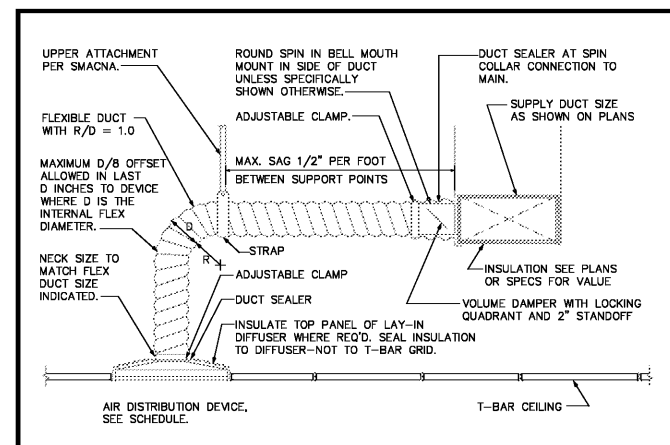
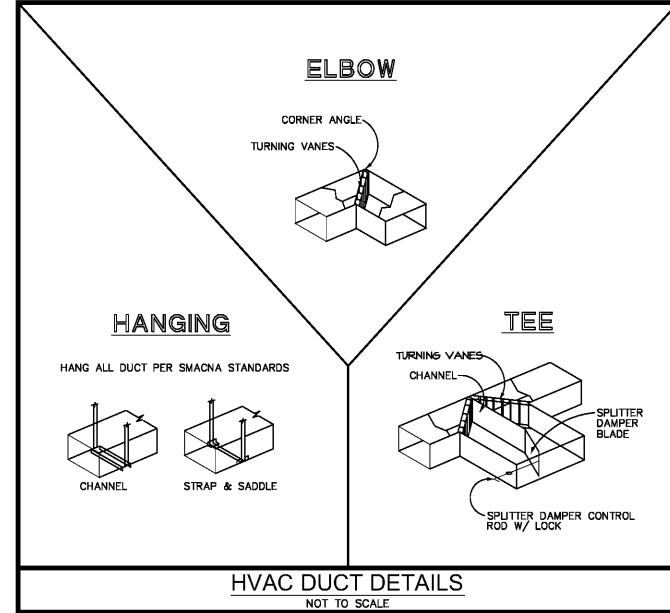


MECHANICAL NOTES

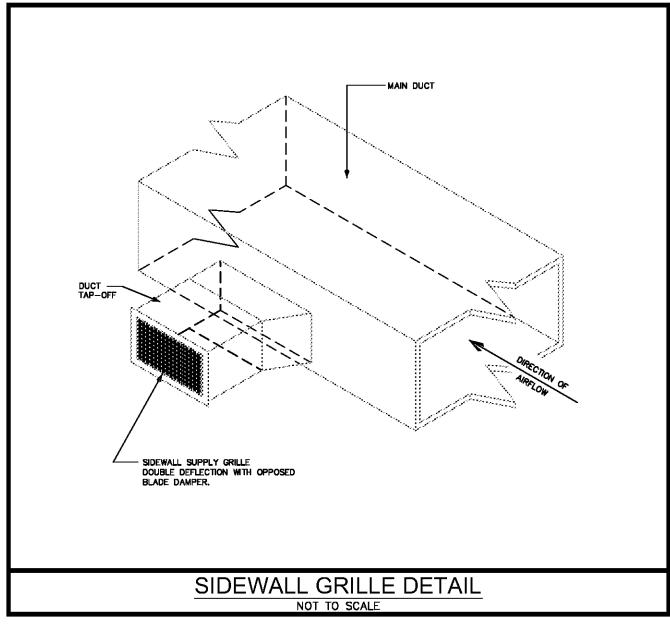
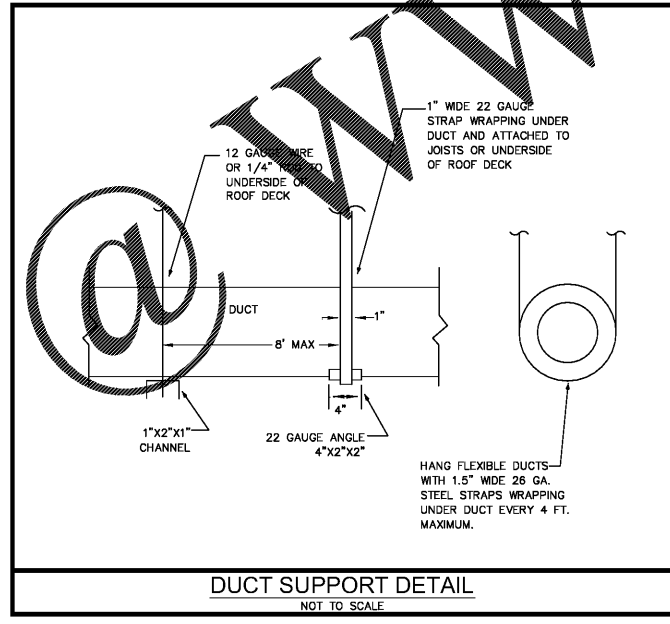
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE INTERNATIONAL BUILDING CODE 2012 AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS: SMACNA-55, 92, 95; ASHRAE 15-01, 34-01, 62.1; NFPA 70-02, 72-02, 90A-02, 90B-02, 91-99, 96-01; ANSI Z10.1-95, Z10.3-95, Z21.1-94, Z21.53-95.
- THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
- THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
- THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS-BUILT" DRAWINGS.
- CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
- ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED.
- DUCTWORK:
 - ALL DUCTWORK SHALL BE GALVANIZED SHEETMETAL WITH SEALED SEAMS AND JOINTS WITH EXTERNAL BLANKET INSULATION R-6 MIN. THE CONTRACTOR SHALL PROVIDE ALL SHEETMETAL DUCTWORK, HANGERS, AUX. SUPPORT STEEL, ETC., ALL FLEX DUCT SHALL BE RATED CLASS I, UL-151 LISTED WITH METALLIZED INNER AND OUTER FOIL LINERS, MIN. R-6 WITH A MAX. TOTAL LENGTH NOT TO EXCEED 15 FT. INSTALL UL LISTED FOR PLENUM, FLEXIBLE DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXFLOW ELBOW" AS MANUFACTURED BY "THERMAFLEX". ALL METAL DUCTS SHALL BE FABRICATED IN ACCORDANCE WITH LATEST EDITION OF S.M.A.C.N.A.
 - ALL EXPOSED SUPPLY AIR DUCT SHALL BE PAINT GRIP SPIRAL ROUND DUCTWORK WITHOUT INSULATION. THE CONTRACTOR SHALL PROVIDE ALL SHEETMETAL DUCTWORK, HANGERS, AUX. SUPPORT STEEL, ETC.
- ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR DUCT SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATION R-6 MIN. ALL METAL EXHAUST, MAKE-UP OR OTHERWISE DUCTS INSTALLED IN LOCATIONS WHERE DEWPOINT CONDITIONS CAN OCCUR INSIDE THE DUCT SHALL BE EXTERNALLY INSULATED WITH R-6 MIN.
- OUTSIDE AIR INTAKES SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL NOT LARGER THAN 1/2" MESH. O/A INTAKES SHALL NOT BE TAKEN FROM A LOCATION CLOSER THAN 10 FT. FROM ANY CHIMNEY, VENT OUTLET OR SANITARY SEWER VENT OUTLET, UNLESS SUCH VENT IS NOT LESS THAN 24 INCHES ABOVE THE OUTSIDE AIR VENT. OUTSIDE AIR INTAKE VENTS LOCATED ON ROOFS WILL BE PROPERLY MARKED WITH A UNIVERSAL MARKING "INTAKE", PERMANENTLY ATTACHED PER IMC 2012, SEC. 401.5
- DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
- ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE AS SPECIFIED OR EQUAL TO TITUS. PROVIDE BALANCING DAMPERS FOR ALL AIR DEVICES TO ENSURE COMPLIANCE WITH IMC 2012, PAR. 603.18 FOR BALANCED AIR FLOW.
- CONTROLS:
 - FOR NEW UNITS: SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE AS RECOMMENDED BY MANUFACTURER HONEYWELL OR EQUAL. PROVIDE TAMPER PROOF COVERS.
 - REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER BRAZING-JOINT TYPE FITTINGS. USE BRAZING MATERIALS FOR HIGH PRESSURE PIPING PER AWS A5.8-80UP SERIES COPPER-PHOSPHORUS ALLOY OR BAQ SILVER ALLOY. REFRIGERANT LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. SOFT COPPER TYPE "M" SHALL BE ALLOWED FOR RISER PIPING INSIDE CHASE TO LIMIT NUMBER OF JOINTS. COORDINATE WITH ENGINEER FOR PRIOR APPROVAL. ALL EXPOSED INSULATION SHALL BE PROTECTED WITH UV RESISTANT PAINT OR ALUMIN. SHIELD.
 - ARMAFLEX INSULATION SHALL BE USED FOR SUCTION LINES (1/2" FOR ABOVE 40° F AND 1" FOR BELOW 40° F) PER IECC 2009 TABLE C403.2.8 FOR PIPING INSULATION. FILTER/DRYER AND SIGHT GLASS SHALL PROVIDED AT LIQUID LINES.
 - ALL BRANCH TAKE-OFFS TO BE PROVIDED W/ MANUAL VOLUME DAMPERS. PROVIDE RADIUS ELBOWS WHERE FEASIBLE. SQUARE ELBOWS AND TEE'S SHALL BE FURNISHED W/SINGLE FOIL TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS. PROVIDE REMOTE, CABLE OPERATED VOLUME DAMPERS IN INACCESSIBLE AND HARD CEILING AREAS, "YOUNG REGULATOR" OR EQUAL.
- PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE START-UP, REPLACE PRIOR TO FINAL ACCEPTANCE BY OWNER.
- PROVIDE SMOKE DETECTORS WITH SERVICE ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. FOR SMOKE DETECTORS NOT VISIBLE, IN CONCEALED SPACES, PROVIDE REMOTE ANNUNCIATION/TEST STATION AS REQUIRED BY AUTHORITY HAVING JURISDICTION, COORDINATE PRIOR TO INSTALLATION. DETECTORS SHALL BE BY ONE MANUFACTURER. COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
- PROVIDE TYPE "B" DYNAMIC FIRE DAMPERS WITH SERVICE ACCESS DOORS IN ALL DUCTS AND OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT OUTSIDE AIR INTAKES AS REQUIRED BY AUTHORITY HAVING JURISDICTION. COORDINATE PRIOR TO INSTALLATION. DETECTORS SHALL BE BY ONE MANUFACTURER. COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
- HVAC CONTRACTOR SHALL PROVIDE A T & B REPORT PER IECC 2009 (THE T & B REPORT SHALL BE INDEPENDENT FOR SYSTEMS OVER 15 TONS) FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE TEST AND BALANCE REPORT SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLES, RETURN GRILLES AND EXHAUST GRILLES AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLES AND EVAPORATORS.
- THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION. INSTALL THERMOSTAT 48" TO 54" A.F.F. PER A.D.A REQUIREMENTS WHERE APPLICABLE. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITIES AND SCOPE OF WORK FOR EACH TIRADE PRIOR TO ANY PURCHASING OR INSTALLATION.
- RUN INSULATED FIRE RATED CONDENSATE DRAINS AS REQUIRED.
- ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- MECHANICAL EQUIPMENT ON ROOF OR ELEVATED STRUCTURES SHALL COMPLY WITH IMC 2012 PAR. 603.3 IF INSTALLED HIGHER THAN 16 FEET A.F.F. MECHANICAL EQUIPMENT INSTALLED IN ATTICS SHALL MEET THE REQUIREMENTS OF IMC 2012 PAR. 306.3 IF THE EQUIPMENT CANNOT BE SEALED/REMOVED THROUGH REQUIRED OPENING. MECHANICAL EQUIPMENT SHALL BE PROTECTED WITH MECHANICAL BARRIERS IF EXPOSED TO MECHANICAL DAMAGE. ALL EQUIPMENT SHALL BE INSTALLED ON CONCRETE PAD AT GRADE LEVEL.
- PROVIDE A MIN. OF 36" CLEARANCE IN FRONT OF ALL 120-208 VOLT PANELS AND A MIN. 42" CLEARANCE IN FRONT OF ANY 240-480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC.
- MECHANICAL PLANS IN GENERAL ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE REVIEWED IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER AND STRUCTURAL PLANS. ALL SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING FITTINGS, BEANS AND TRAFFICERS SHALL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES TO DUCTWORK AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING OR SPRINKLER AREA ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIPMENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT.
- MANUFACTURER'S WARRANTY: CONTRACTOR SHALL PROVIDE WARRANTY FOR A PERIOD OF (1) ONE YEAR AFTER BUILDING C.O. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS (1) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN ALL BE DONE DURING NON-OCCUPANCY PERIODS OR AS AGREED WITH OWNER.
- THIS IS A REMODEL OF AN EXISTING SPACE. CONTRACTOR TO VISIT SITE PRIOR TO BID. CONTRACTOR SHALL INSPECT ALL EXISTING AND NEW COMPONENTS OF THE MECHANICAL SYSTEMS AND ENSURE THAT ALL ARE OPERATIONAL AND WORKING AS SHOWN ON THE APPROVED CD PLANS AT THE TIME OF C.O.



- FLEXIBLE DUCT NOTES:**
- FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
 - EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL. INSULATION AND SEAL WITH MASTIC.
 - MINIMUM 1" WIDE 22 GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA, FIGURE 3-10
 - FLEXIBLE AIR DUCT SHALL BE FULLY EXTENDED AND NOT COMPRESSED WITH ELBOW RADIUS NOT LESS THAN R/D = 1.0
 - PROVIDE NON METALLIC, INSULATED FLEXIBLE DUCT.

FLEXIBLE DUCT CONNECTION DETAIL (LAY-IN CEILING)
NOT TO SCALE

- EXISTING MECHANICAL EQUIPMENT NOTES**
- HVAC CONTRACTOR TO VERIFY OPERATION OF EXISTING AC UNIT(S). CONTRACTOR TO CLEAN EVAPORATOR AND CONDENSER COIL. CHECK CONDENSATE DRAIN PAN AND CONDENSATE DRAIN LINE. SUPPLY TO OWNER ENGINEER A WRITTEN REPORT ON THE OPERATING CONDITION OF THE UNIT(S). REPORT INCLUDE:
- SUCTION & DISCHARGE REFRIGERANT PRESSURE.
 - CONDENSER TEMPERATURE, EVAPORATOR TEMPERATURE, & SUPERHEAT.
 - ENTERING AIR TEMPERATURE, DISCHARGE AIR TEMPERATURE, AMBIENT AIR TEMPERATURE, & TOTAL CFM.
 - SUPPLY VOLTAGE.
 - COMPRESSOR: FULL LOAD AMPS; VERIFY 1# OR 2#.
 - CONDENSER FAN MOTOR: FULL LOAD AMPS; VERIFY 1# OR 2#.
 - EVAPORATOR FAN MOTOR: FULL LOAD AMPS; VERIFY 1# OR 2#.
 - CHECK ELECTRICAL CONNECTIONS ON ALL CONTROLS AND OTHER ELECTRICAL COMPONENTS.
 - VERIFY DISCONNECT AND FUSE SIZE.
 - CONTRACTOR TO RESEAL ALL DUCTWORK AND REPAIR LEAKING DUCT PER SMACNA STANDARDS.
 - CHECK REFRIGERANT LINE INSULATION AND REPLACE AS REQUIRED.
 - IF UNIT IS LOW ON REFRIGERANT, CONTRACTOR SHALL LEAK TEST, RECHARGE AND UNIT(S).
 - REPORT ANY PHYSICAL DAMAGE TO UNIT(S) AND REPAIRS REQUIRED.
 - PROVIDE NEW FILTERS FOR ALL HVAC UNITS.
 - CONTRACTOR TO CLEAN EXISTING FILTERS, GRILLES, & REGISTERS AND BRING THEM TO "AS NEW" CONDITION.



MECHANICAL SHEET INDEX

SHEET#	DESCRIPTION
MO.1	MECHANICAL NOTES
M2.1	MECHANICAL PLAN
M6.1	MECHANICAL SCHEDULES

MECHANICAL LEGEND

R	REFRIGERANT PIPING
○	DROPPING OR BRIDGE PIPE
○	PIPE TO OR FROM ABOVE
⊗	ISOLATING COUPLER OR BALL VALVE
---	NEW SCOPE WORK
---	EXISTING
24x12	RECTANGULAR DUCTWORK, FIRST DIMENSION IS SIDE DRAWN
○	ROUND DUCTWORK OR FLUE PIPING
○	NEW FLEXIBLE ROUND DUCT
---	ADJUSTABLE DEFLECTOR VANES AT BRANCH DUCT
---	SQUARE DUCT ELBOW WITH TURNING VANES
FD	FIRE DAMPER IN DUCT THROUGH WALL
⊗	AUTOMATIC (MOTORIZED) CONTROL DAMPER
⊗	MANUAL VOLUME DAMPER
⊗	SPIN-IN TAP
⊗	WALL MOUNTED THERMOSTAT WITH TEMPERATURE SENSOR
⊗	WALL MOUNTED THERMOSTAT WITH REMOTE TEMPERATURE SENSOR
⊗	REMOTE TEMPERATURE SENSOR
⊗	CARBON MONOXIDE (CO) SENSOR
⊗	NITROGEN DIOXIDE (NO2) SENSOR
⊗	CARBON MONOXIDE CONTROL PANEL
U.C.	UNDERCUT DOOR 3/4"

MECHANICAL ABBREVIATION LEGEND

AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
CFM	CUBIC FEET PER MINUTE	MBH	THOUSAND BTU PER HOUR
DIA	DIAMETER	MIN	MINIMUM
DX	DIRECT EXPANSION	N	NEW
E/A	EXHAUST AIR	O/A	OUTDOOR AIR
ESP	EXTERNAL STATIC PRESSURE	PD	PRESSURE DROP
ETR	EXISTING TO REMAIN	PSIG	POUNDS PER SQUARE INCH GAUGE
FT	FEET	RE	RELOCATE EXISTING
FLA	FULL LOAD AMPERAGE	RPM	REVOLUTIONS PER MINUTE
H	HEIGHT	SEER	SEASONAL ENERGY EFFICIENCY RATING
HP	HORSE POWER	TEMP	TEMPERATURE
IN	INCHES	TYP	TYPICAL
IN. WG	INCHES WATER GAUGE	V	VOLTS
kw	KILOWATTS	W	WIDTH

GENERAL DEMOLITION NOTES

- ALL EXISTING EQUIPMENT, DUCTWORK, CONDUIT, CABLE, PIPING, HANGERS, SUPPORT AND CONTROLS THAT ARE NOT BEING REUSED TO BE REMOVED IN THEIR ENTIRETY.
- THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL PARTS OF THE BUILDING, ITS CONTENTS AND OCCUPANTS WHEREVER WORK UNDER THIS CONTRACT IS PERFORMED.
- DEMOLITION SHALL INCLUDE REMOVAL OF EXISTING BUILDING CONSTRUCTION TO EXTENT REQUIRED TO PERFORM CONSTRUCTION ACTIVITIES INDICATED.
- THE DEMOLITION PROCEDURES SHALL PROVIDE FOR SAFE CONDUCT OF THE WORK, PROTECTION OF PERSONNEL, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS SPECIFIED TO BE SALVAGED, PROTECTION OF PROPERTY TO REMAIN UNDISTURBED, COORDINATION WITH OTHER WORK IN PROGRESS, AND TIMELY DISCONNECTION OF UTILITY SERVICES.
- EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WORK DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO MATCH EXISTING WORK OR WORK INSTALLED UNDER THIS CONTRACT DEPENDING ON CONTRACT REQUIREMENTS.
- EXISTING WORK SHALL BE CUT, DRILLED, ALTERED, REMOVED OR TEMPORARILY REMOVED AND REPLACED FOR PERFORMANCE OF WORK UNDER THE CONTRACT. WORK DEFACED DURING THIS CONTRACT SHALL BE RESTORED TO THE CONDITION AT TIME OF AWARD OF CONTRACT. CUT, ALTER, REMOVE OR TEMPORARILY REMOVE AND REPLACE EXISTING WORK FOR THE INSTALLATION OF MECHANICAL, PLUMBING AND ELECTRICAL WORK AND OTHER CONSTRUCTION.
- PROPERLY REMOVE AND DISPOSE OF ALL EXISTING FIXTURES AS REQUIRED TO ACCOMMODATE NEW PLAN. REFER TO THE ARCHITECTURAL DEMOLITION PLANS. CONSULT WITH THE OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
- FOR ALL ADDITIONAL INFORMATION REGARDING CONTRACTUAL RESPONSIBILITIES, COORDINATE WITH ARCHITECTURAL PLANS.

Order Plans

PROMUS
SCOTT MERIWETHER, P.E.
GEORGIA LICENSE #30780
518 BLACK CANYON PARK
CANTON, GA 30114
PROJECT MANAGER: SCOTT MERIWETHER
PHONE 678.246.5166

Impact
DESIGN-BUILD
Contractors
PH&A
Patrick Higgins & Assoc
ARCHITECTS
9195 Duron Circle
Gainesville, Georgia 30506
(770)641-7583
Project No: _____

Project Title:
ADDITION TO CANVAS CHURCH
3560 BROWN'S BRIDGE ROAD
CUMMING, GA 30028

Drawing Title:
MECHANICAL NOTES

Seal:



Not Released for Construction Date: 03APR17

Revisions	DESCRIPTION

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