

| ROOFTOP UNIT SCHEDULE |                  |                        |                           |           |              |                          |                             |                        |                        |                     |                      |                       |       |       |            |                     |
|-----------------------|------------------|------------------------|---------------------------|-----------|--------------|--------------------------|-----------------------------|------------------------|------------------------|---------------------|----------------------|-----------------------|-------|-------|------------|---------------------|
| ITEM                  | SUPPLY AIR (CFM) | MIN. OUTSIDE AIR (CFM) | EXTERNAL STATIC (IN W.C.) | FAN DRIVE | FAN MOTOR HP | TOTAL COOLING CAP. (MBH) | SENSIBLE COOLING CAP. (MBH) | COOLING EAT (*F db/wb) | COOLING LAT (*F db/wb) | HEATING INPUT (MBH) | HEATING OUTPUT (MBH) | AIR TEMP RISE (*F db) | VOLTS | PHASE | MCA (AMPS) | DESIGN EQUIPMENT    |
| RTU-1                 | 3430             | 750                    | 1.614                     | DIRECT    | 3.00         | 120                      | 97.1                        | 81.9/67.3              | 55.98/57.85            | 150                 | 121.5                | 31.37                 | 208   | 3     | 60.0       | TRANE MODEL YHC120F |
| RTU-2                 | 960              | 200                    | .75                       | DIRECT    | 0.75         | 36.58                    | 27.30                       | 82.5/67.6              | 56.16/55.14            | 60                  | 48                   | 46.5                  | 208   | 3     | 24         | TRANE MODEL YHC037E |
| RTU-3                 | 1280             | 570                    | 1.00                      | DIRECT    | 1.0          | 50.81                    | 34.22                       | 80.5/68.1              | 55.74/55.22            | 60                  | 49                   | 35.7                  | 208   | 3     | 30         | TRANE MODEL YHC047E |
| RTU-4                 | 975              | 400                    | 1.00                      | DIRECT    | 0.75         | 36.00                    | 27.27                       | 81.2/66.5              | 55.03/54.17            | 60                  | 48                   | 45.8                  | 208   | 3     | 24         | TRANE MODEL YHC037E |
| RTU-5                 | 1495             | 450                    | 1.00                      | DIRECT    | 1.0          | 54.06                    | 39.37                       | 83.4/68.8              | 59.02/57.39            | 80                  | 64                   | 43.5                  | 208   | 3     | 30         | TRANE MODEL YHC047E |
| RTU-6                 | 1555             | 250                    | 1.00                      | DIRECT    | 1.0          | 51.89                    | 41.10                       | 81.0/65.5              | 56.53/54.24            | 80                  | 64                   | 38.4                  | 208   | 3     | 30         | TRANE MODEL YHC047E |

- NOTES:
- PROVIDE SMOKE DETECTOR AND CO<sub>2</sub> SENSOR IN RETURN DUCT MAIN, WITH ASSOCIATED WIRING AND CONTROLS.
  - PROVIDE ECONOMIZER FOR 100% OUTSIDE AIR MODE WITH DIFFERENTIAL ENTHALPY CONTROL AND TRANSMITTER, AND POWER EXHAUST.
  - PROVIDE WITH R410A TYPE REFRIGERANT, CRANKCASE HEATER AND LOW AMBIENT CONTROL.
  - PROVIDE MANUFACTURER SUPPLIED 24" ADAPTER CURB.

| VARIABLE AIR VOLUME (VAV) SCHEDULE |             |                              |      |         |          |                |                    |                       |           |          |          |          |                 |                       |              |               |
|------------------------------------|-------------|------------------------------|------|---------|----------|----------------|--------------------|-----------------------|-----------|----------|----------|----------|-----------------|-----------------------|--------------|---------------|
| TAG                                | ASSOC. UNIT | AREA SERVED                  | ZONE | VAV BOX |          |                |                    | HOT WATER REHEAT COIL |           |          |          |          |                 |                       | DESIGN BASIS |               |
|                                    |             |                              |      | MAX CFM | MIN. CFM | NECK SIZE (IN) | MAX AIR PD (IN WC) | LOAD (MBH)            | EWLT (°F) | LWT (°F) | EAT (°F) | LAT (°F) | FLOW RATE (GPM) | MAX WATER PD (FT H2O) |              | COIL ROWS     |
| VAV-1                              | RTU-1       | 112                          | 1    | 2000    | 570      | 12             | 0.69               | 31.71                 | 150       | 130      | 55       | 106.3    | 3.18            | 0.56                  | 2            | TRANE VCVWF12 |
| VAV-2                              | RTU-1       | 102, 202, 205                | 2    | 850     | 150      | 8              | 0.66               | 8.86                  | 150       | 130      | 55       | 108.38   | 0.87            | 0.07                  | 2            | TRANE VCVWF08 |
| VAV-3                              | RTU-1       | 103, 104, 105, 110, 111      | 3    | 580     | 105      | 8              | 0.36               | 6.43                  | 150       | 130      | 55       | 111.44   | 0.64            | 0.04                  | 2            | TRANE VCVWF08 |
| VAV-4                              | RTU-3       | 113, 117, 118                | 4    | 530     | 105      | 8              | 0.31               | 6.43                  | 150       | 130      | 55       | 111.44   | 0.64            | 0.04                  | 2            | TRANE VCVWF08 |
| VAV-5                              | RTU-3       | 122, 123, 124, 126           | 5    | 290     | 75       | 5              | 0.19               | 5.38                  | 150       | 130      | 55       | 121.14   | 0.54            | 0.20                  | 2            | TRANE VCVWF05 |
| VAV-6                              | RTU-3       | 127, 128, 129, 130, 131, 132 | 6    | 460     | 150      | 6              | 0.53               | 9.22                  | 150       | 130      | 55       | 111.69   | 0.92            | 0.52                  | 2            | TRANE VCVWF06 |
| VAV-7                              | RTU-4       | 134, 135                     | 7    | 200     | 50       | 4              | 0.10               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |
| VAV-8                              | RTU-4       | 133, 140, 142                | 8    | 400     | 225      | 6              | 0.43               | 12.2                  | 150       | 130      | 55       | 104.99   | 1.22            | 0.86                  | 2            | TRANE VCVWF06 |
| VAV-9                              | RTU-4       | 136                          | 9    | 200     | 50       | 4              | 0.10               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |
| VAV-10                             | RTU-4       | 137                          | 10   | 175     | 50       | 4              | 0.09               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |
| VAV-11                             | RTU-5       | 203, 204, 206, 208           | 11   | 425     | 150      | 6              | 0.47               | 9.22                  | 150       | 130      | 55       | 111.69   | 0.92            | 0.52                  | 2            | TRANE VCVWF06 |
| VAV-12                             | RTU-5       | 207                          | 12   | 650     | 275      | 8              | 0.43               | 13.67                 | 150       | 130      | 55       | 100.85   | 1.37            | 0.16                  | 2            | TRANE VCVWF08 |
| VAV-13                             | RTU-5       | 209, 210, 211, 212           | 13   | 420     | 75       | 6              | 0.46               | 5.38                  | 150       | 130      | 55       | 121.14   | 0.54            | 0.20                  | 2            | TRANE VCVWF08 |
| VAV-14                             | RTU-6       | 215, 218                     | 14   | 255     | 50       | 5              | 0.16               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF05 |
| VAV-15                             | RTU-6       | 214                          | 15   | 125     | 50       | 4              | 0.06               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |
| VAV-16                             | RTU-6       | 213, 220                     | 16   | 800     | 125      | 8              | 0.60               | 7.47                  | 150       | 130      | 55       | 110.10   | 0.75            | 0.05                  | 2            | TRANE VCVWF08 |
| VAV-17                             | RTU-6       | 216                          | 17   | 200     | 50       | 4              | 0.10               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |
| VAV-18                             | RTU-6       | 217                          | 18   | 175     | 50       | 4              | 0.09               | 3.98                  | 150       | 134.06   | 55       | 128.39   | 0.50            | 0.18                  | 2            | TRANE VCVWF04 |

- NOTES:
- PROVIDE INSULATED ACCESS DOOR WITHIN UNIT FOR INSPECTION AND SERVICE OF DAMPER
  - FURNISH AND INSTALL VAV UNIT, REHEAT COIL, PIPING, VALVES, ALL CONTROL EQUIPMENT (INCLUDING ACTUATOR, SENSORS & LOW VOLTAGE WIRING), AND SUPPORTS.
  - PROVIDED UNIT MOUNTED DISCONNECT

| DIFFUSER AND GRILLE SCHEDULE |                        |           |              |                |                |                |                 |
|------------------------------|------------------------|-----------|--------------|----------------|----------------|----------------|-----------------|
| TYPE                         | DESCRIPTION            | MAX SONES | BLOW PATTERN | FACE SIZE (IN) | NECK SIZE (IN) | AIR FLOW (CFM) | BASIS OF DESIGN |
| SD-1                         | SUPPLY DIFFUSER        | -         | 4-WAY        | 12 x 12        | 4Ø             | 0-70           | TITUS TMS       |
| SD-2                         | SUPPLY DIFFUSER        | 19        | 4-WAY        | 24 x 24        | 6Ø             | 0-180          | TITUS TMS       |
| SG-1                         | SUPPLY GRILLE          | 22        | 4-WAY        | 14 x 14        | 12 x 12        | 0-500          | TITUS 300RL     |
| RG-1                         | EGGCRATE RETURN GRILLE | 20        | -            | 24 x 24        | -              | 0-650          | TITUS 50F       |
| EG-1                         | EXHAUST GRILLE         | 19        | -            | 10 x 8         | 8 x 6          | 0-175          | TITUS 350R      |

- REMARKS:
- BALANCE ALL DUCT BRANCHES TO CFM VALUE SHOWN.
  - REFER TO PLANS FOR QUANTITIES, AIR FLOW. ALL BRANCH DUCT CONNECTING DIFFUSER TO MAIN SHALL BE THE SAME SIZE AS THE DIFFUSER NECK.
  - VERIFY MOUNTING FRAME. REFER TO REFLECTED CEILING PLAN FOR LOCATIONS AND CEILING TYPE. COORDINATE WITH OTHER CEILING MOUNTED EQUIPMENT.
  - PROVIDE WITH OPPOSED BLADE DAMPER, ADJUSTABLE WITHOUT DISASSEMBLY.
  - PROVIDE FACTORY SUPPLIED PLENUM FOR LINEAR DIFFUSER.

| BOILER (B) SCHEDULE |          |      |                     |                               |                 |                      |                     |                       |                            |                  |                |                      |
|---------------------|----------|------|---------------------|-------------------------------|-----------------|----------------------|---------------------|-----------------------|----------------------------|------------------|----------------|----------------------|
| TAG                 | LOCATION | FUEL | MAXIMUM INPUT (MBH) | OUTPUT AT MAX. CAPACITY (MBH) | WATER           |                      |                     | COMBUSTION EFFICIENCY | RELIEF VALVE SETTING (PSI) | VOLTS/ PHASE/ HZ | FULL LOAD AMPS | DESIGN EQUIPMENT     |
|                     |          |      |                     |                               | FLOW RATE (GPM) | ENT./LVG. TEMP. (°F) | WATER CONTENT (GAL) |                       |                            |                  |                |                      |
| B-1                 | BASEMENT | NG   | 110                 | 101                           | 7.5             | 120/150              | 2.5                 | 95.1%                 | 30                         | 120/1            | 15             | WEIL MCCLAIN EVG-110 |
| B-2                 | BASEMENT | NG   | 110                 | 101                           | 7.5             | 120/150              | 2.5                 | 95.1%                 | 30                         | 120/1            | 15             | WEIL MCCLAIN EVG-110 |

- NOTES:
- PROVIDE COMPLETE WITH LOW-WATER CUTOFF, MANUAL RESET HIGH LIMIT AQUASTAT, PRESSURE/TEMPERATURE GAUGE AND DRAIN VALVE.
  - PROVIDE COMPLETE WITH ASME COMPLIANT PRESSURE RELIEF VALVE DESIGNED FOR THE BOILER OUTPUT CAPACITY.
  - PROVIDE DISCONNECT WITH THERMAL OVERLOAD PROTECTION.
  - HVAC CONTRACT SHALL FURNISH AND INSTALL UNIT AND ALL CONTROL EQUIPMENT, INCLUDING SENSORS, LOW VOLTAGE WIRING AND CONDUIT. LINE VOLTAGE WIRING (120V AND ABOVE) BY ELECTRICAL CONTRACT.

| PUMP SCHEDULE |                |       |       |       |          |       |            |              |                        |                             |
|---------------|----------------|-------|-------|-------|----------|-------|------------|--------------|------------------------|-----------------------------|
| TAG           | SERVICE        | MOTOR |       |       | PUMP RPM | FLUID | FLOW (GPM) | HEAD (FT WC) | TYPE                   | BASIS OF DESIGN             |
|               |                | HP    | VOLTS | PHASE |          |       |            |              |                        |                             |
| BP-1          | BOILER B-1     | 1/8   | 115   | 1     | 3250     | WATER | 7.2        | 10           | INLINE                 | TACO ECM OO15e              |
| BP-2          | BOILER B-2     | 1/8   | 115   | 1     | 3250     | WATER | 7.2        | 10           | INLINE                 | TACO ECM OO15e              |
| P-1           | HOT WATER LOOP | 1/2   | 115   | 1     | 1725     | WATER | 18         | 20           | INLINE (CLOSE COUPLED) | BELL & GOSSETT e-90 1.25AAB |
| P-2           | HOT WATER LOOP | 1/2   | 115   | 1     | 1725     | WATER | 18         | 20           | INLINE (CLOSE COUPLED) | BELL & GOSSETT e-90 1.25AAB |

- NOTES:
- PROVIDE WITH COMBINATION MOTOR STARTER/DISCONNECT AND INTERLOCK OPERATION WITH ASSOCIATED BOILER.
  - RATED FOR 125PSI MAXIMUM WORKING PRESSURE AND 225°F MAXIMUM OPERATING TEMPERATURE.
  - FURNISH AND INSTALL UNIT AND ALL CONTROL EQUIPMENT, INCLUDING SENSORS , LOW VOLTAGE WIRING AND CONDUIT.

| EXPANSION TANK (ET) SCHEDULE |                 |           |           |                   |                       |                        |                         |                     |
|------------------------------|-----------------|-----------|-----------|-------------------|-----------------------|------------------------|-------------------------|---------------------|
| TAG                          | CONN. SIZE (IN) | SYSTEM    | TANK TYPE | TANK VOLUME (GAL) | TANK ACCEPTANCE (GAL) | CHARGE PRESSURE (PSIG) | ORIENTATION             | BASIS OF DESIGN     |
| ET-1                         | 3/4             | HOT WATER | BLADDER   | 10                | 10                    | 12                     | VERTICAL, FLOOR MOUNTED | BELL & GOSSETT B-35 |

- NOTES:
- TANK SHALL BE STEEL CONSTRUCTION WITH HEAVY DUTY BUTYL RUBBER DIAPHRAGM & FORGED STEEL CONNECTION FITTINGS.
  - EXPANSION TANK TO BE DESIGNED, CONSTRUCTED AND STAMPED PER ASME SECTION VIII, DIVISION 1.
  - TANK SHALL BE RATED FOR MAXIMUM WORKING PRESSURE OF 125 PSIG AND MAXIMUM WORKING TEMPERATURE OF 240°F.

| EXHAUST FAN SCHEDULE |               |          |     |                     |        |       |       |       |       |                    |       |
|----------------------|---------------|----------|-----|---------------------|--------|-------|-------|-------|-------|--------------------|-------|
| TAG                  | AREA SERVED   | LOCATION | CFM | E.S.P.<br>(IN W.G.) | DRIVE  | RPM   | MOTOR |       |       | DESIGN EQUIPMENT   | NOTES |
|                      |               |          |     |                     |        |       | WATTS | VOLTS | PHASE |                    |       |
| EF-1                 | 119, 120, 121 | ROOF     | 150 | .35                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK G-070-D  | 1,3,4 |
| EF-2                 | 127, 128, 129 | ROOF     | 375 | .35                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK G-095-VG | 1,3,4 |
| EF-3                 | 108, 109      | ROOF     | 100 | .25                 | DIRECT | 1,550 | 13    | 115   | 1     | GREENHECK G-060-D  | 1,3,4 |
| EF-4                 | 138           | CEILING  | 50  | .25                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-5                 | 139           | CEILING  | 90  | .25                 | DIRECT | 950   | 17    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-6                 | 140           | CEILING  | 50  | .25                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-7                 | 142           | CEILING  | 50  | .25                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-8                 | 203           | CEILING  | 110 | .25                 | DIRECT | 1,100 | 21    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-9                 | 204           | CEILING  | 170 | .25                 | DIRECT | 1,400 | 48    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-10                | 211           | CEILING  | 50  | .25                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |
| EF-11                | 220           | CEILING  | 50  | .25                 | DIRECT | 850   | 13    | 115   | 1     | GREENHECK SP-A70   | 1,2,4 |

- NOTES:
- PROVIDE COMBINATION STARTER/DISCONNECT SWITCH WITH THERMAL OVERLOAD PROTECTION.
  - PROVIDE BACKDRAFT DAMPER, ALUMINUM BIRD SCREEN, WALL COLLAR, MOTORIZED SHUTTER AND SHUTTER GAURD.
  - PROVIDE BACKDRAFT DAMPER, ALUMINUM BIRD SCREEN AND MANUFACTURERS ROOF CURB.
  - FAN SHALL RUN CONTINUOUSLY WHILE BUILDING IS OCCUPIED.

| ELECTRIC UNIT HEATER (UH) SCHEDULE |          |               |               |       |       |                |                |                  |
|------------------------------------|----------|---------------|---------------|-------|-------|----------------|----------------|------------------|
| TAG                                | LOCATION | MOUNTING TYPE | CAPACITY (KW) | VOLTS | PHASE | FULL LOAD AMPS | AIR FLOW (CFM) | DESIGN EQUIPMENT |
| UH-1                               | BASEMENT | CEILING       | 3             | 208   | 1     | 14.4           | 380            | MODINE HER 30    |
| UH-2                               | BASEMENT | CEILING       | 5             | 208   | 1     | 24.5           | 380            | MODINE HER 50    |
| UH-2                               | BASEMENT | CEILING       | 5             | 208   | 1     | 24.5           | 380            | MODINE HER 50    |

- NOTES:
- FURNISH WITH FUSED DISCONNECT SWITCH.
  - PROVIDE MOUNTING BRACKETS AND SUPPORTS AS NECESSARY, FINISH TO MATCH UNIT HOUSING.
  - PROVIDE UNIT MOUNTED THERMOSTAT.

| CABINET UNIT HEATER (CUH) SCHEDULE |                |             |     |                 |             |       |       |                 |
|------------------------------------|----------------|-------------|-----|-----------------|-------------|-------|-------|-----------------|
| TAG                                | AIR FLOW (CFM) | CAP. (BTUH) | kW  | TEMP. RISE (°F) | NO. OF FANS | ELEC. |       | BASIS OF DESIGN |
|                                    |                |             |     |                 |             | VOLTS | PHASE |                 |
| CUH-1                              | 100            | 6,820       | 4.8 | 50              | 1           | 208   | 1     | QMARK LFK488F   |
| CUH-2                              | 100            | 5,115       | 4.8 | 50              | 1           | 208   | 1     | QMARK LFK488F   |
| CUH-2                              | 100            | 5,115       | 4.8 | 50              | 1           | 208   | 1     | QMARK LFK488F   |

- NOTES:
- PROVIDE UNIT MOUNTED TAMPERPROOF THERMOSTAT AND DISCONNECT SWITCH.
  - PROVIDE WITH UNIT MOUNTED DAY/NIGHT RELAY AND SURFACE MOUNTING ADAPTER.

| REVISIONS |  |
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443 Electronics Parkway  
Liverpool, NY  
13088

B

&L

443 Electronics Parkway  
Liverpool, NY  
13088

City of Middletown  
New Courthouse Facility  
Contract 1B - Mechanical Construction

SCHEDULES

City of Middletown

Barton & Loguidice, D.P.C.

443 Electronics Parkway  
Liverpool, NY  
13088



NYS EXP.: 11/30/2025

Date  
AUGUST, 2024

Scale  
AS SHOWN

Sheet Number  
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