FIRE PROTECTION CONTINUED

2.09 FIRE PROTECTION SPECIALTIES

A. GENERAL: PROVIDE FIRE PROTECTION SPECIALTIES, UL LISTED, IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE SIZES AND TYPES THAT MATE AND MATCH PIPING AND EQUIPMENT CONNECTIONS.

B. WATER FLOW INDICATORS: POTTER VSR-F, VANE TYPE WATERFLOW ALARM SWITCH WITH RETARD, OR EQUAL.

C. SUPERVISORY SWITCHES: POTTER PCVS-1, PCVS-2, OSTSU-1, OSYSU-2, WITH TAMPER-PROOF COVER, OR EQUAL.

D. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE FIRE PROTECTION SPECIALTIES OF ONE OF THE FOLLOWING:

ADT SECURITY SYSTEMS, INC. GRINNELL CORP.
ITT MCDONNELL & MILLER POTTER ELECTRIC SIGNAL CO.
SYSTEM SENSOR VIKING CORP.

2.10 AUTOMATIC SPRINKLERS

A. AUTOMATIC SPRINKLERS: PROVIDE AUTOMATIC SPRINKLERS OF THE TYPE DESCRIBED IN THIS SPECIFICATION, AND IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE QUICK RESPONSE SPRINKLERS FOR ALL LIGHT AND ORDINARY HAZARD AREAS, AND STANDARD RESPONSE FUSIBLE LINK OR GLASS BULBS FOR ALL OTHER AREAS WITH ORIFICE SIZES AS REQUIRED BY THE HYDRAULIC DESIGN. ORDINARY TEMPERATURE RATED UNLESS OTHERWISE REQUIRED BY LOCATION. SKYLIGHTS (212°F), HIGH AMBIENT TEMPERATURES, BOILERS, ATTICS, ETC., WITH TEMPERATURE RATINGS AS REQUIRED BY ANSI/NFPA 13. SPRINKLERS SHALL BE UL LISTED OR FM APPROVED.

TYPE "A": FULLY CONCEALED SPRINKLER WITH ONLY CEILING PLATE VISIBLE, MODEL F4FR OR G4QR MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL. COVER PLATE SHALL BE FACTORY FINISHED IN WHITE.

TYPE "B": RECESSED CHROME PLATED SPRINKLER, MODEL GFR OR F1 FR MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

TYPE "C": EXPOSED SPRINKLERS, BRASS FINISH, MODEL GFR OR F1 FR MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

TYPE "D": EXPOSED SPRINKLERS, CHROME FINISH WITH ESCUTCHEON, MODEL GFR OR F1FR MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

TYPE "E": CORRO-PROOF (POLYESTER COATED) SPRINKLERS. MODEL GFR OR F1 FR WHITE, WITH MATCHING ESCUTCHEON MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

TYPE "F": EXTENDED COVERAGE SPRINKLERS, CONCEALED WITH WHITE COVER PLATES IN FINISHED AREAS, MODEL F1 FR-QREC; SIDEWALL, MODEL F1 FR; RECESSED, WHITE WITH WHITE ESCUTCHEON FOR CONCEALED PIPING, AND UPRIGHT OR PENDANT SPRINKLERS WITH BRASS FINISH IN AREAS WITH EXPOSED PIPING, MODEL F1 FR MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

TYPE "G": DRY TYPE SPRINKLERS PENDENT, RECESSED CONCEALED OR HORIZONTAL SIDEWALL, MODEL G3, G3A, OR G3FR 'FAST RESPONSE) MANUFACTURED BY RELIABLE AUTOMATIC SPRINKLER CO., OR APPROVED EQUAL.

B. ESCUTCHEONS WHEN USED SHALL BE SHALLOW PATTERN. TWO-PIECE OR PLATES DEEPER THEN 1/2" SHALL NOT BE USED WITHOUT PRIOR WRITTEN APPROVAL.

C. HEAD GUARDS SHALL BE FURNISHED AND INSTALLED ON ALL SPRINKLER HEADS INSTALLED BELOW 8'-0" ABOVE FINISH FLOOR, IN UNFINISHED AREAS AND IN ALL GYMNASIUMS, AND MULTI-PURPOSE ROOMS. HEAD GUARDS SHALL BE ARGCO, ITEM NUMBER 45-30-150, TWO-PIECE UNIVERSAL HEAD GUARD, RED, '/2" IPS, WITH SCREW CLOSURE. LATCH TYPE HEAD GUARDS ARE NOT ACCEPTABLE.

D. SPRINKLERS SHALL ALL BE FROM THE SAME MANUFACTURER, THROUGHOUT THE PROJECT.

E. SPRINKLER CABINET AND WRENCH: FURNISH STEEL, BAKED RED ENAMELED, SPRINKLER HEAD BOX WITH CAPACITY TO STORE SPRINKLERS AND WRENCH SIZED TO FIT SPRINKLERS.

F. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE FIRE PROTECTION SPECIALTIES OF ONE OF THE FOLLOWING:

ARGCO BADGER FIRE PROTECTION, INC.
CENTRAL SPRINKLER CORP. FIREGUARD CORP.
FIREMATIC SPRINKLER DEVICES, INC. GLOBE FIRE SPRINKLER CORP.
GRINNELL CORP. RELIABLE AUTOMATIC SPRINKLER CORP.
STAR SPRINKLER, INC. VICTAULIC VIKING SPRINKLER CORP.

2.11 HORN AND LIGHT

A. PROVIDE A COMBINATION HORN AND STROBE ALARM WITH 100 DECIBEL HORN AND A 40 WATT FLASHING LIGHT. UNIT SHALL BE SIMILAR TO MODEL MT WITH MODEL WBB BACK BOX AS MANUFACTURED BY WHEELOCK, INC.

2.12 FIRE DEPARTMENT CONNECTIONS

A. WALL TYPE FIRE DEPARTMENT CONNECTIONS: PROVIDE WALL TYPE CAST BRASS SIAMESE CONNECTIONS AND ESCUTCHEON PLATE ASSEMBLY, WITH TWO (2), 2-1/2" FIRE DEPARTMENT INLETS WITH FEMALE HOSE CONNECTIONS, AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW THREAD, EQUIPPED WITH INDIVIDUAL DROP CLAPPER VALVES, EQUIPPED WITH PLUGS AND CHAINS, CONSTRUCTION FEATURES AS INDICATED, AND CONSTRUCTED WITH THE FOLLOWING FEATURES:

1. FINISH: POLISHED BRASS
2. CAST LETTERING: "AUTO-SPKR."
3. ESCUTCHEON: 13 3/16" X 8 9/16" RECTANGULAR.
4. SIAMESE CONNECTION: FLUSH, WITH TWO INDIVIDUAL DROP CLAPPER VALVES, PLUGS AND CHAINS.
5. MODEL: ELKHART #166 OR APPROVED EQUAL.

B. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE SIAMESE CONNECTIONS OF ONE OF THE FOLLOWING:

BADGER FIRE PROTECTION, INC. CENTRAL SPRINKLER CORP.
ELKHART BRASS MFG. CO., INC. FIRE-END & CROKER CORP.
GRINNELL CORP. GUARDIAN FIRE EQUIPMENT, INC.
POTTER-ROEMER, INC. RELIABLE AUTOMATIC SPRINKLER CORP.

C. LOCATION: SHALL BE AS INDICATED, ON THE ADDRESS SIDE OF THE BUILDING, OR WHERE DIRECTED BY THE LOCAL AUTHORITIES.

PART 3 - EXECUTION

3.01 INSPECTION

A. GENERAL: EXAMINE AREAS AND CONDITIONS UNDER WHICH FIRE PROTECTION MATERIALS AND PRODUCTS ARE TO BE INSTALLED. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO INSTALLER.

1. THOROUGHLY SURVEY THE AREAS WITHIN THE SCOPE OF THE BUILDING TO ENSURE THAT THE NEW SYSTEM WILL BE ACCURATELY DESIGNED.

2. ALL CEILING ACCESS, CEILING REMOVAL, CEILING REPLACEMENT, ACCESS PANELS, ETC., REQUIRED FOR THE INSTALLATION OF THE SPRINKLER SYSTEMS ARE THE RESPONSIBILITY OF THIS CONTRACTOR.

3.02 INSTALLATION OF BASIC IDENTIFICATION

A. GENERAL: INSTALL MECHANICAL IDENTIFICATION IN ACCORDANCE WITH DIVISION-15 BASIC MECHANICAL MATERIALS AND METHODS SECTION "MECHANICAL IDENTIFICATION" AND AS SPECIFIED HEREIN.

B. INSTALL FIRE PROTECTION SIGNS ON PIPING IN ACCORDANCE WITH ANSI/NFPA 13, IBC CHAPTER 9 REQUIREMENTS AND THIS SPECIFICATION.

3.03 INSTALLATION OF PIPES AND PIPE FITTINGS

A. GENERAL: INSTALL PIPES AND PIPE FITTINGS IN ACCORDANCE WITH ANSI/NFPA STANDARDS AND AS SPECIFIED HEREIN.

1. EXPOSED SPRINKLER PIPING AND COMPONENTS SHALL NOT BE INSTALLED LESS THAN 9'-0" ABOVE FINISHED FLOOR IN ANY AREAS WITHOUT PRIOR APPROVAL OF THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION.

2. RUN PIPING ENCLOSED WHERE POSSIBLE IN WALL CHASES, RECESSES, PIPE SHAFTS, WALL PARTITIONS, AND ABOVE CEILINGS WHERE PROVIDED AND EXISTING.

3. CUTOUT DISKS CREATED BY CUTTING HOLES IN A PIPE FOR WELDED, SADDLE-TYPE FITTINGS, OR WATER FLOW SWITCHES, SHALL BE RECOVERED AND WIRED TO THE PIPE NEAR THE POINT OF CUTTING. ALL DISKS SHALL BE ACCOUNTED FOR TO ASSURE THAT NO BLOCKAGE OF THE PIPE WOULD OCCUR AS THE RESULT OF THE DISPLACEMENT OF THESE DISKS.

4. PIPING SHALL CONFORM TO THE BUILDING SHAPE AND FORM, AND FOLLOW THE LINE OF THE BUILDING STRUCTURE. ALL PIPING SHALL BE INSTALLED IN A MANNER THAT IS NOT OBTRUSIVE AND IS AS HIGH AS POSSIBLE. IN AREAS WHERE PIPING IS EXPOSED, IT SHALL BE SYMMETRICAL TO THE ROOM GEOMETRY TO THE GREATEST EXTENT POSSIBLE.

5. USE REDUCING FITTINGS FOR CHANGES IN PIPE SIZE.

6. USE EXTRA HEAVY PIPE FOR NIPPLES WHERE UNTHREADED PORTION IS LESS THAN 1/2" INCHES. CLOSE NIPPLES NOT ACCEPTABLE. USE SHOULDER NIPPLES.

7. PROVIDE UNIONS, GROOVED COUPLINGS OR FLANGES FOR CONNECTIONS TO EQUIPMENT.

8. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THE CLEAN-UP AND REPAINTING RESULTING FROM THE USE OR EXCESSIVE AMOUNTS OF LUBRICANTS OR SEALANTS ON FITTINGS, THROUGHOUT THE ENTIRE WARRANTY PERIOD.

9. GALVANIZED PIPE AND FITTINGS SHALL BE INSTALLED IN ALL AREAS EXPOSED TO THE WEATHER, SHOWER OR LOCKER AREAS AND AREAS OF HIGH HUMIDITY.

10. DO NOT INSTALL PIPING IN ANY SWITCHGEAR, TRANSFORMER, ELEVATOR EQUIPMENT, TELEPHONE, OR ELECTRICAL EQUIPMENT ROOM, UNLESS IT IS SERVING THE SPRINKLERS IN THAT ROOM.

B. FIRE SPRINKLER PIPING SYSTEM:

1. GENERAL: COMPLY WITH REQUIREMENTS OF ANSI/NFPA 13, IBC CHAPTER 9 AND THIS SPECIFICATION FOR INSTALLATION OF FIRE SPRINKLER PIPING MATERIALS. INSTALL FIRE SPRINKLER PIPING PRODUCTS WHERE INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT FIRE SPRINKLER PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

2. COORDINATE WITH OTHER WORK, INCLUDING PLUMBING PIPING, DUCT WORK, AND ELECTRICAL PIPING AND EQUIPMENT, AS NECESSARY TO INTERFACE COMPONENTS OF FIRE SPRINKLER PIPING PROPERLY WITH OTHER WORK.
3. MOUNT SUPERVISORY SWITCHES AND LOCK AND CHAINS ON EACH VALVE. DO NOT INSTALL ON INSPECTORS TEST OR DRAIN VALVES.

4. COORDINATE WITH ALL NEW CONDITIONS. COORDINATE WITH THE ARCHITECT ALL EXPOSED PIPING LOCATIONS PRIOR TO DESIGN SUBMITTAL AND FABRICATION. PIPING SHALL BE INSTALLED IN NEW SOFFITS WHEN DIRECTED BY THE ARCHITECT.

5. INSTALL DRAIN PIPING AT LOW POINTS OF FIRE SPRINKLER PIPING. ALL AUXILIARY DRAINS SHALL BE PIPED SO THE DRAIN VALVES ARE IN A LOCATION, ACCEPTABLE TO THE OWNER, IN ACCESSIBLE HEATED LOCATIONS, WITHOUT CLIMBING OR CRAWLING.

3.04 INSTALLATION OF PIPING SPECIALTIES

A. INSTALL PIPING SPECIALTIES IN ACCORDANCE WITH DIVISION-15, BASIC MATERIALS AND METHODS SECTION, "PIPING SPECIALTIES", ANSI/NFPA STANDARDS AND/OR IN ACCORDANCE WITH THE MANUFACTURERS' REQUIREMENTS AND AS SPECIFIED HEREIN.

B. SLEEVE ALL PIPES PENETRATING WALLS, PARTITIONS, CEILINGS, OR FLOORS. GROUT AROUND ALL SLEEVES AND FILL THE SPACE BETWEEN THE PIPE AND SLEEVE WITH 3M FIRE BARRIER OR APPROVED EQUAL, IN ALL RATED WALLS. SOUND INSULATION SHALL BE USED IN ALL NON-RATED WALLS AND PARTITIONS.

1. PROCEDURES FOR USING FIRE BARRIER SHALL BE SUBMITTED WITH PRODUCT SUBMITTAL.

2. FIRE BARRIER SHALL BE INSTALLED SO AS TO MAINTAIN THE REQUIRED RATING OF THE PENETRATED WALL, CEILING, OR FLOOR, AND IN ACCORDANCE WITH THE MANUFACTURERS "LISTING".

3. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING FIRE RATED PARTITIONS, CEILINGS, AND FLOORS ON THEIR SUBMITTAL DRAWINGS.

C. ALL FLOOR, WALL AND CEILING PENETRATIONS SHALL BE IN ACCORDANCE WITH THE MECHANICAL SPECIFICATIONS THAT APPLY.

3.05 INSTALLATION OF SUPPORTS AND ANCHORS

A. INSTALL SUPPORTS AND ANCHORS, IN ACCORDANCE WITH ANSI/NFPA STANDARDS AND AS SPECIFIED HEREIN.

3.06 INSTALLATION OF VALVES

A. INSTALL VALVES IN ACCORDANCE WITH ANSI/NFPA STANDARDS AND/OR THE MANUFACTURER'S REQUIREMENTS.

B. SPRINKLER ZONE CONTROL VALVES: INSTALL SPRINKLER CONTROL VALVES WHERE INDICATED AT AN ACCESSIBLE HEIGHT OF 7'-0" OR LESS, UNLESS OTHERWISE DIRECTED OR REQUIRED TO ZONE EACH AND EVERY LEVEL INDIVIDUALLY. SYSTEM/ZONE CONTROL VALVES SHALL INCLUDE CONTROL VALVE, TAMPER SWITCH, FLOW SWITCH, TEST AND DRAIN.

3.07 INSTALLATION OF METERS AND GAUGES

A. INSTALL METERS AND GAUGES IN ACCORDANCE WITH ANSI/NFPA STANDARDS AND/OR THE MANUFACTURER'S REQUIREMENTS.

B. INSTALL GAUGES ON EVERY ZONE CONTROL VALVE ASSEMBLY.

3.08 INSTALLATION OF FIRE PROTECTION SPECIALTIES

A. GENERAL: INSTALL FIRE PROTECTION SPECIALTIES AS INDICATED, AND IN ACCORDANCE WITH ANSI/NFPA 13 AND IBC CHAPTER 9.

1. FURNISH WIRING REQUIREMENTS TO ELECTRICAL INSTALLER FOR ELECTRICAL WIRING OF ALARM SWITCHES, SUPERVISORY SWITCHES, INTERLOCKS, HORN AND STROBES.

B. WATER FLOW INDICATORS: INSTALL WHERE SHOWN AND SPECIFIED.

C. SUPERVISORY SWITCHES: INSTALL ON ALL CONTROL VALVES.

D. LOCKS AND CHAINS: SPRI INSTALL ON ALL CONTROL VALVES.

3.09 INSTALLATION OF SPRINKLERS:

A. GENERAL: INSTALL QUICK RESPONSE SPRINKLERS IN COMPLIANCE WITH THIS SPECIFICATION, APPROVED DRAWINGS AND APPROVALS BY GOVERNING BODIES.

B. LOCATIONS: SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL AND STRUCTURAL FEATURES, ALL MECHANICAL AND ELECTRICAL OBSTRUCTIONS, LIGHT FIXTURES, DIFFUSERS AND GRILLES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND ARCHITECTURAL REFLECTED CEILING PLAN WHEN AVAILABLE. SPRINKLER HEADS SHALL BE SYMMETRICAL IN PATTERN PER AREA SERVED AND A MINIMUM OF 6" FROM THE EDGE OF ANY CEILING DEVICES, GRIDS, ETC. IN THE OTHER DIRECTION.

1. SPRINKLER SPRAY PATTERNS SHALL NOT BE OBSTRUCTED BY ANY OTHER CEILING, ELECTRICAL, MECHANICAL, OR STRUCTURAL COMPONENTS AND SHALL BE LOCATED AS REQUIRED BY ANSI/NFPA 13 FOR HORIZONTAL AND VERTICAL OBSTRUCTIONS.

2. ALL SPECIAL SPRINKLERS SHALL BE LOCATED AND INSTALLED AS REQUIRED BY THEIR "LISTING".

3. EXTENDED COVERAGE SPRINKLERS SHALL NOT BE INSTALLED IN ANY MECHANICAL, BOILER, CHILLER AREAS, ETC.

C. ESCUTCHEONS SHALL BE SHALLOW PATTERN WITH FINISHES TO MATCH. TWO-PIECE PLATES ARE NOT ACCEPTABLE.

D. SPRINKLER HEAD SCHEDULE:

1. TYPE A: IN ALL TOILET ROOMS, ALL NON-ACOUSTICAL TILE SUSPENDED CEILING SYSTEMS ON CONCEALED PIPING.

2. TYPE B: ALL AREAS WITH FINISHED CEILINGS, ON CONCEALED PIPING, EXCEPT TOILETS, AND ALL NON-ACOUSTICAL TILE SUSPENDED CEILING SYSTEMS.

3. TYPE C: ON EXPOSED PIPING IN UNFINISHED AREAS.

4. TYPE D: WHERE INDICATED ON EXPOSED OR CONCEALED PIPING.

5. TYPE E: IN AREAS EXPOSED TO HIGH HUMIDITY OR WEATHER.

6. TYPE F: WHERE POSSIBLE, ON CONCEALED PIPING IN AREAS WITH FINISHED CEILINGS AND ON EXPOSED PIPING IN AREAS WITHOUT SUSPENDED CEILINGS. CONCEALED TYPE IN AREAS DESCRIBED FOR TYPE A. RECESSED IN ALL OTHER AREAS WITH FINISHED CEILINGS, ON CONCEALED PIPING.

7. TYPE G: WHERE INDICATED OR REQUIRED.

E. SPRINKLER HEAD QUARDS SHALL BE INSTALLED IN ANY AREAS WHERE SPRINKLERS WILL BE INSTALLED BELOW 8'-0" OR SUBJECT TO DAMAGE. VERIFY LOCATIONS WITH THE ARCHITECT AND OWNER.

3.10 INSTALLATION OF HORN AND LIGHT

A. FURNISH SPECIFIED ITEMS, FOR ALL FIRE DEPARTMENT CONNECTIONS, TO THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MOUNT BOTH ITEMS AND PROVIDE ALL ELECTRICAL DEVICES; CONDUIT AND WIRING REQUIRED.

3.11 INSTALLATION OF FIRE DEPARTMENT CONNECTIONS

A. FURNISH AND INSTALL THE SPECIFIED ITEMS IN ACCORDANCE WITH ANSI/NFPA AND LOCAL AUTHORITIES.

B. LOCATION: SHALL BE ON THE ADDRESS SIDE OF THE BUILDING, OR WHERE DIRECTED BY THE LOCAL AUTHORITIES AND SHALL NOT BE OBSTRUCTED BY OR CLOSER THAN 10 FEET TO TRANSFORMERS, GAS METERS, OR ANY LANDSCAPING.

1. THE HEIGHT OF THE FIRE DEPARTMENT CONNECTION SHALL BE AS DIRECTED BY THE LOCAL AUTHORITIES OR BETWEEN 36" AND 48" ABOVE FINISH GRADE.

C. EACH FIRE DEPARTMENT CONNECTION SHALL BE EQUIPPED WITH A BALL DRIP ARRANGED TO DRAIN ALL TRAPPED PIPING, AND PIPED TO THE EXTERIOR OR A FLOOR DRAIN.

3.12 FIELD QUALITY CONTROL

A. SPRINKLER PIPINQ FLUSHING: PRIOR TO CONNECTING SPRINKLER RISERS FOR FLUSHING, FLUSH WATER FEED MAINS, LEAD-IN CONNECTIONS AND CONTROL PORTIONS OF SPRINKLER PIPING. AFTER THE FIRE SPRINKLER PIPING INSTALLATION HAS BEEN COMPLETED AND BEFORE PIPING IS PLACED IN SERVICE, FLUSH THE ENTIRE SPRINKLER SYSTEM, AS REQUIRED TO REMOVE FOREIGN SUBSTANCES, UNDER PRESSURE, AS SPECIFIED IN ANSI/NFPA 13. CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE THAT DEBRIS HAS NOT CLOGGED SPRINKLERS.

B. SPRINKLER PIPING: ENSURE THAT ALL PIPING IS THOROUGHLY CLEANED, INSIDE AND OUT OF ALL CUTTING OIL AND FOREIGN MATERIAL THAT WOULD CLOG OR OBSTRUCT SPRINKLERS AND PIPING.

3.13 TESTING

A. CARRY OUT NOT LESS THAN THE FOLLOWING TESTS:

1. PRESSURE TEST SPRINKLER MAINS AND LINES WITH WATER IN ACCORDANCE WITH ANSI/NFPA STANDARDS AND THIS SPECIFICATION. HYDROSTATIC TEST SHALL COMPLY WITH ANSI/NFPA REQUIREMENTS (200 PSIG FOR TWO (2) HOURS) FOR ALL NEW PIPING (OR 50 PSIG IN EXCESS OF THE WORKING PRESSURE WHEN IT EXCEEDS 150 PSIG). THIS CONTRACTOR WILL BE RESPONSIBLE FOR ISOLATING THEIR WORK TO ACCOMPLISH THIS AND WHERE IT IS NOT POSSIBLE WILL BE REQUIRED TO TEST THE NEW AND EXISTING PIPING TO 200 PSIG FOR TWO (2) HOURS AND REPAIR ALL LEAKS.

2. CARRY OUT ANY ADDITIONAL TESTS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.

3. IF ADDITIONAL TESTS ARE REQUIRED BY AN AUTHORITY HAVING JURISDICTION, TESTS SHALL BE MADE IN THE PRESENCE OF EACH GOVERNING AUTHORITIES AUTHORIZED INSPECTOR, AND CERTIFIED BY SAME.

4. PERFORM TESTS BEFORE PIPING IS CONCEALED.

B. FIRE DEPARTMENT CONNECTION: PIPING BETWEEN THE CHECK VALVE IN THE FIRE DEPARTMENT INLET PIPE AND THE OUTSIDE CONNECTION SHOULD BE TESTED THE SAME AS THE BALANCE OF THE SYSTEM.

C. TO PREVENT THE POSSIBILITY OF SERIOUS WATER DAMAGE IN CASE OF BREAK, PRESSURE SHOULD BE MAINTAINED BY A SMALL PUMP, THE MAIN CONTROLLING GATE MEANWHILE BEING KEPT SHUT.

D. ELIMINATE LEAKS BY REMOVING, REPLACING, AND/OR REFITTING DEFECTIVE PARTS. CAULKING IN ANY FORM OF SEAMS, THREADED OR WELDED JOINTS WILL NOT BE PERMITTED. REPAIR ALL LEAKS WITH NEW PIPE AND FITTINGS BEFORE RETURNING THE SYSTEM TO SERVICE.

E. REPEAT TESTS AS OFTEN AS NECESSARY TO OBTAIN CERTIFICATION.

F. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEST EQUIPMENT AND PERSONNEL, AND NOTIFYING THE OWNER'S REPRESENTATIVE, AUTHORITY HAVING JURISDICTION, AND THE ENGINEER, A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE OF ALL OF THE PROPOSED TEST PROCEDURES (IN WRITING) AND TEST DATES.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED DAMAGES DUE TO FAILURE OF THE PIPING SYSTEMS RELATED TO THE TESTING PROCEDURES.

3.14 EXTRA STOCK

A. SPRINKLER HEADS AND WRENCHES: FOR EACH STYLE AND TEMPERATURE RANGE REQUIRED, FURNISH ADDITIONAL SPRINKLER HEADS, AS REQUIRED BY ANSI/NFPA 13 OR A MINIMUM OF THREE OF EVERY TYPE, WHICHEVER IS GREATER. IN ADDITION, PROVIDE A MINIMUM OF ONE SPARE SPRINKLER HEAD WRENCH FOR EACH TYPE OF SPRINKLER HEAD UTILIZED ON THE PROJECT. SPARE SPRINKLER HEADS AND WRENCHES SHALL BE LOCATED IN MANUFACTURED HEAD BOXES FURNISHED AND INSTALLED BY THIS CONTRACTOR.

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REVISION DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nistler, P.E.

2-09-07 Date
22468 License No.

FIRE PROTECTION SPECIFICATIONS

PROJECT NO.:	06752
SCALE:	NO SCALE
DATE:	2-09-07
DRAWN BY:	KLH
DRAWN BY:	PRN

F0.2

Duffy Project File: 27-06752-MF0.2

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