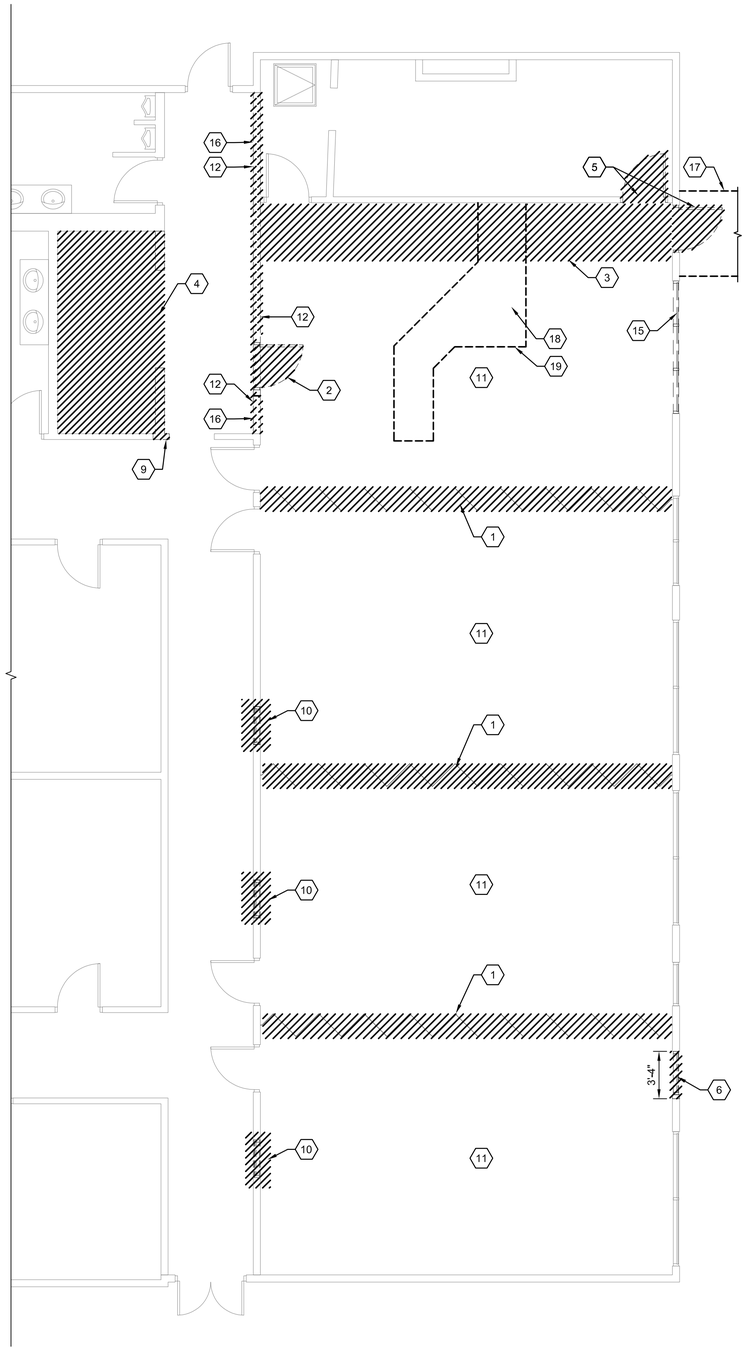
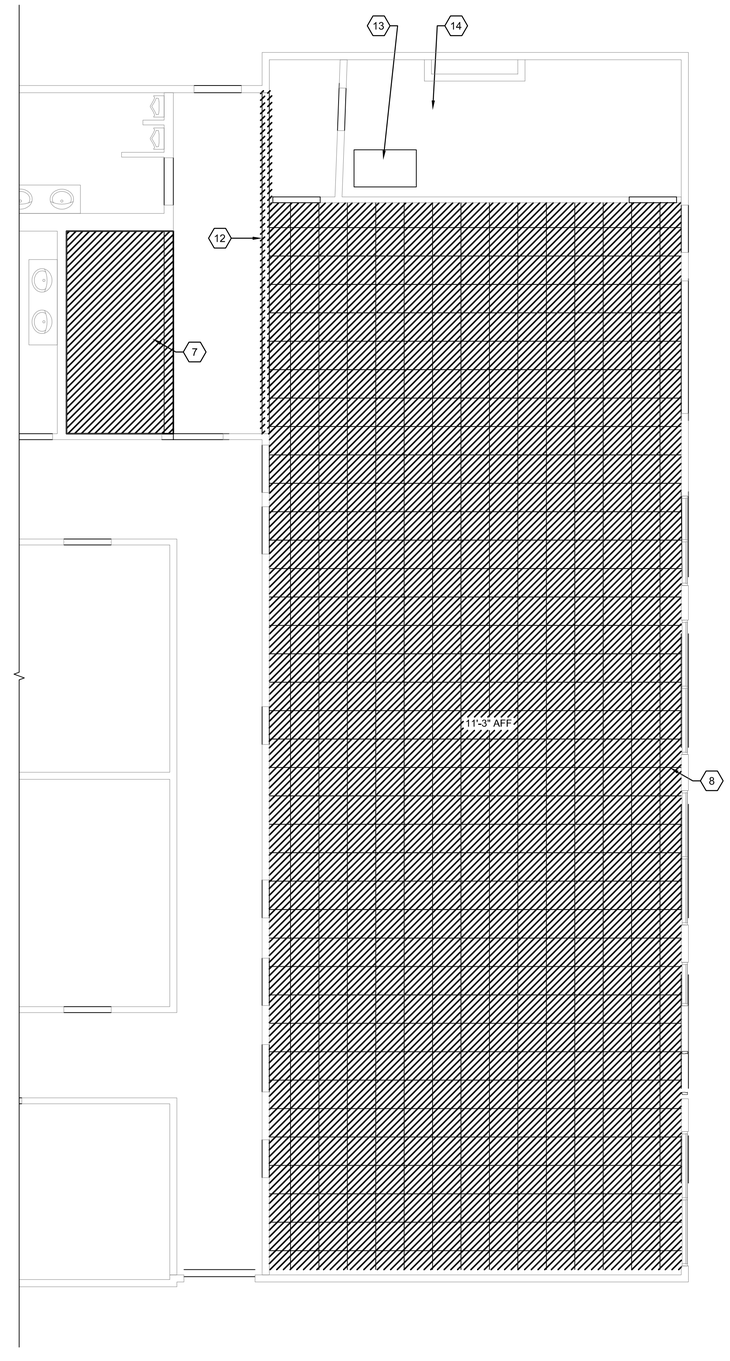


DEMO FLOOR PLAN

SCALE: 3/16"=1'-0"

0 4' 8' 16'



DEMO REFLECTED CEILING PLAN

SCALE: 3/16"=1'-0"

0 4' 8' 16'

DEMO SHEET KEYNOTES

1. REMOVE FOLDING PARTITION WALL, CEILING TRACKS, AND SIDE WALL MOUNTS AND ACCESSORIES.
2. REMOVE DOOR AND ALL HARDWARE.
3. DEMOLISH AND REMOVE WOOD STAGE AND STEPS.
4. REMOVE SINK AND CAP PLUMBING. REMOVE ALL CABINETS, CASEWORK, APPLIANCES, AND FLOORING.
5. REMOVE DOOR AND FRAME.
6. REMOVE WINDOW AND WALL, REMOVE ALL HARDWARE.
7. REMOVE EXISTING GWB CEILING FROM KITCHENETTE, PATCH EDGE OF CORRIDOR CEILING.
8. REMOVE ALL ACOUSTIC CEILING AND LIGHT FIXTURES.
9. DEMO WALL AND CORNER TO WIDEN CASED OPENING TO MINIMUM 44" CLEAR.
10. REMOVE INTERIOR WINDOWS AND WINDOW FRAMES.
11. DEMO AND REMOVE VCT FLOORING AND WALL BASE THROUGHOUT MULTI-PURPOSE ROOM.
12. REMOVE EXISTING GWB FROM WALL DOWN TO STUDS.
13. EXISTING ATTIC ACCESS DOOR TO REMAIN.
14. REMOVE EXISTING GWB CEILING AND LIGHT FIXTURES, WITHIN THE MECHANICAL ROOM, AS NECESSARY FOR INSTALLATION OF FIRE PROTECTION AND MECHANICAL EQUIPMENT. PATCH AND REPAIR AREAS AS NECESSARY TO RESTORE INTENDED FINISH.
15. REMOVE WINDOW, FRAME, AND HARDWARE IN ITS ENTIRETY
16. ADD ADDITIONAL SINGLE LAYER OF GYP TYPE 'X' WHERE SINGLE LAYER OF TYPE 'X' EXISTS
17. DEMOLITION EXISTING RAMP IN ITS ENTIRETY TO EXISTING CURB BUT NOT INCLUDING CURB. BACKFILL SPACE AND PATCH AND REPAIR ANY DAMAGED SECTIONS OF THE EXISTING WALL.
18. FIELD VERIFY LOCATION OF CONDUIT - SEE DETAIL B1/A-202 FOR INSTALLATION DETAIL
19. AREA OF CONCRETE SAW CUT FOR INSTALLATION OF CONDUIT AND PLUMBING

DEMO SHEET GENERAL NOTES

A. DEMOLITION CONTRACTOR TO REVIEW ALL SHEETS FOR FULL EXTENT OF THE DEMOLITION. AND VERIFY SCOPE PRIOR TO COMMENCING ANY WORK.
B. PROTECT STORED ON SITE AND INSTALLED ABSORPTIVE MATERIALS FROM MOISTURE DAMAGE.
C. THE CONTRACTOR SHALL EXERCISE CARE TO PREVENT ANY DAMAGE TO EXISTING CONDITIONS, UTILITIES, OR BUILDING ELEMENTS. DAMAGED ITEMS SHALL BE REMOVED AND PROMPTLY RETURNED TO SERVICE WITH NEW MATERIAL TO MATCH EXISTING.
D. MAINTAIN ALL EXISTING SERVICES IN USE BY BUILDING TENANTS DURING THE CONSTRUCTION AND DEMOLITION UNLESS WRITTEN AUTHORIZATION HAS BEEN GIVEN BY THE CONTRACTING OFFICER TO TEMPORARILY INTERRUPT ANY SERVICE OR UTILITY.
E. PERMANENTLY RECONNECT ALL SERVICES DISRUPTED BY THE ALTERATION AND DEMOLITION WORK WHETHER INSIDE OR OUTSIDE CONTRACT LIMIT LINES.

LICENSED ARCHITECT AR 985396
SCOTT R. OLCOTT
STATE OF IDAHO

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DESIGNED BY: DESIGN WEST
DWN BY: GMG
CKD BY: PEREZ
SUBMITTED BY: PEREZ
DATE: 12 MARCH 2020
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 6/8/2020
FILE NUMBER: 110132265
SIZE: ANSI D
FILE NAME: AD-101 Architectural Demo Plans.dwg

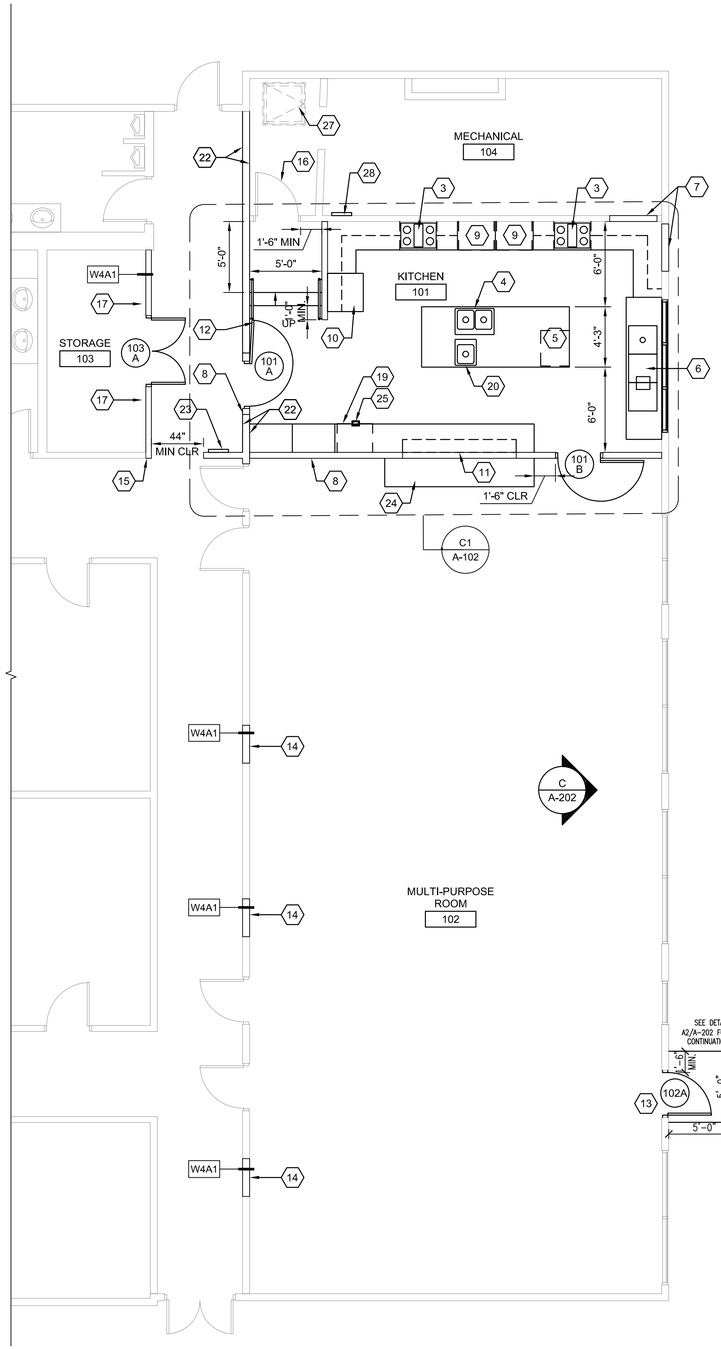
366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

design west | architects
765 N 400 W
SALT LAKE CITY, UT 84103
(801) 534-5223

CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

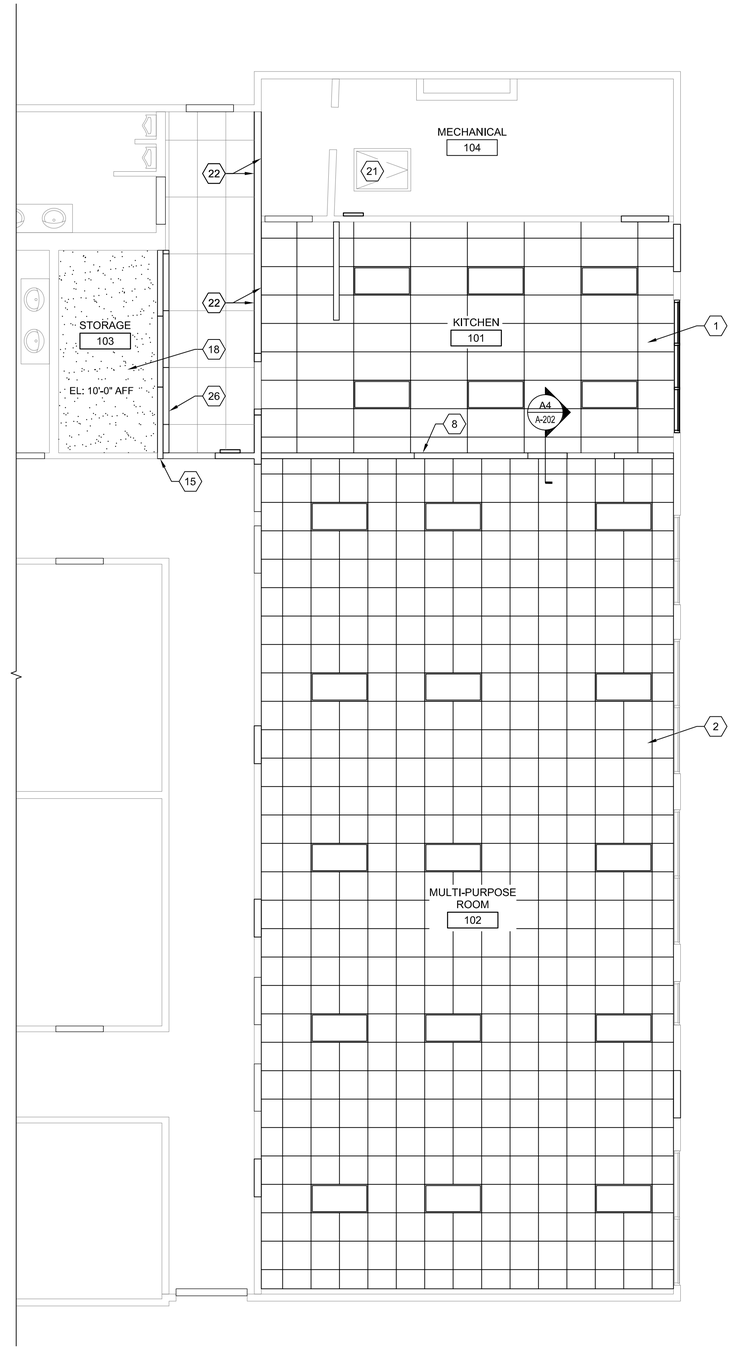
ARCHITECTURAL DEMO PLANS

AD-101
SHEET 7 OF 30



FLOOR PLAN

SCALE: 3/16"=1'-0"



REFLECTED CEILING PLAN

SCALE: 3/16"=1'-0"

KEY NOTES

1. INSTALL NEW KITCHEN RATED ACOUSTICAL CEILING TILE - SEE SPECIFICATIONS - CONTRACTOR TO VERIFY ROOF FRAMING CAPACITY.
2. INSTALL CORTEGA SECOND LOOK II CEILING TILE IN THE SAME SIZED GRID IN MULTI-PURPOSE ROOM @ EXISTING CEILING HEIGHT.
3. 5-BURNER RANGES WITH EXHAUST HOOD ABOVE. COORDINATE EXHAUST HOOD WITH MECHANICAL.
4. STAINLESS STEEL KITCHEN SINK WITH GARBAGE DISPOSAL, SEE PLUMBING SHEET P-101. COORDINATE WITH ELECTRICAL WITH SINK TOP DISPOSAL SWITCH.
5. UNDER COUNTER DISHWASHER.
6. 3 COMPARTMENT SINK WITH DISPOSAL. FLOOR DRAIN BELOW. SEE PLUMBING SHEET P-101.
7. INFILL DOOR OPENING TO MATCH EXISTING ASSEMBLY, FIRE RATING, AND FINISHES ON BOTH INTERIOR AND EXTERIOR.
8. INSTALL METAL STUD WALL AND CAP TOP OF WALL TO MEET FIRE-RATING REQUIREMENTS OF UL U411 WALL ASSEMBLY.
9. WALL-MOUNTED OVENS.
10. REFRIGERATOR.
11. SERVING COUNTER WITH PASS THROUGH OPENING AND OVERHEAD 1.5-HR FIRE RATED COILING SHUTTER.
12. AUTOMATIC MAGNETIC DOOR CLOSER.
13. INSTALL HOLLOW METAL EGRESS DOOR, INFILL REST OF WINDOW OPENING TO MATCH EXISTING ASSEMBLY, FIRE RATING, AND FINISHES ON BOTH INTERIOR AND EXTERIOR. SEE SHEET A-102 FOR DOOR HEAD AND JAMB DETAILS.
14. INFILL WINDOW OPENINGS WITH 1-HR FIRE RATED WALL ASSEMBLY WITH GYP BD FINISH TO MATCH EXISTING WALL FINISH AND CONSTRUCTION.
15. PATCH AND REPAIR GYP BD WALL, FLOORING, AND CEILING TO MATCH EXISTING AT WIDENED CASED OPENING. MAINTAIN 44" MINIMUM CLEARANCE FOR EGRESS.
16. EXISTING DOOR TO REMAIN TO MECHANICAL ROOM 104 DOOR, REPAIR AND PATCH ANY DAMAGE, AS NECESSARY.
17. INFILL DOOR OPENING AND WALL WITH 1-HR RATED WALL ASSEMBLY WITH GYP BD FINISH. SEE WALL TYPES.
18. INSTALL NEW 1-HR RATED GYP BD CEILING IN STORAGE ROOM 103 @ 10'-0".
19. RELOCATE EXISTING ICE MAKER - GOVERNMENT PROVIDED, CONTRACTOR INSTALLED.
20. SINGLE BASIN DESIGNATED HAND WASHING SINK. PROVIDE SOAP, PAPER TOWELS, AND WASTE BIN ACCESSORIES PER FDA REQUIREMENTS.
21. EXISTING CEILING HATCH TO REMAIN
22. REFINISH STUD WALL ON BOTH SIDES, AND CAP TOP OF WALL TO MEET FIRE-RATING REQUIREMENTS.
23. EXISTING ELECTRICAL PANEL TO REMAIN IN PLACE.
24. SERVING COUNTER TOP
25. NEW FLOOR SINK TO BE LOCATED AT ICE MAKER LOCATION - FIELD VERIFY LOCATION
26. INSTALL NEW CEILING GRID AND CEILING TILES WITHIN INTRODUCED COVE TO MATCH EXISTING CEILING CONSTRUCTION, HEIGHT, FINISH, AND TYPE.
27. ACCESS PANEL UNDER FLOOR
28. NEW ELECTRICAL PANEL TO BE LOCATED ON WALL - SEE ELECTRICAL DRAWINGS FOR SIZE AND INFORMATION

GENERAL NOTES

A. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL BASE, STATE, AND FEDERAL ORDINANCES AND BUILDING CODES.
B. ALL DOORS USED IN EGRESS TOWARD EXITS SHALL BE SO ARRANGED AS TO BE READILY OPENED WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE FROM THE SIDE WHICH EGRESS IS BEING MADE.
C. ALL WOOD TO BE FIRE RETARDANT TO TREATED IN ACCORDANCE WITH APPLICABLE CODES TO MEET REQUIRED RATINGS AS SHOWN IN DRAWINGS
D. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS AT THE SITE AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS BEFORE PROCEEDING WITH THE WORK.
E. ALL MATERIALS, METHODS OF INSTALLATION AND FINISHING OF CONSTRUCTION SYSTEMS (PARTITIONS, CEILINGS, DOORS, FRAMES, FLOORS, ETC.) SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
F. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAILY REMOVAL OF CONSTRUCTION DEBRIS AND SHALL THOROUGHLY CLEAN AND REMOVE ALL DEBRIS UPON COMPLETION OF FINAL WORK INCLUSIVE OF ALL TRADES
G. THE CONTRACTOR WILL EXECUTE THE WORK WITHOUT DEVIATION FROM THE CONSTRUCTION DOCUMENTS. ANY CHANGES TO THE WORK REQUIRE WRITTEN PERMISSION FROM THE OWNER. WHERE DETAILED INFORMATION IS DEEMED INCOMPLETE OR LACKING, REFER THE MATTER IN WRITING TO THE ARCHITECT FOR FURTHER INFORMATION OR CLARIFICATION BEFORE PROCEEDING.

LICENSED ARCHITECT AR 985396
SCOTT R. OLCOTT
STATE OF IDAHO

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366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

design west | architects
750 N 400 W
SUITE 200
SALT LAKE CITY, UT 84103
(801) 539-8201

DESIGNED BY: DESIGN WEST
DWN BY: GANG
CKD BY: PEREZ
SUBMITTED BY: PEREZ
DATE: 12 MARCH 2020
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 10/13/2025
FILE NUMBER: 101322685
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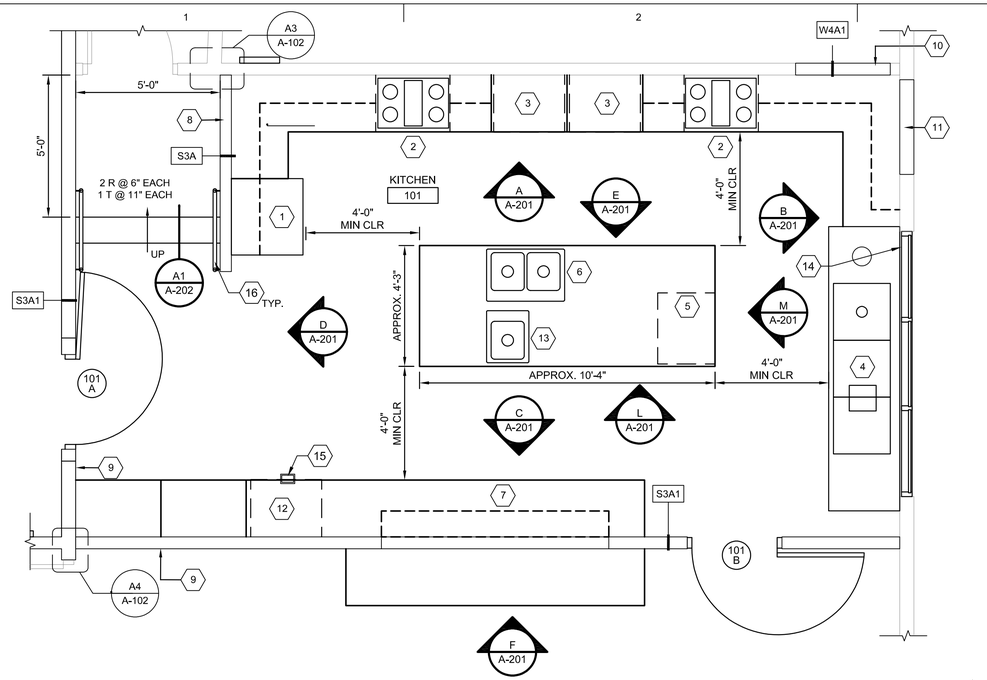
FILE NAME: A-101 Architectural Plans.dwg

CHAPEL KITCHEN RENOVATION, FACILITY 2806
MOUNTAIN HOME AIR FORCE BASE
IDAHO

ARCHITECTURAL PLANS

A-101
SHEET 8 OF 30

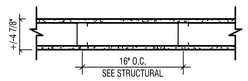
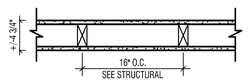
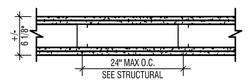


C1 ENLARGED KITCHEN PLAN

SCALE: 3/8"=1'-0"

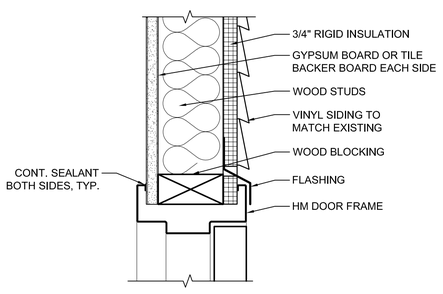
0 2' 4' 8'

WALL TYPES

MARK	ASSEMBLY	FIRE RATING
S3A DESCRIPTION: N/A	 5/8" TYPE 'X' GYP. BD. 3-5/8" METAL STUD FRAMING @ 16" O.C. 5/8" TYPE 'X' GYP. BD.	N/A TESTING SOURCE: N/A STC RATING N/A TESTING SOURCE: N/A
MARK	ASSEMBLY	FIRE RATING
W4A1 DESCRIPTION: N/A	 5/8" TYPE 'X' GYP. BD. 3-1/2" WOOD STUD FRAMING @ 16" - 24" O.C. 5/8" TYPE 'X' GYP. BD.	1 HR. TESTING SOURCE: UL U305, U314 STC RATING N/A TESTING SOURCE: N/A
MARK	ASSEMBLY	FIRE RATING
S3A1 DESCRIPTION: N/A	 (2) LAYERS 5/8" TYPE 'X' GYP. BD. 3-5/8" METAL STUD FRAMING @ 24" O.C. MAX (2) LAYERS 5/8" TYPE 'X' GYP. BD.	2 HR. TESTING SOURCE: U412, U423 STC RATING N/A TESTING SOURCE: N/A

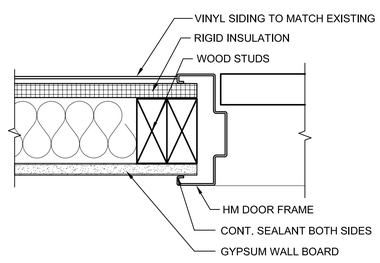
KEY NOTES

1. REFRIGERATOR.
2. 5-BURNER RANGES, WITH EXHAUST HOOD ABOVE. COORDINATE EXHAUST HOOD WITH MECHANICAL.
3. WALL-MOUNTED OVENS.
4. 3-COMPARTMENT SINK WITH DISPOSAL. FLOOR DRAIN BELOW, SEE PLUMBING SHEET P-101.
5. UNDER COUNTER DISHWASHER.
6. STAINLESS STEEL KITCHEN SINK WITH GARBAGE DISPOSAL, SEE PLUMBING SHEET P-101. COORDINATE WITH ELECTRICAL WITH SINK TOP DISPOSAL SWITCH.
7. SERVING COUNTER WITH PASS THROUGH OPENING AND OVERHEAD 1.5-HR FIRE RATED COILING SHUTTER AND COUNTER TOP.
8. NON-RATED PARTITION WING WALL WITH GYP BD FINISH.
9. INSTALL NEW METAL STUD WALL AND CAP TOP OF WALL TO MEET FIRE-RATING REQUIREMENTS PATCH OPENING WITH SMOKE RATED WALL ASSEMBLY WITH GWB FINISH.
10. PATCH OPENING WITH SMOKE RATED WALL ASSEMBLY WITH GYP BD FINISH.
11. INFILL DOOR OPENING TO MATCH EXISTING ASSEMBLY, FIRE RATING, AND FINISHES ON BOTH INTERIOR AND EXTERIOR.
12. RELOCATE EXISTING ICE MAKER - GOVERNMENT PROVIDED, CONTRACTOR INSTALLED.
13. SINGLE BASIN DESIGNATED HAND WASHING SINK. PROVIDE SOAP, PAPER TOWELS, AND WASTE BIN ACCESSORIES PER FDA REQUIREMENTS.
14. LOCATE WASTE BIN BELOW OPENING.
15. FLOOR SINK
16. HANDRAIL



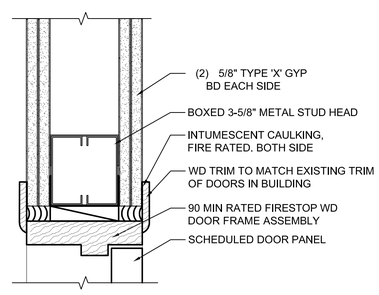
B1 HM DOOR HEAD DETAIL@ EXT WALL

SCALE: 3"=1'-0"



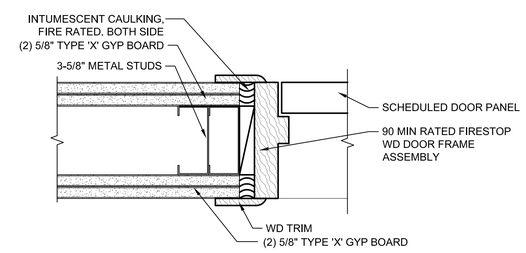
B2 HM DOOR JAMB DETAIL @EXT WALL

SCALE: 3"=1'-0"



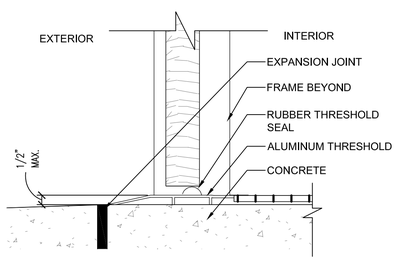
B3 WD DOOR HEAD

SCALE: 3"=1'-0"



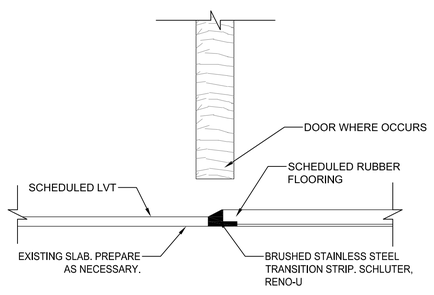
B4 WD DOOR JAMB

SCALE: 3"=1'-0"



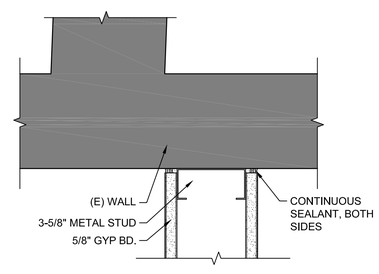
A1 EXT DOOR THRESHOLD

SCALE: 3"=1'-0"



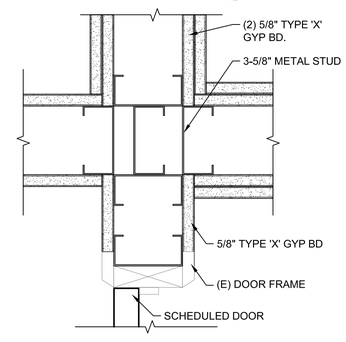
A2 LVT TO RUBBER THRESHOLD

SCALE: 3"=1'-0"



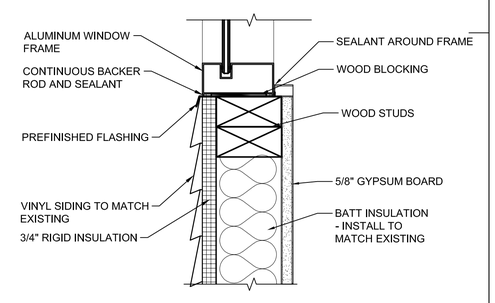
A3 WALL DETAIL

SCALE: 3"=1'-0"



A4 WALL DETAIL

SCALE: 3"=1'-0"



A5 WALL DETAIL

SCALE: 3"=1'-0"

LICENSED ARCHITECT AR 985396
SCOTT R. OLCOTT
STATE OF IDAHO

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PLOT DATE: 10/31/2021
FILE NUMBER: 101.02265
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IDAHO

ENLARGED ARCHITECTURAL PLANS

A-102
SHEET 9 OF 30

ROOM SCHEDULE

NUMBER	NAME	DRAWING NUMBER	FLOOR FINISH	BASE FINISH	NORTH WALL FINISH	EAST WALL FINISH	SOUTH WALL FINISH	WEST WALL FINISH	CEILING FINISH	CEILING HEIGHT	COMMENTS
101	KITCHEN	A-101, A-102	RF	RB	GWB	GWB	GWB	GWB	ACT	11'-3" (MATCH EXISTING)	2-HR FIRE RATED WALL
102	MULTI-PURPOSE ROOM	A-101	LVT	RB	GWB	EXP	EXP	GWB	ACT	11'-3" (MATCH EXISTING)	1-HR FIRE RATED WALL
103	STORAGE	A-101	LVT	RB	EXP	GWB	EXP	EXP	GWB	10'-0" A.F.F.	1-HR FIRE RATED WALL
104	MECHANICAL	A-101	-	-	EXP	EXP	GWB	EXP	EX	-	-

MATERIAL AND FINISH LEGEND

FLOOR		BASE	
LVT	LUXURY VINYL TILE	N	NONE
RF	RUBBER FLOORING	RB	RESILIENT BASE
WALLS		**CEILING**	
GWB	GYPSUM WALLBOARD - PAINTED	GWB	GYPSUM BOARD - PAINTED
EXP	EXISTING WALL - PAINTED	ACT	ACOUSTICAL CEILING TILE
		EX	EXISTING GYPSUM BOARD CEILING - PAINTED

EQUIPMENT SCHEDULE

	APPLIANCE TYPE	DIMENSIONS (W x D x H)	MODEL NUMBER	COLOR	COMMENTS
A	REFRIGERATOR	30" x 30" x 66"	Frigidaire; FFHT1821TS	Stainless Steel	ADA Compliant; ENERGYSTAR Certified
B	RANGE	29-7/8" x 26-3/4" x 36-5/8"	Frigidaire; FFGH3054US	Stainless Steel	ADA Compliant
C	WALL OVEN	27" x 24-3/4" x 29"	Frigidaire; FFEW2726TS	Stainless Steel	ADA Compliant
D	DISHWASHER	24" x 32-1/2" x 35-1/4"	Frigidaire; FDB2410HIC	Stainless Steel	ADA Compliant; ENERGYSTAR Certified
E	MICROWAVE	24" x 21-3/8" x 13-7/8"	Frigidaire; FFCE2278LS	Stainless Steel	
F	OVERHEAD ROLLING FIRE SHUTTER	8'-0" x 5'-0"	Overhead Door Co.; Fire-Rated Counter Doors 641	Stainless Steel	UL-1-1/2 HOUR CLASS B LABEL FOR INSTALLATION IN NON-MASONRY WALLS, FACE MOUNTED OR BETWEEN JAMB

NOTE:
1. REFER TO MECHANICAL FIXTURE CONNECTION SCHEDULE ON SHEET M-601 FOR SINKS AND DISPOSALS.
2. APPLIANCES TO BE PROVIDED AS LISTED IN EQUIPMENT SCHEDULE OR APPROVED EQUAL.
3. ALL KITCHEN EQUIPMENT AND APPLIANCES CONTRACTOR FURNISHED, CONTRACTOR INSTALLED.

DOOR SCHEDULE

				DOOR			FRAME							
WT	DRAWING NUMBER	WIDTH	HEIGHT	TYPE	PANEL MATERIAL	PANEL FINISH	TYPE	MATERIAL	FINISH	FIRE RATING	HARDWARE SET	HEAD	JAMB	THRESHOLD
101A	A-101, A-102	3'-0"	7' - 0"	A	WD	PT	1	WD	PT	90 MIN.	1	B3/A-102	B4/A-102	A2/A-102
101B	A-101, A-102	3'-0"	7' - 0"	A	WD	PT	1	WD	PT	90 MIN.	1	B3/A-102	B4/A-102	A2/A-102
102A	A-101	3'-0"	7' - 0"	A	HM	PT	1	HM	PT		2	B1/A-102	B2/A-102	A1/A-102
103A	A-101	3'-0"	7' - 0"	B	WD	ST	1	WD	ST	20-MIN	3	B3/A-102	B4/A-102	A2/A-102

MATERIAL AND FINISH LEGEND

MATERIAL AND FINISH LEGEND		FINISH	
HM	HOLLOW METAL	PT	PAINT
STL	STEEL	ST	STAIN
GS	GALVANIZED STEEL	WD	WOOD; ASSA ABLOY PLAIN SLICED RED OAK #675

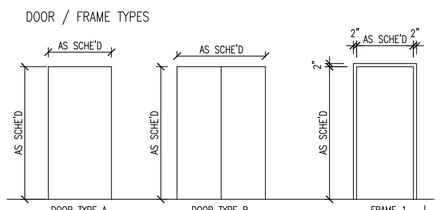
HARDWARE SCHEDULE

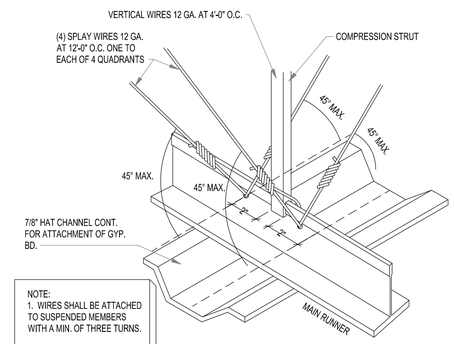
HARDWARE SET	DESCRIPTION
1	INTERIOR 2-HR FIRE RATED; (1) PR BUTT HINGES; (1) EA LOCK SET-PASSAGE FUNCTION; (1) EA CLOSER; (1) EA MAG LOCK-COORDINATE WITH FIRE ALARM SYSTEM; (1) EA SMOKE SEAL
2	EXTERIOR NON-RATED; (1) PR BUTT HINGES; (1) EA EXIT DEVICE-CLASSROOM FUNCTION; (1) EA CLOSER; (1) EA WEATHER STRIPPING; (1) EA THRESHOLD; (1) EA SWEEP
3	INTERIOR 20-MIN-RATED PAIR; (2) PR BUTT HINGES; (1) EA SURFACE BOLTS-TOP AND BOTTOM; (1) EA LOCKSET-CLASSROOM FUNCTION; (1) EA SMOKE SEAL

FINISH LEGEND

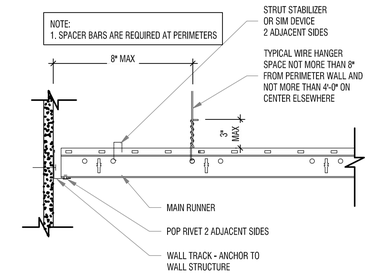
MARK	MATERIAL	MANUFACURER	STYLE	COLOR	SIZE	NOTES
LVT	LUXURY VINYL TILE	SHAW	TERRAIN 8 MIL0655V	ECHO 00766	6X48	GC TO CONFIRM INSTALLATION METHOD WITH OWNER
PT	PAINT	SHERWIN WILLIAMS	--	SW 7005 PURE WHITE	--	--
RB	RUBBER BASE	ROPPE	--	#194 BURNT UMBER	4"	--
RF - 1	RUBBER FLOORING	ROPPE	MARBLEIZED	M624 CHAMELEON	--	--
CT - 1	COUNTERTOP	SOLID SURFACE	LIVINGSTONE	VOLCANIC ASH	--	1/2" THICK

DOOR / FRAME TYPES

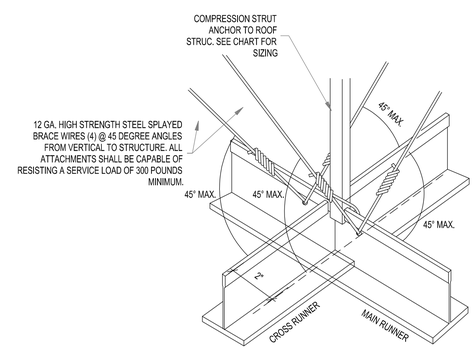




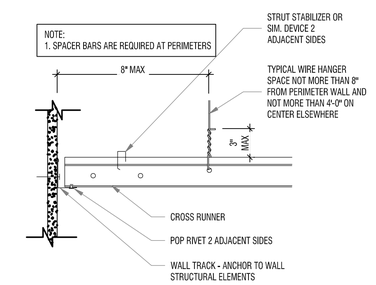
SUSPENDED GYP. BD.



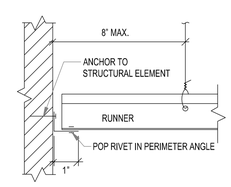
C5 CEILING - CROSS PERIMETER
SCALE: 3"=1'-0"



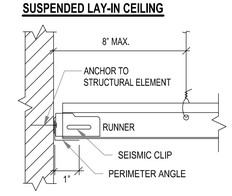
SUSPENDED LAY-IN CEILING



B5 CEILING - MAIN RUNNER
SCALE: 3"=1'-0"

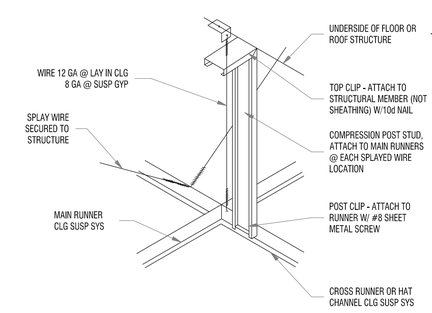


EDGE DETAIL



EDGE DETAIL

A4 SUSPENDED DETAILS
SCALE: 1/4"=1'-0"



A5 CEILING - POST RUNNER
SCALE: 3"=1'-0"

LICENSED ARCHITECT AR 985396
SCOTT R. OLCOTT
STATE OF IDAHO

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.
1				8			
2				9			
3				10			
4				11			
5				12			
6				13			
7				14			

DESIGNED BY: DESIGN WEST
DWN BY: GANG
CKD BY: PEREZ
SUBMITTED BY: PEREZ
DATE: 12 MARCH 2020
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 10/01/2020
FILE NUMBER: 101322265
FILE NAME: A-103 Schedules.dwg
SIZE: ANSI D

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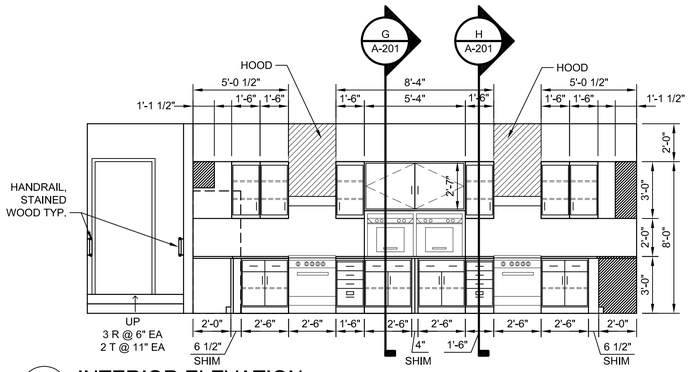
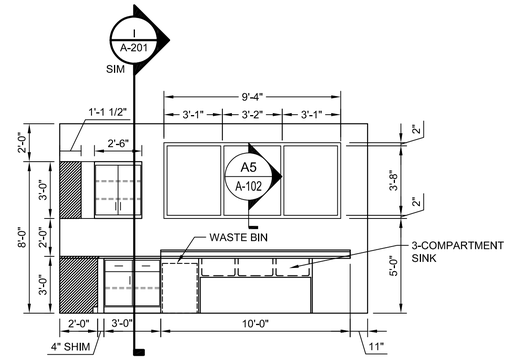
SCHEDULES

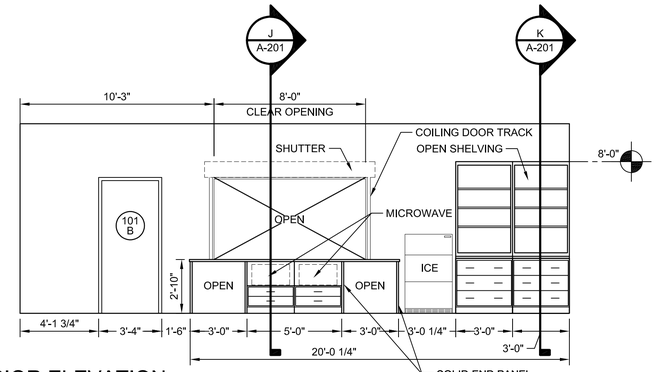
A-103
SHEET 10 OF 30



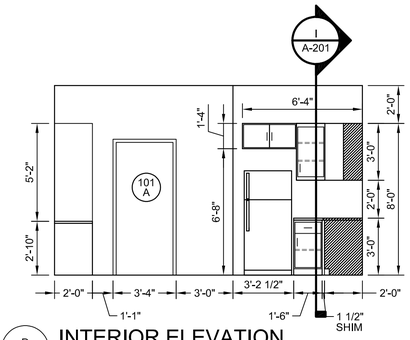
A A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



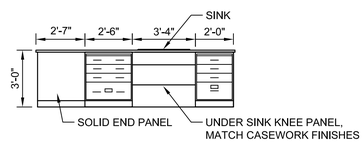
B A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



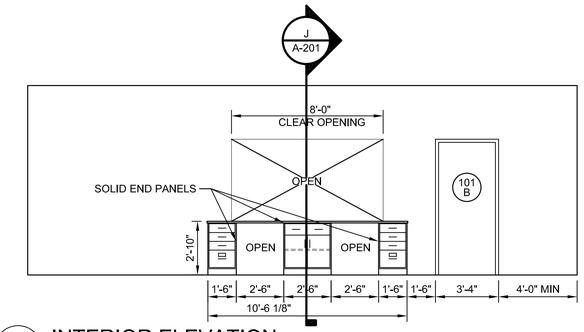
C A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



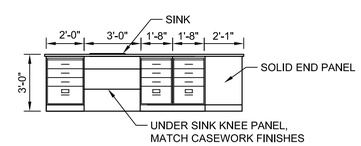
D A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



E A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



F A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



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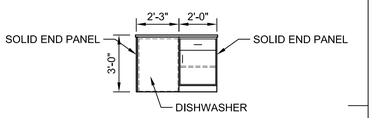
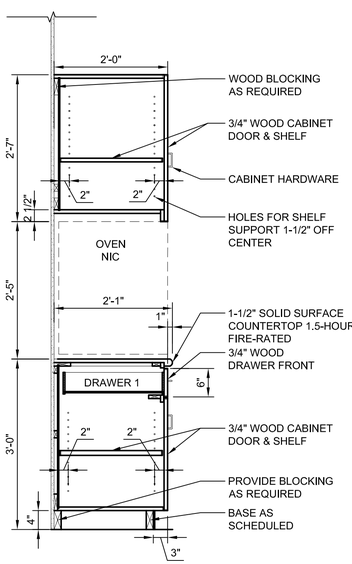
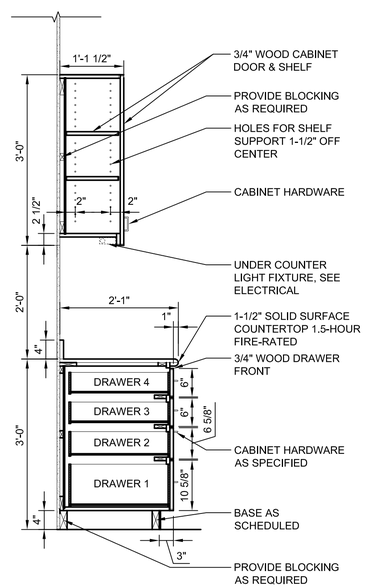
SCALE: 1/4" = 1'-0"



M A-101 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



G A-101 CASEWORK SECTION
SCALE: 3/4" = 1'-0"



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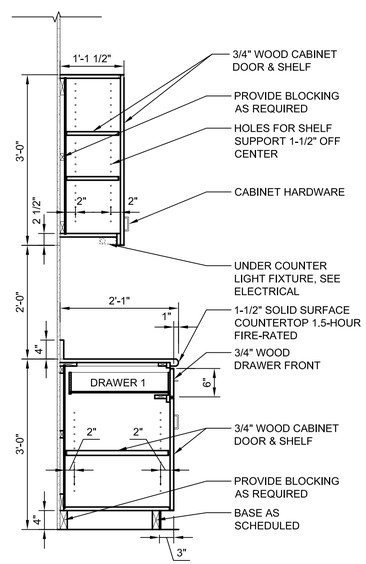
SCALE: 3/4" = 1'-0"



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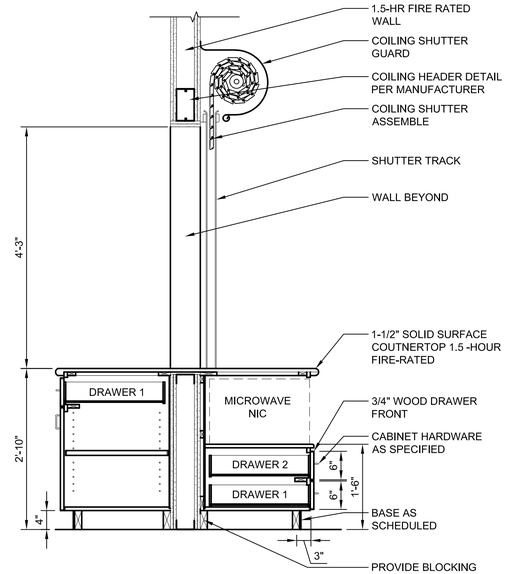
SCALE: 3/4" = 1'-0"



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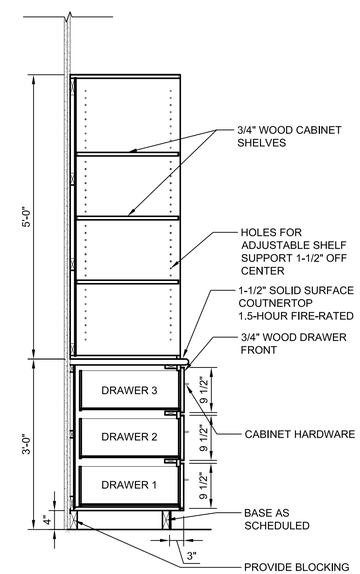
SCALE: 3/4" = 1'-0"



K A-101 CASEWORK SECTION
SCALE: 3/4" = 1'-0"

LICENSED ARCHITECT AR 985396
SCOTT R. OLCOTT
STATE OF IDAHO

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DESIGNED BY: DESIGN WEST
DWN BY: GANG
CKD BY: PEREZ
SUBMITTED BY: PEREZ
DATE: 12 MARCH 2020
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 10/07/2020
FILE NUMBER: 101322265
STYLE: ANSI D
FILE NAME: A-201 Interior Elevations.dwg

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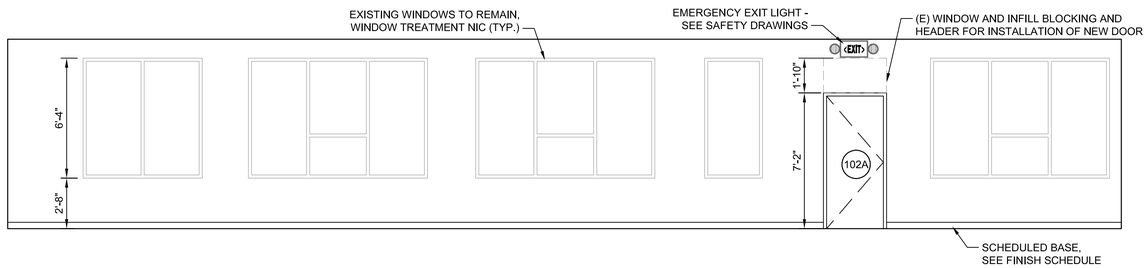
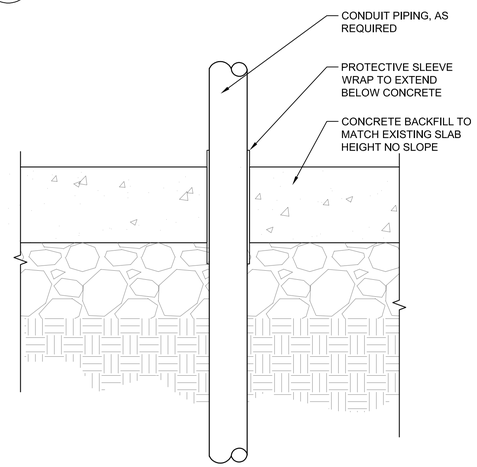
INTERIOR ELEVATIONS

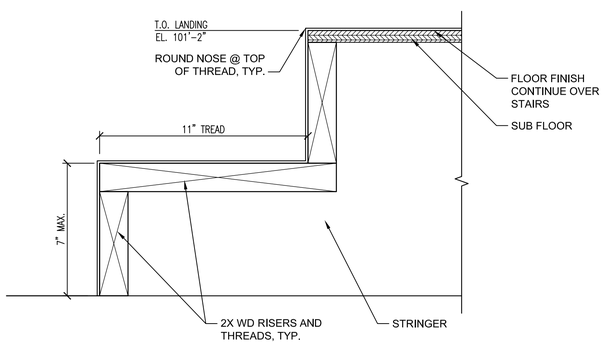
A-201
SHEET 11 OF 30



C / A-202 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



B1 / A-202 CONDUIT PENETRATION THRU BACKFILL CONCRETE
SCALE: 3" = 1'-0"



A1 / A-202 STAIR SECTION
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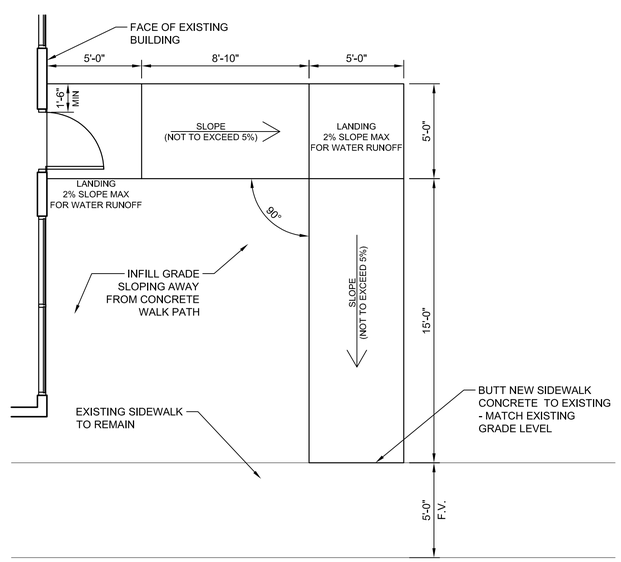
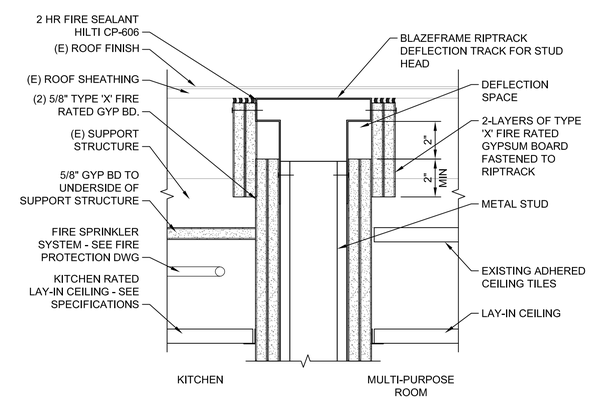


A2 / A-202 SIDEWALK PATH PLAN
SCALE: 3" = 1'-0"



A4 / A-202 2-HR BARRIER DEFLECTION DETAIL
SCALE: 3" = 1'-0"

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SCOTT R. OLCOTT
STATE OF IDAHO

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DESIGNED BY: DESIGN WEST
DWN BY: GMG
CKD BY: PEREZ
SUBMITTED BY: PEREZ
DATE: 12 MARCH 2020
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 10/07/2020
FILE NUMBER: 101132265
SIZE: ANSI D
FILE NAME: A-202_Interior Elevations.dwg

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INTERIOR ELEVATIONS

A-202
SHEET 12 OF 30

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

MECHANICAL

	POSITIVE PRESSURE DUCT – RISE
	POSITIVE PRESSURE DUCT – DROP
	NEGATIVE PRESSURE DUCT – RISE
	NEGATIVE PRESSURE DUCT – DROP
	ROUND DUCT – RISE
	ROUND DUCT – DROP
	TURNING VANES
	CEILING SUPPLY DIFFUSER
	CEILING RETURN REGISTER
	CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
	SIDEWALL SUPPLY REGISTER
	SIDEWALL EXHAUST OR RETURN REGISTER
	CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
	CEILING AIR GRILLE WITH FLEXIBLE DUCT
12/8	RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
12ø	ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
UP	INCLINED RISE } WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.
DN	INCLINED DROP } WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.
W R	R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
12/12 8/8	RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
12/12 12ø	RECTANGULAR TO ROUND DUCT TRANSFORMATION
	MANUAL VOLUME DAMPER
FD	FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
12/8 FO	FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.

SYMBOLS

1	KEYED NOTE IDENTIFICATION
	POINT OF CONNECTION

GENERAL NOTES

1. NEW DUCTWORK, PIPING AND EQUIPMENT SHALL BE COORDINATED WITH STRUCTURE, LIGHTS, REFLECTED CEILING PLANS, ELECTRICAL CONDUIT, PLUMBING, MECHANICAL AND FIRE PROTECTION PIPING, AUDIO/VISUAL SYSTEMS, ALL OTHER TRADES AND ALL OTHER EXISTING CONDITIONS.
2. NOT ALL INFORMATION IS SHOWN ON THE HVAC DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS. THE CONTRACTOR WILL BE FAMILIAR WITH THE DRAWINGS, SPECIFICATIONS, AND ADDENDUMS.
3. THE WORKING DRAWINGS ARE DIAGRAMMATIC (DRAWINGS ARE NOT TO BE SCALED). BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR HVAC EQUIPMENT SHALL BE CHECKED AND COORDINATED WITH THE DRAWINGS.
4. THE DRAWINGS AND SPECIFICATION HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
5. ANY PART OF THIS INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL EQUIPMENT (INCLUDED IN THIS BID) CHECK-IN, SAFEKEEPING, AND DAMAGE.
7. IF FOR ANY REASON THE ROUTING OF PIPE OR DUCTWORK DEVIATED FROM THAT SHOWN ON THE DRAWING THE GENERAL AND MECHANICAL CONTRACTOR AND OR TIER SUBS SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST RELATED TO EXTRA HANGERS.
8. ALL MATERIALS LOCATED ABOVE CEILING ARE TO BE RATED FOR PLENUM INSTALLATION, TYPICAL.
9. GENERAL MECHANICAL CONTRACTOR TO PROVIDE BACKING FOR EQUIPMENT AS REQUIRED.
10. DUCTWORK DIFFUSERS, REGISTERS OR GRILLES, EQUIPMENT ETC. SHOWN WITH X'S SHALL BE DEMOLISHED, TYPICAL.
11. THE LOCATION AND ROUTING OF ALL EXISTING DUCTWORK, EQUIPMENT AND PIPING (INCLUDING ALL BELOW FLOOR PIPING), IS ONLY APPROXIMATE AND IS SCHEMATIC IN NATURE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING SYSTEMS AND CONDITIONS.
12. DUCTWORK, DIFFUSERS, GRILLES, EQUIPMENT, ETC. SHOWN LIGHT SHALL REMAIN, TYPICAL.
13. SHEET METAL CONTRACTOR SHALL TAKE CARE TO ENSURE THAT ALL DUCTWORK OPENINGS REMAIN FREE OF DEBRIS, TYPICAL.

MECHANICAL

GENERAL NOTES

1. FLEXIBLE DUCT MAXIMUM LENGTH IS 5'-0", EXCEPT AS NOTED. SUPPORT AS REQUIRED TO AVOID "KINKS", TYPICAL.
2. PROVIDE BALANCING DAMPER AT ALL BRANCH DUCTS SERVING SINGLE DIFFUSER, REGISTER OR GRILLE, TYPICAL.
3. COORDINATE EXACT PLACEMENT OF DIFFUSERS, GRILLES AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLAN, TYPICAL.
4. SEE DETAIL FOR DIFFUSER CONNECTIONS TO DUCTWORK, TYPICAL.
5. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK SIZE OF THE DIFFUSERS, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
6. COORDINATE MOUNTING LOCATION OF THERMOSTAT WITH ARCHITECTURAL FURNISHINGS, TYPICAL.
7. COORDINATE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, PLUMBING, MECHANICAL PIPING, FIRE PROTECTION, AND OTHER TRADES, TYPICAL.
8. INSTALL TURNING VANES IN ALL SQUARE LOW PRESSURE DUCTWORK AT ELBOWS OR TEES, TYPICAL.
9. FIELD VERIFY THE FIT OF ALL DUCTWORK BEFORE FABRICATION, TYPICAL.
10. CONTRACTOR SHALL OFF-SET DUCTWORK AS REQUIRED WHERE STRUCTURE, LIGHTING OR PIPING CONFLICTS EXIST, TYPICAL.
11. DUCTWORK SIZES ARE FREE AREA SIZES, TYPICAL.
12. IN HARD CEILING AREAS, INSTALL REMOTE DAMPER OPERATOR IN CEILING, SEE SPECIFICATION, TYPICAL.

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vbfa project #: 19540

LICENSED PROFESSIONAL ENGINEER
No. 354088
JAMES E. NIGHTINGALE
03/12/2020
STATE OF IDAHO

MARK	DESCRIPTION	DATE	APPR.
1			
2			
3			
4			
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MARK	DESCRIPTION	DATE	APPR.
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10			
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14			

366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

DESIGNED BY: J. NIGHTINGALE
DWN BY: M. POND
CKD BY: J. NIGHTINGALE
SUBMITTED BY: J. NIGHTINGALE
DATE: 20 NOVEMBER 2019
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 03/12/20
FILE NUMBER: 10132265
ANSI D
FILE NAME: 19540_M-000.dwg

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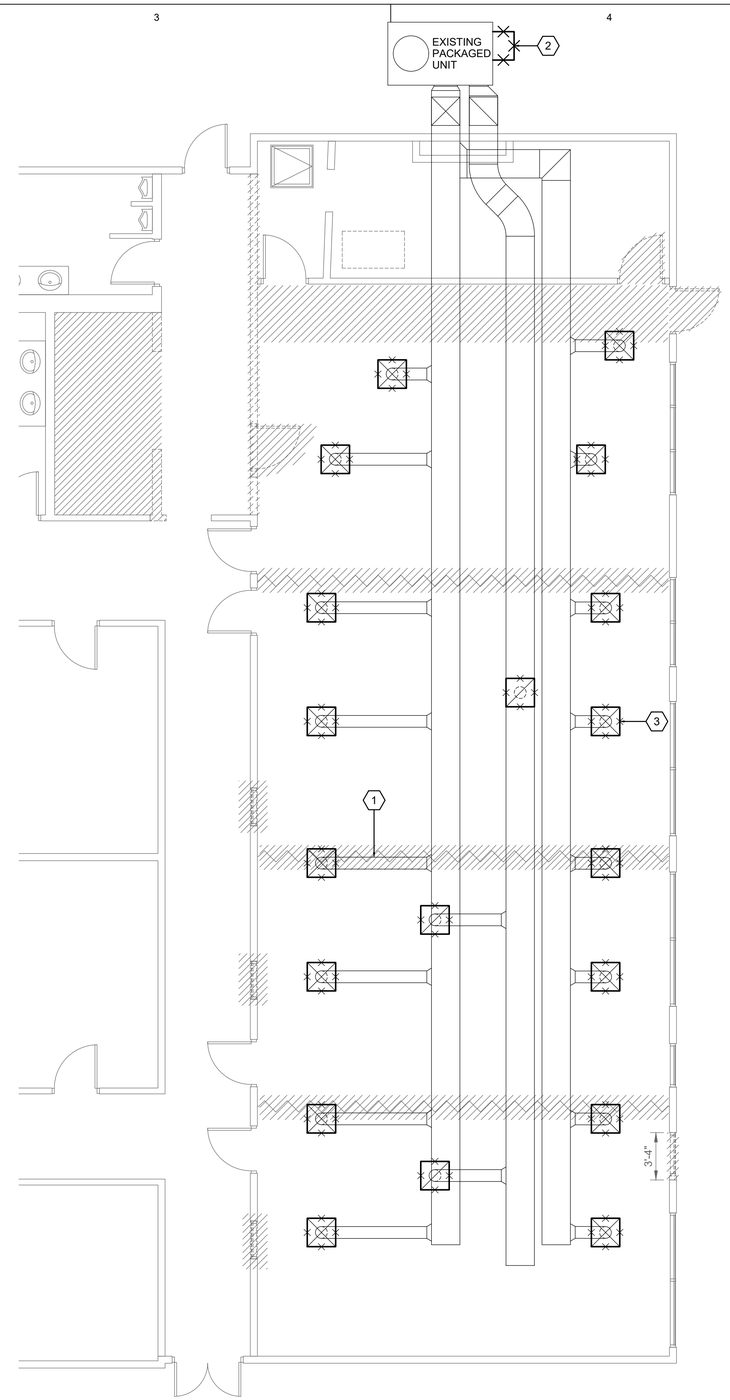
MOUNTAIN HOME AIR FORCE BASE
IDAHO

MECHANICAL SYMBOLS LEGEND AND GENERAL NOTES

M-000
SHEET 13 OF 30



KEY NOTES

1. VERIFY BALANCING DAMPERS EXIST IN ALL DUCT BRANCHES AND INSTALL NEW IF ANY ARE MISSING.
2. EXISTING HOOD OVER OUTSIDE AIR INLET TO BE REMOVED AND INLET EXTENDED UNDER NEW CONSTRUCTION PHASE.
3. DEMOLISH ALL GRILLES, REGISTERS, AND DIFFUSERS WHEN ARCHIECTURAL CEILING TILES ARE REMOVED.

MECHANICAL DEMOLITION FLOOR PLAN

SCALE: 3/16"=1'-0"

0 4' 8' 16'

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vbfa project #: 19540

LICENSED PROFESSIONAL ENGINEER
No. 354088
JAMES E. NIGHTINGALE
03/12/2020
STATE OF IDAHO

MARK	DESCRIPTION	DATE	APPR.
1			
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MARK	DESCRIPTION	DATE	APPR.
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366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

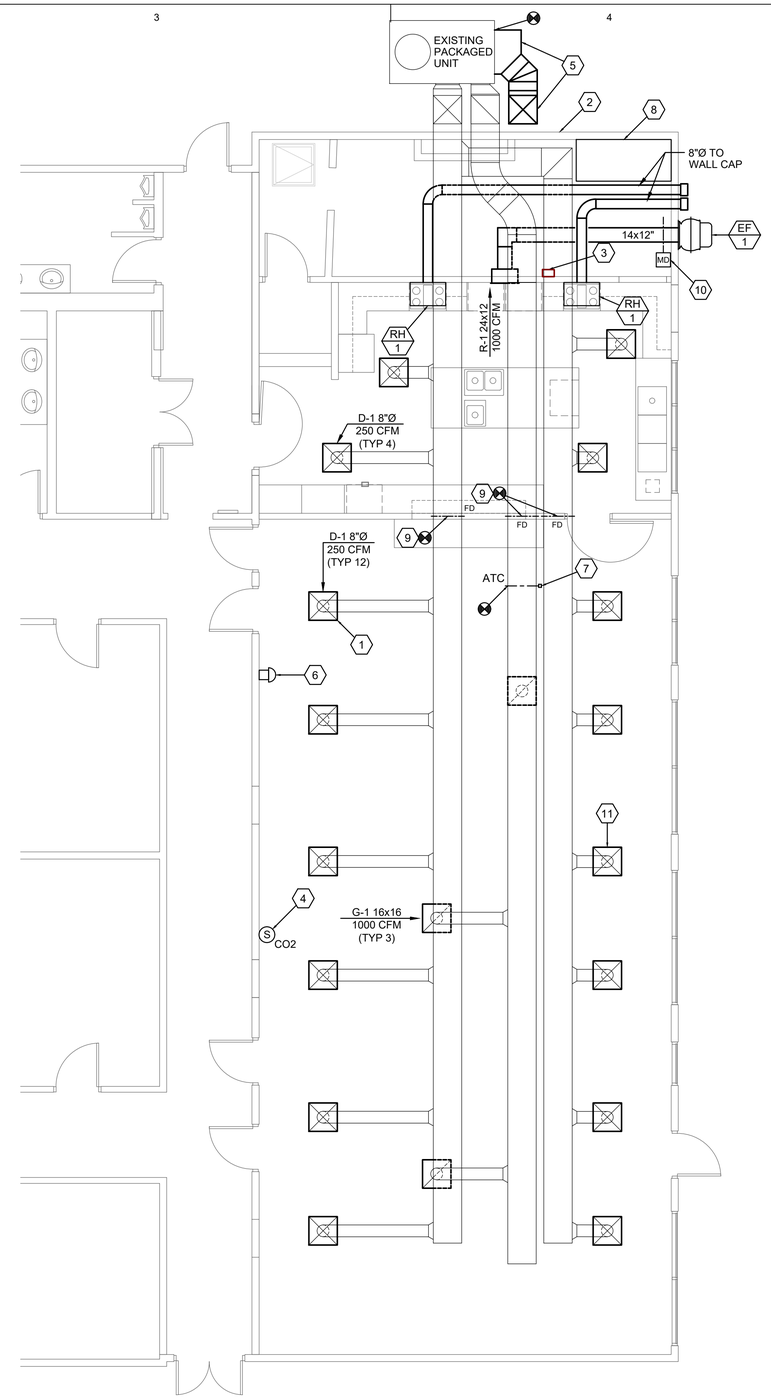
DESIGNED BY: J. J. NIGHTINGALE
DWN BY: M. POND
CKD BY: J. NIGHTINGALE
SUBMITTED BY: J. NIGHTINGALE
DATE: 20 NOVEMBER 2019
CONTRACT NO.: FA8897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 10/31/2020
FILE NUMBER: 10132265
SIZE: ANSI D
FILE NAME: 19540_MD-101.dwg

design west | architects
795 N 400 W
SALT LAKE CITY, UT 84103
(801) 538-5221

CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

MECHANICAL DEMOLITION FLOOR PLAN

MD-101
SHEET 14 OF 30



KEY NOTES

1. PERFORM AIR BALANCE SURVEY OF ALL EXISTING DIFFUSERS, REGISTERS, GRILLES, AND EXISTING PACKAGED UNIT PRIOR TO ANY DEMOLITION / WORK BEGINNING AND PROVIDE REPORT. REPLACE EXISTING DIFFUSERS, REGISTERS, GRILLES AND COORDINATE LOCATION WITHIN NEW CEILING GRID. RECONNECT TO EXISTING DUCT BRANCH AND BALANCE TO CFM SHOWN.
2. 3" COMBUSTION AIR INTAKE AND EXHAUST SERVING WATER HEATER TO DISCHARGE THRU WALL WITH MANUFACTURER PROVIDED CONCENTRIC VENT KIT.
3. FAN CONTROLLER, COORDINATE LOCATION WITH STORAGE ROOM SHELVING. PROVIDED AND INSTALLED BY JOHNSON CONTROLS.
4. CO2 SENSOR FOR CONTROL OF EF-1. EXHAUST FAN TO SERVE AS REMOTE POWERED EXHAUST FOR EXISTING PACKAGING UNIT. CO2 SENSOR TO ENERGIZE FAN WHEN CO2 RISES TO 800 PPM IN DINING AREA. IT IS ASSUMED THE ROLL-UP WINDOW BETWEEN THE DINING AREA AND THE KITCHEN IS UP WHEN THE DINING AREA IS DENSELY OCCUPIED. SATURATED ROOM AIR FROM DINING AREA IS DRAWN ACROSS KITCHEN AND OUT THE RANGE HOOD(S) OR THE EXHAUST, EF-1.
5. REMOVE OUTSIDE AIR (OA) HOOD FROM EXISTING PACKAGED UNIT AND REPLACE WITH NEW PLENUM FULL SIZE OF OA OPENING. EXTEND 24x24 OA DUCT OVER TO, AND UP BUILDING WALL TERMINATING WITH A GOOSENECK FITTING WITH BOTTOM OF OPENING AT MIN. 10 FT. ABOVE FINISHED GRADE.
6. HVAC SHUTDOWN SWITCH. INTERLOCK WITH EXISTING PACKAGED UNIT, RANGE HOODS, AND EXHAUST FAN.
7. ATC DAMPER TO OPEN & CLOSE BASED ON EXHAUST FANS OPERATION. CONTRACTOR TO SET CLOSED POSITION OF DAMPER TO ALLOW 2,000 CFM OF RETURN AIR TO THE EXISTING PACKAGED UNIT. CLOSE WHEN EF-1 AND RANGE HOODS RH-1 ARE RUNNING. CLOSED POSITION ENABLES FLOW BALANCE TO EXHAUST FAN, EF-1. PROVIDE ACCESS DOOR IN DUCT FOR MAINTENANCE.
8. THIS AREA RESERVED FOR FIRE PROTECTION STANDPIPE AND CONTROLS.
9. INSTALL NEW FIRE DAMPER IN EXISTING DUCTWORK ABOVE CEILINGS AS FIRE RATING EXTENDS TO ROOF DECK. 3 PLACES. PROVIDE NEW ACCESS DOORS AT DUCT FOR DAMPER MAINTENANCE ABOVE DINING AREA LAY-IN CEILING.
10. MOTORIZED DAMPER TO BE NORMALLY CLOSED WHEN FAN IS DE-ENERGIZED. OPEN ONLY WHEN FAN IS ENERGIZED.
11. CONTRACTOR TO PROVIDE AND INSTALL NEW GRILLES, REGISTERS, AND DIFFUSERS. SEE SCHEDULES FOR DETAILS. SUPPORT ANY FLEX DUCT TRANSITIONS PER MECHANICAL DETAILS.

MECHANICAL FLOOR PLAN

SCALE: 3/16"=1'-0"

0 4' 8' 16'

VBFA
181 East 5600 South
Murray, Utah 84107
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F: (801) 530-3150
www.vbfa.com
vbfa project #: 19540

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03/12/2020
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CHAPEL KITCHEN RENOVATION, FACILITY 2606
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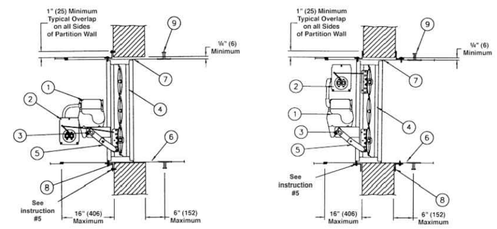
IDAHO

MECHANICAL FLOOR PLAN

M-101
SHEET 15 OF 30

VERTICAL INSTALLATION

Damper may be installed with actuator on either side of the partition in accordance with the mounting label on the damper.

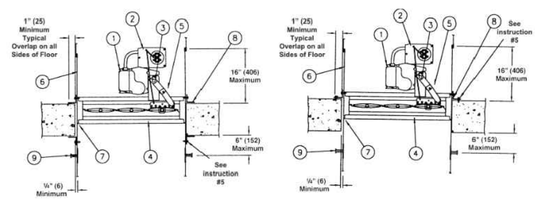


FAST ANGLE (ONE ANGLE) INSTALLATION
Angle may be installed on either side of the partition.

TWO ANGLE INSTALLATION
Angles are required on both sides of the partition.

HORIZONTAL INSTALLATION

Damper may be installed with actuator above or below floor in accordance with the mounting label on the damper.

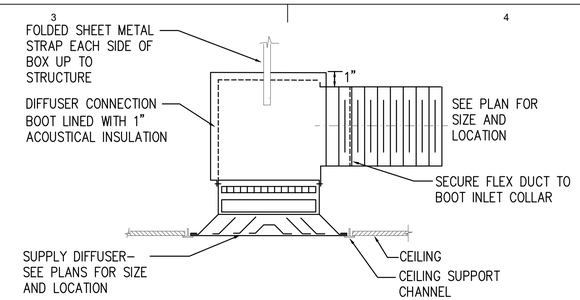


TWO ANGLE INSTALLATION
Angles are required on both sides of the floor.

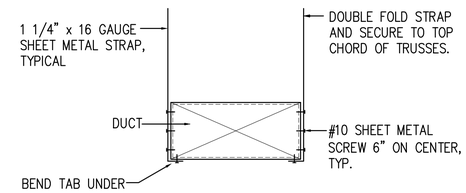
FAST ANGLE (ONE ANGLE) INSTALLATION
Angle must be installed on top of floor.

ITEM	DESCRIPTION
1.	Actuator (location may vary).
2.	Optional FireStat or SP100.
3.	Auxiliary Operating Jackshaft
4.	Damper
5.	Over-Center Link
6.	Sleeve
7.	Caulking Material (may be on either side of damper frame).
8.	Mounting Angles (PFMA, FAST or conventional angles)
9.	Duct/sleeve connection.

9 / M-501 FIRE DAMPER & FIRE/SMOKE DAMPER DETAILS
NO SCALE

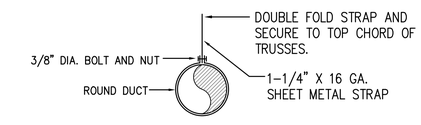


5 / M-501 SUPPLY DIFFUSER W/ FLEX DUCT DETAIL
NO SCALE



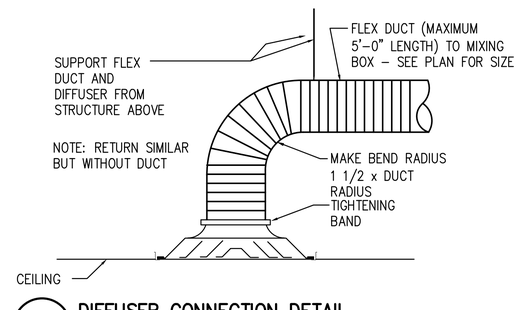
NOTE:
USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

6 / M-501 RECTANGULAR DUCT SUPPORT
NO SCALE

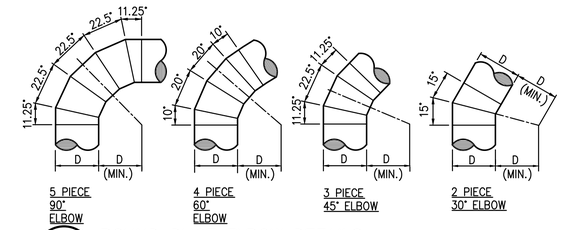


NOTE:
USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

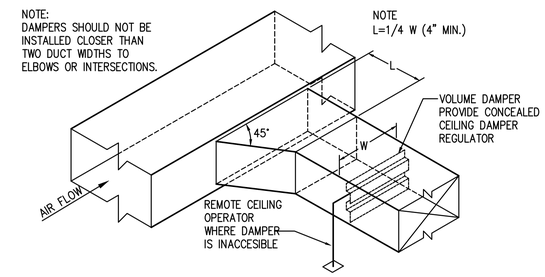
7 / M-501 ROUND DUCT SUPPORT DETAIL
NO SCALE



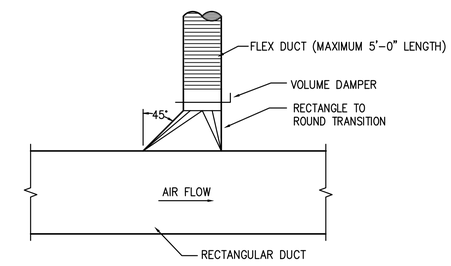
8 / M-501 DIFFUSER CONNECTION DETAIL
NO SCALE



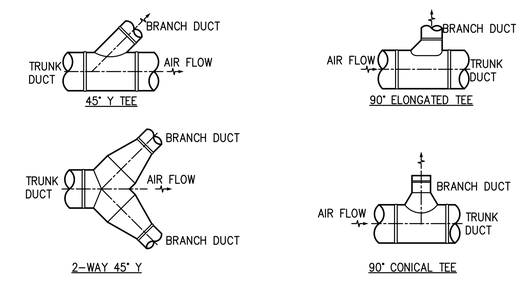
1 / M-501 ROUND DUCT ELBOW DETAILS
NO SCALE



2 / M-501 BRANCH DUCT TAKE–OFF & DAMPER DETAIL
NO SCALE



3 / M-501 HIGH EFFICIENCY TAKE–OFF DETAIL
NO SCALE



4 / M-501 ROUND DUCT BRANCH TAKE–OFF DETAILS
NO SCALE

VBFA
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vbfa project #: 19540

LICENSED PROFESSIONAL ENGINEER No. 354088 JAMES E. NIGHTINGALE 03/12/2020 USA

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SIZE: ANSI D
FILE NAME: 19540_M-501.dwg

366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

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CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

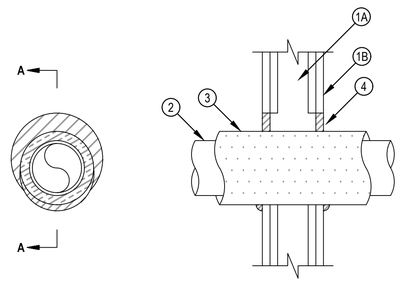
MECHANICAL DETAILS

M-501
SHEET 16 OF 30

System No. W-L-5028

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 3/4 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - Less Than 1 CFM/sq ft

WL 5028



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 7-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrants — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

A. Steel Pipe — Nom 4 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
B. Copper Tubing — Nom 2 in. diam (or smaller) Type L (or heavier) copper tubing.
C. Copper Pipe — Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.

Hilti Firestop Systems

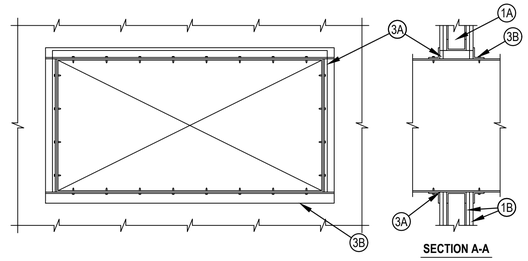
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. February 08, 2006

CLASSIFIED C UL US

System No. W-L-7040

F Ratings — 1 and 2 Hrs (See Items 1 and 3)
T Rating — 0 Hr

WL 7040



SECTION A-A

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. Additional framing members shall be used to completely frame around opening.
   B. Gypsum Board* — Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 1300 in. with the dimension of 50 in. The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct — Nom 24 in. by 48 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 0 (point contact) in. to a max 2 in. Duct to be rigidly supported on both sides of the wall assembly.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material*—Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location, a min 1/2 in. diam bead of fill material shall be applied to the wall/duct interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP601S Elastomeric Firestop Sealant or CP606 Flexible Sealant.
   B. Steel Retaining Angle — No. 18 MSG (0.048 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on the duct and a min 1 in. overlap on the gypsum board assembly on both sufaces of wall. 2 in. leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws, spaced a max of 6 in. OC. When bead of fill material is used at joint contact locations, angles shall be installed prior to full material curing.
*Bearing the UL Classification Mark

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 13, 2001

CLASSIFIED C UL US

System No. C-AJ-5091

F Rating — 2 Hr
T Ratings — 0 and 1 Hr (See Items 2 and 4)
L Rating At Ambient — 4 CFM/Sq Ft
L Rating At 400 F — Less Than 1 CFM/Sq Ft

CAJ 5091

4. Pipe Covering — Min 1/2 in. (13 mm) to max 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all-service jacket. Longitudinal joints sealed with metal fasteners or factory-applied, self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the edge of the periphery of the opening shall be min 1/2 in. (13 mm) to a max 2-1/4 in. (57 mm). When thickness of pipe covering is less than 2 in. (51 mm), the T Rating for the firestop system is 0 hr.
See Pipe Equipment Covering — Materials — (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4A. Pipe Covering — (Not Shown) — As an alternate to Item 4, max 2 in. (51 mm) thick cylindrical calcium silicate (min 14 pcf) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 8 AWG stainless steel wire spaced max 12 in. (305 mm) OC. The annular space shall be min 1/2 in. (13 mm) to max 2-1/4 in. (57 mm).
5. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant
*Bearing the UL Classification Mark

Hilti Firestop Systems

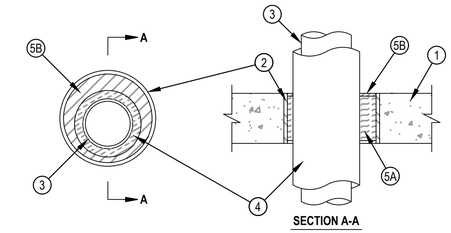
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. May 29, 2008

C UL US

System No. C-AJ-5090

F Rating — 3 Hr
T Rating — 0 Hr
L Rating At Ambient — 4 CFM/Sq Ft
L Rating At 400 F — Less Than 1 CFM/Sq Ft

CAJ 5090



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 8 in. (203 mm).
See Concrete Blocks (CAZT) Category in the Fire Resistance Directory for names of manufacturers.
2. Metallic Sleeve — (Optional) — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.
3. Through Penetrants — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper tubing.
   C. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
4. Tube Insulation — Plastics+ — Nom 3/4 in. (19 mm), thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. A annular space shall be min 1/2 in. (13 mm) to max of 1-1/2 in. (38 mm).
See Plastics+ (QMFZ2) Category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
5. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant
*Bearing the UL Classification Mark

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. May 29, 2008

C UL US

System No. W-L-5028

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 3/4 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - Less Than 1 CFM/sq ft

WL 5028

3. Tube Insulation — Plastics+ — Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. An annular space of min 0 in. (point contact) to max 1-1/2 in. is required within the firestop system.

See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
The hour T Rating of the firestop system is dependent on the hourly fire rating of the wall assembly in which it is installed, the size and type of through penetrant and the pipe covering thickness, as shown in the table below:

Wall Assembly Hr Rating	Type +	Through Penetrant Max Diam In.
1	A	4
1	A, B, or C	2
2	A	4
2	A, B, or C	2

+Indicates penetrant type as itemized in Item 2.

4. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum wallboard, a min 1/2 in. diam bead of fill material shall be applied at the pipe covering/gypsum wallboard interface on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark

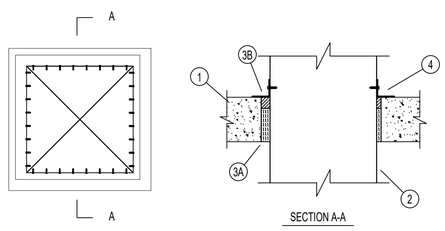
Hilti Firestop Systems

CLASSIFIED C UL US

System No. C-AJ-7051

F Rating - 3 Hr
T Rating - 1 Hr

CAJ 7051



SECTION A-A

1. **Floor or Wall Assembly –** Min 4–1/2 in. thick reinforced lightweight or normal weight (100–150 pcf) concrete. Wall may also be constructed of any Underwriters Laboratories Inc. Classified **Concrete Blocks*.** Max area of opening is 1024 in. sq. with a max dimension of 32 in.
   See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Steel Duct –** Nom 30 by 30 in. (or smaller) No. 24 gauge (or heavier) galv steel duct. One steel duct to be positioned within the firestop system. The annular space shall be min 1/4 in. to a max 1–3/4 in. Duct to be rigidly supported on both sides of floor or wall assembly.
3. **Firestop System –** The firestop system shall consist of the following:
   A. **Packing Materials** – Min 3–1/2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form between the bare steel duct and the periphery of the opening . Packing material to be recessed from top surface of floor or both surfaces of wall as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Material* – Sealant** – Min 1 in. thickness of fill material applied within annulus, flush with top surface of floor or both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, INC. – CP606 Flexible Firestop Sealant or FS–ONE Sealant
4. **Steel Retaining Angle –** Nom 2 in. by 2 in. by No. 16 gauge (or heavier) steel angles attached to all four sides of the steel duct on the top surface or both surfaces of the wall. The angles shall be attached with No. 8 (or larger) steel sheet metal screws spaced max of 1 in. from each end and a max of 3 in. OC.
*Bearing the UL Classification Marking

FIRESTOP SYSTEMS

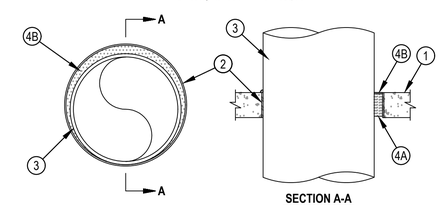
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. October 20, 2000

CLASSIFIED C UL US

System No. C-AJ-1226

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

CAJ 1226



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in.
2. Metallic Sleeve — (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. above floor or beyond both surfaces of wall.
2A. Sheet Metal Sleeve — (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
2B. Sheet Metal Sleeve — (Optional) - Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant
*Bearing the UL Classification Mark

Hilti Firestop Systems

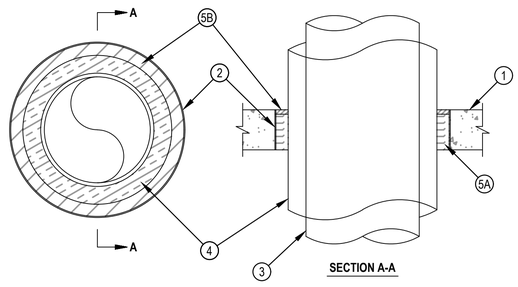
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. June 27, 2007

C UL US

System No. C-AJ-5091

F Rating — 2 Hr
T Ratings — 0 and 1 Hr (See Items 2 and 4)
L Rating At Ambient — 4 CFM/Sq Ft
L Rating At 400 F — Less Than 1 CFM/Sq Ft

CAJ 5091



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 19-1/2 in. (495 mm).
See Concrete Blocks (CAZT) category in the Fire Resistance directory for names of manufacturers.
2. Metallic Sleeve — (Optional) — Nom 20 in. (508 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall. If the steel sleeve extends beyond the top surface of the floor or both surfaces of the wall, the T Rating of the firestop system is 0 hr.
2A. Sheet Metal Sleeve — (Optional) - Max 6 in. (152 mm) diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approximately mid- height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place flush with bottom surface of floor and may extend a max of 1 in. (25 mm) above the top surface of the floor.
2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approximately mid- height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place flush with bottom surface of floor and may extend a max of 1 in. (25 mm) above the top surface of the floor.
3. Through Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. May 29, 2008

C UL US

LICENSED PROFESSIONAL ENGINEER
No. 354088
JAMES E. NIGHTINGALE
03/12/2020
STATE OF IDAHO

MARK	DESCRIPTION	DATE	APPR.
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DESIGNED BY: J. NIGHTINGALE
DWN BY: M. POND
CKD BY: J. NIGHTINGALE
SUBMITTED BY: J. NIGHTINGALE
DATE: 20 NOVEMBER 2019
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 03/12/20
FILE NUMBER: 101322605
PAPER SIZE: ANSI D
FILE NAME: 19540_M-501.dwg

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MECHANICAL DETAILS

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M-502
SHEET 17 OF 30

EXHAUST FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESSURE (IN. WATER)	FAN: FAN SPEED (RPM)	FAN: FAN WHEEL DIAMETER (IN)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR BHP (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: DIAMETER HEIGHT (IN)	NOTES
EF-1	PENN BARRY WFX18VGP	WALL	CENTIFUGAL	1000	0.25	493	18	1/8	0.074	493	120/1/60	39 / 33	1,2

1. FAN TO BE ENABLED TO RUN WHEN EXISTING PACKAGED UNIT FAN IS ON. FAN SHALL RUN AT 100% RPM WHEN BOTH RANGE HOODS ARE OFF. FAN SHALL RUN AT 75% RPM WHEN ONLY ONE RANGE HOOD IS ON. FAN SHALL RUN AT 50% WHEN BOTH RANGE HOODS ARE ON.
2. BASIS OF DESIGN MANUFACTURERS LISTED REFERENECE EQUAL MANUFACTURERS MEETING ALL SCHEDULED PERFORMANCE DATAT AND CRITERIA IN SPECIFICATIONS ARE ACCEPTABLE.

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
D-1	METALAIRE	5700	20	24 X 24 MODULE WITH ROUND NECK
R-1	METALAIRE	H4004	30	SIDEWALL EXHAUST 24 X 12 ZERO DEFLECTION PROVIDE PLASTER FRAME FOR GYP WALL
G-1	METALAIRE	CC5	10	22 X 22 CEILING GRILLE

RANGE HOOD SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESSURE (IN. WATER)	PHYSICAL: DRIVE TYPE	PHYSICAL: MAX SONES	PHYSICAL: CONTROL TYPE	ELECTRICAL	NOTES
RH-1	BROAN BCSEK130SS	ABOVE RANGE	DUCTED	250	0.1	DIRECT	1.5	MANUAL	120 VAC,60 HZ	1,2

1. INTEGRAL FAN AND LIGHT TO BE MANUALLY CONTROLLED BY UNIT MOUNTED SWITCHES
2. BASIS OF DESIGN MANUFACTURERS LISTED FOR REFERENCE EQUAL MANUFACTURERS MEETING ALL SCHEDULED PERFORMANCE DATA AND CRITERIA IN SPECIFICATIONS ARE ACCEPTABLE

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SIZE: ANSI D
FILE NAME: 19540_M-601.dwg

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MECHANICAL SCHEDULES

M-601
SHEET 18 OF 30

LEGEND OF PLUMBING SYMBOLS AND ABBREVIATIONS

PLUMBING

	FLOOR SINK
	FLOOR DRAIN
FCO / COTG	FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
	ARROW INDICATES DIRECTION OF FLOW IN PIPE
	CHECK VALVE
	GATE VALVE
	GATE VALVE – NON RISING STEM
	GLOBE VALVE
	TEMPERATURE AND PRESSURE TEST PORT
PS	PRESSURE SWITCH
	GAS COCK
10 GPM	CALIBRATED BALANCING VALVE WITH GPM INDICATED
RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
	BRANCH – BOTTOM CONNECTION
	BRANCH – TOP CONNECTION
	BRANCH – SIDE CONNECTION
	RISE OR DROP
	RISER – DOWN (ELBOW)
	RISER – UP (ELBOW)
VTR	VENT THRU ROOF
	WATER HAMMER ARRESTOR
	INLINE PUMP
	INLINE PUMP
	CLEAN-OUT
	RELIEF VALVE
	ANGLE VALVE
	FLOW METER
	UNION
	BALANCING COCK
	SHUT-OFF COCK FOR USE WITH PRESSURE GAUGE
	FLEXIBLE EXPANSION JOINT
0-100°F	THERMOMETER – TEMP RANGE AS INDICATED
	PRESSURE GAUGE WITH SHUT-OFF COCK
	PRESSURE GAUGE WITH PIGTAIL
	LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
	VALVE IN RISE
	AIR VENT-MANUAL
	AIR VENT-AUTO
	FLOW SWITCH
	REDUCER
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER

PLUMBING CONT.

	THERMOSTATIC MIXING VALVE
	HOSE BIBB
	PIPE CAP
	SWITCH
	SENSOR
	THERMOSTAT
	FILL PORT
	DRAIN PAN AND P-TRAP
(NAME)	FIXTURE FROM LEVEL ABOVE
GPM LB/HR.	FLOW METER ORIFICE
	FLANGE
	90° ELBOW
	45° ELBOW
DN	LEADER INDICATES DOWNWARD SLOPE
	DEMOLITION

SYMBOLS

P-1	PLUMBING FIXTURES
	POINT OF CONNECTION
A / M-101	SECTION TAG – TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
A / M101	DETAIL TAG – TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
EF / 1	EQUIPMENT IDENTIFICATION
1	KEYED NOTE IDENTIFICATION

LINETYPES

	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RETURN (DHWR)
E(NAME)	EXISTING PIPING
(NAME)	EXISTING PIPING TO BE REMOVED
G	NATURAL GAS
	SEWER (BELOW GRADE)
	SEWER (ABOVE GRADE)
	VENT (SEWER)

PLUMBING GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE BRANCHES: 1/4" PER FOOT; WASTE MAINS: 1/4" PER FOOT.
2. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING AREAS BELOW.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
4. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
5. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
6. PIPING AND ROUTING SHOWN, INCLUDING ALL BELOW FLOOR DECK PIPING, IS APPROXIMATE. IT IS UP TO THE CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND SIZE OF ALL PIPING.
7. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS.
8. CONTRACTOR TO VERIFY CONNECTION SIDE OF ACCESSIBILITY COMPLIANT FIXTURES AND ADJUST ACCORDINGLY. INSTALL FLUSH VALVES HANDLES ON WIDE SIDE OF ALL FIXTURES.
9. INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
10. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES, BALANCING VALVES AND WATER HAMMER ARRESTORS WHERE MOUNTED ABOVE HARD CEILINGS.
11. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, BALANCING VALVES, ETC. NEAR CEILING HEIGHT FOR ACCESSIBILITY.
12. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
13. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
14. COORDINATE EXACT LOCATION OF PLUMBING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, DUCTWORK, MECHANICAL PIPING, FIRE PROTECTION, AND OTHER TRADES, TYPICAL.
15. COORDINATE THE LOCATION OF THE FLOOR DRAIN, SHOWER DRAIN, OR FLOOR SINK WITH ARCHITECTURAL AND STRUCTURAL, TYPICAL.
16. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES OF WASTE, VENT AND DOMESTIC WATER TO/FROM SINGLE FIXTURE.
17. COORDINATE EXACT LOCATION OF PLUMBING PIPING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING PLANS, ELECTRICAL CONDUITS, DUCTWORK, MECHANICAL AND FIRE PROTECTION PIPING, AND ALL OTHER TRADES AND ALL EXISTING CONDITIONS.
18. LOCATE CIRCUIT SETTERS, VALVES, WATER HAMMER ARRESTORS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE 24"X24" ACCESS PANEL WHERE ITEM IS LOCATED ABOVE A HARD CEILING.
19. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.

PLUMBING CONT. GENERAL NOTES

20. INSTALL CLEANOUTS IN DRAIN PIPING AS INDICATED, AND WHERE NOT INDICATED, ACCORDING TO THE FOLLOWING.
    a) SIZE SAME AS DRAINAGE PIPING UP TO 4" NPS. USE 4" NPS FOR LARGER. DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
    b) LOCATE AT MINIMUM INTERVALS OF 50 FT FOR PIPING 4" NPS AND SMALLER AND 100 FT FOR LARGER PIPING.
    c) LOCATE AT THE BASE OF EACH VERTICAL STACK.
21. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
22. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PERTAINING TO THE PLUMBING SYSTEMS AND COORDINATE ALL DEMOLITION WORK WITH THE OWNER PRIOR TO ANY SYSTEM SHUT-DOWN.
23. EXISTING SYSTEMS SHOWN LIGHT.
24. PATCH AND REPAIR ALL EXISTING SURFACES DAMAGED BY DEMOLITION TO MATCH EXISTING.

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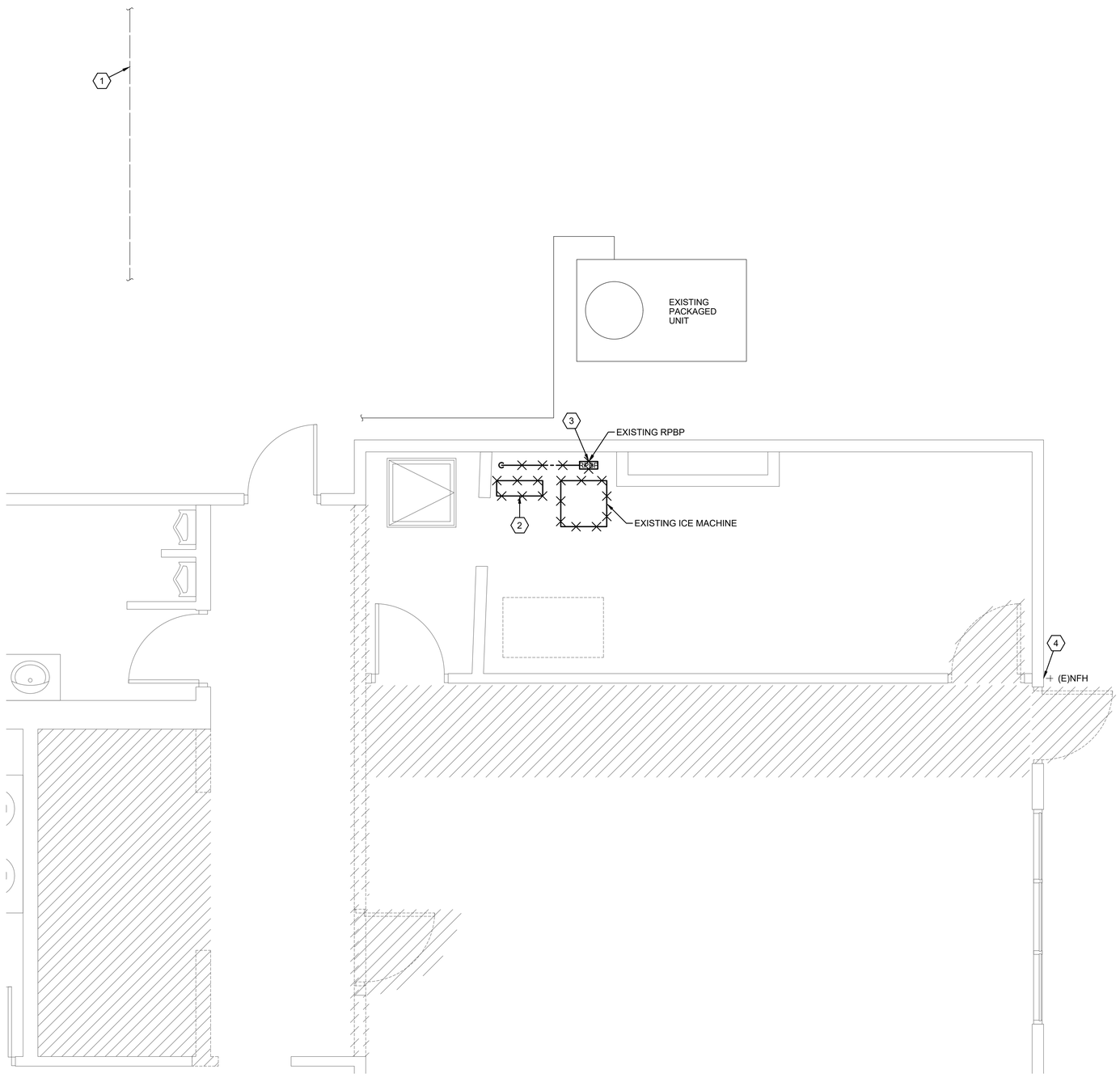
PLUMBING SYMBOLS LEGEND AND GENERAL NOTES

P-000
SHEET 19 OF 30



KEY NOTES

1. EXTEND NEW 4" SANITARY AND CONNECT TO EXISTING APPROXIMATELY AS SHOWN. VERIFY EXISTING INVERT AND CONTACT COR IF DEPTH IS NOT SUFFICIENT FOR NEW WORK.
2. DRAIN FOR EXISTING ICE MACHINE IS CONNECTED TO A CONDENSATE PUMP AND PUMPED TO CLOSEST DRAIN. DEMOLISH DRAIN SYSTEM.
3. REMOVE EXISTING RPBP AND PIPING THAT SERVES ICE MACHINE. INSTALL IN NEW LOCATION UNDER NEW CONSTRUCTION PHASE.
4. EXISTING NON-FREEZE WALL HYDRANT TO REMAIN.

PLUMBING DEMOLITION FLOOR PLAN

SCALE: 3/8"=1'-0"

0 4' 8' 16'

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SIZE: ANSI D
FILE NAME: 19540_PD-101.dwg

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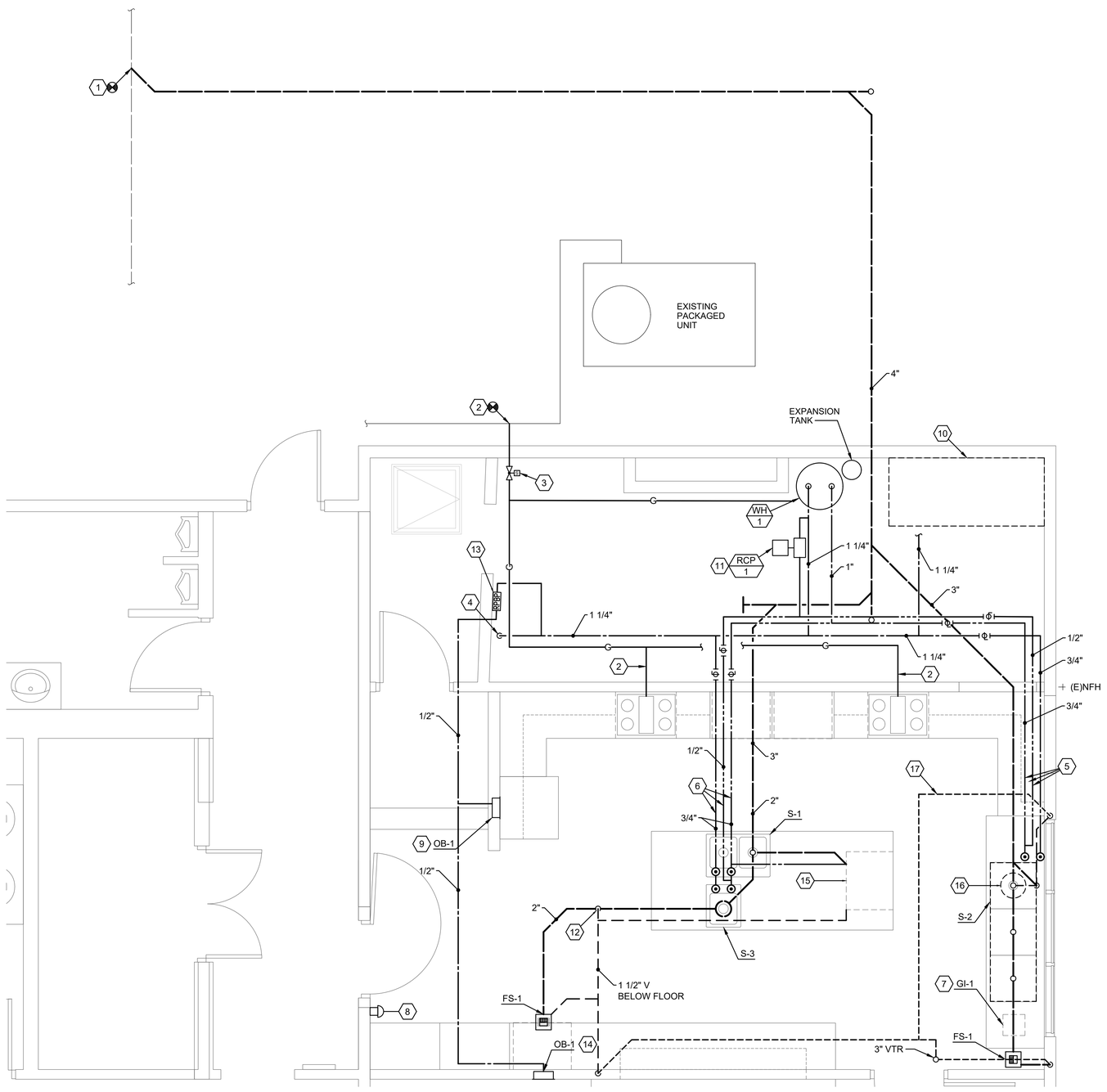
PLUMBING DEMOLITION FLOOR PLAN

PD-101
SHEET 20 OF 30



PLUMBING FLOOR PLAN

SCALE: 3/8"=1'-0"

KEY NOTES

1. EXTEND NEW 4" SANITARY AND CONNECT TO EXISTING APPROXIMATELY AS SHOWN. VERIFY EXISTING INVERT AND CONTACT COR IF DEPTH IS NOT SUFFICIENT FOR NEW WORK.
2. CONNECT NEW NATURAL GAS LINE TO EXISTING, EXTEND INTO BUILDING AND CONNECT TO NEW GAS APPLIANCES. CONTRACTOR TO VERIFY EXISTING GAS PRESSURE REGULATOR CAN HANDLE INCREASED LOAD AND REPLACE IF NECESSARY. SEE SCHEMATIC FOR PIPE SIZES.
3. SOLENOID VALVE IN NATURAL GAS SERVICE TO KITCHEN. VALVE SHALL CLOSE ON ACTIVATION OF THE BUILDING FIRE ALARM OR MANUAL SWITCH.
4. CONNECT NEW 1-1/4" DCW INTO EXISTING MAIN LOCATED WITHIN THE CRAWL SPACE AND EXTEND UP INTO STORAGE ROOM AND ROUTE TO NEW WATER HEATER AND FIXTURES AS SHOWN.
5. EXTEND 3/4" DCW, 3/4" DHW AND 1/2" DHWR THRU BACK OF CABINETRY, IN CONDITIONED SPACE, TO 3-COMPARTMENT SINK. INSULATE ALL PIPING WITH PVC JACKETED INSULATION.
6. SAW CUT / PATCH FLOOR AND INSTALL 2" SAN WITHIN THE CRAWL SPACE TO SINK S-1 & S-3. INSTALL 3" PVC PIPE WITH LONG SWEEP ELBOW WITHIN CRAWL SPACE FROM MECH ROOM TO 6" ABOVE FLOOR UNDER SINK CABINETRY. ROUTE 1/2" TYPE 'L' SOFT COPPER DCW, DHW, & DHWR LINES WITHIN 3" PVC PIPE TO SINKS.
7. GREASE INTERCEPTOR UNDER 3 COMPARTMENT SINK, DISCHARGE TO FLOOR SINK. SEMI-RECESSED INSTALL REQUIRED FOR VERTICAL CLEANING REQUIREMENT.
8. MANUAL SWITCH TO CLOSE NATURAL GAS SOLENOID SHUT OFF VALVE SERVING KITCHEN GAS APPLIANCES.
9. OUTLET BOX (OB-1) FOR WATER CONNECTION TO ICE MAKER IN REFRIGERATOR. ROUTE 1/2" DCW FROM MAIN TO OB-1 AS SHOWN.
10. THIS AREA RESERVED FOR FIRE PROTECTION STANDPIPE AND CONTROLS. SEE FIRE PROTECTION DRAWINGS. DOMESTIC COLD WATER SOURCE FROM FIRE PROTECTION STANDPIPE.
11. PROVIDE TWO DOMESTIC WATER BALANCE VALVES. ONE FOR EACH BRANCH TO ENSURE FLOW IN BOTH.
12. SEE ISLAND VENT DETAIL.
13. INSTALL RELOCATED RPBP FOR ICE MACHINE WATER SUPPLY.
14. OUTLET BOX (OB-1) FOR RELOCATED ICE MAKER ROUTE 1/2" DCW TO BOX.
15. PROVIDE 1/2" DHW TO UNDER COUNTER DISHWASHER AT ISLAND. EXTEND WASTE & VENT TO ISLAND SOURCE.
16. 2-HORSEPOWER FOOD DISPOSAL INSTALLED AT LEFT FACING SINK COMPARTMENT AND DIRECT CONNECTED TO WASTE LINE BELOW.
17. ROUTE VENT PIPING FROM DISPOSAL WASTE PIPE AROUND WINDOW FRAME TO CEILING CAVITY THEN ONTO VENT PIPING CONNECTED TO VENT PIPING CONNECTED TO VENT THRU ROOF.

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CHAPEL KITCHEN RENOVATION, FACILITY 2806
MOUNTAIN HOME AIR FORCE BASE
IDAHO

PLUMBING FLOOR PLAN

P-101
SHEET 21 OF 30

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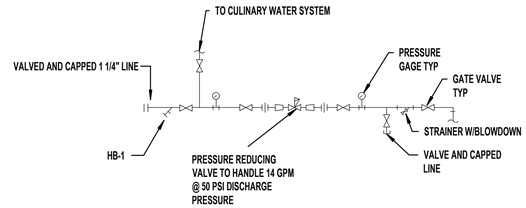
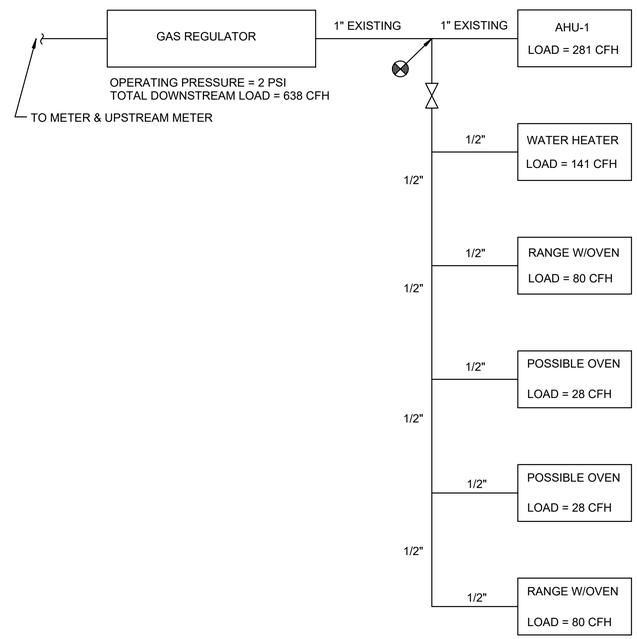


4 P-501 WATER HEADER DETAIL

NO SCALE



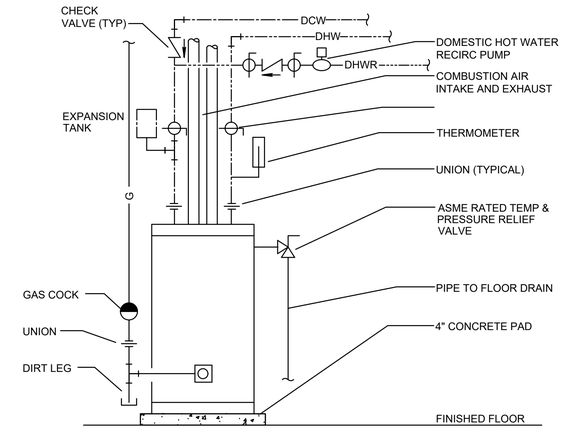
Length to Furthest Fixture from Regulator = 125'

5 P-501 NATURAL GAS SCHEMATIC

NO SCALE

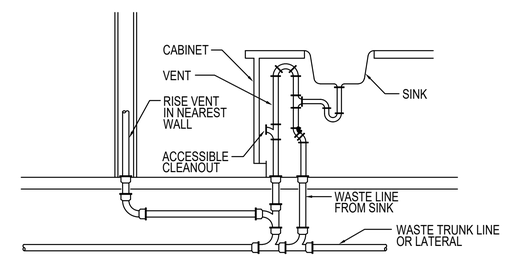
BRANCH WATER LINE SCHEDULE							
FIXTURE	FIXTURE UNITS	QUANTITY OF FIXTURES SERVED BY					
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
WATER CLOSET (FLUSH VALVE)	10	---	---	1	3	5	15
WATER CLOSET (TANK TYPE)	3	1	2	4	10	---	---
URINAL	5	---	1	2	6	10	30
LAVATORY	2	1	3	6	15	25	---
SERVICE SINK	4	1	3	6	---	---	---
QUANTITY OF FIXTURE UNITS SERVED BY	---	3	6	12	30	50	150

NOTE:
WHERE PIPING IS SIZED ON DRAWINGS IT SHALL BE FOLLOWED. OTHERWISE INSTALL ACCORDING TO TABLE. WHERE FIXTURES ON A BRANCH ARE MIXED. TAKE THE SUM OF FIXTURE UNITS TO DETERMINE SIZING. THE BRANCHES SHALL BE REDUCED AS THE LOAD IS TAKEN OFF. MINIMUM SIZE TO ONE (1) FIXTURE SHALL BE 1/2".



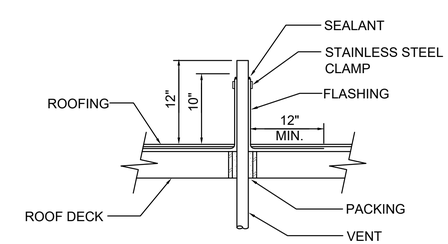
1 P-501 WATER HEATER PIPING DETAIL

NO SCALE



2 P-501 ISLAND VENT DETAIL

NO SCALE



3 P-501 VENT THRU ROOF FLASHING & SLEEVING DETAIL

NO SCALE

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vbfa project #: 19540

LICENSED PROFESSIONAL ENGINEER No. 354088 JAMES E. NIGHTINGALE 03/12/2020 STATE OF IDAHO

MARK	DESCRIPTION	DATE	APPR.
1			
2			
3			
4			
5			
6			
7			

MARK	DESCRIPTION	DATE	APPR.
8			
9			
10			
11			
12			
13			
14			

DESIGNED BY: J. NIGHTINGALE
DWN BY: M. POND
CKD BY: J. NIGHTINGALE
SUBMITTED BY: J. NIGHTINGALE
DATE: 20 NOVEMBER 2019
CONTRACT NO.: FA4897-19-C-A016
PLOT SCALE: AS NOTED
PLOT DATE: 12/07/2020
FILE NUMBER: 10132265
SIZE: ANSI D
FILE NAME: 19540_P-501.dwg

366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

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CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

PLUMBING DETAILS

P-501
SHEET 22 OF 30

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	CW (IN)	HW (IN)	W (IN)	V (IN)	NOTES	SPECIFICATION
FS-1	FLOOR SINK	-.-	-.-	2	1 1/2	-.-	FLOOR DRAIN: PROFLO PF906K FLOOR SINK WITH CAST IRON BODY AND FLASHING COLLAR WITH 6" ROUND ALUMINUM DOME STRAINER WITH HALF GRATE AND TRAP PRIMER CONNECTION. PORCELAIN FINISH.
S-1	KITCHEN SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, DOUBLE COMPARTMENT	SINK: ELKAY PSR3322 22" X 33" X 7 1/2" DEEP, 20-GAUGE, TYPE 304 STAINLESS STEEL, COUNTER MOUNTED SINK WITH 4" CENTERS AND 4 HOLE DRILLING CONFIGURATION; ELKAY LK1001CR FAUCET, THREE HOLE DECK MOUNT FAUCET WITH LEVER HANDLE AND SPRAY WITH 1.5 GPM FC LAMINAR FLOW CONTROL AND PLAIN END SPOUT RING; FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; ZURN Z8741 STAINLESS STEEL CUP STRAINER AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. IBADGER5WC BADGER 5 FOOD WASTE DISPOSER WITH 1/2 HORSEPOWER MOTOR, 120 VOLT/1 PHASE POWER, 6.3 AMPS. PROVIDE CORD KIT.
S-2	3 COMPARTMENT	1/2 (2)	1/2 (2)	2	1 1/2	FREE STANDING, TRIPLE COMPARTMENT	SINK: ELKAY WNSF8372LR THREE 24" X 24" X 14" DEEP BOWLS, 14-GAUGE, TYPE 304 STAINLESS STEEL, FREE STANDING SINK WITH 8" CENTERS DRILLING; ELKAY LK943AF12LC WALL MOUNT FAUCET WITH 44IN FLEXIBLE HOSE AND 1.5 GPM; FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE QUARTER TURN STOPS; ZURN Z8741 STAINLESS STEEL CUP STRAINER AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. GARBAGE DISPOSER: INSINKERATOR SS-200 FOOD WASTE DISPOSER WITH 2 HORSEPOWER MOTOR, 120 VOLT/1 PHASE POWER, 17.4 AMPS. PROVIDE #5 COLLAR MOUNTS. ALSO PROVIDE DRAIN BOARD WITH HOLE FOR SCRAPPING FOOD WASTE INTO RECEPTACLE BELOW
S-3	HAND WASHING SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, SINGLE COMPARTMENT	SINK: ELKAY LRAD202265 19 1/2" X 22" X 6 1/2" DEEP, 18-GAUGE, TYPE 304 STAINLESS STEEL, COUNTER MOUNTED SINK PROVIDE WITH 3 FAUCET HOLES 4" ON CENTER; ELKAY LK1001CR FAUCET, THREE HOLE DECK MOUNT FAUCET WITH LEVER HANDLE AND SPRAY WITH 1.5 GPM FC LAMINAR FLOW CONTROL AND PLAIN END SPOUT RING ; FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; WITH DSP-1 AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
OB-1	WASHER BOX	1/2	1/2	2	1 1/2	-.-	WASHER BOX: GUY GRAY IPS CORPORATION 88133 WHITE POWDER COATED ICE MAKER OUTLET BOX WITH 2 BRASS QUARTER TURN BALL VALVES WITH 1/2" SWEAT CONNECTION AND 2" CENTER DRAIN.
GI-1	GREASE INTERCEPTER	-.-	-.-	2	1 1/2	-.-	GREASE INTERCEPTER: JAY R. SMITH 800-Y03-20. 25 GPM AND 40 LBS OF GREASE CAPACITY.

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER PER DRAWINGS.

GAS FIRED WATER HEATER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	SERVICE	INPUT LOAD (BTUH)	EFFICIENCY (%)	TYPE	RECOVERY RATE @ 100 F DELTA T	TANK SIZE (GAL)	FLUE SIZE (IN)	DIAMETER/ HEIGHT (IN)	ELECTRCIAL V/PH	NOTES
WH-1	BRADFOR WHITE EF-60T-125E-3N	SEE PLANS	DOM HW	125,000	96	COND	145	60	3"	28.25/57	120/1	1,2,3

1. ALL CAPACITIES AT 3150 FEET ELEVATION.
2. PROVIDE PVC INTAKE AND EXHAUST PIPING AS REQUIRED BY THE MANUFACTURER.
3. PROVIDE WITH CONCENTRIC VENT KIT (239-44069-01) AND CONDENSATE NEUTRALIZATION KIT.
4. PROVIDE EXPANISION TANK AS SHOWN ON PLAN. MODEL AMTROL ST-5.

DOMESTIC RECIRCULATION PUMP SCHEDULE

ID	MANUFACTURER	MODEL NO	TYPE	FLUID: FLOW RATE (GPM)	FLUID: WORKING FLUID	FLUID: HEAD LOSS (FT)	PUMP: EFFICIENCY (%)	PUMP: CONSTRUCTION	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR BHP (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	NOTES
RCP-1	GRUNFOS 10-16 A PM- 1 1/4"	98420224	IN-LINE	1	WATER	10	NA	ALL BRONZE	1/25	NA	1750	115/1/60	1,2

1. PROVIDE WITH AQUASTAT AND TIMER.
2. PROVIDE DOMESTIC WATER BALANCING VALVES AT BOTH THE HOT WATER RECIRCULATION PIPING.

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366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

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CHAPEL KITCHEN RENOVATION, FACILITY 2606
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PLUMBING SCHEDULES

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SHEET 23 OF 30

ELECTRICAL GENERAL NOTES

GENERAL NOTES:

1. THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND THE SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS, AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION, OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING THEIR BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIERS SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS INCLUSIVE OF THE ORIGINAL BID. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM ITS PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE PRIOR TO PROJECT CLOSEOUT.

2. THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS ANY ELECTRICAL ITEMS THEY MAY CONTAIN. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.

3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS, AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.

4. THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MOST RECENT LOCAL, STATE, AND NATIONAL CODES. IF AT ANY TIME DURING OR AFTER CONSTRUCTION SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THESE CODES LISTED ABOVE, IT SHALL BE CORRECTED BY THE CONTRACTOR.

5. WHERE A RACEWAY ENTERS A BUILDING OR STRUCTURE FROM THE OUTSIDE, IT SHALL BE SEALED AS PER NEC 225.27.

6. ALL ELECTRICAL EQUIPMENT THAT IS LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD OR FACTORY LABELED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS PER NEC 110.16. THE LABEL SHALL ALSO CONTAIN THE MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED AS PER NEC 110.24.

7. ALL PANELBOARDS AND SWITCHBOARDS SHALL BE PERMANENTLY MARKED TO INDICATED EACH DEVICE OR EQUIPMENT WHERE THEIR POWER ORIGINATES AS PER NEC 408.4B.ALL EQUIPMENT PROVIDED BY THE EC SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND BE PROPERLY INSTALLED FOR THE CONDITIONS AND SPACE THAT EQUIPMENT IS BEING INSTALLED WITHIN.

8. THE EC SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE EC SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.

9. CONDUIT LAYOUTS SHOWN ON THE PLANS ARE DIAGRAMMATIC, NOT INDICATING THE ROUTING REQUIRED. THE EC SHALL ROUTE THE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION AND SHALL COORDINATE WITH DUCTWORK, PIPING, EQUIPMENT, BUILDING STRUCTURE, AND OTHER POTENTIAL OBSTRUCTIONS.

10. THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LUMINAIRE, ETC. A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.

11. THE EC SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES. TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION.

12. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNO. CONDUIT INSTALLED WITHIN THE BUILDING IN DRY LOCATIONS WITHIN WALL, CEILINGS, OR EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE SHALL BE EMT WITH STEEL SET SCREW FITTINGS. IN EXTERIOR LOCATIONS (EXCEPT FOR THE SERVICE ENTRANCE) THE CONDUIT SHALL BE EMT WITH COMPRESSION GLAND TYPE FITTINGS. UNDERGROUND CONDUIT SHALL BE PVC (SCH. 40) WITH GRC ELBOWS AND RISERS WRAPPED IN CORROSION RESISTANT MATERIALS WHERE IN DIRECT CONTACT WITH THE SOIL.

13. FLEXIBLE CONDUIT SHALL BE LIMITED TO CONNECTIONS TO LIGHT FIXTURES AND FINAL CONNECTIONS TO MOTORS OR OTHER EQUIPMENT SUBJECT TO VIBRATION. LENGTHS OF FLEXIBLE OR SEAL-TITE CONDUIT SHALL NOT BE GREATER THAN 72 INCHES.

14. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH 200LB RATED NYLON PULL CORD.

15. BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILINGS, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR).

16. WHERE WIRE SIZE IS NOT SHOWN ON THE DRAWINGS FOR 20A, 120VAC BRANCH CIRCUITS, THE CIRCUIT SHALL CONSIST OF 2#12 (CU,THHN) + 1#12 (CU,THHN) GND IN 3/4" EMT CONDUIT. THIS WIRE SIZE SHALL BE INCREASED TO #10 (CU,THHN) FOR BRANCH CIRCUITS WITH OVERALL LENGTHS EXCEEDING 125' TO ACCOMMODATE FOR VOLTAGE DROP. REFER TO EQUIPMENT SCHEDULES, FEEDER SCHEDULES, AND NOTES ON DRAWINGS FOR ALL OTHER BRANCH CIRCUIT AND FEEDER WIRE/CONDUIT SIZING.

17. CONDUCTORS SHALL BE COPPER, 600VAC RATED, TYPE THHN/THWN-2 UNO. ALL CONDUCTORS USED SHALL BE STRANDED.

18. METAL CLAD CABLING MAY BE USED BETWEEN DEVICES SUCH AS LIGHTING, RECEPTACLES, SWITCHES, ETC. UNLESS OTHERWISE REQUIRED BY THE NEC. HOME RUNS SHALL BE INSTALLED IN CONDUIT. MC CABLE SHALL NOT BE INSTALLED EXPOSED.

19. EC SHALL CLEAN THE ENTIRE ELECTRICAL SYSTEM AFTER COMPLETION OF THE INSTALLATION. REMOVE ALL FINGER PRINTS, FOREIGN MATTER, PAINT, DIRT, GREASE, AND UN-NEEDED LABELS OR STICKERS FROM FIXTURES AND EQUIPMENT. REMOVE ALL RUBBISH AND DEBRIS ACCUMULATED DURING INSTALLATION FROM THE PREMISES.

20. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS FOR ALL DEVICES TO BE FLUSH MOUNTED AND CONDUIT/CABLING INSTALLED CONCEALED WITHIN WALLS/CEILINGS. IN AREAS WHERE CONDUIT MUST BE INSTALLED EXPOSED IT SHALL BE COORDINATED WITH THE ARCHITECT AND/OR ENGINEER. ALL EFFORTS SHALL BE MADE TO CONCEAL WIRING METHODS.

21. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH FIRE STOPPING, IE. 3M BRAND CAULK, PUTTY, STRIP AND SHEET FORMS, DOW CORNING 3-6548 SILICONE RTV FOAM.

22. COORDINATE LOCATION OF WALL MOUNTED DEVICES WITH CABINETRY AND OTHER WALL OBSTRUCTIONS. COORDINATE CEILING MOUNTED DEVICES WITH CEILING OBSTRUCTIONS. ANY DEVICES THAT NEED TO BE RELOCATED MUST BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER PRIOR TO ROUGH-IN FOR NEW LOCATION.

23. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE PLACEMENT OF ALL DEVICES INSTALLED WITHIN THE CEILING SUCH AS LIGHTING, SPEAKERS, FIRE SPRINKLERS, SMOKE/HEAT DETECTORS, ETC. ANY EXISTING DEVICES THAT NEED TO BE RELOCATED IN ORDER TO ACCOMMODATE NEW

24. CONSTRUCTION/REMODEL MUST BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER PRIOR TO ROUGH-IN FOR RESOLUTION AND FURTHER DIRECTION.

REMODEL NOTES:

25. THE EC SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE EXISTING POWER PANELS FROM WHICH NEW CIRCUITS ARE BEING FED. VERIFY EXISTING BRANCH CIRCUIT BREAKERS AND PROVIDE NEW BRANCH CIRCUIT BREAKERS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

26. THE EC SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE TELECOM ROOM FROM WHICH NEW TELE/DATA OUTLETS WILL BE FED. VERIFY EXISTING PATCH PANEL SPACES AND PROVIDE NEW PATCH PANELS AS NECESSARY TO LAND/TERMINATE NEW TELECOM CABLING.

27. ALL DEVICES NOT SHOWN ON PLANS ARE EXISTING TO REMAIN IN PLACE AND FUNCTIONAL. IN THE EVENT THAT WIRING TO AN EXISTING DEVICE IS DAMAGED, WIRING MUST BE REPLACED AND DEVICE BROUGHT BACK TO FULL OPERATION.

LIGHTING NOTES:

28. ALL BATTERY POWERED OR CONTINUOUS BURN LUMINAIRES SHOWN ON THE PLANS, SUCH AS EXIT LIGHTS, NIGHT LIGHTS, OR EMERGENCY LIGHTS, SHALL BE CONNECTED TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT FEEDING THAT AREA.

29. LUMINAIRES INSTALLED IN THE MECHANICAL ROOM SHALL BE PLACED SO THAT ALL EQUIPMENT IS ADEQUATELY ILLUMINATED AFTER THE MECHANICAL EQUIPMENT IS IN PLACE.

30. ALL LUMINAIRES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND NOT THE CEILING GRID OR OTHER NONSTRUCTURAL MEMBERS.

31. TO MAINTAIN CONSISTENT LIGHT QUALITY, FOR ANY ONE LAMP TYPE SUPPLIED, LAMPS SHALL BE OF THE SAME MANUFACTURER, SURFACE TEMPERATURE, COLOR RENDERING INDEX, LAMP EFFICACY, LUMEN OUTPUT, AND STARTING CHARACTERISTICS FOR ALL INSTALLED.

32. LIGHT FIXTURES INSTALLED IN DAMP OR WET LOCATIONS SHALL BE UL LISTED FOR INSTALLATION IN THE PROPER ENVIRONMENT. CARE SHOULD BE TAKEN TO ENSURE THAT DIFFUSERS AND LENSES ARE APPROPRIATE FOR THEIR INSTALLED USE AND PREMATURE DISCOLORATION WILL NOT RESULT DUE TO EXPOSURE TO UV LIGHT, CHEMICALS, OR OTHER CONDITIONS.

33. ELECTRICAL CONTRACTOR SHALL PROVIDE LIGHTING CONTROL SHOP DRAWINGS WITH ELECTRICAL SUBMITTAL FOR REVIEW.

POWER NOTES:

34. ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.

35. WIRING DEVICES SHALL BE WHITE IN COLOR WITH NYLON COVER PLATES. EXTERIOR OUTLETS SHALL HAVE CAST COVERS WITH FLIP TYPE LIDS UNO.

36. THE EC SHALL MAINTAIN ELECTRICAL CONTINUITY TO REMAINING EQUIPMENT WHEN ANY EXISTING ELECTRICAL EQUIPMENT IS REMOVED.

37. EC SHALL COORDINATE WITH EQUIPMENT SUPPLIERS ON THE EXACT LOCATIONS OF ALL EQUIPMENT AND ELECTRICAL CONNECTIONS PRIOR TO ROUGH-IN. THE EC SHALL MAKE THE FINAL CONNECTION TO ALL EQUIPMENT UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT SUPPLIER. OBTAIN FROM SUPPLIERS ALL WIRING DIAGRAMS FOR EQUIPMENT PRIOR TO ANY ROUGH-IN. TO ASSURE THAT PROPER CHARACTERISTICS ARE PROVIDED, ANY INCORRECT WIRING OR DEVICES INSTALLED BY THE EC WITHOUT THE WIRING DIAGRAM SHALL BE CORRECTED AT THE EC'S EXPENSE. PROVIDE COPIES OF WIRING DIAGRAMS WITHIN EACH PIECE OF EQUIPMENT AND ADDITIONAL COPIES WITH THE OPERATION AND MAINTENANCE MANUALS.

38. EC SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE CONDUIT AND DEVICE MOUNTING BOXES FOR THERMOSTATS AND OTHER MECHANICAL CONTROLS. REFER TO MECHANICAL DRAWINGS FOR THE LOCATION OF THERMOSTATS.

39. EC SHALL PROVIDE A 20AMP, 120VAC RECEPTACLE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING, AND REFRIGERATION EQUIPMENT PER NEC 210.63. RECEPTACLE SHALL BE OF THE GROUND FAULT CIRCUIT INTERRUPTING TYPE, INSTALLED WITHIN A CAST METAL BOX, AND WITHIN 25' OF ALL REQUIRED EQUIPMENT.

DATA/TELECOM NOTES:

40. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN ONLY FOR THE TELECOM/CATV SYSTEMS. THIS SHALL CONSIST OF A FOUR SQUARE DEVICE MOUNTING BOX WITH CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE OR TO THE CEILING SPACE ABOVE IF OPEN. CABLING, JACKS, FACEPLATES, TESTING AND TERMINATIONS SHALL BE PROVIDED AND INSTALLED BY OTHERS.

ABBREVIATIONS

AFCI - ARC FAULT CKT INTERRUPTER
AFF - ABOVE FINISHED FLOOR
AFG - ABOVE FINISHED GRADE
AIC - AMPS INTERRUPTING CAPACITY
AL - ALUMINUM
ATS - AUTOMATIC TRANSFER SWITCH
BC - BARE COPPER
BFC - BELOW FINISHED CEILING
BFG - BELOW FINISHED GRADE
CKT - CIRCUIT
CND. OR C. - CONDUIT
CLG - INSTALLED IN CEILING
C.R. - CORD REEL
CT - CURRENT TRANSDUCER
CU - COPPER
(E) - EXISTING TO REMAIN
EC - ELECTRICAL CONTRACTOR
EM - EMERGENCY
(F) - FUTURE
FACP - FIRE ALARM CONTROL PANEL
FLA - FULL LOAD AMPS
FVNR - FULL VOLTAGE NON REVERSING
GC - GENERAL CONTRACTOR
GFCI - GROUND FAULT CKT INTERRUPTER
GND - GROUND
HP - HORSEPOWER
IG - ISOLATED GROUND
KW - KILOWATTS
LCP - LIGHTING CONTROL PANEL
LTG - LIGHTING
LV - LOW VOLTAGE
MC - MECHANICAL CONTRACTOR
MCA - MINIMUM CIRCUIT AMPS
MCB - MAIN CIRCUIT BREAKER
MCC - MOTOR CONTROL CENTER
MDP - MAIN DISTRIBUTION PANEL
MLO - MAIN LUGS ONLY
MOCP - MAX. OVERCURRENT PROTECTION
(N) - NEW
NIC - NOT IN CONTRACT
NEC - NATIONAL ELECTRICAL CODE
NFPA - NATIONAL FIRE PROT. ASSN.
NL - NIGHT LIGHT
NR - NOT REQUIRED
NTS - NOT TO SCALE
PC - PLUMBING CONTRACTOR
PH - PHASE
PNL - PANEL
POC - POINT OF CONNECTION
POS - POINT OF SALE
(R) - RELOCATED
REC - RECEPTACLES
RMC - RIGID METAL CONDUIT
SCA - SHORT CIRCUIT AMPERES
SES - SERVICE ENTRANCE SWITCHGEAR
SPD - SURGE PROTECTIVE DEVICE
TL - TWIST LOCK
TTB - TELEPHONE TERMINAL BOARD
TR - TAMPER RESISTANT
TYP - TYPICAL
UNO - UNLESS NOTED OTHERWISE
VA - VOLTAMPS
VIF - VERIFY IN FIELD
VR - VANDAL RESISTANT
WP - WEATHERPROOF/NEMA 3R
WU - FURNISHED WITH UNIT
XFMR - TRANSFORMER

ROCKY MOUNTAIN
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2117 South 3600 West, Salt Lake City, UT 84119
(801) 566-0503 www.rmceut.com Project #19241

PROFESSIONAL ENGINEER REGISTERED 03.10.2020 15843 STATE OF IDAHO DAVID W. STEWARD

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.
1				8			
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7				14			

DESIGNED BY: DH
DATE: 20 NOVEMBER 2019
DWN BY: BK
CKD BY: DH
CONTRACT NO.: FA4897-19-CA016
SUBMITTED BY: DH
PLOT SCALE: AS NOTED
PLOT DATE: 10/07/2020
FILE NUMBER: 101322655
SIZE: ANSI D
FILE NAME: 19241_E-001.dwg

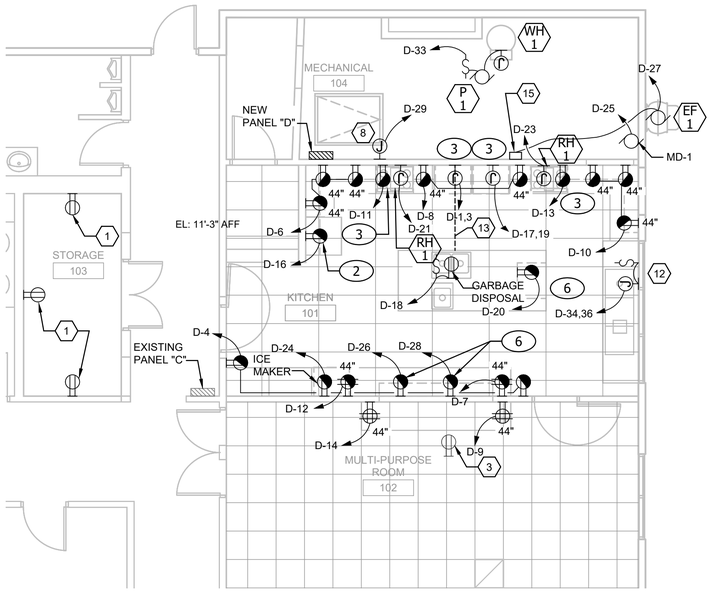
366 CES/CEN
MOUNTAIN HOME AIR FORCE BASE

design west architects
795 N 400 W
SALT LAKE CITY, UT 84103
(801) 519-5221

CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

ELECTRICAL GENERAL SHEET

E-001
SHEET 24 OF 30



POWER PLAN

SCALE: 3/16"=1'-0"

FIELD VERIFY ALL MEASURMENTS FOR CONSTRUCTION AND MATERIAL QUANTITIES.

LEGEND:

- X — CEILING/PENDANT-MOUNTED LUMINAIRE - LED
- X — CEILING/PENDANT-MOUNTED LUMINAIRE 1'x4'- LED
- X — CEILING/RECESSED-MOUNTED LUMINAIRE 2'x4'- LED
- X — SINGLE-FACED WALL MOUNTED COMBINATION EXIT AND EMERGENCY LIGHT

LIGHTING FIXTURE SUBSCRIPTS:

X - INDICATES FIXTURE TYPE PER LIGHTING FIXTURE SCHEDULE

Y - INDICATES CONTROLLING SWITCH

- CEILING MOUNTED OCCUPANCY SENSOR
- NEW PANELBOARD
- GFCI DUPLEX RECEPTACLE, NEMA 5-20R
- DUPLEX RECEPTACLE, NEMA 5-20R
- GFCI QUADPLEX RECEPTACLE, NEMA 5-20R
- QUADPLEX RECEPTACLE, NEMA 5-20R
- JUNCTION BOX
- MOTOR
- # — KITCHEN EQUIPMENT CALL OUT SEE EQUIPMENT SCHEDULE ON SHEET E-601
- ? # — MECHANICAL EQUIPMENT CALL OUT SEE EQUIPMENT SCHEDULE ON SHEET E-601
- SPD — SURGE PROTECTION DEVICE
- Y X — TOGGLE SWITCH

SUBSCRIPTS:

X - INDICATES TYPE
NONE - SINGLE POLE
3 - THREE-WAY

Y - INDICATES CONTROLLING LIGHT

- HOME RUN TO PANEL, 2 #12, 1 #12G, IN 3/4"C UNLESS OTHERWISE NOTED

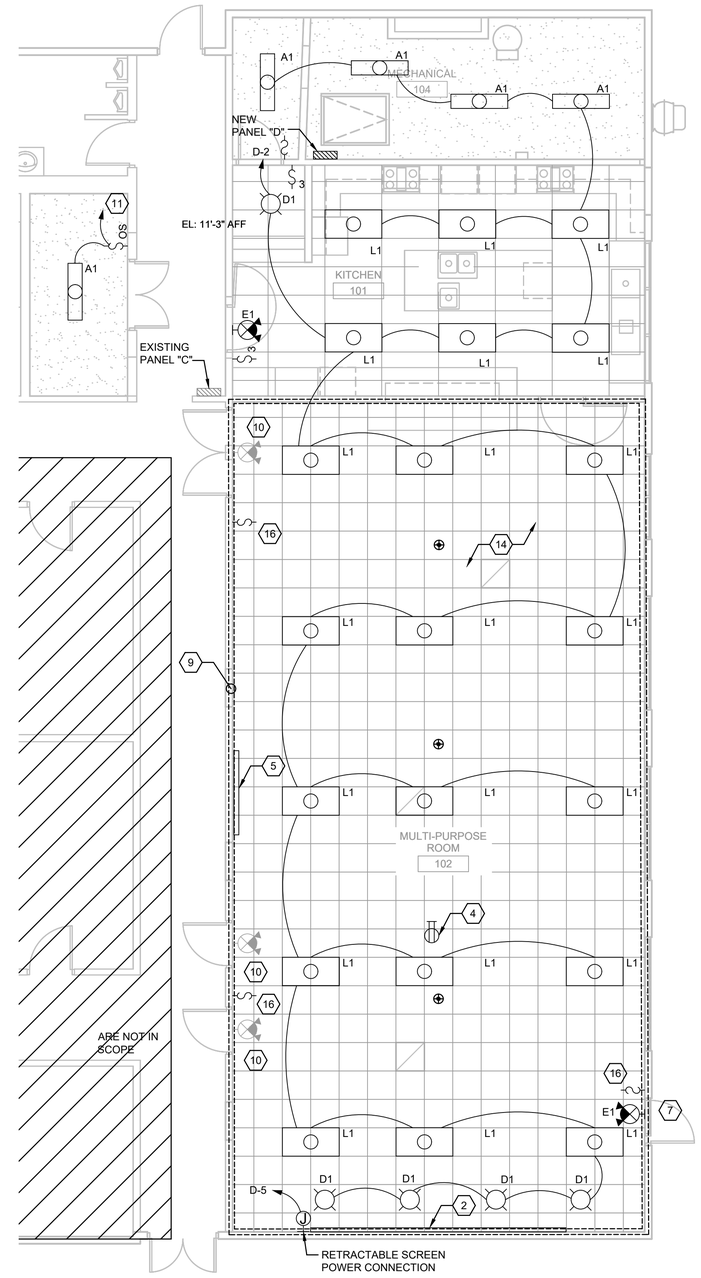
LIGHT FIXTURES:

A1 NOT USED

L1 MFR: COMMERCIAL ELECTRIC LED 2'x4' GRID CEILING LAMPING, 4000K: OR APPROVED EQUAL.

D1 MFR: LITHONIA LIGHTING 6" LDN6 LED DOWN LIGHT LAMPING, 4000K OR APPROVED EQUAL

E1 MFR: THE EXIT LIGHT CO. COMBO2 LED EXIT + EM LIGHT
RED LETTERING
SELF-POWERED WITH NICAD BATTERY
SELF-DIAGNOSTIC



LIGHTING PLAN

SCALE: 3/16"=1'-0"

FIELD VERIFY ALL MEASURMENTS FOR CONSTRUCTION AND MATERIAL QUANTITIES.

KEYNOTES:

1. RELOCATE EXISTING RECEPTACLES PER NEW ROOM DESIGNATION. MAINTAIN ASSOCIATED EXISTING POWER CIRCUITS. COORDINATE LOCATIONS WITH OWNER PRIOR TO RELOCATION.
2. NEW OWNER FURNISHED RETRACTABLE PROJECTOR SCREEN.
3. RELOCATE EXISTING CEILING MOUNTED PROJECTOR RECEPTACLE AND ASSOCIATED POWER AND COMMUNICATIONS CIRCUITS. SEE LIGHTING PLAN FOR NEW LOCATION.
4. RELOCATED PROJECTOR RECEPTACLE.
5. RELOCATE EXISTING BIG SCREEN TV SET AND ASSOCIATED POWER AND COMMUNICATIONS CIRCUITS PER OWNER DIRECTION.
6. RECEPTACLES LOCATED ABOVE COUNTER.
7. CONNECT NEW EXIT LIGHT TO EXISTING NOT-SWITCHED LIGHTING CIRCUIT.
8. PROVIDED POWER TO FIRE ALARM NAC PANEL. COORDINATE EXACT LOCATION WITH INSTALLER.
9. EC TO PROTECT AND MAINTAIN ALL OUTLET AND SWITCH IN WALLS DURING DEMO WORK AND CONSTRUCTION. MAINTAIN CIRCUIT INTEGRITY AND REPLACE AND DAMAGED ITEMS. EC TO PROVIDE NEW SWITCH AND RECEPTACLE COVERS TO MATCH EXISTING BUILDING FINISH. REMOVE EXIT SIGNS AND RE-HANG WHEN WALL ARE COMPLETE
10. EXISTING EXIT SIGN TO BE RE-USED
11. PROVIDE NEW LIGHT FIXTURE AND CONNECT WITH LINE VOLTAGE WALL SENSOR TO CONTROL STORAGE ROOM LIGHTING.
12. COMMERCIAL DISPOSAL. PROVIDE 20 2 POLE BREAKER FOR 1800 W LOAD. EC TO VERIFY REQUIREMENTS WITH EQUIPMENT. COORDINATE INSTALLATION OF CONTROL WITH MANUFACTURE RECOMMENDATIONS.
13. VERIFY BEFORE SAW CUTTING EXISTING FLOOR TO AVOID AND CONFLICTS WITH EXISTING AND NEW WORK NEARBY
14. SEE DETAIL 4 ON SHEET E-601 FOR LIGHTING CONTROL WIRING DIAGRAM FOR MULTI PURPOSE ROOM LIGHTING
15. MECHANICAL CONTROLLER ELECTRICAL CONTRACTOR TO PROVIDE POWER. CONTROL TO BE FURNISHED AND INSTALLED BY OTHERS.
16. PROVIDE LOW VOLTAGE SWITCH FOR MULTI-PURPOSE ROOM CONTROLS. SEE WIRE DETAIL #4 ON SHEET E601 FOR INFORMATION.

GENERAL NOTES:

1. IN MULTI-PURPOSE ROOM REPLACE ALL EXISTING CEILING GRID MOUNTED LIGHT FIXTURES WITH NEW FIXTURES.
2. IN KITCHEN ROOM 101 SUSPEND LIGHT FIXTURES 16 INCHES BELOW CEILING UTILIZING AIRCRAFT CABLE.
3. IN MECHANICAL ROOM 104 AND STORAGE ROOM 103 SURFACE MOUNT FIXTURES

ROCKY MOUNTAIN
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design west | architects
7563 N 400 W
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IDAHO

ELECTRICAL PLAN

E-101

EQUIPMENT SCHEDULE

MARK	DESCRIPTION	ELECTRICAL V	PH	KW	HP	MCA	FLA	MOCP	CONDUIT SIZE	WIRE QTY.	WIRE SIZE	GND. SIZE	STARTER NEMA SIZE	OVERCURRENT PROTECTION DISCONNECT SIZE/POLE	FUSE SIZE	REMARKS
1	DISHWASHER	120	1				12	20	.75"	2	12	12				
2	FRIDGE	120	1				12	20	.75"	2	12	12				
3	RANGE	120	1				5	20	.75"	2	12	12				
4	WALL OVEN	208	1	2.8			13.5	20	.75"	3	12	12				
5	TOP MOUNT FRIDGE	120	1				6	20	.75"	2	12	12				
6	MICROWAVE	120					15	20	.75"	2	12	12				
WH-1	GAS WATER HEATER	120	1					20	0.75	2	12	12				5A
P-1	PUMP	120	1				0.5	20	0.75	2	12	12				5A
RH-1	RANGE HOOD	120	1				0.65	20	0.75	2	12	12				5A
EF-1	EXHAUST FAN	120			1/8			20	0.75	2	12	12				5A

NOTE: COORDINATE FINAL EQUIPMENT CONNECTIONS WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN. VERIFY ALL MOUNTING HEIGHTS.

REMARKS:
1. FUSED DISCONNECT SWITCH
2. NON-FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. THERMAL OVERLOAD SWITCH
5. TOGGLE SWITCH
6. MAGNETIC STARTER
7. MAGNETIC STARTER/NON-FUSED DISCONNECT SWITCH
8. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
9. MAGNETIC STARTER/BREAKER COMBINATION
10. REDUCED VOLTAGE STARTER
11. VARIABLE FREQUENCY DRIVE
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
13. DIRECT CONNECTION
14. DUCT DETECTOR IN RETURN DUCT
15. SWITCH WITH LIGHTS

A. FURNISHED, INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION BY ELECTRICAL CONTRACTOR
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR
D. FURNISHED, INSTALLED, AND CONNECTED UNDER ANOTHER DIVISION
E. FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR REQUIRING CONNECTION UNDER ANOTHER DIVISION

PANEL SCHEDULE (EXISTING) 'C'

VOLT/PHASE/WIRE: 120/208V/3PH/4W — AIC RATING: — AIC — MAIN BREAKER:
MOUNT/ENCLOSURE: SURFACE/NEMA 1 — LOCATION: — MAIN LUGS: 225A

CKT NO	DESCRIPTION	LOAD	AMPS	POLES	A	B	C	POLES	AMPS	LOAD	DESCRIPTION	CKT NO
1	RANGE	4000	40	2	13119			3	100	9119	NEW PANEL 'D' ***	2
3	----------	4000	-	-		11800		-	-	7800	----------	4
5	EXISTING FELLOWSHIP LIGHTS	1000	20	1			8460	-	-	7460	----------	6
7	EXISTING FELLOWSHIP LIGHTS	1000	20	1	2000			1	20	1000	UNKNOWN LOAD	8
9	EXISTING FELLOWSHIP LIGHTS	1000	20	1		2000		1	20	1000	UNKNOWN LOAD	10
11	EXISTING FELLOWSHIP LIGHTS	1000	20	1			2000	1	20	1000	UNKNOWN LOAD	12
13	EXISTING FELLOWSHIP LIGHTS	1000	20	1	2000			1	20	1000	UNKNOWN LOAD	14
15	EXISTING MICROWAVE	1200	20	1		2200		1	20	1000	UNKNOWN LOAD	16
17	EXISTING HALLWAY LIGHTS	1000	20	1			2000	1	20	1000	UNKNOWN LOAD	18
19	UNKNOWN LOAD	1000	20	1	2000			1	20	1000	UNKNOWN LOAD	20
21	UNKNOWN LOAD	1000	20	1		2000		1	20	1000	EXISTING OFFICES 11,12,13 LIGHTS	22
23	EXISTING ICE MACHINE	1500	20	1			2500	1	20	1000	UNKNOWN LOAD	24
25	EXISTING FIRE ALARM PANEL	1000	20	1	2000			1	20	1000	UNKNOWN LOAD	26
27	EXISTING WATER HEATER	1500	20	2		2500		1	20	1000	UNKNOWN LOAD	28
29	----------	1500	-	-			3000	1	20	1500	EXISTING BACKSTAGE REC	30
31	SPARE	0	20	1	1000			1	20	1000	UNKNOWN LOAD	32
33	EXISTING FELLOWSHIP HALL REC	1500	20	1		2500		1	20	1000	UNKNOWN LOAD	34
35	EXISTING KITCHEN RECEPTICLES	1500	20	1			3000	1	20	1500	EXISTING KITCHEN RECEPTICLES	36
37	UNKNOWN LOAD	1000	20	1	2000			1	20	1000	UNKNOWN LOAD	38
39	SPARE	0	20	1		1500		1	20	1500	EXISTING DISHWASHER	40
41	EXISTING FELLOWSHIP REC	1500	20	1			3000	1	20	1500	EXISTING HEAT TRACE	42
TOTALS					24,119	24,500	23,960					

TOTAL LOAD: 72,579

LOADS	CONTINUOUS	NON-CONTINUOUS	DEMAND FACTOR/CALCULATION				DEMAND LOAD
EXISTING	0	0	125% x	0			0
LIGHTING	7,000	1,099	125% x	7000	+ 100% x	1099	9,849
RECEPTACLE	0	24,380	100% x	10000	+ 50% x	14380	17,190
MOTOR	0	3,840	125% x	0	+ 100% x	3840	3,840
FIXED HEAT	0	4,500	100% x	4500			4500
A/C	0	0	100% x	0			
KITCHEN EQUIP.	0	12,360	100 % x	12360			12,360
MISC	1,000	18,400	125% X	1000	+ 100% x	18400	19,650
						TOTAL DEMAND LOAD:	67,389 VA
							187 A

PANEL NOTES: *** = REMOVE SPARE BREAKERS AND PROVIDE NEW COMPATIBLE 100A BREAKER. VERIFY AND PROVIDE REQUIRED AIC RATING

PANEL SCHEDULE (NEW) D

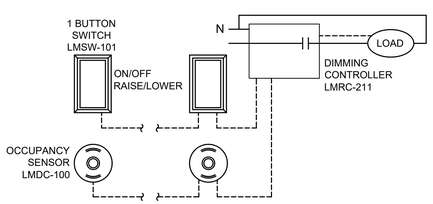
VOLT/PHASE/WIRE: 120/208V/3PH/4W — AIC RATING: — AIC — MAIN BREAKER:
MOUNT/ENCLOSURE: SURFACE/NEMA 1 — LOCATION: — MAIN LUGS: 100A

CKT NO	DESCRIPTION	LOAD	AMPS	POLES	A	B	C	POLES	AMPS	LOAD	DESCRIPTION	CKT NO
1	WALL OVEN **	1400	20	2	2499			1	20	1099	LIGHTING	2
3	----------	1400	-	-		1760		1	20	360	NEW KITCHEN RECEPTICLES	4
5	NEW RETRACTABLE SCREEN	240	20	1			780	1	20	540	NEW KITCHEN RECEPTICLES	6
7	KITCHEN RECEPTICLES	720	20	1	1080			1	20	360	NEW KITCHEN RECEPTICLES	8
9	KITCHEN RECEPTICLES	720	20	1		1260		1	20	540	NEW KITCHEN RECEPTICLES	10
11	GAS OVEN	600	20	1			1320	1	20	720	NEW KITCHEN RECEPTICLES	12
13	GAS OVEN	600	20	1	1320			1	20	720	NEW KITCHEN RECEPTICLES	14
15	WATER HEATER	600	20	1		1300		1	20	700	FRIDGE	16
17	WALL OVEN **	1400	20	2			2600	1	20	1200	DISPOSAL	18
19	----------	1400	-	-	2600			1	20	1200	DISHWASHER	20
21	HOOD **	360	20	1		360		1	20	0	SPARE	22
23	HOOD **	360	20	1			1260	1	20	900	ICE MAKER	24
25	DAMPER MOTOR MD-1	120	20	1	1620			1	20	1500	MICROWAVE	26
27	EF-1 AND AIR BALANCE KIT	600	20	1		2100		1	20	1500	MICROWAVE	28
29	NAC	600	20	1			600	2	20	0	SPARE	30
31	SPARE	0	20	1	0			-	-	0	----------	32
33	P-1	120	20	1		1020		2	20	900	DISPOSAL	34
35	SPD	0	30	3			900	-	-	900	----------	36
37	----------	0	-	-	0			1	20	0	SPARE	38
39	----------	0	-	-		0		1	20	0	SPARE	40
41	SPARE	0	20	1			0	1	20	0	SPARE	42
TOTALS					9,119	7,800	7,460					

TOTAL LOAD: 24,379

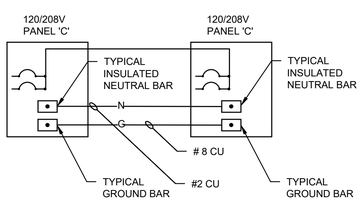
LOADS	CONTINUOUS	NON-CONTINUOUS	DEMAND FACTOR/CALCULATION				DEMAND LOAD
EXISTING	0	0	125% x	0			0
LIGHTING	0	1,099	125% x	0	+ 100% x	1099	1,099
RECEPTACLE	0	4,680	100% x	4680	+ 50% x	0	4,680
MOTOR	0	3,840	125% x	0	+ 100% x	3840	3,840
FIXED HEAT	0	0	100% x	0			0
A/C	0	0	100% x	0			
KITCHEN EQUIP.	0	12,360	100 % x	12360			12,360
MISC	0	2,400	125% X	0	+ 100% x	2400	2,400
						TOTAL DEMAND LOAD:	24,379 VA
							68 A

PANEL NOTES: ** = PROVIDE GFCI BREAKER



4 / E-601 — 1 ZONE DIMMING

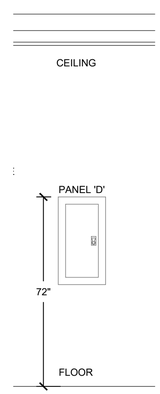
SCALE: NONE



NOTE:
CONTRACTOR TO BOND ALL METAL PIPING SYSTEMS WITHIN THE BUILDING. CONTRACTOR TO PROVIDE GROUND BUSHINGS ON ALL CONDUITS CONNECTED TO PANELBOARDS, TRANSFORMERS, ETC.

2 / E-601 — TYPICAL GROUNDING/BONDING DETAIL

NO SCALE



3 / E-601 — PANEL MOUNTING HEIGHTS DETAIL

NO SCALE

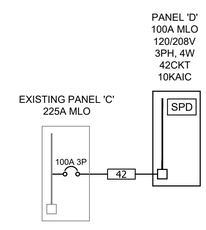
FAULT CURRENT CALCULATIONS		
Transformer	UTILITY	
Feed From	UTILITY	
Is.c. Primary		100000
%Z	2.5	
KVA	150	
Constant	100000	
Primary Voltage	12470	
Secondary Voltage	208	
f	359.9673333	
m	0.002770334	
I s.c. at secondary		16609

FAULT CURRENT CALCULATIONS			
208 Volt			
Panel	MDP	C	D
Feed From	UTILITY XFMR	MDP	C
Available Fault Current	16609	14840	8462
(L) Length to panel	24	92	10
Conduit Type (P,S)	P	S	S
Conductor Size	3\0	4\0	2
Conductor Type (c,a)	c	c	c
No of Runs	2	1	1
C - from chart	13923	15082	5906
Voltage	208	208	208
f	0.119197787	0.75377515	0.11930141
m	0.89349712	0.57019852	0.8934144
I s.c. at Panel	14840	8462	7560

CONDUIT/CONDUCTOR SCHEDULE

MARK	AMPS	CONDUIT	CU/AL	CONDUCTORS (TOTAL) PHASE	NEUTRAL	GROUND	NOTES
42	100	1.5"	CU	(3) 2	2	8	1

NOTES:
1. CONDUCTOR INSULATIONS TO BE RATED THWN-2/THHN 90°C. CONDUIT TO BE EMT.



1 / E-601 — PARTIAL ONE-LINE DIAGRAM

NO SCALE

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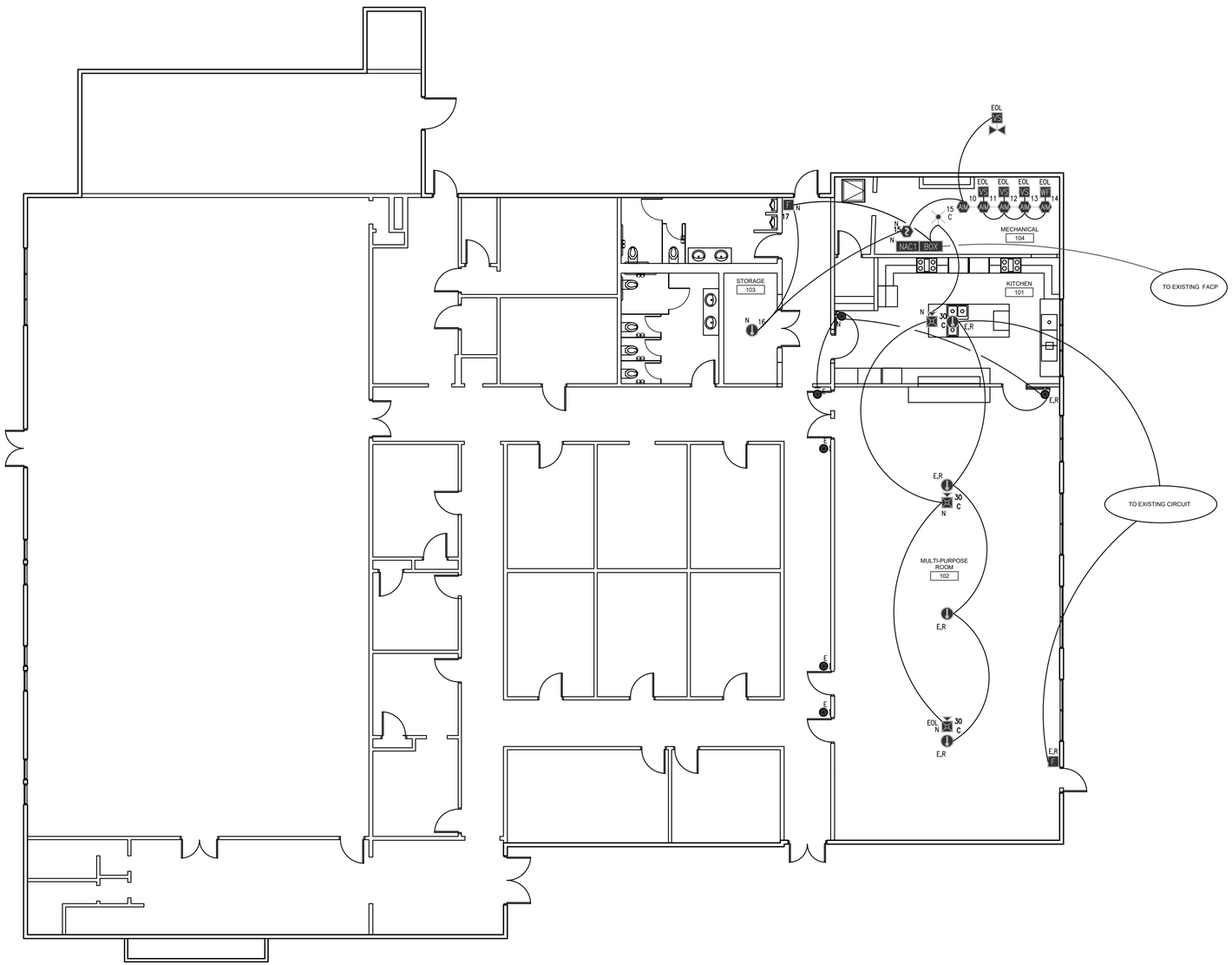
ELECTRICAL SCHEDULES

E-601
SHEET 26 OF 30

CHAPEL KITCHEN RENOVATION FACILITY 2606
366 CES/CEN
FIRE ALARM SYSTEM



1 FA1 FIRE ALARM DEVICE LAYOUT
SCALE: 1/8"=1'-0"
0 4 8 16
(IN FEET)

GENERAL NOTES

SCOPE OF WORK: FIRE ALARM SYSTEM DESIGNED FOR MOUNTAIN HOME AIR FORCE BASE USING THE FOLLOWING DESIGN CRITERIA AND INSTALLATION NOTES.

DELTA FIRE SYSTEMS, INC. CONTRACT INCLUDES CHAPEL T.I. SPACE ONLY. REMOVE AND RE-INSTALL THE FOLLOWING: PULL STATION, HEAT DETECTOR, DOOR HOLDER. REMOVE OLD WIRE AND COMPONENTS AS NECESSARY. INSTALL NEW: NAC BOOSTER, SMOKE DETECTOR, DOOR HOLDER, 24 V CONTROL RELAY, FIRE SPRINKLER SUPERVISION.

SYSTEM TYPE: THE PROTECTED PREMISE FIRE ALARM SYSTEM IS AN ADDRESSABLE SYSTEM CONFIGURED FOR MANUAL FIRE ALARM SIGNAL INITIATION, AUTOMATIC HEAT DETECTION AND AUTOMATIC FIRE SPRINKLER MONITORING WITH OCCUPANT NOTIFICATION IN THE BUILDING. SMOKE DETECTORS ARE INSTALLED TO PROTECT FIRE ALARM CONTROL AND NAC BOOSTER PANELS INSTALLED IN NORMALLY UNOCCUPIED AREAS. SYSTEM TO BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF THE FOLLOWING INSTALLATION STANDARDS:

WIRING: WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT NEEDS TO BE 3/4 ", RED OR LABELED IAW UFC 3-600-01 CHANGE 3, SECTION 9 - 18.9.7 IDENTIFICATION.

FIRE ALARM CIRCUITS ARE POWER LIMITED. POWER LIMITED AND NON-POWER LIMITED CIRCUITS MAY NOT BE RUN IN THE SAME CONDUIT. FIRE ALARM INITIATING DEVICE AND NOTIFICATION APPLIANCE CIRCUITS MAY NOT BE T-TAPPED. OBSERVE POLARITY WHEN INSTALLING DEVICES ON CIRCUIT.

SIGNALING LINE CIRCUITS SHALL BE INSTALLED WITH #18 AWG. INITIATING DEVICE CIRCUITS TO BE RUN CLASS B.

NOTIFICATION APPLIANCE CIRCUITS SHALL BE WIRED WITH #14. NOTIFICATION APPLIANCE CIRCUITS TO BE RUN CLASS B . DO NOT EXCEED MAXIMUM ALLOWABLE CIRCUIT LENGTHS SHOWN ON THE CALCULATION SHEETS. IF ADDITIONAL CIRCUIT LENGTH IS REQUIRED, PROVIDE NEXT SIZE LARGER WIRE FOR CIRCUIT.

PRIMARY POWER CIRCUIT SHALL BE WIRED
WITH #12, THHN, SOLID, IN 3/4" CONDUIT. THE PRIMARY POWER CIRCUIT SHALL BE A DEDICATED CIRCUIT FROM THE ELECTRICAL SUB-PANEL TO THE CONTROL PANEL. LABEL BREAKER "FIRE ALARM DISCONNECT".

MONITORING REQUIREMENTS: THE EXISTING ADDRESSABLE FIRE ALARM CONTROL IS REQUIRED TO BE MONITORED OFF-PREMISE

DIMENSIONS: UNLESS NOTED OTHERWISE ON SUBMITTAL DRAWINGS DIMENSIONS TO EQUIPMENT AND COMPONENTS ARE FROM FACE OF WALL TO CENTER OF COMPONENTS.

SECONDARY POWER SUPPLY: SEALED LEAD-ACID BATTERIES ARE PROVIDED INSIDE OF THE CONTROL PANEL WITH ADEQUATE CAPACITY TO OPERATE THE SYSTEM IN NORMAL STANDBY MODE FOR 24 HOURS AND 5 MINUTES IN ALARM.

AUDIBLE REQUIREMENTS: AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (DBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 DBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, (T.I SPACE ONLY)

INSTALLATION: INSTALL INITIATING DEVICES IN LOCATIONS SHOWN ON PLAN. CONNECT INITIATING DEVICES TO A SINGLE ADDRESSABLE SIGNALING LINE CIRCUIT ORIGINATING FROM THE CONTROL PANEL. MONITOR FIRE SPRINKLER SYSTEM WATER FLOW AND VALVE TAMPER SWITCHES. RELAY CONTROL OF 24V GAS VALVE (SUPPLIED BY OTHERS)

DEVICES TO BE INSTALLED ON 4-SQUARE JUNCTION BOXES. WHERE NO DEVICE IS PRESENT, WIRING TERMINATIONS SHALL BE MADE IN JUNCTION BOXES. BOX COVERS SHALL BE PAINTED RED AND IDENTIFIED AS PART OF THE FIRE ALARM SYSTEM.

CONNECT TO EQUIPMENT PROVIDED BY OTHERS (24V GAS VALVE) IN LOCATIONS SHOWN ON PLAN.

SMOKE DETECTORS THAT ARE INSTALLED PRIOR TO THE BUILDING/AREA OF WORK BEING CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT AGAINST DUST, DIRT AND DEBRIS.

SIGNAGE: PROVIDE A SIGN ON ALL DOORS CONTAINING FIRE ALARM PANELS OR ADDITIONAL FIRE ALARM POWER SUPPLIES. APPROVED SIGN SHALL READ "FIRE ALARM PANEL" . THIS SIGN SHALL HAVE LETTERS MIN. 4 IN HIGH AND ½ IN STROKE. LETTERING SHALL BE ARABIC/SAN-SERIF, AND OF CONTRASTING COLOR TO BACKGROUND.

INSPECTION AND ACCEPTANCE TESTING: UPON COMPLETION OF THE INSTALLATION THE FIRE ALARM COMPONENTS THE SYSTEM SHALL BE FUNCTIONALLY TESTED TO VERIFY THE SYSTEM OPERATES AS INTENDED. NOTIFY THE AUTHORITY HAVING JURISDICTION AT LEAST 24 HOURS PRIOR TO ACCEPTANCE TESTING. PROVIDE RECORD OF COMPLETION AND "FIRE ALARM AND EMERGENCY COMMUNICATION SYSTEM INSPECTION AND TESTING FORM" TO OWNER AND AUTHORITY HAVING JURISDICTION AFTER FINAL INSPECTION / ACCEPTANCE TESTING.

- FIRE ALARM DETECTION DEVICES SHALL NOT BE INSTALLED WITHIN 36" OF HVAC DIFFUSERS.
- FIRE ALARM PANEL IS ADDRESSABLE. FUTURE EXPANSION WILL BE AVAILABLE THROUGH NEW ADDRESSABLE DEVICES.
- DEVICE ADDRESSES TO BE DETERMINED BY ONSITE TECHNICIAN USING AVAILABLE ADDRESSES. DOCUMENT FOR AS BUILT DRAWINGS.

NICET CERTIFIED 114123

SHEET NOTES

NOTES:

SYSTEM DESCRIPTION

OCCUPANCY CLASS: A-2, A-3
HAZARD CLASSIFICATION: ___ , ___

SYSTEM CONFIGURATION: Y N
AUTOMATIC WATER FLOW ■ ■
MANUAL INITIATION ■ ■
OCCUPANT NOTIFICATION □ □
VOICE EVACUATION □ □
FIRE FIGHTERS PHONE □ □
DOOR RELEASE SERVICE ■ □
SMOKE CONTROL ■ □
AGENT RELEASING SERVICE □ □

FIRE SPRINKLERS: PARTIALLY
EXTINGUISHING SYSTEM: ___ , ___

OFF-PREMISE COMMUNICATION Y N
LOCAL ALARM ■ ■
PROTECTED PREMISES ■ ■
CENTRAL STATION □ □
REMOTE SUPERVISING STATION ■ □
CIRCUIT INTEGRITY: ___ ___
SLC PATHWAY CLASS: "B" ___
NAC PATHWAY CLASS: "B" ___
IDC PATHWAY CLASS: "B" ___
SURVIVABILITY: LEVEL 0 ___

NOTICE

FACP REQUIRES 120 VAC DEDICATED POWER CIRCUIT. THIS CIRCUIT SHALL BE PROVIDED BY A LICENSED ELECTRICAL CONTRACTOR, AND SHALL BE MARKED RED AND LABELED "FIRE ALARM DISCONNECT." THE LOCATION OF THE BRANCH CIRCUIT SHALL BE PERMANENTLY IDENTIFIED AT THE FACP.

ISSUES / REVISIONS

DATE	DESCRIPTION	BY	ISSUE
11/18/19	65 % SUBMITTAL	BR	A
1/20/20	95 % SUBMITTAL	BR	B
3/23/20	100 % SUBMITTAL	BR	C

DELTA FIRE SYSTEMS
a division of WSFP
IDAHO LICENSE #FPSC-127
IDAHO PWC #107-AAA-4
BOISE
650 N RALSTIN ST. #101
MERIDIAN, ID 83642
PHONE NO. 208.461.9391
FAX NO. 208.461.9393
DELTAFIRESYSTEMS.COM

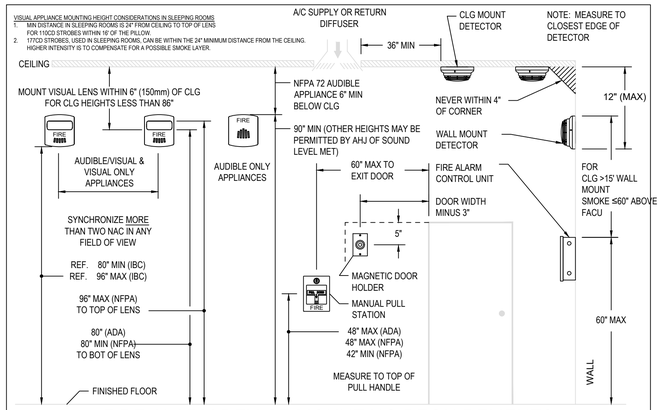
CHAPEL RENOVATION - 2606

366 CES/CEN
MOUNTAIN HOME AIR FORCE BAE
MOUNTAIN HOME, ID

ISSUE	A	DATE	11/18/19
DRAWN BY	BTR	SCALE	AS SHOWN
CHECKED BY	BR	JOB NO.	1037-003112

SHEET TITLE
FIRE ALARM SYSTEM FLOOR PLAN

COUNT 1 OF 2
SHEET NO. FA1



FIRE ALARM DEVICE MOUNTING REQUIREMENTS

MOUNTING DETAILS

EQUIPMENT LEGEND

QTY	SYM	DESCRIPTION	MAKE/MODEL	MOUNTING
1	FACP	FIRE ALARM CONTROL PANEL W/BATTERY SET	SILENT KNIGHT 5820XL EXISTING	SEMI-FLUSH AT 60' TO TOP OF CABINET
1	NAC1	FIRE ALARM CONTROL PANEL W/BATTERY SET	SILENT KNIGHT 5820XL EXISTING	SEMI-FLUSH AT 60' TO TOP OF CABINET
1	2	PHOTOELECTRIC SMOKE DET W/ 6" BASE INCLUDED	SILENT KNIGHT SK-PHOTO SILENT KNIGHT B210LP	SINGLE GANG, 3.5, 4.0, 4-SQ, W/ BRKT
5		FIXED TEMP HEAT DETECTOR 135° W/ 6" BASE INCLUDED	SILENT KNIGHT SK-HEAT SILENT KNIGHT B210LP	SINGLE GANG, 3.5, 4.0 4-SQ, W/ BRKT
1	F	ADDRESSABLE PULL STATION (DUAL ACTION)	SILENT KNIGHT SK-PULL-DA	SINGLE GANG, DBL GANG, OR SURFACE MNT W/ BOX
3	AIM	ADDRESSABLE INPUT MODULE	SILENT KNIGHT SK-MONITOR	4-SQ X 2-1/8 DEEP BOX
1	AOM	ADDRESSABLE RELAY CONTROL MODULE	SILENT KNIGHT SK-RELAY	4-SQ X 2-1/8 DEEP BOX
1		DOOR HOLDER	MATCH EXISTING	4-SQ X 2-1/8 DEEP BOX W/SINGLE GANG

EQUIPMENT LEGEND

QTY	SYM	DESCRIPTION	MAKE/MODEL	MOUNTING
X	XX W	MULTI-CANDELA HORN/STROBE WALL-MOUNT, RED	SYSTEM SENSOR P2RL	4-SQ, DEEP 1-GANG, DBL GANG OR 4-0 BOX
X	XX C	MULTI-CANDELA HORN/STROBE CEILING-MOUNT, RED	SYSTEM SENSOR PC2RL	4-SQ, DEEP 1-GANG, DBL GANG OR 4-0 BOX
X	XX C	MULTI-CANDELA STROBE ONLY CEILING-MOUNT, RED	SYSTEM SENSOR SCRL	4-SQ, DEEP 1-GANG, DBL GANG OR 4-0 BOX

WIRING/CIRCUIT CODES & DESCRIPTIONS

CODE	DESCRIPTION
D	DOOR HOLDER CIRCUIT - 2 CONDUCTOR #14 AWG SOLID NON-PLENUM RATED: FPLR — CONDUIT ONLY: THHN (2) #14 (BLACK/RED) — PLENUM RATED: FPLP
P	AUXILIARY POWER CIRCUIT - 2 CONDUCTOR #14 AWG SOLID NON-PLENUM RATED: FPLR — CONDUIT ONLY: THHN (2) #18 AWG (BLACK/RED) — PLENUM RATED: FPLP
S	SIGNALING LINE CIRCUIT - 1 PAIR #18-2C UNSHIELDED TWISTED NON-PLENUM RATED: FPLR — CONDUIT ONLY: THHN (2) #18 AWG (YELLOW/BLUE) — PLENUM RATED: FPLP
Va	NOTIFICATION APPLIANCE ACTIVATION CIRCUIT - 2 CONDUCTOR #14 AWG SOLID NON-PLENUM RATED: FPLR — CONDUIT ONLY: THHN (2) #14 AWG (RED/BLACK) — PLENUM RATED: FPLP
V	NOTIFICATION APPLIANCE VISUAL CIRCUIT - 2 CONDUCTOR #14 AWG SOLID NON-PLENUM RATED: FPLR — CONDUIT ONLY: THHN (2) #14 AWG (RED/BLACK) — PLENUM RATED: FPLP
Z	INITIATING DEVICE CIRCUIT (CONVENTIONAL) - 1 PAIR #18-2C TWISTED UNSHIELDED TWISTED NON-PLENUM RATED: FPLR — CONDUIT ONLY: TFFN (2) #18 (YELLOW/BLUE) — PLENUM RATED: FPLP

BUILDING DATA

OCCUPANCY:	A-2, A-3
FIRE SPRINKLER:	PARTIALLY SPRINKLED
NUMBER OF STORIES:	1 STORY

APPLICABLE CODES

2015 INTERNATIONAL BUILDING CODE (IBC)

2015 INTERNATIONAL FIRE CODE (IFC)

2016 FIRE ALARM SIGNALING CODE (NFPA 72)

2017 NATIONAL ELECTRICAL CODE (NFPA 70)

SCOPE OF WORK

DELTA FIRE SYSTEMS, INC. CONTRACT INCLUDES CHAPEL T.I. SPACE ONLY. OUTLINED AS FOLLOWS:

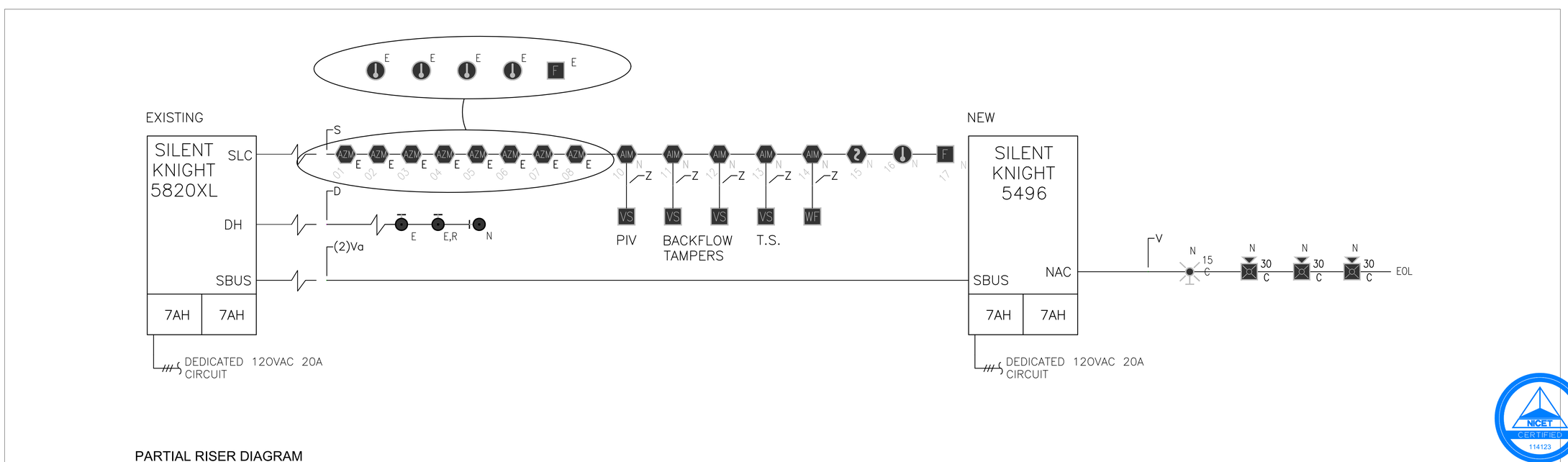
1. REMOVE OLD WIRE AND COMPONENTS AS NECESSARY.
2. (E,R) REMOVE AND RELOCATE THE FOLLOWING:
   - 2.1. PULL STATION
   - 2.2. HEAT DETECTORS
   - 2.3. DOOR HOLDER.
3. (N) MONITOR MODULES:
   - 3.1. PIV
   - 3.2. WATER FLOW
   - 3.3. TAMPER SWITCHES.
4. (N) NAC BOOSTER PANEL
5. (N) SMOKE DETECTOR
6. (N) NOTIFICATION DEVICES AS SHOWN
7. (N) 24V CONTROL RELAY

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	FACP	FIRE ALARM CONTROL PANEL	(N)	NEW	T/ THD	THREAD / THREADED
AHJ	AUTHORITY HAVING JURISDICTION	FDQ	FINAL DESIGN QUANTITY	NOM.	NOMINAL	TELE	TELEPHONE
ASD	ASPIRATING SMOKE DETECTION	FFT	FIRE FIGHTER'S TELEPHONE	NTS	NOT TO SCALE	TRBL	TROUBLE
AUX	AUXILIARY / AUXILIARY POWER	FMT	FLEXIBLE METALLIC TUBING			TRPZ	TRAPEZE
AWG	AMERICAN WIRE GAUGE	FPL	FIRE POWER LIMITED	ORIF.	ORIFICE	TS	TAMPER SWITCH
		FPLP	FIRE POWER LIMITED PLENUM	OPT	OPTION	TX	TRANSMIT
BATT	BATTERY	FPLR	FIRE POWER LIMITED RISER			TYP	TYPICAL
BOT	BOTTOM	FSD	FIRE/SMOKE DAMPER	P/N	PART NUMBER		
BRKT	BRACKET			PB	PULL BOX	U.N.O.	UNLESS NOTED OTHERWISE
		GND	GROUND	POC	POINT OF CONNECTION	UPS	UNINTERRUPTIBLE POWER SUPPLY
CHNL	CHANNEL	H/S	HORN/STROBE	PRVD	PROVIDED	VERT	VERTICAL
CLG	CEILING	IDC	INITIATING DEVICE CIRCUIT	PS	PRESSURE SWITCH		
CTR	CENTER	JB	JUNCTION BOX			W/	WITH
CTRL	CONTROL	LFNC	LIQUIDTIGHT FLEX CONDUIT	(R)	RELOCATE	W/O	WITHOUT
				RGS	RIGID GALVANIZED STEEL CONDUIT	WF	WATERFLOW
(D)	DEMOLISH	MFGR	MANUFACTURER	REQD	REQUIRED	WP	WEATHERPROOF
DC	DIRECT CURRENT	MISC	MISCELLANEOUS	RX	RECEIVE / RECEIVER	WSHR	WASHER
DN	DOWN					XP	EXPLOSION PROOF
DPDT	DOUBLE POLE DOUBLE-THROW	N.C.	NORMALLY CLOSED	SCH	SCHEDULE (PIPE)		
		N.O.	NORMALLY OPEN	SF	SQUARE FOOT / SAFETY FACTOR	CGA	COMPRESSED GAS ASSOCIATION
(E)	EXISTING (TO REMAIN)	NAC	NOTIFICATION APPLIANCE CIRCUIT	SLC	SIGNALING LINE CIRCUIT	MDQ	MINIMUM DESIGN QUANTITY
EMT	ELECTRICAL METALLIC TUBING	NEC	NATIONAL ELECTRICAL CODE	SPST	SINGLE POLE SINGLE-THROW	LOAEL	LOWEST OBSERVABLE ADVERSE EFFECT LEVEL
ENCL	ENCLOSURE	NFPA	NATIONAL FIRE PROTECTION ASSOC.	STR	STROBE ONLY		
EOLR	END OF LINE RESISTOR	NIC	NOT IN CONTRACT	SUPV	SUPERVISORY	NOAEL	NO OBSERVABLE ADVERSE EFFECT LEVEL

OPERATION MATRIX

	INPUTS	OUTPUTS A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
		GENERAL ALARM SIGNAL	GENERAL SUPERVISORY SIGNAL	GENERAL TROUBLE SIGNAL	LED/LCD INDICATORS	ACTIVATE NOTIFICATION	DUCT DETECTOR FAN SHUTDOWN	DOOR HOLDER RELEASE								REMOTELY DISPLAY STATUS	REPORT OFF PREMISE
1	SMOKE DETECTOR	X			X	X		X								X	X
2	HEAT DETECTOR	X			X	X		X								X	X
3	DUCT SMOKE DETECTOR	X			X	X	X	X								X	X
4	MANUAL PULL STATION	X			X	X		X								X	X
5	WATERFLOW SWITCH	X			X	X		X								X	X
6	POST INDICATOR VALVE SWITCH		X		X											X	X
7	VALVE TAMPER SWITCH		X		X											X	X
8	TROUBLE CONDITION			X	X											X	X
9	AC POWER FAILURE			X	X											X	X
10																	
11																	
12																	
13																	
14																	
15																	



PARTIAL RISER DIAGRAM

NICET CERTIFIED 114123

SHEET NOTES

NOTES:

SYSTEM DESCRIPTION

OCCUPANCY CLASS:	"A-2, A-3"
HAZARD CLASSIFICATION:	_____
	_____
SYSTEM CONFIGURATION:	Y N
AUTOMATIC INITIATION	☐ ☐
MANUAL INITIATION	■ ■
OCCUPANT NOTIFICATION	■ ■
VOICE EVACUATION	☐ ☐
FIRE FIGHTERS PHONE	☐ ☐
DOOR RELEASE SERVICE	■ ■
SMOKE CONTROL	☐ ☐
AGENT RELEASING SERVICE	☐ ☐

FIRE SPRINKLERS:	PARTIALLY
EXTINGUISHING SYSTEM:	_____
	_____
OFF-PREMISE COMMUNICATION	Y N
LOCAL ALARM	■ ■
PROTECTED PREMISES	■ ■
CENTRAL STATION	☐ ☐
REMOTE SUPERVISING STATION	■ ■
CROSS-ZONING ALLOWED:	☐ ☐
SLC PATHWAY CLASS:	"B"
NAC PATHWAY CLASS:	"B"
IDC PATHWAY CLASS:	"B"
SURVIVABILITY:	LEVEL 0

NOTICE

FACP REQUIRES 120 VAC DEDICATED POWER CIRCUIT. THIS CIRCUIT SHALL BE PROVIDED BY A LICENSED ELECTRICAL CONTRACTOR, AND SHALL BE CLEARLY MARKED AND LABELED "FIRE ALARM SYSTEM". THE LOCATION OF THE BRANCH CIRCUIT SHALL BE CLEARLY MARKED AND IDENTIFIED AT THE FACP.

ISSUES / REVISIONS

ISSUE	BY	DATE	DESCRIPTION
A	BR	11/18/19	65 % SUBMITTAL
B	BR	1/20/20	95 % SUBMITTAL
C	BR	3/23/20	100 % SUBMITTAL

DELTA FIRE SYSTEMS
a division of WSFP
IDAHO LICENSE #FPSC-127
IDAHO PWC #107-AAA-4
BOISE
650 N RALSTIN ST. #101
MERIDIAN, ID 83642
PHONE NO. 208.461.9391
FAX NO. 208.461.9393
DELTAFIRESYSTEMS.COM

JOB NAME: CHAPEL RENOVATION - 2606

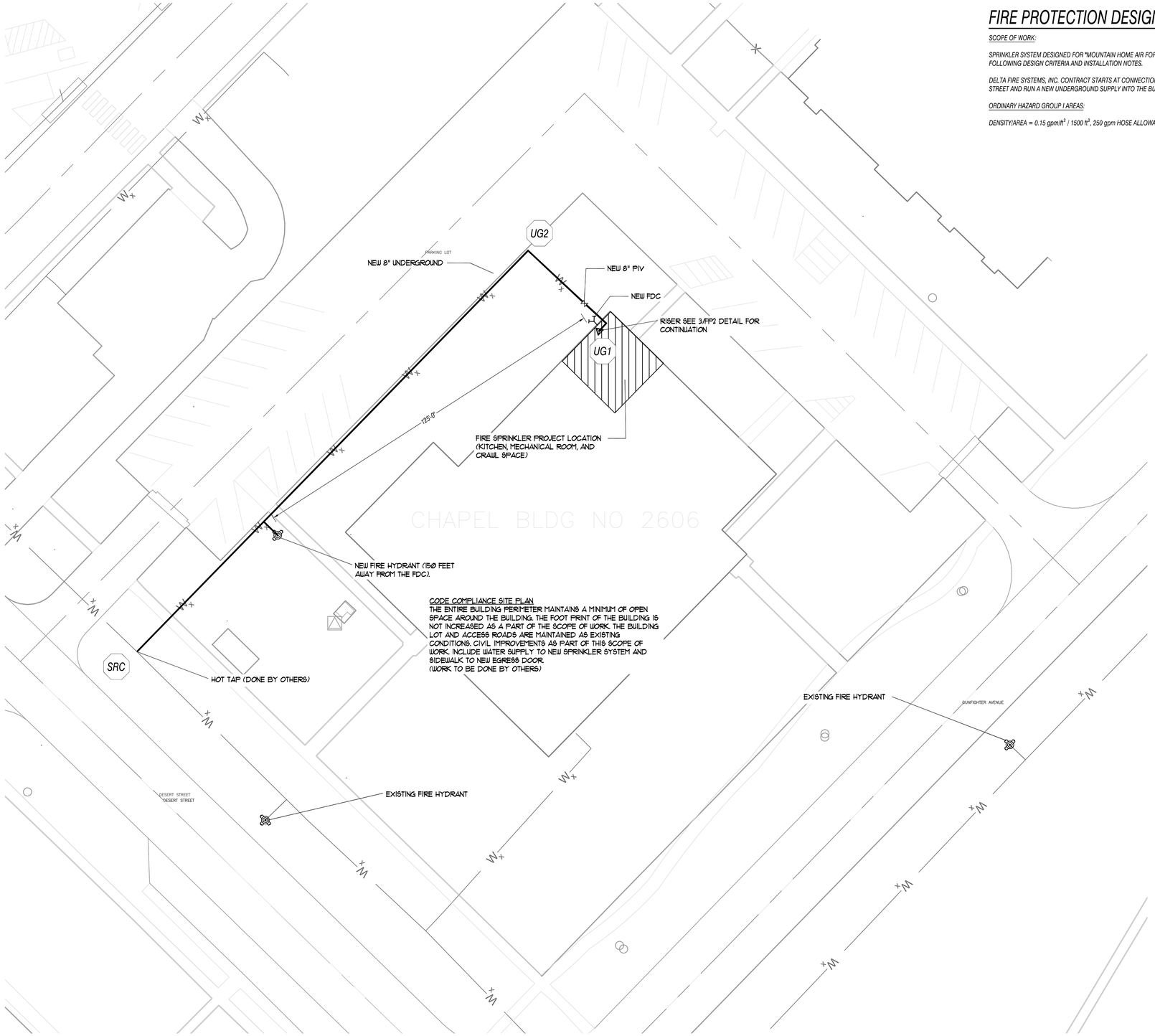
JOB ADDRESS: 366 CES/CEN MOUNTAIN HOME AIR FORCE BAE MOUNTAIN HOME, ID

ISSUE	A	DATE	11/18/19
DRAWN BY	BTR	SCALE	AS SHOWN
CHECKED BY	BR	JOB NO.	1037-003112

SHEET TITLE: FIRE ALARM SYS LEGEND / RISER

COUNT: 2 OF 2

SHEET NO: FA2



1 FP1 SITE PLAN
N.T.S

FIRE PROTECTION DESIGN CRITERIA NOTES

SCOPE OF WORK:

SPRINKLER SYSTEM DESIGNED FOR "MOUNTAIN HOME AIR FORCE BASE - CHAPEL KITCHEN" USING THE FOLLOWING DESIGN CRITERIA AND INSTALLATION NOTES.

DELTA FIRE SYSTEMS, INC. CONTRACT STARTS AT CONNECTION TO THE EXISTING UNDERGROUND IN THE STREET AND RUN A NEW UNDERGROUND SUPPLY INTO THE BUILDING.

ORDINARY HAZARD GROUP I AREAS:

DENSITY/AREA = 0.15 gpm/ft^2 / 1500 ft^2, 250 gpm HOSE ALLOWANCE, NFPA 13, 2016, FIGURE 11.2.3.1.1

FIRE PROTECTION INSTALLATION NOTES

SPRINKLER SYSTEM TYPE:

SYSTEM SHOWN IS A WET-PIPE SYSTEM, DESIGNED PER NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS, 2016 EDITION.

SYSTEM INSTALLATION:

ALL PIPING TO BE INSTALLED EXPOSED

SPRINKLER INSTALLATION:

WET SYSTEM UPRIGHT SPRINKLERS SHALL BE INSTALLED 6" BELOW CEILING.

DRAINAGE REQUIREMENTS:

WET SYSTEM PIPING "TYPICALLY" SHALL BE INSTALLED LEVEL TO DRAIN BACK TO THE SYSTEM RISER, IN ACCORDANCE WITH NFPA 13, 2016, 8.16.2.2.1.

TRAPPED SECTIONS OF WET SYSTEM PIPING SHALL HAVE AUXILIARY DRAIN CONNECTIONS IN ACCORDANCE WITH NFPA 13, 2016, 8.16.2.5.

HANGING, BRACING, & RESTRAINT OF SYSTEM PIPING:

SPRINKLER SYSTEM SUPPORTED FOR GRAVITY AND SEISMIC LOADS IN ACCORDANCE WITH NFPA 13, 2016 EDITION, CHAPTER 9. SEE HANGER AND BRACING DETAILS ON SHEET F-002.

DIMENSIONS:

UNLESS NOTED OTHERWISE ON SUBMITTAL DRAWINGS PIPE AND HANGER LENGTHS ARE CENTER-CENTER.

MONITORING AND ALARM REQUIREMENTS:

WATER-FLOW AND SUPERVISORY DEVICES FOR THE MONITORING OF THE SPRINKLER SYSTEM INSTALLED BY DELTA FIRE SYSTEMS. WIRING OF THE DEVICES AND OFF-PREMISE MONITORING IS THE RESPONSIBILITY OF OTHERS.

EXTERIOR LOCAL WATER FLOW ALARM (HORN / STROBE) PROVIDED BY DELTA FIRE SYSTEMS. HORN / STROBE MOUNTED AND WIRED BY OTHERS ON THE EXTERIOR OF THE BUILDING.

PIPING MATERIALS:

BRANCH LINES - BLACK STEEL SCHEDULE 40 PIPE, MANUFACTURED TO ASTM A-135 STANDARDS.

FEED MAINS, CROSS MAINS, AND SYSTEM RISER - BLACK STEEL SCHEDULE 40 PIPE, MANUFACTURED TO ASTM A-135 STANDARDS.

SEISMIC BRACE PIPING - BLACK STEEL SCHEDULE 40 PIPE, MANUFACTURED TO ASTM A-135 STANDARDS.

THREADED FITTINGS:

STANDARD WEIGHT PATTERN SCREWED FITTINGS - CAST IRON THREADED, CLASS 125 (STANDARD), MANUFACTURED PER ANSI B16.4, U.L. LISTED FOR FIRE PROTECTION TO 175 PSI.

WELDED OUTLETS:

GROOVED OR THREADED OUTLETS ON MAINS OR LINES SHALL BE WELDED BRANCH OUTLET FITTINGS, MERIT WELD MISER TEE-LET, UL/FM APPROVED TO 300 PSI FOR FIRE PROTECTION.

GROOVED SHAPE NIPPLES CONSTRUCTED OF MATERIALS WITH WALL THICKNESS SAME AS SYSTEM PIPING.

GROOVED FITTINGS:

GROOVED FITTINGS - SHORT PATTERN, UL/FM APPROVED TO 300 PSI FOR FIRE PROTECTION SERVICE.

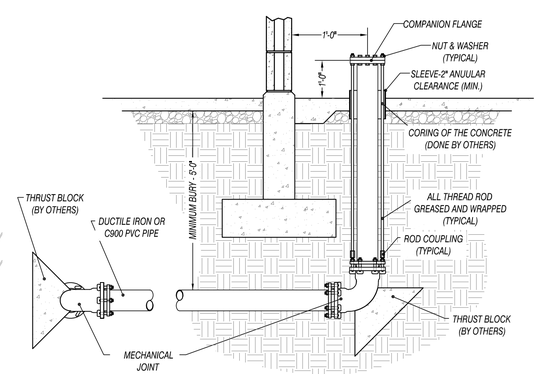
UNLESS REQUIRED FOR SYSTEM FLEXIBILITY, COUPLINGS ARE RIGID COUPLINGS, UL/FM APPROVED TO 300 PSI FOR FIRE PROTECTION SERVICE. GASKETS ARE "GRADE E (TYPE A)" EPDM RUBBER COMPOUND, RATED @ -30°F TO +150°F.

FLANGED FITTINGS:

FLANGED FITTINGS (WHERE USED) - CAST IRON, CLASS 125 (STANDARD), MANUFACTURED PER ANSI B16.1 AND MARKED 125. FLANGES ARE FACED AND DRILLED AMERICAN NATIONAL STANDARD. UL LISTED FOR PROTECTION TO 175 PSI.

GENERAL INSTALLATION AND TESTING:

ALL NEW PIPING SHALL BE HYDROSTATICALLY TESTED FOR TWO HOURS IN ACCORDANCE WITH NFPA 13, 2016, 25.2.1.1 MINIMUM HYDROSTATIC TEST PRESSURE SHALL BE 200 PSI.



2 FP1 UNDERGROUND DETAIL
N.T.S

CLARK R. MACKAY
NICET CERT. NO.166838 EXPIRES 01/01/2021
AUTOMATIC SPRINKLER SYSTEM LAYOUT / LEVEL III

MARK	DESCRIPTION	DATE	APPR.
1	SUBMITTAL	11/20/19	
2	65% SUBMITTAL	01/15/20	
3	100% SUBMITTAL	03/17/20	
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: CLARK MACKAY
DWN BY: CRM
CKD BY: BRIAN
SUBMITTED BY: NICET CLARK MACKAY #166838
DATE: 20 NOVEMBER 2019
CONTRACT NO.: F-A4697-14-D-X003
PLOT SCALE: AS NOTED
PLOT DATE: 3/17/2020
FILE NUMBER: 1U37-A0000835
FILE NAME: ANSI D FIRE SPRINKLER F-001.dwg

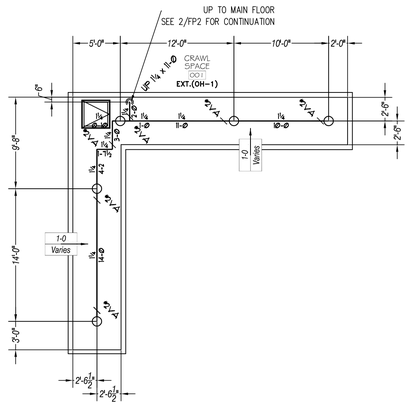
3050 CESNCEN
MOUNTAIN HOME AIR FORCE BASE

DELTA FIRE SYSTEMS, INC.

CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

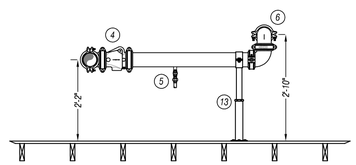
SITE PLAN AND GENERAL NOTES

F-001
SHEET 30 OF 31



CRAWL SPACE FIRE SPRINKLER PLAN

1 / FP2 SCALE: 1/8" = 1'-0"

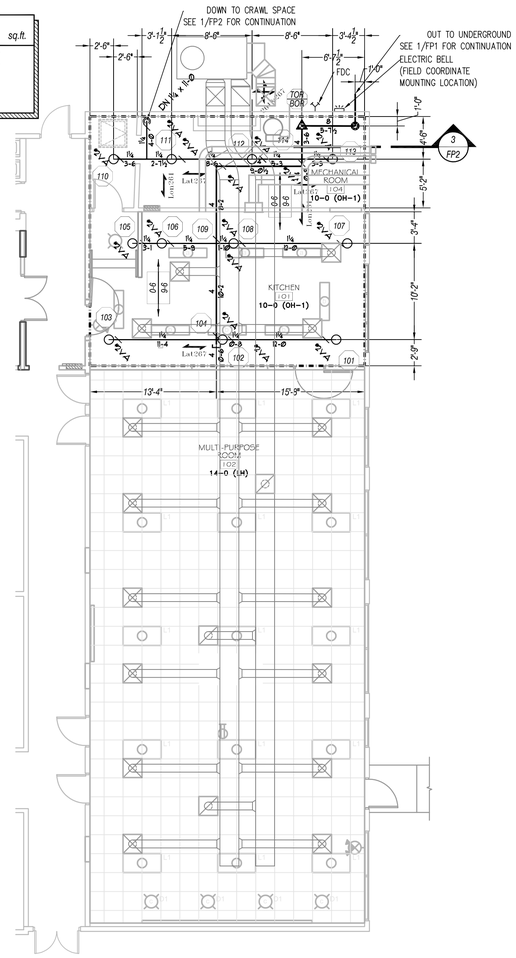


CRAWL SPACE

FDC DETAIL

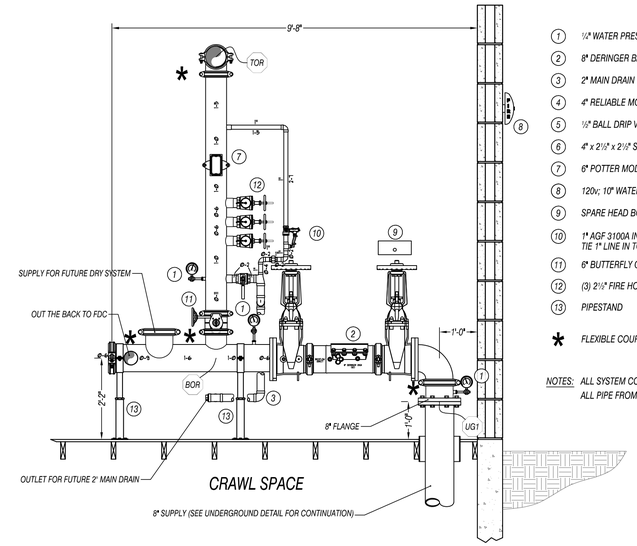
4 / FP2 SCALE: 1/2" = 1'-0"

CALC#: 1	
DENSITY: .15	/ 773 sq.ft.
GPM: 231.93	
PSI: 20.834	
LOCATION: BOR	
OUTSIDE HOSE: 250	
INSIDE HOSE: -	



MAIN FLOOR FIRE SPRINKLER PLAN

2 / FP2 SCALE: 1/8" = 1'-0"



CRAWL SPACE

1. ½" WATER PRESSURE. GAGE & 3-WAY TEST VALVE
2. 8" DERINGER BACKFLOW PREVENTER w/ OS&Y VALVES AND TAMPER SWITCHES
3. 2" MAIN DRAIN VALVE
4. 4" RELIABLE MODEL 'G' GROOVED SWING CHECK VALVE
5. ½" BALL DRIP VALVE CONNECT TO 2" MAIN DRAIN
6. 4" x 2½" x 2½" SINGLE CLAPPER ROUGH BRASS FIRE DEPT CONNECTION
7. 6" POTTER MODEL VSR WATER FLOW SWITCH
8. 120v; 10" WATER FLOW ALARM BELL w/ WATERPROOF BACK BOX
9. SPARE HEAD BOX WITH 12 REPRESENTATIVE HEADS
10. 1" AGF 3100A INSPECTOR'S TEST VALVE w/ ½" TEST ORIFICE TIE 1" LINE IN TO 2" MAIN DRAIN LINE & RUN TO DAYLIGHT
11. 6" BUTTERFLY CONTROL VALVE w/TAMPER SWITCH
12. (3) 2½" FIRE HOSE VALVES w/CAP AND CHAINS
13. PIPESTAND

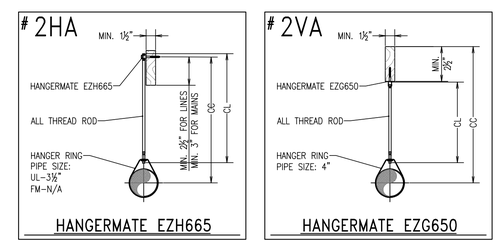
* FLEXIBLE COUPLING

NOTES: ALL SYSTEM CONTROL VALVES TO HAVE TAMPER SWITCHES
ALL PIPE FROM FLANGE TO FIRST VALVE IS TO BE GALVANIZED PIPE

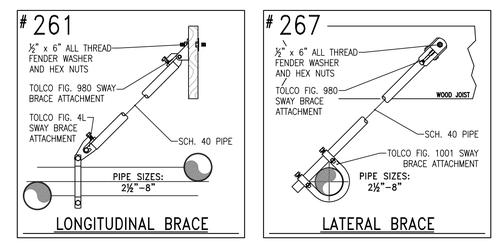
RISER DETAIL

3 / FP2 SCALE: 1/2" = 1'-0"

HANGER DETAILS



E.Q. BRACING DETAILS



SYMBOL LEGEND

WET PIPE RISER	FLEXIBLE GROOVED COUPLING	Main ?	MAIN PIPE IDENTIFIER
DRY PIPE RISER	RIGID GROOVED COUPLING	00	BRANCHLINE NUMBER
RISER SYMBOL	THREADED PIPE COUPLING	00	HYDRAULIC CALCULATION REFERENCE (NODE) POINT
DELUGE VALVE RISER	CONTROL VALVE	0'-0"	CEILING ELEVATION
FIRE DEPARTMENT CONNECTION	CHECK VALVE	100'-0"	ELEVATION DATUM
FIRE HYDRANT	PIPE "RISE" / "DROP"	0-00 / 0-00	PIPE ELEVATION BELOW DECK / ABOVE FLOOR
ELECTRIC ALARM BELL	DROP WITH FLEXIBLE PIPE ARM-OVER		
EXTERIOR HORN / STROBE	HANGER LENGTH (INCHES)		
BRANCHLINE RESTRAINT	HANGER TYPE		
SWAY BRACING	PIPE HANGER SYMBOL		

SPRINKLER LEGEND

SYMBOL	MAKE	MODEL	SIN #	STYLE	K-FACTOR	THREAD	TEMP.	HEAD FINISH	CANOPY	CANOPY FINISH	QUANTITY
○	Reliable	F1FR56	RA1425	Upright	5.6	½"	200°	Brass	N/A	N/A	16
											-
											-
											-
											-
											-
											-
											-
											-
16	TOTAL PROJECT SPRINKLERS			CENTER OF TILE: ☐ YES ☐ NO				TOTAL SPRINKLERS THIS SHEET ONLY			16

HYDRAULIC SUPPLY INFORMATION

☑ SYSTEM(S) HYDRAULICALLY DESIGNED ☐ SYSTEM(S) NOT HYDRAULICALLY DESIGNED

41 STATIC (PSI) 40 RESIDUAL (PSI) 4074 GPM FLOWING

TEST DATE: 09/19/2018

TEST LOCATION: Desert St. & Gunfighter Ave.

BY: Awson Nowka

☐ REDUCED BY: - FROM AVAILABLE

☐ FIRE PUMP – SEE PUMP DATA

CLARK R. MACKAY
NICET CERT. NO.100828 EXPIRES 01/01/2021
AUTOMATIC SPRINKLER SYSTEM LAYOUT / LEVEL III

MARK	DESCRIPTION	DATE	APPR.
1	SUBMITTAL	11/20/18	
2	65% SUBMITTAL	01/15/20	
3	100% SUBMITTAL	03/17/20	
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

DESIGNED BY: CLARK MACKAY
DWN BY: CRM
CKD BY: BRIAN
SUBMITTED BY: NICET CLARK MACKAY#100828
DATE: 20 NOVEMBER 2019
CONTRACT NO.: FA4897-14-D-3003
PLOT SCALE: 1:1
PLOT DATE: 11/20/2019
AS NOTED
FILE NUMBER: 1037-0000835
FILE NAME: FIRE SPRINKLER F-001.dwg

360 CESKEDEN
MOUNTAIN HOME AIR FORCE BASE

DELTA FIRE SYSTEMS INC.

CHAPEL KITCHEN RENOVATION, FACILITY 2606
MOUNTAIN HOME AIR FORCE BASE
IDAHO

FIRE SPRINKLER PLAN & RISER AND HANGER DETAILS

F-002
SHEET 31 OF 31