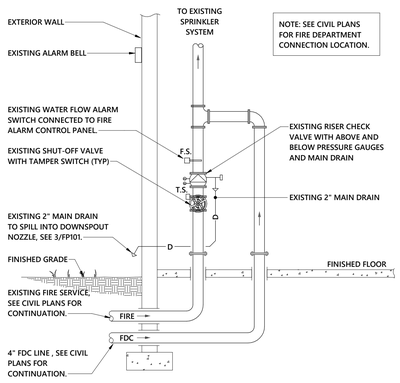
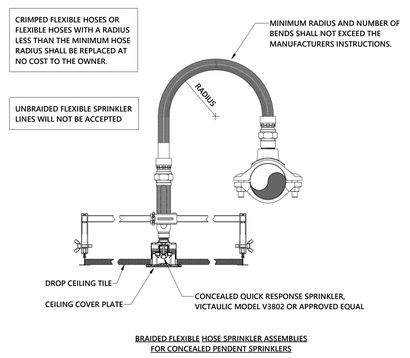


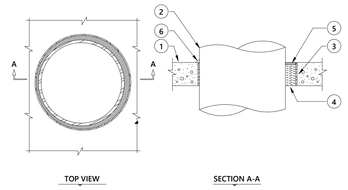
1 EXISTING FIRE RISER DIAGRAM
NOT TO SCALE



2 TYPICAL RETURN BEND SCHEMATIC - FLEXIBLE HOSE
NOT TO SCALE

U.L. SYSTEM NO. CAJ1155
METAL PIPE THROUGH A SLEEVE IN CONCRETE WALL OR FLOOR

F RATING = 3-HR.
T RATING = 0-HR.
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = 4 CFM/SQ. FT.



1. FLOOR OR WALL ASSEMBLY: B. U.L. CLASSIFIED CONCRETE BLOCK WALL (MINIMUM 8" BLOCK). A. MINIMUM 4-1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR.

2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 20" DIAMETER STEEL PIPE.
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER EMT.

3. OPTIONAL: MAXIMUM 22" DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER).

4. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) RECESSED 1/2" FROM TOP OF SLEEVE.

5. MINIMUM 1/2" DEPTH HILTI FS-ONE FIRESTOP SEALANT.

6. A GENEROUS BEAD OF HILTI FS-ONE FIRESTOP SEALANT AROUND OUTER PERIMETER OF STEEL SLEEVE.

NOTES:
1. MAXIMUM DIAMETER OF OPENING = 22".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-1/2".

INSTALLATION INSTRUCTIONS FOR UL NO.CAJ1155

STEP 1 - PREPARATION: to application of firestopping materials. All surfaces must be clean, sound, dry and frost free prior

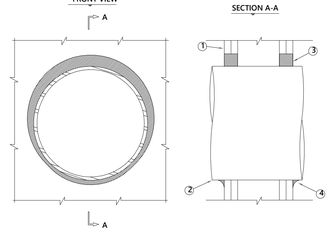
STEP 2 - BACKING MATERIAL: Firmly pack mineral wool around the penetrating item recessing it 1/2" below surface of the sleeve (or both ends of sleeve in wall)

STEP 3 - FIRESTOP SEALANT: Apply the Firestop Sealant over the backing material to a min. depth of 1/2" flush with the end(s) of the sleeve. Wall penetrations require Firestop Sealant installed on both sides. Leave completed seal undisturbed for 48 hours.

4 U.L. SYSTEM NO CAJ-1155 DETAIL
NOT TO SCALE

U.L. SYSTEM NO. WL1054
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY

F RATING = 1-HR OR 2-HR
T RATING = 0-HR
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = 4 CFM/SQ. FT.



1. GYPSUM-WALL ASSEMBLY (1-HR. AND 2-HR. FIRE RATING)(2-HR. SHOWN).

2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 20" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER STEEL EMT.

1. MINIMUM DEPTH
   A. MINIMUM 5/8" DEPTH HILTI FS-ONE FIRESTOP SEALANT = 1-HR. FIRE-RATING. B. MINIMUM 1-1/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT = 2-HR. FIRE-RATING.

2. MINIMUM 1/2" BEAD HILTI FS-ONE FIRESTOP SEALANT FOR POINT OF CONTACT.

NOTES: 1. MAXIMUM DIAMETER OF OPENING = 22-1/4".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".

INSTALLATION INSTRUCTIONS FOR UL NO.WL1054

STEP 1 - PREPARATION: All surfaces must be clean, sound, dry and frost free prior to application of firestopping materials.

STEP 2 - FIRESTOP SEALANT: Apply a minimum 5/8" or 1-1/4" depth of FS-ONE in the annular space around the penetrating item. Tool excess sealant beyond perimeter of the opening 1/2" onto wall surface. Leave completed seal undisturbed for for 48 hours.

5 U.L. SYSTEM NO WL1054 DETAIL
NOT TO SCALE

FIRE PROTECTION GENERAL NOTES

1. THE EXISTING BUILDING IS PROTECTED THROUGHOUT BY AN AUTOMATIC, HYDRAULICALLY DESIGNED SPRINKLER SYSTEM. PROVIDE DESIGN, MATERIALS AND LABOR NEEDED TO MODIFY THE EXISTING SYSTEM TO CONFORM TO THE NEW SPACE LAYOUT. DELIVER A MODIFIED SYSTEM THAT MEETS THE INSTALLATION REQUIREMENTS OF THE 2018 NC FIRE CODE AND THE 2013 EDITION NFPA 13.

2. THE INTENT OF THESE PLANS IS TO PROVIDE INFORMATION TO THE REVIEWING AUTHORITIES THAT THE BUILDING WILL BE PROTECTED BY A SPRINKLER SYSTEM.

3. SPRINKLER (HEAD) LAYOUT INCLUDED WITH THIS SET OF PLANS IS PROVIDED FOR COORDINATION AND AS A REFERENCE ONLY, AND SHALL NOT BE CONSIDERED AN ACTUAL DESIGN OR CONSTRUCTION DOCUMENT.

4. GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE FIRE PROTECTION SCOPE OF WORK. THE FIRE PROTECTION DRAWINGS AND SPECIFICATIONS SHALL NOT BE INTERPRETED AS WAIVING OR OVERRULING ANY REQUIREMENTS EXPRESSED IN GENERAL CONDITIONS.

5. SCOPE: PROVIDE DESIGN, FABRICATION AND INSTALLATION OF A HYDRAULICALLY CALCULATED AUTOMATIC SPRINKLER SYSTEM INCLUDING ALL SERVICES, MATERIALS, LABOR AND EQUIPMENT REQUIRED FOR A COMPLETE WORKING SPRINKLER SYSTEM IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF NFPA 13, THE OWNER'S INSURANCE UNDERWRITER, THE 2018 NORTH CAROLINA STATE FIRE CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION.

6. PERMITS: APPLY AND PAY FOR ALL NECESSARY PERMITS, FEES AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION. ACREAGE CHARGES, FACILITIES CHARGES AND BOND PROPERTY ASSESSMENTS ARE NOT TO BE CONSTRUED TO BE A PART OF THIS CONTRACT.

7. WARRANTY: PROVIDE A ONE YEAR WARRANTY, FROM THE DATE OF ACCEPTANCE OF WORK BY THE OWNER, FOR ALL SPRINKLER SYSTEM MATERIALS AND EQUIPMENT.

8. COORDINATE ALL SPRINKLER PIPING LOCATIONS, SPRINKLER LOCATIONS AND EQUIPMENT LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES. FINAL PIPING AND EQUIPMENT LOCATIONS SHALL BE A CODE COMPLIANT INSTALLATION FOR ALL TRADES.

9. FIELD VERIFY PROPER OPERATION OF EXISTING SYSTEMS BEFORE STARTING CONSTRUCTION. NOTIFY THE ARCHITECT / ENGINEER OF RECORD OF ANY PROBLEMS OR DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND EXISTING CONDITIONS AND/OR ANY POTENTIAL PROBLEMS OBSERVED BEFORE CONTINUING WORK IN THE EFFECTED AREAS.

10. DO NOT SCALE THE DRAWINGS, REFERENCE THE ARCHITECTURAL PLANS FOR DIMENSIONAL INFORMATION.

11. WHERE DISCREPANCIES ARE FOUND IN THE DRAWINGS AND SPECIFICATIONS THE MORE STRINGENT SHALL APPLY. CONTACT ENGINEER FOR CLARIFICATION.

12. OBTAIN A CURRENT FLOW TEST, LESS THAN 1 YEAR OLD, PRIOR TO STARTING THE DESIGN OF THE SPRINKLER SYSTEM. THE FLOW TEST CRITERIA SHALL INCLUDE THE STATIC PRESSURE, RESIDUAL PRESSURE, FLOW IN GPM, HORIZONTAL AND VERTICAL DISTANCE OF TEST FROM BASE OF FIRE RISER, THE NAME OF THE PERSON AND COMPANY WHOM PERFORMED THE FLOW TEST, THE TESTING COMPANY'S PHONE NUMBER, AND THE DATE AND TIME THE TEST WAS PERFORMED.

13. DESIGN AND HYDRAULICALLY CALCULATE THE SPRINKLER SYSTEM UTILIZING THE CURRENT FLOW TEST DATA. MEET ALL NFPA 13 REQUIREMENTS WHETHER OR NOT SPECIFICALLY INDICATED WITHIN THESE DOCUMENTS. TERMINATE THE HYDRAULIC CALCULATIONS AT THE CITY CONNECTION MINIMUM. INDICATE ON DRAWINGS ALL UNDERGROUND PIPE AND FITTINGS BOTH NEW AND EXISTING.

14. THE CONTRACTOR SHALL HAVE A DESIGNER ON STAFF WITH A CURRENT N.I.C.E.T. LEVEL III CERTIFICATION TO PREPARE THE WORKING PLANS AND HYDRAULIC CALCULATIONS IN ACCORDANCE WITH NFPA 13 CHAPTER 23 "PLANS AND CALCULATIONS". THE N.I.C.E.T. DESIGNERS NAME, SIGNATURE AND CERTIFICATE NUMBER SHALL APPEAR ON THE WORKING DRAWINGS AND HYDRAULIC CALCULATIONS.

15. SUBMIT WORKING PLANS, HYDRAULIC CALCULATIONS AND MATERIALS DATA AND ACCESSORIES IN ELECTRONIC FORMAT (PDF) TO THE ARCHITECT / ENGINEER FOR REVIEW AND OBTAIN APPROVAL BEFORE STARTING THE INSTALLATION OF THE SPRINKLER SYSTEM.

16. THE CONTRACTOR SHALL SUBMIT WORKING PLANS AND HYDRAULIC CALCULATIONS EXPEDIENTLY TO THE AUTHORITIES HAVING JURISDICTION. APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION SHALL BE OBTAINED BEFORE STARTING THE INSTALLATION OF THE SPRINKLER SYSTEM.

17. AT THE COMPLETION OF THE PROJECT, PROVIDE TWO SETS OF RECORD DRAWINGS TO THE OWNER, CLEARLY SHOWING ANY CHANGES AND/OR MODIFICATIONS, ADDITIONS OR DELETIONS TO AND FROM THE CONSTRUCTION DOCUMENTS. THESE SETS SHALL BE REVIEWED BY THE ARCHITECT / ENGINEER BEFORE BEING TURNING OVER TO THE OWNER.

INSTALLATION REQUIREMENTS:

1. PROVIDE ALL NECESSARY OFFSETS, RISES OR DROPS IN THE PIPING AND AUXILIARY DRAINS AS REQUIRED BY ALL APPLICABLE CODES WHETHER OR NOT SHOWN ON THE PLANS.

2. CUT WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF SPRINKLER WORK. ALL CUTTING SHALL BE HELD TO A MINIMUM. PATCH AND FINISH SURFACES TO MATCH ADJOINING SURFACES. AVOID PENETRATING ANY MAIN STRUCTURAL BEAM. NOTIFY ARCHITECT OF ANY CONFLICTS.

3. CONCEALED FIRE PROTECTION SYSTEM ABOVE CEILINGS.

4. PAINT ALL EXPOSED FIRE PROTECTION SYSTEM PIPING (IN CLOSETS, STAIRWELLS, MECHANICAL ROOMS, ETC.). COLOR TO BE SELECTED BY THE ARCHITECT.

5. SPRINKLER LOCATIONS ARE TO BE IN THE CENTER OF THE CEILING TILE USING THE REFLECTED CEILING PLANS AND AS COORDINATED WITH THE CEILING CONTRACTOR.

6. WARRANT THE SYSTEM LABOR, MATERIALS AND EQUIPMENT FOR THE AMOUNT OF TIME SPECIFIED IN THE PROJECT MANUAL. IF NO WARRANTY SECTION IS PROVIDED, THEN WARRANT THE SYSTEM LABOR, MATERIAL AND EQUIPMENT FOR A MINIMUM OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. PRIOR TO TURNING THE COMPLETED SYSTEM OVER TO THE OWNER, REVIEW THE INSTALLATION WITH THE ARCHITECT / ENGINEER AND REPLACE OR REPAIR ANY DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.

SEISMIC REQUIREMENTS:

1. DETERMINE THE SEISMIC PROTECTION REQUIREMENTS FOR THE PROJECT AND THE SEISMIC DESIGN CONFORMING TO ALL APPLICABLE CODES.

2. PROPERLY SUPPORT AND BRACE VERTICALLY AND HORIZONTALLY ALL PIPING, APPARATUS, EQUIPMENT, ETC. IN ACCORDANCE WITH ALL APPLICABLE CODES TO PREVENT EXCESSIVE MOVEMENT DURING SEISMIC CONDITIONS.

TESTING AND FLUSHING:

1. OVERHEAD SPRINKLER PIPING: TESTED FOR A PERIOD OF TWO HOURS AT A HYDROSTATIC PRESSURE OF 200 LBS. AND ALL PIPING, VALVES, HEADS,ETC. SHALL BE WATERTIGHT.

FIRE PROTECTION SHEET INDEX

SHEET NUMBER	SHEET NAME
FP101	FIRE PROTECTION INDEX, LEGEND, NOTES AND DETAILS
FP301	FIRE PROTECTION PLAN

FIRE PROTECTION ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AFG	ABOVE FINISHED GRADE	MFG	MANUFACTURER
BFF	BELOW FINISHED FLOOR	PSI	POUNDS PER SQUARE INCH
CLG	CEILING	TS	TAMPER SWITCH
CONT	CONTINUATION	TYP	TYPICAL
DN	DOWN		
FHV	FIRE HOSE VALVE	EC	ELECTRICAL CONTRACTOR
FS	FLOW SWITCH	GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE	MC	MECHANICAL CONTRACTOR
HP	HORSE POWER	PC	PLUMBING CONTRACTOR

FIRE PROTECTION DESIGN CRITERIA

OCCUPANCY	TYPE	DESIGN DENSITY GPM/S.F.	HYDRAULIC REMOTE AREA S.F.	AREAS OF COVERAGE
LIGHT HAZARD	WET	0.10	1500	ENTIRE FACILITY, EXCEPT AS NOTED OTHERWISE
ORDINARY HAZARD GROUP I	WET	0.15	1500	MECH. ROOMS, STORAGE ROOMS, ELEC. ROOMS, JANITORS ROOMS, ETC.
ORDINARY HAZARD GROUP II	WET	0.20	1500	STORAGE ROOMS WITH SHELVES OVER 8'-0" TALL

APPLICABLE PUBLICATIONS: THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR THE DESIGN OF THE FIRE PROTECTION SYSTEM ON THIS PROJECT:

1. NORTH CAROLINA STATE BUILDING CODE: FIRE PREVENTION CODE - 2018 EDITION
2. NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS - 2013 EDITION

NOTES:
1. DURING DESIGN CALCULATIONS, AN ALLOWANCE SHALL BE MADE FOR A 100 GPM HOSE STREAM.

FIRE PROTECTION MATERIALS

1. ALL PIPING SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA.

2. ABOVE GRADE PIPING: BLACK STEEL PIPING (ASTM A53, ASTM A135, OR ASTM A795) SHALL BE LISTED FOR FIRE SPRINKLER PIPING USE AND INCLUDE FM APPROVED MIC INHIBITING COATING. PIPING 1-1/4" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL PIPE THREADED, WELDED OR ROLL GROOVED FOR MECHANICAL FITTINGS. PIPING 1-1/2" AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL PIPE WELDED, OR ROLL GROOVED FOR MECHANICAL FITTINGS.

3. THREADED FITTINGS: UL-LISTED, STANDARD WEIGHT SUITABLE FOR PRESSURE UP TO 175 PSIG, CAST IRON MEETING ASTM A126 OR MALLEABLE IRON MEETING ASTM A197. THREADED CAST IRON FITTINGS SHALL MEET ANSI B16.4; FLANGED CAST IRON FITTINGS SHALL MEET ANSI B16.1. THREADED MALLEABLE IRON FITTINGS SHALL MEET ANSI B16.3.

4. GROOVED FITTINGS AND COUPLINGS: UL-LISTED, DUCTILE IRON MEETING ASTM A536. UTILIZING AN EDPM GASKET. PLAIN-END FITTINGS AND COUPLINGS, OR WELDED-SEGMENTED FITTINGS SHALL NOT BE USED. CHANGES IN PIPE DIAMETER SHALL BE MADE USING TAPERED REDUCING FITTINGS. BUSHINGS OR GROOVED-END REDUCING COUPLINGS SHALL NOT BE USED UNLESS STANDARD REDUCING FITTINGS ARE NOT REGULARLY AVAILABLE.

5. USE HOT-DIPPED GALVANIZED PIPING AND FITTINGS FOR COMPRESSED AIR PIPING, WATER MOTOR ALARM PIPING, BALL DRIP DISCHARGES AND TEST / DRAIN PIPING SUBJECT TO ALTERNATE WETTING AND DRYING.

6. PIPE HANGERS: UL-LISTED SWIVEL LOOP TYPE WITH PRE-GALVANIZED CARBON STEEL BAND, HANGER RODS SIZED PER NFPA 13, UL-LISTED STEEL OR MALLEABLE IRON BEAM CLAMPS, UL-LISTED ANCHORS. POWER DRIVEN ANCHORS SHALL NOT BE USED. HANGERS SHALL NOT ATTACH TO THE ROOF DECK.

7. VALVES: OS&Y TYPE, IRON BODY BRONZE MOUNTED, DOUBLE DISC WITH PARALLEL SEATS, OR; BUTTERFLY, LUG TYPE, DUCTILE IRON BODY, STAINLESS STEEL STEM, ALUMINUM BRONZE DISC, PHENOLIC RING AND BUNA N SEAT. VALVES SHALL BE FM/UL LISTED AND APPROVED FOR FIRE PROTECTION SERVICE.

8. ESCUTCHEON PLATES: PROVIDE CHROME PLATED ESCUTCHEON PLATES WHERE PIPES PASS THROUGH FINISHED WALLS, FLOORS, OR CEILING. PROVIDE PRIME COAT PAINTED ESCUTCHEON PLATES WHERE PIPES PASS THROUGH WALLS, CEILINGS, ETC. IN UNFINISHED EXPOSED AREAS.

9. SPRINKLERS: LISTED IN U.L.'S FIRE PROTECTION EQUIPMENT DIRECTORY OR FM GLOBAL'S APPROVAL GUIDE. 175-PSI MINIMUM, AUTOMATIC SPRINKLERS WITH HEAT RESPONSIVE ELEMENT. SEE SPRINKLER SCHEDULE FOR ADDITIONAL INFORMATION.

SPRINKLER SCHEDULE

1. PROVIDE ADJUSTABLE CONCEALED PENDENT SPRINKLERS ALL LAY-IN ACOUSTICAL TILE AND GYPBOARD CEILINGS. COORDINATE COLOR OF CONCEALED SPRINKLER HEAD COVER-PLATE WITH ARCHITECT.

2. LOCATE SPRINKLERS SO NOT OBSTRUCTED BY CEILING MOUNTED DEVICES. WHERE CEILING DEVICES OBSTRUCT SPRINKLER DISCHARGE, ADD ADDITIONAL SPRINKLERS SPACED AROUND THE OBSTRUCTION.

3. PROVIDE BRASS UPRIGHT SPRINKLERS IN EXPOSED AREAS WITH NO FINISH CEILING.

4. PROVIDE BRASS PENDENT SPRINKLERS WITH SHIELDS IN MECHANICAL ROOMS, ELECTRIC ROOMS, GYMNASIUMS, STORAGE ROOMS AND OTHER AREAS WHERE EXPOSED SPRINKLERS ARE SUBJECT TO DAMAGE.

5. PROVIDE RECESSED DRY STEM PENDENT SPRINKLER WITH WHITE PLATE IN AREAS SUBJECT TO FREEZING.

6. PROVIDE RECESSED SIDEWALL SPRINKLERS AS REQUIRED OR INDICATED.

7. PROVIDE INTERMEDIATE TEMPERATURE SPRINKLERS (175º F - 225ºF ACTIVATION TEMPERATURE) IN ELEC. ROOMS, BOILER ROOMS, DATA CLOSETS AND WHEN SPRINKLER IS LOCATED WITHIN 18" OF HVAC DIFFUSER.

8. PROVIDE HIGH TEMPERATURE SPRINKLERS (250º F - 300ºF ACTIVATION TEMPERATURE) IN KILN ROOMS OR OTHER AREAS SUBJECT TO HIGH TEMPERATURES.

* INSTALL SPRINKLERS IN ACCORDANCE WITH NFPA 13 AND THE MANUFACTURERS APPROVAL LISTING.
* PROVIDE QUICK RESPONSE SPRINKLERS.

LITTLE
DIVERSIFIED ARCHITECTURAL CONSULTING
615 South College Street, Suite 1600
Charlotte, NC 28202
(704) 525-6350
www.littleonline.com

This drawing and the design shown are the property of Little Diversified Architectural Consulting. The reproduction, copying or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.
© Little 2025

cms Charlotte-Mecklenburg Schools

optima engineering
1927 South Tryon St, Suite 300, Charlotte, NC 28203
Phone: 704.338.1292 • www.optimaengineering.com
North Carolina License Number C-0914

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ASHLEY R. HALL
06.16.2025

ISSUE FOR:
CONSTRUCTION

ISSUE DATE:
06.16.2025

REVISIONS:

NO.	REASON	DATE

PROJECT TEAM:
PRINCIPAL IN CHARGE
Ashley Hall
PROJECT MANAGER
Lynn Guimaraes
DESIGN TEAM
DPL

PROJECT NAME:
CMS STUDENT & FAMILY SUPPORT CENTER - BUILDING 6635
6635 EXECUTIVE CR.
CHARLOTTE, NC 28212

PROJECT NO.
1641630004

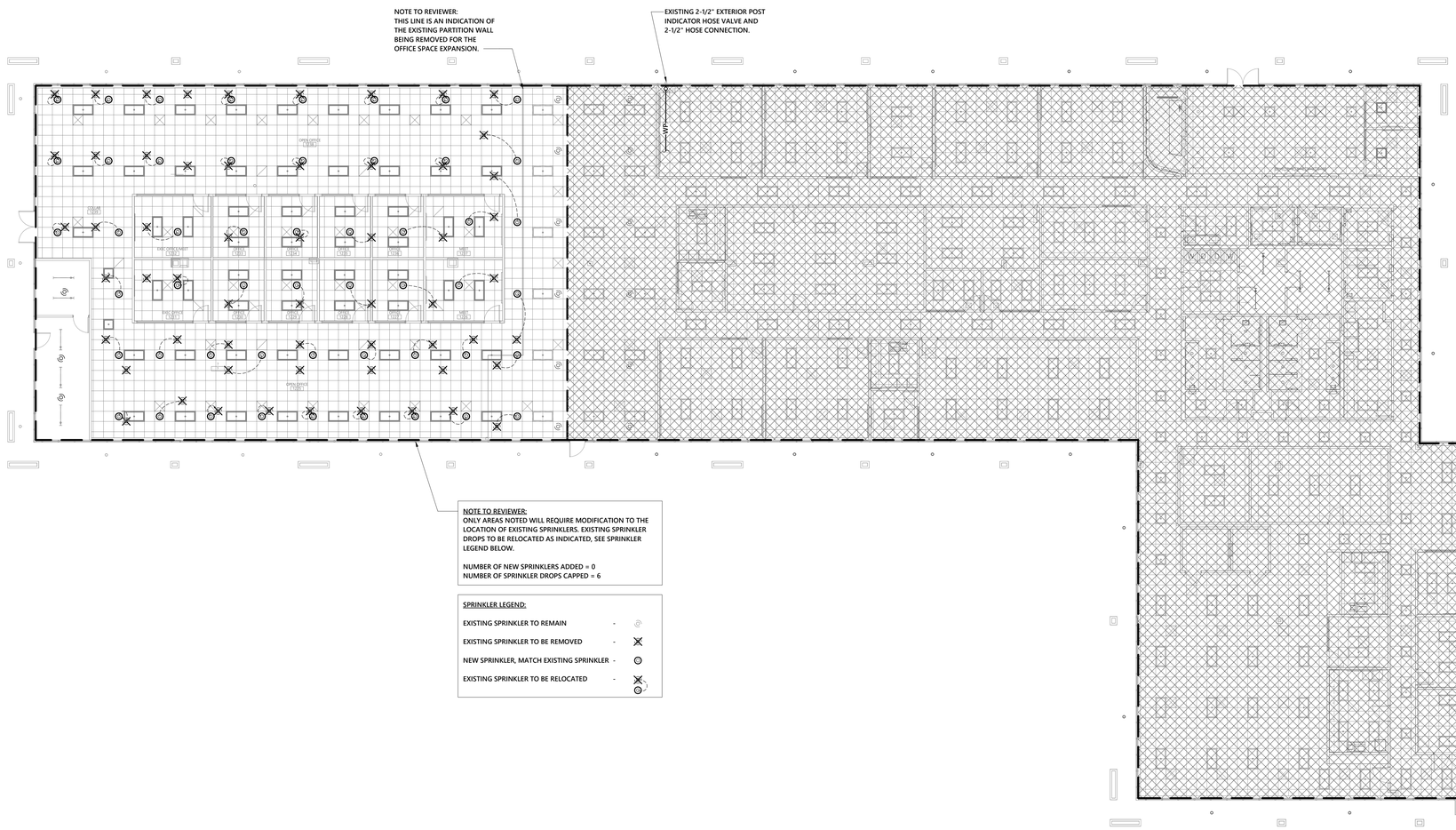
SHEET TITLE:
FIRE PROTECTION INDEX, LEGEND, NOTES AND DETAILS

SHEET NUMBER:
FP101

Optima Project # 22-0013

6/13/2025 11:28:22 AM

THIS DRAWING IS AN INSTRUMENT OF SERVICE. THE DRAWING AND THE INFORMATION THEREON IS THE PROPERTY OF OPTIMA ENGINEERING, P.A. ANY REPRODUCTION, ALTERATION, OR USE FOR OTHER THAN THE INTENDED PROJECT, WITHOUT THE CONSENT OF OPTIMA ENGINEERING, P. A. EXPRESSLY FORBIDDEN. COPYRIGHT © OPTIMA ENGINEERING P.A. 2022. ALL RIGHTS RESERVED.



1 **FIRE PROTECTION PLAN**
3/32" = 1'-0"

Ref North

LITTLE
DIVERSIFIED ARCHITECTURAL CONSULTING
615 South College Street, Suite 1600
Charlotte, NC 28202
(704) 525-6350
www.littleonline.com

This drawing and the design shown are the property of Little Diversified Architectural Consulting. The reproduction, copying or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.
© Little 2025

Charlotte-Mecklenburg Schools

optima engineering
1927 South Tryon St, Suite 300, Charlotte, NC 28203
Phone: 704.338.1292 • www.optimaengineering.com
North Carolina License Number C-0914

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT
06.16.2025

ISSUE FOR
CONSTRUCTION

ISSUE DATE
06.16.2025

REVISIONS

NO.	REASON	DATE

PROJECT TEAM
PRINCIPAL IN CHARGE
Ashley Hall
PROJECT MANAGER
Lynn Guimaraes
DESIGN TEAM
DPL

PROJECT NAME
CMS STUDENT & FAMILY SUPPORT CENTER - BUILDING 6635
6635 EXECUTIVE CR.
CHARLOTTE, NC 28212

PROJECT NO.
1641630004

SHEET TITLE
FIRE PROTECTION PLAN

SHEET NUMBER
FP301

Optima Project # 22-0013

6/13/2025 11:28:24 AM

THIS DRAWING IS AN INSTRUMENT OF SERVICE. THE DRAWING AND THE INFORMATION THEREON IS THE PROPERTY OF OPTIMA ENGINEERING, P.A. ANY REPRODUCTION, ALTERATION, OR USE FOR OTHER THAN THE INTENDED PROJECT, WITHOUT THE CONSENT OF OPTIMA ENGINEERING, P. A. EXPRESSLY FORBIDDEN. COPYRIGHT © OPTIMA ENGINEERING P.A. 2022, ALL RIGHTS RESERVED.