

### PLAN SYMBOLS

	STANDPIPE PIPING
	WET SPRINKLER PIPING
	DRY SPRINKLER PIPING
	DRAIN LINE
	NEW SIDEWALL SPRINKLER HEAD
	NEW UPRIGHT SPRINKLER HEAD
	NEW CONCEALED SPRINKLER HEAD
	NEW SEMI-RECESSED SPRINKLER HEAD
	TEST HEADER
	POST INDICATOR VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	SPRINKLER FLOOR CONTROL STATION
	FIRE DEPARTMENT VALVE
	VALVE IN DROP
	SHUT-OFF VALVE
	O.S.&Y. VALVE WITH TAMPER SWITCH
	MONITORED FIRE VALVE
	FLOW SWITCH
	BACKFLOW PREVENTER
	PRESSURE GAGE & COCK
	DIRECTION OF FLOW
	DIRECTION OF DRAINAGE
	SIAMESE FIRE DEPARTMENT CONNECTION
	PITCH DOWN PIPE
	SERVICE RISER UP/DOWN
	ELBOW DOWN
	STRAINER W/ GATE VALVE W/ NIPPLE & CAP
	ELBOW UP
	STRAINER
	UNION OR FLANGED CONNECTION
	PIPE CAP
	VALVE & VALVE BOX
	POINT OF CONNECTION NEW TO EXISTING
	TERMINATION OF DEMOLITION REMOVAL
	SECTION TAG
	SECTION NUMBER
	DRAWING PAGE NUMBER
	STANDPIPE RISER DESIGNATION
	STANDPIPE RISER DESIGNATION
	SPRINKLER ZONE BOUNDARY

### GENERAL NOTES

- THIS IS A STANDARD SYMBOL LIST. ALL DEVICE SYMBOLS, SPRINKLER CONSTRUCTION NOTES AND ABBREVIATIONS MAY NOT NECESSARILY APPEAR ON THE FLOOR PLAN OR DETAIL SHEETS. ONLY THOSE SYMBOLS INDICATED ON THE FLOOR PLANS ARE USED FOR THIS PROJECT. ALL OTHERS ARE TO BE CONSIDERED NOT USED AND SHOULD BE DISREGARDED.
- PROVIDE A COMPLETE FULLY AUTOMATIC SPRINKLER SYSTEM HYDRAULICALLY CALCULATED FOR THE ENTIRE BUILDING; IN ACCORDANCE WITH NFPA 13, NFPA 101, UFC-3-600-10N AND UFC-3-600-01. A MINIMUM 12 PSI PRESSURE LOSS SHALL BE ACCOUNTED FOR AT THE BACKFLOW PREVENTER.
- CONTRACTOR SHALL DETERMINE THE BEST LAYOUT BASED ON HYDRAULIC CALCULATIONS AND NFPA 13.
- THE FIRE SPRINKLER SYSTEM LAYOUT PRESENTED IN DRAWINGS IS FOR GENERAL PURPOSES ONLY. THE FINAL LAYOUT IS THE RESPONSIBILITY OF THE SPRINKLER SYSTEM CONTRACTOR AND SHALL BE IN ACCORDANCE WITH NFPA 13-2013 EDITION REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE CALCULATIONS TO VERIFY PIPE SIZING.
- ALL FIRE PROTECTION EQUIPMENT, I.E. PIPING, VALVES, FITTINGS AND ACCESSORIES ETC., SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 175 P.S.I.
- ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS CAN BE DRAINED BACK THROUGH DRAIN VALVE.
- ALL FIRE EQUIPMENT AND FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL STANDARDS.
- INSTALLATION OF SPRINKLER SYSTEMS SHALL BE COORDINATED WITH ALL MECHANICAL AND ELECTRICAL TRADES.
- ALL CONTROL VALVES AND FLOW ALARM SWITCHES LOCATED ABOVE FINISHED CEILING SHALL BE ACCESSIBLE AND HAVE NOTIFICATION AND MARKING TAG FOR INSPECTOR.
- ALL FIRE PROTECTION SHOP DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL FIRE PROTECTION ENGINEER.
- NO EQUIPMENT OR PIPE FOREIGN TO ELECTRICAL ROOMS ARE PERMITTED TO BE INSTALLED IN, ENTER, OR PASS THROUGH ELECTRICAL ROOMS OR CLOSETS.
- THE NAVFAC-WASHINGTON IS THE AUTHORITY HAVING JURISDICTION FOR ALL DESIGN ASPECTS OF THE SPRINKLER SYSTEM.
- REFER TO HVAC MECHANICAL DRAWINGS FOR LAYOUT OF DUCTWORK FOR SPRINKLER COVERAGE UNDER DUCTWORK AS REQUIRED BY CODE.
- THESE DRAWINGS APPLY TO THE DESIGN AND INSTALLATION OF WET PIPE SPRINKLER SYSTEM TO PROTECT THE ROOMS IN THE AREAS INDICATED ON THE DRAWINGS AND ARE INTENDED FOR GENERAL DESIGN BASIS INFORMATION PURPOSES AND COORDINATION; THE SPRINKLER CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCEED WITH THE INSTALLATION.
- PROVIDE HANGERS FOR ALL ARMOVERS EXCEEDING 12" IN LENGTH.
- ALL FITTINGS TO BE NEW AND LISTED FOR FIRE PROTECTION APPLICATIONS.
- REFER TO SPECIFICATIONS FOR PIPING TYPES AND SCHEDULES.
- ALL SPRINKLERS IN AREAS WITH FINISHED CEILINGS SHALL BE INSTALLED CENTER OF TILE AND ON RETURN BEND.
- SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.
- DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE WITH OWNER ANY TEMPORARY SHUT DOWN OF ANY FIRE PROTECTION SYSTEM.
- FOR BIDDING PURPOSES UTILIZE THE FOLLOWING TEST INFORMATION:  
DATE OF TEST: AUGUST 5TH, 2014  
49 PSI; 36 PSI @ 919 GPM  
TEST HYDRANT: HYDRANT #2 (EAST END OF NEW BUILDING FOOTPRINT)  
FLOW HYDRANT: HYDRANT #3 (SOUTH-WEST END OF NEW BUILDING FOOTPRINT)
- CONTRACTOR SHALL, AS PART OF THIS WORK, PERFORM A CONFIRMING FLOW TEST IN ACCORDANCE WITH NFPA 291. HYDRAULIC CALCULATIONS TO BE BASED ON CONTRACTOR'S FLOW TEST.
- PROVIDE SPRINKLER HEADS TYPE, AS SHOWN OR SPECIFIED, AND FINISHED AS FOLLOWS:  
A. STORAGE AND MECHANICAL SPACES AREAS: QUICK-RESPONSE UPRIGHT PENDANT; STANDARD ORIFACE SPRINKLERS. K = 8.0; ORDINARY TEMPERATURE RATING; BRASS FINISH.  
B. LOBBIES, CLASSROOMS AND OTHER AREAS WITH FINISHED CEILINGS: QUICK-RESPONSE CONCEALED PENDANT; STANDARD ORIFACE. K=5.6; ORDINARY TEMPERATURE RATING; WHITE COVER PLATE EXCEPT WHERE INDICATED.  
C. TEMPERATURE RATINGS AND LOCATION OF SPRINKLER HEADS NEAR HEAT SOURCES, UNINSULATED DOORS, ETC TO BE PER NFPA 13.  
D. PROVIDE WHITE SPRINKLER GUARDS ON SPRINKLERS LOCATED IN THE GYMNASIUM AND WHEN SUBJECT TO MECHANICAL DAMAGE.
- 2.5" FD HOSE CONNECTIONS ARE REQUIRED IN ALL ENTRANCES, STAIRWAY LANDINGS, AND CORRIDORS.

### ABBREVIATIONS

AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ARCH.	ARCHITECT
BFP	BACK FLOW PREVENTER
BLK	BLACK
CL	CENTERLINE
CL.G.	CEILING
CO	CLEANOUT
CONN.	CONNECTION
DEMO.	DEMOLITION
DIA.	DIAMETER
DN	DOWN
DW	DOMESTIC WATER
DWG.	DRAWING
DSP	DRY STANDPIPE
(E)	EXISTING
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
(R)	EXISTING RELOCATED
EQUIP.	EQUIPMENT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FDVC	FIRE DEPARTMENT VALVE CABINET
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FL.	FLOOR
FS	FLOW SWITCH
GA.	GAUGE
G.C.	GENERAL CONTRACTOR
GPM	GALLON PER MINUTE
GWB	GYPSON WALL BOARD
HP	HORSEPOWER
HT.	HEIGHT
HVAC	HEATING, VENTILATING, AIR CONDITIONING
I.D.	INSIDE DIMENSION
KW	KILOWATT
MAX.	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
N.T.S.	NOT TO SCALE
O.D.	OUTSIDE DIMENSION
OS&Y	OUTSIDE SCREW & YOKE
P.C.	PLUMBING CONTRACTOR
PIV	POST INDICATOR VALVE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RPZ	REDUCED PRESSURE ZONE
SF	SQUARE FEET
SP	STANDPIPE
SPEC.	SPECIFICATION
SPR	SPRINKLER
STD.	STANDARD
SYS.	SYSTEM
TEMP.	TEMPERATURE
TS	TAMPER SWITCH
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
WSP	WET STANDPIPE
*	DISTANCE DOWN FROM CEILING
+	DISTANCE ABOVE FINISHED FLOOR

### BUILDING CONSTRUCTION CODE DATA

CODE:	UFC 3-600-01	FIRE PROTECTION ENGINEERING FOR FACILITIES
	UFC 3-600-10N	DRAFT FIRE PROTECTION ENGINEERING UNIFIED FACILITIES CRITERIA
SITE LOCATION:	MARINE CORPS BASE QUANTICO, VA	
FIRE SUPPRESSION SYSTEM:	FULLY SPRINKLERED	
	PROPOSED WORK SHALL COMPLY WITH:	
	NFPA 13 - 2013 EDITION	

### DESIGN CRITERIA NOTE

THIS FIRE PROTECTION DRAWING INDICATES THE GENERAL LOCATION OF THE SPRINKLERS. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR LAYING OUT ALL BRANCH LINE & ARM OVER PIPING IN CONFORMANCE WITH NFPA 13 STANDARDS. CONTRACTOR SHALL PERFORM HYDRAULIC CALCULATIONS FOR PIPE SIZING AND CONFIRM DESIGN DENSITIES AND SPRINKLER DISCHARGE CHARACTERISTICS WITH ANY AUTHORITY HAVING JURISDICTION. WORKING PLANS AND HYDRAULIC CALCULATIONS ARE TO BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO CONSTRUCTION.

### SPRINKLER ZONE SCHEDULE

ZONE #	TOTAL AREA (SF)
SPR 1-1	42,000 (SF)
SPR 1-2	27,000 (SF)
SPR 1-3	13,900 (SF)
SPR 2-1	10,000 (SF)
SPR 2-2	24,200 (SF)

### FIRE PUMP SCHEDULE

UNIT No.	SERVICE	CASING TYPE	DESIGN CAPACITY (GPM)	DESIGN HEAD (PSI)	CASING SIZE		FIRE PUMP / JOCKEY PUMP MOTOR DATA		BASIS OF DESIGN		REMARKS	CONTROLLER
					SUCTION (INCHES)	DISCHARGE (INCHES)	HP	RPM	MANUF.	PUMP MODEL NO.		
FP-01	FP SYSTEM (FIRE PUMP)	VERTICAL INLINE	750	50	6"	5"	30	1770	AURORA	5-481-15	CENTRIFUGAL, ALL BRONZE, UL LISTED	JOSLYN CLARK
JP-01	FP SYSTEM (JOCKEY PUMP)	MULTI-STAGE CENTRIFUGAL	7.5	55	1 1/4"	1 1/4"	1	3450	AURORA	PVM2-40D	TURBINE	JOSLYN CLARK

### DESIGN CRITERIA

OCCUPANCY/AREA	HAZARD CATEGORAY	DENSITY (GPM / SQ. FT.)	HYDRAULIC DESIGN AREA (SQ. FT.)	MAX. SPRINKLER COVERAGE (SQ. FT.)	OUTSIDE HOSE DEMAND (GPM)	SYSTEM TYPE	MINIMUM SPRINKLER HEAD K FACTOR
OFFICES AND CLASSROOMS	HAZARD CATEGORY-1	0.10	1500	225	250	WET	5.6
STORAGE, KITCHEN, AND MECHANICAL AREAS	HAZARD CATEGORY-2	0.20	2500	130	250	WET	8.0
GYMNASIUM AND COMMONS (CEILINGS > 30 FT)	HAZARD CATEGORY-1	0.20	2500	130	250	WET	8.0

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APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE 06/27/08
Designer Author Checker
PM/DM
BRANCH MANAGER
CHIEF ENGR ARCH
FIRE PROTECTION

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVFAC WASHINGTON  
DODIA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**

SCALE: 12" = 1'-0"
PROJECT NO.: P-021
CONSTR. CONTR. NO. W91236-15-C-0023
NAVFAC DRAWING NO. 13091470
SHEET 716 OF 789
FX-001

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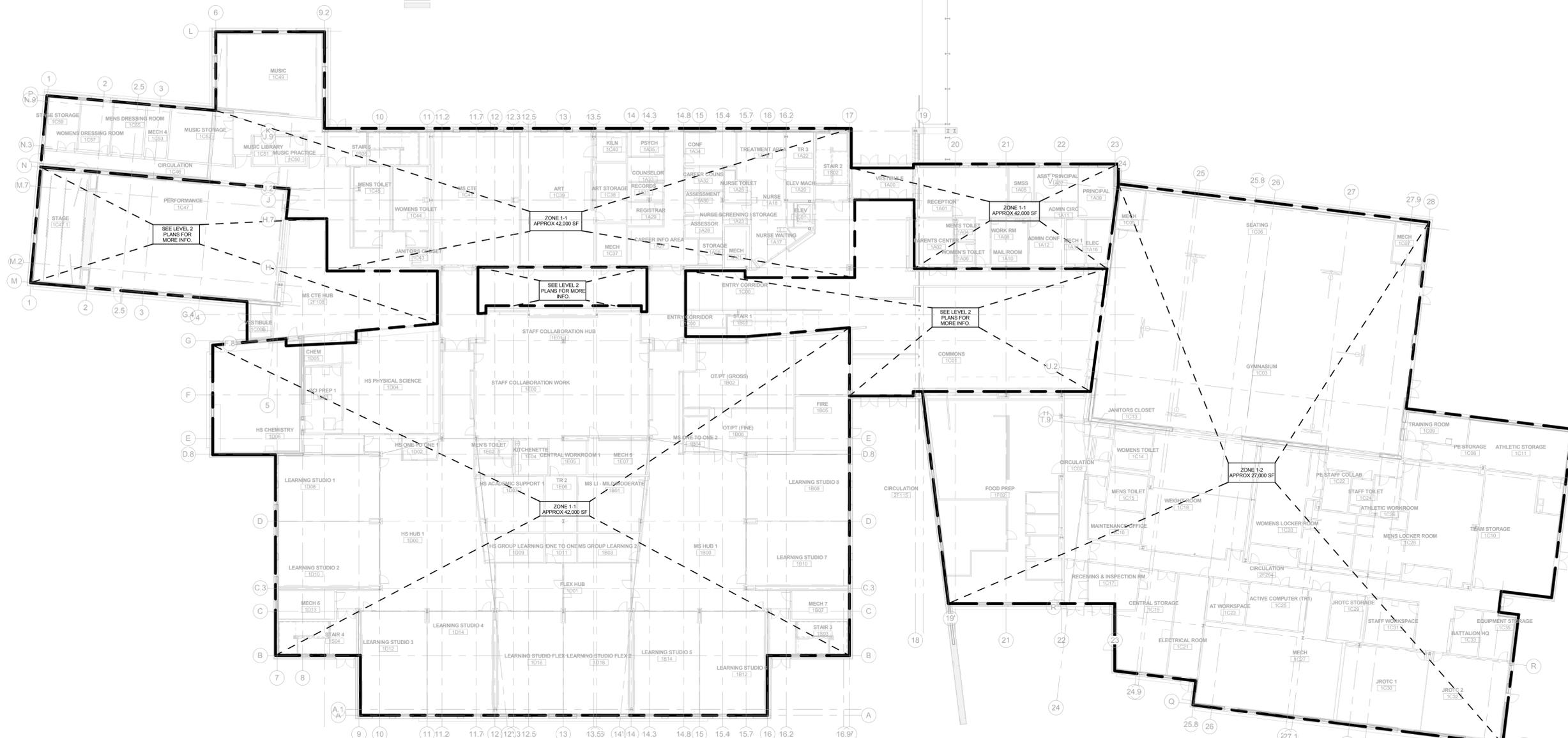
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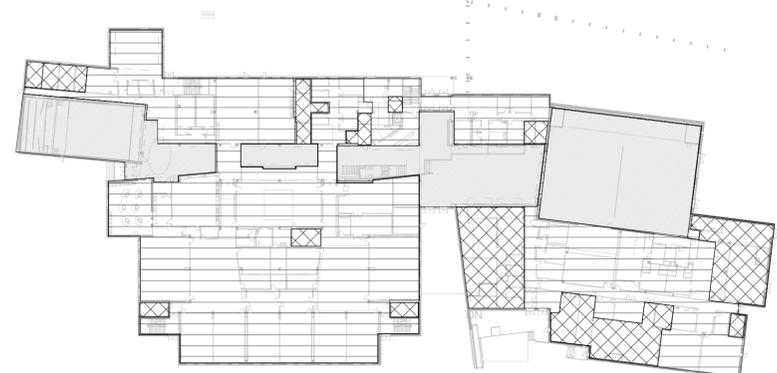
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2 LEVEL 1 REFERENCE PLAN- FIRE SUPPRESSION  
SCALE: 1" = 20'-0"

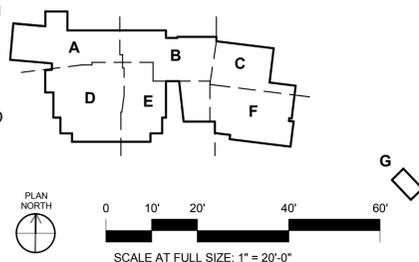


- WET HC-1: 0.1 GPM/1500 SF; 250 GPM HOSE; K=5.6
- WET HC-2: 0.2 GPM/2500 SF; 250 GPM HOSE; K=8.0
- WET HC-1\*: 0.2 GPM/2500 SF; 250 GPM HOSE; K=8.0
- \* FOR CEILINGS > 30 FT.

1 LEVEL 1 HAZARD CLASSIFICATION

**GENERAL NOTES:**

1. FOR DRAWING NOTES, ABBREVIATIONS, SYMBOLS AND DRAWING INDEX, REFER TO DRAWING FX-001.
2. NO EQUIPMENT OR PIPE FOREIGN TO ELECTRICAL AND TELECOMMUNICATION ROOMS ARE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL / TELECOMMUNICATION ROOMS, UNLESS THEY SERVE THE RESPECTIVE ROOMS.
3. REFER TO HVAC DRAWINGS FOR LAYOUT OF DUCTWORK AND PROVIDE SPRINKLER COVERAGE AS REQUIRED IN NFPA 13 FOR OBSTRUCTIONS 4' AND WIDER.
4. DO NOT SUPPORT SPRINKLER LINES FROM SAME SUPPORT MEMBERS OF DUCTWORK. SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.
5. ALL FIRE EQUIPMENT AND FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL STANDARDS.
6. ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE CONCEALED PENDANT IN AREAS WITH DROP CEILINGS AND UPRIGHT FOR AREAS WITH UNFINISHED CEILINGS.
7. ALL SPRINKLER IN THE AREAS WITH FINISHED CEILINGS SHALL BE INSTALLED CENTER OF TILE AND ON RETURN BENDS.
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10. ALL FIRE PROTECTION EQUIPMENT, I.E. PIPING, VALVES, FITTINGS AND ACCESSORIES ETC. SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 175 PSI.
11. WHERE HEADS ARE SHOWN ON DRAWING, PROVIDE SPRINKLER HEADS AT LOCATIONS SHOWN AS A MINIMUM. IF ADDITIONAL HEADS ARE REQUIRED TO CONFORM WITH REQUIREMENTS OF AUTHORITIES, STANDARDS AND CODES FOR THE HAZARD AND THE APPLICATION. COORDINATE HEAD LAYOUT WITH ARCHITECT BEFORE PREPARING SUBMITTAL.
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF SPRINKLER HEADS AND COVERPLATE FINISHES IN AREAS WHERE SPRINKLER HEADS ARE SHOWN.
13. INSTALL SPRINKLER GUARDS ON GYM SPRINKLER HEADS.
14. ALL CONCEALED FIRE PROTECTION PIPING SHALL BE PAINTED WITH ONE COAT OF RED ALKYD GLOSS ENAMEL. EXPOSED FIRE PROTECTION PIPING SHALL BE PAINTED TO MATCH ADJACENT WALL PAINT COLOR. REFER TO SPECIFICATION 09 90 00 PAINTS AND COATINGS.



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APPROVED	AE INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
Designer	Author
Checker	Checker
PM/DM	
BRANCH MANAGER	
CHIEF ENGR ARCH	
FIRE PROTECTION	

DEPARTMENT OF THE NAVY  
NAVFACILITIES ENGINEERING COMMAND  
NAVFAC WASHINGTON  
DOD/EA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
FIRE SUPPRESSION - LEVEL 1 REFERENCE PLAN  
SCALE: As Indicated  
PROJECT NO.: P-021  
CONSTR. CONTR. NO.: W91236-15-C-0023  
NAVFAC DRAWING NO.: 13091471  
SHEET 717 OF 789  
FX-002  
DRAWING REVISION: 10 MARCH 2016

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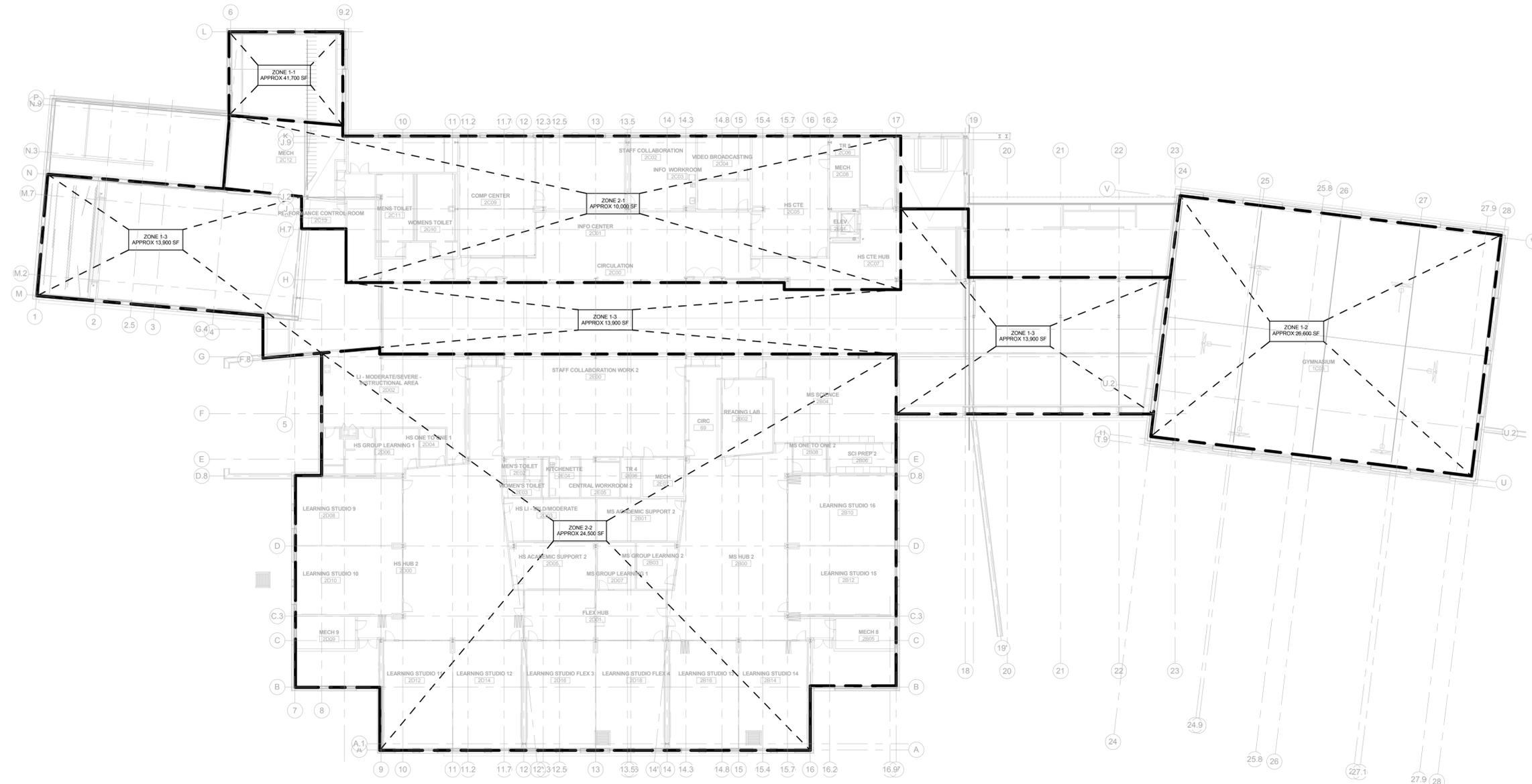
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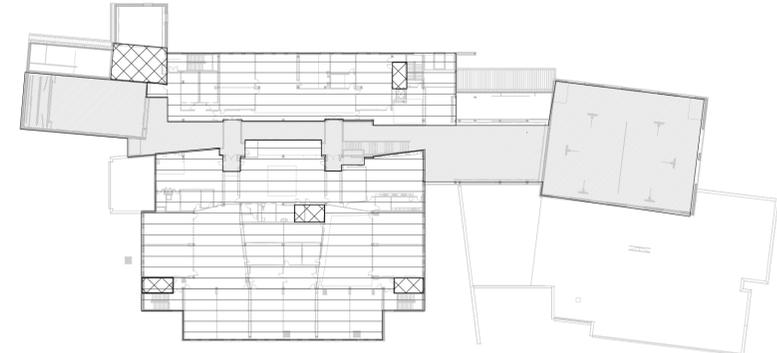
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**1 LEVEL 2 REFERENCE PLAN - FIRE SUPPRESSION**  
SCALE: 1" = 20'-0"

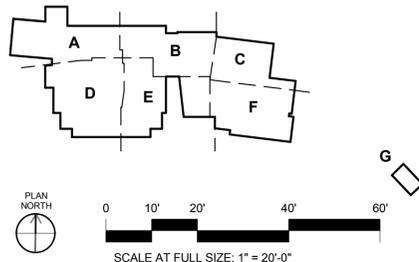


**2 LEVEL 2 HAZARD CLASSIFICATION**

- WET HC-1: 0.1 GPM/1500 SF; 250 GPM HOSE; K=5.6
- WET HC-2: 0.2 GPM/2500 SF; 250 GPM HOSE; K=8.0
- WET HC-1\*: 0.2 GPM/2500 SF; 250 GPM HOSE; K=8.0
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**GENERAL NOTES:**

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2. NO EQUIPMENT OR PIPE FOREIGN TO ELECTRICAL AND TELECOMMUNICATION ROOMS ARE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL / TELECOMMUNICATION ROOMS, UNLESS THEY SERVE THE RESPECTIVE ROOMS.
3. REFER TO HVAC DRAWINGS FOR LAYOUT OF DUCTWORK AND PROVIDE SPRINKLER COVERAGE AS REQUIRED IN NFPA 13 FOR OBSTRUCTIONS 4' AND WIDER.
4. DO NOT SUPPORT SPRINKLER LINES FROM SAME SUPPORT MEMBERS OF DUCTWORK. SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.
5. ALL FIRE EQUIPMENT AND FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL STANDARDS.
6. ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE CONCEALED PENDANT IN AREAS WITH DROP CEILINGS AND UPRIGHT FOR AREAS WITH UNFINISHED CEILINGS.
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APPROVED	AE INFO
FOR COMMANDER NAVFAC ACTIVITY	
SATISFACTORY TO	DATE 05/28/15
Designer	Author
Checker	
PM/DM	
BRANCH MANAGER	
CHIEF ENGR ARCH	
FIRE PROTECTION	

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON  
DOD/EA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA

**REPLACE QUANTICO M/H SCHOOL**

FIRE SUPPRESSION - LEVEL 2 REFERENCE PLAN

SCALE: As indicated  
PROJECT NO.: P-021  
CONSTR. CONTR. NO.: W91236-15-C-0023  
NAVFAC DRAWING NO.: 13091472  
SHEET 718 OF 789  
FX-003

DATE

DESCRIPTION

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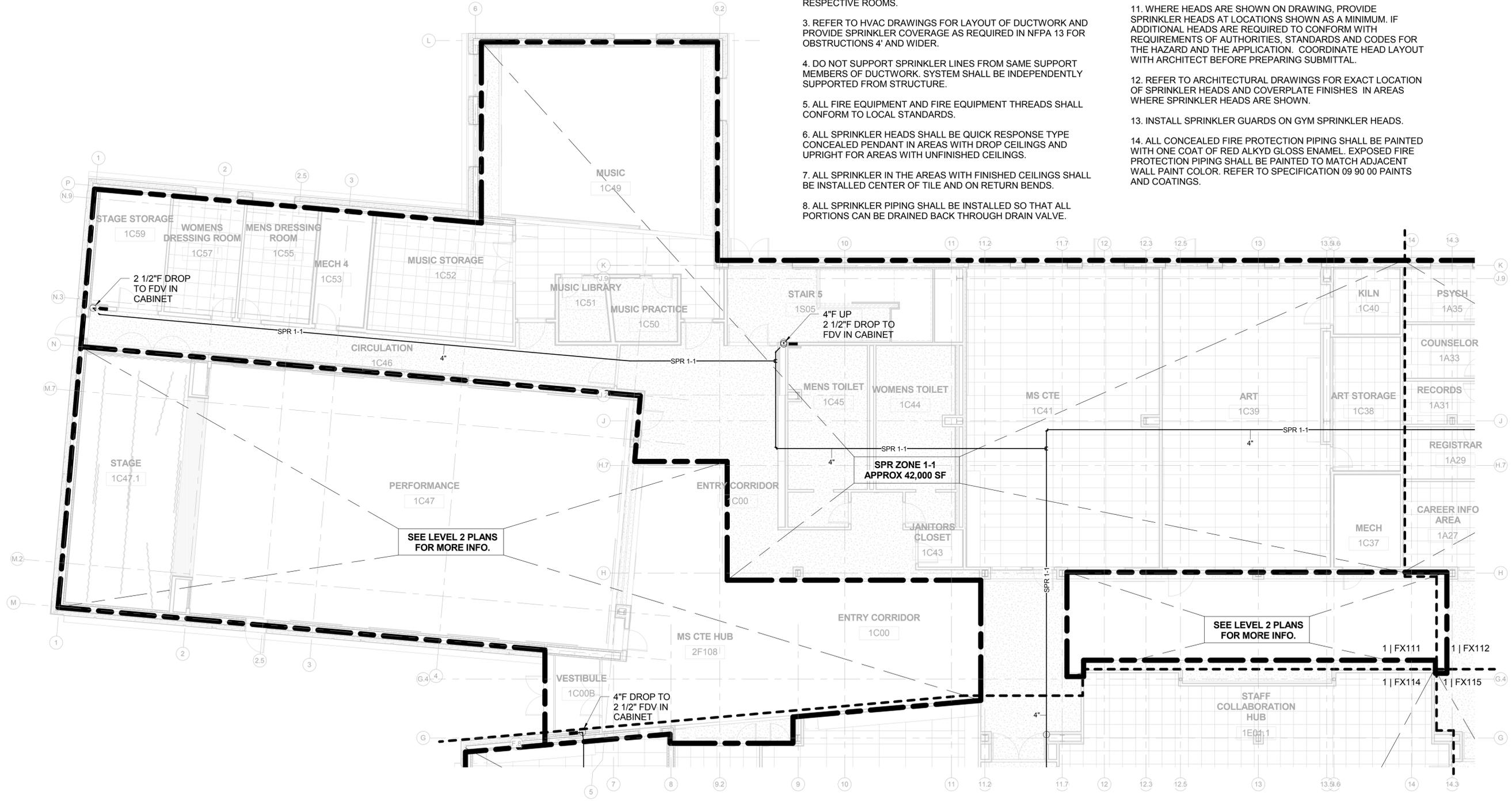
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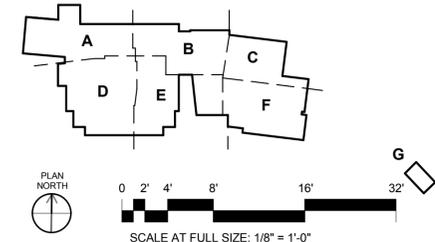
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1 LEVEL 1 - AREA 'A'  
SCALE: 1/8" = 1'-0"



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FOR COMMANDER NAVFAC  
ACTIVITY

SATISFACTORY TO	DATE
Designer	Author
Checker	Checker

BRANCH MANAGER  
CHIEF ENGR ARCH  
FIRE PROTECTION

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON  
DODEA  
MARINE CORPS BASE QUANTICO  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
FIRE SUPPRESSION FIRST FLOOR AREA 'A'

SCALE:	As Indicated
PROJECT NO.:	P-021
CONSTR. CONTR. NO.:	W91236-15-C-0023
NAVFAC DRAWING NO.:	13091473
SHEET	719 OF 789
	FX-111

DRAWING REVISION: 10 MARCH 2009

RTA SUBMISSION - 10/13/2016

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GENERAL NOTES:

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3. REFER TO HVAC DRAWINGS FOR LAYOUT OF DUCTWORK AND PROVIDE SPRINKLER COVERAGE AS REQUIRED IN NFPA 13 FOR OBSTRUCTIONS 4' AND WIDER.

4. DO NOT SUPPORT SPRINKLER LINES FROM SAME SUPPORT MEMBERS OF DUCTWORK. SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.

5. ALL FIRE EQUIPMENT AND FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL STANDARDS.

6. ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE CONCEALED PENDANT IN AREAS WITH DROP CEILINGS AND UPRIGHT FOR AREAS WITH UNFINISHED CEILINGS.

7. ALL SPRINKLER IN THE AREAS WITH FINISHED CEILINGS SHALL BE INSTALLED CENTER OF TILE AND ON RETURN BENDS.

8. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS CAN BE DRAINED BACK THROUGH DRAIN VALVE.

9. ALL CONTROL VALVES AND FLOW ALARM SWITCHES LOCATED ABOVE FINISHED CEILING SHALL BE ACCESSIBLE AND HAVE NOTIFICATION MARKING TAG FOR THE INSPECTOR.

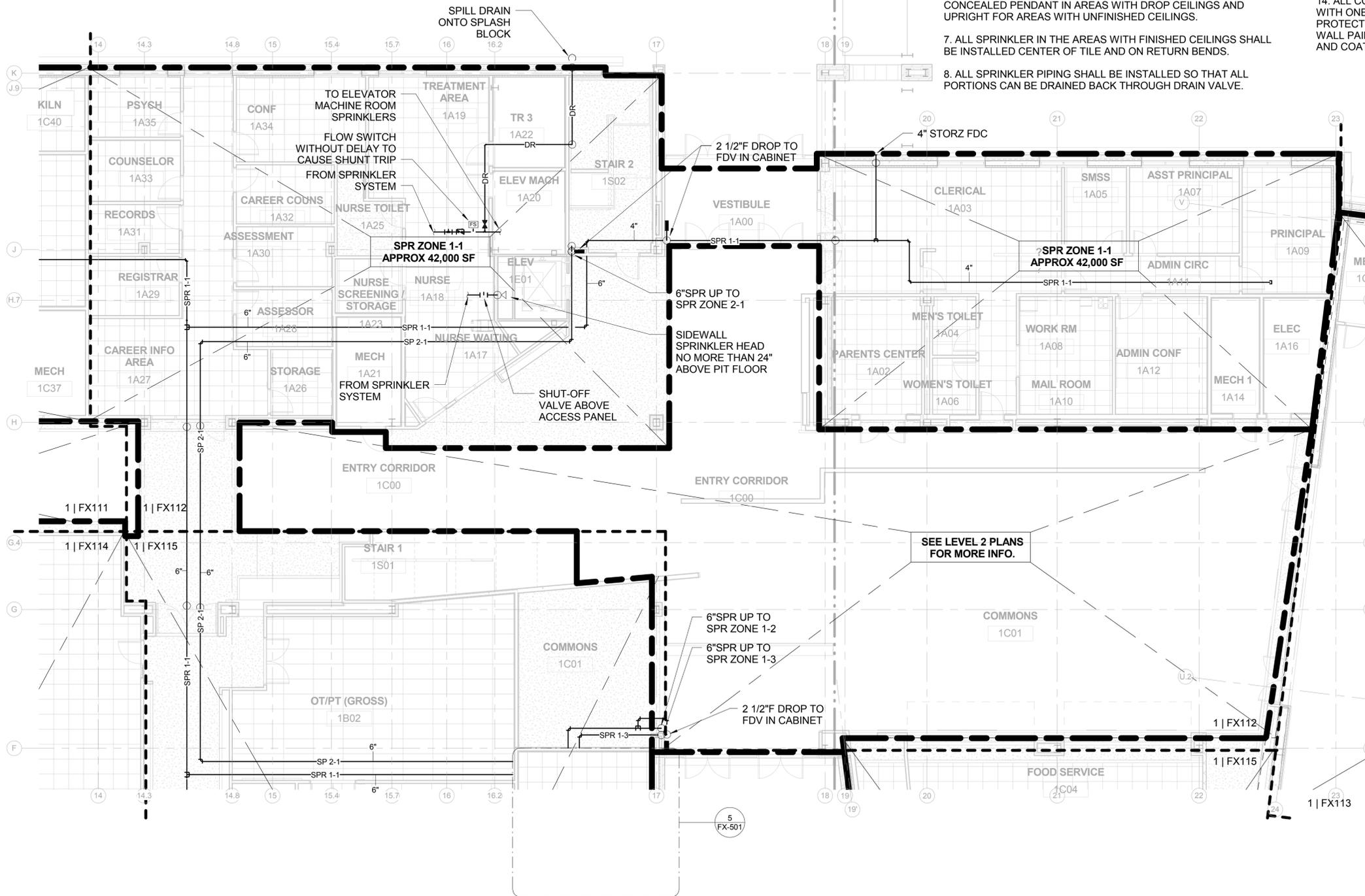
10. ALL FIRE PROTECTION EQUIPMENT, I.E. PIPING, VALVES, FITTINGS AND ACCESSORIES ETC. SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 175 PSI.

11. WHERE HEADS ARE SHOWN ON DRAWING, PROVIDE SPRINKLER HEADS AT LOCATIONS SHOWN AS A MINIMUM. IF ADDITIONAL HEADS ARE REQUIRED TO CONFORM WITH REQUIREMENTS OF AUTHORITIES, STANDARDS AND CODES FOR THE HAZARD AND THE APPLICATION. COORDINATE HEAD LAYOUT WITH ARCHITECT BEFORE PREPARING SUBMITTAL.

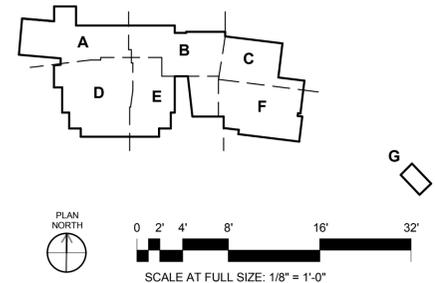
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF SPRINKLER HEADS AND COVERPLATE FINISHES IN AREAS WHERE SPRINKLER HEADS ARE SHOWN.

13. INSTALL SPRINKLER GUARDS ON GYM SPRINKLER HEADS.

14. ALL CONCEALED FIRE PROTECTION PIPING SHALL BE PAINTED WITH ONE COAT OF RED ALKYD GLOSS ENAMEL. EXPOSED FIRE PROTECTION PIPING SHALL BE PAINTED TO MATCH ADJACENT WALL PAINT COLOR. REFER TO SPECIFICATION 09 90 00 PAINTS AND COATINGS.



1 LEVEL 1 - AREA 'B'  
SCALE: 1/8" = 1'-0"



RTA SUBMISSION - 10/13/2016

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**EWING COLE**  
Federal Reserve Bank Building  
100 North 6th Street  
Philadelphia, PA 19106-1590  
Tel: 215-923-2020 Fax: 215-574-0932

APPROVED
FOR COMMANDER NAVFAC ACTIVITY
SATISFACTORY TO DATE 06/23/14
Designer Author Checker
PROJECT NO. P-021
CONSTR. CONTR. NO. W91236-15-C-0023
NAVFAC DRAWING NO. 13091474
SHEET 720 OF 789
FX-112

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON  
DOD/EA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
FIRE SUPPRESSION FIRST FLOOR AREA 'B'

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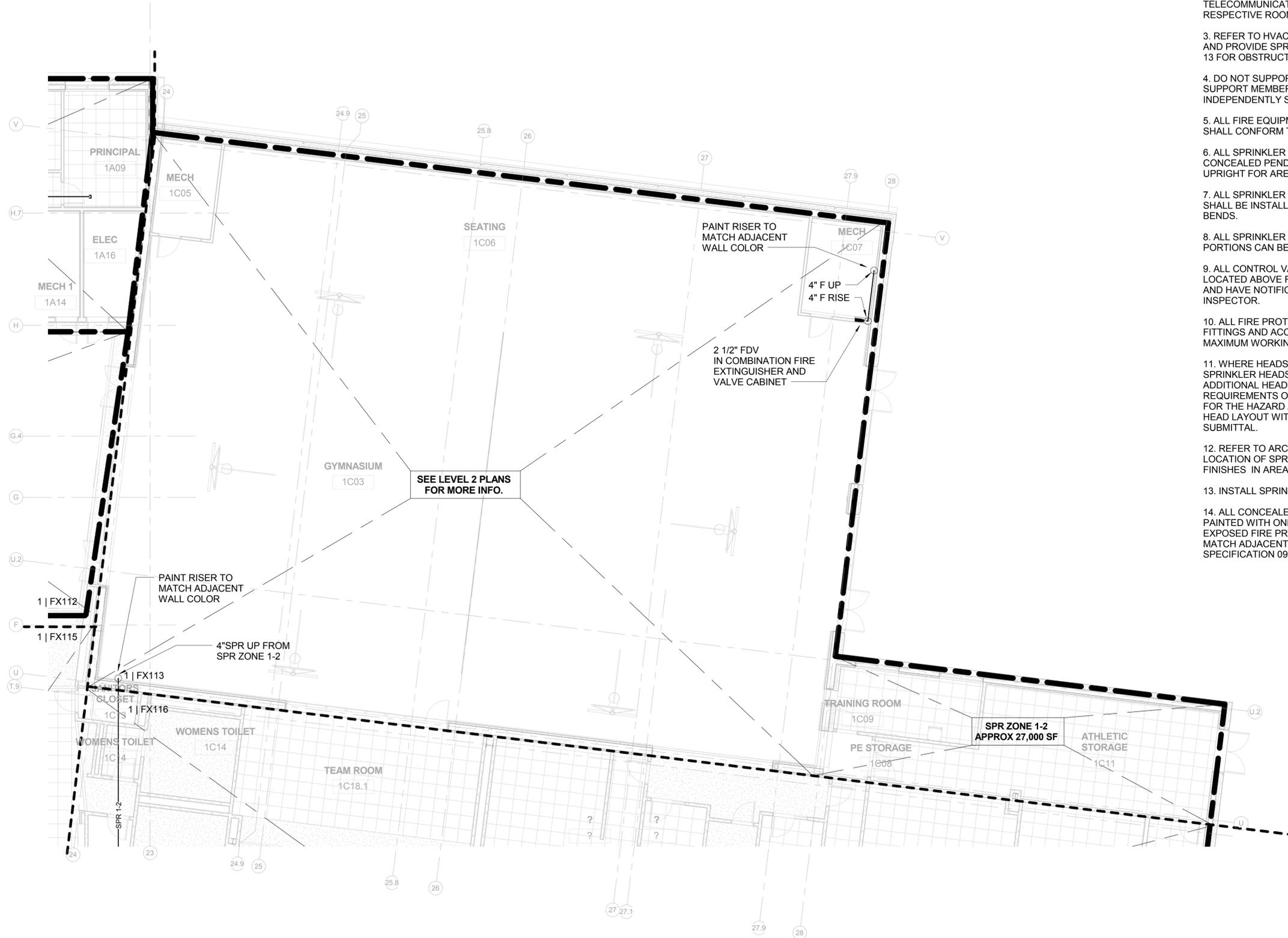
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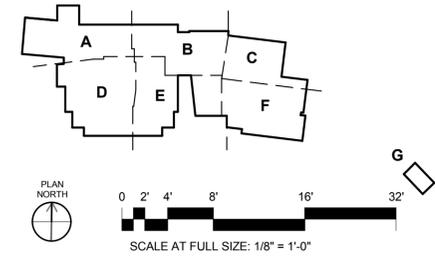
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1 LEVEL 1 - AREA 'C'  
SCALE: 1/8" = 1'-0"



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Tel: 215-923-2020 Fax: 215-574-0932

AE INFO

FOR COMMANDER NAVFAC ACTIVITY

SATISFACTORY TO DATE 06/23/14  
Designer Author Checker

BRANCH MANAGER  
CHIEF ENGR ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON DODEA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
FIRE SUPPRESSION FIRST FLOOR AREA 'C'

SCALE: As Indicated  
PROJECT NO: P-021  
CONSTR. CONTR. NO.  
W91236-15-C-0023  
NAVFAC DRAWING NO.  
13091475  
SHEET 721 OF 789  
FX-113

DRAWING REVISION 10 MARCH 2009

RTA SUBMISSION - 10/13/2016

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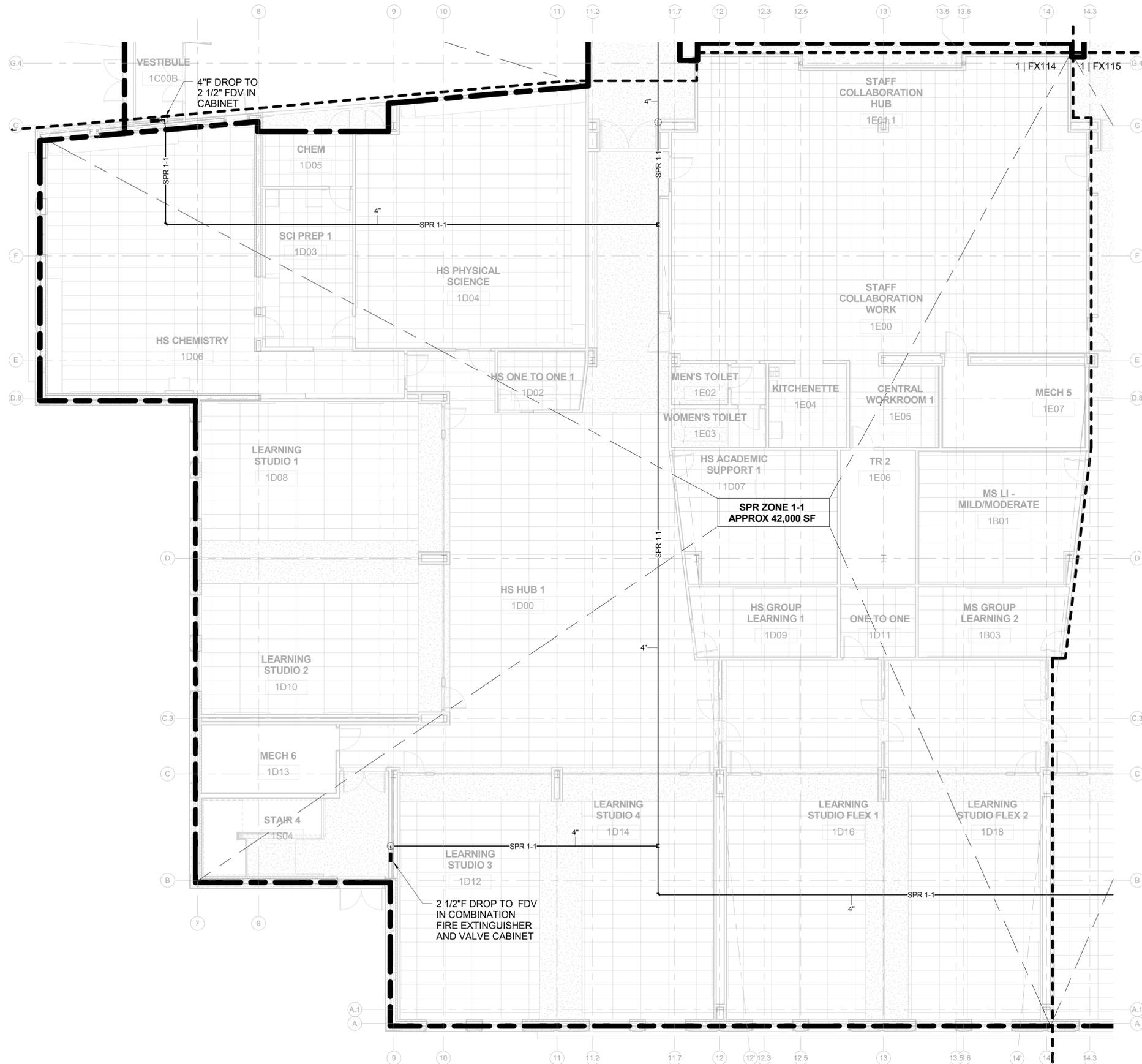
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AE INFO

FOR COMMANDER NAVFAC ACTIVITY

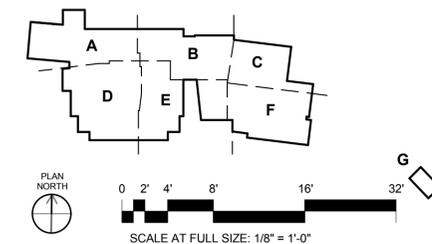
SATISFACTORY TO	DATE	06/27/08
Designer	Author	Checker

BRANCH MANAGER	CHIEF ENGR ARCH
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FIRE PROTECTION

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON D/DDEA  
 MARINE CORPS BASE QUANTICO, VIRGINIA  
 QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
 FIRE SUPPRESSION FIRST FLOOR AREA 'D'

SCALE:	As Indicated
PROJECT NO.:	P-021
CONSTR. CONTR. NO.:	W91236-15-C-0023
NAVFAC DRAWING NO.:	13091476
SHEET	722 OF 789
	FX-114



1 LEVEL 1 - AREA 'D'  
 SCALE: 1/8" = 1'-0"

RTA SUBMISSION - 10/13/2016

DRAWING REVISION: 10 MARCH 2009

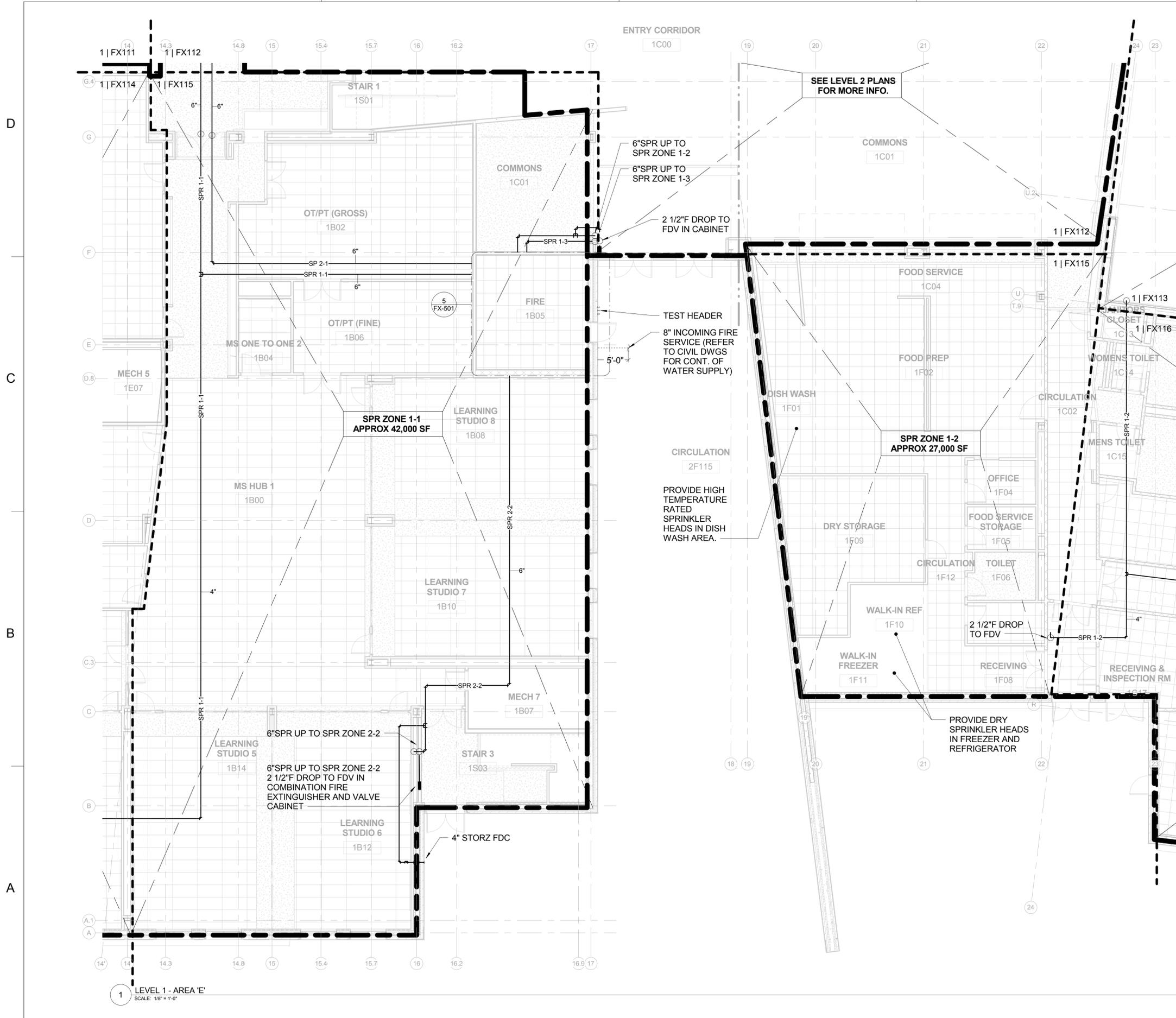
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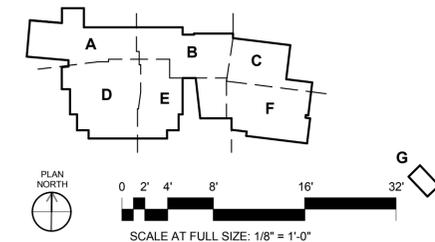
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 100 North 6th Street  
 Philadelphia, PA 19106-1590  
 Tel: 215-923-2020 Fax: 215-574-0932

APPROVED

FOR COMMANDER NAVFAC ACTIVITY

SATISFACTORY TO DATE 06/23/14  
 Designer Author Checker  
 BRANCH MANAGER  
 CHIEF ENGR ARCH  
 FIRE PROTECTION

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON DODEA  
 MARINE CORPS BASE QUANTICO, VIRGINIA  
 QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
 FIRE SUPPRESSION FIRST FLOOR AREA 'E'

SCALE: As Indicated  
 PROJECT NO.: P-021  
 CONSTR. CONTR. NO.: W91236-15-C-0023  
 NAVFAC DRAWING NO.: 13091477  
 SHEET 723 OF 789  
 FX-115

RTA SUBMISSION - 10/13/2016

DRAWING REVISION: 10 MARCH 2009

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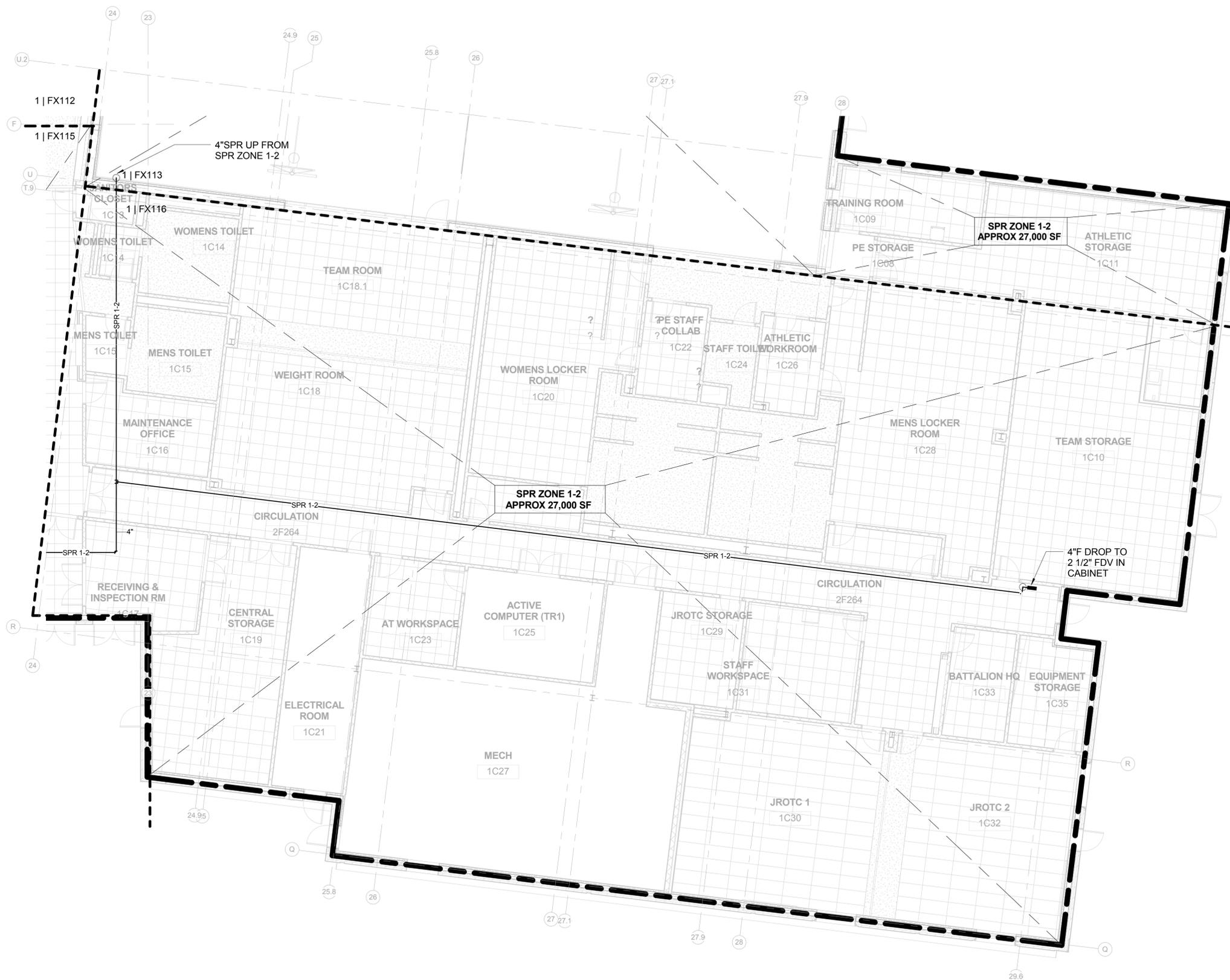
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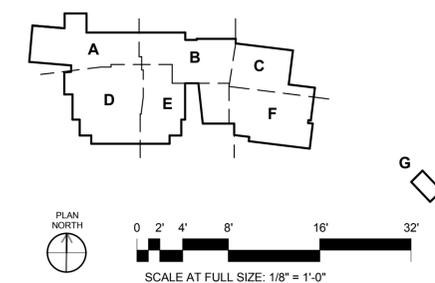


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1 LEVEL 1 - AREA 'F'  
 SCALE: 1/8" = 1'-0"

APPROVED	DATE	APPR
FOR COMMANDER NAVFAC	DATE	DATE
ACTIVITY	DATE	DATE
SATISFACTORY TO	DATE	06/23/14
Designer	Author	Checker
PM/DM		
BRANCH MANAGER		
CHIEF ENGR ARCH		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	WASHINGTON
DODEA	MARINE CORPS BASE QUANTICO, VIRGINIA	QUANTICO, VA
<b>REPLACE QUANTICO M/H SCHOOL</b>		
FIRE SUPPRESSION FIRST FLOOR AREA 'F'		
SCALE:	As indicated	
PROJECT NO.:	P-021	
CONSTR. CONTR. NO.:	W91236-15-C-0023	
NAVFAC DRAWING NO.:	13091478	
SHEET	724 OF 789	
	FX-116	
DRAWING REVISION:	10 MARCH 2016	

RTA SUBMISSION - 10/13/2016

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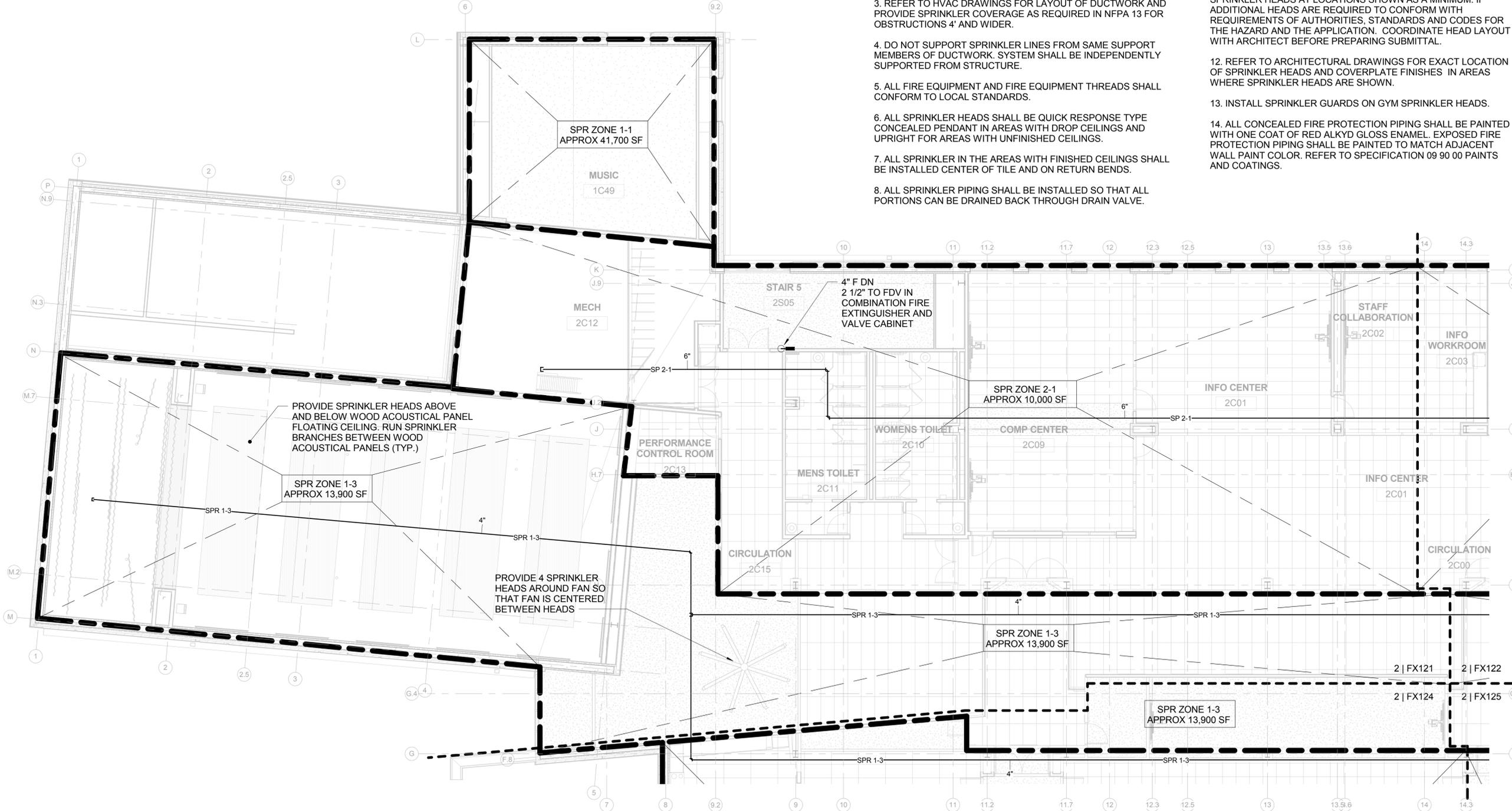
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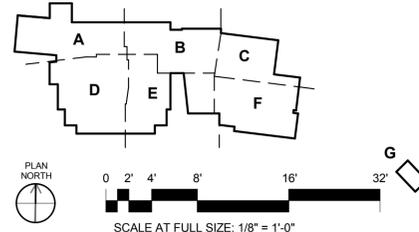
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1 LEVEL 2 - AREA 'A'  
SCALE: 1/8" = 1'-0"



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APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY

SATISFACTORY TO DATE 06/27/08  
Designer Author Checker  
PROJECT NO. P-021  
CONSTR. CONTR. NO. W91236-15-C-0023

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON  
DOD/EA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA

REPLACE QUANTICO M/H SCHOOL  
FIRE SUPPRESSION SECOND FLOOR AREA 'A'

SCALE: As indicated  
PROJECT NO. P-021  
CONSTR. CONTR. NO. W91236-15-C-0023

NAVFAC DRAWING NO. 13091479  
SHEET 725 OF 789  
FX-121

DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 10 MARCH 2016

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8. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS CAN BE DRAINED BACK THROUGH DRAIN VALVE.

9. ALL CONTROL VALVES AND FLOW ALARM SWITCHES LOCATED ABOVE FINISHED CEILING SHALL BE ACCESSIBLE AND HAVE NOTIFICATION MARKING TAG FOR THE INSPECTOR.

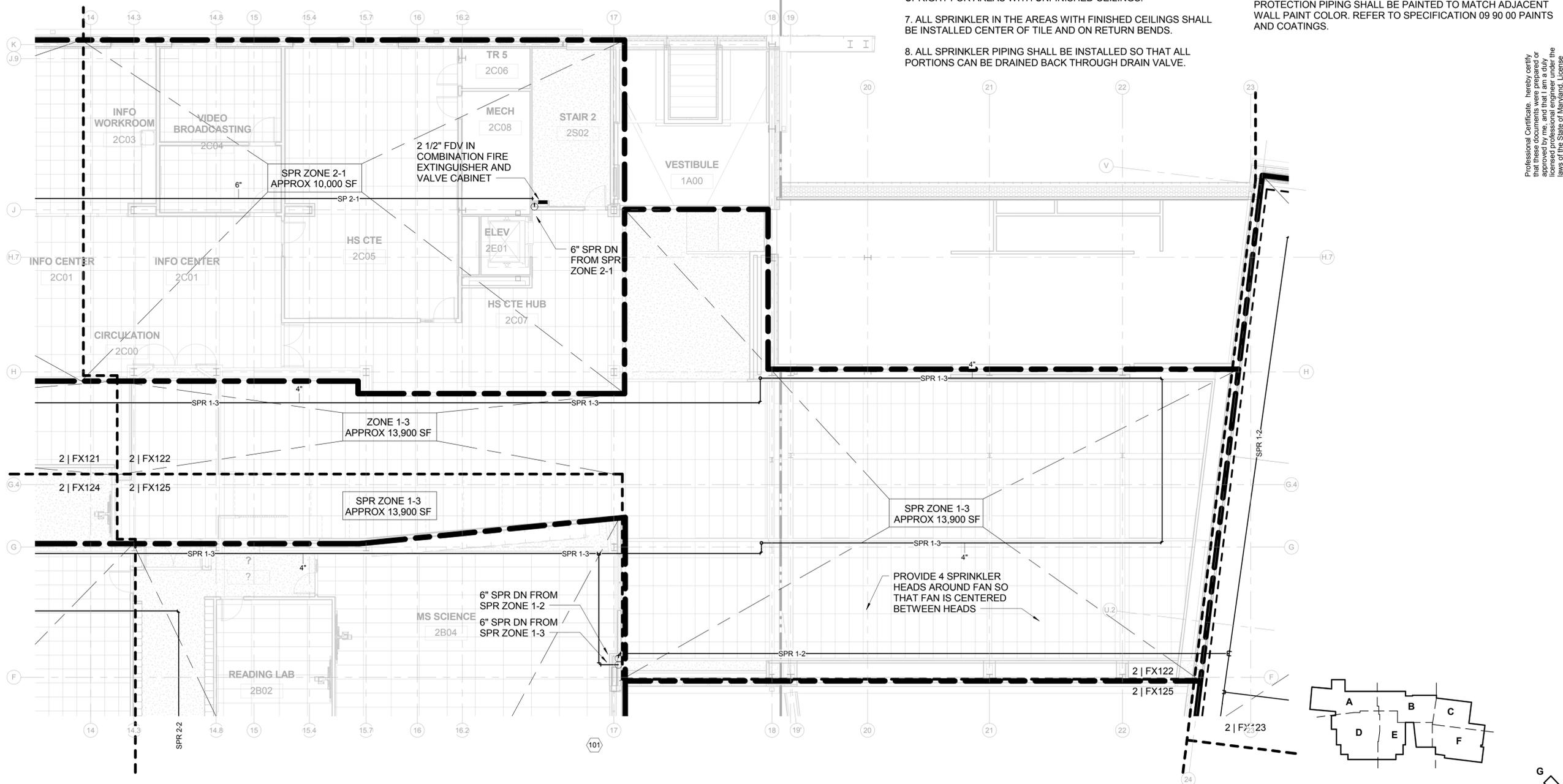
10. ALL FIRE PROTECTION EQUIPMENT, I.E. PIPING, VALVES, FITTINGS AND ACCESSORIES ETC. SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 175 PSI.

11. WHERE HEADS ARE SHOWN ON DRAWING, PROVIDE SPRINKLER HEADS AT LOCATIONS SHOWN AS A MINIMUM. IF ADDITIONAL HEADS ARE REQUIRED TO CONFORM WITH REQUIREMENTS OF AUTHORITIES, STANDARDS AND CODES FOR THE HAZARD AND THE APPLICATION. COORDINATE HEAD LAYOUT WITH ARCHITECT BEFORE PREPARING SUBMITTAL.

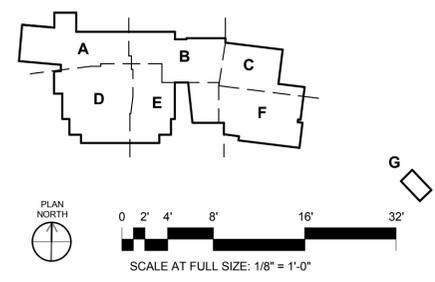
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF SPRINKLER HEADS AND COVERPLATE FINISHES IN AREAS WHERE SPRINKLER HEADS ARE SHOWN.

13. INSTALL SPRINKLER GUARDS ON GYM SPRINKLER HEADS.

14. ALL CONCEALED FIRE PROTECTION PIPING SHALL BE PAINTED WITH ONE COAT OF RED ALKYD GLOSS ENAMEL. EXPOSED FIRE PROTECTION PIPING SHALL BE PAINTED TO MATCH ADJACENT WALL PAINT COLOR. REFER TO SPECIFICATION 09 90 00 PAINTS AND COATINGS.



1 LEVEL 2 - AREA 'B'  
SCALE: 1/8" = 1'-0"



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**NAVAC**

**EWING COLE**  
Professional Engineer  
No. 36810  
Expiration Date: 01-15-2017

Federal Reserve Bank Building  
100 North 6th Street  
Philadelphia, PA 19106-1590  
Tel: 215-923-2020 Fax: 215-574-0932

APPROVED	AE INFO
FOR COMMANDER NAVAC	ACTIVITY
SATISFACTORY TO	DATE 06/23/14
Designer	Author
Checker	Checker
PROJECT NO.	P-021
CONSTR. CONTR. NO.	W91236-15-C-0023
NAVAC DRAWING NO.	13091480
SHEET	726 OF 789
FX-122	

RTA SUBMISSION - 10/13/2016

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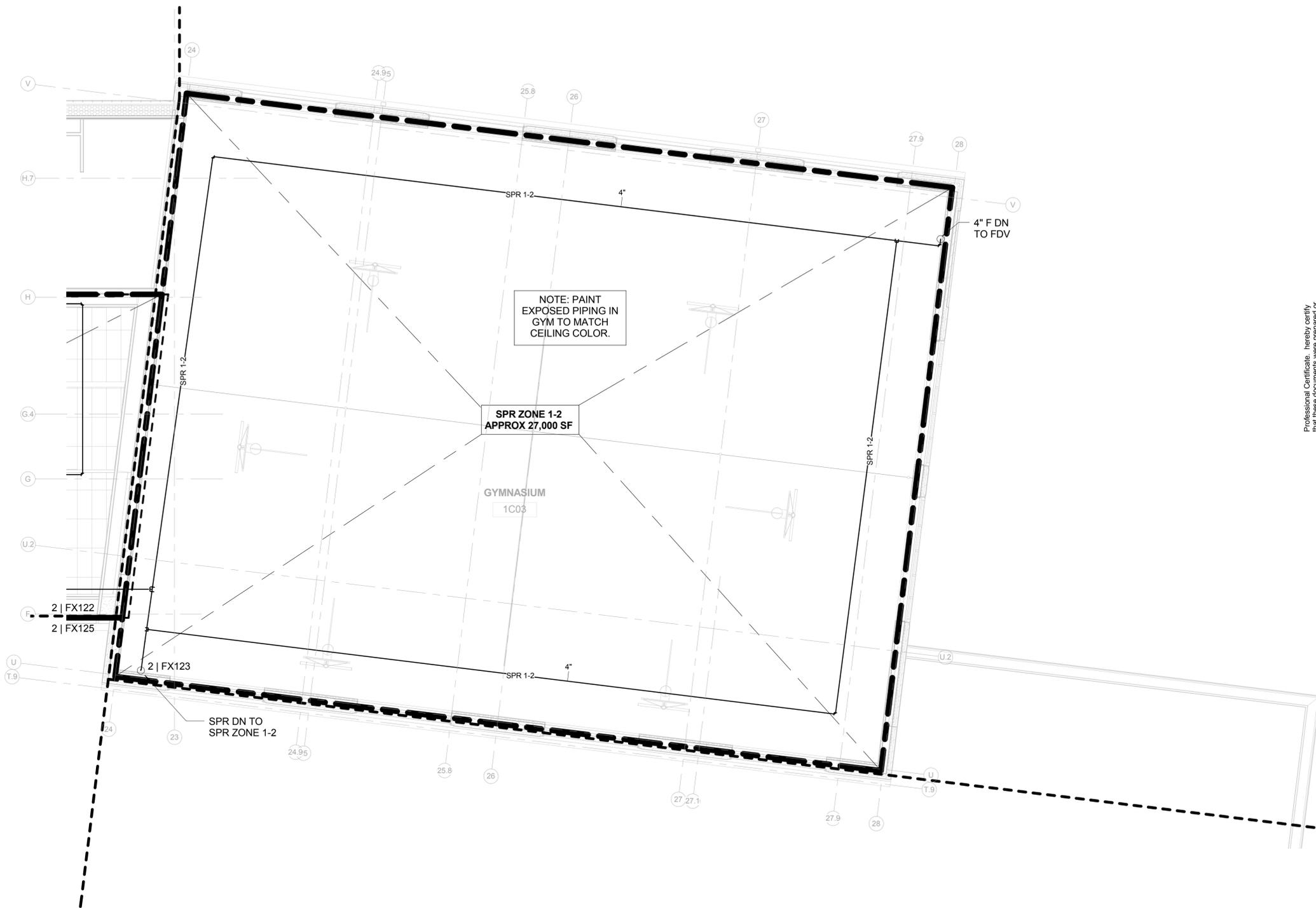
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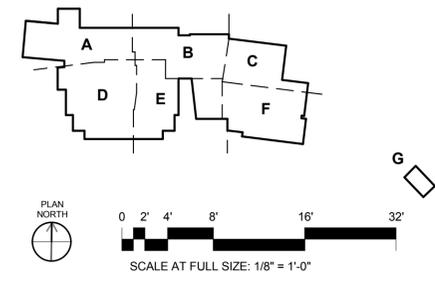
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**GENERAL NOTES:**

1. FOR DRAWING NOTES, ABBREVIATIONS, SYMBOLS AND DRAWING INDEX, REFER TO DRAWING FX-001.
2. NO EQUIPMENT OR PIPE FOREIGN TO ELECTRICAL AND TELECOMMUNICATION ROOMS ARE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL / TELECOMMUNICATION ROOMS, UNLESS THEY SERVE THE RESPECTIVE ROOMS.
3. REFER TO HVAC DRAWINGS FOR LAYOUT OF DUCTWORK AND PROVIDE SPRINKLER COVERAGE AS REQUIRED IN NFPA 13 FOR OBSTRUCTIONS 4' AND WIDER.
4. DO NOT SUPPORT SPRINKLER LINES FROM SAME SUPPORT MEMBERS OF DUCTWORK. SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.
5. ALL FIRE EQUIPMENT AND FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL STANDARDS.
6. ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE CONCEALED PENDANT IN AREAS WITH DROP CEILINGS AND UPRIGHT FOR AREAS WITH UNFINISHED CEILINGS.
7. ALL SPRINKLER IN THE AREAS WITH FINISHED CEILINGS SHALL BE INSTALLED CENTER OF TILE AND ON RETURN BENDS.
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1 LEVEL 2 - AREA 'C'  
SCALE: 1/8" = 1'-0"



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**EWING COLE**  
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APPROVED	AE INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
Designer	Author
Checker	Checker
PM/DM	
BRANCH MANAGER	
CHIEF ENGR ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON	QUANTICO, VA
DOD/EA	MARINE CORPS BASE QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO	QUANTICO, VA
<b>REPLACE QUANTICO M/H SCHOOL</b>	FIRE SUPPRESSION SECOND FLOOR AREA 'C'
SCALE: As Indicated	
PROJECT NO: P-021	
CONSTR. CONTR. NO.	
W91236-15-C-0023	
NAVFAC DRAWING NO.	
13091481	
SHEET	727 OF 789
FX-123	

RTA SUBMISSION - 10/13/2016

DRAWING REVISION: 10 MARCH 2009

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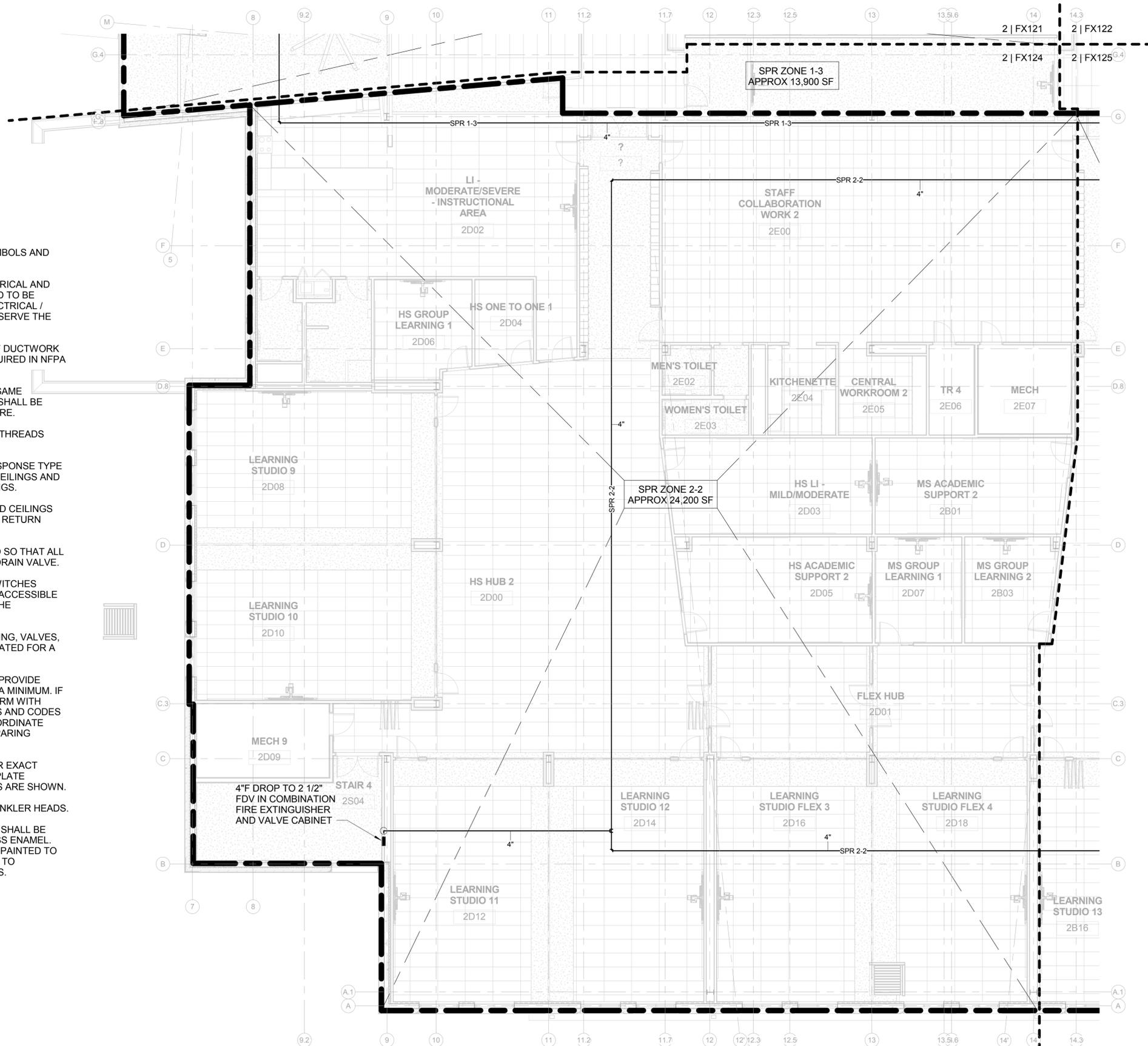
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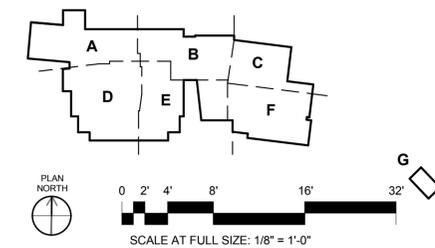
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**GENERAL NOTES:**

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- NO EQUIPMENT OR PIPE FOREIGN TO ELECTRICAL AND TELECOMMUNICATION ROOMS ARE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL / TELECOMMUNICATION ROOMS, UNLESS THEY SERVE THE RESPECTIVE ROOMS.
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1 LEVEL 2 - AREA 'D'  
SCALE: 1/8" = 1'-0"



APPROVED	DATE	APPR
FOR COMMANDER NAVFAC ACTIVITY		
SATISFACTORY TO	DATE	06/23/14
Designer	Author	Checker
PM/DM		
BRANCH MANAGER		
CHIEF ENGR ARCH		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	QUANTICO, VA
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON	MARINE CORPS BASE QUANTICO, VIRGINIA	QUANTICO, VA
D00EA		
MARINE CORPS BASE QUANTICO		
REPLACE QUANTICO M/H SCHOOL		
		FIRE SUPPRESSION SECOND FLOOR AREA 'D'
SCALE: As indicated		
PROJECT NO. P-021		
CONSTR CONTR NO. W91236-15-C-0023		
NAVFAC DRAWING NO. 13091482		
SHEET 728 OF 789		
FX-124		
DRAWFORM REVISION	10 MARCH 2009	



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Philadelphia, PA 19106-1590  
Tel: 215-923-2020 Fax: 215-574-0932

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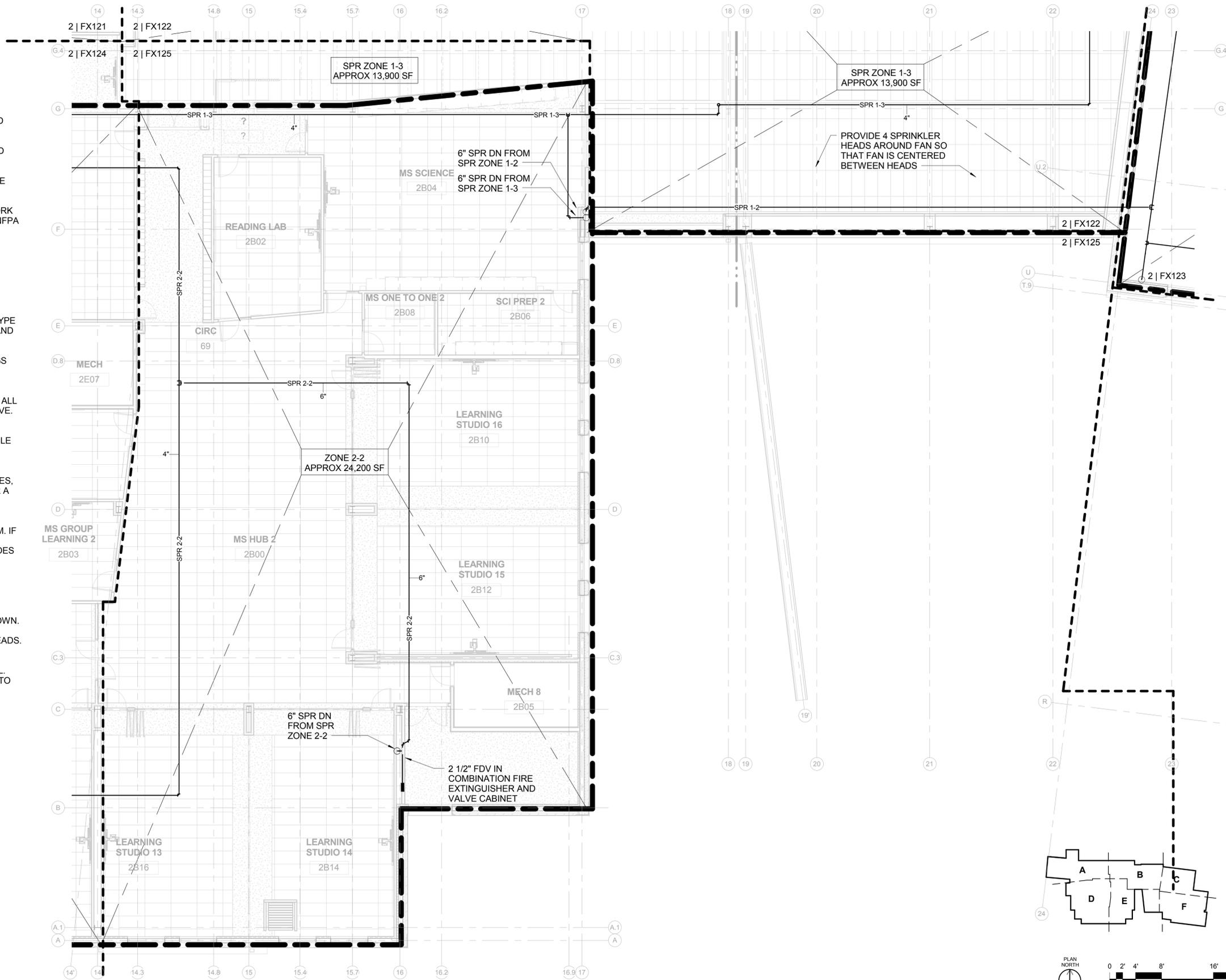
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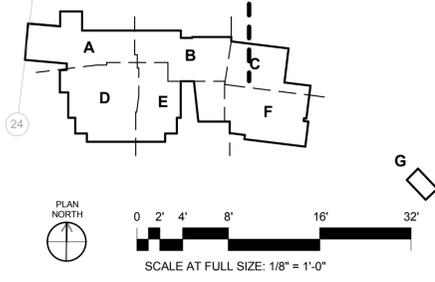
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1 LEVEL 2 - AREA 'E'  
SCALE: 1/8" = 1'-0"



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100 North 6th Street  
Philadelphia, PA 19106-1590  
Tel: 215-923-2020 Fax: 215-574-0952

APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY

SATISFACTORY TO DATE 06/23/14  
Designer Author Checker  
PROJECT NO. P-021  
CONSTR. CONTR. NO. W91236-15-C-0023

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVFAC DRAWING NO. 13091483  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
REPLACE QUANTICO M/H SCHOOL  
FIRE SUPPRESSION SECOND FLOOR AREA 'E'

BRANCH MANAGER  
CHIEF ENGR ARCH  
FIRE PROTECTION

SCALE: As indicated  
PROJECT NO. P-021  
CONSTR. CONTR. NO. W91236-15-C-0023  
NAVFAC DRAWING NO. 13091483  
SHEET 729 OF 789  
FX-125

10 MARCH 2009

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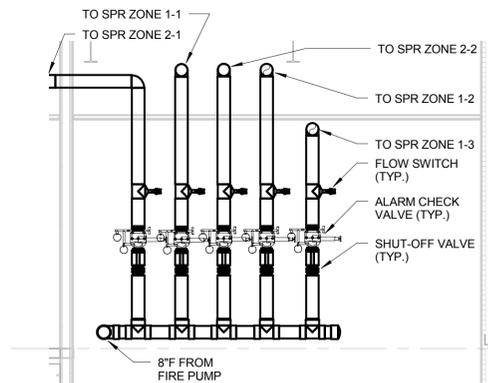
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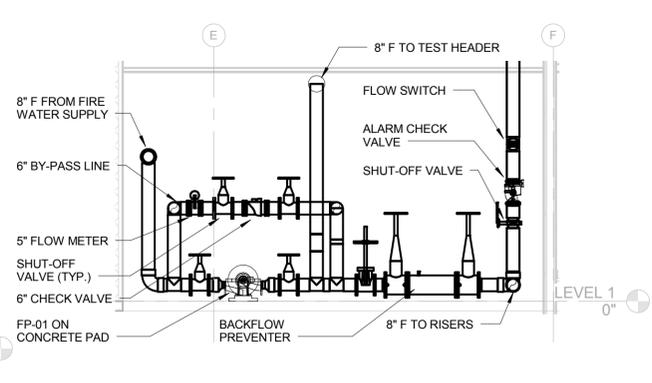
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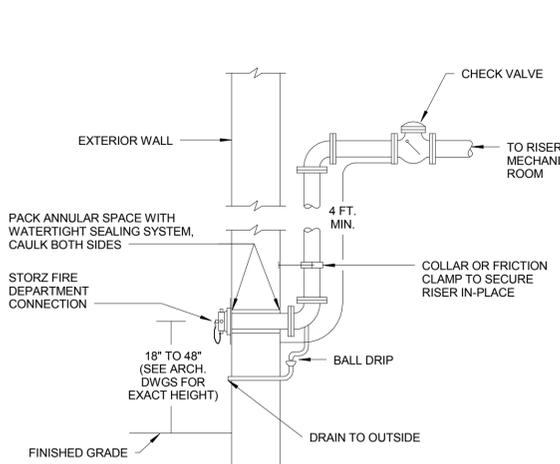
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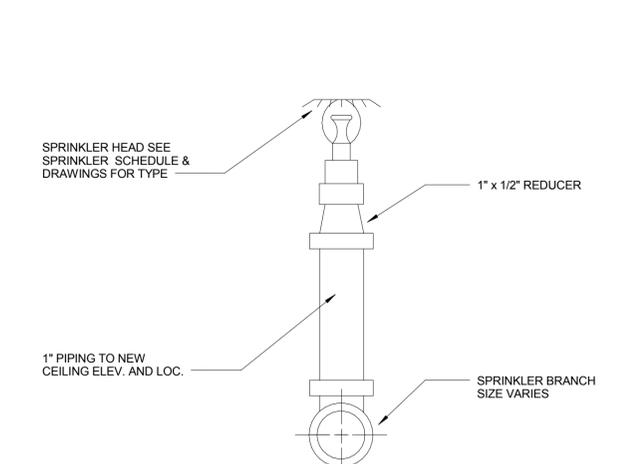
8 Sprinkler Zone Risers  
SCALE: 1/4" = 1'-0"



9 Fire Pump Section  
SCALE: 1/4" = 1'-0"

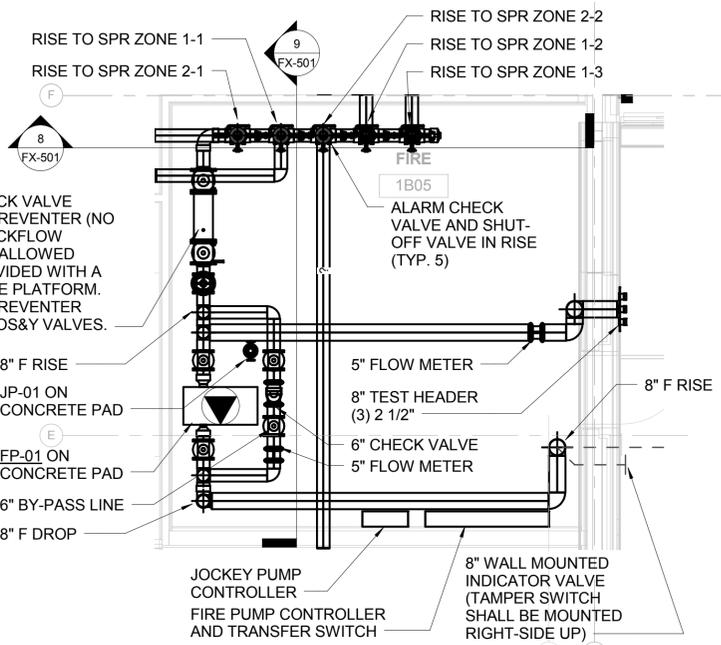


7 FP DETAIL - WALL MOUNTED STORZ CONNECTION  
SCALE: NTS

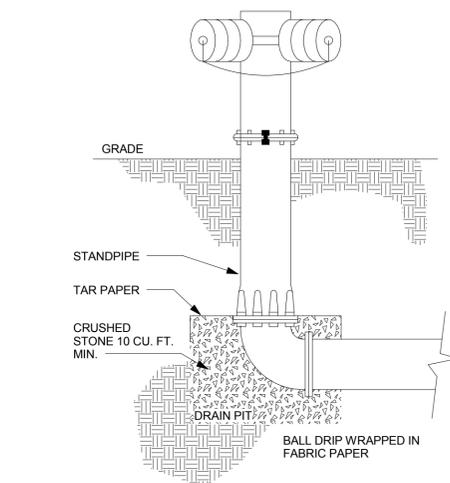


6 FP DETAIL - SPRINKLER ON SPRIG (UPRIGHT)  
SCALE: NTS

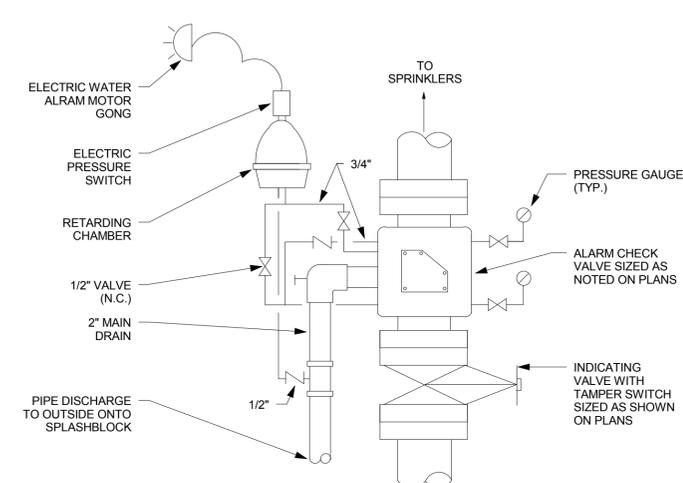
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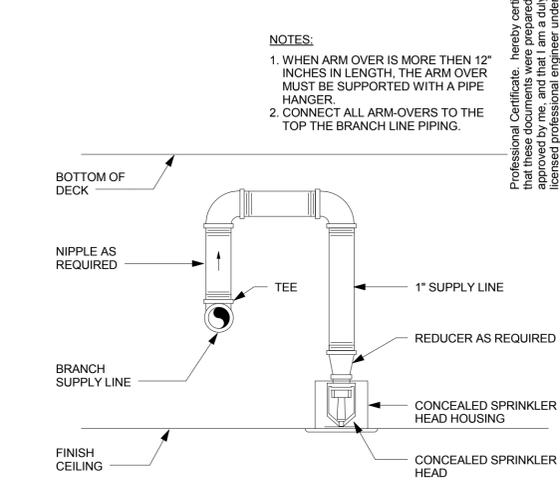
5 FIRE PUMP ROOM EQUIPMENT AND PIPING LAYOUT  
SCALE: 1/4" = 1'-0"



10 FP DETAIL - FIRE DEPARTMENT CONNECTION (FREE STANDING)  
SCALE: 1/2" = 1'-0"

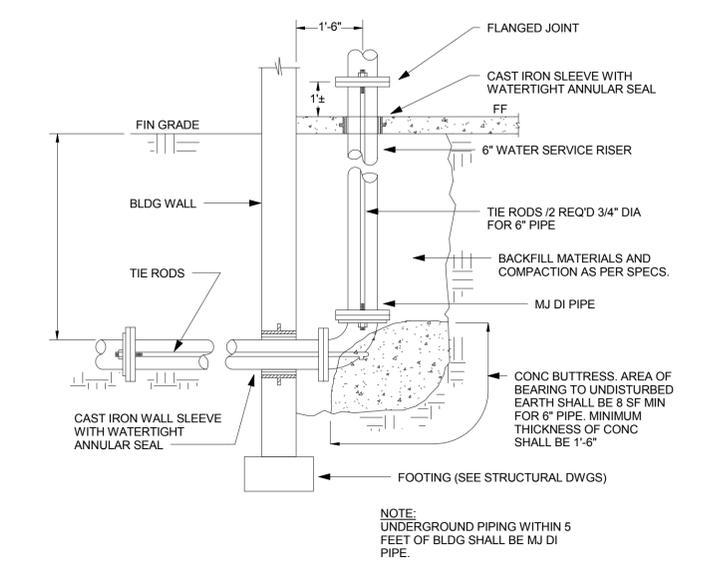


4 FP DETAIL - ALARM CHECK VALVE WITH TRIM & ELECTRIC BELL  
SCALE: NTS



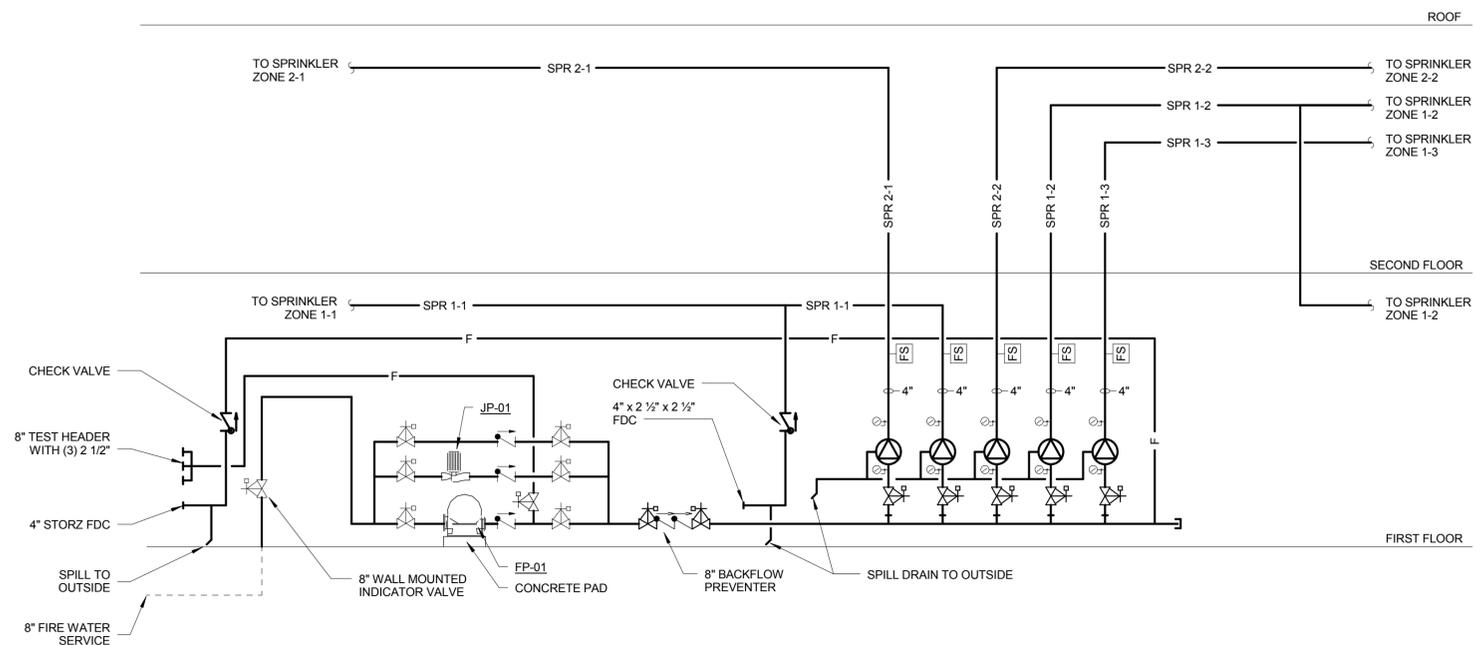
3 FP DETAIL - CONCEALED TYPE SPRINKLER HEAD  
SCALE: NTS

B



2 FP DETAIL - THRUST BLOCK FOR WATER MAIN INSIDE OF BUILDING  
SCALE: NTS

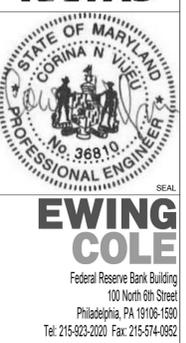
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1 FP RISER DIAGRAM  
SCALE: NTS

NOTES:  
1. WHEN ARM OVER IS MORE THAN 12" INCHES IN LENGTH, THE ARM OVER MUST BE SUPPORTED WITH A PIPE HANGER.  
2. CONNECT ALL ARM-OVERS TO THE TOP OF THE BRANCH LINE PIPING.

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APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY

SATISFACTORY TO DATE 06/27/08  
Designer Author Checker  
PIMCM  
BRANCH MANAGER  
CHIEF ENGR ARCH  
FIRE PROTECTION

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON  
DODEA  
MARINE CORPS BASE QUANTICO, VIRGINIA  
QUANTICO, VA  
**REPLACE QUANTICO M/H SCHOOL**  
FIRE SUPPRESSION RISER & DETAILS

SCALE: As Indicated  
PROJECT NO.: P-021  
CONSTR. CONTR. NO.: W91236-15-C-0023  
NAVFAC DRAWING NO.: 13091484  
SHEET 730 OF 789  
FX-501