Mammoth Cave National Park

STATEMENT OF WORK

Cyclic HVAC Upgrades

PMIS# 352411

DATED: 3/9/2026

NATIONAL PARK SERVICE

SOUTHEAST REGION

DIVISION 1 – GENERAL REQUIREMENTS

1. DESCRIPTION OF WORK

The Contractor shall furnish all labor, materials, tools, equipment, supervision, and transportation necessary to remove and replace eighteen (18) HVAC systems located in eleven (11) buildings at Mammoth Cave National Park.

The purpose of this project is to replace aging HVAC systems that have reached or exceeded their expected service life with modern, energy-efficient systems that improve reliability, indoor air quality, and temperature control.

The work includes but is not limited to:

- Removal and disposal of existing HVAC equipment
- Refrigerant recovery in accordance with EPA regulations
- Installation of new HVAC systems
- Installation of new refrigerant line sets where required
- Installation of Honeywell T6 programmable thermostats (or approved equal) for each unit
- Electrical connections and disconnects
- Ductwork transitions and modifications
- System charging and leak testing
- System startup and commissioning
- Demonstration and training for National Park Service personnel

The Contractor shall replace HVAC units located in the following facilities:

- Maple Springs Quarters – Building 021
- Maple Springs Bunkhouse – Building 306
- Interpretation & Fee Program Offices – Building 037
- Superintendent's Office – Building 038
- External Programs / IT-EE Office – Building 039
- Administration & Human Resources Office – Building 040
- Law Enforcement Ranger Station – Building 041
- Facility Management Office – Building 063
- Fitness Center / Evidence Locker – Building 064
- Training Center – Building 096
- Science Resource Management Office – Building 313

BUILDING	SYSTEM DESCRIPTION	CAPACITY	QTY	INDOOR MODEL/SERIAL #	OUTDOOR MODEL/SERIAL #
IT/EE Office #1	LP/HP Split	3.5T/100k BTU	1	24ABB342A0030010/1910E26280	58MVC000-14/2210A06009
IT/EE Office #2	Heat Pump Split	2.5T HP	1	2TWR2024A1000AB/320IJ5K1F	TWE024P130B0/321146K2V
Ranger Station #1	Heat Pump Split	3T HP	1	4TWX8036C1000A/161020PP2F	TEM6AOC36H31/161826PWZV
FM Office #1	LP/Electric Split	2.5T/90k BTU	1	2TWR2018A1000AB/44437NX4F	TWE31E13FB1/5354XN42V
Training Center	LP/Electric Split	3T/70k BTU	1	TUC080C942BA/4385LYP7G	2TTR2042B1000AA/439185H3F
			1	TUC080C942BA/4385LYM7G	2TTR2042B1000AA/4392KE23F
SRM #3	Heat Pump Split	3T	1	GAM5BOC42M315BA/15233TUXAV	4TWR5049E1000BB/15264NLF1F
			1	GAM5BOC42M315BA/15224KESAV	4TWR5049E1000BB/15245NAN1F
Maple Springs QTRS	LP/Electric Split	3T/90k BTU	1	MUZ-FE09NA/3001513T	CNPVT3617ATAABAA/2610X37481
Interp/Fees #1	LP/Electric Split	3T/90k BTU	1	HAC15030/2703660457	58MVC080-14/4309A02392
Interp/Fees #2	LP/Electric Split	2.5T/90k BTU	1	4TWR5049E1000AC/214729MN6F	TEM4AOB245215BA/21091WLD1X
Supt Office #1	LP/Electric Split	2.5T/90k BTU	1	24ABB336A310/0510E11912	GME5960804CNAA/2110189705
Supt Office #2	LP/Electric Split	3T/100k BTU	1	24ABB336A310/0510E11912	59B1B06044P5AAB/20433PUJG
Admin #1	LP/HP Split	3T HP	1	4TWR402461000AC/214724NN4F	TEM4AOB245215BA/2109IWLF3V
Admin #2	LP/Electric Split	2.5T/90k BTU	1	24ABB341A360/1910E262274	58MVC080-14/2210A06016
Fit Center	LP/Electric Split	3T/70k BTU	1	24ABB342A300/1910E26258	1UC1C100A9481AF/184725CA2G
SRM #2	LP/Electric Split	4T	1	YHC060E3RMA1R00D/1637126564L	Package Unit
Maple Springs Bunkhouse	Heat Pump Split	3.5T	1	4TEC3F36A10000AA/6333WFW2V	4TWR4036A1000AA/6332PB42F

The Contractor shall remove and replace the existing HVAC systems identified in the project equipment schedule and integrate the new systems with existing electrical, gas, and duct systems.

2. EXISTING UTILITIES

Existing utilities serving the buildings include electrical power, propane gas service, ductwork distribution systems, and condensate drainage.

The Contractor shall verify existing utilities and connections prior to installation.

Utility connections include:

- Electrical power connections
- Propane supply connections
- Condensate drain connections
- Ductwork supply and return connections

Any discrepancies between field conditions and contract documents shall be reported to the Contracting Officer Representative (COR).

3. CONTRACTOR USE OF PREMISES

Buildings included in this project are active operational facilities including administrative offices, staff housing, training facilities, and operational support buildings.

The Contractor shall coordinate work with the COR to minimize disruption to park operations.

The Contractor shall:

- Maintain safe work areas
- Protect existing facilities and infrastructure
- Prevent disruption of essential building functions
- Maintain clear access to building entrances and emergency exits

Construction debris shall be removed regularly and disposed of in accordance with federal, state, and local regulations.

4. COMMENCEMENT, PROSECUTION, AND COMPLETION

The period of performance shall be 180 calendar days from issuance of the Notice to Proceed (NTP).

Within fourteen (14) days of the NTP, the Contractor shall submit a project schedule showing the sequence of work for each building.

Work shall be coordinated to minimize disruption to park operations.

5. EXAMINATION OF SITE

Prospective contractors are strongly encouraged to conduct site visits prior to submitting proposals.

Site visits will allow contractors to evaluate:

- Existing HVAC equipment conditions
- Mechanical access and equipment clearances
- Electrical service availability
- Ductwork configuration
- Exterior equipment locations

Failure to conduct a site visit does not relieve the Contractor of responsibility for completing the work as specified.

6. ABBREVIATIONS

- ABA – Architectural Barriers Act
- ANSI – American National Standards Institute
- ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
- EPA – Environmental Protection Agency
- HVAC – Heating, Ventilation, and Air Conditioning
- MACA – Mammoth Cave National Park
- NPS – National Park Service
- OSHA – Occupational Safety and Health Administration
- PMIS – Project Management Information System

7. ACCIDENT PREVENTION

All work shall comply with OSHA 29 CFR 1926 Construction Safety Standards.

The Contractor shall prepare a Site-Specific Safety Plan including:

- Job Hazard Analysis (JHA)
- Lockout/Tagout procedures
- Electrical safety procedures
- Refrigerant handling procedures
- Fall protection procedures when applicable

All personal protective equipment shall comply with OSHA and applicable ANSI standards.

8. PRECONSTRUCTION CONFERENCE

A preconstruction conference shall be held prior to the start of work.

Topics will include:

- Project schedule
- Safety requirements
- Work sequencing
- Environmental compliance
- Coordination with park staff

9. SUBMITTALS

The Contractor shall submit the following for approval:

- HVAC equipment specifications
- Thermostat specifications
- Manufacturer product data
- Equipment shop drawings
- Installation procedures
- Startup and commissioning documentation
- Warranty information
- Operation and maintenance manuals

10. TEMPORARY SERVICES

The Contractor shall provide any temporary utilities required for installation and testing including temporary power or ventilation.

Temporary services shall not disrupt park operations.

11. PROJECT CLOSEOUT

Project closeout shall include:

- Final inspection by the COR
- System testing verification
- Delivery of warranties and manuals

- Demonstration of system operation
- Submission of as-built documentation

DIVISION 23 – HVAC MECHANICAL SPECIFICATIONS

23.01 HVAC EQUIPMENT SPECIFICATIONS

All HVAC equipment shall meet the following minimum performance specifications:

Cooling Efficiency
• 14–15 SEER2 minimum

Heating Efficiency
• 92% AFUE gas furnace where gas heating is provided

Electrical Requirements
• 240 Volt, single phase

Refrigerant
• R-454B refrigerant

Cabinet Width
• 19–21-inch cabinet size for furnace units

Filter MERV Rating
• 8

Equipment shall be new, factory assembled and listed by a recognized testing laboratory.

Equipment shall comply with:

- ASHRAE standards
- AHRI certification
- DOE energy efficiency requirements

23.02 REFRIGERANT LINE SET REQUIREMENTS

Refrigerant piping shall meet the following requirements:

- Minimum 50-foot line set capacity where required
- Insulated suction lines
- Brazed copper connections
- Nitrogen purge during brazing
- Leak testing with nitrogen pressure
- Proper line support and protection

Line sets shall be installed in accordance with manufacturer specifications.

23.03 CONTROLS AND THERMOSTATS

Each HVAC system shall include installation of a Honeywell T6 programmable thermostat (or approved equal).

Thermostats shall provide:

- Programmable scheduling
- Heating and cooling control
- Fan operation control
- Digital display

Thermostats shall be mounted in accessible locations in accordance with Architectural Barriers Act (ABA) accessibility guidelines.

Low-voltage wiring shall be installed and protected in accordance with NEC requirements.

23.04 SYSTEM INSTALLATION

The Contractor shall install all HVAC equipment in accordance with manufacturer installation instructions.

Installation shall include:

- Proper equipment anchoring
- Electrical connections
- Refrigerant piping connections
- Condensate drainage connections
- Ductwork transitions where required

All equipment clearances required by manufacturers shall be maintained.

23.05 STARTUP AND COMMISSIONING

The Contractor shall perform startup and commissioning procedures for each installed HVAC system.

Commissioning procedures shall include:

- Refrigerant evacuation and charging

- Leak testing
- Electrical verification
- Thermostat calibration
- Airflow verification
- Operational testing

The Contractor shall verify proper heating and cooling performance and document system operation.

Startup reports shall be submitted to the COR prior to project acceptance.

23.06 TRAINING

The Contractor shall provide basic training to NPS maintenance personnel covering:

- Thermostat operation
- System startup and shutdown procedures
- Routine maintenance requirements

23.07 WARRANTIES

The Contractor shall provide manufacturer warranties for all installed HVAC equipment.

Minimum warranty requirements:

- 1-year labor warranty
- Manufacturer equipment warranty

Warranty documentation shall be provided during project closeout.