

GENERAL PLUMBING NOTES

- INCLUDE PIPING AND FITTING MATERIALS IN COMPLIANCE WITH SPECIFICATION STANDARDS OF THE RECOGNIZED AUTHORITIES LISTED BELOW, LATEST EDITION IN FORCE AT THE TIME OF BIDDING.
- ALL MATERIALS LISTED BELOW ARE SUBJECT TO APPROVAL OF LOCAL GOVERNING AUTHORITIES.
- WHERE PLUMBING SYSTEMS CONNECT TO EQUIPMENT PROVIDED OR INSTALLED UNDER THE HVAC WORK, TERMINATE SUCH SYSTEMS WITHIN FIVE FEET OF THE EQUIPMENT WITH A SHUTOFF VALVE AS SPECIFIED IN THE VALVE SECTION. FINAL CONNECTION IS SPECIFIED UNDER THE HVAC SECTION.
- PIPING AND FITTING MATERIAL SCHEDULE: CONSTRUCT PIPING SYSTEMS OF THE FOLLOWING MATERIAL, AS APPLICABLE:
 - RELIEF VALVE DISCHARGE PIPING: ASTM B-88, TYPE L HARD DRAWN COPPER TUBING W/95-5 TIN ANTIMONY LEAD FREE SOLDER JOINTS.
 - SOIL, WASTE, VENT & STORM DRAINAGE PIPING, UNDERGROUND: CISPI STD. 310 SERVICE WEIGHT CAST IRON BELL & SPIGOT OR ASTM D-2665 SCHEDULE 40 PVC WHERE ACCEPTABLE BY CODES.
 - SOIL, WASTE, VENT & STORM DRAINAGE PIPING, ABOVE GROUND: CISPI STD. 310 SERVICE WEIGHT CAST IRON BELL & SPIGOT; SERVICE WEIGHT CAST IRON, NO-HUB COPPER DRAINAGE TUBE, TYPE DWV, SCHEDULE 40 GALVANIZED STEEL PIPE, SCREWED ENDS; OR ASTM D-2665 SCHEDULE 40 PVC - DWV PIPE.
 - WATER MAIN PIPING (PIPING FROM WATER MAIN TO METER AND FROM METER INTO THE BUILDING): CLASS 52 DUCTILE IRON PIPE COMPLYING WITH REQUIREMENTS OF THE LOCAL WATER COMPANY. PROVIDE POLYETHYLENE WRAP ON DUCTILE IRON UNDERGROUND PIPING. UNDERGROUND PIPING MAY ALSO BE ASTM B-88, TYPE K-COPPER, HARD DRAWN, WITHOUT WRAP. INSTALL BACK FLOW PREVENTORS ON ALL INCOMING WATER SUPPLY LINES AS REQUIRED BY LOUISIANA PLUMBING CODE.
 - COLD WATER PIPING (UNDERGROUND, 2 1/2 INCHES AND SMALLER): ASTM B-88, TYPE K SOFT DRAWN COPPER TUBING WITH 95-5 TIN ANTIMONY OR 96-4 TIN SILVER SOLDER, EACH LEAD FREE.
 - INTERIOR BUILDING OR ABOVE GROUND DOMESTIC WATER SYSTEMS, 4 INCHES AND SMALLER (COLD, HOT & HOT WATER CIRCULATING SYSTEMS): ASTM B-88, TYPE L HARD DRAWN COPPER TUBING WITH 95-5 TIN ANTIMONY LEAD FREE SOLDER JOINTS. INSULATE ALL HOT AND COLD WATER LINES.
 - EXPOSED FINAL CONNECTIONS TO FIXTURES: CHROMIUM PLATED BRASS.
 - NATURAL GAS PIPING (INSIDE BUILDING): ASTM A-120, SCHEDULE 40, BLACK STEEL PIPE, THREADED ENDS.
 - NATURAL GAS PIPING (INSIDE BUILDING): ASTM A-120, SCHEDULE 40, BLACK STEEL PIPE WITH THREADED ENDS AND MALLEABLE IRON THREADED FITTINGS.
 - COOLING COIL CONDENSATE PIPING: ASTM B-88 TYPE L HARD DRAWN COPPER TUBING WITH BRAZED JOINTS OR ASTM D-2665 SCHEDULE 40 PVC-PVC NOT PERMITTED IN AIR PLenums.
 - REFRIGERANT PIPING: ASTM B-88 TYPE L HARD DRAWN COPPER TUBING WITH BRAZED JOINTS. INSULATE ALL REFRIGERANT LINES.
 - INSTALL SHOCK ABSORBERS ON ALL HOT AND COLD WATER LINES AT ALL FAUCET LOCATIONS.
 - PROVIDE VACUUM BREAKERS ON COLD WATER INLETS TO ALL WATER HEATERS.
 - TEST ALL DRAIN AND VENT SYSTEMS FOR 30 MINUTES WITH VERTICAL STACK 10'-0" ABOVE HIGHEST HORIZONTAL LINE.
- PIPE HANGERS AND SUPPORTS
 - HANGER DESIGN: COMPLY WITH ANSI CODE B 31.1.0 FOR PRESSURE PIPING AND THE MANUFACTURERS' STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY, (MSS) SP-58 AND SP-69, UNLESS SUPPLEMENTED OR MODIFIED HEREIN.
 - PLASTIC-COATED HANGERS AND CLAMPS: PROVIDE FOR UN-INSULATED BRASS OR COPPER PIPE, UNLESS SHIELDS ARE PROVIDED BETWEEN HANGERS OR CLAMPS AND UN-INSULATED BRASS OR COPPER PIPE.
- SANITARY PIPING:
 - BELOW GROUND AND SLABS SANITARY PIPING: LAY HORIZONTAL PIPE AT NO LESS THAN 1/4" SLOP PER FOOT AND INSTALL OPEN END OF HUB FACING AGAINST THE DIRECTION OF FLOW. MAKE CHANGES IN PIPE SIZE WITH REDUCING FITTINGS AND CHANGES IN DIRECTION WITH STANDARD FITTINGS. BEGIN THIS WORK WITH CONNECTION TO EXTERIOR BUILDING/HOUSE SEWER. LINES ABOVE 2" DIAMETER MAY SLOPE 1/8" PER FOOT WHERE ALLOWED BY THE LOUISIANA PLUMBING CODE.
 - ABOVE GROUND AND FLOOR SLABS: SLOPE HORIZONTAL PIPE IN COMPLIANCE WITH GOVERNING CODES. PROVIDE SLEEVES AT FLOOR PENETRATIONS AND ESCUTCHEONS AT WALL AND CEILING PENETRATIONS.
- CLEANOUTS: INSTALL AT EACH STACK BASE AND AT HORIZONTAL TURNS GREATER THAN 45 DEGREES. EXTEND CLEANOUTS TO FINISHED SURFACES AND PROVIDE INDICATED COVERS. EXTERIOR CLEANOUTS TO BE EQUAL TO ZURN NO. Z1420-29 WITH 18"x 18" CONCRETE PAD.
- UPON COMPLETION OF NEW WATER SUPPLY LINES INSTALLATION, CONTRACTOR AND LOCAL HEALTH CODE REQUIREMENTS.

GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE AND CITY REGULATIONS AND ORDINANCES.
- ALL MATERIALS SHALL BE NEW AND U.L. APPROVED.
- CONTRACTOR SHALL APPLY FOR ALL PERMITS AND PAY ALL INSPECTION FEES. NO WORK SHALL BE CONCEALED UNTIL APPROVED BY LOCAL INSPECTOR UPON COMPLETION
- ALL CUTTING SHALL BE DONE BY THIS CONTRACTOR. NO CUTTING OF STRUCTURAL MEMBERS SHALL BE DONE WITHOUT PERMISSION OF THE ARCHITECT. ANY DAMAGE TO FINISHED SURFACES TO BE REPAIRED BY THIS CONTRACTOR AT HIS OWN EXPENSE.
- ALL SERVICES IN EXISTING BUILDING ARE TO BE KEPT IN OPERATION AT ALL TIMES, EXCEPT WHEN SPECIFIC PERMISSION IS GIVEN TO DO OTHERWISE. BEFORE ANY SERVICES ARE INTERRUPTED, ARRANGEMENTS SHALL BE MADE WITH THE OWNER TO DO THIS WORK AT A TIME MOST CONVENIENT TO THE OCCUPANTS.
- THE BIDDER SHALL VISIT THE SITE OF PROPOSED WORK SO THAT HE MAY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS INVOLVED IN THE EXECUTION OF THE CONTRACT. HE WILL BE ALLOWED NO ADDITIONAL COMPENSATION FOR FAILURE TO BE SO INFORMED.
- ALL NEW WORK CONNECTING TO THE EXISTING FIRE ALARM SYSTEM SHALL BE DONE AS WORK OF THIS CONTRACT IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 72.
- COORDINATE WORK WITH OWNER'S REPRESENTATIVE FOR OWNER FURNISHED AND/OR OWNER INSTALLED EQUIPMENT.
- ALL EXISTING RACEWAYS, JUNCTION BOXES, ETC., OR OTHER ELECTRICAL EQUIPMENT NOT TO BE REUSED SHALL BE REMOVED FOR THE SITE BY THE CONTRACTOR.
- ALL ELECTRICAL EQUIPMENT REMOVED AND NOT TO BE REUSED SHALL BE STORED IN ONE LOCATION ON THE SITE. ANY EQUIPMENT AND MATERIAL WHICH THE OWNER DOES NOT WISH TO RETAIN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY HIM.
- CONTRACTOR SHALL VERIFY WITH THE OWNER, PRIOR TO ROUGH-IN, THE EXACT LOCATION OF ALL WALL SWITCHES, NEW RECEPTACLES, TELEPHONE AND DATA, ETC. WHERE NEW OUTLETS ARE TO BE INSTALLED IN EXISTING WALLS, CONTRACTOR SHALL CHASE EXISTING WALLS AS REQUIRED. PATCH AND REFINISH EXISTING WALLS.
- ALL CONDUCTORS SHALL BE TYPE #3 AWG OR LARGER AND SHALL BE COPPER WITH TYPE THWN/THHN INSULATION AND SHALL BE CONTAINED IN MINIMUM 1/2" SIZE ELECTRIC METALLIC TUBING EXCEPT THAT, WHERE PERMITTED BY THE NATIONAL ELECTRICAL CODE AND THE LOCAL BUILDING CODE, TYPE MC METALCLAD CABLE MAY BE USED FOR 120-VOLT BRANCH CIRCUITS CONCEALED IN THE STUD PARTITIONS AND FURRED CEILING. CONDUCTORS INCLUDING METALLIC-SHEATHED CABLES SHALL BE COPPER #2 AWG OR LARGER AS REQUIRED BY THE LOAD OR AS NOTED. ALL WIRE SIZE SHALL BE SIZED ACCORDING THE NATIONAL ELECTRIC CODE. SIZE OF TUBING SHALL BE AS REQUIRED BY NUMBER OF CONDUCTORS.
- UP TO FIVE CONDUCTORS (#12/3) AND ONE DEVICE WILL BE PERMITTED IN A STANDARD 3" H X 2" W 2-3/4" D SWITCH BOX. WHERE MORE CONDUCTORS ARE SHOWN AND FOR POWER AND TELEPHONE OUTLETS, USE A 4" SQUARE X 1-1/2" DEEP, OR LARGER WITH RAISED DEVICE COVER. ALL CEILING BOXES TO BE 4-1/16" SQUARE X 1-1/2" DEEP OR LARGER.
- PROVIDE BONDING AROUND CONCENTRIC AND ECCENTRIC KNOCKOUTS ON EQUIPMENT.
- THE INSTALLATION OF ALL NEW FIRE ALARM DEVICES SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A QUALIFIED (N.I.C.E.T.) FIRE ALARM TECHNICIAN. AFTER ALL WIRING AND CONSTRUCTION IS COMPLETED, SYSTEM SHALL BE CERTIFIED BY THE EQUIPMENT SUPPLIER OR LOCAL FACTORY AUTHORIZED EQUIPMENT REPRESENTATIVE IN WRITING AS BEING COMPLETE AND PROPERLY OPERATING. THE CERTIFICATION LETTER SHALL INDICATE THAT EACH DEVICE HAS BEEN INDIVIDUALLY TESTED. CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO THE START OF THE WORK.
- THE CONTRACTOR SHALL COORDINATE THE ROUTING OF THE RACEWAYS AND THE LOCATION OF THE JUNCTION BOXES WITH THE DUCTWORK AND SPRINKLER PIPING, EXISTING STRUCTURE, ETC.
- CIRCUIT CONTINUITY FOR EXISTING BRANCH CIRCUITS WHICH ARE INTERRUPTED BY THE NEW WORK SHALL BE MAINTAINED. CONTRACTOR SHALL PROVIDE ALL WIRING, RACEWAYS, JUNCTION BOXES ETC., AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY.
- CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT THAT MIGHT BE DAMAGED DURING CONSTRUCTION.
- RECESSED MEMBERS BY APPROVED FIXTURE SUPPORT CLIPS (4 REQUIRED PER FIXTURE) PROVIDED BY THE CONTRACTOR FOR THE NEW LIGHTING FIXTURES. THE CEILING SHALL BE SUPPORTED AT EACH CORNER OF EACH OF THE RECESSED MOUNTED LIGHTING FIXTURES.
- PROVIDE A MINIMUM OF ONE OUTLET BOX FOR EVERY TWO RECESSED FLUORESCENT FIXTURE. PROVIDE A 6-FOOT LONG FLEXIBLE METAL CONDUIT (# 12 AWG TYPE THIN CONDUCTORS) FOR CONNECTION TO EACH RECESSED FLUORESCENT FIXTURE.
- UNLESS OTHERWISE INDICATED, NEW FLUORESCENT LAMPS SHALL BE T-8 COOL WHITE RAPID STAR, MANUFACTURED BY G.E., PHILIPS, WESTINGHOUSE, OR SYLVANIA.
- WHERE RACEWAYS PENETRATE FIRE RATED OR SMOKE PARTITIONS, FIRE CAULK WITH U.L. RATED SEALANT.
- EACH BRANCH CIRCUIT FOR CONVENIENCE RECEPTACLES AND/OR RECEPTACLES FOR DATA EQUIPMENT SHALL HAVE A PHASE CONDUCTOR. A SEPARATE NEUTRAL CONDUCTOR SHALL BE INSTALLED FOR EACH PHASE CONDUCTOR.
- TELEPHONE AND/OR DATA CABLES SHALL BE FURNISHED AND INSTALLED BY OTHERS. PROVIDE JUNCTION BOXES, CONDUIT, AND PULL-STRINGS.
- MOUNTING HEIGHTS OF ELECTRICAL BOXES FROM FINISHED FLOOR LINES.
 - RECEPTACLES: 18" OR 6" ABOVE WORKING SURFACES SUCH AS CABINETS, COUNTERS, ETC.
 - SWITCHES: 48" ABOVE FLOORS OR AS NOTED.
 - CLOCK OUTLETS: 12" BELOW CEILING OR AS NOTED
 - THERMOSTATS: 48"
 - TELEPHONE OUTLETS: SAME AS RECEPTACLES.
 - WALL SOUNCES: 72" TO CENTER LINE OF JUNCTION BOX.
 - BRACKETS ABOVE LAVATORIES: 8" ABOVE MIRROR TO CENTERLINE OF OUTLET.
 - DATA LINE OUTLET: 18"
 - PANELBOARD: 6'-0" TO TOP
 - GROUND FAULT INTERRUPTER: 18" OR AS NOTED.
 - GFI AT EXTERIOR: 18"
 - DOOR BELL: (CHIME) 90"
 - DOOR BELL: (BUTTON) 48"
 - DISCONNECT SWITCH: 48"
 - FIRE ALARM STATION: 48"
 - HORN/STROBE DEVICE: 72"
- ALL FIRE/SMOKE ALARM SYSTEMS SHALL BE INSTALLED ACCORDING THE LATEST NFPA 72. COMPLY WITH STATE OF LOUISIANA FIRE MARSHAL REQUIREMENTS.
- ALL ELECTRICAL WORK SHALL COMPLY TO LATEST ACCEPTED EDITION ON THE NATIONAL ELECTRIC CODE AND NFPA.

GENERAL MECHANICAL NOTES

- ALL MECHANICAL WORK SHALL COMPLY WITH GOVERNING CODES, ORDINANCES, AND REGULATION OF GOVERNING BODIES HAVING JURISDICTION, WHERE LOCAL CODES ARE NOT APPLICABLE, THE WORK SHALL COMPLY WITH NATIONAL ELECTRIC CODE AND STANDARD MECHANICAL CODE.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS, AND CONNECTION FEES REQUIRED BY GOVERNING BODIES.
- LOCATIONS FOR EXISTING SEWER, WATER, AND STORM DRAINAGE SITE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY ROUGH-IN WORK. ALL ELEVATIONS AND LOCATIONS SHALL BE DETERMINED ON THE JOBSITE. ANY DISCREPANCY FOUND ON THE JOBSITE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO WORK BEING DONE.
- CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BIDS TO DETERMINE CONDITIONS UNDER WHICH WORK SHALL BE PERFORMED. DRAWINGS DO NOT ATTEMPT TO SHOW ALL EXISTING UNDERGROUND SITE UTILITIES. EXISTING EQUIPMENT AND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK.
- COORDINATE WITH NEW AND EXISTING CONDITIONS TO AVOID CONFLICTS. MAKE OFFSETS AND FIELD ADJUSTMENTS AS REQUIRED. COORDINATE WITH ALL OTHER TRADES TO MINIMIZE JOB INTERFERENCES.
- ALL WORK SHALL BE DONE AT THE CONVENIENCE OF THE OWNER. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE TIME FOR TIE-INS AND TO PROVIDE MINIMUM INTERRUPTION TO SERVICES.
- CONTRACTOR SHALL REPAIR ALL DAMAGES CREATED BY HIM AT NO EXTRA COST TO THE OWNER. REPAIRS SHALL MATCH EXISTING.
- VERIFY FINAL LOCATIONS OF ALL THERMOSTATS WITH THE OWNER.
- PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT FOR COMPLETE OPERATING SYSTEMS.
- ALL CUTTING AND PATCHING FOR THE WORK OF THIS DIVISION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL CONDITIONS.
- NO STRUCTURAL MEMBERS SHALL BE FIELD CUT OR PIERCED WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT OR ENGINEER.
- ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH BEST ENGINEERING PRACTICES, THE LATEST EDITION OF ALL APPLICABLE CODES AND PUBLICATIONS, AND THE STATE FIRE MARSHAL ACT.
- NO WORK SHALL BE CONCEALED UNTIL APPROVED BY THE LOCAL INSPECTORS. A CERTIFICATION OF APPROVAL SHALL BE FURNISHED THE ARCHITECT UPON COMPLETION AND ACCEPTANCE OF THE WORK.
- ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- ALL EQUIPMENT AND MATERIALS SHALL BE GUARANTEED FOR ONE YEAR.
- THE INSTALLATION OF NEW SYSTEMS OR EQUIPMENT SHALL NOT RENDER ANY EXISTING SYSTEM INOPERATIVE UNLESS THE ENTIRE SYSTEM IS REMOVED OR REPLACED.
- ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC.
- MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE LISTED TO ESTABLISH A STANDARD OF QUALITY. ALTERNATE PRODUCTS MAY BE USED IF SUBMITTED TO THE ARCHITECT AND FOUND ACCEPTABLE BY HIM. CONTRACTOR SHALL BE INCURRED BY THE USE OF SUBSTITUTE MATERIALS.
- HANGERS AND CLAMPS SHALL ADEQUATELY SUPPORT THE WEIGHT OF THE PIPE AND ITS CONTENTS AND SHALL BE UNDERWRITER'S LABORATORIES, INC. LISTED.
- DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL IN ACCORDANCE WITH SMACNA FOR A POSITIVE PRESSURE RATING OF 2 INCHES WATER GAUGE. ALL JOINTS AND SEAMS SHALL BE SEALED WITH HARDCAST. RIGID DUCTWORK INSULATION: FURNISH AND INSTALL 1-1/2" THICK, 1/2 LB. INSULATION WRAP ON ALL RIGID ROUND SUPPLY AIR DUCTS ABOVE FINISHED CEILING AND OUTSIDE AIR DUCTS. FURNISH AND INSTALL 3/4" THICK, 3 LB. INTERNAL LINER ON ALL RECTANGULAR SUPPLY AND RETURN DUCTS. HVAC PLAN SIZES INDICATE CLEAR INSIDE DIMENSION, SHEET METAL SIZES SHALL BE INCREASED ACCORDINGLY. MIN. "R" VALUE FOR ALL INSULATION = 5.0. USE THICKNESS TO ACHIEVE MIN. R-5.0.
- FLEXIBLE AIR DUCT SHALL BE RATED 4" STATIC WITH 1-1/2" THICK, 1/2 LB. EXTERNAL FIBERGLASS WRAP INSULATION VINYL VAPOR BARRIER AND TAPED JOINTS. INSTALL LENGTHS NOT TO EXCEED 5'-0" AND WITHOUT SHARP BENDS. MIN. "R" VALUE FOR INSULATION = 5.0
- THE FIRE PROTECTION SYSTEM SHALL BE FURNISHED WITH REQUIRED COMPONENTS TO PROVIDE A COMPLETE AND WORKING SYSTEM IN ACCORDANCE WITH NFPA 2A AND NFPA 13.
- HVAC SCOPE OF WORK: PROVIDE NEW DX SPLIT SYSTEMS AND/OR SINGLE PACKAGE UNITS AS INDICATED ON HVAC PLAN ALONG WITH ASSOCIATED DUCTWORK, AIR DEVICES, CONTROLS, ETC. FOR FULLY OPERATIONAL SYSTEM. ALL WORK SHALL COMPLY WITH LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE.
- ARROWS FROM DIFFUSERS AND REGISTERS INDICATE DIRECTION OF AIR FLOW.
- PROVIDE FLEXIBLE CONNECTIONS TO SUPPLY AND RETURN AIR DUCTWORK AT AIR HANDLING UNITS. LINING TO BE CONTINUOUS.
- PROVIDE TURNING VANES IN ALL ELBOWS.
- PROVIDE A FIRESTAT IN THE RETURN OF EACH HVAC UNIT LESS THAN 2,000 CFM TO SHUT DOWN UNIT.
- PROVIDE AUTOMATIC CONTROL (SMOKE DETECTOR) TO AUTOMATICALLY SHUT DOWN AIR SYSTEM IN HVAC UNITS EXCEEDING 2,000 CFM. UNIT SHALL SHUT DOWN WHEN HEAT WITHIN THE SYSTEM EXCEEDS 125 DEGREES F. THE AUTOMATIC SHUT-DOWN DEVICE SHALL BE LOCATED IN THE RETURN AIR STREAM PRIOR TO ANY EXHAUSTING OR MIXING WITH FRESH AIR MAKE UP. PROVIDE THERMOSTATS WITH MANUAL RESET FUNCTIONS. ALL WORK SHALL CONFORM TO NFPA 90A AND INTERNATIONAL MECHANICAL CODE REQUIREMENTS DETECTOR SHALL BE STATITROL NO. 501K2 OR APPROVED EQUAL.
- PROVIDE RUNNING TRAPS IN ALL AIR CONDITIONING CONDENSATE DRAINS.
- COORDINATE LOCATION OF ALL AIR OUTLETS WITH ELECTRICAL AND PLUMBING COORDINATE WITH ALL OTHER TRADES TO MINIMIZE JOB INTERFERENCES.
- HVAC ENCLOSURES SHALL HAVE DUCTED RETURNS, TYPICALLY.
- INSTALL GAS PIPING ACCORDANCE WITH NFPA 54.

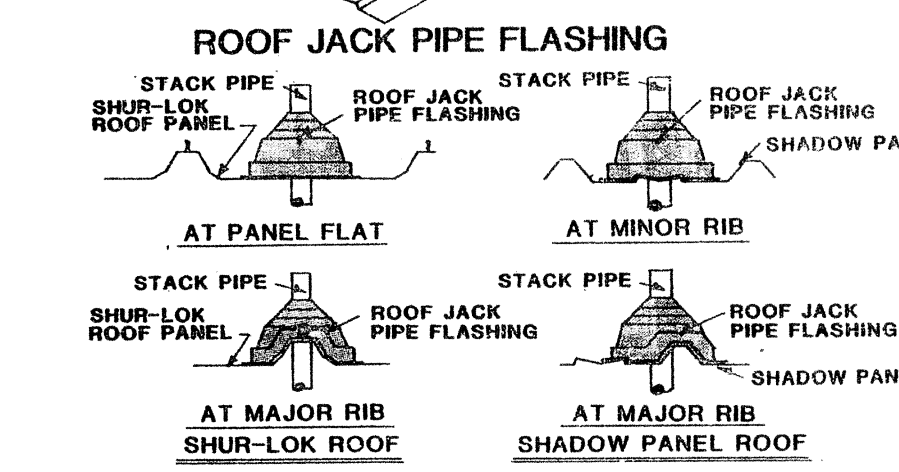
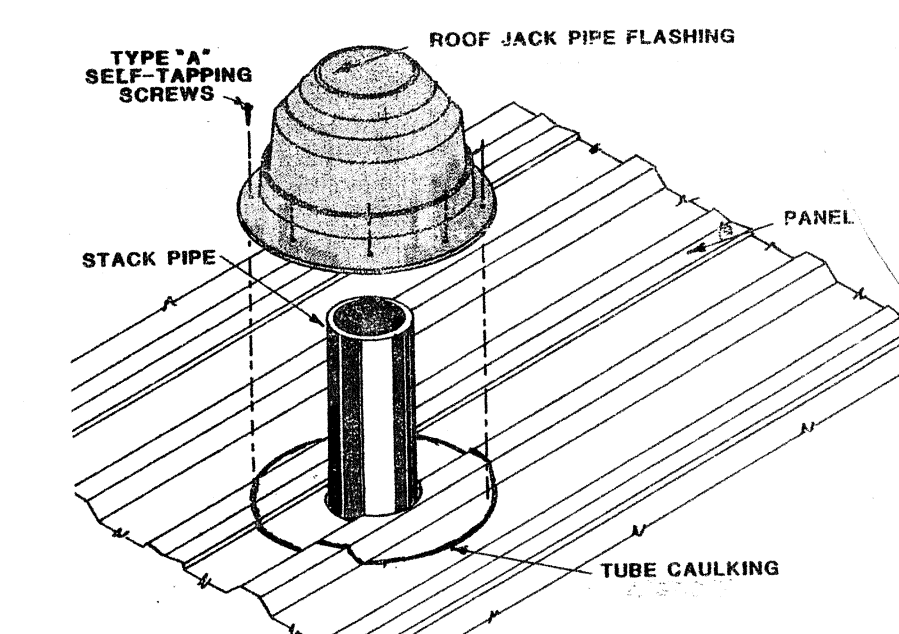
33. AIR CONTROL DEVICES:

- DOOR GRILLS - METAL AIRE MODEL 300 DG-DF OR EQUAL
- CEILING DIFFUSERS @ LAY - IN CEILINGS METAL AIRE MODEL 5000 M-2 WITH D-5 DAMPER OR EQUAL. FINISH SHALL BE OFF-WHITE.
- WALL RETURN AIR GRILLS - METAL AIRE TYPE RH OR APPROVED EQUAL.
- CEILING EXHAUST AND RETURN AIR GRILLES: METAL AIRE TYPE CC - 5 OR APPROVED EQUAL COLOR TO BE OFF - WHITE.
- OUTSIDE AIR WALL LOUVERS: RUSKIN MODEL ELF 211 OR APPROVED EQUAL COLOR TO BE SELECTED BY ARCHITECT.
- CEILING DIFFUSERS AT GYPSUM BOARD CEILINGS: METAL AIRE MODEL 90001-1 COLOR TO BE OFF WHITE

34. DAMPERS:

- CURTAIN TYPE FIRE DAMPER: EQUAL TO RUSKIN MODEL DIB020 STYLE "A", "R", OR "G" FOR LOW PRESSURE SYSTEMS, FOR MEDIUM AND HIGH PRESSURE SYSTEMS, DAMPERS SHALL BE DIB2D STYLE "C", "CR", OR "CO" AS REQUIRED INSTALL PER NFPA 90A.
- FRESH AIR INTAKES: RUSKIN MODEL DIB2D, TYPE "A" - INSTALL PER NFPA 90A
- FIRE DAMPERS DUCT MOUNTED: RUSKIN MODEL DIB2D0 STYLE "B" UL LISTED 212 FUSIBLE LINK.
- BALANCING DAMPER AT OUTSIDE AIR LOUVER: RUSKIN MODEL "MD35"
- BALANCING DAMPER AT DUCTWORK: RUSKIN MODEL "MD25" OR "MDR25"

- HVAC CONTRACTOR SHALL BALANCE ALL EQUIPMENT AND EQUIPMENT FANS TO DELIVER SPECIFIED AMOUNT OF AIR SHOWN ON HVAC DRAWINGS. A TEST AND BALANCE REPORT INDICATING FINAL AIR QUANTITIES FOR EACH UNIT SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BEFORE FINAL INSPECTION OF THE PROJECT. ALL TEMPERATURE AND ASSOCIATED CONTROL DEVICES SHALL BE ADJUSTED TO MEET THE ZONE REQUIREMENTS. COORDINATE THE COMPLETE INSTALLATION WITH OTHER TRADES AS REQUIRED.
- THERMOSTATS AND CONTROLS SHALL BE LOCATED AND SET BY THE HVAC CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH THE ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 60" AFF UNLESS NOTED OTHERWISE ON PLANS.
- ALL BRANCH DUCT TAKE-OFFS TO INDIVIDUAL DIFFUSERS, GRILLES, AND REGISTERS SHALL HAVE A SPIN-ON LOCKING QUADRANT DUCT CONNECTOR WITH BALANCING DAMPER.
- RESTROOM EXHAUST FAN WALL AND ROOF CAPS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND EQUIPMENT SPECIFICATIONS. INSTALL PENETRATIONS THROUGH WALLS AND ROOFS SHALL BE HELD A MINIMUM OF 10'-0" FROM EQUIPMENT FRESH AIR INLETS AND 2'-0" FROM ROOF PARAPETS
- FURNISH AND INSTALL GALVANIZED METAL BIRD /INSECT SCREENS ON ALL OPENINGS TO OUTDOORS.
- HVAC SUPPLIER SHALL FURNISH AND ADDITIONAL SET OF AIR FILTERS FOR REPLACEMENT BY THE HVAC CONTRACTOR IN ALL UNITS BEFORE BUILDING IS RELEASED TO THE OWNER.



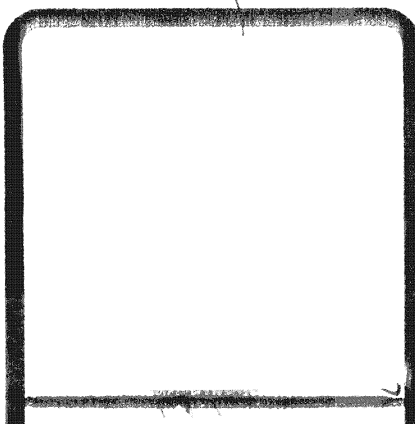
ERECTION PROCEDURE

- Field cut hole in roof panels.
- Field cut hole in top of roof jack.
- Stretch roof jack over pipe and slide down to roof panel (wet pipe if necessary).
- Bend roof jack base to fit panel and attach with Type A self-tappers.

TYPICAL ROOF FLASHING BOOT

MECHANICAL AND ELECTRICAL NOTES

| REVISIONS | BY |
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TYPICAL NOTES

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| DRAWN <i>SCHNEIDER</i> |
| CHECKED <i>PERNER</i> |
| DATE |
| SCALE <i>AS NOTED</i> |
| JOB NO. |
| SHEET |
| ME-1 |
| OF 3 SHEETS |