A. THIS IS A PERFORMANCE SPECIFICATION. IT REQUIRES PERFORMANCE OF DESIGN WORK, PREPARATION AND SUBMISSION OF DRAWINGS, PROCUREMENT OF APPROVALS, AND PROVISION OF COMPLETE FUNCTIONAL SYSTEM OF AUTOMATIC SPRINKLERS AND/OR STANDPIPES. AS A RESULT, THIS SECTION SERVES DUAL PURPOSE OF PROVIDING SPECIFICATIONS AND INDICATING DESIGN CRITERIA FOR CONTRACTOR'S USE AND GUIDANCE IN DESIGNING SYSTEMS AND PREPARING SPRINKLER DRAWINGS FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND OWNER. WORK OF THIS SECTION SHALL INCLUDE ALL DESIGN, LABOR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, INSURANCE, TEMPORARY PROTECTION, SUPERVISION AND INCIDENTAL ITEMS ESSENTIAL FOR PROPER INSTALLATION AND OPERATION, EVEN THOUGH NOT SPECIFICALLY MENTIONED OR INDICATED ON THE DRAWINGS BUT WHICH ARE USUALLY PROVIDED OR ARE ESSENTIAL FOR PROPER INSTALLATION AND OPERATION OF ALL SYSTEMS RELATED TO THIS SECTION, AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREINAFTER. A. DURING THE EXECUTION OF WORK, REQUIRED RELOCATION, OR DEMOLITION OF EXISTING FIRE PROTECTION EQUIPMENT AND SYSTEMS IN THE EXISTING AREAS WHERE NEW WORK AND CONNECTIONS ARE SCHEDULED TO BE MADE SHALL BE INDICATED ON THE DRAWINGS, AS REQUIRED BY JOB CONDITIONS, AND AS DETERMINED AND DIRECTED BY THE CONSTRUCTION MANAGER IN CLOSE COOPERATION WITH THE ARCHITECT AND OWNER'S CONSULTING ENGINEER TO FACILITATE THE INSTALLATION OF THE NEW SYSTEMS AND THE COMPLETION OF THIS CONTRACT. THE OWNER SHALL REQUIRE THE CONTINUOUS OPERATION OF ALL EXISTING FIRE PROTECTION SYSTEMS WHILE DEMOLITION AND RELOCATION WORK OF NEW TIE—INS ARE BEING PERFORMED. OUTAGES REQUIRED FOR CONSTRUCTION PURPOSES SHALL BE SCHEDULED FOR THE SHORTEST PRACTICAL PERIODS OF TIME IN COORDINATION WITH THE OWNER'S DESIGNATED REPRESENTATIVE THROUGH THE CONSTRUCTION MANAGER FOR SPECIFIC, MUTUALLY AGREEABLE PERIODS OF TIME AFTER EACH OF WHICH THE INTERRUPTION SHALL CEASE AND SERVICE SHALL BE REPEATED TO SUIT THE OWNER'S WORK SCHEDULE AS MANY TIMES AS REQUIRED UNTIL ALL WORK IS COMPLETED. IN THE EVENT OF CONFLICT BETWEEN OR AMONG SPECIFIED REQUIREMENTS AND PERTINENT REGULATIONS, THE MORE STRINGENT REQUIREMENT WILL GOVERN WHEN SO DIRECTED BY THE ARCHITECT. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK OF THIS SECTION. THE FIRE PROTECTION SUBCONTRACTOR SHALL GIVE ALL REQUISITE NOTICES, FILE ALL REQUISITE PLANS RELATING TO HIS WORK WITH THE PROPER AUTHORITIES AND IS TO SECURE ALL PERMITS AND PAY ALL FEES FOR THE SAME. IF ANY WORK IS PERFORMED AND CHANGES ARE NECESSARY TO CONFORM TO THE ORDINANCES, THESE CHANGES SHALL BE MADE AT THE PROTECTION SUBCONTRACTORS EXPENSE. THE SPECIFICATIONS AND DRAWINGS DESCRIBE THE MINIMUM REQUIREMENTS THAT MUST BE MET BY THE FIRE PROTECTION CONTRACTOR FOR THE INSTALLATION OF ALL WORK AS SHOON THE DRAWINGS AND AS SPECIFIED HEREINAFTER. THE FIRE PROTECTION CONTRACTOR SHALL SCHEDULE HIS WORK IN COMPLIANCE WITH THE SCHEDULE AND PERFORM SUCH WORK AS MAY BE REQUIRED TO KEEP ALL SYSTEMS AFFECTING OWNER'S FUNCTION OPERATIONAL DURING THE VARIOUS PHASES OF OPERATION. PROVIDE ALL TEMPORARY VALVES, CROSS TIE—INS, ETC., AS MAY BE DETERMINED NECESSAR'S A SITE VISIT TO DETERMINE THE REQUIREMENTS THAT MUST BE MET TO ACCOMPLISH THIS IS MANDATORY DURING BIDDING PERIOD. SCHEDULE ALL SITE VISITS WITH OWNER THROUGH THE CONSTRUCTION MANAGER'S OFFICE. PROVIDE THE FOLLOWING GENERAL SYSTEMS AND EQUIPMENT FOR THE RENOVATED AREAS OF THE EXISTING BUILDING. REMOVE ALL EXISTING BRANCH LINE PIPING AND EXISTING SPRINKLERS SUPPLY NEW BRANCH LINE PIPING AND SPRINKLERS AS INDICATED ON DRAWINGS. HE FIRE PROTECTION CONTRACTOR SHALL GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND CENSES, PAY FEES AND BACKCHARGES, AND OBTAIN NECESSARY APPROVALS FROM UTHORITIES THAT HAVE JURISDICTION AS REQUIRED TO PERFORM WORK IN ACCORDANCE WITH REGAL REQUIREMENTS AND WITH SPECIFICATIONS, DRAWINGS, ADDENDA, AND CHANGE ROPERS. 1. DEACTIVATION OF EXISTING FIRE PROTECTION SYSTEMS FOR REMOVAL, RELOCATION, TEMPORARY REROUTING, OR TIE—IN WILL BE THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR AND SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION OF FACILITY OPERATIONS. 2. DEMOLITION, REMOVAL AND SALVAGE OF DEACTIVATED/ABANDONED SYSTEMS AND EQUIPMENT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. SECTION ESTABLISHES THE CRITERIA FOR DESIGN, ENGINEERING, DINATION, INSTALLATION, AND TESTING OF A COMPLETE FIRE PR FIRE PROTECTION CONTRACTOR SHALL SUBMIT DRAWINGS AND MATERIAL DATA SHEETS TO ARCHITECT AND CONSULTING ENGINEER FOR APPROVAL BEFORE START OF ANY WORK. RENOVATION, RELOCATION AND NEW WORK WILL BE PHASED TO MINIMIZE DISRUPTION BUILDING FUNCTIONS. PROVIDE ALL TEMPORARY CAPS AND CONNECTIONS TO MAINTAI EXISTING SYSTEMS DURING CONSTRUCTION, AS REQUIRED BY THE CONSTRUCTION PHASING PLAN. MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE: 10 PERCENT, INCLUDING LOSSES THROUGH WATER SERVICE PIPING, VALVES, AND BACKFLOW DEVICES RENOVATIONS IN EXISTING SYSTEMS MAY HAVE SMALLER CUSHION UPON AHJ AND ENGINEER APPROVAL. IN THE STORAGE AREA (BACK ROOM) THE APPLICATION RATE SHALL BE 0.22 GPM/SQ. FT. OVER THE MOST DISTANT AREA OF 2650 SQ. FT. (NOTE: IF THIS CANNOT BE MET FOR EXISTING SYSTEMS, THEN NFPA DENSITY REQUIREMENTS CAN BE FOLLOWED FOR EXISTING CONDITIONS.) ALES AND OFFICE AREA: 0.18 GPM/SQ. FT. OVER AN OPERATING AREA OF 3000 SQ. T. THROUGHOUT THE STORE. (NOTE: IF THIS DESIGN CANNOT BE MET FOR EXISTING YSTEMS, THEN NFPA 13 DENSITY REQUIREMENTS CAN BE FOLLOWED. 0.20 GPM/SQ.FT. VER AN OPERATING AREA OF 1500 SQ. FT. IF REINFORCEMENTS ARE NEEDED, THEN HE HANNAFORD SPEC. OF 0.18/3000 SHOULD BE ATTAINED.) OVED BY AHJ AND A. THE DRAWINGS AND THESE SPECIFICATIONS ARE COMPLIMENTARY TO EACH THE OTHER, AND ANY LABOR OR MATERIALS CALLED FOR BY EITHER, WHETHER OR NOT BY BOTH, SHALL BE FURNISHED AND INSTALLED BY THIS SUBCONTRACTOR. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE VARIOUS SYSTEMS AND PIPING. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL SPRINKLER OFFSETS, FITTINGS, DEVICES, AND ACCESSORIES THAT MAY BE REQUIRED. THE FIRE PROTECTION SUBCONTRACTOR SHALL EXAMINE THE ENTIRE SET OF CONTRACT DRAWINGS AND CAREFULLY INVESTIGATE THE STRUCTURE AND FINISH CONDITIONS AND OTHER MECHANICAL AND ELECTRICAL SYSTEMS AFFECTING ALL OF HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY FOR THE COMPLETE SATISFACTORY OPERATION OF ALL SYSTEMS PROVIDING SUCH SPRINKLER FITTINGS, VALVES, DEVICES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE AND TO THE SATISFACTION OF THE ARCHITECT AND OWNER CONSULTING ENGINEER AT NO ADDITIONAL COST TO EITHER. C. FURNISH AND INSTALL A COMPLETE FIRE PROTECTION SP MATERIALS HEREINAFTER SPECIFIED. SUBMIT ALL GU CONDITIONS. THE FIRE PROTECTION SUBCONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND SHALL FULLY ACQUAINT HIMSELF WITH THE CONDITIONS, CHARACTER AND THE EXTENT OF THE WORK REQUIRED. SUBMIT ANY EQUIPMENT MANUFACTURER SUBSTITUTIONS IN ACCORDANCE WITH GENERAL SPECIFICATIONS. ACCEPTABLE MANUFACTURERS: SUBMIT MANUFACTURERS' EQUIPMENT SPECIFICATIONS FOR MANUFACTURERS AND EQUIPMENT LISTED BELOW FOR REVIEW AND APPROVAL BY ARCHITECT/ENGINEER. MATERIALS AND FIXTO DAMAGE. AFTER SUBMITTALS HAVE BEEN FOUND ACCEPTABLE BY ARCHITECT AND CONSULTING ENGINEER, SUBMIT ACCEPTED EQUIPMENT SPECIFICATIONS AND DATA TO THE FIRE DEPARTMENT FOR REVIEW AND APPROVAL. MATERIALS AND EQUIPMENT PROVIDED UNDER THIS SECTION SHALL BE APPROVED BY FACTORY MUTUAL RESEARCH CORPORATION. COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION WHICH ARE NOT AVAILABLE WITH THE FM—APPROVAL SHALL BE UL—LISTED AND IN COMPLIANCE WITH NFPA STANDARDS. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE PROVISIONS OF THE GENERAL CONDITIONS. SHOP DRAWINGS SHALL INCLUDE EQUIPMENT, PIPING, VALVES, HANGER'S SUPPORTS AND SPRINKLERS. THE FIRE PROTECTION SUBCONTRACTOR SHAL REQUIRED BY THE GENERAL CONTRACTOR. THE CONTRACTOR SHALL GIVE ALL REQUISITE NOTICES, FILE ALL REQUISITE PLANS AND RELATING TO HIS WORK WITH THE PROPER AUTHORITIES AND IS TO SECURE ALL PERMITS AND PAY ALL FEES FOR SAME. IF ANY WORK IS PERFORMED AND CHANGES ARE NECESSARY TO CONFORM TO THE ORDINANCES, THESE CHANGES SHALL BE MADE AT THE FIRE PROTECTION SUBCONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PRODUCE ELECTRONIC COORDINATION DRAWINGS IN THE LATEST VERSION OF AUTOCAD. THESE DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY CONSULTING ENGINEER AND SHALL BE IN ACCORDANCE WITH NFPA 13. UPON COMPLETION OF THE PROJECT ELECTRONIC AUTOCAD AS—BUILT DRAWINGS SHALL BE HANDED OVER TO THE OWNER WITH ALL CHANGES TO THE COORDINATION DRAWINGS INCORPORATED. COORDINATE WITH ALL TRADES TO AVOID INTERFERENCE OF EQUIPMENT AND TO ENSURE STEADY PROGRESS OF ALL WORK UNDER CONTRACT. ALL WORK UNDER THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FOR PARTS AND LABOR FROM THE ACHIEVEMENT OF THE CERTIFICATE OF OCCUPANCY. THE FIRE PROTECTION SUBCONTRACTOR SHALL NOTIFY ARCHITECT AND CONSULTING ENGINEER, FOR DIRECTION, IF ANY ACTUAL FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS EXISTING. THE FIRE PROTECTION SUBCONTRACTOR SHALL CAREFULLY FIELD SURVEY THE SITE FOR EXISTING CONDITIONS, SINCE THIS IS RENOVATION WORK. EXCEPT AS OTHERWISE NOTED, ALL DEACTIVATION, SAFE CAPPING, VALVING, ETC., OF SYSTEMS DESIGNATED TO BE DEMOLISHED BY EACH TRADE, AS APPLICABLE, AND ALL DEMOLITION, REMOVAL AND DISPOSAL OF DEMOLITION MATERIALS SHALL BE PERFORMED AS DIRECTED BY THE CONSTRUCTION MANAGER. ALL EQUIPMENT SCHEDULED TO BE REMOVED SHALL BE INSPECTED BY THE OWNER, AND IF HE DECIDES SUCH EQUIPMENT IS TO BE SALVAGED, EACH CONTRACTOR SHALL DELIVER SAID EQUIPMENT TO AN AREA WITHIN THE SITE BOUNDARIES AS DETERMINED BY THE OWNER AND THE ARCHITECT. ALL DRAINING OF EXISTING SYSTEMS, FILLING AND VENTING REQUIRED TO REMOVE AND RELOCATE EXISTING PIPING SYSTEMS SHALL BE INCLUDED AND PROVIDED UNDER THIS CONTRACT AS REQUIRED TO PERFORM THE VARIOUS RELOCATIONS OR NEW TIE-INS. PREPARE AND SUBMIT FOR GENERAL CONDITIONS. THE FIRE PROTECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK UNTIL IT'S COMPLETION AND FINAL ACCEPTANCE AND REPLACE ANY WORK OR MATERIALS THA HAVE BEEN DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER. XISTING SPRINKLER SYSTEMS IN AREAS SURROUNDING THE WORK AREA SHALL REMAIN PLACE AND ACTIVE AS LONG AS POSSIBLE DURING THE CONSTRUCTION PROCESS. NEW SYSTEMS SHALL BE INSTALLED WHILE EXISTING SYSTEMS REMAIN IN PLACE TO THE ULLEST EXTENT PRACTICAL. DURATIONS OF SHUTDOWNS SHALL BE MINIMAL AND SHALL E COORDINATED WITH THE OWNER AND FIRE DEPARTMENT. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL TEMPORARY OR PERMANENT PIPING, SPRINKLER CAPS, ALVES, HANGERS AND DRAINS AS REQUIRED TO PERFORM THE FIRE PROTECTION EMOLITION, RELOCATION PHASE AND ALTERATION. IE PHASING OF THE WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE DISTRUCTION MANAGER'S CONSTRUCTION SCHEDULE. THE NEW SYSTEM SHALL BE STALLED AND COMPLETELY COMMISSIONED PRIOR TO OCCUPANCY. COORDINATION COUREMENTS FOR TEMPORARY HEAT OR REROUTING OF EXISTING SERVICES AS QUIRED ACCOMPLISHING THE CONSTRUCTION SCHEDULE. GROOVED FITTINGS AND COUPLINGS: ALLIED, GRINNELL, OR VICTAULIC. SPRINKLERS: TYCO, VIKING, VICTAULIC, OR RELIABLE. PIPE HANGERS AND SUPPORTS: B-LINE, GLOBE, GRINNELL, MICHIGAN, OR PHD. EXPANSION SHIELDS: ANCHORING SYSTEMS, GRINNELL, HILITI INC., OR MAG. 1. GRINNELL FIG. 7000, OR VICTAULIC STYLE 75. 2. COMPATIBILITY: COUPLINGS AND FITTINGS SHALL BE OF 1. STEEL: ANSI B16.11. 2. CAST IRON: ANSI B16.4. 5. STEEL: UNLESS APPROVED OTHERWISE BY CONSULTING ENGINEER. a. 2" AND SMALLER: ASTM 135 SCHEDULE 40 BLACK STEEL WITH THREADED JOINTS. 2 1/2" AND LARGER: ASTM 135 SCHEDULE10 LIGHTWALL WITH ROLL—GROOVED JOINTS OR SCHEDULE 40 BLACK STEEL WITH GROOVED OR THREADED JOINTS. , AND JOINTS NKLER SYSTEM USING C. REFER TO "SH d. INSERTS: GRINNELL FIG. 282 MALLEABLE IRON BODY AN E. HANGER RODS: PROVIDE HANGER RODS SIZED ACCORDING TO a. PIPE SIZE: MINIMUM ROD DIAMETER: b. 4" AND SMALLER 3/8" c. 6" AND LARGER 1/2" F. RISER CLAMPS: B-LINE FIG. B3373. C. INTERRUPTIONS SHALL BE SCHEDULED AT SUCH TIMES OF DAY AND WORK TO MINIMPACT ON OWNER'S OPERATIONS. F. ALL JOINTS SHALL BE LEFT FULLY EXPOSED IN VIEW, UNLESS OTHERWISE ORDERED BY THE ENGINEER UNTIL TESTING HAS BEEN COMPLETED. D. PROVIDE STEEL ANGLE SUPPORTS ATTACHED TO THE BUILDING STRUCTURE TO SUPPORT PIPING BELOW DUCTWORK. H. ESCUTCHEONS SHALL BE PROVIDED AROUND ALL EXPOSED INSULATED OR BARE PIPE PASSING THROUGH WALLS, PARTITIONS, CEILINGS AND FLOORS. ESCUTCHEONS SHALL BE CHROME PLATED AND OF SUFFICIENT OUTSIDE DIAMETER TO COVER THE SLEEVE OPENING AND SHALL FIT SNUGLY AROUND THE INSULATED OR BARE PIPE AND TO THE WALL, PARTITION, FLOOR OR CEILING. NTINUITY OF SERVICES A. DO NOT INTERRUPT EXISTING SERVICES WITH G. PROVIDE ADDITIONAL SPRINKLERS AND FOR OBSTRUCTIONS, PER NFPA 13. B. INSTALL EQUIPMENT AND PRODUCTS PROVIDED UNDER THIS SECTION IN COMPLIANCE THE PRODUCT LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. C. HANG SPRINKLER PIPING TO SUPPORT THE LBS. AT THE HANGER. E HANGERS AND SUPPO D. EXISTING VALVES, FLOW SWITCHES AND TAMPER SWITCHES SHALL REMAIN, BUT SHALL BE CHECKED FOR PROPER OPERATION AND CONDITION AND SHALL BE PROTECTED BY THE CONTRACTOR. DAMAGE TO THESE ITEMS OCCURRING AFTER CHECKING FOR PROPER OPERATION AND CONDITION SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL COST. GIVE PROPER NOTICE TO OWNER WHEN MAKING SHUTDOWNS AND PAY ANY FEES REQUIRED. PERFORM ANY DUTIES REQUIRED BY OWNER WHEN MAKING A SHUTDOWN. FILL OUT A SHUTDOWN NOTICE FORM ANSWERING ALL ITEMS REQUESTED SUCH AS TIME AND LOCATION OF SHUTDOWN, SYSTEMS AFFECTED, AREAS AFFECTED, ETC. WHEN REQUESTING A SHUTDOWN. PROVIDE FIRE WATCH IF REQUIRED DURING A SHUTDOWN. DURATION OF SHUTDOWNS SHALL BE KEPT TO A MINIMUM. IN NO CASE SHALL THE FIRE PROTECTION SYSTEM BE SHUT DOWN DURING OFF HOURS OF WORK DAY WITHOUT PROPER APPROVAL. SYSTEM SHALL BE RETURNED TO NORMAL OPERATING CONDITIONS AT END OF WORK DAY. 3. PIPING 8" AND LARGER: (2. PIPING 6" AND SMALLER: SWIVEL RING. ALL PIPING MUST BE TRUE, PLUMB AND WITH PROPER PITCH, FOR REQUIREMENTS OF THE LOCAL AUTHORITIES AND THE OWNER'S INSURANCE COMPANY. THIS CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH ALARM SHUTDOWNS OF EXISTING SYSTEMS NECESSARY FOR NEW CONNECTIONS. SCHEDULE INTERRUPTIONS IN ADVANCE, AND IN ACCORDANCE WITH OWNER'S INSTRUCTIONS. SUBMIT, REQUEST FOR INTERRUPTION WITH METHODS PROPOSED TO MINIMIZE LENGTH OF INTERRUPTION, IN WRITING. ALL CORES AND HOLES IN WALLS, PARTITIONS, FLOORS AND CEILINGS, ETC., MADE BY THE FIRE PROTECTION CONTRACTOR SHALL BE PROVIDED WITH THE UL LISTED FIRE STOP MATERIAL AS MANUFACTURED BY HILTI, TO MATCH FIRE RESISTANCE RATING OF THE PENETRATED ASSEMBLY. PERFORM HYDRAULIC 2-8N, AND THE ADDI MODIFY THE SYSTEM AS REQUIRED. REMOVE EXISTING SPRINKLER MAINS AND BRANCHES TO ACCOMMODATE NEW PIPING AND OFFSETS TO PIPING AND ADDITIONAL SPRINKLERS. TH SPRINKLER SYSTEM SHALL BE FED FROM THE EXISTING RISER OR MAIN AS INDICATED ON THE PLANS. THIS FIRE PROTECTION SUBCONTRACTOR SHALL INSTALL ALL PIPING, FITTINGS, VALVES AND ALL RELATED APPURTENANCES ESSENTIALLY AS INDICATED ON THE DRAWINGS AND IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UNTIL COMPLETED AND APPROVED. INSTALL CHROME-PLATED ESCUTCHEONS WHERE PIP SURFACES. INSTALL THE WORK OF THIS SECTION IN COMPLIANCE WITH THE REFERENCED NFPA STANDARDS. COORDINATE INSTALLATION WITH WORK OF OTHER SECTIONS AND INSTALL PIPING LEVEL OR PITCHED BACK TO MAIN RISER OR LOW POINT DRAIN. PROVIDE DRAIN VALVE ON TRAPPED PIPING. INSTALL SPRINKLERS WITH RETURN BEND DROPS TO CEILIN SPACE HANGERS AND SUPPORTS FOR TO THE FOLLOWING SCHEDULE: SUPPORT ALL PIPING INCLUDED IN THE WORK OF THIS SECTION WITH HANGERS AND RODS ATTACHED TO THE BUILDING STRUCTURE. HANG PIPING IN COMPLIANCE WITH NFPA STANDARDS AND THE REQUIREMENTS OF THIS SECTION. ACCEPTABLE PRODUCTS: HANGER MATERIALS SHALL MATCH PIPING MATERIAL AS REQUIRED FOR DIELECTRIC ISOLATION. ALL SUPPORT SYSTEMS ARE TO BE UL LISTED AND/OR FM APPROVED. ALL SPRINKLERS SHALL BE AS SCHEDULED ON THE DRAWINGS AND SHALL BE INSTALLED IN THE CENTER OF CEILING TILES, WHERE APPLICABLE, AND MUST BE COMPLETELY COORDINATED WITH ARCHITECTURAL AND STRUCTURAL FEATURE, FINAL LIGHTING LAYOUTS AND DIFFUSER LOCATIONS TO ARRIVE AT A SUITABLE PATTERN CONSISTENT WITH THE PROPER SPRINKLER HEAD COVERAGE. REFER TO TYPE OF SPRINKLER DESIGNATION OF DRAWINGS. SPARE SPRINKLERS: PROVIDE 20—GAUGE STEEL SPRINKLER CABINETS WITH RED ENAMEL FINISH. FURNISH THE QUANTITIES OF SPARE SPRINKLER OR EACH TYPE INSTALLED AS REQUIRED BY NFPA 13. FURNISH SPRINKLER WRENCH FOR EACH SPRINKLER TYPE INSTALLED. SLEEVES SHALL BE ONE PIECE GALVANIZED STEEL PIPE SLEEVES FOR ALL PIPES THROUGH FLOORS, WALLS AND PARTITIONS; SHALL EXTEND 1" BEYOND FINISH WALL OR PARTITIONS AND SHALL BE FITTED WITH CP BRASS ESCUTCHEONS. SLEEVES THROUGH FLOOR SHALL EXTEND THROUGH THE FULL THICKNESS OF SLAB AND 2" ABOVE THE ROUGH SLAB WHEN PIPES ARE EXPOSED. ALL SLEEVES SHALL BE SEALED AND GROUTED. THE CONTRACTOR SHALL WORK WITH THE OWNER IN MAINTAINING INTEGRITY OF ALL FIRE PROTECTION SYSTEMS IN ADJACENT BUILDINGS AS WELL AS AREAS OUTSIDE OF THIS CONTRACT. COORDINATE AND MINIMIZE ANY AND ALL SHUTDOWNS OF THE FIRE PROTECTION SYSTEM AS FOLLOWS: d. BEAM CLAMPS GRINNELL FIG. 61. b. EXPANSION SHIELDS GRINNELL FIG. 117, AMERICAN ANCHOR CORPOR c. C CLAMPS: GRINNELL FIG. 86. d. INSERTS: GRINNELL FIG. 282 MALLEABLE IRON BODY AND NUT. GER ATTACH PIPE SIZE: 1-1/4" AND SMALLER 1-1/2" TO 3" 4" ND EQU CALCULATIONS IN COMPLIANCE WITH NFPA 13, FM DATA SHEET TIONAL REQUIREMENTS OF THIS SECTION. GRINNELL FIG. 260 ADJUSTABLE CLEVIS, CAF WEIGHT OF THE WATER FILLED PIPE PLUS 250 OUT OWNER'S AF MAXIMUM HANGER SPACING: 8'-0" 10'-0" 12'-0" ING PASSES THROUGH FINISI TO THE FOLLOW

Maine Building codes (IBC 2009), (NFPA 1 (NFPA 101 2009), NFPA 13 2007), (MUBC)

RELATED WORK: THE FOLLOWING UNDER DESIGNATED SECTIONS:

3 5

CUTTING AND PATCHING.

GENERAL CONDITIONS AND SPECIAL

1. AUTOMATIC SPRINKLERS.
2. SPRINKLER ACCESSORIES.
3. ESCUTCHEONS.
4. COORDINATION DRAWINGS.
5. SLEEVES, INSERTS AND HANGERS.
6. RECORD DRAWINGS IN ELECTRONIC AUTOCAD FORMAT.
7. PIPING AND VALVES.
8. DEMOLITION OF EXISTING SYSTEMS AND/OR PIPING.
9. SPARE SPRINKLERS IN CABINET WITH WRENCHES.
10.NEW CONNECTIONS TO EXISTING SYSTEMS.

B. FIRE-SUPPRES: ENGINEER

RINKLER SYSTEM DESIGN FOR PROPRIED ORMATION AND IN ACCORDANCE

ROJECT AREA

MERCANTILE OCCUPANCY: ORDINARY HAZARD GROUP 2.

3. MAXIMUM PROTECTION AREA PER SPRINKLER:
a. SALES AREAS: 120 SQ. FT.
b. OFFICE AREAS: 120 SQ. FT.
c. STORAGE AREAS (BACK ROOM): 100 SQ. FT.
d. MECHANICAL/ELECTRICAL CENTER: 130 SQ. FT.
e. OTHER AREAS: ACCORDING TO NFPA 13 RECOMME INDICATED.

. HOSE STREAM INDICATED:

AZARD OCCUPANCIES:

250 GPM FOR

RELOCATION AND ALERAT

IN ADDITION TO COMPLYING WITH THE SPECIFIED REQUREGULATIONS OF GOVERNMENTAL AGENCIES HAVING JU

5. INSTALLATION AND SPACING OF SPRINKLER SPRINKLER SPACING, DENSITIES, AND SYSTEM DESIGN SHALL COMPLY WITH N 13 AND FM REQUIREMENTS: SUBMIT HYDRAULIC GRAPH IN ACCORDANCE WITH NFPA 13 SAMPLE WITH THE FOLLOWING INFORMATION CLEARLY INDICATED: HYDRANT FLOW TEST AND/OR FIRE PUMP FLOW TEST DATA MUST BE OBTAINED BY THIS SUBCONTRACTOR TO VERIFY HYDRAULIC CAPACITIES OF EXISTING FIRE PROTECTION WATER SERVICE MAINS PRIOR TO COMMENCING CALCULATIONS. FLOW TEST MUST BE CONDUCTED WITHIN 1 YEAR OF DESIGN DRAWING SUBMITTAL. FIRE PROTECTION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL. FIRE PROTECTION CONTRACTOR SHALL ALSO SUBMIT ABOVE DOCUMENTS TO ARCHITECT AND CONSULTING ENGINEER FOR REVIEW. THE HYDRAULIC CALCULATIONS SHALL INCLUDE THE HYDRAULICALLY MOST REMOTE AREA OF THE PROJECT SCOPE. HYDRAULIC CALCULATIONS SHALL SHOW THE REMOTE AREA BEING SUPPLIED SOLELY FROM THE HYDRAULICALLY MOST REMOTE RISER OR MAIN. HE FIRE PROTECTION SUBCONTRACTOR SHALL DESIGN, SIZE AND/OR EVALUATE THE PRINKLER PIPING USING A HYDRAULICALLY DESIGNED SYSTEM IN COMPLETE ACCORDANCE OF AND AS DEFINED IN NFPA (NATIONAL FIRE PROTECTION STANDARDS). PROVIDE SPRINKLER HYDRAULIC CALCULATIONS SHOWING PROPOSED LAYOUT OF PRINKLER SUPPLY PIPING BASED ON HYDRAULIC CALCULATIONS. THE SPRINKLER SYSTEM HALL BE DESIGNED/EVALUATED AS REQUIRED BY THE OWNER'S INSURANCE COMPANY. 2. ADJUSTED FLOW TEST DATA FOR FRICTION AND ELEVATION AT BUILI PROTECTION WATER SERVICE 3. SYSTEM FRICTION/ELEV. LOSS CURVE FOR SPRINKLER SYSTEM WITH STREAM 1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ROOM FI SCHEDULES FOR CEILING TILE TYPES. PROVIDE 100% SPRINKLER PROTECTION THROUGHOUT ALL RENOVATED AREAS OF THE EXISTING BUILDING. ND OR FIRE PUMP FLOW TEST CURVE RINKLERS THROUGHOUT ALL RENOVATED AREAS. PA STAND.

PLAN

NORTH

OW TEST AN

RON STEEL.

TION OF SP

NKLER HEADS IN CEILING TILES:

A. TEST SYSTEMS BEFORE PAINTING AND CONCEALMENT ACCORDING TO PROVISIONS OF NFPA STANDARDS AND THE ADDITIONAL REQUIREMENTS OF THE APPROVING AUTHORITY AND THIS SECTION.

TEST AND CERTIFY WATER FLOW, PRESSURE, AND SUPERVISORY TAMPER SW DATA SHEET 2—8N, AND THE ADDITIONAL REQUIREMENTS OF THIS SECTION.

HYDROSTATICALLY TEST PIPING AT 200 PSI OR 50 PSI HIGHER THAN THE HIGHEST SYSTEM OPERATING PRESSURE (WHICHEVER IS GREATER) FOR (2) HOURS MEASURED WITH A PRESSURE GAUGE AT THE BOTTOM OF THE SECTION BEING TESTED.

PROVIDE ADDITIONAL UPRIGHT OR PENDENT SPRINKLERS AND PIPING BY NFPA 13, APPENDICES, IN ORDER TO COORDINATE WITH ANY OBSTRUCTIONS.

PROVIDE SPRINKLER SPRAY BAFFLES TO SHIELD DIRECT WATER SPRAY FROM ELECTRIC, EQUIPMENT.

CENTER OF CEILING TILE IS PREFERRED.
 ALIGN SPRINKLERS WITH CEILING COMPONENTS SUCH AS LIGHTING F DIFFUSERS AND SMOKE DETECTORS.

2. SPRINKLERS SHALL BE SYMMETRICALLY INSTALLED IN CEILING TILES.

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ALL VALVES ON PIPES OF EVERY DESCRIPTION SHALL HAVE NEAT CIRCULAR BRASS VALVE TAGS OF AT LEAST 1.5 INCHES IN DIAMETER, ATTACHED WITH BRASS HOOKS TO EACH VALVE STEM. STAMP ON THESE VALVE TAGS IN LETTERS AS LARGE AS PRACTICAL. IT SHALL INCLUDE THE NUMBER OF THE VALVE, AND THE SERVICE AND ZONE, SUCH AS "S.P.", "D", FOR STANDPIPE, DRAIN AND ZONE RESPECTIVELY. THE NUMBERS OF EACH SERVICE SHALL BE CONSECUTIVE.

THESE NUMBERS SHALL CORRESPOND TO NUMBERS INDICATED FOR VALVES ON RECORD DRAWINGS AND ON TWO PRINTED DETAILED LISTS. THESE PRINTED LISTS SHALL STATE T NUMBERS AND LOCATIONS OF EACH VALVE AND THE FIXTURE OR GROUP OF FIXTURES WHICH IT CONTROLS, AND OTHER NECESSARY INFORMATION REQUIRING THE OPENING OR CLOSING OF ANOTHER VALVE OR VALVES, WHEN ANY ONE VALVE IS TO BE OPENED OR CLOSED.

A. FIRE PROTECTION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION, ARCHITECT AND THE OWNER'S CONSULTING ENGINEER, FOR REVIEW AND APPROVAL.

AFTER COMPLETION OF THE WORK, ALL TOOLS AND OTHER EQUIPMENT SHALL BE REMOVED FROM THE BUILDING. ALL EXCESS MATERIALS SHALL BE REMOVED AND THE BUILDING BE LEFT BROOM CLEAN.

B. THIS CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL, THREE (3) SETS OF OPERATING AND INSTRUCTIONAL MANUALS, SPARE PARTS LISTS, DRAWINGS, MANUFACTURER'S BULLETINS AND OTHER PERTINENT DATA OF ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT. EACH SET SHALL BE ENCLOSED IN A SUITABLE HARD COVER BINDER

INSTRUCT TO THE OWNER'S SATISFACTION SUCH PERSON'S AS THE OWNER DESIGNATES, THE PROPER OPERATION AND MAINTENANCE OF THE SYSTEMS AND THEIR PARTS.

JCTIONS AND MAINTENANCE MANUA

PROVIDE NAME, ADDRESS AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE AND SERVICE COMPANY FOR EACH PIECE SO THAT SERVICE PARTS C. BE READILY OBTAINED.

Hannaford Bros. Co.

Hannaford STORE # 8248

A. NOTIFICATIONS: NOTIFY THE AUTHORITIES HAVING JURISDICTION AT LEAST THD DAYS IN ADVANCE OF PERFORMING THE FLOW TEST.

PERFORM HYDRANT FLOW TEST IN COMPLIANCE WITH NFPA STANDARDS 13 PERFORM TEST AS CLOSE AS POSSIBLE TO NEW WET—TAP CONNECTION FOR SERVICE.

ND 291. NEW FIRE

REE WOR

D. RECORD ELEVATIONS OF THE TEST HYDRANTS AND SUBMIT HYDRAULIC GRAF TEST RESULTS FOR REVIEW AND APPROVAL BEFORE SUBMITTING HYDRAULIC AND WORKING PLANS.

PH(S) INDICATING CALCULATIONS

C. FLOW TEST TO BE CONDUCTED WITHIN 1 YEAR OF DESIGN SUBMITTAL

D. IN LIEU OF STENCILING, PIPING SYSTEMS MAY BE IDENTIFIED WITH APPROVED SNAP—ON COVERS DESIGNATING SERVICES AND DIRECTION OF FLOW. LOCATION OF IDENTIFICATION COVERS SHALL BE NEAR ACCESS PANELS WHEREVER POSSIBLE AND ON BOTH SIDES OF THE VALVES. THE MARKERS SHALL BE AS MANUFACTURED BY W.H. BRADY CO., WESTLINE PRODUCTS, SETON NAMEPLATE CO., OR APPROVED EQUAL.

ALL PIPING SYSTEMS EXPOSED AND ABOVE FURRED CEILINGS SHALL BE IDENTIFIED AT INTERVALS OF APPROXIMATELY 20' AND THE BACKGROUND. COLOR CODING TO BE IN ACCORDANCE WITH THE STANDARDS.

THE STENCILING SHALL BE PAINTED ON THE APPROPRIATE APPARATUS IN FULL VIEW AND SHALL BE A COLOR THAT IS IN SHARP CONTRAST WITH EACH CHANGE OF DIRECTION.

A. ALL STENCILING OF PIPING, MATERIALS AND EQUIPMENT, AS OUTLINED HEREI IDENTIFICATION PURPOSES, SHALL BE PERFORMED BY THIS SUBCONTRACTOR.

AFTER FOR

295 FORREST AVE PORTLAND, ME 04101

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