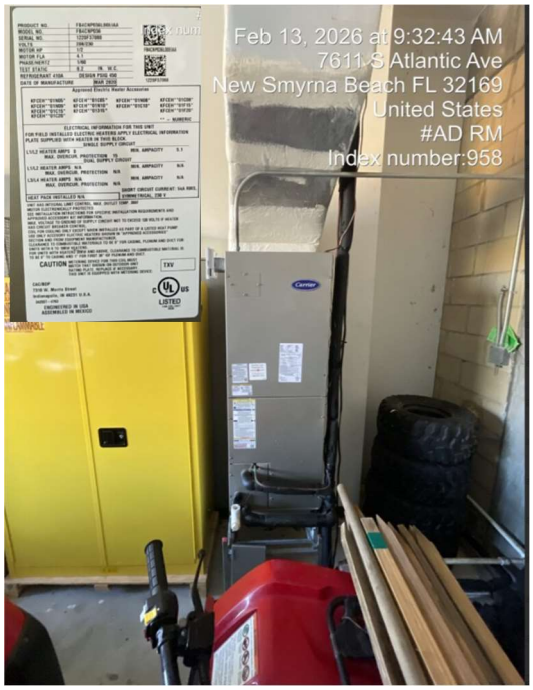
4.2 REFRIGERANT AND CONDENSATE PIPING

Re-use existing copper refrigerant and condensate piping to the extent possible. Clean and pressure test piping to ensure proper working order. Ensure pipe sizing is appropriate for new installation. Insulate piping with 1” thick Armaflex with UV protective coating. If any piping needs to be added, ensure the same material is used as the existing installation.

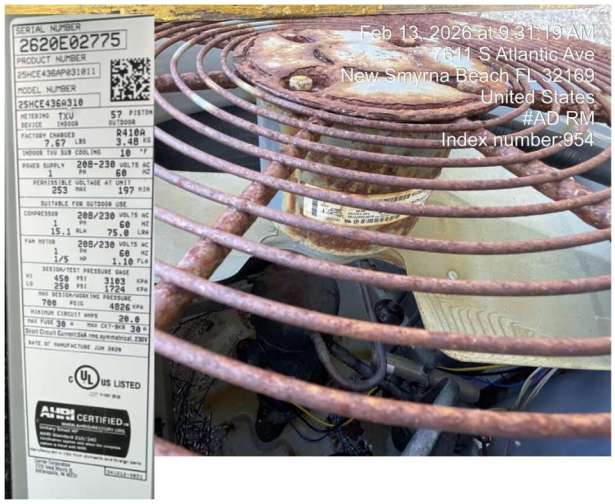
4.3 EQUIPMENT REMOVAL

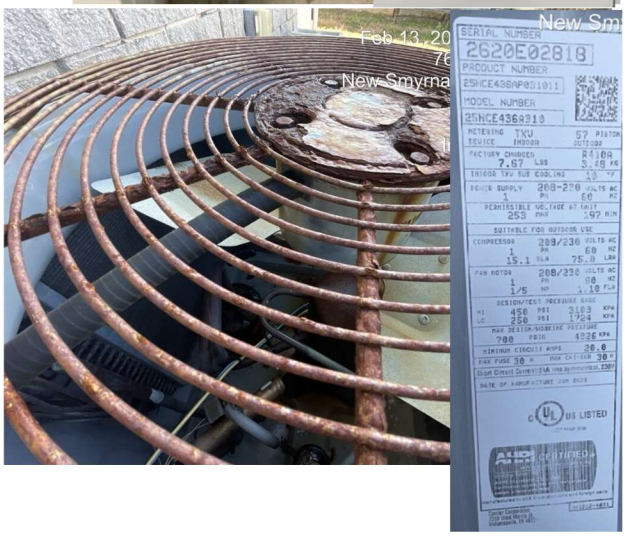
Remove without replacement the existing HVAC system serving the garage only, including the outdoor heat pump unit, indoor air handler, refrigerant lines, controls, and associated components. Upon removal, the Contractor shall properly cap, seal, and secure all ductwork, openings (abandon in place), and penetrations associated with the removed system to prevent moisture intrusion or pest entry. All removed materials shall be disposed of in accordance with applicable regulations. The Contractor shall restore all affected surfaces and systems to a condition equal to or better than existing.

Resource Mgt Garage Unit



Resource Mgt Office Unit

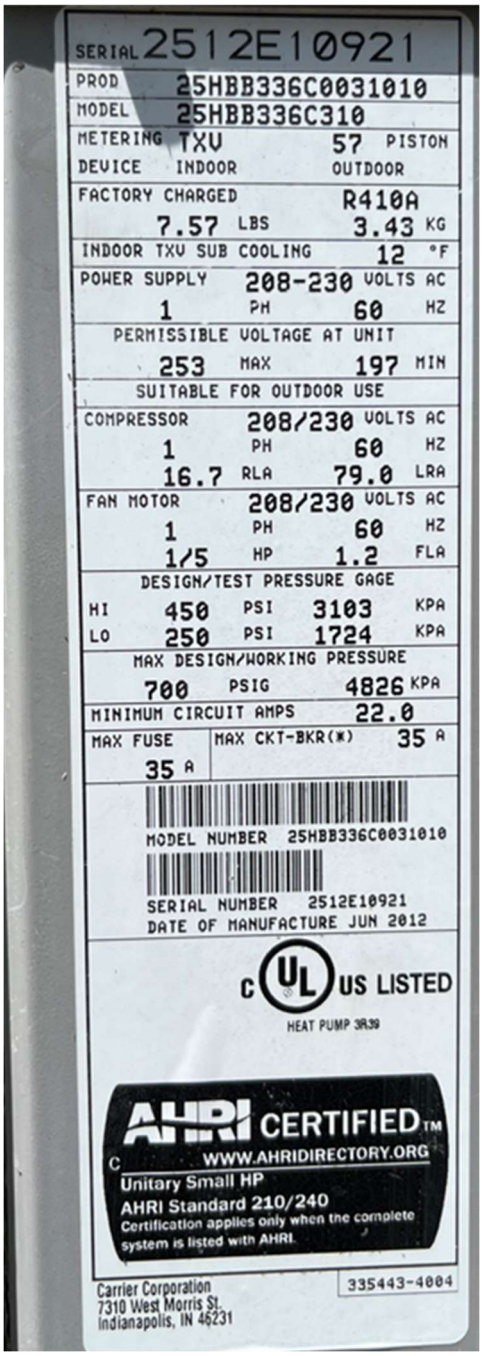




5 FELLERS HOUSE

5.1 EQUIPMENT REPLACEMENT

- Split Heat Pump System
- Capacity: 3.0 tons
- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter for humidity control
- Cabinet: Powder-coated, salt-spray ≥1,000 hr; composite base pan
- Coastal Protection: Factory epoxy/phenolic coil coating or aluminum coils; stainless/rust-resistant fasteners
- Resilience: Florida Building Code hurricane anchoring kit; sloped drain pan
- Controls: Communicating thermostat; onboard diagnostics; EEV
- Safety: Loss-of-charge and high-pressure protection
- Commissioning: AHRI certificate; salt-spray/cyclic test reports; charge verification data



5.2 REFRIGERANT AND CONDENSATE PIPING

Re-use existing copper refrigerant and condensate piping to the extent possible. Clean and pressure test piping to ensure proper working order. Ensure pipe sizing is appropriate for new installation. Insulate piping with 1” thick Armaflex with UV protective coating. If any piping needs to be added, ensure the same material is used as the existing installation.

6 SCHULTZ HOUSE

6.1 DESIGN CONSTRAINTS

Built in 1927, The Schultz house is a 1,352 square foot historic structure with architectural and structural characteristics that limit major alterations to the building envelope and interior spaces. The HVAC system currently provides conditioned air for the first floor through an underfloor air distribution system connected to package unit equipment. If the existing HVAC system type is changed significantly, it can have a huge impact on the existing finishes and aesthetics of the historic building. Maintaining the current appearance of the building is paramount in consideration of the new HVAC system.

Primary HVAC components include:

- Downflow package unit for the first floor and a horizontal split system for the second floor
- Single stage heat pump unit
- Underfloor sheet metal supply air distribution system
- Attic mounted externally wrapped sheet metal ductwork for the second floor
- Floor-mounted supply diffusers

Due to the historic nature of the building, the replacement HVAC system must minimize structural and architectural impacts. Major duct routing modifications or structural penetrations are not recommended.

- Preservation of historic architectural elements
- Avoidance of structural modifications
- Re-use of existing diffuser locations throughout the building

6.2 EQUIPMENT REPLACEMENT

Upstairs

- Split Heat Pump System
- Capacity: 2.0 tons
- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter for humidity control
- Cabinet: Powder-coated, salt-spray ≥1,000 hr; composite base pan
- Coastal Protection: Factory epoxy/phenolic coil coating or aluminum coils; stainless/rust-resistant fasteners
- Resilience: Florida Building Code hurricane anchoring kit; sloped drain pan
- Controls: Communicating thermostat; onboard diagnostics; EEV
- Safety: Loss-of-charge and high-pressure protection
- Commissioning: AHRI certificate; salt-spray/cyclic test reports; charge verification data

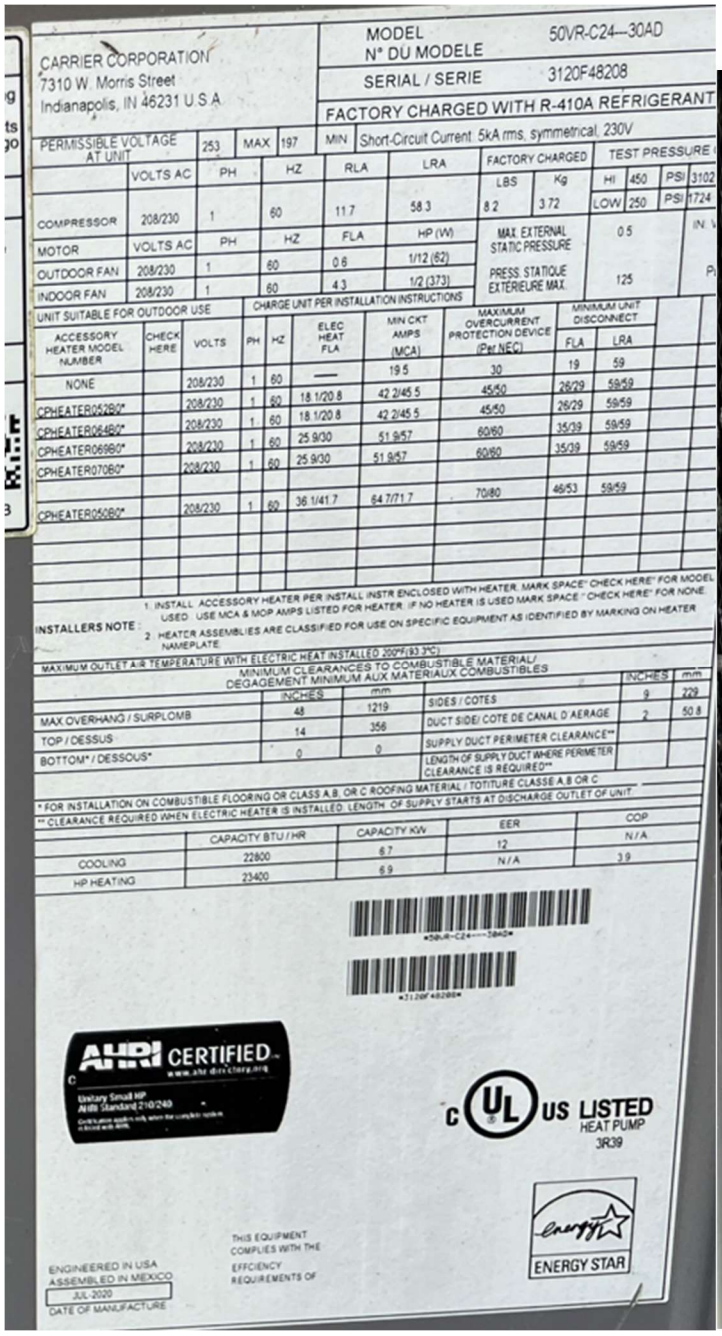
Downstairs

- Packaged Heat Pump Unit
- Capacity: 2.0 tons

- Efficiency: ≥16 SEER2
- Compressor: Variable-speed inverter for precise temperature and humidity control
- Cabinet: Powder-coated finish (≥1,000-hour salt-spray rating); composite base pan
- Coastal Protection: Factory epoxy/phenolic coil coating or aluminum coils; stainless/rust-resistant fasteners
- Resilience: Florida Building Code hurricane anchoring kit; sloped drain pan; sealed penetrations
- Controls: Communicating thermostat; onboard diagnostics; electronic expansion valve (EEV)
- Safety: Loss-of-charge and high-pressure protection
- Commissioning: AHRI certificate; salt-spray/cyclic test reports; charge verification data

6.3 Refrigerant and Condensate Piping

Re-use existing copper refrigerant and condensate piping to the extent possible. Clean and pressure test piping to ensure proper working order. Ensure pipe sizing is appropriate for new installation. Insulate piping with 1” thick Armaflex with UV protective coating. If any piping needs to be added, ensure the same material is used as the existing installation.



CARRIER CORPORATION
7310 W. Morris Street
Indianapolis, IN 46231 U.S.A.

MODEL / N° DU MODELE: 50VR-C24---30AD
SERIAL / SERIE: 3120F48208
FACTORY CHARGED WITH R-410A REFRIGERANT

PERMISSIBLE VOLTAGE AT UNIT: 253 MAX, 197 MIN
Short-Circuit Current: 5kA rms, symmetrical, 230V

	VOLTS AC	PH	HZ	RLA	LRA
COMPRESSOR	208/230	1	60	11.7	58.3
MOTOR	VOLTS AC	PH	HZ	FLA	HP (W)
OUTDOOR FAN	208/230	1	60	0.8	1/12 (62)
INDOOR FAN	208/230	1	60	4.3	1/2 (373)

FACTORY CHARGED: LBS 8.2, Kg 3.72
TEST PRESSURE: HI 450 PSI 3102; LOW 250 PSI 1724
MAX EXTERNAL STATIC PRESSURE: 0.5 IN W
PRESS STATIQUE EXTERIEURE MAX.: 125 PA

UNIT SUITABLE FOR OUTDOOR USE — CHARGE UNIT PER INSTALLATION INSTRUCTIONS

ACCESSORY HEATER MODEL NUMBER	CHECK HERE	VOLTS	PH	HZ	ELEC HEAT FLA	MIN CKT AMPS (MCA)	MAXIMUM OVERCURRENT PROTECTION DEVICE (Per NEC)	MINIMUM UNIT DISCONNECT FLA	MINIMUM UNIT DISCONNECT LRA
NONE		208/230	1	60	—	19.5	30	19	59
CPHEATER052B0*		208/230	1	60	18.1/20.8	42.2/45.5	45/50	26/29	59/59
CPHEATER064B0*		208/230	1	60	18.1/20.8	42.2/45.5	45/50	26/29	59/59
CPHEATER069B0*		208/230	1	60	25.9/30	51.9/57	60/60	35/39	59/59
CPHEATER070B0*		208/230	1	60	25.9/30	51.9/57	60/60	35/39	59/59
CPHEATER050B0*		208/230	1	60	36.1/41.7	64.7/71.7	70/80	46/53	59/59

INSTALLERS NOTE:
1. INSTALL ACCESSORY HEATER PER INSTALL INSTR ENCLOSED WITH HEATER. MARK SPACE "CHECK HERE" FOR MODEL USED. USE MCA & MOP AMPS LISTED FOR HEATER. IF NO HEATER IS USED MARK SPACE "CHECK HERE" FOR NONE.
2. HEATER ASSEMBLIES ARE CLASSIFIED FOR USE ON SPECIFIC EQUIPMENT AS IDENTIFIED BY MARKING ON HEATER NAMEPLATE.

MAXIMUM OUTLET AIR TEMPERATURE WITH ELECTRIC HEAT INSTALLED 200°F(93.3°C)

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIAL/ DEGAGEMENT MINIMUM AUX MATERIAUX COMBUSTIBLES

	INCHES	mm		INCHES	mm
MAX OVERHANG / SURPLOMB	48	1219	SIDES / COTES	9	229
TOP / DESSUS	14	356	DUCT SIDE/ COTE DE CANAL D'AERAGE	2	50.8
BOTTOM* / DESSOUS*	0	0	SUPPLY DUCT PERIMETER CLEARANCE**		
			LENGTH OF SUPPLY DUCT WHERE PERIMETER CLEARANCE IS REQUIRED**		

* FOR INSTALLATION ON COMBUSTIBLE FLOORING OR CLASS A,B, OR C ROOFING MATERIAL / TOITURE CLASSE A,B OR C
** CLEARANCE REQUIRED WHEN ELECTRIC HEATER IS INSTALLED. LENGTH OF SUPPLY STARTS AT DISCHARGE OUTLET OF UNIT.

	CAPACITY BTU / HR	CAPACITY KW	EER	COP
COOLING	22800	6.7	12	N/A
HP HEATING	23400	6.9	N/A	3.9

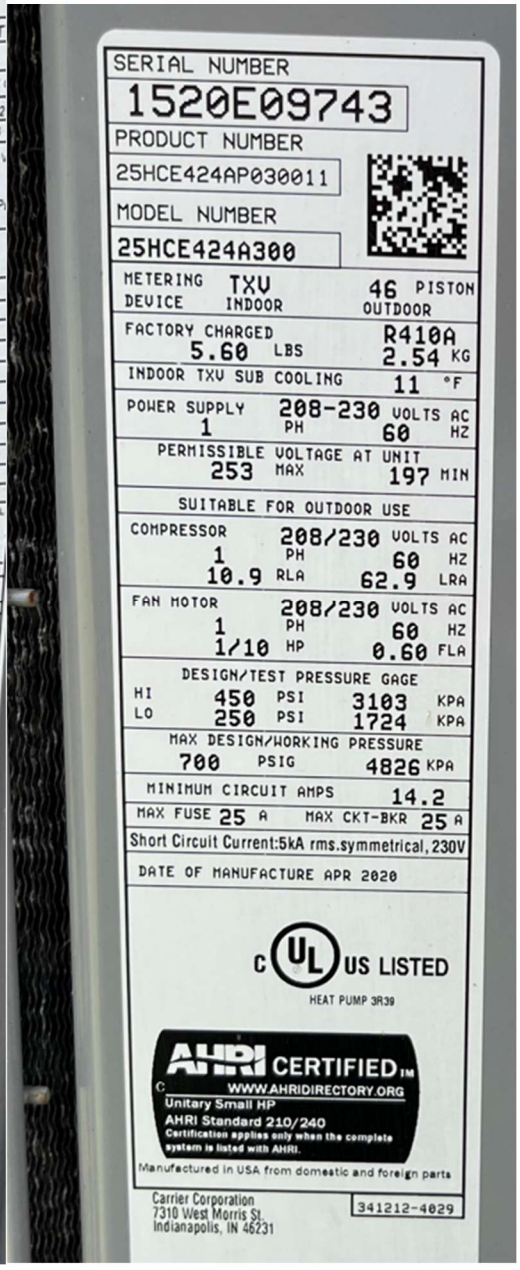
AHRI CERTIFIED — www.ahridirectory.org — Unitary Small HP, AHRI Standard 210/240

c UL US LISTED HEAT PUMP 3R39

ENERGY STAR

THIS EQUIPMENT COMPLIES WITH THE EFFICIENCY REQUIREMENTS OF

ENGINEERED IN USA
ASSEMBLED IN MEXICO
JUL-2020
DATE OF MANUFACTURE



SERIAL NUMBER: 1520E09743
PRODUCT NUMBER: 25HCE424AP030011
MODEL NUMBER: 25HCE424A300

METERING DEVICE: TXV INDOOR / 46 PISTON OUTDOOR
FACTORY CHARGED: 5.60 LBS / R410A 2.54 KG
INDOOR TXV SUB COOLING: 11 °F
POWER SUPPLY: 208-230 VOLTS AC, 1 PH, 60 HZ
PERMISSIBLE VOLTAGE AT UNIT: 253 MAX, 197 MIN
SUITABLE FOR OUTDOOR USE
COMPRESSOR: 208/230 VOLTS AC, 1 PH, 60 HZ, 10.9 RLA, 62.9 LRA
FAN MOTOR: 208/230 VOLTS AC, 1 PH, 60 HZ, 1/10 HP, 0.60 FLA
DESIGN/TEST PRESSURE GAGE: HI 450 PSI 3103 KPA; LO 250 PSI 1724 KPA
MAX DESIGN/WORKING PRESSURE: 700 PSIG 4826 KPA
MINIMUM CIRCUIT AMPS: 14.2
MAX FUSE 25 A — MAX CKT-BKR 25 A
Short Circuit Current:5kA rms.symmetrical,230V
DATE OF MANUFACTURE APR 2020

c UL US LISTED HEAT PUMP 3R39

AHRI CERTIFIED™ WWW.AHRIDIRECTORY.ORG — Unitary Small HP, AHRI Standard 210/240 — Certification applies only when the complete system is listed with AHRI.

Manufactured in USA from domestic and foreign parts

Carrier Corporation
7310 West Morris St.
Indianapolis, IN 46231

341212-4029

7 General Requirements

7.1 Site Conditions and Protection

1. Protect all park property, vegetation, and visitor areas from damage or disruption.
2. Maintain a clean and organized work zone.
3. Dust, debris, and runoff containment measures are required throughout the project.
4. Secure the site daily against unauthorized access.
5. Ensure site protection to prevent unauthorized entry into the work zone.
6. Site Supervisor must conduct daily safety inspections and document meetings.

7.2 Submittals

1. Materials Submittal. All HVAC systems and duct manufacturer and model number.
2. Phenolic Duct Layout drawing
3. Schedule
4. Accident Prevention Plan (APP)
5. Test and Balance (TAB) Report
6. Warranty and Commissioning certifications
7. User Maintenance Training and Operations & Maintenance (O&M) documentation

7.3 Timeline and Schedule

1. The Contractor shall submit a detailed project schedule for Government review and acceptance prior to issuance of the Notice to Proceed (NTP). The schedule shall include all major activities, sequencing, and duration necessary to complete the work.
2. Upon issuance of the NTP, the Contractor shall commence work in accordance with the approved schedule and shall complete all work within 30 calendar days (weather permitting). The Contractor shall prosecute the work diligently to ensure timely completion within the specified period. Protect all park property, vegetation, and visitor areas from damage or disruption.

7.4 Working Hours

1. Contractor must complete on-site work during normal business hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, excluding Federal holidays. Work outside of these hours, shall require 48 hours advance written approval from the Contracting Officer's Representative (COR).
2. Requests shall be submitted in advance via email to Leonardo_DaSilva@NPS.GOV with proper justification and will only be considered for extenuating circumstances, such as life-safety or CANA mission-critical needs.

7.5 Other Contract Responsibilities

1. The Contractor must always provide a competent superintendent on-site during active construction operations. The superintendent shall be responsible for overall site management, coordination, safety compliance, and enforcement of acceptable conduct for all contractor personnel and subcontractors.

2. The Contractor shall submit a Site-Specific Accident Prevention Plan (APP) to the Contracting Officer for review and acceptance no later than 15 calendar days prior to the preconstruction conference. The APP shall comply with applicable OSHA requirements under 29 CFR 1926 – Safety and Health Regulations for Construction, and shall identify project-specific hazards, controls, and safety procedures. In accordance with contract requirements and standard Government construction practices, work shall not commence until the APP has been reviewed and accepted by the Government. The Contractor shall be responsible for implementing and maintaining the APP throughout the duration of the project.

3. The possession, consumption, or influence of alcohol or illegal substances on Government property is strictly prohibited. Any individual found in violation shall be immediately removed from the project site. The Contractor shall be responsible for enforcing this requirement and maintaining proper discipline of all personnel.

4. The Government shall have the authority to stop work when violations or unsafe acts are present that threaten Government or contractor personnel, or that may result in damage to Government property. The Contractor shall immediately report to the COR and the Park Safety Officer all accidents resulting in injury, illness, fatality, or damage to Government property occurring during performance of this contract.

5. The Contractor's superintendent shall take immediate corrective action for any unsafe condition or unacceptable conduct identified by the Government. Failure to maintain proper supervision, safety compliance, or workforce discipline may result in removal of personnel, suspension of work, or other contractual remedies as determined by the Contracting Officer.

6. Contractor employees operating motor vehicles shall possess a valid driver's license. Driver and vehicle permit, licenses, registrations and proof of insurance shall be always maintained in the vehicle and made available upon request. Contractor employees shall comply with federal vehicle motor law requiring seat belts to be worn at all times and comply with posted speed limits and parking regulations.

7. The use of a drone is strictly prohibited anywhere inside the park boundaries

8. Portable sanitation facilities shall be supplied for contractor use for the duration of the project.

9. The installation of all materials must have installers that are certified by the manufacturer of the selected materials submitted. The materials/products shall be installed in a method to meet warranty for workmanship.

10. Contractor must field verify all proposed materials, dimensions, quantities and materials to be utilized and provide submittals to the Contracting Officer's Representative (COR) for approval prior to purchasing materials.

11. The Contractor shall provide User Maintenance Training and complete Operations and Maintenance (O&M) documentation. O&M documentation shall be submitted for Government review and acceptance prior to final acceptance of the work. The O&M manuals shall include, at a minimum, detailed manufacturer installation and start-up procedures, operating instructions, troubleshooting guidance, preventive maintenance procedures, recommended spare parts lists, manufacturer-required testing procedures, fan and pump curves, factory test reports (if applicable), and complete warranty information. The Contractor shall clearly identify all Government responsibilities required to maintain warranty validity.

12. The Contractor shall provide on-site training to designated Government personnel on system operation and maintenance prior to final acceptance. Training shall be coordinated with the COR and shall demonstrate proper operation, maintenance procedures, and troubleshooting of installed systems.

13. Requests For Information (RFIs): Immediately on discovery of the need for additional information or interpretation of Contract Documents, Contractor shall prepare and submit an RFI email. Contracting Officer will not respond to RFIs submitted by other entities controlled by Contractor. Coordinate and submit RFIs in a prompt manner to avoid delays in the work. Include detailed, legible description of item needing information or interpretation and the Contractor's suggested resolution. If Contractor's suggested resolution impacts Contract Time or Contract Sum, Contractor shall state impact in RFI.

14. All reasonable quantities of Government-furnished electricity and water will be made available to the Contractor without charge. Any temporary connections or lines that may be required shall be installed, maintained, and removed by the contractor.

15. Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

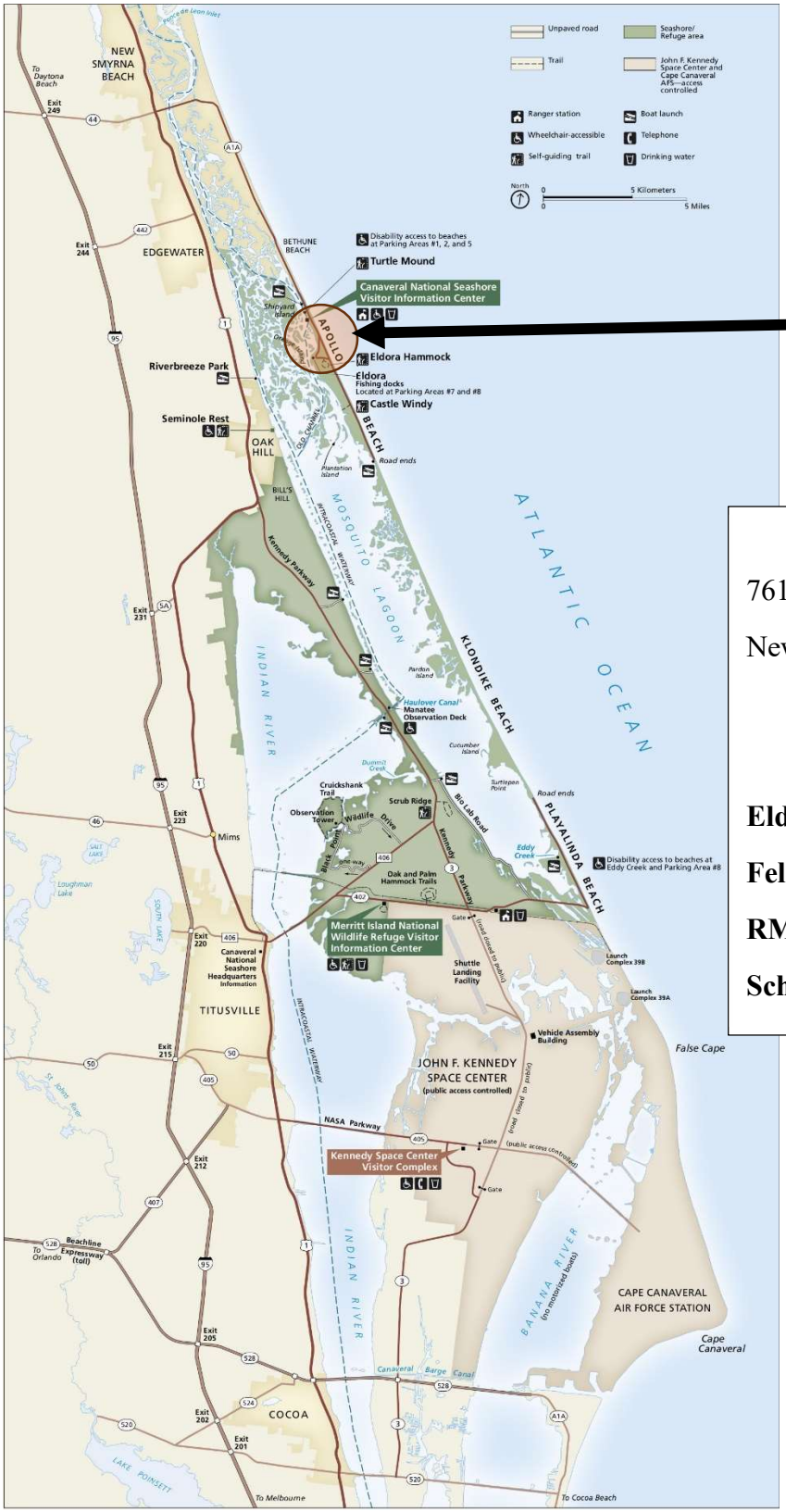
16. Provide temporary toilets, wash facilities, and drinking water fixtures. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

17. Use staging and parking areas designated by the Government for construction personnel.

18. Contractor shall complete Punch List within 5 calendar days, documented weather permitting.

19. The contractor is solely responsible for ensuring that all construction materials, vehicles, and equipment delivered to the park are free of invasive species, non-native animals, and protected wildlife—including any eggs, larvae, or nesting materials. Written inspection documentation and cleaning logs shall be submitted prior to mobilization. The government will verifying compliance. Any material found in violation shall be rejected and removed at the contractor’s expense.

8 MAPS



Work Site

Meeting Address

7611 Atlantic Ave S,

New Smyrna Beach, FL 32169

Facilities Coordinates

Eldora: 28.909135, -80.820996

Fellers: 28.906799, -80.819817

RM: 28.928155, -80.823818

Schultz: 28.90315, -80.817322

9 BID SCHEDULE

9.1 GENERAL

Item No.	Description	Unit	Quant	Cost	Total
1	Eldora 1st Floor HVAC System	LS	1	$	$
2	Eldora 1st Floor Duct System	LS	1	$	$
3	Eldora 2nd Floor HVAC System	LS	1	$	$
4	RM HVAC System	LS	1	$	$
5	Fellers HVAC System	LS	1	$	$
6	Schultz 1st Floor HVAC System	LS	1	$	$
7	Schultz 2nd Floor HVAC System	LS	1	$	$