MCC AUTOMOTIVE INSTITUTE

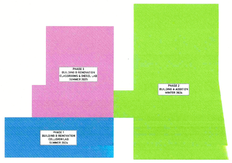
METROPOLITAN COMMUNITY COLLEGE - LONGVIEW

500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

METROPOLITAN COMMUNITY COLLEGE - LONGVIEW

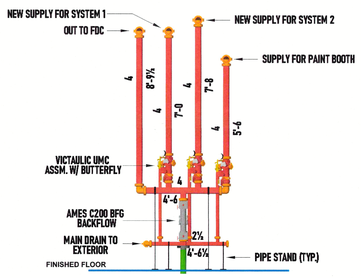
RENDERING OF EAST ELEVATION. BASE BID CONDITION SHOWN

1. THE SYSTEMS SHALL CONFORM WITH THE REQUIREMENTS OF NFPA 13, 2016.
2. ALL THREADED PIPING / PIPING 2" & SMALLER SHALL BE SCHEDULE 40, BLACK STEEL. ALL GROOVED PIPING 2 1/2" AND LARGER SHALL BE SCHEDULE 10, BLACK STEEL.
3. FITTINGS FOR 1" THRU 1 1/2" SHALL BE DUTILE IRON THREADED OR ARE TO BE GROOVED WITH STANDARD TAKE-OUTS OR WELDED OUTLETS AS INDICATED ON THE DRAWING. FITTINGS FOR 2" AND LARGER ARE TO BE GROOVED WITH FIRELOCK TAKE-OUTS OR WELDED OUTLETS AS INDICATED ON THE DRAWING. ALL WELDS ARE TO BE SHOP WELDED.
4. PIPE LENGTHS ON DRAWING ARE SHOWN AS CUT LENGTH DIMENSIONS.
5. ALL SECTIONS OF TRAPPED PIPING SHALL HAVE AUXILIARY DRAINS WHERE REQUIRED. PER NFPA 13.
6. ALL HANGERS ARE TO BE IN CONFORMANCE WITH NFPA 13.
7. PENETRATIONS THRU FIRE WALLS SHALL BE FIRE CAULKED AS REQUIRED.
8. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE HEAT TO PREVENT THE WATER IN THE PIPING FROM FREEZING.
9. AMERICAN FIRE SPRINKLER CORP. IS NOT CONTRACTED TO PROVIDE THE ALARM WIRING OR THE CENTRAL STATION ALARM SYSTEM.

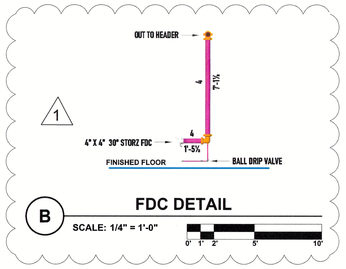


PHASING PLAN

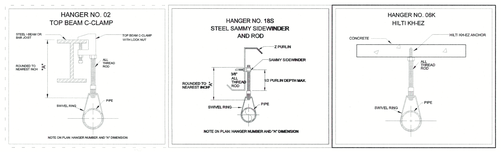
- FUTURE SUBMITTAL
- NOT IN CONTRACT
- 2½ 6'-0 EXISTING PIPE TO REMAIN
- 2½ 6'-0 MODIFIED EXISTING PIPE
- 2½ 6'-0 NEW PIPE PHASE 1
- 2½ 6'-0 NEW PIPE PHASE 2
- 2½ 6'-0 NEW PIPE PHASE 3



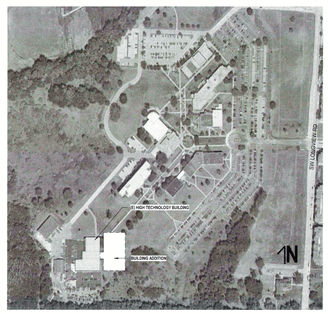
A RISER DETAIL
SCALE: 1/4" = 1'-0"
0' 1' 2' 5' 10'

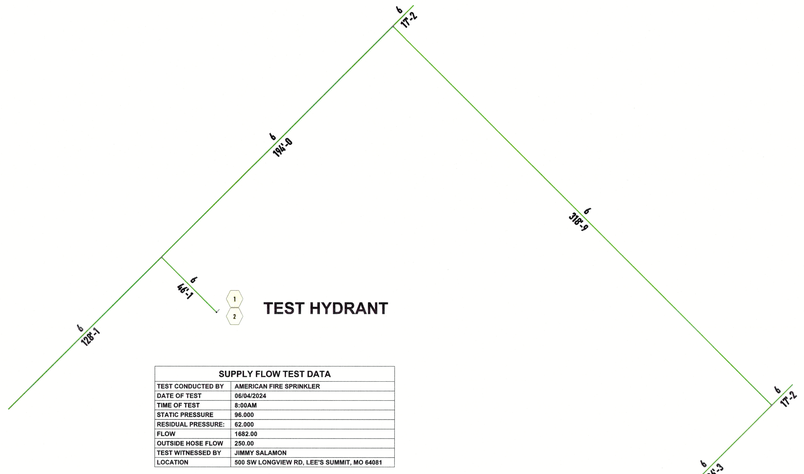


B FDC DETAIL
SCALE: 1/4" = 1'-0"
0' 1' 2' 5' 10'



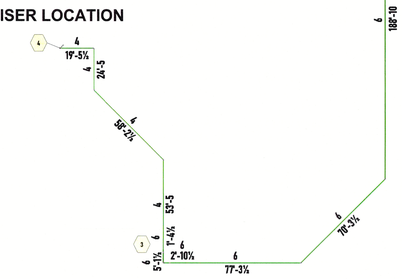
MAXIMUM DISTANCE BETWEEN HANGERS												
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0





SUPPLY FLOW TEST DATA	
TEST CONDUCTED BY	AMERICAN FIRE SPRINKLER
DATE OF TEST	06/04/2024
TIME OF TEST	8:00AM
STATIC PRESSURE	96.000
RESIDUAL PRESSURE:	62.000
FLOW	1682.00
OUTSIDE HOSE FLOW	250.00
TEST WITNESSED BY	JIMMY SALAMON
LOCATION	500 SW LONGVIEW RD, LEE'S SUMMIT, MO 64081

RISER LOCATION



UNDERGROUND REFERENCE
NOT TO SCALE

REVISIONS

DELTA		DATE
1	REVISED PER AHJ COMMENTS	7-23-24

SYMBOLS

SYMBOL	DESCRIPTION
	HYDRAULIC REFERENCE POINTS
(D-0)	ELEV. BELOW TOP OF STEEL
(E-0)	ELEV. ABOVE FINISHED FLOOR
(T-0)	ELEV. TOP OF STEEL
	CEILING HEIGHT
	DENOTES HANGER LOCATION
	RISE UP OR DOWN

MCC AUTOMOTIVE INSTITUTE
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LEE'S SUMMIT, MO 64081

PE STAMP:

AMERICAN FIRE SPRINKLER
OFFICE: 6750 W. 47TH TERR. MISSION, KS. 66203
MAIL: P.O. BOX 968 MISSION, KS 66201-0968
FIRE PROTECTION SYSTEMS - CONSULTANTS - DESIGN
FABRICATION - SALES - SERVICE

PAY ITEM:	SPR
REVIEWING AUTHORITY :	OWNER / CITY
HEADS THIS SHEET:	N/A
HEADS THIS JOB:	TBD
DRAWN BY:	ALEC MOBLEY
DATE :	06-28-2024
REVISION DATE :	07-23-2024
SCALE:	AS SHOWN
CONTRACT #	4352CK
DWG #:	FP01
SHEET:	1 OF 3

SPRINKLER LEGEND - LEVEL 1									
SYMBOL	QUANTITY	MANUFACTURER	SIN	K-FACTOR	TYPE	SIZE	FINISH	TEMPERATURE	NOTE
	103	VIKING	VK300	5.6	UPRIGHT	½	BRASS	286°F	
	11	VIKING	VK462	5.6	CONCEALED PENDENT	½	BRASS	286°F	
	4	VIKING	VK365	5.6	HORIZONTAL SIDEWALL	½	BRASS	286°F	EXISTING TO REMAIN
	4	VIKING	VK365	5.6	HORIZONTAL SIDEWALL	½	BRASS	286°F	
	26	GENERIC		5.6	UPRIGHT	½	BRASS	286°F	EXISTING TO REMAIN
	36	VIKING	VK300	5.6	UPRIGHT	½	BRASS	286°F	ON SPONG
	17	VIKING	VK534	11.2	PENDENT	½	BRASS	286°F	
	TOTAL = 201								

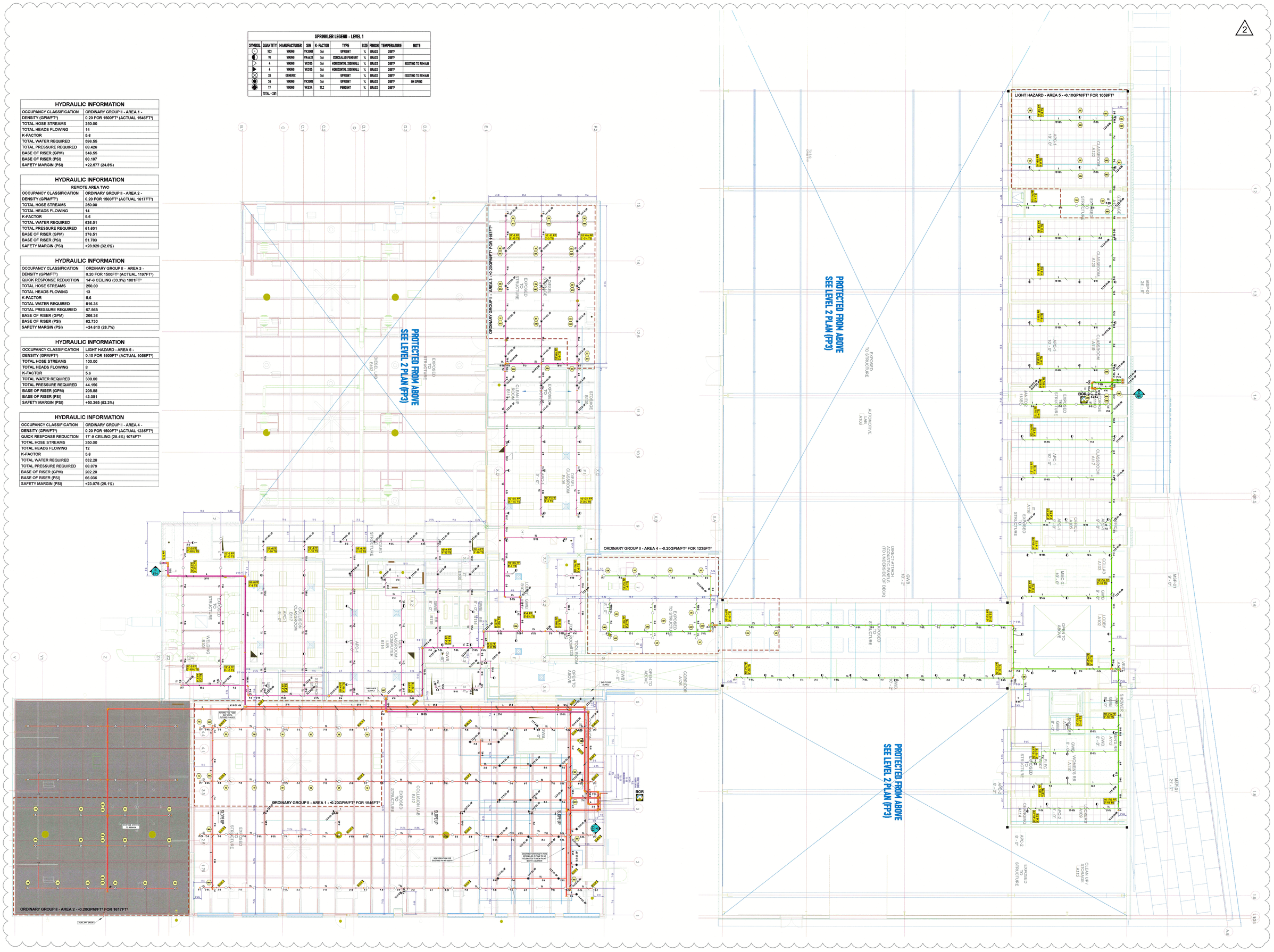
HYDRAULIC INFORMATION	
OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 1 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1546FT²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	14
K-FACTOR	5.6
TOTAL WATER REQUIRED	596.55
TOTAL PRESSURE REQUIRED	68.426
BASE OF RISER (GPM)	346.55
BASE OF RISER (PSI)	60.107
SAFETY MARGIN (PSI)	+22.577 (24.8%)

HYDRAULIC INFORMATION	
REMOTE AREA TWO	
OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 2 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1617FT²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	14
K-FACTOR	5.6
TOTAL WATER REQUIRED	626.51
TOTAL PRESSURE REQUIRED	51.601
BASE OF RISER (GPM)	376.51
BASE OF RISER (PSI)	51.783
SAFETY MARGIN (PSI)	+28.929 (32.0%)

HYDRAULIC INFORMATION	
OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 3 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1197FT²)
QUICK RESPONSE REDUCTION	14'-6 CEILING (33.3%) 1001FT²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	516.36
TOTAL PRESSURE REQUIRED	67.565
BASE OF RISER (GPM)	266.36
BASE OF RISER (PSI)	62.730
SAFETY MARGIN (PSI)	+24.610 (26.7%)

HYDRAULIC INFORMATION	
OCCUPANCY CLASSIFICATION	LIGHT HAZARD - AREA 5 -
DENSITY (GPM/FT²)	0.10 FOR 1500FT² (ACTUAL 1058FT²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	8
K-FACTOR	5.6
TOTAL WATER REQUIRED	308.88
TOTAL PRESSURE REQUIRED	44.156
BASE OF RISER (GPM)	208.88
BASE OF RISER (PSI)	43.081
SAFETY MARGIN (PSI)	+50.365 (53.3%)

HYDRAULIC INFORMATION	
OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 4 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1235FT²)
QUICK RESPONSE REDUCTION	17'-9 CEILING (28.4%) 1074FT²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	12
K-FACTOR	5.6
TOTAL WATER REQUIRED	532.28
TOTAL PRESSURE REQUIRED	68.879
BASE OF RISER (GPM)	282.28
BASE OF RISER (PSI)	66.036
SAFETY MARGIN (PSI)	+23.075 (25.1%)



N

LEVEL 1

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

0' 1' 2' 5' 10' 20'

REVISIONS

	DELTA	DATE
REVISED TO INCLUDE BUILDING ADDITION	2	1-30-25

SYMBOLS

SYMBOL	DESCRIPTION
	HYDRAULIC REFERENCE POINTS
	ELEV. BELOW TOP OF STEEL
	ELEV. ABOVE FINISHED FLOOR
(3x3)	ELEV. BOTTOM OF STEEL
10'-0"	CEILING HEIGHT
	DENOTES HANGER LOCATION
	RISE UP OR DOWN

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PE STAMP:

AMERICAN FIRE SPRINKLER
OFFICE: 6750 W. 47TH TERR. MISSION, KS. 66203
MAIL: P.O. BOX 958 MISSION, KS 66201-0958
FIRE PROTECTION SYSTEMS - CONSULTANTS - DESIGN
FABRICATION - SALES - SERVICE

PAY ITEM:	SPR
REVIEWING AUTHORITY :	OWNER / CITY
HEADS THIS SHEET:	281
HEADS THIS JOB:	640
DRAWN BY:	ALEC MOBLEY
DATE :	06-28-2024
REVISION DATE :	01-30-2025
SCALE:	AS SHOWN
CONTRACT #	4352CK
DWG #:	FP02
SHEET:	2 OF 3

SPRINKLER LEGEND - LEVEL 2

SYMBOL	QUANTITY	MANUFACTURER	SIN	K-FACTOR	TYPE	SIZE	FINISH	TEMPERATURE	NOTE
	297	VIKING	VK3001	5.6	UPRIGHT	¾	BRASS	200°F	
	62	VIKING	VK4621	5.6	CONCEALED PENDENT	¾	BRASS	200°F	
	TOTAL = 359								

HYDRAULIC INFORMATION

OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 6 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1517FT²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	14
K-FACTOR	5.6
TOTAL WATER REQUIRED	577.08
TOTAL PRESSURE REQUIRED	75.858
BASE OF RISER (GPM)	327.08
BASE OF RISER (PSI)	68.456
SAFETY MARGIN (PSI)	+15.443 (16.9%)

HYDRAULIC INFORMATION

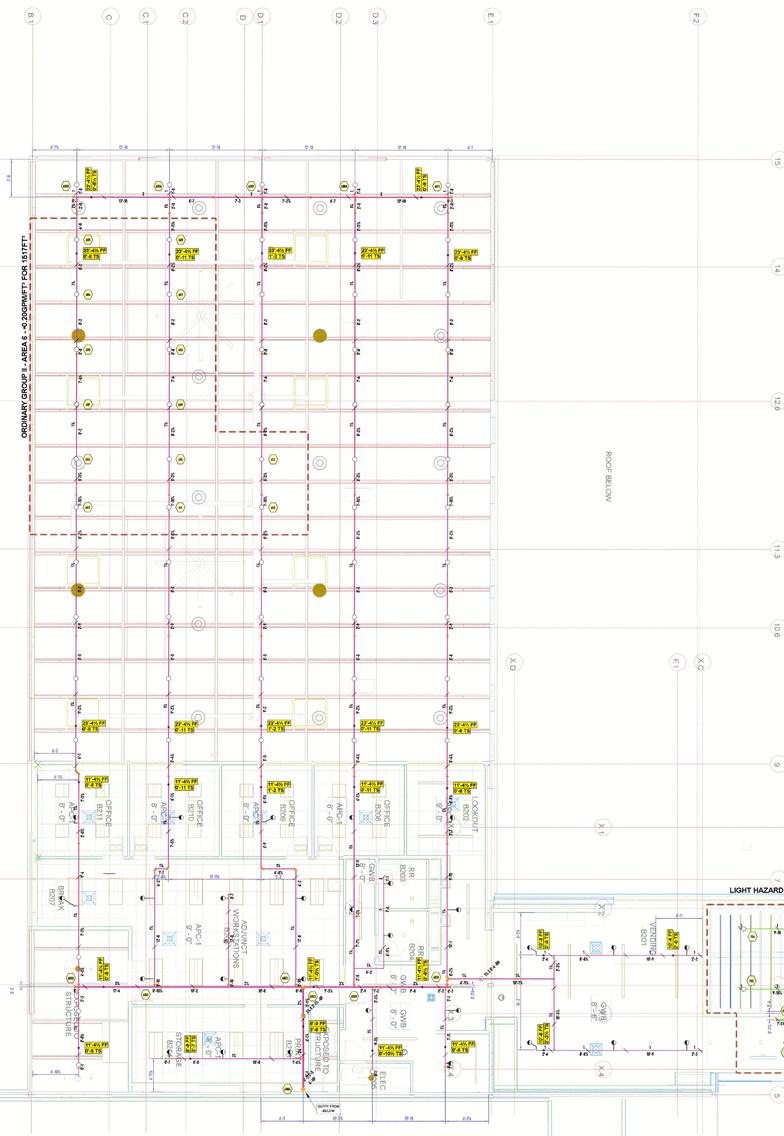
OCCUPANCY CLASSIFICATION	LIGHT HAZARD - AREA 7 -
DENSITY (GPM/FT²)	0.10 FOR 1500FT² (ACTUAL 1000FT²)
QUICK RESPONSE REDUCTION	12'-6 CEILING (36.3%) 956FT²
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	10
K-FACTOR	5.6
TOTAL WATER REQUIRED	294.79
TOTAL PRESSURE REQUIRED	47.529
BASE OF RISER (GPM)	194.79
BASE OF RISER (PSI)	46.741
SAFETY MARGIN (PSI)	+47.115 (49.8%)

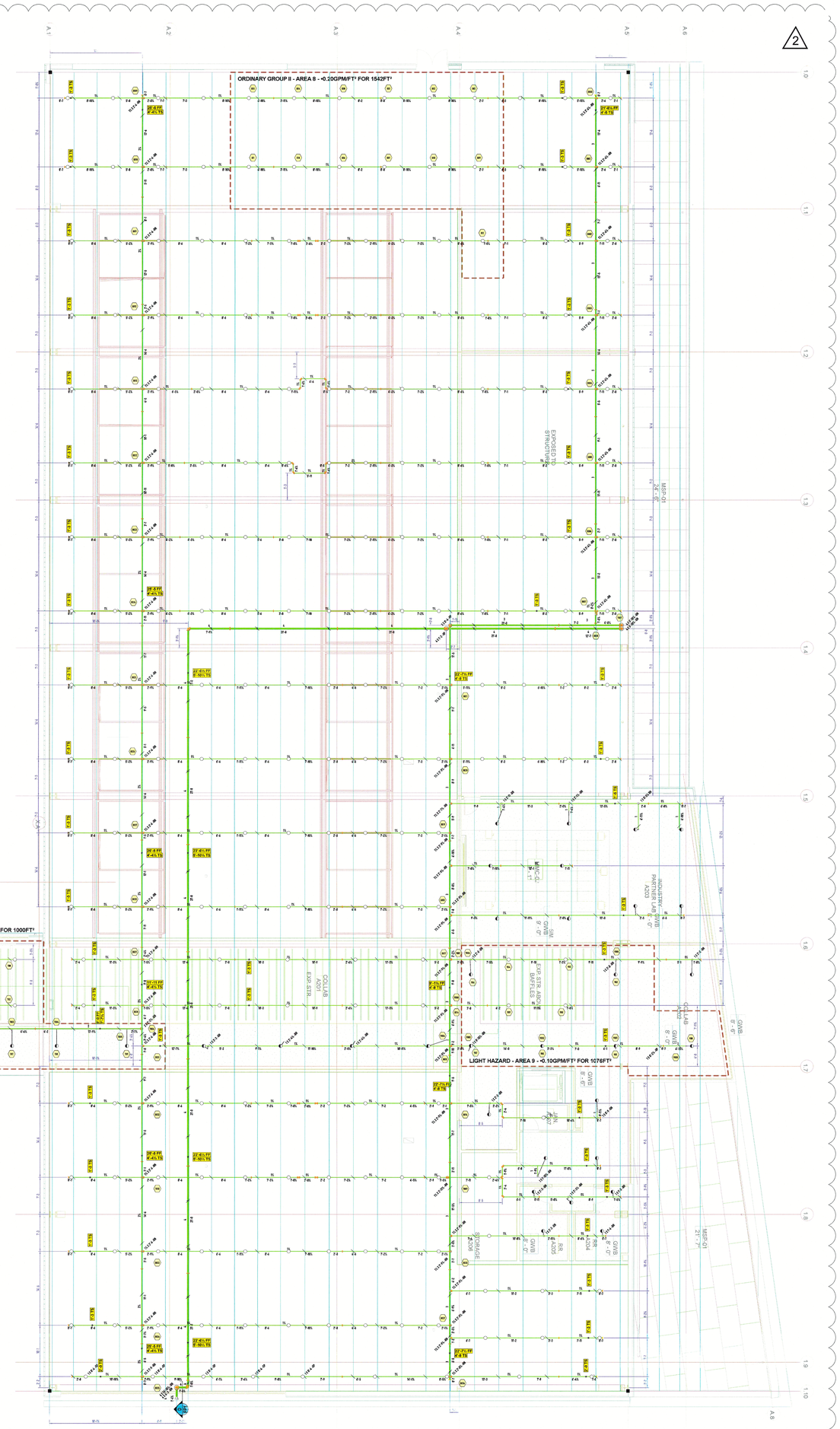
HYDRAULIC INFORMATION

OCCUPANCY CLASSIFICATION	ORDINARY GROUP II - AREA 8 -
DENSITY (GPM/FT²)	0.20 FOR 1500FT² (ACTUAL 1542FT²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	622.58
TOTAL PRESSURE REQUIRED	77.278
BASE OF RISER (GPM)	372.58
BASE OF RISER (PSI)	71.658
SAFETY MARGIN (PSI)	+13.315 (14.7%)

HYDRAULIC INFORMATION

OCCUPANCY CLASSIFICATION	LIGHT HAZARD - AREA 9 -
DENSITY (GPM/FT²)	0.10 FOR 1500FT² (ACTUAL 1076FT²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	10
K-FACTOR	5.6
TOTAL WATER REQUIRED	360.06
TOTAL PRESSURE REQUIRED	55.852
BASE OF RISER (GPM)	260.06
BASE OF RISER (PSI)	53.591
SAFETY MARGIN (PSI)	+38.185 (40.6%)





N

LEVEL 2

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

0' 1' 2' 5' 10' 20'

REVISIONS

DELTA		DATE
2	REVISED TO INCLUDE BUILDING ADDITION	1-30-25

SYMBOLS

SYMBOL	DESCRIPTION
	HYDRAULIC REFERENCE POINTS
	ELEV. BELOW TOP OF STEEL
	ELEV. ABOVE FINISHED FLOOR
(3-0)	ELEV. BELOW TOP OF STEEL
(10'-1")	CEILING HEIGHT
	DENOTES HANGER LOCATION
	RISE UP OR DOWN

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913-722-6800 913-722-6801
FIRE PROTECTION SYSTEMS - CONSULTANTS - DESIGN
FABRICATION - SALES - SERVICE

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REVIEWING AUTHORITY :	OWNER / CITY
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DRAWN BY:	ALEC MOBLEY
DATE :	06-28-2024
REVISION DATE :	01-30-2025
SCALE:	AS SHOWN
CONTRACT #	4352CK
DWG #:	FP3
SHEET:	3 OF 3