TYPICAL ARRANGEMENT FOR CLEANING / FLUSHING OF SCHEDULE 40 OR COPPER UTILITY HOT WATER PIPING

PIPING & EQUIPMENT NOTES:

A. PERMANENT VENTS AND/OR DRAINS AS APPROPRIATE FOR PIPE SLOPE & ELEVATIONS. PROVIDE TEMPORARY BYPASS PIPING. DRAINS, VENTS AND TEMPORARY PIPING SHALL BE SIZED TO PROVIDE A MINIMUM VELOCITY OF 5 FPS IN THE MAIN LINE DURING CLEANING. MINIMUM DRAIN/VENT SIZE IS 2" N.P.S.

B. PERMANENT VENTS AND/OR DRAINS AS APPROPRIATE FOR PIPE SLOPE & ELEVATIONS. PROVIDE TEMPORARY PUMP AND BYPASS PIPING. PUMP, DRAINS, VENTS AND TEMPORARY PIPING SHALL BE SIZED TO PROVIDE A MINIMUM VELOCITY OF 5 FPS IN THE MAIN LINE DURING CLEANING. MINIMUM DRAIN/VENT SIZE IS 2" N.P.S.

C. PROVIDE VENTS/DRAINS AT ALL HIGH/LOW POINTS.

D. CLOSED FOR FLUSH. DO NOT CIRCULATE CLEANING SOLUTION THROUGH HEAT EXCHANGER.

E. BUILDING MAIN ISOLATION VALVES WILL BE LOCKED OUT BY SU ENERGY OPERATIONS PRIOR TO CLEANING AND WILL ONLY BE OPENED BY SU ENERGY OPERATIONS AFTER ALL CLEANING AND FLUSHING IS COMPLETED. UTILITY HW SHALL NOT BE USED TO FLUSH BUILDING PIPING.

GENERAL NOTES:

1. THE CONTRACTOR SHALL SUBMIT A CLEANING PLAN FOR APPROVAL. THE PLAN SHALL INCLUDE TEMPORARY PIPING DETAILS & SIZING CALCULATIONS; CLEANING CHEMICAL MANUFACTURER'S INSTRUCTIONS; DE-IONIZED WATER PROCEDURES; SAFETY PROCEDURES; RINSATE TESTING & DISPOSAL PROCEDURES; TEMPORARY POWER; CHRONOLOGY; ETC.

2. BUILDING PIPING (SCHEDULE 40 STEEL OR COPPER) SHALL BE CLEANED WITH A TSP SOLUTION (GE BETZ OPTISPERSE HP9430 OR APPROVED EQUAL) SOLUTION. CLEANING SOLUTION SHALL BE CIRCULATED FOR A MINIMUM OF 48 HOURS. AFTER CLEANING, THE PIPE SHALL BE DRAINED AND REFILLED UNTIL THE PH IS BELOW 8.5, THEN DRAINED A FINAL TIME AND RE-FILLED WITH DE-IONIZED WATER.

3. THE CONTRACTOR SHALL PROVIDE A CARBON FILTER TANK (DE-CHLORINATION) AND MIXED BED DE-IONIZATION TANK FOR THE FINAL FILL. THE TANKS SHALL HAVE SUFFICIENT CAPACITY TO FILL THE SYSTEM. THE CONTRACTOR CAN RENT THESE FROM CULLIGAN OR OTHER WATER TREATMENT PROVIDER.