

City of Lynchburg  
Procurement Division  
900 Church Street  
Lynchburg, Virginia 24504  
Telephone No.: (434) 455-3970  
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**Addendum for Invitation for Bids  
HVAC Maintenance for City of Lynchburg Buildings**

**2015-973**

Date: 05/11/2015  
From: Deborah Powell, Buyer, CPPO, VCO  
RE: Addendum No. 5

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This Addendum supplements and amends the original Plans and Specifications and shall be taken into account in preparing proposals and shall become a part of the Contract Documents. The Bidder shall indicate receipt of this Addendum and all previously issued Addenda on the Bid Form.

*Company Name:* \_\_\_\_\_ *Address:* \_\_\_\_\_ *Date:* \_\_\_\_\_

*Authorized Signature:* \_\_\_\_\_ *Title:* \_\_\_\_\_

*Print Name:* \_\_\_\_\_ *Telephone No.:* \_\_\_\_\_

*Fax No.:* \_\_\_\_\_

THE BID DUE DATE HAS BEEN EXTENDED UNTIL 2:00 P.M., May 21, 2015.

A REVISED EQUIPMENT AND FILTER LIST IS ATTACHED – CHANGES WERE MADE TO THE J & D COURT INFORMATION.

## HVAC EQUIPMENT LIST

### Group 1 - Buildings & Grounds

#### Fire Admin Building (FIRE STATION #1)

##### PREVENTIVE MAINTENANCE AND CHEMICAL TREATMENT

The Fire Station #1 is heated by two direct vent gas fired hot water boilers. This supplies hot water to heating coils located in four air handling units. The cooling of the building is achieved by a Chiller and an air cooled condensing unit located outside the first floor Mechanical Room. This supplies chill water to cooling coils located in air handling units.

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

##### EQUIPMENT LIST

- (1) Condenser Trane Model 4TTR3036E1000AA
- (1) Air Handling Unit Trane model GAM5B0836M31SAA
- (1) Air Cooled Chiller Carrier Model 30HL-050-D-511
- (1) Condenser Carrier Model 09DK054
- (1) Air Compressor Powerex Model ADO101A2
- (1) Air Dryer Hankinson Model FE401.RFD
- (1) Pump B&G Model 15311
- (1) Pump B&G 5 HP
- (2) Pumps Armstrong Model 42801VF
- (2) Boilers Lochinvar Model KBN701
- (3) Air Handling Units
- (3) Cabinet Unit Heaters
- (2) Heat pump Carrier Model 25HBR36A
- (1) Heat pump Gibson Model JS3BA-048KA

#### POINT OF HONOR

##### PREVENTIVE MAINTENANCE

The Point of Honor is heated and cooled by four Lennox and one Trane Split Heat Pump systems with electric resistance heat. Two of the AHU's are located in the attic, two of the AHU's are located in the basement Mechanical Room, and one is in the crawl space. Four of the AHU's have a humidifier. All five condensers are located in the back of the building. .

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

##### EQUIPMENT LIST

- (2) Lennox Air Handling Units, Model # CB28UH-042-230 -01, Located in attic
- (2) Lennox Air Handling Units, Model # CB28UH-042-230 -01, Located in basement
- (1) Trane Air Handling Unit, Located in crawl space
- (4) Lennox Humidifiers, Model # WP2-18
- (4) Lennox Heat Pump Condensers, Model 10ACC-042-230-03
- (1) Trane Heat Pump Condenser, Model TWN 024 C100 A3

#### POINT OF HONOR CARRIAGE HOUSE

##### PREVENTIVE MAINTENANCE

## HVAC EQUIPMENT LIST

The Point of Honor Carriage House is heated and cooled by three Trane/Amer Std. Split A/C systems with three gas furnaces. Two duct mounted high efficiency gas furnaces with A/C coils are located in the attic; one furnace with an A/C coil is located in the first floor Mechanical Room. All three condensers are located in the back of the building.

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

### EQUIPMENT LIST

- (2) Amer Std. high efficiency gas furnaces, with A/C coils, located in the attic
- (1) Trane gas furnace, Model # 4TXCD050 BCEHCAA with A/C coil, located on first floor
- (2) Trane Condensers, Model 4TTA3036B3000AA
- (1) Trane Condenser, Model 4TTA3036A3000AA

## CITY HALL

### PREVENTIVE MAINTENANCE WITH CHEMICAL TREATMENT

City Hall is heated by three direct vent gas fired hot water boilers located in the ground floor mechanical room. Two hot water pumps supply heating water from the boilers to the Air Handling Units located in the Mechanical Room and the Attic.

The existing new chiller replaced the original chiller the summer of 2008. The existing new cooling tower replaced the original in the spring of 2008

A Quarterly maintenance schedule is required and shall apply to the boilers, the chiller, the cooling tower, the hot water, chill water, and condenser water loops.

### EQUIPMENT LIST

- (3) Direct Vent Gas Boilers
  - (1) B-1 Lochinvar KBN 801 Serial Number G11H10194099
  - (1) B-2 Lochinvar KBN 801 Serial Number G11H10195191
  - (1) B-3 Lochinvar KBN 801 Serial Number G11H10195199
- (1) Chiller, Carrier Model # 30HXC186RY-661 Serial # 3208Q16301 Order # 0160223
- (1) Cooling Tower, Marley Model # NC8302E
- (1) Chilled Water, Shot Feeder
- (1) Hot Water, Shot Feeder
- (1) Condenser Water, Water Treatment Controller, Lakewood Model #1575E

## HUMAN SERVICES BUILDING

### PREVENTIVE MAINTENANCE WITH CHEMICAL TREATMENT AND BUILDING AUTOMATED CONTROLS MAINTENANCE

The Human Services Building is heated and cooled by three direct vent gas fired hot water boilers located in the ground floor mechanical room and two roof top package units with gas heat. Three hot water pumps supply heating water from the boilers to 105 fan powered air terminal units located in duct systems on all six floors of the building. HVAC system also includes two roof top exhaust fans and four electric unit heaters. Controls include a Honeywell DDC control system with a Tridium communication system.

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following.

### EQUIPMENT LIST

## HVAC EQUIPMENT LIST

- (2) Hot Water Boilers, Lochinvar Model KBN 801
- (1) Hot Water Boiler, Lochinvar Model KBN 601
- (2) Base Mounted End Suction Hot Water Pumps, B&G Series 510, 7.5 HP
- (2) Roof Top Units, Mcquay
- (105) Air Powered Terminal Units
- (3) Grundfos Boiler Circulation Pumps Part # 96402836
- (2) Trane rooftop exhausts fans- Fractional HP
- (4) Electric unit heaters
- (1) Hot Water, Shot Feeder

Honeywell DDC control system with a Metasys communication system.

## COURTHOUSE MUSEUM

### PREVENTIVE MAINTENANCE WITH CHEMICAL TREATMENT AND BUILDING AUTOMATED CONTROLS MAINTENANCE

The Courthouse Museum is heated and cooled by two multizone Air Handling Units with chilled and hot water heating coils. One of the AHU's is located in the first floor Mechanical Room; the other is located in the attic. Hot water for the heating coils is supplied by a natural gas fired boiler located in the first floor mechanical room.

Chilled water for the cooling coils is supplied by a chiller and evaporative cooler located in the first floor mechanical room. The control system is a DDC Johnson "Metasys" system with a Tridium communication system.

A quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following.

### EQUIPMENT LIST

- (1) Carrier Chiller component system with 4 compressors, Model # 30 HWA018-D-521KA
- (1) Baltimore Air Coil Evaporative Cooler, Model # VCL-065
- (1) Bryan Boiler natural gas fired boiler, Model # CLM120-W-FDG
- (2) Carrier Multizone Air Handlers
- (1) Model # 39MN17B0055MZ33XSX
- (1) Model # 39MN14B01015Z11XGS
- (6) Humidifiers, located in attic
- (4) Humidifiers, located in basement Mechanical Room
- (1) Chilled Water, Shot Feeder
- (1) Hot Water, Shot Feeder
- (2) Condenser Water, Water Treatment Controllers (dual biocides)
- (1) Inline Chilled Water pump
- (1) Inline Hot Water pump

DDC Johnson "Metasys" system with a Tridium communication system.

## IT BUILDING

### PREVENTIVE MAINTENANCE

The IT Building is heated and cooled by fourteen split system air conditioners with gas furnaces, and three ductless split system serving the Meeting Room. The Computer Room is cooled by a 20 ton air handler, dual circuited, with (2) condensers.

A Monthly maintenance schedule is required on the computer room server in addition to a Bi-Monthly maintenance schedule required on the balance of the HVAC and Control Equipment including, but not limited to, the following.

## HVAC EQUIPMENT LIST

### EQUIPMENT LIST

#### (14) A/C Condensers

- (9) Trane TTA060C300AO
- (2) Trane TTA090A300FA
- (1) Trane TTA3048A300AA
- (1) Trane TTA098C300AO
- (1) Trane TTA036C300AO

#### (12) Gas furnaces, Trane XE90

- (2) Trane TWE060D150A1
- (1) Trane TWE0240B300FA

#### (3) Ductless Split Systems

- (2) EMI Model WLHA2403
- (1) LG Model # LSN182HE, Condenser Model # LSU182HE

### **CIRCUIT COURT BUILDING**

#### FULL MAINTENANCE WITH CHEMICAL TREATMENT AND BUILDING AUTOMATED CONTROLS MAINTENANCE

The Circuit Court Building is heated and cooled by eleven Air Handling Units with chilled and hot water heating coils. Four of the AHU's are located in the first floor Mechanical Room; three are located in the penthouse Mechanical Room and four blower coil AHU's in the ceiling at other locations.

Hot water for the heating coils is supplied by a natural gas fired boiler located in the first floor mechanical room. Chilled water for the cooling coils is supplied by a chiller located in the first floor mechanical room and two roof top mounted air cooled condensers. There is also a Trane roof top mounted heat pump and nineteen fan coil units.

The control system is a total energy management system and must be maintained as designed, including thirty pneumatic thermostats, pneumatic controls, valves, and actuators, and the computer terminal.

A Quarterly schedule of maintenance is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

### EQUIPMENT LIST

#### (11) Air Handling Units -

- (3) Carrier 39840 — 40
- (1) Carrier 39MN03B01028H22XGS
- (2) Carrier 39B40 — 60
- (1) Trane K96K86589
- (2) Model # BCHBO361EDOL22121B3G, Trane Blower Coil AHU (located in ceiling of corridor outside lock up)
- (1) Model # BCHBO361EDOL22121B3G, Trane Blower Coil AHU (located in ceiling of sally port)
- (1) Model # BCHBO361EDOL22121B3G, Trane Blower Coil AHU (located in ceiling of Clerk's Office)
- (1) "Burnham" Boiler Model #V910, Serial #. 29000567w/gas fired Burnham Burner
- (1) MULTISTACK Chiller Serial Number ASR70X6A1A0
- (2) "Taco" Hot Water Pumps, Model # BB-2506 550A5B2CL0, 75GPM
- (2) "Taco" Chill Water Pumps, Model # BB2508 6-3 B5B2ELO
- (2) "Products, Inc." Air Compressors, Model # ACP-C2116HP.3
- (1) "Hankison" Air Dryer, Model # 8018
- (1) "Nortec" Humidifier, Model # MP200, Serial # 712221533A (non-functional- not included in contract)
- (1) Computer Terminal P.I.M. -800-1 (non-functional- not included in contract)

Controls - Pneumatic Controls, (30) Pneumatic thermostats, associated controls, valves and actuators, also

## HVAC EQUIPMENT LIST

Johnson "Metasys" DDC control system.

(19) Fan Coil Units

(1) HEATCRAFT Roof Top Air Cooled Condenser Serial Number HNHD04A034

(1) Booster Fan (in duct)

(1) Trane Roof Top Heat Pump Unit, Model # SACBB5O6C

(1) Chilled Water, Shot Feeder

(1) Hot Water, Shot Feeder

### **PUBLIC SAFETY**

#### **FULL MAINTENANCE WITH CHEMICAL TREATMENT AND BUILDING AUTOMATED CONTROLS MAINTENANCE**

The Public Safety Building is heated by three gas fired hot water boiler (replaced in 2007). This supplies hot water to heating coils located in air handling units and to reheat coils located throughout various building duct systems.

The cooling of the building is achieved by a chiller (replaced in 2006) with a roof mounted air cooled condenser. This supplies chill water to cooling coils located in air handling units. Some areas are cooled by split system A/Cs with direct expansion coils. The controls for the air handling units with chill water are pneumatic by Johnson controls. The air handling units with direct expansion cooling are controlled by electric thermostats. This building also has a Tridium communication system.

A Quarterly schedule of maintenance is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

#### EQUIPMENT LIST

(3) Hot Water Boilers, Lochinvar Knight Model KBN285

(2) Base Mounted End Suction Hot Water Pumps, Armstrong Series 4030

(1) Remote Condenser Scroll Compressor Chiller, McQuay Model # WGZ 030AA-120AA

(2) Base Mounted End Suction Chilled Water Pumps, Bell & Gossett Series 1531

(5) Air Handling Units

(1) Trane Type CPL 2997-3055-01 Penthouse Climate Changer AHU #3 Serial # K02J48310A

(1) Trane Type CPL 2997-3056-01 Penthouse Climate Changer AHU #4 Serial # K02J48321A

(1) Trane - MCCO8 (DDC Controlled)

(1) Trane - MCCO6 (DDC Controlled)

(1) Trane - MCCA0 IOU BOS0000U

(1) RTU - Trane Model TTA18OB400DA

(8) Exhaust Fans, Penn Ventilating

(1) Fan Coil - Trane

(1) Unit Ventilator - Trane

(2) Hot Water Pumps, Taco

(2) Air Handlers

(1) Trane Model TWEO60A400CA (Records area)

(1) Trane Model TWEO42P13OBO (Computer room)

(2) Condensers

(1) Trane Model TTAO60D400A1 (Records area)

(1) Trane Model TTAO36D400AO

(1) General Electric (computer room)

(1) Trane Roof top Package Unit, Model SAH FC3040K3 6 F3AD3 FO1BDEGRT8

(1) Hot Water Boiler, Lochinvar Knight Model KBN400

(1) Chilled Water, Shot Feeder

(1) Hot Water, Shot Feeder

## HVAC EQUIPMENT LIST

- (10) Fan powered boxes
- (1) Control air compressor with 1 HP motor

Controls - Pneumatic Controls for the air handling units with chill water, associated controls, valves and actuators, also Johnson "Metasys" DDC control system for the air handling units with direct expansion cooling. This building also has a Tridium communication system.

### **PUBLIC HEALTH CENTER**

#### **FULL MAINTENANCE WITH CHEMICAL TREATMENT**

The Public Health Center is heated by a gas/oil fired hot water boiler. This supplies hot water to heating coils located in air handling units, fin-tube baseboard radiators located around the perimeter of the building and to unit heaters located in the first floor Mechanical room.

The cooling of the building is achieved by a Chiller and a Cooling Tower located in the Penthouse Mechanical Room. This supplies chill water to cooling coils located in air handling units. The existing new Cooling Tower replaced the original in the winter of 2006.

A Quarterly schedule of maintenance is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following:

#### EQUIPMENT LIST

- (1) Trane centrifugal chiller, 125 tons Model PCV-1C-C2-D3
  - (1) Baltimore Air Company Cooling Tower, VLT-137
  - (3) Air Handling Units
    - (2) Trane Air handling units Model H-21
    - (1) Trane Air handling unit Model H-25
  - (1) Toshiba International AHU Fan motor - 30 HP Model BO3O4FLF3UM
  - (1) Lincoln AHU Fan motor - 30 HP SERIAL U1931214917
  - (1) U.S. Electrical AHU Fan motor - 25 HP Type R ID#R-9441-00-781
  - (1) Leland Faraday rerun air fan - 5 H.P MODEL LFI 84050c
  - (2) U.S. Electrical return air fan motors -5 HP Type A ID#R-3466-02-735
  - (1) Weil-McLain Boiler. Dual Fuel, Model # PL986-W
  - (1) Armstrong pump company Condenser water pump - 10 HP Model # 819359-002
  - (1) Armstrong pump company Chilled water pump 15HP
  - (4) Hot Water Pumps
    - (1) Armstrong pump company pump - 2 HP Model# 819359-002
    - (1) Armstrong pump company pump - 3 HP Model 1.564380
    - (1) Armstrong pump company pump - Fractional HP Model H-63
    - (1) Armstrong pump company pump - Fractional HP Model 201000
  - Trane unit heaters, Model 8-CU---60-S
  - (3) Trane in-line exhaust fans- Fractional HP
  - (2) Trane rooftop exhaust fans- Fractional HP
  - (2) Trane utility set exhaust fans - Fractional HP
  - (1) Speedaire by Dayton Control compressor, Model# 5Z702A with refrigerated air dryer.
  - (3) Hot water radiant unit heaters
  - (14) Hot water baseboard radiation units
  - (1) Chilled Water, Shot Feeder
  - (1) Hot Water, Shot Feeder
  - (1) Condenser Water, Water Treatment Controller
- Complete Robert Shaw & Johnson environmental control system

## HVAC EQUIPMENT LIST

### **LYNCHBURG PUBLIC LIBRARY AND JONES MEMORIAL LIBRARY**

#### **FULL MAINTENANCE AND BUILDING AUTOMATED CONTROLS MAINTENANCE**

The Library is heated and cooled by six constant volume split system Heat pumps, One of these units has a steam humidifier. All of the AHU's are located in the second floor Mechanical Room.

The computer lab is served by a ductless split system. The original pneumatic control system has recently been replaced with a new Honeywell DDC control system with a Tridium communication system.

A Quarterly schedule of maintenance is required and shall apply to all of the HVAC and Control Equipment Including, but not limited to, the following:

#### EQUIPMENT LIST

##### (6) Air Handling Units

- (1) AC-1 Trane TWE240E300GG Serial Number 12155RP5WA
- (1) AC-2 Trane TWE240E300BBK Serial Number 12964TUEBA
- (1) AC-3 Trane TWE240E300BB Serial Number 12151RH9VVA
- (1) AC-4 Trane CSAA030UAC00 Serial Number K12C26926
- (1) AC-5 Trane TWE090D300A Serial Number 12091T60BA
- (1) AC-6 Trane TWE240E300BB Serial Number 12151PORWA

##### (6) Condensers

- (1) CU-1 Trane TWA240E30RRA Serial Number 12153M23TA
- (1) CU-2 Trane TWA073D30RAA Serial Number 12144M9TYA
- (1) CU-3 Trane TWA240E30RAA Serial Number 12162NLFTA
- (1) CU-4 Trane RAUJC50ZECC1300D000010 Serial Number C12C01624
- (1) CU-5 Trane TWA073D30RAA Serial Number 12156WTYA
- (1) CU-6 Trane TWA240E30RaA Serial Number 12161SK8TA

##### (1) Humidifier, Nortec MK11-700

(1) Computer room unit, Mitsubishi "Mr. Slim" Model # PU12EK  
Honeywell DDC control system with a Tridium communication system.

#### EQUIPMENT LIST (JONES MEMORIAL LIBRARY)

- (1) Carnes electronically controlled steam humidifier, Model HBDD/HCDD
- (1) Roof unit: Carrier Package system; Model 38AD024 520, R22 refrigerant
- (1) AC-7 Trane TWE240E300BB Serial Number 12155RE8WA
- (1) CU-7 Trane TWA240E30RAA Serial Number 12114T7CTA

### **MONUMENT TERRACE BUILDING**

#### **PREVENTIVE CHEMICAL TREATMENT**

The Monument Terrace Building is heated by two direct vent gas fired hot water boilers located in the ground floor mechanical room and a roof top package units with gas heat. Two hot water pumps supply heating water from the boilers to the Air Handling Units located in the Attic and to the 63 VAV boxes located in duct systems on all three floors of the building.

The cooling of the building is achieved by a Multi-Stack Chiller with two air cooled condensing units located behind the building. This supplies chill water to the Air Handling Units and to the VAV boxes. The HVAC system also includes a single roof top unit with DX coils and electric heaters.

Controls include a Metasys DDC control system with a Tridium communication system

## HVAC EQUIPMENT LIST

A Quarterly schedule of Preventive Chemical Treatment is required and shall apply to the Chilled Water and Hot Water Loop.

### EQUIPMENT LIST

(1) Chilled Water, Shot Feeder

(1) Hot Water, Shot Feeder

### **KEMPER STREET STATION**

#### PREVENTIVE CHEMICAL TREATMENT

The Kemper Street is heated by a gas fired hot water boiler. This supplies hot water to heating coils located in five air handling units. The cooling of the building is achieved by a Chiller and a air cooled condensing unit located outside the first floor Mechanical Room. This supplies chill water to cooling coils located in air handling units.

A Quarterly schedule of Preventive Chemical Treatment is required and shall apply to the Chilled Water and Hot Water Loop.

### EQUIPMENT LIST

(1) Chilled Water, Shot Feeder

(1) Hot Water, Shot Feeder

### **PUBLIC WORKS ADMINISTRATION BUILDING**

#### PREVENTIVE CHEMICAL TREATMENT

The Public Works Administration Building is heated by a gas fired hot water boiler located in the first floor mechanical room. This supplies hot water to heating coils located in five air handling units.

The cooling of the building is achieved by five air cooled condensing unit located at each end of the first floor. This supplies refrigerant to DX coils located in air handling units.

A Quarterly schedule of Preventive Chemical Treatment is required and shall apply to the hot water boiler and piping.

### EQUIPMENT LIST

(1) Hot water boiler, Peerless Model # 211A-05-W/S-I, 840,000 BTUH

(1) Hot Water, Shot Feeder

### **J&D COURT BUILDING**

#### FULL MAINTENANCE WITH CHEMICAL TREATMENT

The J&D Court Building is heated and cooled by four Air Handling Units with chilled and hot water heating coils. The AHU's are located in the third floor Mechanical Room.

Hot water for the heating coils is supplied by a natural gas fired boiler located in the third floor mechanical room. Chilled water for the cooling coils is supplied by a Multi-Stack chiller located in the third floor mechanical room and a roof top mounted Cooling Tower. There is also a Heat Recovery Unit, two ductless splits and floor mounted fan coil units.

A Quarterly schedule of maintenance is required and shall apply to all of the HVAC Equipment including, but not limited to, the following:

### EQUIPMENT LIST

(2) Fan Coil Units - Mechanical Room

(1) Trane BCV103B

(1) Trane BCX036B

(6) Fan Coil Units - Hallways

## HVAC EQUIPMENT LIST

- (3) Air Handling Units
  - (2) Trane MCCB030
  - (1) Trane MCCB008
- (2) Frequency Drives ABB
- (2) Ductless Split Mitsubishi PUY-A24NHA2
- (1) Heat Recovery Unit Semco EP-13
- (2) Boiler Aerco, natural gas fired
- (1) MULTISTACK Chiller MS20C4H2W-V Serial Number (6) scrolls
- (1) Cooling Tower Evapco LPT-566H
- (2) Frequency Drives ABB for Cooling Tower
- (4) Chill Water Pumps Patterson
- (2) Frequency Drives ABB for pumps
- (2) Hot Water Pumps Patterson
- (2) Condensate Pumps Patterson
- (6) Floor Mounted Fan Coil Units
- (2) Water Heaters State SUF6010NE

### **College Hill Filter Plant Additional Equipment**

FULL MAINTENANCE

#### Equipment List

- (1) Treerice Series 9100 Self Operating Temperature Regulator
- (1) Bell & Gossett U tube heat exchanger
- (1) Honeywell actuated Butterfly Valve
- (1) Hayward Basket Strainer
- (1) Bell & Gossett Series 60 inline pump
- (1) Square D Combination Starter

### **College Hill Filter Plant**

FULL MAINTENANCE WITH CHEMICAL TREATMENT AND BUILDING AUTOMATED CONTROLS MAINTENANCE

#### Equipment List

- (1) 40 Ton Scroll - water cooled Trane Chiller
- (1) Boiler – Gas – Hot Water 120-750MBH/50-300 HP
- (2) Hot water Pumps –
- (2) Chilled Water Pumps
- (2) Condenser Water Pumps
- (19) Fan Coil Units
- (4) Air Handling Unites (AHU), (4) split heat pump systems
- (2) Air Compressors
- (1) Exhaust Fan
- (10) Electric VAV Actuators
- (1) Electric Duct Heater
- (10) VAV Boxes with hot water re-heat
- (6) Electric damper actuators
- (2) Air Dryers
- Pneumatic and Honeywell DDC control system
- (1) Dryomatic Mdel RC-1500 dehumidifier

## HVAC EQUIPMENT LIST

### **Abert Clearwell**

#### FULL MAINTENANCE

##### Equipment List

- (1) Carrier Model 52SQE309301AA 9000btu cool/8000 btu heat
- (1) Dryomatic Mdel RC-1500 dehumidifier

### **Pedlar Caretaker Residence**

#### Full Maintenance

##### Equipment List

- (1) Heil model N4H330AKE100
- (1) Heil model N4H324AKE100
- (1) International Comfort Products model FEM4P2400AT2
- (1) International Comfort Products model FEM4P3000AT2

### **Group 3 - WASTE WATER TREATMENT PLANT**

#### FULL MAINTENANCE

##### **Control Building**

This building contains lab, main control room, admin offices, and locker rooms for employees. The lab is required to maintain a consistent temperature and maximum humidity 24 hours per day to meet stringent test requirements of regulatory agencies.

The building consists of 8 temperature zones in the system plus areas that are heated or cooled by independent systems. Major portions of the system were replaced in January of 2006. 2 new split systems added June 2014. Supply air fan is equipped with carbon filters and air handling units also use carbon filters.

##### EQUIPMENT LIST

- (2) Water Cooled HVAC Package Units (AHU #1e, AHU #2)
- (1) Intake Air Fan
- (4) Exhaust Fan
- (1) Boiler
- (2) Recirculation hot water pumps
- (11) Unit Heater (4 Hot water, 6 Electric)
- (1) Expansion Tank
- (8) Variable Air Volume Boxes
- (10) Thermostats
- (1) 2 ½ Ton Split Heat Pump for portion of office area
- (1) 2 ½ Ton Split Heat Pump for Expanded Mens Locker Room

##### **Sludge Dewatering/ Stabilization Building**

The odor control exhaust fans and odor control systems are not included in the maintenance program. Portions of this building are set up for heating for freeze protection others parts have continuous occupation by staff. Air handling units also use carbon filters.

##### EQUIPMENT LIST

- (1) Gas fired furnace
- (5) Gas fired unit heaters
- (1) Heating cooling unit with carbon filter
- (1) Rooftop heating cooling unit with carbon filter
- (2) Exhaust fans

## HVAC EQUIPMENT LIST

### **Gravity Belt Thickener Building**

Building is heated mostly for freeze protection of chemical and liquids in use.

#### EQUIPMENT LIST

(3) Gas fired forced air heaters

### **Odor Control Building**

Building is heated for freeze protection of chemical and liquids in use. Roof top equipment is heated for freeze protection of chemical and liquids.

#### EQUIPMENT LIST

(4) Gas fired forced air heaters  
(7) Gas fired radiant tube heaters

### **Main Electrical Building**

This building is cooled and conditioned to protect the electrical switchgear enclosed in the building.

#### EQUIPMENT LIST

(1) Dual compressor roof top heating and cooling unit with carbon filters

### **Aeration Electrical Building**

This building is cooled and conditioned to protect the electrical switchgear enclosed in the building.

#### EQUIPMENT LIST

(1) Roof top heating and cooling unit with carbon filters

### **Blower Control Room - In Blower Building**

This room is cooled and conditioned to protect the electrical and instrumentation enclosed in the room. by a roof top heating and cooling unit with carbon filters.

#### EQUIPMENT LIST

(1) Roof top heating and cooling unit with carbon filters

### **Head Works Building**

This room is cooled and conditioned to protect the electrical and instrumentation enclosed in the room by a split system heating and cooling unit with carbon filters.

#### EQUIPMENT LIST

(2) Roof top gas fired furnaces with 24/7 ventilation fan  
(1) Ground level gas fired furnace with 24/7 ventilation fan  
(2) gas fired unit heaters  
(5) exhaust ventilation fans

### **Maintenance Building**

This building is cooled and conditioned by a roof top heating and cooling unit with carbon filters.

#### EQUIPMENT LIST

(1) roof top split system for office, are with carbon filters  
(9) through wall AC units  
(7) Gas fired unit heaters

## HVAC EQUIPMENT LIST

(4) Exhaust fans

### Secondary Clarifiers 1 & 2 Electrical Building

#### EQUIPMENT LIST

(1) split heating cooling unit with carbon filter

### Sodium Hypochlorite Building

#### EQUIPMENT LIST

(4) Gas fired unit heaters

### Primary Clarifier Electrical Building

#### EQUIPMENT LIST

(1) Box heating and cooling unit through the wall

### Group 4 - EMERGENCY COMMUNICATIONS BUILDING

#### FULL MAINTENANCE WITH BUILDING AUTOMATED CONTROLS MAINTENANCE

The Emergency Communications Building is heated and cooled by five Lennox rooftop package units with gas heat. This is supplemented with two electric door heaters. Also included are various dampers, exhaust fans and a Metasys control system (see equipment list).

There is a critical need for the temperature in the equipment room that has all of the regional radio equipment be monitored and that we have a quick response time for repairs. A/C runs year round. Anytime cooling is interrupted the temperature spikes rapidly and can begin causing equipment damage in as few as 30 minutes. Internal alarms will automatically dial the servicing contractor to dispatch a repair mechanic as soon as possible.

As a secondary concern, our dispatchers are in the communications room 24/7/365 and we need to have a reasonable response time there as well.

In addition to a Bi-monthly schedule of maintenance required for the HVAC System and Controls, include Monthly filter changes. (Filters to be compatible to what is being used now.)

#### EQUIPMENT LIST

##### Rating Ton/HP Location

- (1) RTU-1 Roof-top pkg unit w/gas heat Lennox LGA 1205 10 Roof
- (1) RTU-2 Roof-top pkg unit w/gas heat Lennox GSC-16-1513 4 Roof
- (1) RTU-3 Roof-top pkg unit w/gas heat Lennox LGA 1205 10 Roof
- (1) RTU-4 Roof-top pkg unit w/gas heat Lennox GSC 24-813 6 Roof
- (1) RTU-5 Roof-top pkg unit w/gas heat Lennox LGA 102S 8.5 Roof
- (1) ZD-1 Zone Damper Lennox ZD-1 1720
- (1) ZD-2 Zone Damper Lennox ZD-2 630
- (1) ZD-3 Zone Damper Lennox ZD-3 250
- (1) ZD-4 Zone Damper Lennox ZD-4 630io
- (1) ZD-5 Zone Damper Lennox ZD-5 520
- (1) ZD-6 Zone Damper Lennox ZD-6 800
- (1) BPD-1 By pass Damper Lennox BPD-1 1600
- (1) BPD-2 By pass Damper Lennox BPD-2 1600
- (1) EF-1 Exhaust Fan Greenbeck CSP-255

## HVAC EQUIPMENT LIST

- (1) EF-2 Exhaust Fan Greenbeck SP-255
- (1) EF-3 Exhaust Fan Greenbeck CSP-228
- (1) EF-4 Exhaust Fan Greenbeck
- (1) EDH-1 Door Heater Markel F3482
- (1) EDH-2 Door Heater Markel F3482
- (1) Metasys Control System Metasys

### Group 5 - JUVENILE DETENTION CENTER

#### FULL MAINTENANCE

The Juvenile Detention Center is heated and cooled by twenty five roof top package units, one split system heat pump, three split system A/C units and two heater ventilators.

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following.

#### EQUIPMENT LIST

- (1) Trane - Model #YCC042F3M0BF - Serial #201546Y1H (Post area)
- (1) Carrier - Model #48NMT042500 - Serial #0590C39901 (Post area)
- (1) Trane - Model #YCC042F3M0BF - Serial #2233PJT1H (Intake)
- (3) Trane - Model #YCH0614LFBE - Serial #N06102474D (Intake - L/S)
- (3) Trane - Model #YCD0614LGBE - Serial #M26104403D (Nurse's Office - Staff Lounge)
- (1) Trane - Model #YCC018F1L0BE - Serial #M2642J92H (Mens Locker Room)
- (3) Trane - Model #YCD090C4HGBE - Serial #N31101589D (Gym)
- (2) Trane - Model #YCD048C4LGBE - Serial #M27101640D (R/H B Staff)
- (2) Trane - Model #YCD036C4LGBE - Serial #M27103759D (L/H B)
- (2) Trane - Model #YCD048C4LGBE - Serial #M27101641D (B Dayroom)
- (1) Trane - Model #YCC024F1L0BE - Serial #M2625MP2H (C Dayroom)
- (1) Trane - Model #YCC030F1M0BD - Serial #M171JMB1H (L/S C - Staff - Principal)
- (1) Trane - Model #YCC030F1M0BD - Serial #M171JJB1H (C Classroom)
- (2) Trane - Model #YCD048C4LGBE - Serial #M27101639D (C Dayroom)
- (1) Trane - Model #YCC030F1M0BD - Serial #M171X8Y1H (Offices adjacent Director)
- (1) Trane - Model #YCC030F1M0BD - Serial #M171K851H
- (1) Trane - Model #YCC030F1M0BD - Serial #M171YA71H (Hallway)
- (2) Trane - Model #YCD060C4LGBE - Serial #M27101662D (Conference Room - Reception)
- (1) Trane - Model #YCCO24F1L0BE - Serial #M262RPH2H (Library - A&B Teachers)
- (1) Trane - Model #YCC024F1L0BE - Serial #M262N3R2H (A Classroom)
- (2) Trane - Model #YCD036C4LGBE - Serial #M27103762D (L/H A)
- (2) Trane - Model #YCD036C4LGBE - Serial #M27101622D (R/H A - Staff)
- (2) Trane - Model #YCD048C4LGBE - Serial #M27101638D (A Dayroom)
- (2) Trane - Model #YCD060C4LGBE - Serial #M27101667D (Main corridor)
- (1) Trane - Model #YCC024F1L0BE - Serial #M262RUJ2H (B Classroom)
- ( ) Duratic - Model #SHC09DAA000AA0A - Serial #197D239317
- ( ) Trane - Model #TCH090C300BC - Serial #N29104363D
- ( ) Modine - Model #WSG250F4764
- (2) Modine - Model #WSG125S2564 (Kitchen)
- ( ) Trane - Model #TTB012C100A0 - Serial #M245YWEAF
- ( ) Trane - Model #TWH018B140A1 (Control Room)
- ( ) Trane - Model #TTB012C1004A0 - Serial #M2451KRAF
- ( ) Trane - Model #TWH0188140A1 - Serial #M14352499
- ( ) Trane - Model #TTB012C100A0 - Serial #M245Y7MAF (Electrical)

## HVAC EQUIPMENT LIST

( ) Trane - Model #TWH018B140A1 - Serial #M14352498 (Electrical)

Most Units are controlled by a "Tracer 100i" building management system

### Group 6 - LYNCHBURG REGIONAL AIRPORT

#### Terminal Building

##### FULL MAINTENANCE

The Lynchburg Regional Airport Terminal Building is heated and cooled by six roof top package units and eight Unit Heaters

A Quarterly maintenance schedule is required and shall apply to all of the HVAC and Control Equipment including, but not limited to, the following.

##### EQUIPMENT LIST

- (6) Roof top Trane RTU Units/Packaged Units- electric heat with economizer.
- (5) Ceiling Mounted Exhaust Fans
- (8) Electric Unit Heaters
- (6) Variable Air Volume Boxes (VAV Boxes)
- (16) Fan powered VAV Boxes
- Honeywell DDC control system

#### AIRPORT TOWER

##### FULL MAINTENANCE

The Lynchburg Regional Airport Tower is heated and cooled by three roof top package units, three split system heat pumps and one split system A/C.

##### EQUIPMENT LIST

- (2) GE Model # GBWA120C3D
- (2) York Model # E2FB120A25A
- (1) Nordine Model # GT38A-060CA
- (1) York A/C Condenser Model # MH1RC048S25G
- (2) LG Model #LAU095HV heat Pump
- (1) International Comfort Products Model #PHF324000K00A1
- (1) Carrier Model # 50PQ012510AA
- (1) Mitsubishi Mr. Slim R410A Model #PUZ A36NHA
- (4) Air Handling Units

#### CAR WASH BUILDING

##### FULL MAINTENANCE

The Lynchburg Regional Airport Car Wash Building is heated and cooled by three package units and three radiant unit heaters

##### EQUIPMENT LIST

- (3) Gas radiant heaters, misc. mechanical equipment and car wash
- (3) Packaged Units (mounted on pads behind building) – Electric Heat with Economizer
- (3) Wall mounted Electric Heaters (2 Taskmaster Brand, 1 Markel Brand)

#### AIRFIELD MAINTENANCE BUILDING

##### FULL MAINTENANCE

## HVAC EQUIPMENT LIST

The Lynchburg Regional Airport Airfield Maintenance Building is heated and cooled by one Heat Pump split system and three radiant unit heaters

### EQUIPMENT LIST

- (3) Ceiling mounted Fans – Exhaust Fans
- (1) Trane XE1000 Heat Pump split system, Model # TWR042
- (1) Trane Air Handling Unit
- (3) Gas radiant heaters
- (1) Wall mounted Electric Heater

## **GROUNDS MAINTENANCE BUILDING**

### FULL MAINTENANCE

The Lynchburg Regional Airport Grounds Maintenance Building is heated and cooled by one Heat Pump and two ceiling mounted heaters

### EQUIPMENT LIST

- (1) Trane XR13 heat pump model #4TWR3036C1000AA
- (2) Dayton electric heaters

## **T- HANGARS**

### FULL MAINTENANCE

### EQUIPMENT LIST

- (1) Amana wall mounted unit Model #PTC123B35AMBP

## **ARFF STATION**

### FULL MAINTENANCE

### EQUIPMENT LIST

- (2) Roof Top Units
- (1) York Model #ZR060T10P4TZZ10001C
- (1) York Model #ZR048T06P4TZZ10001C
  
- (2) Wall mounted Exhaust Fan systems
- (3) Radiant Gas Heaters
- (3) Airvac 911 Engine Exhaust Removal System Units
- (1) Sanyo Inverter Model #CH1271 Heat Pump
- (1) Sanyo Model #KHS1271 inside unit

## Group 1 Belts and Filter List

### Fire Admin. Building (Fire Station #1)

Mechanical Room: Air handler Carrier 39ED08 (8) 16x25x2 Filters (2) A36 belts

Air handler Carrier 39ED15 (12) 20x25x2 Filters (2) B57 belts

Air Handler carrier 39BA060 (3) 20x25x2 Filters (1) A59 belt

### Point of Honor

(5) 20x20x1pl Filters

### Point of Honor Carriage House

(4) 24x24x2pl Filters and (1) 20x20x1pl Filter

### Human Services Building

Ground floor (1) 12x12x1, (2)14x14x1, & (1) 18x18x1Filter

1st floor (2)12x12x1, (6)14x14x1, (5)18x18x1, & (1)20x20x1 Filter

2nd floor (6)12x12x1, (8)14x14x1, (4)18x18x1, & (2)20x30x1Filter

3rd floor (3)12x12x1, (10)14x14x1, (3)18x18x1, & (3)20x30x1 Filter

4th floor (4)12X12X1, (6)14X14X1, (5)18X18X1, & (2)20X30X1 Filter

5th floor (2)12x12x1, (9)14x14x1, (4)18x18x1, & (3)20x30x1Filter

RTU's (22)16x20x2, (66)16x25x2 Filter

## Courthouse Museum

Carrier 39MN17B0055M233SXS (10)12x24x2  
(1) 5VX730

Carrier 39MN14B055M333SXS (6) 20x20x2  
(1) BX71

## IT Building

Interior.

Training Room:

Air handler-Gas Furnace Trane TUX1C100A9481AB, (1) 20x25x1

Air handler-Gas Furnace Trane TUX100C960B3, (1)24x25x1

Computer Room

Air handler Trane TWE240B300FA, (4)16x20x2, (4)16x25x2 filters & B64 belt

Mezzanine.

Gas Furnace Trane tux080C942B3, (1)18x25x1

Cafeteria.

Supply closet

Air handler-gas furnace Trane TUX100C960B3, (1)24x25x1

Janitors closet

Air handler-Gas furnace Trane TUX100960B3, (1)24x25x1

Warehouse.

Gas furnace TraneTUX120C960B3, (1)24x24x1

Air handler-Gas furnace Trane TUX120960B3, (1)24x25x1

Air handler-Gas furnace Trane TUX120960B3, (1)24x24x1

Downstairs computer room.

(2) Mini-Splits Enviromaster

AHU-1 Model# WLHA2403 Serial # 1-09-J-0154-32

AHU-2 Model #WLHA2403 Serial # 1-09-J-0155-32

Call room.

(2) Air handlers Trane model # unavailable, (2) 24x24x1 filters

Upstairs Conference room.

Mini-Split LG Model# LSN182HE

## Circuit Court

	Size	Type	Qua	Size	Qua
Trane rooftop unit	20x30x2	Pleated	2	Ax 26	1
Circuit court room C					
model # TSC060E3RG					
serial # 927100425L					
Upstairs equipment room					
Carrier AHU 7	16x25x2	Pleated	1	A46	1
East Ventilation unit					
Carrier AHU 6	20x25x2	Pleated	2	A60	1
East Court room B					
Carrier AHU 5	16x25x2	Pleated	1	A60	2
West Court room A	20x25x2	Pleated	1		
Carrier AHU 4	16x25x2	Pleated	1	A46	1
West Ventilation unit					
Downstairs equipment room					
Trane AHU 3	20x25x2	Pleated	2	BX46	1
Records					
Carrier AHU2	16x25x2	Pleated	1	A46	1
Main Lobby					
Carrier AHU1	16x25x2	Pleated	2	A44	1
Clerks Area					
19 FCUs	7.5x48x1	Pleated	19		

## Public Safety Building

1	Air Handler	Trane	CPL-2997	(4) 16x20x2pl	Penthouse
1	Air Handler	Trane	CPL-2997	(4) 16x20x2pl	Penthouse
1	Air Handler DDC	Trane	MCC08	(4) 20x25x2pl	Mech. Rm.
1	Air Handler DDC	Trane	MCC06	(4) 20x25x2pl	Mech. Rm.
1	Air Handler	Trane	MCCAO	(12)16x20x2pl	Mech. Rm.
1	RTU	Trane	TTA18B400	(32) 16x20x2pl	Roof
1	Air Handler	Trane	TWE060A400	(1) 20x20x1-pl	Records
1	CRU	G. E.	TWE042P13	(1) 20x20x1pl	Computer Rm.

## Public Health Center

### Filters

Qty/Size: (10) 24x24x2 pleated, (8) 24x24x4 Pleated, (18) 24x24x18 Bag, (8) 12x24x2 Pleated,  
& (8) 12x24x18 Bag

### Belts

Qty/Size: (3) B131, (8) B80, (4) B83, (2) B86, (1) B78, & (2) B62

## Lynchburg Public and Jones Memorial Library

AHU-1 Trane Model# TWE240E300BB Serial# 12155RRSWA

(1) BX 55 belt, (4) 16x20x2 pleated, (4) 16x25x2 pleated

AHU-2 Trane Model# TWE090D300AA Serial#2064TUEBA

(1) A41 belt, (3)16x25x1 pleated

AHU-3 Trane Model# TWE240E300BB Serial# 12151RH9WA

(1) B63 belt, (4) 16x20x2 pleated, (4) 16x25x2 pleated

AHU-4 Trane Model# CSAA030VAC00 Serial# K12C26926

(1) 5VX690 belt, (18) 16x20x2 pleated, (6) 16x25x2 pleated

AHU-5 Trane Model# TWE090300AA Serial# 1209IT60BA

(1) A41 belt,(3) 16x25x1 pleated

AHU-6 Trane Model# TWE240E300BBSerial# 1251PORWA

(1) A66 belt,(4) 16x20x2 pleated,(4) 16x25x2 pleated

AHU-7 Trane Model# TWE240E300BBSerial# 12155RE8WA

(1) A69 belt, (4) 16x20x2 pleated, (4) 16x25x2 pleated

## J&D Court Building

(1) Heat Recovery Unit, Semco Model EP-13

(9) 24x24x4 pleated, & (3) 12x24x4 pleated, Replaced Monthly

(3) AHUs, Trane

AHU #1

(6) 20x24x2 pleated, & (2) 24x24x2 pleated, Replaced Quarterly &

(6) 20x24x4 HEPA, & (2) 24x24x4 HEPA, Replaced Semi-annually

AHU #2

(6) 20x24x2 pleated, & (2) 24x24x2 pleated, Replaced Quarterly &

(6) 20x24x4 HEPA, & (2) 24x24x4 HEPA, Replaced Semi-annually

AHU #3

(2) 20x25x2 pleated, Replaced Quarterly & (2) 20x25x4 HEPA, Replaced Semi-annually

(2) FCUs, Trane, in the Mechanical Room

(2 each) 16x20x2 pleated, Replaced Quarterly

(6) FCUs, Trane, in the hallways

(1 each) 9x24x1 pleated, Replaced Quarterly