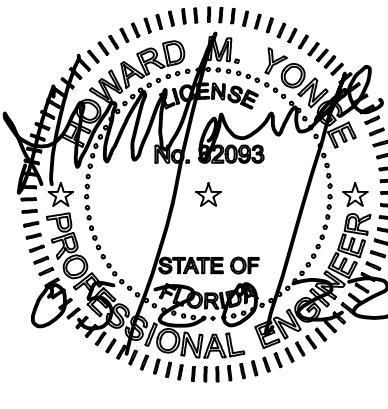
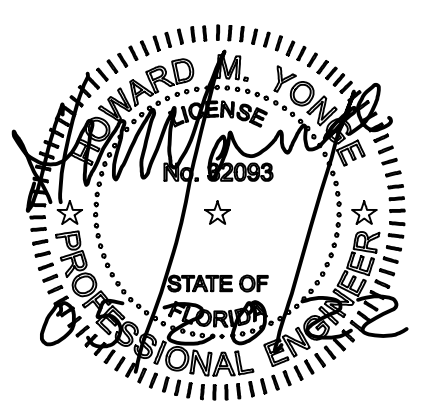
HVAC PLAN - LOWER LEVEL
SCALE: 1/8" = 1'-0"

NORTH

HVAC KEY NOTES:

- SUPPLY AIR DUCT UP THROUGH FLOOR IN CHASE TO ABOVE CEILING OF MAIN FLOOR. ROUTE DUCT GENERALLY AS SHOWN WITH OFFSETS TO AVOID OBSTRUCTIONS. EXTEND BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE DAMPER TO DESIGNATED AIR FLOW.
- NEW SUPPLY AIR CEILING DIFFUSER WITH BRANCH DUCT ROUTED UP FOR CONNECTION TO EXISTING MAIN DUCT ABOVE CEILING OF MAIN LEVEL. INCLUDE A MANUAL VOLUME DAMPER IN BRANCH DUCT AND BALANCE TO INDICATED AIR FLOW.
- NEW EXHAUST FAN MOUNTED IN CEILING WITH DISCHARGE DUCT (8"x4") ROUTED UP IN CHASE FOR TERMINATION ON ROOF ON MAIN LEVEL. REFERENCE MAIN LEVEL PLAN FOR OTHER EXHAUST DUCTS CONNECTING TO THIS DUCT PRIOR TO TERMINATING ON ROOF.
- WALL MOUNTED ELECTRIC UNIT HEATER TO BE MOUNTED ON WALL WITH BOTTOM 60" ABOVE FINISHED FLOOR. UNIT HEATER SHALL HAVE INTEGRAL ADJUSTABLE SET POINT THERMOSTAT WITH AN INITIAL SETTING OF 70 DEGREE F. ADJUST FINAL LOCATION TO ACCOMMODATE FIRE RISER LOCATION.
- SUPPLY AIR DUCT DOWN IN ARCHITECTURAL CHASE FROM ABOVE CEILING OF MAIN FLOOR DOWN TO ABOVE CEILING OF LOWER LEVEL.
- SUPPLY AIR DUCT DOWN FROM FULL SIZE OF UNIT OPENING THROUGH ROOF WITH TRANSITION TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING OF UPPER LEVEL. EXHAUST BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE MANUAL VOLUME DAMPER TO INDICATED AIR FLOW.
- RETURN AIR DUCT DOWN FROM FULL SIZE OF UNIT OPENING THROUGH ROOF WITH TRANSITION TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING WITH OFFSETS TO AVOID INTERFERENCES. EXTEND BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE DAMPER AND AIR DEVICE TO INDICATED AIR FLOW.
- CEILING MOUNTED EXHAUST FAN WITH DISCHARGE DUCTWORK ROUTED FOR CONNECTION TO MANIFOLD EXHAUST DUCT. MANIFOLD EXHAUST DUCT TO BE ROUTED GENERALLY AS INDICATED OVER TO BELOW MECHANICAL CLOSET ON UPPER LEVEL TO TURN UP THROUGH FLOOR. REFERENCE UPPER FLOOR PLAN FOR CONTINUATION OF DUCT ROUTING.
- NEW PACKAGED AIR CONDITIONING UNIT WITH GAS HEAT MOUNTED ON ROOF WITH FULL PERIMETER CURB. SECURE CURB TO ROOF STRUCTURE AND UNIT TO CURB WITH MECHANICAL FASTENERS (3/16"). INSTALL FASTENERS EVERY 24" FOR THE CURB AND AIR CONDITIONING UNIT. A MOTORIZED DAMPER SHALL BE INTEGRAL TO UNIT FOR CONTROL OF OUTDOOR AIR FLOW. INTERLOCK MOTORIZED DAMPER WITH TEMPERATURE CONTROLLER SUCH THAT DURING OCCUPIED HOURS THE DAMPER IS OPEN AND OTHERWISE, DAMPER IS CLOSED. CONDENSATE DRAIN PIPING SHALL BE FROM FULL SIZE OF UNIT OPENING ACROSS ROOF FOR TERMINATION ABOVE ROOF DRAIN. INCLUDE A FLOAT SWITCH IN DRAIN LINE P-TAP TO AUTOMATICALLY SHUT DOWN UNIT AS DRAINAGE SYSTEM FLOODS. SUPPORT DRAIN PIPING WITH HIGH DENSITY POLYETHYLENE EQUIPMENT SUPPORT CURB. SECURE CURB TO ROOF WITH MASTIC. PER ROOFING CONTRACTOR'S RECOMMENDATION, AND CLAMP PIPE TO CURB. SUPPORT PIPING EVERY 40".
- SUPPLY AND RETURN AIR DUCTWORK EXTENDING DOWN THROUGH ROOF SHALL OFFSET INTO MECHANICAL CHASE TO TURN DOWN TO BELOW FLOOR OF SANCTUARY. ROUTE DUCT SUSPENDED FROM STRUCTURE ABOVE EVERY 48". BRANCH DUCTS TO BE EXTENDED FROM MAIN DUCT OVER FOR CONNECTION TO DESIGNATED AIR DEVICES. INCLUDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT AND BALANCE AIR DEVICE TO DESIGNATED AIR FLOW.
- RETURN AIR REGISTER (26x12) MOUNTED IN FLOOR WITH FULL SIZE PLENUM EXTENDED DOWN FROM REGISTER. BRANCH DUCT TO CONNECT TO PLENUM. FLOOR REGISTER SHALL BE PENDUL PROOF AND PARALLEL BAR TYPE. COORDINATE FINAL LOCATION WITH ARCHITECTURAL PLAN.
- FLOOR MOUNTED SUPPLY AIR REGISTER TO HAVE FULL SIZE PLENUM EXTENDED DOWN THROUGH FLOOR FOR CONNECTION OF BRANCH DUCT. FLOOR REGISTER SHALL BE PARALLEL BAR TYPE AND BE PENDUL PROOF.
- FLOOR MOUNTED SUPPLY AIR DEVICE TO BE LOCATED ON FLOOR AT EDGE OF RAMP.
- FLOOR MOUNTED SUPPLY AIR DEVICE TO BE LOCATED ON RAMP AT EDGE. EXTEND PLENUM UP THROUGH FLOOR TO UNDERSIDE OF RAMP.
- FLOOR MOUNTED RETURN AIR DEVICE DUPLICATING FLOOR MOUNTED SUPPLY AIR REGISTER, TO BE LOCATED ON FLOOR IN FRONT OF CHAIR RISERS.
- RETURN AIR REGISTER DUPLICATING FLOOR MOUNTED SUPPLY AIR REGISTER SHALL BE INSTALLED ON FACE OF STAIR RISER BELOW UPPER TIER.
- OUTDOOR CONDENSING HEAT PUMP UNIT TO BE MOUNTED ON EQUIPMENT SUPPORT FRAME STRUCTURE. EQUIPMENT SUPPORT STRUCTURE TO BE PROVIDED BY OTHERS. INCLUDED WITH INSTALLATION OF CONDENSING UNIT 1" THICK NEOPRENE ISOLATION PAD AT EACH CORNER. AIRCRAFT CABLE SHALL BE FASTENED AT EACH CORNER TO RETAIN UNIT IN POSITION.
- REFRIGERANT PIPING SHALL BE EXTENDED FROM CONDENSING UNIT DOWN TO BENEATH UNIT AND ROUTED OVER TO EXTERIOR WALL. TURN REFRIGERANT PIPING UP ON WALL TO PENETRATE INTO SPACE BETWEEN ROOF JOISTS. CONTINUE PIPING GENERALLY AS SHOWN FOR CONNECTOR TO DESIGNATED EXHAUSTOR SECTION. COORDINATE PIPING PENETRATION OF EXTERIOR WALL WITH ARCHITECTURAL DRAWINGS. INCLUDE A SHEET METAL COVER OVER PIPING FROM WALL PENETRATION DOWN TO HORIZONTAL PIPING. PROVIDE PAINTABLE ALUMINUM COVER OVER REFRIGERANT PIPING EXPOSED ON WALL. SUPPORT PIPING WITH UNISTRUT TYPE SYSTEM EVERY SIX FEET ON WALL AND IN SPACE ABOVE CEILING. COORDINATE PIPING PENETRATION OF EXTERIOR WALL WITH ARCHITECTURAL DRAWINGS.
- AIR HANDLING UNIT MOUNTED IN HORIZONTAL POSITION IN AN AUXILIARY DRAIN PAN 2" LARGER THAN UNIT IN ALL DIRECTIONS.
- EXTEND FROM UNIT FULL SIZE OF OPENING A CONDENSATE DRAIN. ROUTE CONDENSATE DRAIN OVER TO ABOVE MECHANICAL CLOSET FLOOR DRAIN AND TERMINATE FOR CONDENSATE DISPOSAL. INCLUDE A FLOAT SWITCH IN AUXILIARY DRAIN PAN AND IN P-TAP OF CONDENSATE DRAIN LINE TO AUTOMATICALLY SHUT DOWN UNIT AS DRAINAGE SYSTEM FLOODS. SUPPORT DRAIN PIPING EVERY 48" AND AT CHANGE OF DIRECTION. ENTIRE LENGTH OF CONDENSATE DRAIN PIPING SHALL BE INSULATED.
- AIR HANDLING UNIT MOUNTED IN VERTICAL POSITION ON RETURN AIR PLENUM CONSTRUCTED OF MATERIALS. LINE INTERIOR OF PLENUM WITH 1" THICK FIBERGLASS DUCT BOARD.
- TRANSITION SUPPLY AIR DUCT UP FROM FULL SIZE OF UNIT OPENING TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED WITH OFFSETS TO AVOID OBSTRUCTIONS. EXTEND BRANCH DUCTS FROM MAIN DUCT FOR CONNECTION OF DESIGNATED AIR DEVICE. INCLUDE A MANUAL VOLUME DAMPER IN BRANCH DUCT AND BALANCE TO INDICATED AIR FLOW.
- RETURN AIR DUCT TO EXTEND UP FROM RETURN AIR PLENUM TO ABOVE CEILING ELEVATION. ROUTE DUCT GENERALLY AS INDICATED WITH OFFSETS TO AVOID INTERFERENCE. COORDINATE FINAL DUCT ELEVATION WITH ADJACENT DUCT SYSTEMS. EXTEND BRANCH DUCTS FOR CONNECTION TO DESIGNATED AIR DEVICES. INCLUDE A DAMPER IN EACH BRANCH DUCT AND BALANCE TO DESIGNATED AIR FLOW. ADDITIONALLY, A MANUAL VOLUME DAMPER SHALL BE INSTALLED IN THE RETURN DUCT WITHIN 18" OF UNIT CONNECTION.
- SUPPLY AND RETURN AIR DUCT SHALL EXTEND FROM FULL SIZE OF UNIT OPENING WITH TRANSITION TO INDICATED DUCT SIZE. TURN DUCT DOWN THROUGH FLOOR BETWEEN FLOOR JOISTS. ADJUST FINAL FLOOR PENETRATION TO ACCOMMODATE AVAILABLE SPACE AND DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING OF MAIN LEVEL. INCLUDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT AND BALANCE AIR DEVICE TO DESIGNATED AIR FLOW. INCLUDE A DAMPER IN RETURN AIR DUCT STREAM UP OF OUTDOOR AIR DUCT CONNECTION TO RETURN AIR SYSTEM.
- OUTDOOR AIR INTAKE DUCTWORK TO BE EXTENDED FROM RETURN AIR PLENUM OR RETURN AIR DUCT AS INDICATED FOR CONNECTION TO OUTDOOR AIR INTAKE MAIN DUCT OR DIRECTLY TO OUTDOOR AIR INTAKE LOUVER. INCLUDE IN OUTDOOR AIR INTAKE DUCT A MANUAL VOLUME DAMPER AND MOTORIZED DAMPER. BALANCE MANUAL VOLUME DAMPER TO INDICATED AIR FLOW AND INTERLOCK MOTORIZED DAMPER WITH AREA TEMPERATURE CONTROLLER. MOTORIZED DAMPER SHALL BE OPEN DURING OCCUPIED HOURS AND CLOSED OTHERWISE. INCLUDE A MANUAL VOLUME DAMPER IN RETURN AIR DUCT UPSTREAM OF OUTDOOR AIR DUCT CONNECTION.
- OUTDOOR AIR INTAKE LOUVER (18x12) MOUNTED IN WALL WITHIN 16" OF FLOOR. COORDINATE FINAL LOUVER POSITION AND ELEVATION WITH ARCHITECTURAL DRAWINGS. LOUVER SHALL BE HURRICANE RATED (MIAM-DADE) AND WEATHERPROOF. PROVIDE A FULL SIZE PLENUM BEHIND LOUVER FOR CONNECTION OF OUTDOOR AIR INTAKE DUCTWORK. ROUTE OUTDOOR AIR DUCT GENERALLY AS INDICATED.
- OUTDOOR AIR INTAKE LOUVER MOUNTED IN WALL OF GABLED END OF ROOF STRUCTURE. THIS LOUVER SHALL BE AS LOCATED PER ARCHITECTURAL DRAWINGS. LOUVER SHALL BE HURRICANE RATED AND WEATHERPROOF. PROVIDE A FULL SIZE SQUARE PLENUM (36x36) BEHIND LOUVER AND EXTEND 12" INTO SPACE. BLANK OFF UNUSED PORTIONS OF LOUVER WITH INSULATED SHEET METAL PANEL. EXTEND FROM PLENUM AN OUTDOOR AIR INTAKE MAIN DUCT HIGH AS POSSIBLE TO ROOF STRUCTURE ABOVE ALL OTHER DUCT SYSTEMS. BRANCH DUCT CONNECTIONS SHALL BE ROUTED FROM MAIN DUCT BETWEEN ROOF JOISTS OVER INTO DESIGNATED MECHANICAL CLOSETS FOR CONNECTION TO RETURN AIR DUCT SYSTEMS. INSURE POINT OF CONNECTION IS DOWN STREAM OF RETURN AIR DUCT DAMPER.
- WALL MOUNTED SET POINT ADJUSTABLE TEMPERATURE CONTROLLER SHALL BE SEVEN DAY PROGRAMMABLE WITH DIGITAL DISPLAY, MODE SELECTION SWITCH, AUTOMATIC CHANGE OVER, HUMIDITY CONTROL, NIGHT SET BACK, WIFI COMPATIBLE FOR NETWORK CONNECTIVITY AND REMOTE MONITORING/OPERATIONS, AND BATTERY BACK-UP. INCLUDE CONTACT CONNECTION POINTS FOR CONTROL OF OUTDOOR AIR INTAKE DAMPER. CONTROLLER SHALL BE CAPABLE OF ACTIVATING DEHUMIDIFICATION CYCLES FOR MAINTAINING HUMIDITY LEVELS BELOW SET POINT.
- EXHAUST AIR DUCT UP AS 8"x4" FOR CONNECTION OF EXISTING 6" ROUND EXHAUST DUCT. TRANSITION DUCT TO 8"x8 AND ROUTE ABOVE CEILING. GENERALLY AS INDICATED FOR TERMINATION ON ROOF WITH DISCHARGE VENT HOOD. ADJUST FINAL LOCATION OF HOOD TO BE 10 FT MINIMUM FROM OUTDOOR AIR INTAKE TO ADJACENT UNITS.
- EXHAUST AIR DISCHARGE VENT HOOD TO BE MOUNTED ON ROOF WITH FULL PERIMETER CURB. SECURE CURB TO ROOF STRUCTURE AND HOOD TO CURB WITH MECHANICAL FASTENERS (3/16"). ONE PER SIDE PER ITEM (TOTAL OF 8). INSURE HOOD IS 10 FEET MINIMUM FROM NEAREST OUTDOOR AIR INTAKE.
- RETURN AIR REGISTER MOUNTED ON WALL INTO RETURN AIR PLENUM. INCLUDE A MANUAL VOLUME DAMPER IN SLEEVE BEHIND REGISTER. BALANCE DAMPER IN CONJUNCTION WITH OUTDOOR AIR FLOW.
- EXISTING CEILING MOUNTED EXHAUST FAN WITH DISCHARGE DUCT ROUTED FOR CONNECTION TO EXHAUST DUCT ABOVE CEILING OF MAIN LEVEL.
- EXHAUST DUCTWORK UP THROUGH FLOOR IN MECHANICAL CLOSET TO BETWEEN ROOF JOISTS AND OVER FOR CONNECTION TO EXHAUST MANIFOLD ABOVE CEILING OF UPPER LEVEL. EXHAUST MANIFOLD SHALL BE ROUTED GENERALLY AS INDICATED WITH OFFSETS TO AVOID OBSTRUCTIONS. TERMINATE MANIFOLD ON PLENUM BEHIND WALL MOUNTED LOUVER.
- WALL MOUNTED DISCHARGE LOUVER SHALL BE 36" ROUND AS SPECIFIED BY ARCHITECT. MECHANICAL CONTRACTOR TO COORDINATE FINAL SIZE WITH GENERAL CONTRACTOR PRIOR TO BEGINNING ANY WORK. INCLUDE A FULL SIZE SQUARE PLENUM BEHIND LOUVER (30x30x12) WITH UNUSED PORTIONS OF LOUVER BEING BLANKED OFF WITH INSULATED SHEET METAL PANEL. CONNECT EXHAUST MANIFOLD TO PLENUM. INSURE LOUVER IS HURRICANE RATED (MIAM-DADE) AND WEATHERPROOF.
- DUCT MOUNTED SMOKE DETECTOR TO BE INSTALLED IN THE SUPPLY AND RETURN AIR SYSTEMS OF THE AIR CONDITIONING UNIT. DETECTOR INSTALLATION SHALL BE PER MANUFACTURER'S REQUIREMENTS. INSURE RETURN AIR DETECTOR IS INSTALLED UPSTREAM OF THE OUTDOOR AIR INTAKE DUCT CONNECTION. INTERLOCK DETECTORS WITH AIR HANDLING UNIT SUCH THAT AS A DETECTOR IS ACTIVATED THE UNIT SHALL AUTOMATICALLY SHUT DOWN AND A SIGNAL IS SENT TO THE FIRE ALARM PANEL.
- EXISTING PACKAGED ROOF MOUNTED AIR CONDITIONING UNIT TO BE REMOVED AND REPLACED NEW. NEW UNIT SHALL DUPLICATE EXISTING UNIT FOR CAPACITY. INCLUDE A CURB ADAPTOR SUBJECT TO FINAL EQUIPMENT SELECTIONS. RECONNECT EXISTING POWER, DUCTWORK AND CONTROLS. INSURE NEW UNIT INCLUDES A MOTORIZED OUTDOOR AIR INTAKE DAMPER. INTERLOCK DAMPER SAME AS KEY NOTE #9. PROVIDE NEW CONDENSATE DRAIN PIPING ACROSS ROOF TO REPLACE EXISTING PIPING. INSTALLED PER KEY NOTE #9.
- BATHROOM TYPE TRANSFER AIR (EXHAUST) FAN SUSPENDED FROM STRUCTURE OF DOME ABOVE CEILING. POSITION FAN CLOSE TO CENTER OF DOME FOR ACCESS THROUGH REMOVABLE CEILING MOUNTED CURB CORE TRANSFER AIR GRILLE. EXTEND FROM FAN 6"x6" DUCT, 2" FLEXIBLE DUCT OVER TO EXTERIOR OF DOME AND TURN DOWN IN SUPPORT COLUMN TO BOTTOM OF DOME. TERMINATE DUCT ON INTERIOR SURFACE OF DOME WITH 2" ROUND DISCHARGE NOZZLES HAVING A FINISHED FLANGE. REFERENCE ARCHITECTURAL DETAIL FOR ADDITIONAL INFORMATION. INTERLOCK FAN TO OPERATE SIMULTANEOUSLY WITH RTU#5.
- WALL MOUNTED DUCTLESS CHAPARRATOR SECTION. MOUNT UNIT ON WALL WITH BOTTOM 78" ABOVE FINISHED FLOOR TO BE OUT OF FLOOD ZONE. UNIT SHALL HAVE INTEGRAL CONTROLS AND BE COOLING ONLY. REFRIGERANT PIPING SHALL BE ROUTED THROUGH WALL INTO DUCT CHASE AND UP TO ROOF. CONDENSATE PIPING SHALL BE ROUTED, EXPOSED ON WALL, OVER TO EXTERIOR WALL. TURN DOWN TO 6" ABOVE FLOOR, PENETRATE WALL WITH SLEEVE. TURN DOWN TO 6" ABOVE GRADE AND TERMINATE WITH ELBOW IN UP POSITION. ALL CONDENSATE PIPING EXPOSED ON EXTERIOR OF BUILDING TO BE BRASS. INITIALLY SET CONTROLLER FOR ROF. SEAL SLEEVE WATER PROOF PRIOR AND AIR TIGHT.
- CONDENSING UNIT OF DUCTLESS SPLIT SYSTEM UNIT MOUNT ON EQUIPMENT SUPPORT FRAME WITH OTHER CONDENSING UNITS. INSTALLATION SHALL BE SIMILAR TO KEY NOTE #17. REFRIGERANT PIPING TO BE ROUTED BELOW ROOF OVER TO VENT HOOD TO TURN UP THROUGH ROOF AND OVER FOR CONNECTION TO CONDENSING UNIT. SUPPORT REFRIGERANT PIPING ACROSS ROOF 48" ON CENTER WITH EQUIPMENT SUPPORT CURBS. MECHANICALLY FASTEN CURBS TO ROOF AND PIPING TO CURBS.
- WALL MOUNTED RETURN AIR REGISTER (92x10) ABOVE WINDOW. REFERENCE ARCHITECTURAL PLAN FOR FINAL LOCATION. REGISTER SHALL BE HORIZONTAL BAR TYPE WITH REGISTER. EXTEND FROM CENTER SECTION OF RETURN AIR REGISTER A 46x8 BRANCH DUCT WITH MANUAL VOLUME DAMPER. BALANCE DAMPER FOR INDICATED AIR FLOW. BLANK OFF UNUSED PORTION OF REGISTER WITH INSULATED SHEET METAL PANELS.
- EXISTING KITCHEN HOOD EXHAUST AND MAKE-UP AIR FANS TO BE REMOVED AND REPLACED NEW. NEW EQUIPMENT SHALL DUPLICATE EXISTING FOR CAPACITY. RECONNECT EXISTING POWER, CONTROLS AND DUCTWORK.
- TRANSFER AIR DUCT WITH GRILLES AT EACH END.
- TRANSFER EXHAUST FAN IN CEILING OF ELEVATOR EQUIPMENT ROOM. ROUTE DISCHARGE DUCT TO CEILING TRANSFER GRILLE. CONTROL OF FAN SHALL BE BY WALL MOUNTED SET POINT ADJUSTABLE TEMPERATURE CONTROLLER.
- BRANCH DUCTWORK SHALL BE EXTENDED FROM MAIN DUCT THROUGH MASONRY WALL BELOW COMPACTED FILL AND TURNED UP TO PENETRATE FLOOR. TRANSITION BRANCH DUCT FROM SHEET METAL TO REINFORCED FIBERGLASS OR PLASTIC DUCT EQUAL TO BLUE DUCT.
- EXISTING FLOOR MOUNTED AIR DEVICE TO BE REMOVED AND REINSTATEL WITH TOP SURFACE OF AIR DEVICE BEING FLUSH WITH FLOOR SURFACE. MECHANICAL CONTRACTOR TO BE RESPONSIBLE FOR HAVING EXISTING FLOOR MODIFIED TO ALLOW THE AIR DEVICE SURFACE TO BE FLUSH WITH FLOOR SURFACE. COORDINATE WITH GENERAL CONTRACTOR FOR HAVING THIS WORK ACCOMPLISHED.
- MECHANICAL CONTRACTOR SHALL PROVIDE A CERTIFIED TEST AND BALANCE REPORT FOR THE DESIGNATED AIR CONDITIONING UNIT. TEST AND BALANCE REPORT SHALL BE FOR SUPPLY AIR, RETURN AIR AND OUTDOOR AIR AT UNIT AND EACH SUPPLY AND RETURN AIR DEVICE ON THE DUCT SYSTEMS SERVING THE UNITS (REFERENCE SHEETS M1.4 AND M1.5). THIS INFORMATION SHALL BE SUBMITTED TO ARCHITECT/ENGINEER PRIOR TO ORDERING NEW REPLACEMENT EQUIPMENT. THIS PARTICULARLY APPLIES TO ALL EXISTING EQUIPMENT THAT IS ROOF MOUNTED AND BEING REPLACED NEW.
- ELECTRIC UNIT HEATER TO BE SUSPENDED FROM STRUCTURE ABOVE. TOP OF HEATER TO BE AS HIGH AS POSSIBLE BUT NO HIGHER THAN NEAREST DUCTWORK. BOTTOM OF HEATER TO BE ABOVE FINISHED FLOOR OUT OF FLOOD ZONE. PROVIDE UNIT WITH INTEGRAL SET POINT CONTROLLER WITH AN INITIAL SETTING OF 45°F.

Project
FUMC
Port St. Joe
Rebuild
Additions and Renovations
Port St. Joe, FloridaDate: 05-20-22
Project No. 1519
Sheet No. **M1.1**



18x18 DOWN FOR CONNECTION TO 20x20 BAR LINE INTERIOR OF RETURN AIR DUCT WITH 1" THICK SOUND ABSORBING INSULATION, PAINT INTERIOR OF DUCT FLAT BLACK FROM REGISTER TO FIRST ELBOW.

WALL LOUVER TO BE SPECIFIED BY ARCHITECT AND INSTALLED BY MECHANICAL CONTRACTOR IN COORDINATION WITH GENERAL CONTRACTOR

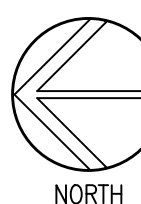
ALL EXPOSED DUCTWORK IN THIS ROOM TO BE DOUBLE WALL SPIRAL WITH 1.5" OF FIBERGLASS INSULATION BETWEEN LAYERS. DUCTWORK SHALL HAVE A FINISH THAT IS PAINTABLE.

14x14 DOWN FOR CONNECTION TO 18x18 BAR LINE INTERIOR OF RETURN AIR DUCT WITH 1" THICK SOUND ABSORBING INSULATION, PAINT INTERIOR OF DUCT FLAT BLACK FROM REGISTER TO FIRST ELBOW.

HVAC KEY NOTES:

- SUPPLY AIR DUCT UP THROUGH FLOOR IN CHASE TO ABOVE CEILING OF MAIN FLOOR. ROUTE DUCT GENERALLY AS SHOWN WITH OFFSETS TO AVOID OBSTRUCTIONS. EXTEND BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE DAMPER TO DESIGNATED AIR FLOW.
- NEW SUPPLY AIR CEILING DIFFUSER WITH BRANCH DUCT ROUTED UP FOR CONNECTION TO EXISTING MAIN DUCT ABOVE CEILING OF MAIN LEVEL. INCLUDE A MANUAL VOLUME DAMPER IN BRANCH DUCT AND BALANCE TO INDICATED AIR FLOW.
- NEW EXHAUST FAN MOUNTED IN CEILING WITH DISCHARGE DUCT (8x4) ROUTED UP IN CHASE FOR TERMINATION ON ROOF ON MAIN LEVEL. REFERENCE MAIN LEVEL PLAN FOR OTHER EXHAUST DUCTS CONNECTING TO THIS DUCT PRIOR TO TERMINATING ON ROOF.
- WALL MOUNTED ELECTRIC UNIT HEATER TO BE MOUNTED ON WALL WITH BOTTOM 60" ABOVE FLOOR. UNIT HEATER SHALL HAVE INTEGRAL ADJUSTABLE SET POINT THERMOSTAT WITH AN INITIAL SETTING OF 70 DEGREE F. ADJUST FINAL LOCATION TO ACCOMMODATE FIRE RISER LOCATION.
- SUPPLY AIR DUCT DOWN IN ARCHITECTURAL CHASE FROM ABOVE CEILING OF MAIN FLOOR DOWN TO ABOVE CEILING OF LOWER LEVEL.
- SUPPLY AIR DUCT DOWN FROM FULL SIZE OF UNIT OPENING THROUGH ROOF WITH TRANSITION TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING WITH OFFSETS TO AVOID OBSTRUCTIONS. EXTEND BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE MANUAL VOLUME DAMPER TO INDICATED AIR FLOW.
- RETURN AIR DUCT DOWN FROM FULL SIZE OF UNIT OPENING THROUGH ROOF WITH TRANSITION TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING WITH OFFSETS TO AVOID INTERFERENCES. EXTEND BRANCH DUCTS WITH MANUAL VOLUME DAMPERS FOR CONNECTION TO DESIGNATED AIR DEVICES. BALANCE DAMPER AND AIR DEVICE TO INDICATED AIR FLOW.
- CEILING MOUNTED EXHAUST FAN WITH DISCHARGE DUCTWORK ROUTED FOR CONNECTION TO MANFOLD EXHAUST DUCT. MANFOLD EXHAUST DUCT TO BE ROUTED GENERALLY AS INDICATED OVER TO BELOW MECHANICAL CLOSET ON UPPER LEVEL TO TURN UP THROUGH FLOOR. REFERENCED UPPER FLOOR PLAN FOR CONTINUATION OF DUCT ROUTING.
- NEW PACKAGED AIR CONDITIONING UNIT WITH GAS HEAT MOUNTED ON ROOF WITH FULL PERIMETER CURB. SECURE CURB TO ROOF STRUCTURE AND UNIT TO CURB WITH MECHANICAL FASTENERS (3/16"). INSTALL FASTENERS EVERY 24" FOR THE CURB AND AIR CONDITIONING UNIT. A MOTORIZED DAMPER SHALL BE INTEGRAL TO UNIT FOR CONTROL OF OUTDOOR AIR FLOW. INTERLOCK MOTORIZED DAMPER WITH TEMPERATURE CONTROLLER SUCH THAT DURING OCCUPIED HOURS THE DAMPER IS OPEN AND OTHERWISE, DAMPER IS CLOSED. CONDENSATE DRAIN PIPING SHALL BE FROM FULL SIZE OF UNIT OPENING ACROSS ROOF FOR TERMINATION ABOVE ROOF DRAIN. INCLUDE A FLOAT SWITCH IN DRAIN LINE P-TAP TO AUTOMATICALLY SHUT DOWN UNIT AS DRAINAGE SYSTEM FLOODS. SUPPORT DRAIN PIPING WITH HIGH DENSITY POLYETHYLENE EQUIPMENT SUPPORT CURBS. SECURE CURB TO ROOF WITH MASTIC. PER ROOFING CONTRACTOR'S RECOMMENDATION, AND CLAMP PIPE TO CURB. SUPPORT PIPING EVERY 48".
- SUPPLY AND RETURN AIR DUCTWORK EXTENDING DOWN THROUGH ROOF SHALL OFFSET INTO MECHANICAL CHASE TO TURN DOWN TO BELOW FLOOR OF SANCTUARY. ROUTE DUCT SUSPENDED FROM STRUCTURE ABOVE EVERY 48". BRANCH DUCTS TO BE EXTENDED FROM MAIN DUCT OVER FOR CONNECTION TO DESIGNATED AIR DEVICES. INCLUDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT AND BALANCE AIR DEVICE TO DESIGNATED AIR FLOW.
- RETURN AIR REGISTER (26x12) MOUNTED IN FLOOR WITH FULL SIZE PLENUM EXTENDED DOWN FROM REGISTER. BRANCH DUCT TO CONNECT TO PLENUM. FLOOR REGISTER SHALL BE PENICL PROOF AND PARALLEL BAR TYPE. COORDINATE FINAL LOCATION WITH ARCHITECTURAL PLAN.
- FLOOR MOUNTED SUPPLY AIR REGISTER TO HAVE FULL SIZE PLENUM EXTENDED DOWN THROUGH FLOOR FOR CONNECTION OF BRANCH DUCT. FLOOR REGISTER SHALL BE PARALLEL BAR TYPE AND BE PENICL PROOF.
- FLOOR MOUNTED SUPPLY AIR DEVICE TO BE LOCATED ON FLOOR AT EDGE OF RAMP.
- FLOOR MOUNTED SUPPLY AIR DEVICE TO BE LOCATED ON RAMP AT EDGE. EXTEND PLENUM UP THROUGH FLOOR TO UNDERSIDE OF RAMP.
- FLOOR MOUNTED RETURN AIR DEVICE DUPLICATING FLOOR MOUNTED SUPPLY AIR REGISTER, TO BE LOCATED ON FLOOR IN FRONT OF CHAIR RISER.
- RETURN AIR REGISTER DUPLICATING FLOOR MOUNTED SUPPLY AIR REGISTER SHALL BE INSTALLED ON FACE OF STAIR RISER BELOW UPPER TIER.
- OUTDOOR CONDENSING HEAT PUMP UNIT TO BE MOUNTED ON EQUIPMENT SUPPORT FRAME STRUCTURE. EQUIPMENT SUPPORT STRUCTURE TO BE PROVIDED BY OTHERS. INCLUDED WITH INSTALLATION OF CONDENSING UNIT 1" THICK NEOPRENE ISOLATION PAD AT EACH CORNER. AIRCRAFT CABLE SHALL BE FASTENED AT EACH CORNER TO RETAIN UNIT IN POSITION.
- REFRIGERANT PIPING SHALL BE EXTENDED FROM CONDENSING UNIT DOWN TO BENEATH UNIT AND ROUTED OVER TO EXTERIOR WALL. TURN REFRIGERANT PIPING UP ON WALL TO PENETRATE INTO SPACE BETWEEN ROOF JOISTS. CONTINUE PIPING GENERALLY AS SHOWN FOR CONNECTION TO DESIGNATED EVAPORATOR SECTION. COORDINATE PIPING PENETRATION OF EXTERIOR WALL WITH ARCHITECTURAL DRAWINGS. INCLUDE A SHEET METAL COVER OVER PIPING FROM WALL PENETRATION DOWN TO HORIZONTAL PIPING. PROVIDE PAINTABLE ALUMINUM COVER OVER REFRIGERANT PIPING EXPOSED ON WALL. SUPPORT PIPING WITH UNISTRUT TYPE SYSTEM EVERY SIX FEET ON WALL AND IN SPACE ABOVE CEILING. COORDINATE PIPING PENETRATION OF EXTERIOR WALL WITH ARCHITECTURAL DRAWINGS.
- AIR HANDLING UNIT MOUNTED IN HORIZONTAL POSITION IN AN AUXILIARY DRAIN PAN 2" LARGER THAN UNIT IN ALL DIRECTIONS.
- EXTEND FROM UNIT FULL SIZE OF OPENING A CONDENSATE DRAIN. ROUTE CONDENSATE DRAIN OVER TO ABOVE MECHANICAL CLOSET FLOOR DRAIN AND TERMINATE FOR CONDENSATE DISPOSAL. INCLUDE A FLOAT SWITCH IN AUXILIARY DRAIN PAN AND IN P-TAP OF CONDENSATE DRAIN LINE TO AUTOMATICALLY SHUT DOWN UNIT AS DRAINAGE SYSTEM FLOODS. SUPPORT DRAIN PIPING EVERY 48" AND AT CHANGE OF DIRECTION. ENTIRE LENGTH OF CONDENSATE DRAIN PIPING SHALL BE INSULATED.
- AIR HANDLING UNIT MOUNTED IN VERTICAL POSITION ON RETURN AIR PLENUM CONSTRUCTED OF MATERIALS. LINE INTERIOR OF PLENUM WITH 1" THICK FIBERGLASS DUCT BOARD.
- TRANSITION SUPPLY AIR DUCT UP FROM FULL SIZE OF UNIT OPENING TO INDICATED DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED WITH OFFSETS TO AVOID OBSTRUCTIONS. EXTEND BRANCH DUCTS FROM MAIN DUCT FOR CONNECTION OF DESIGNATED AIR DEVICE. INCLUDE A MANUAL VOLUME DAMPER IN BRANCH DUCT AND BALANCE TO INDICATED AIR FLOW.
- RETURN AIR DUCT TO EXTEND UP FROM RETURN AIR PLENUM TO ABOVE CEILING ELEVATION. ROUTE DUCT GENERALLY AS INDICATED WITH OFFSETS TO AVOID INTERFERENCE. COORDINATE FINAL DUCT ELEVATION WITH ADJACENT DUCT SYSTEMS. EXTEND BRANCH DUCTS FOR CONNECTION TO DESIGNATED AIR DEVICES. INCLUDE A DAMPER IN EACH BRANCH DUCT AND BALANCE TO DESIGNATED AIR FLOW. ADDITIONALLY, A MANUAL VOLUME DAMPER SHALL BE INSTALLED IN THE RETURN DUCT WITHIN 18" OF UNIT CONNECTION.
- SUPPLY AND RETURN AIR DUCT SHALL EXTEND FROM FULL SIZE OF UNIT OPENING WITH TRANSITION TO INDICATED DUCT SIZE. TURN DUCT DOWN THROUGH FLOOR FLOOR JOISTS. ADJUST FINAL FLOOR PENETRATION TO ACCOMMODATE AVAILABLE SPACE AND DUCT SIZE. ROUTE DUCT GENERALLY AS INDICATED ABOVE CEILING OF MAIN LEVEL. INCLUDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT AND BALANCE AIR DEVICE TO DESIGNATED AIR FLOW. INCLUDE A DAMPER IN RETURN AIR DUCT STREAM UP OF OUTDOOR AIR DUCT CONNECTION TO RETURN AIR SYSTEM.
- OUTDOOR AIR INTAKE DUCTWORK TO BE EXTENDED FROM RETURN AIR PLENUM OR RETURN AIR DUCT AS INDICATED FOR CONNECTION TO OUTDOOR AIR INTAKE MAIN DUCT OR DIRECTLY TO OUTDOOR AIR INTAKE LOUVER. INCLUDE IN OUTDOOR AIR INTAKE DUCT A MANUAL VOLUME DAMPER AND MOTORIZED DAMPER. BALANCE MANUAL VOLUME DAMPER TO INDICATED AIR FLOW AND INTERLOCK MOTORIZED DAMPER WITH AREA TEMPERATURE CONTROLLER. MOTORIZED DAMPER SHALL BE OPEN DURING OCCUPIED HOURS AND CLOSED OTHERWISE. INCLUDE A MANUAL VOLUME DAMPER IN RETURN AIR DUCT UPSTREAM OF OUTDOOR AIR DUCT CONNECTION.
- OUTDOOR AIR INTAKE LOUVER (18x12) MOUNTED IN WALL WITHIN 16" OF FLOOR. COORDINATE FINAL LOUVER POSITION AND ELEVATION WITH ARCHITECTURAL DRAWINGS. LOUVER SHALL BE HURRICANE RATED (MAM-DAD) AND WEATHERPROOF. PROVIDE A FULL SIZE PLENUM BEHIND LOUVER FOR CONNECTION OF OUTDOOR AIR INTAKE DUCTWORK. ROUTE OUTDOOR AIR DUCT GENERALLY AS INDICATED.
- OUTDOOR AIR INTAKE LOUVER MOUNTED IN WALL OF GABLED END OF ROOF STRUCTURE. THIS LOUVER SHALL BE AS LOCATED PER ARCHITECTURAL DRAWINGS. LOUVER SHALL BE HURRICANE RATED AND WEATHERPROOF. PROVIDE A FULL SIZE SQUARE PLENUM (36x36) BEHIND LOUVER AND EXTEND 12" INTO SPACE. BLANK OFF UNUSED PORTIONS OF LOUVER WITH INSULATED SHEET METAL PANEL. EXTEND FROM PLENUM AN OUTDOOR AIR INTAKE MAIN DUCT HIGH AS POSSIBLE TO ROOF STRUCTURE ABOVE ALL OTHER DUCT SYSTEMS. BRANCH DUCT CONNECTIONS SHALL BE ROUTED FROM MAIN DUCT BETWEEN ROOF JOISTS OVER INTO DESIGNATED MECHANICAL CLOSETS FOR CONNECTION TO RETURN AIR DUCT SYSTEMS. INSURE POINT OF CONNECTION IS DOWN STREAM OF RETURN AIR DUCT DAMPER.
- WALL MOUNTED SET POINT ADJUSTABLE TEMPERATURE CONTROLLER SHALL BE SEVEN DAY PROGRAMMABLE WITH DIGITAL DISPLAY, MODE SELECTION SWITCH, AUTOMATIC CHANGE OVER, HUMIDITY CONTROL, NIGHT SET BACK, WIFI COMPATIBLE FOR NETWORK CONNECTIBILITY AND REMOTE MONITORING/OPERATIONS, AND BATTERY BACK-UP. INCLUDE CONTACT CONNECTION POINTS FOR CONTROL OF OUTDOOR AIR INTAKE DAMPER. CONTROLLER SHALL BE CAPABLE OF ACTIVATING DEHUMIDIFICATION CYCLES FOR MAINTAINING HUMIDITY LEVELS BELOW SET POINT.
- EXHAUST AIR DUCT UP AS 8x4 FOR CONNECTION OF EXISTING 6" ROUND EXHAUST DUCT. TRANSITION DUCT TO 8x8 AND ROUTE ABOVE CEILING. GENERALLY AS INDICATED FOR TERMINATION ON ROOF WITH DISCHARGE VENT HOOD. ADJUST FINAL LOCATION OF HOOD TO BE 10 FT MINIMUM FROM OUTDOOR AIR INTAKE TO ADJACENT UNITS.
- EXHAUST AIR DISCHARGE VENT HOOD TO BE MOUNTED ON ROOF WITH FULL PERIMETER CURB. SECURE CURB TO ROOF STRUCTURE AND HOOD TO CURB WITH MECHANICAL FASTENERS (3/16"). ONE PER SIDE PER ITEM (TOTAL OF 8). INSURE HOOD IS 10 FEET MINIMUM FROM NEAREST OUTDOOR AIR INTAKE.
- RETURN AIR REGISTER MOUNTED ON WALL INTO RETURN AIR PLENUM. INCLUDE A MANUAL VOLUME DAMPER IN SLEEVE BEHIND REGISTER. BALANCE DAMPER IN CONJUNCTION WITH OUTDOOR AIR FLOW.
- EXISTING CEILING MOUNTED EXHAUST FAN WITH DISCHARGE DUCT ROUTED FOR CONNECTION TO EXHAUST DUCT ABOVE CEILING OF MAIN LEVEL.
- EXHAUST DUCTWORK UP THROUGH FLOOR IN MECHANICAL CLOSET TO BETWEEN ROOF JOISTS AND OVER FOR CONNECTION TO EXHAUST MANFOLD ABOVE CEILING OF UPPER LEVEL. EXHAUST MANFOLD SHALL BE ROUTED GENERALLY AS INDICATED WITH OFFSETS TO AVOID OBSTRUCTIONS. TERMINATE MANFOLD ON PLENUM BEHIND WALL MOUNTED LOUVER.
- WALL MOUNTED DISCHARGE LOUVER SHALL BE 36" ROUND AS SPECIFIED BY ARCHITECT. MECHANICAL CONTRACTOR TO COORDINATE FINAL SIZE WITH GENERAL CONTRACTOR PRIOR TO BEGINNING ANY WORK. INCLUDE A FULL SIZE SQUARE PLENUM BEHIND LOUVER (30x30x12) WITH UNUSED PORTIONS OF LOUVER BEING BLANKED OFF WITH INSULATED SHEET METAL PANEL. CONNECT EXHAUST MANFOLD TO PLENUM. INSURE LOUVER IS HURRICANE RATED (MAM-DAD) AND WEATHERPROOF.
- DUCT MOUNTED SMOKE DETECTOR TO BE INSTALLED IN THE SUPPLY AND RETURN AIR SYSTEMS OF THE AIR CONDITIONING UNIT. DETECTOR INSTALLATION SHALL BE PER MANUFACTURER'S REQUIREMENTS. INSURE RETURN AIR DETECTOR IS INSTALLED UPSTREAM OF THE OUTDOOR AIR INTAKE DUCT CONNECTION. INTERLOCK DETECTORS WITH AIR HANDLING UNIT SUCH THAT AS A DETECTOR IS ACTIVATED THE UNIT SHALL AUTOMATICALLY SHUT DOWN AND A SIGNAL IS SENT TO THE FIRE ALARM PANEL.
- EXISTING PACKAGED ROOF MOUNTED AIR CONDITIONING UNIT TO BE REMOVED AND REPLACED NEW. NEW UNIT SHALL DUPLICATE EXISTING UNIT FOR CAPACITY. INCLUDE A CURB ADAPTOR SUBJECT TO FINAL EQUIPMENT SELECTIONS. RECONNECT EXISTING POWER, DUCTWORK AND CONTROLS. INSURE NEW UNIT INCLUDES A MOTORIZED OUTDOOR AIR INTAKE DAMPER. INTERLOCK DAMPER SAME AS KEY NOTE #9. PROVIDE NEW CONDENSATE DRAIN PIPING ACROSS ROOF TO REPLACE EXISTING PIPING, INSTALLED PER KEY NOTE #9.
- BATHROOM TYPE TRANSFER AIR (EXHAUST) FAN SUSPENDED FROM STRUCTURE OF DOME ABOVE CEILING. POSITION FAN CLOSE TO CENTER OF DOME FOR ACCESS THROUGH REMOVABLE CEILING MOUNTED CURB CORE TRANSFER AIR GRILLE. EXTEND FROM FAN 6"x6" DUCT, 2" FLEXIBLE DUCT OVER TO EXTERIOR OF DOME AND TURN DOWN IN SUPPORT COLUMN TO BOTTOM OF DOME. TERMINATE DUCT ON INTERIOR SURFACE OF DOME WITH 2" ROUND DISCHARGE NOZZLES HAVING A FINISHED FLANGE. REFERENCE ARCHITECTURAL DETAIL FOR ADDITIONAL INFORMATION. INTERLOCK FAN TO OPERATE SIMULTANEOUSLY WITH RTU#5.
- WALL MOUNTED DUCTLESS EVAPORATOR SECTION. MOUNT UNIT ON WALL WITH BOTTOM 78" ABOVE FINISHED FLOOR. TO BE OUT OF FLOOD ZONE. UNIT SHALL HAVE INTEGRAL CONTROLS AND BE COOLING ONLY. REFRIGERANT PIPING SHALL BE ROUTED THROUGH WALL INTO DUCT CHASE AND UP TO ROOF. CONDENSATE PIPING SHALL BE ROUTED, EXPOSED ON WALL, OVER TO EXTERIOR WALL. TURN DOWN TO 6" ABOVE FLOOR, PENETRATE WALL WITH SLEEVE. TURN DOWN TO 6" ABOVE GRADE AND TERMINATE WITH ELBOW IN UP POSITION. ALL CONDENSATE PIPING EXPOSED ON EXTERIOR OF BUILDING TO BE BRASS. INITIALLY SET CONTROLLER FOR RPT. SEAL SLEEVE WATER PROOF PRIOR AND AIR TIGHT.
- CONDENSING UNIT OF DUCTLESS SPLIT SYSTEM UNIT MOUNT ON EQUIPMENT SUPPORT FRAME WITH OTHER CONDENSING UNITS. INSTALLATION SHALL BE SIMILAR TO KEY NOTE #17. REFRIGERANT PIPING TO BE ROUTED BELOW ROOF OVER TO VENT HOOD TO TURN UP THROUGH ROOF AND OVER FOR CONNECTION TO CONDENSING UNIT. SUPPORT REFRIGERANT PIPING ACROSS ROOF 48" ON CENTER WITH EQUIPMENT SUPPORT CURBS. MECHANICALLY FASTEN CURBS TO ROOF AND PIPING TO CURBS.
- WALL MOUNTED RETURN AIR REGISTER (92x10) ABOVE WINDOW. REFERENCE ARCHITECTURAL PLAN FOR FINAL LOCATION. REGISTER SHALL BE HORIZONTAL BAR TYPE WITH REGISTER. EXTEND FROM CENTER SECTION OF RETURN AIR REGISTER A 46x8 BRANCH DUCT WITH MANUAL VOLUME DAMPER. BALANCE DAMPER FOR INDICATED AIR FLOW. BLANK OFF UNUSED PORTION OF REGISTER WITH INSULATED SHEET METAL PANELS.
- EXISTING KITCHEN HOOD EXHAUST AND MAKE-UP AIR FANS TO BE REMOVED AND REPLACED NEW. NEW EQUIPMENT SHALL DUPLICATE EXISTING FOR CAPACITY. RECONNECT EXISTING POWER, CONTROLS AND DUCTWORK.
- TRANSFER AIR DUCT WITH GRILLES AT EACH END.
- TRANSFER EXHAUST FAN IN CEILING OF ELEVATOR EQUIPMENT ROOM. ROUTE DISCHARGE DUCT TO CEILING TRANSFER GRILLE. CONTROL OF FAN SHALL BE BY WALL MOUNTED SET POINT ADJUSTABLE TEMPERATURE CONTROLLER.
- BRANCH DUCTWORK SHALL BE EXTENDED FROM MAIN DUCT THROUGH MASONRY WALL BELOW COMPACTED FILL AND TURNED UP TO PENETRATE FLOOR. TRANSITION BRANCH DUCT FROM SHEET METAL TO REINFORCED FIBERGLASS OR PLASTIC DUCT EQUAL TO BLUE DUCT.
- EXISTING FLOOR MOUNTED AIR DEVICE TO BE REMOVED AND REINSTATEL WITH TOP SURFACE OF AIR DEVICE BEING FLUSH WITH FLOOR SURFACE. MECHANICAL CONTRACTOR TO BE RESPONSIBLE FOR HAVING EXISTING FLOOR MODIFIED TO ALLOW THE AIR DEVICE SURFACE TO BE FLUSH WITH FLOOR SURFACE. COORDINATE WITH GENERAL CONTRACTOR FOR HAVING THIS WORK ACCOMPLISHED.
- MECHANICAL CONTRACTOR SHALL PROVIDE A CERTIFIED TEST AND BALANCE REPORT FOR THE DESIGNATED SUPPLY AND RETURN AIR DEVICE ON THE DUCT SYSTEMS SERVING THE UNITS (REFERENCE SHEETS M1.4 AND M1.5). THIS INFORMATION SHALL BE SUBMITTED TO ARCHITECT/ENGINEER PRIOR TO ORDERING NEW REPLACEMENT EQUIPMENT. THIS PARTICULARLY APPLIES TO ALL EXISTING EQUIPMENT THAT IS ROOF MOUNTED AND BEING REPLACED NEW.
- ELECTRIC UNIT HEATER TO BE SUSPENDED FROM STRUCTURE ABOVE. TOP OF HEATER TO BE AS HIGH AS POSSIBLE BUT NO HIGHER THAN NEAREST DUCTWORK. BOTTOM OF HEATER TO BE ABOVE FINISHED FLOOR OUT OF FLOOD ZONE. PROVIDE UNIT WITH INTEGRAL SET POINT CONTROLLER WITH AN INITIAL SETTING OF 45°F.

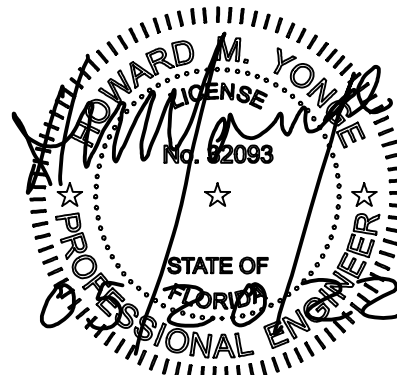
GENERAL NOTE:
MECHANICAL CONTRACTOR TO COORDINATE FINAL LOCATION OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.



HVAC PLAN - UPPER LEVEL
SCALE: 1/8" = 1'-0"

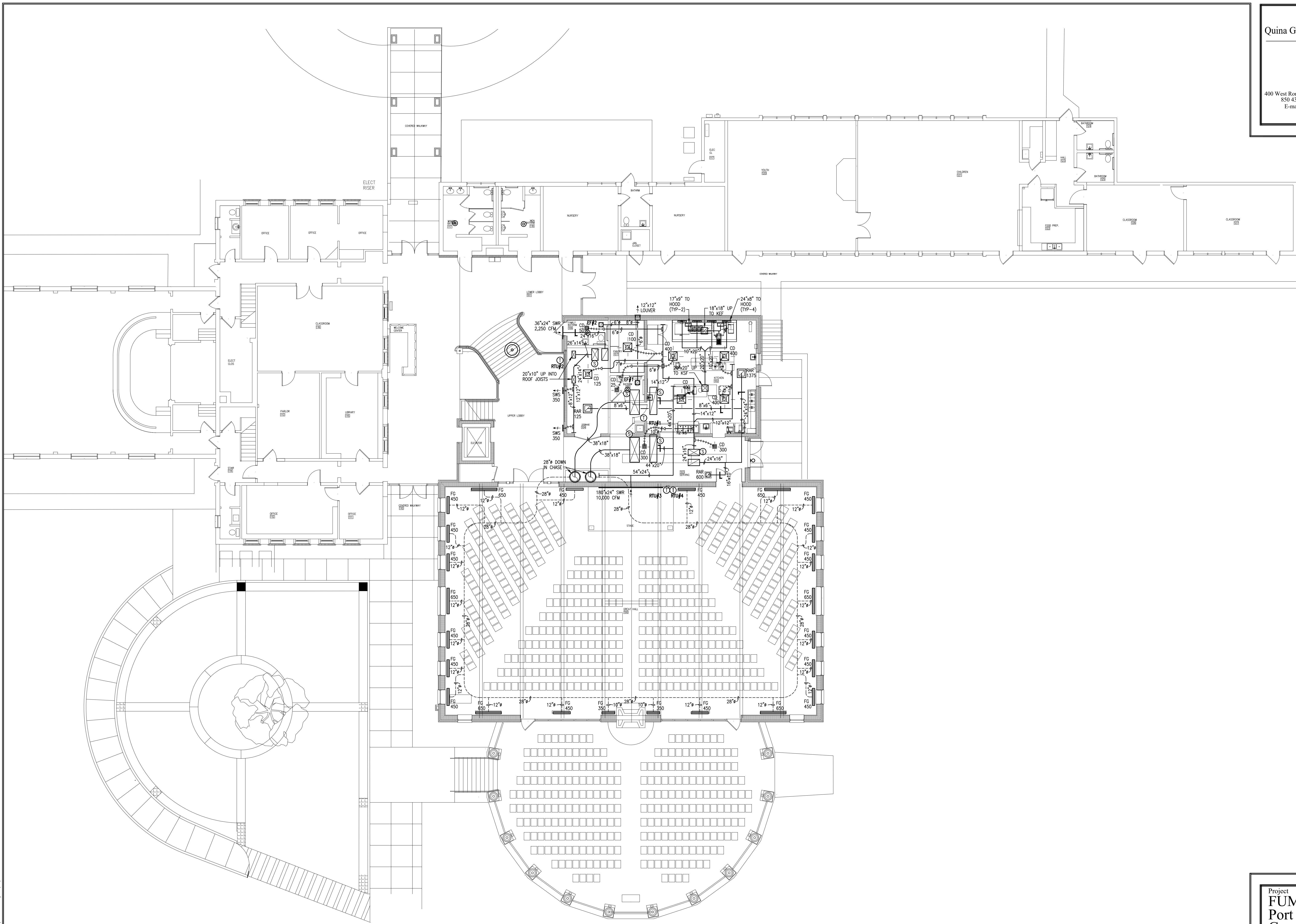
Project
FUMC
Port St. Joe
Rebuild
Additions and Renovations
Port St. Joe, Florida

Date: 05-20-22
Project No. 1519
Sheet No. **M1.3**



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1 HVAC FIRST FLOOR NEW WORK PLAN
M2.1
SCALE: 1/8" = 1'-0"

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Project
FUMC
Port St. Joe
Great Hall
Additions and Renovations

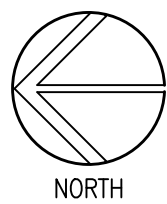
Port St. Joe, Florida

Date:
09-28-15

Project No.
0615

Sheet No.

M2.1



EXISTING HVAC FIRST FLOOR NEW WORK PLAN

SCALE: NONE

FOR REFERENCE ONLY

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Project
FUMC
Port St. Joe
Rebuild
Additions and Renovations

Port St. Joe, Florida

Date:

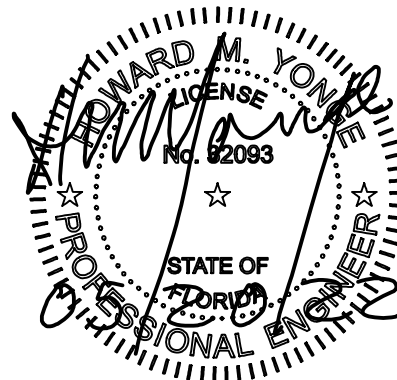
05-20-22

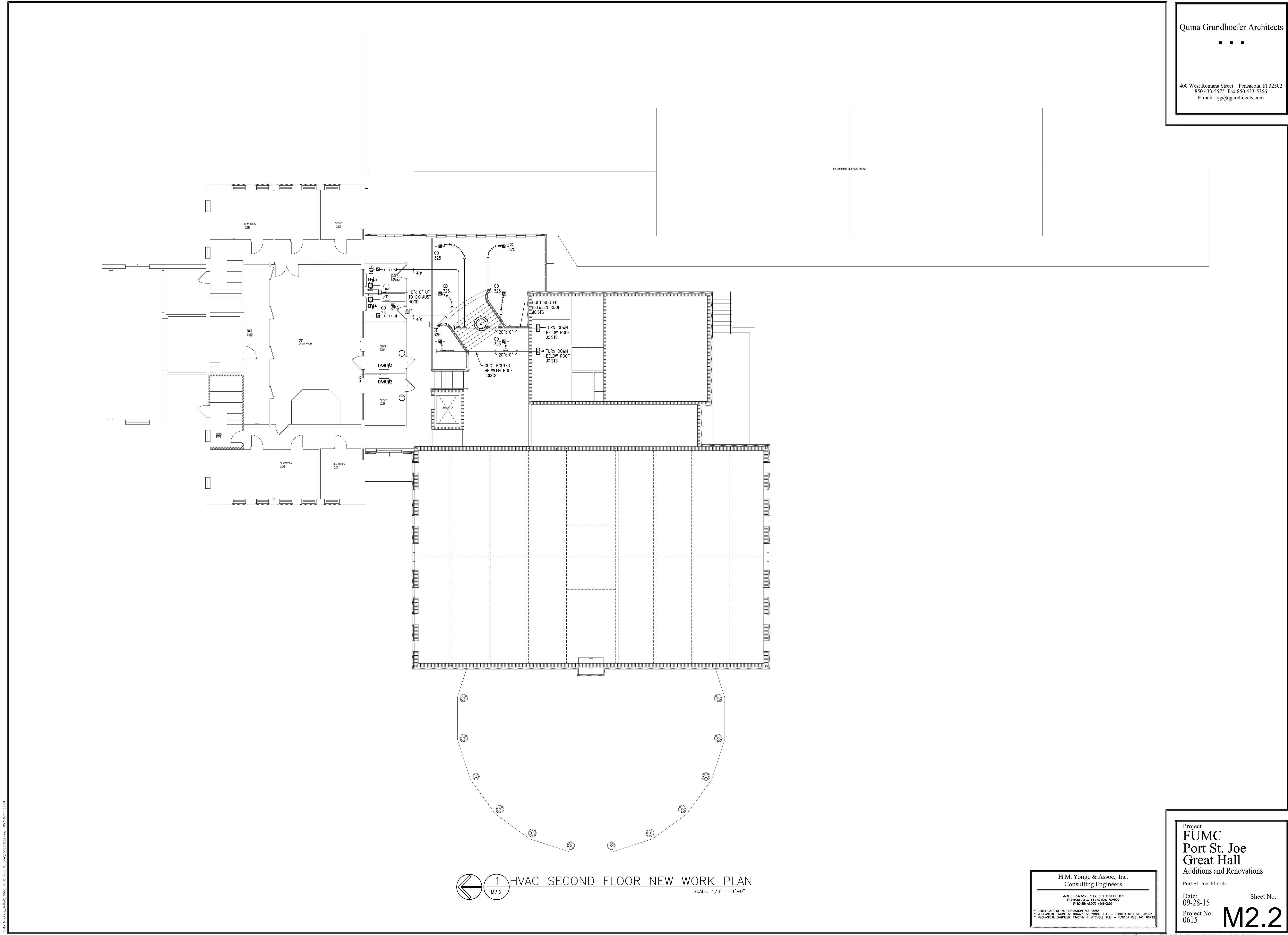
Project No.

1519

Sheet No.

M1.4





1 HVAC SECOND FLOOR NEW WORK PLAN
M2.2
SCALE: 1/8" = 1'-0"

EXISTING HVAC SECOND FLOOR NEW WORK PLAN
SCALE: NONE
FOR REFERENCE ONLY

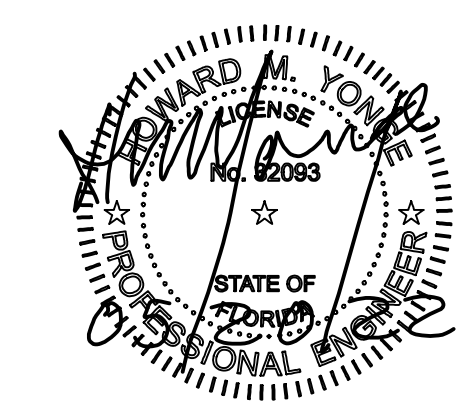
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* MECHANICAL ENGINEER: TIMOTHY J. MITCHELL, P.E. - FLORIDA REG. NO. 69792

Project
FUMC
Port St. Joe
Great Hall
Additions and Renovations
Port St. Joe, Florida
Date: 09-28-15
Project No. 0615
Sheet No. M2.2

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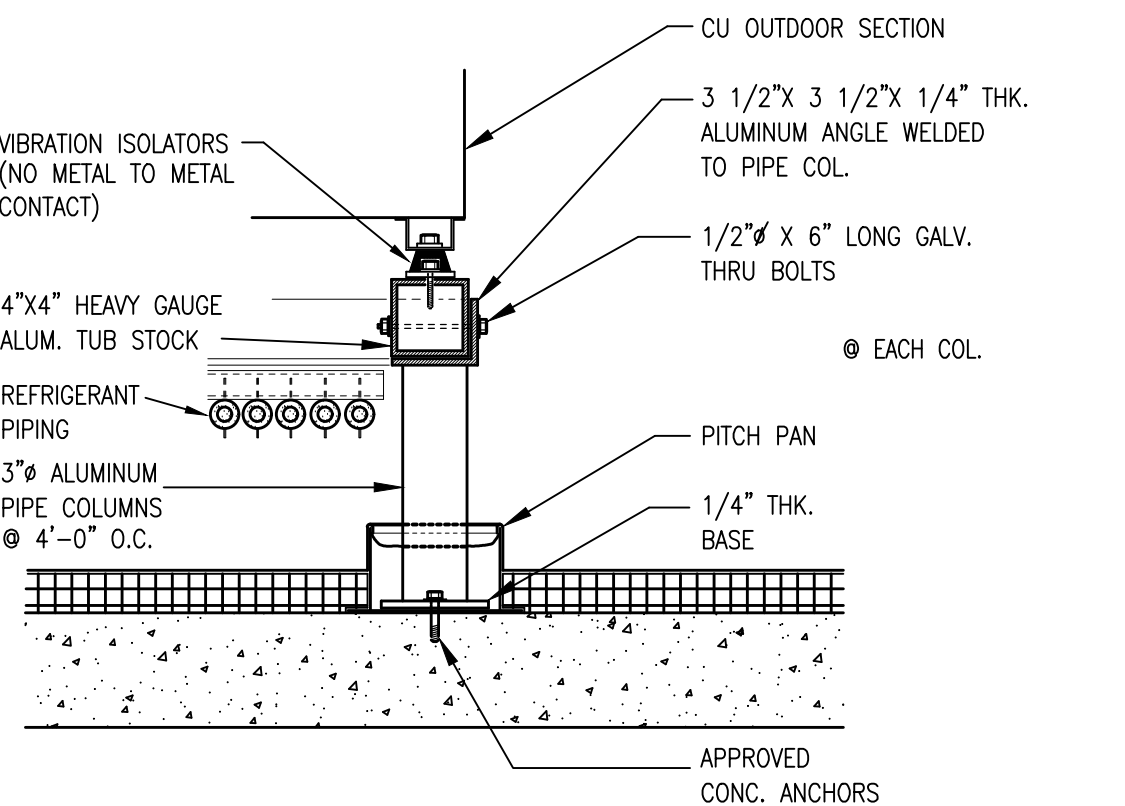
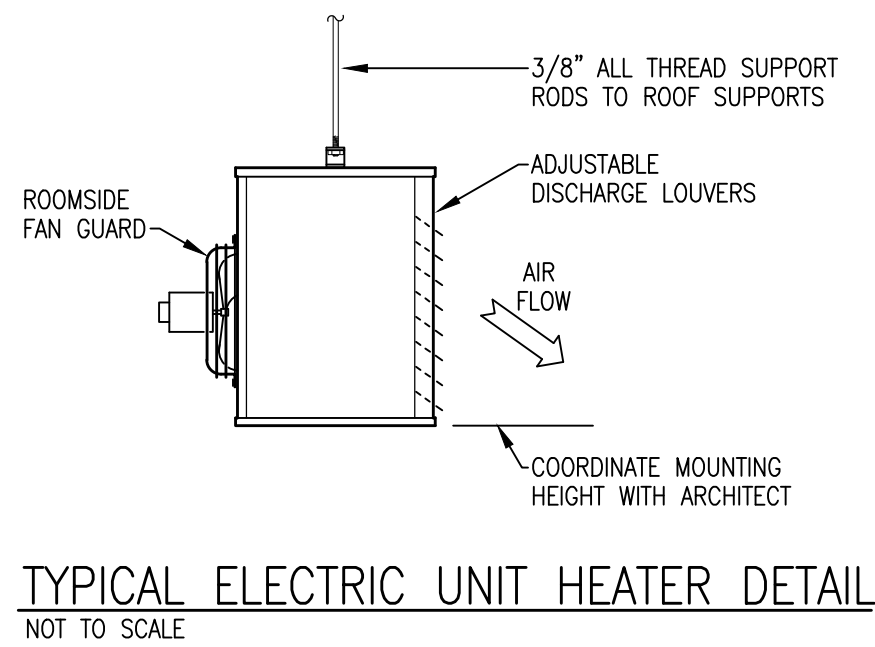
Project
FUMC
Port St. Joe
Rebuild
Additions and Renovations
Port St. Joe, Florida
Date: 05-20-22
Project No. 1519
Sheet No. M1.5

DUCTLESS SPLIT SYSTEM UNIT SCHEDULE																			
MARK DAHU#/ DCDU#1	AHU DATA				COOLING CAPACITY @ ARI STANDARD CONDITIONS					HEATING CAPACITY @ ARI STANDARD CONDITIONS					ELECTRICAL DATA				REMARKS
	TOTAL CFM	OA CFM	ESP	MOTOR	EDB	EWB	AMBIENT	TOTAL BTU/HR	SENSIBLE BTU/HR	EDB	EWB	AMBIENT	TOTAL BTU/HR	VOLTS	Hz	PHASE	MCA	MOCP	
1	580	0	0.2	0.32 A	80°F	67°F	95°F	14,000	9,800	70°F	47°F	13,300	208	60	1	14	20	⓪⓪	

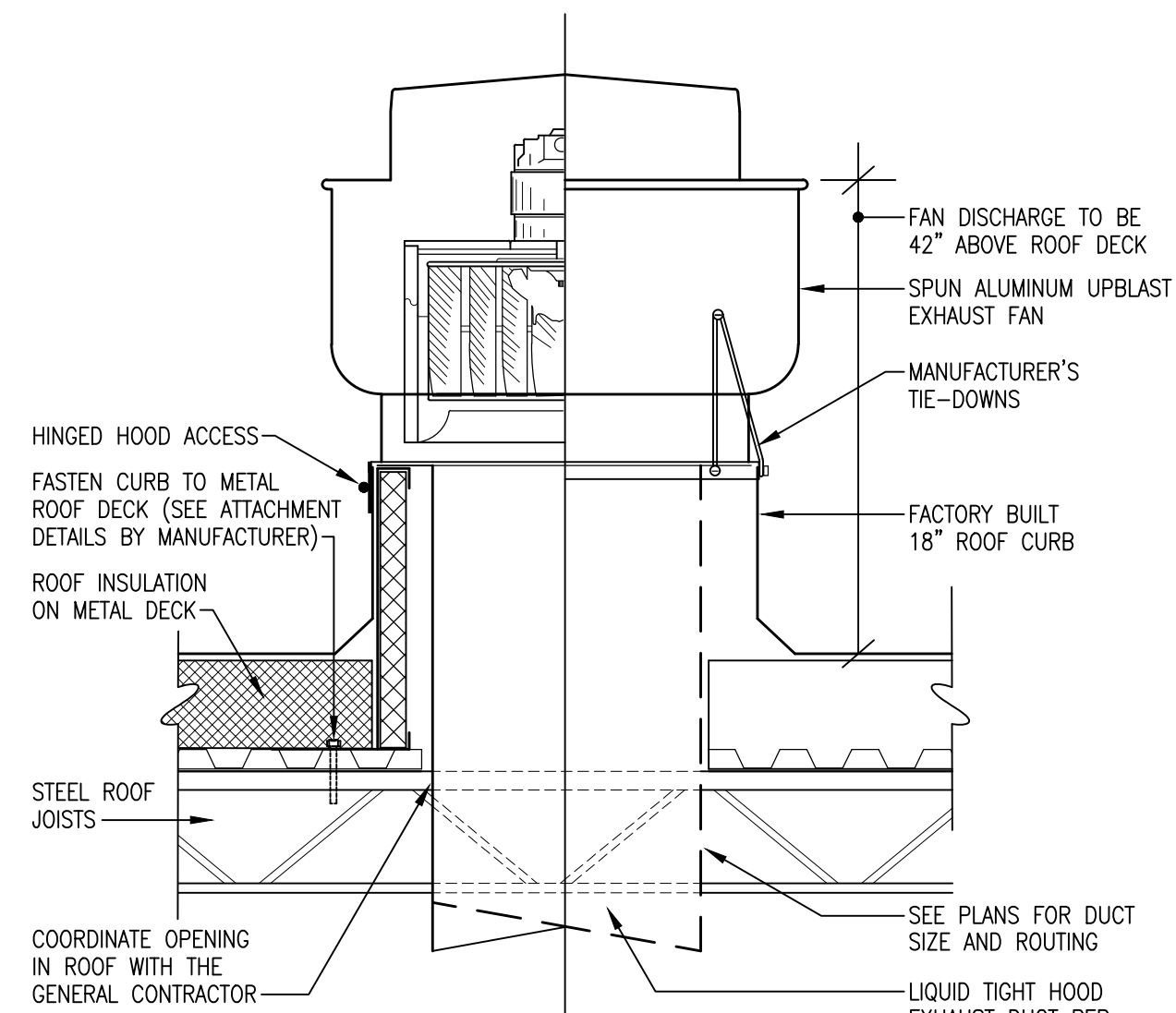
- NOTES:
① WALL MOUNTED TYPE UNIT.
② BASIS OF DESIGN: DAIKIN

ELECTRIC UNIT HEATER SCHEDULE																
MARK EUH#	HEATING CAPACITY			MOTOR DATA			ELECTRICAL DATA				REMARKS					
	INPUT KW	STAGES	OUTPUT BTU/HR	AMPS	VOLTS	Hz	PHASE									
EUH#1	250	1.5	1 @ 1.5	5118.2	12.5	120	60	1								①②
EUH#2	650	10.0	2 @ 5.0	34,100.0	42.0	240	60	3								①③
EUH#3	650	10.0	2 @ 5.0	34,100.0	42.0	240	60	3								①③

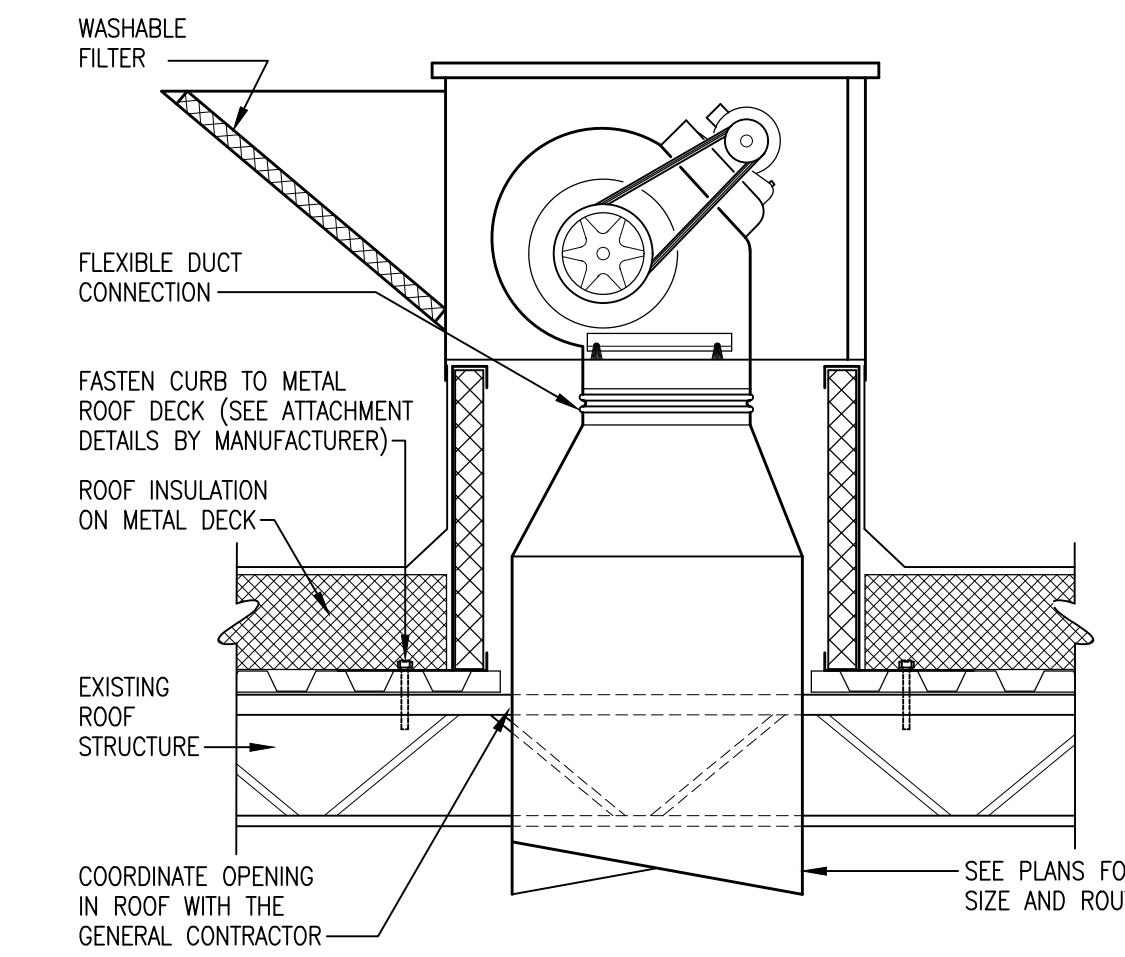
- NOTES:
① SET POINT ADJUSTABLE CONTROLS SHALL BE INTEGRAL TO UNIT.
② BASIS OF DESIGN: MARLEY COMMERCIAL FAN-FORCED WALL HEATER - CWH3000 SERIES
③ BASIS OF DESIGN: MARLEY COMMERCIAL FAN-FORCED WALL HEATER - MUH SERIES



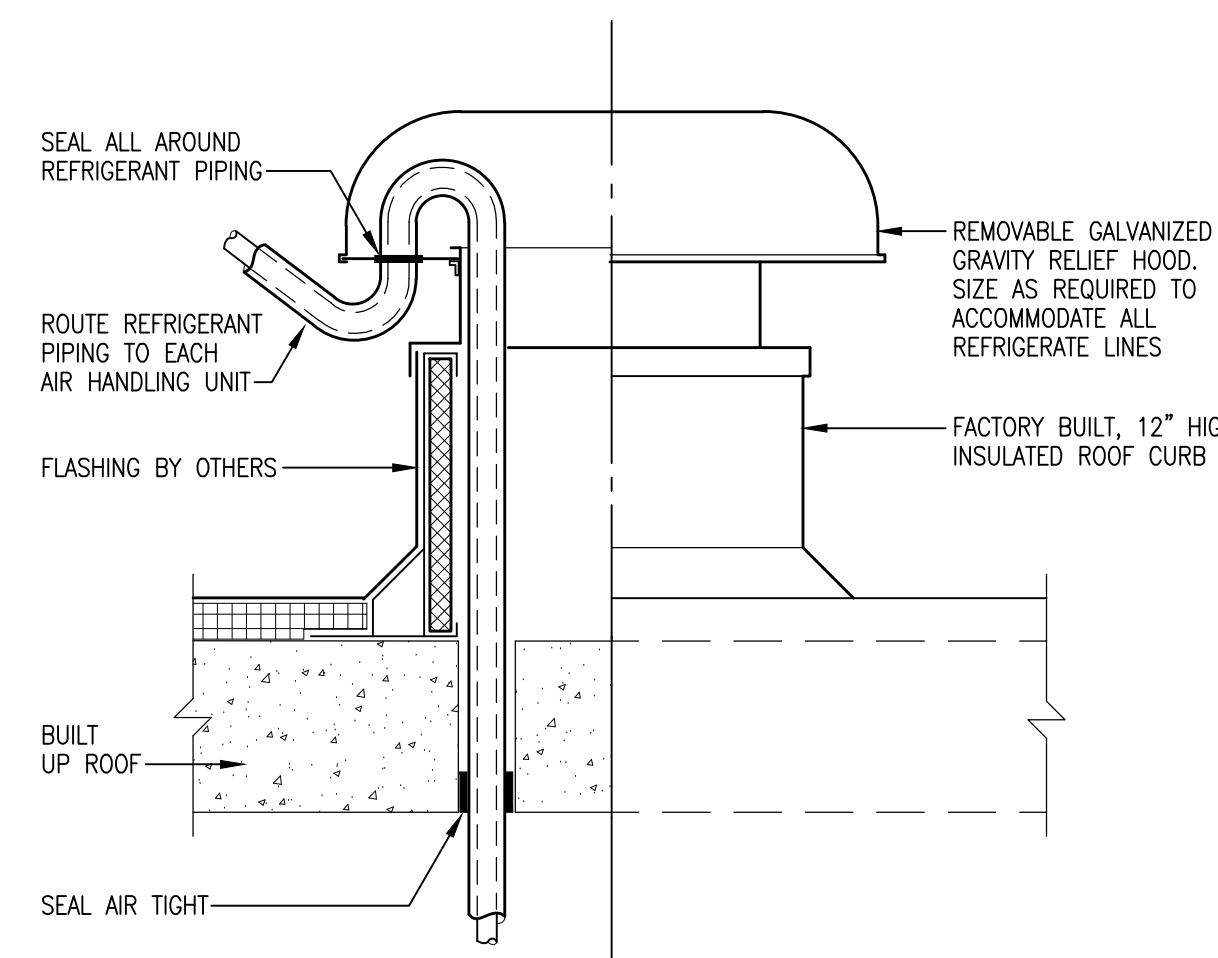
CONDENSING UNIT ROOF SUPPORT DETAIL
NOT TO SCALE



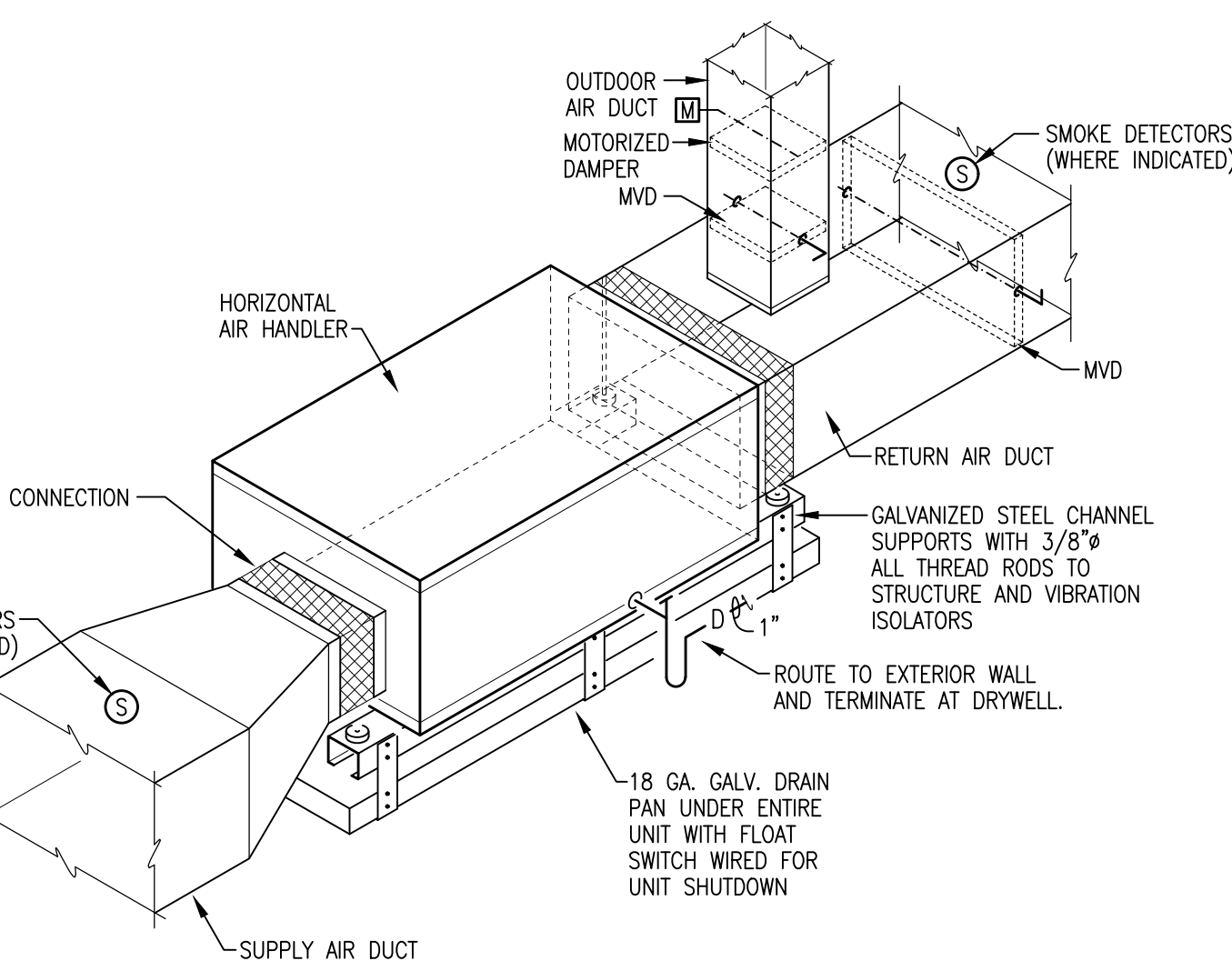
KITCHEN HOOD EXHAUST FAN DETAIL
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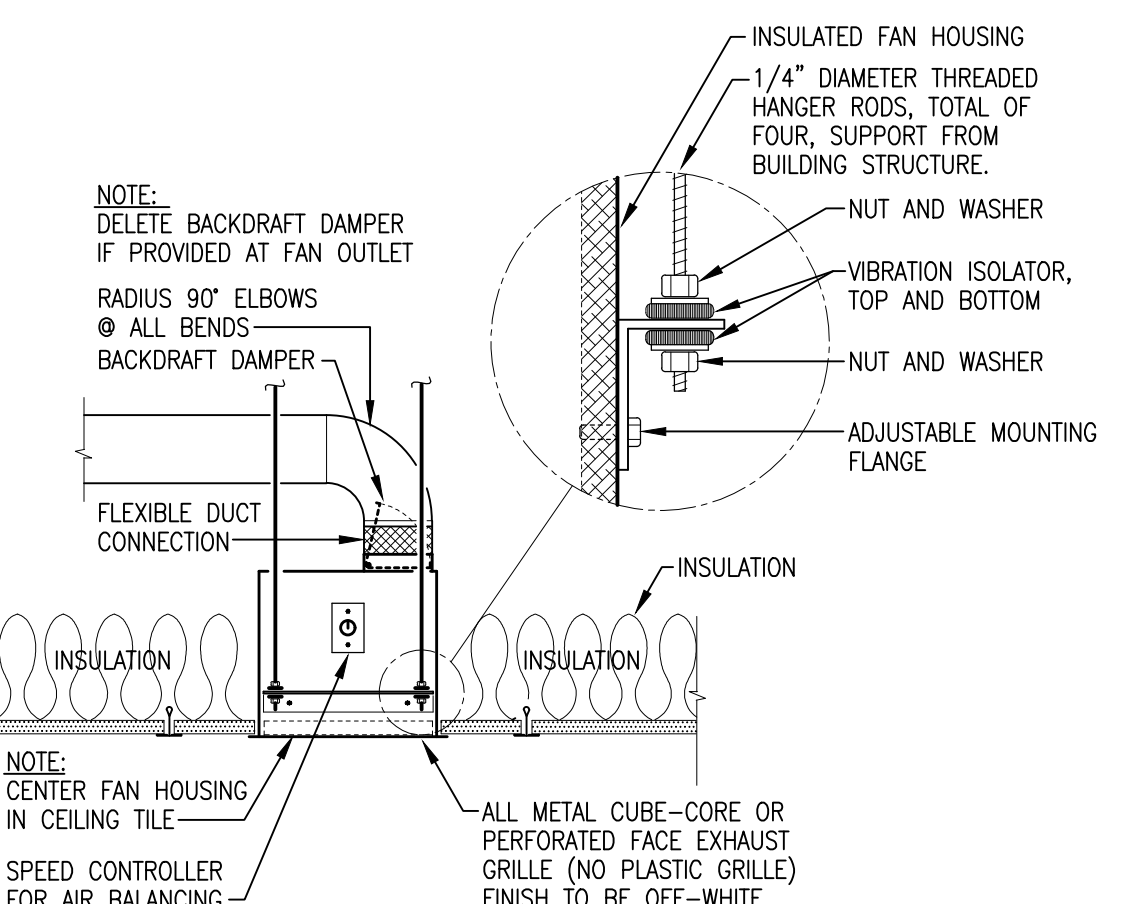
KITCHEN HOOD SUPPLY FAN DETAIL
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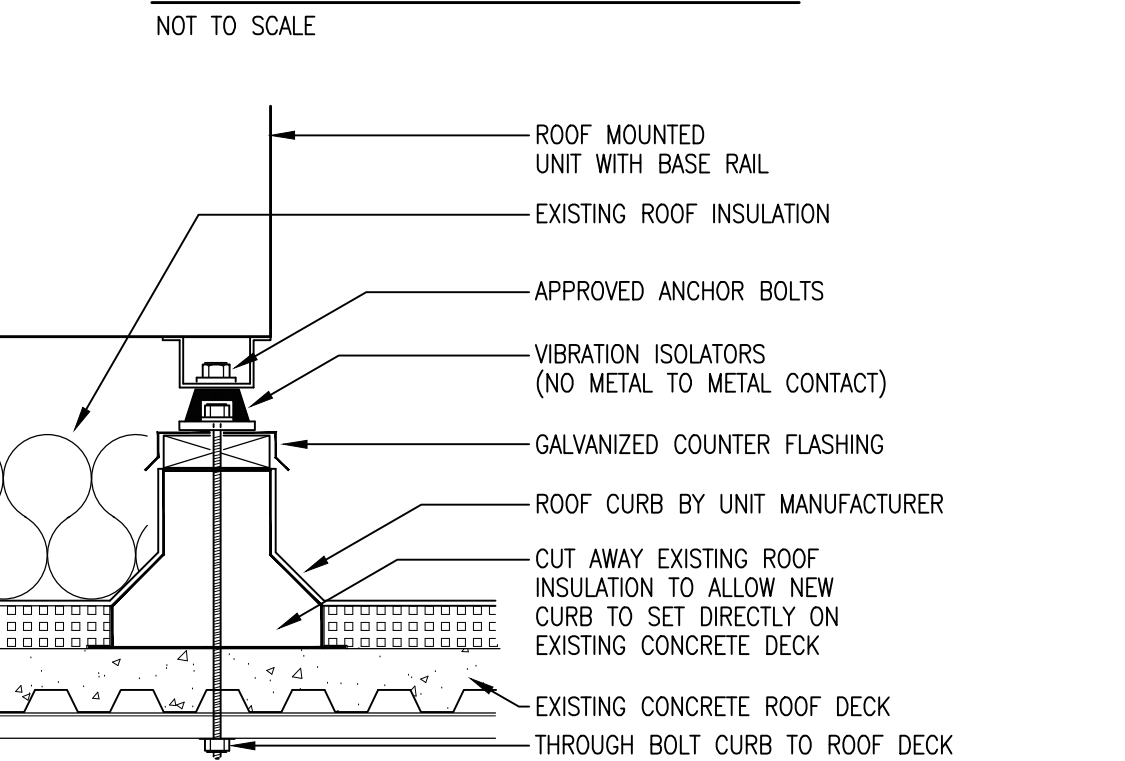
REFRIGERANT PIPE CURB DETAIL
NOT TO SCALE



TYPICAL HORIZONTAL AHU DETAIL
NOT TO SCALE



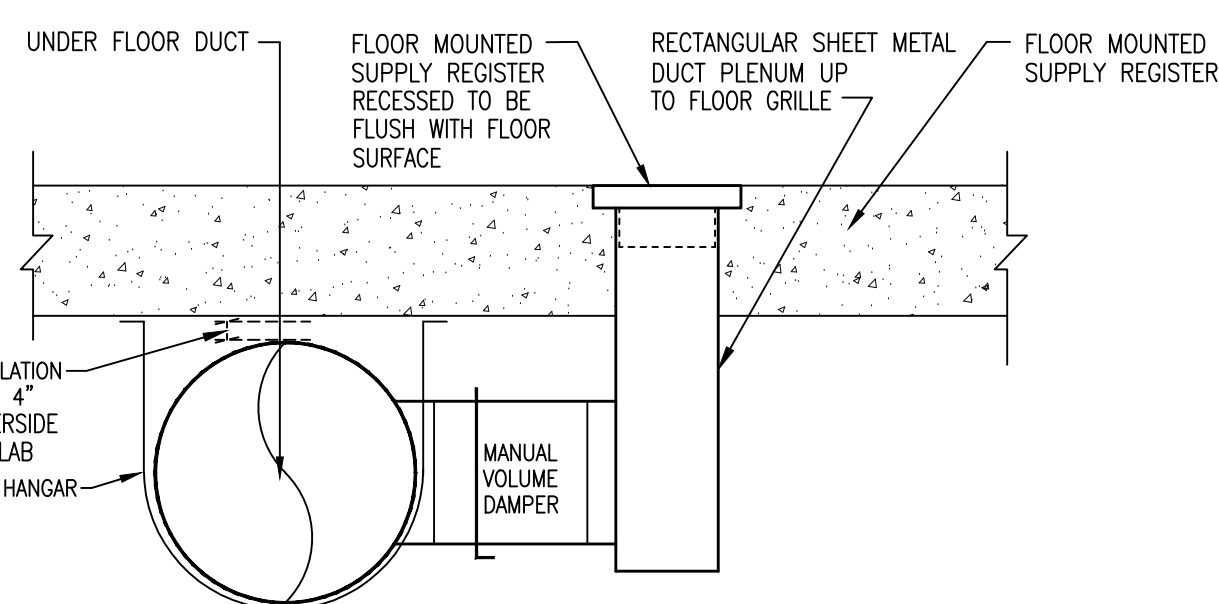
TYPICAL EXHAUST FAN DETAIL
NOT TO SCALE



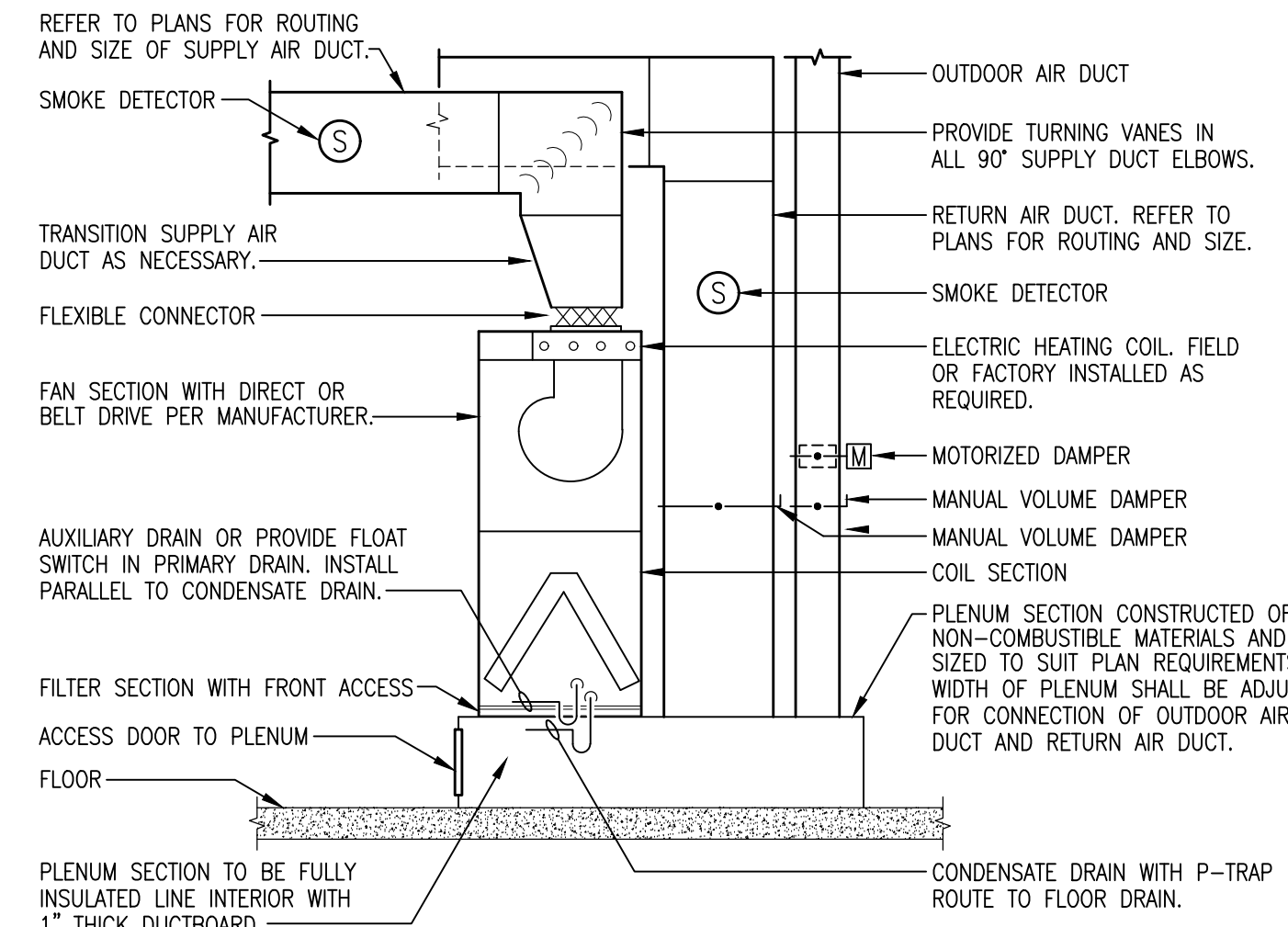
TYPICAL EQUIPMENT CURB DETAIL
NOT TO SCALE

EXHAUST FAN SCHEDULE													
MARK	TOTAL CFM	TSP IN WC	MAX RPM	TYPE DRIVE	TYPE FAN	INTERLOCK WITH	MOTOR HP/WATTS	MAX SIZES	ELECTRICAL DATA			FAN SERVICE	REMARKS
									VOLTS	Hz	PHASE		
EF#1	350	0.7	805	DIRECT	CEILING MOUNTED	LIGHT SWITCH	301 W	3.0	120	60	1	WOMEN'S REST 227	①②③④⑤⑥
EF#2	350	0.7	805	DIRECT	CEILING MOUNTED	LIGHT SWITCH	301 W	3.0	120	60	1	MEN'S REST 228	①②③④⑤⑥
EF#3	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	RR 233	①②③④⑤⑥
EF#4	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	RR 238	①②③④⑤⑥
EF#5	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	MEN RR	①②③④⑤⑥
EF#6	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	RR 246	①②③④⑤⑥
EF#7	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	RR 251	①②③④⑤⑥
EF#8	70	0.6	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	RR 250	①②③④⑤⑥
EF#9	70	0.5	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	MENS SHOWERS	①②③④⑤⑥
EF#10	70	0.5	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	WOMENS SHOWERS	①②③④⑤⑥
EF#11	150	0.5	926	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.5	120	60	1	MENS SHOWERS	①②③④⑤⑥
EF#12	150	0.5	926	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.5	120	60	1	WOMENS SHOWERS	①②③④⑤⑥
EF#13	225	0.5	1050	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	3.0	120	60	1	WOMEN REST 318	①②③④⑤⑥
EF#14	225	0.5	1050	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	3.0	120	60	1	MEN REST 317	①②③④⑤⑥
EF#15	70	0.5	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	MEN'S REST 228	①②③④⑤⑥
EF#16	70	0.5	824	DIRECT	CEILING MOUNTED	LIGHT SWITCH	81 W	2.0	120	60	1	FAMILY BATHROOM	①②③④⑤⑥
TF#1	70	0.5	824	DIRECT	CEILING MOUNTED	INTERLOCK WITH ROT#5	81 W	2.0	120	60	1	SANITARY DOME	①②③④⑤⑥
TF#2	70	0.5	824	DIRECT	CEILING MOUNTED	1-STAT	81 W	2.0	120	60	1	ELEVATOR EQUIP RM.	①②③④⑤⑥
KSF#1	3,004	0.8	843	BELT	ROOF MOUNTED	HOOD SWITCH	1-1/2 HP	14.8	240	60	3	KITCHEN HOOD	①②③④
KEF#1	3,535	0.9	956	BELT	ROOF MOUNTED	HOOD SWITCH	1-1/2 HP	12.9	240	60	3	KITCHEN HOOD	①②③④

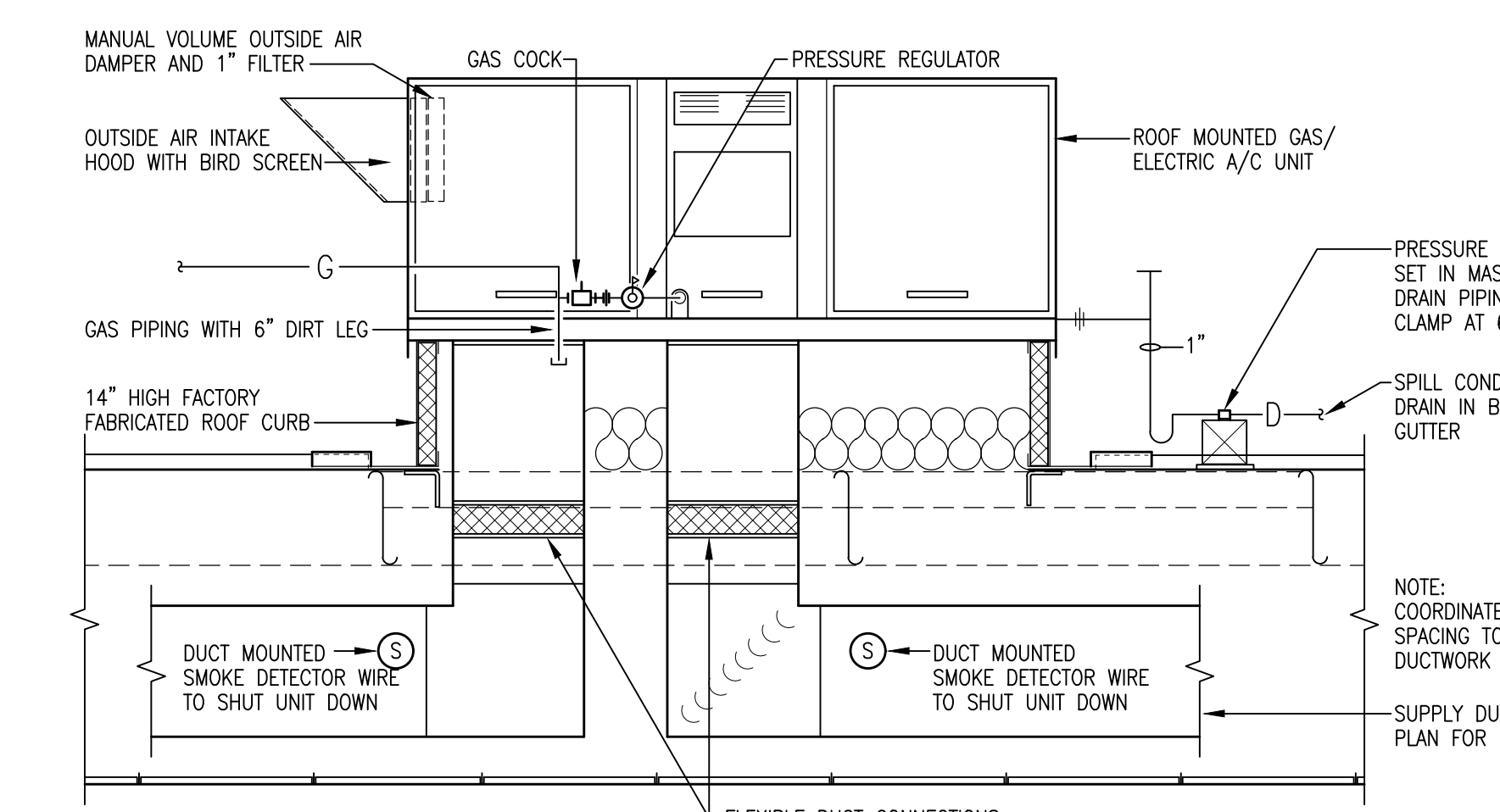
- NOTES:
① PROVIDE WITH FAN SPEED CONTROLLER.
② PROVIDE WITH ALUMINUM GRILLE.
③ PROVIDE WITH ROUND TO RECTANGULAR TRANSITION.
④ PROVIDE WITH INTEGRAL DISCONNECT.
⑤ PROVIDE WITH THERMAL OVERLOAD.
⑥ PROVIDE WITH INTEGRAL GRAVITY BACKDRAFT DAMPER.
⑦ PROVIDE HIGH WIND LOAD RATED FAN. INSTALL FAN PER MANUFACTURER REQUIREMENTS SUCH THAT FAN IS INSTALLED TO WITHSTAND THE MINIMUM WIND LOADS PRESCRIBED IN 2015 IBC SECTION 1609.
⑧ SCHEDULED FAN CRITERIA IS FOR INFORMATION ONLY. MECHANICAL CONTRACTOR TO VERIFY EXISTING



TYPICAL DUCT @ FLOOR GRILLE
NOT TO SCALE



TYPICAL VERTICAL AHU DETAIL
NOT TO SCALE



TYPICAL PACKAGED AIR CONDITIONING UNIT DETAIL
NOT TO SCALE

PACKAGED ROOFTOP AIR CONDITIONING UNIT WITH GAS HEAT SCHEDULE																										
MARK RTU#	AREA SERVED	NOMINAL TONNAGE	AHU DATA		COOLING CAPACITY @ ARI STANDARD CONDITIONS										ELECTRICAL DATA				REMARKS							
			TOTAL CFM	OA CFM	ESP MOTOR	EDB	EWB	AMBIENT	TOTAL BTU/HR	SENSIBLE BTU/HR	MIN CFM	MIN % AFUE	BTUH OUTPUT	FUEL	MIN. EER	MIN. IEER	COMPR. RLA	OUTDOOR FAN FLA		REFRIGERANT CLASS	VOLTS	H _z	PHASE	MCA	MOP	
RTU#1	KITCHEN/SERVING	6.0	2,500	400	0.5	2.0 HP	80°F	67°F	95°F	75,000	54,500	120	80	96,000	NAT. GAS	12.6	14.5	1022.4	103.3	GROUP A1	240	60	3	35.0	50.0	①②③④⑤⑥⑦⑧
RTU#2	LOBBY101/201	7.5	2,700	450	0.5	2.0 HP	80°F	67°F	95°F	87,400	64,500	120	80	96,000	NAT. GAS	12.6	14.5	1029.0	103.3	GROUP A1	240	60	3	39.0	60.0	①②③④⑤⑥⑦⑧
RTU#3	GREAT HALL 100	15.0	5,900	900	0.5	3.0 HP	80°F	67°F	95°F	186,000	139,000	350	81	284,000	NAT. GAS	11.0	12.2	1031.9 1017.6	203.2	GROUP A1	240	60	3	69.0	90.0	①②③④⑤⑥⑦⑧
RTU#4	GREAT HALL 100	15.0	5,900	900	0.5	3.0 HP	80°F	67°F	95°F	186,000	139,000	350	81	284,000	NAT. GAS	11.0	12.2	1031.9 1017.6	203.2	GROUP A1	240	60	3	69.0	90.0	①②③④⑤⑥⑦⑧
RTU#5	SANCTUARY	15.0	5,300	560	0.5	3.0 HP	80°F	67°F	95°F	186,000	139,000	350	81	284,000	NAT. GAS	11.0	12.2	1031.9 1017.6	203.2	GROUP A1	240	60	3	69.0	90.0	①②③④⑤⑥⑦
RTU#6	TRANSITORY, LOBBY & STORAGE	7.5	3,090	300	0.5	3.0 HP	80°F	67°F	95°F	87,400	64,500	120	80	96,000	NAT. GAS	12.6	14.5	1029.0	103.3	GROUP A1	240	60	3	39.0	60.0	①②③④⑤⑥⑦
RTU#7	SANCTUARY	15.0	5,300	560	0.5	3.0 HP	80°F	67°F	95°F	186,000	139,000	350	81	284,000	NAT. GAS	11.0	12.2	1031.9 1017.6	203.2	GROUP A1	240	60	3	69.0	90.0	①②③④⑤⑥⑦

- NOTES:
① PROVIDE INSULATED ROOF CURB.
② PROVIDE SMOKE DETECTOR IN SUPPLY AND RETURN AIR DUCTWORK WIRED FOR UNIT SHUTDOWN AND SENDING SIGNAL TO ALARM PANEL UPON DETECTOR ACTIVATION.
③ PROVIDE WITH MOTORIZED DAMPERS IN THE OUTDOOR INTAKE. THE DAMPER SHALL OPEN TO SETPOINT POSITION DURING OCCUPIED HOURS AND CLOSE DURING UNOCCUPIED HOURS. INTERLOCK WITH PROGRAMMABLE THERMOSTAT.
④ BASIS OF DESIGN: TRANE YHC SERIES, HIGH EFFICIENCY. PROVIDE UNIT WITH HOT GAS REHEAT COIL. HOT GAS REHEAT COIL SHALL BE USED TO REHEAT SUPPLY AIR AS UNIT IS OPERATING IN A DEHUMIDIFICATION MODE. CONTROL OF UNIT SHALL BE FROM A SET POINT ADJUSTABLE THERMOSTAT CAPABLE OF COOLING, HEATING AND DEHUMIDIFICATION MODES OF OPERATION.
⑤ BASIS OF DESIGN: TRANE YHD SERIES, HIGH EFFICIENCY. PROVIDE UNIT WITH HOT GAS REHEAT COIL. HOT GAS REHEAT COIL SHALL BE USED TO REHEAT SUPPLY AIR AS UNIT IS OPERATING IN A DEHUMIDIFICATION MODE. CONTROL OF UNIT SHALL BE FROM A SET POINT ADJUSTABLE THERMOSTAT CAPABLE OF COOLING, HEATING AND DEHUMIDIFICATION MODES OF OPERATION.
⑥ B-POLAR IONIZATION SHALL BE PROVIDED FOR EACH UNIT.
⑦ DUCT MOUNTED SMOKE DETECTORS SHALL BE INSTALLED IN SUPPLY AND RETURN AIR DUCTWORK. INSTALLATION OF SMOKE DETECTORS INSIDE OF AIR HANDLING UNIT SHALL BE ACCEPTABLE SUBJECT TO MANUFACTURER'S INSTRUCTIONS.
⑧ PROVIDE NEW THERMOSTAT TO REPLACE EXISTING IN SAME LOCATION AS EXISTING. NEW THERMOSTAT SHALL BE PER KEY NOTE #28.

SPLIT SYSTEM AIR TO AIR HEAT PUMP UNIT SCHEDULE ☯☯																														
MARK AHU/ HPU#	AREA SERVED	AHU DATA										COOLING CAPACITY ☯							HEATING CAPACITY ☯				HEAT PUMP ELECTRICAL DATA				REMARKS			
		UNIT TONNAGE	TOTAL CFM	OA CFM	ESP	MOTOR HP	VOLTS	Hz	PHASE	# OF HEAT STAGES	STRIP HEAT KW	MCA	MOCP	EDB °F	EWB °F	AMBIENT °F	TOTAL BTU/Hr	SENSIBLE BTU/Hr	EDB °F	AMBIENT °F	TOTAL BTU/Hr	MIN. SEVERE °F	COMPR. RLA	OUTDOOR FAN FLA	VOLTS	Hz		PHASE	MCA	MOCP
1-1	K4 CLASSROOM 249	2.0	665	70	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	24,000	16,800	70	47	22,800	17.0	11.7	0.71	240	60	1	15	25	①②③④
1-2	CHILDREN, PASTOR, SEC. ASSOC, RR, FINANCE & STOR	2.5	850	90	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	30,000	22,500	70	47	28,500	17.0	15.3	0.74	240	60	1	21	35	①②③④
1-3	HALL, FOYER, DIRECTOR, WORK, COLLABORATION, RR, ASST DIR	3.5	1230	100	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	42,000	31,500	70	47	39,900	17.0	14.0	0.93	240	60	3	18	30	①②③④
1-4	K2 CLASSROOM, K3 CLASSROOM, RR	3.0	1145	120	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	36,000	27,000	70	47	34,200	17.0	11.6	0.71	240	60	3	15	25	①②③④
1-5	K1 CLASSROOM, INFANTS, RR	2.5	895	90	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	30,000	22,500	70	47	28,500	17.0	15.3	0.74	240	60	1	21	35	①②③④
1-6	CHILDREN'S WORKSHIP, LIBRARY, RR, FINANCE & STOR	4.0	1425	140	0.5"	3/4	240	60	3	1	14.40	49.0	50.0	80	67	95	48,000	36,000	70	47	45,600	17.0	14.0	0.93	240	60	3	18	30	①②③④
1-7	LOBBY, LIBRARY, MEN, WOMEN, STORAGE & PARLOR	5.0	1710	200	0.5"	1	240	60	3	1	14.40	50.0	50.0	80	67	95	60,000	45,000	70	47	57,000	17.0	16.2	1.30	240	60	3	22	35	①②③④
1-8	PARLOR	1.5	400	50	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	18,000	13,500	70	47	17,100	17.0	9.0	0.64	240	60	1	12	20	①②③④
1-9	PRACTICE, ROBES, MUSIC, CHOR SUITE & OFFICE	3.5	1220	140	0.5"	1/2	240	60	3	1	14.40	48.0	50.0	80	67	95	42,000	31,500	70	47	39,900	17.0	14.0	0.93	240	60	3	18	30	①②③④
2-1	YOUTH CENTER	7.5	3120	320	0.5"	1-1/2	240	60	3	2	24.92	82	90	80	67	95	95,300	77,800	70	47	84,000	11.6 11.8	2.0 15.1	2.20	240	60	3	32	40	①②③④
2-2	MULTI-PURPOSE	2.0	800	90	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	24,000	16,800	70	47	22,800	17.0	11.7	0.71	240	60	1	15	25	①②③④
2-3	CLASSROOM 306, CLASSROOM 306, CLASSROOM 307, MEDIA OFFICE	5.0	1880	200	0.5"	1	240	60	3	1	14.40	50.0	50.0	80	67	95	60,000	45,000	70	47	57,000	17.0	16.2	1.30	240	60	3	22	35	①②③④
2-4	CLASSROOM, OFFICE, UPPER LOBBY	5.0	1920	200	0.5"	1	240	60	3	1	14.40	50.0	50.0	80	67	95	60,000	45,000	70	47	57,000	17.0	16.2	1.30	240	60	3	22	35	①②③④
2-5	MEN SHOWERS, WOMEN SHOWERS, MEN'S RESTROOM, WOMEN'S RESTROOM	3.5	1225	130	0.5"	1/2	240	60	3	1	9.60	33.0	35.0	80	67	95	42,000	31,500	70	47	39,900	17.0	14.0	0.93	240	60	3	18	30	①②③④