

GENERAL SPECIFICATIONS

- CONTRACT
 - 1.1. ARCHITECTURE, ARCHITECTURAL GENERAL INSTRUCTIONS SHALL BE READ IN CONJUNCTION WITH AND FROM PART OF THIS CONTRACT. THE DRAWINGS FOR WORK ARE DIAGRAMMATIC. PERFORMANCE DRAWINGS AND NOTED TO CLASS THE SCOPE OF WORK. EXACT PERFORMANCE DRAWINGS AND NOTED TO CLASS THE SCOPE OF WORK. EXACT PERFORMANCE DRAWINGS AND NOTED TO CLASS THE SCOPE OF WORK. EXACT PERFORMANCE DRAWINGS AND NOTED TO CLASS THE SCOPE OF WORK.
 - 1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
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 - 1.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
- WORKMANSHIP
 - 2.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
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FIRE PROTECTION SPECIFICATIONS

- SCOPE
 - 1.1. SCOPE OF WORK: PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED FOR THE FIRE PROTECTION SYSTEM INCLUDING PIPING TO THE BUILDING, ALL SPRINKLER WORK SHALL CONFORM TO 2015 IBC, NFPA-13A AND ALL REQUIREMENTS OF THE AUTHORITY. ALL FIRE SPRINKLER WORK SHALL CONFORM TO 2015 IBC, NFPA-13A AND ALL REQUIREMENTS OF THE AUTHORITY. ALL SYSTEMS LEFT SAFETY, STAMPED, PERMITS AND THE PROTECTION REQUIREMENTS MUST BE MAINTAINED THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 1.2. APPROVALS: ALL WORKING PLANS AND CALCULATIONS SHALL BE SUBMITTED TO CONSULTANT AS WELL AS PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 1.3. APPROVED CONTRACTOR: ALL FIRE PROTECTION WORK IN THIS CONTRACT SHALL BE PERFORMED BY AN APPROVED CONTRACTOR. THE CONTRACTOR SHALL BE LICENSED BY THE DISTRICT COLLEGE OF TRADES TO PERFORM INSTALLATION, TESTING AND COMMISSIONING OF THE PROTECTION SYSTEM.
 - 1.4. APPROVED CONTRACTOR: ALL FIRE PROTECTION WORK IN THIS CONTRACT SHALL BE PERFORMED BY AN APPROVED CONTRACTOR. THE CONTRACTOR SHALL BE LICENSED BY THE DISTRICT COLLEGE OF TRADES TO PERFORM INSTALLATION, TESTING AND COMMISSIONING OF THE PROTECTION SYSTEM.
 - 1.5. SEPARATE PRICES: SEPARATE PRICES FOR THE ADDITIONAL DELIVERY OF (TYPICAL) SPRINKLER HEADS OF EACH TYPE SPECIFIED, ANY NUMBER OF HEADS MAY BE REORDERED AT THE UNIT PRICE DURING THE CONSTRUCTION PERIOD.
- MATERIALS
 - 2.1. PIPING: PIPING SHALL BE BLACK STEEL SCHEDULE 40 PIPING (1/2" THROUGH 4" NPS) UNLESS OTHERWISE SPECIFIED. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 2.2. SPRINKLER HEADS: SPRINKLER HEADS SHALL BE AS PER EACH DRAWING. SPRINKLER HEADS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
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- INSTALLATION
 - 3.1. HYDRAULIC CALCULATIONS: PIPING SYSTEM WITHIN THE SPACE SHALL BE HYDRAULICALLY DESIGNED TO MAINTAIN SYSTEM PRESSURE BY A LICENSED PROFESSIONAL ENGINEER.
 - 3.2. DRAWING SHOWS THE GENERAL ARRANGEMENT OF SPRINKLER SYSTEM CONTRACTOR MUST CHECK AND VERIFY ALL CONDITIONS AND CONDITIONS IN THE AREA AND REPORT DISCREPANCIES TO THE ARCHITECT BEFORE THE WORK BEGINS. CONTRACTOR SHALL PROVIDE SPRINKLER DRAWINGS WITH CALCULATIONS AND HYDRAULIC DESIGN IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 3.3. WITHIN THESE GENERAL SPECIFICATIONS CONTRACTOR SHALL PROVIDE SPRINKLER DRAWINGS WITH CALCULATIONS AND HYDRAULIC DESIGN IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 3.4. CERTIFICATION: ALL WORK SHALL BE CERTIFIED BY THE CONTRACTOR WITHIN THE SPECIFIED TIME FRAME. CONTRACTOR SHALL PROVIDE CERTIFICATION LETTERS SHALL CONTAIN CONTRACTOR'S SIGNATURE AND TRANSFERRED TO THE ARCHITECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 3.5. LOCATIONS: FINAL LOCATION OF ALL PIPING AND SPRINKLERS SHALL BE CO-ORDINATED ON SITE WITH ALL TRADES.
 - 3.6. BULB PROTECTION: THE SPRINKLER BULB PROTECTOR MUST REMAIN IN PLACE UNTIL THE SPRINKLER IS COMPLETELY INSTALLED AND BEFORE THE SYSTEM IS PLACED IN SERVICE. REMOVE BULB PROTECTORS CAREFULLY BY HAND AFTER INSTALLATION. DO NOT ATTEMPT TO REMOVE BULB PROTECTORS.
 - 3.7. FIRE SEPARATION: MAINTAIN ALL FIRE SEPARATIONS. ALL FIRE RATED WALL AND FLOOR OPENINGS SHALL BE MAINTAINED WITH AN APPROVED FIRE RATED MATERIAL. DO NOT ATTEMPT TO REMOVE FIRE RATED MATERIAL OR TO REMOVE FIRE RATED MATERIAL. REMAINING PORTION SHALL BE SEALED WITH AN APPROVED FIRE RATED MATERIAL.
 - 3.8. HELD OPEN: HELD OPEN SHALL BE DONE BY THE CONTRACTOR. HELD OPEN SHALL BE DONE BY THE CONTRACTOR. HELD OPEN SHALL BE DONE BY THE CONTRACTOR.
 - 3.9. SHUT DOWN: WITHIN THESE GENERAL SPECIFICATIONS CONTRACTOR SHALL PROVIDE SPRINKLER DRAWINGS WITH CALCULATIONS AND HYDRAULIC DESIGN IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 - 3.10. CO-ORDINATION: CONTRACTOR SHALL CO-ORDINATE WITH ALL TRADES AND ARCHITECT'S EQUIPMENT. CONTRACTOR SHALL PROVIDE SPRINKLER DRAWINGS WITH CALCULATIONS AND HYDRAULIC DESIGN IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.

PIPE IDENTIFICATION

- FINISHING
 - 1.1. FINISHING TO BE PERFORMED IN A NEAT QUALITY MANNER.
 - 1.2. USE CAPITAL LETTERS MINIMUM 10MM (3/8") HIGH FOR PIPES (1/2" DIAMETER PIPING OR LARGER) INCLUDING ISOLATION AND TANK (LIFT) USE CAPITAL LETTERS FOR SMALLER DIAMETERS. (1/2" DIAMETER PIPING OR LARGER) INCLUDING ISOLATION AND TANK (LIFT) USE CAPITAL LETTERS FOR SMALLER DIAMETERS. (1/2" DIAMETER PIPING OR LARGER) INCLUDING ISOLATION AND TANK (LIFT) USE CAPITAL LETTERS FOR SMALLER DIAMETERS.
 - 1.3. ISOLATION: ISOLATION SHALL BE DONE BLACK OR WHITE. MINIMUM 10MM (3/8") HIGH FOR PIPES (1/2" DIAMETER PIPING OR LARGER) INCLUDING ISOLATION AND TANK (LIFT) USE CAPITAL LETTERS FOR SMALLER DIAMETERS.
 - 1.4. ISOLATION: ISOLATION SHALL BE DONE BLACK OR WHITE. MINIMUM 10MM (3/8") HIGH FOR PIPES (1/2" DIAMETER PIPING OR LARGER) INCLUDING ISOLATION AND TANK (LIFT) USE CAPITAL LETTERS FOR SMALLER DIAMETERS.
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- LOCATION
 - 2.1. LOCATE IDENTIFICATION AND FLOW ARROWS AS FOLLOWS:
 - ABOVE EACH ACCESS DOOR
 - AT EACH CHANGE OF DIRECTION AND TAKE-OFF
 - NOT MORE THAN 12M (40 FT) APART ON ALL PIPES EXPOSED AND/OR LOCATED BEHIND ACCESSIBLE CEILING
 - ON BOTH SIDES OF STEEL
 - ABOVE EACH FLOOR OR PLATFORM FOR VERTICAL EXPOSED PIPES APPROXIMATELY 1.5M (5 FT) ABOVE FLOOR
- MARKER LEGEND

DESCRIPTION AND SERVICE	CLASSIFICATION COLOR
CHEMICAL COOL WATER	GREEN
DOMESTIC HOT WATER	RED
DOMESTIC HOT WATER	GREEN
STORM WATER	YELLOW
PLUMBING GAS	YELLOW
NATURAL GAS	RED
PIPE LINE	RED

DESIGN CRITERIA

SAFETY MARGIN: 0.3 Bars

Zone: BOOK STORE
 Occupancy: CHD
 Density: 8.1 persons/m² (0.2 gpm per sq. ft.)
 Area / Sprinkler: 10 sq.m. (108 sq. ft.) max.
 "K" Factor: 80
 Head Allowance: Outside 940 L/m
 Number of Sprinklers Calculated: 11
 Demand at Upstream of Spk. Valve: 970 L/m @ 3.04 Bars (BRI)
 Deluge Open Sprinklers
 Min. Flow per Sprinkler: 68 L/m
 "K" Factor: 80
 Number of Sprinklers Calculated: 16
 Demand at Upstream of Deluge Valve: 1140 L/m @ 1.46 Bars (DVI)
 Total Demand Ceiling Spk. + Deluge Spk. + Hose Allow. at Water Main Supply: 4000 L/m @ 3.02 Bars (TEST)

WATER FLOW TEST

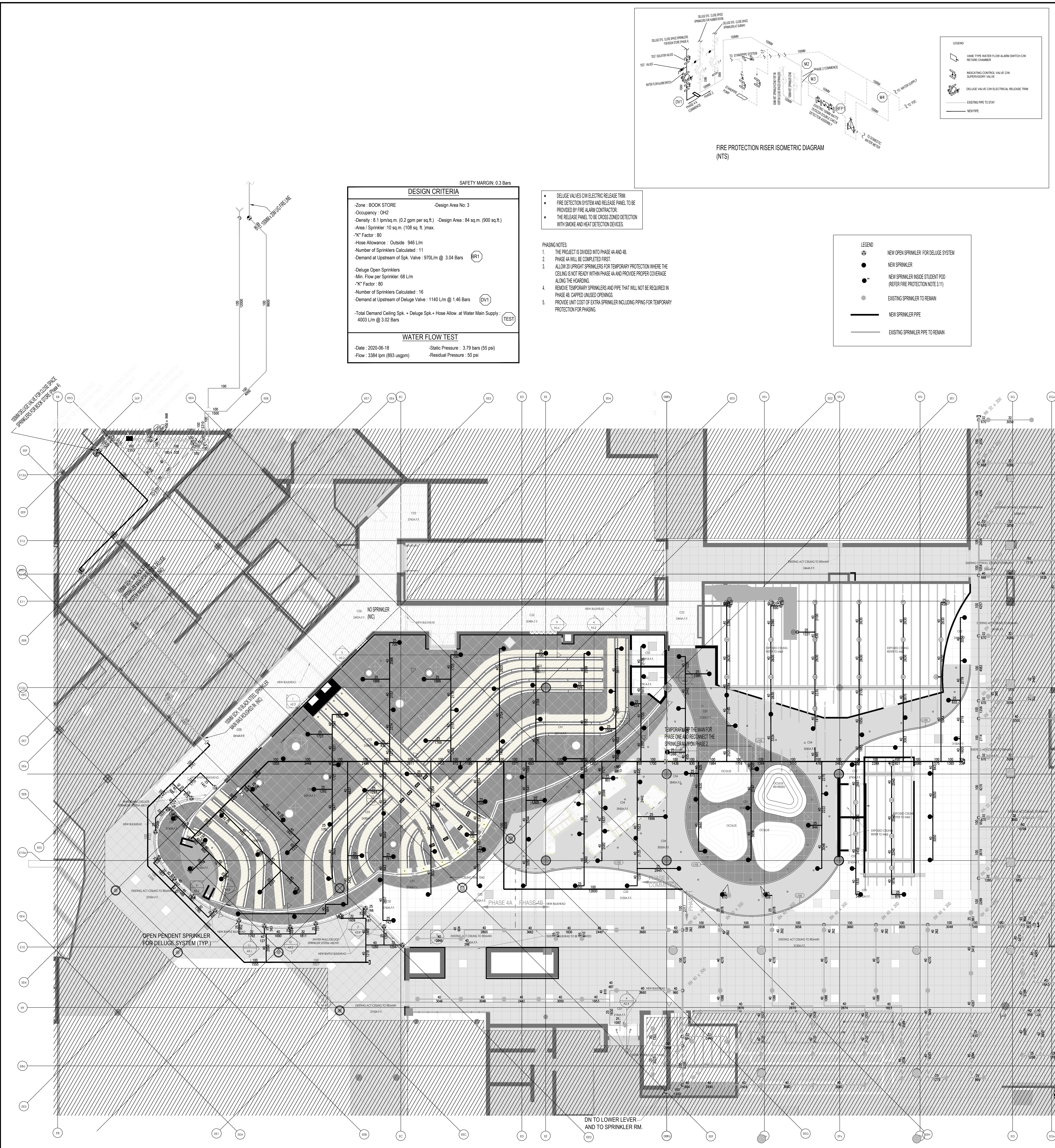
Date: 2020-06-18
 Flow: 3384 lpm (89.3 gpm)
 Static Pressure: 3.79 bars (55 psi)
 Residual Pressure: 50 psi

PHASING NOTES

1. THE PROJECT IS DIVIDED INTO PHASE 4A AND 4B.
2. PHASE 4A WILL BE COMPLETED FIRST.
3. ALLOW UPRIGHT SPRINKLERS FOR TEMPORARY PROTECTION WHERE THE CEILING IS NOT READY WITHIN PHASE 4A AND PROVIDE PROPER COVERAGE ALONG THE CORRIDOR.
4. REMOVE TEMPORARY SPRINKLERS AND PPE THAT WILL NOT BE REQUIRED IN PHASE 4B CAPPED UNUSED SPRINKLERS.
5. PROVIDE UNIT COST OF EXTRA SPRINKLER INCLUDING PIPING FOR TEMPORARY PROTECTION FOR PHASING.

LEGEND

- NEW SPRINKLER FOR DELUGE SYSTEM
- NEW SPRINKLER
- NEW SPRINKLER INSIDE STUDENT POD (REFER FIRE PROTECTION NOTE 1.1)
- EXISTING SPRINKLER TO REMAIN
- NEW SPRINKLER PIPE
- EXISTING SPRINKLER PIPE TO REMAIN

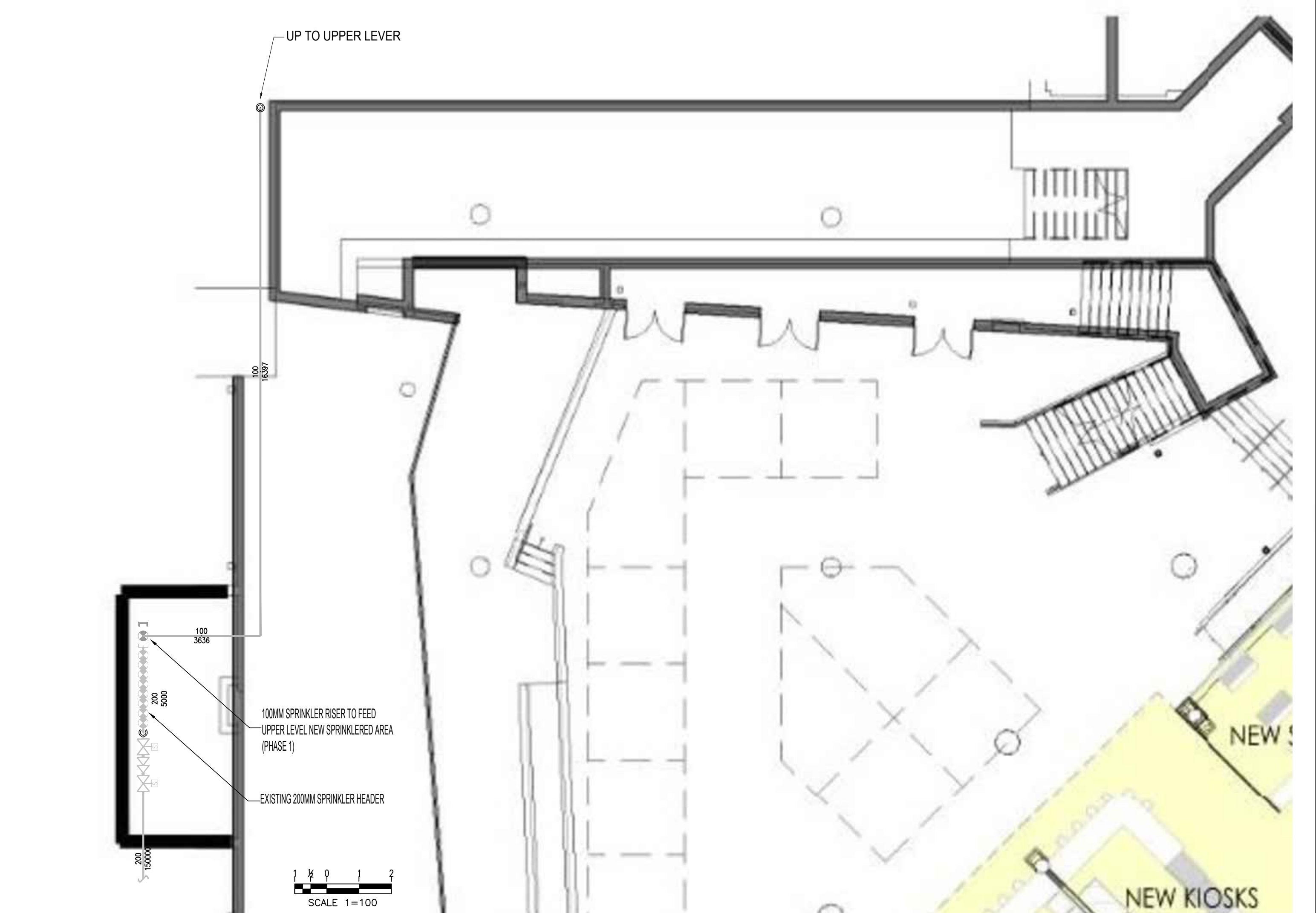


UNIT PRICES

- PROVIDE UNIT PRICES FOR:
1. ADDITION OF ONE (1) SPRINKLER HEAD
 2. ADDITION OF ONE (1) SPRINKLER HEAD

ALLOWANCES

- MECHANICAL CONTRACTOR SHALL MAKE THE FOLLOWING ALLOWANCES FOR WORK NOT SHOWN ON THE MECHANICAL DRAWINGS:
1. PROVIDE THE (1) ADDITIONAL SPRINKLER HEADS COMPLETE WITH ALL BRANCH PIPING.
- MAJOR: WRITTEN APPROVAL FROM CONSULTANT PRIOR TO COMPLETING WORK OUTLINED UNDER ALLOWANCES.



PROJECT NORTH

IMPORTANT

OWNERS TO SUPPLY SUFFICIENT HEAT (MIN. 4.0°C) THROUGHOUT HEATING SEASON. ALL SYSTEMS ARE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.

NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.

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SYMBOL

Symbol	Description
○	Hydraulic Reference Points
○	Elev. Below Top of Steel
○	Elev. Above Finished Floor
○	Elev. of Top of Steel
○	Ceiling Height
○	Demolish Hanger Location
○	Rise up or down

Sprinkler Head Schedule

Symbol	Count	Throat	K-Factor	Description	Note
○	16	15mm	80	OPEN PENDENT SPRINKLER WITH CHROME FRAME	ON DRIFT
○	20	15mm	80	CLASS B ULTRASHORT SPRINKLER	ON DRIFT
○	111	15mm	80	CLASS B ULTRASHORT SPRINKLER	ON DRIFT
150 = Total Number of Heads This Floor					

SPRINKLER LAYOUT

Project No.	Revisions	Date
20-010	1	2022-03-01
	2	2022-04-28
	3	2022-05-13
	4	2022-05-27

Scale: AS-SHOWN

Date: FEB-2022

Job: HUMBER COLLEGE - RETAIL / FOOD SERVICE STUDY
 205 HUMBER COLLEGE BLVD
 TORONTO, ON.

**ISSUED FOR COORDINATION
 NOT FOR CONSTRUCTION**

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