

# FIRE PROTECTION SYMBOL LIST

	FIRE STANDPIPE PIPING (STANDALONE)
	SPRINKLER PIPING
	DRY SPRINKLER PIPING
	PRE-ACTION SPRINKLER PIPING
	DRAIN PIPING
	PIPING BELOW SLAB
	EXISTING PIPING
	EXISTING WORK TO BE REMOVED
	HEAT TRACE / FREEZE PROTECTION CABLE & INSULATION
	SLOPED CHANGE IN PIPE ELEVATION
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SIDE CONNECTION
	PIPE DOWN/DROP
	PIPE RISE/UP
	PIPE SLOPE
	VALVE IN VERTICAL
	UNION
	REDUCER
	WATER PROOF SLEEVE
	SLEEVE
	FIRE EXTINGUISHER A - WATER B - DRY CHEMICAL C - GASEOUS (CO2 OR HALON 1211 - SEE SPEC.)
	FIRE EXTINGUISHER IN CABINET
	FIRE HOSE VALVE
	FIRE HOSE VALVE IN CABINET
	FIRE HOSE VALVE w/HOSE IN CABINET
	FIRE HOSE VALVE w/FIRE EXTINGUISHER
	ROOF MANIFOLD (3-WAY)
	SPRINKLER CONTROL VALVE ASSEMBLY
	VALVE ASSEMBLY AC - ALARM CHECK DR - DRY PIPE PA - PRE ACTION
	CONNECT TO EXISTING
	DISCONNECT FROM EXISTING
	FIRE DEPARTMENT SIAMESE CONNECTION (WALL MOUNTED)
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	TEMPERATURE AND PRESSURE RELIEF VALVE
	PLUG VALVE
	MIXING VALVE
	RELIEF VALVE
	BALL VALVE
	GATE VALVE
	GLOBE VALVE
	OUTSIDE SCREW & YOKE (OS & Y) VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE (PRV)
	SOLENOID VALVE
	FLOAT VALVE
	Y STRAINER w/BLOW-OFF VALVE
	REDUCED PRESSURE DETECTOR ASSEMBLY
	DOUBLE CHECK DETECTOR ASSEMBLY
	HYDRAULIC REF. POINTS (#) = ELEMENT, (N) = NODE
	TAMPER SWITCH
	WATERFLOW SWITCH
	PRESSURE GAUGE w/GAUGE COCK
	RISER DESIGNATION: X = RISER SERVICE; # = RISER NUMBER
	EXTEND EXISTING SPRINKLER PIPING TO NEW SPRINKLER HEAD

# ABBREVIATIONS

ABD	AUTOMATIC BALL DRIP
AD	AREA DRAIN
AF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BOP	BOTTOM OF PIPE
CFM	CUBIC FEET PER MINUTE
CV	CHECK VALVE
DIA	DIAMETER
DR	DRAIN
DN	DOWN (PENETRATES FLOOR SLAB)
(E)	EXISTING
(ER)	EXISTING TO BE REMOVED
(ERR)	EXISTING TO BE REMOVED & RELOCATED
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FHVC	FIRE HOSE VALVE CABINET
FD	FLOOR DRAIN
FL	FLOOR
FP	FIRE PUMP
FSP	FIRE STANDPIPE
FT	FEET
GC	GENERAL CONTRACTOR
GV	GATE VALVE
GAL	GALLONS
GPM	GALLONS PER MINUTE
HD	HEAT DETECTOR
ID	INSIDE DIAMETER
IN	INCH
JP	JOCKEY PUMP
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMALLY CLOSE
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PA	PRE-ACTION
PSIA	POUNDS PER SQUARE INCH (ABSOLUTE)
PSI	POUNDS PER SQUARE INCH (GAUGE)
PRV	PRESSURE REDUCING VALVE
(RE)	RELOCATED EXISTING
(RRO)	EXISTING TO BE REMOVED AND RETURN TO OWNER
SD	SMOKE DETECTOR
SPKR	SPRINKLER
TOP	TOP OF PIPE
TS	TAMPER SWITCH
UON	UNLESS OTHERWISE NOTED
UP	(PENETRATES FLOOR SLAB)
VB	VACUUM BREAKER
WFS	WATER FLOW SWITCH
Z	ZONE

# DEMOLITION NOTES

- REMOVE EXISTING SPRINKLER HEADS AND PIPING IN THE AREA OF WORK, BACK TO EXISTING SPRINKLER MAINS. 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.

# FIRE PROTECTION GENERAL NOTES

- GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL FIRE PROTECTION DRAWINGS.
- ALL WORK IS NEW UNLESS OTHERWISE NOTED.
- ALL FIRE PROTECTION WORK SHALL BE IN ACCORDANCE WITH THE CURRENT FIRE PROTECTION CODE AND ALL APPLICABLE LOCAL CODES AND DRAWINGS.
- PROVIDE WET-PIPE SPRINKLERS IN ALL AREAS. PROVIDE DRY-TYPE SPRINKLER SYSTEM IN ALL AREAS WHERE AMBIENT TEMPERATURE IS 40 DEG F OR BELOW. PROVIDE PRE-ACTION AND/OR GASEOUS AGENT SYSTEM TO CRITICAL AREAS.
- SECURE WATER FLOW TEST DATA TAKEN FROM FIRE HYDRANTS NEAREST SITE. IF RECENT FLOW TEST DATA (LESS THAN ONE-YEAR OLD) IS NOT AVAILABLE FROM CITY RECORDS, MAKE NECESSARY TESTS AS REQUIRED BY NFPA STANDARDS TO DETERMINE CHARACTER OF WATER SUPPLY. MINIMUM OF 20 PSI DROP IN PRESSURE BETWEEN STATIC AND RESIDUAL PRESSURE SHALL BE REQUIRED IN ORDER TO OBTAIN ACCURATE DATA.
- SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED FOR LIGHT, ORDINARY, AND EXTRA HAZARD OCCUPANCIES EXCEPT AS NOTED.
- ADD 10% CONTINGENCY FACTOR TO HYDRAULIC CALCULATIONS.
- EXACT LOCATION OF SPRINKLER HEADS IN FINISHED AREAS WITH SUSPENDED CEILING SHALL BE AS INDICATED ON REFLECTED CEILING PLANS.
- MINIMUM PRESSURE AT END SPRINKLER HEAD 7 PSI, OR AS REQUIRED BY SPRINKLER HEAD, WHICHEVER IS GREATER.
- EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13 AND FACTORY MUTUAL 0.5 2-8N.
- WHEREVER FITTINGS ARE USED IN CONJUNCTION WITH SCH.10 LIGHTWALL PIPE, EQUIVALENT FITTING LENGTHS INDICATED IN NFPA-13 SHALL BE INCREASED BY 39%.
- MAXIMUM FLOW VELOCITY SHALL NOT EXCEED 20 F.P.S.
- ALL AUTOMATIC SPRINKLER HEADS, PIPE FITTINGS, PIPE HANGERS, AUTOMATIC CONTROL VALVES AND MANUAL CONTROL VALVES SHALL BE UL LISTED AND BEAR FACTORY MUTUAL APPROVAL AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- ALL EXPOSED PIPE, FITTINGS, HANGERS AND SUPPLEMENTARY STEEL SHALL BE PAINTED.
- ENDS OF ALL CROSS MAINS SHALL BE PROVIDED WITH THREADED FLUSHING CONNECTION NO MORE THAN 2 INCHES IN DIAMETER.
- PROVIDE AUXILIARY DRAINS FOR ALL PIPING BELOW DUCT SPRINKLERS AND OPEN TRAPPED SECTIONS. PIPING TO ONE SINGLE SPRINKLER IS EXCLUDED.
- PROVIDE FLUSHING CONNECTIONS WHERE REQUIRED BY NFPA AND F.M.
- COORDINATE WITH OWNER FOR ALL SHUTDOWNS.
- PROVIDE TEST CONNECTIONS AT HIGHEST POINT OF MAIN PORTION OF EACH SPRINKLER SYSTEM, WITH 1" PIPE AND VALVE. TEST PIPE SHALL BE CONNECTED TO SPRINKLER PIPE AT LEAST 1-1/4" IN SIZE AND SHALL DISCHARGE OUTSIDE BUILDING OR THROUGH 1/2" SMOOTH BORE BRASS OUTLET, WHERE IT CAN BE EASILY SEEN.
- PROVIDE ADDITIONAL HEADS UNDER DUCTWORK LARGER THAN 48" WIDE.
- THE REUSE OF EXISTING SPRINKLER HEADS SHALL BE PROHIBITED.
- NEW SPRINKLER HEAD TYPE AND TEMPERATURE RATING SHALL BE IN ACCORDANCE WITH SCHEDULE UNLESS NOTED OTHERWISE AND/OR REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- COORDINATE ALL PIPE PENETRATIONS AND CORING WITH STRUCTURAL ENGINEER AND IN ACCORDANCE WITH DIVISION 01.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING RELATED WORK.
- COORDINATE ALL NEW FIRE PROTECTION WORK WITH ALL EXISTING AND/OR NEW DUCTWORK, PIPING AND UTILITIES OF ANY SYSTEMS. DRAWINGS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE DESIGN. REROUTE ANY PIPING AROUND EXISTING AND/OR NEW SYSTEMS INCLUDING ALL REQUIRED FITTINGS AND SUPPORTS TO MAKE THE INSTALLATION OF THE PIPING AND SPRINKLER HEADS POSSIBLE. RESEAL ANY FIRE AND/OR SMOKE RATED PENETRATIONS THAT HAVE BEEN AFFECTED AS A RESULT OF THE MODIFICATION.
- ALL COMPONENTS USED IN FIRE PROTECTION SYSTEMS SHALL BE IN ACCORDANCE WITH THE OWNER'S GUIDELINES, STANDARDS AND SPECIFICATIONS.

# SPRINKLER HEAD SCHEDULE

TYPE	DESIGNATION	UPRIGHT	PENDENT	FLUSH PLATE SPKR	RECESSED	SIDEWALL	DRY	QUICK RESPONSE	EXTENDED COVERAGE	EXIST SPKR HD TO BE REMOVED	EXIST SPRINKLER HD	MANUFACTURER				REMARKS
												RELIABLE	GRINNELL	STAR	VIKING	
											X	MODEL NUMBER				
			X	X				X		X		VK462				K=5.6, 1/2" ORIFICE 155°F RATING

### NOTES:

- EXPOSED UPRIGHT HEADS IN OCCUPIED SPACES SHALL BE CHROME FINISH.
- PROVIDE ESCUTCHEONS WHEN PENETRATING EXPOSED WALL.
- PROVIDE SPRINKLER GUARDS AT ALL HEADS 7"-0" AND LOWER.
- COLOR SELECTION BY ARCHITECT.

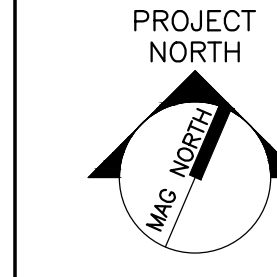
# SPRINKLER DESIGN CRITERIA

THE ENTIRE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED TO MEET THE FOLLOWING CRITERIA:

- LIGHT HAZARD OCCUPANCIES: 225 SQ FT/HEAD MAXIMUM COVERAGE; 0.10 GPM/SQ FT DENSITY OVER THE MOST REMOTE 1,500 SQ FT OF THE SYSTEM, 100 GPM HOSE ALLOWANCE. (FOR OFFICES, GENERAL CORRIDORS AND OTHER LIGHT HAZARD OCCUPANCIES).
- ORDINARY HAZARD OCCUPANCIES: 130 SQ FT/HEAD MAXIMUM COVERAGE; 0.15/SQ FT DENSITY OVER THE MOST REMOTE 1,500 SQ FT OF THE SYSTEM, 250 GPM HOSE ALLOWANCE. (FOR STORAGE SPACES, MECHANICAL ROOM SPACES AND OTHER ORDINARY HAZARD OCCUPANCIES).
- CLOSELY SPACED SPRINKLERS LOCATED 6'-0" ON CENTER AND LOT LINE SPRINKLERS SHALL DISCHARGE MINIMUM 3 GPM PER LINEAR FOOT OF WATER CURTAIN, WITH NO SPRINKLERS DISCHARGING LESS THAN 15 GPM.
- EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13.
- DISCHARGE FROM EACH SPRINKLER SHALL NOT BE LESS THAN REQUIRED FOR AREA COVERED BY THIS SPRINKLER. AREA COVERAGE PER SPRINKLER SHALL BE DETERMINED IN ACCORDANCE WITH NFPA STANDARD NO. 13.
- HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO CONNECTION TO SPRINKLER FLOOR CONTROL VALVE ASSEMBLY/WATER SUPPLY.
- THE WATER SUPPLY SERVING THE SPRINKLER SYSTEM SHALL BE CAPABLE OF SUPPLYING THE MOST HYDRAULICALLY DEMANDING AREA FOR THE DURATION REQUIRED BY NFPA NO. 13.

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PORTLAND, MAINE

REV	DESCRIPTION	DATE
03-31-17	ISSUED FOR PERMITTING	

GRAPHIC SCALE:  
0" 1"

SCALE:	NTS
PROJECT MANAGER:	
JC/DRAWN BY:	
A/E OF RECORD:	
CAD FILE:	
PROJECT NO:	B160305-000
DATE:	03-31-17
SHEET TITLE:	FIRE PROTECTION COVER SHEET

SHEET No. F-000

DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
F-000	FIRE PROTECTION COVER SHEET
F-100	FIRE PROTECTION FLOOR PLAN
F-200	FIRE PROTECTION DETAILS
F-300	FIRE PROTECTION SPECIFICATIONS



SAVE DATE: 3/31/2017 2:05 PM  
PLOT DATE: 3/31/2017 2:06 PM  
LOGIN: Jaques, Christopher  
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