

ROOM FINISH SCHEDULE										
ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				CEILING	WINDOW TREATMENT	REMARKS
				NORTH	EAST	SOUTH	WEST			
139	HALLWAY	EXISTING	EXISTING	EXISTING	EXISTING	METAL PANEL	METAL PANEL	EXPOSED STRUCT./7: AT-1; GWPB-6	--	SEE CEILING PLAN FOR CEILING TYPE LOC.
141A	RECEIVING	RES-1	RES-1	HWC-1P-1	HWC-1P-1	HWC-1P-1	HWC-1P-1	AT-1	--	HWC-1 INSTALLED ABOVE BASE TO 52" AFF
141B	TRASH / RECYCLING HOLDING	RES-1	RES-1	HWC-1P-1	HWC-1P-1	HWC-1P-1	HWC-1P-1	AT-1	--	HWC-1 INSTALLED ABOVE BASE TO 52" AFF
141B	MECH	RES-1	RES-1	P-5	P-5	P-5	P-5	EXPOSED STRUCT.	--	
141C	CORRIDOR	WSF-1	RB-1	RWP-1P-1	RWP-1P-1	RWP-1P-1	HWC-2P-1	AT-1	--	RWP-1 INSTALLED ABOVE BASE TO 48" AFF HWC-1 INSTALLED ABOVE BASE TO 52" AFF
142	DISHWASH / POTS & PANS	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	AT-2	--	HWC-2 INSTALLED FULL HEIGHT
142A	SOILED CARTS	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	AT-2	--	HWC-2 INSTALLED FULL HEIGHT
143	KITCHEN	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	AT-2	WT-1	HWC-2 INSTALLED FULL HEIGHT
143A	DRY STORAGE	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	AT-1	--	HWC-2 INSTALLED FULL HEIGHT
143B	COOLER	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	--	
143C	FREEZER	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	--	
144	COMM.	WSF-1	RB-1	P-1	P-1	P-1	P-1	AT-1	--	
144A	SHARED OFFICE	WSF-1	RB-1	P-1	P-1	P-1	P-3	AT-1	WT-2	P-3 ON WINDOW WALL
144B	SHARED OFFICE	WSF-1	RB-1	P-1	P-1	P-1	P-1	AT-1	WT-2	P-3 ON WINDOW WALL
144C	OFFICE	WSF-1	RB-1	P-1	P-1	P-1	P-1	AT-1	WT-2	DPP-1 AT COLUMNS AND SOFFITS
180	DINING	WSF-1	RB-1	P-1	P-1	P-2	RWP-2	AT-1 & DPP-1	--	
180	CORRIDOR	WSF-1	RB-1	P-1	P-1	--	P-1	GWPB-2	--	
181	SERVING / GRAB & GO	RES-1 & WSF-1	RES-1 & RB-1	HWC-2 & P-1	HWC-2 & P-1	HWC-2 & P-1	HWC-2 & P-1	AT-1 & AT-2; GWPB-2	--	SERVING: RES-1, HWC-2 FULL-HT. AT-2 GRAB & GO: WSF-1, P-1, AT-1
181A	DRY STORAGE	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	AT-2	--	HWC-2 INSTALLED FULL HEIGHT
182	ELEC RM	RES-1	RB-1	P-5	P-5	P-5	P-5	AT-1	--	
183	KITCHEN HAC	PT-1	PT-1 Wall Base	PT-2/SC-1	PT-2/SC-1	PT-2/SC-1	PT-2/SC-1	AT-1	--	PT-2 INSTALLED TO 48" AFF
188	RETAIL	WSF-1	RB-1	P-1	P-1	P-1	P-1	AT-1	--	
188A	RETAIL RECEIVING / STORAGE	WSF-1	RB-1	P-5	P-5	P-5	P-5	AT-1	WT-2	
189	COFFEE VENDING & CATERING STORAGE	WSF-1	RB-1	P-5	P-5	P-5	P-5	AT-1	--	
190	WORKROOM	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	WT-2	
191	OFFICE	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	WT-2	
192	OFFICE	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	WT-2	
193	OFFICE	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	WT-2	
194	PREP	RES-1	RES-1	HWC-2	HWC-2	HWC-2	HWC-2	HWC-2	--	HWC-2 INSTALLED FULL HEIGHT
194A	COOLER	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	--	
194B	FREEZER	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	--	
195	OFFICE	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	--	
196	SHARED OFFICE	WSF-1	RB-1	P-3	P-1	P-1	P-1	AT-1	--	
197	HAC	PT-1	PT-1 Wall Base	PT-2/SC-1	PT-2/SC-1	PT-2/SC-1	PT-2/SC-1	AT-2	--	PT-2 INSTALLED TO 48" AFF
198	LOUNGE/LOCKERS	WSF-1	RB-1	P-1	P-1	P-1	P-3	AT-1	WT-1	
198A	STAFF TOILET	PT-1	PT-1 Wall Base	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	AT-1	--	
198B	STAFF TOILET	PT-1	PT-1 Wall Base	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	AT-1	--	
198C	STAFF TOILET	PT-1	PT-1 Wall Base	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	PT-2/PT-3	AT-1	--	
199A	BIO-HAZARD COOLER	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	ST STEEL PANEL	--	
C10	VENDING	WSF-1	RB-1	DPP-1	RWP-2	DPP-1	--	DPP-1	--	DPP-1 AT COLUMNS AND SOFFITS

COLOR AND MATERIAL SCHEDULE										
ABBR CODE	Material	Manufacturer	Number	Style	Name	Number	Name	Size	Finish	Installation Notes
06 2000 - FINISH CARPENTRY										
DPP-1	Decorative Protection Panels	Fomica				5883H-58	Pecan Woodline		58 Matte	Dining 180/Serve 181 Columns, Soffits, and Wall Below South Counter - See Plans
PL-1	Plastic Laminate	Fomica				5883	Pecan Woodline		58 Matte	Casework
S-1	Solid Surface	LG H-Macs				M322	Shadow Concrete	1/2" Thick		Window Sills
S-2	Solid Surface	LG H-Macs				1009	Milky Way	1/2" Thick		Countertops
TRIM-5	HardStop Aluminum Trim	Fomica	AT200/1013		Outside Corner	103	Dark Bronze			Outside corners of DPP-1 on Columns and Wall Below South Counter
08 8733 - WINDOW FILM										
AWF-1	Architectural Window Film	3M			Fasara	SH2MAMM	Milky Milky			South windows of Dining 180
09 3000 - TILING										
GT-1	Grout	Bostik			TuColor RapidCure	925	TEC Sable		3/16" Joint	Restrooms - Floor Tile and Base
GT-2	Grout	Bostik			TuColor RapidCure	938	TEC Mat		3/16" Joint	Restrooms - Walls
PT-1	Porcelain Tile	Daltile			Porcelo	NT11	Noce	12" x 24"		Restroom - Floor Tile & Base
PT-2	Porcelain Tile	Daltile			Articulo	AR09	Column Grey	6" x 18"	Matte Rectangular	Restroom Wall Tile - Installed Horizontal
PT-3	Porcelain Tile	Daltile			Museo	MU37	Grey Mix	12" x 24"	Matte	Restroom Wall Accent
TRIM-1	Metal Trim	Schluter Systems	IN100AE		Index Recess Corner Trim		Polished Chrome Anodized Aluminum	3/8" - Installer to verify		Toilets
TRIM-2	Metal Trim	Schluter Systems	AHK		Dilex		Anodized Aluminum	3/8" - Installer to verify		Toilets
TRIM-3	Metal Trim	Schluter Systems			Scheine		Stainless Steel			Use where floor materials of same heights
TRIM-4	Metal Trim	Schluter Systems			Reno		Stainless Steel			Use where Floor Materials of different heights meet
09 5100 - ACOUSTICAL CEILINGS										
AT-1	Acoustical Ceiling Tile	Armstrong			Corlega - Angled Tegalur	704	White	24" x 24"		See Room Finish Schedule
AT-2	Acoustical Ceiling Tile	Armstrong	668		Clean Room VL		White	24" x 24"		Square Lay-in See Room Finish Schedule
09 6500 - RESILIENT FLOORING										
RB-1	Resilient Base	Johnsontite	700 Series		Thermoplastic Rubber/Vinyl Blend	32	Pebble	4"		Use premade inside and outside corners See Room Finish Schedule
RES-1	Resilient Flooring	Tennent Coatings			Eco-CRETE SF with decorative quartz broadcast; Eco-URE, Eco-HTS 100 Top-Coat Mortar at slope to drain. ReVue CRM		Eco-Crete; Gray Quartz Blend; Coconut			
TS-1	Transition Strip	Johnsontite	CRS-32-8		Reducer	32	Pebble			
WSF-1	Welded Seam Sheet Flooring	Interface			Continual Woodgrains	A04003	Cool Grey Oak			Coordinating Weld Rod Color 1123357
09 9000 - PAINTING AND COATINGS										
P-1	Paint	Benjamin Moore			Ultra Spec Scuff-X 487	210	DV Hidden Cove		Semi-Gloss	See Room Finish Schedule
P-2	Paint	Diamond Vogel			Ultra Spec Scuff-X 487	506	DV Ocean Storms		Semi-Gloss	See Room Finish Schedule
P-3	Paint	Diamond Vogel			Zero Plus 0 VOC Interior Latex	504	Indian Teas/In The Blue		Semi-Gloss	Accent Wall in Breakroom and Offices
P-4	Paint	Sherwin Williams	666W 651		Pro Industrial Semi-Gloss	218	DV Drilling Sand		Semi-Gloss	Door Frames
P-5	Paint	Diamond Vogel			Ultra Spec Scuff-X 487	559	DV Always Neutral		Semi-Gloss	See Room Finish Schedule
P-6	Paint	Diamond Vogel			Zero Plus 0 VOC Interior Latex	SW 7077	Sherwin Williams Original White		Semi-Gloss	GWB Ceilings and Soffits
P-7	Paint	Diamond Vogel			CoteALL 340 Multi-Purpose Enamel	A2-8437	Bronze		Satin	Recycling 199: New and exist. catask framing and railings. Hall 199 and Loading Dock: New and exist. struct. framing, and exposed metal deck. Loading Dock: Railings: Doors/Frames: 139A & 139B, 141 & 180 (exterior face), & 199
SC-1	Specialty Glazed Coating	Sherwin Williams	B73W00311		Pro Industrial Water Based Epoxy		Match Paint P-5			See Room Finish Schedule
SC-2	Specialty Glazed Coating	Sherwin Williams	B73W00311		Pro Industrial Water Based Epoxy		Match Paint P-6			See Room Finish Schedule
10 2600 - WALL PROTECTION										
CG-1	Corner Guards	Pawling	CG-51		90° Stainless Steel Corner Guard		Stainless Steel	2" W x .059" Thick 8" H U.O.N.	#4 Satin Finish	Install at top of base. Corners as noted on the plans.
EG-1	End Guard	Inpro Corporation	SSEW-FM		Stainless Steel Flush Mount End Wall Protector		Stainless Steel	3" D, .060" Thick	#4 Satin Finish	Width to match wall thickness. Install floor to ceiling or header. As noted on the plans.
HWC-1	Hygienic Wall Cladding	Inpro Corporation	61010		San-Surface Hygienic Wall Cladding		0386	Ion		See Room Finish Schedule
HWC-2	Hygienic Wall Cladding	Inpro Corporation	61010		San-Surface Hygienic Wall Cladding		0384	Natural White		See Room Finish Schedule
RWP-1	Rigid Sheet Wall Protection	Inpro Corporation	Sheet- 406; Top Cap: P-3DHTC2		Palladium Rigid Vinyl Sheet and 3D Trim	Sheet: 0119; Top Cap: 95207	Pattern: Prairie; Color: Blue Grey		Matte	Trim with Horizontal Top Cap Board. 4'-0" AFF As noted on the plans.
RWP-2	Rigid Sheet Wall Protection	Inpro Corporation			Apex Wall Protection	A223				Full height of wall. As noted on the plans.
RWP-3	Rigid Sheet Wall Protection	Inpro Corporation			Apex Wall Protection	Image: T.J.WFv6X	Image: The Art Around You, Around Land, Dogwood/2020		Matte	Full height of wall. As noted on the plans.
RWP-4	Rigid Sheet Wall Protection	Inpro Corporation			Apex Wall Protection	Image: i-2x2CtGN	Image: The Art Around You, Around Land, Dogwood/2020		Matte	Full height of wall. As noted on the plans.
WG-1	Wall Guard	Inpro Corporation	NT-140		NuTree Wall Guard	05	Weather Wood	8"H		Install 6" AFF to bottom. As noted on the plans.
12 2400 - WINDOW SHADES										
WT-1	Roller Shades	Insroll			Mesa Solar Screen Fabric		Beige/Pearl Grey	1% Openness		Clutch Shade with Bead Loop, Bronze Fascia at Dining only See Room Finish Schedule
WT-2	Roller Shades	Insroll			Mesa Solar Screen Fabric		Charcoal/Alpaca	1% Openness		Clutch Shade with Bead Loop, Open Roll See Room Finish Schedule

2			ADDENDUM 01			10-09-2026		
1			ISSUE SET			08-18-2026		
Revision#			Description			Date:		

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-325-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 651-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 100
Sioux Falls, SD 57103
Phone: 605-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP

REGISTERED ARCHITECT
STATE OF SOUTH DAKOTA
6-18-2026

Office of
Construction
and Facilities
Management

VA

U.S. Department
of Veterans Affairs

Drawing Title

FINISH SCHEDS AND PLANS

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
08-18-2026

Checked
BH

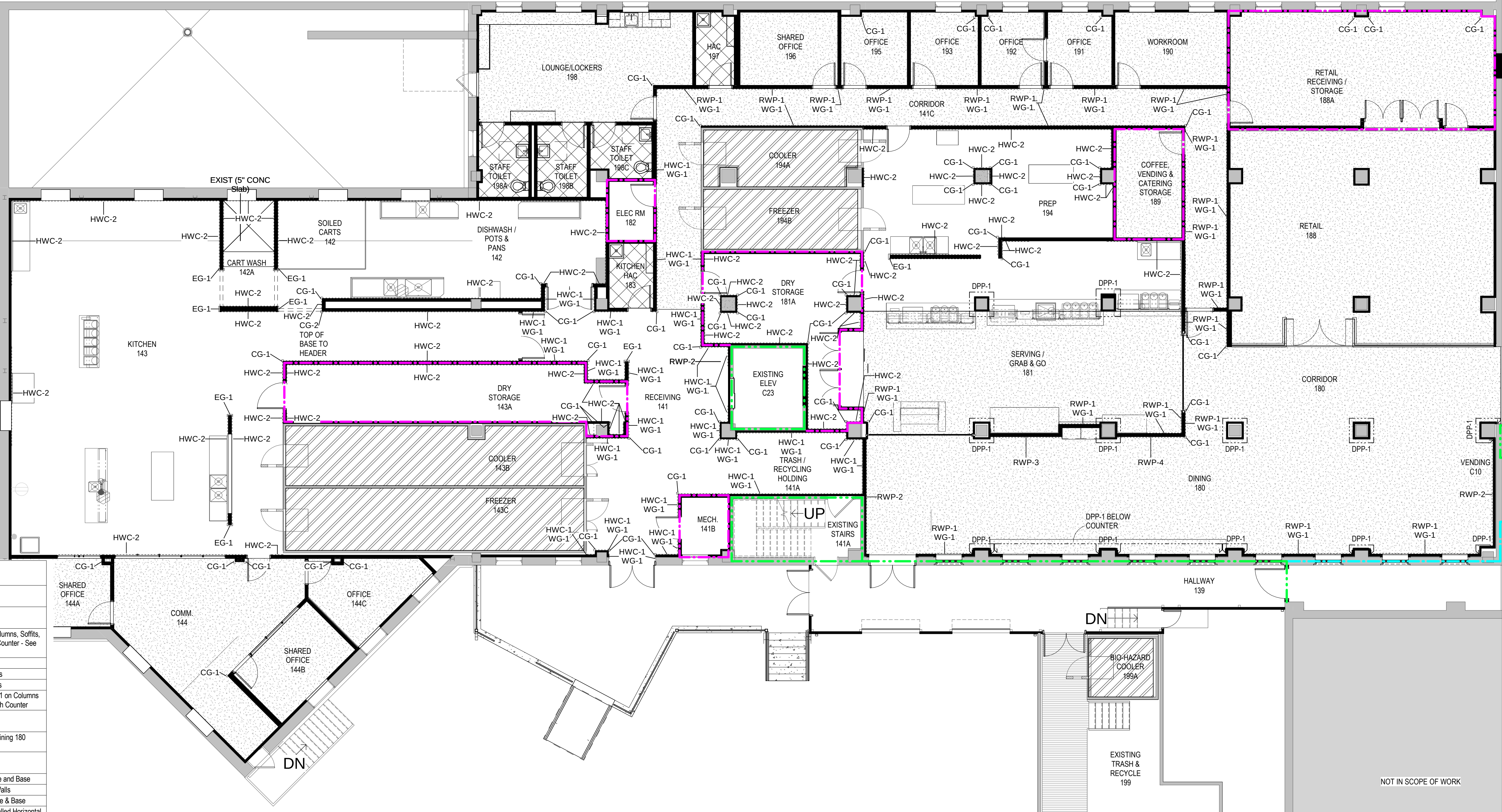
Drawn
JHMA

Project Number
VA #438-21-403
SGA #201956

Building Number
5

Drawing Number

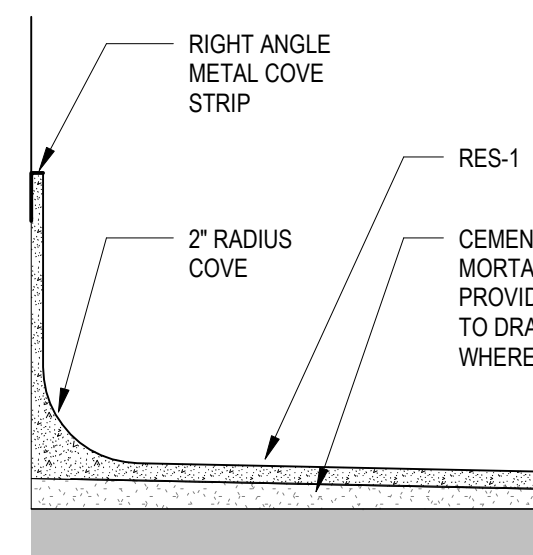
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1ST LEVEL FINISH PLAN

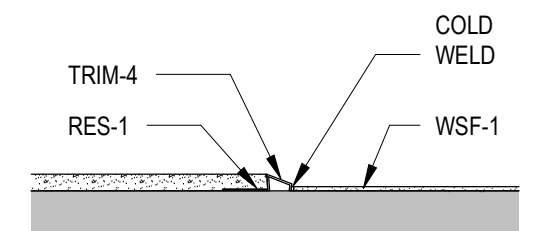
1/8" = 1'-0"

NORTH



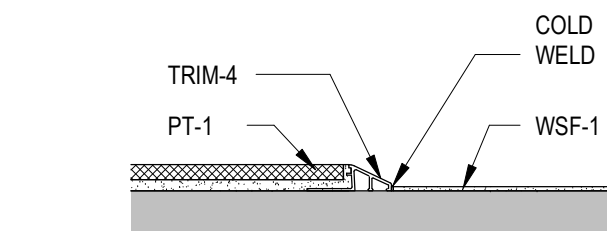
D5 RES-1 COVE BASE

3" = 1'-0"



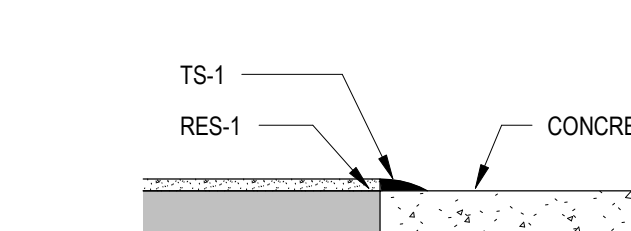
E5 RES-1 TO WSF-1

3" = 1'-0"



E6 PT-1 TO WSF-1

3" = 1'-0"



E7 RES-1 TO CONCRETE

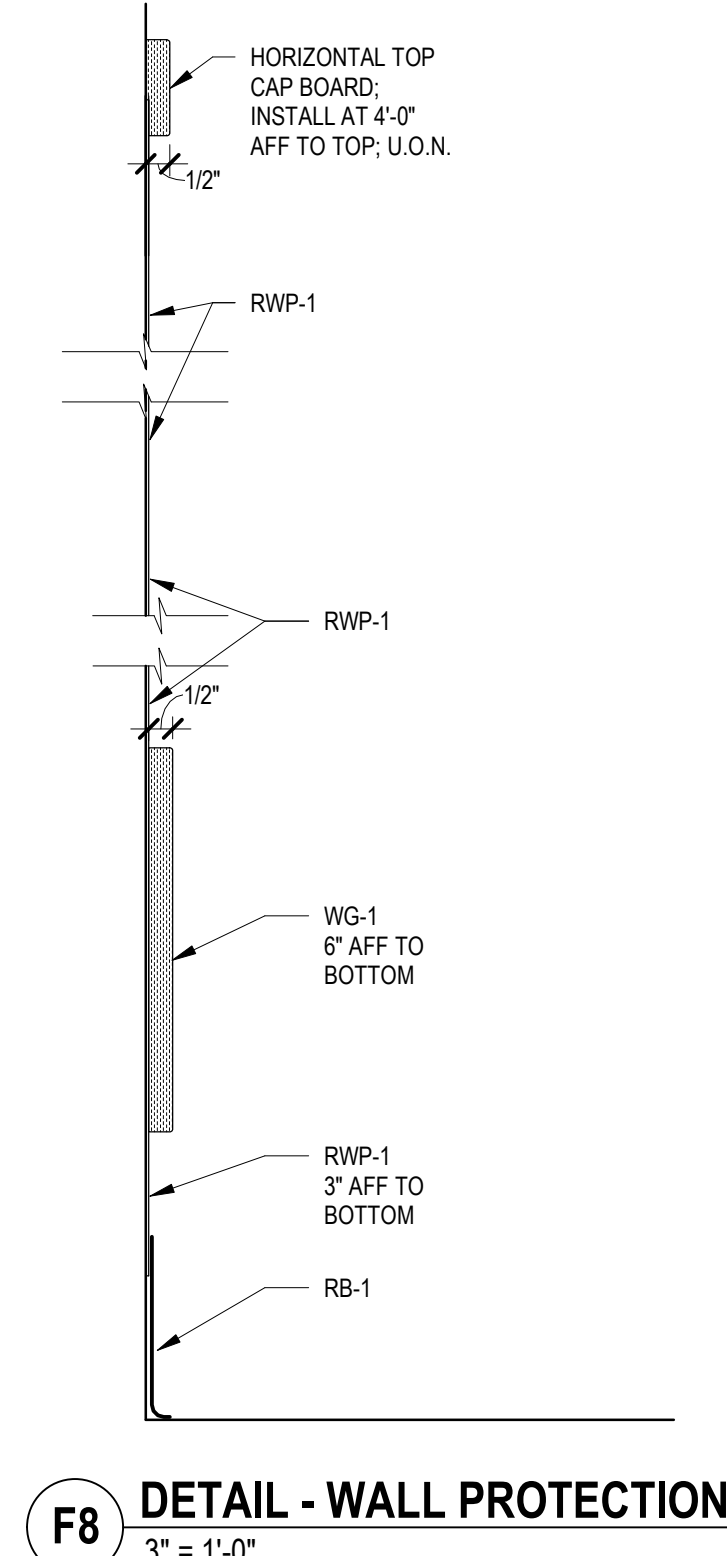
3" = 1'-0"

NOTES

- G.W.B. CONTROL JOINTS SHALL BE INSTALLED PER THE LATEST EDITION OF GA-216 AND ASTM C840 UNLESS NOTED OTHERWISE.
- JOINTS IN FLOORING TILE SHOULD MATCH UP WITH JOINTS IN CONC. SLABS AND ADDITIONAL JOINTS TO BE CUT IF NECESSARY. VERIFY WITH ARCHITECT.
- SEE FLOOR COVERING PLANS FOR FLOOR PATTERNS.
- ALL INTERIOR G.W.B. WALLS AND CEILINGS SHALL RECEIVE A LEVEL 3 FINISH WITH LIGHT ORANGE PEEL TEXTURE U.O.
- FLOOR MATERIAL TRANSITIONS SHALL OCCUR @ CENTER OF DOOR, TYP.
- ROOM SIGNAGE TO BE INSTALLED PER ADA GUIDELINES AT EACH DOOR. OWNER-PROVIDED. CONTRACTOR-INSTALLED.
- BASIS OF DESIGN AS IDENTIFIED ON COLOR AND MATERIAL SCHEDULE. ARCHITECT APPROVAL REQUIRED.

FLOOR FINISH LEGEND

- RESINOUS FLOORING (RES-1)
- WELDED SEAM SHEET FLOORING (WSF-1)
- HYGIENIC WALL CLADDING (HWC-1 OR HWC-2); RIGID SHEET WALL PROTECTION (RWP-1) WITH WALL GUARD (WG-1); OR FULL-HEIGHT RIGID SHEET WALL PROTECTION (RWP-2, RWP-3 OR RWP-4) WHERE INDICATED
- PORCELAIN TILE (PT-1)
- STAINLESS STEEL COOLER/FREEZER PANEL FLOORING (ST STEEL PANEL)
- CORNER GUARD (CG-1) & END GUARD (EG-1)



F8 DETAIL - WALL PROTECTION</

Three inches = one foot

one and one half inches = one foot

one inch = one foot

Three quarters inch = one foot

one half inch = one foot

one quarter inch = one foot

one eighth inch = one foot

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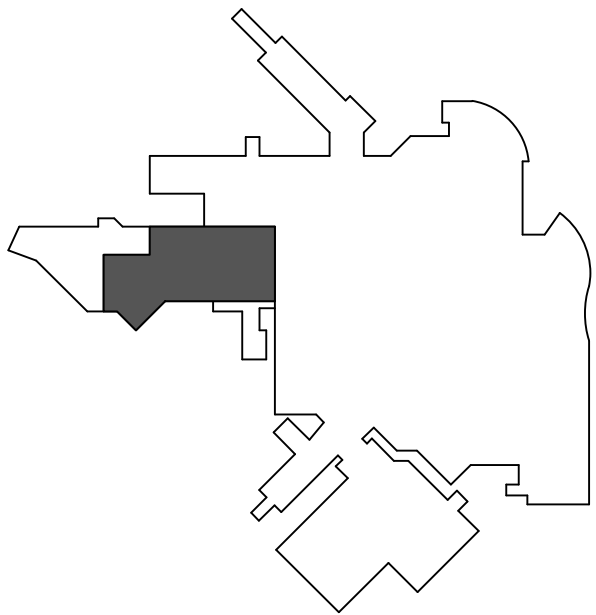
* FOR VISUALIZATION PURPOSES ONLY. FINAL INSTALLATION MAY DIFFER.



* FOR VISUALIZATION PURPOSES ONLY. FINAL INSTALLATION MAY DIFFER.



* FOR VISUALIZATION PURPOSES ONLY. FINAL INSTALLATION MAY DIFFER.



KEYPLAN
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			CONSULTANTS		ARCHITECT OF RECORD		STAMP		Office of Construction and Facilities Management		Drawing Title 3D IMAGES		Phase		Project Title RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER		Project Number VA #438-21-403 SGA #201956	
			CIVIL: Ulteig Ulteig Engineers, Inc. 5701 South Corporate Place Sioux Falls, SD 57108 Phone: 605-323-2306		STRUCTURAL: ERA ERICKSEN ROED Ericksen Roed Associates 2550 University Ave W Suite 423 S St. Paul, MN 55402 Phone: 651-251-7570		MEP: DUNHAM Dunham Associates, Inc. 50 South Sixth St Suite 1100 Minneapolis, MN 55402 Phone: 612-465-7550		FOOD SERVICE: RIPPE ASSOCIATES Foodservice Design + Consulting Rippe Associates 10400 Yellow Circle Dr Suite 100 Minneapolis, MN 55343 Phone: 952-933-0313		STONE GROUP ARCHITECTS Stone Group Architects, Inc. 600 East 7th Street Sioux Falls, SD 57103 Phone: 605-271-1144				U.S. Department of Veterans Affairs		Approved:	
			2 ADDENDUM 01 10-09-2026		1 ISSUE SET 08-18-2026												Issue Date 08-18-2026	
			Revision#		Description		Date										Checked BH	
																	Drawn JH/MA	
																	A-901	



VA FORM 08 - 6231

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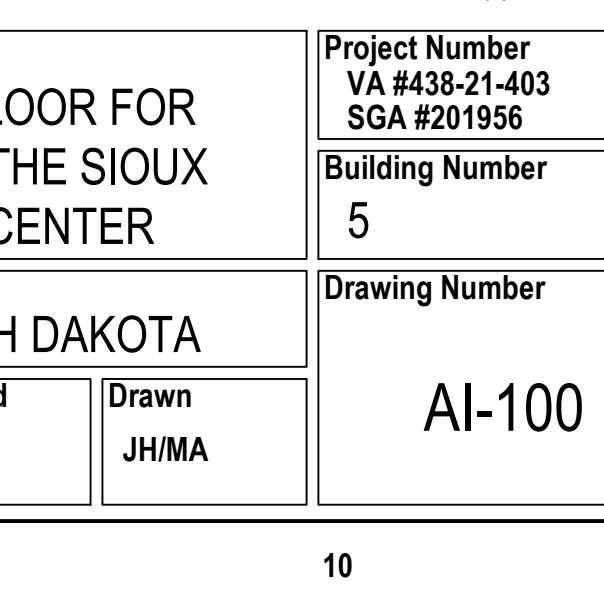
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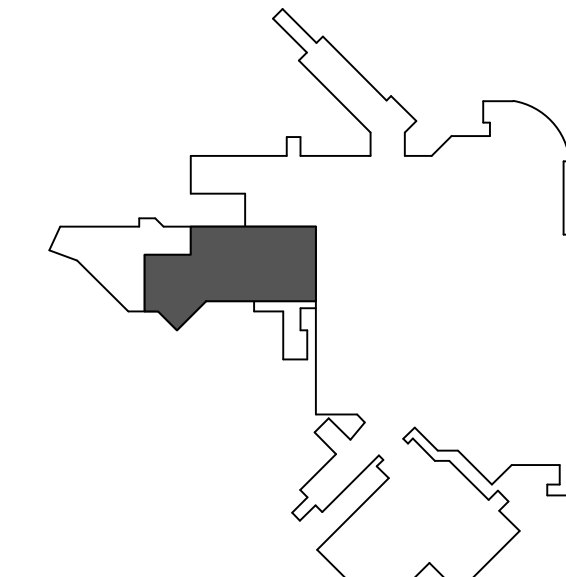
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 U.S. Department of Veterans Affairs	Office of Construction and Facilities Management	Drawing Title EQUIPMENT SCHEDULE	Phase
		Approved:	



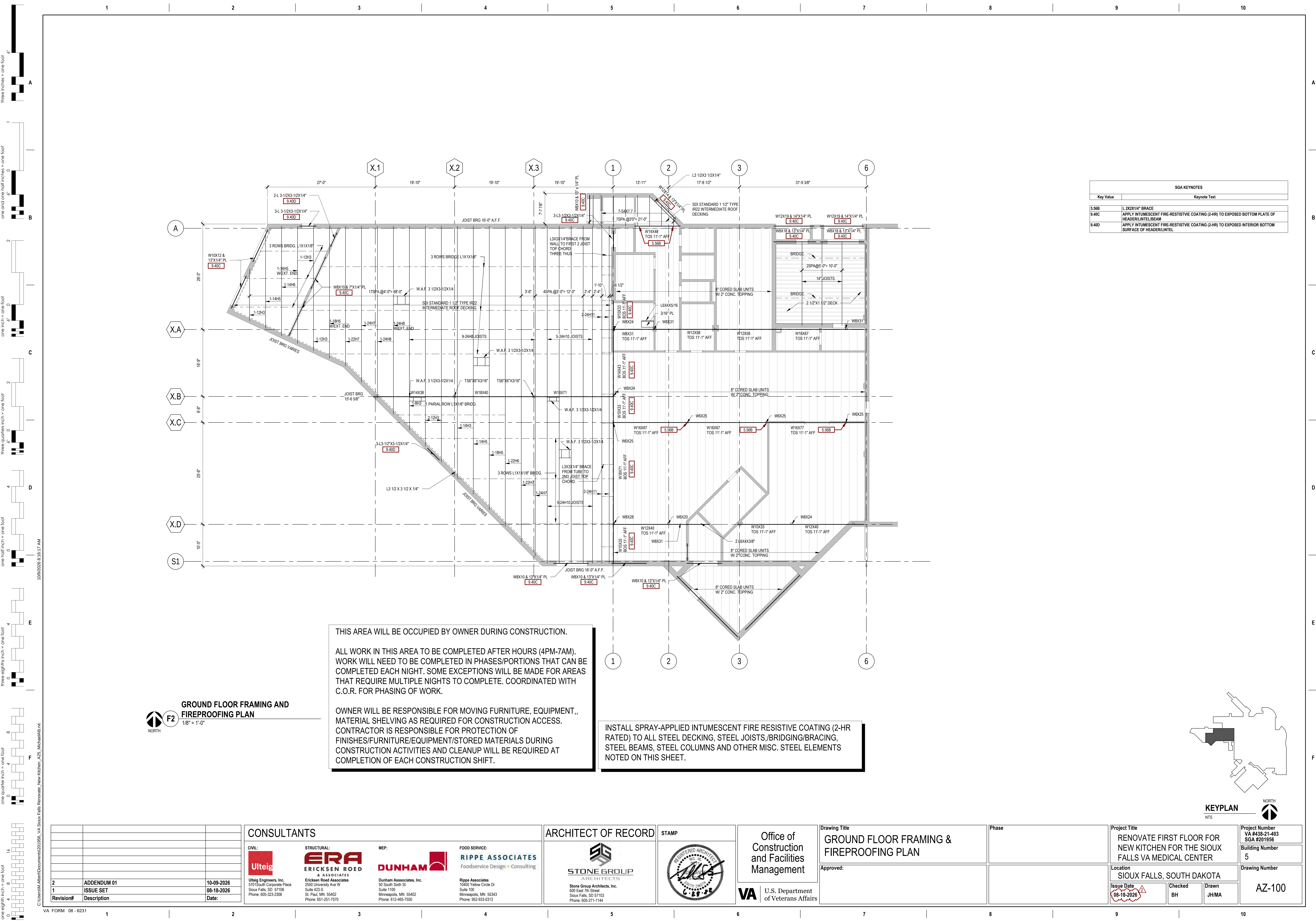


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SGA KEYNOTES	
Key Value	Keynote Text
5.568	L 2X2X1/4" BRACE
9.40C	APPLY INTUMESCENT FIRE-RESISTIVE COATING (2-HR) TO EXPOSED BOTTOM PLATE OF HEADER/LINTEL/BEAM
9.40D	APPLY INTUMESCENT FIRE-RESISTIVE COATING (2-HR) TO EXPOSED INTERIOR BOTTOM SURFACE OF HEADER/LINTEL

THIS AREA WILL BE OCCUPIED BY OWNER DURING CONSTRUCTION.

ALL WORK IN THIS AREA TO BE COMPLETED AFTER HOURS (4PM-7AM). WORK WILL NEED TO BE COMPLETED IN PHASES/PORTIONS THAT CAN BE COMPLETED EACH NIGHT. SOME EXCEPTIONS WILL BE MADE FOR AREAS THAT REQUIRE MULTIPLE NIGHTS TO COMPLETE. COORDINATED WITH C.O.R. FOR PHASING OF WORK.

OWNER WILL BE RESPONSIBLE FOR MOVING FURNITURE, EQUIPMENT,, MATERIAL SHELVING AS REQUIRED FOR CONSTRUCTION ACCESS. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF FINISHES/FURNITURE/EQUIPMENT/STORED MATERIALS DURING CONSTRUCTION ACTIVITIES AND CLEANUP WILL BE REQUIRED AT COMPLETION OF EACH CONSTRUCTION SHIFT.

INSTALL SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING (2-HR RATED) TO ALL STEEL DECKING, STEEL JOISTS, BRIDGING/BRACING, STEEL BEAMS, STEEL COLUMNS AND OTHER MISC. STEEL ELEMENTS NOTED ON THIS SHEET.

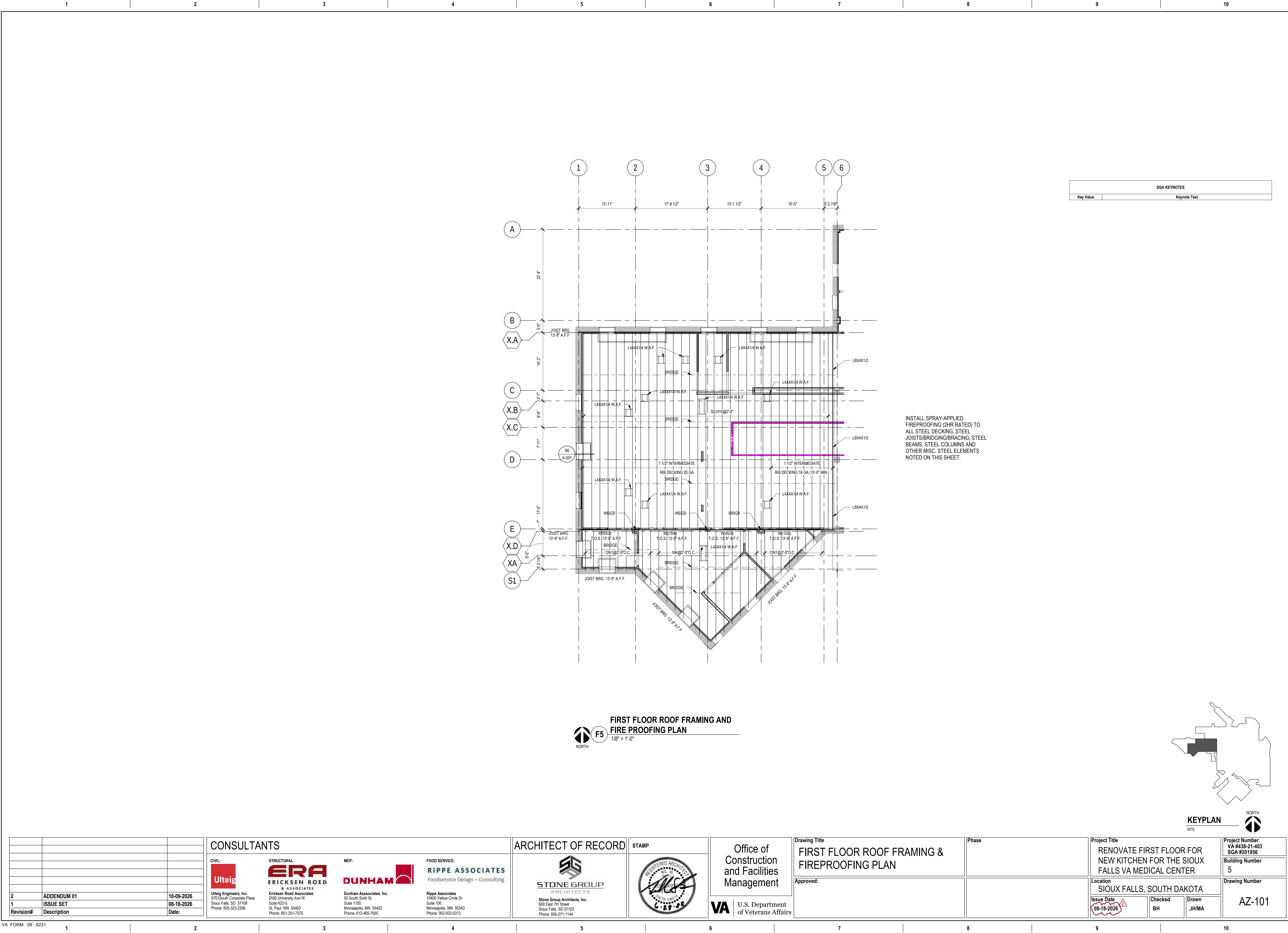
GROUND FLOOR FRAMING AND FIREPROOFING PLAN
F2
1/8" = 1'-0"

KEYPLAN
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one eighth inch = one foot
one quarter inch = one foot
three eighths inch = one foot
one half inch = one foot
three quarters inch = one foot
one inch = one foot
one and one half inches = one foot
three inches = one foot

C:\Users\MM\OneDrive\Documents\2019\VA Sioux Falls Renovation\New Kitchen_A25_MichaelA25.rvt
10/9/2024 8:16:17 AM



Revision#	Description	Date:
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS		
CIVIL: Ulteig Ulteig Engineers, Inc. 5701 South Corporate Place Sioux Falls, SD 57108 Phone: 605-323-2306	STRUCTURAL: ERA ERICKSEN ROED Ericksen Roed Associates 2550 University Ave W Suite 423 S St. Paul, MN 55402 Phone: 612-251-7570	MEP: DUNHAM Dunham Associates, Inc. 50 South Sixth St Suite 1100 Minneapolis, MN 55402 Phone: 612-465-7550
FOOD SERVICE: RIPPE ASSOCIATES Foodservice Design + Consulting Rippe Associates 10400 Yellow Circle Dr Suite 100 Minneapolis, MN 55343 Phone: 952-933-0313		

ARCHITECT OF RECORD	STAMP
STONE GROUP ARCHITECTS Stone Group Architects, Inc. 600 East 7th Street Sioux Falls, SD 57103 Phone: 605-271-1144	

Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs

Drawing Title FIRST FLOOR ROOF FRAMING & FIREPROOFING PLAN
Approved:

Phase

Project Title RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER
Location SIOUX FALLS, SOUTH DAKOTA
Issue Date 08-18-2026
Checked BH
Drawn JH/MA

Project Number VA #438-21-403 SGA #201956
Building Number 5
Drawing Number AZ-101

2 FOODSERVICE EQUIPMENT PLAN - CONDENSING UNITS
1/4" = 1'-0"

CONSULTANTS

ARCHITECT OF RECORD

Drawing Number

FS102

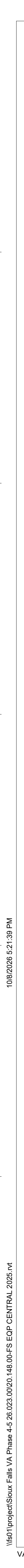


Diagram illustrating the CF/CI labels and their associated values:

- Top cloud: CF/CI labels, associated with value 2.
- Bottom cloud: CF/CI labels, associated with value 2.

STAMP



REGISTERED ARCHITECT
IND. NO. 1153
SOUTH DAKOTA
6.29.22

CONSULTANTS

CIVIL:	STRUCTURAL:	MEP:	FOOD SERVICE:
			
Ulteig Engineers, Inc. 270 South Corporate Place Sioux Falls, SD 57108 Phone: 605-332-2306	ERICKSEN ROED & ASSOCIATES Ericksen Roed Associates 2520 University Ave W Suite 423-S St. Paul, MN 55402 Phone 651-251-7570	Dunham Associates, Inc. 31 South 36th St Suite 1100 Minneapolis, MN 55401 Phone 612-465-7550	RIPPE ASSOCIATES Foodservice Design • Consulting Rippe Associates 2800 American Boulevard W Suite 315 Minneapolis, MN 55413 Phone 952-933-0343

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A circular professional seal for a Registered Architect in South Carolina. The outer ring contains the text "REGISTERED ARCHITECT" at the top and "SOUTH CAROLINA" at the bottom. Inside the ring, the text "REG. NO." is at the top, "J. H. HARRIS" is in the center, and "6-29-25" is at the bottom. The seal is crossed out with a large, bold, diagonal "X".

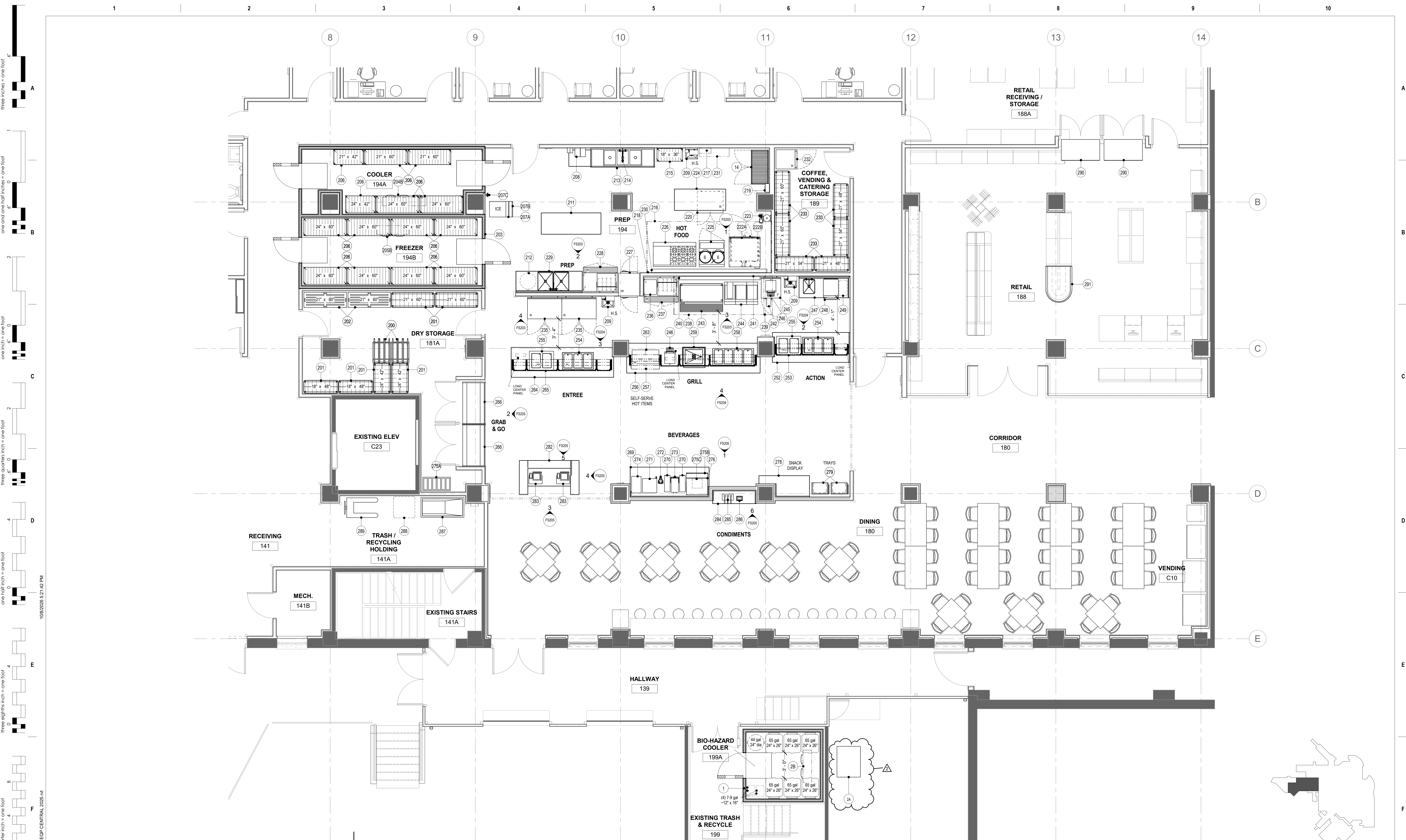
Drawing Title

**FOODSERVICE EQUIPMENT
SCHEDULE - VCS**

Approved:

Project Title RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER		
Location SIOUX FALLS, SOUTH DAKOTA		
Issue Date 8-18-2026	Checked JA	Drawn ZS

Project Number VA #438-21-403 SGA #201956
Building Number 5
Drawing Number FS103



1 FOODSERVICE EQUIPMENT PLAN - VCS KITCHEN
1/4" = 1'-0"

Revision#	Description	Date
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 612-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
3600 American Boulevard W
Suite 315
Minneapolis, MN 55413
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title
FOODSERVICE EQUIPMENT PLAN - VCS

Approved:

Phase

Project Title
RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
8-18-2026

Checked
JA

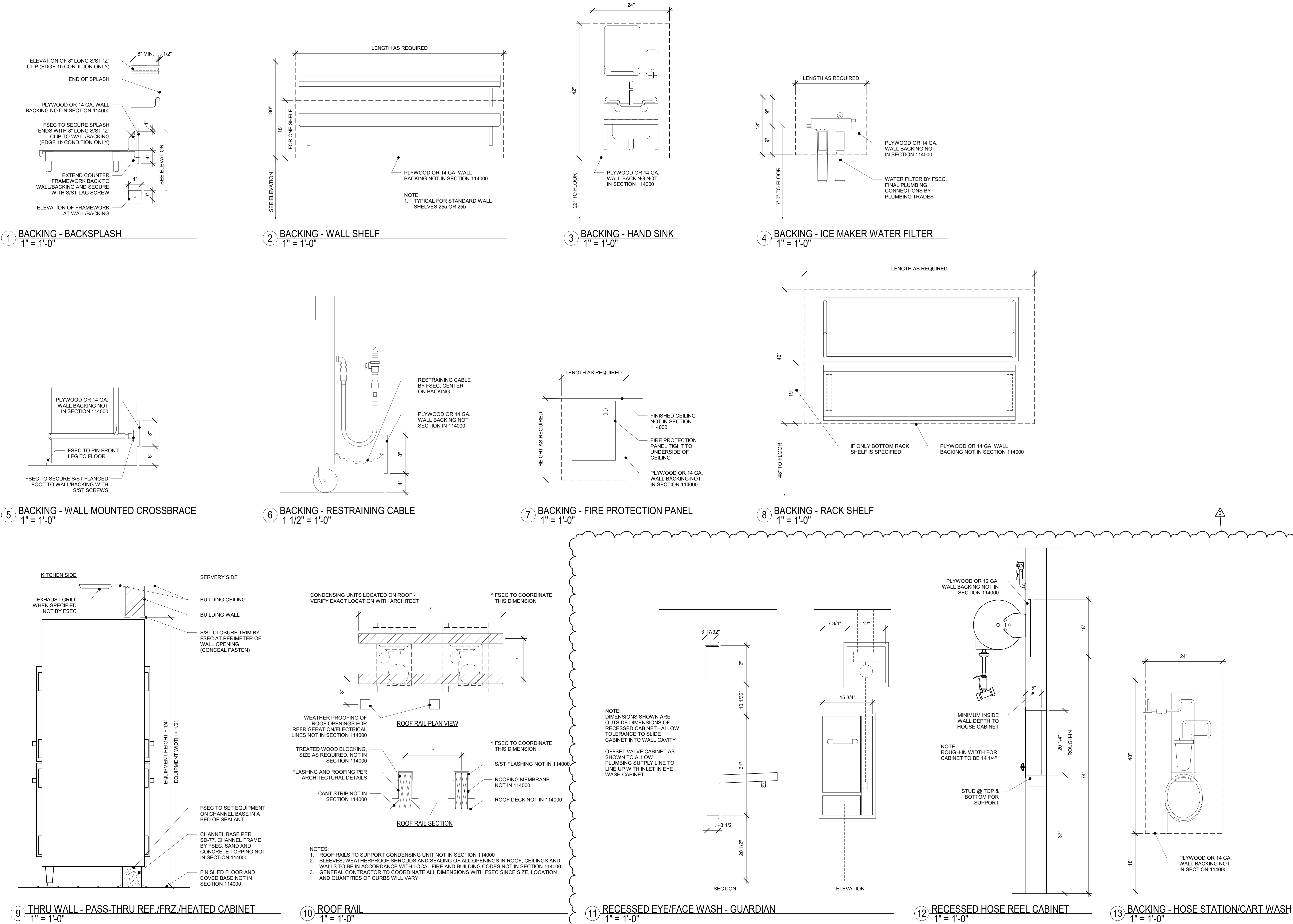
Drawn
ZS

Project Number
VA #438-21-403
SGA #201956

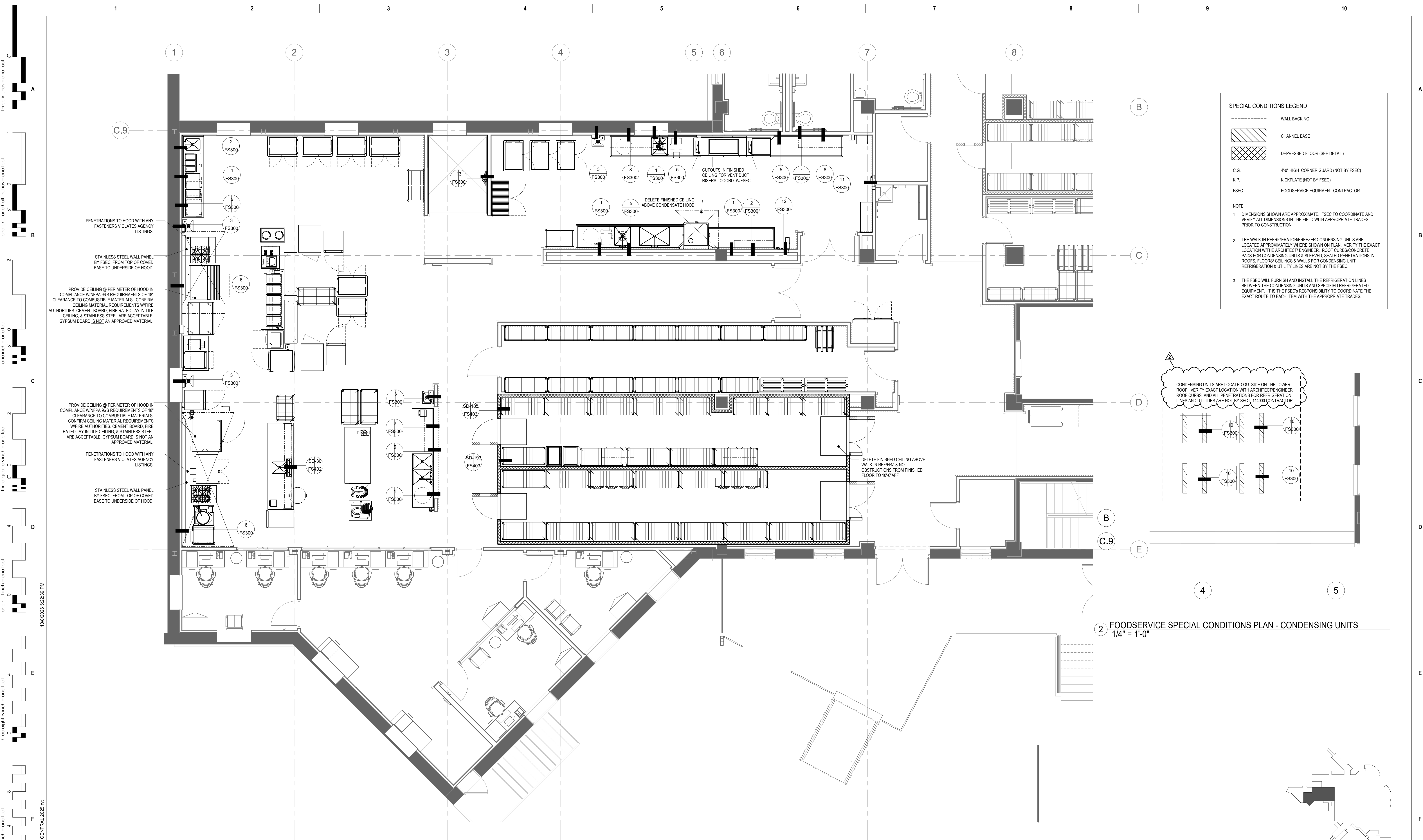
Building Number
5

Drawing Number
FS104

one eighth inch = one foot
one quarter inch = one foot
three eighths inch = one foot
one half inch = one foot
one inch = one foot
one and one half inches = one foot
two inches = one foot
three inches = one foot
four inches = one foot
five inches = one foot
six inches = one foot
seven inches = one foot
eight inches = one foot
nine inches = one foot
ten inches = one foot
eleven inches = one foot
twelve inches = one foot
thirteen inches = one foot
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fifteen inches = one foot
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seventeen inches = one foot
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eighty inches = one foot
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ninety three inches = one foot
ninety four inches = one foot
ninety five inches = one foot
ninety six inches = one foot
ninety seven inches = one foot
ninety eight inches = one foot
ninety nine inches = one foot
one hundred inches = one foot



CONSULTANTS			ARCHITECT OF RECORD			Office of Construction and Facilities Management			Project Title			Project Number		
CIVIL: Ulteig			STRUCTURAL: ERA ERICKSEN ROED			MEP: DUNHAM			RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER			VA #438-21-403 SGA #201956		
Ulteig Engineers, Inc. 5701 South Corporate Place Sioux Falls, SD 57108 Phone: 605-323-2306			Erickson Reed Associates 2550 University Ave W Suite 423 S St. Paul, MN 55402 Phone: 612-251-7570			Dunham Associates, Inc. 50 South Sixth St Suite 315 Minneapolis, MN 55413 Phone: 612-465-7550			Location SIOUX FALLS, SOUTH DAKOTA			Building Number 5		
FOOD SERVICE: RIPPE ASSOCIATES Foodservice Design + Consulting			STONE GROUP ARCHITECTS			Drawing Title FOODSERVICE EQUIPMENT SPECIAL CONDITIONS DETAILS			Issue Date 8-18-2026			Drawing Number FS300		
2 ADDENDUM 01 10-09-2026			1 ISSUE SET 08-18-2026			Approved:			Checked JA			Drawn ZS		
Revision# Description Date:			Stamp			U.S. Department of Veterans Affairs			Phase					



1 FOODSERVICE SPECIAL CONDITIONS PLAN - NFS KITCHEN
1/4" = 1'-0"

2 FOODSERVICE SPECIAL CONDITIONS PLAN - CONDENSING UNITS
1/4" = 1'-0"

Revision#	Description	Date
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 651-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
3600 American Boulevard W
Suite 315
Minneapolis, MN 55413
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144



Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs

Drawing Title
**FOODSERVICE EQUIPMENT
SPECIAL CONDITIONS PLAN - NFS**

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
8-18-2026

Checked
JA

Drawn
ZS

Project Number
VA #438-21-403
SGA #201956

Building Number
5

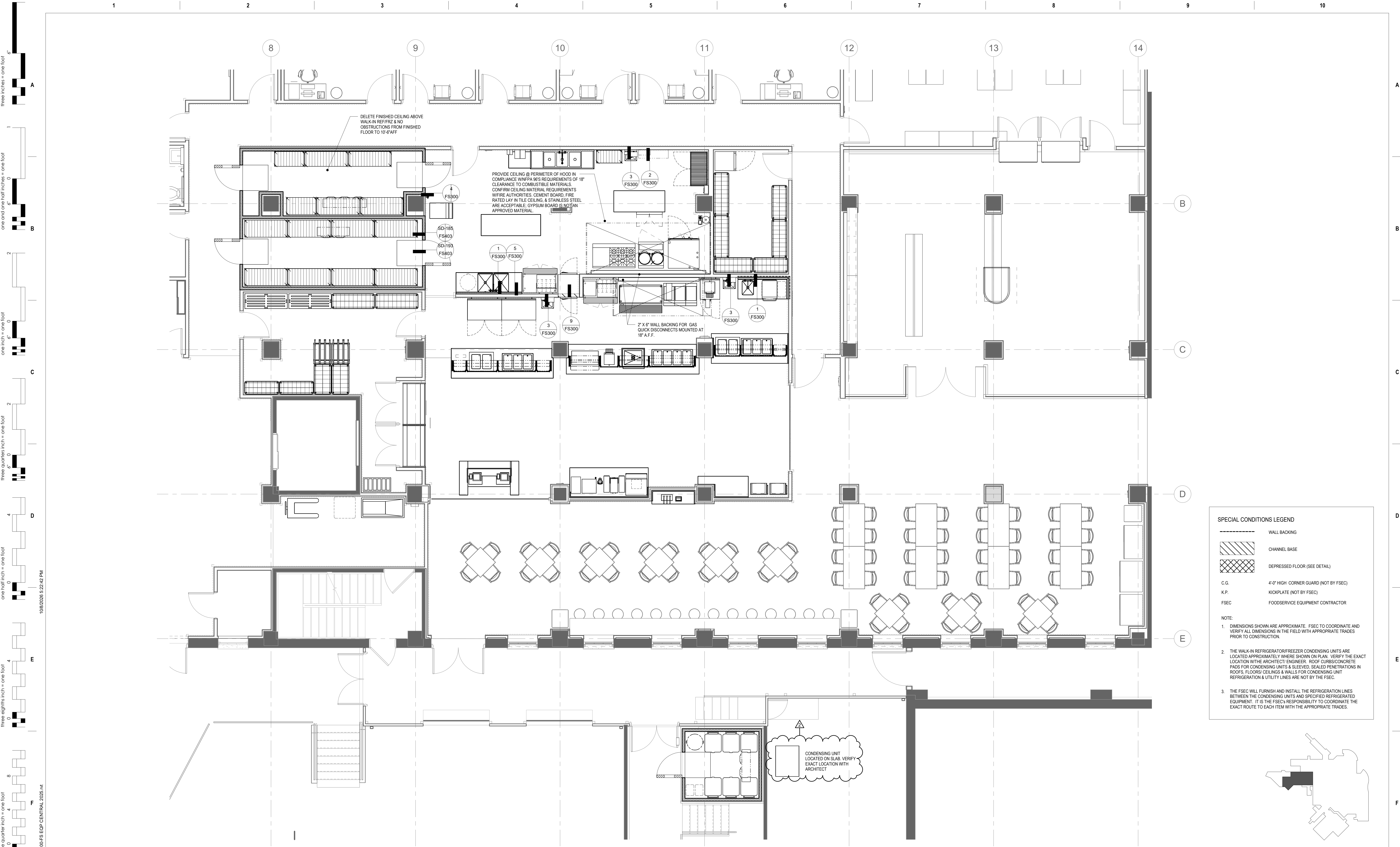
Drawing Number
FS301

KEYPLAN
NTS

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VA FORM 08 - 6231



1 FOODSERVICE SPECIAL CONDITIONS PLAN - VCS KITCHEN
1/4" = 1'-0"

Revision#	Description	Date
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 612-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1101
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
3600 American Boulevard W
Suite 315
Minneapolis, MN 55413
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP



Office of
Construction
and Facilities
Management



U.S. Department
of Veterans Affairs

Drawing Title
**FOODSERVICE EQUIPMENT
SPECIAL CONDITIONS PLAN - VCS**

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
8-18-2026

Checked
JA

Drawn
ZS

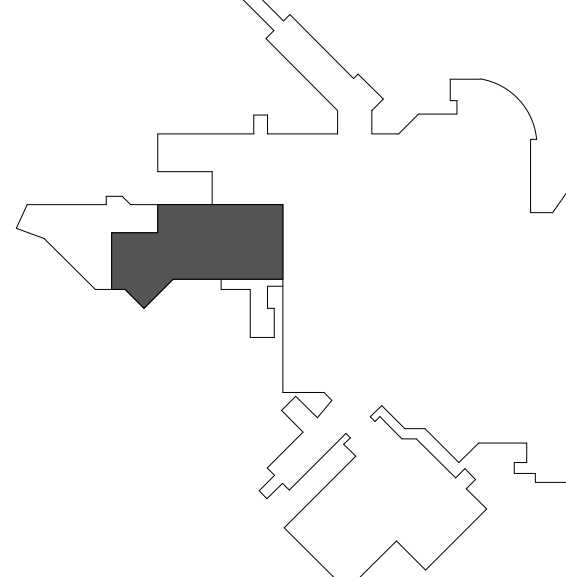
Project Number
**VA #438-21-403
SGA #201956**

Building Number
5

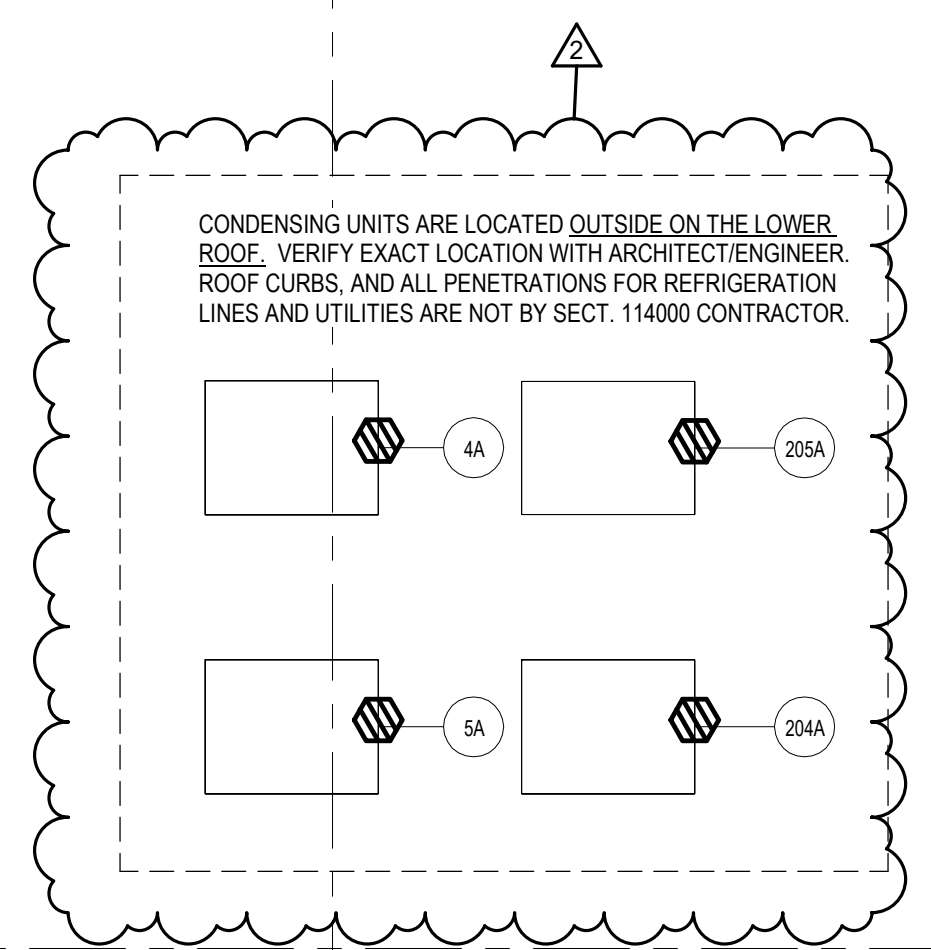
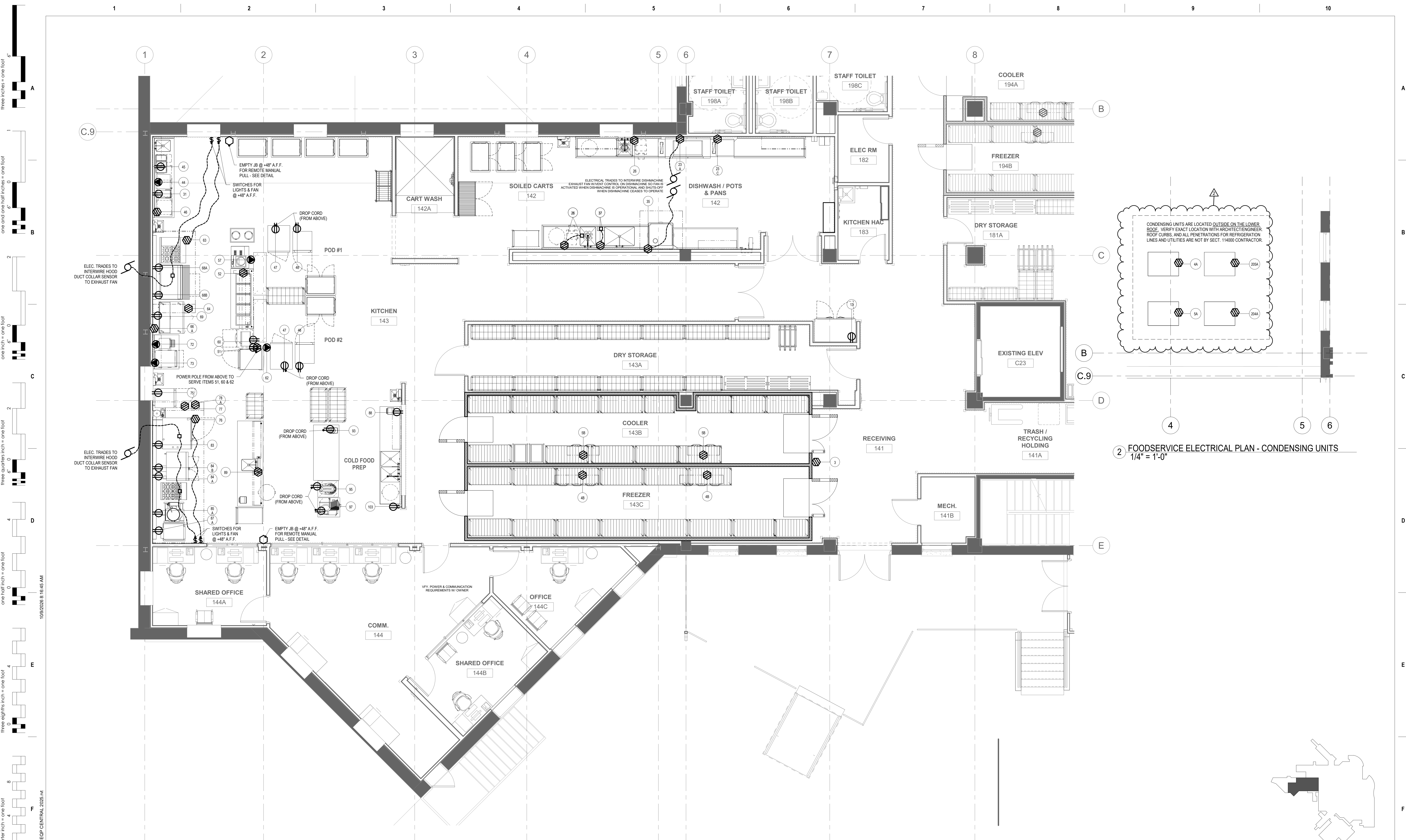
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KEYPLAN

NTS



VA FORM 08 - 6231



2 FOODSERVICE ELECTRICAL PLAN - CONDENSING UNITS
1/4" = 1'-0"

1 FOODSERVICE ELECTRICAL PLAN - NFS KITCHEN
1/4" = 1'-0"

2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026
Revision#	Description	Date

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 651-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
3600 American Boulevard W
Suite 315
Minneapolis, MN 55413
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title
FOODSERVICE EQUIPMENT ELECTRICAL PLAN - NFS

Approved:

Phase

Project Title
RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
8-18-2026

Checked
JA

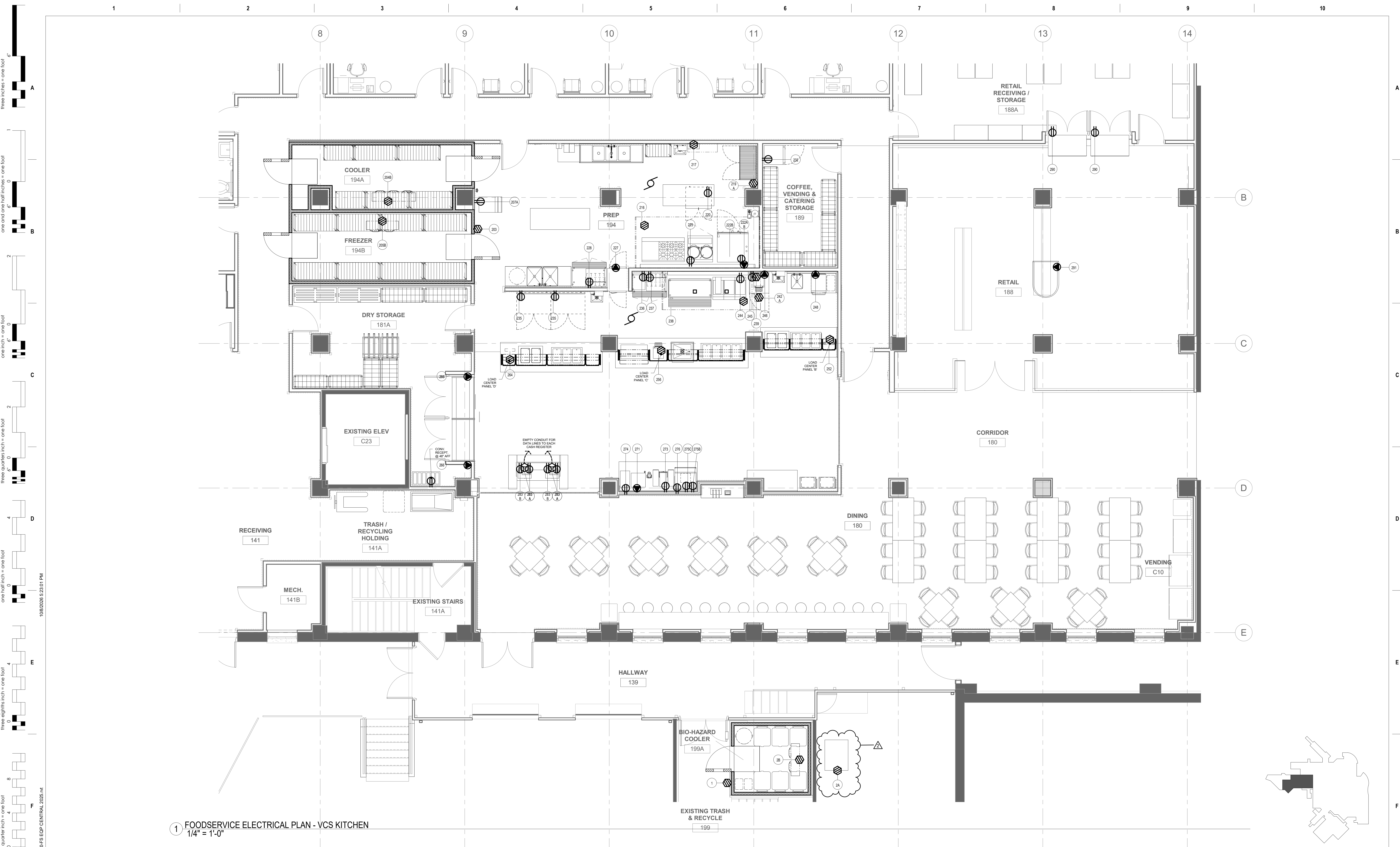
Drawn
ZS

Project Number
**VA #438-21-403
SGA #201956**

Building Number
5

Drawing Number
FSE102

VA FORM 08 - 6231
10/9/2026 8:16:45 AM
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1 FOODSERVICE ELECTRICAL PLAN - VCS KITCHEN
1/4" = 1'-0"

KEYPLAN
NTS

Revision#	Description	Date
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026
0		

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

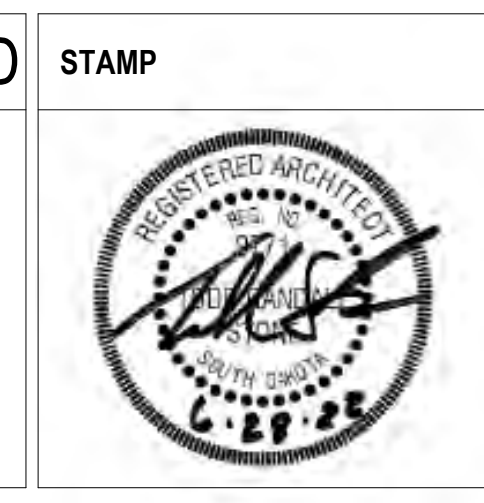
STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 651-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
3600 American Boulevard W
Suite 315
Minneapolis, MN 55413
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144



Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs

Drawing Title
**FOODSERVICE EQUIPMENT
ELECTRICAL PLAN - VCS**

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
8-18-2026

Checked
JA

Drawn
ZS

Project Number
**VA #438-21-403
SGA #201956**

Building Number
5

Drawing Number
FSE103

VA FORM 08 - 6231

GENERAL NOTES:

- A. CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDES. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
- B. CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH WORK SHIFT SHOULD BE ASSUMED IN THE BASE BID SCOPE.
- C. ANY MAJOR OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR DURING WEEKEND PERIODS TO MINIMIZE HOSPITAL DISRUPTION. VA HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE.
- D. COORDINATE ALL NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE ADEQUATE CLEARANCES FOR ELECTRICAL CONDUIT, HVAC DUCTWORK & PIPING, STRUCTURAL SUPPORTS, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS & TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- E. THE EXACT LOCATION OF EQUIPMENT ROUGH-INS SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION. NOTIFY ENGINEER OF ANY SIGNIFICANT VARIANCES.
- F. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. DO NOT SUPPORT ANY PIPING FROM DUCTWORK, CONDUIT OR OTHER PIPING ENCOUNTERED.
- G. WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED OR DISTURBED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.
- H. ALL EXISTING PIPING THROUGH NEW FIRE RATED WALLS SHALL BE ADEQUATELY FIRE SEALED AS REQUIRED. PIPING PENETRATIONS THROUGH INTERSTITIAL FLOOR SHALL BE DRILLED OR CUT BY THE CONTRACTOR AND FIRE SEALED AS REQUIRED.
- I. ALL CORE DRILLING OR ANY ACTIVITIES CAUSING EXTREME VIBRATION OR NOISE SHALL BE COORDINATED TO BE PERFORMED AFTER BUSINESS HOURS TO NOT AFFECT CRITICAL HOSPITAL FUNCTIONS IN ADJACENT AREAS. COORDINATE WITH VA REPRESENTATIVE.
- J. THE SMALLEST ALLOWABLE PIPE SIZE FOR HEATING WATER SUPPLY AND RETURN WILL BE 3/4" DIAMETER. UNLESS NOTED OTHERWISE, HEATING WATER SUPPLY AND RETURN PIPING TAKE-OFFS TO INDIVIDUAL REHEAT COILS SHALL BE A MINIMUM OF 3/4" DIAMETER.
- K. PROVIDE 1/2" DRAIN VALVE AT NEW HEATING WATER SUPPLY AND RETURN PIPE LOW POINTS, DOWNSTREAM OF ISOLATION VALVES. LARGER EQUIPMENT SUCH AS AHU COILS AND HEAT EXCHANGERS SHALL BE PROVIDED WITH LARGER 2" DRAINS TO EXPEDITE PROCESS.
- L. ALL STEAM PIPING TAKE-OFFS TO INDIVIDUAL PIECES OF EQUIPMENT SHALL BE OFF THE TOP OF STEAM MAINS. HEATING WATER SUPPLY AND RETURN PIPING TAKE-OFFS SHALL ALSO BE OFF THE TOP OR SIDE OF PIPING WHEREVER POSSIBLE.
- M. THERMOSTATS AND HUMIDISTATS SHOWN ARE ALL TO BE NEW DDC DEVICES AND BE INTEGRATED INTO BAS BY THE CONTROL CONTRACTOR. EXISTING PNEUMATIC DEVICES NO LONGER IN USE SHALL HAVE ALL TUBING REMOVED COMPLETELY.
- N. ALL CONTRACTORS TO REFERENCE THE INFECTION CONTROL NOTES IDENTIFIED WITHIN THE VENTILATION GENERAL NOTES ON THESE DRAWINGS. CONFORM TO ALL ICRA REQUIREMENTS.
- O. CONTRACTOR SHALL MAINTAIN ACCURATE RECORD DRAWINGS SHOWING ALL DISCREPANCIES WITH ANY EXISTING PIPING INDICATED OR REVISIONS TO THE HVAC PIPING LAYOUTS. ALL CHANGES WILL BE UPDATED WITHIN THE FINAL RECORD DRAWING SET.
- P. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALL OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

KEY NOTES:

- 1 DEMO TERMINAL UNIT AND CONNECTED PIPING BACK TO MAIN.
- 2 DEMO WALK-IN COOLER EVAPORATOR COIL AND ASSOCIATED PIPING AND ACCESSORIES. RECLAIM ALL REFRIGERANT AND DISPOSE AS REQUIRED PRIOR TO EQUIPMENT REMOVAL.
- 3 REMOVE EXISTING COMPRESSORS FOR WALK-IN COOLER AND FREEZERS. REMOVE ALL PIPING, DRAINS, WATER CONNECTIONS FOR HEAT REJECTION. ELECTRICAL, AND CONTROLS WIRING AS REQUIRED. PROPERLY DISPOSE OF ALL EQUIPMENT AS REQUIRED ON COMPLETION.
- 4 DEMO STEAM RADIATORS AT WINDOWS. PIPING RISERS SERVING FLOORS ABOVE TO REMAIN.
- 5 FULLY REMOVE AIR HANDLING UNIT AND ASSOCIATED PIPING, VALVES, AND CONTROLS ACCESSORIES. DEMOLISH CONNECTED PIPING BACK TO MAIN.
- 6 RECLAIM ALL REFRIGERANT AND REMOVE ALL ASSOCIATED WATER COOLED COMPRESSORS WITHIN THIS ROOM. REMOVE WATER PIPING AND REFRIGERANT PIPING TO EACH WALK-IN COOLER EVAPORATOR UNIT. PROPERLY DISPOSE OF ALL EQUIPMENT.
- 7 REMOVE ALL NATURAL GAS PIPING SHOWN ON OUTSIDE OF BUILDING UP TO ROOF. REPAIR HOLES LEFT BY REMOVED PIPING ANCHORS.
- 8 FULLY REMOVE AIR HANDLING UNIT AND ASSOCIATED PIPING, VALVES, AND CONTROLS ACCESSORIES. EXISTING CONCRETE PAD TO REMAIN FOR INSTALLATION OF WALK-IN COOLER COMPRESSORS WITHIN THIS AREA. SEE PIPING PLANS.
- 9 NOTE THAT EXISTING STEAM AND CONDENSATE RISER NEAR THIS COLUMN WILL REQUIRE RELOCATION. REFER TO DRAWING MP101.
- 10 RECLAIM REFRIGERANT FROM EXISTING CONDENSING UNIT AND RELOCATE TO LOCATION SHOWN ON DRAWING MP101. SEE ELECTRICAL FOR RELOCATION OF ASSOCIATED DISCONNECT.

PHASE 1 DEMOLITION - REFER TO DRAWING G-004
CONTRACTOR SHALL NOTE THAT ALL DEMOLITION SHOWN ON WEST SIDE OF FIRST FLOOR DIVIDING LINE SHALL PREPARE FOR NEW KITCHEN INSTALLATION. HOWEVER, NOTE THAT SOME PLUMBING AND/OR PIPING SERVICES SERVING KITCHEN EQUIPMENT AND/OR PLUMBING FIXTURES ABOVE MAY REQUIRE TEMPORARY CONNECTIONS UNTIL AFTER RELOCATION OCCURS.

PHASE 2 DEMOLITION - REFER TO DRAWING G-004
CONTRACTOR SHALL NOTE THAT ALL DEMOLITION SHOWN ON EAST SIDE OF FIRST FLOOR DIVIDING LINE SHALL NOT OCCUR UNTIL AFTER KITCHEN RELOCATES TO THE REMODELED FIRST FLOOR AREA. NOTE THAT THERE IS A SECTION OF THIS AREA (PHASE 2B) TO NOT BE DEMOLISHED UNTIL AFTER RELOCATION OF VCS RETAIL SPACE.

2 FIRST FLOOR PIPING DEMOLITION PLAN
1/8" = 1'-0"

KEYPLAN
NTS



Revision#	Description	Date:
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57105
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Erickson Roed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 612-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
30 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP



Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs

Drawing Title
**FIRST FLOOR PIPING DEMOLITION
PLAN**

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
08-18-2026

Checked
JG

Drawn
ECTM

Project Number
**VA #438-21-403
SGA #201956**

Building Number
5

Drawing Number
MPD101

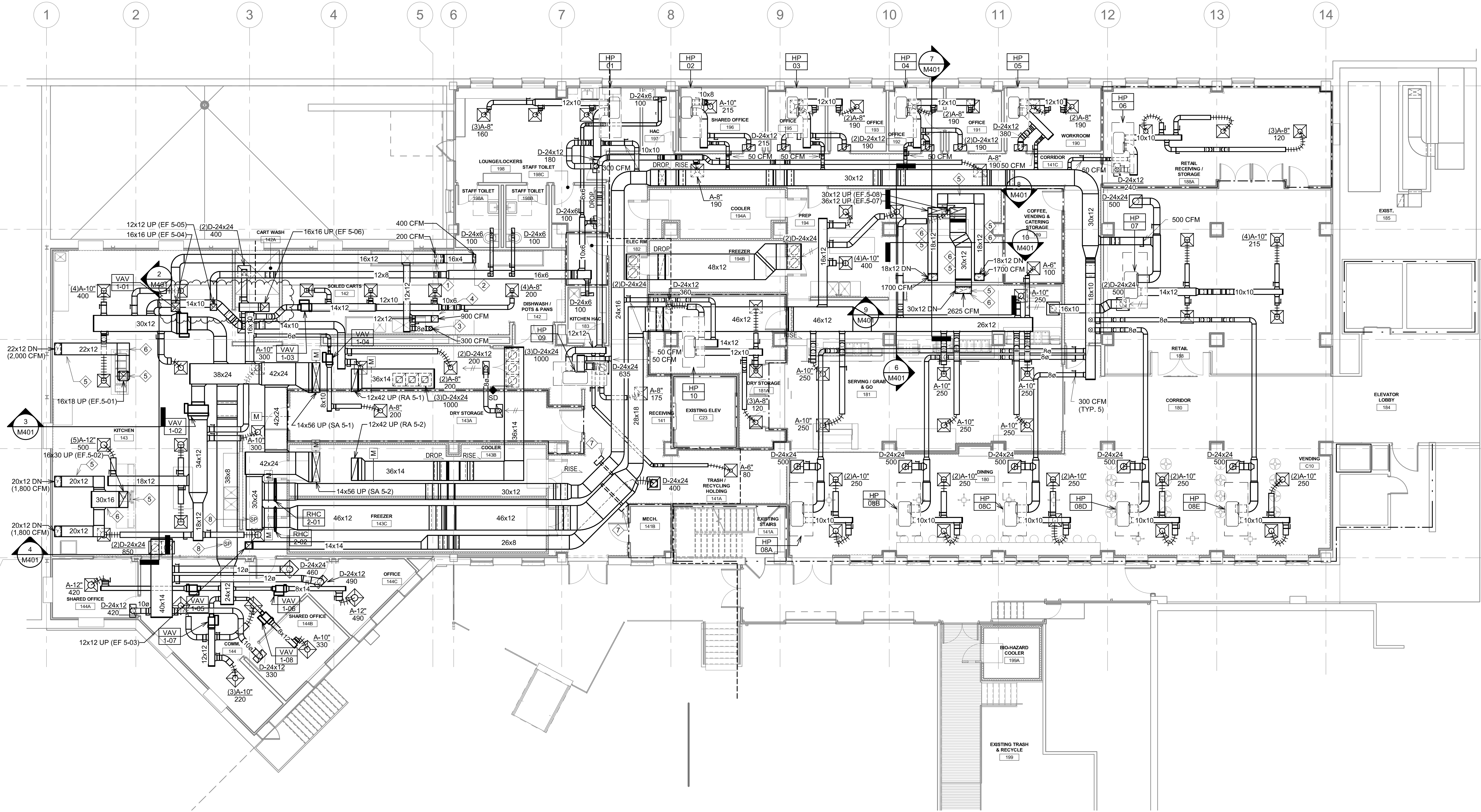
GENERAL NOTES:

- A. MECHANICAL CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDE. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THOSE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
- B. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH WORK SHIFT SHOULD BE ASSURED IN THE BASE BID.
- C. ANY MAJOR VENTILATION OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR DURING WEEKEND PERIODS TO MINIMIZE DISRUPTION. VA HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF TWO(2) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE AFFECTING MORE THAN ONE ADJACENT AREA.
- D. WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED, OR DISTURBED, DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.
- E. ALL NEW FIRE, SMOKE AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED SHALL BE COORDINATED TO ALLOW FOR SERVICE OF THE FUSIBLE LINK/ACTUATOR PER FACILITY STANDARDS. ANY CONFLICTS WHICH WILL PREVENT ACCESS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER OF RECORD.
- F. COORDINATE ALL ROUTING OF DUCTWORK WITH ALL OTHER TRADES TO ENSURE ADEQUATE CLEARANCES FOR ELECTRICAL CONDUIT, HVAC DUCTWORK & PIPING, STRUCTURAL SUPPORTS, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS & TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- G. THE EXACT LOCATION OF EQUIPMENT ROUGH-INS SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION.
- H. ALL CORE DRILLING OR ANY ACTIVITIES CAUSING EXTREME VIBRATION OR NOISE SHALL BE COORDINATED TO BE PERFORMED AFTER BUSINESS HOURS TO NOT AFFECT CRITICAL HOSPITAL FUNCTIONS IN ADJACENT AREAS. COORDINATE WITH VA REPRESENTATIVE AS REQUIRED.
- I. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. DO NOT SUPPORT ANY PIPING FROM DUCTWORK, CONDUIT OR OTHER PIPING ENCOUNTERED.
- J. ALL EXISTING RETURN/EXHAUST DUCTWORK NOT TEMPORARILY CAPPED SHALL BE PROTECTED WITH REMOVABLE FILTER MEDIA TO PROTECT EXISTING DUCT SYSTEMS FROM CONSTRUCTION DEBRIS. ALL NEW DUCTWORK SHALL BE PROTECTED AS REQUIRED AND CLEANED PRIOR TO START-UP. IF CONSTRUCTION DEBRIS IS FOUND INSIDE UNPROTECTED DUCTWORK THEN DUCT CLEANING OF THE ENTIRE SYSTEM SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
- K. THE MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN EACH PROJECT SPACE IN A NEGATIVE PRESSURIZATION AND PROVIDE HEPA FILTRATION UNITS AS REQUIRED BY INFECTION CONTROL. IF NECESSARY CONSULT WITH VA, OR ENGINEER OF RECORD, FOR SUGGESTED METHODS THAT MAY BE UTILIZED TO ELIMINATE CONTAMINATED AIR TO OUTSIDE. VISUAL PRESSURIZATION INDICATORS SHALL BE PROVIDED AT EACH ENTRANCE TO THE CONSTRUCTION ZONE AND MONITORED DAILY TO INSURE A CONSTANT NEGATIVE PRESSURE IS MAINTAINED THROUGHOUT EACH PHASE. COORDINATE PRESSURIZATION PLANNING WITH VA FACILITIES AND INFECTION CONTROL REPRESENTATIVE PRIOR TO EACH CONSTRUCTION PHASE.
- L. MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL CEILING PLANS FOR LOCATIONS OF GYPSUM BOARD. DO NOT INSTALL VALVES, VAV BOXES, SENSOR, OR DAMPERS ABOVE GYPSUM BOARD CEILINGS.
- M. ALL WORK OUTSIDE THE PROTECTED PROJECT BOUNDARIES ABOVE EXISTING CEILING SHALL BE COMPLETED WITH CEILINGS REPLACED IN THE SAME DAY UNLESS FULLY COORDINATED THROUGH INFECTION CONTROL. CLEAN AREA TO ORIGINAL CONDITION ON COMPLETION.
- N. FLUTTER STRIPS OR AIR PRESSURE GAUGES SHALL BE PROVIDED AT THE ENTRANCES TO EACH CONSTRUCTION AREA. ALL CONTRACTED WORKERS SHALL BE TRAINED TO VISUALLY MONITOR THESE DEVICES FOR ADEQUATE NEGATIVE PRESSURIZATION AS THEY ENTER/EXIT THE CONSTRUCTION AREA. DAILY LOGS SHALL BE KEPT BY THE MECHANICAL CONTRACTOR TO INSURE CONSTANT PRESSURIZATION HAS BEEN MAINTAINED.
- O. CONTRACTOR SHALL MAINTAIN ACCURATE RECORD DRAWINGS SHOWING ANY DISCREPANCIES WITH EXISTING PIPING INDICATED OR REVISIONS TO THE BID DOCUMENT LAYOUTS. ALL CHANGES WILL BE UPDATED WITHIN THE FINAL RECORD DRAWING SET.
- P. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALL OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

KEY NOTES:

1. EXTEND 16X4 ALUMINUM EXHAUST DUCT DOWN TO DISHWASHING MACHINE VENT. BALANCE TO AIRFLOW INDICATED ON PLAN.
2. EXTEND 16X4 ALUMINUM EXHAUST DUCT DOWN TO DISHWASHING MACHINE VENT. BALANCE TO AIRFLOW INDICATED ON PLAN.
3. EXTEND 6 INCH DIAMETER ALUMINUM EXHAUST DUCT DOWN TO DISHWASHING MACHINE VENT CONNECTION. BALANCE AIRFLOW TO CFM INDICATED ON PLAN.
4. EXTEND 12X12 ALUMINUM EXHAUST DUCT DOWN TO DISHWASHING MACHINE VENT. BALANCE TO AIRFLOW INDICATED ON PLAN.
5. PROVIDE UL 12X12 UL LISTED ACCESS DOORS FITTED WITH AIR TIGHT GASKET AND BACK-FRAME CENTERED ON VERTICAL FACE OF DUCT PER NFPA 96. VERIFY SERVICE CLEARANCE FOR DUCT CLEANING.
6. WELDED TYPE 1 GREASE EXHAUST DUCT. PITCH HORIZONTAL DUCT 1/4 INCH PER FOOT BACK TO HOOD. REFER TO SPECIFICATION.
7. PROVIDE EBTRON GOLD SERIES AIRFLOW SENSOR FOR EACH REHEAT COIL ZONE (TOTAL OF 2). REFER TO SEQUENCE OF OPERATION FOR MODULATION OF CONTROL DAMPER TO ADJUST AIRFLOW TO EACH ZONE AS REQUIRED FOR GREASE HOOD MAKE-UP.
8. DUCT STATIC PRESSURE SENSOR FOR CORRESPONDING MAKE-UP AIR UNIT. SET TO CONTROL SUPPLY FAN SPEED TO HOLD SETPOINT (1.5" - ADJUSTABLE WITH STATIC RESET). WHEN BYPASS DAMPER IS OPEN, CONTROL FAN SPEED TO PRIMARY SENSOR AND MODULATE BYPASS DAMPER TO HOLD SECONDARY SENSOR SETPOINT.

KEYPLAN
NTS



2 FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

Revision#	Description	Date
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Erickson Roed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 612-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 100
Minneapolis, MN 55402
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Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD

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ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP



Office of
Construction
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Management



U.S. Department
of Veterans Affairs

Drawing Title	Phase
FIRST FLOOR HVAC PLAN	
Approved:	

Project Title	Project Number
RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER	VA #438-21-403 SGA #201956
Location	Building Number
SIOUX FALLS, SOUTH DAKOTA	5
Issue Date	Checked
08-18-2026	JG
Drawn	EC/TM
	Drawing Number
	MH101

- GENERAL NOTES:**
- A. CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDES. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
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- D. COORDINATE ALL NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE ADEQUATE CLEARANCES FOR ELECTRICAL CONDUIT, HVAC DUCTWORK & PIPING, STRUCTURAL SUPPORTS, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS & TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
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- J. THE SMALLEST ALLOWABLE PIPE SIZE FOR HEATING WATER SUPPLY AND RETURN WILL BE 3/4" DIAMETER. UNLESS NOTED OTHERWISE, HEATING WATER SUPPLY AND RETURN PIPING TAKE-OFFS TO INDIVIDUAL REHEAT COILS SHALL BE A MINIMUM OF 3/4" DIAMETER.
- K. PROVIDE 1/2" DRAIN VALVE AT NEW HEATING WATER SUPPLY AND RETURN PIPE LOW POINTS. DOWNSTREAM OF ISOLATION VALVES. LARGER EQUIPMENT SUCH AS AHU COILS AND HEAT EXCHANGERS SHALL BE PROVIDED WITH LARGER 2" DRAINS TO EXPEDITE PROCESS.
- L. ALL STEAM PIPING TAKE-OFFS TO INDIVIDUAL PIECES OF EQUIPMENT SHALL BE OFF THE TOP OF STEAM MAINS. HEATING WATER SUPPLY AND RETURN PIPING TAKE-OFFS SHALL ALSO BE OFF THE TOP OR SIDE OF PIPING WHEREVER POSSIBLE.
- M. THERMOSTATS AND HUMIDISTATS SHOWN ARE ALL TO BE NEW DDC DEVICES AND BE INTEGRATED INTO BAS BY THE CONTROL CONTRACTOR. EXISTING PNEUMATIC DEVICES NO LONGER IN USE SHALL HAVE ALL TUBING REMOVED COMPLETELY.
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- P. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR INSTALLATION WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTANT OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

- KEY NOTES:**
- 1 MECHANICAL CONTRACTOR TO INSTALL WALK-IN COOLER/FREEZER CONDENSING UNITS PROVIDED BY KITCHEN CONSULTANT.
- 2 CONDENSING UNITS NO LONGER INSTALLED WITHIN MECHANICAL ROOM. SEE ADDENDUM #1 FOR REVISED OUTDOOR LOCATIONS.
- 3 THIS NOTE WAS DELETED VIA ADDENDUM #1. REFER TO REVISED REFRIGERANT PIPE ROUTING ON THIS DRAWING.
- 4 THIS NOTE WAS DELETED VIA ADDENDUM #1. REFER TO REVISED REFRIGERANT PIPE ROUTING ON THIS DRAWING.
- 5 INSTALL FLAT PLATE HEAT EXCHANGER IN LOCATION ABOVE EXISTING AHU. REFER TO DRAWING M300 FOR PIPING COMPONENTS. FABRICATE SUPPORT FRAME WITH HANGERS AS REQUIRED.
- 6 PROVIDE DIFFERENTIAL PRESSURE SENSOR AT END OF HYDRONIC HEATING LOOP.
- 7 REFER TO PLUMBING PLANS FOR CONTINUATION OF GAS PIPING.
- 8 COLUMN INDICATED HAS EXISTING STEAM AND CONDENSATE RISERS WITHIN EXISTING PIPING CHASE THAT WAS REMOVED. CONTRACTOR WILL NEED TO CORE DRILL NEW FLOOR PENETRATION AS CLOSE TO EXTERIOR WALL AS POSSIBLE AND REINSTALL THESE RISERS WITHIN WALL FURRING. COORDINATE DEPTH OF FURRING REQUIRED WITH GENERAL CONTRACTOR (NOT TO EXCEED 8" STUD). SUBMIT OVERALL PLAN TO ARCHITECT FOR REVIEW / APPROVAL PRIOR TO ANY PIPING MODIFICATIONS. REFER TO DRAWING MPD101 FOR EXISTING PIPE SIZING AND CONFIRM ACCURACY ON SITE.
- 9 EXISTING STEAM PIPING RISERS IN THIS PARTICULAR SPACE CAN BE LEFT EXPOSED IF NEEDED. REPAIR ANY DAMAGED INSULATION.
- 10 ROUTE PIPING HIGH ABOVE COILING SHUTTER DOOR.
- 11 RELOCATE EXISTING CONDENSING UNIT TO NEW LOCATION INDICATED. PROVIDE NEW BRACKET TO MOUNT ONTO EXTERIOR WALL AND ELEVATE OFF GROUND.
- 12 CORE DRILL PIPING PENETRATION FOR REFRIGERANT LINES AND SEAL WEATHER TIGHT. INCLUDE SPLIT RING ESCUTCHEON.
- 13 ROUTE REFRIGERANT PIPING ABOVE GROUND FLOOR CEILING TO RECONNECT INTO EVAPORATOR IN DATA ROOM. PURGE PIPING WITH NITROGEN PRIOR TO CHARGING. TEST UNIT ON COMPLETION.

2 FIRST FLOOR PIPING PLAN
1/8" = 1'-0"

Revision#	Description	Date
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57105
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Erickson Reed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 612-751-7570

MEP:
DUNHAM
Dunham Associates, Inc.
30 South Sixth St
Suite 100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP

REGISTERED PROFESSIONAL ENGINEER
REC. NO. 14944
JASON R. GOTTWALT
MECHANICAL

Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs

Drawing Title
FIRST FLOOR PIPING PLAN

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
08-18-2026

Checked
JG

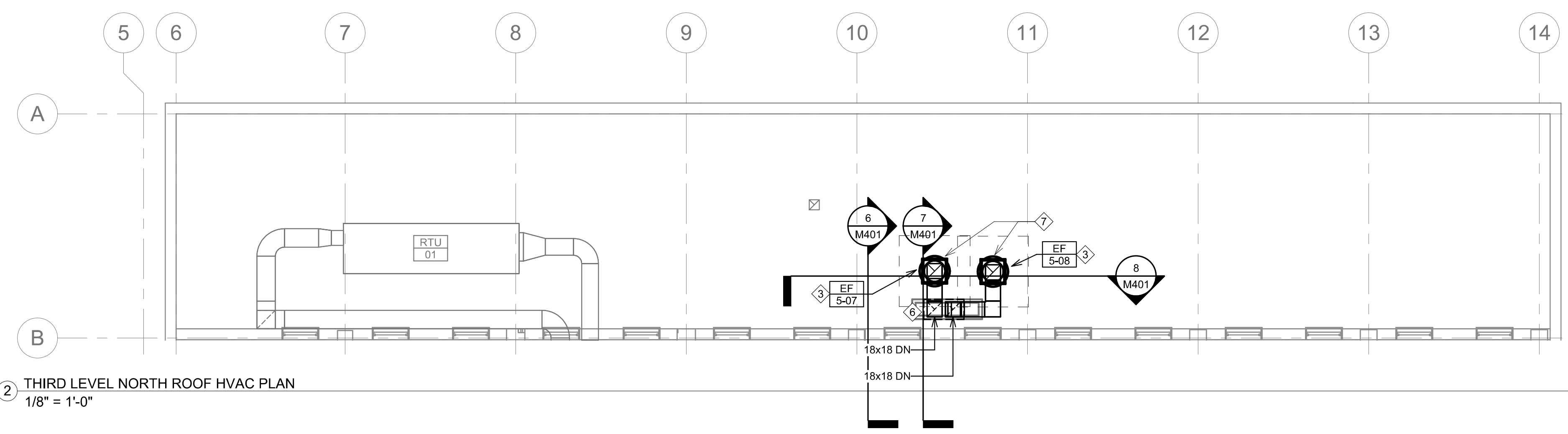
Drawn
ECTM

Project Number
**VA #438-21-403
SGA #201956**

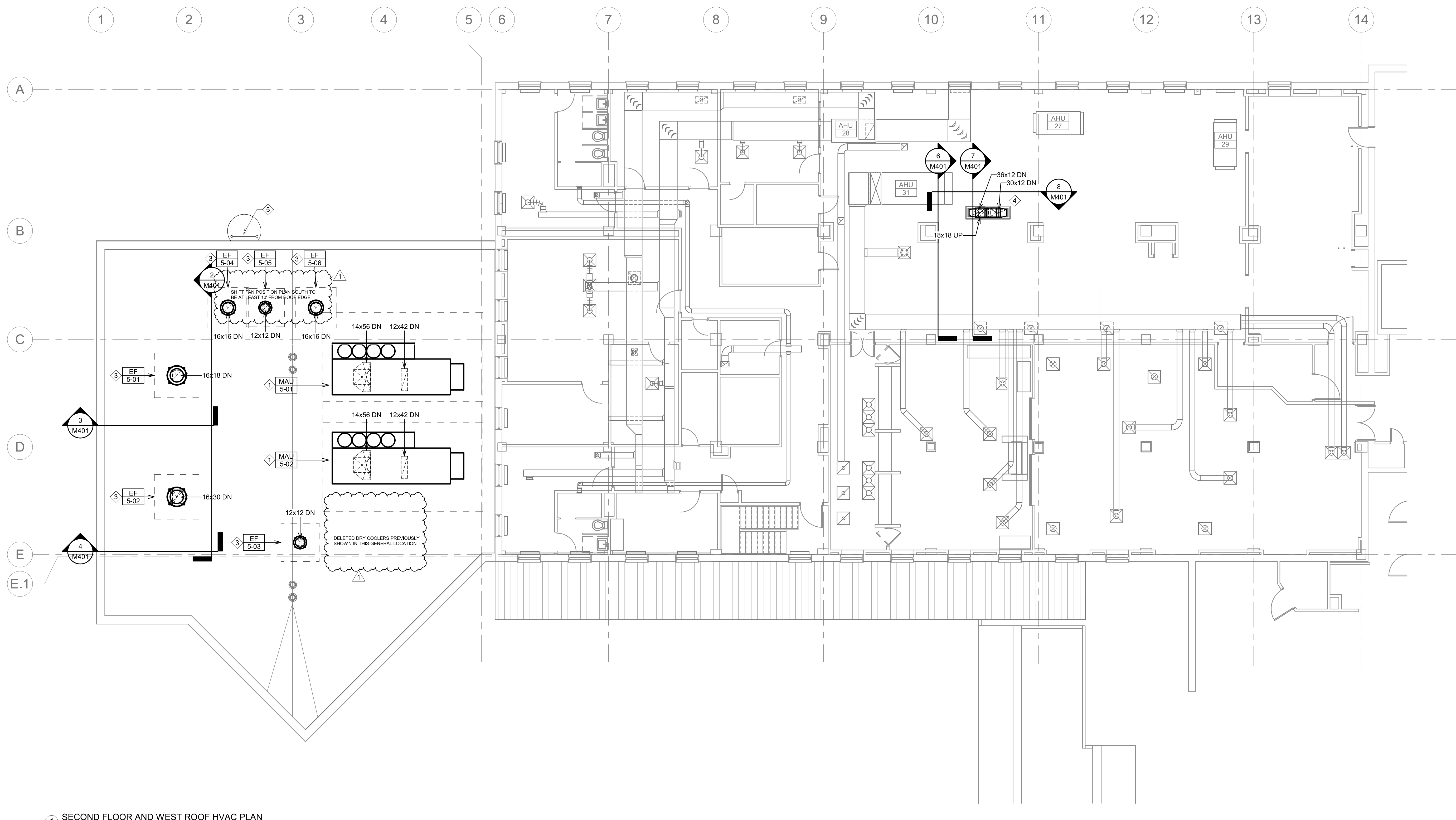
Building Number
5

Drawing Number
MP101

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



2 THIRD LEVEL NORTH ROOF HVAC PLAN
1/8" = 1'-0"



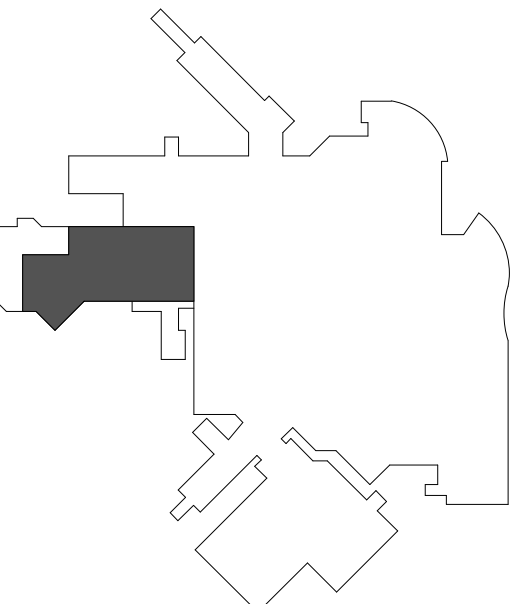
1 SECOND FLOOR AND WEST ROOF HVAC PLAN
1/8" = 1'-0"

GENERAL NOTES:

- MECHANICAL CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDE. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THOSE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
- MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH WORK SHIFT SHOULD BE ASSURED IN THE BASE BID.
- ANY MAJOR VENTILATION OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR DURING WEEKEND PERIODS TO MINIMIZE DISRUPTION. VA HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF TWO(2) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE AFFECTING MORE THAN ONE ADJACENT AREA.
- WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED, OR DISTURBED, DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.
- ALL NEW FIRE, SMOKE AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED SHALL BE INSTALLED TO ALLOW FOR SERVICE OF THE FUSIBLE LINK/ACTUATOR PER FACILITY STANDARDS. ANY CONFLICTS WHICH WILL PREVENT ACCESS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS & TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- THE EXACT LOCATION OF EQUIPMENT ROUGH-INS SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION.
- ALL CORE DRILLING OR ANY ACTIVITIES CAUSING EXTREME VIBRATION OR NOISE SHALL BE COORDINATED TO BE PERFORMED AFTER BUSINESS HOURS TO NOT AFFECT CRITICAL HOSPITAL FUNCTIONS IN ADJACENT AREAS. COORDINATE WITH VA REPRESENTATIVE AS REQUIRED.
- SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. DO NOT SUPPORT ANY PIPING FROM DUCTWORK, CONDUIT OR OTHER PIPING ENCOUNTERED.
- ALL EXISTING RETURN/EXHAUST DUCTWORK NOT TEMPORARILY CAPPED SHALL BE PROTECTED WITH REMOVABLE FILTER MEDIA TO PROTECT EXISTING DUCT SYSTEMS FROM CONSTRUCTION DEBRIS. ALL NEW DUCTWORK SHALL BE PROTECTED AS REQUIRED AND CLEANED PRIOR TO START-UP. IF CONSTRUCTION DEBRIS IS FOUND INSIDE UNPROTECTED DUCTWORK THAN DUCT CLEANING OF THE ENTIRE SYSTEM SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
- THE MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN EACH PROJECT SPACE IN A NEGATIVE PRESSURIZATION AND PROVIDE HEPA FILTRATION UNITS AS REQUIRED BY INFECTION CONTROL. IF NECESSARY CONSULT WITH VA, OR ENGINEER OF RECORD, FOR SUGGESTED METHODS THAT MAY BE UTILIZED TO ELIMINATE CONTAMINATED AIR TO OUTSIDE. VISUAL PRESSURIZATION INDICATORS SHALL BE PROVIDED AT EACH ENTRANCE TO THE CONSTRUCTION ZONE AND MONITORED DAILY TO INSURE A CONSTANT NEGATIVE PRESSURE IS MAINTAINED THROUGHOUT EACH PHASE. COORDINATE PRESSURIZATION PLANNING WITH VA FACILITIES AND INFECTION CONTROL REPRESENTATIVE PRIOR TO EACH CONSTRUCTION PHASE.
- MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL CEILING PLANS FOR LOCATIONS OF GYPSUM BOARD. DO NOT INSTALL VALVES, VAV BOXES, SENSOR, OR DAMPERS ABOVE GYPSUM BOARD CEILINGS.
- ALL WORK OUTSIDE THE PROTECTED PROJECT BOUNDARIES ABOVE EXISTING CEILING SHALL BE COMPLETED WITH CEILINGS REPLACED IN THE SAME DAY UNLESS FULLY COORDINATED THROUGH INFECTION CONTROL. CLEAN AREA TO ORIGINAL CONDITION ON COMPLETION.
- FLUTTER STRIPS OR AIR PRESSURE GAUGES SHALL BE PROVIDED AT THE ENTRANCES TO EACH CONSTRUCTION AREA. ALL CONTRACTED WORKERS SHALL BE TRAINED TO VISUALLY MONITOR THESE DEVICES FOR ADEQUATE NEGATIVE PRESSURIZATION AS THEY ENTER/EXIT THE CONSTRUCTION AREA. DAILY LOGS SHALL BE KEPT BY THE MECHANICAL CONTRACTOR TO INSURE CONSTANT PRESSURIZATION HAS BEEN MAINTAINED.
- CONTRACTOR SHALL MAINTAIN ACCURATE RECORD DRAWINGS SHOWING ANY DISCREPANCIES WITH EXISTING PIPING INDICATED OR REVISIONS TO THE BID DOCUMENT LAYOUTS. ALL CHANGES WILL BE UPDATED WITHIN THE FINAL RECORD DRAWING SET.
- REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALL OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

KEY NOTES:

- MAKE-UP AIR UNIT TO BE INSTALLED ONTO A 36" HIGH CURB (FURNISHED BY MANUFACTURER / INSTALLED BY CONTRACTOR). HIGH CURB SHALL ALLOW FOR TRANSITION OF DUCTWORK FROM ROOF PENETRATION BETWEEN JOIST, TO THE ACTUAL CONNECTION POINTS ON UNIT. MECHANICAL CONTRACTOR TO SUBMIT DUCT FABRICATION DRAWINGS ALONG WITH MAU SUBMITTALS TO VERIFY THAT CURB HEIGHT IS SUFFICIENT FOR THAT TRANSITION TO FIT BETWEEN JOIST.
- DRY COOLER TO BE INSTALLED ON PAIR OF RAILS FURNISHED BY MANUFACTURER. CONTRACTOR SHALL INSTALL USING THE ORIGINAL ROOFING CONTRACTOR IF REQUIRED TO MAINTAIN ANY PREVIOUSLY EXISTING ROOFING WARRANTIES. COORDINATE FLASHING DETAIL COMPLETELY UP ALL SIDES OF SUPPORT RAILS AS REQUIRED.
- ALL EXHAUST FANS SHALL BE UPPLAST TYPE WITH 18" HIGH CURBS MOUNTED WITH HINGED ASSEMBLY FOR ACCESS TO DUCT INTERIOR FROM ROOF LEVEL FOR PERIODIC CLEANING PURPOSES. INCLUDE BURLAP BARS INSTALLED AT ROOF PENETRATION FOR FALL PROTECTION AS REQUIRED. ALL FANS (EXCEPT EF 5-04, EF 5-05, AND EF 5-06) SHALL BE INSTALLED AT LEAST 15' FROM ROOF EDGE. PROVIDE SAFETY TIE-OFF POINTS FOR SERVICE OF THREE(3) FANS MOUNTED CLOSER THAN THAT DIMENSION.
- ROUTE GREASE EXHAUST DUCT THROUGH SECOND FLOOR SPACE TO ROOF ABOVE. INSTALL 3M FIRE WRAP (IN LIEU OF A RATED SHAFT) AROUND ALL DUCTWORK ABOVE FIRST FLOOR BELOW. INCLUDE MANUFACTURER INSTALLATION DETAILS AT FLOOR AND ROOF PENETRATION TERMINATION POINTS, AND FOR RATED ACCESS PANELS REQUIRED FOR DUCT CLEANING (TOTAL OF 4 ON THIS LEVEL - 2 PER RISER NEAR FLOOR AND ROOF PENETRATIONS).
- CONTRACTOR SHALL NOTE THAT THE ONLY CURRENT ACCESS TO THIS AREA OF ROOF IS VIA A VERTICAL LADDER SECURED TO SIDE OF BUILDING AT APPROXIMATELY THIS LOCATION TO ANOTHER SMALL ROOF APPROXIMATELY 15' BELOW.
- ROUTE EXHAUST DUCTS THROUGH EXISTING ROOF CURB. PROVIDE INSULATED FLOOR PLATE AND SEAL OPENING AROUND DUCTS. NOTE THAT DUCTWORK SHOWN TRANSITIONING HORIZONTALLY ABOVE ROOF SHALL BE SUPPORTED WITH ROOF CURBS AND HAVE 2" THICK BOARD INSULATION COVERED WITH VENTURECLAD EXTERIOR METAL LINER TO PROTECT AGAINST BOTH WEATHER AND PHYSICAL DAMAGE.
- GREASE HOOD EXHAUST FANS SHALL BE INSTALLED AT LEAST 15' FROM ROOF EDGE AND 6' FROM EXTERIOR BUILDING WALL. CONTRACTOR SHALL FABRICATE A GALVANIZED STEEL SUPPORT RACK SECURED TO ROOF TO PROPERLY HOLD FANS APPROXIMATELY 48" ABOVE ROOF LEVEL TO ALLOW DUCTWORK CONNECTION TO OCCUR. INCLUDE ACCESS PANELS FOR CLEANING AT ALL ELBOWS AND TRANSITIONS ABOVE ROOF LEVEL.



KEYPLAN
NTS

Revision#	Description	Date:
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS

CIVIL: **Ulteig**
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL: **ERA**
ERICKSEN ROED
Erickson Roed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 651-251-7570

MEP: **DUNHAM**
Dunham Associates, Inc.
30 South Sixth St
Suite 1101
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE: **RIPPE ASSOCIATES**
Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 101
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD **STONE GROUP**
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP
REGISTERED PROFESSIONAL ENGINEER
REC. NO. 14944
JASON R. GOTTWALT
MECHANICAL

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title
SECOND FLOOR AND ROOF HVAC PLAN
Approved:

Phase

Project Title
RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER
Location
SIOUX FALLS, SOUTH DAKOTA
Issue Date
08-18-2026
Checked
JG
Drawn
EC/TM

Project Number
VA #438-21-403 SGA #201956
Building Number
5
Drawing Number
MH201



- A. CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL, EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDES, ALL REQUIREMENTS OF THE HOSPIAL'S STANDARD SPECIFICATIONS AND ALL NOTES, COMMENTS AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY DISCREPANCIES WILL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
- B. CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL DETAILING, ERECTION, STRUTTING, HOISTING OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH WORK SHIFT SHOULD BE ASSUMED IN THE BASE BID SCOPE.
- C. ANY MAJOR OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR OUTSIDE OF THE HOSPITAL'S OPERATING HOURS. IF NECESSARY, HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE.
- D. COORDINATE ALL NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE ADEQUATE CLEARANCES FOR ELECTRICAL, CONDUIT, HVAC DUCTWORK, PIPING, STRUCTURAL STEEL, MECHANICAL DISRUPTION, UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OR RECORD, PROVIDE ALL OFFSETS & TRANSITIONS AND FIRE SEALS AS REQUIRED.
- E. THE EXACT LOCATION OF EQUIPMENT ROUGH-IN'S SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION. NOTIFY ENGINEER OF ANY SIGNIFICANT VARIANCES.
- F. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE, DO NOT SUPPORT ANY PIPING FROM DUCTWORK, CONDUIT OR OTHER PIPING ENCOUNTERED.
- G. WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED OR DISTURBED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE TO REPAIR OR REPLACE PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.
- H. ALL EXISTING PIPING THROUGH NEW FIRE RATED WALLS SHALL BE ADEQUATELY FIRE SEALED AS REQUIRED, PIPING PENETRATIONS THROUGH INTERSTITIAL FLOOR SHALL BE DRILLED OR CUT BY THE CONTRACTOR AND FIRE SEALED AS REQUIRED.
- I. ALL CORE DRILLING OR ANY ACTIVITIES CAUSING EXCESSIVE VIBRATION OR NOISE MUST BE COORDINATED WITH HOSPIAL MANAGEMENT BEFORE BUSINESS HOURS TO NOT AFFECT CRITICAL HOSPITAL FUNCTIONS IN ADJACENT AREAS. COORDINATE WITH VA REPRESENTATIVE.
- J. THE SMALLEST ALLOWABLE PIPE SIZE FOR HEATING WATER SUPPLY AND RETURN WILL BE 3/4" DIAMETER. UNLESS NOTED OTHERWISE, HEATING WATER SUPPLY AND RETURN SHALL BE 1" DIAMETER. ANNUAL REHEAT COILS SHALL BE A MINIMUM OF 3/4" DIAMETER.
- K. PROVIDE 1/2" DRAIN VALVE AT NEW HEATING WATER SUPPLY AND RETURN PIPING LOW POINTS, DOWNSTREAM OF ISOLATION VALVES. PARALLEL DRAINAGE TO EXISTING DRAINAGE SYSTEMS SHALL BE PROVIDED WITH LARGER 2" DRAINS TO EXPEDITE PROCESS.
- L. ALL STEAM PIPING TAKE-OFFS TO INDIVIDUAL PIECES OF EQUIPMENT SHALL BE OFF THE TOP OF STEAM MAINS. HEATING WATER SUPPLY AND RETURN PIPING TAKE-OFFS SHALL ALSO BE OFF THE TOP OR SIDE OF PIPING WHEREVER POSSIBLE.
- M. THERMOSTATS AND HUMIDISTAT SHOWN AREA ALL TO BE NEW DEVICED IDENTIFIED BY THE ENGINEER. REMOVE EXISTING DEVICES AND CONTRACTOR. EXISTING PNEUMATIC DEVICES NO LONGER IN USE SHALL HAVE ALL TUBING REMOVED COMPLETELY.
- N. ALL CONTRACTORS TO REFERENCE THE INFECTION CONTROL NOTES IDENTIFIED WITHIN THE VENTILATION GENERAL NOTES ON THESE DRAWINGS PRIOR TO ANY FIELD INSTALLATION.
- O. CONTRACTOR SHALL MAINTAIN ACCURATE RECORD DRAWINGS SHOWING ALL DISCREPANCIES WITH ANY EXISTING PIPING DRAWINGS OR REVISIONS TO THE HVAC PIPING LAYOUTS. ALL CHANGES WILL BE UPDATED WITHIN THE FINAL RECORD DRAWING SET.
- P. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED INSIDE THE BUILDING ENVELOPE FOR INSTALLATION OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

- 1 MAKE-UP AIR UNIT.
- 2 DRY COOLERS ELIMINATED VIA ADD#1.
- 3 SUPPORT PIPING ON ROOF AT MAXIMUM 5'-0" SPACING AND AT CHANGE IN DIRECTION.
- 4 EXISTING STEAM RADIATORS AT WINDOWS TO REMAIN. OPERATION OF STEAM RADIATORS TO PROVIDE TEMPORARY HEAT TO SHELL SPACE.



2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026
Revision#	Description	Date:

CONSULTANTS

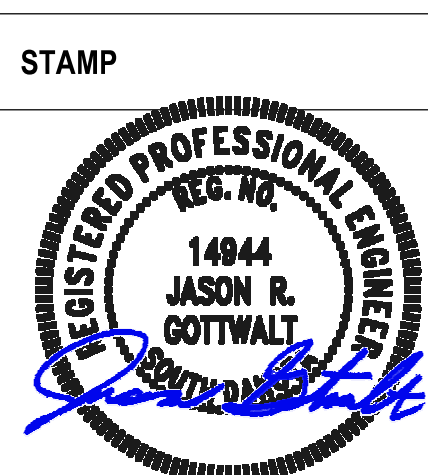
CIVIL:	STRUCTURAL:	MEP:	FOOD SERVICE:
 Ulteig Ulteig Engineers, Inc. 8701 South Corporate Place Stouffville, SD 57108 Phone: 605-323-2306	 ERA ERICKSON ROED & ASSOCIATES Erickson Roed Associates 2550 University Ave W Suite 423-S St. Paul, MN 55402 Phone: 612-465-7570	 DUNHAM Dunham Associates, Inc. 50 South Sixth St. Suite 1100 Minneapolis, MN 55402 Phone: 612-446-7550	 RIPPE ASSOCIATES Foodservice Design + Consulting Rippe Associates 10400 Yellow Creek Dr Suite 100 Minneapolis, MN 55343 Phone: 952-933-0331

ARCHITECT OF RECORD



STONE GROUP
ARCHITECTS

Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144



Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs

Drawing Title
SECOND FLOOR PIPING PLAN
Approved:

Phase

Project Title RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER		
Location SIOUX FALLS, SOUTH DAKOTA		
Issue Date 08-18-2026	Checked JG	Drawn EC/TM

Project Number VA #438-21-403 SGA #201956
Building Number 5
Drawing Number MP201

MAKE-UP AIR UNIT SCHEDULE

MECHANICAL (237316, 237319, 237433)

EQUIPMENT TAG	APPLICATION	FACE & BYPASS DAMPERS (YES/NO)	MIXING BOX (YES/NO)	MINIMUM OUTDOOR AIR CFM	COOLING COIL	HEATING COIL	HEAT RECOVERY COIL	CONDENSING UNIT	AIR PRE-FILTER	AIR 2ND STAGE-FILTER	HUMIDIFIER	SUPPLY FAN	EXHAUST FAN	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
MAU 5-01	NFS KITCHEN AND SUPPORT	NO	NO	10,000	MAUCC 01	MAUHC 01	N/A	MAUCU 01	MAUPF 01	MAUFF 01	N/A	MAUS 01	MAUR 01	GREENHECK	RV-110-50	1,2,3,4,5,6
MAU 5-02	VCS SERVING AND RETAIL	NO	NO	10,000	MAUCC 02	MAUHC 02	N/A	MAUCU 02	MAUPF 02	MAUFF 02	N/A	MAUS 02	MAUR 02	GREENHECK	RV-110-50	1,2,3,4,5,6

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

- INCLUDE ROOF CURB PROVIDED BY MANUFACTURER AND INSTALLED BY CONTRACTOR. USE CURRENT ROOFING CONTRACTOR IF REQUIRED TO MAINTAIN EXISTING ROOF WARRANTIES.
- CABINET TO HAVE MINIMUM 2" FOAM WALL (R13) CONSTRUCTION WITH THERMAL BREAKS TO PREVENT INTERIOR OR EXTERIOR CONDENSATION.
- EXTERIOR OF CABINET SHALL BE PROVIDED WITH PERMATECTOR, 3 ML POLYESTER POWDER COATING, OR EQUAL.
- INCLUDE INFORMATION ON ANY REQUIRED UNIT SECTION BREAKS REQUIRED FOR SHIPPING. PROVIDE ALL RIGGING POINT FOR REQUIRED CRANE LIFT TO ROOF LOCATION SHOWN ON PLANS.
- DO NOT INSTALL PIPING CONNECTIONS EXPOSED TO WEATHER OUTSIDE OF UNIT. ALL PIPING SHALL BE BROUGHT UP THROUGH CURB AND BE CONTINUALLY INSULATED AND/OR PROTECTED INTO INTERIOR OF ROOFTOP UNIT CABINET.
- PROTECT CONDENSATE DRAIN TRAP FROM POTENTIAL FREEZING CONDITIONS. INCLUDE OVERFLOW FLOAT SWITCH ALARM WITHIN CONDENSATE DRAIN PAN TO NOTIFY BAS OF ANY POTENTIAL OVERFLOW ISSUES.

ELECTRICAL

EQUIPMENT TAG	HP/LOAD	VOLTAGE	PHASE	CALCULATED	CONTROLLER				DISCONNECT AT MOTOR				PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES	
					TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TYPE	FURNISHED BY/ INSTALLED BY					LOCATION
MAU 5-01	236A	208 V	3	24000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	250A	-	NEMA 4	DIV 26/DIV 26	ON UNIT	SWBD 5-1	2	2 1/2" C, 3-250 & 1# 4 GND	1
MAU 5-02	236A	208 V	3	24000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	250A	-	NEMA 4	DIV 26/DIV 26	ON UNIT	SWBD 5-1	3	2 1/2" C, 3-250 & 1# 4 GND	1

GENERAL ELECTRICAL NOTES:

- WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION.
- MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN.

ELECTRICAL NOTES:

- PROVIDE VFD FOR EACH INDIVIDUAL MOTOR(4)

CONTROLLER TYPES:

- VFD - VARIABLE FREQUENCY MOTOR CONTROLLER
MMS - MANUAL MOTOR STARTER (WITH OVERLOADS)
CP - CONTROL PANEL
- MAGS - MAGNETIC STARTER
MRS/MSS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)

MAKE-UP AIR UNIT - PREFILTER SCHEDULE

MECHANICAL (234100)

EQUIPMENT TAG	AHU SERVED	TYPE	CFM	NUMBER OF MODULES	SIZE PER MODULE (H"xL"xD")	EFFICIENCY (%)	MERV RATING	APD CLEAN (IN W.C.)	APD AT 50% LOADING (IN W.C.)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
MAUPF 01	MAU 5-01	2" PLEATED	10,000	6	24"x24"x2"	30	8	0.3"	0.7"	CAMFIL-FARR	30/30	1,2
MAUPF 02	MAU 5-02	2" PLEATED	10,000	6	24"x24"x2"	30	8	0.3"	0.7"	CAMFIL-FARR	30/30	1,2

MECHANICAL NOTES:

- INCLUDE FILTER HOLDING RACK AND CLIPS FULLY ACCESSIBLE THROUGH ROOFTOP UNIT SERVICE DOOR.
- PROVIDE TWO(2) SET OF FILTERS UPON OCCUPANCY. EXTRA SET SHALL BE TURNED OVER TO OWNER FOR STORAGE FOR FIRST REPLACEMENT SET.

MAKE-UP AIR UNIT - SECDOND STAGE FILTER SCHEDULE

MECHANICAL (234133)

EQUIPMENT TAG	AHU SERVED	TYPE	CFM	NUMBER OF MODULES	SIZE PER MODULE (H"xL"xD")	EFFICIENCY (%)	MERV RATING	APD CLEAN (IN W.C.)	APD AT 50% LOADING (IN W.C.)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
MAUFF 01	MAU 5-01	4" PLEATED	10,000	6	24"x24"x4"	90	13	0.4	0.8	CAMFIL-FARR	AEROPLEAT	1,2
MAUFF 02	MAU 5-02	4" PLEATED	10,000	6	24"x24"x4"	90	13	0.4	0.8	CAMFIL-FARR	AEROPLEAT	1,2

MECHANICAL NOTES:

- INCLUDE A MAGNAHELIC GAUGE AROUND ENTIRE PREFILTER ASSEMBLY FOR MONITORING PRESSURE DROP FOR PERIODIC FILTER EXCHANGES.
- PROVIDE TWO(2) SET OF FILTERS UPON OCCUPANCY. EXTRA SET SHALL BE TURNED OVER TO OWNER FOR STORAGE FOR FIRST REPLACEMENT SET.

MAKE-UP AIR UNIT - SUPPLY FAN SCHEDULE

MECHANICAL (233416)

EQUIPMENT TAG	AHU SERVED	NUMBER OF FANS	TYPE	CLASS	CFM PER FAN	TOTAL CFM	ESP (IN W.C.)	TOTAL SP (IN W.C.)	WHEEL DIAMETER (IN)	VFD (YES/NO)	FAN RPM	BHP	DRIVE TYPE (BELT/DIRECT)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
MAUS 01	MAU 5-01	2	PLENUM	2	5,000	10,000	3.0"	4.4"	20"	YES	2008	4.91	DIRECT	GREENHECK	APD500	1,2,3,4
MAUS 02	MAU 5-02	2	PLENUM	2	5,000	10,000	3.0"	4.4"	20"	YES	2008	4.91	DIRECT	GREENHECK	APD500	1,2,3,4

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

- FABS SHALL ALL BE DIRECT DRIVE WITH FACTORY MOUNTED VFD FOR SPEED CONTROL. COORDINATION WITH CONTROLS CONTRACTOR FOR INTEGRATION WITH SEQUENCE OF OPERATION.
- INCLUDE TRIP FROM FACTORY AUTHORIZED TECHNICIAN TO CHECK FOR FAN WHEEL BALANCE AND VIBRATION DURING INITIAL START-UP.
- AIRFLOWS LISTED ABOVE INCLUDE ADDITIONAL CAPACITY FOR PARTIAL REDUNDANCY WHILE OPENING BYPASS DAMPER TO SUPPORT/SERVE ADJACENT AREAS IN CASE OF MAU FAILURE FROM ONE OF THESE TWO UNITS. SEE AIRFLOW DIAGRAM AND SEQUENCE OF OPERATION.
- EXTERNAL STATIC PRESSURE (ESP) LISTED ABOVE INCLUDES ADEQUATE DIRTY FILTER ALLOWANCES. MANUFACTURER MAY CALCULATE TOTAL STATIC PRESSURE WITHOUT DOUBLING-UP ON THAT ALLOWANCE.

MAKE-UP AIR UNIT - RETURN / EXHAUST FAN SCHEDULE

MECHANICAL (233416)

EQUIPMENT TAG	AHU SERVED	NUMBER OF FANS	TYPE	CLASS	CFM PER FAN	TOTAL CFM	ESP (IN W.C.)	TOTAL SP (IN W.C.)	WHEEL DIAMETER (IN)	VFD (YES/NO)	FAN RPM	BHP	DRIVE TYPE (BELT/DIRECT)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
MAUR 01	MAU 5-01	2	PLENUM	2	2500	5,000	1.0	1.0	14"	YES	2056	0.74	DIRECT	GREENHECK	APD355	1,2,3
MAUR 02	MAU 5-02	2	PLENUM	2	2500	5,000	1.0	1.0	14"	YES	2056	0.74	DIRECT	GREENHECK	APD355	1,2,3

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

- FABS SHALL ALL BE DIRECT DRIVE WITH FACTORY MOUNTED VFD FOR SPEED CONTROL. COORDINATION WITH CONTROLS CONTRACTOR FOR INTEGRATION WITH SEQUENCE OF OPERATION.
- INCLUDE TRIP FROM FACTORY AUTHORIZED TECHNICIAN TO CHECK FOR FAN WHEEL BALANCE AND VIBRATION DURING INITIAL START-UP.
- NOTE AIRFLOW LISTED ABOVE IS FOR RECIRCULATION MODE (DURING UNOCCUPIED HOURS ONLY). NORMAL OPERATION IS 100% OUTDOOR AIR, REFER TO SEQUENCE OF OPERATION.

MAKE-UP AIR UNIT - COOLING COIL SCHEDULE - DX

MECHANICAL (237433, 237333, 237339)

EQUIPMENT TAG	AHU SERVED	CFM	COIL				AIR							SUCTION TEMPERATURE (F)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
			NUMBER OF COILS	EACH COIL SIZE (W"xH")	ROWS	FINS PER INCH	EAT		LAT		FACE VELOCITY (FPM)	APD (IN W.C.)	REFRIGERANT TYPE						
							DB (F)	WB (F)	DB (F)	WB (F)									
MAUCC 01	MAU 5-01	10,000	1	per manuf.	6	12	91.0	72.0	54.7	53.9	<450	0.80	R-410A	45.0	394	595	GREENHECK	-	1,2,3
MAUCC 02	MAU 5-02	10,000	1	per manuf.	6	12	91.0	72.0	54.0	53.9	<450	0.80	R-410A	45.0	394	595	GREENHECK	-	1,2,3

MECHANICAL NOTES:

- CONFIRM THAT UNITARY CONTROLLER FOR REFRIGERANT COIL WILL COMMUNICATE WITH CONTROLS CONTRACTOR (BAS) TO PERFORM DISCHARGE TEMPERATURE RESET INCLUDED IN SEQUENCES.
- PROVIDE WITH DOUBLE SLOPED STAINLESS STEEL DRAIN PAN. INCLUDE FLOAT SWITCH FOR DETECTION OF OVERFLOW CONDITION TO REMOTELY ALARM TO BAS.
- REFER TO PIPING AND FLOW DIAGRAMS FOR ADDITIONAL PIPING COMPONENTS REQUIRED.

MAKE-UP AIR UNIT - HEATING COIL SCHEDULE - HEATING WATER

MECHANICAL (238216)

EQUIPMENT TAG	AHU SERVED	CFM	NUMBER OF COILS	EACH COIL SIZE (W"xH")	ROWS	FINS PER INCH	EAT (F)	LAT (F)	AIR FACE VELOCITY (FPM)	APD (IN W.C.)	WATER EWT (F)	LWT (F)	GPM	GLYCOL TYPE	GLYCOL %	WPD (FT)	CAPACITY (MBH)	MANUFACTURER	MECHANICAL NOTES
MAUHC 01	MAU 5-01	10,000	1	per manuf.	2	10	-20	79.6	500	0.50	160	130	73	PROPYLENE	40	3.2	1078	GREENHECK	1,2,3
MAUHC 02	MAU 5-02	10,000	1	per manuf.	2	10	-20	79.6	500	0.50	160	130	73	PROPYLENE	40	3.2	1078	GREENHECK	1,2,3

MECHANICAL NOTES:

- NOTE THAT INCOMING WATER TEMPERATURES WILL VARY SIGNIFICANTLY BASED ON OUTDOOR AIR CONDITIONS AND ENERGY RECLAIM. REFER TO CONTROLS SEQUENCE.
- REFER TO PIPING AND FLOW DIAGRAMS FOR ALL PIPING COMPONENTS REQUIRED. CONFIRM ACCESSIBILITY TO ALL COMPONENTS INDICATED ON DRAWINGS.
- IF MULTIPLE COILS ARE PROVIDED, INCLUDE DESIGNATED BALANCING VALVES TO EQUALIZE FLOW THROUGH EACH COIL.
- NOTE THAT CONDITIONS ABOVE ONLY FOR EMERGENCY BACK-UP OF OTHER MAU. REFER TO SEQUENCE. NORMAL OPERATION WILL BE AT REDUCED AIRFLOW AND LOWEST WATER TEMPERATURE REQUIRED TO ACHIEVE NO DEGREE LEAVING AIR TEMP.



Justin A. Rippe, P.E.
2026.10.09 09:56:31-0500
10/09/2026

Revision#	Description	Date:
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CIVIL:	STRUCTURAL:	MEP:	FOOD SERVICE:
 Ulteig Engineers, Inc. 5701 South Corporate Place Sioux Falls, SD 57108 Phone: 605-323-2306	 ERICKSEN ROED Ericksen Roed Associates 2550 University Ave W Suite 423-S St. Paul, MN 55402 Phone: 651-251-7570	 Dunham Associates, Inc. 30 South Sixth St Suite 1100 Minneapolis, MN 55402 Phone: 612-465-7550	 Rippe Associates 10400 Yellow Circle Dr Suite 100 Minneapolis, MN 55343 Phone: 952-933-0313

ARCHITECT OF RECORD
 Stone Group Architects, Inc. 600 East 7th Street Sioux Falls, SD 57103 Phone: 605-271-1144



Office of Construction and Facilities Management
U.S. Department of Veterans Affairs

Drawing Title
MECHANICAL/ ELECTRICAL MAU SCHEDULES
Approved:

Phase

Project Title
RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER
Location SIOUX FALLS, SOUTH DAKOTA
Issue Date 08-18-2026
Checked JG
Drawn EC/TM

Project Number
VA #438-21-403 SGA #201956
Building Number
5
Drawing Number
M501

FAN SCHEDULE

MECHANICAL (233400)

EQUIPMENT TAG	APPLICATION	TYPE	CFM	ESP (IN W.C.)	BHP	MOTOR HP	FAN RPM	DRIVE TYPE	SONES	VFD (YES/NO)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
EF-5-01	NFS KITCHEN EXHAUST	CENTRIFUGAL UPBLAST	2000	1.0	0.55	1	1097	DIRECT	12.7	YES	GREENHECK	CUE-180-HP-VG	1,2,3,4
EF-5-02	NFS KITCHEN EXHAUST	CENTRIFUGAL UPBLAST	3650	1.0	1.27	3	1211	DIRECT	18.4	YES	GREENHECK	CUE-200-HP-VG	1,2,3,4
EF-5-03	RECEIVING EXHAUST	CENTRIFUGAL DOWNBLAST	400	1.0	0.16	0.50	1796	DIRECT	11.1	NO	GREENHECK	G-100-HP-VG	1,2,3
EF-5-04	DISHWASHER EXHAUST	CENTRIFUGAL UPBLAST	1600	1.5	0.74	1.5	1474	DIRECT	12.8	YES	GREENHECK	CUE-180-HP-VG	1,2,3
EF-5-05	GENERAL EXHAUST	CENTRIFUGAL DOWNBLAST	500	1.0	0.19	0.50	1893	DIRECT	11.6	NO	GREENHECK	G-100-HP-VG	1,2,3
EF-5-06	CART WASH EXHAUST	CENTRIFUGAL UPBLAST	800	1.0	0.26	0.50	1467	DIRECT	13.3	YES	GREENHECK	CUE-140-HP-VG	1,2,3
EF-5-07	VCS PREP KITCHEN EXHAUST	CENTRIFUGAL UPBLAST	3400	1.0	1.11	2	1152	DIRECT	16.7	YES	GREENHECK	CUE-200-HP-VG	1,2,3,4
EF-5-08	VCS SERVING EXHAUST	CENTRIFUGAL UPBLAST	2700	1.0	1.04	2	1249	DIRECT	14.9	YES	GREENHECK	CUE-180-HP-VG	1,2,3,4

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

1. PROVIDE WITH FACTORY MOUNTED DISCONNECT SWITCH AND EITHER VFD SPEED CONTROLLER OR ECM MOTOR (FOR BALANCING PURPOSES ONLY).
2. REFER TO INSTALLATION DETAILS AND CONTROL SEQUENCES FOR INSTALLATION OF ISOLATION MOTORIZED DAMPER, INCLUDE END SWITCH FOR PROOF OF OPEN THAT IS INTEGRATED TO FAN START-UP.
3. INCLUDE ROOF CURB PROVIDED BY MANUFACTURER AND INSTALLED BY CONTRACTOR. USE CURRENT ROOFING CONTRACTOR IF REQUIRED TO MAINTAIN EXISTING ROOF WARRANTIES.
4. UL782 COMPLIANT, RINGED BASE, ALUMINUM HOUSING AND WHEEL. PRE-WIRING NEMA 3R DISCONNECT, FACTORY GALVANIZED STEEL ROOF CURB AND VENTED ROOF CURB EXTENSION, KEWAY GREASE TROUGH, TEFC PREMIUM EFFICIENCY MOTOR.

ELECTRICAL

EQUIPMENT TAG	HP/LOAD	VOLTAGE	PHASE	CALCULATED AFC	TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES
EF-5-01	2 HP	208 V	3	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	13,15,17	3/4" 3#12 & 1#12 GND	
EF-5-02	3 HP	208 V	3	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	19,21,23	3/4" 3#12 & 1#12 GND	
EF-5-03	1/2 HP	120 V	1	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	25	3/4" 3#12 & 1#12 GND	
EF-5-04	1.5 HP	120 V	1	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	27	3/4" 3#12 & 1#12 GND	
EF-5-05	1/2 HP	120 V	1	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	29	3/4" 3#12 & 1#12 GND	
EF-5-06	1/2 HP	120 V	1	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	31	3/4" 3#12 & 1#12 GND	
EF-5-07	2 HP	208 V	3	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	33,35,37	3/4" 3#12 & 1#12 GND	
EF-5-08	2 HP	208 V	3	5000	VFD	DIV 23/DIV 26	AT UNIT	DIV 23	INTEGRAL	N/A	NEMA 3R	DIV 23/DIV 26	ON UNIT	5-1-N3	2,4,6	3/4" 3#12 & 1#12 GND	

GENERAL ELECTRICAL NOTES:

- A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION.
- B. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE 'CALCULATED AFC' COLUMN.

ELECTRICAL NOTES:

CONTROLLER TYPES:

- VFD - VARIABLE FREQUENCY MOTOR CONTROLLER
MMS - MANUAL MOTOR STARTER (WITH OVERLOADS)
CP - CONTROL PANEL
- MAGS - MAGNETIC STARTER
MRSMS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)

HEAT PUMP SCHEDULE - WATER-TO-AIR

MECHANICAL (238146)

APPLICATION	FAN			COOLING						HEATING			SOURCE WATER					MANUFACTURER	MODEL NUMBER	MECH
	TOTAL CFM	Q _A CFM	ESP (IN W.C.)	EWT (F)	EAT DB (F)	EAT WB (F)	LAT DB (F)	LAT WB (F)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EWT (F)	COMPRESSOR MBH	TOTAL CAPACITY (MBH)	GPM	GLYCOL TYPE	%	WPD (FT)			
HP 01 LOUNGE / LOCKERS	475	300	0.5	86.0	80.6	66.2	59.5	56.9	10.98	15.1	68.0	4.27	18.3	3.5	PROPYLENE	40	5.0	TRANE	EXH-015	1,2,3
HP 02 SHARED OFFICE	215	50	0.5	86.0	80.6	66.2	56.7	55.0	5.63	7.4	68.0	2.25	8.6	1.8	PROPYLENE	40	5.0	TRANE	EXH-006	1,2,3
HP 03 OFFICES	380	50	0.5	86.0	80.6	66.2	56.7	56.6	9.10	11.5	68.0	3.34	14.3	2.8	PROPYLENE	40	5.0	TRANE	EXH-012	1,2,3
HP 04 OFFICES	380	50	0.5	86.0	80.6	66.2	56.7	56.6	9.10	11.5	68.0	3.34	14.3	2.8	PROPYLENE	40	5.0	TRANE	EXH-012	1,2,3
HP 05 WORKROOM	380	50	0.5	86.0	80.6	66.2	56.7	56.6	9.10	11.5	68.0	3.34	14.3	2.8	PROPYLENE	40	5.0	TRANE	EXH-012	1,2,3
HP 06 RETAIL STORAGE	380	50	0.5	86.0	80.6	66.2	56.7	56.6	9.10	11.5	68.0	3.34	14.3	2.8	PROPYLENE	40	5.0	TRANE	EXH-012	1,2,3
HP 07 RETAIL	950	500	0.5	86.0	80.6	66.2	56.1	56.5	23.39	28.3	68.0	7.37	34.4	7.0	PROPYLENE	40	5.0	TRANE	EXH-030	1,2,3
HP 08A DINING	570	50	0.5	86.0	80.6	66.2	57.7	55.8	14.33	18.8	68.0	4.78	23.3	4.2	PROPYLENE	40	5.0	TRANE	EXH-018	1,2,3
HP 08B DINING	570	50	0.5	86.0	80.6	66.2	57.7	55.8	14.33	18.8	68.0	4.78	23.3	4.2	PROPYLENE	40	5.0	TRANE	EXH-018	1,2,3
HP 08C DINING	570	50	0.5	86.0	80.6	66.2	55.7	55.8	14.33	18.8	68.0	4.78	23.3	4.2	PROPYLENE	40	5.0	TRANE	EXH-018	1,2,3
HP 08D DINING	570	50	0.5	86.0	80.6	66.2	55.7	55.8	14.33	18.8	68.0	4.78	23.3	4.2	PROPYLENE	40	5.0	TRANE	EXH-018	1,2,3
HP 09 RECEIVING	760	50	0.5	86.0	80.6	66.2	60.0	56.9	17.12	23.8	68.0	6.55	27.7	5.6	PROPYLENE	40	5.0	TRANE	EXH-024	1,2,3
HP 10 DRY STORAGE	380	50	0.5	86.0	80.6	66.2	56.7	56.6	9.10	11.5	68.0	3.34	14.3	2.8	PROPYLENE	40	5.0	TRANE	EXH-012	1,2,3

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

1. TEMPERATURES SHOWN FOR EWT AND LWT ARE FOR APPROXIMATION PURPOSES FOR INITIAL SIZING. NOTE THAT OUTDOOR AIR CONDITIONS WILL DETERMINE ACTUAL RANGE BASED ON CAPACITY REQUIRED FROM MAKE-UP AIR PREHEAT COIL. SEE FLOW DIAGRAMS.
2. VERIFY THAT ADEQUATE CLEARANCE IN FRONT OF EACH FAN SWITCH ARE PROVIDED. ANY QUESTIONABLE AREAS SHOULD BE REVIEWED WITH EITHER VA FACILITIES, OR ENGINEER OF RECORD, TO VERIFY ACCEPTABILITY PRIOR TO INSTALLATION.
3. PROVIDE EACH HEAT PUMP WITH CONDENSATE DRAIN FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT-DOWN UPON HIGH SIGNS OF DRIVEN FAN OVERFILLING. REFER TO SEQUENCE OF OPERATION FOR REMOTE ALARM NOTIFICATION.

ELECTRICAL

EQUIPMENT TAG	HP/LOAD	VOLTAGE	PHASE	CALCULATED AFC	TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES
HP 01	8.5A	208 V	3	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	29,31	3/4" 3#10 & 1#10 GND	
HP 02	3.7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	29,31	3/4" 3#10 & 1#10 GND	
HP 03	7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	33,35	3/4" 3#10 & 1#10 GND	
HP 04	7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	33,35	3/4" 3#10 & 1#10 GND	
HP 05	7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	37,39	3/4" 3#10 & 1#10 GND	
HP 06	7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	37,39	3/4" 3#10 & 1#10 GND	
HP 07	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	2,4	3/4" 3#10 & 1#10 GND	
HP 08A	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	6,8	3/4" 3#10 & 1#10 GND	
HP 08B	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	10,12	3/4" 3#10 & 1#10 GND	
HP 08C	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	14,16	3/4" 3#10 & 1#10 GND	
HP 08D	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	18,20	3/4" 3#10 & 1#10 GND	
HP 08E	11A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	22,24	3/4" 3#10 & 1#10 GND	
HP 09	15.7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	26,28	3/4" 3#10 & 1#10 GND	
HP 10	7A	208 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	SWITCH	N/A	N/A	DIV 26/DIV 26	ON UNIT	5-1-C2	30,32	3/4" 3#10 & 1#10 GND	

GENERAL ELECTRICAL NOTES:

- A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION.
- B. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE 'CALCULATED AFC' COLUMN.

ELECTRICAL NOTES:

CONTROLLER TYPES:

- VFD - VARIABLE FREQUENCY MOTOR CONTROLLER
MMS - MANUAL MOTOR STARTER (WITH OVERLOADS)
CP - CONTROL PANEL
- MAGS - MAGNETIC STARTER
MRSMS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)

GLYCOL FILL STATION SCHEDULE

MECHANICAL (232113)

EQUIPMENT TAG	APPLICATION	NUMBER OF PUMPS	GPM (EACH)	DISCHARGE HEAD (FT)	PUMP MOTOR HP (EACH)	RPM (EACH)	VOLTAGE/PHASE	TANK CAPACITY (GAL)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
GFS 5-1	GLYCOL LOOP	1	10	70"	1/2	3600	120/1	55	BELL & GOSSETT	GMU-30	1,2
GFS 5-2	GLYCOL LOOP	1	10	70"	1/2	3600	120/1	55	BELL & GOSSETT	GMU-30	1,2

GENERAL MECHANICAL NOTES:

A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.

MECHANICAL NOTES:

1. PROVIDE 4" CONCRETE EQUIPMENT BASE WITH ACCESS TO NEARBY FLOOR DRAIN. COORDINATE ACCESS SPACE FOR SERVICE AND MAINTENANCE WITHIN TIGHT MECHANICAL ROOM.
2. GLYCOL FEED PUMPS TANKS TO BE FILLED WITH 40% PROPYLENE GLYCOL SOLUTION AFTER ALL SYSTEM PIPING HAS BEEN FILLED AND STABILIZED.

ELECTRICAL

EQUIPMENT TAG	HP/LOAD	VOLTAGE	PHASE	CALCULATED AFC	TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES
GFS 5-1	1/2 HP	120 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	N/A	N/A	N/A	N/A	N/A	5-1-N2	33	3/4" 3#12 & 1#12 GND	
GFS 5-2	1/2 HP	120 V	1	10000	INTEGRAL	DIV 23	INTEGRAL	DIV 23	N/A	N/A	N/A	N/A	N/A	5-1-N2	35	3/4" 3#12 & 1#12 GND	

GENERAL ELECTRICAL NOTES:

- A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION.
- B. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE 'CALCULATED AFC' COLUMN.

ELECTRICAL NOTES:

CONTROLLER TYPES:

- VFD - VARIABLE FREQUENCY MOTOR CONTROLLER
MMS - MANUAL MOTOR STARTER (WITH OVERLOADS)
CP - CONTROL PANEL
- MAGS - MAGNETIC STARTER
MRSMS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)

HYDRONIC PUMP SCHEDULE

MECHANICAL (232123)

EQUIPMENT TAG	APPLICATION	TYPE	GPM	DISCHARGE HEAD (FT)	GLYCOL TYPE	GLYCOL %	NPSHR (FT)	RPM	BHP	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	TRIPLE DUTY VALVE		SUCTION DIFFUSER		VFD (YES/NO)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
												MODEL NUMBER	PRESSURE DROP (PSI)	MODEL NUMBER	PRESSURE DROP (PSI)				
GLP 5-01A	GLYCOL LOOP 1	WET ROTER CIRCULATOR	80	40"	PROPYLENE	40%			2.0	1.5"	1.5"	NA	NA	NA	NA	ECM	BELL & GOSSETT	ECOCIRC XL-70-145	1,2,3
GLP 5-01B	GLYCOL LOOP 1	WET ROTER CIRCULATOR	80	40"	PROPYLENE	40%			2.0	1.5"	1.5"	NA	NA	NA	NA	ECM	BELL & GOSSETT	ECOCIRC XL-70-145	1,2,3
GLP 5-02A	GLYCOL LOOP 2	WET ROTER CIRCULATOR	80	40"	PROPYLENE	40%			2.0	1.5"	1.5"	NA	NA	NA	NA	ECM	BELL & GOSSETT	ECOCIRC XL-70-145	1,2,3
GLP 5-02B	GLYCOL LOOP 2	WET ROTER CIRCULATOR	80	40"	PROPYLENE	40%			2.0	1.5"	1.5"	NA	NA	NA	NA	ECM	BELL & GOSSETT	ECOCIRC XL-70-145	1,2,3
HWPP 5-01	HEATING WATER	END SUCTION	100	80"	NONE	0%	8'	-	6.75	3"	2.5"	30S-2.5S	-	DC-3	1.0'	YES	BELL & GOSSETT	SERIES E-1510-2.58B	4,5,6,7
HWPP 5-02	HEATING WATER	END SUCTION	100	80"	NONE	0%	8'	-	6.75	3"	2.5"	30S-2.5S	-	DC-3	1.0'	YES	BELL & GOSSETT	SERIES E-1510-2.58B	4,5,6,7

2.02. EXHAUST FAN CONTROL SEQUENCE (23 34 00)

A. EXHAUST FAN, EF 5-01 (HOOD 76 - NFS 1A MINUTE COOKING), EF 5-02 (HOOD 76 - NFS HOT PRODUCTION), EF 5-07 (HOOD 216 - VCS PREP), EF 5-08 (HOOD 238 - VCS GRILL)

- ARE UPBLAST PRV TYPE FANS SERVING TYPE 1 KITCHEN GREASE EXHAUST HOODS.
- SHALL BE ENABLED/DISABLED MANUALLY THROUGH THE KITCHEN EXHAUST HOOD CONTROLLER.
- NOTE THAT HEAT DETECTOR ASSOCIATED WITH EACH HOOD CONTROLLER SHALL BE ABLE TO OVER-RIDE AND ENABLE FAN ON DETECTION OF HEAT (COOKING).

2. NOTE THAT ENABLING OR DISABLING EACH HOOD SHALL ADJUST/MODIFY FAN SPEED OF ASSOCIATED MAKE-UP AIR UNIT. REFER TO MAKE-UP AIR UNIT SEQUENCE OF OPERATION.

B. EXHAUST FAN, EF 5-03, EF 5-05 (GENERAL EXHAUST)

- ARE DOWNBLAST PRV TYPE FANS SERVING GENERAL EXHAUST REQUIREMENTS.
- SHALL BE OPERATED CONTINUOUSLY AND OFF ONLY FOR MAINTENANCE AND REPAIR ONLY.

C. EXHAUST FAN, EF 5-04 (DISHWASHER EXHAUST)

- IS AN UPBLAST PRV TYPE FAN SERVING THE DISHWASHER EXHAUST HOOD.
- SHALL BE INTERLOCKED WITH ASSOCIATED MAU 5-01 OPERATION TO RUN CONTINUOUSLY WHILE SPACE IS IN OCCUPIED MODE
- FAN SHALL BE LOCKED OFF DURING UNOCCUPIED MODE OPERATION OF MAU 5-01
- FAN SHALL BE ALLOWED FOR MANUAL SHUT-DOWN FOR MAINTENANCE AND REPAIR. PROVIDE BAS ALARM NOTIFICATION.

D. EXHAUST FAN, EF 5-06 (CART WASH GENERAL EXHAUST)

- IS AN UPBLAST PRV TYPE FAN SERVING THE CART WASH AREA EXHAUST REQUIREMENTS.
- SHALL BE INTERLOCKED WITH ASSOCIATED MAU 5-01 OPERATION TO RUN CONTINUOUSLY WHILE SPACE IS IN OCCUPIED MODE
- FAN SHALL BE LOCKED OFF DURING UNOCCUPIED MODE OPERATION OF MAU 5-01
- FAN SHALL BE ALLOWED FOR MANUAL SHUT-DOWN FOR MAINTENANCE AND REPAIR. PROVIDE BAS ALARM NOTIFICATION.

E. EXHAUST FAN REQUIREMENTS (EACH FAN AS REQUIRED):

- INCLUDE DIRECT DRIVE ECM MOTOR WITH SPEED CONTROL FOR BALANCING PURPOSES.
- BAS SHALL ALARM ON FAILURE OF EXHAUST FAN.
- BAS SHALL INDICATE STATUS AND REMOTE ENABLE/DISABLE FUNCTIONALITY.
- INCLUDE AN ACTUATOR FOR ISOLATION DAMPER TO BE INTERLOCKED WITH FAN OPERATION (EXCEPT FOR TYPE 1 GREASE HOOD FANS - NOT ALLOWED).
- 1. INCLUDE A DAMPER END SWITCHES TO PROVE OPEN BEFORE ALLOWING FAN TO START, AND PROVE CLOSED ON SHUT-DOWN

F. DDC MINIMUM POINTS SUMMARY (EACH FAN AS REQUIRED):

DESCRIPTION	TYPE (QUANTITY)	FIELD INTERFACE
FAN STATUS	DIGITAL INPUT	FAN MOTOR CURRENT SENSOR
FAN START/STOP	DIGITAL OUTPUT	MOTOR STARTER OR VFD
FAN SPEED	ANALOG OUTPUT	VFD CONTROLLER
ISOLATION DAMPER	DIGITAL OUTPUT	DAMPER ACTUATOR
DAMPER POSITION	DIGITAL INPUT	END SWITCH(ES)

2.03. DDC SUPPLY AIR VAV BOX WITH REHEAT

A. GENERAL: PRESSURE INDEPENDENT CONTROL OF UNIT SUPPLY AIR QUANTITY BETWEEN MAXIMUM AND MINIMUM VOLUME SET POINTS BY MONITORING SPACE TEMPERATURE AND USING PID ALGORITHMS TO MAINTAIN SPACE TEMPERATURE SET POINTS BY MODULATING THE SUPPLY AIR DAMPER AND CONTROL VALVE(S) FOR REHEAT COIL.

a. OCCUPIED/UNOCCUPIED MODE INDEXING: BY MASTER CONTROL UNIT, WITH TIMED OVERRIDE OF UNOCCUPIED CYCLE INITIATED BY MANUAL SWITCH AT SPACE TEMPERATURE SENSOR/CONTROLLER.

b. OPERATION: DIRECT ACTING CONTROL WITH ADJUSTABLE DEAD BAND BETWEEN HEATING AND COOLING SET POINT.

- SPACE TEMPERATURE: COMPARED TO SET POINTS.
- SUPPLY AIR DAMPER: MODULATED BETWEEN MIN/MAX AIRFLOW VALUES BASED ON OCCUPANCY STATUS (CONSTANT VOLUME).
- REHEAT COIL VALVE(S): ENABLE WITH VAV DAMPER AT SET POSITION WITH ADDITIONAL CALL FOR HEATING. MODULATE SUPPLY SPACE TEMPERATURE HEATING SET POINT.
- AUXILIARY HEAT: ENABLED WHENEVER OUTDOOR AIR TEMPERATURES ARE BELOW 40 DEGREES (ADJ). MODULATE AUXILIARY HEATING VALVE ASSOCIATE WITH VAV ZONE ONCE PRIMARY REHEAT COIL HAS REACHED A 30% OPEN POSITION.

c. SET POINTS

- SPACE TEMPERATURE COOLING:
 - OCCUPIED: 70°F OR AS ESTABLISHED BY USER.
 - UNOCCUPIED (SUMMER): 78 DEGREES (ADJ.)
- SPACE TEMPERATURE HEATING:
 - OCCUPIED: COOLING SET POINT MINUS DEAD BAND.
 - UNOCCUPIED (WINTER): 62 DEGREES (ADJ.)
- UNOCCUPIED MODE: SUPPLY VAV BOX WILL REDUCE CONSTANT VOLUME AIRFLOW SETPOINT TO THE MINIMUM AIR POSITION INDICATED ON EQUIPMENT SCHEDULES. RETURN AIR VOLUME WILL AUTOMATICALLY COMPENSATE TO MAINTAIN SAME DIFFERENTIAL PRESSURE SETTING FOR EACH PARTICULAR SPACE.

e. CONTROLS CONTRACTOR TO PROGRAM ADJUSTABLE HIGH AND LOW LIMITS FOR EACH TEMPERATURE ZONE.

B. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
SPACE TEMPERATURE	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
SUPPLY AIR FLOW RATE	1/BOX	ANALOG INPUT	VAV BOX AIR FLOW SENSOR
SUPPLY DISCHARGE AIR TEMP	1/BOX	ANALOG INPUT	VAV BOX DUCT TEMP SENSOR
VAV BOX AIR DAMPER	1/BOX	ANALOG OUTPUT	VAV BOX DAMPER ACTUATOR
SPACE TEMPERATURE SET POINT	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
HEATING VALVE(S)	1/BOX	ANALOG OUTPUT	VALVE ACTUATOR(S)

ADDITIONAL NOTES: CONTROLS CONTRACTOR SHOULD REFER TO DRAWING KEY NOTES FOR SOME SPACE THERMOSTATS TO BE PROVIDED AS SENSORS ONLY WITH REMOTE ADJUSTABLE SETTINGS VIA BUILDING AUTOMATION.

2.04. HEAT PUMPS CONTROL SEQUENCE (23 81 46)

A. GENERAL: HEAT PUMP SHALL BE CONTROLLED BY THEIR PACKAGED CONTROLS PROVIDED WITH THE EQUIPMENT. COORDINATE COMMUNICATION INTERFACES WITH THIS EQUIPMENT WITH THE MANUFACTURER CONTROLLERS. BRING ALL AVAILABLE POINTS FROM THIS EQUIPMENT INTO THE BAS FOR MONITORING.

B. TEMPERATURE CONTROL: EACH HEAT PUMP SHALL HAVE A CORRESPONDING DDC THERMOSTAT TO CONTROL HEATING OR COOLING OUTPUT REQUIRED TO SATISFY SPACE TEMPERATURE SETPOINT. RESET SPACE TEMPERATURE SETPOINT BASED ON SCHEDULE BELOW.

a. OCCUPIED SETPOINT: USER DEFINED SETPOINT (SOFTWARE LIMITED TO 68 - 74 DEGREES - ADJ)

b. UNOCCUPIED SETPOINT (WINTER): 62 DEGREES (ADJ)

c. UNOCCUPIED SETPOINT (SUMMER): 78 DEGREES (ADJ)

C. CONDENSATE DRAIN OVERFLOW PROTECTION: PROVIDE EACH HEAT PUMP DRAIN PAN WITH A FLOAT SWITCH HARD-WIRED TO SHUT-OFF HEAT PUMP EVAPORATOR FAN UPON REACHING A LEVEL ABOVE THE DISCHARGE DRAIN (INDICATED A CLOGGED DRAIN/PIPE). PROVIDE REMOTE ALARM NOTIFICATION TO BUILDING AUTOMATION.

D. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
SPACE TEMPERATURE	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
SPACE TEMPERATURE SETPOINT	1/ZONE	ANALOG INPUT	DDC THERMOSTAT SETPOINT
EVAPORATOR FAN STATUS/SPEED	1/HP	ANALOG OUTPUT	HEAT PUMP CONTROLLER
COMPRESSOR MOTOR	1/HP	DIGITAL OUTPUT	HEAT PUMP CONTROLLER
REVERSING VALVE	1/HP	DIGITAL OUTPUT	HEAT PUMP CONTROLLER
SUPPLY DISCHARGE AIR TEMP	1/HP	ANALOG INPUT	DUCT TEMP SENSOR
SPACE TEMPERATURE SET POINT	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
CONTROL VALVE(S)	1/HP	ANALOG OUTPUT	VALVE ACTUATOR(S)
CONDENSATE DRAIN OVERFLOW	1/HP	DIGITAL OUTPUT	FLOAT SWITCH

2.05. REHEAT COILS CONTROL SEQUENCE (23 82 16)

A. GENERAL: CONSTANT VOLUME DUCT REHEAT COIL.

a. REHEAT COIL VALVE(S): MODULATE 2-POSITION CONTROL VALVE TO MAINTAIN SPACE TEMPERATURE HEATING SET POINT.

B. SET POINTS

- SPACE TEMPERATURE HEATING:
 - OCCUPIED: 70°F OR AS ESTABLISHED BY USER) SET POINT MINUS DEAD BAND.
 - UNOCCUPIED (SUMMER): 78 DEGREES (ADJ.)
 - UNOCCUPIED (WINTER): 62 DEGREES (ADJ.)
- SPACE TEMPERATURE DEAD BAND: 2°F
- CONTROLS CONTRACTOR TO PROGRAM ADJUSTABLE HIGH AND LOW LIMITS FOR EACH TEMPERATURE ZONE.

c. CONFIRM THAT CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 50 DEGREES PRIOR TO DIVERTING FLOW THROUGH HX-03.

d. PROVIDE MAKE-UP AIR UNIT CONTROL SEQUENCE FOR MODULATION OF AIRFLOW CONTROL DAMPER TO ADJUST VOLUME THROUGH EACH COIL USING CORRESPONDING AIRFLOW SENSOR.

B. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
SPACE TEMPERATURE	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
SUPPLY DISCHARGE AIR TEMP	1/COIL	ANALOG INPUT	REHEAT COIL DUCT TEMP SENSOR
SPACE TEMPERATURE SET POINT	1/ZONE	ANALOG INPUT	SPACE CONTROL MODULE
HEATING VALVE(S)	1/COIL	ANALOG OUTPUT	VALVE ACTUATOR(S)
CONTROL DAMPER	1/COIL	ANALOG OUTPUT	DAMPER ACTUATOR(S)
AIRFLOW SENSOR	1/COIL	ANALOG INPUT	AIRFLOW SENSOR (E8TRON GOLD SERIES)

2.06.A. CHILLED WATER HEAT EXCHANGER (HX 03) CONTROL SEQUENCE

A. GENERAL: FLAT PLATE HEAT EXCHANGER WILL REJECT HEAT FROM GLYCOL LOOP SERVING HEAT PUMPS DURING OUTDOOR AIR CONDITIONS THAT WILL NOT ALLOW FOR EFFICIENT REJECTION THROUGH MAKE-UP AIR UNIT HEAT RECOVERY COIL (SEE SWITCHOVER CONTROL SEQUENCE 2.06.C). CONTROLLED BY BAS THROUGH INDIVIDUAL COMPONENTS/SENSORS PROVIDED BY CONTROLS CONTRACTOR (COORDINATE WITH DIV 23). CHILLED WATER CONTROL VALVE TO HOLD LEAVING WATER TEMPERATURE SET POINT PROVIDED BY BAS AFTER DETERMINING AVAILABLE CAPACITY OF CHILLED WATER SYSTEM. BRING ALL AVAILABLE POINTS FROM THIS EQUIPMENT INTO THE BAS FOR MONITORING.

B. HEAT EXCHANGER LEAVING WATER TEMPERATURE (LWT) SETPOINT SCHEDULE. SET POINT SHALL BE 70 DEGREES (ADJUSTABLE) AND ONLY ENABLE WHEN 3-WAY VALVE IS VERIFY TO BE IN A POSITION FULLY DIVERTING ALL GLYCOL LOOP WATER FLOW THROUGH THE HEAT EXCHANGER (HAVING NO WATER FLOWING TO MAKEUP AIR UNIT HEAT RECOVERY COILS).

a. CONFIRM THAT CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 50 DEGREES PRIOR TO DIVERTING FLOW THROUGH HX-03.

b. PROVIDE ALARM NOTIFICATION IF GLYCOL LOOP LWT FROM FLUID COOLER DROPS BELOW 50 DEGREES (ADJ), OR ABOVE 90 DEGREES, WHILE 3-WAY VALVE IS IN A POSITION DELIVERING WATER TO HEAT EXCHANGER.

C. FLOW ALARM: PROVIDE FLOW SENSOR ON SUPPLY WATER INTO HEAT EXCHANGER TO PROVIDE ALARM NOTIFICATION IF NO FLOW IS DETECTED WHILE 3-WAY VALVE IS IN POSITION OF PROVIDING WATER FLOW.

D. CONTROL VALVE (CHILLED WATER): MODULATE TO MAINTAIN GLYCOL LOOP LEAVING WATER TEMPERATURE (LWT).

E. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
GLYCOL LOOP LEAVING WATER TEMPERATURE (LWT)	1/ZONE	ANALOG INPUT	TEMPERATURE SENSOR
GLYCOL LOOP ENTERING WATER TEMPERATURE (EWT)	1/ZONE	ANALOG INPUT	TEMPERATURE SENSOR
CHILLED WATER SUPPLY TEMPERATURE (EXISTING)	PER BAS	ANALOG INPUT	CHILLER TEMPERATURE SENSOR
INCOMING FLOW TO HEAT EXCHANGER	1	ANALOG INPUT	WATER FLOW METER
3-WAY DIVERTING VALVE	1	ANALOG OUTPUT	3-WAY VALVE ACTUATOR

2.06.B. HEATING WATER HEAT EXCHANGERS (HX 01 & HX 02) CONTROL SEQUENCE

A. GENERAL: FLAT PLATE HEAT EXCHANGER WILL REJECT HEAT FROM GLYCOL LOOP SERVING HEAT PUMPS DURING OUTDOOR AIR CONDITIONS THAT ARE TOO LOW TO BE SATISFIED BY HEAT REJECTED BY TERMINAL HEAT PUMPS ALONE (SEE SWITCHOVER CONTROL SEQUENCE 2.06.C). CONTROLLED BY BAS THROUGH INDIVIDUAL COMPONENTS/SENSORS PROVIDED BY CONTROLS CONTRACTOR (COORDINATE WITH DIV 23). HEATING WATER CONTROL VALVE TO HOLD LEAVING WATER TEMPERATURE SET POINT PROVIDED BY BAS AFTER DETERMINING DEMAND (VIA LAT FROM MAKEUP AIR UNIT). BRING ALL AVAILABLE POINTS FROM THIS EQUIPMENT INTO THE BAS FOR MONITORING.

B. HEAT EXCHANGER LEAVING WATER TEMPERATURE (LWT) SETPOINT SCHEDULE. SET POINT SHALL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE (LAT) FROM ASSOCIATED MAKE-UP AIR UNIT ABOVE 55 DEGREES (ADJUSTABLE). NOTE THAT THIS SEQUENCE SHALL ONLY ENABLE WHEN 3-WAY VALVE IS VERIFY TO BE IN A POSITION FULLY DIVERTING ALL GLYCOL LOOP WATER FLOW THROUGH THE MAKE-UP AIR HEAT RECOVERY COIL EXCEPT - MAU 5-01 DOES NOT HAVE A DIVERTING 3-WAY VALVE TO MONITOR).

a. PROVIDE ALARM NOTIFICATION IF GLYCOL LOOP LWT FROM FLUID COOLER DROPS BELOW 50 DEGREES (ADJ) WHILE 3-WAY VALVE IS IN A POSITION DELIVERING WATER TO HEAT RECOVERY COIL (WHERE APPLICABLE).

C. FLOW ALARM: PROVIDE FLOW SENSOR ON SUPPLY WATER INTO HEAT EXCHANGER TO PROVIDE ALARM NOTIFICATION IF NO FLOW IS DETECTED WHILE 3-WAY VALVE IS IN POSITION OF PROVIDING WATER FLOW.

D. CONTROL VALVE (HEATING WATER): MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE (LAT) SETPOINT ON ASSOCIATED MAKE-UP AIR UNIT.

E. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
MAKEUP UNIT LEAVING AIR TEMPERATURE (LAT)	2/EACH MAU	ANALOG INPUT	TEMPERATURE SENSOR
GLYCOL LOOP LEAVING WATER TEMPERATURE (LWT)	2/EACH HX	ANALOG INPUT	TEMPERATURE SENSOR
GLYCOL LOOP ENTERING WATER TEMPERATURE (EWT)	2/EACH HX	ANALOG INPUT	TEMPERATURE SENSOR
HEATING WATER SUPPLY TEMPERATURE	1 (SHARED)	ANALOG INPUT	Duplicate Point - SEE 2.08 3-WAY VALVE ACTUATOR

2.06.C. GLYCOL LOOP PUMPS AND HEATING/COOLING SWITCHOVER CONTROL SEQUENCE

A. GENERAL: TWO(2) SEPARATE GLYCOL LOOPS WILL MAINTAIN DISCHARGE TEMPERATURES (IN WINTER HEATING MODE) FOR MAKEUP AIR UNITS MAU 5-01 & MAU 5-02. IN ADDITION, THE GLYCOL LOOP ASSOCIATED WITH MAU 5-02 WILL ALSO EITHER REJECT HEAT, OR ADD HEAT, TO THE TERMINAL HEAT PUMP UNITS VIA CHILLED WATER, AND HEATING WATER EXCHANGERS.

B. PUMP REDUNDANCY: BOTH SETS OF PUMPS ARE REDUNDANTLY SIZED AND INTENDED TO ONLY HAVE ONE IN OPERATION. BUILDING AUTOMATION SHALL AUTOMATICALLY SWITCH OVER LEAD PUMP DESIGNATION AFTER A SET NUMBER OF OPERATING HOUR SET BY USER (ADJUSTABLE).

C. GLP 5-01A & 5-01B: SHALL BE ENABLED ONLY UPON CALL FOR HEATING FROM MAU 5-01 AS LEAVING AIR TEMPERATURE DROPS MORE THAN 5 DEGREES (ADJUSTABLE) BELOW SETPOINT AND BE DISABLED IF ENTERING AIR TEMPERATURE ON MAU 5-01 IS ABOVE DISCHARGE SETPOINT.

D. GLP 5-02A & 5-02B: SHALL OPERATE CONTINUOUSLY WHILE HAVING ITS FLOW DIVERTED AS FOLLOWS.

a. HEATING MODE: 3-WAY VALVE SHALL DIVERT ALL FLOW THROUGH HX-01 WHENEVER LEAVING AIR TEMPERATURE FROM MAU 5-02 DROPS MORE THAN 5 DEGREES (ADJUSTABLE) BELOW SETPOINT.

b. COOLING MODE: 3-WAY VALVE SHALL DIVERT ALL FLOW THROUGH HX-03 WHENEVER THE FOLLOWING OCCURS.

- ENTERING AIR TEMPERATURE ON MAU 5-02 IS ABOVE DISCHARGE SETPOINT, AND.
- GLYCOL LOOP TEMPERATURES RISE MORE THAN 5 DEGREES ABOVE SETPOINT, AND.
- CHILLED WATER SUPPLY TEMPERATURE IS CONFIRMED TO BE BELOW 50 DEGREES

c. IF NOT ALL THREE CONDITIONS ABOVE ARE MET, THEN CONTINUE FLOW THROUGH MAU 5-02 WHERE GLYCOL LOOP WILL ACT AS A REHEAT TO COOLING COIL.

E. PUMP SPEED CONTROL: THE TWO GLYCOL LOOPS ARE INDEPENDENT OF EACH OTHER AND INDEPENDENT OF EACH OTHER'S FLOW RATES TO CORRELATE WITH MODE OF OPERATION. EACH FLOW RATE TO BE DETERMINED WITH ASSISTANCE OF BALANCING CONTRACTOR TO VERIFY CONSTANT SPEED SETTING ON PUMP TO ACHIEVE LISTED FLOW RATE.

a. GLP 5-01A & 5-01B: NORMAL OPERATION AT 60 GPM (ADJ) FLOW RATE AND INCREASED TO 80 GPM (ADJ) WHEN MAU BYPASS AIR DAMPER IS OPEN SERVING ALL SPACES FROM MAU 5-01 (REFER TO 'OCCUPIED MODE 5' FROM SEQUENCE PARAGRAPH 2.01.A).

b. GLP 5-02A & 5-02B: NORMAL OPERATION AT 60 GPM (ADJ) FLOW RATE AND INCREASED TO 80 GPM (ADJ) WHEN MAU BYPASS AIR DAMPER IS OPEN SERVING ALL SPACES FROM MAU 5-02 (REFER TO 'OCCUPIED MODE 5' FROM SEQUENCE PARAGRAPH 2.01.A).

c. END OF LINE VALVE ON THIS LOOP SHALL MODULATE BASED ON DIFFERENTIAL PRESSURE SETPOINT (TO BE DETERMINED BY BALANCING CONTRACTOR).

F. DDC MINIMUM POINTS SUMMARY FROM BAS:

DESCRIPTION	TYPE (QUANTITY)	FIELD INTERFACE
GLYCOL LOOPS EWT / LWT (X2)	ANALOG INPUT	PIPE WELL MOUNT TEMP SENSORS (X4)
PUMP STATUS (X4)	DIGITAL INPUT	AMP DRAW SENSOR
PUMP SPEED (X2)	ANALOG INPUT	PUMP INTEGRAL SPEED CONTROLLER
PUMP ENABLE (X4)	DIGITAL OUTPUT	PUMP INTEGRAL SPEED CONTROLLER
DIFFERENTIAL PRESSURE SENSORS (X2)	ANALOG INPUT	DIFFERENTIAL PRESSURE SENSOR
LOOP FLOW RATE (REFERENCE ONLY)	ANALOG INPUT	ALGORITHM OUTPUT FROM PUMP CONTROLLER

2.07. HEATING/COOLING WATER DISTRIBUTION SYSTEM CONTROL SEQUENCES

A. GENERAL OVERVIEW: THE HEATING DISTRIBUTION SYSTEM CONSISTS OF A STEAM REDUCING STATION TO CONVERT 110 PSI INCOMING SERVICE DOWN TO 15 PSI. REDUNDANTLY SIZED STEAM TO HOT WATER HEAT EXCHANGERS FOR GENERATING HEATING WATER. TWO(2) DEDICATED VARIABLE PRIMARY PUMPS WITH VFD SET POINT BALANCED FOR CONTINUOUS WATER OPERATION, AND TWO PLATE AND FRAME HEAT EXCHANGERS PIPED TO GLYCOL DISTRIBUTION LOOPS.

B. PRIMARILY HEATING WATER PUMP CONTROL

1. HWPP 5-01 & 5-02: THESE PUMPS EACH HAVE VFD CONTROLLERS AND ARE EQUALLY SIZED EACH AT 80% FULL SYSTEM LOAD. THE BUILDING AUTOMATION SYSTEM SHALL ASSIGN EACH OF THESE PUMPS AS LEAD/LAG DESIGNATION AND SWAP THAT DESIGNATION ON A DAILY BASIS TO ALLOW EQUAL RUN TIME BETWEEN EACH PUMP. UPON ENABLE THE LEAD PUMP SHALL RAMP UP TO A SINGLE FLOW RATE THROUGH ITS VFD CONTROLLER AFTER THE APPROPRIATE ISOLATION VALVES HAVE BEEN PROVEN OPEN.

2. HEATING WATER PRESSURE DIFFERENTIAL SET POINT: 15 PSI, ADJUSTABLE.

3. START-UP: THE PUMPS SHALL BE SOFT-STARTED THROUGH THEIR VARIABLE SPEED DRIVES. NORMAL POSITION SHALL BE ZERO RPM. PUMP ACCELERATION AND DECELERATION RATES SHALL BE ADJUSTABLE AT THE VARIABLE SPEED DRIVES.

4. PUMPS SHALL MODULATE BASED ON DIFFERENTIAL PRESSURE SETPOINT REQUIRED AT REMOTE POINT IN EACH OF THE TWO (2) CIRCULATION LOOPS. BALANCING CONTRACTOR SHALL DETERMINE PRESSURE REQUIRED FOR FULL DESIGN FLOW AT EACH HEAT EXCHANGER AND ASSIGN THAT VALUE TO EACH DIFFERENTIAL PRESSURE SENSOR IN THOSE LOOPS. MODULATE PUMPS TO SATISFY THE PRESSURE DIFFERENTIAL SETPOINT IN ANY OF THE LOOPS NOT MAINTAINING THAT MINIMUM SETPOINT.

5. A PIPE WELL MOUNTED TEMPERATURE SENSOR, LOCATED IN THE HEATING WATER SUPPLY/RETURN LINE SHALL MONITOR THE SUPPLY/RETURN WATER TEMPERATURE.

C. STEAM REDUCING STATION: PROVIDE MONITORING POINTS FOR STEAM REDUCING STATION VALVES, OUTPUT READINGS/TRENDING FROM STEAM FLOW METERS, ALONG WITH ALARM NOTIFICATION ON INCOMING/OUTGOING PRESSURES.

D. STEAM TRAP MONITORS: ALL STEAM TRAPS, WITH THE EXCEPTION OF THOSE BEING USED AS BACK-UP/REDUNDANT TRAPS, SHALL BE PROVIDED WITH STEAM MONITORING THROUGHOUT THIS BUILDING. CONTROLS CONTRACTOR TO MONITOR AND PROVIDE NOTIFICATION ALARMS FOR ALL TRAPS THROUGH BUILDING AUTOMATION SYSTEM.

E. DDC MINIMUM POINTS SUMMARY FROM BAS:

DESCRIPTION	TYPE (QUANTITY)	FIELD INTERFACE
PRIMARY HW/S/HWR TEMPS	ANALOG INPUT (2)	PIPE WELL MOUNT TEMP SENSORS
PUMP STATUS (X3)	DIGITAL INPUT	AMP DRAW SENSOR
PUMP SPEED (X3)	ANALOG INPUT	VFD CONTROLLER
PUMP ENABLE (X3)	DIGITAL OUTPUT	VFD CONTROLLER
DIFFERENTIAL PRESSURE SENSORS (X3)	ANALOG INPUT	DIFFERENTIAL PRESSURE SENSOR
STEAM PRESSURE(IN/OUT)	ANALOG INPUT	PRESSURE SENSOR
STEAM FLOW/ENERGY/METER	ANALOG INPUT	FLOW METER
STEAM TRAP MONITORS (MULTIPLE)	DIGITAL INPUT	TRAP MONITORS

2.08. HEATING WATER SHELL AND TUBE HEAT EXCHANGERS - CONTROL AND DISTRIBUTION:

A. GENERAL: THE HEATING SYSTEM HEATING SYSTEM CONSISTS OF TWO HEAT EXCHANGERS AND TWO SECONDARY HEATING WATER PUMPS IN A 100%-100% CONFIGURATION.

1. DURING NORMAL OPERATION, THE LEAD HEAT EXCHANGER TO MAINTAIN DISCHARGE WATER TEMPERATURE WHILE THE BACKUP HEAT EXCHANGER AND BACKUP PUMPS ARE AVAILABLE IN CASE OF EMERGENCY OR MAINTENANCE.

B. HEAT EXCHANGER START SEQUENCE:

- OPEN THE HEATING WATER ISOLATION VALVE FOR LEAD HEAT EXCHANGER AND START LEAD PUMP (AS DESCRIBED BELOW).
- THE STEAM VALVE AND THE HEATING WATER ISOLATION SUPPLY VALVE OF THE BACKUP HEAT EXCHANGER SHALL BE CLOSED.
- ON PROOF-OF-FLOW, MODULATE 1/3RD STEAM VALVE TO MAINTAIN SUPPLY WATER DISCHARGE TEMPERATURE SETPOINT OF 180°F (ADJ).
- IF THE SUPPLY WATER DISCHARGE TEMPERATURE FALLS BELOW SETPOINT FOR 30 SECONDS (ADJ), MODULATE OPEN THE 2/3RD STEAM VALVE.
- ALARM BAS AND ACTIVATE THE BACKUP HEAT EXCHANGER IF THE SYSTEM IS UNABLE TO MAINTAIN SETPOINT FOR MORE THAN 2 MINUTES (ADJ) WITH THE STEAM CONTROL VALVE OF THE LEAD HEAT EXCHANGER COMMANDED 100% OPEN.
- MONITOR THE SUPPLY WATER DISCHARGE TEMPERATURE FROM THE HEAT EXCHANGER. ALARM BAS IF THE SUPPLY WATER TEMPERATURE REACHES 200°F.

C. HEAT EXCHANGER STOP SEQUENCE:

- CLOSE STEAM VALVE(S).
- AFTER THE STEAM VALVE(S) HAVE BEEN PROVEN CLOSED, CLOSE HEATING WATER ISOLATION VALVE AFTER THE PUMP HAS STOPPED (AS DESCRIBED BELOW).

D. LEAD/BACKUP OPTIMIZATION:

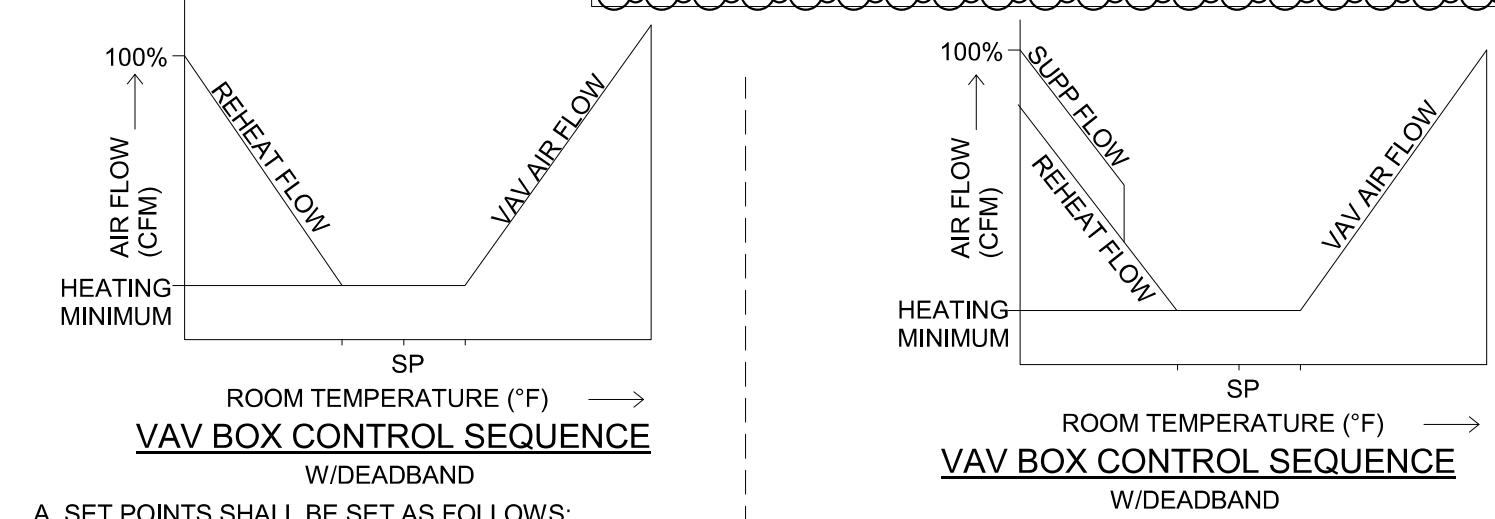
- PROVIDE PROGRAM TO SELECT LEAD/BACKUP HEAT EXCHANGER AND PUMP TO EQUALIZE RUN TIME. INITIALLY SET PROGRAM TO SWITCH LEAD DESIGNATION EVERY 1000 OPERATING HOURS (ADJ).
- OPERATOR SHALL ALSO HAVE THE CAPABILITY TO SELECT THE LEAD HEAT EXCHANGER AND/OR LEAD PUMP FROM THE OPERATOR'S WORKSTATION.
- RUN TIME SHALL BE MONITORED ON AN HOURLY BASIS.

E. DDC POINTS SUMMARY:

DESCRIPTION	QUANTITY	TYPE	FIELD INTERFACE
SUPPLY WATER TEMPERATURE	1	ANALOG INPUT	TEMPERATURE TRANSMITTER
RETURN WATER TEMPERATURE	1	ANALOG INPUT	TEMPERATURE TRANSMITTER
1/3 STEAM VALVE MODULATION	2	ANALOG OUTPUT	VALVE ACTUATOR
2/3 STEAM VALVE MODULATION	2	ANALOG OUTPUT	VALVE ACTUATOR
HX ISOLATION VALVE OPEN/CLOSE	2	DIGITAL OUTPUT	VALVE ACTUATOR
SYSTEM FLOW (GPM)	1	ANALOG INPUT	FLOW METER

3.01. CONTROL CONTRACTOR ASSISTANCE IN COMMISSIONING OF ALL SYSTEMS

A. GENERAL: CONTROLS CONTRACTOR WILL BE REQUIRED TO FULLY PARTICIPATE IN ALL COMMISSIONING ACTIVITIES. COORDINATE SCHEDULE WITH BOTH COMMISSIONING AGENT AND MECHANICAL CONTRACTOR FOR TESTING OF ALL SYSTEMS EITHER NEWLY INSTALLED, OR SIGNIFICANTLY MODIFIED, AS PART OF THIS PROJECT.



A. SET POINTS SHALL BE SET AS FOLLOWS:
COOLING 72°F (ADJ)
HEATING 70°F (ADJ)
DEADBAND OF 2°F BETWEEN HEATING AND COOLING SET POINTS WILL BE MAINTAINED.

B. UPON FALL IN SPACE TEMPERATURE THE VAV DAMPER WILL MODULATE TO MINIMUM POSITION.

C. UPON FURTHER DROP IN SPACE TEMPERATURE VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT $\pm 5^\circ\text{F}$. THE ADJUSTABLE TOLERANCE OF $\pm 5^\circ\text{F}$ HAS BEEN SELECTED TO PREVENT VALVE HUNTING.

D. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.

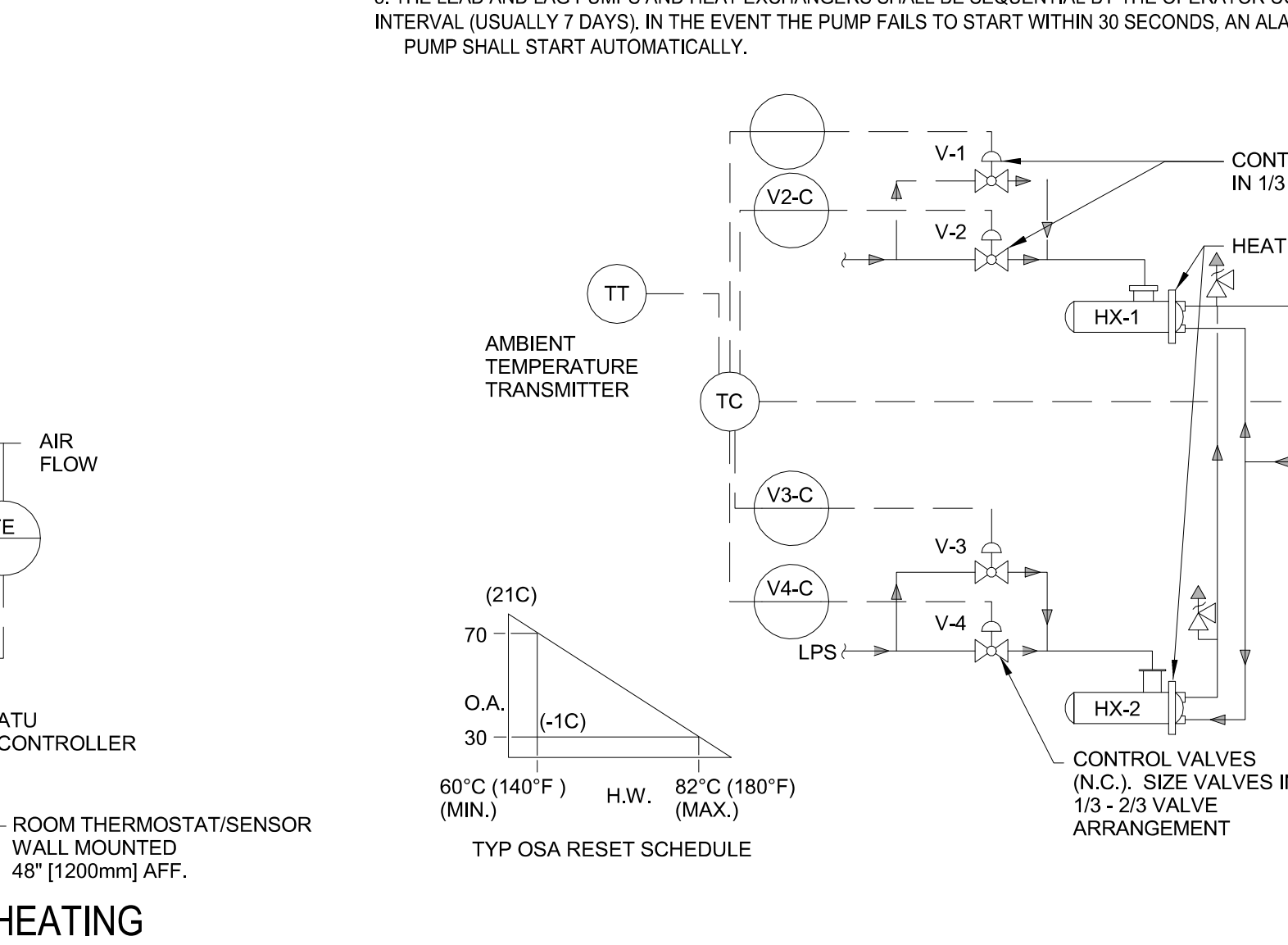
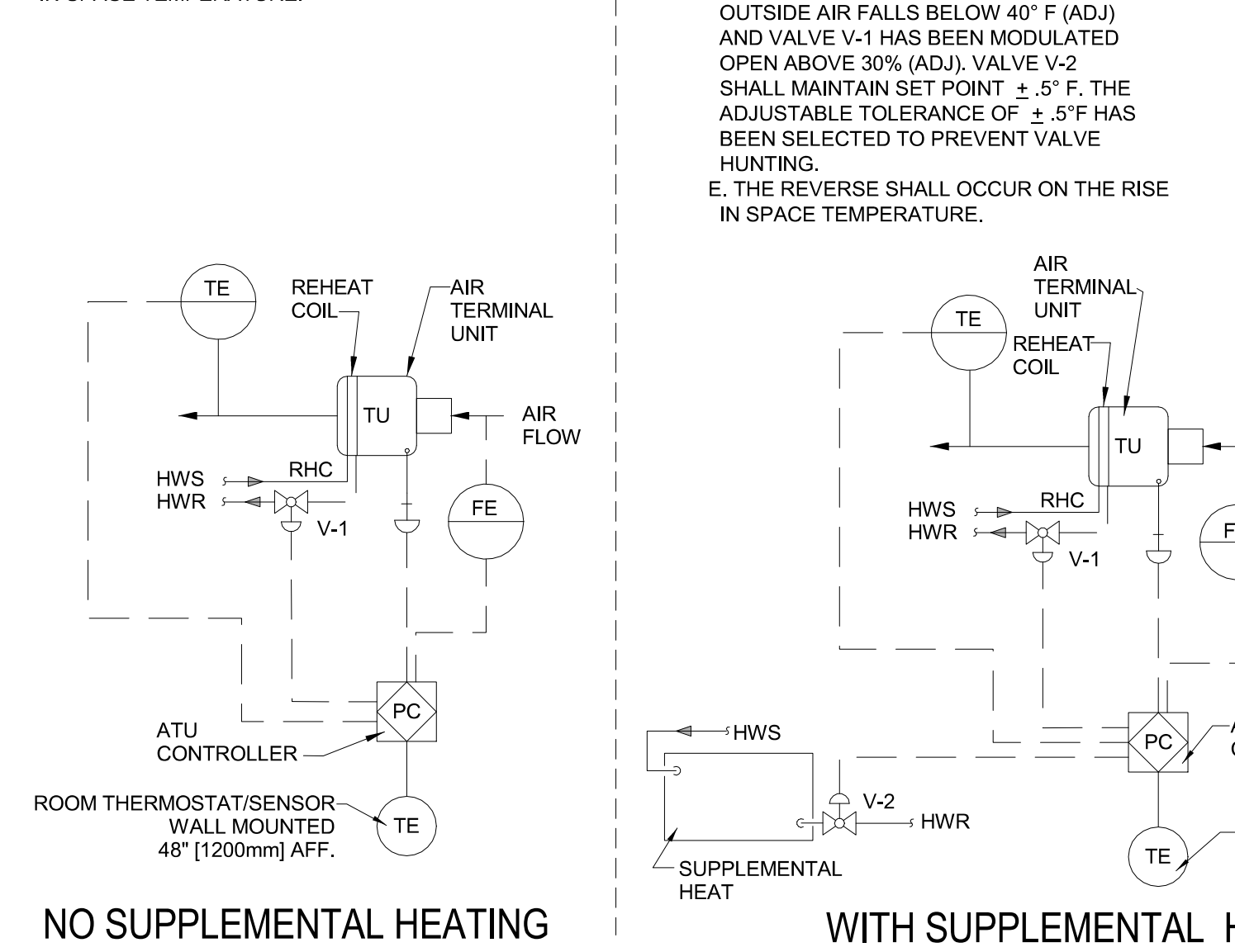
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D. VALVE V-2 SHALL BE ENABLED WHEN OUTSIDE AIR FALLS BELOW 40°F (ADJ) AND VALVE V-1 HAS BEEN MODULATED OPEN ABOVE 30% (ADJ). VALVE V-2 SHALL MAINTAIN SET POINT $\pm 5^\circ\text{F}$. THE ADJUSTABLE TOLERANCE OF $\pm 5^\circ\text{F}$ HAS BEEN SELECTED TO PREVENT VALVE HUNTING.

E. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.



- STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LEAVING HOT WATER TEMPERATURE AT SET POINT.
- THE LEAVING HOT WATER TEMPERATURE SHALL BE RESET INVERSELY WITH THE OUTDOOR TEMPERATURE AS SCHEDULED.
- THE LEAD AND LAG PUMPS AND HEAT EXCHANGERS SHALL BE SEQUENTIAL BY THE OPERATOR CONTROLS AT THE PRE-DETERMINED INTERVAL (USUALLY 1 DAYS). IN THE EVENT THE PUMP FAILS TO START WITHIN 30 SECONDS, AN ALARM SHALL BE INITIATED AND THE SECOND PUMP SHALL START AUTOMATICALLY.

1 BACNET SYSTEM ARCHITECTURE

Revision#	Description	Date:
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS

CIVIL: **Ulteig**
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL: **ERICKSEN ROED**
Ericksen Roed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 651-251-7670

MEP: **DUNHAM**
Dunham Associates, Inc.
30 South Sixth St
Suite 1101
Minneapolis, MN 55402
Phone: 612-445-7550

FOOD SERVICE: **RIPPE ASSOCIATES**
Foodservice Design + Consulting
Rippe Associates
10400 Valley Circle Dr
Suite 110
Sioux Falls, SD 57103
Phone: 605-933-0313

ARCHITECT OF RECORD

STONE GROUP ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP

REGISTERED PROFESSIONAL ENGINEER
REC. NO. 14944
JASON R. GOTTWALT
Professional Engineer
State of South Dakota

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title

SEQUENCE OF OPERATIONS

Approved:

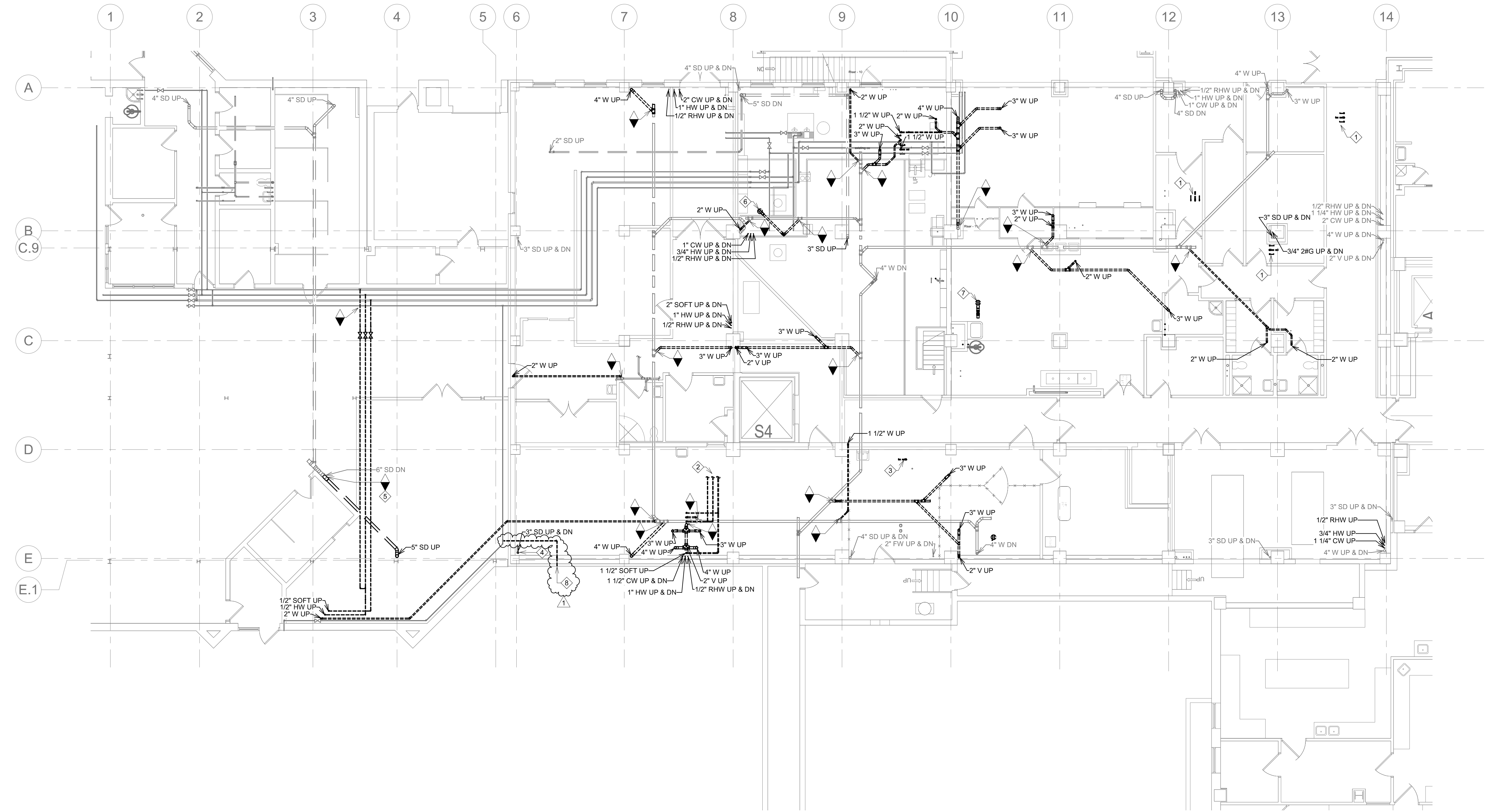
Phase	Project Title	Project Number
	RENOVATE FIRST FLOOR FOR NEW KITCHEN FOR THE SIOUX FALLS VA MEDICAL CENTER	VA #438-21-403 SGA #201956
	Location	Building Number
	SIOUX FALLS, SOUTH DAKOTA	5
Issue Date	Checked	Drawn
08-18-2026	JG	ECTM
		Drawing Number
		M601

GENERAL NOTES:

- A. CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE VA DESIGN GUIDES. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.
- B. CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH WORK SHIFT SHOULD BE ASSUMED IN THE BASE BID SCOPE.
- C. ANY MAJOR OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR DURING WEEKEND PERIODS TO MINIMIZE HOSPITAL DISRUPTION. VA HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE.
- D. COORDINATE ALL NEW PLUMBING PIPING ROUTING WITH ALL OTHER TRADES TO ENSURE ADEQUATE CLEARANCES FOR ELECTRICAL CONDUIT, HVAC DUCTWORK & PIPING, STRUCTURAL SUPPORTS, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS & TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- E. THE EXACT LOCATION OF EQUIPMENT ROUGH-INS SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION.
- F. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. DO NOT SUPPORT ANY PIPING FROM DUCTWORK, CONDUIT OR OTHER PIPING ENCOUNTERED.
- G. WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED OR DISTURBED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.
- H. ALL EXISTING PIPING THROUGH NEW FIRE RATED WALLS SHALL BE ADEQUATELY FIRE SEALED AS REQUIRED. PIPING PENETRATIONS THROUGH INTERSTITIAL FLOOR SHALL BE DRILLED OR CUT BY THE CONTRACTOR AND FIRE SEALED AS REQUIRED.
- I. ALL CORE DRILLING OR ANY ACTIVITIES CAUSING EXTREME VIBRATION OR NOISE SHALL BE COORDINATED TO BE PERFORMED AFTER BUSINESS HOURS TO NOT AFFECT CRITICAL HOSPITAL FUNCTIONS WITHIN ADJACENT AREAS. COORDINATE WITH VA REPRESENTATIVE AS REQUIRED.
- J. FIELD VERIFY EXISTING WATER, WASTE, VENT OR OTHER PIPING SYSTEMS FOR CONNECTIONS TO FIXTURES THAT MAY NOT BE IDENTIFIED ON PLANS PRIOR TO SERVICE OUTAGES. DEMOLITION OR ALTERATIONS OF EXISTING PIPE ROUTING, COORDINATE UNKNOWN SERVICE WITH FACILITIES AND ENGINEER OF RECORD.
- K. CONTRACTOR SHALL MAINTAIN ACCURATE RECORD DRAWINGS SHOWING ALL DISCREPANCIES WITH ANY EXISTING PIPING INDICATED OR REVISIONS TO THE NEW PLUMBING OR FIRE PROTECTION LAYOUTS. ALL CHANGES WILL BE UPDATED WITHIN THE FINAL RECORD DRAWING SET.
- L. ALL CONTRACTORS TO REFERENCE THE INFECTION CONTROL NOTES IDENTIFIED WITHIN THE VENTILATION GENERAL NOTES ON THESE DRAWINGS. CONFORM TO ALL ICRA REQUIREMENTS.
- M. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL PIPING, FITTINGS, VALVES & ACCESSORIES AS REQUIRED FOR INSTALLATION OF OWNER PROVIDED EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- N. REFER TO PLUMBING FIXTURE SCHEDULE AND PLUMBING RISER DIAGRAMS FOR INDIVIDUAL BRANCH SIZES TO FIXTURES.
- O. ALL VALVES TO BE LOCATED ABOVE LAY-IN CEILING FOR ACCESSIBILITY. WHERE VALVES MUST BE LOCATED ABOVE GYPSUM BOARD CEILINGS, MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF 24"x24" ACCESS PANELS WITH GENERAL CONTRACTOR.
- P. PROVIDE CLEANOUTS AT BASE OF EVERY STORM DRAIN LEADER.
- Q. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALL OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

KEY NOTES:

- 1 DEMOLISH CW, HW AND W PIPING BACK TO NEXT ACTIVE MAIN AND CAP.
- 2 DEMOLISH CW, HW, AND RHW PIPING BACK TO NEXT ACTIVE MAIN AND CAP.
- 3 DEMOLISH W PIPING BACK TO NEXT ACTIVE MAIN AND CAP.
- 4 DEMOLISH 3" STORM DRAIN LEADER FROM ABOVE. DISCONNECT 3" STORM DRAIN LEADER JUST BELOW FLOOR AND CAP REMAINING PIPING. ABANDON REMAINING 3" STORM DRAIN PIPING UNDER SLAB.
- 5 DEMOLISH 5" STORM DRAIN PIPING TO POINT OF DISCONNECT. PREPARE 6" STORM DRAIN DOWN FOR NEW CONNECTION.
- 6 DEMOLISH 3" FLOOR DRAIN AND ASSOCIATED WASTE AND VENT PIPING BACK TO POINTS INDICATED.
- 7 DEMOLISH 4" FLOOR DRAIN AND ASSOCIATED WASTE AND VENT PIPING BACK TO NEXT ACTIVE MAIN.
- 8 DEMOLISH EXTERIOR HOSE BIBB AND ASSOCIATED PIPING BACK TO MAIN AND CAP. PATCH EXTERIOR WALL BRICK AS REQUIRED.



1 GROUND FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

KEYPLAN
NTS



Revision#	Description	Date:
2	ADDENDUM #1	10/09/2026
1	ISSUE SET	08/18/2026

CONSULTANTS



Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57105
Phone: 605-323-2306



Ericksen Roed Associates
2550 University Ave W
Suite 423-S
St. Paul, MN 55402
Phone: 651-251-7570

MEP:



Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:



Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD



Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP



Office of
Construction
and Facilities
Management



U.S. Department
of Veterans Affairs

Drawing Title

GROUND FLOOR PLUMBING
PHASE 2 DEMOLITION PLAN

Approved:

Phase

Project Title

RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER

Location

SIOUX FALLS, SOUTH DAKOTA

Issue Date

08-18-2026

Checked

JG

Drawn

ECTM

Project Number

VA #438-21-403
SGA #201956

Building Number

5

Drawing Number

PD002

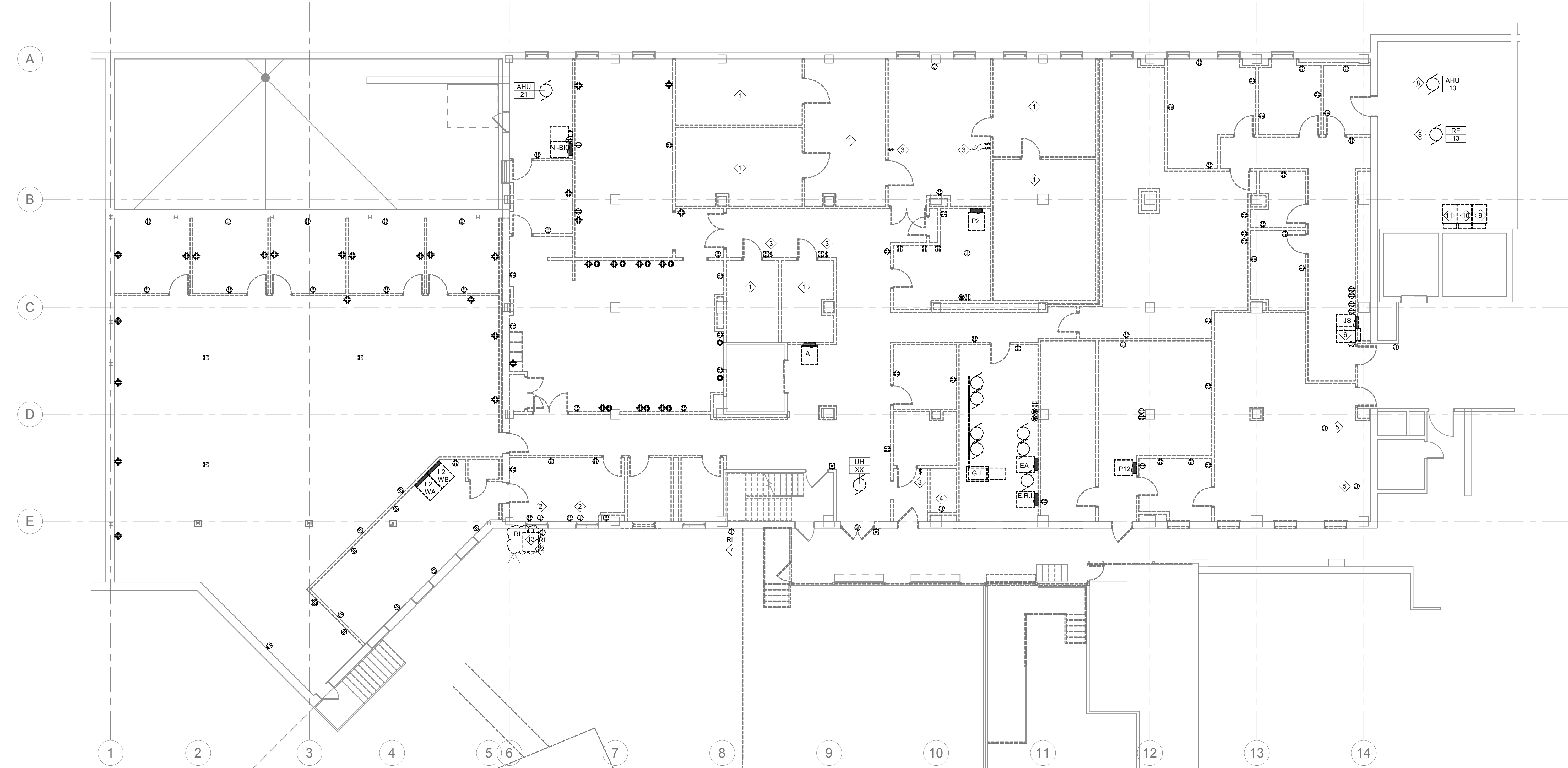
C:\Users\jason\Documents\10 - Renovate New Kitchen P22_jasonphillips27.rvt 10/8/2026 5:34:48 PM

GENERAL NOTES:

- A. BUILDING WILL BE IN USE DURING CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A MANNER AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE DUE TO SERVICE INTERRUPTION. TEMPORARY SERVICES (FEEDER, BRANCH CIRCUIT, AND SIGNAL SYSTEMS) SHALL BE INSTALLED IF ONE AREA OR PHASE OF CONSTRUCTION DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING(S) OR IF THE EQUIPMENT, CONDUITS, OR FEEDERS HAVE TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULED WITH THE OWNER'S SITE REPRESENTATIVE. THERE SHALL BE DESIGNATED AREAS WHERE INTERRUPTIONS LIMITED TO AND SHALL BE CONDUCTED AFTER HOURS (8:00 PM - 6:00 AM) MONDAY THROUGH SATURDAY. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION WHICH EXISTED PRIOR TO THE INTERRUPTION.
- B. SIGNIFICANT NOISE PRODUCING WORK SHALL BE CONDUCTED AFTER HOURS (8:00 PM - 6:00AM)
- C. REMOVE, REPLACE, RELOCATE, ETC. ANY ELECTRICAL DEVICES AND/OR ANY CONDUIT/WIRING AS REQUIRED TO COMPLETE REMODELING AS INDICATED IN THE CONTRACT DOCUMENTS.
- D. DRAWINGS INDICATE EXISTING CONDITIONS AS THEY WERE INDICATED ON OWNER PROVIDED AS-BUILT DRAWINGS AND SITE VERIFICATION. ACTUAL CONDITIONS MAY VARY FROM THE CONDITIONS INDICATED. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT CONDITIONS.
- E. ALL DEVICES, EQUIPMENT, CABLING, ETC. INDICATED IN THE CONTRACT DOCUMENTS TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF IN ACCORDANCE WITH LOCAL AND FEDERAL REGULATIONS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- F. PATCH ALL PENETRATION VOIDS RESULTING FROM DEMOLITION WORK. SEE ARCHITECTURAL DRAWINGS FOR PATCHING DETAILS. MAINTAIN FLOOR AND WALL RATINGS.
- G. DEMOLISH HOME RUN WIRING BACK TO SOURCE UNLESS NOTED OTHERWISE. DO NOT LEAVE CONDUCTORS ABANDONED IN WIREWAY SYSTEMS LOCATED WITHIN THE INTERSTITIAL SPACES.
- H. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALLATION OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING

KEY NOTES:

- 1 DEMOLISH ELECTRICAL CONNECTION TO COOLER/FREEZER BACK TO SOURCE.
- 2 DEMOLISH ELECTRICAL CONNECTION TO BENCH RECEPTACLES.
- 3 COOLER AND/OR FREEZER SUPPLY FAN CONNECTION
- 4 DEMOLISH ELECTRICAL CONNECTION TO HOT WATER CONTROLLER.
- 5 DEMOLISH CONNECTION TO POS FURNITURE.
- 6 DEMOLISH ABANDONED RECESSED ELECTRICAL ENCLOSURE.
- 7 RELOCATE AND EXTEND EXISTING LIGHTING PROTECTION SYSTEM GROUNDING CONDUCTOR.
- 8 DEMOLISH AHU-13 DUCT DETECTOR AND ASSOCIATED FIA MODULES.
- 9 DEMOLISH 5-AHU-13 VFD. FED FROM P12/5,7,9.
- 10 DEMOLISH RF-13 MOTOR CONTROLLER
- 11 5-AHU-13 JOHNSON CONTROLS, REMOVE ALL AHU 13 COMPONENTS.
- 12 RELOCATE UNDERGROUND FUEL TANK SENSOR TO ACCESSIBLE LOCATION
- 13 RELOCATE DISCONNECT. EXTEND EXISTING CIRCUIT TO NEW LOCATION.



1 FIRST FLOOR POWER DEMOLITION PLAN
1/8" = 1'-0"

Revision#	Description	Date:
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS

CIVIL:
Ulteig
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL:
ERA
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 612-251-7570

MEP:
DUNHAM
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

FOOD SERVICE:
RIPPE ASSOCIATES
Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55343
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP



Office of
Construction
and Facilities
Management



U.S. Department
of Veterans Affairs

Drawing Title

FIRST FLOOR POWER
DEMOLITION PLAN

Approved:

Phase

Project Title

RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER

Location

SIOUX FALLS, SOUTH DAKOTA

Issue Date

08-18-2026

Checked

CB

Drawn

BZ

Project Number

VA #438-21-403
SGA #201956

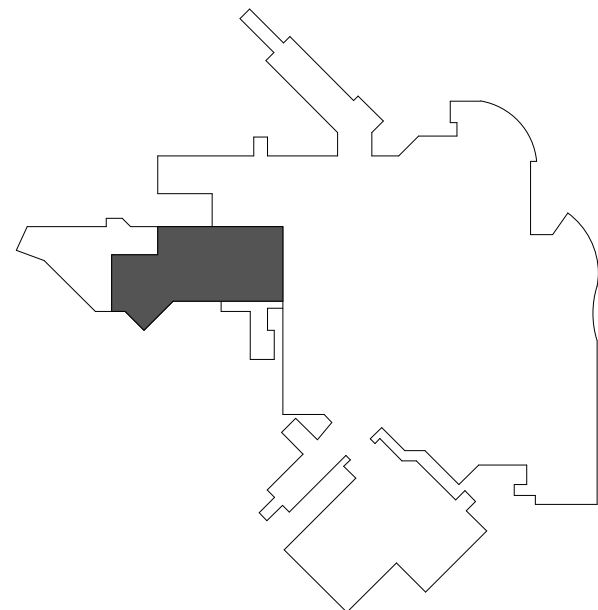
Building Number

5

Drawing Number

ED102

KEYPLAN
NTS

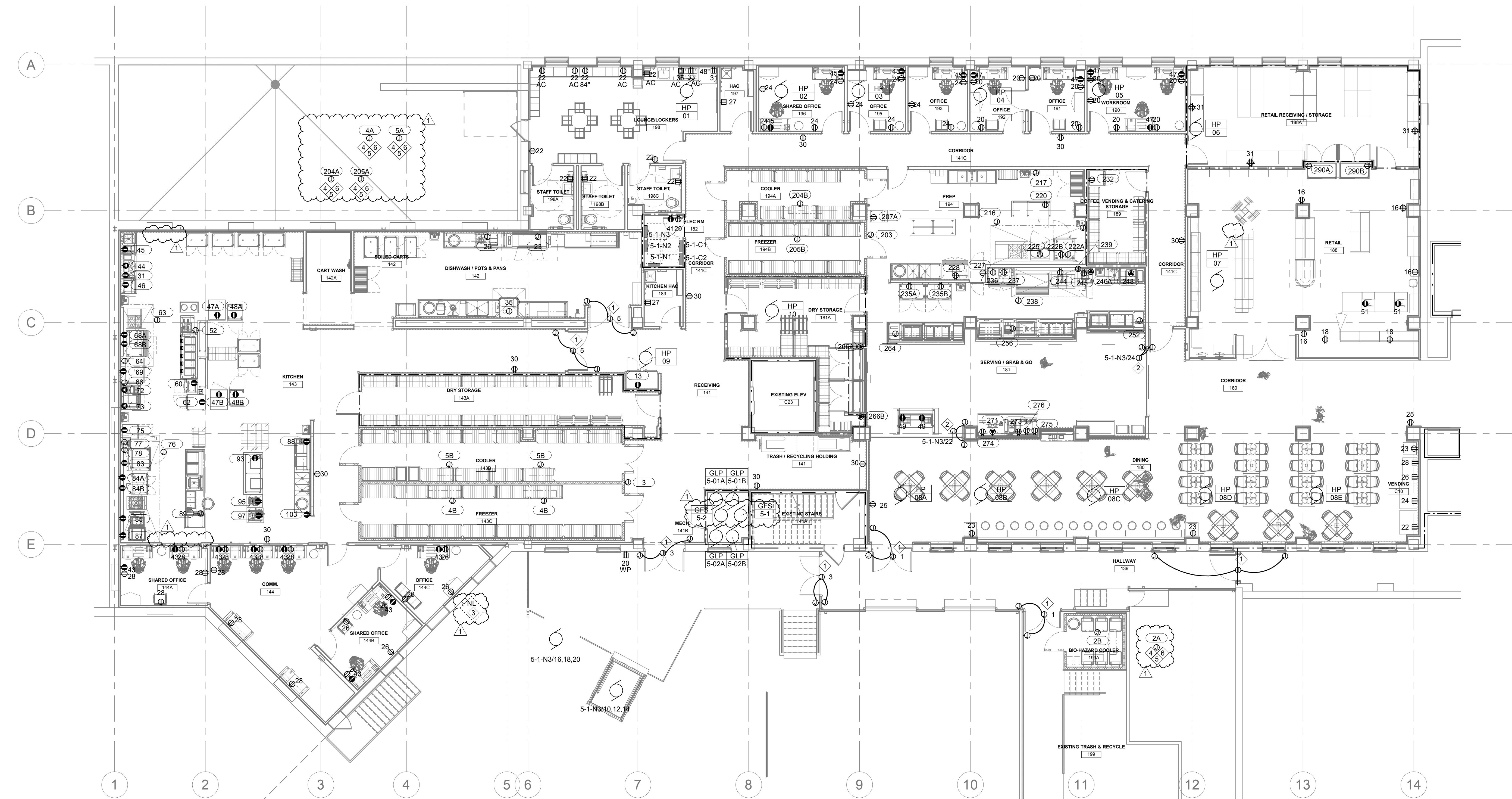


GENERAL NOTES:

- A. BUILDING WILL BE IN USE DURING CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A MANNER AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE DUE TO SERVICE INTERRUPTION. TEMPORARY SERVICES (FEEDER, BRANCH CIRCUIT, AND SIGNAL SYSTEMS) SHALL BE INSTALLED IF ONE AREA OR PHASE OF CONSTRUCTION DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING(S) OR IF THE EQUIPMENT, CONDUITS, OR FEEDERS HAVE TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULED WITH THE OWNER'S SITE REPRESENTATIVE. THERE SHALL BE DESIGNATED AREAS WHERE INTERRUPTIONS LIMITED TO AND SHALL BE CONDUCTED AFTER HOURS (8:00 PM - 6:00 AM) MONDAY THROUGH SATURDAY. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION WHICH EXISTED PRIOR TO THE INTERRUPTION.
- B. SIGNIFICANT NOISE PRODUCING WORK SHALL BE CONDUCTED AFTER HOURS (8:00 PM - 6:00 AM)
- C. REMOVE, REPLACE, RELOCATE, ETC. ANY ELECTRICAL DEVICES AND/OR ANY CONDUIT WIRING AS REQUIRED TO COMPLETE REMODELING AS INDICATED IN THE CONTRACT DOCUMENTS.
- D. DRAWINGS INDICATE EXISTING CONDITIONS AS THEY WERE INDICATED ON OWNER PROVIDED AS-BUILT DRAWINGS AND SITE VERIFICATION. ACTUAL CONDITIONS MAY VARY FROM THE CONDITIONS INDICATED. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT CONDITIONS.
- E. ALL DEVICES, EQUIPMENT, CABLING, ETC. INDICATED IN THE CONTRACT DOCUMENTS TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF IN ACCORDANCE WITH LOCAL AND FEDERAL REGULATIONS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- F. PATCH ALL PENETRATION VOIDS RESULTING FROM DEMOLITION WORK. SEE ARCHITECTURAL DRAWINGS FOR PATCHING DETAILS. MAINTAIN FLOOR AND WALL RATINGS.
- G. DEMOLISH HOME RUN WIRING BACK TO SOURCE UNLESS NOTED OTHERWISE. DO NOT LEAVE CONDUCTORS ABANDONED IN WIREWAY SYSTEMS LOCATED WITHIN THE CEILING SPACES. SEE MECHANICAL/ELECTRICAL SCHEDULES FOR ADDITIONAL INFORMATION.
- H. REFER TO EQUIPMENT SCHEDULES FOR ADDITIONAL INFORMATION ON CONNECTION TO EQUIPMENT.
- I. REFERENCE ARCHITECTURAL SHEETS A-100 AND A-110 FOR ADDITIONAL WORK REQUIRED IN GROUND FLOOR WAREHOUSE AREA FOR INSTALLATION OF SPRAY-APPLIED INTUMESCENT FIRE RESISTIVE COATING.

KEY NOTES:

1. INSTALL 1/2" FROM THE POWERED DOOR PUSH BUTTONS TO THE POWERED DOOR CONTROL BOX FOR ROUTING OF CONTROL WIRES. FOLLOW MANUFACTURER GUIDELINES FOR PLACEMENT OF POWERED DOOR POWER SUPPLY. INSTALL DISCONNECT TOGGLE SWITCH WITHIN 36" OF THE CONNECTION POINT.
2. INSTALL 1/2" FROM COIL DOOR OPERATORS TO THE POWERED DOOR CONTROL BOX FOR ROUTING OF CONTROL WIRES. FOLLOW MANUFACTURER GUIDELINES. INSTALL DISCONNECT SWITCH WITHIN 36" OF THE CONNECTION POINT.
3. EXTEND EXISTING CIRCUIT. COORDINATE FINAL LOCATION WITH EQUIPMENT.
4. EXTEND EXISTING LIGHTNING PROTECTION SYSTEM TO NEW MECHANICAL EQUIPMENT. USE ALUMINUM PARALLEL CABLE SPOCER TO CONNECT TO EXISTING SYSTEM.
5. PROVIDE BOND PLATE AND ALUMINUM BLUNT TIP AIR TERMINALS NEW MECHANICAL EQUIPMENT. PROVIDE AIR TERMINAL QUANTITY PER LIGHTNING PROTECTION SYSTEM MANUFACTURE RECOMMENDATIONS.
6. COORDINATE WITH FINAL APPROVED SUBMITTAL FOR ELECTRICAL CONNECTION REQUIREMENTS.



1 FIRST FLOOR POWER PLAN
1/8" = 1'-0"

Revision#	Description	Date
2	ADDENDUM 01	10-09-2026
1	ISSUE SET	08-18-2026

CONSULTANTS

CIVIL: **Ulteig**
Ulteig Engineers, Inc.
5701 South Corporate Place
Sioux Falls, SD 57108
Phone: 605-323-2306

STRUCTURAL: **ERA**
ERICKSEN ROED
Ericksen Roed Associates
2550 University Ave W
Suite 423 S
St. Paul, MN 55402
Phone: 651-251-7570

MEP: **DUNHAM**
Dunham Associates, Inc.
50 South Sixth St
Suite 1100
Minneapolis, MN 55402
Phone: 612-465-7550

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Foodservice Design + Consulting
Rippe Associates
10400 Yellow Circle Dr
Suite 100
Minneapolis, MN 55433
Phone: 952-933-0313

ARCHITECT OF RECORD

STONE GROUP
ARCHITECTS
Stone Group Architects, Inc.
600 East 7th Street
Sioux Falls, SD 57103
Phone: 605-271-1144

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 13954
JUSTIN A. THINER
SOUTH DAKOTA
10/09/2026

Office of
Construction
and Facilities
Management
VA U.S. Department
of Veterans Affairs

Drawing Title
FIRST FLOOR POWER PLAN

Approved:

Phase

Project Title
**RENOVATE FIRST FLOOR FOR
NEW KITCHEN FOR THE SIOUX
FALLS VA MEDICAL CENTER**

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
08-18-2026

Checked
CB

Drawn
BZ

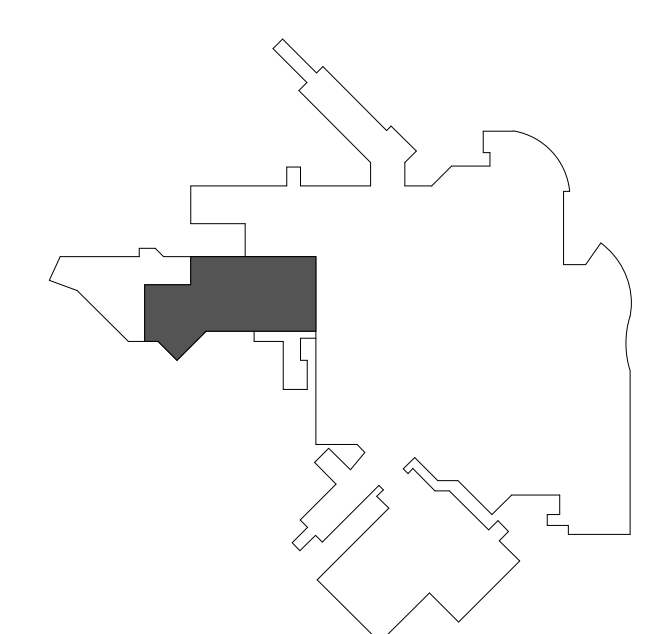
Project Number
**VA #438-21-403
SGA #201956**

Building Number
5

Drawing Number
EP101



- ## KEY NOTES:
1. EXTEND EXISTING LIGHTNING PROTECTION SYSTEM TO NEW MECHANICAL EQUIPMENT. USE ALUMINUM PARALLEL CABLE SPLICER TO CONNECT TO EXISTING SYSTEM.
 2. PROVIDE BOND PLATE AND ALUMINUM BLUNT TIP AIR TERMINALS NEW MECHANICAL EQUIPMENT. PROVIDE AIR TERMINAL QUANTITY PER LIGHTNING PROTECTION SYSTEM MANUFACTURE RECOMMENDATIONS.
 3. PROVIDE UNISTRUT MOUNT FOR RECEPTACLE.

[illegible]

LIGHT FIXTURE SCHEDULE

ELECTRICAL										
FIXTURE LETTER	FIXTURE STYLE	VOLTAGE	MOUNTING	LAMPS		FIXTURE	CONTROL MEDIA (LENS, LOUVER, ETC.)	MANUFACTURER'S SERIES NUMBER	FIXTURE DESCRIPTION	NOTES
A1	2X4 LED LENSED TROFFER	120	LAY-IN GRID INVERTED TEE	TYPE LED 5000 LUM MIN	COLOR 4000K	BALLAST/ DRIVER DIMMING 0-10V (10%)	50 VA	0.125" MINIMUM ACRYLIC LENS	COOPER-METALLUX GR SERIES COLUMBIA LLT SERIES LITHONIA 2GTL SERIES	SPRING LATCHES, POST PAINTED STEEL HOUSING, FLUSH ALUM. MITERED CORNERED DOOR FRAME, GASKETED AND/OR WITH METAL LIGHT BAFFLES. DOOR CAN BE LATCHED FROM EITHER SIDE OF HOUSING
A2	2X4 LED LENSED TROFFER	120	LAY-IN GRID INVERTED TEE	LED 4000 LUM MIN	4000K	DIMMING 0-10V (10%)	40 VA	0.125" MINIMUM ACRYLIC LENS	COOPER-METALLUX CZ SERIES OR APPROVED EQUAL	SPRING LATCHES, POST PAINTED STEEL HOUSING, FLUSH ALUM. MITERED CORNERED DOOR FRAME, GASKETED AND/OR WITH METAL LIGHT BAFFLES. DOOR CAN BE LATCHED FROM EITHER SIDE OF HOUSING
E1	EXIT SIGN, SINGLE FACE, EDGE LIT, AC ONLY	120	RECESSED	LED	RED	N/A	4 VA	RED LETTERS	ISOLITE ELT SERIES DUAL LITE LE SERIES EVENLITE SOV SERIES	BRUSHED ALUMINUM BASE, CLEAR FACE, MIRROR BACK, UNIVERSAL FACEPLATE KIT, MOUNTING PER FLOOR PLAN, AC ONLY UL924
E2	EXIT SIGN, DOUBLE FACE, EDGE LIT, AC ONLY	120	RECESSED	LED	RED	N/A	5 VA	RED LETTERS	ISOLITE ELT SERIES DUAL LITE LE SERIES EVENLITE SOV SERIES	BRUSHED ALUMINUM BASE, CLEAR FACE, MIRROR BACK, UNIVERSAL FACEPLATE KIT, MOUNTING PER FLOOR PLAN, AC ONLY UL924
F4	4" INDUSTRIAL	120	SURFACE/ CHAIN HUNG	LED 2500 LUM MIN	4000K	DIMMING 0-10V (10%)	25 VA	SEMI FROSTED ACRYLIC LENS	COOPER-METALLUX SNLED SERIES COLUMBIA LXEM SERIES LITHONIA CLX SERIES	STEEL CHANNEL, WHITE POWDER COAT
F6A	4" INDUSTRIAL, GASKETED VAPORTITE	120	SURFACE/ CHAIN HUNG	LED 4000 LUM MIN	4000K	DIMMING 0-10V (10%)	50 VA	ACRYLIC, FROSTED LENS	COOPER-METALLUX 4VT2-LD4 SERIES COLUMBIA LXEM SERIES LITHONIA FEM LED SERIES	WET LOCATION, IP-65
L2	1.5" X 8" RECESSED LINEAR	120	LAY-IN GRID INVERTED TEE	LED 3500 LUM MIN	4000K	DIMMING 0-10V (10%)	90 VA	FLUSH, 0.125" MINIMUM ACRYLIC LENS	NEO-RAY S121 SERIES AXIS SCULPT SERIES FOCAL POINT SEEM 1 SERIES	EXTRUDED ALUMINUM HOUSING, STEEL CHANNEL, WHITE POWDER COAT
L3	4" X 2" RECESSED LINEAR	120	LAY-IN GRID INVERTED TEE	LED 700 LUM/FT	4000K	DIMMING 0-10V (10%)	35 VA	FLUSH, SNAP-IN SATIN LENS	NULITE R64 SERIES AXIS BEAM 4 SERIES MARK SL4L SERIES	CONTINUOUS WHITE ALUMINUM HOUSING
L4	4" X 4" RECESSED LINEAR	120	LAY-IN GRID INVERTED TEE	LED 700 LUM/FT	4000K	DIMMING 0-10V (10%)	40 VA	FLUSH, SNAP-IN SATIN LENS	NULITE R64 SERIES AXIS BEAM 4 SERIES MARK SL4L SERIES	CONTINUOUS WHITE ALUMINUM HOUSING
L11	8" SUSPENDED DIRECT/INDIRECT	120	SUSPENDED 18" DROP	LED 4000 LUM MIN	4000K	DIMMING 0-10V (10%)	92 VA	ACRYLIC LENS, 35% INDIRECT/65% DIRECT	CORONET ECO LED SERIES COOPER CORELITE J3 SERIES ALERA LPT SERIES	CONTINUOUS WHITE HOUSING, POST PAINTED, MATTE WHITE POWDER COAT
P4	12" PENDANT	120	PENDANT	LED 2000 LUM MIN	4000K	DIMMING 0-10V (10%)	30 VA	N/A	SHAPER SENSE DRUM SERIES OR APPROVED EQUAL	TO BE DETERMINED
R3	WEATHER PROOF WALL PACK - CYLINDER	120	WALL	LED 800 LUM MIN	4000K	DIMMING 0-10V	15 VA	CLEAR TEMPERED GLASS, TYPE III DISTRIBUTION	LITHONIA OLLWD SERIES OR APPROVED EQUAL	BRONZE, INTEGRAL PHOTOCCELL

GENERAL ELECTRICAL NOTES:
A. REFER TO SPECIFICATION SECTIONS 285100 AND 285600 FOR LIGHT FIXTURE REQUIREMENTS.
B. BRING CONFLICTS BETWEEN THE MANUFACTURER'S CATALOG NUMBER AND DESCRIPTIONS TO THE ATTENTION OF THE ENGINEER.
C. LIGHT SOURCE SHALL HAVE COLOR TEMPERATURE 3500K WITH MINIMUM CRI OF 80 UNLESS OTHERWISE NOTED.
D. UNLESS A SPECIFIC CATALOG NUMBER OR SERIES IS NAMED, THE MANUFACTURER'S NAMED ALTERNATES MUST SUBMIT CATALOG CUT SHEETS AND IES FORMATTED PHOTOMETRIC REPORT TO THE ENGINEER FOR APPROVAL.
E. AT LEAST 10 DAYS PRIOR TO BID DATE, THE ENGINEER MAY REQUEST SAMPLE OF LUMINAIRE TO BE SUPPLIED.
F. MINIMUM LUMENS LISTED FOR LIGHT FIXTURES ARE DELIVERED LUMENS BASED ON PHOTOMETRIC TESTING COMPLETED IN ACCORDANCE WITH IES LM-79 STANDARDS.
G. SUBSTITUTE LIGHT FIXTURE IS SUBJECT TO ARCHITECT/ENGINEER APPROVAL.

NOTES:

LIGHTING CONTROL SEQUENCE SCHEDULE

LIGHTING CONTROL SEQUENCE SYMBOL FOUND ON LIGHTING PLAN(S).									
LIGHTING CONTROL SEQUENCE	VACANCY SENSOR	OCCUPANCY SENSOR	AUTO OFF TIME (MINUTES)	LIGHT REDUCTION % SWITCHING (MIN 50%)	DIMMING TYPE	DIMMING LEVEL	MANUAL ON/OFF	NOTES	
LC 1	-	DT	15	50	0-10V	0.01	YES		
LC 2	-	DT	20	50	0-10V	0.01	YES		
LC 3	PIR		10	50	0-10V	0.01	YES		

GENERAL NOTES:
A. PROVIDE ALL PARTS AND PIECES NECESSARY TO MAKE A FUNCTIONAL LIGHTING CONTROL SYSTEM WITH ALL CONTROLS AS MARKED ABOVE.
B. SUPPLIER TO PROVIDE COMPLETE WIRING DIAGRAM PRIOR TO INSTALLATION.
C. IF DIMMING IS CALLED FOR IN SCHEDULE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND PROVIDE ALL NECESSARY PARTS, BALLASTS, DRIVERS, ETC. TO PROVIDE THE DIMMING FUNCTION.
D. CONTRACTOR TO PROVIDE ALL WIRING NECESSARY INCLUDING ANY 0-10V CONTROL WIRING AS REQUIRED.
E. CONTRACTOR MUST COMPLY WITH THE CONTROLS INTENT AS INDICATED ON THE DRAWINGS.
F. AT MINIMUM, CONTRACTOR SHALL HOLD TWO PRE CONSTRUCTION MEETINGS, PRIOR TO BID, WITH THEIR SELECTED LIGHTING CONTROLS VENDOR OR SUPPLIER.
G. THE INTENT OF (2) PRE CONSTRUCTION MEETINGS IS TO DEVELOP AN UNDERSTANDING OF THE CONTROLS SYSTEM TO ACCURATELY ACCOUNT FOR ALL POWER, CONTROLS, CABLING, EQUIPMENT AND CONNECTION REQUIREMENTS.
H. CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS, ACCESSORIES AND ASSOCIATED LABOR FOR THEIR SELECTED LIGHTING CONTROLS SYSTEM.

ELECTRICAL NOTES:

SYSTEMS - VIDEO SURVEILLANCE SCHEDULE

CAMERA	ROOM NAME	ROOM #	CAMERA TYPE	HOUSING TYPE	MOUNTING	NOTES
02 FIRST FLOOR PLAN						
C 1	CORRIDOR	141C	WIDE ANGLE	DOME	SURFACE CEILING	
C 2	OFFICE	191	FIXED	DOME	SURFACE CEILING	
C 3	RETAIL RECEIVING / STORAGE	188A	360 DEGREE	DOME	SURFACE CEILING	
C 4	RETAIL	188	360 DEGREE	DOME	SURFACE CEILING	
C 5	RETAIL	188	360 DEGREE	DOME	SURFACE CEILING	
C 6	RETAIL	188	FIXED	DOME	SURFACE CEILING	
C 7	CORRIDOR	141C	FIXED	DOME	SURFACE CEILING	
C 8	SERVING / GRAB & GO	181	FIXED	DOME	SURFACE CEILING	
C 9	PREP	194	360 DEGREE	DOME	SURFACE CEILING	
C 10	SERVING / GRAB & GO	181	360 DEGREE	DOME	SURFACE CEILING	
C 11	SERVING / GRAB & GO	181	WIDE ANGLE	DOME	SURFACE CEILING	
C 12	RECEIVING	141	360 DEGREE	DOME	SURFACE CEILING	

ELECTRICAL EQUIPMENT SCHEDULE

EQUIPMENT TAG	DESCRIPTION	LOCATION	ROOM NAME	NUMBER	VOLTAGE	PHASE	PANEL	CIRCUIT NUMBER	CONDUIT AND FEEDER SIZE	CONNECTION TYPE	NOTES
2A	CONDENSING UNIT				208 V	3	5-1-C1	15,17,19	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
2B	REFRIGERATION SYSTEM COIL		BIO-HAZARD COOLER	199A	120 V	1	5-1-C1	37	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
3	WALK-IN CONNECTION		RECEIVING	141	120 V	1	5-1-C1	33	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
4A	CONDENSING UNIT				208 V	3	5-1-C1	21,23,25	3/4"C, 3#8 & 1#10 GND	DIRECT CONNECT	
4B	REFRIGERATION SYSTEM COIL		FREEZER	143C	120 V	1	5-1-C1	1	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
4B	REFRIGERATION SYSTEM COIL		FREEZER	143C	120 V	1	5-1-C1	3	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
5A	CONDENSING UNIT				208 V	3	5-1-C1	27,29,31	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
5B	FREEZER SYSTEM COIL		COOLER	143B	120 V	1	5-1-C1	5	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
5B	FREEZER SYSTEM COIL		COOLER	143B	120 V	1	5-1-C1	5	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
13	REACH-IN REFRIGERATOR		RECEIVING	141	120 V	1	5-1-C1	13	3/4"C, 2#12 & 1#12 GND	5-15P	
23	DISHMACHINE W/BOOSTER HEATER		DISHWASH / POTS & PANS	142	208 V	3	SWBD 5-1	1	2"C, 3-3/8 & 1#6 GND	CONTROL PANEL	
26	MINI WASTE XPRESS SYSTEM		DISHWASH / POTS & PANS	142	208 V	3	5-1-N1	7,9,11	3/4"C, 3#8 & 1#10 GND	CONTROL PANEL	
31	TEA BREWER		KITCHEN	143	120 V	1	5-1-C2	21	3/4"C, 2#12 & 1#12 GND	5-15P	
35	POT AND PAN SINK W/AGITATOR		DISHWASH / POTS & PANS	142	208 V	3	SWBD 5-1	4	1"C, 4#6 & 1#6 GND	DIRECT CONNECT	
44	AIRPOT BREWER		KITCHEN	143	208 V	2	5-1-C2	23,25	3/4"C, 2#8 & 1#10 GND	6-30P	
45	TRIPLE 5 GALLON BOWL		KITCHEN	143	120 V	1	5-1-C2	27	3/4"C, 2#12 & 1#12 GND		
46	ICE DISPENSER		KITCHEN	143	120 V	1	5-1-C2	19	3/4"C, 2#12 & 1#12 GND		
47A	MOBILE AIR SCREEN REFRIGERATOR		KITCHEN	143	120 V	1	5-1-C1	2	3/4"C, 2#12 & 1#12 GND	5-15P	
47B	MOBILE AIR SCREEN REFRIGERATOR		KITCHEN	143	120 V	1	5-1-C1	4	3/4"C, 2#12 & 1#12 GND	5-15P	
48A	REACH-IN FREEZER		KITCHEN	143	120 V	1	5-1-C1	2	3/4"C, 2#12 & 1#12 GND	5-15P	
48B	REACH-IN FREEZER		KITCHEN	143	120 V	1	5-1-C1	4	3/4"C, 2#12 & 1#12 GND	5-15P	
52	LOAD CENTER A		KITCHEN	143	208 V	3	5-1-C2	1,3,5	1 1/4"C, 3#3 & 1# 8 GND	DIRECT CONNECT	
60	MICROWAVE OVEN		KITCHEN	143	120 V	1	5-1-C1	6	3/4"C, 2#12 & 1#12 GND	5-15P	
62	MOBILE WARMING CABINET		KITCHEN	143	120 V	1	5-1-C1	8	3/4"C, 2#12 & 1#12 GND	5-20P	
63	EXHAUST HOOD (TYPE 1)		KITCHEN	143	120 V	1	5-1-C1	53	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
64	FIRE PROTECTION SYSTEM		KITCHEN	143	120 V	1	5-1-C1	55	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
66	EXHAUST HOOD (TYPE 1)		KITCHEN	143	120 V	1	5-1-C1	57	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
68A	GRILL		KITCHEN	143	120 V	1	5-1-C2	17	3/4"C, 2#12 & 1#12 GND	5-15P	
68B	REFRIGERATED BASE		KITCHEN	143	120 V	1	5-1-C2	17	3/4"C, 2#12 & 1#12 GND	5-15P	
69	REFRIGERATED PREP TABLE		KITCHEN	143	120 V	1	5-1-C2	17	3/4"C, 2#12 & 1#12 GND	5-15P	
72	CONVEYOR TOASTER		KITCHEN	143	208 V	2	5-1-C2	13,15	3/4"C, 2#12 & 1#12 GND	6-15P	
73	ACCELERATED OVEN		KITCHEN	143	208 V	3	5-1-C2	7,9,11	3/4"C, 3#10 & 1#10 GND	6-50P	
75	REACH-IN REFRIGERATOR		KITCHEN	143	120 V	1	5-1-C1	11	3/4"C, 2#12 & 1#12 GND	5-15P	
76	EXHAUST HOOD (TYPE 1)		KITCHEN	143	120 V	1	5-1-C1	59	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
77	FIRE PROTECTION SYSTEM		KITCHEN	143	120 V	1	5-1-C1	55	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
78	EXHAUST HOOD (TYPE 1)		KITCHEN	143	120 V	1	5-1-C1	30	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
83	COMBI OVEN		KITCHEN	143	120 V	1	5-1-C1	11	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
84A	CONVECTION OVEN		KITCHEN	143	120 V	1	5-1-C1	9	3/4"C, 2#12 & 1#12 GND	5-15P	
84B	CONVECTION OVEN		KITCHEN	143	120 V	1	5-1-C1	9	3/4"C, 2#12 & 1#12 GND	5-15P	
85	12 GALLON KETTLE		KITCHEN	143	120 V	1	5-1-C1	7	3/4"C, 2#12 & 1#12 GND	5-15P	
87	STEAMER		KITCHEN	143	120 V	1	5-1-C1	7	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT(2)	
88	BLENDER		KITCHEN	143	120 V	1	5-1-C1	16	3/4"C, 2#12 & 1#12 GND	5-15P	
89	WORKCOUNTER/BLENDER		KITCHEN	143	120 V	1	5-1-C1	10	3/4"C, 2#10 & 1#10 GND	DIRECT CONNECT	
93	FOOD PROCESSOR		KITCHEN	143	120 V	1	5-1-C1	12	3/4"C, 2#12 & 1#12 GND	5-15P	
95	20 QUART MIXER		KITCHEN	143	120 V	1	5-1-C1	14	3/4"C, 2#12 & 1#12 GND	5-15P	
97	SLICER		KITCHEN	143	120 V	1	5-1-C1	14	3/4"C, 2#12 & 1#12 GND	5-15P	
103	POWER MIXER		KITCHEN	143	120 V	1	5-1-C1	12	3/4"C, 2#12 & 1#12 GND	5-15P	
203	WALK-IN CONNECTION		PREP	194	120 V	1	5-1-C1	35	3/4"C, 2#12 & 1#12 GND		
204A	CONDENSING UNIT				208 V	3	5-1-C1	18,20,22	3/4"C, 3#10 & 1#12 GND		
204B	REFRIGERATION SYSTEM COIL		COOLER	194A	120 V	1	5-1-C1	39	3/4"C, 2#12 & 1#12 GND		
205A	CONDENSING UNIT				208 V	3	5-1-C1	24,26,28	3/4"C, 3#12 & 1#12 GND		
205B	FREEZER SYSTEM COIL		FREEZER	194B	120 V	1	5-1-C1	41	3/4"C, 2#12 & 1#12 GND		
207A	ICE MAKER		PREP	194	120 V	1	5-1-N1	13	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
216	EXHAUST HOOD (TYPE 1)		PREP	194	120 V	1	5-1-C1	36	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
217	FIRE PROTECTION SYSTEM		PREP	194	120 V	1	5-1-C1	32	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
220	UNDERCOUNTER REFRIGERATOR		PREP	194	120 V	1	5-1-N1	15	3/4"C, 2#12 & 1#12 GND	5-15P	
222A	COMBI OVEN		PREP	194	120 V	1	5-1-N1	19	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
222B	CONVECTION OVEN		PREP	194	120 V	1	5-1-N1	17	3/4"C, 2#12 & 1#12 GND	5-15P	
225	6 GALLON KETTLES		PREP	194	120 V	1	5-1-N1	19	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
227	PASS-THRU WARMING CABINET		PREP	194	120 V	1	5-1-N1	21	3/4"C, 2#12 & 1#12 GND	5-20P	
228	REFRIGERATED PREP TABLE		PREP	194	120 V	1	5-1-N1	18	3/4"C, 2#12 & 1#12 GND	5-15P	
232	REACH-IN REFRIGERATOR		COFFEE, VENDING & CATERING STORAGE	189	120 V	1	5-1-N1	29	3/4"C, 2#12 & 1#12 GND	5-15P	
235A	REACH-IN REFRIGERATOR		SERVING / GRAB & GO	181	120 V	1	5-1-N1	16	3/4"C, 2#12 & 1#12 GND	5-15P	
235B	REACH-IN REFRIGERATOR		SERVING / GRAB & GO	181	120 V	1	5-1-N1	16	3/4"C, 2#12 & 1#12 GND	5-15P	
236	PRODUCT HOLDING BIN		SERVING / GRAB & GO	181	120 V	1	5-1-N1	14	3/4"C, 2#12 & 1#12 GND	5-15P	
237	REFRIGERATED PREP TABLE		SERVING / GRAB & GO	181	120 V	1	5-1-N1	23	3/4"C, 2#12 & 1#12 GND	5-15P	
238	EXHAUST HOOD (TYPE 1)		SERVING / GRAB & GO	181	120 V	1	5-1-C1	34	3/4"C, 3#12 & 1#12 GND	DIRECT CONNECT	
239	FIRE PROTECTION SYSTEM			120 V	1	5-1-C1	32	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT		
244	FRYER		SERVING / GRAB & GO	181	120 V	1	5-1-N1	25	3/4"C, 2#12 & 1#12 GND	5-15P	
245	WORKTOP FREEZER		SERVING / GRAB & GO	181	120 V	1	5-1-N1	27	3/4"C, 2#12 & 1#12 GND	5-15P	
246A	CONVEYOR TOASTER		SERVING / GRAB & GO	181	208 V	1	5-1-N1	10	3/4"C, 2#12 & 1#12 GND	6-20P	
248	ACCELERATED OVEN		SERVING / GRAB & GO	181	208 V	1	5-1-N1	6,8	3/4"C, 2#6 & 1#10 GND	6-30P	
252	LOAD CENTER B		SERVING / GRAB & GO	181	208 V	3	5-1-N2	7,9,11	3/4"C, 3#10 & 1#10 GND	DIRECT CONNECT	
256	LOAD CENTER C		SERVING / GRAB & GO	181	208 V	3	5-1-N2	13,5	3/4"C, 3#6 & 1#10 GND	DIRECT CONNECT	
264	LOAD CENTER D		SERVING / GRAB & GO	181	208 V	3	5-1-N2	2,6	3/4"C, 3#6 & 1#10 GND	DIRECT CONNECT	
266A	REFRIGERATED DISPLAY CASE				208 V	1	5-1-N2	8,10	3/4"C, 2#12 & 1#12 GND	6-20P	
266B	REFRIGERATED DISPLAY CASE		DRY STORAGE	181A	208 V	1	5-1-N2	12,14	3/4"C, 2#12 & 1#12 GND	6-20P	
271	AIRPOT BREWER				208 V	1	5-1-N2	15,17	3/4"C, 2#6 & 1#10 GND	6-30P	
273	TEA BREWER				120 V	1	5-1-N2	19	3/4"C, 2#12 & 1#12 GND	5-15P	
274	BULK CREAMER DISPENSER				120 V	1	5-1-N2	13	3/4"C, 2#12 & 1#12 GND	5-15P	
275	SODA DISPENSER				120 V	1	5-1-N2	13	3/4"C, 2#12 & 1#12 GND	5-15P	
276	ICE MAKER				120 V	1	5-1-N2	21	3/4"C, 2#12 & 1#12 GND	DIRECT CONNECT	
290A	DISPLAY REFRIGERATOR		RETAIL	188	120 V	1	SWBD 5-1	4	3/4"C, 2#12 & 1#12 GND	5-15P	
290B	DISPLAY REFRIGERATOR		RETAIL	188	120 V	1	5-1-N1	4	3/4"C, 2#12 & 1#12 GND	5-15P	

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

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NAME: 5-1-C1									
ENCLOSURE: NEMA 1		SUPPLY FROM:		VOLTAGE: 120/208		MIN. BUS RATING: 225 A			
MOUNTING: SURFACE				PHASE: 3		MAIN SIZE: 200 A			
LOCATION: ELEC RM 182				WIRE: 4		MAIN OPTIONS: MCB			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES		POLES	TRIP	NOTES	CKT
1	FREEZER 143C COIL		20	1		1	20	Air Screen Fridge & Reach in Freezer	2
3	FREEZER 143C COIL		20	1		1	20	Air Screen Fridge & Reach in Freezer	4
5	COOLER 143B COIL		20	1		1	20	MICROWAVE OVEN	6
7	Kettle & Steamer		20	1		1	20	Warming Cabinet	8
9	Convection oven		20	1		1	30	Blender Workcounter	10
11	Fridge & Combi Oven		20	1		1	20	Food Processor & Power Mixer	12
13	Reach in RECEIVING 141		20	1		1	20	20 Quart mixer & Slicer	14
15			20	1		1	20	Blender	16
17	CONDENSING UNIT (2A)		15	3		3	35	CONDENSING UNIT (204A)	18
19									20
21									22
23	CONDENSING UNIT (4A)		50	3		3	20	CONDENSING UNIT (205A)	24
25									26
27									28
29	CONDENSING UNIT (5A)		15	3		1	20	EXHAUST HOOD	30
31						1	20	FIRE PROTECTION	32
33	WALK IN CONNECTION NFS		30	1		1	20	EXHAUST HOOD	34
35	WALK IN CONNECTION VCS		20	1		1	20	EXHAUST HOOD	36
37	BIO HAZARD COIL		20	1					38
39	194A COIL		20	1		3	50	HWPP 5-02	40
41	194B COIL		20	1					42
43	RCPTS RMS 144,144A,144B,144C		20	1					44
45	RECEPTS RM 193, 195, 196		20	1		3	50	HWPP 5-01	46
47	RECEPTS RM 190,191,192		20	1					48
49	POS GRAB & GO		20	1		1	20	SPARE	50
51	RETAIL POS		20	1		1	20	SPARE	52
53	EXHAUST HOOD		20	1		1	20	SPARE	54
55	FIRE PROTECTION		20	1		1	20	SPARE	56
57	EXHAUST HOOD		20	1		1	20	SPARE	58
59	EXHAUST HOOD		20	1		1	20	SPARE	60
GENERAL NOTES: A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.									
NOTES: 1. 2. 3. 4.									

NAME: 5-1-N1									
ENCLOSURE: NEMA 1		SUPPLY FROM: SWBD 5-2		VOLTAGE: 120/208		MIN. BUS RATING: 225 A			
MOUNTING: SURFACE				PHASE: 3		MAIN SIZE: 200 A			
LOCATION: ELEC RM 182				WIRE: 4		MAIN OPTIONS: MCB			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES		POLES	TRIP	NOTES	CKT
1	DOOR OPERATOR		20	1					2
3	DOOR OPERATOR		20	1		1	20	Display Fridge	4
5	DOOR OPERATOR		20	1		2	40	Accelerated Oven	6
7									8
9	MINI WASTE XPRESS SYSTEM		20	3		2	20	TOASTER	10
11									12
13	ICE MAKER		20	1		1	20	HOLDING BIN	14
15	UNDER COUNTER FRIDGE		20	1		1	20	UNDERCOUNTER FRIDGE	16
17	Covection Oven		20	1		1	20	REFRIGERATED PREP TABLE	18
19	Combi Oven, 6 gallon Kettle		20	1		1	20	RECEPTS RM 190,191,192	20
21	PASS THRU WARMING CAB		20	1		1	20	RECEPTS RM 198,198A,198B,198C	22
23	REFRIGERATED PREP TABLE		20	1		1	20	RECEPTS RM 193, 195, 196	24
25	FRYER		20	1		1	20	RCPTS RM 144B, 144C	26
27	WORKTOP FREEZER		20	1		1	20	RCPTS RM 144, 144A	28
29	REACH IN VENDING		20	1		1	20	Convenience recept kitchen/corridor	30
31	198 FRIDGE		20	1		1	20	DINING LIGHTING	32
33	198 MICROWAVE		20	1		1	20	188,188A,190-193,195-198 LIGHTING	34
35	198 COFFEE		20	1		1	20	141,181,189,194 LIGHTING	36
37	KITCHEN & OFFICE 144 LIGHTING		20	1		1	20	SPARE	38
39	142A,142, 143A,181A, 183 LIGHTING		20	1		1	20	SPARE	40
41	SPARE		20	1		1	20	SPARE	42
GENERAL NOTES: A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.									
NOTES: 1. 2. 3. 4.									

NAME: 5-1-C2									
ENCLOSURE: NEMA 1		SUPPLY FROM:		VOLTAGE: 120/208		MIN. BUS RATING: 225 A			
MOUNTING: SURFACE				PHASE: 3		MAIN SIZE: 200 A			
LOCATION: ELEC RM 182				WIRE: 4		MAIN OPTIONS: MCB			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES		POLES	TRIP	NOTES	CKT
1									2
3	Load Center 52		90	3		2	20	HP-07	4
5						2	20	HP-08A	6
7									8
9	Accelerated Oven		30	3		2	20	HP-08B	10
11									12
13						2	20	HP-08C	14
15	Toaster Oven		20	2		2	20	HP-08D	16
17	Grill, Refrig Base, Refrig prep		20	1		2	20	HP-08E	18
19	Ice Dispensor		20	1		2	20	HP-08E	20
21	Tea Brewer		20	1					22
23	Coffee Brewer		40	2		2	20	HP-09	24
25									26
27	Triple 5 Gallon Bowl		20	1		2	20	HP-10	28
29	HP-01,HP-02		20	2		2	20	HP-10	30
31						1	20	SPARE	32
33	HP-03,HP-04		20	2		1	20	SPARE	34
35						1	20	SPARE	36
37	HP-05,HP-06		20	2		1	20	SPARE	38
39						1	20	SPARE	40
41	RCPT ELEC RM 182		20	1		1	20	SPARE	42
GENERAL NOTES: A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.									
NOTES: 1. 2. 3. 4.									

NAME: 5-1-N2									
ENCLOSURE: NEMA 1		SUPPLY FROM: SWBD 5-2		VOLTAGE: 120/208		MIN. BUS RATING: 225 A			
MOUNTING: SURFACE				PHASE: 3		MAIN SIZE: 200 A			
LOCATION: ELEC RM 182				WIRE: 4		MAIN OPTIONS: MCB			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES		POLES	TRIP	NOTES	CKT
1									2
3	LOAD CENTER C		60	3		3	60	LOAD CENTER D	4
5									6
7									8
9	LOAD CENTER B		30	3		2	20	REFRIGERATED DISPLAY CASE	10
11									12
13	Cream disp, Soda Disp		20	1		2	20	REFRIGERATED DISPLAY CASE	14
15	Coffee Brewer		40	2		1	20	RETAIL RCPT	16
17						1	20	RETAIL RCPT	18
19	Tea Brewer		20	1		1	20	EXTERIOR DOCK RECEPTACLE	20
21	Ice Maker		20	1		1	20	VENDING	22
23	Trash Compactor		20	1		1	20	VENDING	24
25	GENERIC RECPT DINING 180		20	1		1	20	VENDING	26
27	RECPT HAC 183, 197		20	1		1	20	FUTURE VENDING	28
29	RCPT ELEC RM 182		20	1		2	20	GLP 5-01	30
31	RCPT RECEIVING / STORAGE 188A		20	1					32
33	GFS 5-1		20	1		2	20	GLP 5-02	34
35	GFS 5-2		20	1					36
37	SPARE		20	1		1	20	SPARE	38
39	SPARE		20	1		1	20	SPARE	40
41	SPARE		20	1		1	20	SPARE	42
GENERAL NOTES: A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.									
NOTES: 1. 2. 3. 4.									

NAME: ELL									
ENCLOSURE: NEMA 1		SUPPLY FROM:		VOLTAGE: 120/208		MIN. BUS RATING: 225 A			
MOUNTING: SURFACE				PHASE: 3		MAIN SIZE: 200 A			
LOCATION:				WIRE: 4		MAIN OPTIONS:			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES		POLES	TRIP	NOTES	CKT
1	LIGHTS WEST GEN RM		20	1		1	20	LIGHTS DIST RM	2
3	EMERGENCY LIGHTS/OUTLETS DIST ROOM		20	1		1	20	EXIT LIGHT - WEST	4
5	SPARE		20	1		1	20	RECP GEAR ROOM	6
7	KITCHEN/DINING EMERGENCY LIGHTING		20	1		1	20	SPARE	8
9						1	20	EXHAUST FAN	10
11						1	--	SPACE	12
13						1	--	SPACE	14
15	SPACE		--	1		1	--	SPACE	16
17	SPACE		--	1		1	--	SPACE	18
19	SPACE		--	1		1	--	SPACE	20
21	SPACE		--	1		1	--	SPACE	22
23	SPACE		--	1		1	--	SPACE	24
GENERAL NOTES: A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.									
NOTES: 1. 2. 3. 4.									

NAME: 5-1-N3

ENCLOSURE: NEMA 1

MOUNTING: SURFACE

LOCATION: ELEC RM 182

SUPPLY FROM: SWBD 5-2

VOLTAGE: 120/208

PHASE: 3

WIRE: 4

MIN. BUS RATING: 225 A

MAIN SIZE: 200 A

MAIN OPTIONS: MCB

CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES
1	SPARE		20	1
3	SPARE		20	1
5	SPARE		20	1
7	SPARE		20	1
9	SPARE		20	1
11	SPARE		20	1
13				
15	EF 5-01		20	3
17				
19				
21	EF 5-02		20	3
23				
25	EF 5-03		20	1
27	EF 5-04		20	1
29	EF 5-05		20	1
31	EF 5-06		20	1
33				
35	EF 5-07		20	3
37				
39	Rooflop rcpt		20	1
41	Rooflop rcpt		20	1

GENERAL NOTES:

A. SEE RISER DIAGRAM FOR CALCULATED AVAILABLE FAULT CURRENT. PANELBOARD AND ASSOCIATED DEVICES WITHIN PANELBOARD ASSEMBLY SHALL HAVE A SHORT CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN ON RISER DIAGRAM.

NOTES:

1.

2.

3.

4.

POLES	TRIP	NOTES	CIRCUIT DESCRIPTION
3	20	EF 5-08	
1	20	Rooflop rcpt	
3	30	DOCK LIFT	
3	20	DOCK LEVELER	
1	20	COIL DOOR GRAB & GO	
1	20	COIL DOOR GRAB & GO	
1	20	SPARE	
1	20	SPARE	
1	20	SPARE	
1	20	SPARE	
1	20	SPARE	
1	20	SPARE	
1	20	SPARE	