

MontgomerySisam

University of Toronto
Dentistry Building — Clinic 2 Renovation
124 Edward Street Toronto, ON, M5G 1G6

Fire Protection System
Sprinkler System Replacement

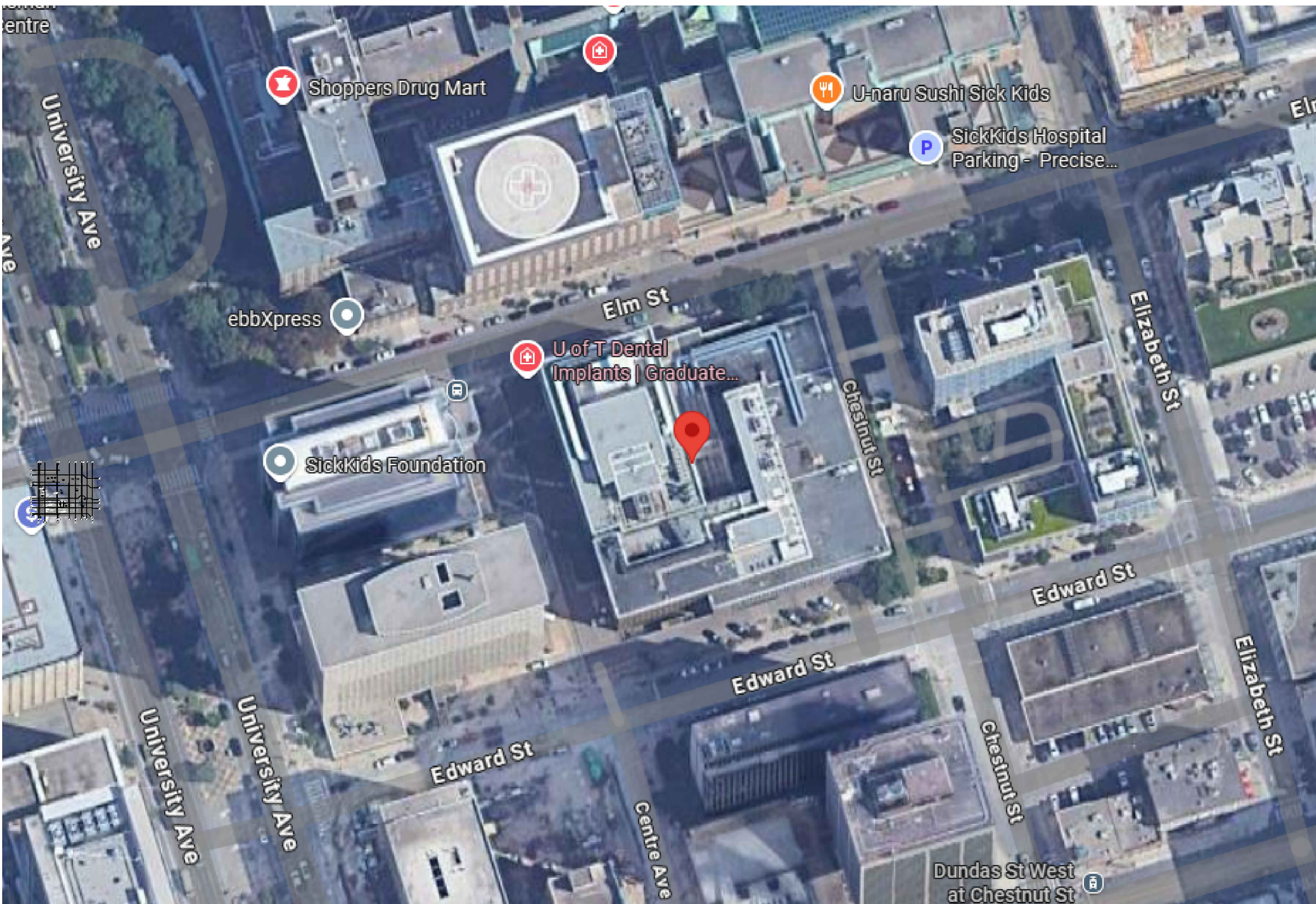
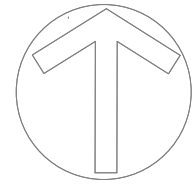
Project No. : 31817

Toronto, Ontario

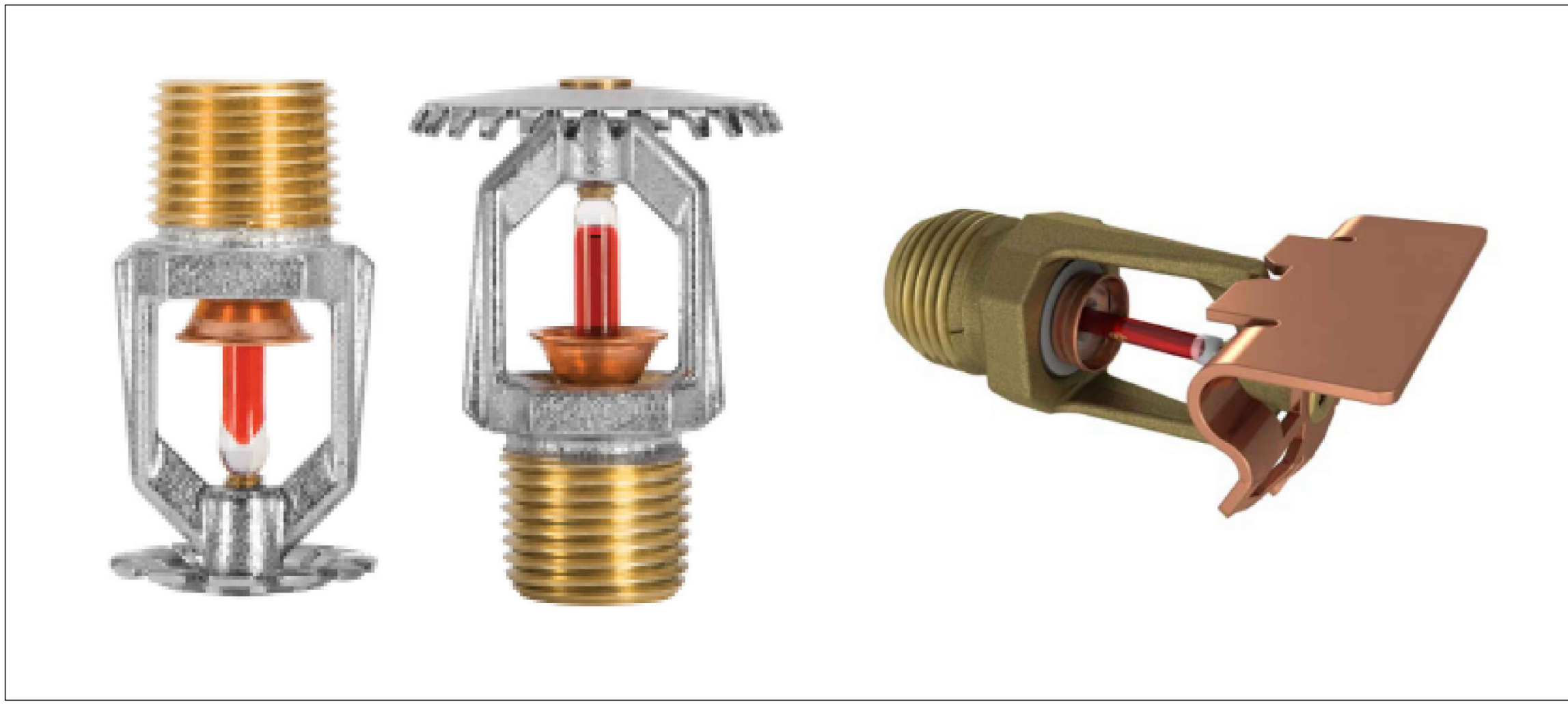
**PROTECTION INCENDIE
& CODE DU BÂTIMENT
INGÉNIEURS • DEPUIS 1986**



**FIRE PROTECTION
& BUILDING CODE
ENGINEERS • SINCE 1986**



SITE PLAN – UNIVERSITY OF TORONTO FACULTY OF DENTISTRY



SPRINKLER TYPES – PENDENT, UPRIGHT, SIDEWALL

CLASIC

FIRE +
LIFE
SAFETY

FLOW TEST
REPORT

Form SD-003B RevDate: Nov 29, 2021

PROJECT INFORMATION		
Project Name:	U of T Dentistry Flow Test #2	Const. Project #:
Site Address:	Chestnut/Elm St Toronto O	Design Project #:
City Contact:	Toronto Utilities	Phone #:
CFLS Contact:	Kevin Kavanagh	Phone #:
Technical Contact:	Andy Coghlin	Phone #:

SITE INFORMATION		
SITE MAP		
Note: If the main is a dead end, the flowing hydrant shall be closest to the dead end		
ITEMS TO LABEL ON MAP	HYDRANTS USED	MAIN SIZE
<input checked="" type="checkbox"/> Static / Residual & Flow Hydrants	<input checked="" type="checkbox"/> City Hydrant(s)	City: 300 mm PVC
<input type="checkbox"/> Flow Direction (if the main is dead end)	<input type="checkbox"/> Site Hydrant(s)	Site:
SITE NOTES		
Please note the originally proposed residual hydrant located on Chestnut Ave was not in service. We used the same residual hydrant from the first flow test.		

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TEST INFORMATION		
Minimum Required Flow:	N/A	Min Ports:
CFLS Personnel Present:	Kevin K, and Marco T.	Test Date:
City / External Company:	Toronto Utilities	Test Time:

TEST EQUIPMENT					
<input type="checkbox"/> Hose Monsters with built in Pilot	Hose length used:				
<input type="checkbox"/> Hand held pilot gauge	<input checked="" type="checkbox"/> Pollard diffuser elbow with built in Pilot				
<input type="checkbox"/> Other:					
TEST RESULTS					
Number of Ports	Outlet Size (IN)	Discharge Coefficient	Pilot Reading (PSI)	Total Flow (GPM)	Static / Residual Pressure (PSI)
0 Ports					62
1 Port	2.5	0.8	42	967	61
2 Ports	2.5	0.8	35	1,765	58
3 Ports	2.5	0.8		0	
4 Ports	2.5	0.8		0	
0 Ports	STATIC RE-CHECK				62
TEST NOTES					
The estimated flow at 20 PSI is 6282 GPM.					

HYDRAULIC ADJUSTMENTS (FOR OFFICE USE ONLY)			
ADJUSTMENTS FOR HYDRAULIC GRADE LINE (HGL)			
Reservoir HGL (m):		Site Elevation (m):	
Theoretical Static Head (PSI):	0	PSI to subtract from test pressures:	62
OTHER HYDRAULIC ADJUSTMENTS			
Other adjustment as required by the City / A/HJ:			

GENERAL SPECIFICATION

- GENERAL
 - THIS ASSOCIATED SPECIFICATION DESCRIBES SOME EQUIPMENT AND MATERIALS TO BE INCLUDED IN THE WORK. ONLY FIRST-CLASS WORKMANSHIP, MATERIALS AND PRACTICES WILL BE ACCEPTED.
 - COMPLETE THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CANADIAN BUILDING CODE, CANADIAN FIRE CODE, U.L.C. / N.E.F.A. STANDARDS, AS REQUIRED, WHILE NOT IDENTIFIED AND SPECIFIED BY NUMBER IN THIS DIVISION, THEY ARE TO BE CONSIDERED AS FORMING PART OF RELATED SPECIFICATIONS.
 - THE FIRE PROTECTION SYSTEMS SHALL BE SUPPLIED, INSTALLED, COMMISSIONED, TESTED AND TESTED IN ACCORDANCE WITH BUT NOT LIMITED TO THE ARRANGEMENT SHOWN ON THE PROJECT DESIGN DRAWINGS AND TECHNICAL SPECIFICATION. ALL REQUIRED SYSTEMS SHALL BE INSTALLED AS PER THE MANUFACTURER INSTALLATION GUIDE.
- EXISTING CONDITIONS
 - VISIT THE SITE AND EXAMINE THE EXISTING CONDITIONS AFFECTING THE WORK. NO CLAIM FOR EXTRA PAYMENT SHALL BE MADE FOR EXTRA WORK MADE NECESSARY BY UNEXPECTED CIRCUMSTANCES UNDISCOVERED DUE TO CONDITIONS WHICH WERE VISIBLE UPON, OR REASONABLY INFERRABLE FROM AN EXAMINATION OF THE SITE PRIOR TO SUBMISSION OF THE BID.
- DEFINITIONS
 - WHEREVER THE WORDS "PROVIDE" OR "SUPPLY AND INSTALL" ARE USED, IT SHALL BE UNDERSTOOD TO MEAN PROVIDE AND INSTALL, INCLUDING OF ALL LABOUR, MATERIALS, INSTALLATION, TESTING AND COMPLETION FOR THE JOB TO WHICH IT REFERS.
 - WHEREVER THE WORDS "EQUAL," "APPROVED," OR "APPROVED EQUAL" ARE USED, IT SHALL BE UNDERSTOOD TO MEAN "EQUAL," "APPROVED," OR "APPROVED EQUAL" IN THE OPINION OF THE CONSULTANT ONLY.
 - WHEREVER THE WORD "EQUENT," IS USED, IT SHALL BE UNDERSTOOD TO MEAN EQUIVALENT.
 - WHEREVER THE WORD "TOWERS," IS USED, IT SHALL BE UNDERSTOOD TO UNIVERSITY OF TORONTO.
 - WHEREVER THE WORDS "CONSULTANT" OR "ENGINEER" ARE USED, IT SHALL BE UNDERSTOOD TO MEAN AN ENGINEER.
- PERMITS AND FEES
 - THE CONTRACTOR SHALL ACT AS OWNER'S AGENT AND SHALL IMMEDIATELY UPON AWARD OF CONTRACT, SUBMIT TO THE CITY OF TORONTO, IF REQUIRED, THE NECESSARY NUMBER OF DOCUMENTS FOR EXAMINATION, SPECIAL INSPECTION AND APPROVAL, PRIOR TO THE COMMENCEMENT OF THE WORK, AND PAY ALL COSTS AND ASSOCIATED FEES. IF REQUIRED, PREPARE AN ADDITIONAL DRAWING(S) DOCUMENTS MAY BE REQUIRED BY THE AUTHORITY.
 - THE CONSULTANT (AN ENGINEER) WILL PROVIDE UPON REQUEST, AT THE CONTRACTOR'S COST, THE REQUIRED QUANTITY OF DRAWINGS.
 - PROVIDE CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT, UPON COMPLETION OF WORK.
- INSURANCE
 - PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE CLIENT FROM ALL POSSIBLE CLAIMS. SUBMIT WITH BID FOR AN AMOUNT ACCEPTABLE TO THE CLIENT.
- CONTRACT DOCUMENT
 - THE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL, INTERIOR DESIGN, MECHANICAL, STRUCTURAL, OR BASE BUILDING DETAILS. CONTRACTOR IS RESPONSIBLE FOR A THOROUGH VERIFICATION ON SITE BEFORE PROCEEDING WITH THE WORK.
 - ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS, MUST BE REFERRED TO THE CONSULTANT BEFORE ANY WORK AFFECTED IS BEGUN.
 - COORDINATE AND COORDINATE WITH OTHER CONTRACTORS (IF EXIST) IN LAYING OUT OF WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER CONTRACTORS, CARRY OUT WORK PROMPTLY AS PER CONSTRUCTION SCHEDULE.
 - MAKE, AT NO ADDITIONAL COST, ANY CHANGES OR ADDITIONS TO MATERIALS AND EQUIPMENT NECESSARY TO ACCOMMODATE STRUCTURAL AND EXISTING CEILING CONDITIONS (OFFSETS AROUND BEAMS, COLUMN, DUCTWORK, LIGHT FIXTURES, DIFFUSERS ETC.)
- INTENT
 - IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THE CONTRACTOR PROVIDES COMPLETE AND OPERATIONAL SYSTEMS AS REQUIRED, WHERE DIFFERENCES OCCUR, THE MAXIMUM CONDITIONS SHALL APPLY.
 - ANY MISCELLANEOUS ITEMS, HARDWARE, DEVICES, WIRING, PIPING, ETC., NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR THE OPERATION OF THE SYSTEM, MUST BE PROVIDED AND INCLUDED AS PART OF THE BID.
- SHOP DRAWINGS
 - PRIOR TO COMMENCEMENT OF INSTALLATION AT SITE, TWO (2) PAPER SET AND ONE ELECTRONIC SET (PDF) OF THE SHOP DRAWINGS AND HYDRAULIC CALCULATION WITH HSE MAP TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW AND RECORD.
 - CHANGES MADE TO THE SHOP DRAWINGS BY THE CONSULTANT SHALL NOT AFFECT THE CONTRACT PRICE.
- RECORD DRAWINGS
 - KEEP A RECORD SET OF DRAWINGS ON SITE ON WHICH IT WILL BE CLEARLY INDICATED ALL CHANGES WHICH ARE REQUIRED BY ADDENDUMS, SITE INSTRUCTIONS, CHANGE NOTICES AND SITE CONDITIONS AND MAKE IT AVAILABLE TO CONSULTANT FOR REVIEW.
 - ALL REQUIRED FIRE ALARM SYSTEM UPGRADE WORK SHALL CLEARLY INDICATE THE EXACT LOCATION OF THE OUTLETS, CONDUITS, JUNCTION BOXES, PULL BOXES, ETC.
 - INFORMATION ON THESE DRAWINGS SHALL BE INCORPORATED IN THE AS-BUILT DRAWINGS UPON COMPLETION OF THE PROJECT.
- CUTTING & PATCHING (IF REQUIRED)
 - ALL CUTTING AND PATCHING REQUIRED TO THE EXISTING BUILDING STRUCTURE, (WALLS, FLOORS, ETC) FOR THE WORK SHALL BE INCLUDED UNDER THIS CONTRACT AND BE ACCEPTABLE TO THE OWNER. OBTAIN WRITTEN APPROVAL FROM OWNER BEFORE ANY CUTTING IS CARRIED OUT.
 - WHERE SPRINKLER PIPES AND ELECTRICAL CONDUITS PASS THROUGH FIRE RATED WALLS OR FLOORS, PROVIDE FIRE STOPPING MATERIAL, LISTED WITH AND BEAR LABEL OF CLASS AND ULC, AND MAINTAIN SAME FIRE RATING OF BUILDING COMPONENT PENETRATION.
- LOCATION OF EQUIPMENT, DEVICES
 - REFER TO CONSULTANT'S DRAWINGS FOR THE LOCATIONS OF EQUIPMENT, DEVICES AND FIXTURES.
 - CHANGE LOCATION OF DEVICES AT NO COST OR CREDIT, PROVIDING DISTANCE DOES NOT EXCEED 3M (10'-0") AND INFORMATION IS GIVEN PRIOR TO INSTALLATION.
 - ALL DEVICES TO BE MARKED ON JOB SITE FOR APPROVAL BY CONSULTANT PRIOR TO INSTALLATION.
- CORE DRILLING (IF REQUIRED)
 - BEFORE CORE DRILLING FLOOR SLAB OR STRUCTURAL WALLS, X-RAY SLAB OR WALLS AND HAVE THE LOCATIONS ACCEPTED BY THE OWNER IN WRITING.
 - ANY EXISTING BUILDING SERVICE DAMAGED BY CORE DRILLING MUST BE REPAIRED IMMEDIATELY, AT NO COST TO THE OWNER, CLIENT OR TENANT.
 - FLOOR DRILLING TO BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT THE TIME ACCEPTABLE TO THE LANDLORD AND ALLOWANCES FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICE SUBMITTED.
- VALUATION OF CHANGES
 - PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTING QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT.
 - THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RETAILS, ADDITIONAL BONDING, PAVING, CLEAN UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVER, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.
- COMPLETION OF CONTRACT (WARRANTY)
 - ALL EQUIPMENT MUST BE CLEANED AND TESTED BEFORE FINAL ACCEPTANCE BY CONSULTANT.
 - FROM THE DATE OF ISSUANCE OF A "CERTIFICATE OF SUBSTANTIAL PERFORMANCE", PROVIDE A WRITTEN GUARANTEE FOR ONE YEAR COVERING ALL EQUIPMENT, MATERIALS AND WORKMANSHIP, PERTAINING TO OPERATIONS AND MAINTENANCE MANUAL.
 - DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR REPLACED AT NO COST.
- AS-BUILT DRAWINGS
 - AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE AS-BUILT DRAWINGS OF THE INSTALLATION IN AUTOCAD FORMAT. AN ELECTRONIC COPY (AUTOCAD FORMAT) OF ALL TENDER DRAWINGS WILL BE PROVIDED TO THE CONTRACTOR BY THE CONSULTANT AT NO COST. THE DRAWINGS WILL REFLECT THE TENDER AND/OR CONSTRUCTION SET OF DRAWINGS.
 - INCORPORATE ALL CHANGES AND DEVIATIONS FROM TENDER DRAWINGS, UTILIZING NORMAL RECOGNIZED DRAFTING PROCEDURES THAT MATCH THE ORIGINAL DRAFTING METHODOLOGY.
 - SUBMIT A PRINT TO CONSULTANT FOR REVIEW. WHEN FULLY ACCEPTABLE BY THE CONSULTANT, SUBMIT THREE (3) SETS OF PRINTS TOGETHER WITH THE CAD-DISK FOR PRESENTATION TO THE OWNER AND CONSULTANT.
- COMPLETION DOCUMENTS
 - PROVIDE TWO (2) SETS OF COMPLETION DOCUMENTS SUBMITTED IN HARD COPY 3-RING BINDERS, INCLUDING THE FOLLOWING INFORMATION IN THE OPERATIONS AND MAINTENANCE MANUALS:
 - NAMES AND ADDRESS OF LOCAL SUPPLIER FOR THE ITEMS INCLUDED.
 - TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETIN, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTION OF SPRINKLERS AND PARTS LISTS, ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE.
 - THE CONSULTANT'S REVIEWED FINAL SHOP DRAWINGS AND HYDRAULIC CALCULATION.
 - CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT.
 - WRITTEN GUARANTEE.
 - REVIEW INFORMATION PROVIDED IN THE COMPLETION DOCUMENTS WITH OWNER'S OPERATING PERSONNEL, WHERE BASE BUILDING SYSTEMS ARE REQUIRED.
- WORKMANSHIP
 - ALL WORK SHALL BE CARRIED OUT AND PERFORMED IN A WORKMAN LIKE MANNER TO THE SATISFACTION OF THE RESIDING CONSULTANT.
 - ANY UNSATISFACTORY WORK SHALL BE REPLACED WITH NO EXTRA COST TO THE OWNER.
 - THE CONSTRUCTION SITE SHALL BE KEPT CLEAN AND ANY DEBRIS AND CONSTRUCTION MATERIAL SHALL BE REMOVED FROM THE SITE DURING THE CONSTRUCTION PERIOD AND ON COMPLETION OF WORK.
- WORK SCHEDULING
 - ALL WORK SHALL BE SCHEDULED AND COORDINATED WITH THE CLIENT AND THE OWNER.
 - CONSTRUCTION WILL PROCEED ON THE BASIS THAT THE BUILDING IS FULLY OCCUPIED AND DISRUPTION TO NORMAL BUILDING OPERATION AND EXISTING FIRE PROTECTION SYSTEMS SHALL BE MINIMIZED.
 - COORDINATE AND OBTAIN APPROVAL FROM CLIENT TO SHUTDOWN OF ANY PART OF THE EXISTING FIRE ALARM AND SPRINKLER/STANDBY SYSTEM. ALL FIRE WATCH REQUIRED FROM THE SHUTDOWN ARE TO BE COORDINATED WITH THE CLIENT, OWNER AND PROVIDED BY THE CONTRACTOR AT NO EXTRA COST.
 - AREA PROTECTION
 - PRIOR TO THE COMMENCEMENT OF THE WORK IN ANY PART OF THE BUILDING, COORDINATE WITH THE CLIENT FOR THE REQUIRED PROTECTION OF THE SHOP, EQUIPMENT, AND FIXTURES IN THE RENOVATION AREA. STORED INVENTORIES ARE REQUIRED TO BE COVERED AND PROTECTED FROM DAMAGE DURING THE CONSTRUCTION AND DEMOLITIONS, IF NOT TEMPORARILY RELOCATED.

LEGEND

- PENDENT SPRINKLER
- SIDEWALL SPRINKLER
- UPRIGHT SPRINKLER
- MAIN PIPE
- BRANCH LINE PIPE
- RISER NIPPLE
- HEIGHT FROM THE CEILING
- HEIGHT FROM THE FLOOR

FIRE PROTECTION SYSTEMS GENERAL NOTES

- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- WHERE ANY CONFLICT AND/OR DISCREPANCY BETWEEN THESE GENERAL NOTES AND ANY OTHER INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS EXISTS, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL, AND BE A REQUIREMENT OF THE WORK. THAT NOTWITHSTANDING, ANY SUCH CONFLICT AND/OR DISCREPANCY SHALL PROMPTLY BE BROUGHT TO THE ATTENTION OF THE OWNER (UNIVERSITY OF TORONTO), AND ENGINEER OF RECORD (LRI ENGINEERING).
- THE TERM "PROVIDE" SHALL MEAN FURNISH, INSTALL AND CONNECT EQUIPMENT/DEVICE FOR A COMPLETE AND OPERATIONAL SYSTEM.
- THE CONTRACT DOCUMENTS ARE DIAGRAMATIC AND INTENDED TO SHOW DESIGN INTENT ONLY. RUN ALL PIPING STRAIGHT AND TIGHT TO THE FACE OF STRUCTURAL MEMBERS AND WALLS, PARALLEL AND AT RIGHT ANGLES TO STRUCTURAL STEEL OR CONCRETE ELEMENTS.
- ALL WORK SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL BUILDING CODE (2024 EDITION), NATIONAL BUILDING CODE ONTARIO EDITION (2019 EDITION), AND THE NFPA 13 (2019 EDITION).
- ALL PIPES, CONNECTIONS, FITTINGS, VALVES, HANGERS, SUPPORTS, ETC USED FOR THE SPRINKLER SYSTEM SHALL BE UL-C/UL-FM LISTED FOR FIRE PROTECTION SYSTEM.
- VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE PRIOR TO PROCEEDING WITH THE WORK.
- COORDINATE ALL WORK AND AVOID ALL CONFLICTS WITH LIGHTING FIXTURES, DIFFUSERS, GRILLS, DUCTS, STRUCTURAL MEMBERS, PIPES AND OTHER OBSTRUCTIONS.
- NO STRUCTURAL MEMBERS SHALL BE CUT, DRILLED OR DAMAGED UNLESS PREVIOUSLY APPROVED BY OWNER AND ENGINEER OF RECORD. FURTHER, ANY APPROVED CUTTING OR PATCHING OF ANY STRUCTURAL WORK SHALL NOT RESULT IN A REDUCTION OF LOAD-CARRYING AND/OR LOAD-DEFLECTION RATIO. PRIOR TO SUCH WORK, OBTAIN APPROVAL FROM THE OWNER AND ENGINEER OF RECORD.
- PROVIDE PIPE SLEEVES FOR WALL AND CEILING PENETRATIONS. ALL PENETRATIONS IN WALLS AND CEILINGS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH APPROVED FIRE STOPPING MATERIAL OF EQUAL OR GREATER FIRE RESISTANCE.
- ALL DAMAGE TO WALLS, CEILINGS, FLOORS, AND STRUCTURAL MEMBERS FROM THE WORK SHALL BE PATCHED, REPAIRED AND PAINTED WITH NEW MATERIALS TO MATCH ADJACENT WORK, WHETHER SPECIFICALLY NOTED OR NOT.
- WHERE POSSIBLE, SPRINKLERS SHALL BE ALIGNED WITH OTHER SPRINKLERS INSTALLED IN THE SAME ROOM OR AREA.
- COORDINATE AND SEQUENCE THE WORK PRIOR TO FABRICATION AND INSTALLATION OF EQUIPMENT. MAKE NECESSARY ACCOMMODATIONS TO MEET THE INTENT OF THE DRAWINGS AND ENSURE A COORDINATED INSTALLATION.
- CONTRACTOR SHALL PERFORM INSTALLATION IN A NEAT AND PROFESSIONAL MANNER IN ACCORDANCE WITH INDUSTRY STANDARD MATERIALS, TOOLS AND METHODS.
- CONTRACTOR SHALL RUN ALL EXPOSED ELEMENTS NEATLY, TIGHT TO THE STRUCTURE (EXCEPT WHERE NOTED), PARALLEL TO WALLS, AND AS INCONSPICUOUSLY AS POSSIBLE.
- QUESTIONS REGARDING DESIGN INTENT OR SYSTEM OPERATION SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF ENGINEER OF RECORD.
- CONTRACTOR SHALL PROVIDE LOW POINT DRAINS WHERE REQUIRED PER NFPA 13. WHERE DRAINS ARE INSTALLED BEHIND HANGING CEILINGS, ACCESSIBLE PANEL SHALL BE PROVIDED DIRECTLY BENEATH THE DRAIN.
- CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT TO TEST SPRINKLER SYSTEMS AND PERFORM ALL REQUIRED ACCEPTANCE TESTS AS INDICATED IN THE NFPA 13. A RECORD OF SUCH TEST (S) SHALL BE SUBMITTED TO AIA AND ENGINEER OF RECORD ON THE APPROPRIATE NFPA FORM.
- TESTING OF FIRE SUPPRESSION SYSTEMS SHALL BE WITNESSED BY ENGINEER OF RECORD AND/OR THE CLIENT, BEFORE CEILING CLOSE IN. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD OR THE CLIENT PRIOR TO TESTING.
- CONTRACTOR SHALL PROVIDE LISTED GUARDS FOR THE PROTECTION OF SPRINKLERS WHERE IT HAS MENTIONED ON THE PLAN.
- CONTRACTOR SHALL PAY ALL REQUIRED FEES AND OBTAIN ALL NECESSARY PERMITS AND LICENSES FOR INSTALLATION OF THE WORK.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER, UNIVERSITY OF TORONTO, TO AVOID FREEZING CONDITIONS DURING CONSTRUCTION IF WATER IS FILLED IN THE SPRINKLER SYSTEM.
- CONTRACTOR SHALL PROVIDE PRINTED METAL OR ENGRAVED PLASTIC NAMEPLATE TO IDENTIFY FUNCTION OF ALL DRAIN VALVES, AND OTHER FIRE PROTECTION SYSTEM EQUIPMENT. PERMANENTLY AFFIX TO VALVE BODY OR HANG WITH CHAIN. CONCEALED COMPONENTS SHALL ADDITIONALLY HAVE PRINTED METAL OR ENGRAVED PLASTIC NAMEPLATE TO IDENTIFY THE COMPONENT LOCATION AND FUNCTION PERMANENTLY AFFIXED TO ACCESS PANEL DOORS OR THE CEILING GRID WHERE THE COMPONENT IS ACCESSED.
- ALL REQUIRED PIPE SUPPORTS, HANGERS AND SEISMIC LOADS SHALL BE DESIGNED AND SIGNED BY THE CONTRACTOR'S STRUCTURAL ENGINEER TO COMPLY WITH REQUIREMENT OF NBC, NBCAE AND NFPA 13 EDITION 2019.
- CONTRACTOR SHALL PROVIDE PRINTED METAL OR ENGRAVED PLASTIC NAMEPLATE ON THE RISER TO ILLUSTRATE THE HYDRAULIC CALCULATION FOR CLINIC 2.
- CONTRACTOR SHALL COORDINATE FIRE WATCH DURING SYSTEM SHUTDOWN AND ALL SYSTEM SHUTDOWNS WITH THE OWNER (UNIVERSITY OF TORONTO). (IF REQUIRED)
- CONTRACTOR SHALL COORDINATE EQUIPMENT STAGING AND STORAGE AREA WITH THE OWNER (UNIVERSITY OF TORONTO).
- CONTRACTOR MUST STOCK OF SPARE SPRINKLERS FOR EACH TYPE OF SPRINKLER INSTALLED.
- WHERE THERE ARE FEWER THAN SIX SPRINKLER OF PARTICULAR TYPE ARE INSTALLED, 100 PERCENT SPARES SHALL BE KEPT IN STOCK.
- WHERE THERE ARE FEWER THAN 300 SPRINKLER OF PARTICULAR TYPE ARE INSTALLED, NO LESS THAN SIX SPARE SPRINKLERS SHALL BE KEPT IN STOCK.
- THE CONTRACTOR SHALL PROVIDE NEW CEILING TILES/SYSTEMS AND REPAIR/PATCH EXISTING CEILING SYSTEM IF IT IS REQUIRED AS PART FOR THE SCOPE OF WORK.
- THE CONTRACTOR SHALL REUSE THE EXISTING PIPING FOR MODIFIED LAYOUT OF SPRINKLER SYSTEM AS MUCH AS POSSIBLE.
- CONTRACTOR SHALL PROVIDE PIPE HANGERS AND SUPPORTS BASED ON THE SITE CONDITION, THE PIPE SUPPORTS, HANGERS AND REQUIRED SEISMIC CONTROL SYSTEMS SHALL BE DESIGNED, SIGNED AND STAMPED BY THE CONTRACTOR STRUCTURAL ENGINEER COMPLY WITH NFPA 13 EDITION (2019) AND SUBMIT TO THE FIRE PROTECTION CONSULTANT ENGINEER FOR REVIEW.
- CONTRACTOR SHALL ADHERE TO THE MECHANICAL DRAWINGS FOR THE SPECIFIED LOCATION AND QUANTITY OF CONTROL VALVES, ZONING REQUIREMENTS, AND THE DESIGNATED PLACEMENT OF THE NEW FIRE HOSE CABINET.

- PIPE AND FITTINGS
 - PIPES FOR SPRINKLER SYSTEM LARGER THAN 32mm (1 1/4") TO BE SCHEDULE 40 TO ASTM A795 BLACK STEEL PIPES, WITH ROLL GROOVED CONNECTIONS. IN ACCORDANCE WITH CHAPTER 6 OF NFPA 13. PIPES SIZE 32mm (1 1/4") AND SMALLER SHALL BE SCHEDULE 40 TO ASTM A795 BLACK STEEL PIPES WITH THREADED CONNECTIONS. THREADED CONNECTIONS SHALL BE MALLEABLE IRON CLASS 300 AS ASME B16.3.
 - FITTINGS SHALL BE: THREADED FITTINGS MALLEABLE IRON CLASS 300 FOR PIPING 32mm (1 1/4") AND SMALLER IN SIZE; ROLL GROOVED CONNECTIONS FOR PIPES 40mm (1 1/2") AND LARGER.
- ALL PIPING & FITTINGS FOR FIRE PROTECTION SYSTEM USE SHALL BE UL-C/UL-FM LISTED COMPLYING WITH NFPA 13.
- BRANCH LINES SHALL BE PITCHED AT LEAST 1/2 IN. PER 10 FT (4 MM/M), AND MAINS SHALL BE PITCHED AT LEAST 1/4 IN. PER 10 FT (2 MM/M).

- SPRINKLERS
 - UPRIGHT SPRINKLER: UL-C LISTED, STANDARD COVERAGE, ORDINARY TEMPERATURE RATING (57 -77°C), K-F 5.6, LISTED FOR, CONFORMING TO NFPA 13-2019. MANUFACTURER: RELIABLE, TYCO OR VIKING.
 - PENDENT SPRINKLER: UL-C LISTED, STANDARD COVERAGE, ORDINARY TEMPERATURE RATING (57 -77°C), K-F 5.6, LISTED FOR, CONFORMING TO NFPA 13-2019. MANUFACTURER: RELIABLE, TYCO OR VIKING.
 - SIDEWALL SPRINKLER: UL-C LISTED, STANDARD COVERAGE, ORDINARY TEMPERATURE RATING (57 -77°C), K-F 5.6, LISTED FOR, CONFORMING TO NFPA 13-2019. MANUFACTURER: RELIABLE, TYCO OR VIKING.
- CONTRACTOR MUST PROVIDE PROTECTION GUARD FOR SPRINKLER IN THE AREA WHERE THE PIPING ARE EXPOSED (SUCH AS PATIENT LOBBY) AND MECHANICAL ROOM.

- VALVES: CONTROL VALVE
 - SUPPLY AND INSTALL UL-C LISTED AND FM APPROVED CONTROL VALVES FOR FIRE PROTECTION SERVICE (WHERE IT MENTION ON THE MECHANICAL PLAN).
 - THE ACCESS PANEL MUST BE PROVIDED IF NEEDED.
 - THE INDICATION SIGN MUST BE INSTALLED BELOW THE CEILING TO INDICATE THE LOCATION OF THE BUTTERFLY VALVE.
 - FOR THE LOCATION OF THE CONTROL VALVE AND FIRE ZONING LOOK AT MECHANICAL PLAN.
- FIRE HOSE CABINET
 - THERE IS ONE FIRE HOSE CABINET IN CLINIC 2.
 - CONTRACTOR SHALL ADHERE TO THE MECHANICAL DRAWINGS FOR THE SPECIFIED LOCATION AND QUANTITY OF THE NEW FIRE HOSE CABINET.

SPRINKLER HAZARD CLASSIFICATION AND SYSTEM DESIGN CRITERIA

- SPRINKLER SYSTEM DESIGN CRITERIA:
 - PEDIATRICS CLINIC 102
 - LIGHT HAZARD OCCUPANCY = 0.1 GPM/SF OVER 1,500 SF AREA (100 GPM OUTSIDE HOSE ALLOWANCE).
 - MAXIMUM 225 SF SPRINKLER COVERAGE AREA, UPRIGHT SPRINKLER K5.6

Drawing No	Description
FP - 01	SITE PLAN, FIRE PROTECTION SYSTEM DESIGN CRITERIA, SCHEDULES & GENERAL NOTES, DRAWING LIST & LEGENDS
FP - 02	NEW SPRINKLER LAYOUT; BASEMENT, PATIENT LOBBY, AND LEVEL 1
FP - 03	NEW SPRINKLER LAYOUT LEVEL 2
FP - 04	NEW SPRINKLER LAYOUT LEVEL 3

THIS DRAWING HAS BEEN PRODUCED FOR THE LISTED CLIENT FOR THE PREPARATION OF THE DESCRIBED PROJECT ONLY, AND IS NOT INTENDED FOR USE BY ANY OTHER PERSONS OR FOR ANY OTHER PURPOSE. OUR ENGINEERING INC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SUPPLIER TO REVIEW THESE DRAWINGS IN CONJUNCTION WITH THE SPECIFICATIONS. THESE DRAWINGS ARE CONSIDERED A PART OF THE DESIGN PACKAGE AND SUBJECT TO ALL APPLICABLE CONDITIONS STATED IN THE SPECIFICATIONS. ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS MUST BE REFERRED TO THE ENGINEER OF RECORD BEFORE ANY WORK AFFECTED HAS BEGUN.

Key Plan

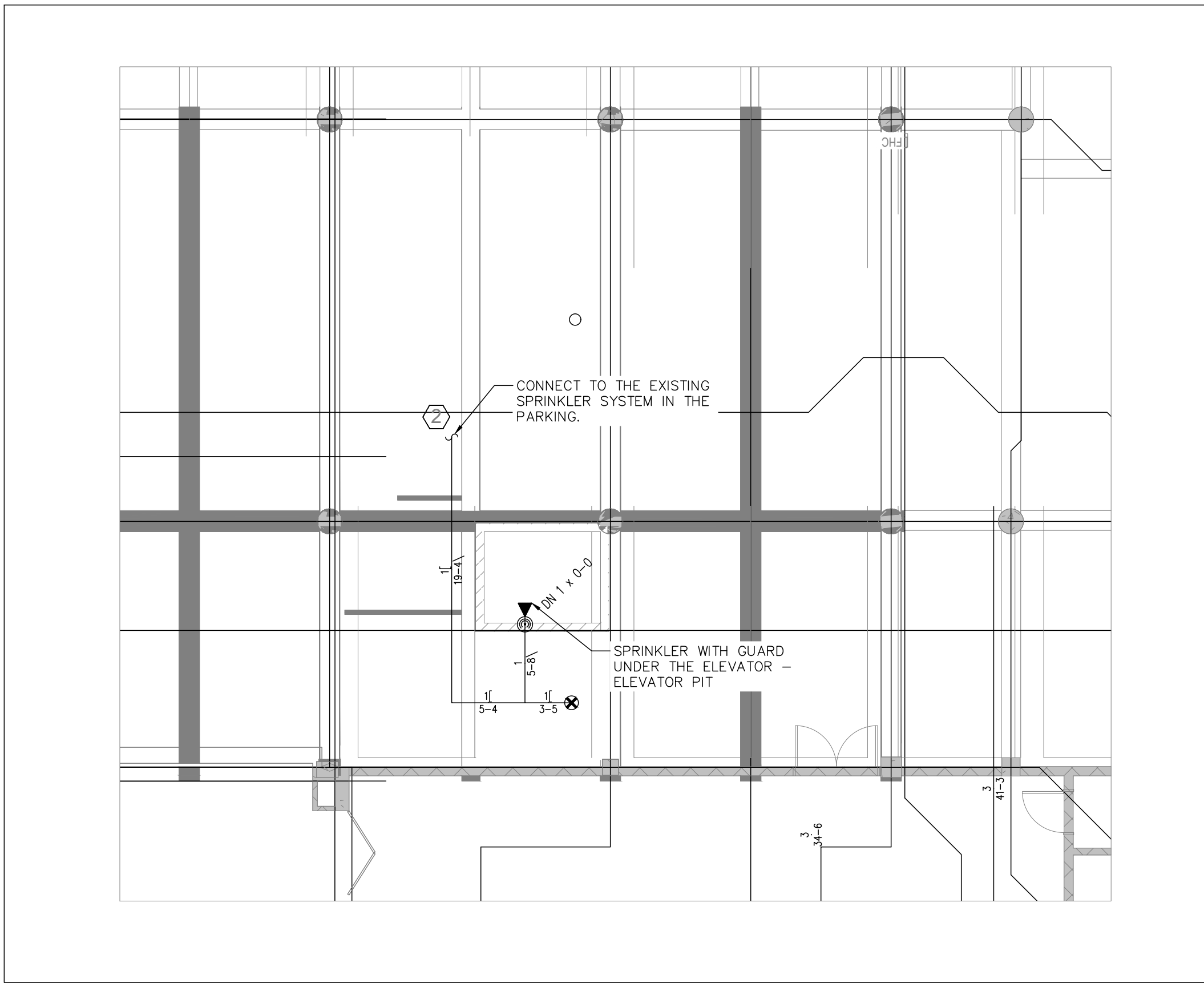
PASCAL PAINCHAUD P.ENG.
STAMP APPLICABLE FOR REVISION 4
AND FAEZEH AHMADI P.ENG. STAMP
APPLICABLE FOR REVISION 3
ON ALL SHEETS.

5				
4	29-04 (2026)	TENDER PLAN	R.G	P.P.
3	01-04 (2026)	TENDER PLAN	F.A	P.P.
2	29-09 (2025)	80% REVIEW PACKAGE	F.A	P.P.
1	22-08 (2025)	50% REVIEW PACKAGE	F.A	
No.	Date	Description	Drawn by Dessiné par	Checked By Vérifié par

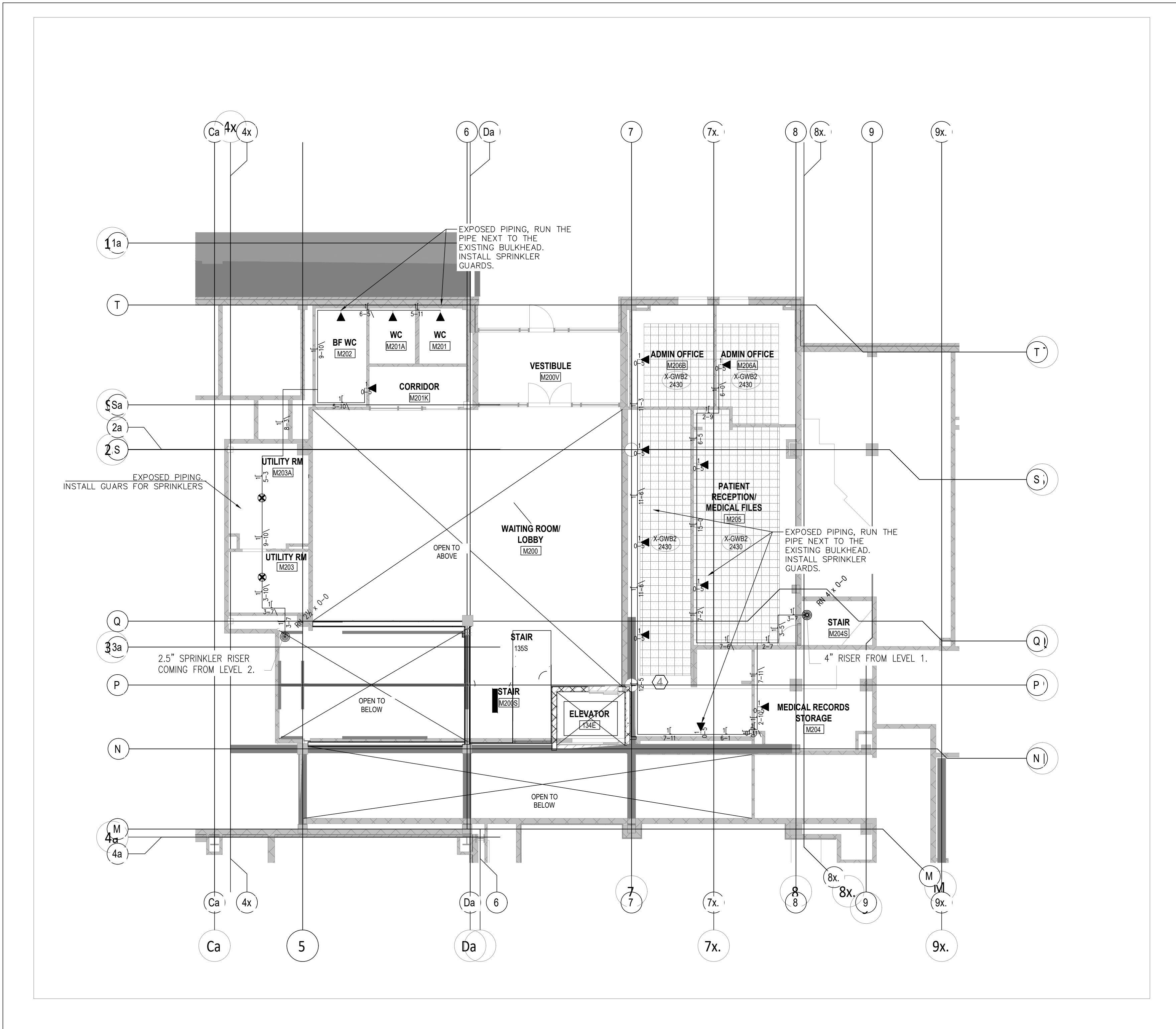
<div><div>A</div><div>B</div></div>	Detail number Sheet number	A Numero de detail B Numero de la feuille
	Linear dimension in millimeters	Dimensions linéaires en millimètres
Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur	
<div><div>LRI</div><div>LRI ENGINEERING INC.</div><div>38187 University Ave. Toronto, Ontario M5T 2C8</div></div>		

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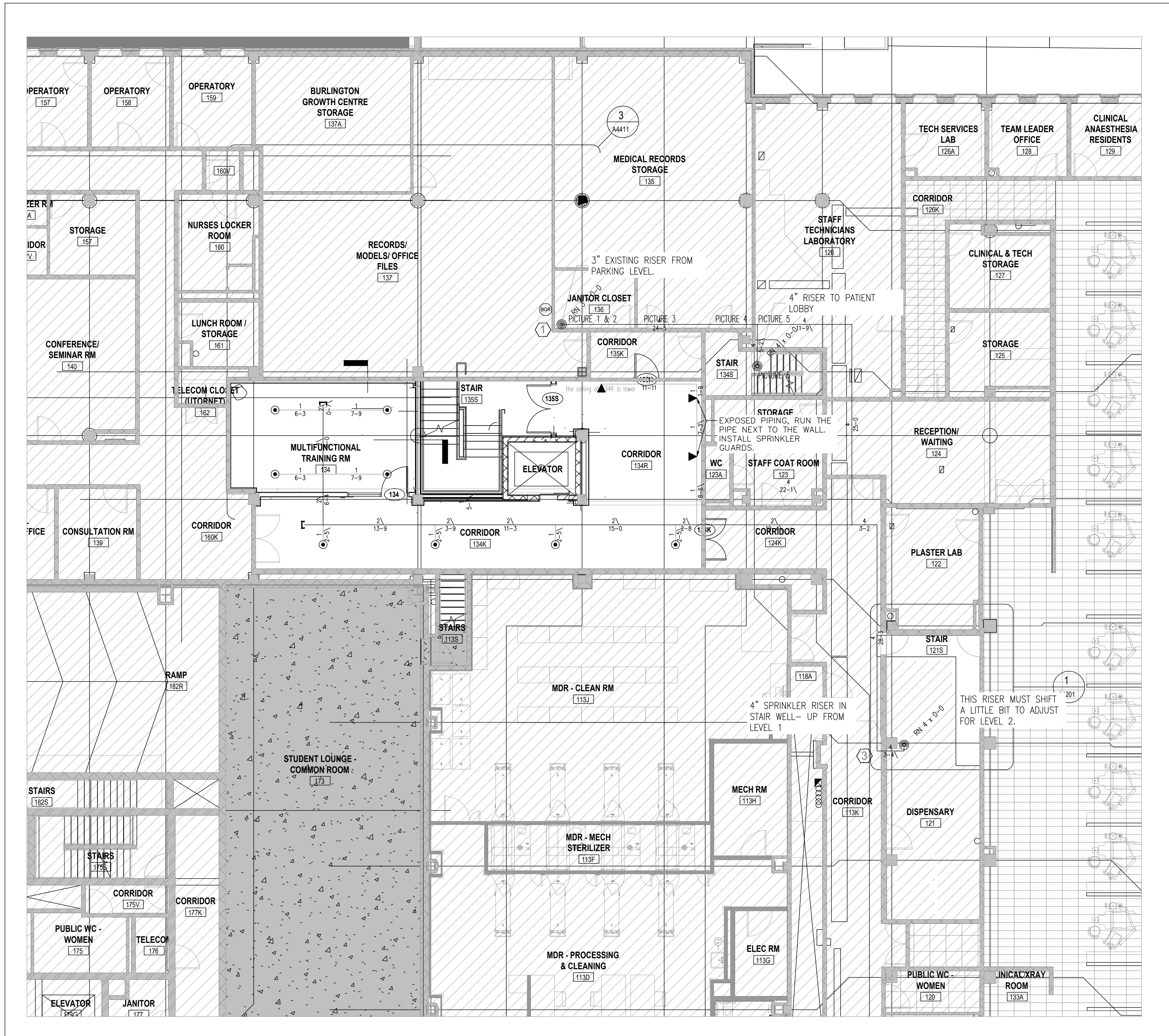
Client/Client	MONIGOMERY SISAM ARCHITECTS INC. 197 SPADINA AVENUE SUITE 301 TORONTO ON M5T 2C8		
Project title/Titre du projet	31817 UNIVERSITY OF TORONTO FACULTY OF DENTISTRY CLINIC 2 RENOVATION SPRINKLER SYSTEM		
Drawing title/Titre du dessin	Site Plan , Legend, Notes		
surveyed by/inspecté par P.PAINCHAUD	Drawn by/Dessiné par F.AHMADI	Date 2026-04-01	
Designed by/Concept par F.AHMADI	Reviewed by/Revisé par P.PAINCHAUD	Scale/Echelle AS SHOWN	
Project Number/numero de Projet 31817	Approved by/Approuvé par F.AHMADI		
Sheet No./N°de la feuille			FP-01



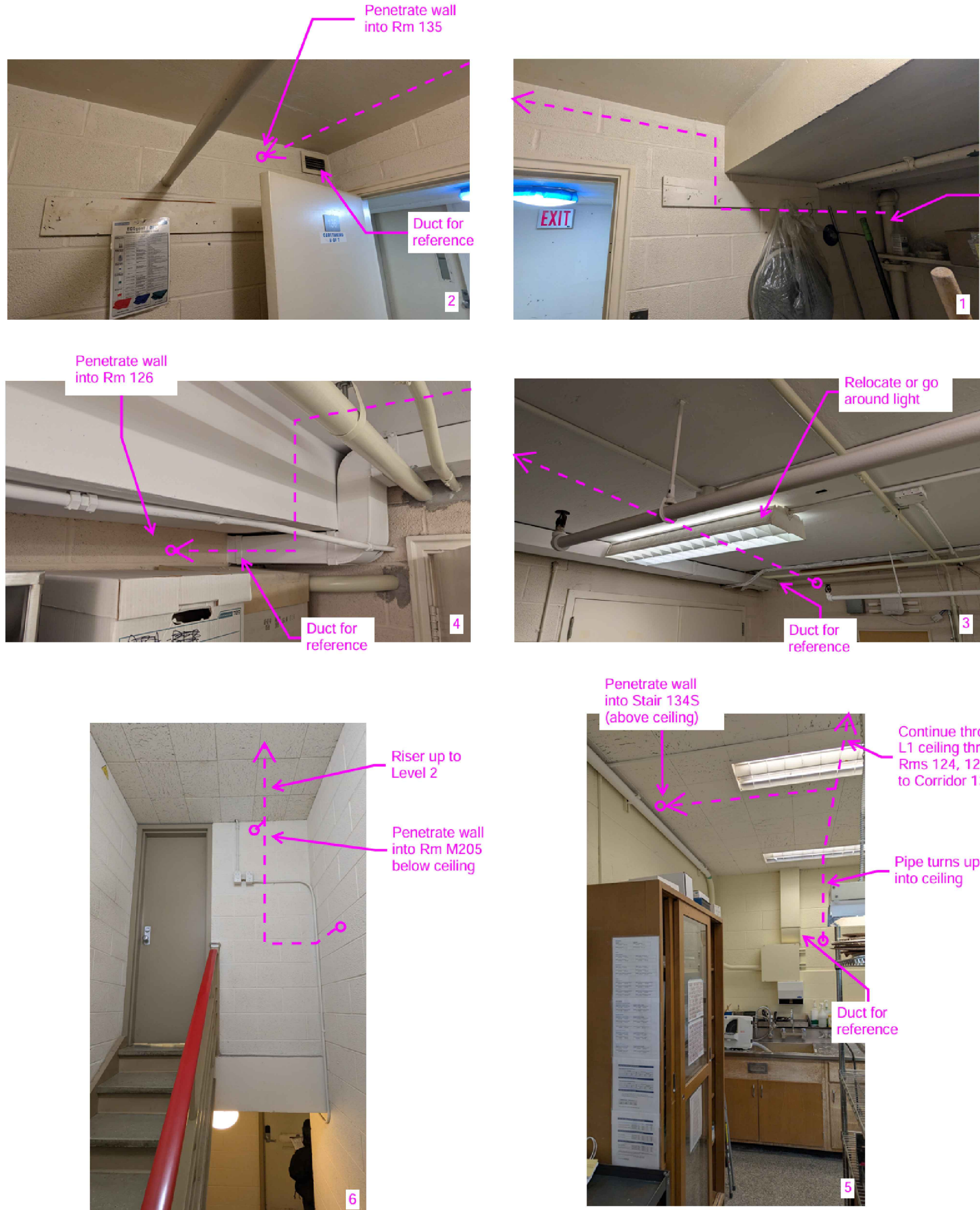
A BASEMENT - NEW SPRINKLER SYSTEM
SCALE: 1/8" = 1'-0"



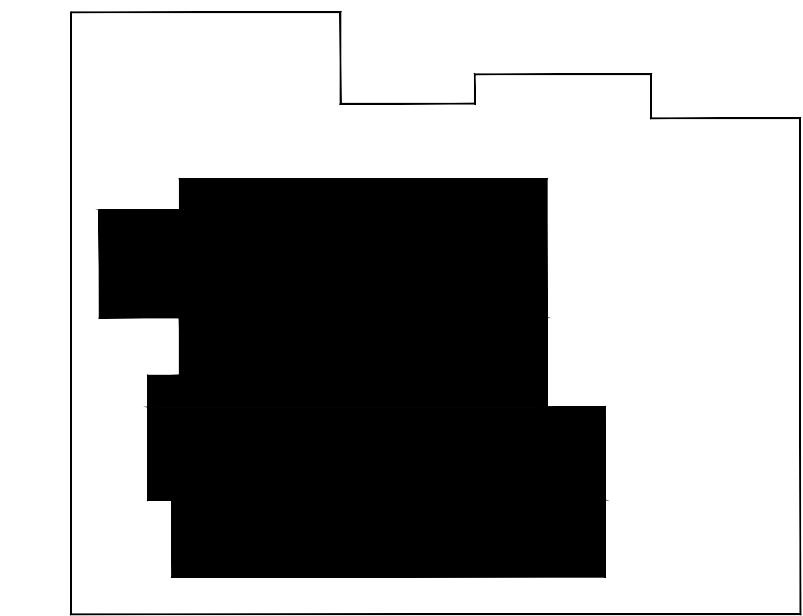
B PATIENT LOBBY - NEW SPRINKLER SYSTEM
SCALE: 1/8" = 1'-0"



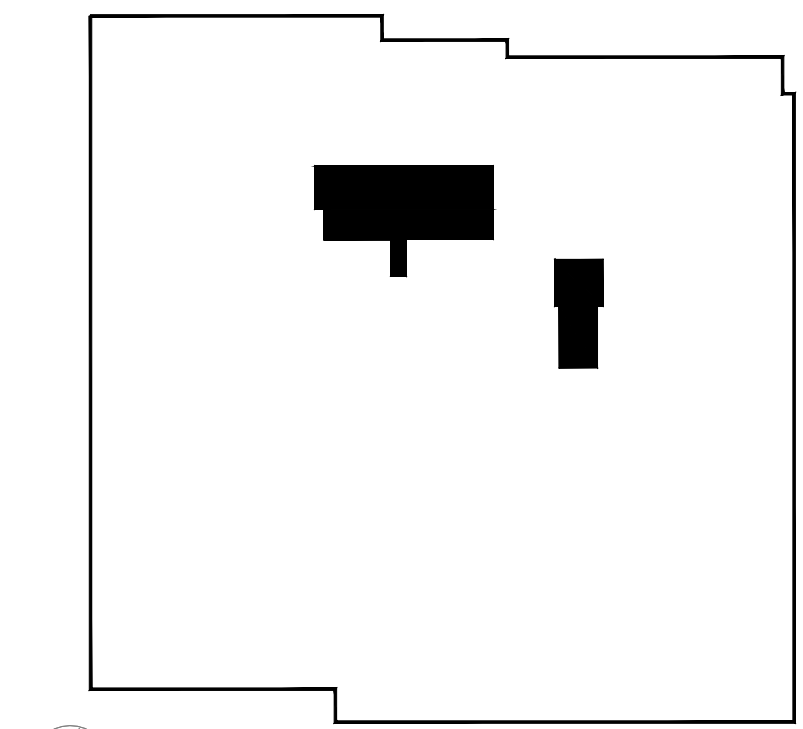
D LEVEL 1 - NEW SPRINKLER SYSTEM
SCALE: 1/8" = 1'-0"



NOTE: THESE PICTURES HAVE BEEN PREPARED BY THE ARCHITECT FOR INFORMATION OF CONTRACTOR REGARDING LEVEL 1. IT IS CONTRACTOR RESPONSIBILITY TO VERIFY THE ROUTE ON SITE FOR CONSTRUCTION.



Key Plan



Key Plan

NOTES:

- 3" RISER COME FROM BASEMENT.
- CONNECT THE BRANCHLINE TO THE EXISTING SYSTEM. CONTRACTOR MUST VERIFY THE EXACT LOCATION OF CONNECTION TO THE EXISTING SYSTEM ON SITE.
- 4" NEW RISER MUST BE CONNECTED TO THE EXISTING 3" RISER.
- EXPOSED SPRINKLER SYSTEM. CONTRACTOR MUST BE VERIFY THE CONDITION ON SITE.
- LOOK AT THE MECHANICAL PLAN FOR FIRE ZONING AND THE LOCATION OF THE CONTROL VALVES.
- THE SPRINKLER ROUTE AND RISER LOCATION HAVE BEEN REVIEWED AND VERIFIED ON SITE BY THE ARCHITECT AND MECHANICAL ENGINEER. THE CONTRACTOR SHALL FIELD-VERIFY ALL ROUTING AND EXISTING SITE CONDITIONS AND IS FULLY RESPONSIBLE FOR COORDINATING ANY DISCREPANCIES PRIOR TO INSTALLATION.

5				
4	29-04 (2026)	TENDER PLAN	R.G	P.P.
3	01-04 (2026)	TENDER PLAN	F.A.	P.P.
2	29-09 (2025)	80% REVIEW PACKAGE	F.A.	P.P.
1	22-08 (2025)	50% REVIEW PACKAGE	F.A.	
No.	Date	Description	Drawn by Dessine par	Checked By Vérifié par

A	Detail number	A Numéro de détail
B	Sheet number	B Numéro de la feuille
Linear dimension in millimeters		Dimensions linéaires en millimètres
Consultant's Name Nom de l'expert-consult		Eng. Stamp Sceau de l'ingénieur
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Client/Client

MONTGOMERY SISAM
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197 SPADINA AVENUE SUITE 301
TORONTO ON M5T 2C8

Project title/Titre du projet

31817
UNIVERSITY OF TORONTO
FACULTY OF DENTISTRY
CLINIC 2 RENOVATION
SPRINKLER SYSTEM

Drawing title/Titre du dessin

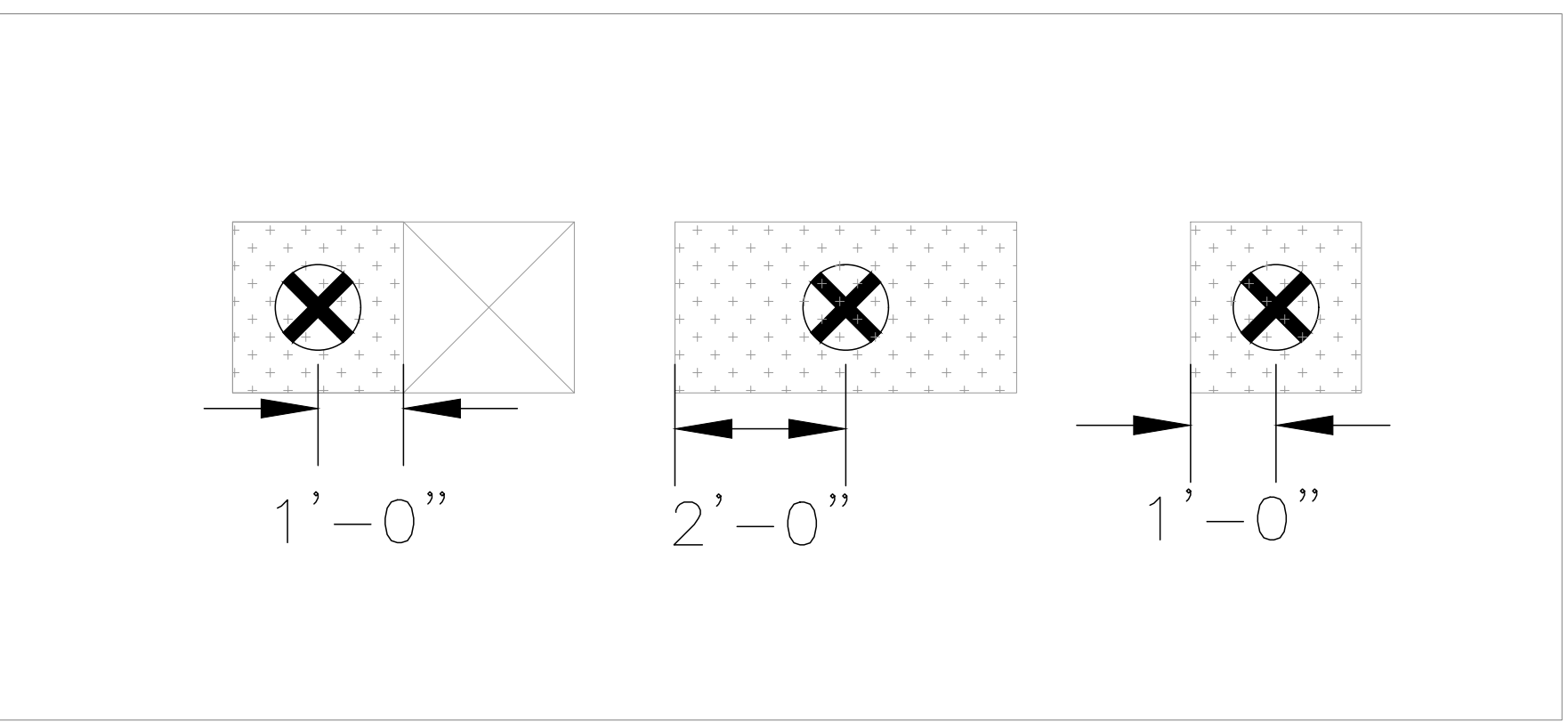
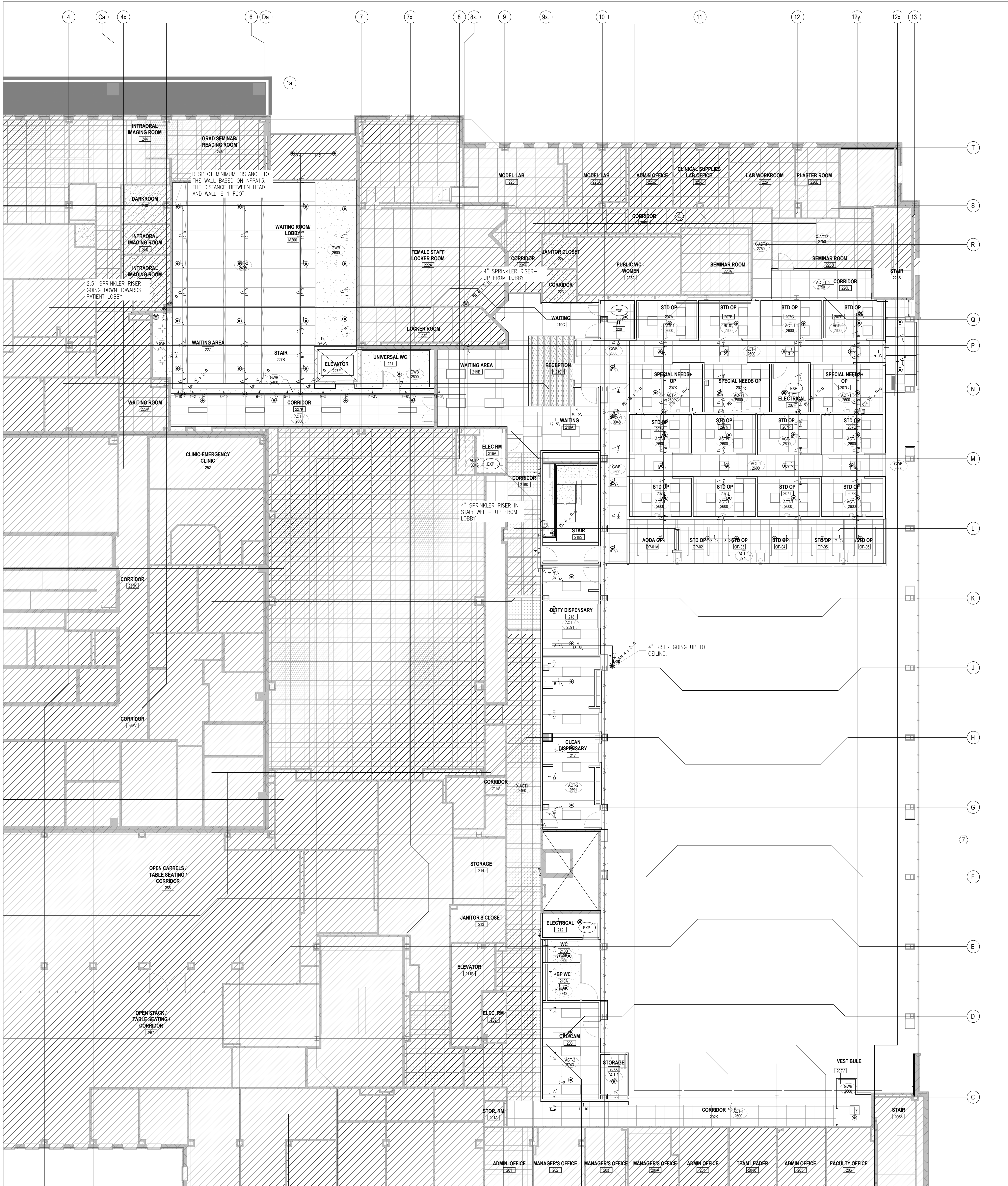
NEW SPRINKLER SYSTEM -
BASEMENT, PATIENT LOBBY,
AND LEVEL 1

surveyed by/Arpenté par P. PAINECHAUD	Drawn by/Dessiné par F. AHMADI	Date 2025-04-01
Designed by/Concepté par P. PAINECHAUD	Reviewed by/Revisé par P. PAINECHAUD	Scale/Echelle AS SHOWN
Project Number/Numéro de Projet 31817	Approved by/Approuvé par F. AHMADI	

Sheet No./N° de la feuille

FP-02

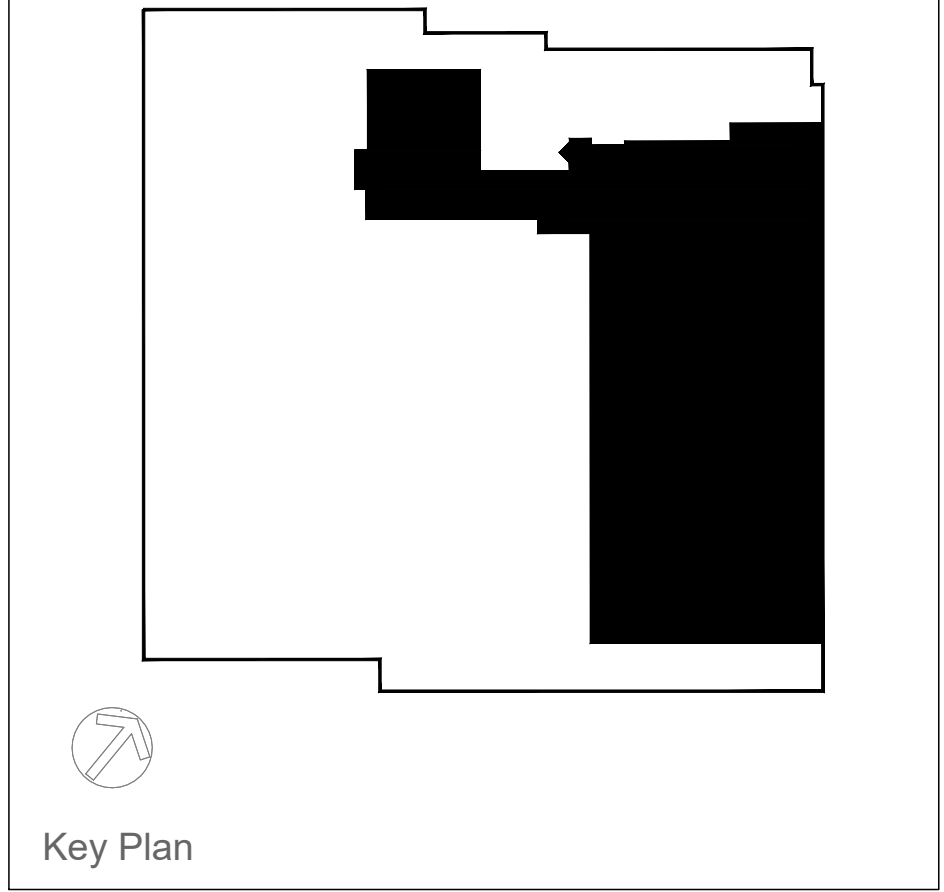
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DETAIL A - HEAD INSTALLATION FOR CEILING TILE




DETAIL B - SPRINKLER GUARD



- NOTES:
- 4" RISER COME GOING TOWARDS THE CEILING TO FEED THE CEILING SPRINKLER SYSTEM.
 - 4" MAIN CONNECT TO 1.5" RISER NIPPLE AND 1.5" BRANCHLINES.
 - LOOK AT THE MECHANICAL PLAN FOR FIRE ZONING AND THE LOCATION OF THE CONTROL VALVE.
 - THE HEADS MUST BE ALIGNED WITH THE LIGHTS.
 - ALL THE CONTROL VALVES DETAIL AND LOCATION HAS BEEN SHOWN ON THE MECHANICAL PLAN.
 - CONTRACTOR MUST FOLLOW THE MECHANICAL PLAN FOR THE DETAIL AND LOCATION OF VALVES AND FIRE HOSE CABINET.
 - FIRE HOSE CABINET, SHOWN ON MECHANICAL PLAN.
 - THE SPRINKLER ROUTE AND RISER LOCATION HAVE BEEN REVIEWED AND VERIFIED ON SITE BY THE ARCHITECT AND MECHANICAL ENGINEER. THE CONTRACTOR SHALL FIELD-VERIFY ALL ROUTING AND EXISTING SITE CONDITIONS AND IS FULLY RESPONSIBLE FOR COORDINATING ANY DISCREPANCIES PRIOR TO INSTALLATION.

5				
4	29-04 (2023)	TENDER PLAN	R.G.	P.P.
3	01-04 (2026)	TENDER PLAN	F.A.	P.P.
2	29-09 (2023)	80% REVIEW PACKAGE	F.A.	P.P.
1	22-08 (2023)	50% REVIEW PACKAGE	F.A.	
No.	Date	Description	Drawn by Dessiné par	Checked By Vérifié par

A B	Detail number Sheet number	A Numero de detail B Numero de la feuille	
	Linear dimension in millimeters	Dimensions linéaires en millimètres	
Consultant's Name Nom de l'expert-conseil		Eng. Stamp Sceau de L'ingénieur	
 LRI ENGINEERING INC. 110 Dundas Ave. W. 3rd Fl., Toronto, ON M5G 1A5 www.lriengineering.com			

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Client/client
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TORONTO ON M5T 2C8

Project title/Titre du projet
31817 UNIVERSITY OF TORONTO FACULTY OF DENTISTRY CLINIC 2 RENOVATION SPRINKLER SYSTEM

Drawing title/Titre du dessin
NEW SPRINKLER SYSTEM - LEVEL 2

surveyed by/Arpenté par P.PAINCHAUD	Drawn by/Dessiné par F.AHMADI	Date 2026-04-01
Designed by/Concept par F.AHMADI	Reviewed by/Revisé par P.PAINCHAUD	Scale/Echelle AS SHOWN
Project Number/Numéro de Projet 31817	Approved by/Approuvé par F.AHMADI	

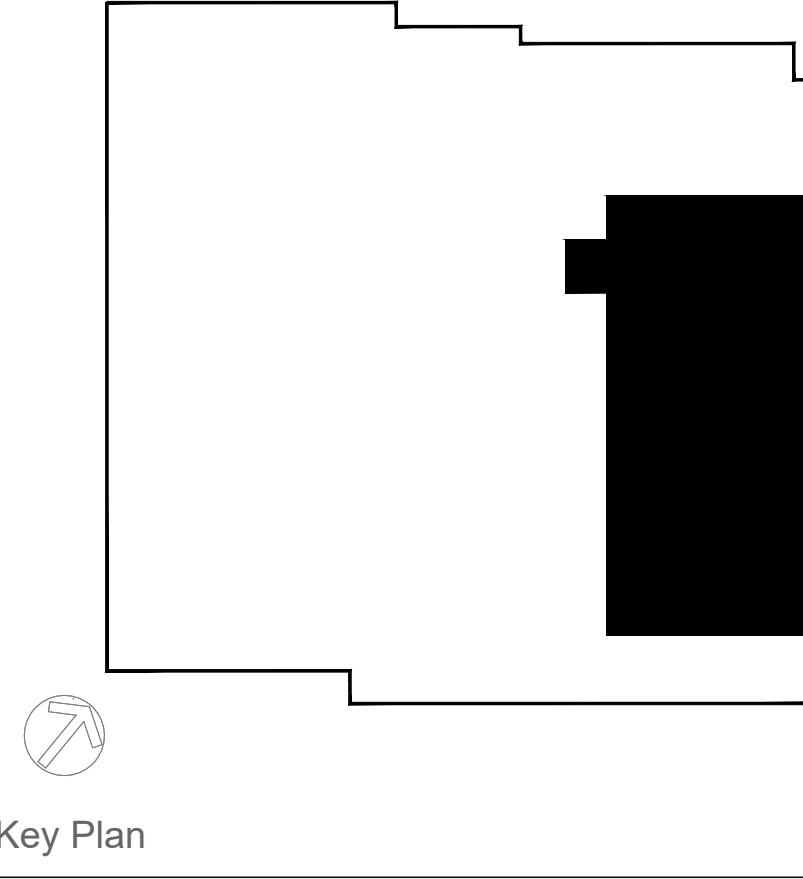
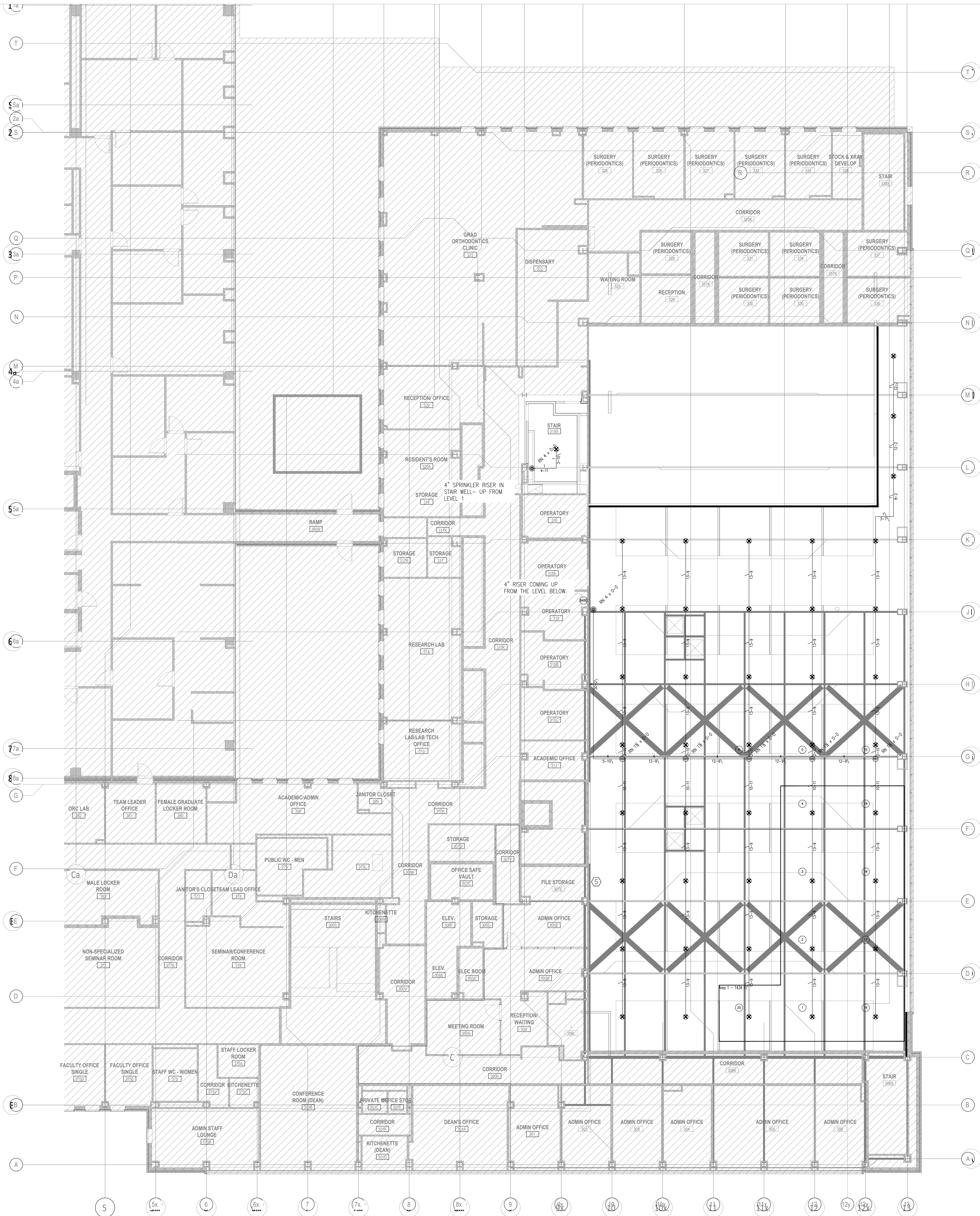
Sheet No./N° de la feuille

FP-03

F LEVEL 2 - NEW SPRINKLER SYSTEM


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

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- NOTES:
- 4" RISER COME FROM LEVEL BELOW TO FEED THE CEILING SPRINKLER SYSTEM.
 - 4" MAIN CONNECT TO 2" RISER NIPPLE AND 2" BRANCHLINES.
 - LOOK AT THE MECHANICAL PLAN FOR FIRE ZONING AND THE LOCATION OF THE CONTROL VALVE.
 - THE SPRINKLER SYSTEM DOES NOT WORK WITH THE CURRENT CEILING DESIGN IN CLINIC 2.
 - FIRE HOSE CABINET. THE DETAIL AND THE LOCATION HAVE BEEN SHOWN ON THE MECHANICAL PLAN.
 - ALL THE CONTROL VALVES DETAIL AND LOCATION HAS BEEN SHOWN ON THE MECHANICAL PLAN.
 - CONTRACTOR MUST FOLLOW THE MECHANICAL PLAN FOR THE DETAIL AND LOCATION OF VALVES AND FIRE HOSE CABINET.
 - THE SPRINKLER ROUTE AND RISER LOCATION HAVE BEEN REVIEWED AND VERIFIED ON SITE BY THE ARCHITECT AND MECHANICAL ENGINEER. THE CONTRACTOR SHALL FIELD-VERIFY ALL ROUTING AND EXISTING SITE CONDITIONS AND IS FULLY RESPONSIBLE FOR COORDINATING ANY DISCREPANCIES PRIOR TO INSTALLATION.

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1	22-08 (2025)	50% REVIEW PACKAGE	F.A	
No.	Date	Description	Drawn by Dessiné par	Checked by Vérifié par

A B	Detail number	A Numero de detal
	Sheet number	B Numero de la feuille
Linear dimension in millimeters		Dimensions linéaires en millimètres
Consultant's Name Nom de l'expert-conseil		Eng. Stamp Sceau de l'ingénieur
 LRI ENGINEERING INC. 175 Kennedy Ave. Toronto, Ontario M3J 1K1 www.LRIEngineering.com		

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Client/Client
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197 SPADINA AVENUE SUITE 301
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Project title/Titre du projet
31817 UNIVERSITY OF TORONTO FACULTY OF DENTISTRY CLINIC 2 RENOVATION SPRINKLER SYSTEM

Drawing title/Titre du dessin

NEW SPRINKLER SYSTEM - LEVEL 3

surveyed by/Aspété par P.PAINCHAUD	Drawn by/Dessiné par F.AHMADI	Date 2026-04-01
Designed by/Concept par F.AHMADI	Reviewed by/Revisé par P.PAINCHAUD	Scale/Echelle AS SHOWN
Project Number/Numéro de Projet 31817		Approved by/Approuvé par F.AHMADI

Sheet No./N° de la feuille

FP-04

G LEVEL 3 - NEW SPRINKLER SYSTEM

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

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