

1 GROUND FLOOR ADDITION SPRINKLERS LAYOUT

Scale: 1/8"=1'-0"

GENERAL SPECIFICATIONS

- CONTRACTOR TO SUPPLY AND INSTALL A COMPLETE AND FULLY OPERATIONAL AUTOMATIC SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS AND AS INDICATED IN THE SPECIFICATIONS AND CONFORMING TO N.F.P.A. REQUIREMENTS, C.E.C. REQUIREMENTS AND THE REQUIREMENTS OF THE LOCAL AUTHORITIES.
- UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL TEST THE SYSTEM AND SUBMIT TO THE ENGINEER COMPLETED CONTRACTORS TEST CERTIFICATES STATING THAT THE SYSTEMS HAVE BEEN INSTALLED, TESTED AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION IN ACCORDANCE WITH N.F.P.A.#13, LATEST EDITION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS BY-LAWS AND AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR TO VERIFY TYPE OF NEW BACKFLOW PREVENTER DEVICE WITH CITY REQUIREMENTS, (IF APPLICABLE).
- SPRINKLER CONTRACTOR TO CO-ORDINATE INSTALLATION WITH EXISTING SITE CONDITIONS AND ACCEPT RESPONSIBILITY FOR AND COST OF MAKING ADJUSTMENTS TO PIPING TO AVOID INTERFERENCE WITH MECHANICAL, ELECTRICAL AND OTHER BUILDING COMPONENTS.
- DRAWINGS ARE NOT TO BE SCALED.
- THESE DRAWINGS ARE THE PROPERTY OF THE ENGINEERS AND SHALL NOT BE ALTERED WITHOUT APPROVAL. DRAWINGS SHALL BE RETURNED UPON REQUEST.
- SPRINKLER HEADS SHALL BE U.L.C. LISTED AND SHALL BE THE TYPE AND TEMPERATURE RATING SPECIFIED ON THE DRAWINGS.
- PROVIDE SPARE SPRINKLER HEADS AND WRENCH IN A METAL CABINET, MOUNTED ON THE WALL, NEAR THE MAIN SPRINKLER VALVE HEADER, AMOUNT AS PER N.F.P.A. STANDARD # 13.
- SPRINKLERS OF SUITABLE TEMPERATURE RATING SHALL BE INSTALLED NEAR HEATING EQUIPMENT AS SPECIFIED BY N.F.P.A. STANDARD # 13 LATEST EDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE FIRE PROTECTION SYSTEMS, AND FOR CO-ORDINATION WITH ALL SITE CONDITIONS, BEFORE COMMENCING WORK, EXAMINE THE SITE AND THE EXISTING CONDITIONS AND REPORT IMMEDIATELY TO THE ENGINEER ANY DEFECT OR INTERFERENCE AFFECTING THE COMPLETION OF THE WORK OR THE GUARANTEE OF THIS CONTRACTOR.
- CONTRACTOR MUST MAINTAIN SET OF DRAWINGS ON SITE AND NEATLY RECORD ALL AS-BUILT DEVIATIONS FROM DESIGN DRAWINGS. PROVIDE ONE SET OF AS-BUILT DRAWINGS TO ENGINEER FOR INCORPORATION INTO RECORD DRAWINGS.
- PROVIDE FLOW ALARM DEVICES, SUPERVISORY SWITCHES AND PRESSURE SWITCHES WHERE SHOWN ON DRAWINGS. WIRING TO ANNUNCIATOR SHALL BE DONE BY ELECTRICAL CONTRACTOR. PROVIDE NECESSARY SIGNS WHERE REQUIRED BY THE LOCAL FIRE AUTHORITIES.
- DIMENSIONS AND/OR MEASUREMENTS INDICATED ON THE DRAWINGS ARE TO BE VERIFIED AT SITE AND ANY MAJOR DISCREPANCIES TO BE REPORTED PRIOR TO FABRICATION AND INSTALLATION. (IF APPLICABLE).
- EXACT LOCATION AND ELEVATION OF MANS TO BE DETERMINED BY CONTRACTOR TO SUIT SITE CONDITIONS.
- CONTRACTOR TO CO-ORDINATE LOCATION OF SPRINKLERS WITH RESPECT TO SURFACE MOUNTED LIGHT FIXTURES AND MAINTAIN MINIMUM CLEARANCE AS REQUIRED BY NFPA 13 TO AVOID ANY OBSTRUCTION TO SPRAY PATTERN OF SPRINKLERS.
- CONTRACTOR TO PROVIDE NECESSARY HANGERS AND ASSEMBLY TO COMPLY WITH THE FOLLOWING:
A) UNSUPPORTED LENGTH BETWEEN END SPRINKLER AND LAST HANGER SHALL NOT EXCEED 36 INCHES FOR 1" DIA. PIPE, 44" FOR 1 1/2" DIA PIPE AND 60" FOR 1 1/2" DIA PIPE OR LARGER.
NOTE: WHEN PRESSURE EXCEEDS 100 PSI, REFER TO NFPA STANDARD # 13
B) THE LENGTH OF AN UNSUPPORTED ARM-OVER TO A SPRINKLER SHALL NOT EXCEED 24".
NOTE: WHEN PRESSURE EXCEEDS 100 PSI, REFER TO NFPA STANDARD # 13

Design Area No. 2 - OH I
Density 0.15 Area ENTIRE AREA
Flow 502.76 gpm @ 48.73 psi
Includes 250 gpm Hose allowance

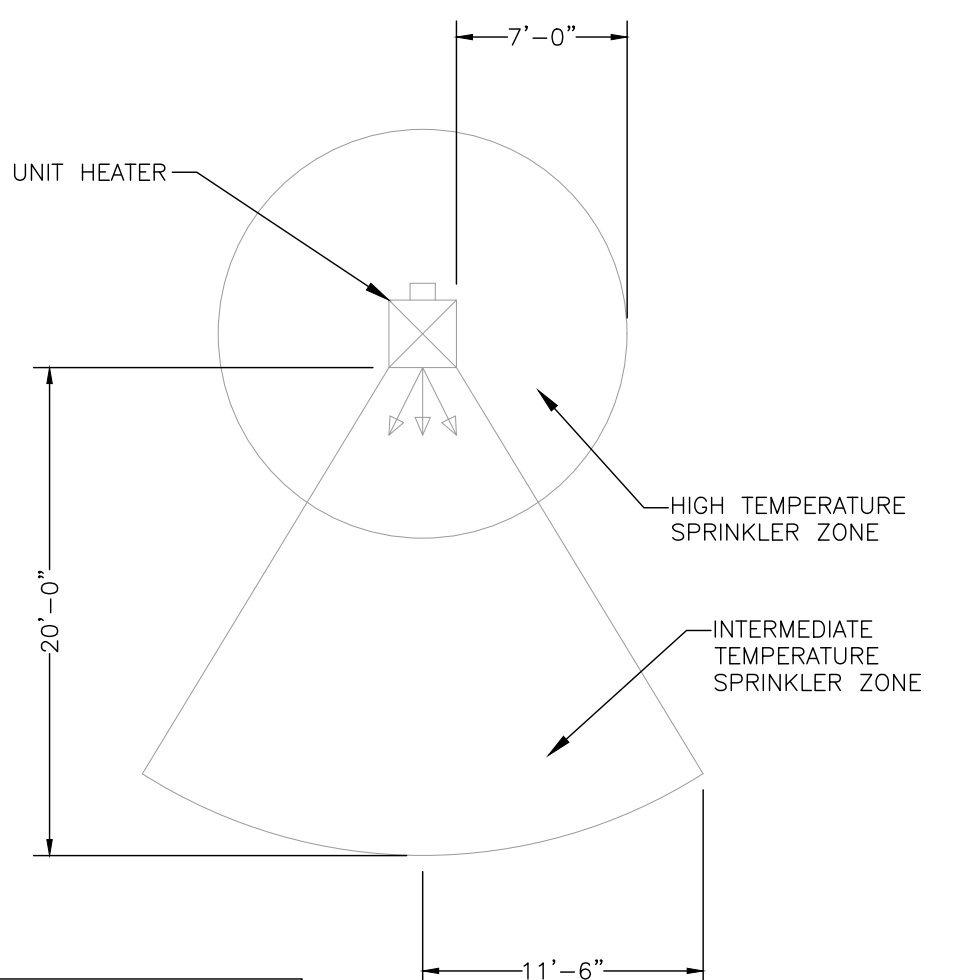
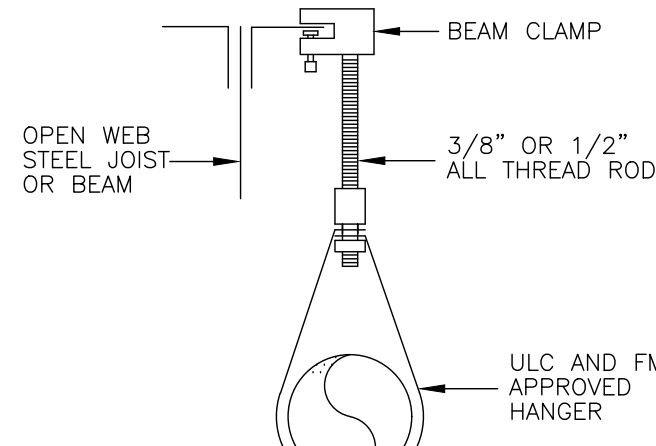
MAXIMUM DISTANCE BETWEEN HANGERS (ft)

PIPE	NOMINAL SIZE					
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
STEEL	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"
CPVC	8'-0"	8'-0"	7'-0"	8'-0"	8'-0"	10'-0"

HANGER POSITIONING RULES:

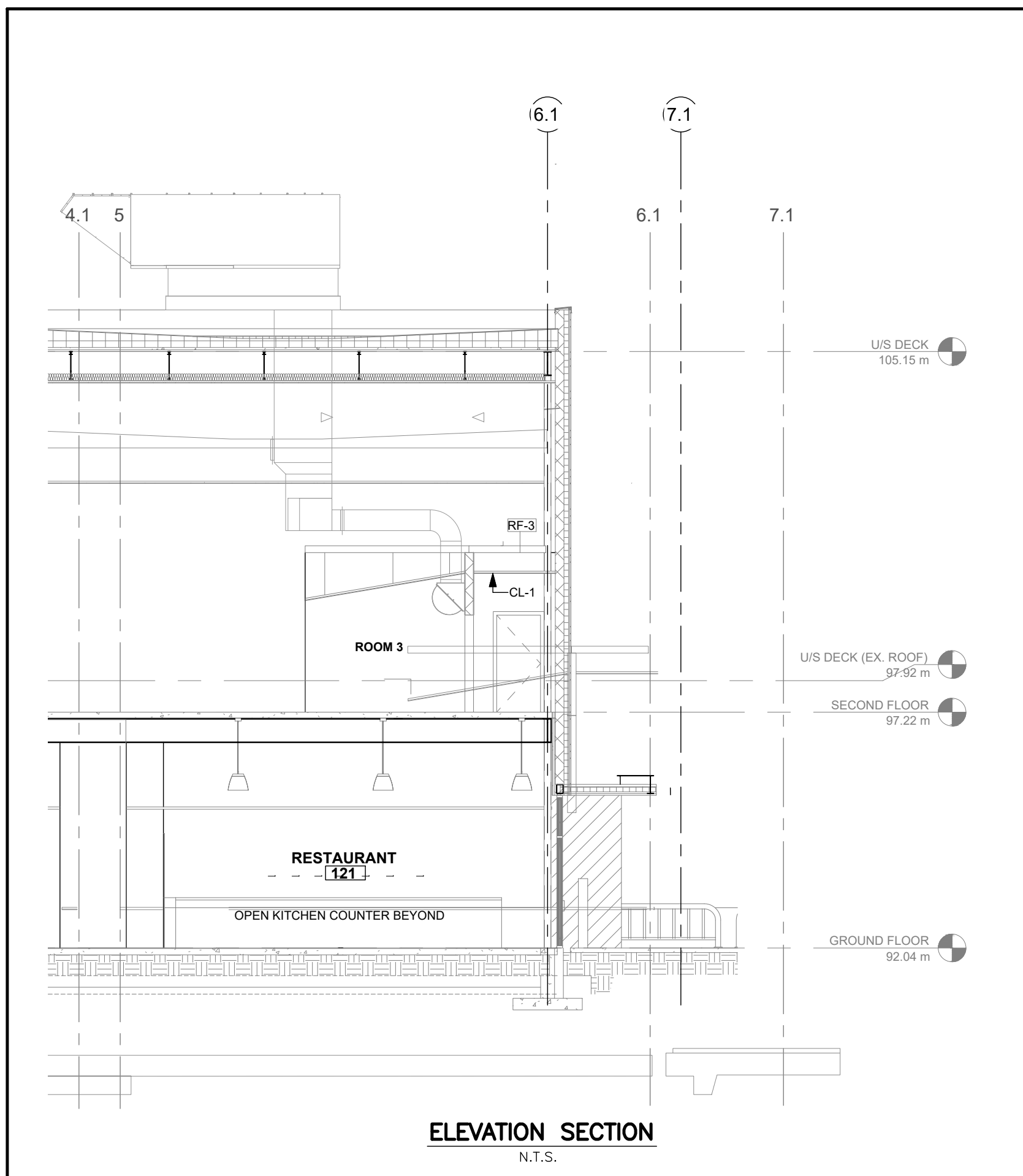
- MINIMUM NUMBER OF HANGERS SHALL NOT BE LESS THAN ONE HANGER FOR EACH SECTION OF PIPE.
- THE DISTANCE BETWEEN A HANGER & CENTERLINE OF AN UPRIGHT SPRINKLER HEAD SHALL NOT BE LESS THAN 3".
- THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER & THE LAST HANGER ON THE LINE SHALL NOT BE GREATER THAN 36" FOR 1" PIPE & 60" FOR 1 1/2" OR LARGER PIPE.
- THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN PENDENT POSITION OR DROP NIPPLE & THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12".
- THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARM OVER TO AN UPRIGHT SPRINKLER SHALL NOT EXCEED 24" FOR 1" TO PENDENT SPRINKLER.
- HANGERS FOR MANS SHALL BE IN ACCORDANCE WITH TABLE 9.2.2.1 (a).
- BETWEEN EACH BRANCH LINE, OR ON EACH SECTION OF PIPE, WHICHEVER IS LESSER DIMENSION.
- RISERS SHALL BE SUPPORTED BY RISER CLAMPS OR BY HANGERS LOCATED ON THE HORIZONTAL CONNECTIONS WITHIN 24" OF THE CENTER LINE OF THE RISER.

HANGERS NOT SHOWN FOR CLARITY PURPOSES



SPRINKLERS AT UNIT HEATERS

NOT TO SCALE



REVISIONS

NOTES

- THIS DRAWING, INCLUDING CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF BRUCE FIRE PROTECTION LTD. AND MUST BE RETURNED AT THE COMPLETION OF THE WORK OR UPON REQUEST.
- DRAWINGS ARE PREPARED BY BRUCE.
- SPRINKLER SYSTEM IS TO BE INSTALLED AS PER NFPA AND BUILDING CODE.
- CONTRACTOR TO INCLUDE FOR OFFERS IN BRANCH LINES AND MAINS WHERE REQUIRED.
- ALL MATERIALS TO BE U.L.C. LISTED AND APPROVED BY LOCAL AUTHORITIES.
- CONTRACTOR TO OBTAIN THE REQUIRED PERMIT AND IS PROVIDED IN ALL AREAS WITH NET PIPING THAT SUBJECT TO THE REQUIREMENTS OF THE LOCAL FIRE AUTHORITIES IS APPROVED AND INSTALLED.
- ALL PIPING REQUIREMENTS ARE GIVEN AS CENTER LINE TO CENTER LINE DIMENSIONS.
- THE DRAWING IS FOR REFERENCE ONLY.
- ALL SUPPLEMENTAL VALUES, FLOW PRESSURES, SWITCHES AND LOW PRESSURE MONITORING DEVICES TO BE CONNECTED TO THE ALARM SYSTEM, IF THIS IS REQUIRED.
- CONTRACTOR TO VISIT SITE TO VERIFY ALL DIMENSIONS AND CONDITIONS AS INDICATED ON DRAWINGS AND MAKE ADJUSTMENTS TO BE REPORTED TO BRUCE FIRE PROTECTION PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR TO ENSURE THAT PERMIT FOR INSTALLATION HAVE BEEN RECEIVED BEFORE COMMENCEMENT OF WORK ON SITE.
- BRUCE FIRE PROTECTION LTD.'S LIABILITY, DIRECT OR INDIRECT, IS LIMITED TO THE FEE PAID TO IT.

PERMIT

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THE DESIGN AND THE QUALIFICATION AND MEETS THE REQUIREMENTS SET OUT IN THE ONTARIO BUILDING CODE TO DESIGN THE WORK SHOWN ON THIS DRAWING AND DOCUMENT.	
QUALIFICATION INFORMATION	
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.5.1 OF THE ONTARIO BUILDING CODE.	32049
M. MATTHEW, P. ENG.	BCN
REGISTRATION INFORMATION	
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.5.1 OF THE ONTARIO BUILDING CODE.	36466
BRUCE FIRE PROTECTION LTD.	FIRM BCN

DESIGN CRITERIA

- DESIGN AREA #1: SPRINKLER SYSTEM DESIGNED FOR LIGHT HAZARD OCCUPANCY WITH DISCHARGE DENSITY 0.1 GPM/SQ.FT OVER 900 SQ.FT AREA PLUS 100 GPM FOR HOSES AS PER NFPA 13 (2019)
- DESIGN AREA #2: SPRINKLER SYSTEM DESIGNED FOR ORDINARY HAZARD GR.I OCCUPANCY WITH DENSITY OF 0.15 GPM/SQ.FT OVER ENTIRE AREA PLUS 250 GPM FOR HOSES AS PER NFPA 13 (2019)
- DESIGN AREA #3: SPRINKLER SYSTEM DESIGNED FOR ORDINARY HAZARD GR.II OCCUPANCY WITH DENSITY OF 0.2 GPM/SQ.FT OVER DESIGN AREA 900 SQ.FT PLUS 250 GPM FOR HOSES AS PER NFPA 13 (2019)

WATER SUPPLY INFORMATION	
Static Pressure: 85 psi	
Res. Pressure 81.5 psi @ 2222.4 gpm	
Flow Test Date: May 22, 2025	

Sprinkler Head Schedule

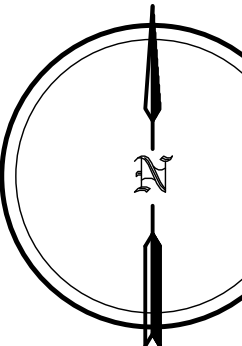
Symbol	Count	Thread	K-Factor	Description
⊙	149	1/2"	5.6	PENDENT 155T, GR
○	106	1/2"	5.6	UPRIGHT 155T, GR
⊗	3	1/2"	5.6	DRY PENDENT 155T
◁	2	1/2"	5.6	SIDEWALL 268T C/W GUARD
260 = Total Number of Heads (BOTH SHEETS)				

FIREARMS OUTLET CANADA
725 WESTNEY RD. S.

AJAX

ONTARIO

NORTH



STAMP



Bruce Fire Protection Ltd. Tel: 905 482 8099
400 Applewood Cres. Fax: 905 581 3203
Unit 100, Toll Free: 1 800 260 0187
Vaughan, ON, email: info@brucefire.ca
(L4K 0C2) www.brucefire.ca

PROJECT

FIREARMS OUTLET CANADA
725 WESTNEY RD. S.

AJAX

ONTARIO

DWG TITLE

PROPOSED GROUND FLOOR
SPRINKLER SYSTEM LAYOUT

DATE

MAY 2025

PROJECT NO.

25-5143

SCALE

1/8" = 1'-0"

DWN BY

IM

VERIFIED BY

MM

DWG NO.

SP1

ISSUED FOR
REVISION NO.

OF 2