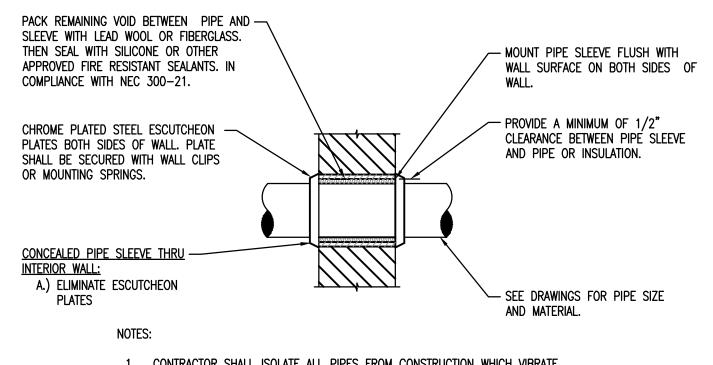
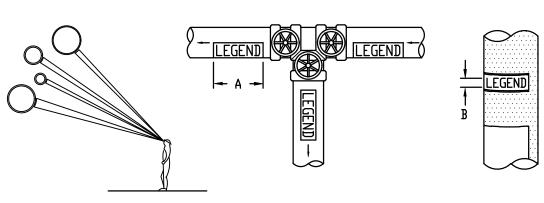


MUTUAL SWING CONNECTION DETAIL



- CONTRACTOR SHALL ISOLATE ALL PIPES FROM CONSTRUCTION WHICH VIBRATE
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR

2 EXPOSED PIPE SLEEVE THRU INTERIOR WALL DETAIL



COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.

SIZE (OF LEGEND LETTERS	
OUTSIDE DIAMETER	LENGTH OF	SIZE OF
OF PIPE OR	COLOR FIELD	LETTERS
COVERING	A	B
3/4" TO 1-1/4"	8"	1/2"
1-1/2" TO 2"	8"	3/4"
2"-1/2" TO 6"	12"	1-1/4"
8" TO 10"	24"	2-1/2"
OVER 10"	32"	3-1/2"

SERVICE	BACKGROUND OR COLOR BAND	IDENTIFICATION MARKER
FIRE PROTECTION (SPRINKLER)	RED	WHITE ON RED

TYPICAL PIPE IDENTIFICATION MARKERS

GENERAL NOTES - FIRE PROTECTION

- A. ALL FIRE PROTECTION PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS.
- B. ALL PIPING PASSING THROUGH FLOOR CONSTRUCTION SHALL HAVE A SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND PIPE ONLY. ALL PIPE PASSING THROUGH WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- C. PITCH ALL FIRE PROTECTION LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT FIXTURES, UNIONS OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THROUGH A LOWER PIECE OF EQUIPMENT.
- D. UNUSED OPENINGS IN PIPING SHALL BE CAPPED OR PLUGGED; STRUCTURAL MEMBERS AND SUPPORTS SHALL NOT BE CUT UNLESS AUTHORIZED BY ARCHITECT IN
- E. CONTRACTOR SHALL PROVIDE ADDITIONAL SPRINKLER HEADS ABOVE AND BELOW MECHANICAL/ELECTRICAL DUCTS AND EQUIPMENT WHICH EXCEEDS 48 INCHES IN WIDTH IN ACCORDANCE WITH NFPA-13.
- F. ALL INSTALLATIONS SHALL CONFORM TO NFPA-13, AND THE STATE OF ILLINOIS SCHOOL CODE.
- G. CONTRACTOR SHALL PROVIDE A COMPLETE HYDRAULICALLY DESIGNED FIRE PROTECTION SYSTEM. THE INCOMING SERVICE, BACKFLOW PREVENTER, ALARM VALVES, RISER ACCESSORIES AND FIRE DEPARTMENT CONNECTION PIPING AND CONNECTIONS ARE A MINIMUM AND MAY NOT BE DEVIATED FROM WITHOUT WRITTEN PERMISSION FROM ARCHITECT/ENGINEER. THE RISER SERVICE PIPE, CROSSMAINS AND BRANCH LINES CAN BE DEVIATED IN SIZE IN ACCORDANCE WITH THE HYDRAULIC CALCULATION.
- H. CONTRACTOR TO VERIFY EXISTING AVAILABLE FLOW DATA WITH MUNICIPALITY AND FIELD CONDITIONS. CONTRACTOR TO CONTACT ARCHITECT/ENGINEER AND LOCAL MUNICIPALITY 48 HOURS PRIOR TO FLOW TEST.
- SPRINKLER HEADS SHOWN ARE MINIMUMS, CONTRACTOR TO PROVIDED ADDITIONAL HEADS AS REQUIRED TO COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS TO PROVIDE ADEQUATE COVERAGE AS SPECIFIED.
- J. CONTRACTOR TO FLUSH UNDERGROUND WATER SERVICE PRIOR TO CONNECTION OF BACKFLOW PREVENTER IN ACCORDANCE WITH NFPA 13. CONTRACTOR TO CONTACT ARCHITECT/ENGINEER AND LOCAL FIRE DEPARTMENT 48 HOURS PRIOR TO FLUSHING
- K. MINIMUM PIPE SIZE SHALL BE 1 INCH. ANY REDUCING OF SIZE SHALL OCCUR AT SPRINKLER HEAD CONNECTION.
- CERTAIN ABBREVIATIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (OR EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS:
- NC NEW CONNECTION TO PRESENT PIPING, DEVICE, MANHOLE, SEWER, DUCT, WIRING, EQUIPMENT, ETC. INSTALL, TEST, COVER, PAINT, ETC. SAME AS NEW WORK. IF IN SEWER MANHOLE, PROVIDE FLOW CHANNEL IN BOTTOM.
- VL VERIFY EXACT LOCATION IN FIELD. THIS NOTE APPLIES TO ALL PRESENT OR EXISTING UTILITIES AND CONSTRUCTION WHETHER CALLED FOR OR NOT.

FIRE PROTECTION ABBREVIATIONS NOTE: NOT ALL ABBREVIATIONS SHOWN MAY BE REQUIRED FOR THIS

- BALL VALVE
- **BACKFLOW PREVENTER**
- COMPRESSED AIR
- CHECK VALVE FIRE DEPARTMENT CONNECTION
- FROM FLOOR ABOVE
- FROM FLOOR BELOW
- FLOW SWITCH
- PRESSURE GAUGE
- SPRINKLER HEAD THRUST BLOCK
- TO FLOOR ABOVE
- TO FLOOR BELOW
- VALVE SUPERVISORY SWITCH
- WATER SERVICE VALVE

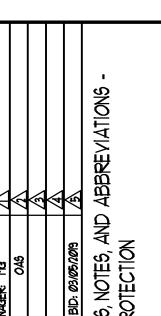
GENERAL NOTES - ALL CONTRACTORS

- A. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING, DUCTWORK, CONDUITS, RACEWAYS, ETC., AS SHOWN ON DRAWINGS, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE
- B. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR THE CLEARNESS OF PRESENTATION.
- C. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE THE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- D. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, CONDUIT, RACEWAYS, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO ROUGH-IN. EACH CONTRACTOR SHALL BE RESPONSIBLE. AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- CONTRACTOR SHALL PROVIDE SLEEVES IN BEAMS, FLOORS, COLUMNS AND WALLS AS SHOWN ON THE DRAWINGS. AS REQUIRED BY JOB SITE CONDITIONS. AND/OR AS SPECIFIED. WHEN INSTALLING THEIR WORK, ALL BEAMS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS AND LOCATIONS AND SIZES SHALL BE CHECKED AND APPROVED BY ARCHITECT BEFORE CONTRACTOR CUTS ANY STRUCTURAL BUILDING MEMBER.
- G. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- H. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING, REFINISHING AND REMOVAL/REPLACEMENT OF NEW OR EXISTING BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK OR REMOVAL OF EXISTING WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT.
- SOME OF THE EXISTING ITEMS AND EQUIPMENT SCHEDULED TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER. ANY ITEMS THAT THE OWNER WANTS TO RETAIN SHALL BE REMOVED CAREFULLY SO AS NOT TO DAMAGE THEM. ALL OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE.
- K. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- CONTRACTOR SHALL INSTALL ALL AUXILLARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- M. IT IS MANDATORY THAT THE COMPLETE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING REMODELING/ALTERING OF SAID EXISTING BUILDING. THE SPECIFIC AREA(S) BEING REMODELED/ALTERED AT ANY SCHEDULED TIME ARE OBVIOUSLY EXCLUSIVE OF THIS STATEMENT. SERVICES TO EXISTING BUILDING SHALL BE KEPT IN CONTINUOUS OPERATION INCLUDING POWER, SIGNAL SYSTEMS, LIGHTING, TELEPHONE, HEATING, COOLING, VENTILATING, TEMPERATURE CONTROL, SEWERS AND HOT AND COLD WATER. ANY ABSOLUTELY NECESSARY INTERRUPTION OF THESE SERVICES TO ACCOMPLISH CONTRACT WORK SHALL BE ARRANGED THROUGH THE ARCHITECT WITH THE OWNER A MINIMUM OF TEN (1) WORKING DAYS IN ADVANCE. SUCH INTERRUPTIONS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AS FAR AS TIME INTERVAL IS INVOLVED AND TEMPORARY SERVICES SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT WHERE NECESSARY TO ACCOMPLISH THIS PURPOSE. TEMPORARIES SHALL BE REMOVED BY THE CONTRACTOR ONLY AFTER NEW PERMANENT SERVICES ARE INSTALLED AND FULLY OPERATIONAL.
- N. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- O. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6x6 PLANKS AND/OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- P. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED <u>ACCEPTABLE MANUFACTURER</u> BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- Q. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- R. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.
- S. CONTRACTOR SHALL FIELD VERIFY THE SIZE OF EXISTING OPENINGS, WINDOWS, DOORS, CORRIDORS, ROOMS, ETC. FOR ACCESS OF THE NEW EQUIPMENT INTO OR REMOVAL OF EXISTING EQUIPMENT FROM THE BUILDING. IF OPENINGS ARE TOO SMALL FOR ACCESS THEN CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE NEW OR ENLARGED OPENINGS AND RESTORE SAME TO ORIGINAL SIZE AND CONDITION. CONTRACTOR MAY ELECT TO ORDER THE EQUIPMENT DISASSEMBLED AND/OR WITH SPLIT HOUSING FOR ENTRANCE INTO THE EXISTING SPACE OR BUILDING. CONTRACTOR SHALL REASSEMBLE EQUIPMENT AFTER IT IS IN THE SPACE AT HIS OWN EXPENSE.





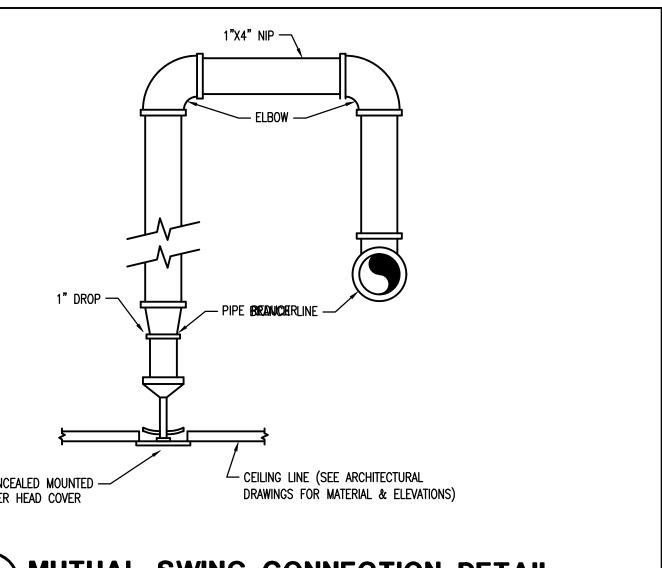
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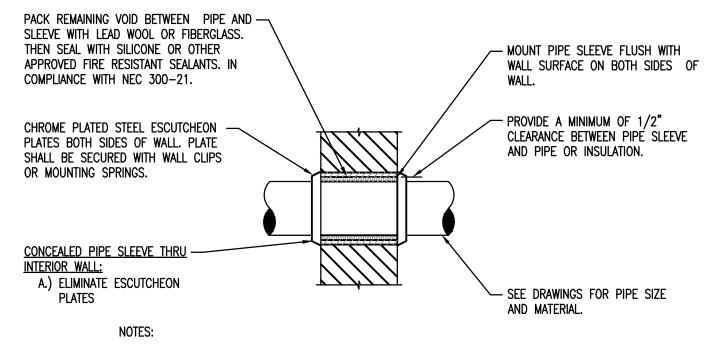




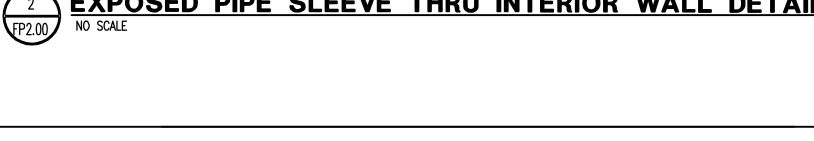


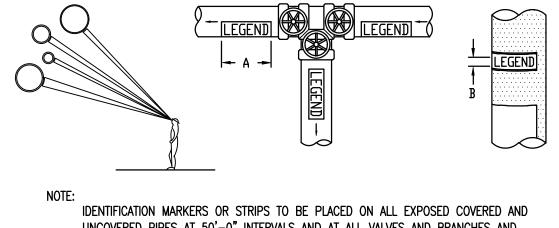






- IN ORDER TO AVOID TRANSMISSION TO STRUCTURE.
- SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS.
- 3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH





UNCOVERED PIPES AT 50'-0" INTERVALS AND AT ALL VALVES AND BRANCHES AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH SAME. ARROWS OF SAME

OF PIPE OR	COLOR FIELD	LETTERS
COVERING	A	B
3/4" TO 1-1/4"	8"	1/2"
1-1/2" TO 2"	8"	3/4"
2"-1/2" TO 6"	12"	1-1/4"
8" TO 10"	24"	2-1/2"
OVER 10"	32"	3-1/2"