STATEMENT OF WORK

CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE
HVAC REPLACEMENT – REFUGE RESIDENCE (1,075 sq. ft.)
(Quarters 68 – Real Property No. 10046891)

1.0 General

1.1 All work shall comply with this Statement of Work and manufacturer specifications.

1.2 The contractor shall maintain a safe, clearly marked work area.

1.3 All Federal, State, County, NEC, and mechanical code requirements shall be followed, including ACCA Manual J, S, and D standards.

1.4 Contractor shall be licensed, insured, and experienced in residential HVAC installation.

1.5 A pre-construction meeting/site inspection is required before work begins.

2.0 Place of Performance and Period of Performance

2.1 **Project Location:**
Carolina Sandhills National Wildlife Refuge
Residence (Quarters 68)
10334 Highway 145
Patrick, SC.

2.2 **Period of Performance:**
60 Calendar Days

2.3 **Working Hours:**
Monday–Friday, 7:00 a.m.–5:00 p.m.
Emergency contact information shall be provided.

2.4 **Non-working Hours:**
6:00 p.m.–6:00 a.m., weekends, and Federal Holidays.
No contractor presence is allowed during non-working hours.

3.0 Scope

3.1 Contractor shall remove the existing HVAC system and install a new high-efficiency heat pump and matched air handler sized appropriately for a **1,100 sq ft 1939 residence**.

3.2 A Manual J load calculation shall be performed to determine exact tonnage.
Estimated sizing range:
- **2.5 ton heat pump** based on 20-30 BTU/sq ft guidelines for mild climates.
- Final capacity dependent on insulation, windows, air leakage, and ceiling height.

3.3 All equipment must meet or exceed energy-efficiency standards and be approved by the refuge representative before purchase.

3.4 Contractor shall provide all labor, materials, tools, and equipment necessary for full replacement.

3.5 Contractor shall ensure daily worksite cleanup and maintain safe access to the residence.

4.0 Materials

4.1 Materials must be approved by the refuge representative and delivered to site prior to mobilization.

4.2 **Heat Pump Requirements:**
- Capacity: **2.5 tons** (30,000 BTUs)
- **SEER 16+** cooling performance
- **HSPF 8+** heating efficiency
- Variable-speed or inverter-driven compressor
- Compatible refrigerant (current EPA standard)

4.3 **Air Handler Requirements:**
- Fully matched to heat pump by manufacturer
- **875 to 1,000 CFM** airflow range
- Variable-speed ECM blower
- Properly sized per Manual S and Manual D
- Fully compatible with existing or updated ductwork

4.4 **Controls:**
- Smart thermostat (recommended)
- Humidity control capability preferred
- Must be compatible with variable-speed equipment

4.5 **Ductwork:**
- Existing ductwork to be inspected
- Any deficiencies must be sealed, repaired, or replaced per Manual D
- All joints sealed with mastic; no duct tape permitted
- Static pressure must meet manufacturer limits

5.0 Removal of Existing HVAC System

5.1 Contractor shall protect all grounds, structures, and finishes.

5.2 Remove existing HVAC unit, air handler, refrigerant lines, and associated components.

5.3 Recover and dispose of refrigerant per EPA requirements.

5.4 Remove and dispose of old materials; debris may require dumpster rental.

6.0 Installation of New HVAC System

6.1 Install new heat pump outdoor unit and air handler in approved locations; reuse existing pad if suitable.

6.2 Install new refrigerant line set if required for warranty compliance.

6.3 Connect to existing electrical system.

6.4 Connect to existing duct system after sealing, reinforcing, or resizing as required.

6.5 Charge system per manufacturer specs; verify superheat/subcooling settings.

6.6 Perform full start-up testing, including:

- Cooling and heating modes
- Thermostat integration
- Airflow measurement (target 875-1,000 CFM/ton)
- Static pressure verification
- System balancing

6.8 Provide all documentation, manuals, and equipment warranties at project completion.

7.0 Final Cleanup

7.1 Contractor shall clean the entire work area, removing debris, unused materials, and equipment.

7.2 Contractor shall ensure all old equipment and components are properly disposed of off-site.

7.3 Worksite must be restored to its original condition or better.

8.0 Government-Furnished Equipment (GFE)

8.1 No government tools, materials, or equipment will be furnished.

8.2 Contractor shall provide their own power source. Residence electrical service may not be used to supply contractor tools.

9.0 Evaluation and Acceptance

9.1 Contractor performance will be evaluated on compliance with equipment specs, workmanship, cleanliness, and start-up verification.

9.2 Acceptance requires:

- Proper installation of correctly sized system
- Compliance with all code and manufacturer requirements
- Full operational performance and documentation
- Coordination with refuge representative

10.0 Quality Control / Quality Assurance

10.1 Pre-construction meeting will verify:

a. Material specifications
b. HVAC sizing methods (Manual J required)
c. Safety procedures
d. Daily quality checks

10.2 Contractor shall inspect and correct deficiencies.

10.3 Refuge representative may inspect work at any time.

10.4 Work stoppages may occur as required; proper notice must be given.

10.5 Contractor shall notify the refuge representative upon completion; any issues must be resolved prior to acceptance.

10.6 Upon completion of work, contractor shall notify the site representative for a final inspection; deficiencies must be corrected prior to acceptance.

10.7 All warranty information must be submitted at project completion.