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PLUMBING SPECIFICATIONS

1. APPLICABLE STANDARDS, CODES AND PUBLICATIONS

- A. THIS ENTIRE INSTALLATION SHALL BE TESTED AND INSTALLED TO CONFORM, AS A MINIMUM, TO APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS EXCEPT WHERE STRICTER REQUIREMENTS ARE SPECIFIED ELSEWHERE HEREIN OR SHOWN ON THE CONTRACT DRAWINGS:
  - 1) 2015 NEW YORK STATE BUILDING CODE
  - 2) 2015 NEW YORK STATE PLUMBING CODE
  - 3) NWH STANDARDS
  - 4) 2014 GUIDELINES FOR DESIGN & CONSTRUCTION OF HEALTHCARE FACILITIES (F01)
  - 5) UNDERWRITERS' LABORATORIES, INC.
  - 6) OSHA, AND ALL AGENCIES HAVING JURISDICTION.
  - 7) NEW YORK STATE DEPARTMENT OF HEALTH
  - 8) NATIONAL FIRE PROTECTION ASSOCIATION
  - 9) NFPA 13
  - 10) NFPA 99 2005 STANDARD FOR HEALTH CARE FACILITIES.

2. WORK SCOPE

- A. PLUMBING SYSTEM ALTERATIONS REQUIRED TO UNITE THE AREA OF WORK AND TIE THEM INTO THE BUILDING SYSTEMS SERVING OTHER FLOORS ABOVE AND BELOW. COORDINATION WITH THE ARCHITECTURAL DRAWINGS ARE REQUIRED TO MAINTAIN EXISTING SYSTEMS.
- B. ALL REQUIRED LABOR, MATERIALS AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE SAFE INSTALLATION OF PLUMBING WORK IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. ALL AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED, INCLUDING THE FOLLOWING:
  - 1) SANITARY DRAINAGE AND VENT PIPING, INCLUDING CONNECTIONS TO EXISTING PLUMBING RISER.
  - 2) DOMESTIC WATER SUPPLY PIPING, INCLUDING CONNECTIONS TO EXISTING PLUMBING RISER, CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.
  - 3) PLUMBING FIXTURES
  - 4) INSULATION.
  - 5) CUTTING AND PATCHING.

3. COORDINATION

- A. COORDINATE WITH OTHER TRADES AS NECESSARY TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING.
- B. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.
- C. COORDINATE THE WORK OF ALL SUBMITTALS FOR THE PURPOSE OF INSURING THAT NO CONFLICT EXISTS WITH THE INSTALLATIONS TO BE MADE BY OTHER ENTITIES, WITH FIELD CONDITIONS AND THE INTENDED OPERATION INCLUDING THE CAPABILITY OF PERFORMING ROUTINE AND MAJOR MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATIONS.
- D. RISER SHUT-DOWNS SHALL BE PERFORMED AT CONTRACTOR'S COST AND AT DESIGNATED TIMES UNDER BUILDING MANAGERS SUPERVISION AND ONLY WITH HIS APPROVAL. THE CONTRACTOR SHALL NOTIFY THE BUILDING MANAGER 48 HOURS PRIOR TO SHUT-DOWN OF ANY BUILDING SERVICE.

4. SUBMITTALS

- A. GENERAL
  - 1) CATALOG CUTS SHALL BE REFERENCED TO THE SPECIFICATIONS SECTION AND LOCATION WHERE THE ITEM IS TO BE USED.
  - 2) INCLUDE ON EACH LAYOUT WORKING DRAWING, A CERTIFICATION THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES, AND THAT NO CONFLICT EXISTS. WORKING DRAWING SUBMISSIONS WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.
  - 3) SUBMIT TO THE ENGINEER, FOR APPROVAL, A LIST OF ALL MATERIAL AND EQUIPMENT MANUFACTURERS WHOSE PRODUCTS ARE PROPOSED, INCLUDING ALL DELIVERY DATES.
  - 4) MAKE ALL SUBMITTALS SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW AMPLE TIME FOR CHECKING. NO CLAIM FOR EXTENSION OF TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT AND NO WORK IN THE FIELD MAY BE STARTED WITHOUT APPROVED SHOP DRAWINGS AND THE ENGINEERS APPROVAL.
  - 5) APPROVAL OF ANY SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING MATERIALS AND SYSTEMS OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES, QUALITY AND INSTALLATION DETAILS, TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS. SUCH APPROVAL SHALL NOT RELIEVE THIS CONTRACTOR FROM THE RESPONSIBILITY FOR ERRORS IN SUBMITTALS.
  - 6) IF THE SUBMITTALS DIFFER FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, MAKE SPECIFIC MENTION OF SUCH DIFFERENCE IN LETTERS OF TRANSMITTAL, WITH A REQUEST FOR SUBSTITUTION, TOGETHER WITH REASONS THEREFORE, SO THAT, IF ACCEPTABLE, SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT. FAILING THIS, THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- B. WORKING DRAWINGS
  - 1) PIPING LOCATION LAYOUTS, INCLUDING METHOD AND LOCATION OF SUPPORTS.
  - 2) EQUIPMENT INSTALLATION DETAILS.
- C. CATALOG CUTS AND BROCHURES
  - 1) PIPE AND FITTINGS.
  - 2) HANGERS AND SUPPORTS.
  - 3) SLEEVES AND ESCUTCHEONS.
  - 4) VALVES.
  - 5) SYSTEM IDENTIFICATION BANDS.
  - 6) INSULATION.
  - 7) FIXTURES AND TRIM.

5. CUTTING AND PATCHING

- A. WHERE CUTTING AND PATCHING OF CONSTRUCTION PERFORMED UNDER THIS CONTRACT BECOMES NECESSARY BECAUSE OF FAILURE TO PROPERLY COORDINATE THE MECHANICAL INSTALLATION WITH OTHER CONSTRUCTION, ARRANGE FOR PATCHING TO BE PERFORMED BY THE VARIOUS TRADES INVOLVED AND IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS HEREIN SO AS TO MATCH ADJACENT SURFACES.
- B. PERFORM ALL PATCHING TO MATCH EXISTING ADJACENT CONSTRUCTION TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND USING THE BEST POSSIBLE WORKMANSHIP OF THE VARIOUS TRADES INVOLVED.

6. RECORD DRAWINGS

- A. CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACT DRAWINGS WHICH SHALL BECOME THE BASIS OF THE AS-BUILT DRAWINGS. ANY DEVIATION FROM ORIGINAL PLUMBING DESIGN SHALL REFLECT ON THE AS-BUILT COPY. THE DRAWINGS SHALL BE STAMPED "AS-BUILT" WITH THE DATE AND CONTRACTOR'S SIGNATURE. TWO PRINTS AND A COMPACT DISK WITH ALL CAD FILES SHALL BE DELIVERED TO THE ENGINEER BEFORE FINAL PAYMENT IS MADE. AFTER REVIEW AND APPROVAL OF AS-BUILT CONTRACTOR SHALL DELIVER COMPACT DISK TO THE ENGINEER. ALSO, 3 PRINTS AND A COMPACT DISK OF APPROVED AS-BUILT SHOP DRAWINGS SHALL BE TURNED OVER TO THE BUILDING MANAGER UPON COMPLETION OF WORK.

7. TESTS

- A. GENERAL
  - 1) PERFORM TESTS AS HEREIN SPECIFIED ON THE VARIOUS PIPING SYSTEMS OR PORTIONS THEREOF PRIOR TO PAINTING, CONCEALING OR INSULATING.
  - 2) NOTIFY THE ENGINEER AND REPRESENTATIVES OF AGENCIES OR OTHER ENTITIES WHICH WOULD HAVE JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.
  - 3) FURNISH AND INSTALL ALL DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER REQUIRED IN CONNECTION WITH TESTS. MAKE ALL TESTS IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER AND REPRESENTATIVES OF THE AFORESAID AGENCIES OR OTHER ENTITIES.
  - 4) SHOULD THE TESTS REVEAL ANY LEAKS OR OTHER EVIDENCE OF UNSATISFACTORY MATERIALS OR WORKMANSHIP, MAKE NECESSARY REPAIRS IMMEDIATELY, OR, IF REQUIRED BY THE ENGINEER, REPLACE DEFECTIVE WORK WITH NEW WORK WITHOUT ADDITIONAL COST TO THE AUTHORITY. REPEAT TESTS AS DIRECTED UNTIL THE ENTIRE INSTALLATION IS PROVEN SATISFACTORY. NO TEMPORARY METHOD OF REPAIRING LEAKS WILL BE PERMITTED.
  - 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PROPERTY OR INSTALLATION DAMAGED BY THE TESTS AND SHALL RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION OR REPLACE THEM WITH NEW ITEMS.
  - 6) DISPOSE OF WATER REMOVED FROM PIPE LINES IN A MANNER THAT WILL NOT CAUSE DAMAGE TO ANY PROPERTY.
  - 7) PROVIDE AND INSTALL THE REQUIRED AIR VENTS IN THE PIPING SYSTEM TESTED.
  - 8) ALL EQUIPMENT, CONTROLS, INSTRUMENTS AND VALVES SHALL BE ISOLATED FROM THE PIPING SYSTEM DURING TEST.
- B. PLUMBING
  - 1) DOMESTIC WATER, CAP OR PLUG ALL OUTLETS. APPLY A HYDROSTATIC PRESSURE OF 150 PSI AND SUSTAIN SUCH PRESSURE FOR ONE HOUR.
  - 2) SANITARY DRAINAGE, CAP OR PLUG ALL OUTLETS. APPLY A 10-FOOT HEAD OF WATER BEFORE MAKING CONNECTIONS TO EXISTING SYSTEM.

8. PRODUCTS

- A. MANUFACTURER'S NAME AND NUMBERS ARE USED TO IDENTIFY THE TYPE AND QUALITY OF PRODUCTS REQUIRED, HOWEVER, PRODUCTS OF OTHER MANUFACTURERS WHICH ARE SIMILAR AND EQUAL MAY BE SUBMITTED FOR APPROVAL.
- B. PIPE SUPPORTS AND HANGERS
  - 1) ALL HANGERS SHALL BE CLEVIS TYPE SUPPORTS, GUIDES AND ANCHORS ADEQUATE TO SUPPORT AND GUIDE THE PIPING, ALLOW FOR FORCES IMPOSED BY EXPANSION JOINTS, SATISFY STRUCTURAL REQUIREMENTS AND MAINTAIN PROPER CLEARANCES WITH RESPECT TO ADJACENT PIPING, EQUIPMENT AND STRUCTURES. HANGERS SHALL BE ISOLATED FROM TUBING BY USE OF NEOPRENE TAPE.
  - 2) THE USE OF BAND IRON OR TIE WIRE OR RESTING OF PIPE ON BLACK IRON IS NOT PERMITTED.
  - 3) HANGERS SHALL BE SUSPENDED FROM BEAM CLAMPS, BRACKETS, FISH PLATES, INSERTS OR OTHER APPROVED MEANS. FURNISH AND INSTALL ANY ADDITIONAL MISCELLANEOUS STEEL SUPPORTS BETWEEN BUILDING FRAMING MEMBERS AS MAY BE REQUIRED.
  - 4) SUPPORT MAIN VERTICAL PIPING ON EVERY FLOOR WITH STEEL RISER CLAMPS. ADDITIONAL INTERMEDIATE SUPPORT BRACKETS, SECURED TO STRUCTURE, SHALL BE INSTALLED ON PIPING UTILIZING GASKET COUPLING JOINTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - 5) COPPER PLATE ALL HANGERS THAT WILL BE IN DIRECT CONTACT WITH BRASS OR COPPER PIPING.
  - 6) HANGERS, ANCHORS, GUIDES AND SUPPORTS SHALL BE MANUFACTURED BY GRINNELL CO., F & S CENTRAL IRON, FEE AND MASON, BLAW-KNOX CO., OR ANOTHER APPROVED PIPE HANGER SPECIALIST AND SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 6 OF ANSI B31.1, "CODE FOR PRESSURE PIPING".
  - 7) BASE HANGER LOADS ON WEIGHT OF PIPE OR EQUIPMENT SUPPORTED, WEIGHT OF INSULATION COVERING, WEIGHT OF FLUID BEING TRANSPORTED WHICHEVER IS HEAVIER.
  - 8) INSTALL PROTECTIVE SADDLES FOR INSULATED PIPING.
  - 9) WHEN LOADS BETWEEN SUPPORTS CAN BE EXPECTED TO CAUSE A SAG IN THE PIPE IN EXCESS OF 1/4" REDUCE SPACING AS NECESSARY TO STAY WITHIN SUCH LIMIT.
  - 10) UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER ROD SIZE AND SPACING SHALL BE WITHIN THE FOLLOWING LIMITS:

| PIPE SIZE      | PIPE SIZE   |      |
|----------------|---|------|
| COPPER TUBE    | COPPER TUBE   |      |
| 1/2" TO 1 1/4" | 6 FT. O.C.  | 3/8" |
| 1 1/2" TO 2"   | 8 FT. O.C.  | 3/8" |
| CAST IRON      |   |      |
| ALL            | 5 FT. O.C. BEHIND EVERY HUB AND AT CHANGE IN DIRECTION AT EACH SIDE OF NO-HUB FITTING | 3/8" |

9. JOINTS

- A. THREADED JOINTS FOR DOMESTIC WATER
  - 1) SCREWED JOINTS SHALL BE MADE TIGHT WITHOUT THE USE OF WICKING, TEFLON TAPE AND/OR COMPOUND SUITABLE FOR THE TYPE OF SERVICE SHALL BE APPLIED TO MALE THREADS ONLY.
- B. SOLDER JOINTS FOR DOMESTIC WATER
  - 1) 95-5 TIN ANTIMONY SOLDER HAVING A MELTING POINT GREATER THAN 450°F. EXCESS SOLDER SHALL BE REMOVED WHILE STILL IN A MOLTEN STATE WITH A FILET LET AT THE FACE OF THE FITTING. INTERNAL PARTS OF VALVES SHALL BE REMOVED BEFORE SOLDERING.
- C. CAST IRON PIPE FITTINGS
  - 1) ALL CAST IRON PIPE FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.
  - 2) FITTINGS SHALL BE HUBLESS SERVICE WEIGHT, CAST IRON.
  - 3) JOINTS SHALL BE NEOPRENE GASKET AND HEAVY DUTY TYPE 304 STAINLESS STEEL SHIELD AND FOUR STAINLESS STEEL BANDS FOR SIZES 1-1/2" THROUGH 4", SIX BANDS MINIMUM FOR SIZED 5" AND LARGER. CLAMPS AS MANUFACTURED BY CLAMP-ALL CORPORATION OR HUSKY AS MANUFACTURED BY ANAHEIM FOUNDRY CO. (ANACO).

10. PIPING

- A. INSTALL PIPING AS INDICATED ON THE CONTRACT DRAWINGS AND AS DIRECTED DURING INSTALLATION, STRAIGHT AND DIRECT AS POSSIBLE, FORMING RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS, NEATLY SPACED, RISERS PLUMB AND TRUE, AND AVOID INTERFERENCE WITH OTHER CONSTRUCTION.
- B. PIPING SHALL PITCH BACK TOWARD SYSTEM DRAIN VALVE AND ANY INSTALLED LOW POINTS OR POCKETS SHALL HAVE A HOSE END DRAIN VALVE.
- C. AVOID TOOL MARKS AND UNNECESSARY PIPE THREADS. BURRS FORMED WHEN CUTTING PIPE SHALL BE REMOVED BY REAMING BEFORE INSTALLING PIPE. THOROUGHLY CLEAN THE INSIDE FREE OF CUTTINGS AND FOREIGN MATTER. CUT ALL PIPE SQUARE AND SMOOTH. MAKE UP ALL JOINTS TO REQUIRED LIMITS.
- D. ERECT ALL PIPING TO OBTAIN SUFFICIENT FLEXIBILITY TO PREVENT EXCESSIVE STRESSES IN MATERIALS AND EXCESSIVE BENDING MOMENTS AT JOINTS OR CONNECTIONS. INSTALL EXPANSION LOOPS.
- E. MAKE CHANGES IN PIPE SIZE BY THE USE OF REDUCING FITTINGS. DO NOT USE REDUCING BUSHINGS EXCEPT BY APPROVAL OF THE ENGINEER. DO NOT USE CLOSE OR SHOULDER NIPPLES.
- F. AVERAGE WATER PIPING SO THAT SYSTEM CAN BE COMPLETELY DRAINED. WHERE LINES ARE PURPOSESLY PITCHED FOR DRAINAGE, A UNIFORM GRADE SHALL BE MAINTAINED. LINES SHALL BE SO SUPPORTED AS TO PREVENT POCKETING OF LIQUID. NO LINES SHALL HAVE POCKETS DUE TO CHANGES IN ELEVATION.
- G. INSTALLED PIPING SHALL NOT INTERFERE WITH THE OPERATION OR ACCESSIBILITY OF DOORS OR WINDOWS. SHALL NOT ENCR OACH ON AISLES, PASSAGEWAYS AND EQUIPMENT; AND SHALL NOT INTERFERE WITH THE SERVINGS OR MAINTENANCE OF ANY EQUIPMENT. ADJACENT PIPE LINES SHALL BE GROUPED IN THE SAME HORIZONTAL OR VERTICAL PLANE.
- H. COORDINATE AS NECESSARY TO INSURE THAT ALL HANGERS, SUPPORTS, SLEEVES AND OTHER BUILT-IN DEVICES ARE INCORPORATED IN FORMS OR IN MASONRY TO AVOID NECESSITY OF CUTTING FINISHED STRUCTURE.
- I. WATER PIPING SHALL BE SEAMLESS, DRAWN OR EXTRUDED COPPER TUBING TYPE "L" ASTM B.88.
- J. FOR SOL AND WASTE BRANCH PIPING "NO HUB" CAST IRON PIPING SHALL BE USED PIPING SHALL FOLLOW WITH THE STANDARDS OF THE CAST IRON SOIL PIPE INSTITUTE. CISPI 301.310.
- K. WHEN INSTALLING NEW "Y" CONNECTIONS IN EXISTING RISERS (BELL & SPIGOT TYPE) A BELL & SPIGOT "Y" MUST BE USED WITH A "NO-HUB" BRANCH ADAPTER.
- L. STANDARD WEIGHT, SCHEDULE 40, BLACK STEEL PIPE WITH SCREWED FITTING FOR 2" DIAMETER PIPE AND SMALLER, WELDED JOINTS FOR PIPING 3" IN DIAMETER AND LARGER 3". ALL WELDING REQUIRES CONTROLLED INSPECTION AS TESTING AND RADIOGRAPHING.

11. PROTECTION AND CLEANING

- A. PROTECT ENTIRE INSTALLATION FROM DAMAGE DURING CONSTRUCTION AND BE RESPONSIBLE FOR ALL DAMAGE UNTIL FINAL ACCEPTANCE OF THE WORK. ALL PIPES SHALL BE PROTECTED WITH SUITABLE COVERINGS AS SOON AS THEY ARE SET. ALL OPEN ENDS OF PIPES SHALL BE CLOSED BY A PLUG FITTING TO PREVENT OBSTRUCTION AND DAMAGE.
- B. ALL OPENINGS IN FLOORS SHALL BE COVERED AND PROTECTED DURING THE COURSE OF CONSTRUCTION.
- C. BEFORE FINAL CONNECTIONS ARE MADE AND BEFORE OPERATION OF AND PIPING, ALL PIPING SHALL BE THOROUGHLY BLOWN OUT, RODDED OUT, OR WASHED OUT AT LEAST TWICE IN A MANNER AS DIRECTED AND/OR APPROVED BY THE ENGINEER, TO REMOVE ALL ACCUMULATION OF DIRT, CHIPS OR OTHER DELETERIOUS MATERIAL. MAKE ALL TEMPORARY CONNECTIONS AND FURNISH ALL APPLIANCES REQUIRED FOR THE PURPOSE OF CLEANING.
- D. UPON COMPLETION OF THE INSTALLATION AND WHEN DIRECTED BY THE ENGINEER REMOVE ALL PROTECTION MATERIALS, ALL SCALE, DIRT, GREASE, STAINS AND THE LIKE, AND LEAVE IN A CLEAN CONDITION FOR PAINTING.

12. PIPE AND FITTING INSULATION

- A. INSULATE ALL DOMESTIC HOT WATER PIPING WITH MANVILLE MICRO LOK FIBER-GLASS PIPE INSULATION. USE MICRO LOK AP-1 PLUS VAPOR BARRIER INSULATION WITH PRESSURE SENSITIVE CLOSURE SYSTEM FOR COLD WATER, ELECTRIC WATER COOLER WASTE PIPING. THE INSULATION AVERAGE THERMAL CONDUCTIVITY SHALL NOT EXCEED 0.22 BTU PER INCH, PER SQUARE FOOT PER DEGREES F. PER HOUR AT A MEAN TEMPERATURE OF 75 DEGREES F. INSULATION THICKNESS SHALL BE 1 INCH.
- B. HOT AND COLD WATER COVERING SHALL BE SECURED AS REQUIRED BY THE INSULATION MANUFACTURER AND SEALED WITH BENJAMIN FOSTER SEALFAS NO. 30-36 ADHESIVE.
- C. COVERING FOR FITTINGS - ALL FITTINGS THAT ARE REQUIRED TO COVERED SHALL BE INSULATED WITH ALUMINUM BACKED FIBERGLASS.

13. PLUMBING FIXTURES & TRIM

- A. FIXTURES SHALL BE OF THE FIRST QUALITY AS FABRICATED BY A MANUFACTURER OF ESTABLISHED REPUTATION.
- B. ALL PLUMBING FIXTURE SHALL COMPLY WITH L.L. 29/89 HANDICAP FIXTURE SHALL COMPLY WITH L.L. 58 AND ADA REQUIREMENTS.
- C. REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE LIST OF FIXTURES, LOCATION AND SPECIFICATIONS. REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE (P-001) FOR EXACT PIPING CONNECTIONS REQUIRED FOR EACH FIXTURE! EQUIPMENT. REFER TO RISER DIAGRAM (P-001) FOR DETAILED PIPE CONFIGURATION. PLUMBING FIXTURES AND EQUIPMENT SHALL BE AS FOLLOWS:

- 1) FLOOR DRAIN (FD)
  - PROVIDE & INSTALL 3" FLOOR DRAIN AS MANUFACTURED BY "JAY R SMITH" #2005 OR EQUAL WITH CHROME PLATED ROUND STRAINER AND 1/2" CW CONNECTION TO TRAP PRIMER. COORDINATE EXACT LOCATION WITH ARCHITECT. SEE RISER DIAGRAM FOR SCHEMATIC.
- 2) WATER HAMMER ARRESTOR (WHA)
  - PROVIDE & INSTALL WATER HAMMER ARRESTOR AS MANUFACTURED BY ZURN MODEL #21700. "SHOXTRON" STAINLESS STEEL WATER HAMMER ARRESTOR. SIZE OF DEVICE AND SIZE OF INLET SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- 3) VACUUM BREAKERS
  - PROVIDE & INSTALL VACUUM BREAKER AS MANUFACTURED BY "WATTS" MODEL#LF008PCQT ANTI-SIPHON ANTI-SPILL AND SHALL BE INSTALLED IN ACCORDANCE W/ THE MANUFACTURER'S INSTRUCTION - CHROME PLATED BRONZE BODY W/ VALVE ASSEMBLY. SPRINGS SHALL BE STAINLESS STEEL. THE VALVE SHALL BE CONSTRUCTED WITH A MOLDED DIAPHRAGM SEPARATING THE AIR INLET FROM THE POTABLE WATER SUPPLY TO PREVENT SPILLAGE. COORDINATE WITH ARCHITECT FOR ACCESS PANEL LOCATIONS.
- 4) TRAP PRIMER (TP)
  - PROVIDE & INSTALL ELECTRONIC AUTOMATIC TRAP PRIMER MANIFOLD WITH BOX AND ACCESS DOOR AS MANUFACTURED BY "PPF" MODEL WMP-500. PROVIDE & INSTALL WITH DISTRIBUTION UNIT FOR MULTIPLE FLOOR OR FUNNEL DRAINS AS INDICATED ON PLANS. INSTALL ABOVE CEILING AND ROUTE DISCHARGE TO DRAINS).

14. LABELING AND IDENTIFICATION

- A. PIPING: PIPE TAGS SHALL BE SNAP-ON TYPE AS MANUFACTURED BY SETON NAMEPLATE CORP. IDENTIFICATION SHALL BE IN ACCORDANCE WITH OSHA SAFETY COLOR REGULATION AND ANSI A13.1
  - 1) INSTALL PIPE LABELS AT INTERVALS OF NOT MORE THAN 20 FEET.
  - 2) INSTALL A MINIMUM OF (1) PIPE LABEL PER ROOM
  - 3) INSTALL LABELS ON EACH SIDE OF WALL WHEN PENETRATED BY PIPING

15. VALVES

- A. BALL VALVE
  - PROVIDE & INSTALL BALL VALVE AS MANUFACTURED BY "APOLLO" MODEL#K2-100 SERIES BRONZE BALL VALVE AND SHALL BE INSTALLED IN ACCORDANCE W/ THE MANUFACTURER'S INSTRUCTION - 2 PIECE, BRONZE BODY, CHROME PLATED BRASS BALL, REGULAR PORT, TEFLON SEATS, BLOWOUT PROOF, THREADED. COORDINATE WITH ARCHITECT FOR ACCESS PANEL LOCATIONS.
- B. CHECK VALVE
  - PROVIDE & INSTALL CHECK VALVE AS MANUFACTURED BY "APOLLO" MODEL#162T SERIES CLASS 125 SWING CHECK VALVE AND SHALL BE INSTALLED IN ACCORDANCE W/ THE MANUFACTURER'S INSTRUCTION - MSS-89-80, BRONZE BODY & CAP, 200 PSI PRESSURE, 300° F MAX TEMPERATURE, BRASS PLUG. COORDINATE WITH ARCHITECT FOR ACCESS PANEL LOCATIONS.
- C. PLUG VALVE
  - PROVIDE & INSTALL GAS VALVE AS MANUFACTURED BY "APOLLO" 90 SERIES OR 92 SERIES INSTALLED IN ACCORDANCE W/ THE MANUFACTURER'S INSTRUCTION. BRONZE BODY & CAP, 10 PSI PRESSURE, 125° F MAX TEMPERATURE, BRASS PLUG.

16. DISINFECTION OF POTABLE WATER SYSTEMS

- A. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEATH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION OR, IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER ANWA C851 OR ANWA C882, OR AS DESCRIBED IN THIS SECTION. THIS REQUIREMENT SHALL APPLY TO "ON-SITE" OR "IMPLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.
  - 1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.
  - 2. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR 24 HR. OR, THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE AND ALLOW TO STAND FOR 3 HR.
  - 3. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER. THE CHLORINE IS PURGED FROM THE SYSTEM.
  - 4. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PRESENT IN THE SYSTEM.

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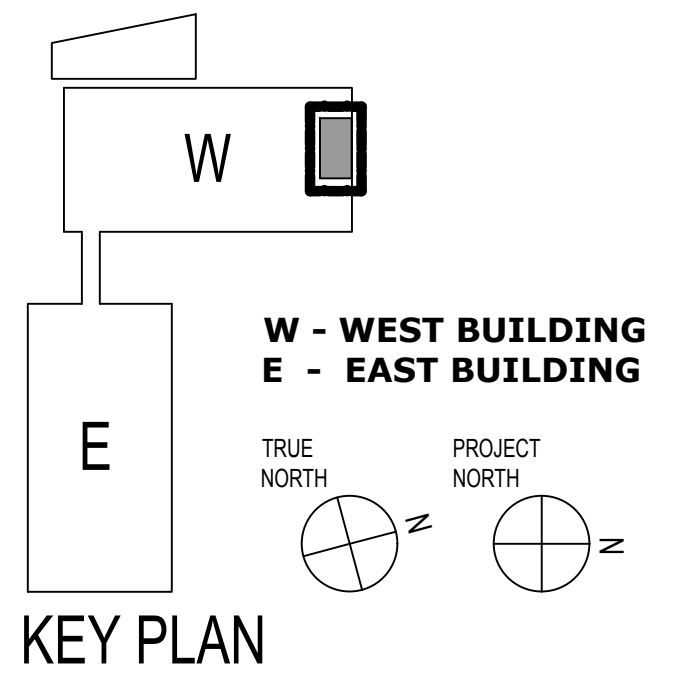
OWNER:

COLUMBIA DOCTOR'S  
TARRYTOWN

PROJECT:

NEW MRI

155 WHITE PLAINS ROAD  
TARRYTOWN, NY 10591



KEY PLAN

| 1                | CD SUBMISSION | 6-18-21 |
|------------------|---------------|---------|
| NO.              | DESCRIPTION   | DATE    |
| REVISIONS/ISSUES |               |         |

SHEET TITLE:  
PLUMBING  
SPECIFICATIONS

SEAL:

DATE: 7/23/2020  
CON/REF No.  
CONTRACT No.  
SCALE: As indicated  
PROJECT No. 12384  
CHECKED: Checker  
DRAWN: Author

SHEET NO.

P-002.00

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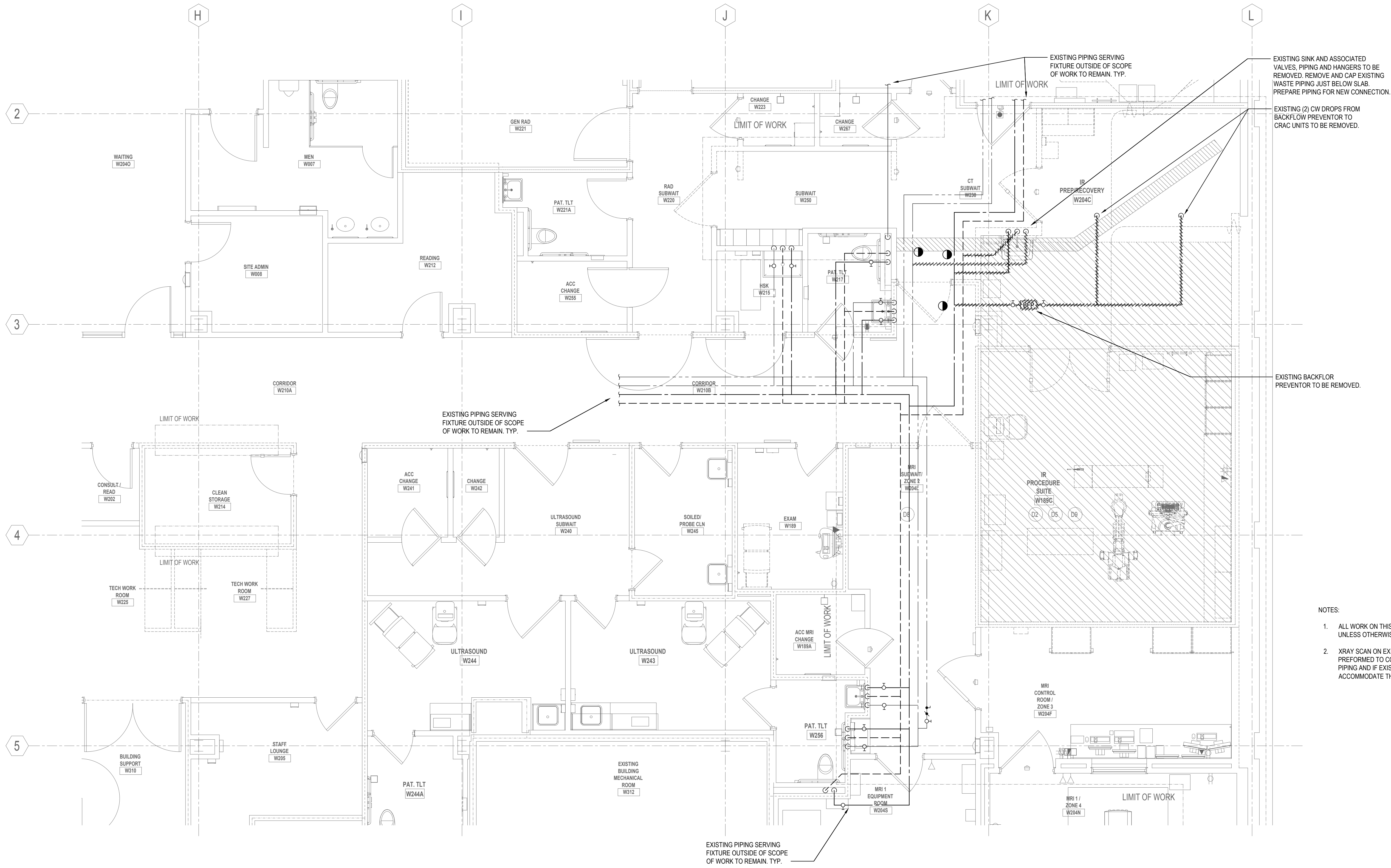
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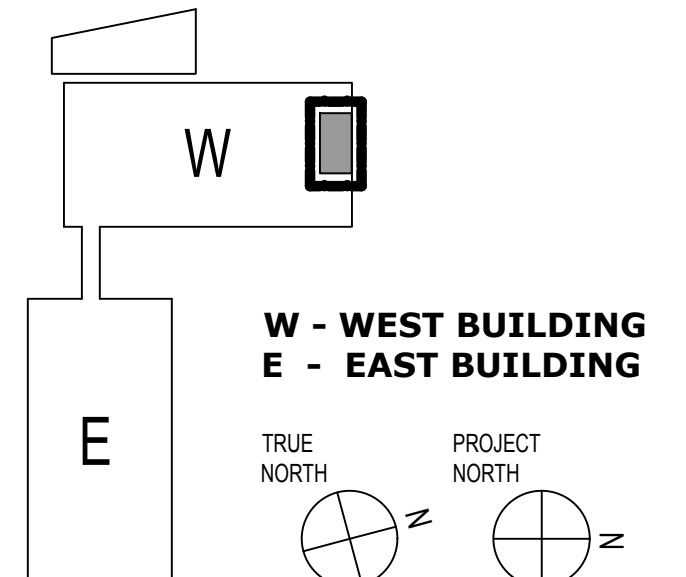
OWNER:

COLUMBIA DOCTOR'S  
TARRYTOWN

PROJECT:

NEW MRI

155 WHITE PLAINS ROAD  
TARRYTOWN, NY 10591



KEY PLAN

| 1                | CD SUBMISSION | 6-18-21 |
|------------------|---------------|---------|
| NO.              | DESCRIPTION   | DATE    |
| REVISIONS/ISSUES |               |         |

SHEET TITLE:

PLUMBING  
DEMOLITION PLAN

SEAL:

DATE: 7/23/2020  
CON/REF No.  
CONTRACT No.  
SCALE: As indicated  
PROJECT No. 12384  
CHECKED: Checker  
DRAWN: Author

SHEET NO.

P-101.00

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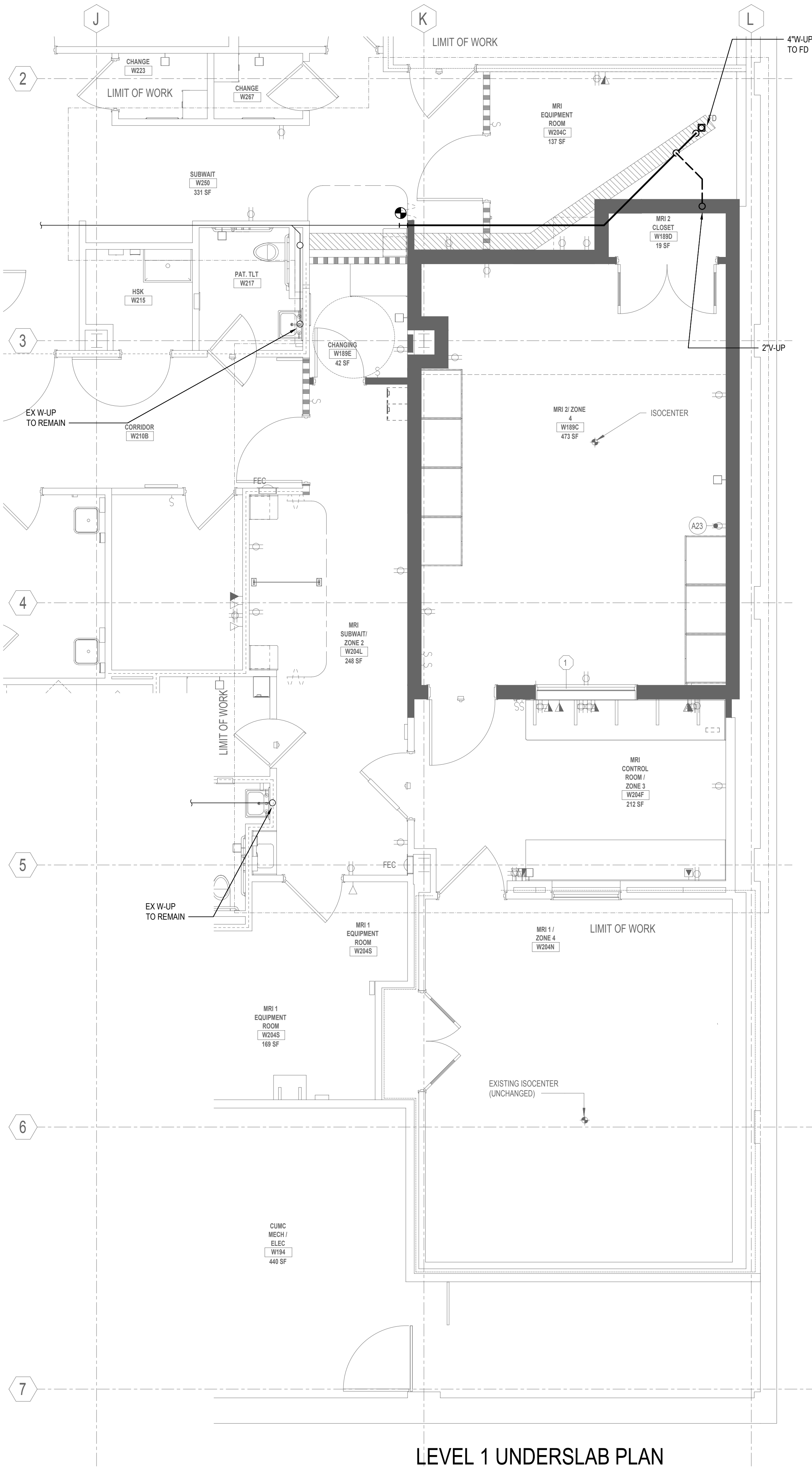
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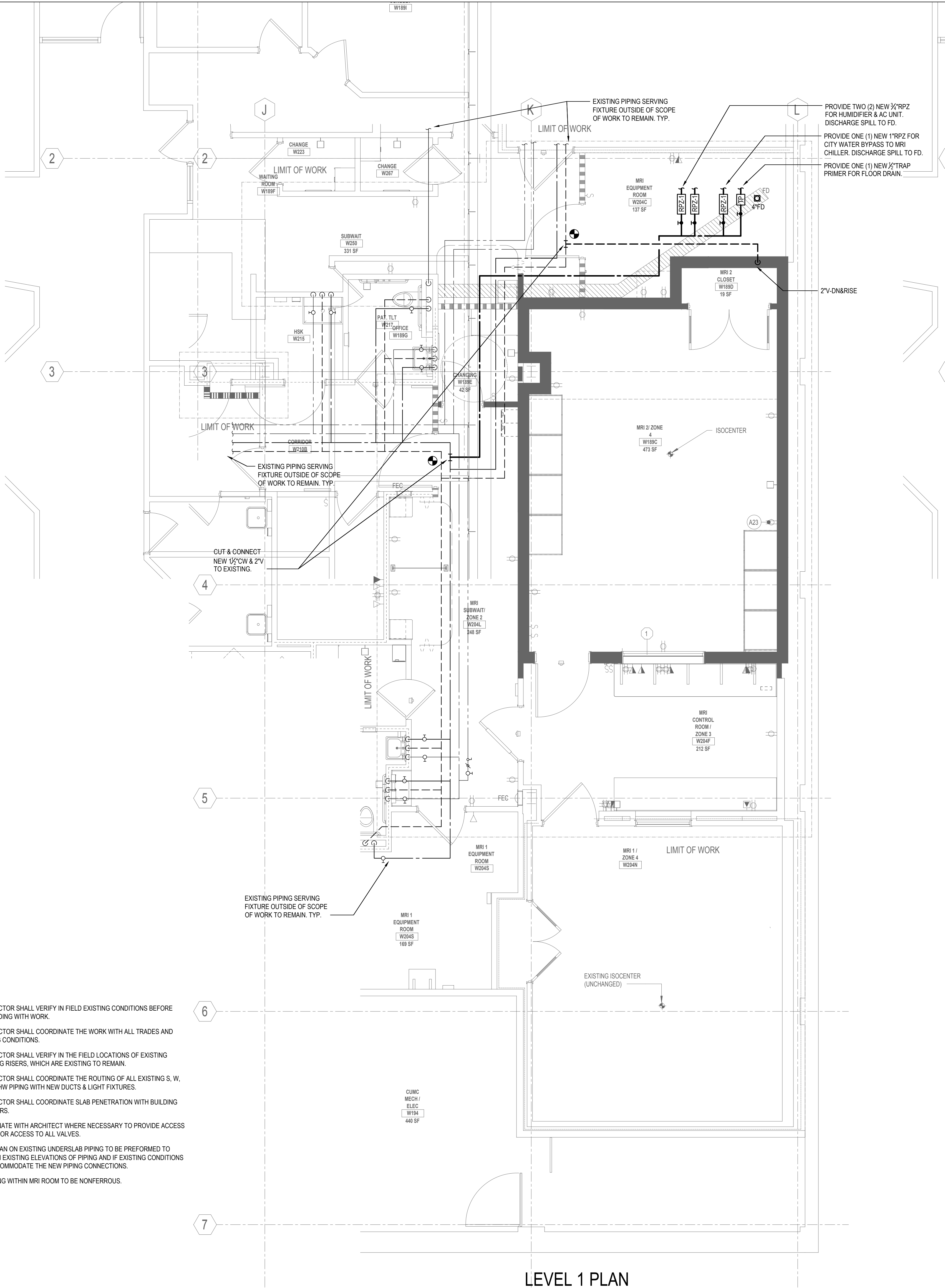
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LEVEL 1 UNDERSLAB PLAN

NOTES:

1. CONTRACTOR SHALL VERIFY IN FIELD EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK.
2. CONTRACTOR SHALL COORDINATE THE WORK WITH ALL TRADES AND EXISTING CONDITIONS.
3. CONTRACTOR SHALL VERIFY IN THE FIELD LOCATIONS OF EXISTING PLUMBING RISERS, WHICH ARE EXISTING TO REMAIN.
4. CONTRACTOR SHALL COORDINATE THE ROUTING OF ALL EXISTING S, W, V, CW & HW PIPING WITH NEW DUCTS & LIGHT FIXTURES.
5. CONTRACTOR SHALL COORDINATE SLAB PENETRATION WITH BUILDING ENGINEERS.
6. COORDINATE WITH ARCHITECT WHERE NECESSARY TO PROVIDE ACCESS DOORS FOR ACCESS TO ALL VALVES.
7. XRAY SCAN ON EXISTING UNDERSLAB PIPING TO BE PERFORMED TO CONFIRM EXISTING ELEVATIONS OF PIPING AND IF EXISTING CONDITIONS CAN ACCOMMODATE THE NEW PIPING CONNECTIONS.
8. ALL PIPING WITHIN MRI ROOM TO BE NONFERROUS.



LEVEL 1 PLAN

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COLUMBIA DOCTOR'S  
TARRYTOWN  
  
PROJECT:  
NEW MRI  
  
155 WHITE PLAINS ROAD  
TARRYTOWN, NY 10591

W  
E

W - WEST BUILDING  
E - EAST BUILDING

TRUE NORTH  
PROJECT NORTH

KEY PLAN

| 1                | CD SUBMISSION | 6-18-21 |
|------------------|---------------|---------|
| NO.              | DESCRIPTION   | DATE    |
| REVISIONS/ISSUES |               |         |

SHEET TITLE:  
PLUMBING PLANS

SEAL:

DATE: 7/23/2020  
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SCALE: As indicated  
PROJECT No. 12384  
CHECKED: Checker  
DRAWN: Author

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P-201.00

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SPRINKLER NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND JOB CONDITIONS AND SHALL REPORT TO ENGINEER ANY DISCREPANCIES OR OMISSIONS THAT WOULD INTERFERE WITH SATISFACTORY COMPLETION OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING A FULL SET OF BID DOCUMENTS AND VISIT THE SITE TO MAKE HIMSELF AWARE OF THE TOTAL JOB BEFORE SUBMITTING HIS PRICE. FAILURE TO COMPLY SHALL NOT HOLD THE OWNER RESPONSIBLE FOR ANY ADDITIONAL COST. CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING WITH FACILITY'S BUILDING MANAGEMENT FOR HANDLING MATERIALS, AS WELL AS FOR ALLOWABLE WORKING HOURS AND DELIVERIES.
- CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS AND MANUFACTURERS' CUTS AND SAMPLES TO ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- THE CONTRACTOR SHALL INDICATE ON HIS SHOP DRAWING THAT ALL PIPING LAYOUTS ARE COORDINATED WITH THE MEP AND STRUCTURAL CONDITIONS. INCLUDE ON EACH WORKING DRAWING LAYOUT CERTIFICATE, THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED, AND THAT NO CONFLICT EXISTS. SUBMISSION WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.
- CONTRACTOR SHALL SUBMIT SPRINKLER HYDRAULIC CALCULATIONS FOR THE ENGINEER'S REVIEW TO VERIFY THE ADEQUACY OF THE INDICATED PIPE SIZES. SHOP DRAWINGS MUST INDICATE ALL HYDRAULIC CALCULATION NODE AND PIPE TAGS.
  - SPRINKLER PIPING SHALL BE INSTALLED AS PER APPROVED SHOP DRAWINGS.
  - CONTRACTOR SHALL BASE ALL HYDRAULIC CALCULATIONS ON THE LOWEST PRESSURE RECORDED WITH THE WATER DISTRICT AT THE LOCATION OF THE NEAREST FIRE HYDRANT.
  - PROVIDE HYDRAULICALLY DESIGNED SPRINKLER SYSTEM FOR ALL PIPING NOT SIZED.
- DRAWINGS ARE NOT TO BE SCALED.
- CONTRACTOR SHALL COMPLY WITH ALL NEW YORK STATE BUILDING DEPARTMENT AND REGULATORY AGENCIES AND CODE REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND APPROVALS OF ALL TRADES.
- CONTRACTOR SHALL EXERCISE EXTREME CARE IN PROTECTING AREAS ADJACENT TO CONSTRUCTION AREAS SHALL FULLY PROTECT THEM FROM ANY DAMAGE RESULTING FROM CONTRACTORS' WORKMEN. SUBCONTRACTORS OR AGENTS, AND SHALL BE RESPONSIBLE FOR REPAIRING, CLEANING OR REPLACING ANY SUCH DAMAGE.
- ALL DIMENSIONS GIVEN ARE FINISH DIMENSIONS UNLESS OTHERWISE STATED.
- UNLESS SPECIFICALLY STATED OTHERWISE, CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, APPURTENANCES, EQUIPMENT AND SERVICES TO COMPLETE ALL WORK AS INDICATED ON DRAWINGS AND/OR SPECIFIED ON NOTES.
- UNLESS SPECIFICALLY STATED OTHERWISE, CONTRACTOR SHALL FOLLOW MANUFACTURER'S DIRECTIONS, INSTRUCTIONS AND RECOMMENDATIONS FOR ALL MATERIALS AND PROCESSES USED IN THIS CONTRACT.
- RELOCATE ALL EXISTING SPRINKLER MAIN AND BRANCH PIPING IN THE AREA OF WORK THAT IS IN CONFLICT WITH THE LIGHTING FIXTURES AND HVAC DUCTWORK.
- PROVIDE SPRINKLER HEADS UNDER DUCTS OVER 4'-0" IN WIDTH IN AREAS WITHOUT HUNG CEILING.
- ALL UPRIGHT SPRINKLER HEADS SHALL HAVE HEAD GUARDS.
- LOCATE ALL HORIZONTAL PIPING ABOVE SUSPENDED CEILING. UNLESS THERE IS NO CEILING.
- ACCESS DOORS ARE TO BE PROVIDED ADJACENT TO ALL VALVES.
- EACH CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL PENETRATIONS, CUTTING, PATCHING, SLEEVES, AND FIRESTOPPING REQUIRED TO COMPLETE THE INSTALLATION OF ALL WORK INCLUDED UNDER THEIR CONTRACT IN ACCORDANCE WITH THE FIRE EGRESS AND SECURITY PLAN DRAWINGS AND IN ACCORDANCE WITH DIVISION 26.
- UPON COMPLETION OF THE WORK, CONTRACTOR SHALL COMPLETELY CLEAN THE CONSTRUCTION AREA SUITABLE FOR THE OWNERS USE, INCLUDING REMOVAL OF ALL LABELS (AFTER ARCHITECT'S INSPECTION), CLEANING OF ALL THE EQUIPMENT, CONSTRUCTION WORK, WINDOWS AND OTHER WORK, NEW AND OLD, IN THAT CONSTRUCTION AREA.
- AT THE FINAL COMPLETION OF THE JOB, CONTRACTOR SHALL SUBMIT TO THE FACILITY AND TO ENGINEER A NOTARIZED AFFIDAVIT STATING COMPLIANCE WITH ALL PROVISIONS OF THIS CONTRACT, INCLUDING ALL NOTES, EXCEPT FOR THOSE CHANGES SPECIFICALLY APPROVED IN WRITING BY THE ARCHITECT.
- CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED UNDER THIS CONTRACT FOR ONE YEAR, STARTING FROM DATE OF FINAL ACCEPTANCE OF ALL WORK.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL FITTINGS AND PIPING REQUIRED TO MODIFY EXISTING SPRINKLER PIPING DESIGNATED AS EXISTING TO REMAIN IF IN CONFLICT WITH NEW MEP EQUIPMENT OR NEW ARCHITECTURAL FEATURES.
- THE MINIMUM SPRINKLER BRANCH PIPE SIZE SHALL BE 1".
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING FIRE WATCH FOR ANY TIME THAT A PORTION OF THE BUILDING SPRINKLER SYSTEM IS NOT OPERATIONAL. FIRE WATCH MUST BE DONE IN ACCORDANCE WITH LOCAL FIRE DEPARTMENT REGULATIONS. ANY FIRE WATCH REQUIRED MUST BE COORDINATED WITH BUILDING.

SPRINKLER REMOVAL NOTES

- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT.
- VERIFY ALL GOVERNING DIMENSIONS, PIPE SIZES AND LOCATION OF THE PIPING AND EQUIPMENT TO BE REMOVED.
- NOTIFY BUILDING AT LEAST 48 HOURS BEFORE DEMOLITION WORK OR BEFORE SHUT DOWN OF EXISTING SERVICES. RISER SHUT DOWNS SHALL BE PERFORMED AT CONTRACTOR'S COST, AT DESIGNATED TIMES UNDER CAMPUS SUPERVISION AND ONLY WITH THEIR APPROVAL.
- THE CONTRACTOR'S WORK ACTIVITIES SHALL NOT INTERFERE WITH THE BUILDING SERVICES IN ANY WAY WITHOUT THE EXPRESS PERMISSION IN WRITING BY THE CAMPUS. SUCH INTERRUPTIONS AND INTERFERENCES SHALL BE MADE AS BRIEF AS POSSIBLE AND ONLY AT THE TIME STATED BY THE CAMPUS.
- ALL EQUIPMENT, PIPING, ETC. TO BE REMOVED, SHALL BE DISPOSED OF, UNLESS OTHERWISE DIRECTED BY THE BUILDING OWNER.
- UPON COMPLETION OF ALL NEW WORK NO ABANDONED PIPING SHALL REMAIN.
- THE EXISTING SYSTEMS SHALL BE LEFT IN PERFECT WORKING ORDER UPON COMPLETION OF ALL NEW WORK.
- LOCATIONS AND SIZES OF EXISTING PIPING ARE APPROXIMATE. FIELD VERIFY EXACT SIZES AND LOCATIONS OF ALL EXISTING PIPING AT THE SITE.
- NO REMOVED EXISTING PIPING FITTINGS, VALVES, ETC. SHALL BE REUSED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING HEIGHTS.
- CONTRACTOR & ITS SUBS SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING SPRINKLERS AND RELATED PIPING AS WELL AS REMOVING SPRINKLERS AS REQUIRED TO MEET NEW PROPOSED SPRINKLER HEAD LAYOUT.

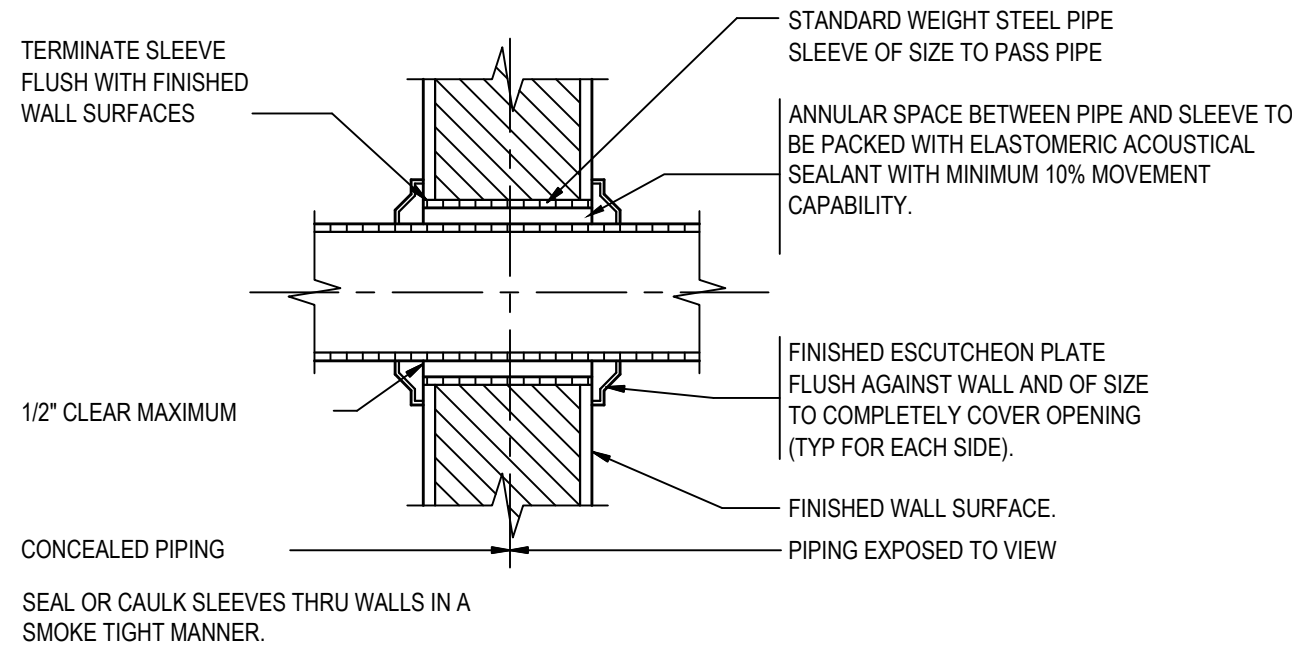
SPRINKLER DRAWING LIST:

|        |   |
|--------|---|
| SP-001 | SPRINKLER NOTES, SYMBOLS, SCHEDULES & DETAILS |
| SP-002 | SPRINKLER SPECIFICATIONS                      |
| SP-101 | SPRINKLER DEMOLITION PLAN                     |
| SP-201 | SPRINKLER PLAN                                |

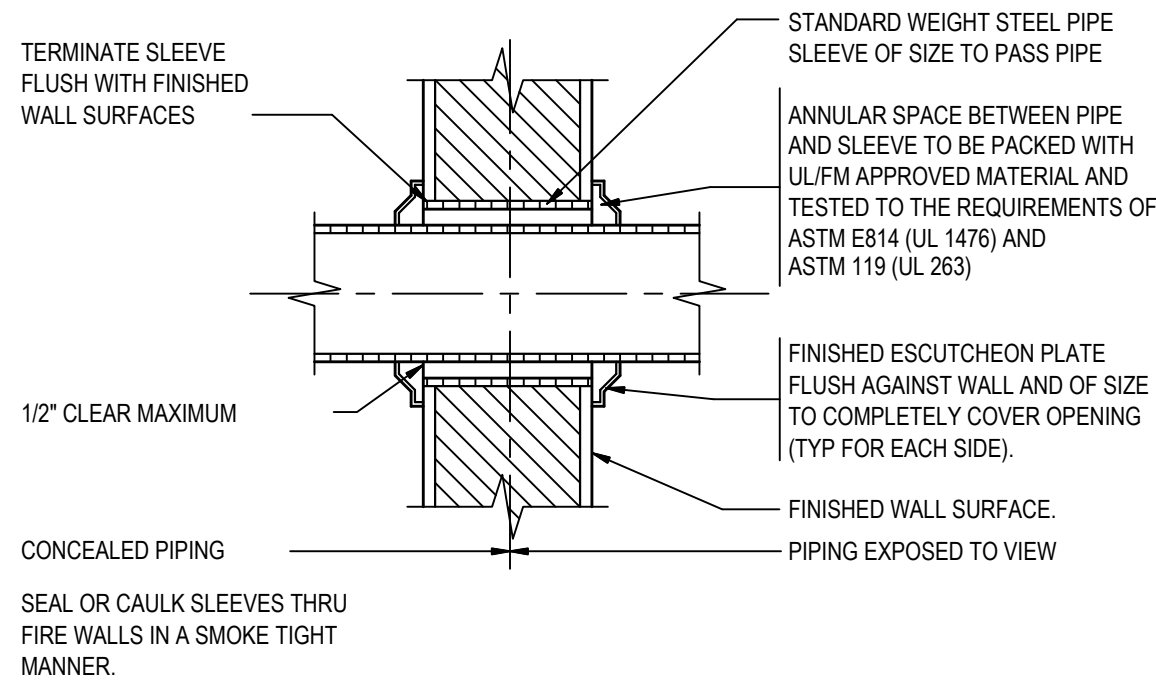
| SYMBOLS |   |
|---------|---|
|         | EXISTING SPRINKLER PIPING TO REMAIN                                       |
|         | EXISTING SPRINKLER DRAIN PIPING TO REMAIN                                 |
|         | EXISTING PIPING TO BE REMOVED   |
|         | SPRINKLER SYSTEM PIPING   |
|         | FIRE STANDPIPE SYSTEM PIPING  |
|         | PRE-ACTION SYSTEM PIPING  |
|         | DIRECTION ARROW   |
|         | PIPE-UP UNLESS OTHERWISE NOTED  |
|         | PIPE DROP UNLESS OTHERWISE NOTED  |
|         | TOP CONNECTION  |
|         | BOTTOM CONNECTION   |
|         | CAPPED OUTLET   |
|         | DROP OR RISE  |
|         | NEW CONNECTION  |
|         | PRE-ACTION VALVE  |
|         | MANUAL PULL STATION   |
|         | SUPERVISORY HORN (TAMPER SWITCH & LOW AIR ALARM)                          |
|         | MULTITONE HORNSTROBE (COMMON TROUBLE)                                     |
|         | MULTITONE HORNSTROBE (WATER FLOW, SMOKE DETECTOR, MANUAL STATION & ALARM) |
|         | SMOKE DETECTOR  |
|         | FIRE HOSE RACK (RISER DIAGRAM/ELEVATION)                                  |
|         | EXISTING FIRE HOSE CABINET  |
|         | EXISTING FIRE HOSE RACK (PLAN)  |
|         | EXISTING FLOOR CONTROL ASSEMBLY   |
|         | EXISTING FLOOR CONTROL ASSEMBLY   |
|         | EXISTING FLOOR CONTROL ASSEMBLY   |
|         | EXISTING WATER FLOW DETECTOR  |
|         | EXISTING SHUT-OFF VALVE   |
|         | EXISTING NORMALLY CLOSED DRAIN VALVE                                      |
|         | EXISTING CHECK VALVE  |
|         | EXISTING O.S.&Y. VALVE  |
|         | EXISTING O.S.&Y. VALVE WITH TAMPER SWITCH                                 |
|         | EXISTING PRESSURE REDUCING VALVE (PRV)                                    |
|         | EXISTING PRE-ACTION VALVE   |
|         | EXISTING 3 WAY ROOF MANIFOLD  |
|         | EXISTING SIAMESE CONNECTION   |
|         | EXISTING SIAMESE CONNECTION   |
|         | EXISTING PRESSURE GAUGE (PG)  |
|         | EXISTING UNION  |
|         | EXISTING WATER-PROOF PIPE SLEEVE  |
|         | EXISTING PUMP   |
|         | POINT OF DISCONNECTION FROM EXISTING                                      |
|         | POINT OF NEW CONNECTION TO EXISTING                                       |
|         | SHEET KEYNOTE DESIGNATION   |
|         | HYDRAULIC CALCULATION NODE DESIGNATION                                    |

| SPRINKLER SCHEDULE   |                                  |               |                    |          |              |              |
|--|----------------------------------|---------------|--------------------|----------|--------------|--------------|
| SYMBOL   | TYPE                             | LOCATION      | TEMPERATURE RATING | K-FACTOR | MANUFACTURER | MODEL/ID No. |
|  | CONCEALED PENDENT                | HUNG CEILINGS | 165°F              | 5.6      | RELIABLE     | G5-56/RA3415 |
|  | EXISTING SPRINKLER TO BE REMOVED | -             | -                  | -        | -            | -            |
|  | EXISTING SPRINKLER TO REMAIN     | -             | -                  | -        | -            | -            |
| NOTES: <ol style="list-style-type: none"><li>QUICK RESPONSE SPRINKLERS USED THROUGHOUT.</li><li>PROVIDE INTERMEDIATE TEMPERATURE SPRINKLERS FOR MECHANICAL SPACES.</li></ol> |                                  |               |                    |          |              |              |

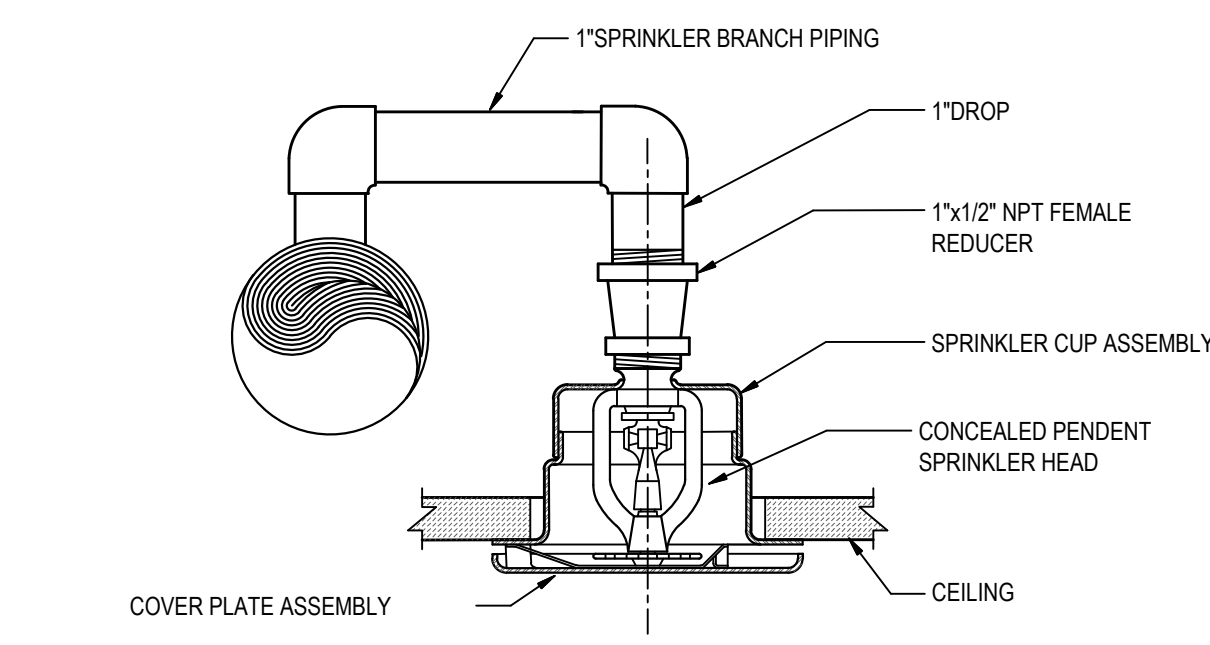
| CLASSIFICATION OF HAZARD OCCUPANCIES  |                                |                            |                  |                                     |
|---|--------------------------------|----------------------------|------------------|-------------------------------------|
| CLASSIFICATION  | MAXIMUM COVERAGE PER SPRINKLER | HYDRAULIC AREA             | DENSITY          | ROOMS                               |
| LIGHT   | 225 SQ. FT.                    | 1,500 SQ. FT. (SEE NOTE 2) | 0.1 GPM/SQ. FT.  | OFFICES, CORRIDORS & TOILET ROOMS   |
| ORDINARY GROUP 1  | 130 SQ. FT.                    | 1,500 SQ. FT.              | 0.15 GPM/SQ. FT. | STORAGE, MECHANICAL EQUIPMENT ROOMS |
| NOTES: <ol style="list-style-type: none"><li>SEE ROOM NAMES ON PLAN FOR APPLICABLE ROOM DESIGNATIONS.</li><li>AREA REDUCTION PER 2007 NFPA 13 SECTION 11.2.3.2.3; 1,500 SQ.FT MINUS PERCENTAGE ALLOWED BASED ON CEILING HEIGHTS. REFER TO FLOOR PLANS ACTUAL AREA CALCULATED.</li></ol> |                                |                            |                  |                                     |



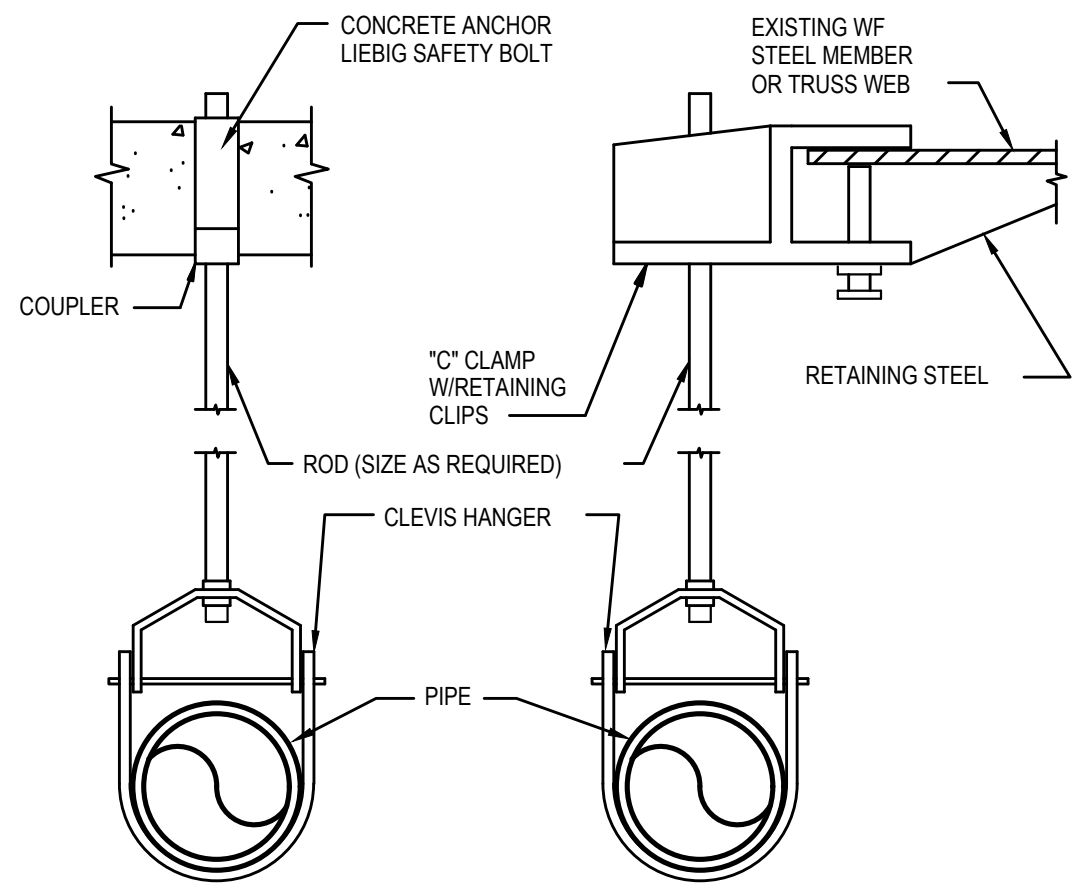
DETAIL OF PIPE PENETRATING  
THRU NON FIRE RATED WALL  
NOT TO SCALE



DETAIL OF PIPE PENETRATING  
THRU FIRE RATED WALL AND FLOOR  
NOT TO SCALE



TYPICAL CONCEALED PENDENT SPRINKLER  
NOT TO SCALE

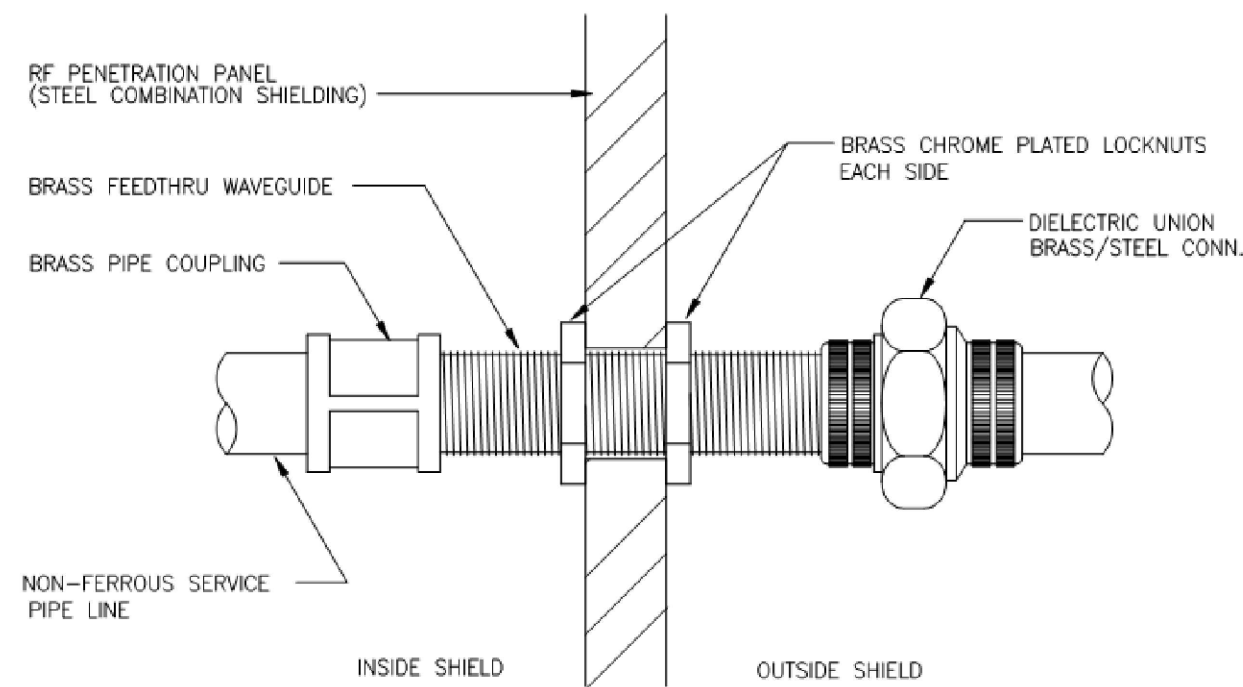


CONCRETE STRUCTURE STEEL STRUCTURE

NOTES:

- INCREASE CLEVIS HANGER SIZE TO ALLOW FOR INSULATION OF THOSE LINES REQUIRING INSULATION.
- FOR INSULATED LINES USE STEEL PIPE SHIELDS AT HANGER POINTS.
- THE ABOVE DETAIL SHALL BE USED ONLY FOR LINES UP TO AND INCLUDING 4" IN SIZE.
- HANGING DETAILS SHALL BE SUBMITTED TO BUILDING APPROVED STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
- SEE SPECIFICATIONS FOR HANGER SPACING AND ROD SIZES.
- REPAIR FIRE PROOFING AT REMOVED AND NEW SUPPORT CONNECTIONS.

TYPICAL HANGER DETAILS  
NOT TO SCALE



DIELECTRIC WAVEGUIDE  
(RF SHIELD PENETRATION)

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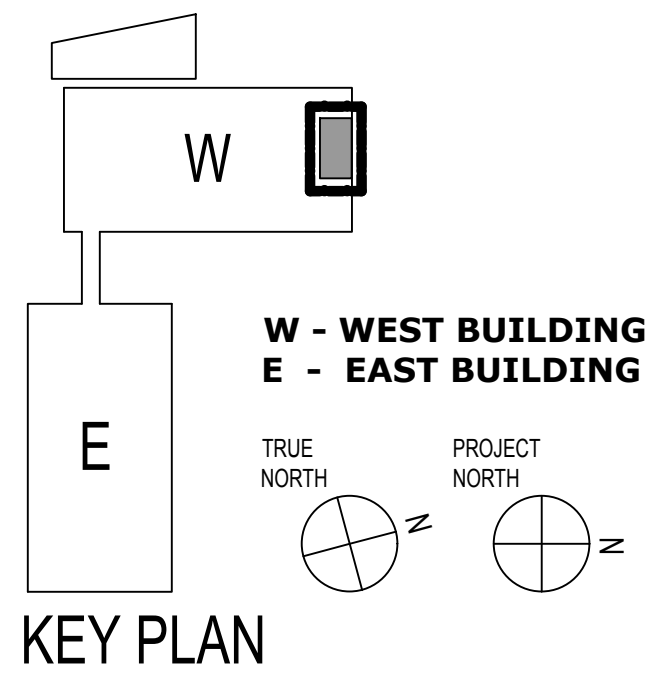
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KEY PLAN

| 1                | CD SUBMISSION | 6-18-21 |
|------------------|---------------|---------|
| NO.              | DESCRIPTION   | DATE    |
| REVISIONS/ISSUES |               |         |

SHEET TITLE:

SPRINKLER NOTES,  
SYMBOLS, SCHEDULES  
& DETAILS

SEAL:

DATE: 7/23/2020

CON/REF No.

CONTRACT No.

SCALE: As indicated

PROJECT No. 12384

CHECKED: Checker

DRAWN: Author

SHEET NO.

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**SPRINKLER SPECIFICATIONS**

**1. APPLICABLE STANDARDS, CODES AND PUBLICATIONS**

- A. THIS ENTIRE INSTALLATION SHALL BE MANUFACTURED, TESTED AND INSTALLED TO CONFORM, AS A MINIMUM, TO APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS EXCEPT WHERE STRicter REQUIREMENTS ARE SPECIFIED ELSEWHERE HEREIN OR SHOWN ON THE CONTRACT DRAWINGS:
- 2015 NEW YORK STATE BUILDING CODE
  - 2015 NEW YORK STATE FIRE CODE
  - GUIDELINES FOR DESIGN & CONSTRUCTION OF HEALTHCARE FACILITIES (FGI) - 2014
  - NATIONAL FIRE PROTECTION ASSOCIATION.
  - NFPA 99
  - NFPA 13
  - NEW YORK STATE DEPARTMENT OF HEALTH (DOH)
  - UNDERWRITERS' LABORATORIES, INC.
  - OSHA, AND ALL AGENCIES HAVING JURISDICTION

**2. WORK SCOPE**

- A. THE SCOPE OF WORK SHALL BE AS DESCRIBED BELOW. NO CHANGE OF USE, EGRESS OR OCCUPANCY. ALL WORK SHALL BE DONE AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED.
- EXISTING SPRINKLER CONTROL VALVE TO REMAIN DURING CONSTRUCTION.
  - REMOVE EXISTING SPRINKLERS AS INDICATED ON DRAWINGS.
  - PROVIDE AND INSTALL NEW SPRINKLERS AND BRANCH PIPING AS INDICATED ON DRAWINGS.
  - ALL REQUIRED LABOR, MATERIALS, COORDINATION AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE SAFE INSTALLATION OF SPRINKLER WORK IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.

**3. COORDINATION**

- A. COORDINATE WITH OTHER TRADES AS NECESSARY TO FACILITATE TIMELY COMPLETION AND AVOID UNNECESSARY CUTTING AND PATCHING.
- B. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.
- C. COORDINATE THE WORK OF ALL SUBMITTALS FOR THE PURPOSE OF ENSURING THAT NO CONFLICT EXISTS WITH THE INSTALLATIONS TO BE MADE BY OTHER ENTITIES, WITH FIELD CONDITIONS AND THE INTENDED OPERATION INCLUDING THE CAPABILITY OF PERFORMING ROUTINE AND MAJOR MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATIONS. CONTRACTOR MUST PROVIDE SHOP DRAWINGS BASED ON COORDINATION DRAWINGS WHICH HE SIGNED OFF.
- D. THE INSTALLATION OF THE SYSTEM WILL REQUIRE THE CLOSING OF ONE OR MORE FIRE PROTECTION CONTROL VALVES. THESE VALVE CLOSURES SHOULD BE COORDINATED CLOSELY WITH THE OWNER. NO SHUTDOWNS SHALL BE MADE WITHOUT PRIOR AUTHORIZATION BY BUILDING MANAGEMENT.
- E. ALL WORK ON OCCUPIED FLOORS SHALL BE DONE DURING OFF HOURS OR ON WEEKENDS. COORDINATE CONSTRUCTION SCHEDULES WITH BUILDING MANAGER.

**4. SUBMITTALS**

- A. GENERAL
- INCLUDE ON EACH LAYOUT WORKING DRAWING, A CERTIFICATION THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES, AND THAT NO CONFLICT EXISTS. WORKING DRAWING SUBMISSIONS WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.
  - SUBMIT TO THE ENGINEER, FOR APPROVAL, A LIST OF ALL MATERIAL AND EQUIPMENT MANUFACTURERS WHOSE PRODUCTS ARE PROPOSED, INCLUDING ALL DELIVERY DATES.
  - MAKE ALL SUBMITTALS SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW AMPLE TIME FOR CHECKING. NO CLAIM FOR EXTENSION OF TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT AND NO WORK IN THE FIELD MAY BE STARTED WITHOUT APPROVED SHOP DRAWINGS AND THE ENGINEER'S APPROVAL.
  - APPROVAL OF ANY SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING MATERIALS AND SYSTEMS OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES, QUALITY AND INSTALLATION DETAILS, TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS. SUCH APPROVAL SHALL NOT RELIEVE THIS CONTRACTOR FROM THE RESPONSIBILITY FOR ERRORS IN SUBMITTALS.
  - IF THE SUBMITTALS DIFFER FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, MAKE SPECIFIC MENTION OF SUCH DIFFERENCE IN LETTERS OF TRANSMITTAL, WITH A REQUEST FOR SUBSTITUTION, TOGETHER WITH REASONS. THEREFORE, SO THAT, IF ACCEPTABLE, SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT. FAILING THIS, THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- B. SHOP DRAWINGS
- PIPING AND SPRINKLER LOCATION LAYOUTS, INCLUDING METHOD AND LOCATION OF SUPPORTS.
  - HYDRAULIC CALCULATIONS.
    - PLANS AND HYDRAULIC CALCULATIONS SHALL BE PREPARED IN STRICT ACCORDANCE WITH THE PROVISIONS OF NFPA 13.
    - PLANS AND HYDRAULIC CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.
    - PLANS MUST INDICATE ALL NODE AND PIPE DESIGNATIONS USED ON HYDRAULIC CALCULATIONS.
  - COORDINATION DRAWINGS
  - CATALOG CUTS AND BROCHURES
  - PIPE AND FITTINGS.
  - SPRINKLER HEADS
  - HANGERS AND SUPPORTS.
  - SLEEVES AND ESCUTCHEONS.
- D. AS-BUILT DRAWINGS
- CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACT DRAWINGS WHICH SHALL BECOME THE BASIS OF THE AS-BUILT DRAWINGS. ANY DEVIATION FROM ORIGINAL SPRINKLER DESIGN SHALL REFLECT ON THE AS-BUILT COPY. THE DRAWINGS SHALL BE STAMPED AS-BUILT WITH THE DATE AND CONTRACTOR'S SIGNATURE. TWO PRINTS AND A COMPACT DISK WITH ALL CAD FILES SHALL BE DELIVERED TO THE ENGINEER BEFORE FINAL PAYMENT IS MADE. AFTER REVIEW AND APPROVAL OF AS-BUILT, THE CONTRACTOR SHALL DELIVER COMPACT DISK TO THE BUILDING OWNER, ALSO, 3 PRINTS AND A COMPACT DISK OF APPROVED AS-BUILT SHOP DRAWINGS SHALL BE TURNED OVER TO THE BUILDING MANAGER UPON COMPLETION OF WORK.

**5. MATERIALS, DELIVERY, STORAGE AND HANDLING**

- A. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED PROTECTIVE PACKAGING.
- B. STORE MATERIALS IN ORIGINAL PACKAGING IN A MANNER TO PREVENT SOILING, PHYSICAL DAMAGE, WETTING OR CORROSION PRIOR TO INSTALLATION.
- C. HANDLE IN A MANNER TO PREVENT DAMAGE TO FINISHED SURFACES.
- D. WHERE POSSIBLE, MAINTAIN PROTECTIVE COVERINGS UNTIL INSTALLATION IS COMPLETE AND REMOVE SUCH COVERS AS PART OF FINAL CLEAN-UP.
- E. TOUCH-UP ANY DAMAGE TO FINISHES TO MATCH ADJACENT SURFACES TO SATISFACTION OF ENGINEER.
- F. CONTRACTOR SHALL INDICATE PIPING MATERIAL TO BE USED IN CONJUNCTION WITH THE INSTALLATION IN COMPLIANCE WITH NFPA 13-2007 SEC. 6.3.6 AND TABLE 6.3.1.1 AS MODIFIED BY N.Y.C.B.C. APPENDIX Q.

**6. INSPECTION**

- A. ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE SHALL BE INSPECTED. MATERIAL AND EQUIPMENT THAT IS DEFECTIVE OR FAILS TO CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS SHALL BE REMOVED IMMEDIATELY FROM THE CONSTRUCTION SITE AND REPLACED WITH NEW MATERIAL AND EQUIPMENT SATISFACTORY TO THE ENGINEER.
- B. ARRANGE FOR ALL INSPECTIONS WITH AUTHORITIES HAVING JURISDICTION AND REQUIRED FEES.
- C. MATERIAL AND EQUIPMENT DESIGNATED FOR "SPECIAL INSPECTION" UNDER THE PROVISIONS OF THE NEW YORK STATE BUILDING CODE SHALL BE INSPECTED, TESTED AND WITNESSED BY OR UNDER THE SUPERVISION OF A LICENSED ENGINEER OR A LICENSED ARCHITECT, EMPLOYED BY THE CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR FILING PROPERLY EXECUTED BUILDING DEPARTMENT FORM TR-1.

**7. CUTTING AND PATCHING**

- A. WHERE CUTTING AND PATCHING OF CONSTRUCTION PERFORMED UNDER THIS CONTRACT BECOMES NECESSARY BECAUSE OF FAILURE TO PROPERLY COORDINATE THE MECHANICAL INSTALLATION WITH OTHER CONSTRUCTION, ARRANGE FOR PATCHING TO BE PERFORMED BY THE VARIOUS TRADES INVOLVED AND IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS HEREIN SO AS TO MATCH ADJACENT SURFACES.
- B. PERFORM ALL PATCHING TO MATCH EXISTING ADJACENT CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER AND ARCHITECT, USING THE BEST POSSIBLE WORKMANSHIP OF THE VARIOUS TRADES INVOLVED.

**8. TESTS**

- A. GENERAL
- PERFORM TESTS AS HEREIN SPECIFIED ON THE VARIOUS PIPING SYSTEMS OR PORTIONS THEREOF PRIOR TO BACKFILLING, PAINTING, CONCEALING OR INSULATING. ALL SPRINKLER SYSTEMS SHALL BE AIR AND WATER TESTED.
  - NOTIFY THE ENGINEER, REPRESENTATIVES OF AGENCIES OR OTHER ENTITIES WHICH WOULD HAVE JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.
  - FURNISH AND INSTALL ALL DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER REQUIRED IN CONNECTION WITH TESTS. MAKE ALL TESTS IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER AND REPRESENTATIVES OF THE AFORESAID AGENCIES OR OTHER ENTITIES.
  - SHOULD THE TESTS REVEAL ANY LEAKS OR OTHER EVIDENCE OF UNSATISFACTORY MATERIALS OR WORKMANSHIP, MAKE NECESSARY REPAIRS IMMEDIATELY, OR, IF REQUIRED BY THE ENGINEER, REPLACE DEFECTIVE WORK WITH NEW WORK WITHOUT ADDITIONAL COST TO THE OWNER. REPEAT TESTS AS DIRECTED UNTIL THE ENTIRE INSTALLATION IS PROVEN SATISFACTORY. NO TEMPORARY METHOD OF REPAIRING LEAKS WILL BE PERMITTED.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PROPERTY OR INSTALLATION DAMAGED BY THE TESTS AND SHALL RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION IN SATISFACTION OF THE OWNER OR REPLACE THEM WITH NEW ITEMS.
  - DISPOSE OF WATER REMOVED FROM PIPE LINES IN A MANNER THAT WILL NOT CAUSE DAMAGE TO ANY PROPERTY.
  - PROVIDE AND INSTALL THE REQUIRED AIR VENTS IN THE PIPING SYSTEM TESTED.
  - THE ENTIRE SYSTEM SHALL BE TESTED AND REMAIN TIGHT AGAINST NOT LESS THAN TWO HUNDRED POUNDS GAUGE HYDROSTATIC PRESSURE, FOR A PERIOD OF NOT LESS THAN TWO HOURS, WITH NO LOSS IN PRESSURE.
  - ALL CONTRACTOR'S MATERIAL AND TEST CERTIFICATE SHOULD BE COMPLETED FOR EACH SYSTEM AND FORWARDED TO THIS OFFICE FOR REVIEW AND FINAL ACCEPTANCE OF THE SYSTEM.
  - CONSTRUCTION DOCUMENT MUST BE IN COMPLIANCE WITH BC 905.1.1 FOR THE PROPOSED STANDPIPE SYSTEM.

**9. PRODUCTS**

- A. MANUFACTURER'S NAME AND NUMBERS ARE USED TO IDENTIFY THE TYPE AND QUALITY OF PRODUCTS REQUIRED, HOWEVER, PRODUCTS OF OTHER MANUFACTURERS WHICH ARE EQUAL MAY BE SUBMITTED FOR APPROVAL.
- B. PIPE FITTING AND FLANGE SCHEDULE
- | SYSTEM        | PIPE                                  | FITTING AND FLANGES  |
|---------------|---------------------------------------|--|
| WET SPRINKLER | BLACK STEEL ASTM A135/ASS SCHEDULE 40 | a) BLACK CAST IRON ANSI B16.4 OR MALLEABLE CAST IRON AWWA C110, 300 LBS CLASS, 500 PSI W.W.P. THREADED<br><br>b) COMPANION FLANGES CAST IRON ANSI B16.1, CLASS 150 PRESSURE RATING<br><br>c) DUCTILE IRON ASTM A338, GROOVED MECHANICAL TYPE COUPLING AND GASKETS, CLASS 150 PRESSURE RATING |
|               |                                       | 1) SCHEDULE 40 PIPE FITTINGS SHALL BE SCREWED, STANDARD WEIGHT, CAST IRON, IUL AND FM APPROVED, MECHANICAL GROOVE COUPLINGS, VICTAULIC STYLE 75, OR AS APPROVED, MAY BE USED IN LIEU OF SCREWED FITTINGS. EITHER ROLL OR CUT GROOVE MAY BE USED WITH SCHEDULE 40 PIPE.                       |
|               |                                       | 2) FOR PIPING 2 INCHES AND LARGER, VICTAULIC STYLE 920 MECHANICAL T WITH LOCATING COLLAR ENGAGING INTO THE PIPE MAY BE USED FOR LESS THAN FULL SIZE BRANCH CONNECTIONS.  |
|               |                                       | 3) FITTINGS SIMILAR TO VICTAULIC STYLE 921 AND HOOKER FITTINGS WILL NOT BE APPROVED.   |
|               |                                       | 4) SCHEDULE 10 PIPING SHALL NOT BE USED.   |

**C. PIPE HANGERS AND SUPPORTS**

- PROVIDE SUFFICIENT HANGERS, SUPPORTS, BEAM CLAMPS WITH RETAINER, SUPPLEMENTAL STEEL, INSERTS, MOUNTING DEVICES, ETC., TO SUPPORT PIPING IN PERFECT ALIGNMENT WITHOUT SAGGING OR INTERFERENCE. PERMIT COMPLETE DRAINAGE AND FREE EXPANSION AND CONTRACTION AND AS DIRECTED BY THE ARCHITECT.
- ALL HANGERS, INSERTS, SUPPORTS AND DEVICES SHALL BE UL, NFPA, FM UNDERWRITER.
- ALL PIPE HANGERS, INSERTS, SUPPORTS, SUPPLEMENTAL STEEL, RODS, ETC., SHALL BE GALVANIZED.
- PIPE HANGER SPACING, ROD DIAMETER, ETC., SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 AND BUILDING CODE OF THE STATE OF NEW YORK.
- TABS IN METAL DECK CONSTRUCTION SHALL NOT BE USED TO SUPPORT PIPING.
- PERFORATED BAND IRON, STRAP IRON OR WIRE WILL NOT BE ACCEPTED.
- PIPING SHALL NOT BE SUPPORTED FROM OTHER PIPING, DUCT WORK OR CONDUIT.
- EXPANSION ANCHORS, SELF DRILLING EXPANSION SHIELDS, POWER DRIVEN STUDS AND SIMILAR DEVICES SHALL NOT BE INSTALLED.
- HORIZONTAL PIPING WITH GROOVED MECHANICAL COUPLINGS SHALL BE SUPPORTED BETWEEN ANY TWO COUPLINGS.
- THE USE OF RODS OVER 2 FEET LONG TO SUPPORT FEEDS OR CROSS MAINS SHOULD BE AVOIDED. WHERE RODS ARE IN EXCESS OF THIS LENGTH THE FEEDS OR CROSS MAINS SHOULD BE ADEQUATELY SUPPORTED.
- HANGER SPACING
- SPACE SUPPORTS SO THAT THERE IS AT LEAST ONE HANGER FOR EACH LENGTH OF PIPE, WITH ONE HANGER WITHIN 30 INCHES OF THE END SPRINKLER HEAD. WHERE THIS WOULD REQUIRE HANGERS CLOSER THAN 6 FEET 0 INCHES APART, HANGER SPACING MAY BE INCREASED TO 10 FEET 0 INCHES BETWEEN HANGERS FOR PIPES UP TO AND INCLUDING 2 INCH IPS AND 12 FEET 9 INCHES BETWEEN HANGERS FOR PIPES 2-1/2 INCH AND LARGER. ON CROSS MAINS THERE SHALL BE AT LEAST ONE HANGER BETWEEN BRANCH LINES. ROD SIZE SHALL BE AS INDICATED BELOW:

**a) HANGER ROD SCHEDULE**

| PIPE SIZE    | MAX. HANGER SPACING | MIN. ROD SIZE |
|--------------|---------------------|---------------|
| 1/2" TO 1"   | 7' O.C.             | 3/8"          |
| 1-1/4" TO 2" | 9' O.C.             | 1/2"          |
| 2-1/2" TO 4" | 10' O.C.            | 1/2"          |

**10. PIPING**

- A. INSTALL PIPING AS INDICATED ON THE CONTRACT DRAWINGS AND APPROVED SHOP DRAWINGS AS STRAIGHT AND DIRECT AS POSSIBLE, FORMING RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS, NEATLY SPACED, RISERS PLUMB AND TRUE, AND AVOID INTERFERENCE WITH OTHER CONSTRUCTION.
- B. PIPING SHALL PITCH BACK TOWARD SYSTEM DRAIN VALVE AND ANY INSTALLED LOW POINTS OR POCKETS SHALL HAVE A HOSE END DRAIN VALVE.
- C. AVOID TOOL MARKS AND UNNECESSARY PIPE THREADS. BURRS FORMED WHEN CUTTING PIPE SHALL BE REMOVED BY REAMING. BEFORE INSTALLING PIPE, THOROUGHLY CLEAN THE INSIDE FREE OF CUTTINGS AND FOREIGN MATTER. CUT ALL PIPE SQUARE AND SMOOTH, MAKE UP ALL JOINTS TO REQUIRED LIMITS.
- D. SHOULD ALL PIPING TO OBTAIN SUFFICIENT FLEXIBILITY TO PREVENT EXCESSIVE STRESSES IN MATERIALS AND EXCESSIVE BENDING MOMENTS AT JOINTS OR CONNECTIONS. INSTALL EXPANSION LOOPS, EXPANSION JOINTS AND SWING CONNECTIONS WHERE SHOWN ON THE CONTRACT DRAWINGS.
- E. MAKE CHANGES IN PIPE SIZE BY THE USE OF REDUCING FITTINGS. DO NOT USE REDUCING BUSHINGS EXCEPT BY APPROVAL OF THE ENGINEER. DO NOT USE CLOSE OR SHOULDER NIPPLES.
- F. ARRANGE WATER PIPING SO THAT SYSTEM CAN BE COMPLETELY DRAINED. WHERE LINES ARE PURPOSELY PITCHED FOR DRAINAGE, A UNIFORM GRADE SHALL BE MAINTAINED. LINES SHALL BE SO SUPPORTED AS TO PREVENT POCKETING OF LIQUID. NO LINES SHALL HAVE POCKETS DUE TO CHANGES IN ELEVATION.
- G. INSTALLED PIPING SHALL NOT INTERFERE WITH THE OPERATION OR ACCESSIBILITY OF DOORS OR WINDOWS; SHALL NOT ENCRUMB OR OBSCURE PASSAGEWAYS AND EQUIPMENT, AND SHALL NOT INTERFERE WITH THE SERVICING OR MAINTENANCE OF ANY EQUIPMENT. ADJACENT PIPE LINES SHALL BE GROUPED IN THE SAME HORIZONTAL OR VERTICAL PLANE.
- H. COORDINATE AS NECESSARY TO INSURE THAT ALL HANGERS, SUPPORTS, SLEEVES AND OTHER BUILT-IN DEVICES ARE INCORPORATED IN FORMS OR IN MASONRY TO AVOID NECESSITY OF CUTTING FINISHED STRUCTURE.

**11. PROTECTION AND CLEANING**

- A. PROTECT ENTIRE INSTALLATION FROM DAMAGE DURING CONSTRUCTION AND BE RESPONSIBLE FOR ALL DAMAGE UNTIL FINAL ACCEPTANCE OF THE WORK. ALL PIPES SHALL BE PROTECTED WITH SUITABLE COVERINGS AS SOON AS THEY ARE SET. ALL OPEN ENDS OF PIPES SHALL BE CLOSED BY A PLUG FITTING TO PREVENT OBSTRUCTION AND DAMAGE.
- B. ALL OPENINGS IN FLOORS SHALL BE COVERED AND PROTECTED DURING THE COURSE OF CONSTRUCTION.
- C. BEFORE FINAL CONNECTIONS ARE MADE AND BEFORE OPERATION OF EQUIPMENT AND PIPING, ALL PIPING SHALL BE THOROUGHLY BLOWN OUT, RODDED OUT, OR WASHED OUT AT LEAST TWICE IN A MANNER AS DIRECTED AND/OR APPROVED BY THE ENGINEER, TO REMOVE ALL ACCUMULATION OF DIRT, CHIPS OR OTHER DELETERIOUS MATERIAL. MAKE ALL TEMPORARY CONNECTIONS AND FURNISH ALL APPLIANCES REQUIRED FOR THE PURPOSE OF CLEANING.
- D. UPON COMPLETION OF THE INSTALLATION AND WHEN DIRECTED BY THE ENGINEER, REMOVE ALL PROTECTION MATERIALS, ALL SCALE, DIRT, GREASE, STAINS AND THE LIKE, AND LEAVE IN A CLEAN CONDITION FOR PAINTING.

**12. SPRINKLERS**

- A. SPRINKLERS INSTALLED IN AREAS WITH HUNG CEILINGS SHALL BE CONCEALED TYPE, QUICK RESPONSE WITH 1/2" ORIFICE. COORDINATE COVER PLATE FINISH WITH ARCHITECT. REFER TO SPRINKLER SCHEDULE FOR MANUFACTURER INFORMATION AND TEMPERATURE RATING.
- B. SPRINKLERS INSTALLED IN UNFINISHED AREAS SHALL BE UPRIGHT TYPE WHERE POSSIBLE, PENDENT TYPE WHERE NECESSARY. QUICK RESPONSE WITH 1/2" ORIFICE, BRONZE FINISH. REFER TO SPRINKLER SCHEDULE FOR MANUFACTURER INFORMATION AND TEMPERATURE RATINGS.

**13. IDENTIFICATION SIGN**

- A. PROVIDE HYDRAULIC CALCULATED SYSTEM IDENTIFICATION SIGN, SIMILAR TO RELIABLE MODEL A STYLE E, ATTACH NEAR CONTROL VALVE. FILL IN ALL REQUIRED INFORMATION.

**14. JOINTS**

- A. THREADED JOINTS
- MAKE UP TIGHT USING TEFLON PASTE OR TAPE PLACED ON THE MALE THREAD ONLY.

**15. UNIT PRICE NOTES**

- A. CONTRACTOR IS TO SUBMIT UNIT PRICES FOR THE FOLLOWING LISTED ITEMS:
- UNIT PRICE ADD PER NEW SPRINKLER HEAD.
  - UNIT PRICE DEDUCT FOR DELETION OF NEW SPRINKLER HEAD.

**16. APPROVALS**

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING DRAWINGS AND OBTAINED ALL REQUIRED PERMITS, TESTS AND APPROVALS FROM ALL LOCAL AUTHORITIES HAVING JURISDICTION.
- B. BUILDING DEPARTMENT INSPECTION AND WRITE-OFF WILL BE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR. THE WORK WILL NOT BE CONSIDERED COMPLETE UNTIL THE BUILDING DEPARTMENT SIGN-OFF IS OBTAINED.



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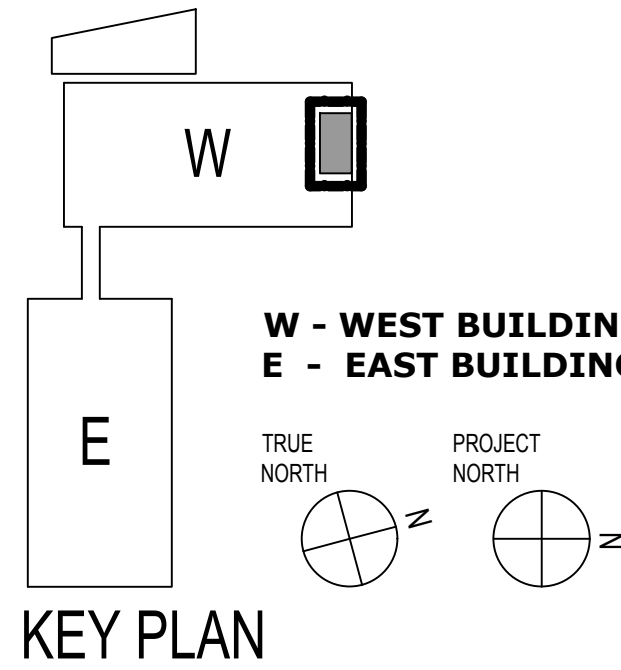
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**COLUMBIA DOCTOR'S TARRYTOWN**

**PROJECT:**

**NEW MRI**

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TARRYTOWN, NY 10591



**KEY PLAN**

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**SPRINKLER SPECIFICATIONS**

**SEAL:**

**DATE:** 7/23/2020

**CON/REF No.**

**CONTRACT No.**

**SCALE:** As indicated

**PROJECT No.** 12384

**CHECKED:** Checker

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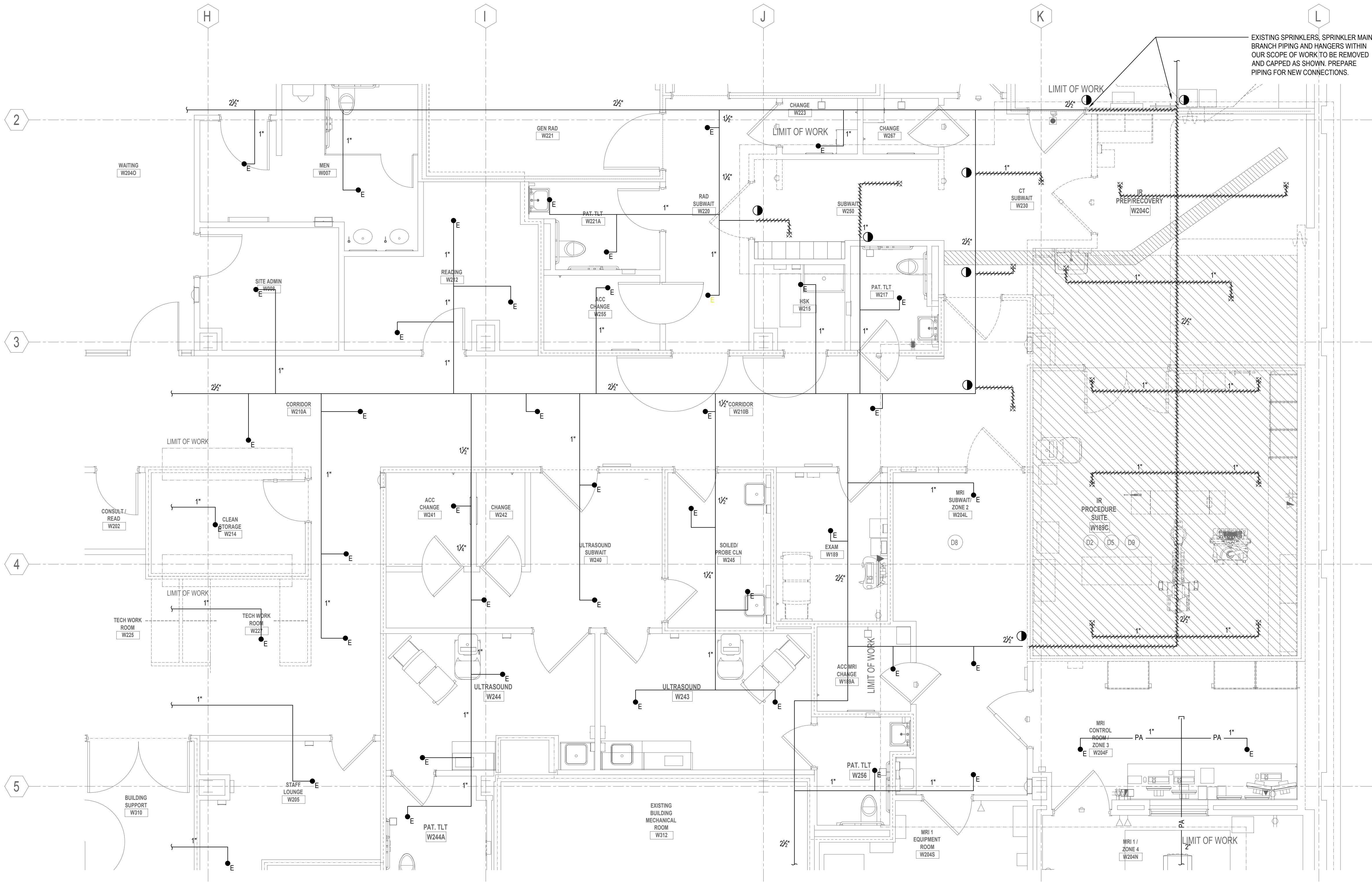
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EXISTING SPRINKLERS, SPRINKLER MAIN, BRANCH PIPING AND HANGERS WITHIN OUR SCOPE OF WORK, TO BE REMOVED AND CAPPED AS SHOWN. PREPARE PIPING FOR NEW CONNECTIONS.



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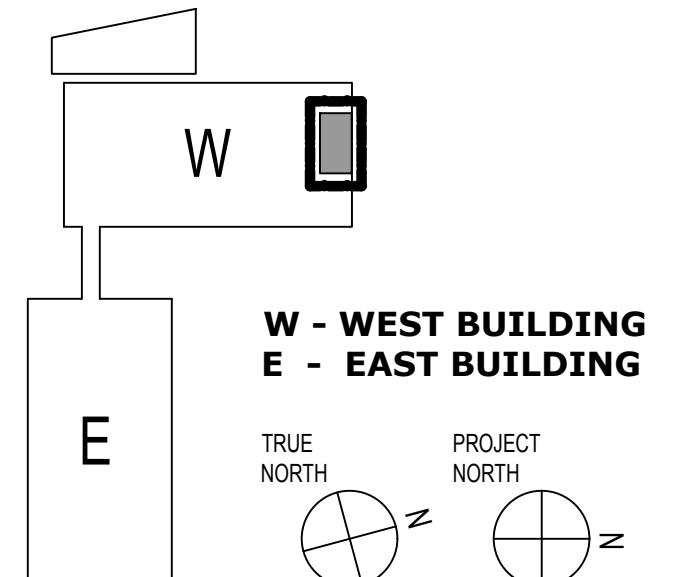
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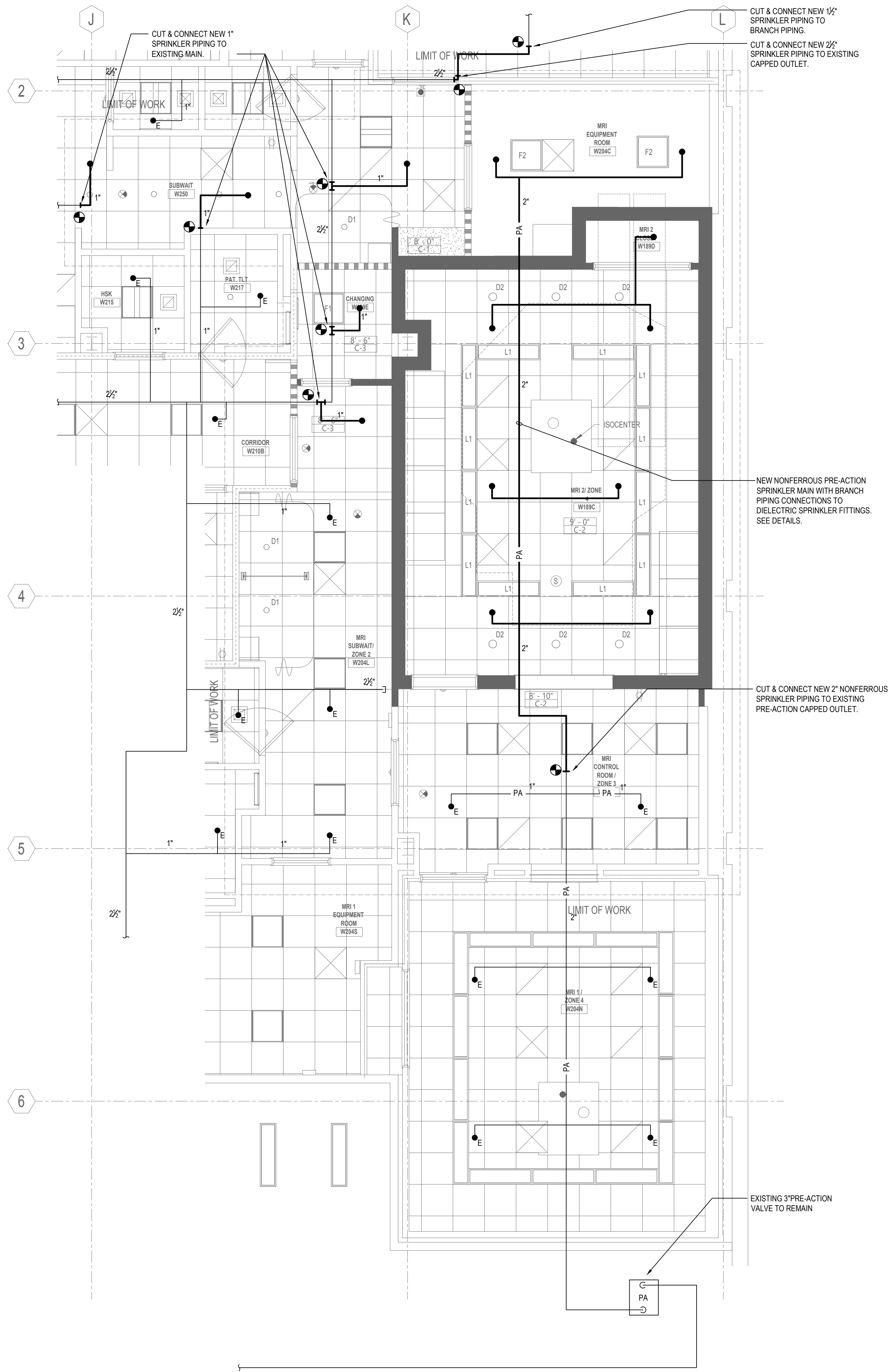
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GENERAL NOTES

1. REFER TO DRAWING SP-001 FOR SPRINKLER NOTES, SCHEDULES, SYMBOL LIST AND ABBREVIATIONS LIST.
2. CONTRACTOR SHALL VERIFY IN FIELD EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. PRESSURE AVAILABLE AT FLOOR, LOCATION OF EXISTING FIRE STANDPIPE AND/OR SPRINKLER RISERS, ETC.
3. CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
4. CONTRACTOR SHALL COORDINATE THE ROUTING OF ALL EXISTING SPRINKLER PIPING WITH NEW/EXISTING DUCTS AND NEW/EXISTING LIGHT FIXTURES.
5. EXERCISE EXTREME CARE IN AREAS WHERE CEILING AND/OR WALLS ARE TO BE AFFECTED BY SPRINKLER WORK. CONTRACTOR IS RESPONSIBLE FOR PATCHING AND PAINTING OF EXISTING WALLS AND CEILING TO MATCH ORIGINAL EXISTING CONDITIONS.
6. CONTRACTOR SHALL PROVIDE AUXILIARY DRAINS WHERE A CHANGE IN PIPING DIRECTIONS PREVENTS DRAINAGE OF SYSTEM PIPING THROUGH MAIN DRAIN VALVE AS PER NFPA 2014 EDITION - SUBCHAPTER 8.16.2.5. AUXILIARY DRAINS.
7. PROVIDE A FIRE WATCH FOR THE DURATION OF THE SPRINKLER SHUT-DOWN. RESTORE SPRINKLER SYSTEM TO ACTIVE CONDITIONS WHEN THE FIRE WATCH IS NOT PROVIDED. COORDINATE SCHEDULING WITH BUILDING MANAGEMENT.
8. SPRINKLER HEAD DEFLECTORS IN OPEN CEILING AREAS SHALL BE LOCATED A MINIMUM OF 1" BELOW THE BOTTOM OF THE BEAM FLANGE AND A MAXIMUM OF 22" BELOW THE CEILING/ROOF DECK IN COMPLIANCE WITH NFPA 13, 8.6.4.1.2.

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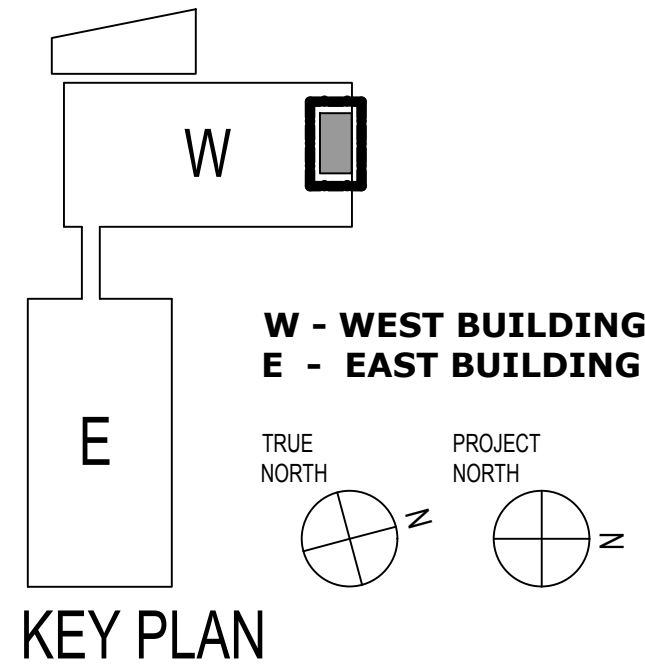
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