

MECHANICAL SPECIFICATIONS

EXISTING CONDITIONS

ALL MECHANICAL CONTRACTORS SHALL VISIT THE JOB SITE AND SHALL EXAMINE AND VERIFY CONDITIONS UNDER WHICH THEIR WORK MUST BE CONDUCTED BEFORE SUBMITTING PROPOSALS...

HVAC SYSTEM NOTES:

HVAC CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING HVAC EQUIPMENT.

THE HVAC CONTRACTOR SHALL FIELD VERIFY TYPE (S) OF EXISTING CEILING DIFFUSERS, SUPPLY REGISTERS, RETURN REGISTERS, DUCTWORK, AIR CONDITIONING UNITS, PIPING AND CONTROLS.

PLUMBING SYSTEM NOTES:

THE PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF HOT AND COLD WATER, VENT PIPING SYSTEM, STORM AND SANITARY SYSTEM AND CONNECTION POINT(S) BEFORE STARTING ANY WORK.

FIRE PROTECTION SYSTEM NOTES:

THE FIRE PROTECTION CONTRACTOR SHALL MODIFY/EXTEND EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE NEW SPRINKLER HEADS. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING FIRE PROTECTION LINES.

THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS.

GENERAL

PROVIDE MATERIALS AND EQUIPMENT AND EXECUTE THE WORK, INCLUDING TESTS AND INSPECTIONS, IN COMPLIANCE WITH THE APPLICABLE PROVISIONS OF FEDERAL, STATE, AND LOCAL GOVERNMENT LAWS, ORDINANCES, REFERENCED CODES, AND STANDARDS CURRENT AS OF THE ISSUE DATE OF THESE DRAWINGS...

THE MECHANICAL CONTRACTOR SHALL PAY ALL FEES AND PRESENT CERTIFICATES TO THE OWNER THAT ALL APPLICABLE BUILDING PERMITS HAVE BEEN SECURED BEFORE STARTING ANY WORK.

INTERFERENCE: COORDINATE EXACT LOCATION OF CONSTRUCTION TO PRECLUDE ANY INTERFERENCE'S BETWEEN PIPING, WIRING, LIGHTING FIXTURES, DUCTING, BUILDING EQUIPMENT, PROCESS EQUIPMENT AND OTHER CONSTRUCTION.

PROVIDE LABOR, INCLUDING FIELD ERECTION AND SUPERVISION, MATERIALS, EQUIPMENT, ACCESSORIES AND COORDINATE, PROCURE, FABRICATE, DELIVER, ERECT, OR INSTALL, INTERFACE WITH EXISTING WORK.

ALL CUTTING AND PATCHING THAT MAY BE NECESSARY FOR THE INSTALLATION OF THE HVAC, PLUMBING, AND/OR PIPING SYSTEMS SHALL BE DONE AND REPAIRED BY THE RESPECTIVE CONTRACTORS.

ALL MECHANICAL CONTRACTORS SHALL VISIT THE JOB SITE BEFORE SUBMITTAL OF BIDS TO FAMILIARIZE THEMSELVES WITH THE ACTUAL JOB CONDITIONS AND TO CHECK FOR ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF OTHER TRADES AND/OR ANY APPARENT VIOLATIONS OF LOCAL AND STATE CODES, LAWS, ORDINANCES, AND REGULATIONS.

ALL PIPELINES AND DUCTWORK INSTALLED UNDER THIS CONTRACT SHALL BE MARKED WITH APPROPRIATE W. H. BRADY COMPANY'S MARKERS. MARKERS SHALL BE APPLIED ADJACENT TO ALL VALVES, ALL BRANCH CONNECTIONS, AND WHERE PIPES PASS THROUGH WALLS AND FLOORS.

VALVES, REGULATORS, AND EQUIPMENT SHALL BE PROVIDED WITH A BRASS TAG AND CHAIN SECURELY ATTACHED TO THE STEM OF BODY AND SUITABLY IDENTIFIED BY NUMBER OR NAME TO INDICATE ITS SERVICE.

FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT INSTALLED.

PIPE HANGERS

ACCEPTABLE MANUFACTURERS: B-LINE, GRINNELL, AND UNISTRUT.

UNINSULATED PIPING 2 INCH AND SMALLER: GRINNELL FIG. 97, B-LINE FIG. B3170 MALLEABLE IRON ADJUSTABLE NUT AND STEEL BAND OR GRINNELL FIG. 260, B-LINE FIG. B3100 CLEVIS TYPE.

UNINSULATED PIPING 2-1/2 INCH AND LARGER: GRINNELL FIG. 260, B-LINE FIG. B3100 CARBON STEEL ADJUSTABLE WROUGHT CLEVIS TYPE.

UNINSULATED COPPER TUBING: GRINNELL FIG. CT-89, B-LINE B3170CT CARBON STEEL RING AND MALLEABLE IRON ADJUSTING NUT, OR GRINNELL FIG. CT-269 OR GRINNELL FIG. CT-65, B-LINE B310CT. HANGER SHALL BE PROPERLY SIZED TO FIT COPPER TUBE OUTSIDE DIAMETERS.

INSULATED PIPING 2 INCH AND SMALLER: GRINNELL FIG. 260, B-LINE FIG. B3100 CLEVIS HANGERS OVERSIZED FOR PIPE AND INSULATION OUTSIDE DIAMETER. PROVIDE 18 GAUGE GALVANIZED STEEL SHIELD OVER INSULATION IN 180 DEGREE SEGMENTS, MINIMUM 12 INCHES LONG.

PIPE SLEEVES

PROVIDE SLEEVES IN FLOORS, WALLS, ROOF DECKS, AND CEILINGS FOR ACCOMMODATION OF PIPE, INSERTS, EQUIPMENT, ETC. REQUIRED FOR THIS WORK.

PIPES PASSING THROUGH INTERIOR PARTITIONS SHALL BE PROVIDED WITH SLEEVES OF 20 GA. GALVANIZED SHEET METAL. SET FLUSH WITH FINISHED WALL SURFACES.

SLEEVES PASSING THROUGH FLOOR WITH WATERPROOF MEMBRANE SHALL HAVE FLASHING CLAMP DEVICE WITH CLAMPING RING, PRESSURE RING, ANCHOR LUGS, AND EXTENSIONS SIMILAR TO ZURN Z-197.

SPACE BETWEEN SLEEVE AND PIPE SHALL BE PACKED WITH WICKED OAKUM TO WITHIN 2 INCHES OF INSIDE AND OUTSIDE FACES OF WALL. REMAINDER OF SLEEVE SHALL BE PACKED WITH WATERPROOFING PLASTIC COMPOUND OR CAULKED. SLEEVES SHALL BE COATED WITH ONE COAT OF BITUMASTIC PAINT AND MADE WATERTIGHT. MACHINE CUT ALL PIPE.

SLEEVES SHALL BE SET TRUE TO LINE, GRADE, POSITION AND PLUMB AND LEVEL AND SHALL BE SO MAINTAINED DURING CONSTRUCTION. WHERE A SLEEVE IS PROVIDED IN CONCRETE, CONTRACTOR SETTING SLEEVE SHALL INSPECT IT WHILE AND AFTER CONCRETE IS POURED AND CORRECT ANY DEVIATION FROM PROPER POSITION.

IN RATED FIREWALLS, FIRE PARTITIONS, AND SMOKE STOPS, STOP INSULATION AT ENTRANCE TO THE PENETRATION. PACK OPEN SPACE AROUND PIPE FIRMLY WITH MINERAL FIBER ROPE, CALCIUM SILICATE BLOCK, OR CELLULAR GLASS BLOCK TO MAINTAIN FIRE INTEGRITY OF WALL OR SLAB PENETRATED.

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PIPE ESCUTCHEONS

SPLIT TYPE ESCUTCHEONS SHALL BE USED FOR PIPING PASSING THROUGH FINISHED WALLS, FLOORS OR CEILING. ESCUTCHEONS SHALL BE CHROMIUM PLATED.

PIPING HANGERS, SUPPORTS AND SWAY BRACING

FURNISH PIPE HANGERS AND SUPPORTS CONFORMING TO REQUIREMENTS OF ASME B31.1 WITH ADDENDA, THE CURRENT REVISIONS OF MSS SP-58 AND MSS SP-89 AS SPECIFIED. HANGERS AND SUPPORTS, EXCEPT FOR MILL SUPPLEMENTARY STEEL, SHALL BE CATALOGED, LOAD RATED, COMMERCIAL MANUFACTURED PRODUCTS AS SPECIFIED HEREIN.

PIPING SHALL BE ADEQUATELY SUPPORTED BY MEANS OF HANGERS AND SUPPORTS. CARRY OVERHEAD LINES DIRECTLY ON SUPPORTS OR SUSPEND BY HANGERS FROM SUPPORTS. FURNISH REQUIRED SUPPORTING STEEL, HANGERS, ETC.

PIPE SUPPORTS

HANGERS FOR LIGHT LOADS SHALL BE SECURED TO SIDE OF CONCRETE BEAMS OR SLABS BY MEANS OF DRILLED HOLES AND EXPANSION SHIELDS AND BOLTS.

SIDE OR BOTTOM ATTACHMENT TO PRE-CAST TEE STEMS WILL NOT BE PERMITTED. USE RO HANGERS LET THROUGH DRILLED HOLES IN TEE FLANGES BEFORE TOPPING OR ROOF IS PLACED.

DO NOT HANG PIPE FROM OTHER PIPES, DUCTWORK, CONDUIT, OR ANY OTHER ITEM, WHICH IS NOT BUILDING STRUCTURE.

PIPE HANGERS

USE CORRECT SIZE HANGER TO ALLOW FOR INCREASED DIAMETERS OF LINE CAUSED BY PIPE COVERING. CONTRACTOR WILL NOT BE ALLOWED TO CUT OR REDUCE SPECIFIED COVERING TO ALLOW APPLICATION OF HANGERS, UNLESS OTHERWISE SPECIFIED.

HORIZONTAL PIPING SHALL BE SUPPORTED BY HANGERS IN ACCORDANCE WITH FOLLOWING SCHEDULES:

Table with 5 columns: PIPE SIZE (INCHES), ROD (INCHES), SPACING WATER SERVICE (FEET), SPACING STEAM GAS OR AIR SERVICE (FEET), VERTICAL SPACING (FEET). Rows include THROUGH 1, 1-1/4, 1-1/2, 2, 2-1/2, 3, 4.

Table with 4 columns: PIPE SIZE (INCHES), ROD (INCHES), VERTICAL SPACING (FEET), SPACING (FEET). Rows include 1-1/4 THRU 2, 2-1/2, 3, 4.

THE MAXIMUM HORIZONTAL SPACING OF CAST IRON PIPE HANGERS SHALL BE INCREASED TO 10 FEET WHERE 10-FOOT LENGTHS OF PIPE ARE INSTALLED.

Table with 5 columns: PIPE SIZE (INCHES), ROD (INCHES), SPACING WATER SERVICE (FEET), SPACING STEAM GAS OR AIR SERVICE (FEET), VERTICAL SPACING (FEET). Rows include THRU 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2.

SUPPORT MECHANICAL COUPLING PIPE AT EACH JOINT.

CAST IRON NO-HUB PIPE AT LEAST AT EVERY OTHER JOINT EXCEPT WHEN THE DEVELOPED LENGTH OF HANGERS EXCEEDS FOUR FEET (4'-0") THEY SHALL BE PROVIDED AT EACH JOINT. HANGERS SHALL BE PROVIDED AT EACH HORIZONTAL BRANCH CONNECTION.

DO NOT USE PERFORATED BAND IRON OR WIRE AS HANGERS.

SWAY BRACING: RIGID SUPPORT SWAY BRACING SHALL BE PROVIDED AT CHANGES IN DIRECTION GREATER THAN 45 DEGREES FOR ALL PIPE SIZES 4 INCHES AND LARGER.

HVAC SYSTEMS

DUCTWORK CONSTRUCTION:

GALVANIZED STEEL

GALVANIZED STEEL SHALL MEET ASTM A525 STANDARDS - PLAIN HOT DIPPED WITH 1.25 OZ. OF ZINC PER SQUARE FOOT COMMERCIAL CLASS.

GAUGES OF METAL AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH SMACNA FOR 2" W. C. POSITIVE OR NEGATIVE PRESSURE OR LESS.

REINFORCING

PROVIDE REINFORCING AS REQUIRED BY STANDARDS LISTED ABOVE.

CROSSBREAK DUCT SIDES 19 INCHES THROUGH 60 INCHES IN WIDTH WITH MORE THAN 5 SQUARE FEET WITH OR WITHOUT LINING. BEADING SHALL BE USED IN ACCORDANCE WITH SMACNA STANDARDS.

FITTING-FIGURES REFER TO SMACNA LOW VELOCITY MANUAL.

USE RADIUS ELBOWS FOR ANY CHANGES IN DIRECTION. THE CENTERLINE RADIUS SHALL BE 1.5 TIMES THE DUCT WIDTH. PROVIDE VANES IN SHORT RADIUS ELBOWS.

WHERE IT IS NECESSARY TO USE SQUARE ELBOWS, PROVIDE TURNING VANES FOR CHANGES IN DIRECTION OVER 60 DEGREES.

WHERE A BRANCH HANDLES OVER 25 PERCENT OF AIR COMING TO IT IN THE MAIN DUCT, OR WHERE SHOWN ON THE DRAWINGS, BRANCHES SHALL BE CONSTRUCTED

WHERE A BRANCH HANDLES LESS THAN 25 PERCENT OF AIR COMING TO IT, MAIN DUCT BRANCHES SHALL BE CONSTRUCTED PER FIG. 2-10, WITH 45° ENTRY.

TRANSITIONS: SIDES ON DIVERGING SECTIONS SHALL NOT BE PITCHED OVER 20 DEGREES AND SIDES ON CONVERGING SECTIONS SHALL NOT BE PITCHED OVER 30 DEGREES UNLESS OTHERWISE NOTED ON DRAWINGS. SEE FIG. 2-7.

NECESSARY AND INSTALL ALL DUCTWORK, DUCT SUPPORT SYSTEM, DAMPERS, GRILLES, REGISTERS, DIFFUSERS, ETC., FOR A COMPLETE AND OPERABLE HEATING, VENTILATING, AND AIR CONDITIONING SYSTEM AS SHOWN OR AS REQUIRED. INSULATE SUPPLY AIR DUCTWORK.

DUCT INSULATION SHALL BE 1" THICK CLASS FIBER BLANKET, ONE (1) POUND DENSITY, WITH A "TRK" VAPOR BARRIER FASTENED TO DUCT WITH VAPOR BARRIER CEMENT. ALL JOINTS SHALL BE TAPED WITH A VAPOR BARRIER TAPE. INSULATION MATERIALS, INCLUDING ADHESIVES AND JACKETS AS INSTALLED ON EXTERIOR SURFACES, SHALL BE UL APPROVED AND SHALL HAVE MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 AS TESTED IN ACCORDANCE WITH ASTM STANDARD E-84.

FLEXIBLE DUCTWORK:

FACTORY INSULATED FLEXIBLE DUCTWORK SHALL BE SIMILAR TO OWENS-CORNING MODEL NO. INL-25 OR AS APPROVED EQUAL WITH RESILIENT CORE OF CONTINUOUS INNER AIR BARRIER AND JACKETED WITH A REINFORCED VAPOR BARRIER JACKET. FIRE HAZARD CLASSIFICATION SHALL HAVE A FLAME SPREAD OF 25, SMOKE RATING OF 50, IN ACCORDANCE WITH ASTM C518-70, ASTM E-84, AND UL 723 STANDARDS. (LENGTH SHALL NOT EXCEED 4'-0" WHEN FULLY EXTENDED - 1-90° BEND ALLOWED.)

PROVIDE BALANCING DAMPERS AT EACH BRANCH DUCT TAKE-OFF FROM MAIN DUCTS AND OTHER LOCATIONS AS REQUIRED TO PROPERLY BALANCE SYSTEM.

FURNISH AND INSTALL ALL FIRE DAMPERS WHERE INDICATED ON DRAWINGS, WHERE DUCTWORK PIERCES FIRE RATED CONSTRUCTION, AND AT ALL OTHER LOCATIONS AS REQUIRED BY LOCAL AUTHORITIES HAVING JURISDICTION. ALL FIRE DAMPERS SHALL BE TESTED, RATED, BEAR THE LABEL OF UNDERWRITERS LABORATORIES, AND SHALL BE INSTALLED IN THE SAME MANNER BY WHICH THEY WERE TESTED. FIRE DAMPERS SHALL BE SIMILAR TO AIR BALANCE MODEL #119-AL, OVERSIZE WITH 95% FREE AREA. PROVIDE APPROVED ACCESS DOORS FOR ALL FIRE DAMPERS. CEILING FIRE DAMPERS SHALL BE SIMILAR TO RUSKIN MODEL "CDF" OR APPROVED EQUAL.

ALL PERFORMANCE IN ALL AIR HANDLING AIR DISTRIBUTION AND HYDRONIC SYSTEMS SHALL BE TESTED, BALANCED, AND ADJUSTED TO OBTAIN AIR AND WATER FLOW RATES AS INDICATED.

INTERIOR SANITARY, VENT AND STORM DRAINAGE

UNDER GROUND

PIPE AND FITTINGS

CAST IRON: SERVICE WEIGHT BELL AND SPIGOT, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

CAST IRON: SERVICE WEIGHT HUBLESS END, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

JOINTS

BELL AND SPIGOT: GASKETED

COMPRESSION: RUBBER GASKET, PER 2: ASTM C564-70.

HUBLESS: NEOPRENE GASKET WITH STAINLESS STEEL CLAMP, PER 2: CISPI-301-72.

MATERIAL ABOVE GROUND

PIPE AND FITTINGS, DRAINAGE

CAST IRON: SERVICE WEIGHT BELL AND SPIGOT, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

CAST IRON: SERVICE WEIGHT HUBLESS END, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

COPPER TUBE: TYPE DWV, PER 2: ANSI H23.6-1973, ASTM B306-74B.

PLASTIC (PP/POLYPROPYLENE): TYPE DWV SCHEDULE 40, PER 2: ASTM F1412

GALVANIZED STEEL PIPE, SCHEDULE 40 WITH SCREWED CAST IRON DRAINAGE FITTINGS, PER 2: ANSI B16.5-1973, ANSI B125.2-1972, ATM 120-73, ANSI 16.12-1971.

PIPE AND FITTINGS, VENTING

CAST IRON: SERVICE WEIGHT BELL AND SPIGOT, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

CAST IRON: SERVICE WEIGHT HUBLESS END, PER 2: ANSI 112.5.1-1975, ASTM A74-75, CISPI-HS-72 AND CISPI-301-72.

COPPER TUBE: TYPE DWV, PER 2: ANSI H23.6-1973, ASTM B306-74B.

GALVANIZED STEEL PIPE, SCHEDULE 40 WITH SCREWED CAST IRON DRAINAGE FITTINGS, PER 2: ANSI B16.5-1973, ANSI B125.2-1972, ATM 120-73, ANSI 16.12-1971.

PLASTIC PP: TYPE DWV SCHEDULE 40 PER 2: ASTM F1412

JOINTS

BELL AND SPIGOT: GASKETED

COMPRESSION: RUBBER GASKET, PER 2: ASTM C564-70.

HUBLESS: NEOPRENE GASKET WITH STAINLESS STEEL CLAMP, PER, ASTM B32-70.

COPPER: SOLDER, 90 PERCENT LEAD AND 10 PERCENT TIN, PER, ASTM B32-70.

PLASTIC PP: FUSION - MECHANICAL, PER 2: ASTM D4101.

CLEANOUTS

STACK CLEANOUT EXPOSED

ZURN NO. Z-1445, COATED CAST-IRON BODY, RAISED HEAD PLUG.

STACK CLEANOUT FINISHED WALL

ZURN NO. ZN-1445, COATED CAST-IRON BODY, SLOTTED FLUSH CLOSURE WITH COVER AND VANDALPROOF SCREW.

FLOOR CLEANOUT GENERAL (FINISHED AREAS)

ZURN NO. ZN-1400-2, CAST-IRON BODY, INSIDE CAULK CONNECTION, WITH ROUND NICKEL BRONZE COVER AND VANDALPROOF SCREW.

FLOOR CLEANOUT SQUARE TILE

ZURN NO. ZN-1400-7, CAST-IRON BODY, INSIDE CAULK CONNECTION, WITH SQUARE NICKEL BRONZE TOP RECESSED FOR TILE, AND VANDALPROOF SCREW.

DOMESTIC WATER

FLUSHING AND STERILIZATION

POTABLE WATER SYSTEMS SHALL BE THOROUGHLY FLUSHED AND DISINFECTED BEFORE BEING PUT INTO SERVICE PER METHODS IN ANWA C261 PUBLICATION, "A PROCEDURE FOR DISINFECTING WATER MAINS," OR AS REQUIRED BY GOVERNING CODE.

ABOVE GROUND

PIPE AND TUBE

GALVANIZED STEEL: 3 INCH AND LARGER SCHEDULE 40, PER ASTM A120-84.

COPPER TUBE: 2-1/2 INCH AND SMALLER, TYPE "L", PER ASTM B88-88A.

FITTINGS

GALVANIZED: 125 POUND SCREWED, PER ASTM A120-86A, ANSI A21.10-87.

GALVANIZED: 125 POUND FOR GROOVED MECHANICAL COUPLINGS, PER ASTM D735-61, ASTM A183-61.

COPPER: WROUGHT COPPER SOLDER JOINT, ANSI B16.22-73.

JOINTS

GALVANIZED: SCREWED PER ANSI B1.20-1-83.

GALVANIZED: GROOVED MECHANICAL JOINTS WITH RUBBER GASKET, PER ASTM D735-61, ASTM A183-61.

COPPER: SOLDER 95.5 TIN 4.0 COPPER 0.5 SILVER PER ASTM B-32, EQUAL TO SILVABRITE 100 LEAD-FREE SOLDER BY ENGELHARD.

COPPER: SOLDER 95 PERCENT TIN AND 5 PERCENT ANTIMONY, PER ASTM B32-70.

COPPER: FLUX USED WITH SOLDER SHALL BE REINFORCED WITH COPPER PARTICLES SIMILAR TO "NIBCO COPPERIZED FLUX" FIGURE NO. 698.

UNIONS

GALVANIZED: PIPE 3 INCH AND LARGER, 125 POUND CAST IRON SCREWED FLANGES, PER ASTM B16.1 OR GROOVED.

COPPER: TUBING 2-1/2 INCH AND SMALLER, SOLDER JOINT GROUND SEAT.

DIELECTRIC: USE IN ALL CONNECTIONS BETWEEN COPPER TUBE AND GALVANIZED PIPE, STEEL OR CAST IRON EQUIPMENT OR ITEMS OF DISSIMILAR METALS.

VALVES

BALL VALVES 2 INCH AND SMALLER, FULL PORT, 400 POUND W.O.G., -40 TO 180° F, ALL BRONZE, TEFLON SEAT AND O-RING SEAL, SIMILAR TO NIBCO NO. T-595Y.

GATE VALVE 2-1/2 INCH AND SMALLER: 125 POUND SWP, W.O.G., SCREW-IN-BONNET, RISING STEM, SPLIT WEDGE, BRONZE CONSTRUCTION PER ASTM B-62, FS WW-V-54C CLASS A TYPE III, SIMILAR TO NIBCO NO. 111.

GLOBE VALVE 2-1/2 INCH AND SMALLER, 125 POUND SWP, W.O.G., SCREW-IN-BONNET, RISING STEM, INTEGRAL SEAT, RENEWABLE BUNA-N SEAT, BRONZE CONSTRUCTION PER ASTM B-62, FS WW-V-51D CLASS A TYPE I, SIMILAR TO NIBCO NO. 211-W.

CHECK VALVE 2-1/2 INCH AND SMALLER, 125 POUND SWP, W.O.G., HORIZONTAL SWING, REGRINDING TYPE, V-PATTERN, RENEWABLE DISC, BUNA-N SEAT DISC, BRONZE CONSTRUCTION PER ASTM B-26, FS WW-V-51D CLASS A TYPE IV, SIMILAR TO NIBCO NO. 413-W.

WATER BACK FLOW PREVENTORS

REDUCED PRESSURE BACK FLOW PREVENTER 1 THROUGH 10 INCHES - BEECO MODEL 6-C, REDUCED PRESSURE TYPE, COMPOSED OF TWO GATE VALVES, TWO CHECK VALVES WITH AUTOMATIC PRESSURE RELIEF VALVE BETWEEN, CORROSION RESISTING TRIM AND MOVING PARTS, EQUIPPED WITH TEST COCKS, PER ASSE 1013.

REDUCED PRESSURE BACK FLOW PREVENTER 3/4 INCH - WATTS MODEL 900 REDUCED PRESSURE TYPE, COMPOSED OF TWO GATE VALVES, TWO CHECK VALVES WITH AUTOMATIC PRESSURE RELIEF VALVE BETWEEN, CORROSION RESISTING TRIM AND MOVING PARTS, EQUIPPED WITH TEST COCKS, PER ASSE 1013.

INSULATION

FIRE RESISTANT MATERIAL REQUISITIONS

INSULATION MATERIALS, INCLUDING ADHESIVES AND JACKETS AS INSTALLED ON EXTERIOR SURFACES, SHALL BE UL APPROVED AND SHALL HAVE MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 AS TESTED IN ACCORDANCE WITH ASTM STANDARD E-84.

FOAM PLASTIC MATERIALS WHERE SPECIFICALLY ALLOWED TO BE USED SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50, AS INSTALLED.

INSULATION ON FITTINGS AND VALVES SHALL BE SAME THICKNESS AS ON PIPE.

AT UNIONS, FLANGES, AND WHEREVER INSULATION TERMINATES, TROWEL INSULATION CEMENT TO NEAT BEVEL AND COVER. ALLOW ROOM TO REMOVE FLANGE BOLTS, DISCONNECT UNIONS, ETC.

COVERING AT PIPE SUPPORTS.

INSULATION FOR PIPING SHALL BE CONTINUOUS THROUGH HANGERS AND SUPPORTS. PROVIDE SECTION OF CALCIUM SILICATE INSERT FOR FIBERGLASS INSULATION, AND MANUFACTURER RECOMMENDED INSULATING BLOCK FOR FOAM INSULATION TO SUPPORT SADDLES TO PREVENT DEFORMING INSULATION.

METAL SUPPORT PLATES SHALL BE GALVANIZED STEEL, GRINNELL FIGURE 167, OR APPROVED EQUAL.

FLEXIBLE POLYOLEFIN FOAM MATERIALS WHERE SPECIALLY ALLOWED TO BE USED SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 AS INSTALLED.

Table with 7 columns: SERVICE, PIPE SIZE, OPER. TEMP., THICKNESS CLASS FIBER OR CALC. SILICATE, FOAM PLAS., POLYOLEFIN FOAM. Rows include DOM. COLD WATER, DOMESTIC HOT WATER.

PIPE INSULATION (0° TO 450° F)

INSULATION SHALL BE HEAVY DENSITY ONE PIECE FIBERGLASS PIPE INSULATION WITH FACTORY APPLIED VAPOR BARRIER JACKET AND SELF-SEALING LAP. "K" FACTOR SHALL BE MINIMUM 0.25 AT 75° F MEAN TEMPERATURE.

FIRE PROTECTION

THE FIRE PROTECTION CONTRACTOR SHALL REVISE/EXTEND THE EXISTING FIRE PROTECTION SYSTEM AS REQUIRED AND NOTED ON DRAWINGS TO PROVIDE A COMPLETE, AUTOMATIC, WET SPRINKLER SYSTEM FOR THE PROJECT ADDITION. DESIGN BASIS SHALL BE ORDINARY HAZARD.

ALL WORK RELATED TO THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH THE OWNER'S FIRE INSURANCE UNDERWRITER'S FIRE RATING INSPECTION BUREAU STANDARDS AND SPECIFICATIONS, THE REQUIREMENTS OF NFPA, THE LOCAL FIRE MARSHAL, AND ALL GOVERNING LOCAL OR STATE CODES, LAWS, ORDINANCES, AND REGULATIONS.

THE FIRE PROTECTION CONTRACTOR SHALL VISIT THE JOB SITE BEFORE HE SUBMITS HIS BID TO FAMILIARIZE HIMSELF WITH THE ACTUAL JOB CONDITIONS AND TO CHECK FOR ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF OTHER TRADES AND/OR ANY APPARENT VIOLATIONS OF LOCAL OR STATE CODES, LAWS, ORDINANCES, AND REGULATIONS. IF ANY VIOLATIONS OR INTERFERENCES APPEAR AND DEPARTURE FROM THE DESIGN INTENT OF THE CONTRACT DOCUMENTS IS REQUIRED, THE FIRE PROTECTION CONTRACTOR SHALL NOTIFY THE ARCHITECT BEFORE ENTERING INTO CONTRACT WITH THE OWNER. FAILURE TO PROVIDE THE ARCHITECT WITH THE AFOREMENTIONED NOTIFICATION WILL RESULT IN THE FIRE PROTECTION CONTRACTOR BEING HELD RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE INTENT OF THE CONTRACT DRAWINGS WITH NO ADDITIONAL EXPENSE (EXTRAS) BEING INCURRED BY THE OWNER.

BEFORE PROCEEDING WITH ANY INSTALLATION WORK, THE FIRE PROTECTION CONTRACTOR SHALL SUBMIT A SET OF REPRODUCIBLE PLANS FOR THE AREA TO THE OWNER. SUCH PLANS SHALL BEAR THE WRITTEN APPROVAL OF THE OWNER'S FIRE INSURANCE UNDERWRITER'S FIRE RATING INSPECTION BUREAU AND LOCAL FIRE MARSHAL'S APPROVAL.

UPON COMPLETION OF THE SYSTEM, AND ON POSSESSION OF PREMISES, THE FIRE PROTECTION CONTRACTOR SHALL SUBMIT A WRITTEN CERTIFICATE TO THE OWNER FROM THE UNDERWRITER STATING THAT THE ENTIRE SYSTEM WAS INSPECTED AND APPROVED.

WARRANT ALL MATERIALS AND WORKMANSHIP FOR ONE (1) YEAR FROM DAY OF FINAL INSPECTION AND ACCEPTANCE OF SYSTEM BY THE OWNER AND LOCAL AUTHORITIES. SPRINKLER SYSTEM SHALL BE TESTED IN ACCORDANCE WITH NFPA NO. 13 IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND SHALL HAVE ALL FACILITIES FOR PROPER DRAINAGE AND ANY NECESSARY TEST VALVES, DRIFTERS, OR EQUIPMENT REQUIRED BY AUTHORITIES HAVING JURISDICTION.

TEMPERATURE CONTROLS - GENERAL

MECHANICAL TRADES SHALL PROVIDE PNEUMATIC THERMOSTAT AND ACCESSORIES CONNECTION TO EXISTING HEATING HOT WATER COIL CONTROL VALVES.

SHEET NOTES



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