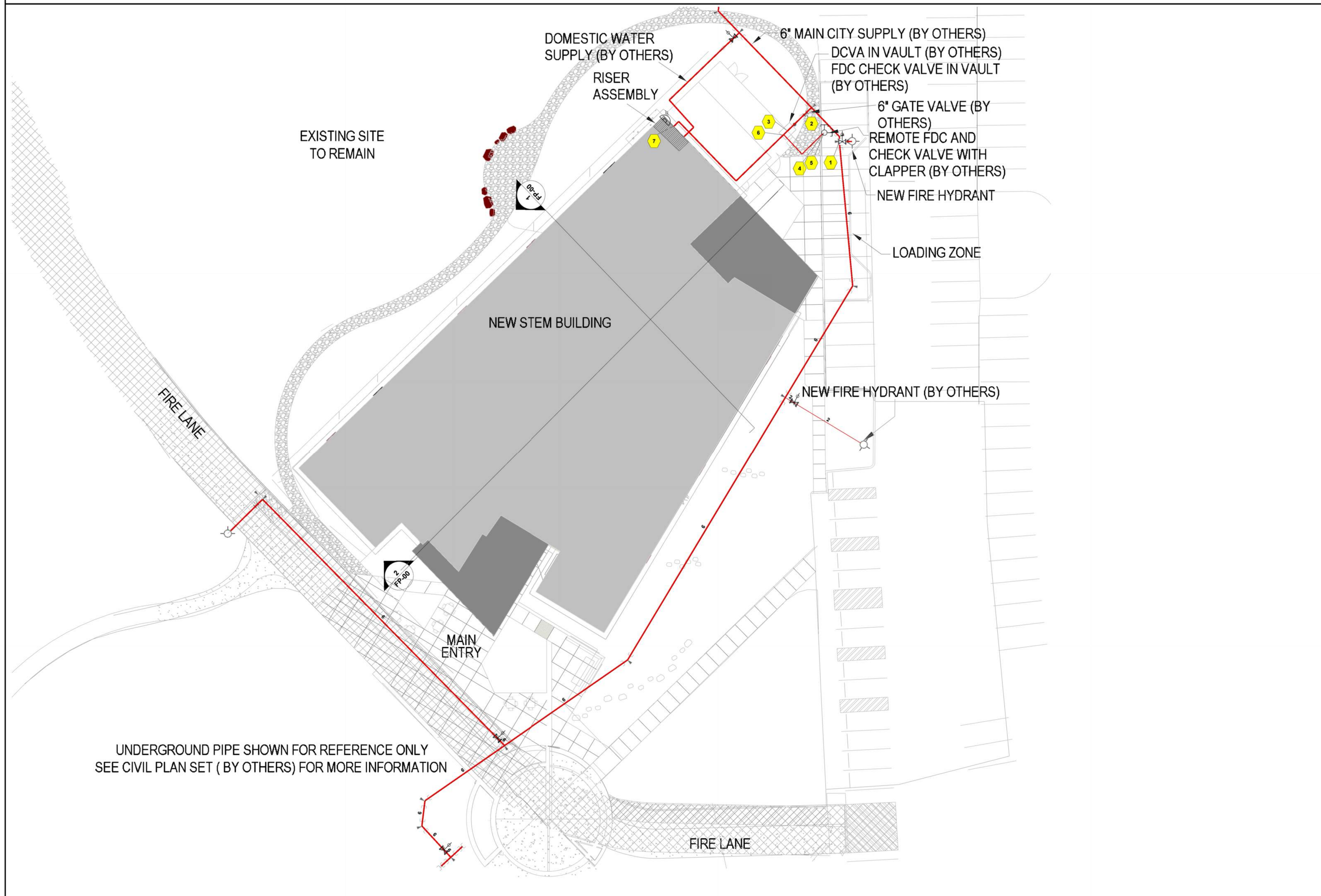
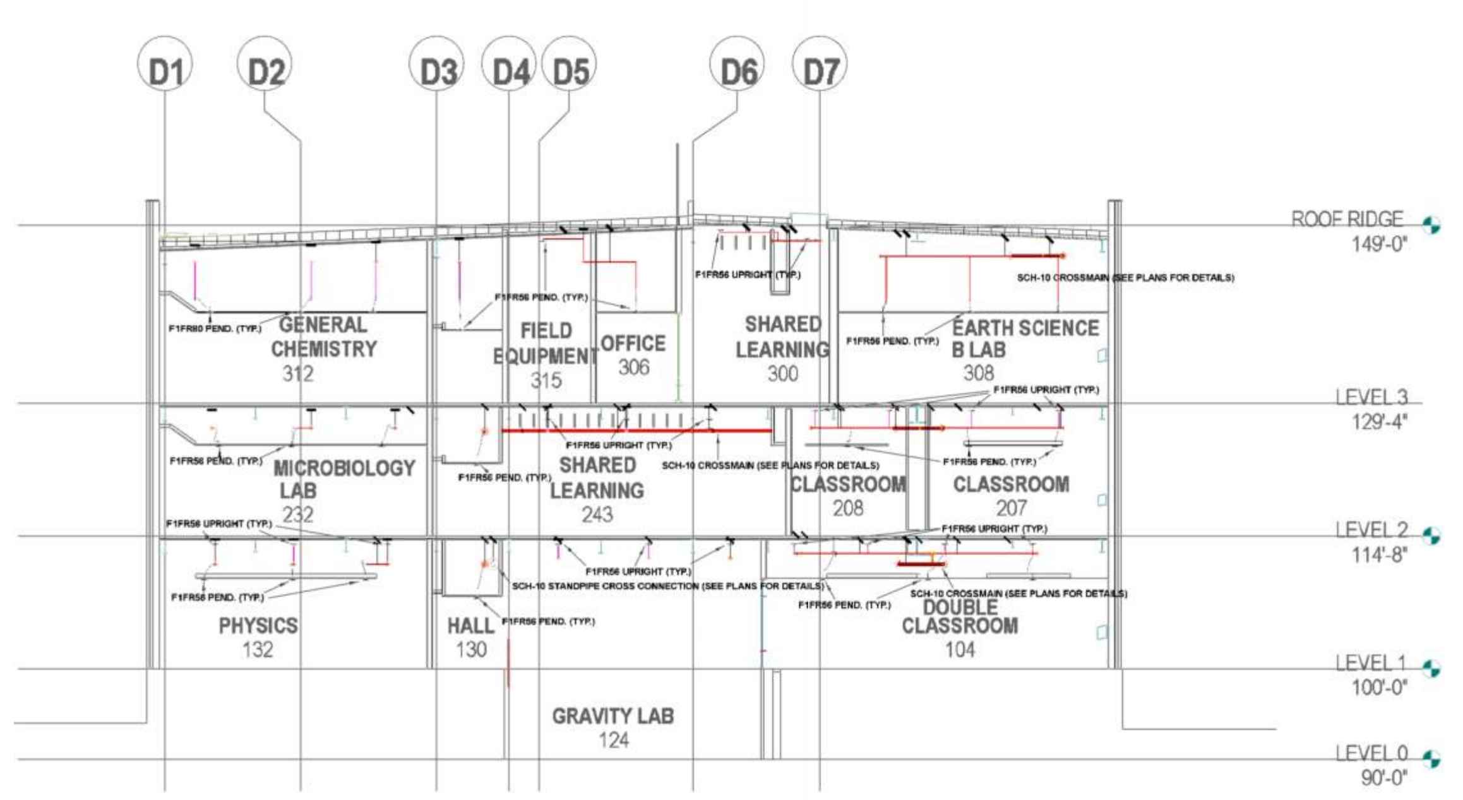
SITE PLAN:

0 5 10 20 40
SCALE 1"=20'-0"



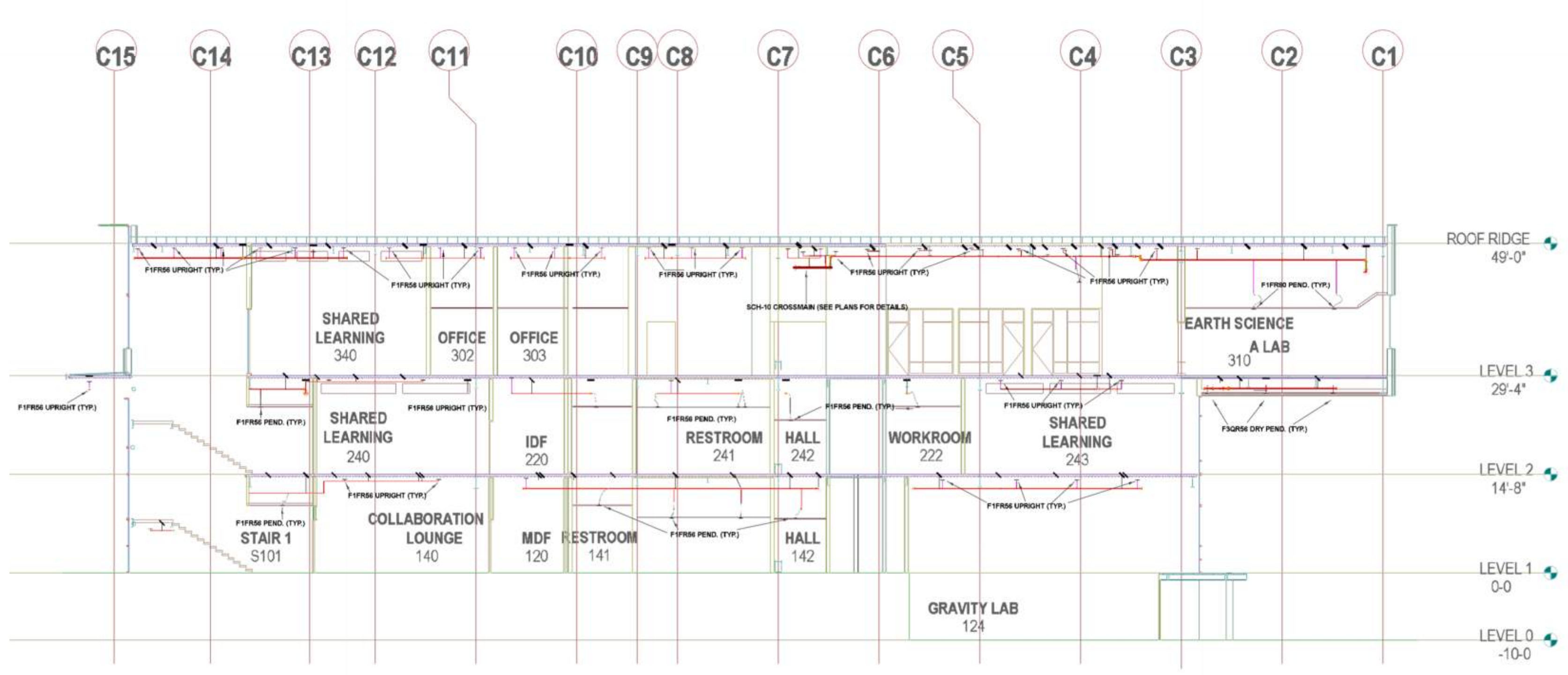
DOMESTIC WATER SUPPLY (BY OTHERS)
6" MAIN CITY SUPPLY (BY OTHERS)
DCVA IN VAULT (BY OTHERS)
FDC CHECK VALVE IN VAULT (BY OTHERS)
RISER ASSEMBLY
6" GATE VALVE (BY OTHERS)
REMOTE FDC AND CHECK VALVE WITH CLAPPER (BY OTHERS)
NEW FIRE HYDRANT
EXISTING SITE TO REMAIN
LOADING ZONE
NEW STEM BUILDING
NEW FIRE HYDRANT (BY OTHERS)
FIRE LANE
MAIN ENTRY
1 FP-00
2 FP-00
UNDERGROUND PIPE SHOWN FOR REFERENCE ONLY
SEE CIVIL PLAN SET (BY OTHERS) FOR MORE INFORMATION
FIRE LANE



D1 D2 D3 D4 D5 D6 D7
ROOF RIDGE 149'-0"
LEVEL 3 129'-4"
LEVEL 2 114'-8"
LEVEL 1 100'-0"
LEVEL 0 90'-0"
GENERAL CHEMISTRY 312
FIELD EQUIPMENT 315
OFFICE 306
SHARED LEARNING 300
EARTH SCIENCE B LAB 308
MICROBIOLOGY LAB 232
SHARED LEARNING 243
CLASSROOM 208
CLASSROOM 207
PHYSICS 132
HALL 130
DOUBLE CLASSROOM 104
GRAVITY LAB 124

1) FIRE SPRINKLER SECTION VIEW

0 2 4 8 16
SCALE 1/8"=1'-0"



C15 C14 C13 C12 C11 C10 C9 C8 C7 C6 C5 C4 C3 C2 C1
ROOF RIDGE 49'-0"
LEVEL 3 29'-4"
LEVEL 2 14'-8"
LEVEL 1 0-0
LEVEL 0 -10-0
SHARED LEARNING 340
OFFICE 302
OFFICE 303
EARTH SCIENCE A LAB 310
SHARED LEARNING 240
IDF 220
RESTROOM 241
HALL 242
WORKROOM 222
SHARED LEARNING 243
STAIR 1 S101
COLLABORATION LOUNGE 140
MDF 120
RESTROOM 141
HALL 142
GRAVITY LAB 124

2) FIRE SPRINKLER SECTION VIEW

0 2 4 8 16
SCALE 1/8"=1'-0"

SYMBOLS:

- SWAY BRACING
- PIPE HANGER
- PIPE HANGER W/ BRANCH LINE RESTRAINT
- FLEXIBLE COUPLING
- RIGID COUPLING
- HYDRAULIC NODE
- GATE VALVE-N.R.S. (GV)
- ELECTRIC BELL
- FIRE DEPARTMENT CONNECTION (STANDARD)
- FIRE DEPARTMENT CONNECTION (SIDEWALK)
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- POST INDICATOR VALVE (PIV)
- THRUST BLOCK
- FLANGED CONNECTION
- EXISTING SPRINKLER PIPING (SITE PLAN)
- NEW SPRINKLER PIPING BY OTHERS (SITE PLAN)
- NEW SPRINKLER PIPING BY SHINN MECH. (SITE PLAN)
- X-X FF CENTERLINE OF PIPE ABOVE FINISHED FLOOR
- SECTION DETAIL ARROW POINTS VIEW DIRECTION

SCOPE OF WORK:

SHINN FIRE PROTECTION TO DESIGN AND INSTALL NEW WET AND DRY FIRE SPRINKLER SYSTEMS, WET MANUAL STANDPIPES BASED ON, NFPA 14 - 2016, SCOPE OF WORK STARTS AT 12" ABOVE FINISHED FLOOR IN THE RISER ROOM

UNDERGROUND NOTES: (BY OTHERS)

1. ALL UNDERGROUND TO BE BY OTHERS. CONTRACTOR TO BE STATE LICENSED AND CERTIFIED TO INSTALL UNDERGROUND PIPING PER WAC 212-80.

2. THE DESIGN AND INSTALLATION OF THE FIRE PROTECTION UNDERGROUND SHALL BE PERFORMED PER SECTION 212.80.18 OF THE "WASHINGTON ADMINISTRATIVE CODE" (WAC)

3. UNDERGROUND PIPING TO BE PROPERLY THRUST BLOCKED PER NFPA 24 WITH A MINIMUM OF 3'-0" BELOW FROST LINE.

4. SHINN FIRE PROTECTION'S SCOPE OF WORK STARTS AT 12" ABOVE FINISHED FLOOR IN THE RISER ROOM

SPECIAL FIELD INSTRUCTIONS:

1. INSTALL TEMPORARY PROTECTION (RED CAP) AND OR PLASTIC BAGS ON ALL SPRINKLER HEADS AS REQUIRED TO AVOID COLLISION BY OTHER TRADES AND PAINT OVERSPRAY. ALL TEMPORARY PROTECTION MEASURES TO BE REMOVED PRIOR TO SYSTEM BEING PLACED IN SERVICE.

GENERAL NOTES:

1. FIRE SPRINKLER SYSTEMS ARE TO BE DESIGNED, INSTALLED & TESTED IN ACCORDANCE WITH NFPA 14 & 25, 2016 EDITION, AS AMENDED BY THE STATE FIRE MARSHALL & THE CITY OF PUYALLUP FIRE DEPT.

2. ALL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL BE UL LISTED OR FM APPROVED.

3. IT IS THE OWNER'S RESPONSIBILITY TO ENSURE THAT THE STRUCTURE CAN ADEQUATELY SUPPORT ALL FIRE SPRINKLER PIPE AND SEISMIC LOADS.

4. OWNER IS RESPONSIBLE FOR MAINTAINING TEMPERATURES ABOVE 40°F TO PROTECT THE WET FIRE SPRINKLER SYSTEM FROM FREEZING. FIRE SPRINKLER SYSTEM HEATED BY BUILDING CENTRAL HEATING SYSTEM

5. ALL WIRING OF FIRE PROTECTION SYSTEM COMPONENTS TO BE DONE BY OTHERS. ALL WIRING AND MATERIAL SHALL BE LISTED IN ACCORDANCE WITH NFPA 70 (NEC) LATEST EDITION ADOPTED.

6. CENTRAL STATION MONITORING EQUIPMENT, WIRING AND SERVICES TO BE DONE BY OTHERS.

7. HANGERS TO BE PER NFPA 13 AS SHOWN ON THE DRAWINGS

8. NOTIFICATIONS: CENTRAL ALARM SYSTEM (BY OTHERS)

9. ALL NEW SYSTEMS SHALL BE HYDROSTATICALLY TESTED AT 200PSI OR 50 PSI OVER SYSTEM PRESSURE, WHICHEVER IS GREATER FOR 2 HRS.

10. ALL ORDINARY TEMPERATURE SPRINKLERS TO BE LOCATED AT LEAST 12" AWAY FROM EDGE OF DIFFUSER AND 6" AWAY FROM LIGHTS (0-250W)

11. ALL ARM OVERS EXCEEDING 24" TO BE PROVIDED WITH A HANGER

12. NOTIFICATION IS PROVIDED BY INTERIOR/EXTERIOR HORN & STROBE. ALL SYSTEMS TO BE MONITORED 24 HRS A DAYS BY A CENTRAL STATION. - (BY OTHERS)

13. EXTERIOR HORN & STROBE TO BE PROVIDED & LOCATED ON SIDE OF BUILDING CLOSEST TO REMOTE FDC (BY OTHERS)

14. ACT GRID CEILINGS - ALL SPRINKLER HEADS TO BE CENTER OF 2X2 TILES.

DRAWING INDEX:

WATER SUPPLY:

SOURCE:	PUYALLUP UTILITIES COMPUTER MODEL
STATIC PSI:	64 PSI
RESIDUAL:	20 PSI
FLOW:	1950 GPM
LOCATION:	640 RAILROAD AVE
DATE:	02-11-2022
HYDRANT LOCATION:	HYDRANT #SE682

PROJECT HEAD COUNTS: TOTAL FOR ALL PAGES

SYM	MFG	TYPE	SIN #	K-FACTOR	THR	TEMP	FINISH	QTY
○	RELIABLE	UPRIGHT	F1FR56	5.6	1/2"	155°F	BRONZE	319
●	RELIABLE	PENDENT	F1FR80	8.0	3/4"	155°F	CHROME	163
◉	RELIABLE	PENDENT	F1FR56	5.6	1/2"	155°F	CHROME	197
▲	RELIABLE	PENDENT	F1FR56	5.6	1/2"	155°F	CHROME	9
◐	RELIABLE	PENDENT	F1FR28	2.8	1/2"	200°F	CHROME	4
▷	RELIABLE	SIDEWALL	F1FR56	5.6	1/2"	155°F	BRONZE	10
							TOTAL	702

DESIGN NOTES:

1. BUILDING STRUCTURE IS NON-COMBUSTIBLE CONCRETE AND STEEL CONSTRUCTION.

2. SPRINKLER DEFLECTOR AND LOCATIONS SHALL BE DESIGNED IN ACCORDANCE WITH NFPA #13 - 2016.

3. ALL SEISMIC BRACING AND HANGER ASSEMBLIES TO BE INSTALLED IN ACCORDANCE TO NFPA #13 - 2016. PER NFPA 13 SECTION 9.3.6.5 BRANCHLINES WITH HANGER RODS LESS THAN 6"SHALL NOT REQUIRE BRANCH LINE END OF LINE RESTRAINT AND LATERAL BRACES.

4. THREADED PIPE TO BE SCH-40 ANSI, ASTM A53, OR A135, BLACK WET SYSTEM.
   - ROLL GROOVED PIPING: 1.5" TO 4' - SCH 10, ANSI/ASTM A795, BLACK WET SYSTEM
   - ROLL GROOVED PIPING: 6" & 8" - SCH 10, ASTM A-135, BLACK WET SYSTEM

5. THREADED PIPE TO BE SCH-40 ANSI, ASTM A53, OR A135, GALV. DRY SYSTEM.
   - ROLL GROOVED PIPING: 1.5" TO 4' - SCH 10, ANSI/ASTM A795, GALV DRY SYSTEM
   - ROLL GROOVED PIPING: 6" & 8" - SCH 10, ASTM A-135, GALV DRY SYSTEM

6. - THREADED FITTINGS TO BE DUCTILE/MALLEABLE IRON, 125#
   - GROOVED FITTINGS - VICTAULIC FIRELOCK OR EQUAL
   - WELDED OUTLETS - BY MERITS OR EQUAL

7. WORKING PRESSURE:
   - ALL PIPE FITTINGS TO BE LISTED FOR PRESSURES OVER 200 PSI
   - SCH. 10 & 40 PIPE RATED FOR 300 PSI
   - FIRELOCK FITTINGS & COUPLINGS ARE RATED FOR 365 PSI

8. A REMOTE F.D.C. IS PROVIDED AND INSTALLED BY OTHERS

9. LIGHT HAZARD OCCUPANCY (0.1/1500) - CLASSROOMS, OFFICES, RESTROOMS, CORRIDORS/HALLWAYS, CONFERENCE ROOMS, LOUNGE & ATTIC SPACE.

10. OH GR 1 (0.15/1500) MECHANICAL ROOMS

11. OH GR II (0.2/1500) - LAB SPACES

12. A REDUCTION IN THE REMOTE AREA IS USED WHERE Q.R. SPRINKLER HEADS ARE INSTALLED.

DESIGN CRITERIA:

PER NFPA 13 (2016), AND CITY OF PUYALLUP FIRE MARSHAL.

1--LEVEL 0 - BOILER ROOM
ORDINARY GROUP I HAZARD
DESIGN DENSITY: 0.15 GPM / 1500 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 10 / 2 + 55 = 40% REDUCTION, 1500 SF * 40% = 600 SF
1500 SF - 600 SF = 900 SF

2--LEVEL 1 - FAB LAB
ORDINARY GROUP II HAZARD
DESIGN DENSITY: 0.20 GPM / 1500 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 15 / 2 + 55 = 33% REDUCTION, 1500 SF * 33% = 495 SF
1500 SF - 495 SF = 1005 SF

3--LEVEL 1 - CLOSELY SPACED HEADS
LIGHT HAZARD
DESIGN DENSITY: 0.10 GPM / 7 HEADS
WET SYSTEM

4--LEVEL 1 - CLASSROOM 101 / 102
LIGHT HAZARD
DESIGN DENSITY: 0.10 GPM / 1555 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 15 / 2 + 55 = 33% REDUCTION, 1500 SF * 33% = 495 SF
1500 SF - 495 SF = 1005 SF

5--LEVEL 2 - EAST ENTRY - HIGH BAY AREA
LIGHT HAZARD
DESIGN DENSITY: 0.10 GPM / 1335 SF
WET SYSTEM

6--LEVEL 2 - GENERAL BIOLOGY LAB
ORDINARY GROUP II HAZARD
DESIGN DENSITY: 0.20 GPM / 1005 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 10 / 2 + 55 = 40% REDUCTION, 1500 SF * 40% = 600 SF
1500 SF - 600 SF = 900 SF

7--LEVEL 2 - CLASSROOM 201 / 202
LIGHT HAZARD
DESIGN DENSITY: 0.10 GPM / 1555 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 15 / 2 + 55 = 33% REDUCTION, 1500 SF * 33% = 495 SF
1500 SF - 495 SF = 1005 SF

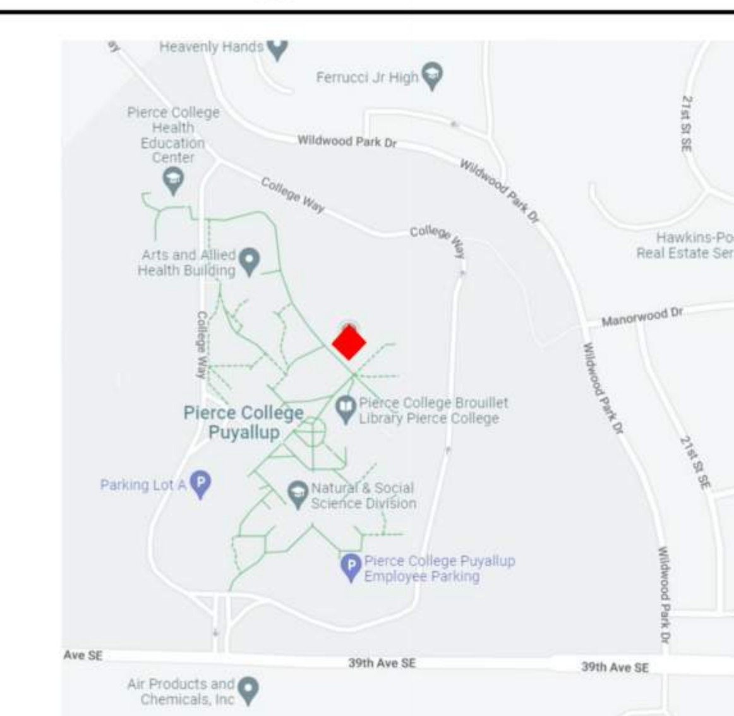
8--LEVEL 2 - EAST DOOR OVER HANG
LIGHT HAZARD
DESIGN DENSITY: 0.10 GPM / FULL SYSTEM
WET SYSTEM

9--LEVEL 3 - ORGANIC CHEMISTRY LAB
ORDINARY GROUP II HAZARD
DESIGN DENSITY: 0.20 GPM / 976 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 10 / 2 + 55 = 40% REDUCTION, 1500 SF * 40% = 600 SF
1500 SF - 600 SF = 900 SF

10--LEVEL 3 - EARTH SCIENCE LAB B
ORDINARY GROUP II HAZARD
DESIGN DENSITY: 0.20 GPM / 976 SF
WET SYSTEM, QR HEADS
DESIGN AREA REDUCTION PER NFPA 13 (2016) SECTION 11.2.3.2.3.1
-3 * 10 / 2 + 55 = 40% REDUCTION, 1500 SF * 40% = 600 SF
1500 SF - 600 SF = 900 SF

11--LEVEL 4 - MECHANICAL PENTHOUSE
ORDINARY GROUP 1 HAZARD
DESIGN DENSITY: 0.15 GPM / 418 SF
WET SYSTEM

VICINITY MAP:



Heavenly Hands
Ferrucci Jr High
Pierce College Health Education Center
Wildwood Park Dr
College Way
Arts and Allied Health Building
Hawkins-Poe Inc Real Estate Services
Manorwood Dr
Pierce College Puyallup
Pierce College Brouillet Library Pierce College
Parking Lot A
Natural & Social Science Division
Pierce College Puyallup Employee Parking
39th Ave SE
Air Products and Chemicals, Inc

SHINN FIRE PROTECTION
18802 80th Avenue S
Kent, WA 98032

Phone: (425) 203-9800
Fax: (425) 203-9801

WA CL# SHINNMI060QP

www.shinnmechanical.com

PROJECT:
PIERCE COLLEGE PUYALLUP NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

CONTRACTOR:
Absher Construction
P.O. Box 280
Puyallup, WA 98371
PRECON DIRECTOR Blaine Wolfe
Phone: (253) 845-9544

KEY PLAN:

REVISIONS:
1 7-11-23 FM Review-Notes added

AHJ:
CITY OF PUYALLUP

NICET STAMP:
FPET NICET #106245 LEVEL IV,MSME

WASHINGTON STATE
CERTIFICATE OF COMPETENCY
FIRE PROTECTION SPRINKLER SYSTEMS
Hussein A. A. Huballa
8321-1119-C Level 3
Shinn Mechanical, Inc.
SHINNMI060QP
Signature [illegible]
05/16/2023 Date
Expires DEC 31, 23

DATE:	05/15/2023
JOB NUMBER:	22-3688
DESIGNER:	Ben Bernard
PM:	

SITE PLAN AND NOTES

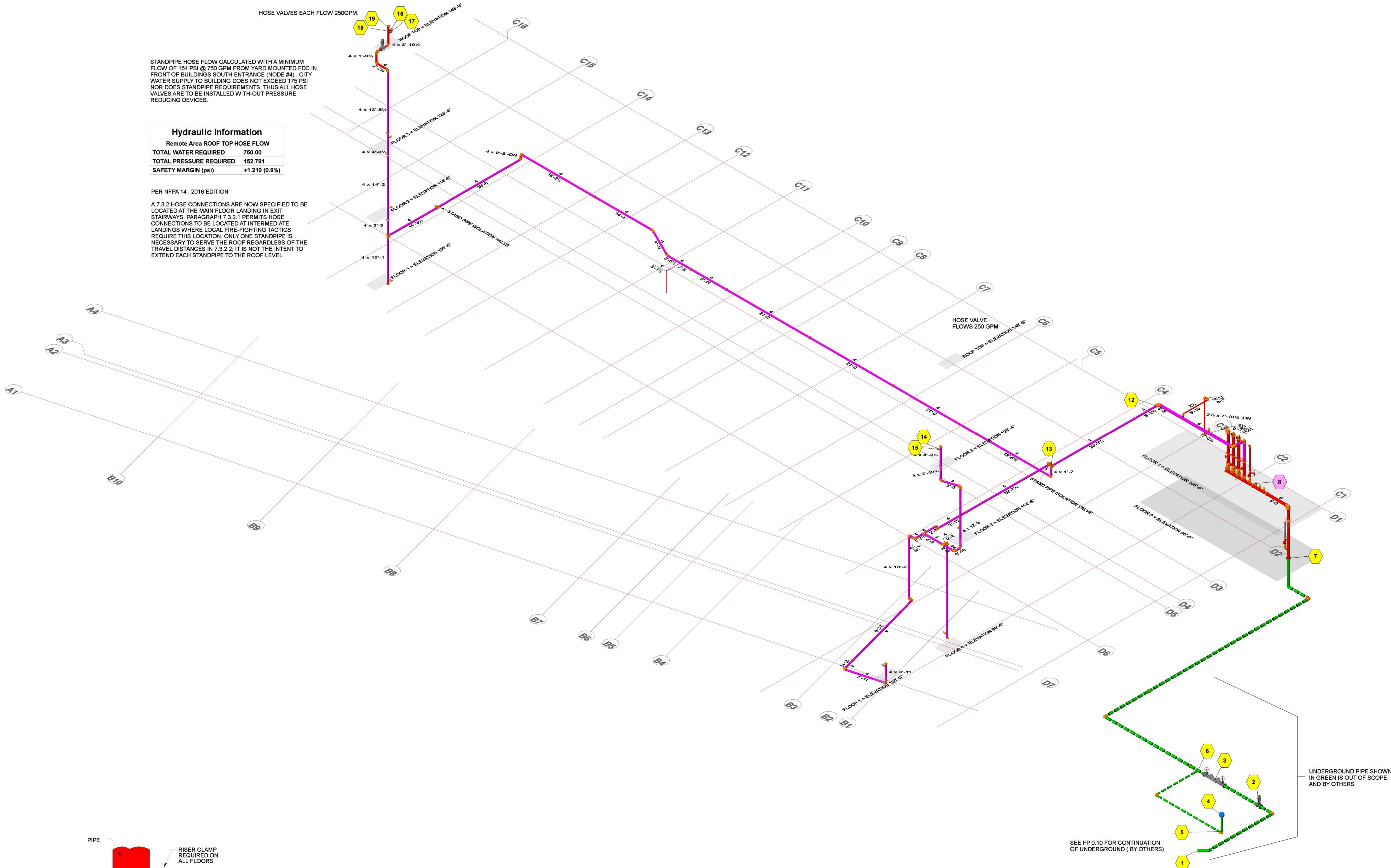
FP-0.0

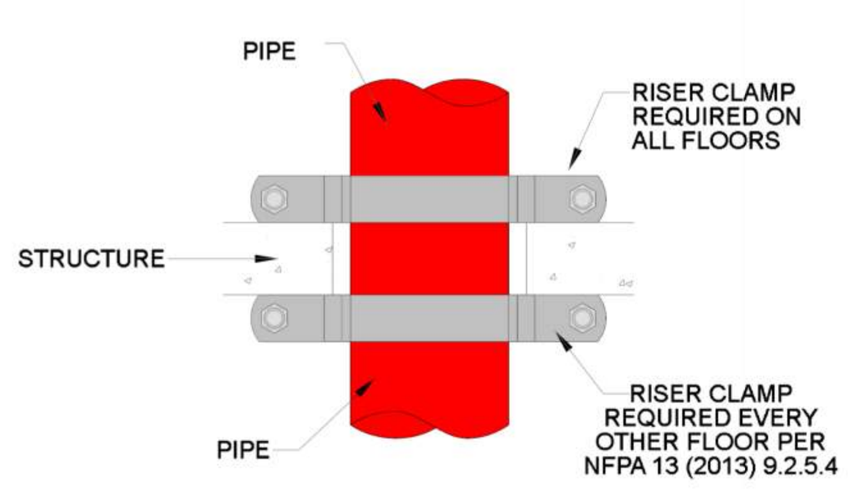
STANDPIPE HOSE FLOW CALCULATED WITH A MINIMUM FLOW OF 154 PSI @ 750 GPM FROM YARD MOUNTED FDC IN FRONT OF BUILDINGS SOUTH ENTRANCE (NODE #4) . CITY WATER SUPPLY TO BUILDING DOES NOT EXCEED 175 PSI NOR DOES STANDPIPE REQUIREMENTS, THUS ALL HOSE VALVES ARE TO BE INSTALLED WITH-OUT PRESSURE REDUCING DEVICES.

Hydraulic Information	
Remote Area ROOF TOP HOSE FLOW	
TOTAL WATER REQUIRED	750.00
TOTAL PRESSURE REQUIRED	152.781
SAFETY MARGIN (psi)	+1.219 (0.8%)

PER NFPA 14 , 2016 EDITION

A.7.3.2 HOSE CONNECTIONS ARE NOW SPECIFIED TO BE LOCATED AT THE MAIN FLOOR LANDING IN EXIT STAIRWAYS. PARAGRAPH 7.3.2.1 PERMITS HOSE CONNECTIONS TO BE LOCATED AT INTERMEDIATE LANDINGS WHERE LOCAL FIRE-FIGHTING TACTICS REQUIRE THIS LOCATION. ONLY ONE STANDPIPE IS NECESSARY TO SERVE THE ROOF REGARDLESS OF THE TRAVEL DISTANCES IN 7.3.2.2; IT IS NOT THE INTENT TO EXTEND EACH STANDPIPE TO THE ROOF LEVEL.





HANGER - CN
RISER CLAMP

FIRE SPRINKLER WET MANUAL STANDPIPE AND RISER LOCATIONS

0 2 4 8 16
SCALE 1/8"=1'-0"

SHINN FIRE PROTECTION
18802 80th Avenue S
Kent, WA 98032
Phone: (425) 203-9800
Fax: (425) 203-9801
WA CL# SHINNMI060QP
www.shinnmechanical.com

PROJECT:
PIERCE COLLEGE PUYALLUP NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

CONTRACTOR:
Absher Construction
P.O. Box 280
Puyallup, WA 98371
PRECON DIRECTOR Blaine Wolfe
Phone: (253) 845-9544

KEY PLAN:

REVISIONS:
1 7-11-23 FM Review-Notes added

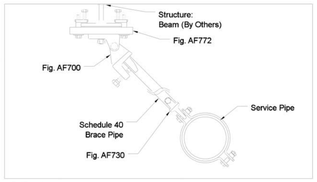
AHJ:
CITY OF PUYALLUP

NICET STAMP:
FPET NICET #106245 LEVEL IV,MSME
WASHINGTON STATE CERTIFICATE OF COMPETENCY FIRE PROTECTION SPRINKLER SYSTEMS
Hussein A. A. Huballa
8321-1119-C Level 3
Shinn Mechanical, Inc.
SHINNMI060QP
Signature
Date 05/16/2023
Expires DEC 31, 23

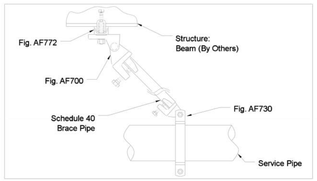
DATE:	05/16/2023
JOB NUMBER:	22-3688
DESIGNER:	Ben Bernard
PM:	

3/4 VIEW STAND PIPE PLAN AND DETAILS

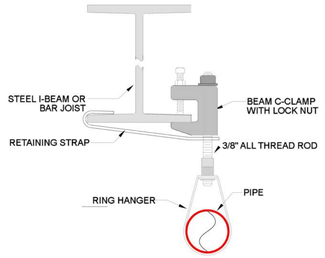
FP-1.0



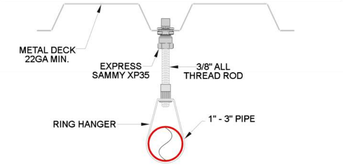
SB-1
I-BEAM = Fig. AF772,PERP / Fig. AF700 / AF730



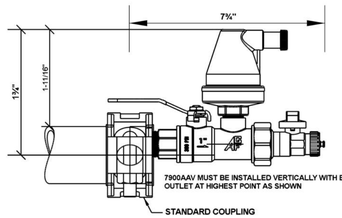
SB-2
I-BEAM = Fig. AF772,PARA / Fig. AF700 / AF730



HANGER - 12S
BEAM C-CLAMP W/ RETRAINING STRAP

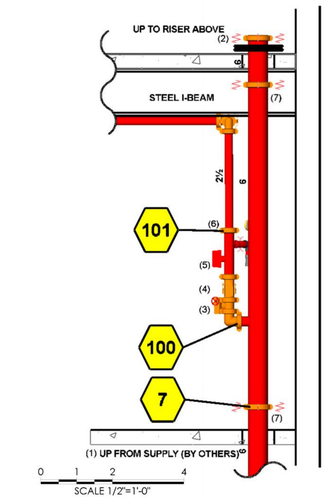


HANGER - 21S
EXPRESS SAMMY



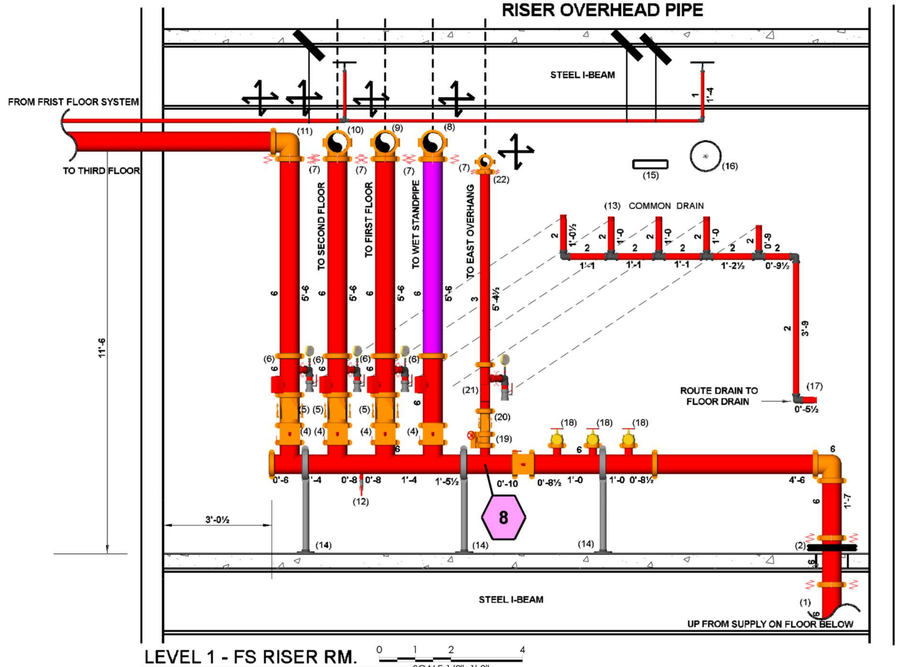
AGF ITEM ID	PIPE ∅	A [mm]	B [mm]
7930ECA-20	2"	6-1/8" [155]	4-7/8 [124]
7930ECA-25	2-1/2"	6-3/8" [161]	4-7/8 [124]
7930ECA-30	3"	6-5/8" [168]	4-7/8 [124]
7930ECA-40	4"	7-1/8" [181]	4-7/8 [124]
7930ECA-60	6"	8-1/8" [207]	4-7/8 [124]
7930ECA-80	8"	9" [230]	4-3/4 [120]

AGF MANUFACTURING INC.
PURGENVENT END CAP ASSEMBLY



MECH ROOM SPRINKLER RISER
FLOOR 0 - MECH SPACE

NOTES:
(1) 6" UNDERGROUND SUPPLY (BY OTHERS)
(2) 2" ANNULAR DISTANCE CLEAR AROUND PIPE WITH PIPE CLAMP FLOOR PENITRATION (BY OTHERS)
(3) 3" RELIABLE MODEL BFG-300 SUPERVISED BUTTERFLY VALVE GROOVED
(4) 3" RELIABLE MODEL G SWING CHECK VALVE, GxG
(5) 3" RELIABLE MODEL CR COMMERCIAL RISER W/ TEST AND DRAIN VALVE
(6) 3" x 2½" REDUCING COUPLING
(7) 6" FLEXIBLE COUPLING



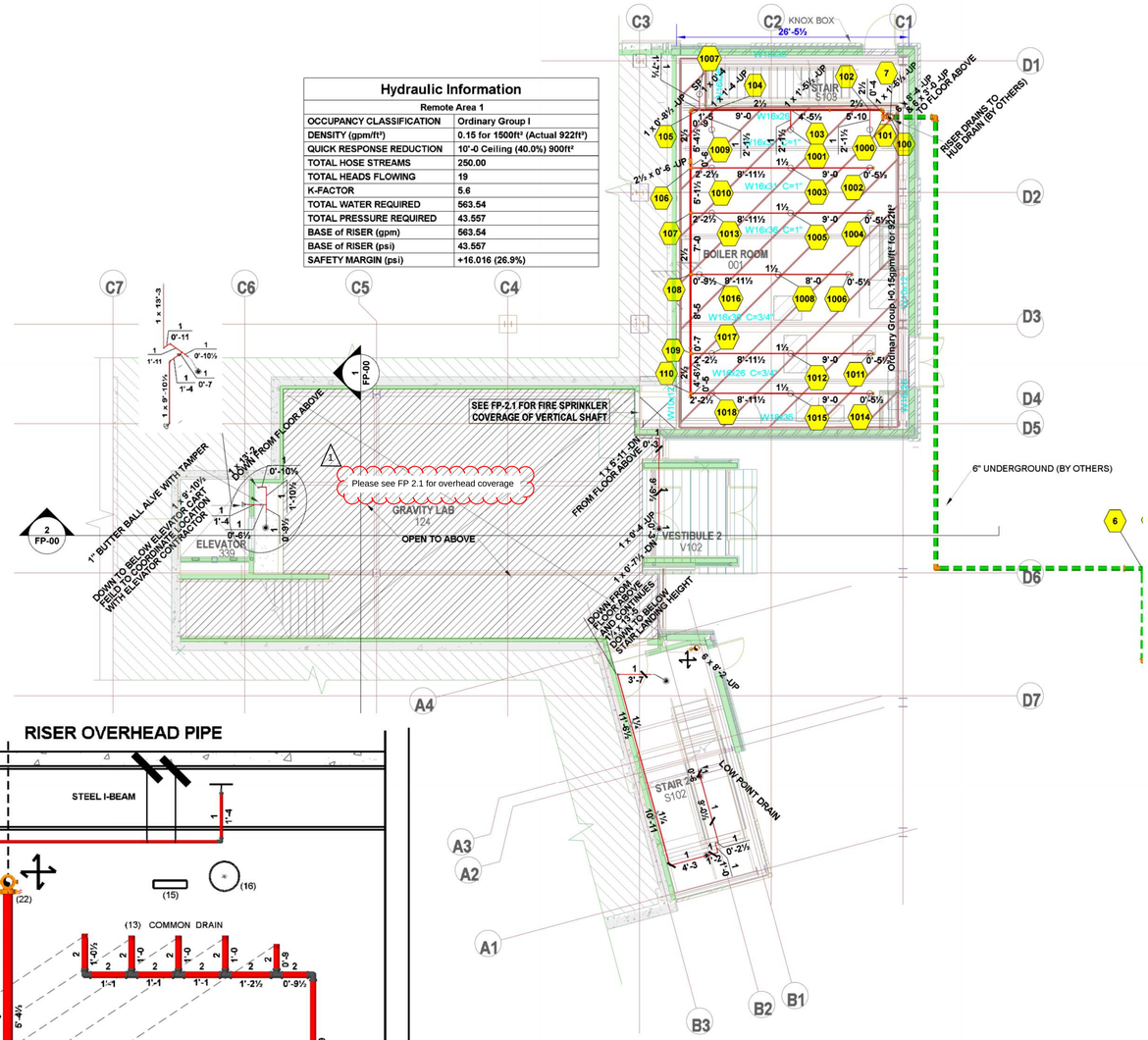
LEVEL 1 - FS RISER RM. 0 1 2 4 SCALE 1/2"=1'-0"

NOTES:
(1) 6" UNDERGROUND SUPPLY (BY OTHERS)
(2) 2" ANNULAR DISTANCE CLEAR AROUND PIPE WITH PIPE CLAMP FLOOR PENITRATION (BY OTHERS)
(3) 6" GxG TEE
(4) 6" RELIABLE MODEL BFG-300 SUPERVISED BUTTERFLY VALVE GROOVED
(5) 6" RELIABLE MODEL G SWING CHECK VALVE, GxG
(6) 6" RELIABLE MODEL CR COMMERCIAL RISER W/ TEST AND DRAIN VALVE
(7) 6" FLEXIBLE COUPLING
(8) 6" BLACK STEEL PIPE TO MANUAL WET STANDPIPE
(9) 6" BLACK STEEL PIPE TO WET SYSTEM ON FLOOR 0 & 1
(10) 6" BLACK STEEL PIPE TO WET SYSTEM ON FLOOR 2
(11) 6" BLACK STEEL PIPE TO WET SYSTEM ON FLOOR 3
(12) 1" BALL VALVE W/ SQUARE HEAD PLUG
(13) 2" SCH-40 BLACK PIPE MAIN DRAIN *
(14) 2" SCH-40 PIPE STAND W/ 4 CONC. ANCHORS IN FLOOR
(15) SPRINKLER HEAD CABINET
(16) BACKING BOX AND 10" ELECTRIC BELL (WIRED BY OTHERS)*
(17) DRAIN PIPING SHALL BE ROUTED TO FLOOR DRAIN WITH AIR GAP.
(18) HOSE VALVE FOR FORWARD FLOW TESTING OF BACK FLOW DEVICE**
(19) 3" RELIABLE MODEL BFG-300 SUPERVISED BUTTERFLY VALVE GROOVED
(20) 3" RELIABLE MODEL G SWING CHECK VALVE, GxG
(21) 3" RELIABLE MODEL CR COMMERCIAL RISER W/ TEST AND DRAIN VALVE
(22) 3" FLEXIBLE COUPLING

*BELL SHALL BE MOUNTED TO EXTERIOR OF BUILDING.

** HIGHEST FLOWING CALCULATION FLOWS @ 758GPM, 3 HOSE VALVES ARE REQUIRED PER NFPA 13 16.14.5.1.1.

Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	Ordinary Group I
DENSITY (gpm/ft²)	0.15 for 1500ft² (Actual 922ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	19
K-FACTOR	5.6
TOTAL WATER REQUIRED	563.54
TOTAL PRESSURE REQUIRED	43.557
BASE of RISER (gpm)	563.54
BASE of RISER (psi)	43.557
SAFETY MARGIN (psi)	+16.016 (26.9%)



FIRE SPRINKLER PLAN - LEVEL 0
0 2 4 8 16
SCALE 1/8"=1'-0"

Sprinkler Legend									
Symbol	Manufacturer	Model	K-Factor	Type	Size	Response	Finish	Temperature	Quantity
○	RELIABLE	FIFR56	5.6	Upright	½	Quick	BRASS	155°F	19
◉	RELIABLE	FIFR56	5.6	Pendent	½	Quick	Chrome	155°F	5
▷	RELIABLE	FIFR56	5.6	Sidewall	½	Quick	Chrome	155°F	1
									Total = 25

SHINN FIRE PROTECTION
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WA CL# SHINNMI060QP
www.shinnmechanical.com

PROJECT:
PIERCE COLLEGE
PUYALLUP NEW
STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

CONTRACTOR:
Absher
Construction

P.O. Box 280
Puyallup, WA 98371
PRECON DIRECTOR Blaine Wolfe
Phone: (253) 845-9544

KEY PLAN:

REVISIONS:
1 7-11-23 FM Review-Notes added

AHJ:
CITY OF PUYALLUP

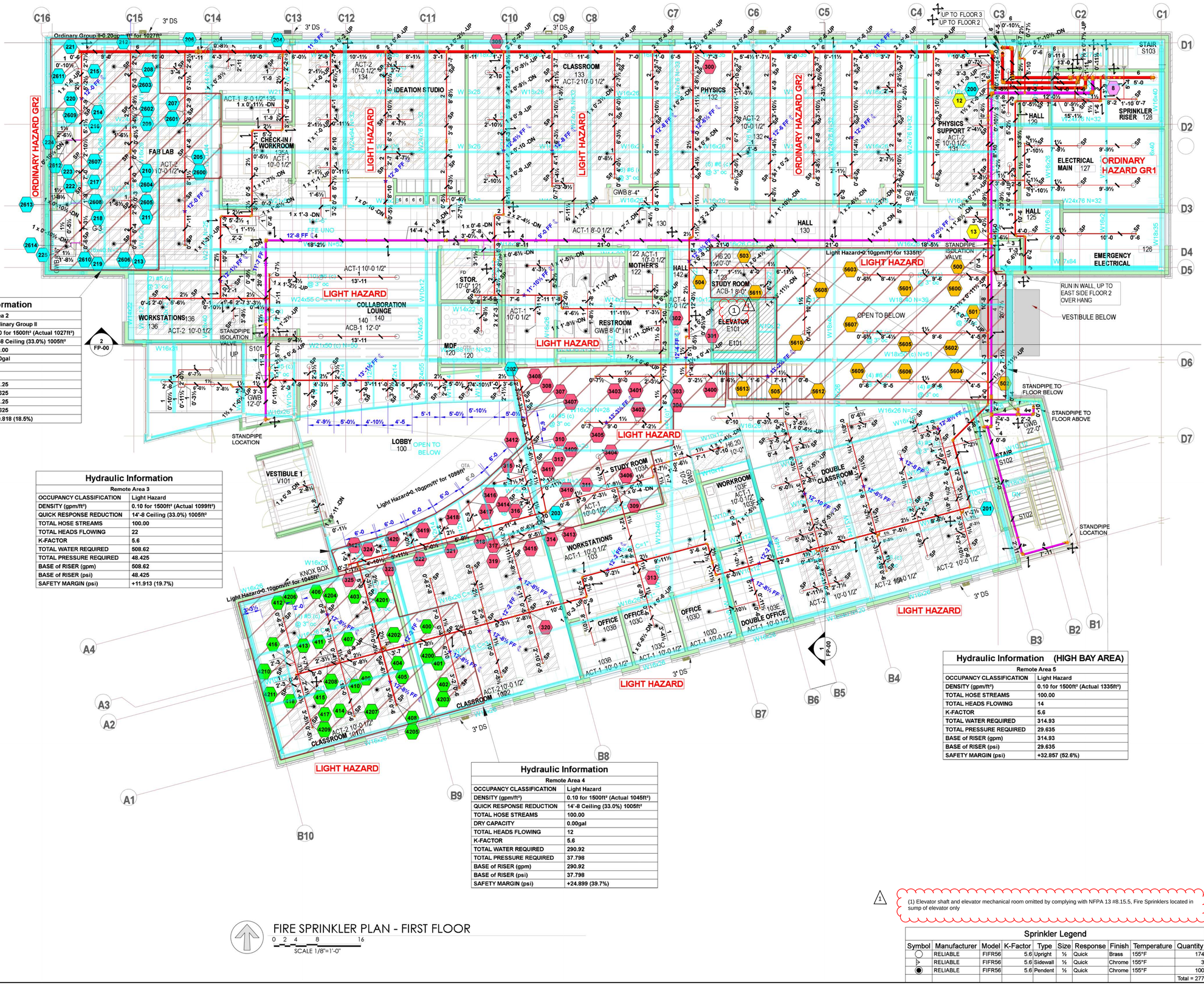
NICET STAMP:
FPET NICET #106245 LEVEL IV MSME

WASHINGTON STATE
CERTIFICATE OF COMPETENCY
FIRE PROTECTION SPRINKLER SYSTEMS
Hussein A. A. Huballa
8321-1119-C Level 3
Shinn Mechanical, Inc.
SHINNMI060QP
Signature
Date 05/16/2023
Expires DEC 24, 2023

DATE: 05/16/2023
JOB NUMBER: 22-3688
DESIGNER: Ben Bernard
PM:

ZERO FLOOR FIRE
SPRINKLER PLANS

FP-2.0



Hydraulic Information	
Remote Area 2	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 1027ft²)
QUICK RESPONSE REDUCTION	14'-8 Ceiling (33.0%) 1005ft²
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	15
K-FACTOR	5.6
TOTAL WATER REQUIRED	637.25
TOTAL PRESSURE REQUIRED	47.625
BASE of RISER (gpm)	637.25
BASE of RISER (psi)	47.625
SAFETY MARGIN (psi)	+10.818 (18.5%)

Hydraulic Information	
Remote Area 3	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1099ft²)
QUICK RESPONSE REDUCTION	14'-8 Ceiling (33.0%) 1005ft²
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	22
K-FACTOR	5.6
TOTAL WATER REQUIRED	508.62
TOTAL PRESSURE REQUIRED	48.425
BASE of RISER (gpm)	508.62
BASE of RISER (psi)	48.425
SAFETY MARGIN (psi)	+11.913 (19.7%)

Hydraulic Information (HIGH BAY AREA)	
Remote Area 5	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1335ft²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	14
K-FACTOR	5.6
TOTAL WATER REQUIRED	314.93
TOTAL PRESSURE REQUIRED	29.635
BASE of RISER (gpm)	314.93
BASE of RISER (psi)	29.635
SAFETY MARGIN (psi)	+32.857 (52.6%)

Hydraulic Information	
Remote Area 4	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1045ft²)
QUICK RESPONSE REDUCTION	14'-8 Ceiling (33.0%) 1005ft²
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	12
K-FACTOR	5.6
TOTAL WATER REQUIRED	290.92
TOTAL PRESSURE REQUIRED	37.798
BASE of RISER (gpm)	290.92
BASE of RISER (psi)	37.798
SAFETY MARGIN (psi)	+24.899 (39.7%)

FIRE SPRINKLER PLAN - FIRST FLOOR

0 2 4 8 16

SCALE 1/8"=1'-0"

1 (1) Elevator shaft and elevator mechanical room omitted by complying with NFPA 13 #8.15.5, Fire Sprinklers located in sump of elevator only

Sprinkler Legend									
Symbol	Manufacturer	Model	K-Factor	Type	Size	Response	Finish	Temperature	Quantity
○	RELIABLE	FIFR56	5.6	Upright	½	Quick	Brass	155°F	174
△	RELIABLE	FIFR56	5.6	Sidewall	½	Quick	Chrome	155°F	3
◉	RELIABLE	FIFR56	5.6	Pendent	½	Quick	Chrome	155°F	100
									Total = 277

SHINN FIRE PROTECTION

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KEY PLAN:

REVISIONS:

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FPET NICET #106245 , LEVEL IV ,MSME

WASHINGTON STATE
CERTIFICATE OF COMPETENCY
FIRE PROTECTION SPRINKLER SYSTEMS

Hussein A. A. Huballa
8321-1119-C Level 3
Shinn Mechanical, Inc.
SHINNMI060QP

Signature

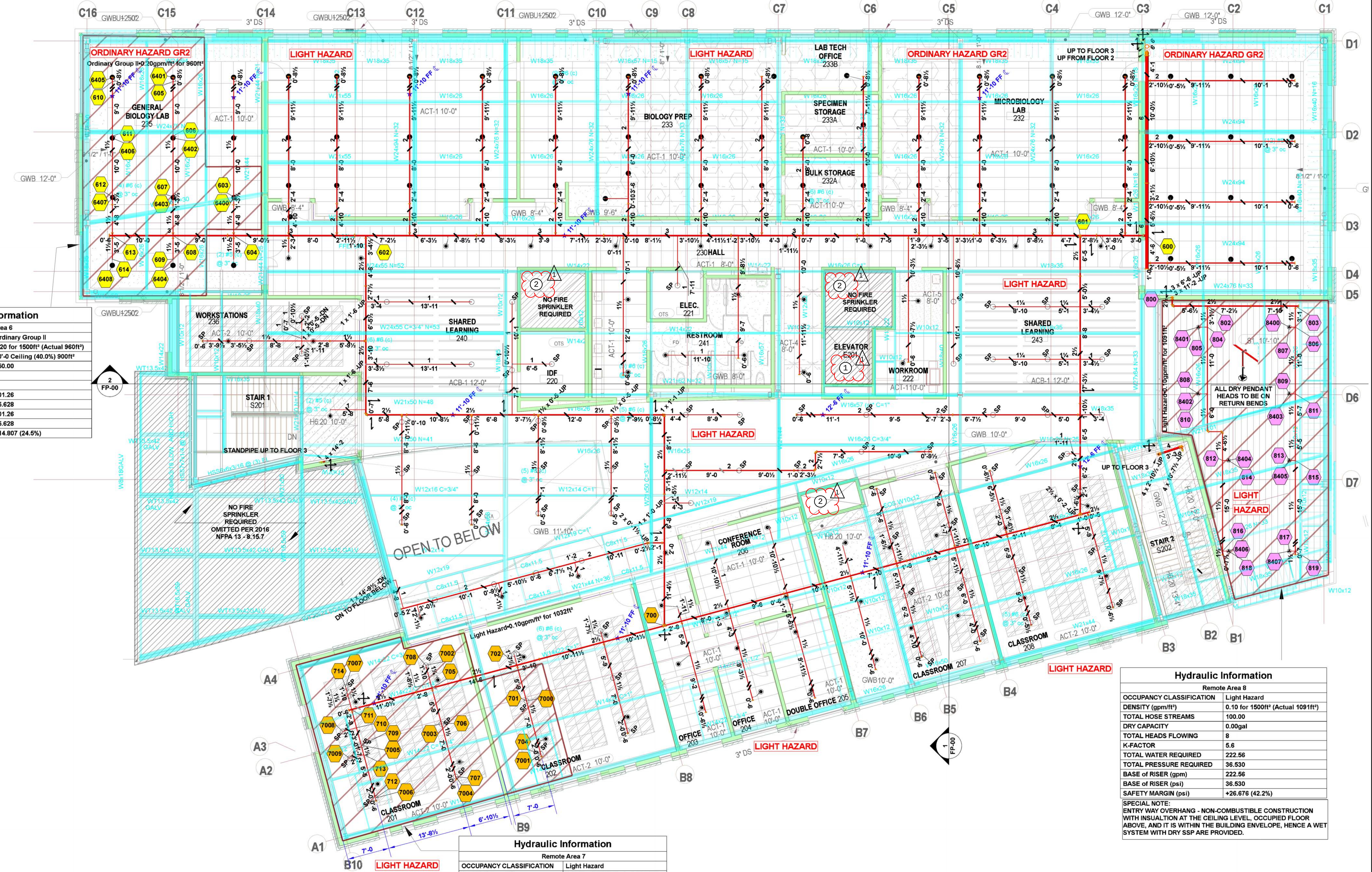
05/16/2023

Expires Dec 31, 23

DATE: 05/16/2023
JOB NUMBER: 22-3688
DESIGNER: Ben Bernard
PM:

1ST FLOOR FIRE SPRINKLER PLANS

FP-2.1



Hydraulic Information

Remote Area 6	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 960ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	9
K-FACTOR	8
TOTAL WATER REQUIRED	501.26
TOTAL PRESSURE REQUIRED	45.628
BASE of RISER (gpm)	501.26
BASE of RISER (psi)	45.628
SAFETY MARGIN (psi)	+14.807 (24.5%)

Hydraulic Information

Remote Area 7	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1032ft²)
QUICK RESPONSE REDUCTION	14'-8 Ceiling (33.0%) 1005ft²
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	10
K-FACTOR	5.6
TOTAL WATER REQUIRED	310.62
TOTAL PRESSURE REQUIRED	51.897
BASE of RISER (gpm)	310.62
BASE of RISER (psi)	51.897
SAFETY MARGIN (psi)	+10.632 (17.0%)

Hydraulic Information

Remote Area 8	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1091ft²)
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	8
K-FACTOR	5.6
TOTAL WATER REQUIRED	222.56
TOTAL PRESSURE REQUIRED	36.530
BASE of RISER (gpm)	222.56
BASE of RISER (psi)	36.530
SAFETY MARGIN (psi)	+26.676 (42.2%)

SPECIAL NOTE:
ENTRY WAY OVERHANG - NON-COMBUSTIBLE CONSTRUCTION WITH INSUALTION AT THE CEILING LEVEL, OCCUPIED FLOOR ABOVE, AND IT IS WITHIN THE BUILDING ENVELOPE, HENCE A WET SYSTEM WITH DRY SSP ARE PROVIDED.

FIRE SPRINKLER PLAN - SECOND FLOOR
0 2 4 8 16
SCALE 1/8"=1'-0"

1
(1) Elevator shaft and elevator mechanical room omitted by complying with NFPA 13 #8.15.5, Fire Sprinklers located in sump of elevator only.
(2) Fire Sprinklers omitted from Vertical, concealed, non-combustible shaft areas that comply with NFPA 13 #8.15.1.2

Sprinkler Legend

Symbol	Manufacturer	Model	K-Factor	Type	Size	Response	Finish	Temperature	Quantity
○	RELIABLE	FIFR56	5.6	Upright	½	Quick	Brass	200°F	81
▲	RELIABLE	F3QR56	5.6	Dry Pendent	1	Quick	Chrome	155°F	9
●	RELIABLE	FIFR80	8	Pendent	¾	Quick	Chrome	155°F	67
◉	RELIABLE	FIFR56	5.6	Pendent	½	Quick	Chrome	155°F	57
									Total = 214

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KEY PLAN:

REVISIONS:
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Hussein A. A. Huballa
8321-1119-C Level 3
Shinn Mechanical, Inc.
SHINNMI060QP
Signature [illegible]
Date 05/16/2023
Expires DEC 31, 23

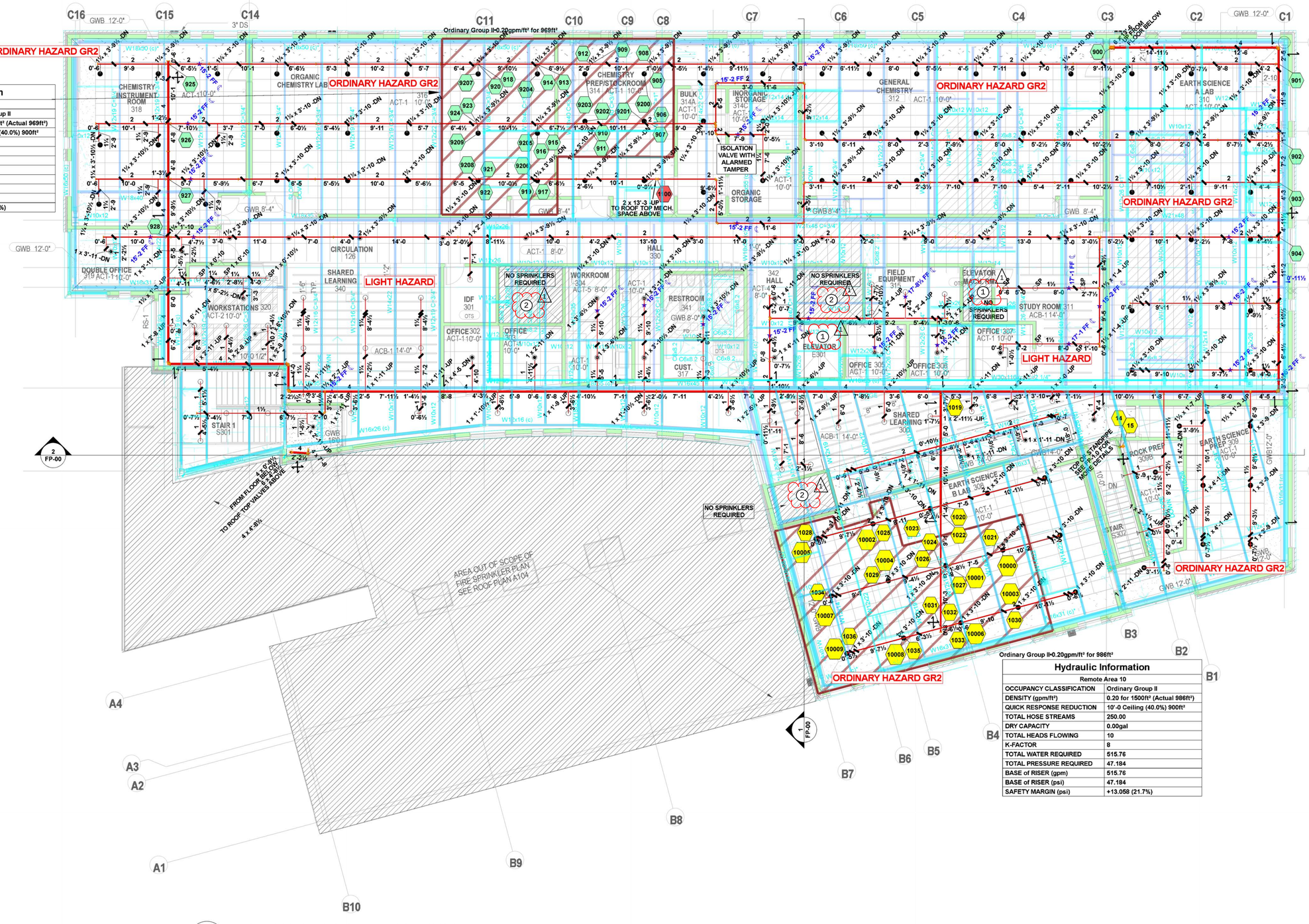
DATE: 05/15/2023
JOB NUMBER: 22-3688
DESIGNER: Ben Bernard
PM:

2rd FLOOR FIRE SPRINKLER PLANS

FP-2.2

Hydraulic Information

Remote Area 9	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 969ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	10
K-FACTOR	8
TOTAL WATER REQUIRED	515.36
TOTAL PRESSURE REQUIRED	44.470
BASE of RISER (gpm)	515.36
BASE of RISER (psi)	44.470
SAFETY MARGIN (psi)	+15.778 (26.2%)



Hydraulic Information

Remote Area 10	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 986ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	10
K-FACTOR	8
TOTAL WATER REQUIRED	515.76
TOTAL PRESSURE REQUIRED	47.184
BASE of RISER (gpm)	515.76
BASE of RISER (psi)	47.184
SAFETY MARGIN (psi)	+13.058 (21.7%)

FIRE SPRINKLER PLAN - THIRD FLOOR

0 2 4 8 16

SCALE 1/8"=1'-0"

1 (1) Elevator shaft and elevator mechanical room omitted by complying with NFPA 13 #8.15.5, Fire Sprinklers located in sump of elevator only.
(2) Fire Sprinklers omitted from Vertical, concealed, non-combustible shaft areas that comply with NFPA 13 #8.15.1.2

Sprinkler Legend

Symbol	Manufacturer	Model	K-Factor	Type	Size	Response	Finish	Temperature	Quantity
▷	RELIABLE	F1FR56	5.6	Sidewall	½	Quick	Chrome	155°F	6
◉	RELIABLE	F1FR56	5.6	Pendent	½	Quick	Chrome	155°F	35
○	RELIABLE	F1FR56	5.6	Upright	½	Quick	BRASS	155°F	45
●	RELIABLE	F1FR80	8	Pendent	¾	Quick	Chrome	155°F	96
									Total = 182

SHINN FIRE PROTECTION

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KEY PLAN:

REVISIONS:
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Shinn Mechanical, Inc.
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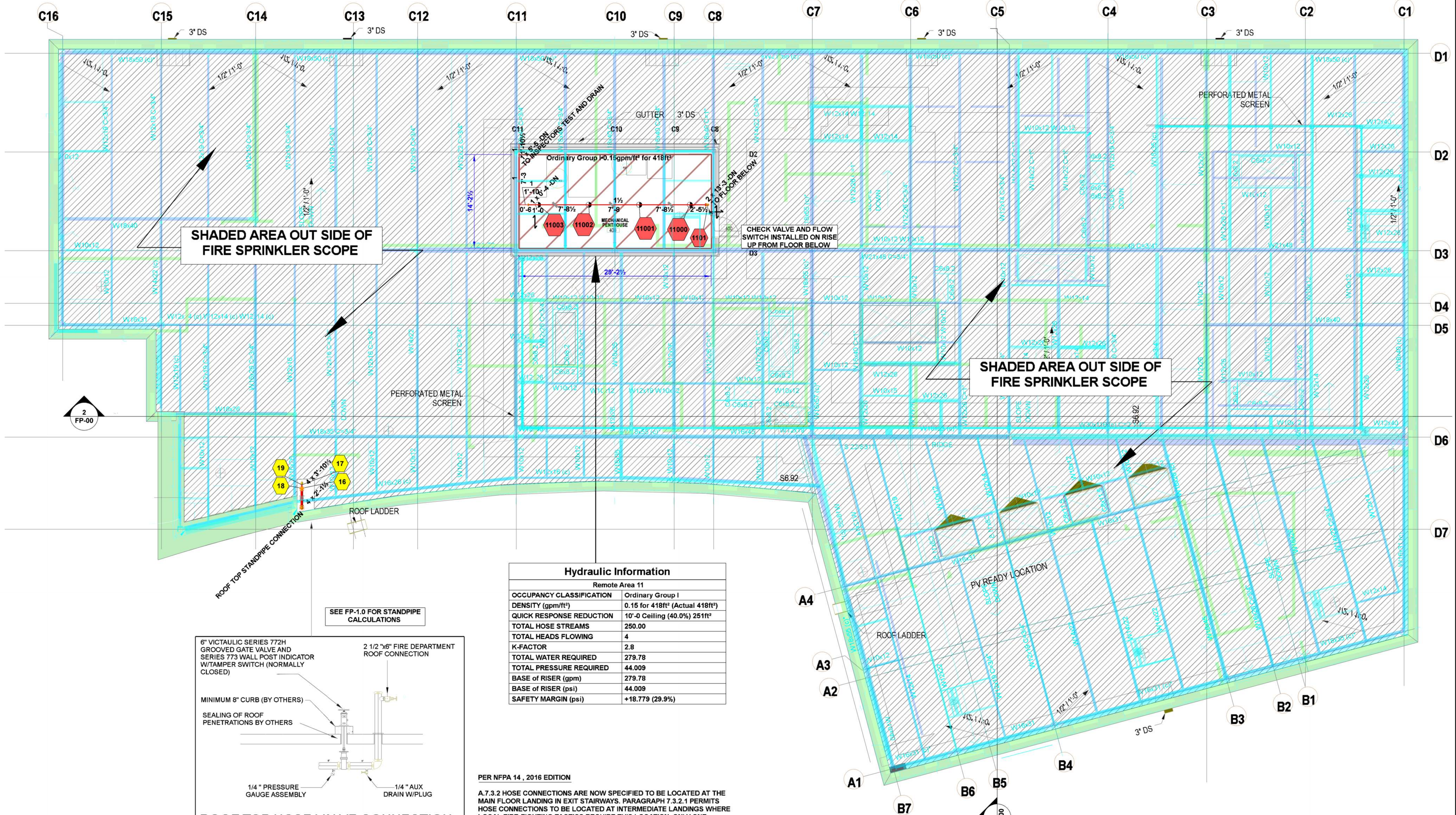
Signature
Expires
05/16/2023
DATE

DATE: 05/16/2023
JOB NUMBER: 22-3688
DESIGNER: Ben Bernard
PM:

3rd FLOOR FIRE SPRINKLER PLANS

FP-2.3



SEE FP-1.0 FOR STANDPIPE CALCULATIONS

Hydraulic Information	
Remote Area 11	
OCCUPANCY CLASSIFICATION	Ordinary Group I
DENSITY (gpm/ft²)	0.15 for 418ft² (Actual 418ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 251ft²
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	4
K-FACTOR	2.8
TOTAL WATER REQUIRED	279.78
TOTAL PRESSURE REQUIRED	44.009
BASE of RISER (gpm)	279.78
BASE of RISER (psi)	44.009
SAFETY MARGIN (psi)	+18.779 (29.9%)

6" VICTAULIC SERIES 772H GROOVED GATE VALVE AND SERIES 773 WALL POST INDICATOR W/TAMPER SWITCH (NORMALLY CLOSED)
2 1/2 "x6" FIRE DEPARTMENT ROOF CONNECTION
MINIMUM 8" CURB (BY OTHERS)
SEALING OF ROOF PENETRATIONS BY OTHERS
1/4 " PRESSURE GAUGE ASSEMBLY
1/4 " AUX DRAIN W/PLUG

ROOF TOP HOSE VALVE CONNECTION

SCALE: 1/4 " = 1'-0"

PER NFPA 14 , 2016 EDITION

A.7.3.2 HOSE CONNECTIONS ARE NOW SPECIFIED TO BE LOCATED AT THE MAIN FLOOR LANDING IN EXIT STAIRWAYS. PARAGRAPH 7.3.2.1 PERMITS HOSE CONNECTIONS TO BE LOCATED AT INTERMEDIATE LANDINGS WHERE LOCAL FIRE-FIGHTING TACTICS REQUIRE THIS LOCATION. ONLY ONE STANDPIPE IS NECESSARY TO SERVE THE ROOF REGARDLESS OF THE TRAVEL DISTANCES IN 7.3.2.2; IT IS NOT THE INTENT TO EXTEND EACH STANDPIPE TO THE ROOF LEVEL.

FIRE SPRINKLER PLAN - THIRD FLOOR

0 2 4 8 16
SCALE 1/8"=1'-0"

Sprinkler Legend									
Symbol	Manufacturer	Model	K-Factor	Type	Size	Response	Finish	Temperature	Quantity
◐	RELIABLE	F1FR28	2.8	Pendent	½	Quick	Chrome	155°F	4
									Total = 4

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3rd FLOOR FIRE SPRINKLER PLANS

FP-2.3