

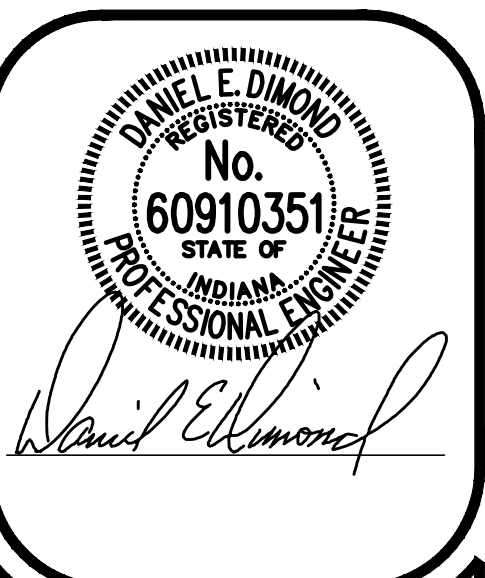
# MECHANICAL / PLUMBING SYMBOLS AND ABBREVIATIONS

| PLUMBING  | STEAM PIPING   | RADIATION SYMBOLS  | ABBREVIATIONS  |
|---|--|--|--|
| <p>--- COLD WATER</p> <p>--- HOT WATER</p> <p>--- HOT WATER RETURN</p> <p>---140'--- HOT WATER (140° F)</p> <p>---140'--- HOT WATER RETURN (140° F)</p> <p>---180'--- HOT WATER (180° F)</p> <p>---180'--- HOT WATER RETURN (180° F)</p> <p>--- T --- TEMPERED WATER</p> <p>---CSW--- COLD SOFT WATER</p> <p>---HSW--- HOT SOFT WATER</p> <p>---HSWR--- HOT SOFT WATER RETURN</p> <p>---NFW--- NON-POTABLE WATER</p> <p>--- G --- GAS</p> <p>--- A --- AIR (WITH PSI)</p> <p>--- S --- STORM WATER (SUSPENDED)</p> <p>--- B --- STORM WATER (BURIED)</p> <p>--- SW --- SANITARY WASTE (SUSPENDED)</p> <p>--- SB --- SANITARY WASTE (BURIED)</p> <p>--- SVL --- SANITARY VENT LINE</p> <p>--- DL --- DRAIN LINE</p> <p>--- WW --- WELL WATER</p> <p>--- GM --- GAS METER</p> <p>--- WM --- WATER METER</p> <p>--- (RPBP) --- (REDUCED PRESSURE BACKFLOW PREVENTER)</p> | <p>---BFW--- BOILER FEED WATER</p> <p>---EBFW--- EMERGENCY BOILER FEED WATER</p> <p>---LPS--- LOW PRESSURE STEAM</p> <p>---MPS--- MEDIUM PRESSURE STEAM</p> <p>---HPS--- HIGH PRESSURE STEAM</p> <p>---LPR--- LOW PRESSURE CONDENSATE RETURN</p> <p>---MPR--- MEDIUM PRESSURE CONDENSATE RETURN</p> <p>---HPR--- HIGH PRESSURE CONDENSATE RETURN</p> <p>---PD--- CONDENSATE PUMP DISCHARGE</p> <p>---CR--- CONDENSATE RETURN</p> <p>---E&amp;T--- FLOAT &amp; THERMOSTATIC TRAP</p> <p>---IB--- INVERTED BUCKET TRAP</p> <p>---TT--- THERMOSTATIC TRAP</p>   | <p>--- FINNED TUBE RADIATION</p> <p>--- FINNED TUBE RADIATION IN COVER</p> <p>--- BARE PIPE IN COVER</p> <p>--- RADIATION COVER ONLY</p>   | <p>AD AREA DRAIN</p> <p>AFC AUTOMATIC FLOW CONTROL</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>AHR AIR HOSE REEL</p> <p>AHU AIR HANDLING UNIT</p> <p>ALT ALTERNATE</p> <p>AP ACCESS PANEL</p> <p>AS AIR SEPARATOR</p> <p>BD BLOWDOWN</p> <p>BDD BACKDRAFT/PRESSURE RELIEF DAMPER</p> <p>BTU BRITISH THERMAL UNIT</p> <p>BV BALANCE VALVE</p> <p>CB CATCH BASIN</p> <p>CI CAST IRON</p> <p>CL CENTERLINE</p> <p>CO CLEANOUT</p> <p>COND CONDENSATE</p> <p>CONV HYDRONIC CONVECTOR</p> <p>CUH CABINET UNIT HEATER</p> <p>CW COLD WATER</p> <p>DB DRY BULB</p> <p>DF DRINKING FOUNTAIN</p> <p>DIA DIAMETER</p> <p>DIFF DIFFUSER</p> <p>DS DOWNSPOUT</p> <p>DYC DIRECT EXPANSION COOLING COIL</p> <p>EA EXHAUST AIR</p> <p>EAT ENTERING AIR TEMPERATURE</p> <p>EBBR ELECTRIC BASE BOARD RADIATION</p> <p>EC ELECTRICAL CONTRACTOR</p> <p>EG EXHAUST GRILLE</p> <p>ECONV ELECTRIC CONVECTOR</p> <p>ECUH ELECTRIC CABINET UNIT HEATER</p> <p>EF EXHAUST FAN</p> <p>ELEC ELECTRICAL</p> <p>ELEV ELEVATION</p> <p>EOM END OF MAIN DRIP</p> <p>EPUH ELECTRIC PROPELLER UNIT HEATER</p> <p>ER EXHAUST REGISTER</p> <p>ERCP ELECTRIC RADIANT CEILING PANEL</p> <p>ESP EXTERNAL STATIC PRESSURE</p> <p>EWI ELECTRIC WATER COOLER</p> <p>EWH ELECTRIC WATER HEATER</p> <p>ET EXPANSION TANK</p> <p>EXTG. E. EXISTING</p> <p>FD FLOOR DRAIN OR FIRE DAMPER</p> <p>FPVAV FAN POWERED VAV</p> <p>FOB FLAT ON BOTTOM</p> <p>FSD COMBINATION FIRE/SMOKE DAMPER</p> <p>FTR HYDRONIC FINNED TUBE RADIATION</p> <p>GC GENERAL CONTRACTOR</p> <p>GEN GENERAL</p> <p>HB HOSE BIBB</p> <p>HTG HEATING</p> <p>HW HOT WATER</p> <p>ID INTERNAL DIAMETER</p> |
| <p>--- PIPE FITTINGS</p> <p>--- ELBOW UP</p> <p>--- ELBOW DOWN</p> <p>--- TEE UP</p> <p>--- TEE DOWN</p> <p>--- CONCENTRIC REDUCER</p> <p>--- ECCENTRIC REDUCER</p> <p>--- END CAP</p> <p>--- UNION</p> <p>--- STRAINER</p> <p>--- FLANGED CONNECTION</p> <p>--- FLOW ARROW</p> <p>--- PIPE ANCHOR</p> <p>--- EXPANSION JOINT</p> <p>--- PIPE SLEEVE</p> <p>--- PIPE ALIGNMENT GUIDES</p> <p>--- FLEX CONNECTOR</p> <p>--- PIPE PITCH ARROW (DOWN IN ARROW DIRECTION)</p> <p>--- PRESSURE GAUGE</p> <p>--- AUTOMATIC AIR VENT</p> <p>--- COMPOUND GAUGE</p> <p>--- AIR CHAMBER</p> <p>--- SHOCK ABSORBER</p> <p>--- ELBOW</p> <p>--- TEE</p> <p>--- CLEANOUT</p> <p>--- FLOOR DRAIN</p> <p>--- THERMOMETER</p>  | <p>---HVAC PIPING</p> <p>---CS--- CONDENSER WATER SUPPLY</p> <p>---CR--- CONDENSER WATER RETURN</p> <p>---CHWS--- CHILLED WATER SUPPLY</p> <p>---CHWR--- CHILLED WATER RETURN</p> <p>---GS--- GROUND LOOP WATER SUPPLY</p> <p>---GR--- GROUND LOOP WATER RETURN</p> <p>---HS--- HEATING WATER SUPPLY</p> <p>---HR--- HEATING WATER RETURN</p> <p>---FOS--- FUEL OIL SUPPLY</p> <p>---FOR--- FUEL OIL RETURN</p> <p>---FOV--- FUEL OIL VENT</p> <p>---RD--- REFRIGERANT DISCHARGE</p> <p>---RS--- REFRIGERANT SUCTION</p> <p>---RL--- REFRIGERANT LIQUID</p> <p>---RHC--- REFRIGERANT HOT GAS</p> <p>---DTS--- DUAL TEMPERATURE SUPPLY</p> <p>---DTR--- DUAL TEMPERATURE RETURN</p> | <p>--- DUCT SYMBOLS</p> <p>--- VOLUME DAMPER</p> <p>--- SUPPLY DUCT UP</p> <p>--- RETURN OR EXHAUST DUCT UP</p> <p>--- SUPPLY DUCT DOWN</p> <p>--- RETURN OR EXHAUST DUCT DOWN</p> <p>--- INTERNAL LINED DUCT</p> <p>--- FIRE DAMPER (FD) IN DUCT</p> <p>--- COMBINATION FIRE/SMOKE DAMPER (FSD) IN DUCT</p> <p>--- SMOKE DAMPER (SD) IN DUCT</p> <p>--- ACCESS PANEL</p>  | <p>INV. EL INVERT ELEVATION</p> <p>LAT LEAVING AIR TEMPERATURE</p> <p>LAV LAVATORY</p> <p>MBH 1000 BTU/HOUR</p> <p>MECH MECHANICAL</p> <p>MH MANHOLE</p> <p>MC MECHANICAL CONTRACTOR</p> <p>MS MOP SINK</p> <p>MUV AUTOMATIC MAKE-UP VALVE</p> <p>NC NORMALLY CLOSED</p> <p>NO NORMALLY OPEN</p> <p>OA OUTSIDE AIR</p> <p>OBDD OPPOSED BLADE DAMPER</p> <p>OD OUTSIDE DIAMETER</p> <p>OFD OVERFLOW DRAIN</p> <p>OSD OPEN SITE DRAIN</p> <p>PFHX PLATE AND FRAME HEAT EXCHANGER</p> <p>PIV POST INDICATOR VALVE</p> <p>PLBG PLUMBING</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>PUH PROPELLER UNIT HEATER</p> <p>RA RADIANT CEILING HEATING PANEL</p> <p>RCP REINFORCED CONCRETE PIPE</p> <p>RD ROOF DRAIN</p> <p>RECIRC RECIRCULATING</p> <p>RG RETURN GRILLE</p> <p>RPZ REDUCED PRESSURE BACKFLOW PREVENTER</p> <p>RR RETURN REGISTER</p> <p>RRV ROOF INTAKE VENT</p> <p>SA SUPPLY AIR</p> <p>SAN SANITARY</p> <p>SD SMOKE DAMPER</p> <p>SG SUPPLY GRILLE</p> <p>SHDR SHOWER DRAIN</p> <p>SK SINK</p> <p>SR SUPPLY REGISTER</p> <p>SS STAINLESS STEEL</p> <p>STHX SHELL AND TUBE HEAT EXCHANGER</p> <p>TCC TEMPERATURE CONTROL CONTRACTOR</p> <p>TCP TEMPERATURE CONTROL PANEL</p> <p>TG TRANSFER GRILLE</p> <p>TO TRANSFER OPENING</p> <p>TP TRAP PRIMER LINE</p> <p>TYP TYPICAL</p> <p>URINAL URINAL</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VCP VITRIFIED CLAY PIPE</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>VS VENT STACK</p> <p>VTR VENT THRU ROOF</p> <p>W WASTE</p> <p>WB WET BULB</p> <p>WC WATER CLOSET</p> <p>WH WALL HYDRANT</p> <p>WS WASTE STACK</p>  |
|   | <p>--- VALVES</p> <p>--- SHUT-OFF VALVE</p> <p>--- VERTICAL SHUT-OFF/NEEDLE VALVE</p> <p>--- BALANCING VALVE</p> <p>--- CHECK VALVE</p> <p>--- PRESSURE REDUCING VALVE</p> <p>--- MAKEUP WATER VALVE</p> <p>--- FLOW CONTROL VALVE</p> <p>--- SAFETY/PRESSURE RELIEF VALVE</p> <p>--- AUTOMATIC AIR VENT</p> <p>--- TEMP/PRESSURE RELIEF VALVE</p> <p>--- CONTROL VALVE (TCV)</p> <p>--- 3-WAY CONTROL VALVE</p> <p>--- THROTTLING VALVE</p>   | <p>--- FIRE PROTECTION SYSTEM</p> <p>--- PENDANT SPRINKLER HEAD</p> <p>--- UPRIGHT SPRINKLER HEAD</p> <p>--- CONCEALED SPRINKLER HEAD</p> <p>--- FIRE PROTECTION PIPING</p> <p>--- DRY STANDPIPE</p> <p>--- DRY PIPE SPRINKLER PIPING</p> <p>--- PRE-ACTION SPRINKLER PIPING</p> <p>--- WET FIRE PROTECTION PIPING</p> <p>--- FIRE HYDRANT</p> <p>--- SIAMOSE HOSE CONNECTION</p> <p>--- POST INDICATOR VALVE</p> <p>--- TAMPER SWITCH</p> <p>--- FLOW SWITCH</p> <p>--- ALARM CHECK VALVE</p> | <p>TEMPERATURE CONTROL/MONITORING</p> <p>--- ROOM THERMOSTAT (HEAT)</p> <p>--- ROOM THERMOSTAT (HEAT/COOL)</p> <p>--- ROOM THERMOSTAT (COOL)</p> <p>--- DUCT THERMOSTAT (PNEUMATIC)</p> <p>--- DUCT THERMOSTAT (ELECTRIC)</p> <p>--- HUMIDISTAT</p> <p>--- CARBON DIOXIDE SENSOR</p> <p>--- FLOW SWITCH</p> <p>--- TEMPERATURE SENSOR</p> <p>--- FLOW METER</p> <p>--- MOTORIZED DAMPER</p> <p>--- DIFFERENTIAL PRESSURE TRANSMITTER</p> <p>--- PETE'S PLUG</p> <p>--- VARIABLE FREQUENCY DRIVE</p> <p>--- TEMPERATURE CONTROL PANEL</p>   |
|   | <p>--- REFRIGERATION VALVES/FITTINGS</p> <p>--- FILTER-DRYER</p> <p>--- SIGHT GLASS</p> <p>--- CHARGING VALVE</p> <p>--- EVAPORATOR PRESSURE REGULATOR</p> <p>--- MANUAL REFRIGERATION VALVE</p> <p>--- THERMOSTATIC EXPANSION VALVE</p>   | <p>--- MEDICAL</p> <p>--- GAS OUTLET</p> <p>--- OXYGEN OUTLET</p> <p>--- MEDICAL AIR OUTLET</p> <p>--- NITROGEN OUTLET</p> <p>--- NITROUS OXIDE OUTLET</p> <p>--- VACUUM OUTLET</p> <p>--- SLIDE</p> <p>--- MEDICAL AIR</p> <p>--- NITROGEN</p> <p>--- OXYGEN</p> <p>--- NITROUS OXIDE</p> <p>--- VACUUM LINE</p> <p>--- ACID WASTE (SUSPENDED)</p> <p>--- ACID WASTE (BURIED)</p> <p>--- DISTILLED WATER</p> <p>--- ACID VENT</p> <p>--- DEIONIZED WATER</p>                                  | <p>DRAWING NOTATIONS</p> <p>--- DENOTED EXISTING WORK</p> <p>--- DENOTED NEW WORK</p> <p>--- SIZE OF PIPE OR DUCT</p> <p>--- DENOTED EXISTING</p> <p>SECTIONS AND DETAILS</p> <p>--- SECTION OR ELEVATION NUMBER</p> <p>--- SHEET NUMBER OF SECTION OR ELEVATION</p> <p>--- DETAIL (LETTER)</p> <p>--- SHEET NUMBER OF DETAIL LOCATION</p>   |

## GENERAL NOTES:

- THESE NOTES APPLY TO EACH AND EVERY DRAWING IN THIS SET.
- ALL NEW WORK IS DRAWN DARK. ALL WORK DRAWN LIGHT AND FOLLOWED BY (E.) IS EXISTING. ALL WORK SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
- FIELD VERIFY ALL EXISTING CONDITIONS AS TO EXACT SERVICE, LOCATION, TYPE OF MATERIAL, ETC. BEFORE BIDDING AND BEFORE BEGINNING RENOVATION WORK.
- COORDINATE ALL SHUT-DOWNS, DELIVERY AND STORAGE OF MATERIALS, ETC. WITH OWNERS REPRESENTATIVE.
- CONTRACTORS SHALL PROTECT ALL EXISTING OWNER FACILITIES DURING CONSTRUCTION. ANY AND ALL OWNER FACILITIES DAMAGED OR DISCONNECTED BY CONTRACTOR OPERATIONS SHALL BE FULLY RESTORED TO PREVIOUS OPERATING AND APPEARANCE CONDITION BY CONTRACTOR.
- ADDITIONAL GENERAL NOTES SPECIFIC TO A PARTICULAR DRAWING ARE NOTED ON THOSE DRAWINGS.
- THOROUGHLY REVIEW ALL DRAWINGS PRIOR TO ANY DEMOLITION WORK. ANY DEVICES REMOVED ACCIDENTALLY WILL BE REPLACED AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CORE DRILLING AND CUTTING HOLES THRU WALLS, FLOOR OR ROOF AS REQUIRED TO INSTALL NEW PIPING, DUCTWORK, ETC. WHETHER SHOWN OR NOT. PROVIDE SLEEVES FOR ALL PIPING AND CONDUIT THAT PENETRATE FULL HEIGHT WALLS.
- SMOKING, ALCOHOL, DRUGS, WEAPONS AND CONTRABAND ARE STRICTLY FORBIDDEN ON THIS PROPERTY.
- DISPOSAL OF DEMOLISHED MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- PROVIDE 24/24 ACCESS PANELS IN HARD CEILINGS WHEREVER ACCESS IS REQUIRED TO INSTALL OR SERVICE MECHANICAL EQUIPMENT.
- CONTRACTOR SHALL PROVIDE MATERIALS AS REQUIRED TO PROTECT SURFACE OF EXISTING FINISHED FLOORS. PROVIDE PROTECTION UNDER WHEELS OF SCAFFOLDS, LIFTING DEVICES AND ANY OTHER EQUIPMENT THAT COULD DAMAGE THE EXISTING FLOOR FINISHES.
- FIELD VERIFY EXACT SIZES OF EXISTING PIPING SYSTEMS SHOWN TO BE CONNECTED TO. IN THE EVENT ACTUAL SIZE IS DIFFERENT THAN SHOWN ON DRAWING, CONTACT ENGINEER FOR DIRECTION PRIOR TO ANY WORK.
- NOTIFY THE OWNER A MINIMUM OF 72 HOURS PRIOR TO ANY SHUT-DOWN OR SERVICE INTERRUPTION. NOTIFICATION REQUIRED FOR ALL SHUT-DOWNS REGARDLESS OF SYSTEM(S) AFFECTED OR THEIR EXPECTED DURATIONS.
- REMOVE AND REPLACE CEILINGS, LIGHT FIXTURES ETC. AS REQUIRED TO INSTALL MECHANICAL AND PLUMBING SYSTEMS. REPAIR TO PREVIOUS (OR BETTER) CONDITION. COORDINATE WITH 'A' SERIES DRAWINGS.
- ALL WIRING AND/OR TUBING TO THERMOSTATS SHALL BE ROUTED CONCEALED. WIREMOLD IS NOT ACCEPTABLE. COORDINATE THERMOSTAT LOCATIONS WITH G.C. PRIOR TO WALL CONSTRUCTION.
- MOUNT THERMOSTATS AT 56" A.F.F. UNLESS NOTES OTHERWISE.
- COLORS OF EXPOSED UNITS SHALL BE SELECTED BY ARCHITECT. COLORS SHALL BE MANUFACTURER'S STANDARD OR CUSTOM COLOR AS REQUESTED. SUBMIT COLOR CHARTS WITH SHOP DRAWINGS.
- ALL UNDERLINED EQUIPMENT IS SCHEDULED. SEE M600 SERIES DRAWINGS FOR SCHEDULES.

A MAXIMUM 6 HOUR DOWN-TIME OF PLUMBING SYSTEMS IS ALLOWED.



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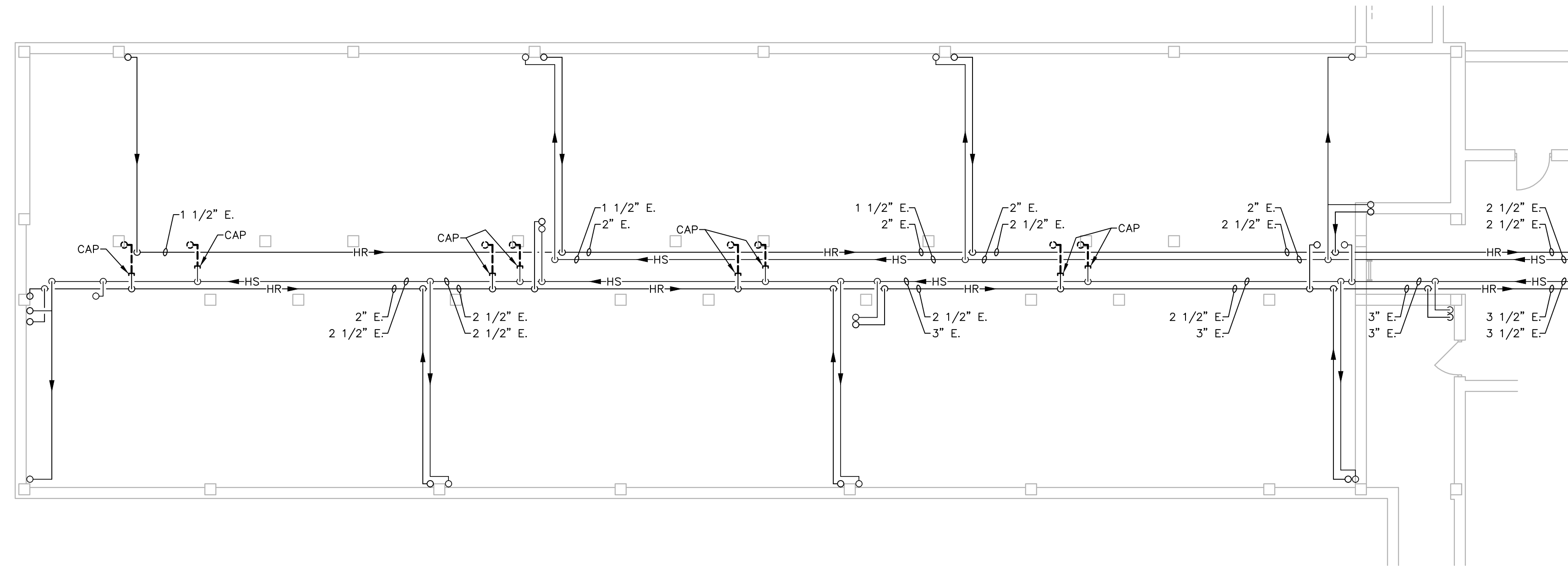
U/A UNIT / CHILD CARE RENOVATION / MARRIED STUDENT HOUSING

SYMBOLS AND ABBREVIATIONS, GENERAL NOTES

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| PROPERTY NO.: |            |
| REVISIONS     |            |
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| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | S.D.F.     |
| CHECKED BY:   | D.E.D.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #13052  |

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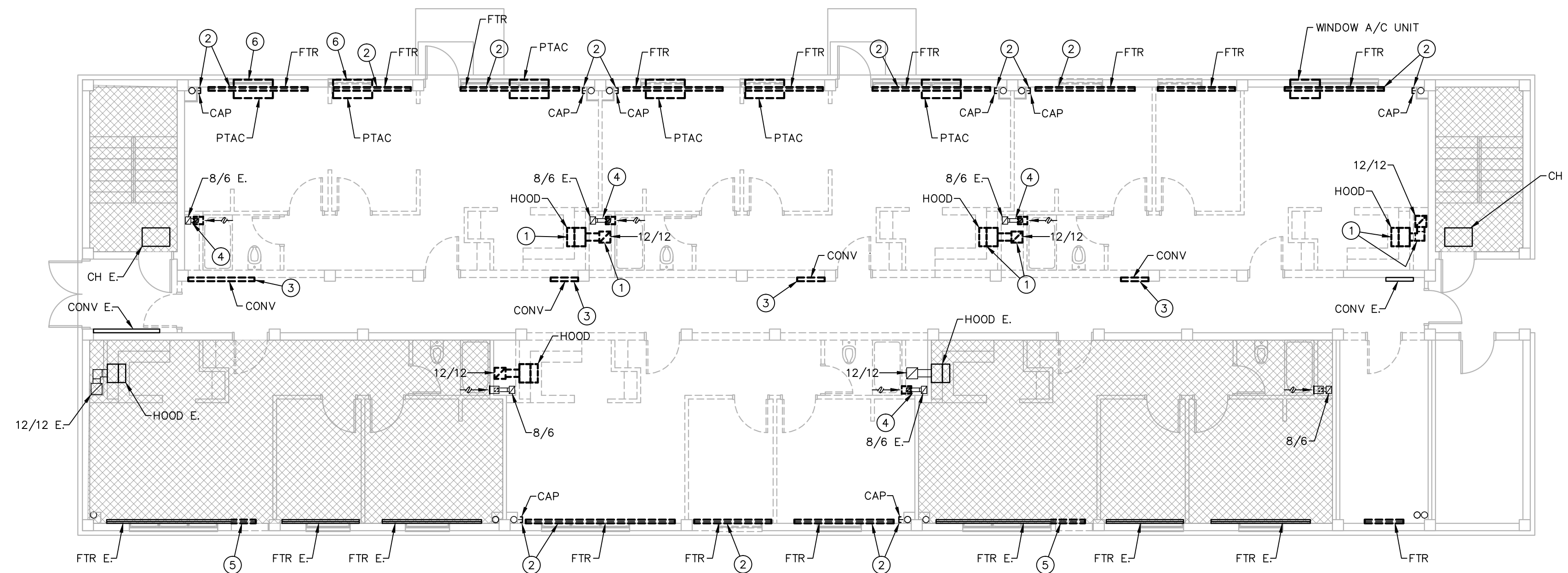
**CRAWL SPACE PLAN - MECHANICAL DEMOLITION**  
 SCALE: 1/8" = 1'-0"  
 NORTH

**DEMOLITION GENERAL NOTES**

1. ALL PIPING AND EQUIPMENT ABANDONED BY NATURE OF NEW CONSTRUCTION SHALL BE REMOVED IN THIS CONTRACT.
2. THOROUGHLY REVIEW ALL DRAWINGS PRIOR TO ANY DEMOLITION WORK. ANY DEVICES REMOVED ACCIDENTALLY WILL BE REPLACED AT NO ADDITIONAL COST TO OWNER.
3. REMOVE ALL PIPING, EQUIPMENT, VALVES, ETC., DRAWN DARK DASHED. ALL PIPING, EQUIPMENT, VALVES, ETC., DRAWN LIGHT SHALL REMAIN.
4. INSTALL CAPS ON ALL PIPING AND DUCTWORK WHERE THEY ARE LEFT OPEN ENDED BY DEMOLITION.
5. FIELD VERIFY ALL EXISTING CONDITIONS AS TO EXACT SERVICE, LOCATION, TYPE OF MATERIAL, ETC. BEFORE BIDDING AND BEFORE BEGINNING ANY DEMOLITION.
6. REMOVE ALL HANGERS, STRAPS, BRACKETS, ETC. ASSOCIATED WITH DUCTWORK AND OR PIPING TO BE REMOVED.
7. MECHANICAL CONTRACTOR SHALL REMOVE AND REPLACE EXISTING CEILING, LIGHT FIXTURES, ETC. IN EXISTING BUILDING AS REQUIRED TO PERFORM DEMOLITION AND RENOVATION WORK. AFTER WORK IS COMPLETE, CEILING AND LIGHT FIXTURES SHALL BE REPAIRED TO AT LEAST AS GOOD A CONDITION AS BEFORE.
8. REPAIR OR REPLACE PIPE AND DUCT INSULATION DAMAGED DURING DEMOLITION OR RENOVATION TO MATCH ORIGINAL CONDITION.
9. COORDINATE ALL SHUT-DOWNS, DELIVERY AND STORAGE OF MATERIALS, ETC. WITH OWNER'S REPRESENTATIVE.
10. MECHANICAL CONTRACTOR SHALL CUT AND PATCH FINISHED AREAS AS REQUIRED BY MECHANICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE IN DOCUMENTS.
11. CONTRACTORS SHALL PROTECT ALL EXISTING OWNER FACILITIES DURING CONSTRUCTION. ANY AND ALL OWNER FACILITIES DAMAGED OR DISCONNECTED BY CONTRACTOR OPERATIONS SHALL BE FULLY RESTORED TO PREVIOUS OPERATING AND APPEARANCE CONDITION BY THE CONTRACTOR.
12. FIELD VERIFY EXACT SIZES OF EXISTING PIPING AND DUCTWORK SYSTEMS SHOWN TO BE CONNECTED TO. IN THE EVENT ACTUAL SIZE IS DIFFERENT THAN SHOWN ON DRAWING, CONTACT ENGINEER FOR DIRECTION PRIOR TO ANY WORK.
13. SEE ALSO MP001 FOR ADDITIONAL GENERAL NOTES.
14. REPAIR HOLES IN WALLS AND FLOORS WHERE PIPES/DUCTS ARE REMOVED. REPAIR SHALL MATCH ADJACENT SURFACE.

**DEMOLITION PLAN NOTES:**

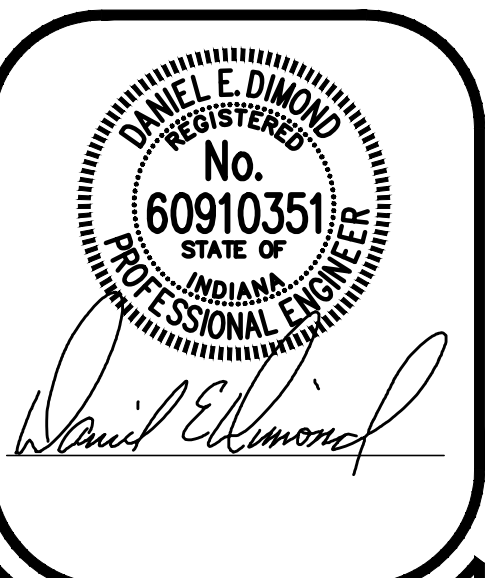
- ① REMOVE HOOD, CAP 12/12 HOOD EXHAUST DUCT BELOW FLOOR ABOVE.
- ② REMOVE RADIATION AND ENCLOSURE COMPLETE. CAP PIPING AS SHOWN. SAVE RADIATION AND COVERS, USE BEST PIECES TO REPLACE COVERS ON SOUTH WALL THAT WERE REMOVED TO INSTALL DOORS.
- ③ REMOVE CONVECTOR COMPLETE, CAP PIPING BELOW FLOOR AS SHOWN.
- ④ RECONNECT TO 8/6 EXHAUST DUCT BELOW FLOOR ABOVE. SEE M101.
- ⑤ REMOVE PORTION OF RADIATION AS REQUIRED FOR NEW DOOR INSTALLATION.
- ⑥ REMOVE PACKAGE TERMINAL AIR CONDITIONING UNITS AND TURN OVER TO OWNER. INFILL OPENING.



**FIRST FLOOR PLAN - MECHANICAL DEMOLITION**  
 SCALE: 1/4" = 1'-0"  
 NORTH

**DEMOLITION LEGEND:**

- EXISTING WORK TO BE REMOVED
- EXISTING WORK TO REMAIN



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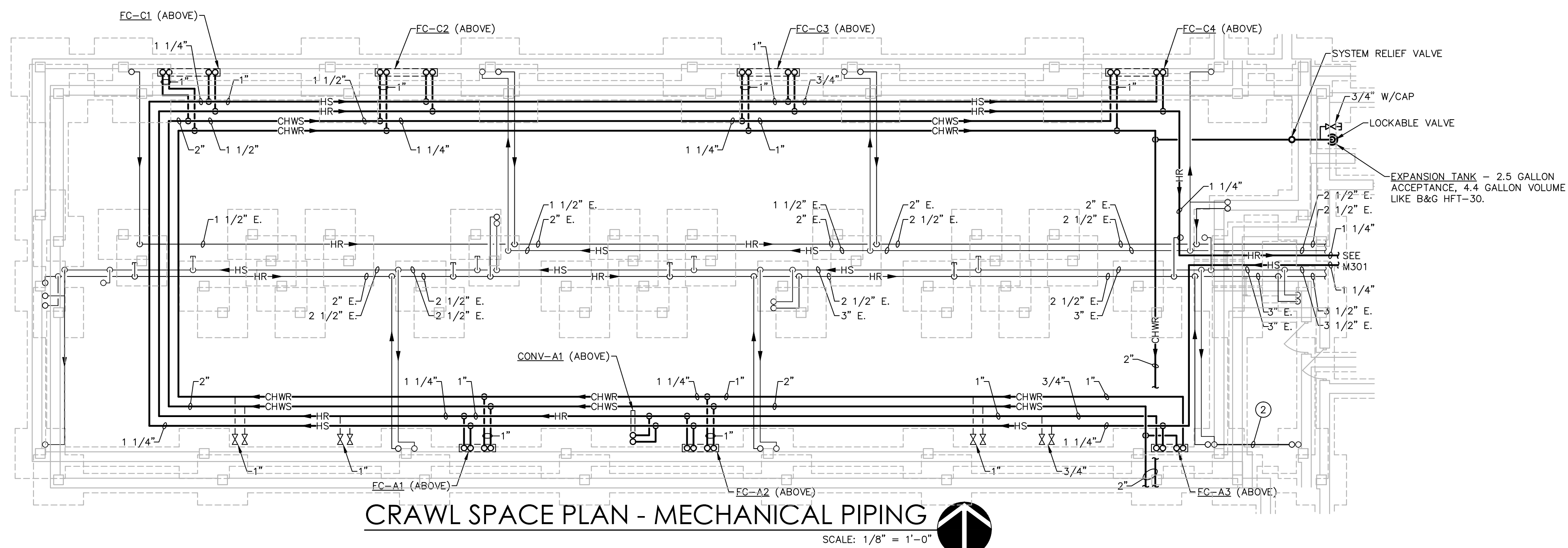
UA UNIT / CHILDCARE RENOVATION  
 MARRIED STUDENT HOUSING

CRAWL SPACE & FIRST FLOOR - MECH. DEMOLITION

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| PROPERTY NO.: |            |
| REVISIONS     |            |
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| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | S.D.F.     |
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| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #18052  |

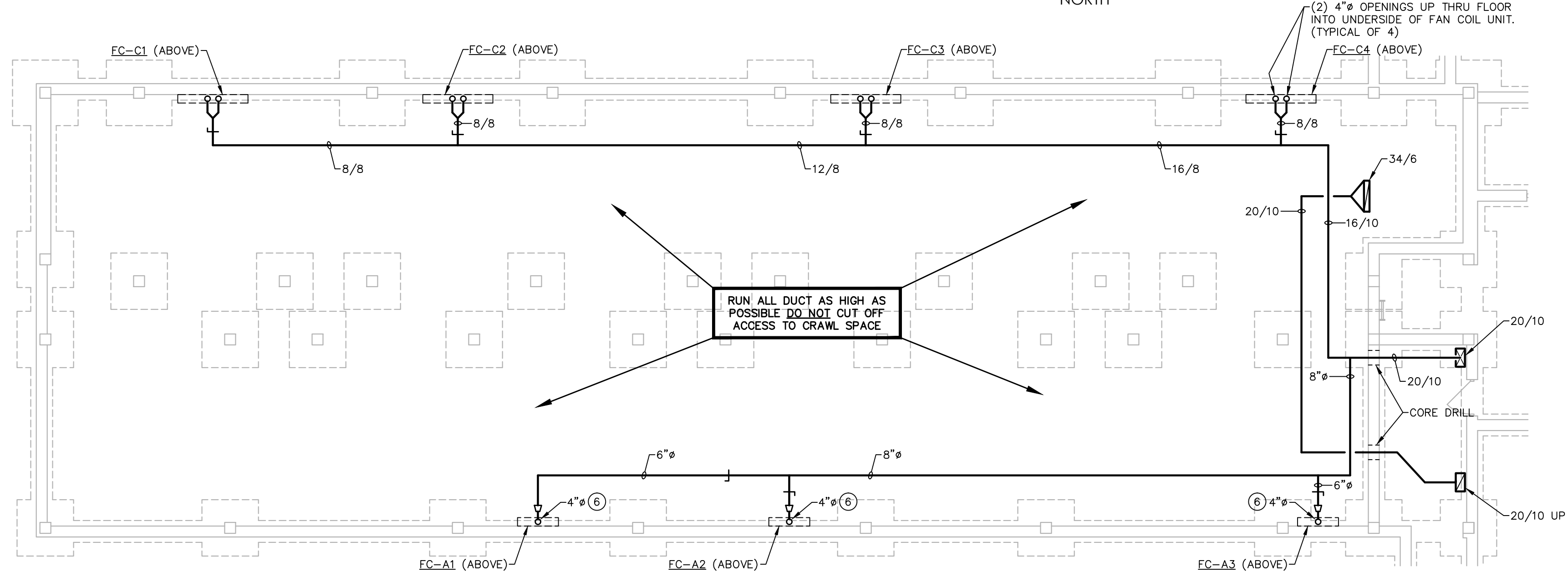
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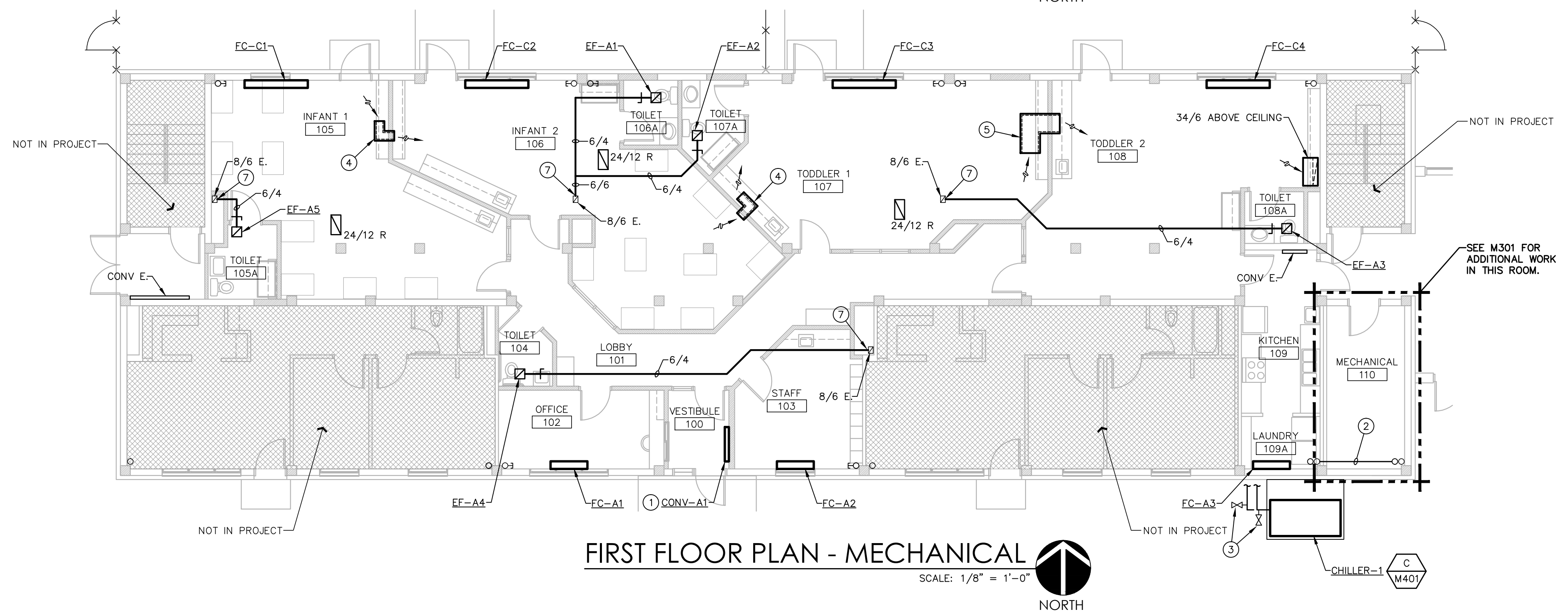
CRAWL SPACE PLAN - MECHANICAL PIPING

SCALE: 1/8" = 1'-0"



CRAWL SPACE PLAN - AIR DISTRIBUTION

SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - MECHANICAL

SCALE: 1/8" = 1'-0"



GENERAL NOTES - HYDRONIC:

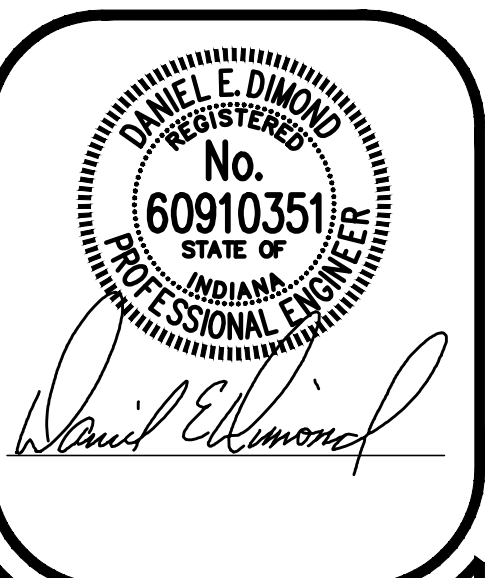
1. CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING, CLEANING AND FLUSHING OF PIPING AND SYSTEMS. OWNER WILL PROVIDE AND ASSIST CONTRACTOR IN FILLING OF GLYCOL IN SYSTEM.
2. ALL BRANCH PIPING TO EQUIPMENT TO BE MINIMUM 3/4" UNLESS NOTED AS LARGER.
3. ALL FLOOR PENETRATIONS TO BE FIRE STOPPED.
4. CHILLED WATER SYSTEM WILL BE GLYCOL, PROVIDE MANUAL AIR VENTS ONLY.

GENERAL NOTES - AIR DISTRIBUTION:

1. INSTALL FIRE DAMPER AT ALL FLOOR PENETRATIONS.
2. BRANCH DUCTS TO DIFFUSERS SHALL BE 45° BOOT TAP FROM SIDE OF MAIN. SEE DETAIL.
3. PROVIDE VOLUME DAMPERS IN ALL BRANCH DUCTS TO DIFFUSERS, EXHAUST GRILLES, ETC. WHETHER SHOWN OR NOT. THESE DAMPERS ARE TO BE USED FOR SYSTEM BALANCE. DAMPERS IN DIFFUSERS, REGISTERS, ETC. SHALL NOT BE USED FOR AIR BALANCE.
4. ALL DUCT IN CRAWL SPACE SHALL BE HARD PIPE. NO FLEX DUCT ALLOWED.
5. INSULATE ALL DUCT IN CRAWL SPACE.
6. SEE ALSO MPO01 FOR ADDITIONAL NOTES.

PLAN NOTES:

- ① SEMI RECESSED PIPES UP IN WALL.
- ② OFFSET EXISTING PIPES IN CRAWL SPACE. RUN VERTICAL IN MECHANICAL #110 THEN OFFSET BACK TO WEST ABOVE FIRST FLOOR NEAR CEILING.
- ③ 1" GLYCOL FILL AND VENT CONNECTIONS.
- ④ 12/6 INTERNALLY LINED TRANSFER DUCT.
- ⑤ 24/6 INTERNALLY LINED TRANSFER DUCT.
- ⑥ REDUCE TO 4" @ FLOOR PENETRATION.
- ⑦ CONNECT TO EXISTING 8/6 EXHAUST DUCT BELOW FLOOR ABOVE.



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 and Associates, Inc.  
 Consulting Engineers

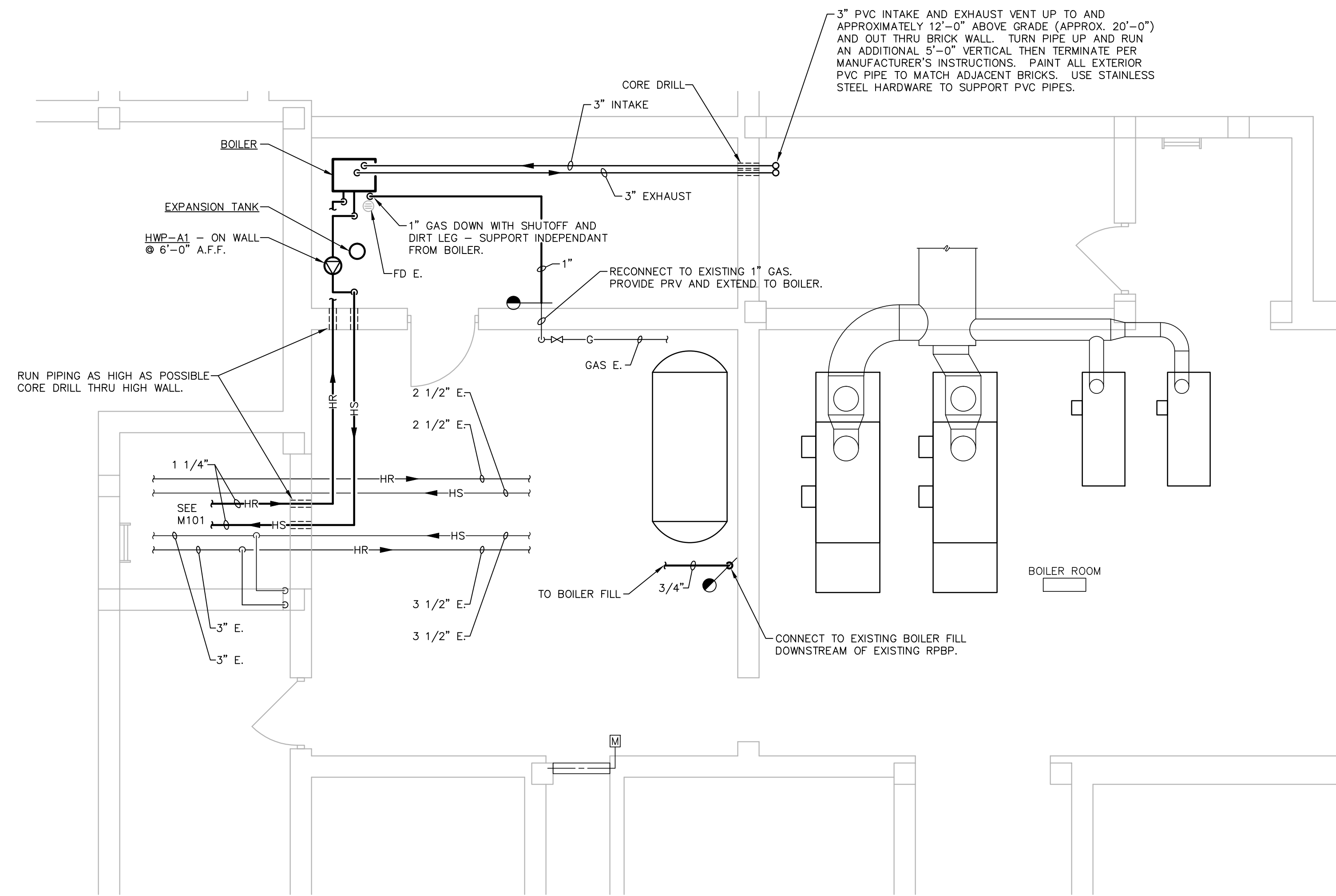
UA UNIT / CHILDCARE RENOVATION  
 MARRIED STUDENT HOUSING  
 FIRST FLOOR PLAN - MECHANICAL

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| PROPERTY NO.: |            |
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| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | S.D.F.     |
| CHECKED BY:   | D.E.D.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #19052  |

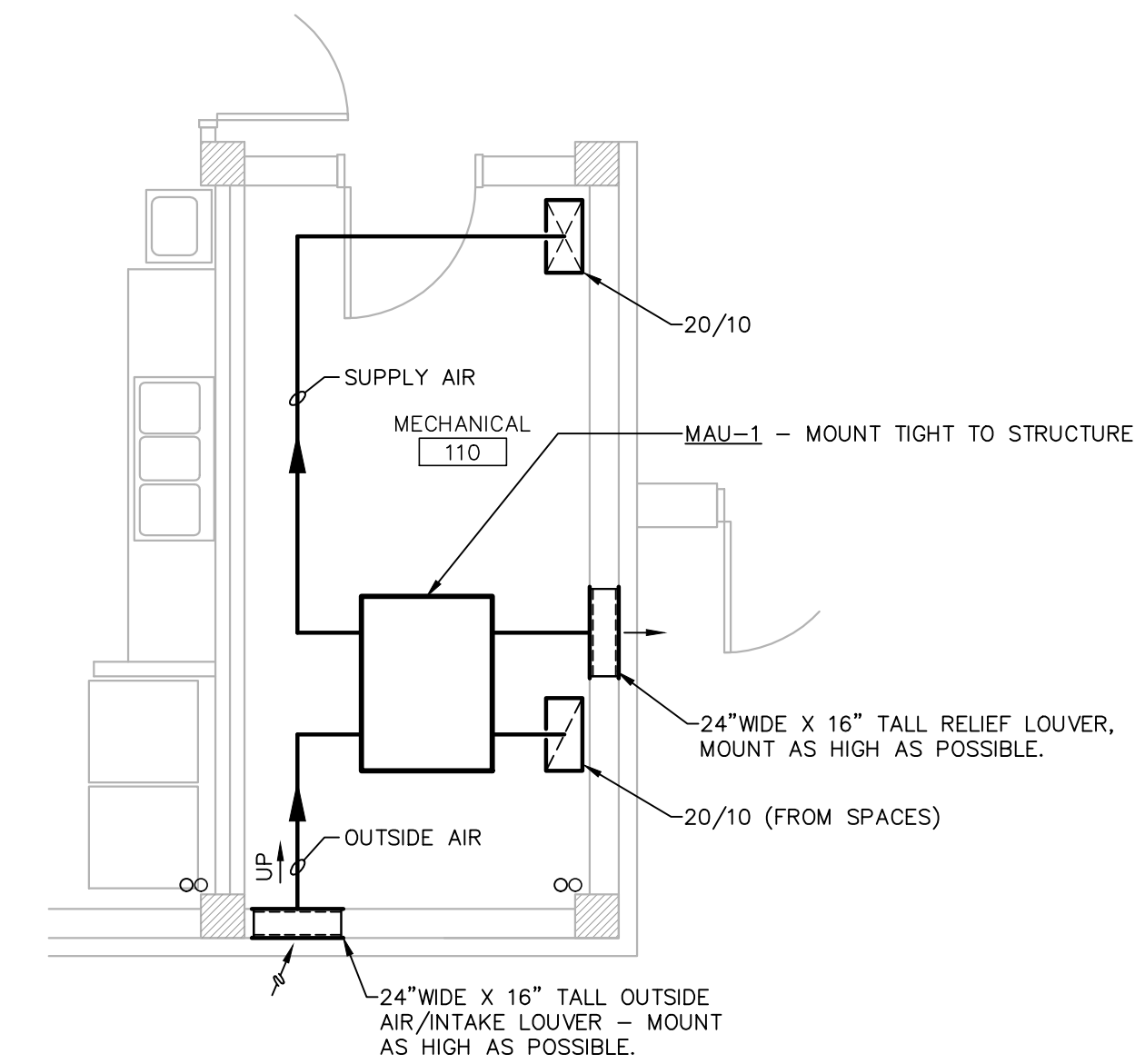
SHEET NO. **M101**

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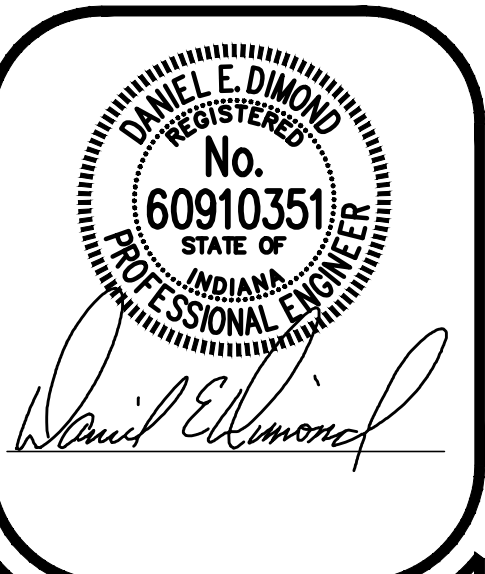
- NEW WORK TO BE INSTALLED
- EXISTING WORK TO REMAIN



**ENLARGED BOILER ROOM PLAN**  
 SCALE: 1/4" = 1'-0"  
 NORTH



**MECHANICAL ROOM PLAN**  
 SCALE: 1/4" = 1'-0"  
 NORTH



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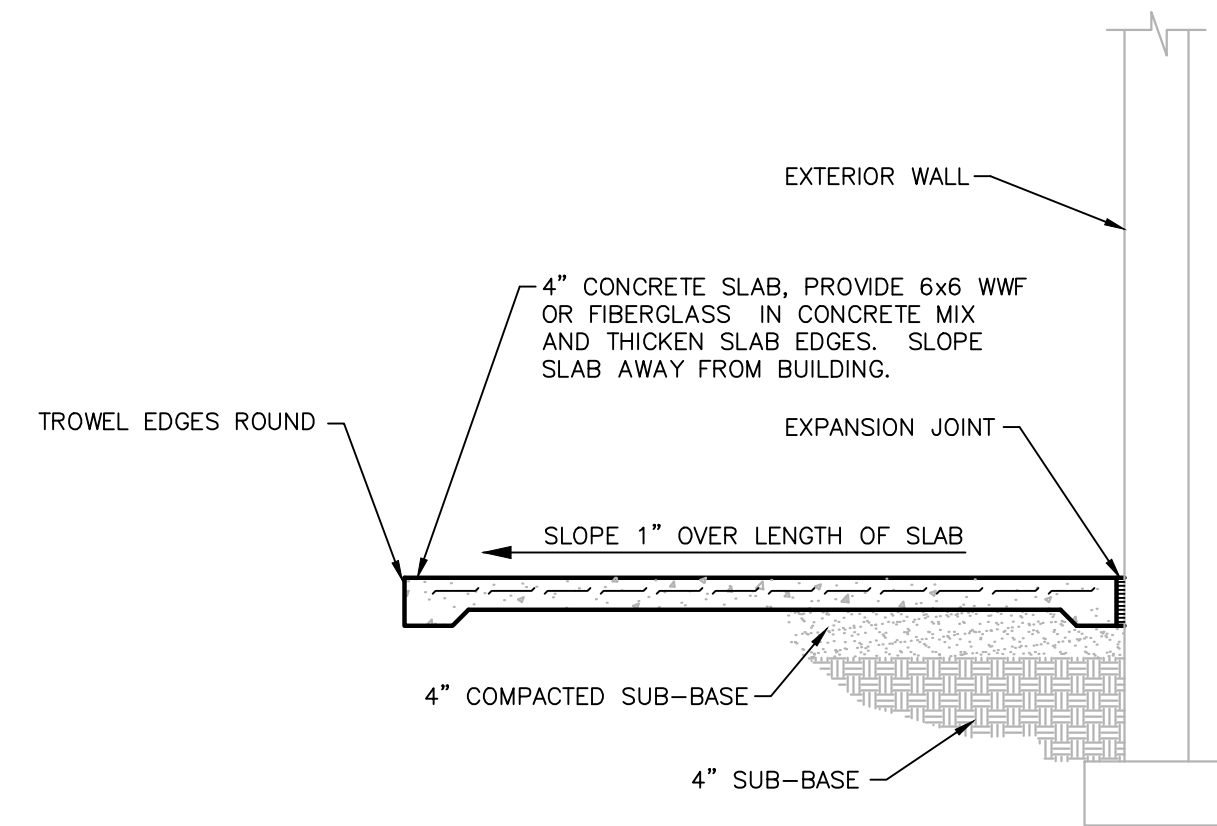
UA UNIT / CHILDCARE RENOVATION  
 MARRIED STUDENT HOUSING

ENLARGED BOILER ROOM PLAN

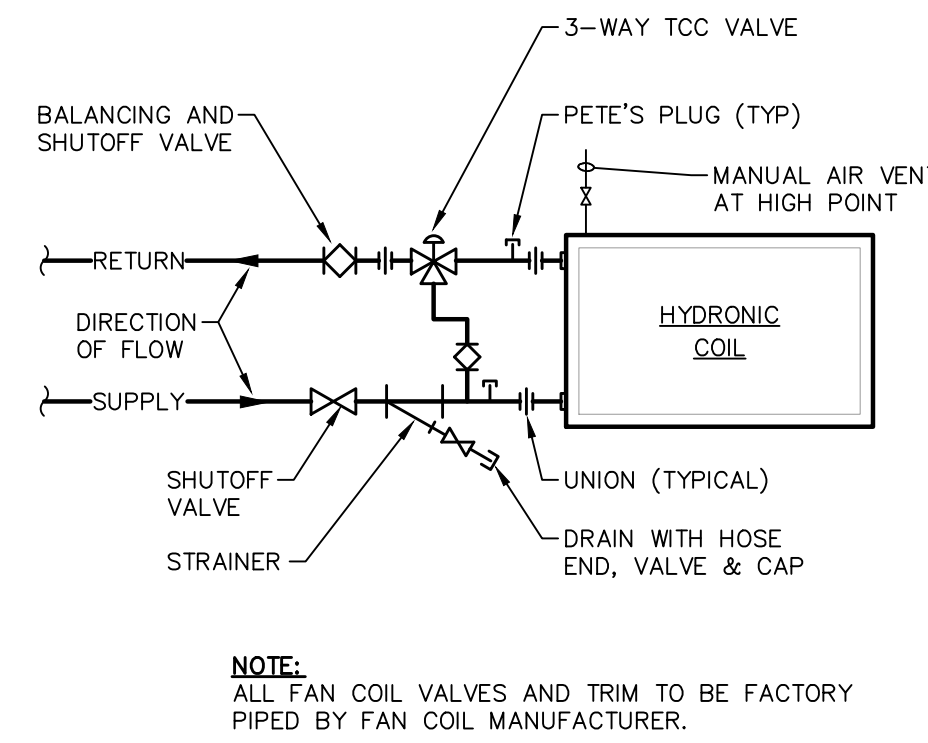
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| PROJECT NO.:  | DA #13052  |

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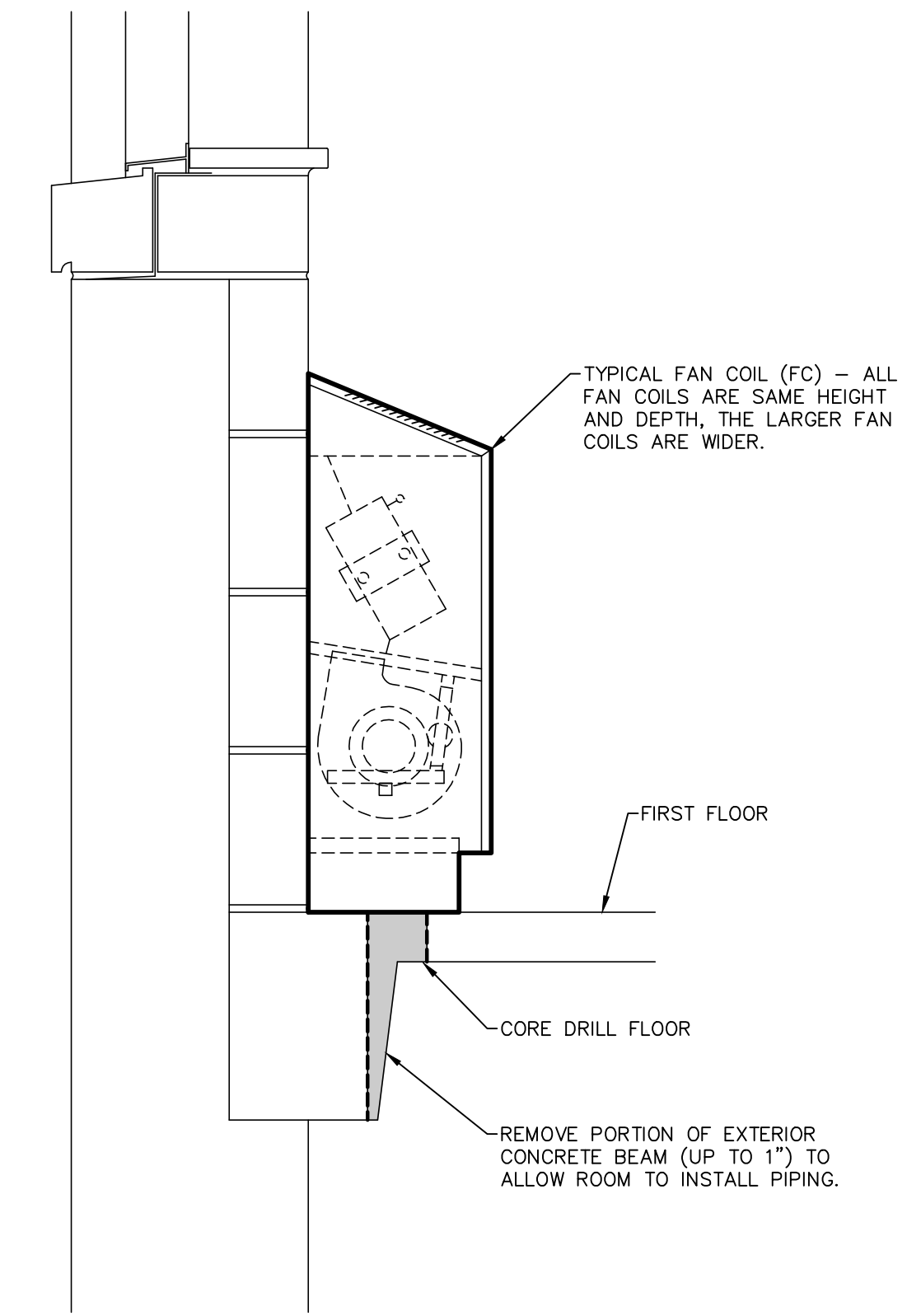
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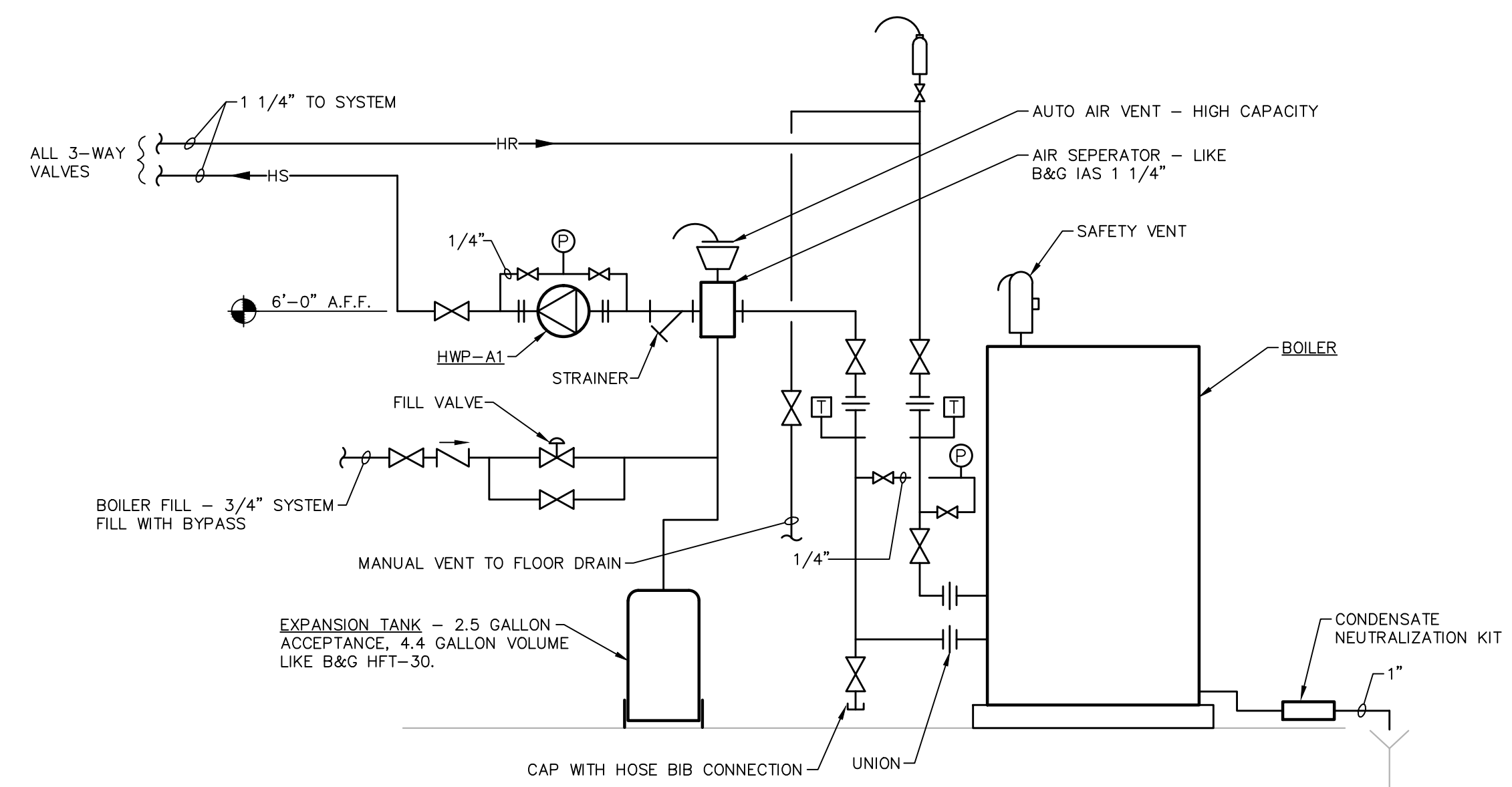
DETAIL 'C'  
EXTERIOR EQUIPMENT PAD  
ADJACENT TO BUILDING  
NO SCALE



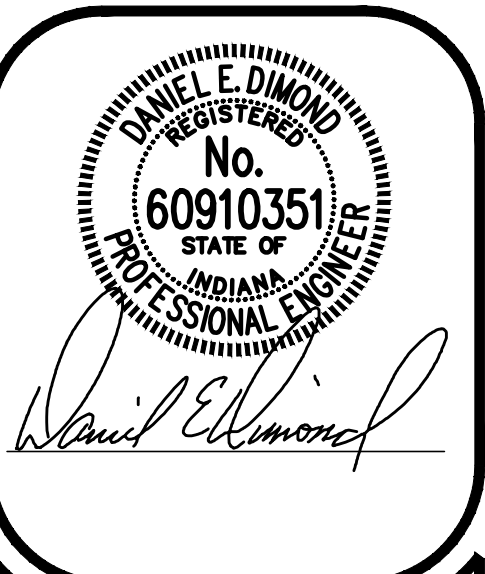
DETAIL 'B'  
TERMINAL UNIT HYDRONIC COIL  
PIPING WITH 3-WAY VALVE  
NO SCALE



DETAIL 'A'  
FAN COIL INSTALLATION  
SCALE: 1 1/2"=1'-0"



DETAIL 'D'  
HEATING WATER  
PIPING SCHEMATIC  
NO SCALE



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UA UNIT / CHILDCARE RENOVATION  
MARRIED STUDENT HOUSING  
DETAILS - MECHANICAL

|               |            |
|---------------|------------|
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| PROPERTY NO.: |            |
| REVISIONS     |            |
| 1             |            |
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| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | S.D.F.     |
| CHECKED BY:   | D.E.D.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #13052  |

SHEET NO.  
**M401**

| FAN COIL SCHEDULE |                              |                    |                      |                            |      |         |          |              |     |     |               |     |                  |                |          |                 |               |              |     |          |               |     |                  |                |         |          |  |               |
|-------------------|------------------------------|--------------------|----------------------|----------------------------|------|---------|----------|--------------|-----|-----|---------------|-----|------------------|----------------|----------|-----------------|---------------|--------------|-----|----------|---------------|-----|------------------|----------------|---------|----------|--|---------------|
| MARK NO.          | DRAWING NAME & OR PURPOSE    | SPECIFICATION NAME | SPECIFICATION NUMBER | MANUFACTURER AND MODEL NO. | FAN  |         |          | COOLING COIL |     |     |               |     |                  |                |          |                 |               | HEATING COIL |     |          |               |     |                  |                | REMARKS |          |  |               |
|                   |                              |                    |                      |                            | HIGH | VOLTAGE | HP       | MIN. MBH     | EAT | LAT | CHILLED WATER |     | WATER FLOW (GPM) | MIN. ROWS DEEP | MAX. FPI | MAX. FACE (FPM) | MAX. WPD (FT) | MIN. MBH     | EAT | MIN. LAT | HEATING WATER |     | WATER FLOW (GPM) | MIN. ROWS DEEP |         | MAX. FPI | MAX. FACE (FPM)                                | MAX. WPD (FT) |
|                   |                              |                    |                      |                            | CFM  |         |          |              | DB  | DB  | EWT           | LWT |                  |                |          |                 |               |              |     |          | EWT           | LWT |                  |                |         |          |  |               |
| FC-A              | HEATING AND COOLING FAN COIL |                    |                      | INTERNATIONAL FSY-03       | 285  | 120     | 1/30     | 6.7          | 75  | 55  | 45            | 55  | 1.4              | 4              |          | 10'             | 12.8          | 50           | 91  | 180      | 155           | 1.5 | 1                |                |         | 10'      | DOUBLE DEFLECTION DISCHARGE GRILLE, SLOPED TOP |               |
| FC-C              | HEATING AND COOLING FAN COIL |                    |                      | INTERNATIONAL FSY-10       | 885  | 120     | 2 @ 1/12 | 25           | 75  | 55  | 45            | 55  | 5.0              | 4              |          | 10'             | 44.2          | 50           | 96  | 180      | 155           | 2.0 | 1                |                |         | 10'      | DOUBLE DEFLECTION DISCHARGE GRILLE, SLOPED TOP |               |
|                   |                              |                    |                      |                            | 2.2  |         |          |              | 63  | 54  |               |     |                  |                |          |                 |               |              |     |          |               |     |                  |                |         |          |  |               |

EQUIPMENT TYPE: FC - FAN COIL, BC - BLOWER COIL. SIZE - TYPE: FC-A1. NUMBER IDENTIFICATION: FC-A1.

| MAKE-UP AIR UNIT SCHEDULE |                 |                        |                         |                          |            |            |  |        |        |        |              |                  |                   |     |     |                   |              |                   |       |             |         |     |             |     |  |  |  |  |  |
|---------------------------|-----------------|------------------------|-------------------------|--------------------------|------------|------------|--|--------|--------|--------|--------------|------------------|-------------------|-----|-----|-------------------|--------------|-------------------|-------|-------------|---------|-----|-------------|-----|--|--|--|--|--|
| MARK NO.                  | AREA SERVED     | MFG MODEL NO.          | AIR VOLUME (CFM) SUPPLY | AIR VOLUME (CFM) EXHAUST | ECONOMIZER | PRE-FILTER | 4" WHEEL PERFORMANCE   |        |        |        | PREHEAT COIL | SUPPLY FAN MOTOR |                   |     |     | EXHAUST FAN MOTOR |              |                   |       | WEIGHT (LB) | REMARKS |     |             |     |  |  |  |  |  |
|                           |                 |                        |                         |                          |            |            | SUMMER   |        | WINTER |        |              | ESP (IN WG.)     | FAN RPM DIA. (IN) | HP  | BHP | VOLTS PHASE       | ESP (IN WG.) | FAN RPM DIA. (IN) | HP    |             |         | BHP | VOLTS PHASE |     |  |  |  |  |  |
|                           |                 |                        |                         |                          |            |            | EAT DB   | LAT DB | EAT DB | LAT DB |              |                  |                   |     |     |                   |              |                   |       |             |         |     |             |     |  |  |  |  |  |
| MAU-1                     | VENTILATION AIR | GREENHECK MINIVENT 750 | 800                     | 700                      | N/A        | Y          | 95.0   | 81.9   | -2     | 46.5   | N/A          | .625             | 1,500             | 1/3 | -   | 120               | 1            | 1.2               | 1,300 | 1/3         | -       | 120 | 1           | 250 | INDOOR INSTALLATION. ERV REMOTE PANEL, WHEEL DEFROST CONTROL, HINGED ACCESS DOORS. EXHAUST FAN TO HAVE SPEED CONTROLLER. |  |  |  |  |
|                           |                 |                        |                         |                          |            |            | WHEEL PERFORMANCE CONDITIONS BASED ON INDOOR CONDITIONS: 75.0°F / 62.4°F SUMMER 72.0°F / 55.7°F WINTER |        |        |        |              |                  |                   |     |     |                   |              |                   |       |             |         |     |             |     |  |  |  |  |  |

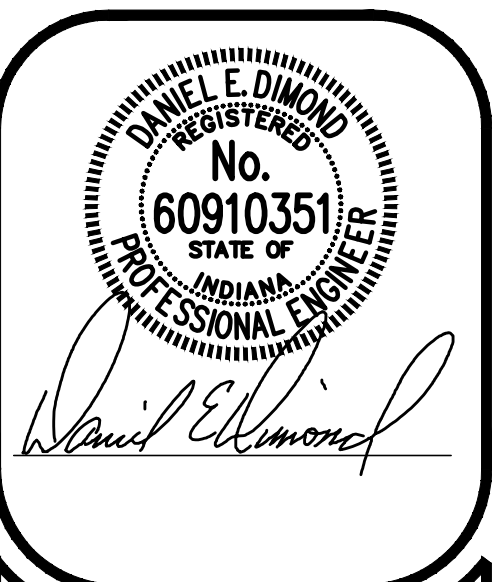
| AIR COOLED PACKAGED CHILLER SCHEDULE |                    |                            |                |            |        |      |                  |             |                   |            |           |                  |             |      |             |       |         |             |     |                 |      |   |         |  |  |  |
|--------------------------------------|--------------------|----------------------------|----------------|------------|--------|------|------------------|-------------|-------------------|------------|-----------|------------------|-------------|------|-------------|-------|---------|-------------|-----|-----------------|------|---|---------|--|--|--|
| MARK NO.                             | SPECIFICATION NAME | MANUFACTURER AND MODEL NO. | TOTAL CAPACITY | EVAPORATOR |        |      |                  |             | STAGES/ UNLOADING | # CIRCUITS | EXP. VAL. | METERING ORIFICE | COMPRESSORS |      | PERFORMANCE |       | REFRIG. | WEIGHT LBS. |     | ELECTRICAL DATA |      |   | REMARKS |  |  |  |
|                                      |                    |                            |                | GPM        | EWT °F | PASS | MAX. PRESS. DROP | TONS        |                   |            |           |                  | TYPE        | TONS | KW          | EER   |         | DRY         | WET | MCA             | VOLT | PH  |         |  |  |  |
|                                      |                    |                            |                |            | LWT °F |      |                  |             |                   |            |           |                  |             |      |             |       |         |             |     |                 |      |   |         |  |  |  |
| CHILLER-1                            | PACKAGED CHILLER   | AAON LC-008-0              | 8 TONS         | 19         | 43.3   |      | 11.4'            | 10% TO 100% | 2                 |            |           | 2                | SCROLL      | 9.15 | 10.47       | R410A | 1,530   | 1,580       | 73  | 208             | 1φ   | COMPLETE SELF CONTAINED PACKAGED AIR COOLED CHILLER INCLUDING PUMPS, DESIGNED FOR CONSTANT PRIMARY/VARIABLE SECONDARY PUMPING. CAPACITY FOR 30% PROPYLENE GLYCOL. LOW AMBIENT OPERATION DOWN TO 40°F, 115V OUTLET, PAINTED DARK BRONZE WITH KYNAR PAINT, DESIGNED TO SIT ON CONCRETE PAD. |         |  |  |  |
|                                      |                    |                            |                |            | 54     |      |                  |             |                   |            |           |                  |             |      |             |       |         |             |     |                 |      |   |         |  |  |  |

| GAS FIRED HOT WATER BOILER SCHEDULE |                    |                      |                      |      |           |            |        |        |                  |               |             |            |       |     |   |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------|--------------------|----------------------|----------------------|------|-----------|------------|--------|--------|------------------|---------------|-------------|------------|-------|-----|---|--|--|--|--|--|--|--|--|--|--|--|
| MARK NO.                            | SPECIFICATION NAME | SPECIFICATION NUMBER | MANUFACTURER & MODEL | FUEL | MBH INPUT | MBH OUTPUT | EWT °F |        | WATER FLOW (GPM) | MAX WPD. (FT) | WEIGHT LBS. | MOTOR DATA |       |     | REMARKS   |  |  |  |  |  |  |  |  |  |  |  |
|                                     |                    |                      |                      |      |           |            | LWT °F | LWT °F |                  |               |             | HP         | VOLTS | PH. |   |  |  |  |  |  |  |  |  |  |  |  |
|                                     |                    |                      |                      |      |           |            |        |        |                  |               |             |            |       |     |   |  |  |  |  |  |  |  |  |  |  |  |
| BOILER                              |                    |                      | HTP ELITE EL-150     | GAS  | 150       | 137        | 155    | 180    | 12.5             | 17'           | 126         |            | 120   | 1φ  | STAINLESS STEEL CONDENSING BOILER, POWER DIRECT VENTING WITH PVC, INTEGRATED MICROPROCESSOR CONTROLS WITH TEXT DISPLAY, FULLY MODULATING FROM 10% TO 100% CAPACITY, REMOTE AMBIENT TEMPERATURE SENSOR TO BE INSTALLED AND INSTALLED, COMPLETE AMBIENT RESET SCHEDULE, 180°F. @ 15°F. AMBIENT AND 80°F. @ 70°F. AMBIENT, SPARK IGNITION, SUPPLY & RETURN TEMPERATURE SENSORS, CONDENSATE NEUTRALIZATION KIT, FLOW SWITCH, TEMPERATURE PRESSURE RELIEF VALVE, AND VENT TERMINATION KIT. |  |  |  |  |  |  |  |  |  |  |  |

| PUMP SCHEDULE |                             |                    |                                   |       |     |              |        |           |         |           |     |            |     |      |       |     |     |         |  |  |  |  |  |  |  |  |
|---------------|-----------------------------|--------------------|-----------------------------------|-------|-----|--------------|--------|-----------|---------|-----------|-----|------------|-----|------|-------|-----|-----|---------|--|--|--|--|--|--|--|--|
| MARK NO.      | DRAWING NAME AND/OR PURPOSE | SPECIFICATION NAME | MANUFACTURER AND MODEL NO.        | FLUID | GPM | FT. HD. WTR. | EFF. % | IMP. DIA. | SUCTION | DISCHARGE | WT. | MOTOR DATA |     |      |       |     |     | REMARKS |  |  |  |  |  |  |  |  |
|               |                             |                    |                                   |       |     |              |        |           |         |           |     | HP         | BHP | RPM  | VOLTS | PH. | VFD |         |  |  |  |  |  |  |  |  |
|               |                             |                    |                                   |       |     |              |        |           |         |           |     |            |     |      |       |     |     |         |  |  |  |  |  |  |  |  |
| HWP-A         | HEATING WATER PUMP          |                    | BELL & GOSSETT SERIES 90 - 1 1/2A | WATER | 12  | 55'          | -      | -         | 1/2     | 1/2       | -   | 1.0        | .6  | 1750 | 208   | 1φ  | NO  | -       |  |  |  |  |  |  |  |  |

| FAN SCHEDULE |                           |                    |                      |                |                 |           |     |       |       |        |            |            |      |     |   |   |         |  |  |  |  |  |  |  |  |  |
|--------------|---------------------------|--------------------|----------------------|----------------|-----------------|-----------|-----|-------|-------|--------|------------|------------|------|-----|---|---|---------|--|--|--|--|--|--|--|--|--|
| MARK NO.     | DRAWING NAME & OR PURPOSE | SPECIFICATION NAME | MANUFACTURER & MODEL | OPERATING DATA |                 |           |     |       |       |        |            | MOTOR DATA |      |     |   | WT. LBS.  | REMARKS |  |  |  |  |  |  |  |  |  |
|              |                           |                    |                      | CFM            | TIP SPEED (FPM) | TOT. S.P. | RPM | WATTS | SONES | DRIVE  | WHEEL DIA. | KW         | VOLT | PH. |   |   |         |  |  |  |  |  |  |  |  |  |
|              |                           |                    |                      |                |                 |           |     |       |       |        |            |            |      |     |   |   |         |  |  |  |  |  |  |  |  |  |
| EF-A         | EXHAUST FAN               |                    | GREENHECK SP-870     | 70             |                 | .1"       | 675 | 45    | 1.4   | DIRECT |            | .045       | 120  | 1φ  | 9 | CEILING POWERED EXHAUST FAN WITH INTEGRAL EXHAUST REGISTER. |         |  |  |  |  |  |  |  |  |  |

| HOT WATER CONVECTOR SCHEDULE |                    |                      |              |              |             |             |             |              |             |             |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|--------------------|----------------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| MARK NO.                     | SPECIFICATION NAME | MANUFACTURER & MODEL | HEATING DATA |              |             |             |             | ENCLOSURE    |             |             |                      | REMARKS  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                              |                    |                      | MBH          | W.P.D. (FT.) | E.W.T. (°F) | L.W.T. (°F) | E.A.T. (°F) | HEIGHT (IN.) | WIDTH (IN.) | DEPTH (IN.) | RECESSED DEPTH (IN.) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                              |                    |                      |              |              |             |             |             |              |             |             |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONV-A1                      |                    | STERLING PW-A        | 1.6          | 10'          | 180         | 160         | 65          | 24           | 36          | 4 1/4       | 2 1/4                | PROVIDE WITH DANFOSS SELF CONTAINED CONTROL VALVE, SEMI-RECESSED 2" INTO WALL, EXTENDS 2 1/4" INTO SPACE. ACCESS DOOR FOR VALVE ACCESS, STANDARD COLOR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



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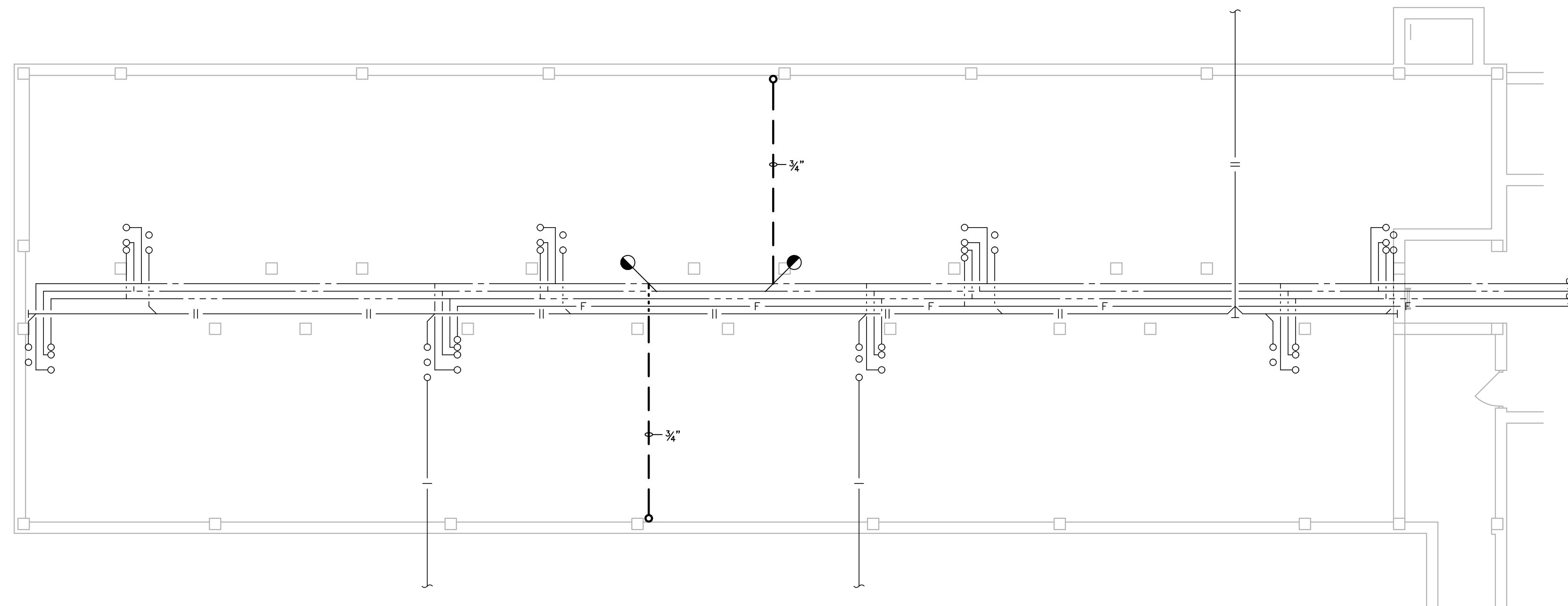
UA UNIT / CHILD CARE RENOVATION  
MARRIED STUDENT HOUSING

SCHEDULES - MECHANICAL

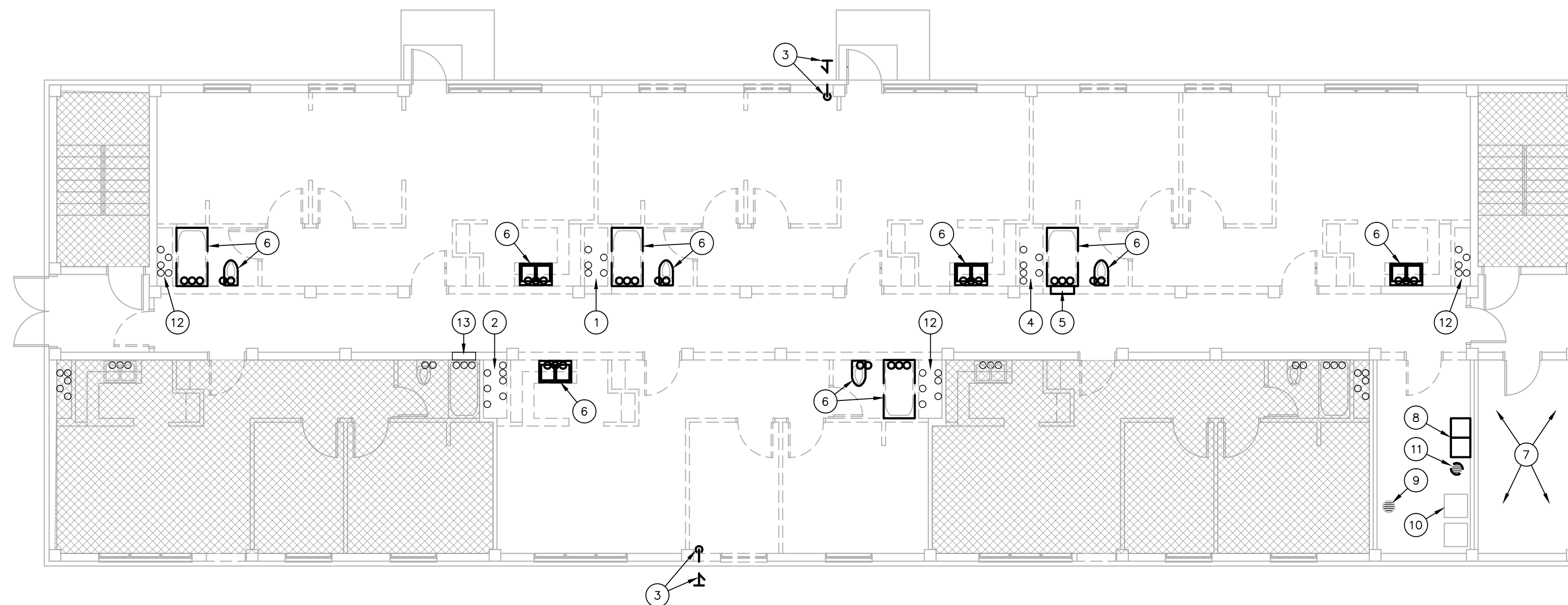
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| CHECKED BY:   | D.E.D.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #19052  |

SHEET NO.:

M601



**CRAWL SPACE PLAN - PLUMBING DEMOLITION**  
 SCALE: 1/8" = 1'-0"  
 NORTH



**FIRST FLOOR PLAN - PLUMBING DEMOLITION**  
 SCALE: 1/8" = 1'-0"  
 NORTH

**GENERAL NOTES:**

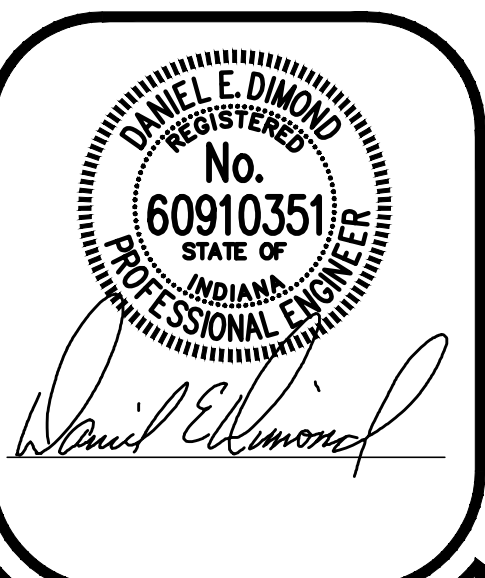
1. THESE NOTES APPLY TO ALL 'P' AND 'PD' SERIES DRAWINGS.
2. ALL UNDERLINED EQUIPMENT IS SCHEDULED. SEE P600 SERIES DRAWINGS FOR SCHEDULES.
3. SEE DRAWING MP001 FOR SYMBOLS AND ABBREVIATIONS.
4. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTACT ENGINEER WITH CONFLICTS OR DISCREPANCIES.
5. PROVIDE SLEEVES FOR ALL PIPING THAT PENETRATES FULL HEIGHT WALLS, WHETHER SHOWN OR NOT.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR CORE DRILLING AND CUTTING HOLES THRU WALLS AND FLOORS AS REQUIRED TO INSTALL NEW PIPING WHETHER SHOWN OR NOT.
7. ALL FLOOR PENETRATIONS TO BE FIRE STOPPED.
8. INSULATE ALL PLASTIC PIPING IN RETURN AIR PLENUMS TO MAINTAIN 25/50 FIRE SMOKE RATING AND AS DIRECTED IN SPEC SECTION 200180.
9. ALL PLUMBING SYSTEMS TO BE INSTALLED TO MEET THE REQUIREMENTS OF INDIANA PLUMBING CODE, 2012 (INTERNATIONAL PLUMBING CODE, 2008 WITH INDIANA AMENDMENTS).
10. PIPE ROUTINGS INDICATED ON DRAWINGS ARE DIAGRAMMATIC AND ARE A SUGGESTED METHOD FOR DESIGN. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION, LAYOUT, CODE COMPLIANCE, AND DESIGN.
11. ALL NEW WORK IS DRAWN DARK. ALL WORK DRAWN LIGHT AND FOLLOWED BY (E.) IS EXISTING.
12. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE AND EQUIPMENT SIZES, LOCATIONS, ELEVATIONS, MATERIALS, ETC. BEFORE BIDDING OR BEGINNING WORK.
13. CONTRACTOR SHALL COORDINATE SHUT DOWN OF ANY MECHANICAL SYSTEM WITH THE OWNER, OCCUPANTS OF THE AFFECTED AREA, AND ANY OTHER AUTHORITY HAVING JURISDICTION.
14. PROVIDE TEMPORARY CAPS FOR ALL SERVICES AS REQUIRED SO EXISTING SYSTEMS WILL REMAIN OPERATIONAL.
15. CONTRACTORS SHALL PROTECT ALL EXISTING OWNER FACILITIES DURING DEMOLITION OR RENOVATION WORK TO MATCH ORIGINAL CONDITION.
16. REPAIR OR REPLACE PIPE INSULATION DAMAGED DURING DEMOLITION OR RENOVATION WORK TO MATCH ORIGINAL CONDITION.
17. REMOVE ALL PIPING, VALVES, ETC. MADE OBSOLETE AS A RESULT OF NEW CONSTRUCTION.
18. THOROUGHLY REVIEW ALL DRAWINGS PRIOR TO ANY DEMOLITION WORK. ANY DEVICES REMOVED ACCIDENTALLY WILL BE REPLACED AT NO ADDITIONAL COST TO OWNER.
19. DISPOSAL OF DEMOLISHED MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
20. SMOKING, ALCOHOL, DRUGS AND CONTRABAND ARE STRICTLY FORBIDDEN ON OWNERS PROPERTY.
21. PIPING SUPPLIES TO FIXTURES ARE SAME SIZE AS INDICATED IN ROUGH-IN SCHEDULE UNLESS OTHERWISE NOTED ON DRAWINGS.

**DEMOLITION PLAN NOTES:**

1. PREP 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 3" WASTE STACK, AND 3" VENT STACK FOR OFFSET INTO NEW FIRST FLOOR CHASE. REFER TO DRAWING P101 FOR ADDITIONAL REQUIREMENTS.
2. PREP 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 4" FIRE RISER, 3" WASTE STACK, 3" VENT STACK, AND 4" STORM CONDUCTOR FOR OFFSET INTO NEW FIRST FLOOR CHASE. REFER TO DRAWING P101 FOR ADDITIONAL REQUIREMENTS.
3. REMOVE WALL HYDRANT AND ASSOCIATED PIPING COMPLETE. PATCH EXTERIOR WALL TO MATCH EXISTING.
4. PREP 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 4" FIRE RISER, 3" WASTE STACK, AND 3" VENT STACK FOR OFFSET INTO NEW FIRST FLOOR CHASE. REFER TO DRAWING P101 FOR ADDITIONAL REQUIREMENTS.
5. DISCONNECT AND RELOCATE FIRE HOSE CABINET. REMOVE ASSOCIATED SUPPLY PIPING BACK TO FIRE RISER.
6. REMOVE PLUMBING FIXTURE, TRIM, AND ALL ASSOCIATED WATER, WASTE, AND VENT PIPING BACK TO RISERS/STACKS COMPLETE. CUT AND PATCH WALL/FLOOR (AS REQUIRED) TO MATCH EXISTING.
7. PLUMBING FIXTURES AND PIPING IN THIS ROOM TO REMAIN.
8. DISCONNECT AND REMOVE LAUNDRY TUB. WATER, WASTE, AND VENT ROUGH-INS TO REMAIN.
9. FLOOR DRAIN TO REMAIN.
10. WATER, WASTE, AND VENT ROUGH-INS FOR CLOTHES WASHER TO REMAIN.
11. REMOVE FLOOR DRAIN AND ASSOCIATED WASTE PIPING COMPLETE. CUT AND PATCH FLOOR TO MATCH EXISTING.
12. STACKS AND RISERS IN THIS CHASE TO REMAIN.
13. FIRE HOSE CABINET TO REMAIN.

**DEMOLITION LEGEND:**

- EXISTING WORK TO BE REMOVED
- EXISTING WORK TO REMAIN



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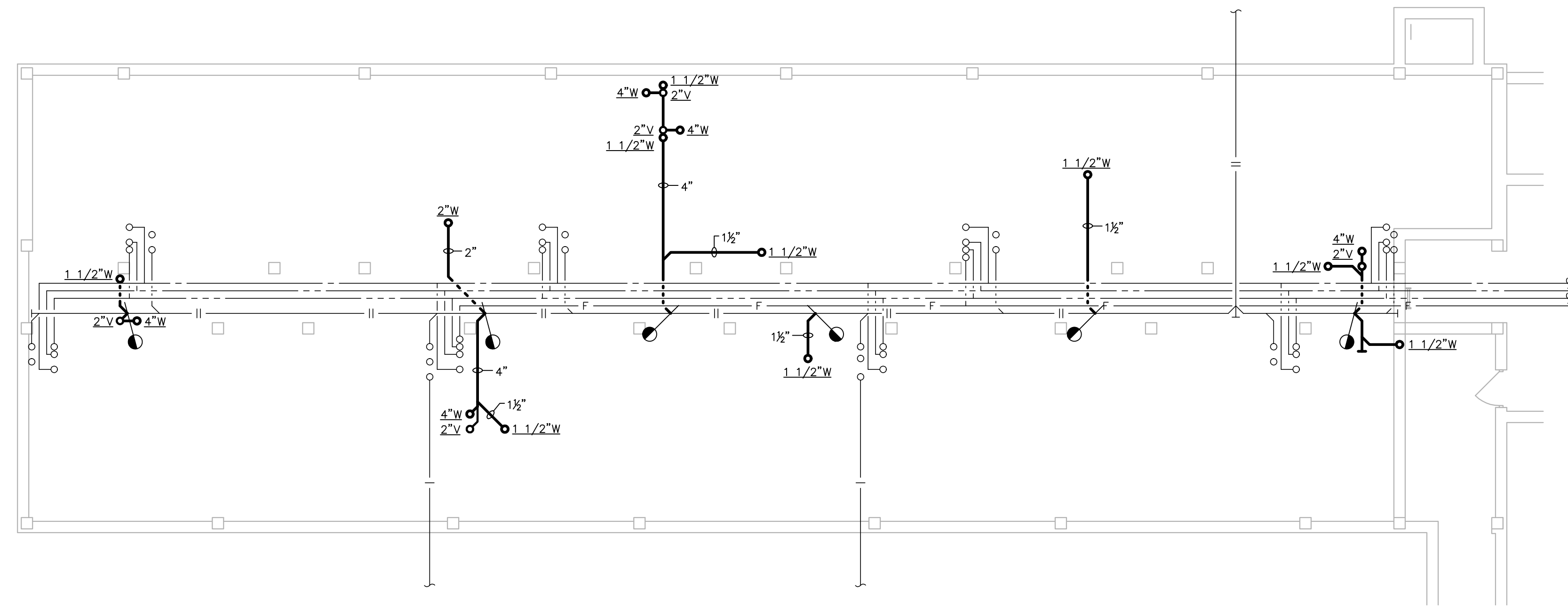
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 MARRIED STUDENT HOUSING

FLOOR PLANS - PLUMBING DEMOLITION

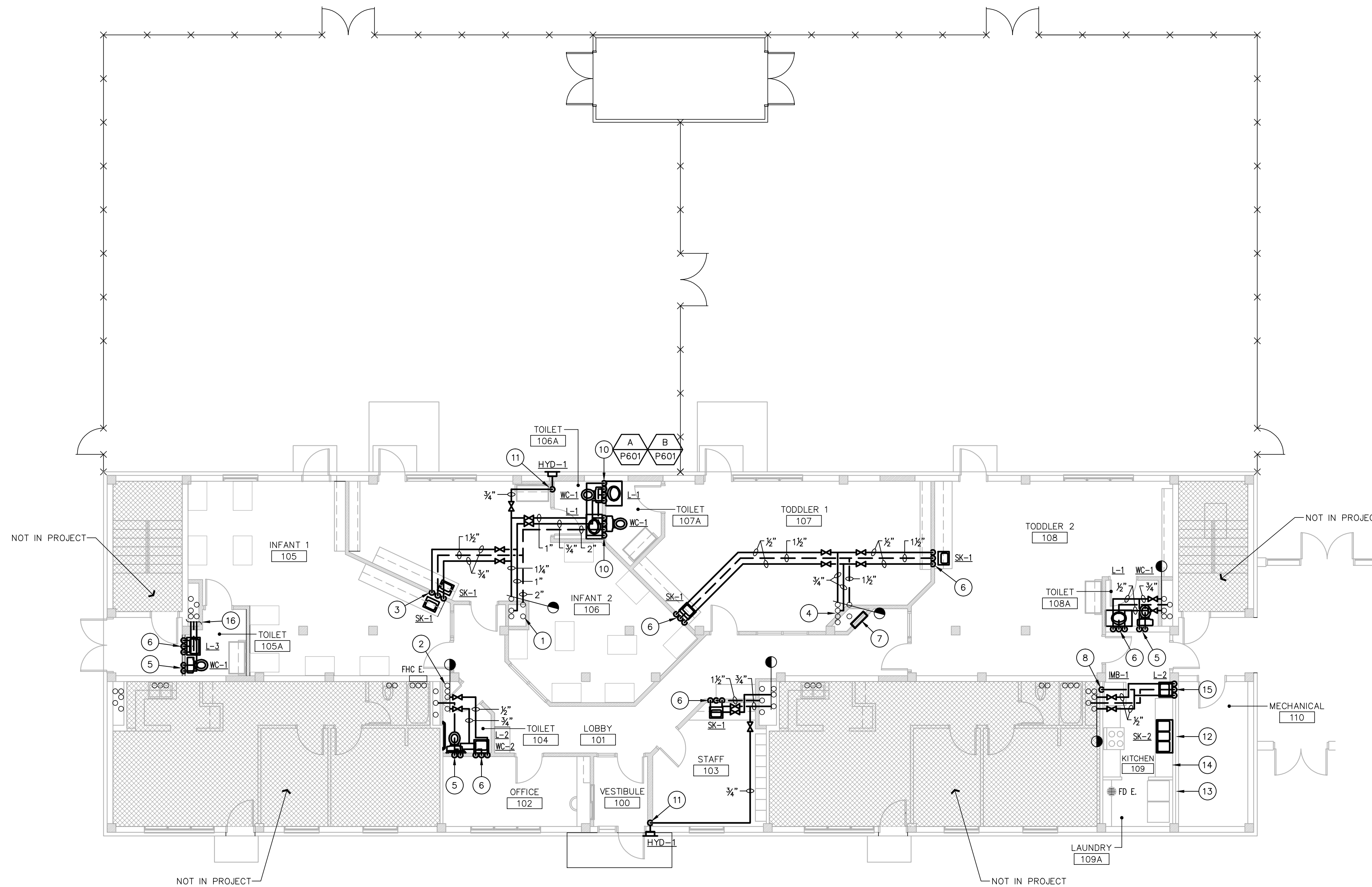
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| CHECKED BY:   | M.B.W.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #13052  |

SHEET NO.:

PD101



CRAWL SPACE PLAN - PLUMBING  
SCALE: 1/8" = 1'-0"  
NORTH



FIRST FLOOR PLAN - PLUMBING  
SCALE: 1/8" = 1'-0"  
NORTH

GENERAL NOTES:

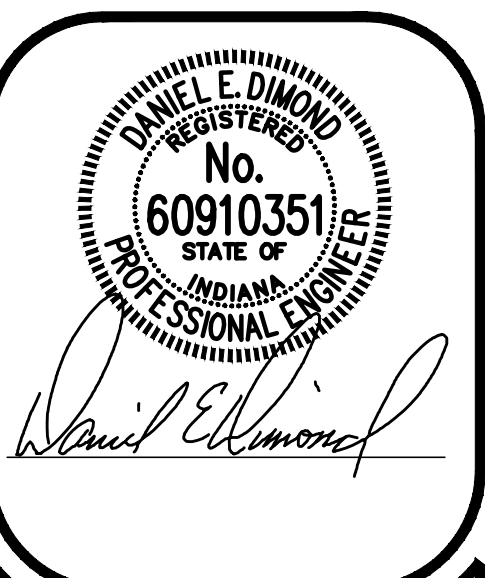
1. REFER TO DRAWING PD101 FOR GENERAL NOTES.

PLAN NOTES:

- 1 OFFSET 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 3" WASTE STACK, AND 3" VENT STACK INTO NEW FIRST FLOOR CHASE. INTERCEPT PIPING IN CRAWL SPACE BELOW AND RE-CONNECT TO EXISTING ABOVE FIRST FLOOR CEILING.
- 2 OFFSET 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 4" FIRE RISER, 3" WASTE STACK, 3" VENT STACK, AND 4" STORM CONDUCTOR INTO NEW FIRST FLOOR CHASE. INTERCEPT PIPING IN CRAWL SPACE BELOW AND RE-CONNECT TO EXISTING ABOVE FIRST FLOOR CEILING.
- 3 3/4" HOT AND COLD WATER, 2" WASTE, 1 1/2" VENT.
- 4 OFFSET 2" COLD WATER RISER, 1" HOT WATER RISER, 1/2" HOT WATER RETURN RISER, 4" FIRE RISER, 3" WASTE STACK, AND 3" VENT STACK INTO NEW FIRST FLOOR CHASE. INTERCEPT PIPING IN CRAWL SPACE BELOW AND RE-CONNECT TO EXISTING ABOVE FIRST FLOOR CEILING.
- 5 1/2" COLD WATER, 4" WASTE, 2" VENT.
- 6 1/2" HOT AND COLD WATER, 1 1/2" WASTE, 1 1/2" VENT.
- 7 RELOCATE FIRE HOSE CABINET TO THIS LOCATION.
- 8 1/2" COLD WATER. CUT AND PATCH WALL TO MATCH EXISTING.
- 9 1/2" HOT AND COLD WATER, 2" WASTE STANDPIPE, 1 1/2" VENT.
- 10 3/4" COLD WATER, 1/2" HOT WATER, 1 1/2" WASTE, 1 1/2" VENT, 4" WASTE, 2" VENT.
- 11 3/4" COLD WATER.
- 12 CONNECT SINK TO EXISTING WATER, WASTE, AND VENT ROUGH-INS. RE-WORK AS REQUIRED.
- 13 CONNECT OWNER FURNISHED CLOTHES WASHER TO EXISTING WATER, WASTE, AND VENT ROUGH-INS. RE-WORK AS REQUIRED.
- 14 EXTEND 3/8" HOT WATER FROM SINK ROUGH-IN TO DISHWASHER. PROVIDE ISOLATION SHUTOFF VALVE. CONNECT DISHWASHER DRAIN TO GARBAGE DISPOSER (GD-1).
- 15 1/2" HOT AND COLD WATER, 1 1/2" WASTE, 1 1/2" VENT. CUT AND PATCH WALL TO MATCH EXISTING.
- 16 EXTEND 3/4" COLD WATER, 1/2" HOT WATER, 2" VENT FROM EXISTING RISERS AND STACKS IN CHASE. PROVIDE SHUTOFF VALVES ON WATER SUPPLIES. ROUTE PIPING TIGHT TO BOTTOM OF BEAM. COORDINATE INSTALLATION WITH BULKHEAD.

RENOVATION LEGEND:

- NEW WORK TO BE INSTALLED
- EXISTING WORK TO REMAIN



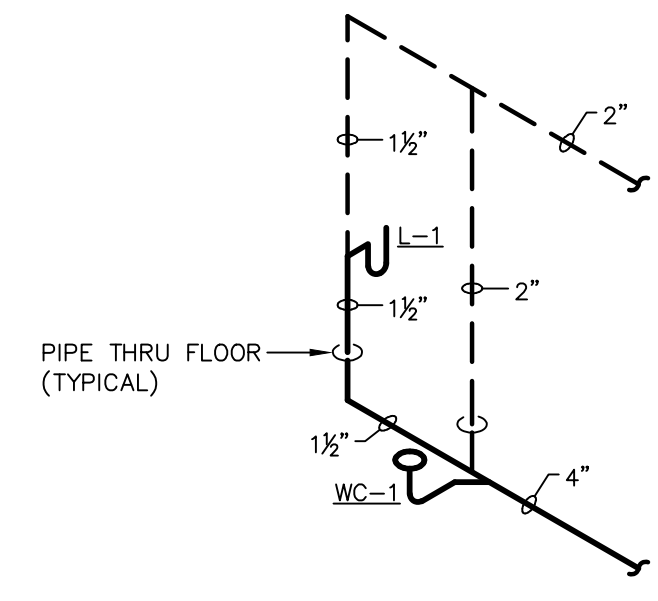
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MARRIED STUDENT HOUSING  
FLOOR PLANS - PLUMBING

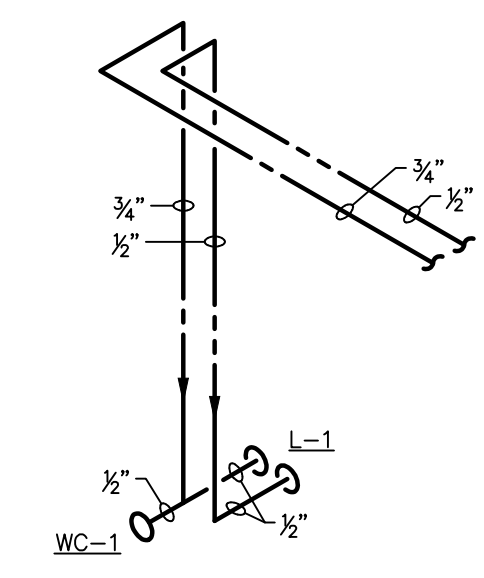
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| DRAWN BY:     | S.D.F.     |
| CHECKED BY:   | D.E.D.     |
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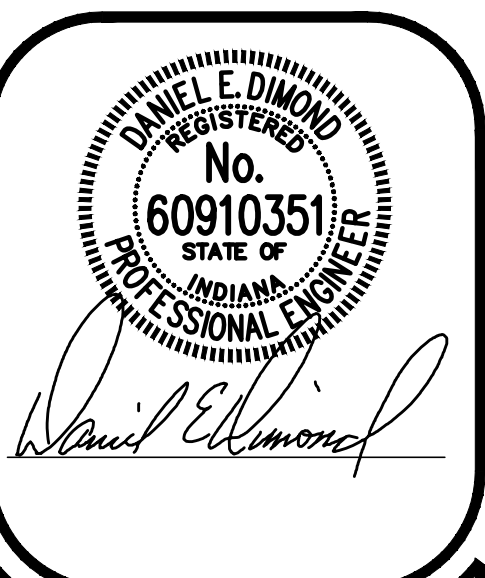
| FIXTURE ROUGH-IN SCHEDULE & MOUNTING HEIGHTS |  |          |          |          |        |        |                          |
|--|--|----------|----------|----------|--------|--------|--------------------------|
| MARK NO.                                     | FIXTURE DESCRIPTION                          | HW       | CW       | TRAP     | W      | V      | MOUNTING HEIGHT          |
| WC-1   | WATER CLOSET - FLOOR MOUNTED, TANK TYPE      | -        | 1/2"     | INTEGRAL | 4"     | 2"     | 10" TO SEAT              |
| WC-2   | WATER CLOSET - FLOOR MOUNTED, TANK TYPE, ADA | -        | 1/2"     | INTEGRAL | 4"     | 2"     | 17" TO SEAT              |
| L-1  | LAVATORY - COUNTERTOP                        | 1/2"     | 1/2"     | 1 1/4"   | 1 1/2" | 1 1/2" | MOUNT SINK IN COUNTERTOP |
| L-2  | LAVATORY - WALL HUNG, ADA                    | 1/2"     | 1/2"     | 1 1/4"   | 1 1/2" | 1 1/2" | 34" TO DECK              |
| L-3  | LAVATORY - WALL HUNG                         | 1/2"     | 1/2"     | 1 1/4"   | 1 1/2" | 1 1/2" | 24" TO DECK              |
| SK-1   | SINK - ONE COMPARTMENT                       | 1/2"     | 1/2"     | 1 1/2"   | 1 1/2" | 1 1/2" | MOUNT SINK IN COUNTERTOP |
| SK-2   | SINK - THREE COMPARTMENT WITH DISPOSER       | (2) 1/2" | (2) 1/2" | 1 1/2"   | 1 1/2" | 1 1/2" | MOUNT SINK IN COUNTERTOP |
| IMB-1  | ICE MAKER BOX                                | -        | 1/2"     | -        | -      | -      | 24"                      |
| HYD-1  | WALL HYDRANT                                 | -        | 3/4"     | -        | -      | -      | 18" ABOVE ADJACENT GRADE |



DETAIL 'A'  
WASTE AND VENT PIPING  
NO SCALE



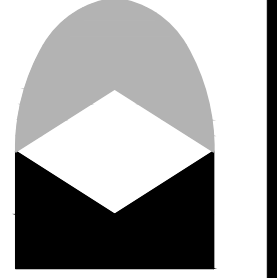
DETAIL 'B'  
HOT AND COLD WATER PIPING  
NO SCALE



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UA UNIT / CHILDCARE RENOVATION  
MARRIED STUDENT HOUSING

SCHEDULES AND DETAILS - PLUMBING

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| CHECKED BY:   | D.E.D.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #13052  |

SHEET NO.:  
**P601**

## ELECTRICAL ABBREVIATIONS

|        |                                       |
|--------|---------------------------------------|
| A      | AMPERE                                |
| A/C    | AIR-CONDITIONING                      |
| AC     | ALTERNATING CURRENT; ARMORED CABLE    |
| ADJ    | ADJUSTABLE                            |
| AF     | AMPERE FUSE; AMPERE FRAME             |
| AFB    | ABOVE FINISHED FLOOR                  |
| AFG    | ABOVE FINISHED GRADE                  |
| AHU    | AIR HANDLING UNIT                     |
| AIC    | AMPERE INTERRUPTING CAPACITY          |
| AL     | ALUMINUM                              |
| ALT    | ALTERNATE                             |
| ALUM   | ALUMINUM                              |
| AMP    | AMPERE                                |
| ANSI   | AMERICAN NATIONAL STANDARDS INSTITUTE |
| AP     | ACCESS PANEL                          |
| APPROX | APPROXIMATE                           |
| ARCH   | ARCHITECT                             |
| ASYM   | ASYMMETRICAL                          |
| AT     | AMPERE TRIP                           |
| ATS    | AUTOMATIC TRANSFER SWITCH             |
| AUX    | AUXILIARY                             |
| AVG    | AVERAGE                               |
| AWG    | AMERICAN WIRE GAUGE                   |

|        |  |
|--------|--|
| BATT   | BATTERY                                |
| BD     | BOARD                                  |
| BFG    | BELOW FINISHED GRADE                   |
| BLDG   | BUILDING                               |
| BPS    | BOLTED PRESSURE SWITCH                 |
| BR     | BRANCH                                 |
| BRKR   | BREAKER                                |
| C      | CONDUIT; CENTIGRADE                    |
| C/C    | CENTER TO CENTER                       |
| CAB    | CABINET                                |
| CAP    | CAPACITY                               |
| CB     | CIRCUIT BREAKER                        |
| CCTV   | CLOSED CIRCUIT TELEVISION              |
| CD     | CANDELA; CLOTHES DRYER                 |
| CF     | CUBIC FEET; COMPACT FLUORESCENT        |
| CHW    | CHILLED WATER                          |
| CHWP   | CHILLED WATER PUMP                     |
| CP     | CAST IN PLACE                          |
| CIR    | CIRCUIT                                |
| CKT    | CIRCUIT                                |
| CLF    | CURRENT LIMITING FUSE                  |
| CLG    | COOLING; CEILING                       |
| CM     | CONSTRUCTION MANAGER                   |
| CMU    | CONCRETE MASONRY UNIT                  |
| CO     | CENTRAL OFFICE                         |
| COGB   | CENTRAL OFFICE GROUND BAR              |
| COLUMN | COLUMN                                 |
| COMB   | COMBINATION                            |
| COMPR  | COMPRESSOR                             |
| CONCR  | CONCRETE                               |
| COND   | CONDENSATE; CONDUCTOR                  |
| CONT   | CONTINUOUS; CONTINUED; CONTRACTOR      |
| CP     | CONTROL PANEL                          |
| CPT    | CONTROL POWER TRANSFORMER              |
| CSAC   | CENTRAL STATION AIR CONDITIONER        |
| CT     | CURRENT TRANSFORMER                    |
| CU     | COPPER; CUBIC                          |
| CU FT  | CUBIC FOOT                             |
| CUH    | CABINET UNIT HEATER                    |
| CW     | COOL WHITE; COLD WATER; CLOTHES WASHER |
| CY     | CUBIC YARD                             |
| CYL    | CYLINDER                               |

|      |                           |
|------|---------------------------|
| D    | DEEP; DEPTH; DISCHARGE    |
| DB   | DECIBEL; DIRECT BURIED    |
| DC   | DIRECT CURRENT            |
| DDC  | DIRECT DIGITAL CONTROL    |
| DF   | DRINKING FOUNTAIN         |
| DHW  | DOMESTIC HOT WATER        |
| DIA  | DIAMETER                  |
| DIAG | DIAGONAL                  |
| DIAM | DIAMETER                  |
| DIFF | DIFUSER                   |
| DISC | DISCONNECT                |
| DIST | DISTRIBUTION              |
| DN   | DOWN                      |
| DP   | DUSTPROOF; DOUBLE POLE    |
| DPDT | DOUBLE POLE, DOUBLE THROW |
| DPST | DOUBLE POLE, SINGLE THROW |
| DT   | DUSTTIGHT; DOUBLE THROW   |
| DW   | DISHWASHER                |
| DWG  | DRAWING                   |
| DX   | DIRECT EXPANSION          |

|       |  |
|-------|--|
| E     | EQUIPMENT ONLY; EAST; ELECTRICAL; EXISTING |
| EA    | EACH                                       |
| EBBR  | ELECTRIC BASEBOARD RADIATION               |
| EB    | ELECTRONIC BALLAST                         |
| EC    | ELECTRICAL CONTRACTOR                      |
| EF    | EXHAUST FAN                                |
| EGC   | EQUIPMENT GROUNDING CONDUCTOR              |
| EIFS  | EXTERIOR INSULATION FINISH SYSTEM          |
| ELECT | ELECTRICIAN; ELECTRICAL; ELECTRONIC        |
| ELEV  | ELEVATOR; ELEVATION                        |
| EM    | EMERGENCY                                  |
| EMERG | EMERGENCY                                  |
| EMS   | ENERGY MANAGEMENT SYSTEM                   |
| EMT   | ELECTRICAL METALLIC TUBING                 |
| ENCL  | ENCLOSURE                                  |
| ENG   | ENGINE; ENGINEERED                         |
| ENR   | ENGINEER                                   |
| ENP   | EXPLOSIONPROOF; ELECTRIC-PNEUMATIC         |
| EQUIP | EQUIPMENT                                  |
| ER    | EXISTING TO REMAIN                         |
| ES    | ENERGY SAVER                               |
| EST   | ESTIMATED                                  |
| EWC   | ELECTRIC WATER COOLER                      |
| EWH   | ELECTRIC WATER HEATER                      |
| EX    | EXISTING                                   |
| EXCAV | EXCAVATION                                 |
| EXIST | EXISTING                                   |
| EXH   | EXHAUST                                    |
| EXP   | EXPOSED                                    |
| EXR   | EXISTING RELOCATED                         |
| EXT   | EXTERIOR                                   |
| EXTG  | EXISTING                                   |

|       |   |
|-------|---|
| F     | FUSED; FAHRENHEIT                           |
| FA    | FIRE ALARM                                  |
| FAAP  | FIRE ALARM ANNUNCIATOR PANEL                |
| FAACP | FIRE ALARM CONTROL PANEL                    |
| FC    | FOOT-CANDLE                                 |
| FCU   | FAN COIL UNIT                               |
| FD    | FUSED DISCONNECT                            |
| FDR   | FEEDER                                      |
| FEP   | FLUORINATED ETHYLENE PROPYLENE              |
| FFEC  | FOODSERVICE FACILITIES EQUIPMENT CONTRACTOR |
| FIG   | FIGURE                                      |
| FIN   | FINISHED                                    |
| FIXT  | FIXTURE                                     |
| FLA   | FULL LOAD AMPS                              |
| FLR   | FLOOR                                       |
| FLUOR | FLUORESCENT                                 |
| FM    | FREQUENCY MODULATION; FACTORY MUTUAL        |

|      |                                  |
|------|----------------------------------|
| FFM  | FEET PER MINUTE                  |
| FR   | FIRE RATING                      |
| FT   | FOOT; FEET                       |
| FTG  | FITTING; FOOTING                 |
| FURN | FURNISHED                        |
| FVNR | FULL VOLTAGE NON-REVERSING       |
| G    | GROUND                           |
| GA   | GAUGE                            |
| GAL  | GALLON                           |
| GALV | GALVANIZED                       |
| GC   | GENERAL CONTRACTOR               |
| GEN  | GENERAL; GENERATOR               |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GFI  | GROUND FAULT INTERRUPTER         |
| GFP  | GROUND FAULT PROTECTOR           |
| GND  | GROUND                           |
| GP   | GENERAL PURPOSE                  |
| GPM  | GALLONS PER MINUTE               |
| GRC  | GALVANIZED RIGID CONDUIT         |
| GRD  | GROUND; GROUNDED                 |
| GRS  | GALVANIZED RIGID STEEL           |

|         |   |
|---------|---|
| H       | HIGH                                      |
| HACR    | HEATING, AIR CONDITIONING & REFRIGERATION |
| HD      | HEAVY DUTY                                |
| HG      | MERCURY                                   |
| HH      | HAND HOLE                                 |
| HIC     | HIGH INTERRUPTING CAPACITY                |
| HO      | HIGH OUTPUT                               |
| HOA     | HAND-OFF-AUTOMATIC                        |
| HORIZ   | HORIZONTAL                                |
| HP      | HORSEPOWER; HIGH PRESSURE                 |
| HPF     | HIGH POWER FACTOR                         |
| HPS     | HIGH PRESSURE SODIUM                      |
| HR      | HOUR                                      |
| HRS/DAY | HOURS PER DAY                             |
| HSC     | HIGH SHORT CIRCUIT                        |
| HT      | HEIGHT                                    |
| HTG     | HEATING                                   |
| HTRS    | HEATERS                                   |
| HY      | HIGH VOLTAGE                              |
| HVAC    | HEATING, VENTILATION & AIR-CONDITIONING   |
| HW      | HOT WATER; HEAVY WALL                     |
| HWP     | HEATING WATER PUMP                        |
| HYD     | HYDRAULIC                                 |
| HZ      | HERTZ                                     |

|         |   |
|---------|---|
| IC      | INTERRUPTING CAPACITY                           |
| ID      | INSIDE DIAMETER                                 |
| IDF     | INTERMEDIATE DISTRIBUTION FRAME                 |
| IEEE    | INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS |
| IF      | INSIDE FROSTED                                  |
| IG      | ISOLATED GROUND                                 |
| IMC     | INTERMEDIATE METAL CONDUIT                      |
| IMP     | IMPEDANCE                                       |
| IN      | INCH  |
| INCLAND | INCANDESCENT                                    |
| INCL    | INCLUDED; INCLUDING                             |
| INST    | INSTALLATION                                    |
| INSUL   | INSULATION; INSULATED                           |
| INT     | INTERIOR; INTERNAL                              |
| INV EL  | INVERT ELEVATION                                |
| IS      | INSTANT START                                   |

|       |                 |
|-------|-----------------|
| J     | JOULE; JUNCTION |
| JB    | JUNCTION BOX    |
| J-BOX | JUNCTION BOX    |

|       |                              |
|-------|------------------------------|
| K     | THOUSAND                     |
| KCMIL | THOUSAND CIRCULAR MILS       |
| KEC   | KITCHEN EQUIPMENT CONTRACTOR |
| KHZ   | KILOHERTZ                    |
| KK    | KIRK KEY                     |
| KP    | KEYPAD                       |
| KV    | KILOVOLT                     |
| KVA   | KILOVOLT AMPERE              |
| KVAR  | KILOVOLT AMPERE REACTIVE     |
| KW    | KILOWATT                     |
| KWH   | KILOWATT-HOUR                |

|     |   |
|-----|---|
| L   | LENGTH; LONG                              |
| LAB | LABOR; LABORATORY                         |
| LB  | POUND; ELL CONDUIT BODY                   |
| LEC | LABORATORY EQUIPMENT COMPANY (CONTRACTOR) |
| LED | LIGHT EMITTING DIODE                      |
| LF  | LINEAR FOOT                               |
| LG  | LONG; LENGTH; LARGE                       |
| LLD | LAMP LUMEN DEPRECIATION                   |
| LM  | LUMEN                                     |
| LO  | LOCKOUT                                   |
| LP  | LIGHTING PANEL                            |
| LPF | LOW POWER FACTOR                          |
| LRA | LOCKED ROTOR AMPS                         |
| LT  | LIGHT; LIQUID-TIGHT                       |
| LTC | LIGHTING                                  |
| LTR | LETTER                                    |
| LV  | LOW VOLTAGE                               |

|         |   |
|---------|---|
| M       | THOUSAND; MATERIAL; MECHANICAL; METER                     |
| MA      | MILLIAMPERE   |
| MACH    | MACHINE   |
| MAG STR | MAGNETIC STARTER  |
| MAINT   | MAINTENANCE   |
| MAN     | MANUAL  |
| MAT     | MATERIAL  |
| MATV    | MASTER ANTENNA TELEVISION                                 |
| MAX     | MAXIMUM   |
| MC      | METAL CLAD CABLE; MECHANICAL CONTRACTOR; MOTOR CONTROLLER |
| MCA     | MINIMUM CIRCUIT AMPS                                      |
| MCB     | MAIN CIRCUIT BREAKER                                      |
| MCC     | MOTOR CONTROL CENTER                                      |
| MCCB    | MOLDED CASE CIRCUIT BREAKER                               |
| MCM     | THOUSAND CIRCULAR MILS                                    |
| MCP     | MOTOR CIRCUIT PROTECTOR                                   |
| MCS     | MOTOR CIRCUIT SWITCH                                      |
| MDF     | MAIN DISTRIBUTION FRAME                                   |
| MDP     | MAIN DISTRIBUTION PANELBOARD                              |
| MECH    | MECHANICAL  |
| MED     | MEDIUM  |
| MFG     | MANUFACTURING   |
| MFR     | MANUFACTURER  |
| MH      | MANHOLE; METAL HALIDE; MAN-HOUR                           |
| MHZ     | MEGAHERTZ   |
| MI      | MALLEABLE IRON; MINERAL INSULATED                         |
| MIC     | MICROPHONE  |
| MIN     | MINIMUM; MINUTE   |
| MISC    | MISCELLANEOUS   |
| MLO     | MAIN LUG ONLY   |
| MO      | MONTH   |
| MOBIL   | MOBILIZATION  |
| MOC     | MAXIMUM OVERCURRENT PROTECTION                            |
| MOG     | MOGUL   |
| MTD     | MOUNTED   |
| MTG     | MOUNTING  |
| MTS     | MANUAL TRANSFER SWITCH                                    |
| MULT    | MULTI; MULTIPLY   |

|      |   |
|------|---|
| MV   | MERCURY VAPOR, MEGAVOLT; MEDIUM VOLTAGE |
| MVA  | MEGAVOLT AMPERES                        |
| MVAR | MEGAVOLT AMPERES REACTIVE               |
| MW   | MEGAWATT                                |

|      |   |
|------|---|
| N    | NORTH; NEW; NEUTRAL                           |
| N/A  | NOT AVAILABLE; NOT APPLICABLE                 |
| NA   | NON-AUTOMATIC                                 |
| NAT  | NATURAL                                       |
| NC   | NORMALLY CLOSED                               |
| ND   | NORMAL DUTY                                   |
| NEC  | NATIONAL ELECTRICAL CODE                      |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NF   | NON-FUSED                                     |
| NFD  | NON-FUSED DISCONNECT                          |
| NIC  | NOT IN CONTRACT                               |
| NL   | NIGHT LIGHT                                   |
| NM   | NON-METALLIC SHEATHED CABLE                   |
| NO   | NUMBER; NORMALLY OPEN                         |
| NTS  | NOT TO SCALE                                  |

|      |  |
|------|--|
| O&P  | OVERHEAD AND PROFIT ON CENTER; OVERCURRENT |
| OD   | OUTSIDE DIAMETER                           |
| ODS  | OVERHEAD DISTRIBUTION SYSTEM               |
| OH   | OVERHEAD                                   |
| OHD  | OVERHEAD DOOR                              |
| OL   | OVERLOAD                                   |
| OPGP | OFFICE PRINCIPAL GROUND POINT              |
| OS&Y | OUTSIDE SERVICE AND YOKE                   |
| OZ   | OUNCE                                      |
| P    | POLE; PULL ADDRESS                         |
| PA   | PUBLIC ADDRESS                             |
| PB   | PUSHBUTTON; PULL BOX                       |
| PC   | POWER CONNECTOR; PHOTOCELL                 |
| PD   | PROTECTIVE DEVICE                          |
| PE   | PROFESSIONAL ENGINEER                      |
| PF   | POWER FACTOR                               |
| PFCC | POWER FACTOR CORRECTION CAPACITOR          |
| PH   | PHASE                                      |
| PIV  | PISTON INDICATOR VALVE                     |
| PKG  | PACKAGE                                    |
| PL   | PILOT LIGHT                                |
| PLBG | PLUMBING                                   |
| PNL  | PANELBOARD                                 |
| PR   | PAIR                                       |
| PRI  | PRIMARY                                    |
| PSF  | POUNDS PER SQUARE FOOT                     |
| PSI  | POUNDS PER SQUARE INCH                     |
| PSIG | POUNDS PER SQUARE INCH GAUGE               |
| PT   | POTENTIAL TRANSFORMER                      |
| PU   | PER UNIT                                   |
| PVC  | POLYVINYL CHLORIDE                         |
| PWR  | POWER                                      |

|        |                                 |
|--------|---------------------------------|
| QUAN   | QUANTITY                        |
| R      | RESISTANCE; RELOCATED; RECESSED |
| RCS    | RELAY CONTROL STATION           |
| RECEPT | RECEPTACLE                      |
| RECIRC | RECIRCULATING                   |
| REF    | REFERENCE; REFRIGERATED         |
| REQ'D  | REQUIRED                        |
| RET    | RETURN                          |
| RF     | RETURN FAN                      |
| RGS    | RIGID GALVANIZED STEEL          |
| RLA    | RUNNING LOAD AMPS               |
| ROOM   | ROOM                            |
| RMS    | ROOT MEAN SQUARE                |
| RNC    | RIGID NON-METALLIC CONDUIT      |
| RF     | RAINPROOF                       |
| RPM    | REVOLUTIONS PER MINUTE          |
| RR     | RESTROOM                        |
| R&R    | REMOVE & REPLACE                |
| RS     | RAPID START                     |
| RSC    | RIGID STEEL CONDUIT             |
| RT     | RAINTIGHT                       |

|        |                                       |
|--------|---------------------------------------|
| S      | SOUTH                                 |
| SCCR   | SHORT-CIRCUIT CURRENT-RATING SCHEDULE |
| SCR    | SHORT CIRCUIT RATING                  |
| SD     | SERVICE DROP                          |
| SE     | SERVICE ENTRANCE; SERVICE EQUIPMENT   |
| SEC    | SECONDARY                             |
| SF     | SUPPLY FAN; SQUARE FOOT               |
| SL     | SLIM LINE; SERVICE LATERAL            |
| SN     | SOLID NEUTRAL                         |
| SP     | SINGLE POLE                           |
| SPD    | SURGE PROTECTIVE DEVICE               |
| SPDT   | SINGLE POLE, DOUBLE THROW             |
| SPKR   | SPEAKER                               |
| SPST   | SINGLE POLE, SINGLE THROW             |
| SQ     | SQUARE                                |
| SQ FT  | SQUARE FOOT                           |
| SQ IN  | SQUARE INCH                           |
| SR     | SERVICE RACEWAY; SURFACE RACEWAY      |
| SS     | STAINLESS STEEL; SAFETY SWITCH        |
| S/S    | START/STOP                            |
| ST     | STEEL; SHUNT TRIP; SINGLE THROW       |
| STD    | STANDARD                              |
| STR    | STARTER                               |
| STRUCT | STRUCTURAL                            |
| SUBS   | SUBCONTRACTORS                        |
| SURF   | SURFACE                               |
| SV     | SOLENOID VALVE                        |
| SW     | SWITCH                                |
| SWD    | SWITCHING DUTY                        |
| SWD    | SWITCHBOARD                           |
| SY     | SQUARE YARD                           |
| SYM    | SYMMETRICAL                           |
| SYN    | SYNTHETIC                             |
| SYS    | SYSTEM                                |

|      |                                    |
|------|------------------------------------|
| T    | TEMPERATURE; TRANSFORMER           |
| TB   | TERMINAL BLOCK                     |
| TC   | TIME CLOCK                         |
| TCC  | TEMPERATURE CONTROL CONTRACTOR     |
| TD   | TIME DELAY                         |
| TELE | TELEPHONE                          |
| TFE  | TETRAFLUOROETHYLENE                |
| TFF  | TOP OF FINISHED FLOOR              |
| TFMR | TRANSFORMER                        |
| TH   | THICK                              |
| THD  | TOTAL HARMONIC DISTORTION: THREAD  |
| TR   | TAMPER RESISTANT                   |
| TS   | TRIGGER START                      |
| TTB  | TELEPHONE TERMINAL BOARD           |
| TV   | TELEVISION                         |
| TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| TYP  | TYPICAL                            |

|     |                            |
|-----|----------------------------|
| UC  | UNDER (CABINET OR COUNTER) |
| UF  | UNDERGROUND FEEDER         |
| UG  | UNDERGROUND                |
| UH  | UNIT HEATER                |
| UHF | ULTRA HIGH FREQUENCY       |
| UL  | UNDERWRITERS LABORATORY    |

|       |                              |
|-------|------------------------------|
| UNFIN | UNFINISHED                   |
| UOI   | UNLESS OTHERWISE INDICATED   |
| UTIL  | UTILITY                      |
| UTP   | UNSHIELDED TWISTED PAIR      |
| UVR   | UNDERVOLTAGE RELAY (RELEASE) |

|      |                          |
|------|--------------------------|
| V    | VOLT; VENTILATION        |
| VA   | VOLT AMPERES             |
| VAR  | VOLT-AMPERES REACTIVE    |
| VAV  | VARIABLE AIR VOLUME      |
| VDT  | VIDEO DISPLAY TERMINAL   |
| VERT | VERTICAL                 |
| VFD  | VARIABLE FREQUENCY DRIVE |
| VHF  | VERY HIGH FREQUENCY      |
| VHO  | VERY HIGH OUTPUT         |
| VOL  | VOLUME                   |
| VT   | VAPORTIGHT               |

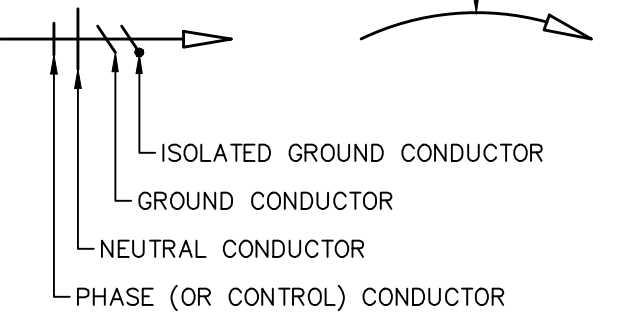
|     |                              |
|-----|------------------------------|
| W   | WIRE; WATT; WDE; WEST; WASTE |
| W/  | WITH                         |
| WG  | WIRE GUARD                   |
| WM  | "WIREFORM" (SURFACE RACEWAY) |
| WO  | WELDER OUTLET                |
| WP  | WEATHERPROOF                 |
| WT  | WEIGHT; WATERTIGHT           |
| WWF | WELDED WIRE FABRIC           |
| WW  | WELL WATER; WARM WHITE       |

|      |                  |
|------|------------------|
| XHD  | EXTRA HEAVY DUTY |
| XFMR | TRANSFORMER      |
| XFER | TRANSFER         |

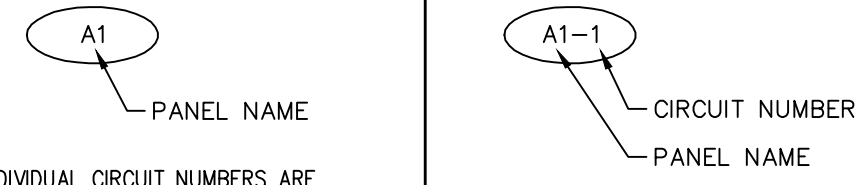
|   |                 |
|---|-----------------|
| Y | WYE             |
| . | DEGREE          |
| Δ | DELTA           |
| ∅ | PHASE; DIAMETER |
| # | POUND; NUMBER   |
| % | PERCENT         |
| @ | AT              |
| ~ | APPROXIMATELY   |
| ′ | FEET            |
| ″ | INCHES          |

## TYPICAL WIRING DESIGNATIONS

INDICATES MINIMUM WIRE SIZE PER SPECIFICATIONS

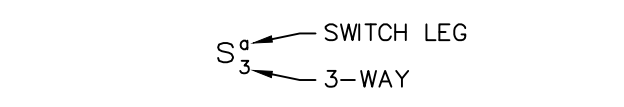
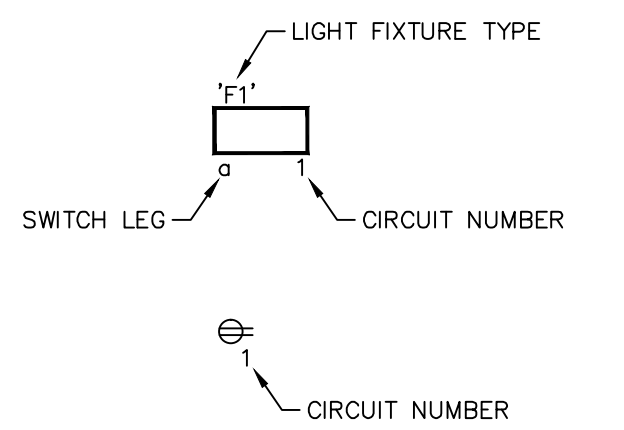


## ROOM CIRCUIT DESIGNATIONS



INDIVIDUAL CIRCUIT NUMBERS ARE LOCATED AT EACH DEVICE

## TYPICAL DEVICE DESIGNATIONS



## LIGHT FIXTURES

|   |  |
|---|--|
| □ | LIGHT, CEILING   |
| ○ | LIGHT, CEILING   |
| ○ | LIGHT, WALL  |
| ⊗ | EXIT LIGHT, CEILING  |
| ⊗ | EXIT LIGHT, WALL   |
| ⊗ | EXIT LIGHT WITH DIRECTIONAL ARROW, CEILING   |
| ⊗ | EXIT LIGHT WITH DIRECTIONAL ARROW, WALL  |
| ⊗ | EMERGENCY LIGHTING UNIT  |
| ⊗ | TRACK LIGHT FIXTURE  |
| ⊗ | LIGHT FIXTURE CONNECTED TO EMERGENCY CIRCUIT (AND NIGHT LIGHT WITH 'NL' SUBSCRIPT) |

## SWITCHES

|                 |   |
|-----------------|---|
| S               | SWITCH, SINGLE POLE                       |
| S <sub>2</sub>  | SWITCH, DOUBLE POLE                       |
| S <sub>3</sub>  | SWITCH, THREE WAY                         |
| S <sub>4</sub>  | SWITCH, FOUR WAY                          |
| S <sub>K</sub>  | SWITCH, KEY OPERATED                      |
| S <sub>P</sub>  | SWITCH, WITH PILOT LIGHT                  |
| S <sub>WP</sub> | SWITCH, WEATHERPROOF                      |
| S <sub>X</sub>  | SWITCH, EXPLOSIONPROOF                    |
| S <sub>D</sub>  | SWITCH, DIMMER                            |
| M <sub>1</sub>  | MULTI-TECHNOLOGY CEILING OCCUPANCY SENSOR |
| M <sub>2</sub>  | ULTRASONIC CEILING OCCUPANCY SENSOR       |
| M <sub>3</sub>  | PASSIVE INFRARED CEILING OCCUPANCY SENSOR |
| M <sub>4</sub>  | SINGLE POLE WALL OCCUPANCY SENSOR         |
| M <sub>5</sub>  | TWO POLE WALL OCCUPANCY SENSOR            |
| M <sub>6</sub>  | TIMECLOCK                                 |
| M <sub>7</sub>  | PHOTOCCELL                                |
| M <sub>8</sub>  | RELAY PANEL                               |
| M <sub>9</sub>  | LIGHTING CONTACTOR                        |

## PANELS

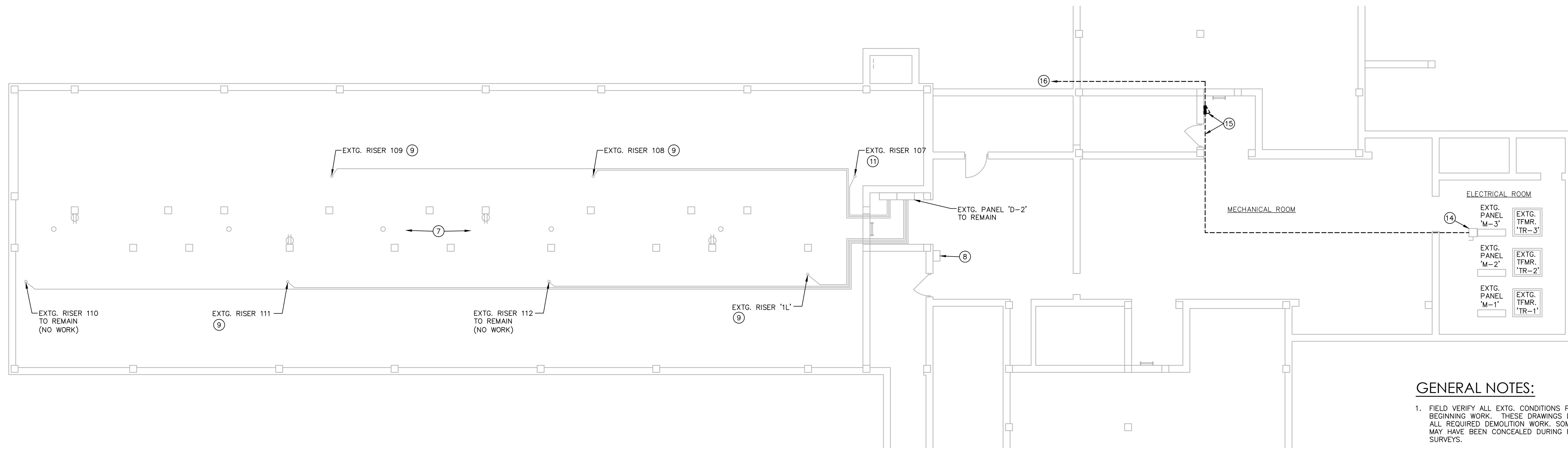
|   |                                   |
|---|-----------------------------------|
| ▬ | PANEL, FLUSH                      |
| ▬ | PANEL, SURFACE                    |
| ▬ | CONTROL PANEL (AS NOTED), FLUSH   |
| ▬ | CONTROL PANEL (AS NOTED), SURFACE |

## RECEPTACLES AND OUTLETS

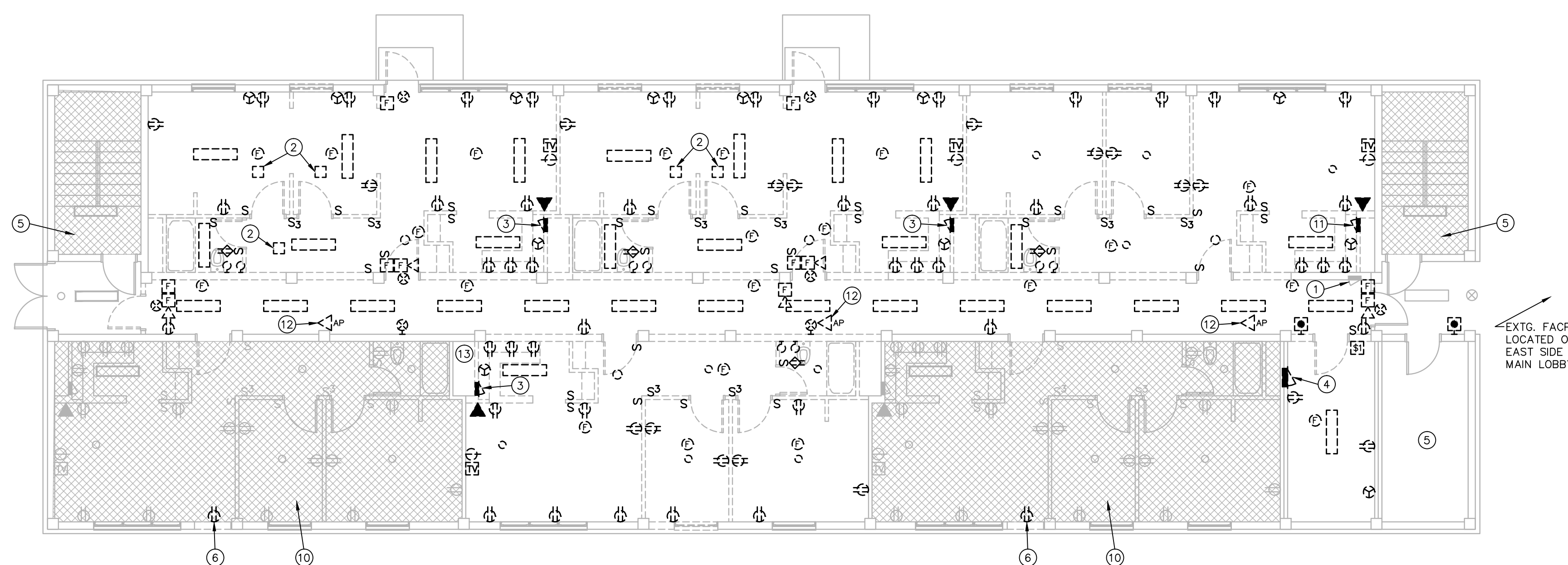
|   |  |
|---|--|
| ⊕ | DUPLEX RECEPTACLE  |
| ⊕ | DOUBLE DUPLEX (QUAD) RECEPTACLE                                  |
| ⊕ | ISOLATED GROUND DUPLEX RECEPTACLE                                |
| ⊕ | ISOLATED GROUND DOUBLE DUPLEX (QUAD) RECEPTACLE                  |
| ⊕ | GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE               |
| ⊕ | DOUBLE DUPLEX (QUAD) GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE |
| ⊕ | GROUND FAULT CIRCUIT INTERRUPTER/WEATHERPROOF DUPLEX RECEPTACLE  |
| ⊕ | SINGLE RECEPTACLE  |
| ⊕ | FLOOR OUTLET   |
| ⊕ | SPECIAL OUTLET OR EQUIPMENT CONNECTION (AS NOTED)                |
| ⊕ | DROP CORD (AS NOTED)   |
| ⊕ | POWER POLE   |

## POWER EQUIPMENT

|   |   |
|---|---|
| ⊕ | 1-PHASE MOTOR                                   |
| ⊕ | 3-PHASE MOTOR                                   |
| ⊕ | DISCONNECT                                      |
| ⊕ | MANUAL MOTOR STARTER                            |
| ⊕ | MANUAL MOTOR STARTER WITH PILOT SWITCH          |
| ⊕ | MAGNETIC MOTOR STARTER                          |
| ⊕ | COMBINATION DISCONNECT & MAGNETIC MOTOR STARTER |
| ⊕ | TRANSFORMER                                     |



**CRAWL SPACE/BASEMENT PLAN - ELECTRICAL DEMOLITION**  
 SCALE: 1/8" = 1'-0"  
 NORTH



**FIRST FLOOR PLAN - ELECTRICAL DEMOLITION**  
 SCALE: 1/8" = 1'-0"  
 NORTH

**DEMOLITION PLAN NOTES:**

1. EXTG. TELECOMM CABINET TO REMAIN. ALL EXTG. VOICE AND DATA CABLES IN THIS REMODEL AREA (MINUS THE CABLES FOR WIRELESS ACCESS POINTS) ARE CURRENTLY WIRED TO THIS CABINET. REMOVE ALL STATION CABLES FROM JACKS TO BE REMOVED BACK TO THIS CABINET. THIS CABINET IS FED FROM THE EXTG. MDF. SEE DWG. E101. THIS CABINET ALSO CONTAINS RISER CABLING TO SIMILAR CABINETS ON EACH OF THE UPPER FLOORS, WHICH SHALL REMAIN INTACT.
2. REMOVE EXTG. EMERGENCY LIGHT FIXTURE. REMOVE ALL SUCH LIGHTS IN REMODEL AREAS.
3. REMOVE EXTG. ELECTRICAL LOADCENTER THAT SERVES THIS APARTMENT UNIT. THIS PANEL IS ON A RISER WITH THREE OTHER PANELS LOCATED IN APARTMENTS ABOVE. THE EXISTING RISER SHALL BE REWORKED TO MAINTAIN SERVICE TO THOSE UPPER APARTMENTS. SEE RISER DIAGRAM ON DWG. E102.
4. REMOVE EXTG. ELECTRICAL PANEL '1L' THAT SERVES THE COMMON AREAS IN THIS WING, ON THIS FLOOR. THIS PANEL IS ON A RISER WITH THREE OTHER PANELS LOCATED IN ABOVE LAUNDRY ROOMS. THE EXISTING RISER SHALL BE REWORKED TO MAINTAIN SERVICE TO THOSE UPPER PANELS. SEE RISER DIAGRAM ON DWG. E102.
5. SEE DWG. E101 FOR NOTES REGARDING REFERRED TO EXTG. EQUIPMENT IN THIS SPACE THAT IS CURRENTLY FED FROM EXTG. PANEL '1L'.
6. REMOVE EXTG. RECEPTACLE TO ALLOW FOR NEW DOOR CONSTRUCTION. WIRING IS FED THRU FLOOR SLAB TO ADJACENT DEVICES. PROVIDE SURFACE RACEWAY AND WIRE AS REQUIRED TO RECONNECT ALL SUCH DEVICES.
7. REFEED EXTG. LIGHTS AND RECEPTACLES IN CRAWLSPACE FROM A DEDICATED SPARE CIRCUIT IN EXTG. PANEL '2L' ON THE SECOND FLOOR AND LABEL ACCORDINGLY.
8. EXTG. TV CABLE TAP BOX. COAX CABLES TO APARTMENTS IN THIS WING ARE ROUTED FROM THIS BOX, THRU CRAWLSPACE, THEN UP THRU PIPE CHASES. FOR CABLES IN CHASES THAT ARE BEING REMOVED, INTERCEPT SUCH CABLES ABOVE FIRST FLOOR CEILING AND EXTEND TO THIS TAP BOX AS REQUIRED AND RECONNECT. EACH APARTMENT HAS AT LEAST ONE COAX CABLE "HOMERUN" TO THIS TAP BOX.
9. INTERCEPT EXTG. PANEL FEEDER RISER IN CRAWLSPACE AND REROUTE THRU NEW CHASE ON FIRST FLOOR AND RECONNECT TO EXTG. RISER ABOVE FIRST FLOOR CEILING TO MAINTAIN SERVICE TO UPPER APARTMENTS. SEE RISER DIAGRAM ON DWG. E102.
10. EXTG. APARTMENT TO REMAIN, EXCEPT AS NOTED OTHERWISE.
11. EXTG. ELECTRICAL LOADCENTER THAT SERVES THIS APARTMENT UNIT TO REMAIN AND BE USED AS A JUNCTION BOX. THIS PANEL IS ON A RISER WITH THREE OTHER PANELS LOCATED IN APARTMENTS ABOVE. REMOVE EXTG. PANEL INTERIORS AND RECONNECT FEEDER CONDUCTORS AS REQUIRED TO MAINTAIN SERVICE TO UPPER APARTMENTS. SEE RISER DIAGRAM ON DWG. E102.
12. REMOVE EXTG. WIRELESS ACCESS POINTS, WHICH ARE "HOMERUN" WIRED TO EXTG. MDF THRU THE CRAWL SPACE/BASEMENT. REMOVE THIS CABLING.
13. EXTG. CABLES TO WIRELESS ACCESS POINTS ON ALL FLOORS ARE ROUTED THRU THIS CHASE. REWORK AS REQUIRED TO MAINTAIN OPERATION ON UPPER FLOORS.
14. EXTG. 100 AMP, 2 POLE DISCONNECT SWITCH TO REMAIN.
15. REMOVE EXTG. PANEL THAT SERVES EXTG. HVAC THRU-WALL UNITS LOCATED IN UNITS 108 & 109. REMOVE ASSOCIATED FEEDER.
16. REMOVE BRANCH CIRCUIT WIRING TO EXTG. HVAC THRU-WALL UNITS LOCATED IN UNITS 108 & 109. MAJORITY OF EXTG. CONDUIT IS BURIED UNDERGROUND AND SHALL REMAIN. REMOVE EXTG. WIRING AND ALL EXPOSED RACEWAY.

**GENERAL NOTES:**

1. FIELD VERIFY ALL EXTG. CONDITIONS PRIOR TO BEGINNING WORK. THESE DRAWINGS DO NOT SHOW ALL REQUIRED DEMOLITION WORK. SOME CONDITIONS MAY HAVE BEEN CONCEALED DURING FIELD SURVEYS.
2. ALL DEVICES AND EQUIPMENT SHOWN DASHED OR WITH HEAVY LINE WEIGHT SHALL BE REMOVED IN THEIR ENTIRETY, INCLUDING ALL WIRING TO SOURCE, UNLESS OTHERWISE NOTED.
3. DISPOSAL OF DEMOLISHED MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE & FEDERAL REGULATIONS.
4. CONTRACTORS SHALL PROTECT ALL EXTG. OWNER FACILITIES, THAT ARE TO REMAIN, DURING CONSTRUCTION. ANY FACILITIES DAMAGED OR DISCONNECTED BY CONTRACTOR SHALL BE IMMEDIATELY RESTORED TO PREVIOUS CONDITION.
5. OWNER SHALL HAVE "RIGHT OF FIRST REFUSAL" FOR ALL DEMOLISHED ELECTRICAL ITEMS. CONTRACTOR SHALL COORDINATE W/ OWNER PRIOR TO BEGINNING WORK TO DETERMINE WHAT ITEMS THE OWNER MAY BE INTERESTED IN KEEPING. CONTRACTOR SHALL CAREFULLY REMOVE ALL SUCH ITEMS AND DELIVER TO OWNER DESIGNATED STORAGE AREA ON CAMPUS. FOR ALL ITEMS DEEMED OBSOLETE BY THE OWNER, CONTRACTOR SHALL IMMEDIATELY REMOVE SUCH ITEMS FROM THE PREMISES, UNLESS OTHERWISE NOTED.
6. FOR MECH. EQUIPMENT BEING REMOVED. REMOVE ALL ASSOCIATED DISCONNECTS, CONTROLLERS, WIRING, ETC. COMPLETE. VERIFY W/ M.C.
7. FOR EQUIPMENT OR DEVICES BEING REMOVED FROM WALLS THAT WILL REMAIN, PROVIDE A BLANK COVERPLATE (TO MATCH NEW) ON EXTG. BOX.
8. CONTRACTOR SHALL REMOVE ALL EXTG. TECHNOLOGY CABLING TO DEVICES AND EQUIPMENT BEING REMOVED, AS INDICATED.
9. PROVIDE ADEQUATE SUPPORT FOR EXTG. CABLING/RACEWAYS ABOVE CEILING AS REQ'D. REMOVE ALL OBSOLETE CABLING, WIRING, RACEWAYS, ETC.
10. REMOVE ALL ASSOCIATED ELECTRICAL FOR ANY EXISTING EQUIPMENT BEING REMOVED BY ANY TRADE. REFER TO ALL DRAWINGS.
11. CONTRACTOR SHALL REMOVE ALL EXTG. DEVICES ON WALLS BEING REMOVED, WHETHER DEVICES ARE SHOWN OR NOT, UNLESS OTHERWISE INSTRUCTED.
12. COORDINATE SCHEDULING OF DEMOLITION WORK WITH OWNER AND ALL TRADES.
13. ALL EXTG. FIRE ALARM EQUIPMENT AND DEVICES SHALL BE CAREFULLY REMOVED BY THE CONTRACTOR AND TURNED OVER TO THE OWNER FOR SALVAGE. COORDINATE WITH THE OWNER PRIOR TO REMOVAL AND DELIVER TO DESIGNATED LOCATION ON CAMPUS FOR STORAGE. CONTRACTOR SHALL PROVIDE AND USE FIBER DRUMS FOR STORAGE OF DEVICES AND DELIVER DRUMS/DEVICES TO OWNER.
14. PATCH ALL EXTG. HOLES THRU WALLS AND FLOORS WHERE EXTG. RACEWAYS OR CABLES ARE REMOVED.
15. MAINTAIN SERVICE TO ADJACENT AREAS. FOR CIRCUITS THAT PASS THRU A DEVICE OR EQUIPMENT THAT'S BEING REMOVED AND ALSO SERVES SOMETHING THAT IS TO REMAIN, REWORK AND REROUTE THE EXISTING WIRING AS REQUIRED TO MAINTAIN SUCH SERVICE.
16. PER EXTG. DWGS., THE MAJORITY OF CONDUITS SERVING DEVICES ARE ROUTED THRU THE SLAB AND CONDUITS TO LIGHTS ARE ROUTED ABOVE THE CEILING. VERIFY IN FIELD.
17. ANY INTERRUPTION OF SERVICES TO APARTMENTS SHALL BE KEPT TO A MINIMUM. CONTRACTOR SHALL COORDINATE MEANS AND METHODS AND SCHEDULING WITH OWNER MANY WEEKS IN ADVANCE.

**DEMOLITION LEGEND:**

- EXISTING WORK TO BE REMOVED
- EXISTING WORK TO REMAIN



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 Consulting Engineers

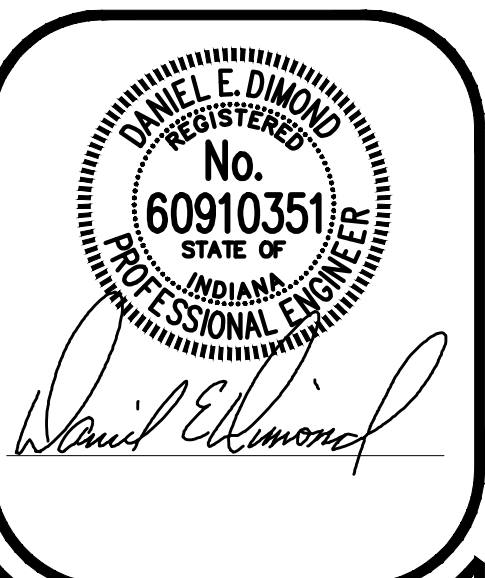
UA UNIT / CHILD CARE RENOVATION  
 MARRIED STUDENT HOUSING

CRAWL SPACE/BASEMENT & FIRST FLOOR -  
 ELECTRICAL DEMOLITION

|               |            |
|---------------|------------|
| FILENAME:     |            |
| PROPERTY NO.: |            |
| REVISIONS     |            |
| 1             |            |
| 2             |            |
| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | D.E.H.     |
| CHECKED BY:   | D.E.H.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #19052  |

SHEET NO.:

**ED101**

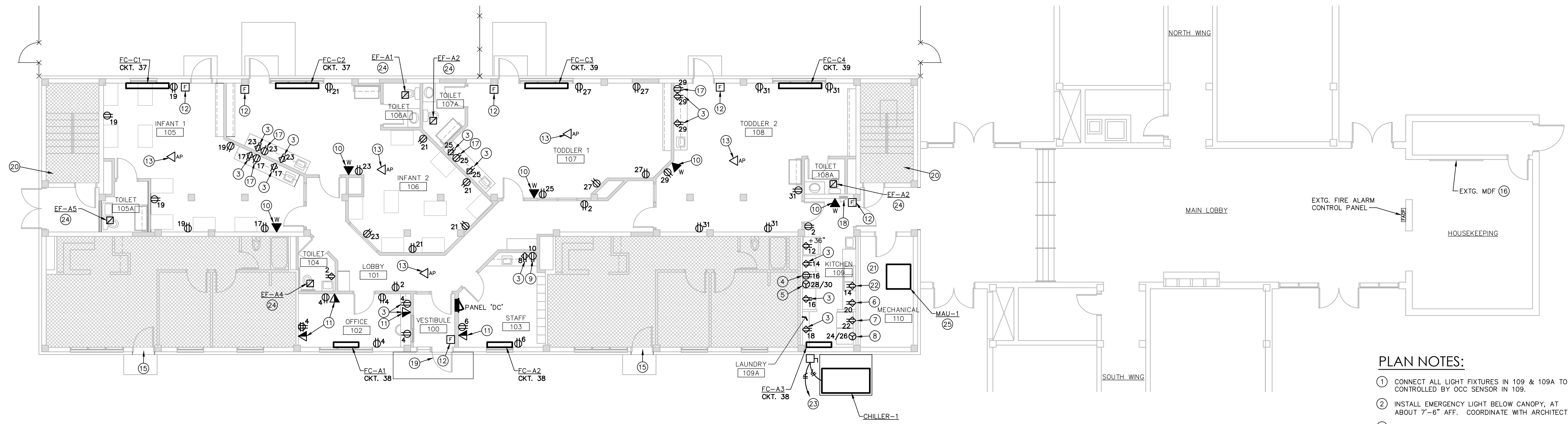


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U/A UNIT / CHILDCARE RENOVATION  
 MARRIED STUDENT HOUSING  
 FIRST FLOOR PLAN - ELECTRICAL

|               |            |
|---------------|------------|
| FILENAME:     |            |
| PROPERTY NO.: |            |
| REVISIONS     |            |
| 1             |            |
| 2             |            |
| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | D.E.H.     |
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SHEET NO.  
**E101**

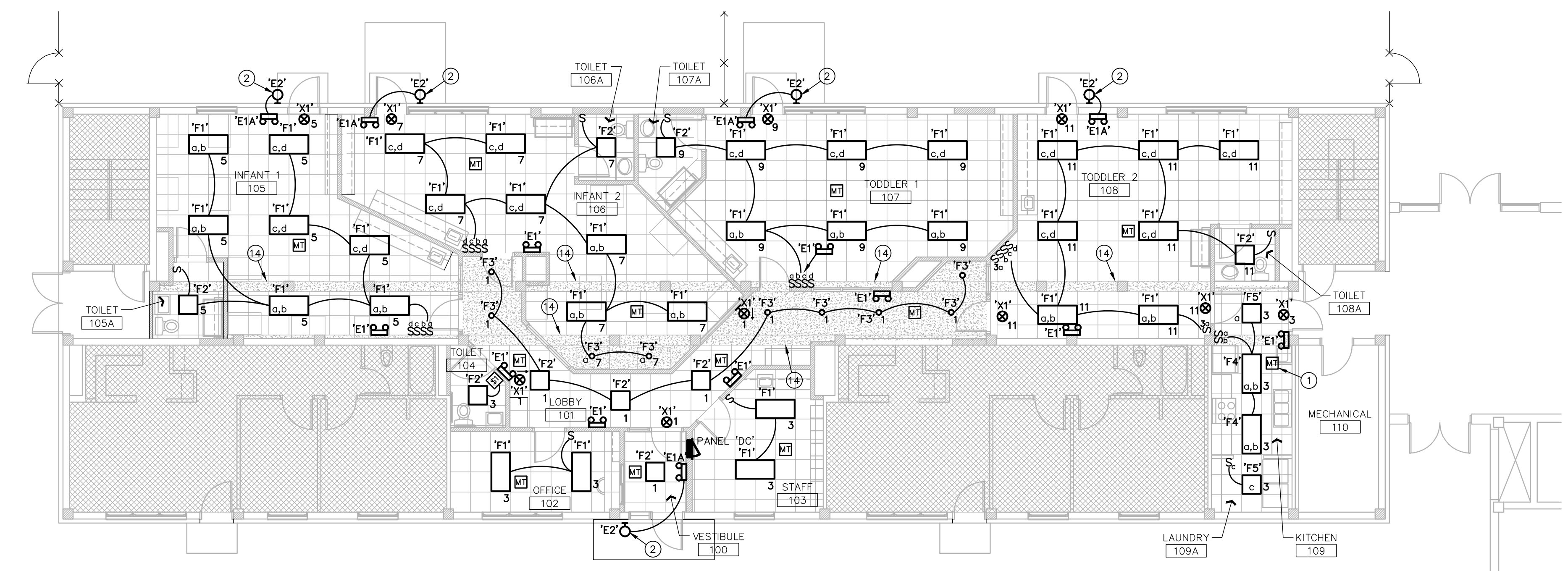


**FIRST FLOOR PLAN - ELECTRICAL**  
 SCALE: 1/8" = 1'-0"  
 NORTH

- PLAN NOTES:**
- CONNECT ALL LIGHT FIXTURES IN 109 & 109A TO BE CONTROLLED BY OCC SENSOR IN 109.
  - INSTALL EMERGENCY LIGHT BELOW CANOPY, AT ABOUT 7'-6" AFF. COORDINATE WITH ARCHITECT.
  - INSTALL DEVICE ABOVE COUNTER. SEE ARCH. DWGS.
  - INSTALL DEVICE INSIDE UPPER WALL CABINET FOR MICROWAVE.
  - PROVIDE 50A-120/240V-1Ø-4W RANGE RECEPTACLE AND WIRE WITH 3#6, 1#10G - 1" TO PANEL 'DC'.
  - INSTALL DEVICE BELOW COUNTER FOR DISHWASHER.
  - PROVIDE DEVICE FOR CLOTHES WASHER. CONFIRM LOCATION WITH OWNER.
  - PROVIDE 30A-120/240V-1Ø-4W CLOTHES DRYER RECEPTACLE AND WIRE WITH 3#10, 1#10G - 3/4" TO PANEL 'DC'.
  - INSTALL DEVICE BELOW COUNTER FOR REFRIGERATOR.
  - PROVIDE CAT.6a JACK AND CABLE FOR WALL PHONE, AT 46" AFF TO CENTER. WIRE TO EXTG. MDF.
  - PROVIDE (1) VOICE AND (1) DATA CAT.6a JACKS AND CABLES. WIRE TO EXTG. MDF.
  - PROVIDE ROUGH-IN FOR FUTURE FIRE ALARM PULL STATION. INSTALL AT 46" AFF TO CENTER WITH 3/4" TO ABOVE ACCESSIBLE CEILING.
  - PROVIDE CAT.6a JACK AND CABLE ABOVE CEILING FOR FUTURE WIRELESS ACCESS POINT. LEAVE 10'-0" SERVICE LOOP IN CABLE. WIRE TO EXTG. MDF.
  - EXTG. CONCRETE BEAM TO BE EXPOSED BELOW CEILING. CONTRACTOR SHALL ROUTE CONDUITS AND WIRING THRU FULL HEIGHT WALLS TO AVOID EXPOSED CONDUITS AS MUCH AS POSSIBLE.
  - SEE DWG. E101 FOR WORK IN THIS AREA REGARDING DEMOLITION OF EXTG. RECEPTACLE AND REFEED OF ADJACENT RECEPTACLES. ALSO, PROVIDE A LIGHT SWITCH NEXT TO DOOR AND WIRE TO CONTROL 1/2 OF NEAREST RECEPTACLE.
  - CONNECT NEW VOICE AND DATA CABLES TO EXTG. PATCH PANELS AT EXTG. MDF. TERMINATE PER SPECS.
  - INSTALL DEVICE BELOW COUNTER FOR REFRIGERATOR.
  - EXTG. TELECOMM CABINET TO REMAIN.
  - PROVIDE 120V CIRCUIT #15 TO DOOR OPERATOR AND CONNECT ALL CONTROLS/PUSHPADS.
  - RECONNECT EXTG. CUH IN STAIRS TO SPARE CIRCUIT IN EXTG. PANEL '2L' IN 2ND FLOOR LAUNDRY. RELABEL CUH ACCORDINGLY.
  - RECONNECT EXTG. LIGHTS, RECEPTACLES AND CUH IN MECHANICAL 110 TO SPARE CIRCUIT IN EXTG. PANEL '2L' IN 2ND FLOOR LAUNDRY. RELABEL ACCORDINGLY.
  - PROVIDE RECEPTACLE BELOW COUNTER FOR DISPOSAL. PROVIDE SWITCH ABOVE COUNTER FOR CONTROL.
  - PROVIDE 100A/2P NF NEMA 3R DISCONNECT SWITCH. VERIFY LOCATION AND CONNECTION IN FIELD. PROVIDE CIRCUIT FROM PANEL 'DC-M' IN BASEMENT, CONSISTING OF 2#3, 1#6 - 1" C. ROUTE THRU CRAWL SPACE. CONNECT TO 80A/2P BREAKER IN PANEL.
  - CONNECT EXHAUST FAN TO SWITCHED LIGHTING CIRCUIT.
  - PROVIDE 25A, 120V CIRCUIT FOR MAU-1 WITH #10 WIRE FROM PANEL 'DC-M' IN BASEMENT. CONNECT TO 25A/1P BREAKER IN PANEL.

**GENERAL NOTES:**

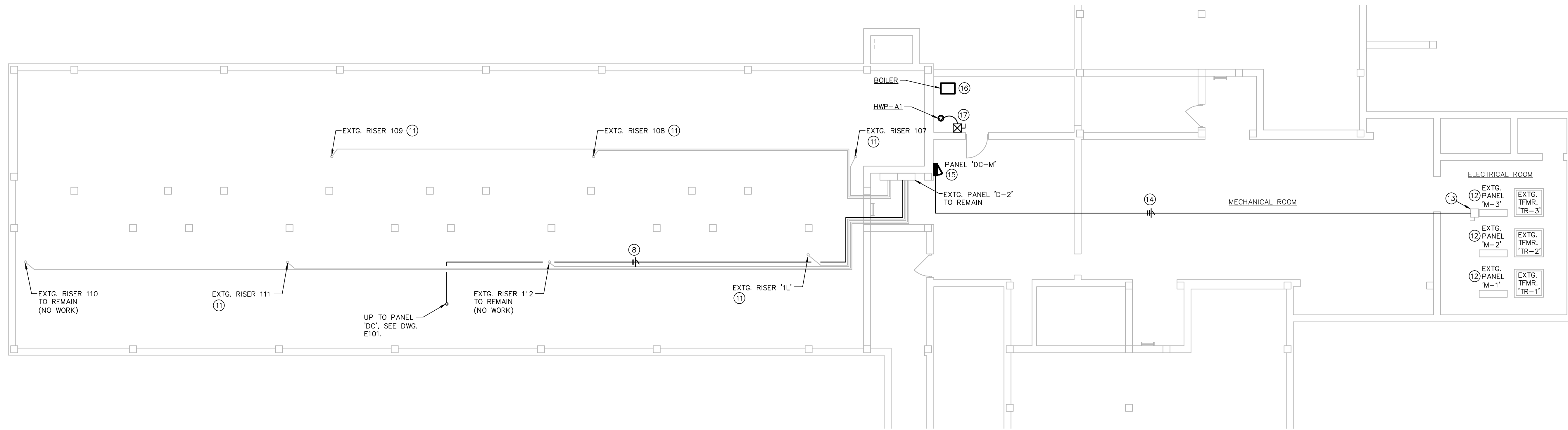
- SEE DRAWING E001 FOR SYMBOLS.
- ALL CIRCUITS SHALL BE FROM NEW PANEL 'DC' (DAYCARE) UNLESS OTHERWISE NOTED.
- REFER TO INTERIOR ELEVATIONS ON ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DEVICES AT CASEWORK.
- ALL RECEPTACLES SHALL BE TAMPER-PROOF HOSPITAL GRADE TYPE, LIKE HUBBELL #HBL8300SG SERIES DUPLEX OR #GFR8300SG SERIES GFCI DUPLEX.
- ALL DEVICE BOXES SHALL BE RECESSED AND ALL RACEWAYS CONCEALED. CUT AND PATCH EXTG. WALLS/CEILINGS AS REQUIRED. THE USE OF SURFACE BOXES AND RACEWAYS SHALL BE ALLOWED ONLY AS APPROVED BY THE OWNER.
- ALL 120 VOLT CIRCUITS SHALL UTILIZE SEPARATE INDEPENDENT NEUTRAL CONDUCTORS. DO NOT SHARE NEUTRALS.
- CONTRACTOR SHALL COORDINATE WITH ALL TRADES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR INCORRECT WORK, OR FOR INFRINGEMENT UPON OTHERS WORK, DUE TO A LACK OF COORDINATION.
- COORDINATE & VERIFY LOCATIONS OF DEVICES W/ BLOCK COURSING, FINISH MATERIALS, CASEWORK, ETC. PRIOR TO ROUGH-IN.
- ALL WIRING SHALL BE MINIMUM #12 AWG. IN 3/4" CONDUIT UNLESS OTHERWISE NOTED OR REQUIRED.
- ALL LOW VOLTAGE PLENUM-RATED CABLING (FIRE ALARM, TELEPHONE/DATA, ETC.) SHALL BE CONCEALED ABOVE ACCESSIBLE CEILINGS. FOR CABLES BEING ROUTED THRU AREAS WITH EXPOSED STRUCTURE, INSTALL CABLES IN MINIMUM 3/4" CONDUITS.
- REPLACE ALL EXISTING BLANK COVERPLATES WITH NEW FINISH/MATERIAL TO MATCH THOSE USED FOR NEW DEVICES.
- ROUTE NEW TECHNOLOGY CABLING IN CRAWLSPACE AND BASEMENT AS MUCH AS POSSIBLE TO AVOID NEED FOR EXPOSED RACEWAYS IN MAIN LOBBY. COORDINATE WITH OWNER.
- CONNECT ALL EMERGENCY LIGHTS TO THE UNSWITCHED LIGHTING CIRCUIT SERVING THE ROOM'S NORMAL LIGHT FIXTURES. INSTALL ALL EMERGENCY LIGHTS AT 7'-6" AFF UNLESS OTHERWISE DIRECTED.
- FIRE ALARM SYSTEM UPGRADES WILL BE BY OTHERS UNDER SEPARATE CONTRACT. COORDINATE IN FIELD.
- UNDER ALTERNATE BID, CHANGE LIGHT FIXTURE TYPES 'F1' AND 'F2' TO LED LAMPING. SEE LIGHT FIXTURE SCHEDULE ON DWG. E401. 'F1' FIXTURES IN ROOMS 105, 106, 107 & 108 SHALL BE DIMMED. PROVIDE A COMPATIBLE 0-10V DIMMER TO REPLACE SWITCHES a & b AND ANOTHER DIMMER TO REPLACE SWITCHES c & d (TOTAL OF TWO DIMMERS PER ROOM). REMAINDER OF 'F1' FIXTURES AND ALL 'F2' FIXTURES SHALL BE SWITCHED, AS SHOWN FOR BASE BID SCOPE.



**FIRST FLOOR PLAN - LIGHTING**  
 SCALE: 1/8" = 1'-0"  
 NORTH

**RENOVATION LEGEND:**

- NEW WORK TO BE INSTALLED
- EXISTING WORK TO REMAIN



CRAWL SPACE/BASEMENT PLAN - ELECTRICAL

SCALE: 1/8" = 1'-0"

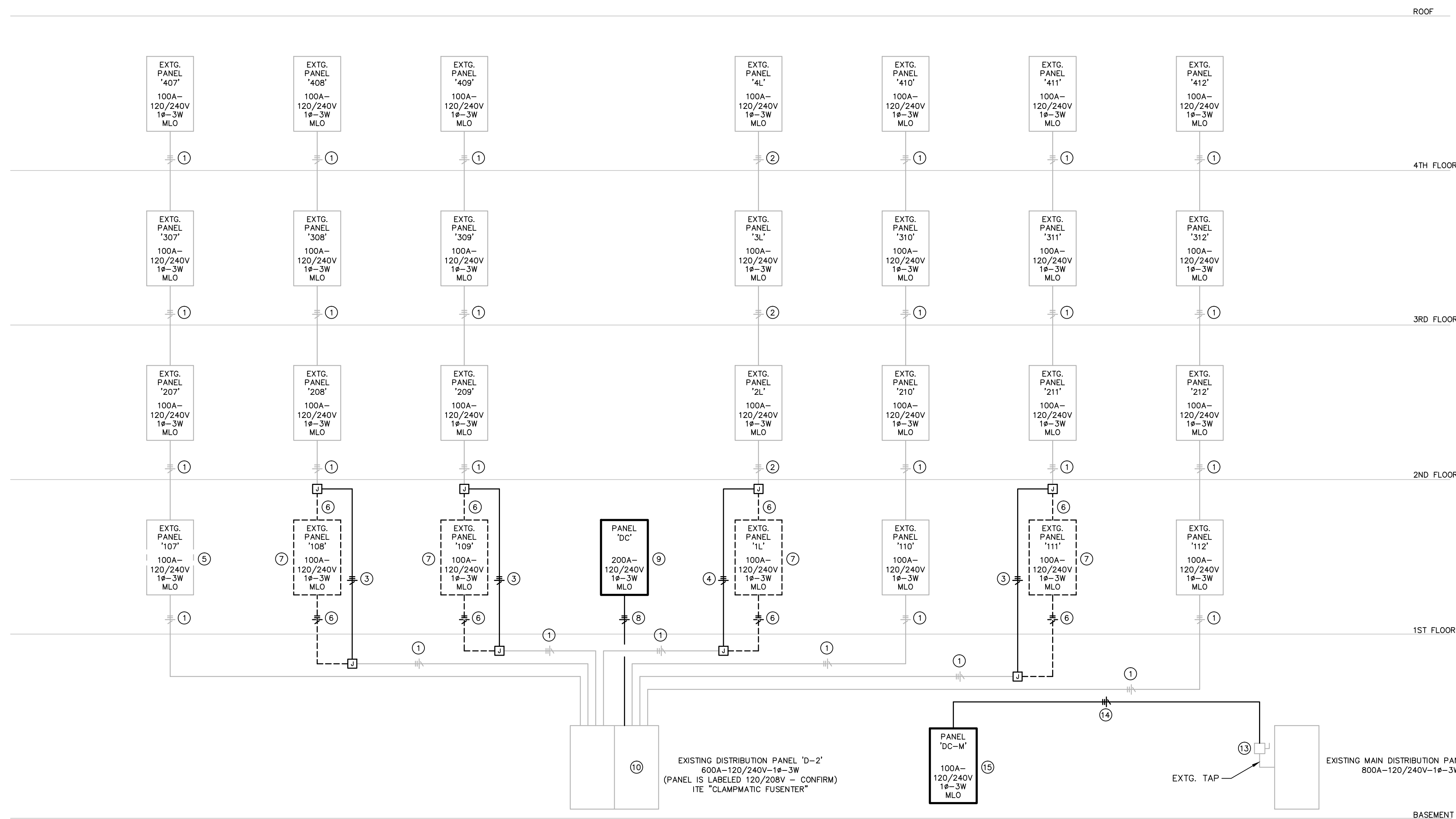


GENERAL NOTES:

- SEE DRAWING E001 FOR SYMBOLS.
- SEE DRAWING E101 FOR GENERAL NOTES.

PLAN NOTES:

- EXTG. FEEDER/RISER TO REMAIN, 2#3/0, 1#2/0N - 2"C.
- EXTG. FEEDER/RISER TO REMAIN, 3#2, 1-1/4"C.
- INTERCEPT EXTG. PANEL FEEDER RISER IN CRAWLSPACE AND REROUTE THRU NEW CHASE ON FIRST FLOOR AND RECONNECT TO EXTG. RISER ABOVE FIRST FLOOR CEILING TO MAINTAIN SERVICE TO UPPER APARTMENTS. PROVIDE ACCESSIBLE JUNCTION BOXES, SIZE PER NEC. PERFORM THIS WORK AS REQUIRED TO MINIMIZE DOWNTIME TO UPPER APARTMENTS. SUBMIT PROPOSED METHOD AND SCHEDULE TO OWNER/ENGINEER FOR PRIOR-APPROVAL. PROVIDE 2#3/0, 1#2/0N, 1#6G - 2"C.
- INTERCEPT EXTG. PANEL FEEDER RISER IN CRAWLSPACE AND REROUTE THRU NEW CHASE ON FIRST FLOOR AND RECONNECT TO EXTG. RISER ABOVE FIRST FLOOR CEILING TO MAINTAIN SERVICE TO UPPER PANELS. PROVIDE ACCESSIBLE JUNCTION BOXES, SIZE PER NEC. PERFORM THIS WORK AS REQUIRED TO MINIMIZE DOWNTIME TO UPPER PANELS. SUBMIT PROPOSED METHOD AND SCHEDULE TO OWNER/ENGINEER FOR PRIOR-APPROVAL. PROVIDE 3#2, 1#6G - 1-1/4"C.
- EXTG. ELECTRICAL LOADCENTER THAT SERVES THIS APARTMENT UNIT TO REMAIN AND BE USED AS A JUNCTION BOX. REMOVE EXTG. PANEL INTERIORS AND RECONNECT FEEDER CONDUCTORS AS REQUIRED TO MAINTAIN SERVICE TO UPPER APARTMENTS. CONNECT WITH 2#3/0, 1#2/0N.
- REMOVE PORTION OF EXTG. FEEDER.
- REMOVE EXTG. PANEL.
- PROVIDE NEW 200 AMP, 120/240V, 1# 3W FEEDER, 3#3/0, 1#6G - 2"C TO NEW PANEL 'DC'.
- PROVIDE NEW PANEL 'DC' FOR DAYCARE. PANEL SHALL BE FLUSH MOUNT, 200 AMP, 120/240V, 1# 3W, MLO, 54 CIRCUIT WITH (50)20A/1P, (1)30A/2P & (1)50A/2P BRANCH BREAKERS.
- PROVIDE A 200A-2P FUSIBLE SWITCH IN EXTG. SPACE IN DIST. PANEL 'D-2' TO SERVE PANEL 'DC'. SWITCH SHALL BE LIKE ITE CLAMPMATIC VACU-BREAK MODEL V7E2204LR SERIES, OR COMPATIBLE EQUAL, TO MATCH EXTG. FUSE AT 200 AMPS. PANEL 'D-2' S.O. #76-33689-051.
- SEE RISER DIAGRAM FOR REQUIRED WORK ASSOCIATED WITH EXTG. FEEDER/RISER AND SEE DWGS. E101 & E101.
- EXTG. MAIN DISTRIBUTION PANEL TO REMAIN.
- EXTG. 100 AMP, 2 POLE DISCONNECT SWITCH TO REMAIN.
- PROVIDE NEW 100 AMP, 120/240V, 1# 3W FEEDER CONSISTING OF 3#3, 1#6G - 1-1/4"C.
- PROVIDE NEW PANEL 'DC-M' FOR DAYCARE MECHANICAL EQUIPMENT. PANEL SHALL BE SURFACE MOUNT, 100 AMP, 120/240V, 1# 3W, MLO 24 CIRCUIT WITH (1)80A/2P, (1)20A/2P, (1)25A/1P, (9)20A/1P BRANCH BREAKERS AND (10)1P SPACES.
- PROVIDE DEDICATED 20A, 120V CIRCUIT FROM PANEL 'DC-M' TO BOILER. PROVIDE ON/OFF SWITCH.
- PROVIDE COMB. MAGNETIC STARTER WITH H-0-A AND FUSES FOR PUMP HWP-A1. PROVIDE 20A, 240V, 1# CIRCUIT FROM PANEL 'DC-M' AND CONNECT TO 20A/2P BREAKER IN PANEL.

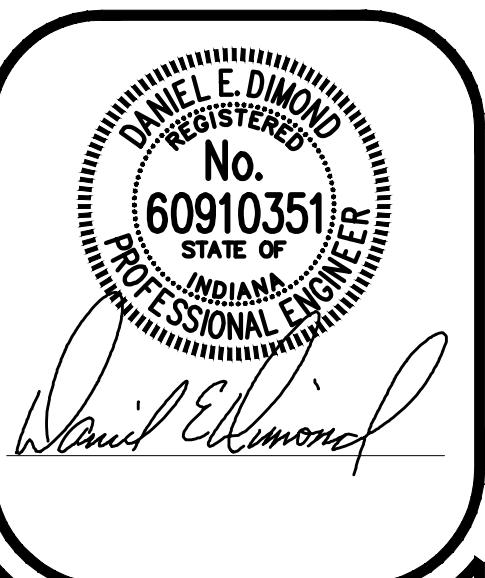


RISER DIAGRAM - ELECTRICAL

NO SCALE

RENOVATION LEGEND:

- NEW WORK TO BE INSTALLED
- EXISTING WORK TO REMAIN

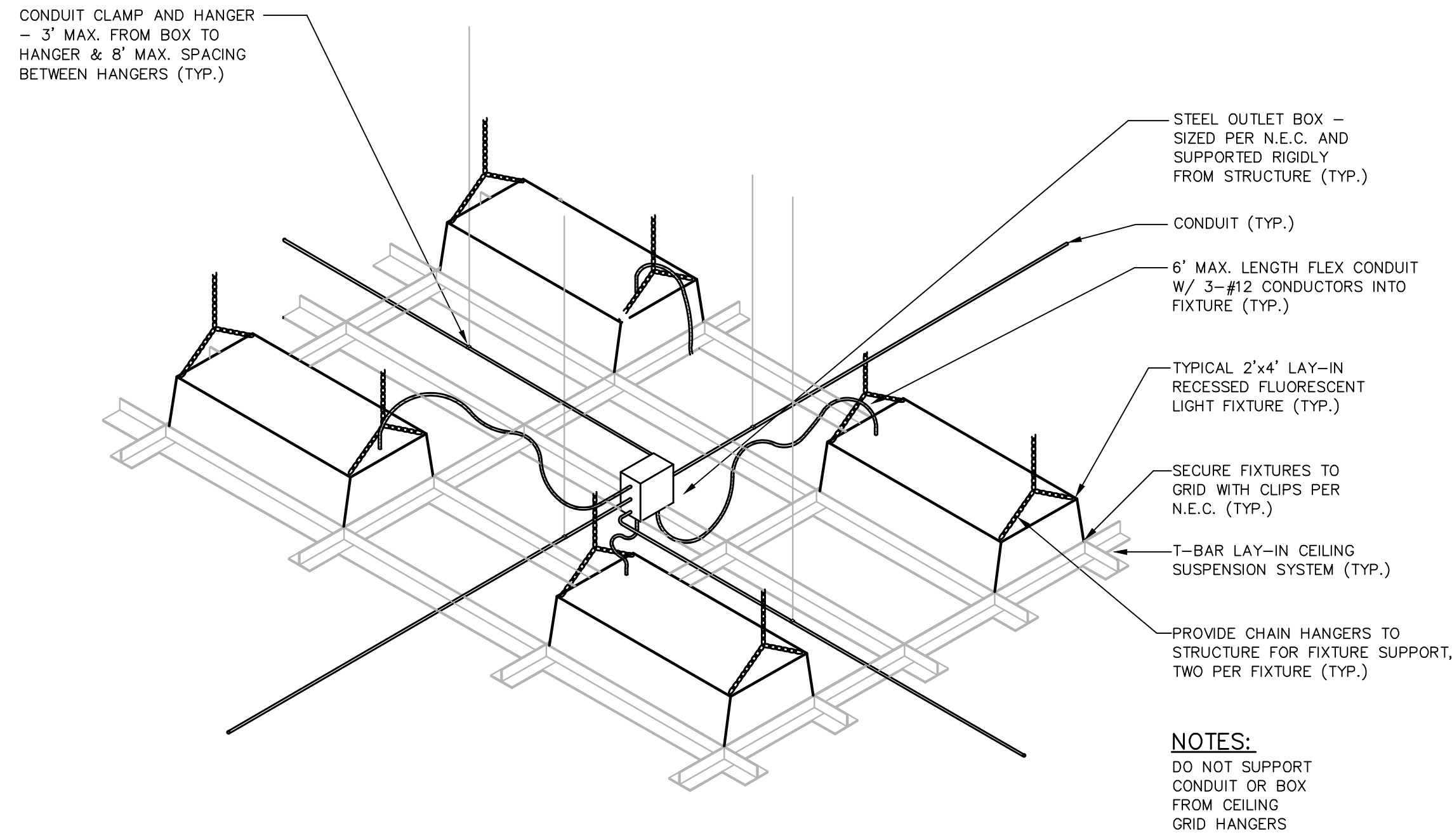


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UA UNIT / CHILD CARE RENOVATION  
 MARRIED STUDENT HOUSING  
 CRAWL SPACE/BASEMENT PLAN  
 & RISER DIAGRAM - ELECTRICAL

|               |            |
|---------------|------------|
| FILENAME:     |            |
| PROPERTY NO.: |            |
| REVISIONS     |            |
| 1             |            |
| 2             |            |
| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | D.E.H.     |
| CHECKED BY:   | D.E.H.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #13052  |

SHEET NO.  
E102



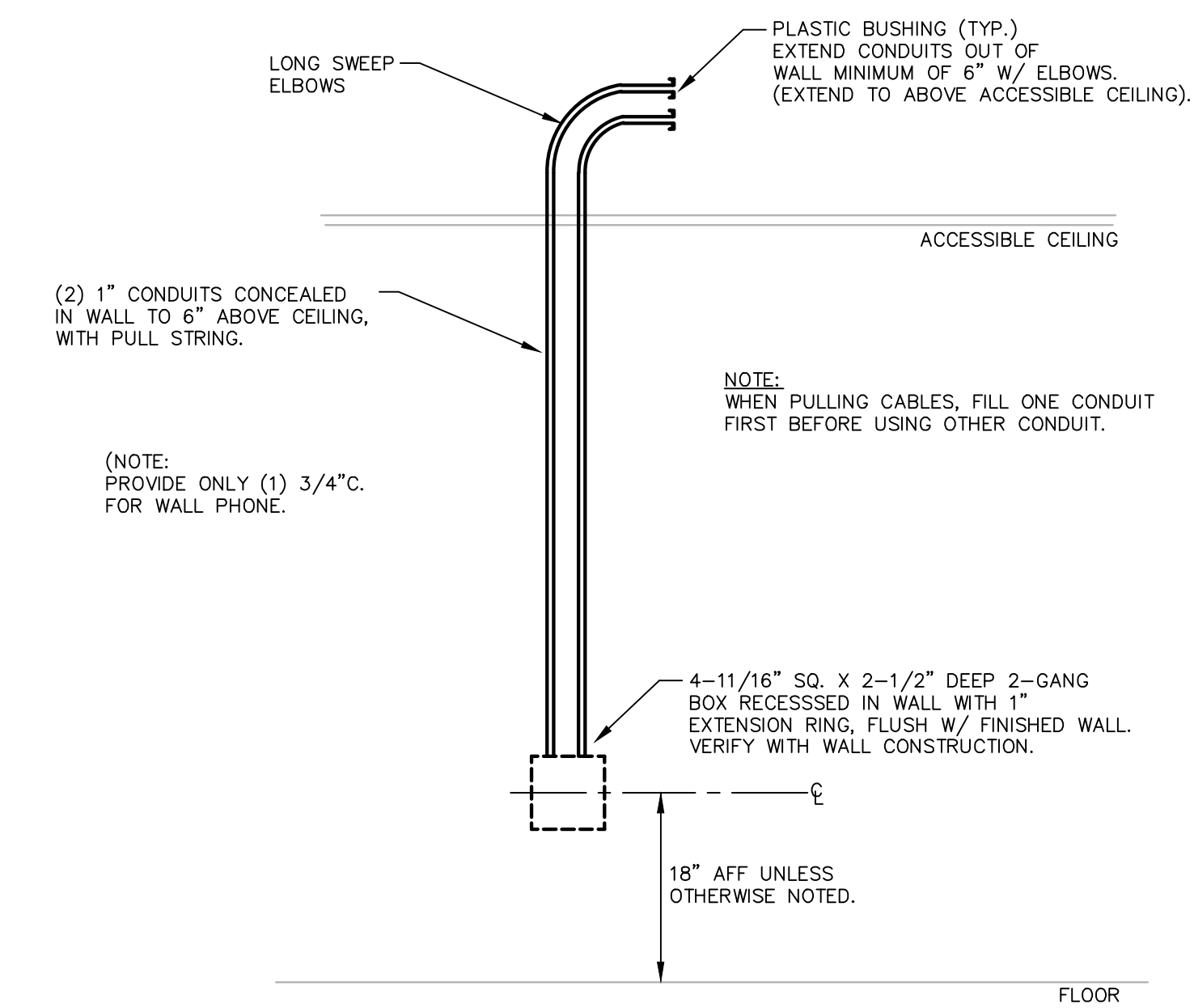
**TYPICAL RECESSED FLUORESCENT LIGHTING INSTALLATION**

NO SCALE

| LIGHTING FIXTURE SCHEDULE |   |   |                              |          |   |
|---------------------------|---|---|------------------------------|----------|---|
| MARK                      | DESCRIPTION   | MOUNTING  | LAMP                         | VOLTAGE  | MANUFACTURER(S)   |
| 'F1'                      | 2'x4' FLUORESCENT TROFFER, STATIC, NOMINAL 4" DEEP WHITE STEEL HOUSING, LUMINOUS SIDE DIFFUSERS, OPAL SATIN CENTER DIFFUSER, RECESSED DIFFUSER TRIM, (2) PROGRAMMED RAPID START ELECTRONIC BALLASTS (10% THD).  | RECESSED, LAY-IN GRID   | (3) F32-T8 3500K FLUORESCENT | 120V     | FINELITE #HPR-F-2X4-DC0-3T8-120-DC-C1-PS<br>OR EQUAL BY:<br>NEORAY, LINEAR, FOCAL POINT |
| 'F2'                      | SAME AS 'F1' EXCEPT 2'x2' AND (1) BALLAST.  | RECESSED, LAY-IN GRID   | (3) F17-T8 3500K FLUORESCENT | 120V     | FINELITE #HPR-F-2X2-DC0-3T8-120-SC-C1-PS<br>OR EQUAL BY:<br>NEORAY, LINEAR, FOCAL POINT |
| 'F3'                      | NOMINAL 6" DIAMETER LED CYLINDER DOWNLIGHT, NOMINAL 1 1/2" DEEP, REGRESSED LENS, CLEAR ALZAN REFLECTOR AND TRIM, ELECTRONIC DRIVER, NOMINAL 1000 LUMENS, FINISH COLOR AS SELECTED BY ARCHITECT.   | SURFACE   | LED 3500K 80+ CRI            | 120V     | PRESCOLITE #LD4LED4S-W-35K-8-FL35-XX<br>OR EQUAL BY:<br>JUNO, LITHONIA, PORTFOLIO       |
| 'F4'                      | 2'x4' FLUORESCENT TROFFER, STATIC, NOMINAL 4" DEEP WHITE STEEL HOUSING, FLUSH WHITE STEEL DOOR FRAME, SPRING-LOADED LATCHES, INTEGRAL T-BAR CLIPS, 0.156" THICK #19 PATTERN PRISMATIC ACRYLIC LENS, (2) PROGRAMMED RAPID START ELECTRONIC BALLAST (10% THD) | RECESSED, LAY-IN GRID   | (4) F32-T8 3500K FLUORESCENT | 120V     | COLUMBIA #JTB-24-432G-FSA19-EPU-PAF-SLL<br>OR EQUAL BY:<br>METALUX, WILLIAMS, LITHONIA  |
| 'F5'                      | SAME AS 'F4' EXCEPT 2'x2'   | RECESSED, LAY-IN GRID   | (4) F17-T8 3500K FLUORESCENT | 120V     | COLUMBIA #JTB-22-417G-FSA19-EPU-PAF-SLL<br>OR EQUAL BY:<br>METALUX, WILLIAMS, LITHONIA  |
| 'E1'                      | BATTERY-POWERED EMERGENCY LIGHT, WHITE THERMOPLASTIC HOUSING, (2) 1 WATT LED LAMPS, NICKEL METAL HYDRIDE (NMH) BATTERY, SELF DIAGNOSTICS, 5 YEAR WARRANTY.  | SURFACE, WALL   | (2) 1 WATT LED               | 120/277V | DUAL-LITE #EV-2-1<br>OR APPROVED EQUAL BY:<br>EMERGLITE, SURE-LITES, LITHONIA           |
| 'E1A'                     | SAME AS 'E1' EXCEPT WITH REMOTE CAPACITY FOR (2) REMOTE LAMPS.  | SURFACE, WALL   | (2) 1 WATT LED               | 120/277V | DUAL-LITE #EV-4-1<br>OR APPROVED EQUAL BY:<br>EMERGLITE, SURE-LITES, LITHONIA           |
| 'E2'                      | REMOTE-POWERED EMERGENCY LIGHT, WHITE DIE CAST ALUMINUM HOUSING, (2) 1 WATT LED LAMPS, 3 YEAR WARRANTY.   | SURFACE, WALL   | (2) 1 WATT LED               | 4.8Vdc   | DUAL-LITE #EV0-D-W<br>OR APPROVED EQUAL BY:<br>EMERGLITE, SURE-LITES, LITHONIA          |
| 'X1'                      | EXIT LIGHT, NOMINAL 13" W x 14" D, WHITE THERMOPLASTIC HOUSING, RED LETTERS, CHEVRON DIRECTIONAL INDICATORS AS NEEDED, UNIVERSAL MOUNTING, DUAL VOLTAGE, UNIVERSAL FACE, Ni-CAD BATTERY, SELF-DIAGNOSTICS, 5 YEAR WARRANTY.                                 | UNIVERSAL SURFACE (CEILING MOUNT UNLESS OTHERWISE NOTED, SHOWN OR REQUIRED) | L.E.D.                       | 120/277V | DUAL-LITE #X-U-R-W-E-1<br>OR APPROVED EQUAL BY:<br>EMERGLITE, SURE-LITES, LITHONIA      |

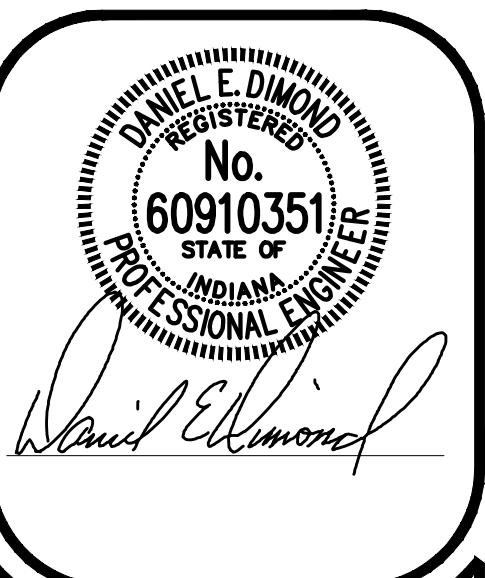
NOTES:  
1. ALL COLORS & FINISHES TO BE VERIFIED WITH THE ARCHITECT BEFORE ORDERING FIXTURES.

UNDER ALTERNATE BID, PROVIDE LED LAMPING FOR FIXTURE TYPES 'F1' AND 'F2'. 'F1' FIXTURES SHALL BE LIKE FINELITE #HPR-F-2X4-DC0-LED-HO-3500K-120-SC-C1 (NOMINAL 5600 LUMENS). 'F2' FIXTURES SHALL BE LIKE FINELITE #HPR-F-2X2-DC0-LED-HO-3500K-120-SC-C1 (NOMINAL 4800 LUMENS). SEE DWG. E101 FOR FURTHER INFORMATION, REGARDING CONTROLS. MAJORITY OF 'F1' FIXTURES SHALL BE DIMMED. FIXTURES SHALL HAVE A 10 YEAR WARRANTY.



**TECHNOLOGY OUTLET ROUGH-IN DETAIL**

NO SCALE



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UA UNIT / CHILDCARE RENOVATION  
MARRIED STUDENT HOUSING

SCHEDULES AND DETAILS - ELECTRICAL

|               |            |
|---------------|------------|
| FILENAME:     |            |
| PROPERTY NO.: |            |
| REVISIONS     |            |
| 1             |            |
| 2             |            |
| DATE:         | 05/01/2013 |
| SCALE:        | AS SHOWN   |
| DRAWN BY:     | D.E.H.     |
| CHECKED BY:   | D.E.H.     |
| APPROVED BY:  | D.E.D.     |
| PROJECT NO.:  | DA #18052  |

SHEET NO. **E401**