

| PLUMBING | |
|----------|--|
| | EXISTING PIPING TO REMAIN (SERVICE AS INDICATED) |
| | EXISTING PIPING TO BE REMOVED (SERVICE AS INDICATED) |
| | NEW PIPING (SERVICE AS INDICATED) |
| | PIPE RISING UP |
| | PIPE DROPPING DOWN |
| | DIRECTION OF FLOW |
| | DIRECTION OF PITCH |
| | DOMESTIC COLD WATER |
| | DOMESTIC HOT WATER |
| | DOMESTIC HOT WATER RECIRCULATION |
| | SANITARY PIPING (ABOVE CEILING) |
| | VENT PIPING (ABOVE CEILING) |
| | RAIN WATER CONDUCTOR |
| | PUMPED DRAIN |
| | GARAGE DRAIN |
| | GREASE WASTE |
| | CONDENSATE DRAIN |
| | TEMPERED WATER |
| | REVERSE OSMOIS |
| | INDIRECT WASTE |
| | ACID WASTE |
| | VACUUM |
| | COMPRESSED AIR |
| | OXYGEN |
| | FUEL OIL SUPPLY |
| | FUEL OIL RETURN |
| | NATURAL GAS (UP TO 1 PSIG) |
| | NATURAL GAS (MEDIUMPRESSURE, 1 TO 5 PSIG) |
| | NATURAL GAS (HIGH PRESSURE, 5 PSIG AND OVER) |
| | LIQUEFIED PETROLEUM GAS |
| | GATE VALVE |
| | GLOBE VALVE |
| | BUTTERFLY VALVE |
| | BALL VALVE |
| | CIRCUIT BALANCING VALVE |
| | GAS COCK |
| | PRESSURE REDUCING VALVE (PSI) |
| | GAS REGULATING VALVE |
| | PLUG VALVE |
| | RELIEF SAFETY VALVE (PSI) |
| | CHECK VALVE |
| | THERMOSTATIC MIXING VALVE |
| | SOLENOID VALVE |
| | BACKFLOW PREVENTER |
| | STRAINER |
| | THERMOMETER |
| | GAUGE W/ ISOLATION VALVE |
| | REDUCER |
| | UNION |
| | ANCHOR |
| | GUIDE |
| | EXPANSION JOINT |
| | FLOW METER |
| | SHOCK ABSORBER |
| | CAPPED LINE (SERVICE AS INDICATED) |
| | ROOF DRAIN |
| | FLOOR DRAIN |
| | FLOOR SINK |
| | CLEAN OUT - BELOW GRADE |
| | CLEAN OUT - IN CEILING BELOW |
| | BACKWATER VALVE (SEWER) |
| | THRUST BLOCK |
| | MANHOLE |
| | HEAT TRACE PIPE |
| | SQUARE FOOT |

| MISC. DRAWING SYMBOLS | |
|-----------------------|-------------------------------------|
| | DEMOLITION NOTE |
| | CONSTRUCTION NOTE |
| | REVISION NOTE |
| | EQUIPMENT TYPE |
| | EQUIPMENT NUMBER |
| | SECTION NUMBER |
| | DETAIL NUMBER DRAWING |
| | VENT STACK |
| | SANITARY STACK |
| | RAIN WATER CONDUCTOR |
| | DOMESTIC WATER RISER |
| | FIRE STANDPIPE RISER |
| | GARAGE DRAIN RISER |
| | CONDENSATE DRAIN RISER |
| | POINT OF CONNECTION NEW TO EXISTING |
| | TERMINATION POINT OF DEMOLITION |
| | EXISTING TO REMAIN |
| | EXISTING TO BE REMOVED |
| | EXISTING TO BE RELOCATED |
| | FUTURE |
| | NEW |
| | SQUARE FOOT |

| ABBREVIATIONS | |
|---------------|-------------------------------|
| AV | ABOVE |
| AC | AIR COMPRESSOR |
| AD | AREA DRAIN |
| AFF | ABOVE FINISHED FLOOR |
| AFO | ABOVE FINISHED GRADE |
| AP | ACCESS PANEL |
| AW | ACID WASTE |
| BAS | BUILDING AUTOMATION SYSTEM |
| BFP | BACKFLOW PREVENTER |
| BHP | BRAKE HORSEPOWER |
| BOP | BOTTOM OF PIPE |
| BOS | BOTTOM OF STEEL |
| BP | BOOSTER PUMP |
| BT | BATHTUB |
| BTUH | BRITISH THERMAL UNIT PER HOUR |
| CB | CATCH BASIN |
| CFH | CUBIC FEET PER HOUR |
| CHW | CHILLED WATER |
| CLG | CEILING |
| CO | CLEAN OUT |
| CP | CONDENSATE PUMP |
| CSP | COMBINED STANDPIP |
| CW | COLD WATER (DOMESTIC) |
| DFU | DRAINAGE FIXTURE UNIT |
| DA | DIAMETER |
| DN | DOWN |
| DSP | DRY STANDPIPE |
| DU | DRAINAGE UNITS |
| DW | DOMESTIC WATER |
| DWG | DRAWING |
| DWP | DOMESTIC WATER PUMP |
| EJ | EXPANSION JOINT |
| ELEC | ELECTRICAL |
| ELEV | ELEVATION |
| ET | EXPANSION TANK |
| EW | ELECTRIC WATER COOLER |
| EX | EXISTING |
| FA | FRESH AIR INLET |
| F | FAHRENHEIT |
| FCV | FLOOR CONTROL VALVE |
| FD | FLOOR DRAIN |
| FDC | FIRE DEPARTMENT CONNECTION |
| FDV | FIRE DEPARTMENT VALVE |
| FE | FIRE EXTINGUISHER |
| FHC | FIRE HOSE CABINET |
| FHV | FIRE HOSE VALVE |
| FLR | FLOOR |
| FP | FIRE PUMP |
| FPM | FEET PER MINUTE |
| FPS | FEET PER SECOND |
| FS | FLOW SWITCH |
| FU | FIXTURE UNITS |
| G | GAS |

| ABBREVIATIONS CONT. | |
|---------------------|------------------------------|
| GAL | GALLON |
| GC | GENERAL CONTRACTOR |
| GI | GREASE INTERCEPTOR |
| GPM | GALLONS PER MINUTE |
| GND | GROUND |
| GRU | GREASE RECOVERY UNIT |
| HD | HOSE BIBB |
| HB | HEAD |
| HP | HORSEPOWER |
| HW | HOT WATER |
| HWG | HOT WATER GENERATOR |
| HWR | HOT WATER RECIRCULATION |
| HZ | HOT TO COLDS |
| IW | INDIRECT WASTE |
| IMB | ICE MACHINE BOX |
| INV | INVERT ELEVATION |
| JY | JOCKEY PUMP |
| KS | KITCHEN SINK |
| KW | KILOWATT |
| LAV | LAVATORY |
| LB | POUND(S) |
| LF | LINEAR FEET |
| MAX | MAXIMUM |
| MBH | THOUSAND BTU PER HOUR |
| MC | MECHANICAL CONTRACTOR |
| MCC | MOTOR CONTROL CENTER |
| MECH | MECHANICAL CONTRACTOR |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MR | MOP RECEPTOR |
| MTD | MOUNTED |
| MU | MAKE-UP WATER |
| NL | NORMALLY CLOSED |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| OD | OUTSIDE DIAMETER |
| OI | OIL INTERCEPTOR |
| OSY | OUTSIDE SCREW AND YOKE |
| P | PLUMBING CONTRACTOR |
| PC | PLUMBING CONTRACTOR |
| PD | PRESSURE DROP |
| PH | PHASE |
| PIV | POST INDICATOR VALVE |
| PRV | PRESSURE REDUCING VALVE |
| PSF | POUND PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH GAUGE |
| PVC | POLYVINYL CHLORIDE |
| QTY | QUANTITY |
| RCP | REFLECTED CEILING PLAN |
| RD | ROOF PLAN |
| RPM | REVOLUTIONS PER MINUTE |
| RWC | RAIN WATER CONDUCTOR |
| RV | RELIEF VALVE |
| S | SOIL |
| SAN | SANITARY |
| SE | SEWAGE EJECTOR |
| SEC | SECONDS |
| SFU | SUPPLY FIXTURE UNIT |
| SI | SAND INTERCEPTOR |
| SP | SUMP PUMP |
| SFR | SPRINKLER |
| SO | SQUARE |
| SOFT | SQUARE FEET |
| SRV | SERVICE RELIEF VALVE |
| SS | STEEL |
| TEMP | TEMPERATURE |
| TOP | TOP OF PIPE |
| TOS | TOP OF STEEL |
| TS | TAMPER SWITCH |
| TP | TYPICAL |
| UG | UNDERGROUND |
| UNO | UNLESS NOTED OTHERWISE |
| UR | UNRULING |
| V | VENT |
| VB | VACUUM BREAKER |
| VEL | VELOCITY |
| VTR | VENT THRU ROOF |
| W | WASTE |
| W/ | WITH |
| W/O | WITHOUT |
| WAS | WET AUTOMATIC SPRINKLER |
| WB | WASHER BOX |
| WC | WATER CLOSET |
| WCO | WALL CLEAN OUT |
| WH | WATER HEATER |
| WM | WATER METER |
| WSP | WET STANDPIPE |
| WT | WEIGHT |

NOTE: THIS IS A GENERAL PLUMBING/FIRE PROTECTION LEGEND, ALL SYMBOLS, ABBREVIATIONS AND LINE DESIGNATIONS MAY NOT APPEAR ON THE DRAWINGS. SEE EQUIPMENT SCHEDULES FOR EQUIPMENT DESIGNATIONS.

PLUMBING GENERAL NOTES

- ALL OF THE FOLLOWING NOTES ARE GENERAL AND SOME MAY NOT APPLY TO THIS SPECIFIC PROJECT. CONTRACTOR SHALL WORK THESE NOTES AND SPECIFICATIONS WITH CURRENT WEST POINT ENGINEERING PLANNING STANDARDS AND WEST POINT POLICY REQUIREMENTS. THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
- THE SUBMISSION OF A PROPOSAL BY THE CONTRACTOR IS NOTIFICATION THAT THE CONTRACTOR HAS THOROUGHLY REVIEWED THE CONTRACT DOCUMENTS AND EXISTING SITE CONDITIONS AND HAS AGREED TO PROVIDE THE NECESSARY LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF EACH SYSTEM IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, SIZES, CLEARANCES AND LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
- THE DRAWINGS INDICATE ARRANGEMENTS AND APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPLE APPLIANCES, EQUIPMENT, DEVICES AND SERVICES TO BE PROVIDED. DRAWINGS ARE DIAGRAMMATIC AND ARE A GRAPHIC REPRESENTATION OF THE CONTRACT REQUIREMENTS TO BEST AVAILABLE STANDARDS AT THE SCALE INDICATED.
- LAYOUT OF EQUIPMENT INDICATED ON THE DRAWINGS SHALL BE CHECKED AND COMPARED AGAINST ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND EXACT LOCATIONS DETERMINED USING APPROVED SHOP DRAWINGS OF SUCH EQUIPMENT. WHERE PHYSICAL INTERFERENCE OCCURS, CONSULT WITH ENGINEER AND PREPARE DATED, DIMENSIONED DRAWINGS COORDINATED WITH ALL OTHER TRADES. OBTAIN WRITTEN APPROVAL OF THE ENGINEER FOR SUCH DRAWINGS AND DISTRIBUTE SAME AS REQUIRED.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER AND ALL OTHER CONTRACTORS. CONTRACTOR SHALL ALSO SCHEDULE HIS WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE SO THAT ALL OF HIS WORK CAN BE INSTALLED WITHOUT DELAYING THE PROJECT.
- ALL WORK SHALL COMPLY AND BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES, THE LATEST UNIFORM CONSTRUCTION CODE STATUTE, THE APPLICABLE INTERNATIONAL CODES (E.G. THE INTERNATIONAL PLUMBING CODE, THE INTERNATIONAL BUILDING CODE AND WEST POINT ENGINEERING PLANNING STANDARDS) AS AMENDED AND ADOPTED BY THE LOCAL JURISDICTION, AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES AND REGULATIONS (CURRENT EDITIONS), THE NATIONAL ELECTRIC CODE, BUILDING STANDARDS, NFPA AND ALL OTHER AGENCIES AND AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURERS' WRITTEN INSTRUCTIONS.
- ANY ITEM DEEMED NECESSARY OR RECOMMENDED, OR REQUIRED BY CODE, BY THIS TRADE CONTRACTOR TO ACHIEVE THE FUNCTION SHOWN, BUT NOT INDICATED HEREIN, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING IN WRITTEN "RFI" FORMAT. FAILURE TO IDENTIFY ITEMS DEEMED NECESSARY PRIOR TO BIDDING SHALL INDICATE TO THE ENGINEER AND OWNER THAT SUCH ITEMS ARE INCLUDED IN THE CONTRACT PRICE.
- ANY EXISTING POTENTIALLY HAZARDOUS MATERIALS ENCOUNTERED IN THE COURSE OF THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER FOR REMOVAL AND DISPOSAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR WORKMANS IDENTIFICATION AND BADGING, SAFETY AND FIRE PROTECTION, BARRICADES, WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING.
- SMOKING AT THE JOB SITE IS NOT ALLOWED.
- CONTRACTOR SHALL SCHEDULE ALL SHUTDOWNS THAT AFFECT UTILITIES AND PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION WITH THE OWNER. ALL SHUTDOWNS SHALL BE KEPT TO A MINIMUM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING, HANDLING AND PROTECTION OF MATERIALS REQUIRED TO BE UNDER THIS CONTRACT. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT.
- CONTRACTOR SHALL PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT AND TRANSFER TO POINT OF INSTALLATION OF OWNER FURNISHED ITEMS.
- FLAMMABLE MATERIALS MAY NOT BE STORED OR ALLOWED TO REMAIN OVERNIGHT WITHIN THE BUILDING. THIS INCLUDES, BUT IS NOT LIMITED TO, PAINTS, THINNERS, CLEANING AND RESTORATION PRODUCTS, RAGS OR BRUSHES, AND ANY TOOL THAT IS CAPABLE OF BEING USED TO LIGHTEN FLAMMABLE LIQUIDS, GASES, AND OTHER FLAMMABLE CONSTRUCTION DEBRIS MUST BE COLLECTED AT THE END OF EACH DAY AND DISPOSED OF PROPERLY OUTSIDE OF THE BUILDING.
- MAINTAIN SUITABLE FIRE PROTECTION EQUIPMENT AT BUILDING SITE. AT MINIMUM, TYPE ABC FIRE EXTINGUISHERS SHALL BE PROVIDED. ADDITIONAL FIRE EXTINGUISHERS PERFORMED WITH OPEN FLAME OR USING FLAMMABLE MATERIALS AND AN ADDITIONAL FIRE EXTINGUISHER SHALL BE PROVIDED TO THE WORKER PERFORMING THE WORK. TRAIN ALL WORKERS IN THE USE OF FIRE PROTECTION EQUIPMENT.
- ALL FIRE SAFETY REQUIREMENTS LISTED ABOVE ARE TO BE CONSIDERED MINIMUMS. CONTRACTOR IS RESPONSIBLE FOR TAKING OTHER MEASURES DEEMED NECESSARY BY THE CONTRACTOR TO PROTECT THE BUILDING.
- CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS CONTRACT. WHERE PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND APPROVED BY THE LOCAL AUTHORITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB OPENINGS, WALL OPENINGS, ROOF PENETRATIONS, BEAM PENETRATIONS AND CORING AS IT RELATES TO HIS/HIS/HER WORK. CONTRACTOR SHALL SUBMIT SIZE AND LOCATION TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR SHALL SUBMIT SCHEDULE OF SUBMITTALS PRIOR TO SUBMITTING ANY SHOP DRAWINGS. THIS SCHEDULE SHALL IDENTIFY ALL PRODUCT DATA, DRAWINGS, ETC TO BE SUBMITTED FOR THIS PROJECT, INCLUDING THE ANTICIPATED DATE OF EACH SUBMISSION. CONTRACTOR SHALL SUBMIT SETS OF SHOP DRAWINGS AND EQUIPMENT CUTS TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR STARTING ANY WORK. CONTRACTOR SHALL SUBMIT (3) PRINTS AND (1) REPRODUCIBLE OF ALL PIPING, DUCTWORK, FIRE PROTECTION, CONDUIT, AND CABLE TRAY FIELD INSTALLATION DRAWINGS TO BE INSTALLED. ANY WORK INSTALLED OR EQUIPMENT PURCHASED PRIOR TO RECEIPT OF ENGINEER-APPROVED SHOP DRAWINGS THAT REQUIRES CHANGES SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- SUBMIT CATALOG INFORMATION, FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS AS REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL ITEMS TO BE PROVIDED. THE CONTRACTOR SHALL REVIEW AND APPROVE ALL SHOP DRAWINGS. NO SUBMISSION WILL BE ACCEPTED WITHOUT THE SIGNED APPROVAL OF THE CONTRACTOR. THE CONTRACTOR SHALL CHECK AND VERIFY ALL FIELD MEASUREMENTS.
- INSTALLED SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT SOUND OR VIBRATION THAT IS OBJECTIONABLE TO THE ENGINEER, ARCHITECT OR OWNER. OBJECTIONABLE SOUND OR VIBRATION CONDITIONS SHALL BE CORRECTED IN AN APPROVED MANNER BY THE CONTRACTOR AT HIS EXPENSE.
- FURNISH ACCESS DOORS AS REQUIRED FOR OPERATION AND MAINTENANCE OF CONCEALED EQUIPMENT, VALVES, CONTROLS, ETC. ALL ACCESS DOORS SHALL BE COORDINATED WITH THE ARCHITECT AND/OR OWNER AND SHALL MATCH THE FIRE RATING OF THE PENETRATION AS REQUIRED.
- ALL WORK FURNISHED UNDER THE CONTRACT SHALL BE GUARANTEED AGAINST ANY AND ALL DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. ANY DEFECTS OF WORKMANSHIP DEVELOPING DURING THIS PERIOD SHALL BE REMEDIATED AND ANY DEFECTIVE MATERIAL SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ESTIMATED DATE OF COMPLETION OF ROUGH-IN WORK AND DATE OF BOTH WALL AND CEILING INSTALLATION. NOTIFICATION SHALL BE A MINIMUM ONE WEEK PRIOR TO DATE TO ENABLE ENGINEER TO SCHEDULE PRELIMINARY PUNCHLIST INSPECTION. CONTRACTOR SHALL SIMILARLY NOTIFY ENGINEER OF COMPLETION OF ALL WORK, INDICATING THE CONTRACTOR IS READY FOR THE ENGINEER TO PERFORM THE FINAL PUNCHLIST INSPECTION.
- UPON COMPLETION OF ALL UNFINISHED OR FAULTY WORK NOTED IN ENGINEER'S FINAL PUNCHLIST, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER IN WRITING A LETTER OF COMPLETION CERTIFYING THAT ALL PUNCHLIST ITEMS HAVE BEEN COMPLETED AND ALL AS-BUILT PLANS, MANUALS, ETC. HAVE BEEN SUBMITTED.
- ALL CHANGES MADE BY THE CONTRACTOR WHICH ARE NOT APPROVED BY THE DESIGN ENGINEER SHALL BE DONE AT THE LIABILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL RESTORE EXISTING SYSTEMS, DEVICES, FINISHES, ETC. DAMAGED OR ALTERED BY WORK TO ACCEPTABLE CONDITION AS DETERMINED BY THE OWNER, ARCHITECT AND/OR ENGINEER.
- EXISTING WORK THAT IS TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER OR DISPOSED OF AT THE OWNER'S DIRECTION. ALL WORK TO BE DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE. ALL EQUIPMENT TO BE TURNED OVER TO THE OWNER SHALL BE DELIVERED TO ON SITE CENTRAL RECEIVING LOCATION DESIGNATED BY THE OWNER.
- ALL WORK AND SCHEDULING TO BE COORDINATED WITH OWNER.
- PROVIDE ALL NECESSARY REMOVAL OF EXISTING CEILING TILES AND REINSTALLATION OF CEILING TILES OR REPLACEMENT AS NEEDED TO ACCOMPLISH NEW WORK. PERFORM ALL NECESSARY CEILING WORK INCLUDING BUT NOT LIMITED TO REMOVAL, REINSTALLATION AND PROVIDING NEW CEILING TILES, CEILING GRID, T-BARS, SUPPORTS, AND ALL APPURTENANCES.

- ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN-LIKE MANNER.
- REFERENCE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND STRUCTURAL DRAWINGS FOR COORDINATION.
- PERFORM RIGGING REQUIRED TO COMPLETE ALL WORK UNDER THIS CONTRACT. IF REQUIRED, THE CONTRACTOR SHALL DISASSEMBLE EQUIPMENT OR ITEMS FOR RIGGING AND/OR ACCESS INTO THE BUILDING. AFTER RIGGING IS COMPLETE, THE CONTRACTOR SHALL REASSEMBLE THE EQUIPMENT OR ITEMS.
- THE CONTRACTOR SHALL REVIEW THE SITE AND ALL CLEARANCES TO VERIFY THE NEW EQUIPMENT CAN BE INSTALLED IN THE LOCATION SHOWN ON DRAWINGS. REMOVE ANY OBSTRUCTIONS TO ALLOW FOR INSTALLATION OF EQUIPMENT AND REPAIR/REPLACE ONCE INSTALLATION IS COMPLETE.
- PROVIDE CONTRACTOR DESIGNATED CLEARANCES FOR EQUIPMENT MAINTENANCE AND REPAIR.

PLUMBING SPECIFICATIONS

- GENERAL
 - REFER TO GENERAL NOTES, GENERAL DEMOLITIONS NOTES AND GENERAL CONSTRUCTION NOTES FOR ADDITIONAL REQUIREMENTS.
- SCOPE OF WORK
 - PROVIDE ALL MATERIALS AND LABOR FOR THE COMPLETE PLUMBING/FIRE PROTECTION WORK AS SHOWN ON THE CONTRACT DRAWINGS AND AS SPECIFIED HEREIN. ANY WORK INVENTED OR NECESSARY TO MAKE THE WORK COMPLETE SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
 - THE CONTRACTOR SHALL SUBMIT A PROPOSED SEQUENCE OF CONSTRUCTION PRIOR TO PERFORMING ANY WORK. THE SEQUENCE OF CONSTRUCTION WILL BE REVIEWED BY THE OWNER FOR THEIR COMMENTS.
 - ALL WORK SHALL BE DONE ACCORDING TO THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE, NFPA, LOCAL CODES AND AUTHORITIES HAVING JURISDICTION AND THE OWNER'S STANDARDS.
 - WITHOUT LIMITING THE WORK IT SHALL CONSIST OF THE FOLLOWING:
 - DEMOLITION/RELOCATIONS
 - PLUMBING FIXTURE
 - PIPE, FITTINGS AND VALVES
 - PIPE HANGERS AND INSULATION
 - NOTE THAT CONSTRUCTION IS TO BE PERFORMED IN EXISTING FACILITIES AND THAT THE DRAWINGS GENERALLY SHOW ONLY NEW WORK THAT IS REQUIRED. THE DRAWINGS DO NOT SHOW IN DETAIL HOW THE NEW WORK IS TO BE INSTALLED BECAUSE UNKNOWN OBSTRUCTIONS TO ITS INSTALLATION MAY BE DISCLOSED AS THE WORK PROGRESSES. PERFORM THE WORK INDICATED, AND IDENTIFY ITEMS DEEMED NECESSARY PRIOR TO BIDDING SHALL INDICATE TO THE ARCHITECT, ENGINEER AND OWNER THAT SAID ITEMS ARE INCLUDED IN THE CONTRACT PRICE.
- DEFINITIONS
 - THE WORD "PROVIDE" WHEN USED IN THE DRAWINGS AND SPECIFICATIONS SHALL MEAN "FURNISH AND INSTALL".
- CONCURRENT WORK BY THE OWNER
 - THE OWNER RESERVES THE RIGHT TO HAVE OTHER CONTRACTORS PERFORM WORK IN OTHER AREAS OF THE COMPLEX SIMULTANEOUSLY WHILE THIS CONTRACTOR IS ENGAGED TO DO WORK. THIS CONTRACTOR AND HIS PERSONNEL SHALL COOPERATE AND COORDINATE THE WORK TO BE PERFORMED WITH ALL OTHER CONTRACTORS WITH WHO COMES IN CONTACT. IN NO WAY SHALL THIS CONTRACTOR INTERFERE WITH THE PROGRESS OF THE WORK.
- VISIT THE SITE
 - VISIT THE SITE, VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS AFFECTING THE WORK, PRIOR TO SUBMITTING BID. THE CONTRACTOR SHALL SUBMIT IN WRITING TO THE OWNER THAT HE HAS VISITED THE SITE. NO ADDITIONAL COST TO THE OWNER WILL BE INCURRED DUE TO THE CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER.
- GUARANTEE
 - PRIOR TO FINAL ACCEPTANCE OF THE WORK SUBMIT A WRITTEN STATEMENT TO THE OWNER GUARANTEEING ALL EQUIPMENT AND WORK FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- CUTTING AND PATCHING
 - THE CONTRACTOR SHALL PERFORM ANY CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE WORK. ALL HOLES FOR NEW PIPING SHALL BE CORE BORED.
 - ALL PATCHING SHALL BE DONE TO MATCH THE ADJOINING SURFACES IN MATERIALS, TEXTURE, AND FINISH. THE CONTRACTOR SHALL PATCH AND SEAL ALL WALLS, FLOORS, AND CEILING (DRYWALL, LAY-IN, ETC.) WHERE EXISTING ITEMS SUCH AS PIPE, HANGERS, SUPPORTS, ETC. ARE REMOVED UNDER THIS CONTRACT. CONTRACTOR SHALL LEAVE HIS WORK AT ALL TIMES IN A SAFE AND CLEAN CONDITION READY FOR OPERATION.
- FIRE STOPPING
 - ALL NEW AND EXISTING PENETRATIONS THROUGH FIRE-RESISTANCE-RATED FLOOR, FIRE RESISTANCE RATED, FLOOR/CEILING ASSEMBLIES AND ROOF CONSTRUCTION AND THROUGH FIRE-RESISTANCE-RATED WALLS AND PARTITIONS SHALL BE FIRE STOPPED.
 - PENETRATIONS TO BE FIRE STOPPED INCLUDE BOTH EMPTY OPENINGS AND THOSE CONTAINING CABLES, PIPES, DUCTS, CONDUITS AND ANY OTHER ITEMS.
 - FIRE RATING OF SEALED PENETRATIONS SHALL MEET OR EXCEED THE RATING OF THE ASSEMBLY BEING PENETRATED.
 - MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THEIR UL LISTING.
- PIPE HANGERS
 - PIPE HANGERS SHALL BE SPACED SO AS TO PREVENT SAG AND PERMIT PROPER DRAINAGE AND SHALL NOT BE SPACED MORE THAN EIGHT FEET APART UNLESS A GREATER SPACE IS DEFINITELY INDICATED ON THE DRAWINGS. A HANGER SHALL BE PLACED WITHIN (1) FOOT OF EACH HORIZONTAL ELBOW. HANGERS SHALL BE SIZED TO FIT OVER INSULATION AND BE PROVIDED WITH AN INSULATION SIELD.
 - HANGER ROD SIZES SHALL BE AS FOLLOWS:

| PIPE SIZE | MIN. HANGER ROD DIAMETER |
|--------------------------|--------------------------|
| 1-1/2 INCHES AND SMALLER | 3/8 INCH |
| 2 THROUGH 3 INCHES | 1/2 INCH |
| 4 INCHES | 5/8 INCH |
| 6 THROUGH 8 INCHES | 3/4 INCH |
 - HANGER SPACING SHALL BE AS FOLLOWS:

| PIPE SIZE | MIN. HANGER ROD DIAMETER |
|--------------------------|--------------------------|
| 1-1/2 INCHES AND SMALLER | NOT OVER 6 FEET |
| 2 THROUGH 6 INCHES | NOT OVER 10 FEET |
- DOMESTIC WATER PIPING
 - DOMESTIC WATER SUPPLY PIPING AND TUBING SHALL CONFORM TO NSF61 STANDARD.
 - ABOVE GROUND DOMESTIC WATER PIPING SHALL BE SEAMLESS TYPE "L" COPPER WITH WROUGHT COPPER FITTINGS AND LEAD-FREE SOLDER.
 - ALL WATER SUPPLY AND RETURN PIPING INSTALLED SHALL BE COMPLETELY EQUIPPED WITH DRAIN VALVES TO MAKE IT POSSIBLE TO PROPERLY DRAIN THE SYSTEM FOR SEASONAL PROTECTION.
- SANITARY & VENT PIPING
 - ABOVE GROUND SANITARY, AND VENT PIPING AND FITTINGS SHALL BE SERVICE WEIGHT CAST IRON NO HUB PER CISPI-301. JOINTS SHALL BE MADE WITH STAINLESS STEEL COUPLINGS.
 - UNDERGROUND SANITARY, AND VENT PIPING SHALL BE SERVICE WEIGHT CAST IRON HUB AND SPIGOT TYPE PER ASTM A-74. PIPE SHALL BE THOROUGHLY COATED AT THE FACTORY WITH COAL TAR. FITTINGS SHALL BE LONG DRAINAGE PATTERN. JOINTS SHALL BE PACKED WITH OAKUM AND CALKED WITH LEAD OR MADE WITH VULCANIZED RUBBER OR NEOPRENE COMPRESSION GASKETS PER ASTM C-664.
 - ABOVE GROUND DWV PIPE SHALL BE HARD DRAWN COPPER ACCORDING TO ASTM 306 WITH SWEAT FITTINGS ONLY.

- ALL ABOVE AND BELOW GROUND CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.
- CONDENSATE DRAIN PIPING AND FITTINGS SHALL BE SEAMLESS TYPE "L" COPPER WITH LEAD-FREE SOLDER.
- INSULATION
 - THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMAN-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR SERVICE. INTENDED. ALL MATERIALS TO BE INSTALLED SHALL BE OF THE TYPE AND QUALITY AS MANUFACTURED BY ARNSTRONG, CERTAINTED, OR OWENS-CORNING. ALL MATERIAL AND EQUIPMENT SPECIFIED TO BE INSULATED SHALL BE THOROUGHLY TESTED AND APPROVED PRIOR TO APPLYING TO THE INSULATION. INSULATION TO CARRY THROUGH HANGERS AND SLEEVES. SEAL BUTT JOINT STRIPS AND LONGITUDINAL JOINTS. PROVIDE METAL SHIELDS AND HIGH DENSITY INSERTS AT HANGERS. ON FITTINGS PROVIDE FIBERGLASS WITH ONE PIECE PVC FITTING COVER.
 - DOMESTIC WATER PIPING AND FITTINGS SHALL BE INSULATED WITH 1 INCH FIBERGLASS FUR FORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE EQUAL TO OWENS-CORNING ASJ/SSL-11.
- VALVES
 - VALVES FOR THE DOMESTIC COLD AND HOT WATER SYSTEMS SHALL BE EQUAL TO THE FOLLOWING MANUFACTURER AND FIGURE NUMBER:

| VALVES | 2-1/2" AND SMALLER |
|-----------|---|
| BALL | APOLLO 2 PIECE FULL PORT LEAD FREE BRONZE BALL VALVE WITH STAINLESS STEEL BALL, 77CLF-A-140 SERIES |
| GATE | 3" AND LARGER APOLLO OS&Y GATE VALVE - GLASS 125 MODEL 611F |
| BUTTERFLY | 3" AND LARGER APOLLO LUC OR WAFER BUTTERFLY VALVE WITH LOCKING HANDLE - LEAD FREE - 316 STAINLESS STEEL DISC LD141-4/WD141-4 SERIES |
- UNIONS
 - UNIONS FOR COPPER TUBING SHALL BE ANSI 125 LB. PATTERN, ALL BRONZE GROUND JOINT UNIONS WITH ENDS FOR SOLDERED JOINTS.
- THERMOMETERS
 - THERMOMETERS SHALL BE "WEISS" VARI-ANGLE BIMETAL TYPE 3VM WITH 3" DIAL AND STAINLESS STEEL CASE. SCALE 0°-200°F.
- VACUUM BREAKERS
 - VACUUM BREAKER SHALL HAVE BRONZE INTERNAL TRIM, CHROME FINISH AND A MAXIMUM TEMPERATURE OF 210 DEGREES F. AT 125 LBS. WORKING PRESSURE. EQUAL TO WATTS 7 SERIES.
- STERILIZATION OF WATER PIPING
 - AFTER COMPLETION OF ALL TESTS AND FLUSHING OF ALL DIRT AND FOREIGN MATTER FROM THE DOMESTIC WATER SYSTEMS, THE CONTRACTOR SHALL STERILIZE ALL NEW AND EXISTING DOMESTIC COLD AND HOT WATER PIPING BY FILLING THE SYSTEMS WITH A SOLUTION TO PRODUCE 200 PARTS PER MILLION OF CHLORINE.
 - WHEN INTRODUCING THE CHLORINE INTO THE SYSTEMS, THE CONTRACTOR SHALL START AT THE FIRST OUTLET UPSTREAM FROM THE SOURCE OF CHLORINE AND PROCEED UPSTREAM, OPENING ONE OUTLET AT A TIME UNTIL CHLORINE IS EVIDENT. THE CONTRACTOR SHALL CLOSE EACH OUTLET BEFORE GOING AHEAD. THIS PROCEDURE SHALL BE CONTINUED UNTIL EACH OUTLET HAS EMITTED CHLORINE AND BEEN CLOSED WITH A MINIMUM CONCENTRATION OF 200 PPM CHLORINE AT EACH TAP. RETAIN THIS WATER IN THE SYSTEM FOR AT LEAST THREE HOURS. AT THE END OF THE RETENTION PERIOD, NOT LESS THAN 100 PPM OF CHLORINE SHALL BE PRESENT AT THE EXTREME END OF THE SYSTEM. WHEN THE CHLORINATION IS COMPLETE THE CONTRACTOR SHALL DISCONNECT THE CHLORINE FEED AND FLUSH THE FIRST OUTLET UNTIL CHLORINE IS NO LONGER EVIDENT. THE CONTRACTOR SHALL PROCEED UPSTREAM UNTIL EACH OUTLET HAS BEEN SIMILARLY FLUSHED AND THE SYSTEM HAS LESS THAN ONE (1) PART PER MILLION OF CHLORINE.
 - FOLLOWING THE STERILIZATION OF THE PIPING SYSTEMS, HAVE THE WATER ANALYZED BY A RECOGNIZED BACTERIOLOGICAL LABORATORY. IF THE ANALYSIS DOES NOT COMPLY WITH LOCAL AND STATE HEALTH DEPARTMENT REGULATIONS, THE CONTRACTOR SHALL REPEAT THE STERILIZATION PROCEDURE UNTIL SUCCESSFUL TEST RESULTS ARE ACHIEVED.
 - AFTER ALL TESTS ARE COMPLETED, THE LABORATORY SHALL SUBMIT THE LABORATORY REPORTS AND A LETTER TO THE OWNER, CERTIFYING THE ANALYSIS COMPLIES WITH ALL LOCAL AND STATE HEALTH DEPARTMENT REGULATIONS.
- TESTING
 - TEST ALL DRAINAGE AND VENT PIPING IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE.
 - TEST ALL NEW COLD AND HOT WATER PIPING AT 1-1/2 TIMES THE SYSTEMS OPERATING PRESSURE WITH A MINIMUM 150# HYDROSTATIC TEST WHICH SHALL HOLD TIGHT FOR A PERIOD OF TWO (2) HOURS.
- CLEANING AND FINAL CLEAN UP
 - CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE OF ALL WASTE OR SURPLUS MATERIALS, RUBBISH AND DEBRIS WHICH IS CAUSED BY HIS EMPLOYEES OR RESULTING FROM HIS WORK. ALL AREAS SHALL BE BROOM SWEEP CLEAN AT THE END OF EACH WORK DAY.
 - AFTER ALL EQUIPMENT HAS BEEN INSTALLED, CONTRACTOR SHALL REMOVE ALL STICKERS, RUST STAINS, LABELS, TEMPORARY COVERS, ETC.
 -

PLUMBING GENERAL DEMOLITION NOTES

ALL OF THE FOLLOWING NOTES ARE GENERAL AND SOME MAY NOT APPLY TO THIS SPECIFIC PROJECT.

- DEMOLITION/RELOCATIONS: TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND RELOCATIONS OF SERVICES, EQUIPMENT AND MATERIAL RELATING TO THEIR RESPECTIVE TRADE.
- THE CONTRACTOR SHALL REMOVE ALL WORK AS NOTED ON THE DRAWINGS. WHERE IT IS NOTED TO REMOVE EXISTING EQUIPMENT, PIPING, ALL ASSOCIATED VALVES, FITTINGS, HANGERS, SUPPORTS, INSULATION, CONTROLS, ELECTRICAL WORK, AND APPURTENANCES SHALL ALSO BE REMOVED. ADEQUATELY SUPPORT EXISTING PIPING TO REMAIN. PROVIDE TEMPORARY CAPS ON EXISTING PIPING ENDS WHERE SYSTEMS WILL REMAIN IN SERVICE. PRIOR TO INSTALLATION OF NEW WORK, CAP AND SEAL EXISTING OPENINGS WHERE NOT REQUIRED. PATCH INSULATION TO MATCH EXISTING. THE CONTRACTOR SHALL RELOCATE EXISTING WORK AS REQUIRED TO INSTALL NEW WORK.
- WHERE EXISTING WALLS, FLOORS OR CEILINGS ARE REMOVED, ALL PLUMBING SHALL BE PROTECTED FROM DAMAGE AND SUPPORTED AS REQUIRED. REPAIR ANY DAMAGE TO EXISTING EQUIPMENT.
- PRIOR TO DEMOLITION, THE CONTRACTOR SHALL REVIEW WITH THE OWNER ALL MATERIALS TO BE REMOVED. SHOULD THE OWNER OPT TO KEEP ANY MATERIALS, THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE DIRECTED. OTHERWISE, ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SHALL BE REMOVED FROM THE SITE, AND BE DISPOSED OF IN A LEGAL MANNER.
- DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO THE POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE (CAPPED OR TERMINATED AS NOTED) BE REFINISHED IN AN APPROVED MANNER.
- MAINTAIN EXISTING UTILITIES INDICATED OR WHERE REQUIRED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN SCHEDULED WITH THE OWNER.
- DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY-RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY.
- REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES.
- PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN TO PREVENT FAILURE. DO NOT ENHANCE OTHER WORK.
- PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS. TEMPORARY DUSTPROOF BARRIERS AND BARRICADES SHALL BE ERECTED WHERE REQUIRED FOR PROTECTION OF PERSONNEL, PROTECTION FROM DUST AND DIRT, FOR SECURITY, FIRE AND WEATHER PROTECTIVE REASONS. CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA AND/OR THE OWNER'S INSURANCE UNDERWRITER. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
- ALL EXISTING EQUIPMENT REQUIRED TO BE REUSED SHALL BE CLEANED. IN ALL INSTANCES WHERE CONTRACTOR FINDS THAT EXISTING EQUIPMENT IS DEFECTIVE TO THE POINT WHERE IT CANNOT BE PROPERLY RESTORED AND WILL NOT OPERATE PROPERLY, THEY SHALL REPORT THE SPECIFIC INSTRUMENTS OR EQUIPMENT TO THE DESIGN PROFESSIONAL FOR DIRECTIONS.
- EXTREME CARE SHALL BE EXERCISED FOR ALL EXISTING ITEMS THAT ARE TO REMAIN IN SERVICE UNTIL NEW ITEMS ARE INSTALLED FOR THE SAME SERVICE. ALL SHUTDOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH THE OWNER.
- ALL WORK TO BE DEMOLISHED REQUIRING DISRUPTION TO EXISTING AREAS ON FLOORS ABOVE, BELOW, OR ADJACENT TO THE CONTRACT AREA; EACH CONTRACTOR SHALL SCHEDULE EACH DISRUPTION WITH THE OWNER. WHERE DEMOLITION WORK WILL REQUIRE TEMPORARY REMOVAL OF EXISTING PIPING WHICH ARE TO REMAIN, THE OWNER SHALL DIRECT AND DEFINE PROCEDURES. NO WORK SHALL PROCEED WITHOUT OWNER'S AUTHORIZATION.
- REMOVE AND REROUTE BY OFFSETTING AS REQUIRED ANY EXISTING PIPING RISERS, STACKS OR LATERAL PIPING TO REMAIN IN SERVICE AND BECOME EXPOSED DUE TO NEW FLOOR PLAN AND OR NEW CEILING LAYOUT.
- WHERE DRAWINGS INDICATE THE DEMOLITION OF PIPING, THE CONTRACTOR SHALL REMOVE ALL ABANDONED HANGERS AND SUPPORTS. PIPING SHALL BE CAPPED AND INSULATED WITH MATERIALS TO MATCH EXISTING.
- THE CONTRACTOR SHALL REPAIR ALL PENETRATIONS OF ROOFS, WALLS AND FLOORS TO MATCH EXISTING OF WHICH ITEMS HAVE BEEN DEMOLISHED.
- UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL REMOVE EQUIPMENT PADS/CURBS/ SUPPORTS FOR ALL FLOOR MOUNTED EQUIPMENT INDICATED TO BE REMOVED. REPAIR FLOORS AS REQUIRED TO MATCH EXISTING. REMOVE HANGERS AND SUPPORTS FOR ALL SUSPENDED EQUIPMENT INDICATED TO BE REMOVED.
- WHERE EQUIPMENT IS INDICATED TO BE REMOVED, THE CONTRACTOR SHALL REMOVE ALL DISCONNECTS, DRIVES, STARTERS, CONTACTORS, SWITCHES, CONTROLLERS, SENSORS, ACTUATORS, ETC. REMOVE EQUIPMENT POWER FEED WIRING AND CONDUIT COMPLETE BACK TO DISTRIBUTION PANEL. ALL CONTROLS CONDUIT, WIRING AND/OR PNEUMATIC TUBING SHALL BE REMOVED BACK TO A REASONABLE EXTENT.

PLUMBING GENERAL CONSTRUCTION NOTES

ALL OF THE FOLLOWING NOTES ARE GENERAL AND SOME MAY NOT APPLY TO THIS SPECIFIC PROJECT.

- THE CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING COORDINATION OF ALL TRADES, INCLUDING, BUT NOT LIMITED TO: DUCTS, PIPING, CONDUIT, EQUIPMENT, FIXTURES, STRUCTURE, FRAMING AND ANY ITEMS PENETRATING THE CEILING AND ROOF. THE CONTRACTOR SHALL INCUR ALL EXPENSES RELATED TO A LACK OF COORDINATION BETWEEN TRADES.
- ALL PLUMBING DRAWINGS ARE DIAGRAMMATIC AND SHOW DESIGN INTENT ONLY. THE EXACT LOCATION AND SIZES OF ALL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR AND COORDINATED WITH THE DESIGN PROFESSIONAL AND ALL OTHER TRADES. PIPING SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO SUIT FIELD CONDITIONS.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL CONTRACT DOCUMENTS RELATED TO THIS PROJECT. THERE MAY BE WORK REQUIRED OF THIS TRADE SHOWN ON OTHER TRADE DRAWINGS.
- THE CONTRACTOR TO PROVIDE A FUNCTIONAL INSTALLATION AS INTENDED BY THE DESIGN PROFESSIONAL.
- PLUMBING CONTRACTOR SHALL ENSURE MINIMUM NEC CLEARANCES IN FRONT OF ALL ELECTRICAL PANELS AND GEAR.
- ALL FLOOR MOUNTED PLUMBING EQUIPMENT SHALL BE INSTALLED ON 4" HIGH REINFORCED CONCRETE HOUSEKEEPING PADS PROVIDED BY THE G.C. UNLESS NOTED OTHERWISE. HOUSEKEEPING PAD SHALL BE MINIMUM 4" LARGER THAN EQUIPMENT ON ALL SIDES. UNLESS OTHERWISE REQUIRED BY EQUIPMENT MANUFACTURER.
- ALL SUSPENDED AND FLOOR MOUNTED EQUIPMENT SHALL BE FURNISHED WITH VIBRATION ISOLATION AS PER PLUMBING SPECIFICATIONS.
- DIELECTRIC COUPLINGS SHALL BE USED WHERE DISSIMILAR METALS ARE JOINED.
- PROVIDE ALL PIPING TRANSITIONS/REDUCERS TO EQUIPMENT, ETC. AS REQUIRED THAT MAY NOT NECESSARILY APPEAR ON PLANS.
- PLUMBING CONTRACTOR SHALL INSULATE ALL PIPING PER SCHEDULE, UNLESS OTHERWISE NOTED ON PLANS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB OPENINGS, WALL OPENINGS, ROOF PENETRATIONS, BEAM PENETRATIONS AND CORING AS IT RELATES TO HIS WORK. CONTRACTOR SHALL SUBMIT SIZE AND LOCATION TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
- ALL PIPING PENETRATIONS OF FIRE RATED PARTITIONS, BARRIERS OR WALLS SHALL BE PROTECTED PER THE LATEST INTERNATIONAL MECHANICAL CODE (IMC). PROVIDE FIRE RATED SLEEVES AND SEALANT AS REQUIRED FOR ALL FIRE RATED PIPING PENETRATIONS.
- CONTRACTOR IS RESPONSIBLE FOR MATCHING PRESSURE RATINGS FOR ALL FLANGES, JOINTS, VALVES, EQUIPMENT AND ACCESSORIES REQUIRED FOR PIPING SYSTEMS TO THE PRESSURE CLASS OF THE EXISTING BUILDING SYSTEM.
- PROVIDE LABELING OF ALL DEVICES AND EQUIPMENT. PROVIDE FABRICATE PIPE MARKERS FOR SPECIFIC UTILITY.
- PROVIDE ACCESS PANELS FOR ALL EQUIPMENT LOCATED ABOVE HARD CEILINGS.
- ALL HOT WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 51B.

FIRE PROTECTION NOTES AND SPECIFICATIONS

- REFER TO PLUMBING GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL FIRE PROTECTION WORK SHALL COMPLY WITH ALL REQUIREMENTS OF THE LATEST EDITION OF NFPA-13, NFPA-14 AND ALL LOCAL CODE REQUIREMENTS.
- THE FIRE PROTECTION CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS RELATED TO THIS PROJECT. THESE FIRE PROTECTION DOCUMENTS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW THE SCOPE OF THE PROJECT.
- ALL FIRE PROTECTION EQUIPMENT, PIPING AND RELATED ITEMS SHALL BE SPECIFICALLY LISTED FOR FIRE PROTECTION SERVICE AS WELL AS FM APPROVED.
- THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE FIRE PROTECTION WORK WITH THE CONTRACT DOCUMENTS FOR THE GENERAL CONSTRUCTION, MECHANICAL AND ELECTRICAL TRADES.
- THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE ALL WORK EFFORTS THROUGH THE GENERAL CONTRACTOR IN ACCORDANCE WITH AN APPROVED PROJECT SCHEDULE.
- FIRE PROTECTION PIPING SHALL NOT BE ROUTED OVER ELECTRICAL PANELS AND/OR ELECTRICAL EQUIPMENT.
- NEW STEEL PIPE SHALL ADHERE TO ALL REQUIREMENTS OF NFPA-14, CHAPTER 4, AND ALL LOCAL REQUIREMENTS.
- CONTRACTOR SHALL TEST EXISTING PIPING SYSTEM AND CERTIFY PIPING MEETS CURRENT CODE REQUIREMENTS.
- FIRE HOSE CABINET - FOR USE WITH 2 1/2" VALVE, 2 1/2" BY 1 1/2" REDUCER AND 1 1/2" CAP. CABINET MANUFACTURED OF GALVANIZED STEEL 20GA RECESSED BOX (16GA SURFACE MOUNTED BOX); 22GA TUBULAR STEEL DOOR WITH 20GA FRAME AND A CONTINUOUS STEEL HINGE. ALL COMPONENTS ARE POWDER-COATED WITH AN ELECTROSTATICALLY-APPLIED, THERMALLY FUSED, RECOATABLE WHITE POLYESTER FINISH. ALL GLASS DOOR STYLES PROVIDED WITH CLEAR TEMPERED SAFETY GLASS. CABINETS EQUAL TO POTTER ROEMER 1810-10-A SERIES WITH FULL TEMPERED SAFETY GLASS DOOR.

GENERAL CUTTING AND PATCHING NOTES

- GENERAL CUTTING AND PATCHING NOTES PERTAIN TO ALL DRAWINGS.
- ALL CUTTING AND PATCHING SHALL BE PERFORMED BY THE CONTRACTOR. ALL HOLES SHALL BE CORE BORED. ALL FLOORS, BLACKTOP, WALKS, CURBS, ETC. SHALL BE SAW CUT. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR WORK PERFORMED UNDER THIS CONTRACT. NO HOLES MAY BE CUT OR DRILLED IN STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF OWNER'S REPRESENTATIVE. CUTTING SHALL BE DONE BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES.
- CONTRACTOR SHALL PATCH WALLS WHERE EXISTING DEVICES HAVE BEEN REMOVED. MATCH EXISTING FINISH AND TEXTURE.
- NO CUTTING THAT MAY IMPAIR THE STRENGTH OF THE BUILDING CONSTRUCTION SHALL BE DONE. NO HOLES MAY BE DRILLED IN OR ATTACHMENTS WELDED TO THE BEAMS OR OTHER STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE. ALL WORK SHALL BE DONE BY MECHANICS SKILLED IN THEIR TRADE.
- ALL PATCHING SHALL BE DONE IN A MANNER TO MATCH APPEARANCES AND QUALITY OF EXISTING SURFACES.
- UNLESS OTHERWISE INDICATED, THE CONTRACTOR SHALL PATCH AND SEAL ALL WALLS, FLOORS, CEILINGS (DRYWALL, PLASTER, LAY-IN CEILINGS, ETC.) SOFFITS, ETC. WHERE EXISTING ITEMS SUCH AS PIPE, HANGERS, SUPPORTS, ETC. ARE REMOVED OR NEW WORK IS INSTALLED UNDER THIS CONTRACT. ALL PATCHING SHALL BE PERFORMED WITH EQUIVALENT MATERIALS AND FINISHES AND SHALL MATCH ADJOINING SURFACES IN BOTH TEXTURE AND FINISH.
- REMOVE AND REPLACE EXISTING CEILING SYSTEM TILES AND GRIDS AS REQUIRED TO INSTALL THE NEW WORK. REPAIR AS NECESSARY AND USE NEW GRIDS AND TILES TO MATCH THE EXISTING.

| PUMP SCHEDULE | | | | | | | | | |
|---------------|--------------------|--------------|-----|---------|------|----------|---------------|--------------------------|---------|
| NO. | SERVICE | LOCATION | GPM | HD. FT. | RPM | MOTOR HP | MOTOR V/PH/Hz | MANUFACTURER & MODEL NO. | REMARKS |
| SP-1 | ELEVATOR SUMP PUMP | ELEVATOR PIT | 100 | 10 | 3450 | 1-1/2 | 208/1/60 | ZOELLER MODEL D188 | |

| PLUMBING FIXTURE SCHEDULE | | | | | | |
|---------------------------|-----------------------|--|--|--------------|-----------------|---|
| FIXTURE DESIGNATION | FIXTURE NAME | FIXTURE MODEL & DESCRIPTION | FAUCET / FLUSH VALVE MODEL & DESCRIPTION | TRAP | SUPPLY | REMARKS |
| WC-1 | WATER CLOSET | KOHLER KINGSTON K-4325SS VITREOUS CHINA IN WHITE | FLUSH VALVE-SLOAN ROYAL 111 | ---- | ---- | SEAT-KOHLER K-4731-C HEAVY DUTY OPEN FRONT LESS COVER |
| LAV-1 | LAVATORY | KOHLER SOHO K-2084-0 WALL MOUNT IN WHITE. | FAUCET-CHICAGO MODEL 2200-ABCP | McGUIRE 8902 | McGUIRE 216SLK | |
| EW-1 | ELECTRIC WATER COOLER | HALSEY TAYLOR HYDROBOOST BOTTLE FILLING STATION MODEL HTHBW-0VLSER-1 | ---- | McGUIRE 8872 | 3/4" BALL VALVE | |
| MR-1 | MOP RECEPTOR | FIAT TERRAZZO MODEL TS100 | FAUCET-FIAT MODEL 830AA | 3" P-TRAP | ---- | INCLUDE FIAT 832AA HOSE, & BRACKET, 889CC MOP HANGER BRACKET. |

| PLUMBING FIXTURE CONNECTION SCHEDULE | | | | | | | |
|--------------------------------------|-------------|----------|--------|------|------------|-----------|--------------|
| FIXTURE | FIXTURE NO. | SANITARY | WASTE | VENT | COLD WATER | HOT WATER | REMARKS |
| WATER CLOSET | WC-1 | 4" | - | - | 1-1/4" | - | TOILET ROOMS |
| LAVATORY | LAV-1 | - | 1-1/2" | - | 1/2" | 1/2" | TOILET ROOMS |
| ELECTRIC WATER COOLER | EW-1 | - | 1-1/2" | - | 1/2" | 1/2" | |
| MOP RECEPTOR | MR-1 | - | 3" | - | 1/2" | 1/2" | |

| PLUMBING THERMAL INSULATION SCHEDULE | | | | |
|---|--|-----------|-----------------|------------|
| DESCRIPTION | INSULATION TYPE | THICKNESS | COVERING/JACKET | HEAT TRACE |
| DOMESTIC COLD WATER - ALL SIZES | RIGID FIBERGLASS JOHNS MANVILLE MICROLOK | 1" | AP-T PLUS | NO |
| DOMESTIC HOT WATER & HOT WATER RETURN - ALL SIZES | RIGID FIBERGLASS JOHNS MANVILLE MICROLOK | 1" | AP-T PLUS | NO |

| PIPE SUPPORT SCHEDULE | | | | | | | |
|-----------------------|--------------|--------------|--------|-------|--------|--------------|--|
| PIPE SUPPORT NUMBER | MANUFACTURE | MODEL NUMBER | HEIGHT | WIDTH | LENGTH | MAXIMUM LOAD | REMARKS |
| PS-1 | MIFAB C-PORT | C610 | 6.125" | 6" | 9.6" | 750LBS. | PROVIDE WITH STRUT CLAMP MIFAB C-PORT MODEL #CLAMP3.50 |

| DRAINAGE FIXTURE UNIT CALCULATION | | |
|------------------------------------|------------------|----------|
| EXISTING PLUMBING FIXTURES REMOVED | 2 WC x 4 DFU = | 8 DFU |
| | 3 LAV x 1 DFU = | 3 DFU |
| | 1 FD x 2 DFU = | 2 DFU |
| | 1 MR x 2 DFU = | 2 DFU |
| | TOTAL | = 15 DFU |
| NEW PLUMBING FIXTURES INSTALLED | 2 WC x 4 DFU = | 8 DFU |
| | 2 LAVS x 1 DFU = | 2 DFU |
| | 1 MR x 2 DFU = | 2 DFU |
| | 1 EW x 1 DFU = | 1 DFU |
| | TOTAL | = 13 DFU |

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It is a violation of New York State Law for any person, unless he is acting under the direction of a licensed Professional Engineer or Land Surveyor, to alter an item in any way. If an item bearing the seal of an Engineer or Land Surveyor is altered, the altering Engineer or Land Surveyor shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

- General Notes
- All dimensions and existing conditions shall be checked and verified by contractor at the site prior to proceeding with the work.
 - Contractor shall inform Architect/ Engineer of any discrepancies on drawings before construction begins.
 - No existing service may be cut without Architect/Engineer's consent. Any existing service severed or damaged shall be replaced at no cost to owner.
 - Contractor must notify Architect/ Engineer at once if hidden existing conditions encountered require design modifications.

| Issue | Issued For | Date |
|-------|----------------|------------|
| 0 | Bid and Permit | 07-06-2022 |
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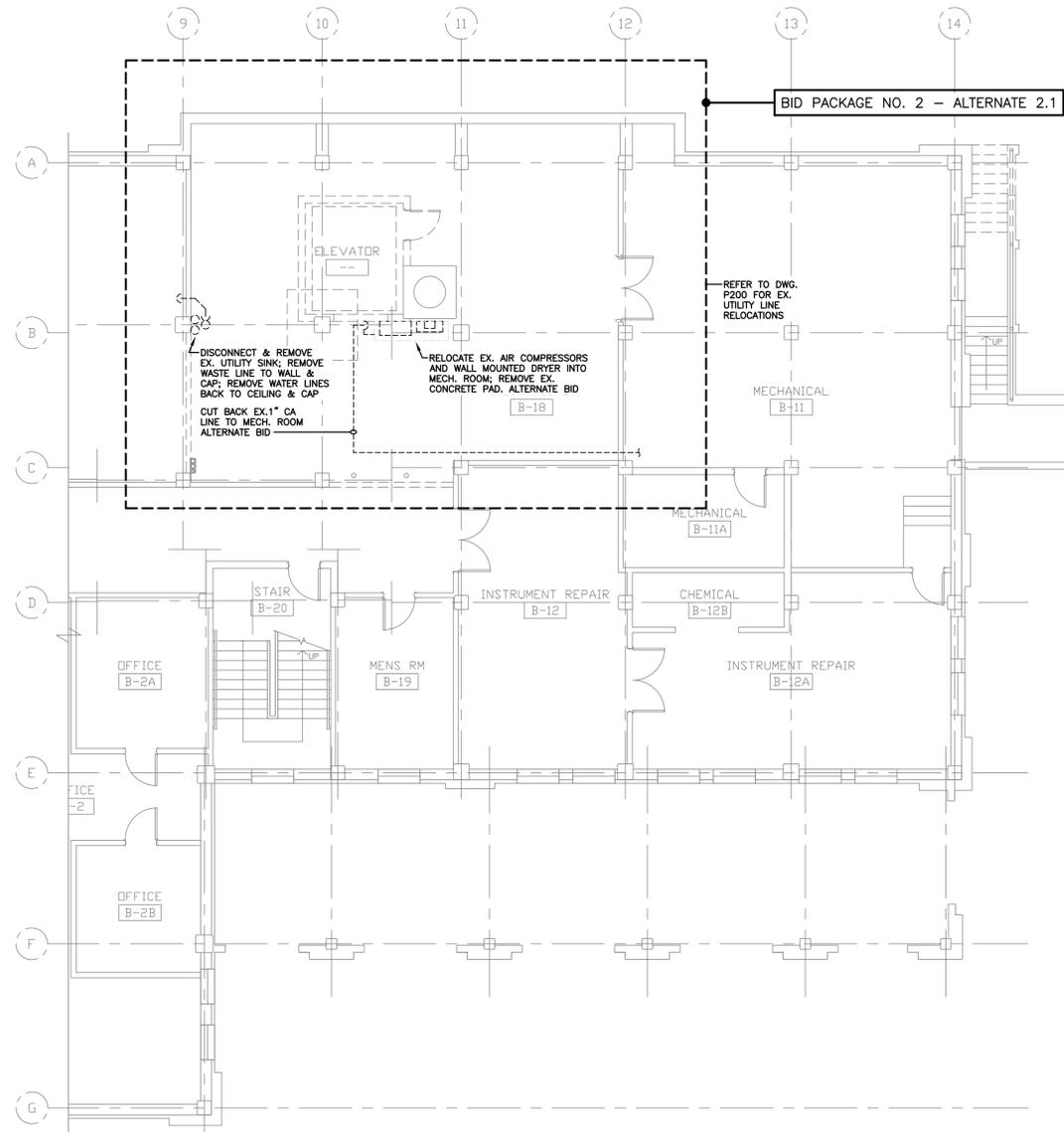
PRELIMINARY
Not For Construction

Key Plan

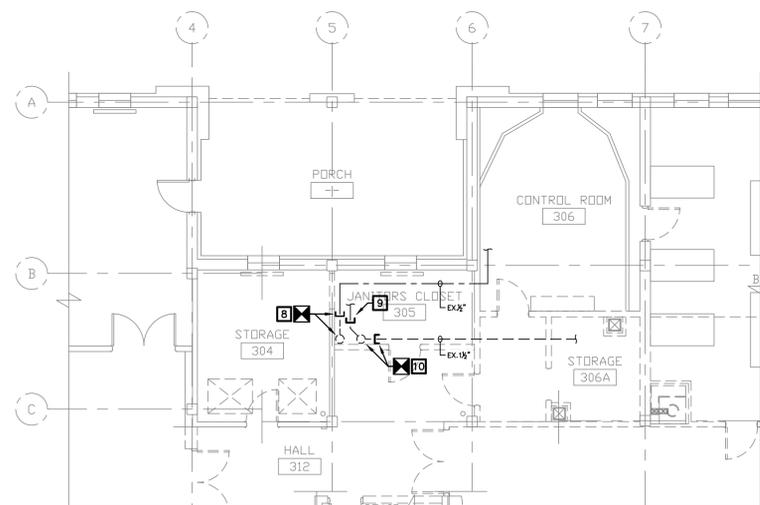
EGNER HALL BUILDING 685
 U.S. MILITARY ACADEMY
 West Point, New York

Project No.: 11300 (DJVI #2115)
 Date: July 6, 2022

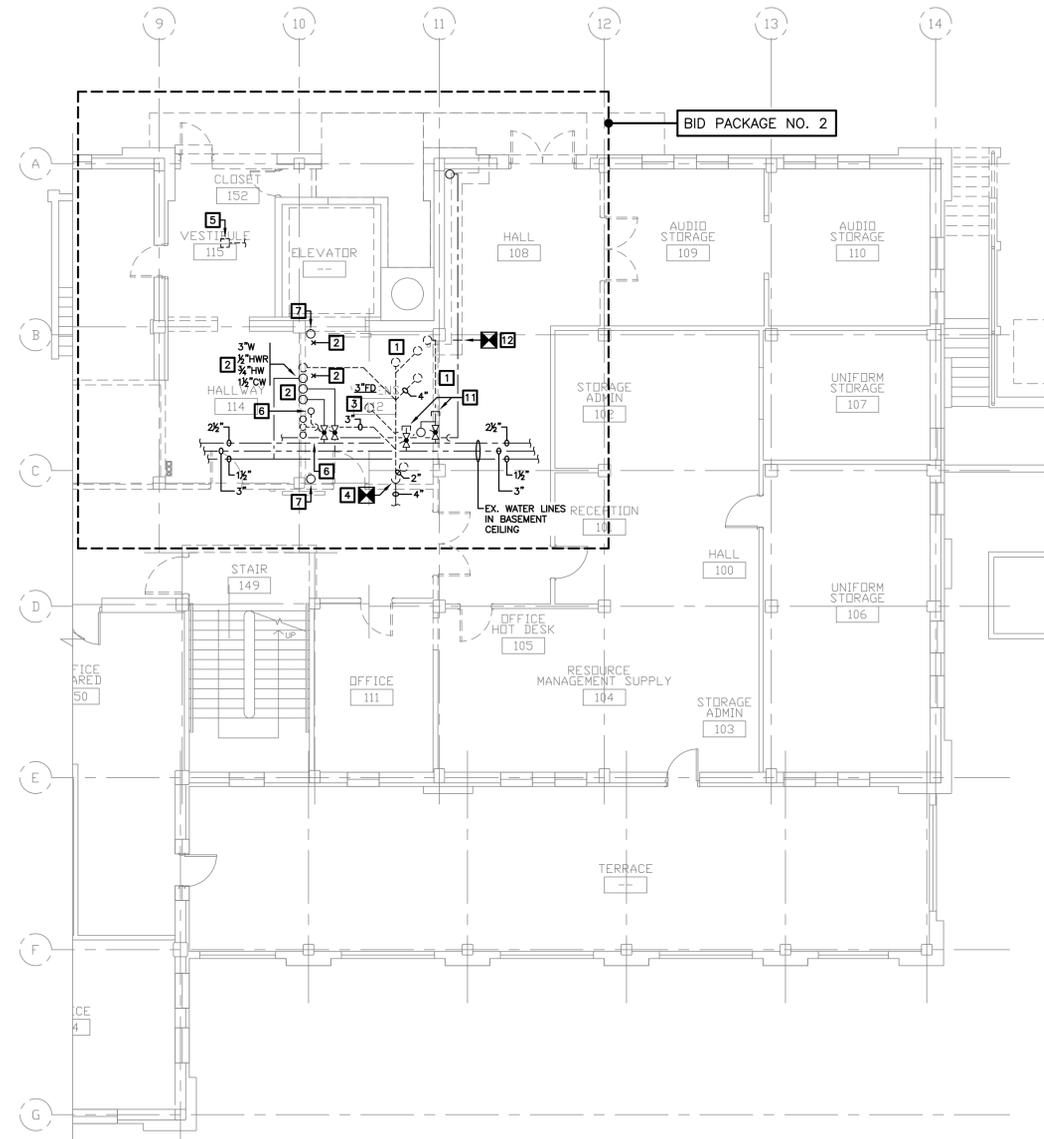
Drawing Title:
 Schedules and Notes



PARTIAL BASEMENT DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



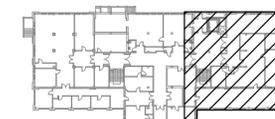
PARTIAL THIRD FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



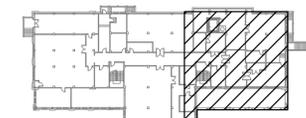
PARTIAL FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES – ALL FLOORS

- 1 DISCONNECT AND REMOVE EXISTING WATER CLOSET. REMOVE SANITARY LINE BACK TO DROP IN BASEMENT. REMOVE VENT LINE BACK TO STACK AND CAP. REMOVE COLD WATER LINE BACK TO BASEMENT CEILING AND CAP.
- 2 DISCONNECT AND REMOVE EXISTING LAVATORY. REMOVE WASTE LINE BACK TO DROP IN BASEMENT. REMOVE VENT LINE BACK TO STACK AND CAP. REMOVE HOT AND COLD WATER LINES BACK TO BASEMENT CEILING AND CAP.
- 3 REMOVE EXISTING FLOOR DRAIN. REMOVE SANITARY PIPE BACK TO DROP IN BASEMENT. REMOVE VENT LINE BACK TO STACK AND CAP.
- 4 CAP SANITARY LINE AT BASEMENT FLOOR.
- 5 REMOVE EXISTING FLOOR DRAIN AND ASSOCIATED PIPING BACK TO BASEMENT CEILING AND CAP. CAP EXISTING VENT LINE ABOVE CEILING.
- 6 REMOVE EXISTING SLOP SINK. REMOVE WASTE LINE BACK TO BASEMENT. REMOVE HOT AND COLD WATER LINES BACK TO BASEMENT CEILING AND CAP. REMOVE VENT LINE BACK TO VENT STACK. CAP LINE AT STACK.
- 7 CONTRACTOR TO FIELD VERIFY IF VENT IS ACTIVE. REMOVE VENT BACK TO VENT STACK IF IN ACTIVE. RELOCATE VENT TO NEW WALL IF ACTIVE.
- 8 REMOVE EXISTING 1/2" COLD WATER LINE DOWN WALL TO ABOVE CEILING AND CAP.
- 9 REMOVE EXISTING 1 1/2" WASTE LINE DOWN TO SECOND FLOOR. CAP WASTE LINE IN SECOND FLOOR CEILING.
- 10 REMOVE EXISTING 1 1/2" VENT UP WALL TO ABOVE CEILING AND CAP.
- 11 REMOVE EXISTING WATER LINES BACK TO VALVES IN CEILING AND CAP.
- 12 CUT WATER LINE BACK TO POINT INDICATED.



KEYPLAN – FIRST FLOOR



KEYPLAN – BASEMENT

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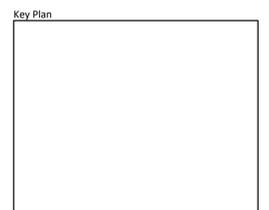
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General Notes

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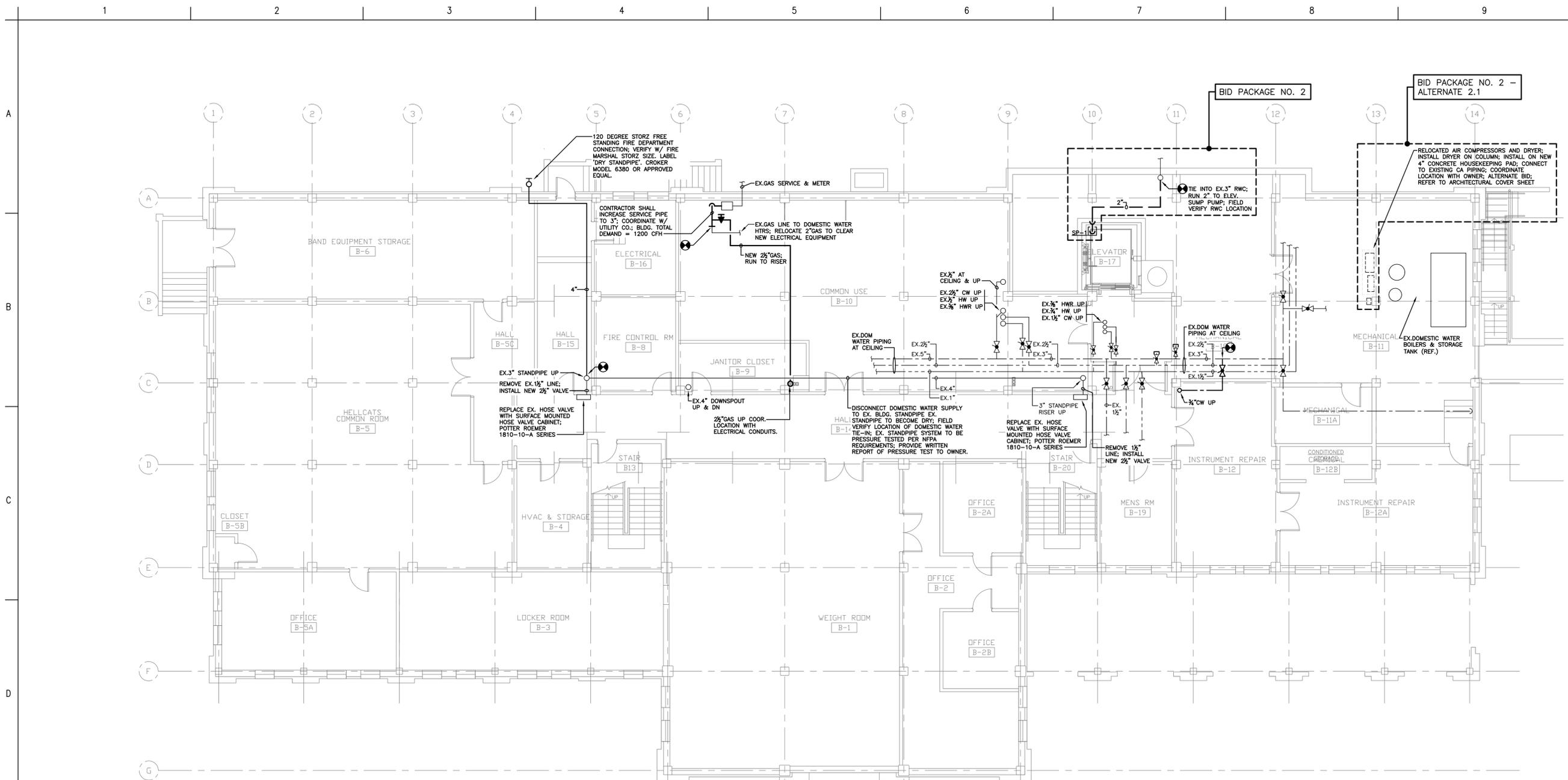


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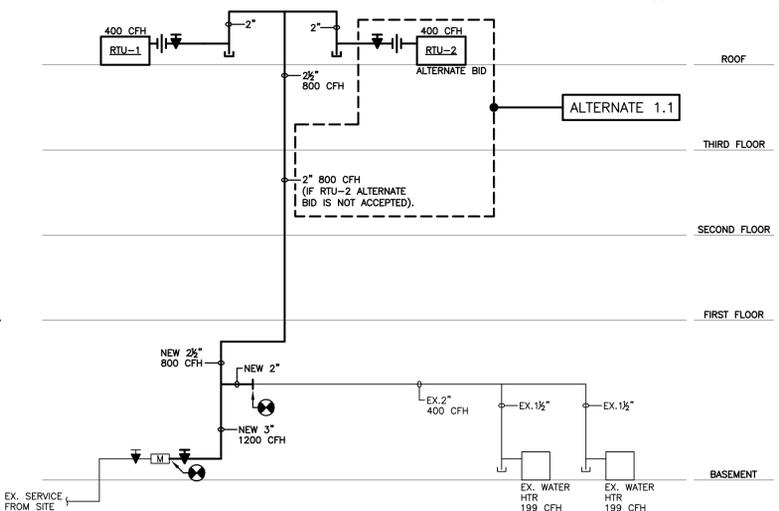
Project No.: 11300 (DJVI #2115)
Date: July 6, 2022

Drawing Title:
Demolition Plans and Notes

P 100



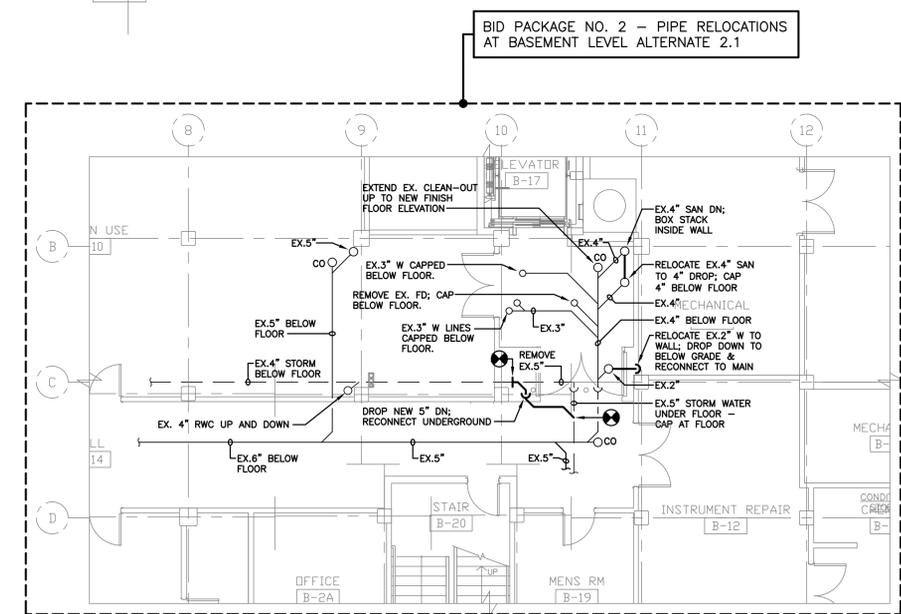
BASEMENT PLAN – NEW WORK
SCALE: 1/8" = 1'-0"



NATURAL GAS RISER
N.T.S.

NATURAL GAS DEVELOPED PIPE LENGTH CALCULATION

| | | |
|--|---|----------|
| DEVELOPED LENGTH METER TO NEW ROOFTOPS | = | 216 FEET |
| EXISTING GUARANTEED PRESSURE FROM UTILITY | = | 7 WC |
| EXISTING EQUIPMENT | | |
| DOMESTIC WATER BOILER | = | 199 CFH |
| DOMESTIC WATER BOILER | = | 199 CFH |
| EXISTING TOTAL | = | 398 CFH |
| NEW ROOFTOPS | | |
| RTU-1 @ 4.5" WC | = | 400 CFH |
| RTU-2 @ 4.5" WC | = | 400 CFH |
| NEW TOTAL | = | 800 CFH |
| TOTAL BUILDING GAS REQUIRED – EXISTING & NEW | = | 1200 CFH |
| MAXIMUM CAPACITY OF 3" GAS MAIN @ 216' | = | 2156 CFH |



PARTIAL BASEMENT PLAN – SANITARY RELOCATION PLAN
SCALE: 1/8" = 1'-0"

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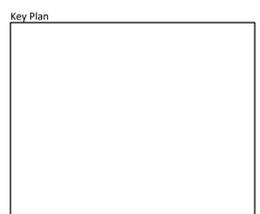
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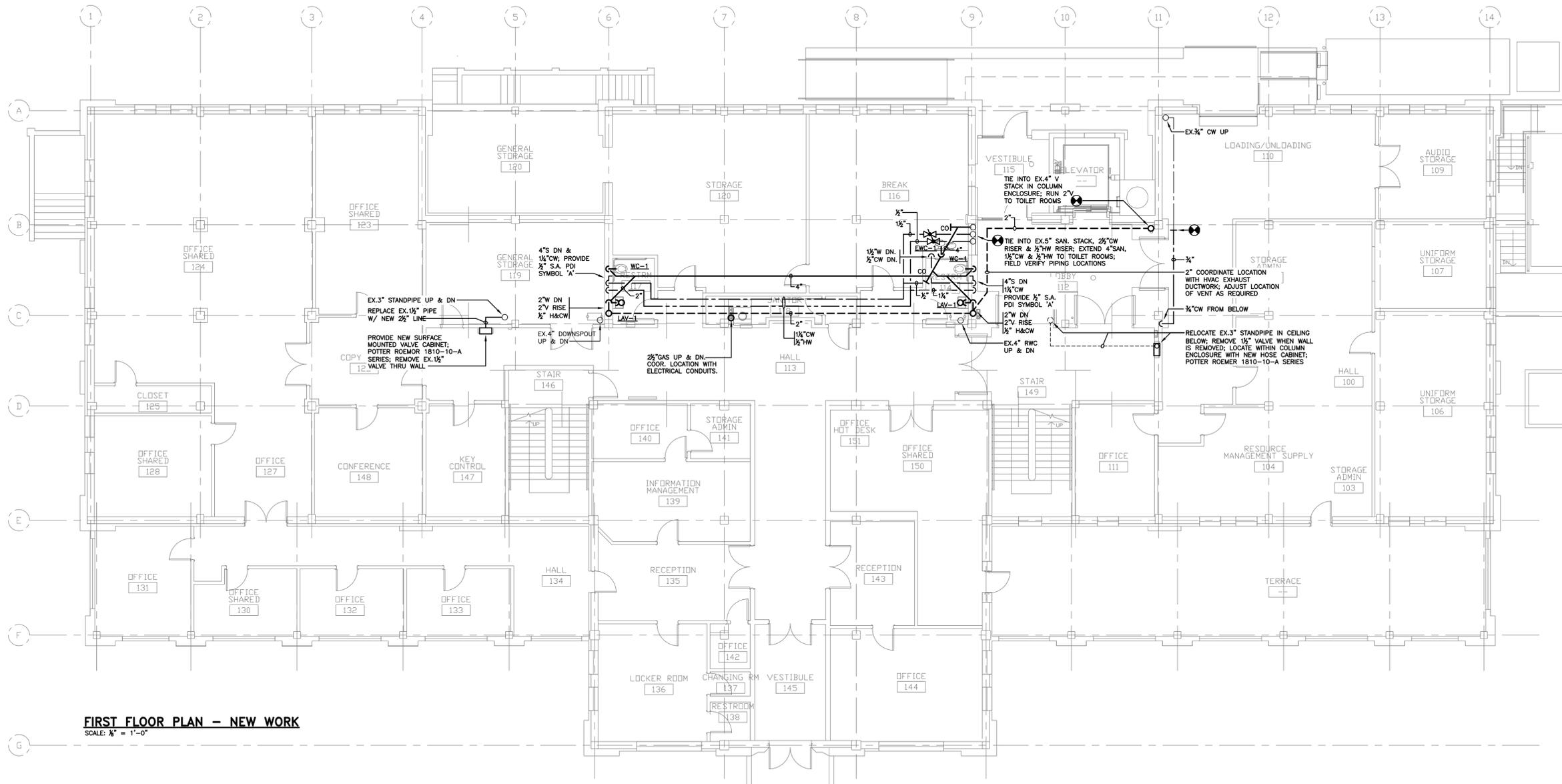


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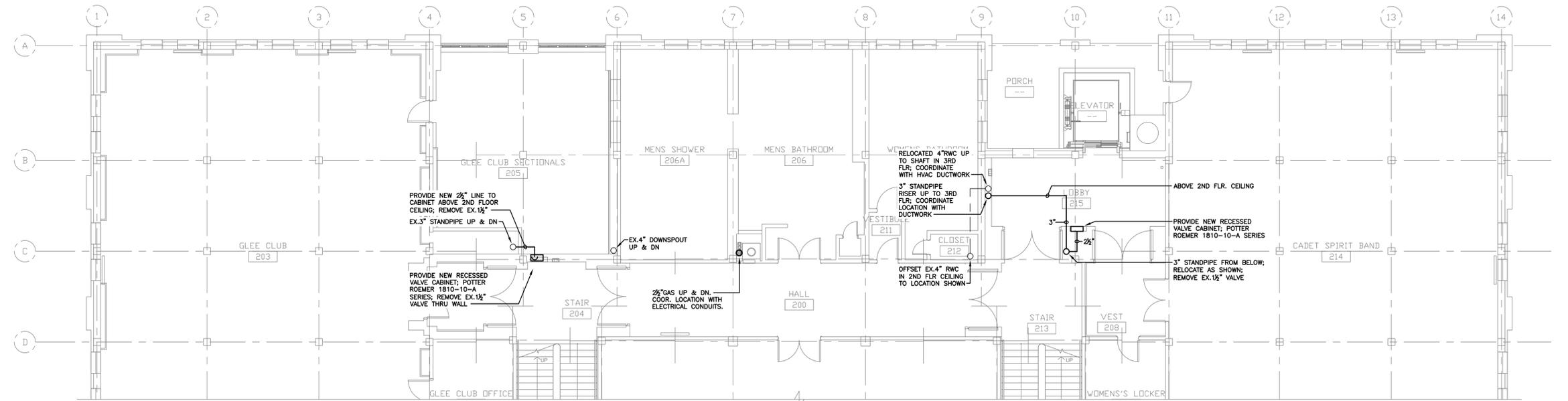
Project No.: 11300 (DJVI #2115)
Date: July 6, 2022

Drawing Title:
Basement Floor Plan

P 200



FIRST FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"



PARTIAL SECOND FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

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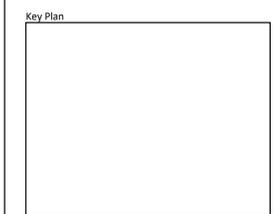
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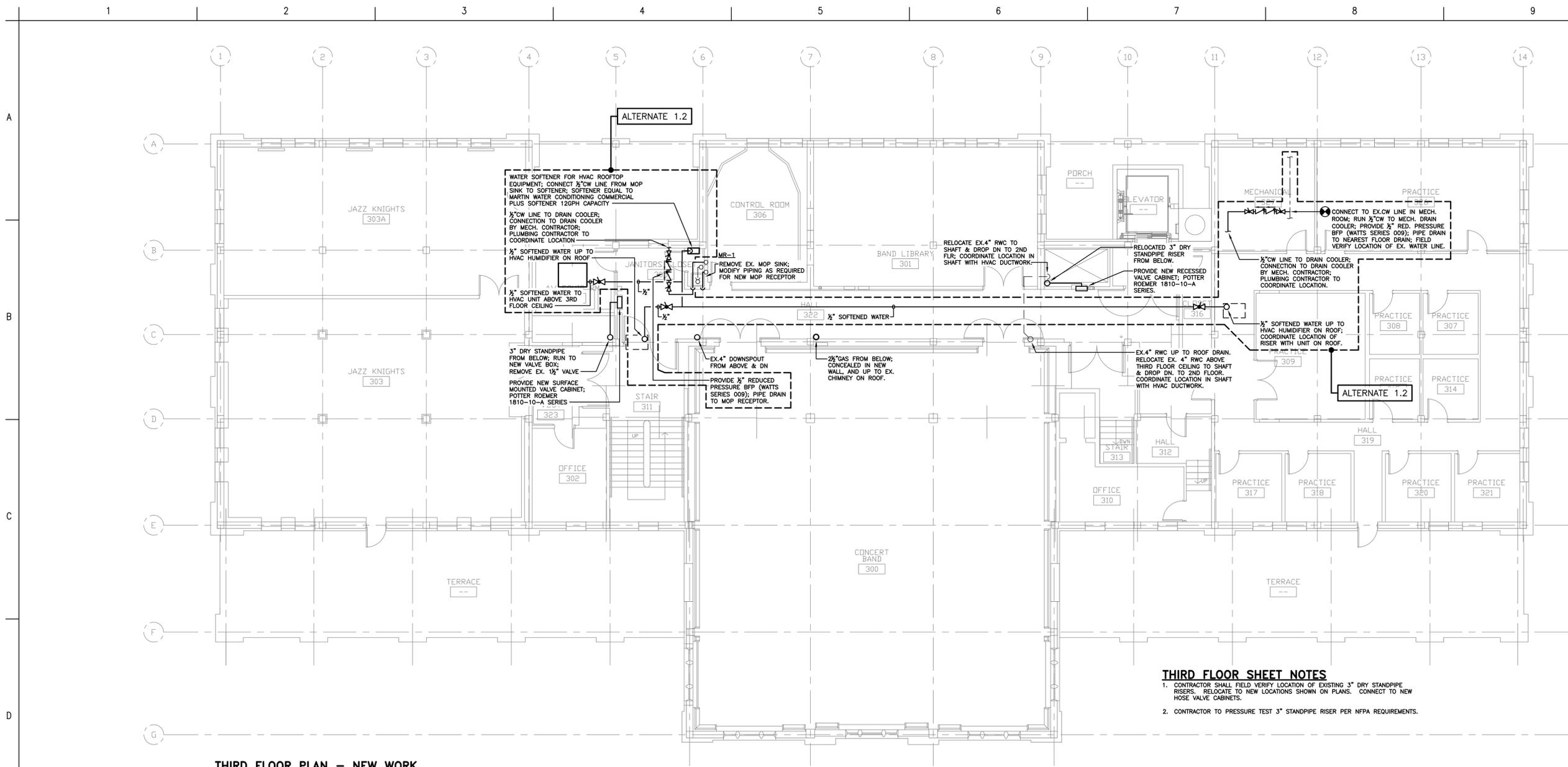


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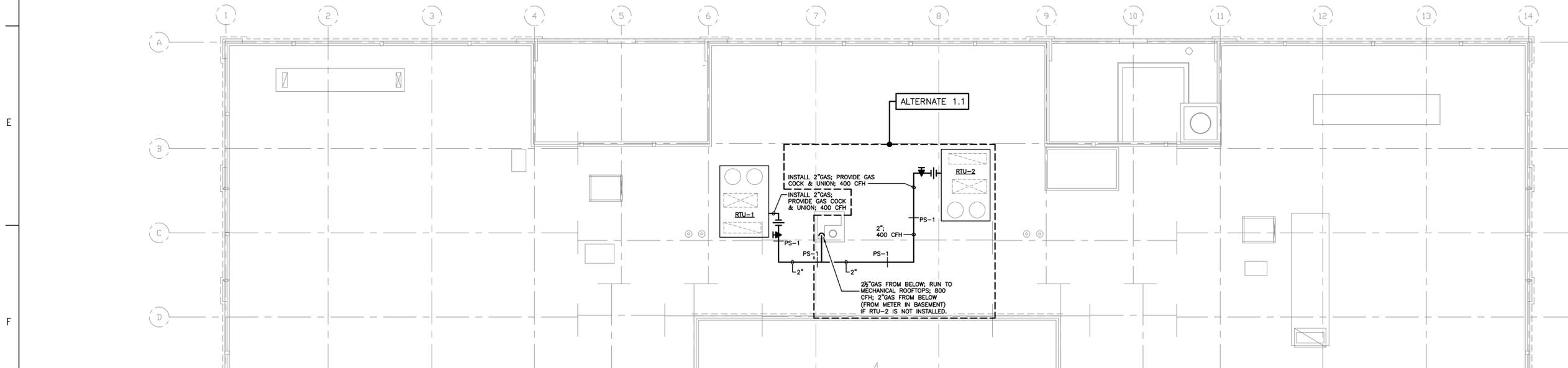
Drawing Title:
First and Second Floor Plans

P 201



THIRD FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

THIRD FLOOR SHEET NOTES
1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING 3" DRY STANDPIPE RISERS. RELOCATE TO NEW LOCATIONS SHOWN ON PLANS. CONNECT TO NEW HOSE VALVE CABINETS.
2. CONTRACTOR TO PRESSURE TEST 3" STANDPIPE RISER PER NFPA REQUIREMENTS.



PARTIAL ROOF PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

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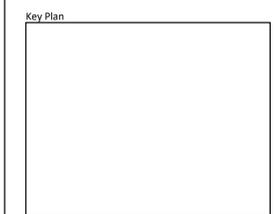
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Project No.: 11300 (DJVI #2115)
Date: July 6, 2022

Drawing Title:
Third Floor and Roof Plans