

**PLUMBING DEMOLITION NOTES**

- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF PLUMBING WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE ARCHITECT.
- THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING PLUMBING WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL LAYOUTS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE REMOVED BACK TO ACTIVE LINES.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING PLUMBING SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF MAINS TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR, AS DIRECTED BY THE OWNER.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING PLUMBING SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
- REMOVE EXISTING PLUMBING FIXTURES AND PIPING IN THE AREA OF WORK. CUT AND CAP EXISTING WASTE, VENT, HW AND CW LINES SERVING THESE FIXTURES BACK TO ACTIVE LINES. ALL REMOVED PLUMBING FIXTURES SHALL BE TURNED OVER TO OWNER, DISPOSED OR SALVAGED AS DIRECTED BY OWNER. ALL ABANDONED PIPING TO BE REMOVED.
- MAKE ANY NECESSARY TEMPORARY CONNECTIONS BETWEEN EXISTING AND NEW WORK TO MAINTAIN CONTINUOUS SERVICE OF ALL EXISTING SYSTEMS. MINIMIZE SHUTDOWNS. OBTAIN WRITTEN APPROVAL FROM ARCHITECT/OWNER FOR SHUTDOWNS. ALL SHUT-DOWNS REQUIRE 48-HOUR NOTICE TO OWNER.
- CONTRACTOR SHALL CAREFULLY EXAMINE EXISTING CONDITIONS BEFORE STARTING ANY WORK.
- CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE REMOVING OR RELOCATING ANY EXISTING PIPING NOT INDICATED ON DRAWINGS.

**PLUMBING GENERAL NOTES**

- GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED P.
- DRAWINGS ARE DIAGRAMMATIC; CONTRACTOR SHALL DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
- PLUMBING CONTRACTOR IS RESPONSIBLE FOR ADVANCED NOTIFICATION (96 hours) TO OWNER OF ALL SHUTDOWNS. THE CONTRACTOR IS RESPONSIBLE FOR SHUTTING DOWN OR ISOLATING ALL BUILDING PLUMBING SYSTEMS.
- NEITHER ACCURACY NOR COMPLETION OF UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING UTILITY IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
- ALL PLUMBING WORK SHALL MEET THE REQUIREMENT OF MASSACHUSETTS PLUMBING CODE, AND OTHER AGENCIES AND AUTHORITIES HAVING JURISDICTION.
- IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES, INCLUDING (BUT NOT LIMITED TO), ELECTRICAL, HVAC PROCESS PIPING, SPRINKLER, PLUMBING STRUCTURAL AND GENERAL ARCHITECTURE.
- ANY INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE, AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
- NO WORK SHALL BE INSTALLED IN VIOLATION OF ANY GOVERNING CODES. ANY WORK SHOWN ON THE DRAWINGS WHICH IS IN VIOLATION OF SUCH CODES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
- ALL PIPING PENETRATING CEILING AND WALLS SHALL BE INSTALLED WITH CHROME (STAINLESS WHERE NOTED) PLATED ESCUTCHEONS AT THE PENETRATION. PIPING PENETRATING RATED PARTITIONS SHALL BE PROTECTED AS REQUIRED BY LOCAL CODE AUTHORITY.
- MANUFACTURER'S MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
- PRODUCTION INSTALLATION SHALL ADHERE TO MANUFACTURERS' RECOMMENDATIONS.
- ACCESS DOORS SHALL BE PROVIDED FOR ALL CLEANOUTS, VALVES, FLUSH VALVES, AND ANY OTHER EQUIPMENT AND ACCESSORIES THAT MAY REQUIRE ACCESS FOR MAINTENANCE OR OPERATION WHICH ARE LOCATED BEHIND WALLS & PARTITIONS OR CONCEALED IN HUNG CEILINGS.
- TO ENSURE CONTINUOUS OPERATION, MAKE ALL NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. ALL COST RESULTING FROM TEMPORARY SHUTDOWNS SHALL BE OWNED BY THIS CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL DRAWINGS AND SHALL FURNISH EQUIPMENT WIRING FOR THE VOLTAGES SHOWN HEREIN.
- PROVIDE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
- ALL SLEEVES THROUGH CONCRETE FLOORS AND ALL CORE DRILLING OF CONCRETE FLOORS AND WALLS SHALL BE BY THIS CONTRACTOR.
- SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERE WITH FIRE-PROOFING WORK.
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND COORDINATE ALL NEW PLUMBING WORK AROUND/NEAR SHEAR HEAD AROUND CONCRETE COLUMNS. (CONTRACTOR MUST AVOID CORING/PENETRATING SHEAR HEAD AROUND THE CONCRETE COLUMNS)
- RUN PIPING ABOVE CEILING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.
- STRUCTURAL WELDING SHALL BE 1/4-INCH FILLET UNLESS REQUIRED OTHERWISE.
- PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING. (FIXTURES SHALL BE "NON-FERROUS" METAL TYPE)
- PROVIDE BALANCING VALVES AT SYSTEM LOOP RETURNS AND AT RETURN RISERS; PROVIDE SHUT-OFF VALVES AT SYSTEM LOOP SUPPLIES AND SUPPLY RISERS.
- PROVIDE VENTS AT HIGH POINTS IN PIPING SYSTEMS AND DRAIN VALVES AT LOW POINTS.
- PROVIDE GAUGE FITTINGS AND THERMOMETER WELLS AT HOT WATER SUPPLY AND RETURN BRANCHES AND AT PUMP INLETS AND OUTLETS.
- CONTRACTOR SHALL VERIFY EXACT SIZES, LOCATIONS, INVERTS AND ELEVATIONS PRIOR TO RUNNING ANY PIPING. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.
- PIPING SHALL NOT RUN OVER ELECTRICAL PANELS AND SHALL BE COORDINATED WITH WORK OF OTHER TRADES.
- PROVIDE SHUT-OFF VALVES AT SYSTEM LOOP SUPPLIES AND SUPPLY RISERS.
- ALL PENETRATIONS (WALL, FLOOR, SLAB, ETC.) SHALL BE PROVIDED WITH AN APPROVED FIRE-STOPPING SEALANT.
- CONTRACTOR SHALL REFER TO AND COORDINATE WITH OTHER TRADES DRAWINGS FOR WORK OF CONCRETE PADS, HOUSE TRAP PIT & GREASE TRAP PITS.
- ANY AND ALL REQUIRED DEMOLITION WORK TO BE PERFORMED ABOVE EXISTING SUSPENDED CEILINGS AND FURRED OUT WALLS SHALL BE DONE AT THE TIME WHEN THE EXISTING CEILINGS AND FURRED OUT WALLS ARE REMOVED BY THE GENERAL CONTRACTOR.
- THIS CONTRACTOR SHALL ARRANGE THE WORK CONTINUOUSLY, INCLUDING APPROVED BY THE ARCHITECT OVERTIME, IF REQUIRED, TO ASSURE THAT SERVICES WILL BE SHUT DOWN AND CUT-INS ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTION TO EXISTING WORK.
- WHERE THE WORK MAKES TEMPORARY SHUT DOWN OF SERVICES UNAVOIDABLE, THEY SHALL BE MADE AT NIGHT OR AT TIMES AS THIS WILL CAUSE THE LEAST INTERFERENCE WITH THE ESTABLISHED OPERATING ROUTINE OF THE BUILDING.
- UNNECESSARY NOISE SHALL BE AVOIDED AT ALL TIMES AND NECESSARY NOISE SHALL BE REDUCED TO A MINIMUM.
- UNDER NO CIRCUMSTANCES WILL THIS CONTRACTOR OR HIS WORKMEN BE PERMITTED TO USE ANY PART OF THE BUILDING AS A SHOP, EXCEPT PART DESIGNATED BY THE OWNER FOR SUCH PURPOSES.
- THIS CONTRACTOR SHALL NOT INTERRUPT ANY OF THE SERVICES OF THE EXISTING BUILDING NOR INTERFERE WITH THE SERVICES IN ANY WAY WITHOUT THE EXPRESSED PERMISSION OF THE OWNER. SUCH INTERRUPTIONS AND INTERFERENCES SHALL BE MADE AS BRIEF AS POSSIBLE AND ONLY AT THE SUITE BY THE OWNER.
- NO REMOVED EXISTING PIPING SHALL BE REUSED UNLESS OTHERWISE INDICATED.
- ALL EXISTING SYSTEM SHALL BE LEFT IN PERFECT WORKING ORDER UPON COMPLETION OF ALL NEW WORK.
- EACH BIDDER SHALL VISIT THE SITE AND BECOME INFORMED AS TO THE CONDITION OF THE PREMISES AND THE EXTENT AND CHARACTER OF WORK REQUIRED. NO ADDITIONAL COMPENSATION WILL BE APPROVED DUE TO THE FIELD CONDITIONS.

**PLUMBING BASIC SYMBOLS**

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)

	EXISTING PIPING
	EXISTING PIPING TO BE REMOVED
	PIPING TO BE ABANDONED
	NEW SOIL, WASTE OR SANITARY PIPING
	VENT PIPING (SANITARY)
	PIPING BELOW FLOOR/SLAB
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (120°)
	DOMESTIC HOT WATER CIRCULATION PIPING
	PIPING w/FREEZE PROTECTION CABLE & INSULATION
	ARROW INDICATES DIRECTION OF FLOW
	WASTE EJECTOR PUMP DISCHARGE PIPING
	GAS PIPING
	TRAP PRIMING SUPPLY PIPING
	INDIRECT WASTE PIPING
	STORM WATER DRAINAGE PIPING
	TEMPERED WATER PIPING
	CONNECT TO EXISTING
	HOSE BIBB
	CLEAN OUT/PLUGGED OUTLET
	CAPPED OUTLET
	CLEAN-OUT DECK PLATE
	P-TRAP
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	PIPE DOWN/DROP
	PIPE RISE/UP
	PIPE SLOPE
	UNION
	REDUCER
	WATER PROOF SLEEVE
	SLEEVE
	FLOOR DRAIN
	PUMP
	TAMPER SWITCH
	PRESSURE SWITCH w/GAUGE COCK
	WATERFLOW SWITCH
	TEMPERATURE AND PRESSURE RELIEF VALVE
	PLUG VALVE
	MIXING VALVE
	RELIEF VALVE
	BALL VALVE
	BALL VALVE w/LOCK SHIELD
	GATE VALVE
	GLOBE VALVE
	OUTSIDE SCREW & YOKE (OS & Y) VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE (PRV)
	SOLENOID VALVE
	FLOAT VALVE
	BALANCING VALVE
	BACKFLOW PREVENTER ASSEMBLY
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY

**PLUMBING HOSPITAL/LABORATORY SYMBOLS**

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)

	AIR PIPING
	CARBON DIOXIDE PIPING
	DEIONIZED WATER SUPPLY PIPING
	DEIONIZED WATER RETURN PIPING
	LABORATORY VENT PIPING
	LABORATORY WASTE PIPING
	MEDICAL AIR PIPING
	MEDICAL GAS PIPING
	MEDICAL VACUUM PIPING
	NITROGEN PIPING
	NITROGEN OXIDE PIPING
	OXYGEN PIPING
	VACUUM PIPING
	HIGH-PRESSURE AIR SUPPLY PIPING
	NON-POTABLE COLD WATER SUPPLY PIPING
	NON-POTABLE HOT WATER SUPPLY PIPING
	NON-POTABLE HOT WATER RECIRCULATION PIPING

**PLUMBING ABBREVIATIONS**

(NOT ALL ABBREV. ARE NECESSARILY USED ON THIS PROJECT)

A.F.F.	ABOVE FINISHED FLOOR
BLDG	BUILDING
BSC	BIO-SAFETY CABINET
CO	CLEANOUT
CV	CHECK VALVE
CVO	CAPPED AND VALVED OUTLET
CW	COLD WATER
CLG	CEILING
CONN	CONNECT
CONT	CONTINUATION
DIA	DIAMETER
DIS	DEIONIZED WATER SUPPLY
DIR	DEIONIZED WATER RETURN
DN	DOWN (PENETRATES FLOOR SLAB)
DR	DRAIN
DWG	DRAWING
(E)	EXISTING
(ER)	EXISTING TO BE REMOVED
EJ DIS	EJECTOR DISCHARGE
EL	ELEVATION
EWG	ELECTRIC WATER COOLER
FAI	FRESH AIR INLET
FD	FLOOR DRAIN
FU	FIXTURE UNIT
FL	FLOOR
FHD	FUME HOOD
FT	FEET
GC	GENERAL CONTRACTOR
GAL	GALLONS
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDE DIAMETER
IND	INDIRECT WASTE
IM	ICE MAKER
IN	INCH
JS	JANITOR'S SINK
LAV	LAVATORY
LW	LAB WASTE
LV	LAB VENT
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMALLY CLOSED
NCW	NON-POTABLE COLD WATER SUPPLY
NHW	NON-POTABLE HOT WATER SUPPLY
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OSKY	OUTSIDE SCREW & YOKE GATE VALVE
PC	PLUMBING CONTRACTOR
PD	PUMP DISCHARGE
PO	PLUGGED OUTLET
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
RD	ROOF DRAIN
SA	SHOCK ABSORBER
SAN	SANITARY
SH	SHOWER
SK	SINK
SQ FT	SQUARE FOOT
TYP	TYPICAL
TW	TEMPERED WATER
TP	TRAP PRIMER
UP	UP (PENETRATES FLOOR SLAB)
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VENT	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
ZVB	ZONE VALVE BOX ASSEMBLY

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**KEYPLAN**  
TRUE NORTH

**ISSUE FOR BID**  
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**TITLE**  
**PLUMBING**  
**COVER SHEET**

**SHEET NUMBER**  
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