

| MARK            | TYPE   | LEGEND   | RUNOUT                                    | REMARKS   | MFG / MODEL                     |
|-----------------|--|--|---|---|---------------------------------|
| SD01 (2)<br>CFM | LOUVER FACE SURFACE MOUNTED CLG DIFFUSER W/ W/VEILED DROPPED | X = SQUARE NECK SIZE<br>Y = RECTANGULAR NECK SIZE<br>Z = THROW, 4-WAY U.N.O. | NECK SIZE<br>8x6<br>9x9<br>12x12<br>12x12 | ROD - W/ ACCESSIBLE OPERATING LEVER. (SEE NOTE 4 & 5 BELOW)<br>EQUILIBRIUM GRID<br>FOR NECK SIZES 6x6 TO 6x9<br>PROVIDE SQUARE TO ROUND ADAPTOR.<br>FOR NECK SIZES 12x12 & LARGER<br>PROVIDE EXTERNAL INSULATED SIDE SUPPLY FLENUM. | TITUS / TDC<br>BORDER NO.6      |
| SE01<br>CFM     | SIDE WALL SUPPLY REGISTER                                    | XY = RECTANGULAR NECK SIZE   | SEE PLANS                                 | ROD, VERTICAL FRONT BLADES,<br>HORIZONTAL REAR BLADES   | TITUS / 300F                    |
| AD1<br>CFM      | PERFORATED FACE CEILING DIFFUSER                             | LETTER INDICATES FACE & NECK SIZE.<br>X = THROW, A,B,C & D = 1/2" IN.        | ROUND RUNOUT =<br>NECK SIZE               | ROD - W/ ACCESSIBLE OPERATING LEVER. (SEE NOTE 4 & 5 BELOW)<br>MOLDED INSULATION BLANKET (R-6)  | TITUS / PAS<br>BORDER NO.3      |
| WER01<br>CFM    | WALL EXHAUST REGISTER  | XY = RECTANGULAR NECK SIZE   | SEE PLANS                                 | HORIZONTAL BARS SET AT<br>38" SPACING, 1/2" SPACING,<br>HEAVY DUTY CONSTRUCTION   | TITUS / 318L<br>PLASTER FRAME   |
| E01<br>CFM      | ALUMINUM CUBE CORE REGISTER (1/2" X 1/2" X 1/2")             | E = EXHAUST<br>R = RETURN<br>T = TRANSFER<br>X = SQUARE NECK SIZE            | SEE PLANS                                 | ROD<br>OMIT ROD ON TS AND UNDUCTED RS   | TITUS / 50F, ALUMINUM<br>BORDER |

- AIR DEVICE SCHEDULE NOTES:**
- CFM = AIR FLOW (TYPICAL ALL AIR DEVICES).
  - COORDINATE BORDER/FRAME TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
  - DIRECTION ARROWS ON DRAWINGS SHOW FLOW PATTERN.
  - USE SUPPLY DIFFUSERS WITH O.B.D. IN DRYWALL OR INACCESSIBLE CEILING.
  - USE SUPPLY DIFFUSERS WITHOUT O.B.D. IN LAY-IN OR ACCESSIBLE CEILING.

| SYMBOL | DESCRIPTION  |
|--------|--|
|        | DUCTWORK, DOUBLE LINE & SINGLE LINE INSIDE FREE AREA DIMENSIONS ARE SHOWN                        |
|        | FLEXIBLE ROUND DUCT<br>MAX. LENGTH = 5'-0"   |
|        | SUPPLY DUCTWORK SECTION<br>INSIDE DIMENSIONS ARE SHOWN   |
|        | RETURN OR EXHAUST DUCTWORK SECTION<br>OUTSIDE DIMENSIONS ARE SHOWN CLEAR                         |
|        | DUCTWORK RISE (R) OR DROP (D)<br>ARROW SHOWS DIRECTION OF AIR FLOW                               |
|        | ELBOW TURNED UP WITH TURNING VANES   |
|        | ELBOW TURNED DOWN WITH TURNING VANES   |
|        | RADIUS TYPE ELBOW<br>CENTERLINE RADIUS = 1.5 X WIDTH   |
|        | SQUARE TYPE ELBOW WITH DOUBLE THICKNESS VANES. VANES REQUIRED IN ALL DUCTWORK, ELBOWS U.N.O.     |
|        | ACCESS DOOR (AD) MINIMUM 12" X 12" UNLESS NOTED OTHERWISE  |
|        | MANUAL VOLUME DAMPER (MD)  |
|        | MANUAL VOLUME DAMPER WITH CONCEALED DAMPER REGULATOR (CMD) (YOUNG'S REGULATOR-BOWDEN CABLE TYPE) |
|        | AUTOMATIC MOTOR OPERATED DAMPER (AD) ALL AD'S SHALL HAVE A 12" X 12" ACCESS DOOR U.N.O.          |
|        | FLEXIBLE DUCTWORK CONNECTION   |
|        | 3/4" DOOR UNDERCUT - SEE ARCH.   |

| SYMBOL | DESCRIPTION                                    |
|--------|--|
|        | REFRIGERANT LIQUID                             |
|        | REFRIGERANT SUCTION                            |
|        | REFRIGERANT HOT GAS                            |
|        | A.C. UNIT DRAIN                                |
|        | BRANCH OFF TOP OF MAIN                         |
|        | BRANCH OFF BOTTOM OF MAIN                      |
|        | PIPE DOWN                                      |
|        | PIPE UP  |
|        | RISE OR DROP IN PIPE                           |
|        | BRANCH OFF SIDE OF MAIN                        |
|        | SLOPE DOWN IN DIRECTION OF ARROW, 1" IN 20 FT. |
|        | MECH. ROOM FLOOR DRAIN (SEE PLUMB)             |
|        | HUB DRAIN (SEE PLUMBING)                       |

| MARK  | TYPE | CFM   | T.W.G. EXT. S.P. | WHEEL DIA. | MOTOR HP | FILTERS | ACCESSORIES | BASIS OF DESIGN (GREENHECK) |
|-------|------|-------|------------------|------------|----------|---------|-------------|-----------------------------|
| MAU-1 | A    | 2,000 | 0.6              | 12"        | 3/4      | 460/0   | A           | [1] [2] [3] [4] [5]         |

**MAKE-UP AIR UNIT SCHEDULE**

TYPE: (A) ROOF MOUNTED, BELT DRIVE

ACCESSORIES: (1) ROOF CURB W/ DUCT ADAPTER  
(2) AUTO DISCHARGE INTAKE DAMPER W/ BELIMO ACTUATOR COORDINATE V/8 WITH CONDENSING CONSTRUCTION  
(3) WEATHERHOOD W/ BIRDSCREEN  
(4) DISCONNECT SWITCH (NEMA 3R)  
(5) STARTER

NOTE: INTERLOCK CONDENSATE PUMP WITH INDOOR UNIT. INDOOR UNIT TO SHUT OFF IN THE EVENT THE SAFETY SWITCH DETECTS A FAULT.

| MARK  | SERVES            | TYPE | CAPACITY | ELECTRICAL V/8 | ACCESSORIES | BASIS OF DESIGN (MARKEL) |
|-------|-------------------|------|----------|----------------|-------------|--------------------------|
| ECH-1 | FAMILY TOILET 008 | B    | 2 L/W    | 208/1          | [1] [2]     | SERIES 3400              |
| EWH-1 | JANITOR 009       | A    | 2 L/W    | 208/1          | [1] [2]     | SERIES 3420              |
| EWH-2 | STORAGE 018       | A    | 2 L/W    | 208/1          | [1] [2]     | SERIES 3420              |

**ELECTRIC HEATER SCHEDULE**

TYPE: (A) EWH - ELECTRIC WALL HEATER, SURFACE MTD (1) UNIT MOUNTED THERMOSTAT  
(B) ECH - ELECTRIC CEILING HEATER (2) UNIT MOUNTED DISCONNECT SWITCH

| INDOOR UNIT MARK | OUTDOOR UNIT MARK | SERVES             | TYPE | SUPPLY FAN CFM | SENSIBLE MBH | TOTAL MBH | ENT. AIR °F | ACCESSORIES | NOMINAL TONS | INDOOR UNIT | OUTDOOR UNIT | BASIS OF DESIGN (MITSUBISHI) (INDOOR/OUTDOOR) |
|------------------|-------------------|--------------------|------|----------------|--------------|-----------|-------------|-------------|--------------|-------------|--------------|---|
| DS-1             | DSHF-1            | POOL PUMP ROOM 001 | A    | 920            | 25.6         | 80.0      | 23.0        | [1] [2]     | 3.0          | 0.57        | 208/1        | 25 40 208/1                                   |

**MINI SPLIT SYSTEM UNIT SCHEDULE - HEAT PUMP**

TYPE: (A) WALL MOUNTED (PKA TYPE)

ACCESSORIES: (1) MICROPROCESSOR BASED CONTROLS W/ REMOTE 7-DAY PROGRAMMABLE THERMOSTAT (PAR-32MAA-3)  
(2) WASHABLE FILTER

NOTES: (A) CAPACITIES ARE MINIMUM GROSS CAPACITIES  
(B) COOLING CAPACITY RATED AT 95°F AMBIENT  
(C) HEATING CAPACITY RATED AT 7°F

| ROOM NAME / NUMBER | OCCUPANCY CATEGORY             | AREA (ft²) | PEOPLE OUTDOOR RATE R <sub>o</sub> [CFM/Person] | AREA OUTDOOR RATE R <sub>a</sub> [CFM/ft²] | # OCCUPANTS | Occupant S | AREA (ft²) | BREATHING ZONE AIRFLOW (CFM) | Table 6-2 Zone Air Distribution Effectiveness | ZONE EFFECTIVENESS E <sub>z</sub> | ZONE OUTDOOR AIRFLOW V <sub>z</sub> [CFM] |
|--------------------|--------------------------------|------------|---|--|-------------|------------|------------|------------------------------|---|-----------------------------------|---|
| STORAGE 004        | Storage rooms (non-occupiable) | 210        | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| LIFEGUARD 005      | Office space                   | 175        | 0.56  | 0.56                                       | 2           | 10         | 10.5       | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 21  |
| DRESSING 006       | Office space                   | 50         | 5   | 0.56                                       | 1           | 5          | 3          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 8   |
| MENS LOCKERS 007   | Toilet/Janitor                 | 610        | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| FAMILY 008         | Toilet/Janitor                 | 55         | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| JAN 009            | Toilet/Janitor                 | 50         | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| OFFICE 012         | Office space                   | 165        | 5   | 0.56                                       | 2           | 10         | 9.9        | 20                           | Ceiling Supply of Cool Air                    | 1.0                               | 20  |
| STORAGE 014        | Storage rooms (non-occupiable) | 50         | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| ELEC 015           | Storage rooms (non-occupiable) | 70         | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| WOMENS LOCKERS 016 | Toilet/Janitor                 | 655        | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |
| CONCESSIONS 017    | Office space                   | 5          | 5   | 0.56                                       | 2           | 10         | 28.2       | 38                           | Ceiling Supply of Cool Air                    | 1.0                               | 38  |
| STORAGE 018        | Storage rooms (non-occupiable) | 70         | 0   | 0  | 0           | 0          | 0          | 0                            | Ceiling Supply of Cool Air                    | 1.0                               | 0   |

**OSA CALCULATIONS PER IMC 2015 & ASHRAE 62.1-2013/ SINGLE ZONE, CONSTANT VOLUME UNIT (SF)**

OSHA REQUIRED COOLING: 48  
TOTAL S/A BY UNIT AT CONDITION ANALYZED: 55

| MARK  | SERVES                        | LOCATION           | TYPE | CFM   | E.S.P. IN. W.G. | LIMIT     | MOTOR HP | ACCESSORIES | INTERLOCK                       | BASIS OF DESIGN (GREENHECK)      |
|-------|-------------------------------|--------------------|------|-------|-----------------|-----------|----------|-------------|---------------------------------|----------------------------------|
| KEF-1 | CONCESSIONS 017 RANGE HOOD    | ROOF               | A    | 2,000 | 1.25            | 16 SOHMS  | 1.0      | 460/0       | [9] [8] [7] [10] [12] [13] [14] | SWITCH ON KITCHEN HOOD           |
| EF-1  | WOMENS LOCKERS 016            | STORAGE 018        | B    | 700   | 0.75            | 20 SOHMS  | 3/4      | 208/1       | [2] [3] [4] [5] [7] [8]         | LIGHT SWITCH                     |
| EF-2  | MENS LOCKERS 007              | POOL PUMP ROOM 001 | B    | 750   | 0.75            | 20 SOHMS  | 3/4      | 208/1       | [2] [3] [4] [5] [7] [8]         | LIGHT SWITCH                     |
| EF-3  | SANITIZER 002, PPE BUFFER 003 | ROOF               | C    | 300   | 0.5             | 9 SOHMS   | 1/10     | 120/1       | [1] [4] [5] [6] [7] [8] [11]    | BURNS CONTINUOUSLY OCCUPIED MODE |
| SE-1  | OUTSIDE AIR                   | POOL PUMP ROOM 001 | D    | 53    | 0.01            | 0.3 SOHMS | -        | 120/1       | [3] [15] [14] [17]              | NOCCUPIED MODE                   |
| SE-2  | FAMILY 008, JANITOR 009       | MENS LOCKERS 007   | D    | 100   | 0.01            | 0.3 SOHMS | -        | 120/1       | [3] [17]                        | NOCCUPIED MODE                   |
| SE-3  | STORAGE 014                   | WOMENS LOCKERS 016 | D    | 80    | 0.01            | 0.3 SOHMS | -        | 120/1       | [3] [17]                        | NOCCUPIED MODE                   |

**FAN SCHEDULE**

TYPE: (A) CENTRIFUGAL URBAST ROOF EXHAUSTER, BELT DRIVE  
(B) IN-LINE CENTRIFUGAL FAN, DIRECT DRIVE  
(C) CENTRIFUGAL ROOF EXHAUSTER, DIRECT DRIVE  
(D) IN-LINE, DIRECT DRIVE

FAN ACCESSORIES: (1) BACKDRAFT DAMPER  
(2) FLEXIBLE CONNECTORS  
(3) RUBBER-IN-SHEAR ISOLATOR  
(4) THERMAL OVERLOAD PROTECTION  
(5) PREWIRED DISCONNECT SWITCH (NEMA 3R)  
(6) 12" HIGH ROOF CURB  
(7) SOLID STATE SPEED CONTROLLER  
(8) HI-MOD POLYESTER COATING (INDOOR & ALL ACCESSORIES)  
(9) HINGED CURB CAP, VENTED ROOF CURB W/ MIN. 40 INCH PAN DISCHARGE ABOVE ROOF, GREASE CAP  
(10) UNLISTED FOR GREASE REMOVAL  
(11) TYPE 'A' SPARK RESISTANT CONSTRUCTION  
(12) STARTER (SEE SPECIFICATIONS FOR STARTER REQUIREMENTS)  
(13) VFD-RATED MOTOR WITH SHAFT GROUNDING RING  
(14) GREASE TRAP WITH ABSORBENT MATERIAL  
(15) FILTRATION BOX (MFL-100)  
(16) BACKDRAFT DAMPER (MCA-100)  
(17) SPEED CONTROLLER (IC-100)

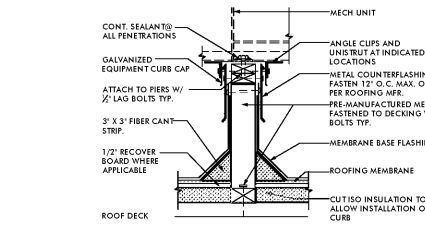
| INDOOR UNIT MARK | OUTDOOR UNIT MARK | SERVES   | TYPE | SUPPLY FAN CFM | SENSIBLE MBH | TOTAL MBH | ENT. AIR °F | ACCESSORIES | NOMINAL TONS | INDOOR UNIT | OUTDOOR UNIT | BASIS OF DESIGN (MITSUBISHI) (INDOOR/OUTDOOR) |
|------------------|-------------------|----------|------|----------------|--------------|-----------|-------------|-------------|--------------|-------------|--------------|---|
| DS-2             | DSCL-1            | ELEC 015 | A    | 320            | 9.0          | 12.0      | 80.0        | 67.0        | [1] [2] [3]  | 1.0         | 0.33         | 208/1   |

**MINI SPLIT SYSTEM UNIT SCHEDULE - COOLING ONLY**

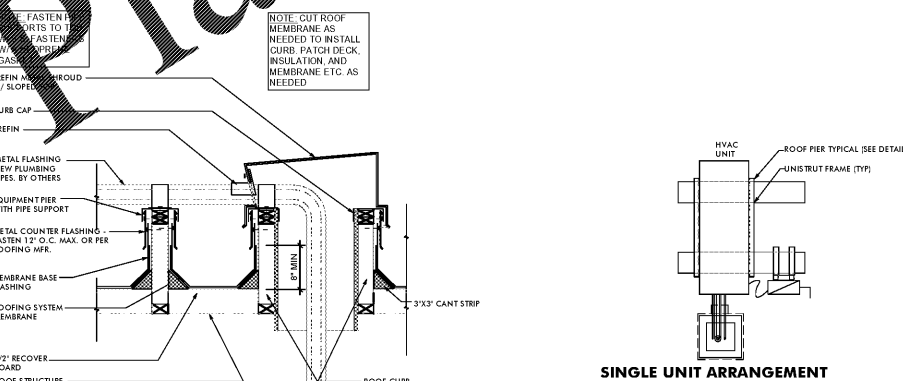
TYPE: (A) WALL MOUNTED (PKA TYPE)

ACCESSORIES: (1) MICROPROCESSOR BASED CONTROLS W/ HARDWIRED REMOTE CONTROLLER  
(2) WASHABLE FILTER  
(3) WIND BAFFLE FOR LOW-AMBIENT COOLING TO 0 DEGREE F

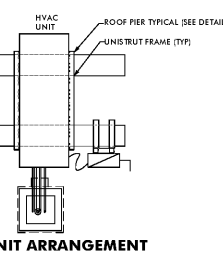
NOTES: (A) CAPACITIES ARE MINIMUM NET CAPACITIES  
(B) COOLING CAPACITY RATED AT 95°F AMBIENT  
(C) INDOOR UNITS RECEIVE POWER FROM OUTDOOR UNITS THROUGH FIELD SUPPLIED INTERCONNECTING WIRING  
(D) MINIMUM SEER = 13.0 AT AHR 210/240 CONDITIONS



**1 ROOF PIER DETAIL**  
SCALE: NONE

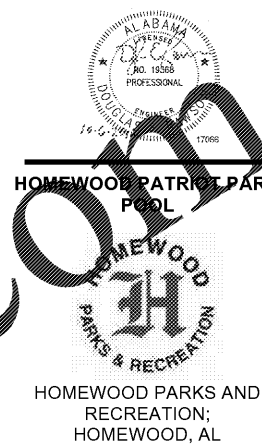


**2 ROOF PIPE PENETRATION DETAIL**  
SCALE: NONE



**3 MINI SPLIT OUTDOOR UNIT ROOF MOUNTING DETAIL**  
SCALE: NONE

**Order Plans**



OWNER: HOMEWOOD PARKS AND RECREATION  
1633 OXMOOR ROAD  
HOMEWOOD, AL 35209  
256-322-6704  
ATTN: BEVERLY SQUIRES

ARCHITECT: DAVIS ARCHITECTS, INC.  
129 29RD STREET SOUTH  
BIRMINGHAM, AL 35233  
256-322-7482  
ATTN: JIM HARTSELL

LANDSCAPE ARCHITECT: HNP  
1914 28TH AVE S  
BIRMINGHAM, AL 35209  
256-324-4447  
ATTN: TOMMY HOLCOMBE / ED NORTON

CONSTRUCTION MANAGER: DL HARTZERT  
820 SHADES CREEK PARKWAY, SUITE 3000  
BIRMINGHAM, AL 35209  
256-802-2800  
ATTN: JOHN HANSON

STRUCTURAL ENGINEER: LEYD INC.  
718 SOUTH 30TH STREET  
BIRMINGHAM, AL 35233  
256-551-6500  
ATTN: WEN SHOP / BRAD CHRISTOPHER

MECHANICAL ENGINEER: WHITAKER & RAWSON  
3332 OLD MONTGOMERY HIGHWAY  
SUITE 103  
BIRMINGHAM, AL 35209  
256-949-5128  
ATTN: MARK D'ANDREA AND DAN WHITAKER

CIVIL ENGINEER: LEYD INC.  
718 SOUTH 30TH STREET  
BIRMINGHAM, AL 35233  
256-551-6500  
ATTN: CURTIS EATMAN AND BRIAN HATCHER

ELECTRICAL ENGINEER: FISHER ARNOLD  
1567 ALEX DR.  
SUITE 101  
BIRMINGHAM, AL 35210  
256-853-7033  
ATTN: JOSEPH KUMU AND NICHOLAS BROWN

PLUMBING / FIRE PROTECTION ENGINEER: WHITAKER & RAWSON  
3332 OLD MONTGOMERY HIGHWAY  
SUITE 103  
BIRMINGHAM, AL 35209  
256-949-5107  
ATTN: ERIC HARTWIG

POOL CONSULTANT: COUNSLMAN HUNSAKE  
10733 SUNSET OFFICE DRIVE  
SUITE 400  
ST. LOUIS, MO 63127  
314-894-1245  
ATTN: JEFF WOODPORT

DATE: OCTOBER 6, 2017

SCALE: 100% CONSTRUCTION DOCUMENTS

PROJECT NO: 3822

SHEET TITLE: HVAC LEGENDS, SCHEDULES, AND DETAILS



**M0.01**