

## **1. GENERAL**

### **1.1 Scope**

- .1 Test water piping.
- .2 Test drain piping.
- .3 Test air release and vacuum relief piping.
- .4 Coordinate testing of UV system, valves and magnetic flowmeters

### **1.2 Quality Assurance**

- .1 Test equipment and material where required by specification or authority having jurisdiction to demonstrate its proper and safe operation.
- .2 Test procedures in accordance with applicable portions of ASME, AWWA, and other recognized test codes as far as field conditions permit.
- .3 Perform tests on site to the satisfaction of the Contract Administrator.
- .4 Piping, fixtures or equipment shall not be concealed or covered until inspected and approved by the Contract Administrator. Provide ample written notice (five (5) working days) to the Contract Administrator before tests.
- .5 Coordinate with Contract Administrator at start of project, those tests that will require witnessing by the Contract Administrator.

### **1.3 Submittals**

- .1 Obtain certificates of approval, acceptance, and comply with rules and regulations from authorities having jurisdiction and include in Operating and Maintenance Manuals.
- .2 Perform tests as specified and upon completion of mechanical installation. Provide certification of tests with detailed data as required. Itemize each test as to time performed and personnel responsible. Include in Operating and Maintenance Manuals.

### **1.4 Liability**

- .1 Take charge of plant during tests, assume responsibility for damages in event of injury to personnel, building or equipment and bear costs for liability, repairs, and restoration in this connection.

## **2. PRODUCTS**

- .1 The City will provide water for pressure testing piping systems.

**3. EXECUTION**

**3.1 Pressure Tests**

- .1 Provide equipment, materials and labour for tests and pay expenses. Use test instruments from approved laboratory or manufacturer and furnish certificate showing degree of accuracy. Install permanent gauges and thermometers used for tests just prior to tests to avoid possible changes in calibration.
- .2 Carry out tests on piping installation in accordance with AWWA C600.
- .3 Drainage Systems: Test by filling with water to produce water pressure to 30 kPa minimum and 62 kPa maximum.
- .4 Water Piping: Test to 1-1/2 times maximum working pressure or 1033 kPa, whichever is greater, water pressure measured at system low point.
- .5 Water Piping: test each section of piping between isolation, check or modulating valves separately and as a complete system between pump check valves and Branch I and II isolation valves.
- .6 Check systems during application of test pressure including visual check for leakage of water.
- .7 Should tests indicate defective work or variance with specified requirements, make changes immediately to correct the defects. Correct leaks by re-making joints in screwed fittings, cutting out and re-welding welded joints, re-making joints in copper lines. Do not caulk.

**3.2 Testing of UV systems, Valves, and Magnetic Flowmeters**

- .1 Arrange for and coordinate testing by manufacturers' representatives of respective systems. Furnish certificates of satisfactory testing signed by manufacturers' representatives.

**END OF SECTION**