

# ROOTS SEASONAL CUISINE

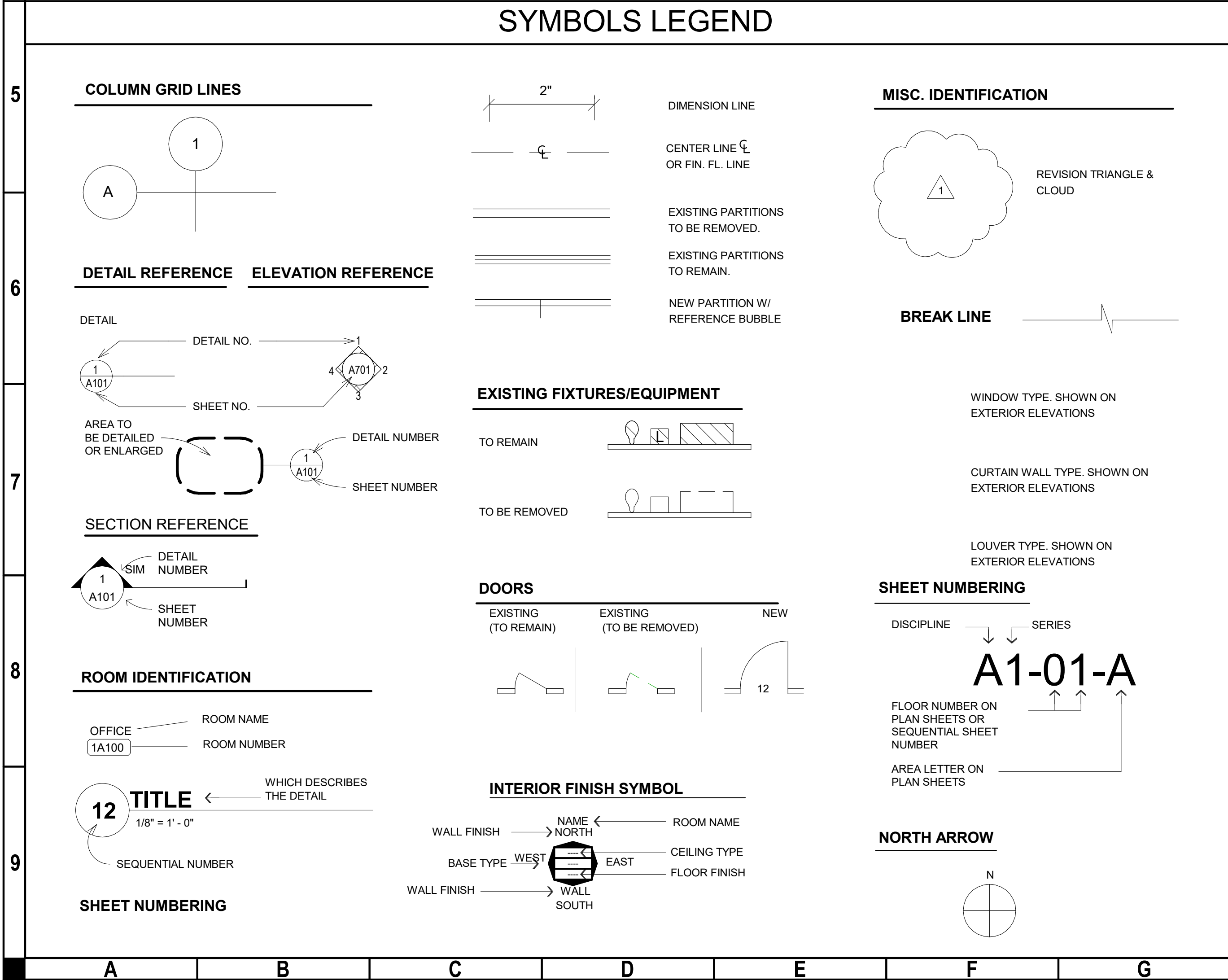
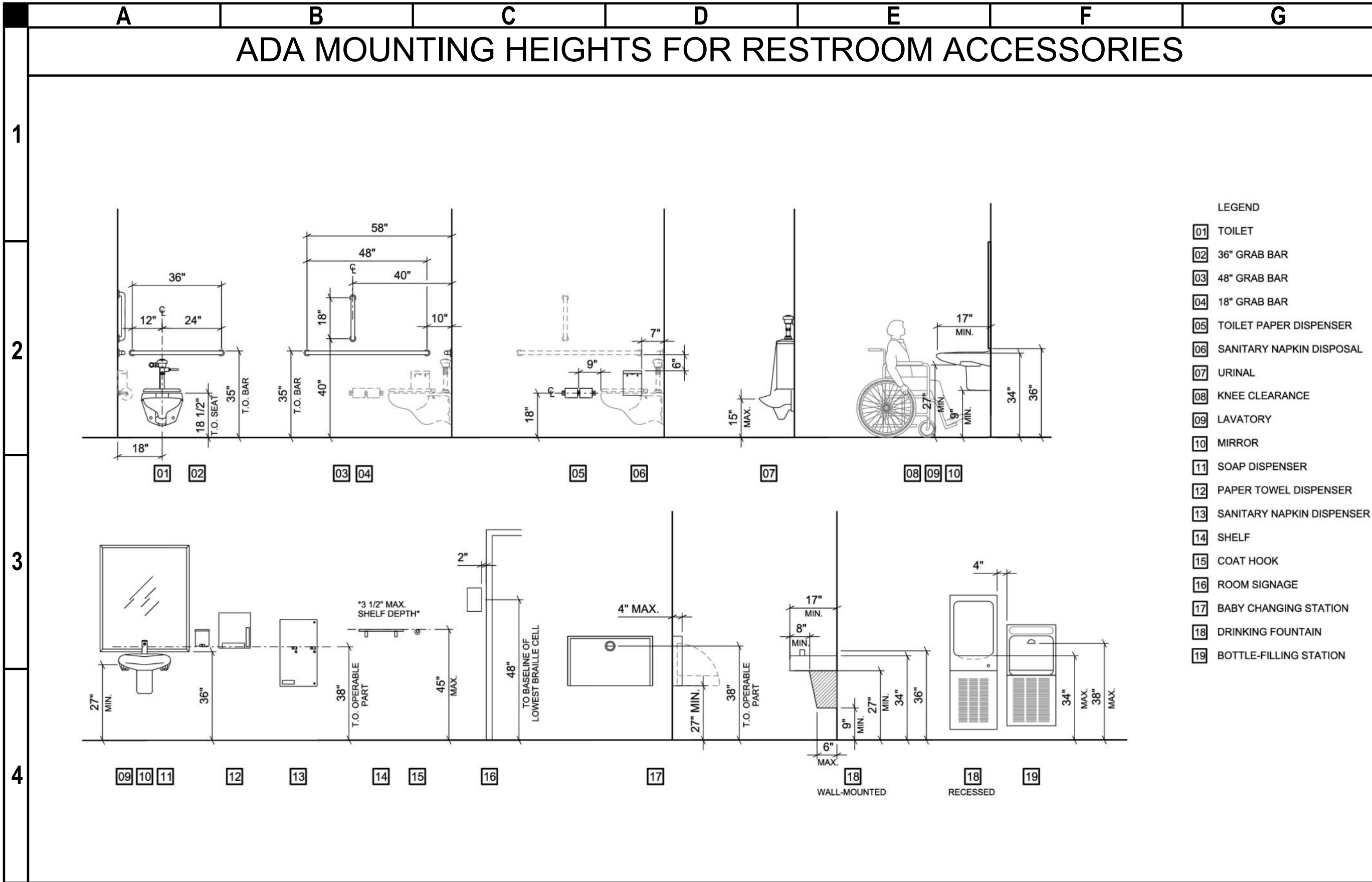
940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



NewLine Studio  
architecture + interiors

NewLine Studio, llc   3965 W. 83rd St. #135   Prairie Village, KS 66208   T: 913.318.5030   E: Robert.Wade@newlinestudio.net   www.newlinestudio.net





GENERAL NOTES

DRAWINGS SUBMITTED ARE FOR DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION REQUIRED FOR PROJECT COMPLETION. ANY ERRORS AND/OR OMISSIONS DURING CONSTRUCTION ARE NOT THE RESPONSIBILITY OF THE ARCHITECT.

CONTRACTOR SHALL VERIFY AND COORDINATE ALL NEW AND EXISTING CONDITIONS AND DIMENSIONS AT JOB SITE FOR COMPARISON WITH DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING, START OF AND DURING CONSTRUCTION. IF ANY DISCREPANCIES, INCONSISTENCIES OR OMISSIONS ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED, FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.

DO NOT SCALE DRAWINGS. CONTRACTORS SHALL RELY ON WRITTEN DIMENSIONS AS GIVEN. NOTIFY THE ARCHITECT FOR ALL REQUIRED CLARIFICATIONS.

ABBREVIATIONS THROUGHOUT THE PLANS ARE THOSE IN COMMON USE. NOTIFY THE ARCHITECT OF ANY ABBREVIATIONS IN QUESTION.

DIMENSIONS SHOWN ARE TO FACE OF WALL, MASONRY, CONCRETE OR GRID LINES UNLESS OTHERWISE NOTED.

DIMENSIONS OF DOOR OPENINGS ARE TO FINISH JAMB. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALLS AS SHOWN OR LOCATED 3" FROM FINISH WALL TO FINISH JAMB (UNLESS OTHERWISE NOTED)

FINISHED FLOOR ELEVATIONS ARE THE ESTABLISHED DATUM LINE, UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL PROVIDE ALL NECESSARY PERMITS AND INSPECTIONS

CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO BIDDING AND CONSTRUCTION

SUBSTITUTIONS: REFERENCE TO MANUFACTURERS, BRAND, MODELS, ETC. TO ESTABLISH THE TYPE AND QUALITY DESIRED; SUBSTITUTION OF ACCEPTABLE EQUIVALENTS WILL BE PERMITTED IF APPROVED BY THE ARCHITECT AND OWNER PRIOR TO BID (UNLESS OTHERWISE NOTED)

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS

THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES BELOW GRADE AND RELATED SERVICE CONNECTIONS WITH THERE RESPECTIVE UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL COORDINATE THE REMOVAL, ABANDONMENT, AND/OR RELOCATION OF EXISTING UTILITIES ABOVE OR BELOW GRADE WITH THE RESPECTIVE UTILITY COMPANIES.

ALL DISSIMILAR METALLIC MATERIALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO PREVENT GALVANIC ACTION.

ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED WITH AN APPROVED PRESERVATIVE IN ACCORDANCE WHIT AWPAC C22.

ALL INSULATION NOTED ON PLANS SHALL BE NON-COMBUSTIBLE AND MAINTAIN THERMAL MOISTURE PROTECTION.

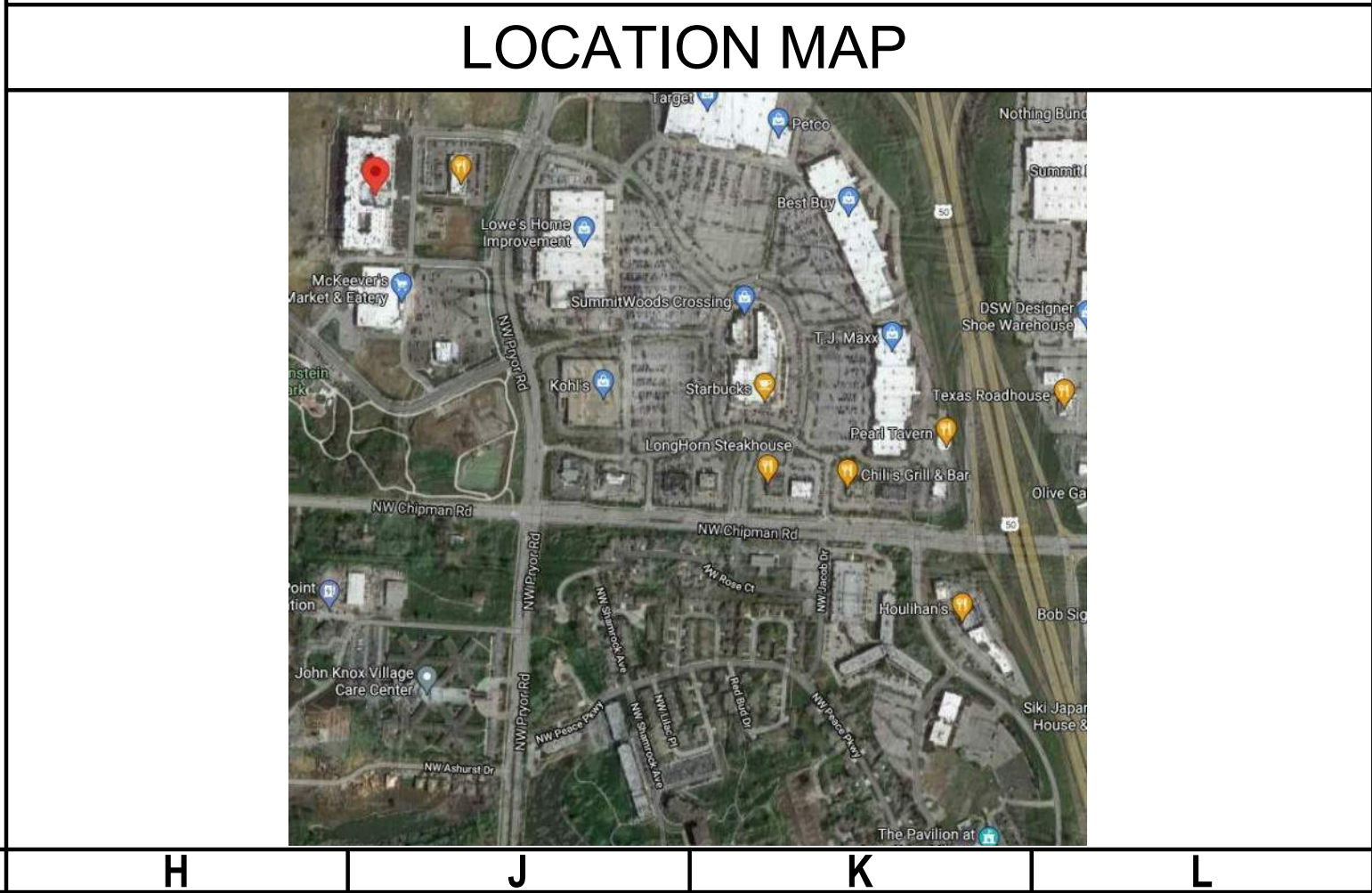
ALL CHANGES WILL BE SUBMITTED IN WRITING TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

PROJECT 0'-0" ELEVATION REFERENCE POINT WHICH IS TO BE FINISHED FLOOR

ALL WINDOW SILLS JAMBS AND HEADS SHALL BE WRAPPED WITH GYPSUM BOARD UNLESS OTHERWISE NOTED.

ALL STRUCTURAL COLUMNS SHALL BE WRAPPED WITH GYPSUM BOARD UNLESS OTHERWISE NOTED.

IN LOCATIONS WHERE CONCRETE IS CUT, REMOVED AND REPLACED WITH NEW CONCRETE. INSTALL VAPORBARRIER TO MATCH EXISTING SLAB BELOW NEW CONCRETE AND INSTALL #4 REBAR DOWELS (4" INTO EXISTING SLAB AND 4" INTO NEW CONCRETE.) AT 24" O.C.



SHEET INDEX					
NO.	SHEET NAME	CURRENT REVISION			
A0-00	COVER				
A0-01	TITLE SHEET	1			
A0-02	CODE / LIFE SAFETY				
A0-03	SCHEDULES				
A1-00	PLAN - WALL LAYOUT	1			
A1-01	1ST FLOOR PLAN	1			
A1-02	RCP				
A1-03	ENLARGED RCP AND CEILING DETAILS				
A1-04	FINISH PLAN				
A1-05	ENLARGED PLANS				
A4-01	INTERIOR ELEVATIONS				
A4-02	INTERIOR ELEVATIONS				
A4-03	INTERIOR ELEVATIONS				
A5-01	INTERIOR DETAILS/ELEVATIONS-SERV 1 & 2				
A5-02	INTERIOR DETAILS/ELEVATIONS-DINING AREA				
A5-03	INTERIOR DETAILS/ELEVATIONS	1			
A5-04	INTERIOR DETAILS/ELEVATIONS				
A5-05	INTERIOR DETAILS/ELEVATIONS				
A5-06	INTERIOR DETAILS/ELEVATIONS				
A5-07	INTERIOR DETAILS/ELEVATIONS				
A5-08	INTERIOR DETAILS/ELEVATIONS				
A5-09	INTERIOR DETAILS/ELEVATIONS				
MP0.1	MECHANICAL AND PLUMBING SPECS				
MP0.2	MECHANICAL AND PLUMBING SPECS				
P1.0	PLUMBING WASTE & VENT FLOOR PLAN				
P1.1	PLUMBING WATER & GAS FLOOR PLAN				
P2.0	PLUMBING SCHEDULES & DETAILS				
P2.1	PLUMBING RISERS				
M1.0	MECHANICAL FLOOR PLAN				
M1.1	MECHANICAL ROOF PLAN				
M2.0	MECHANICAL SCHEDULES & DETAILS				
M2.1	MECHANICAL OUTDOOR AIR CALCULATIONS				
M3.0	KITCHEN HOOD DETAILS				
M3.1	KITCHEN HOOD DETAILS				
M3.2	KITCHEN HOOD DETAILS				
M3.3	KITCHEN HOOD DETAILS				
M3.4	KITCHEN HOOD DETAILS				
M3.5	KITCHEN HOOD DETAILS				
M3.6	KITCHEN HOOD DETAILS				
M3.7	KITCHEN HOOD DETAILS				
E0.1	ELECTRICAL SPECS				
E1.0	ELECTRICAL LIGHTING PLAN				
E2.0	ELECTRICAL POWER PLAN				
E2.1	ELECTRICAL ROOF POWER PLAN				
E3.0	LIGHTING SCHEDULES AND DETAILS				
E3.1	ELECTRICAL RISER AND SCHEDULES				
FS 1.0	FOODSERVICE EQUIPMENT PLAN				
FS 2.0	FOODSERVICE SPECIAL CONDITIONS PLAN				
FS 3.0	FOODSERVICE ELECTRICAL PLAN				
FS 4.0	FOODSERVICE PLUMBING PLAN				
FS 5.0	FOODSERVICE WALK-IN DETAILS				
FS 5.1	FOODSERVICE WALK-IN DETAILS				
PROJECT DIRECTORY					
<b>OWNER/CLIENT:</b> AMANDA ACCORUSO AND BRANDON SHARP CONTACT: AMANDA ACCORUSO C: 816.260.5443					
<b>ARCHITECT:</b> NEWLINE STUDIO, LLC CONTACT: ROBERT WADE, AIA 8734 ROSEWOOD DR PRAIRIE VILLAGE, KS 66207 O:913.318.5030 C:816.916.3867 E: ROBERT.WADE@NEWLINESTUDIO.NET					
<b>MEP ENGINEER:</b> BC ENGINEER CONTACT: RICH CURRY 5045 MERRIAM DRIVE MERRIAM, KS 66203 O:913.262.1772 F:913.262.1773					
<b>GENERAL CONTRACTOR:</b> VALENCIA CONSTRUCTION, LLC 4729 SW GULL POINT DR. LEE'S SUMMIT, MO 64082 O: 816-537-7482 C: 816-536-2865 E: GREG@VALENCIA-CONSTRUCTION.COM					

NewLine Studio  
ARCHITECTURE + INTERIORS  
Vision to Reality Begins with a NewLine

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

STATE OF MISSOURI  
ROBERT LYNN WADE  
NUMBER A-2001016582  
REGISTERED ARCHITECT  
10.06.21

Revisions		
No.	Description	Date
1	CODE REVIEW	10.06.21

Project Number: 2106  
Scale: 12" = 1'-0"  
Date: 09.15.2021

TITLE SHEET

A0-01

PERMIT SET





L		M		N		P	
CODE SUMMARY							
PROJECT NAME		ROOTS RESTAURANT					
ADDRESS		940 NW PRYOR RD, SUITE M LESS'S SUMMIT, MO 64081					
LEGAL DESCRIPTION		N/A					
DESCRIPTION		TENANT FINISH - NEW RESTAURANT					
JURISDICTION		LEE'S SUMMIT, MO					
APPLICABLE CODES		2018 INTERNATIONAL BUILDING CODE 2018 NATIONAL ELECTRIC CODE 2018 INTERNATIONAL PLUMBING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL FIRE CODE					
OCCUPANCY		A-2					
CONST. TYPE		5-A					
SPRINKLED		YES					
MAX TRAVEL DIST		250 LF					
ACTUAL EGRESS WIDTH		13'-0"					
OCCUPANCY SCHEDULE							
ROOM	NAME	AREA	AREA PER OCC.	OCCUPANTS	REQ'D EGRESS		
101	WAITING	152 SF	7 SF	22	4 3/8"		
102	DINING AREA	1005 SF	7 SF	144	2'-4 3/4"		
103	BAR SEATING	403 SF	7 SF	58	11 5/8"		
104	BAR	135 SF	15 SF	9	1 3/4"		
105	PRIVATE DINING	245 SF	7 SF	35	7"		
106	SERV 2	24 SF	15 SF	2	3/8"		
107	SERV 1	31 SF	15 SF	3	5/8"		
108	CIRCULATION	171 SF	0 SF				
109	WOMEN	114 SF	0 SF				
110	MEN	114 SF	0 SF				
111	PREP AREA	446 SF	200 SF	3	5/8"		
112	KITCHEN	505 SF	200 SF	3	5/8"		
113	DISH AREA	129 SF	200 SF	1	1/4"		
114	OFFICE	59 SF	200 SF	1	1/4"		
115	JC	25 SF	200 SF	1	1/4"		
		3557 SF		282	4'-8 3/8"		
1ST FLOOR 1" = 10'-0"							
L		M		N		P	

NewLine Studio  
ARCHITECTURE + INTERIORS  
Vision to Reality Begins with a NewLine

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

STATE OF MISSOURI  
ROBERT LYNN WADE  
NUMBER A-2001016582  
REGISTERED ARCHITECT  
10.06.21

Revisions

No.	Description	Date

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

CODE / LIFE SAFETY

A0-02

PERMIT SET



	A	B	C	D	E	F	G
	DOOR SCHEDULE						
	NO.	TYPE	MATERIAL	FINISH	WIDTH	HEIGHT	THICKNESS
1	101	-	-	-	3'-0"	7'-9"	EXISTING
	102	A	-	-	6'-0"	7'-0"	-
	103A	-	-	-	3'-0"	7'-9"	EXISTING
	105	D	WOOD	STAIN	6'-6"	8'-0"	2"
	109	A	WOOD	STAIN	3'-0"	7'-0"	1 3/4"
	110	A	WOOD	STAIN	3'-0"	7'-0"	1 3/4"
	111	B	HM	PAINT	3'-6"	7'-0"	1 3/4"
	112	A	HM	PAINT	4'-0"	7'-0"	1 3/4"
	114	C	HM	PAINT	3'-0"	7'-0"	1 3/4"
	115	B	HM	PAINT	3'-0"	7'-0"	1 3/4"
	117	A	-	-	3'-6"	7'-0"	EXISTING

	HARDWARE SETS	MATERIALS AND FINISHES
3	<b>HARDWARE SET #1 - KITCHEN EGRESS DOOR</b> (1) EXITING HINGES TO REMAIN (1) 1000R X 42" X 32D RIM PANIC, NON FIRE RATED (1) LE - 08 X 32D TRIM, ENTRY FUNCTION (1) 416 X 689 CLOSER (1) 97V X 48" DOOR SWEEP (1) 600A X 48" DOOR SWEEP <b>HARDWARE SET #2 - LOCK SET</b> (3) HINGE - PBB - PB-81 4.5 X 4.5 - (FINISH - BRUSHED STAINLESS STEEL) (1) LOCKSET - CRPI - RL-00 ENTRANCE - (FINISH - BRUSHED STAINLESS STEEL) (1) WALL BUMPER - ROC - 409 CONCAVE - (FINISH - BRUSHED STAINLESS STEEL) (3) SILENCER - GJ - GJ64 PUSH IN TYPE - (FINISH - BRUSHED STAINLESS STEEL) <b>HARDWARE SET #3 - BARN DOOR SET</b> (1) BARN DOOR TRACK - KROWNLAB - BALDUR - TOP MOUNT - (FINISH - BLACK) (1) DOOR GUID - KROWNLAB - BALDUR - ADJUSTABLE FELT - (FINISH - BLACK) (2) PULL - STRONGAR - SH-PRO-304-LPH-B-12-1000 - (FINISH - MATT BLACK) <b>HARDWARE SET #4 - EGRESS DOOR SET</b> (1) EXITING HINGES TO REMAIN (1) 1000R X 42" X 32D RIM PANIC, NON FIRE RATED, ALARMED (1) LE - 08 X 32D TRIM, ENTRY FUNCTION (1) 416 X 689 CLOSER (EXISTING TO REMAIN) (1) 97V X 48" DOOR SWEEP (1) 600A X 48" DOOR SWEEP <b>HARDWARE SET #5 - ENTRANCE DOOR SET</b> (1) EXITING DOOR HARDWARE TO REMAIN (1) REPLACE PULL WITH - ROCKWOOD - RM2004 - (FINISH - STAINLESS STEEL) <b>HARDWARE SET #6 - RESTROOM DOOR SET</b> (3) HINGE - PBB - PB-81 4.5 X 4.5 - (FINISH - BLACK) (1) PULL PLATE - IVES - 8302-8 - (FINISH - BLACK) (1) PUSH PLATE - IVES - 8200 - (FINISH - BLACK) (1) WALL BUMPER - ROC - 409 CONCAVE - (FINISH - BLACK) (3) SILENCER - GJ - GJ64 PUSH IN TYPE - (FINISH - BLACK) (1) FOOT PULL - STEPPNPULL - (FINISH - BLACK)  <b>NOTE: LISTED MANUFACTURER ARE FOR REFERENCE. CONTRACTOR MAY SUBMIT ALTERNATIVES.</b>	<b>MATERIALS</b> WOOD - PLAIN SAWN - WHITE MAPLE HM - HOLLOW METAL  <b>FINISHES</b> STAIN - MATCH - WP-1 PAINT - PT-4
4	<b>DOOR FRAME TYPES</b> 	
5	<b>DOOR JAMB/OPENING DETAILS</b>	

	6	7
	<b>A DOOR HEAD DETAIL</b> 1 1/2" = 1'-0"	<b>B DOOR JAMB DETAILS</b> 1 1/2" = 1'-0"

	8	9
	<b>E DOOR OPENING DETAIL 1</b> 1 1/2" = 1'-0"	<b>C DOOR OPENING DETAIL 2</b> 1 1/2" = 1'-0"

	H	J	K	L	M	N	P
	FINISH SCHEDULE						
	NO.	ROOM	FLOOR	BASE	CEILING	NORTH	EAST
1	101	WAITING	CT-1	CTB-1	GC-1	ST-1	ST-1/WD-2
	102	DINING AREA	CT-1	CTB-1	WC-1/GC-2	WP-1/STN-1/VWC-1	WP-1/STN-1
	103	BAR SEATING	CT-1	CTB-1	GC-1/ACT-4	NONE	PT-1/WP-1
	104	BAR	EP-1	CTB-1	WD-2/ACT-1	WP-1	WP-1
	105	PRIVATE DINING	CT-1	CTB-1	GC-1	PT-1	PT-1
	106	SERV 2	CT-1	CTB-1	ACT-1	PT-2	PT-2
	107	SERV 1	CT-1	CTB-1	ACT-1	PT-2	PT-2
	108	CIRCULATION	CT-1	CTB-1	ACT-2	PT-3	PT-3
	109	WOMEN	CT-2/CT-3	CTB-2	GC-1	PT-3	CT-4/CT-5/PT-3
	110	MEN	CT-2/CT-3	CTB-2	GC-1	PT-3	CT-4/CT-5/PT-3
	111	PREP AREA	EP-1	EPB-1	ACT-3	FRP-1	FRP-1
	112	KITCHEN	EP-1	EPB-1	ACT-3	FRP-1	FRP-1/SS-1
	113	DISH AREA	EP-1	EP-1	ACT-3	FRP-1	FRP-1
	114	OFFICE	EP-1	EPB-1	ACT-3	PT-4	PT-4
	115	JC	EP-1	EPB-1	ACT-3	FRP-1/PT-4	PT-4

	FINISH LEGEND						
	CODE	DESCRIPTION	MFG	NAME	SIZE	COLOR	CONTACT
3	ACT-1	CEILING TILE	ARMSTRONG	CALLA	24X24	BLACK	15/16 SQUARE REGULAR BLACK GRID
	ACT-2	CEILING TILE	ARMSTRONG	LYRA PB CONCEALED	48X48	WHITE	15/16 QUICK KERF EDGE
	ACT-3	CEILING TILE	ARMSTRONG	CALLA HEALTH ZONE	24X48	WHITE	15/16 SQUARE LAY-IN
	ACT-4	CEILING TILE	ARMSTRONG	LYRA PB CONCEALED	24X24	WHITE	15/16 QUICK KERF EDGE
	CT-1	CERAMIC TILE	MILE STONE	+ONE	24X48	COAL - MATTE FINISH	LYNDA WOOD - 248.519.1386
	CT-2	CERAMIC TILE	WOW USA	FLOW DIAMOND DECOR	6X10	WHITE	BRITTLER NORTH - 913.541.9700 (VIRGINIA TILE)
	CT-3	CERAMIC TILE	WOW USA	CHEVRON FLOOR	4X20.5	ICE WHITE - MATTE	BRITTLER NORTH - 913.541.9700 (VIRGINIA TILE)
	CT-4	CERAMIC TILE	WOW USA	FLOW DIAMOND DECOR	6X10	BLACK	BRITTLER NORTH - 913.541.9700 (VIRGINIA TILE)
	CT-5	CERAMIC TILE	WOW USA	CHEVRON FLOOR	4X20.5	GRAPHITE - MATTE	BRITTLER NORTH - 913.541.9700 (VIRGINIA TILE)
4	CTB-1	CERAMIC TILE BASE	MILE STONE	+ONE	4X48	COAL - MATTE FINISH	FIELD CUT TO DESIRED HEIGHT
	CTB-2	CERAMIC TILE BASE	WOW USA	CHEVRON FLOOR	4X20.5	ICE WHITE - MATTE	CUT ENDS SQUARE TO ALIGN WITH CT-2
	EP-1	EPOXY FLOOR	DUR-A-FLEX (OR EQUAL)	POLY-CRETE MDB		CHARCOAL	
	EPB-1	EPOXY BASE	DUR-A-FLEX (OR EQUAL)	POLY-CRETE MDB	6" HIGH	CHARCOAL	
	FRP-1	FIBERGLASS REINFORCED PLASTIC PANELS	VARIOUS		MIN .09" THICK	WHITE	USE PVC MOLDING AT PANEL JOIST, INSIDE CORNERS, AND OUTSIDE CORNERS
5	GC-1	GYP BD CEILING (PAINT)	TBD	LATEX		WHITE	
	GC-2	GYP BD CEILING (PAINT)	TBD	LATEX		PT-2	
	GC-3	GYP BD CEILING (PAINT)	TBD	EPOXY		TBD	MANUFACTURER IS FOR COLOR ONLY
	ML-1	METAL LAMINATE	MOZ	ELEMENTS		PATINA 212D SATIN	USE MATCHING MOZ TRIM FOR CORNERS AND EDGES
	PLAM-1	PLASTIC LAMINATE	WILSONART	TRACELESS		ACORN VELVET ELM	15602-31
	PLAM-2	PLASTIC LAMINATE	FORMICA			BLACK - MATTE FINISH	909-58
	PT-1	PAINT	TBD	LATEX			MANUFACTURER IS FOR COLOR ONLY
	PT-2	PAINT	TBD	LATEX		BLACK	MANUFACTURER IS FOR COLOR ONLY
	PT-3	PAINT	TBD	EPOXY		WHITE	MANUFACTURER IS FOR COLOR ONLY
	PT-4	PAINT	TBD	EPOXY			MANUFACTURER IS FOR COLOR ONLY
	SS-1	STAINLESS STEEL WALL PANELS	VARIOUS	STAINLESS STEEL	16 GAUGE	SMOOTH TEXTURE	USE STAINLESS STEEL TRIM MOLDING PANEL JOIST, INSIDE CORNERS, AND OUTSIDE CORNERS
6	STN-1	STONE PANEL	REALSTONE SYSTEMS	BIRCH HONED	VARIES	WHITE	LYNDA WOOD - 248.519.1386
	VWC-1	VYNIL WALL COVERING	WOLF GORDON	KABUTO	52" WIDE	AMAZONITE	
	WP-1	3/8" WOOD PANELING	VIRIDIAN WOOD	WALNUT	4X96	WALNUT	3/8" THICK TONGUE AND GROOVE

	8	9
	<b>A GYP WALL WITH TILE BASE</b> 1 1/2" = 1'-0"	<b>B WOOD WALL M.L. WALL BASE (TYP.)</b> 1 1/2" = 1'-0"

NewLine Studio  
ARCHITECTURE + INTERIORS  
Vision to Reality Begins with a NewLine

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

Revisions		
No.	Description	Date

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021



NOTE:  
DIMENSIONS ON THIS SHEET ARE TO FACE OF STUD OR  
FINISHED FACE OF DISMISSING AND EXTERIOR WALLS.

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

KEYNOTES

NUMBER	DESCRIPTION
05 41 00.A1	1-5/8" METAL STUD
05 41 00.A2	2-1/2" METAL STUD
05 41 00.A5	3-5/8" METAL STUD
06 16 00.D6	1/2" PLYWOOD
06 16 00.D14	1" PLYWOOD
06 42 13	WOOD BOARD PANELING (WP-1)
09 28 13.A1	1/2" CEMENT BOARD
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD
09 30 33.A1	STONE WALL TILE (STN-1)

WALL TYPES

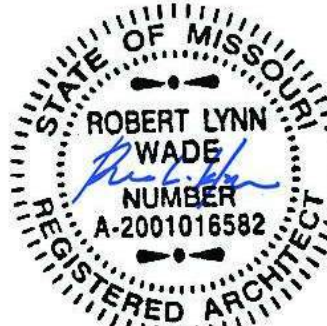
3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON EACH SIDE. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED. SEE NOTES
3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON EACH SIDE WITH ACOUSTICAL SOUND INSULATION. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED. SEE NOTES
3-5/8" (UNO) METAL STUD WITH 1/2" PLYWOOD AND 3/8" WD BOARD PANELING ON EACH SIDE.
3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON ONE SIDE. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED.
3 5/8" (UNO) MTL STUD WITH 1 LAYER 1/2" CEMENT BD AND 1 LAYER STONE ON EACH SIDE. EXTEND TO 4" ABOVE CEILING (UNO).
DENOTES EXTEND TO DECK ABOVE

NOTES:

- IN ALL WET AREAS (KITCHEN, BAR, RESTROOMS, SERVER AREAS, AND KITCHEN OFFICE) USE WATER RESISTANT GYPSUM.BD.
- ALL WALLS WITH TILE OR STONE USE 1/2" CEMENT BACKER BD. INSTEAD OF GYPSUM BD.
- ALL WALLS WITH WOOD PANELING USE 1/2" PLYWOOD INSTEAD OF GYPSUM BD.

GENERAL NOTES

- WALLS ARE DIMENSIONED TO FACE OF GYPSUM WALLBOARD, FACE OF TILE BACKER BOARD, OR FACE OF CONCRETE AS OCCURS
- ALL GYPSUM WALLBOARD TO BE 5/8" TYPE "X" UNLESS NOTED OTHERWISE.
- PROVIDE 5/8" GLASS-MAT FACED WATER-RESISTANT GYPSUM WALLBOARD AT WET LOCATIONS, INCLUDING WALLS BEHIND PLUMBING FIXTURES AND THE BOTTOM 4" OF ALL PLUMBING WALLS AND TOILET ROOMS.
- UNLESS DIMENSIONED, DOORS ARE TO BE LOCATED 4" FROM NEAREST ADJACENT PERPENDICULAR WALL TO FACE OF JAMB. SEE DOOR DETAILS.
- COORDINATE POWER AND DATA OUTLET LOCATIONS WITH ELECTRICAL AND TECHNOLOGY DRAWINGS.
- OUTLETS SHOWN BACK TO BACK SHALL BE OFFSET A MINIMUM OF 18". OUTLET IN SOUND PARTITIONS SHALL BE SEPERATED BY A STUD WITH ACOUSTIC PUTTY.
- SEAL AROUND ALL INTERIOR JOINTS AT DOORS, WINDOWS, CABINETS, AND COUNTERTOPS. SEAL ALL OPENING IN SOUND PARTITIONS WITH ACOUSTIC SEALANT.



Revisions

No.	Description	Date
1	CODE REVIEW	10.06.21

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

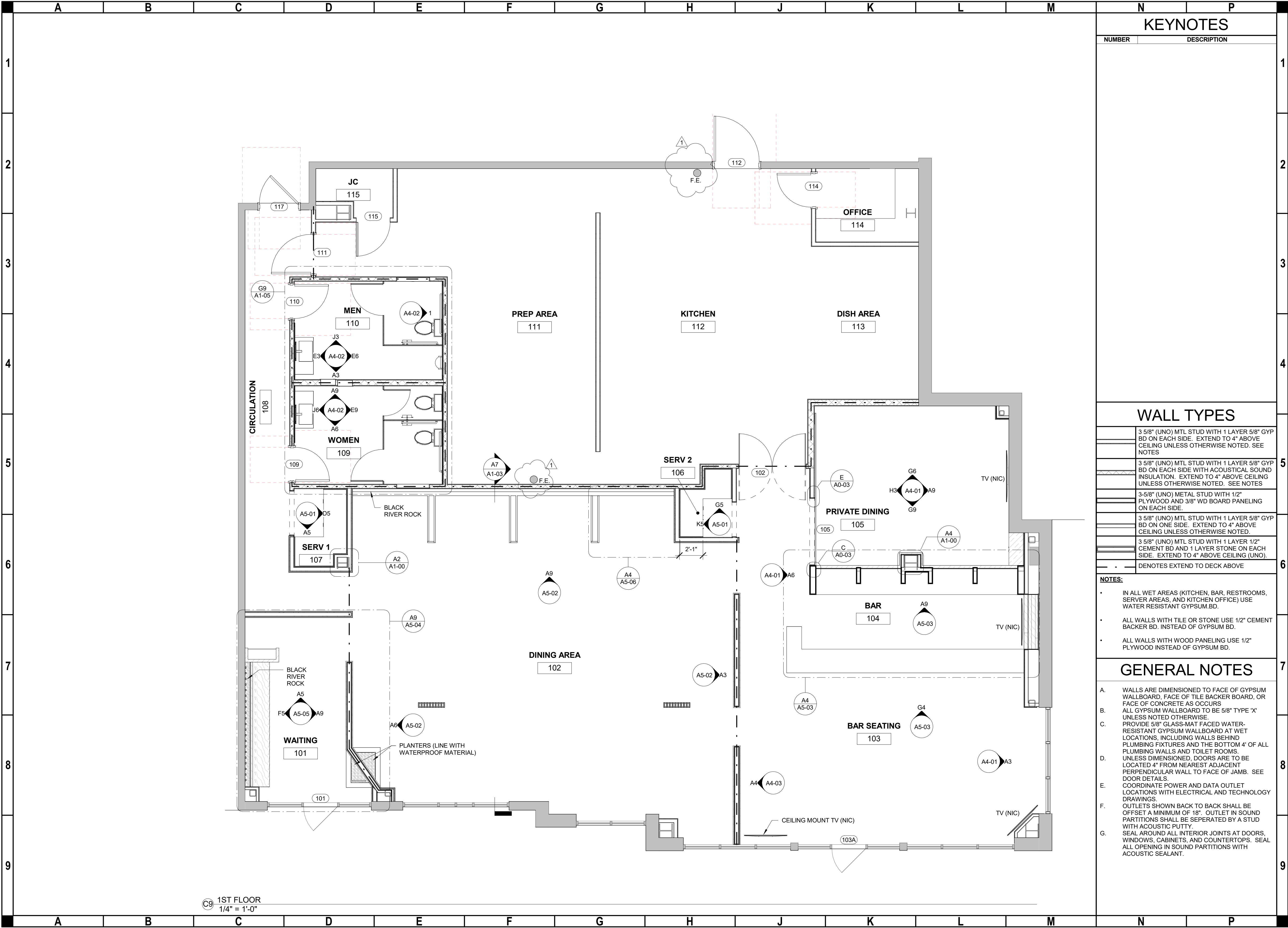
PLAN - WALL LAYOUT

A1-00

PERMIT SET

A9 1ST FLOOR - WALL LAYOUT  
1/4" = 1'-0"





# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

## KEYNOTES

NUMBER	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	
9	

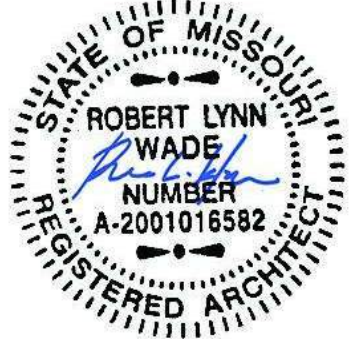
## WALL TYPES

3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON EACH SIDE. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED. SEE NOTES
3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON EACH SIDE WITH ACOUSTICAL SOUND INSULATION. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED. SEE NOTES
3-5/8" (UNO) METAL STUD WITH 1/2" PLYWOOD AND 3/8" WD BOARD PANELING ON EACH SIDE.
3 5/8" (UNO) MTL STUD WITH 1 LAYER 5/8" GYP BD ON ONE SIDE. EXTEND TO 4" ABOVE CEILING UNLESS OTHERWISE NOTED.
3 5/8" (UNO) MTL STUD WITH 1 LAYER 1/2" CEMENT BD AND 1 LAYER STONE ON EACH SIDE. EXTEND TO 4" ABOVE CEILING (UNO).
DENOTES EXTEND TO DECK ABOVE

- NOTES:
- IN ALL WET AREAS (KITCHEN, BAR, RESTROOMS, SERVER AREAS, AND KITCHEN OFFICE) USE WATER RESISTANT GYPSUM BD.
  - ALL WALLS WITH TILE OR STONE USE 1/2" CEMENT BACKER BD. INSTEAD OF GYPSUM BD.
  - ALL WALLS WITH WOOD PANELING USE 1/2" PLYWOOD INSTEAD OF GYPSUM BD.

## GENERAL NOTES

- A. WALLS ARE DIMENSIONED TO FACE OF GYPSUM WALLBOARD, FACE OF TILE BACKER BOARD, OR FACE OF CONCRETE AS OCCURS
- B. ALL GYPSUM WALLBOARD TO BE 5/8" TYPE 'X' UNLESS NOTED OTHERWISE.
- C. PROVIDE 5/8" GLASS-MAT FACED WATER-RESISTANT GYPSUM WALLBOARD AT WET LOCATIONS, INCLUDING WALLS BEHIND PLUMBING FIXTURES AND THE BOTTOM 4" OF ALL PLUMBING WALLS AND TOILET ROOMS. UNLESS DIMENSIONED, DOORS ARE TO BE LOCATED 4" FROM NEAREST ADJACENT PERPENDICULAR WALL TO FACE OF JAMB. SEE DOOR DETAILS.
- D. COORDINATE POWER AND DATA OUTLET LOCATIONS WITH ELECTRICAL AND TECHNOLOGY DRAWINGS.
- E. OUTLETS SHOWN BACK TO BACK SHALL BE OFFSET A MINIMUM OF 18". OUTLET IN SOUND PARTITIONS SHALL BE SEPERATED BY A STUD WITH ACOUSTIC PUTTY.
- F. SEAL AROUND ALL INTERIOR JOINTS AT DOORS, WINDOWS, CABINETS, AND COUNTERTOPS. SEAL ALL OPENING IN SOUND PARTITIONS WITH ACOUSTIC SEALANT.



## Revisions

No.	Description	Date
1	CODE REVIEW	10.06.21

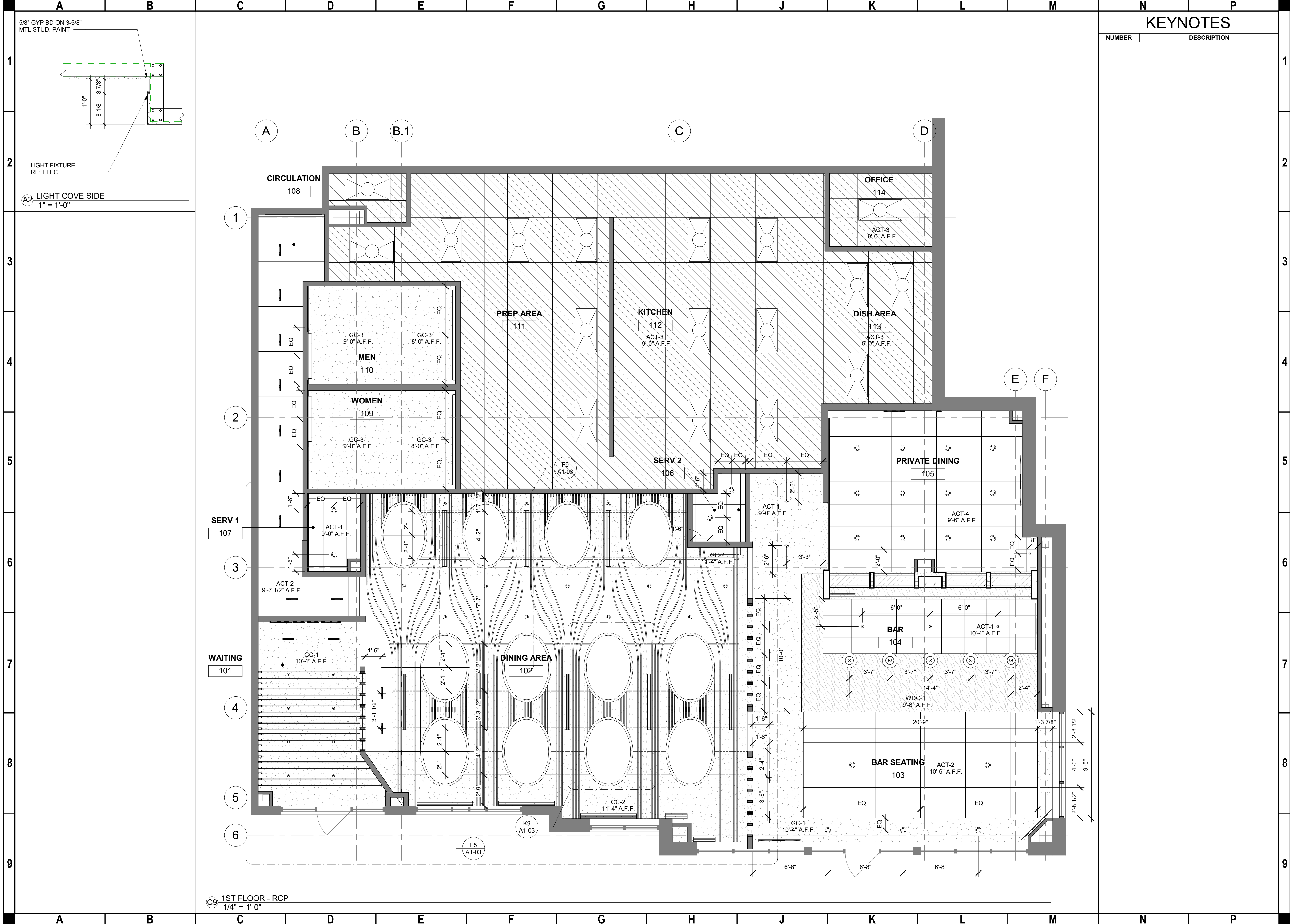
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

## 1ST FLOOR PLAN

# A1-01

PERMIT SET



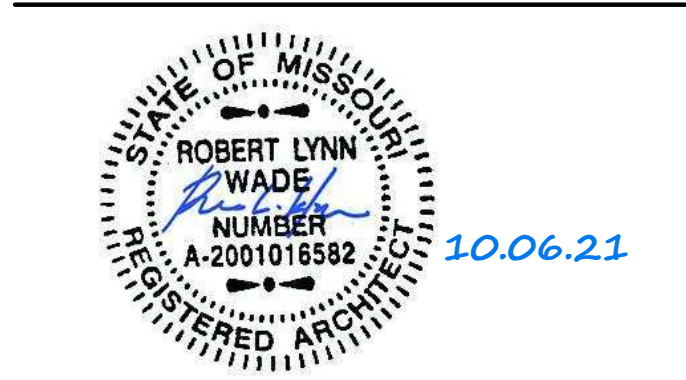


NewLine Studio  
ARCHITECTURE + INTERIORS  
Vision to Reality Begins with a NewLine

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

Project Number: 2106

Scale: As indicated

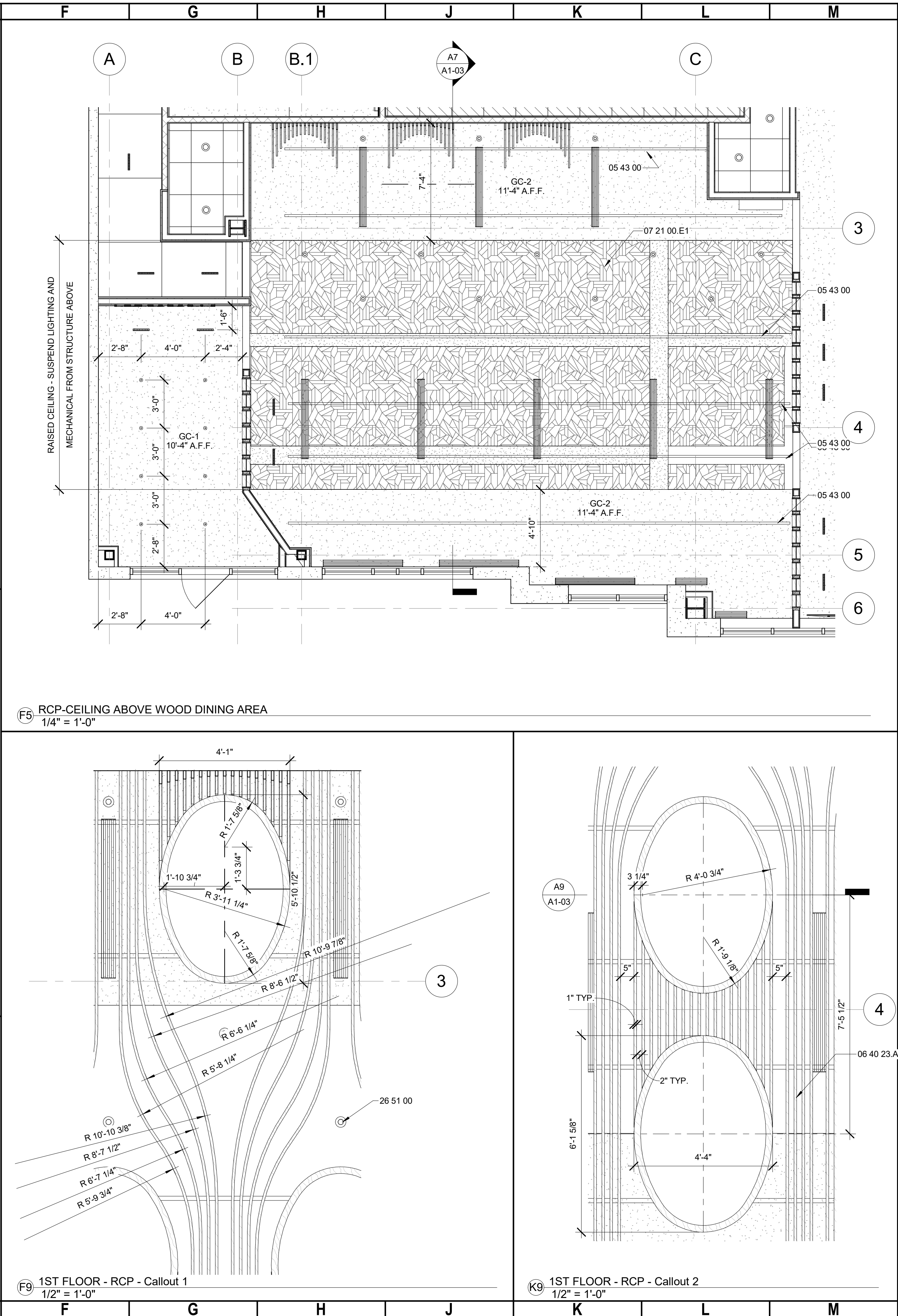
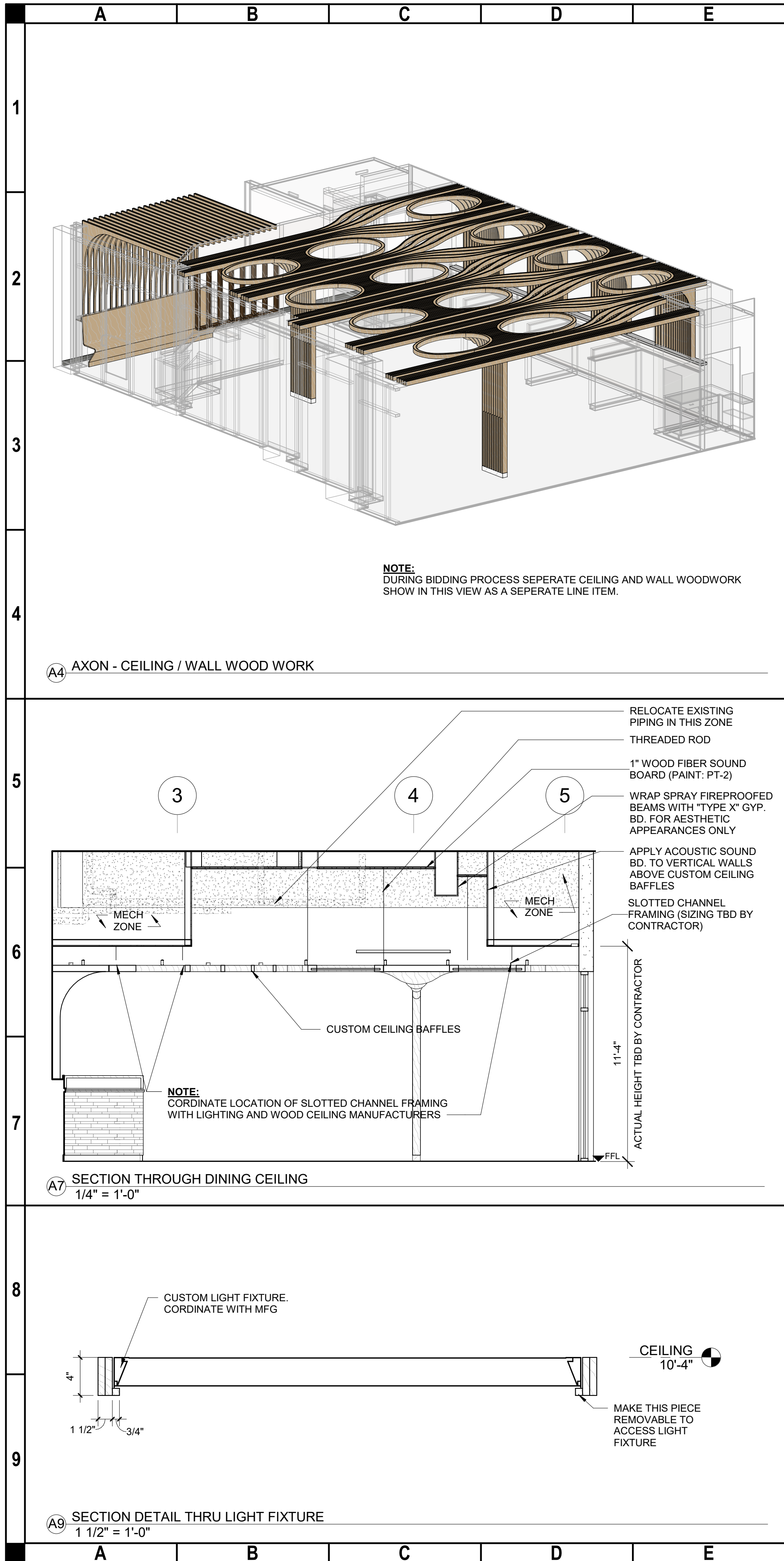
Date: 09.15.2021

RCP

A1-02

PERMIT SET





KEYNOTES	
NUMBER	DESCRIPTION
05 43 00	SLOTTED CHANNEL FRAMING (SIZING TBD BY CONTRACTOR)
06 40 23.A	CUSTOM WOOD WALL AND CEILING ELEMENTS - MATCH WILSONART ACORN VELVET ELM (15602-31)
07 21 00.E1	1" WOOD FIBER SOUND BOARD (PAINT: PT-2)
26 51 00	LIGHTING (RE: ELEC)

1 2 3 4 5 6 7 8 9

N P

**NewLine Studio**  
ARCHITECTURE + INTERIORS  
Vision to Reality Begins with a *NewLine*

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

**ROOTS SEASONAL CUISINE**

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081

STATE OF MISSOURI  
ROBERT LYNN WADE  
NUMBER A-2001016582  
REGISTERED ARCHITECT  
10.06.21

Revisions		
No.	Description	Date

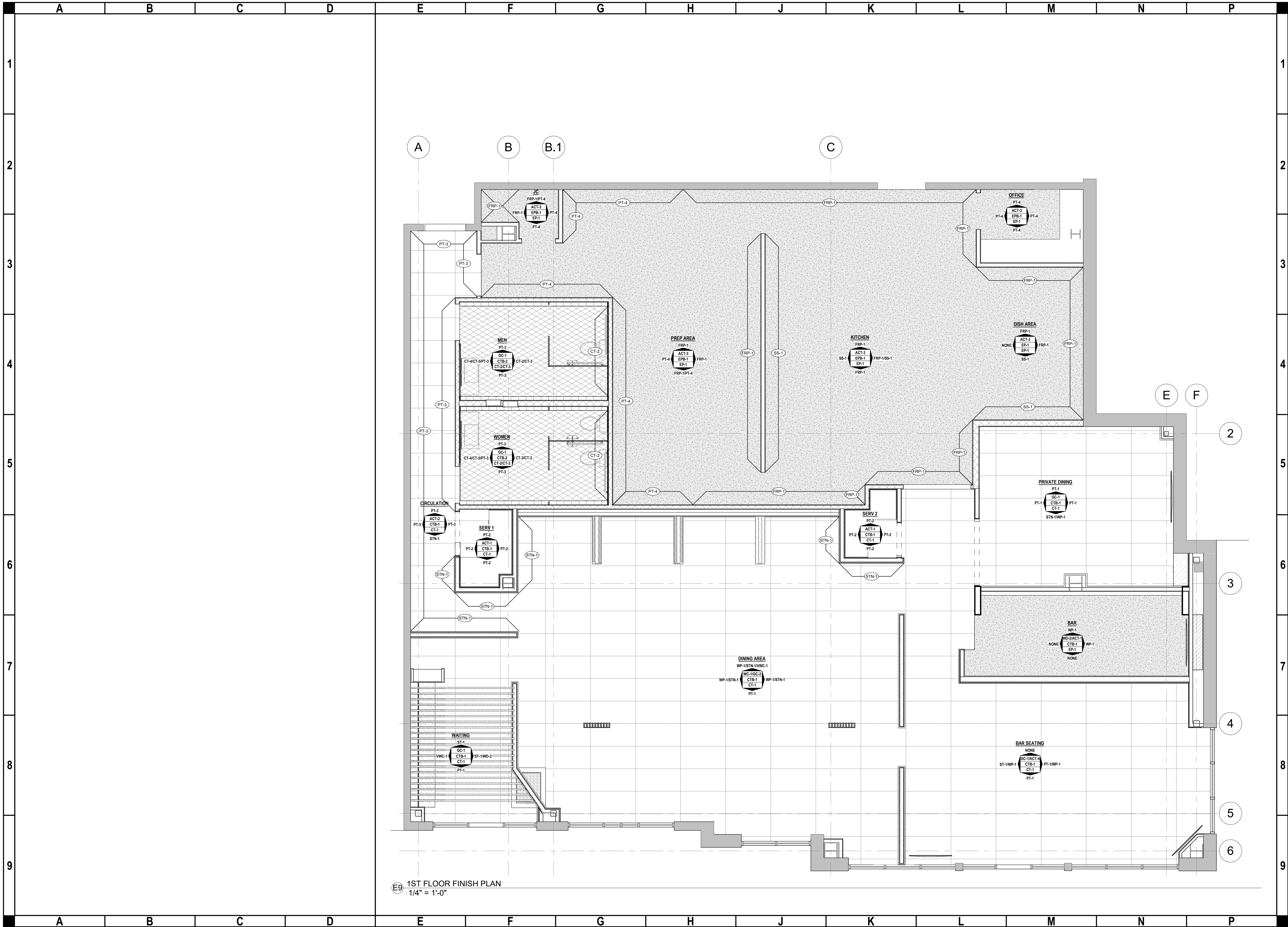
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

**ENLARGED RCP AND  
CEILING DETIALS**

**A1-03**

PERMIT SET

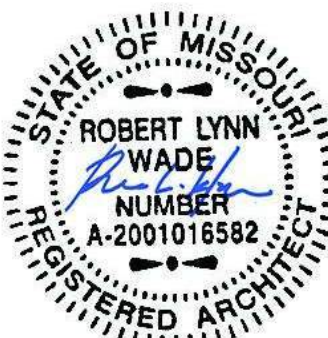




E9 1ST FLOOR FINISH PLAN  
1/4" = 1'-0"

# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

Project Number: 2106  
Scale: 1/4" = 1'-0"  
Date: 09.15.2021

FINISH PLAN

## A1-04

PERMIT SET



KEYNOTES

NUMBER	DESCRIPTION
10 28 00.A1	PAPER TOWEL DISPENSER / TRASH RECEPTACLE (MFG-ASI, 6462)
10 28 00.A2	TOILET TISSUE DISPENSER - MFG-ASI, # 7315-H
10 28 00.C1	GRAB BAR
10 28 14	BABY CHANGING STATION - KB310-SSRE HORIZONTAL STAINLESS STEEL RECESSED-MOUNTED
22 40 00.E5	URINAL

Architectural floor plan of a restrooms area, showing Men's (110) and Women's (109) facilities. The plan includes stalls, sinks, mirrors, and various equipment callouts. Dimensions and room numbers are provided.

**Men's (110):** Includes a wheelchair accessible stall (J3, A4-02, E6, A3), a standard stall (E3), a sink (A4-02, 1), a mirror (A4-02, 1), and a urinal (22 40 00.E5). Dimensions: 3'-6" (stall width), 1'-0" (sink/mirror width), 3'-0" (stall depth), 6" (urinal offset).

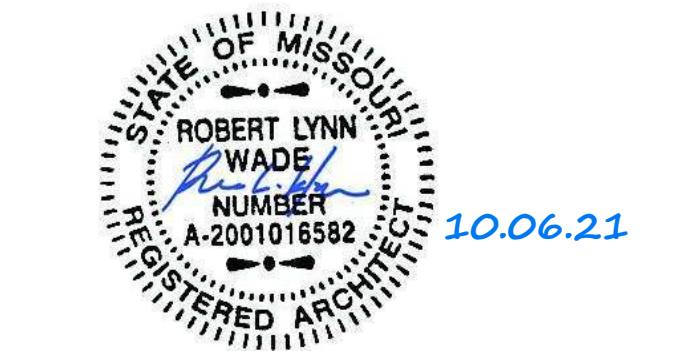
**Women's (109):** Includes a wheelchair accessible stall (A9, A4-02, E9, A8), a standard stall (J6), a sink (A4-02, 1), a mirror (A4-02, 1), and a urinal (22 40 00.E5). Dimensions: 3'-6" (stall width), 1'-0" (sink/mirror width), 3'-0" (stall depth), 6" (urinal offset).

**Circulation:** Room 108 is the main circulation area. Room 109 is the Women's restroom. Room 110 is the Men's restroom.

**Dimensions:** 13'-11 7/8" (overall width), 13'-11 7/8" (overall depth).

G9 ENLARGED PLAN-WC  
1/2" = 1'-0"

**ROOTS SEASONAL CUISINE**

[illegible]

Project Number:	2106
Scale:	1/2" = 1'-0"
Date:	09.15.2021

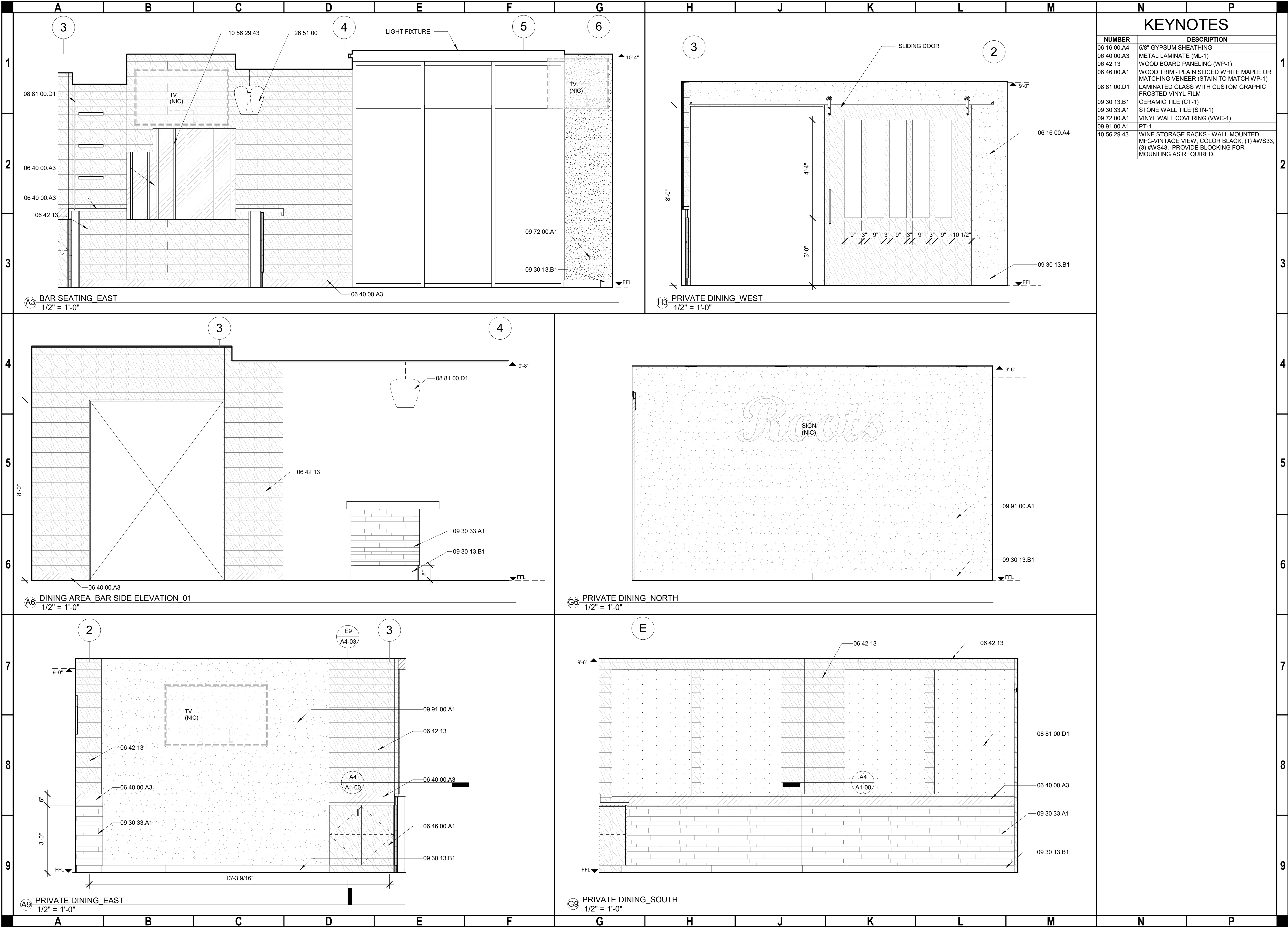
## ENLARGED PLANS

# A1-05

---

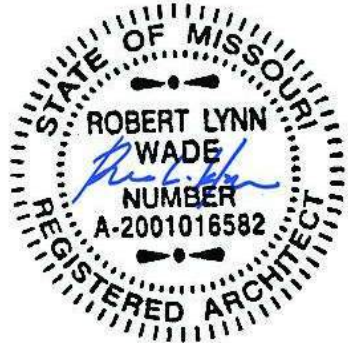
PERMIT SET





# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

Project Number: 2106  
Scale: 1/2" = 1'-0"  
Date: 09.15.2021

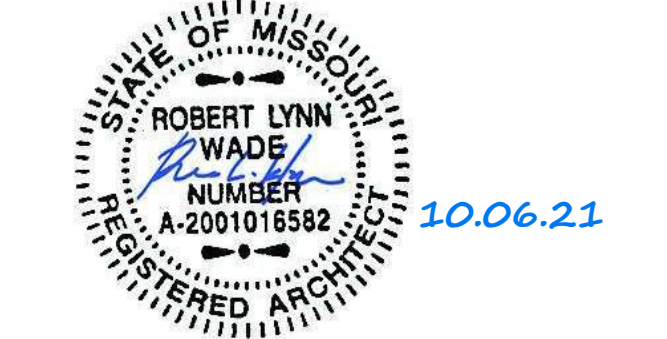
## INTERIOR ELEVATIONS

# A4-01





ROOTS SEASONAL CUISINE



Revisions		
No.	Description	Date

Project Number: 2106

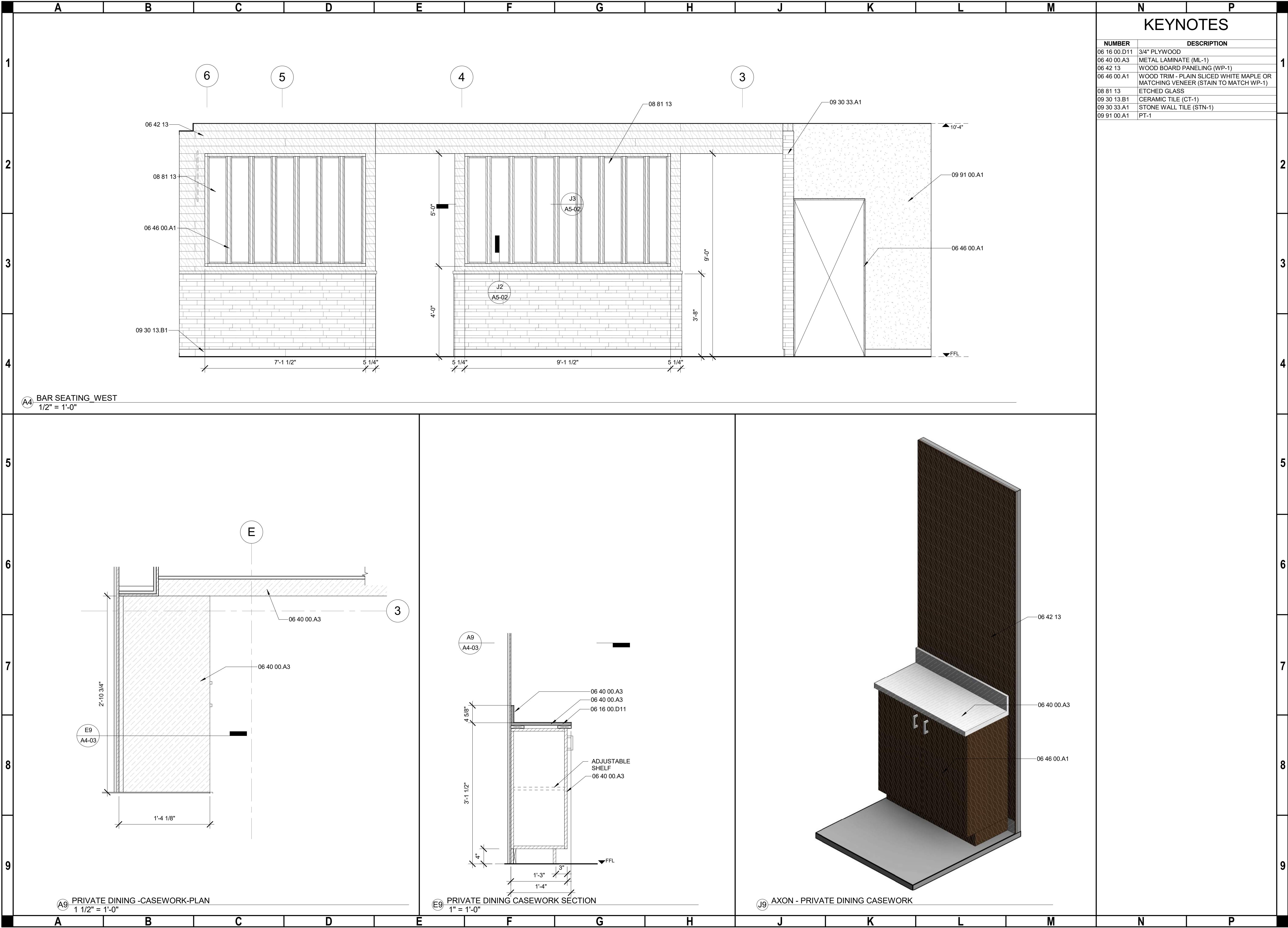
Scale: 1/2" = 1'-0"

Date: 09.15.2021

INTERIOR ELEVATIONS

A4-02



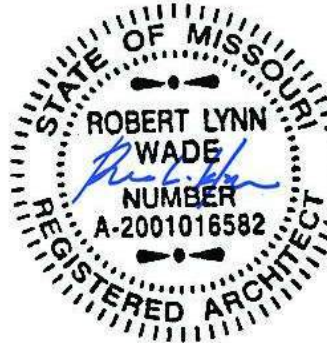


KEYNOTES

NUMBER	DESCRIPTION
06 16 00.D11	3/4" PLYWOOD
06 40 00.A3	METAL LAMINATE (ML-1)
06 42 13	WOOD BOARD PANELING (WP-1)
06 46 00.A1	WOOD TRIM - PLAIN SLICED WHITE MAPLE OR MATCHING VENEER (STAIN TO MATCH WP-1)
08 81 13	ETCHED GLASS
09 30 13.B1	CERAMIC TILE (CT-1)
09 30 33.A1	STONE WALL TILE (STN-1)
09 91 00.A1	PT-1

ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

Revisions

No.	Description	Date

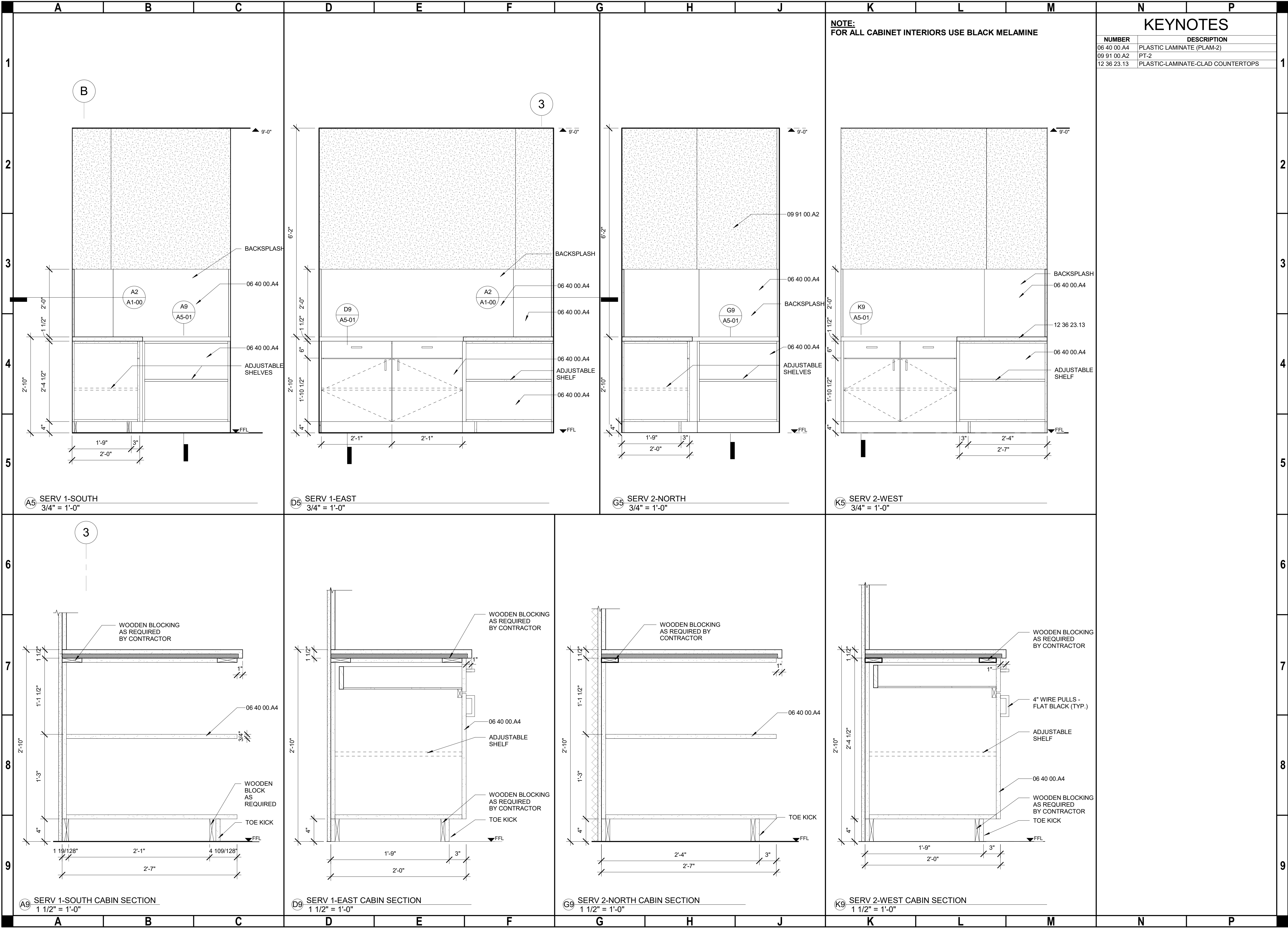
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR ELEVATIONS

A4-03

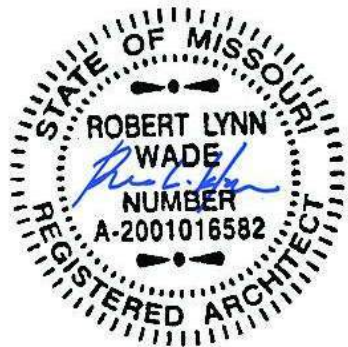
PERMIT SET





ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

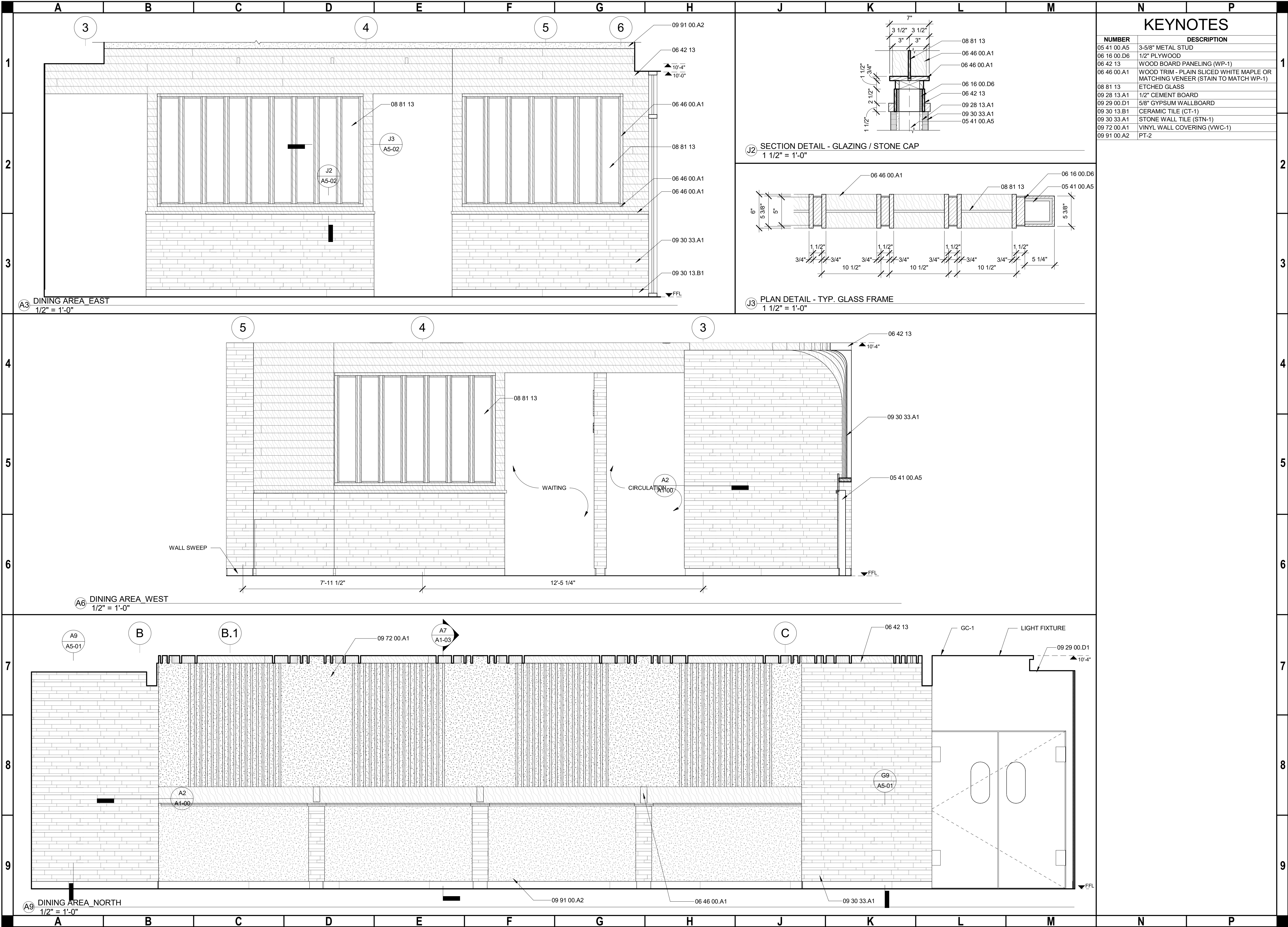
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS-SERV  
1 & 2

A5-01

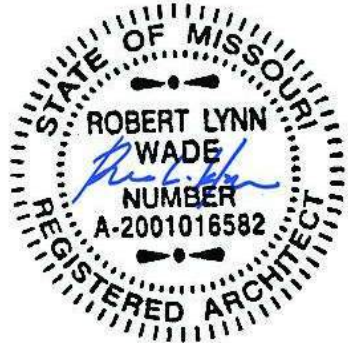
PERMIT SET





ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

Revisions		
No.	Description	Date

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS-DINING  
AREA

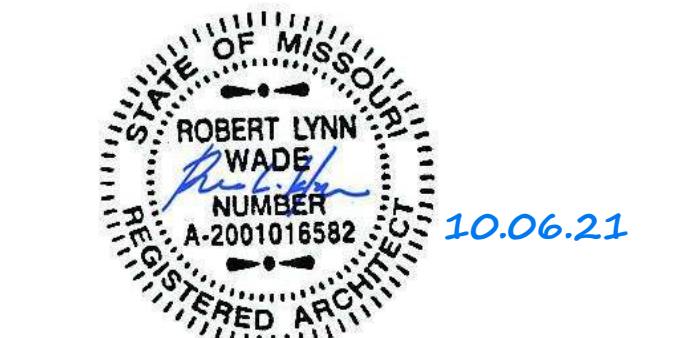
A5-02

PERMIT SET



ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



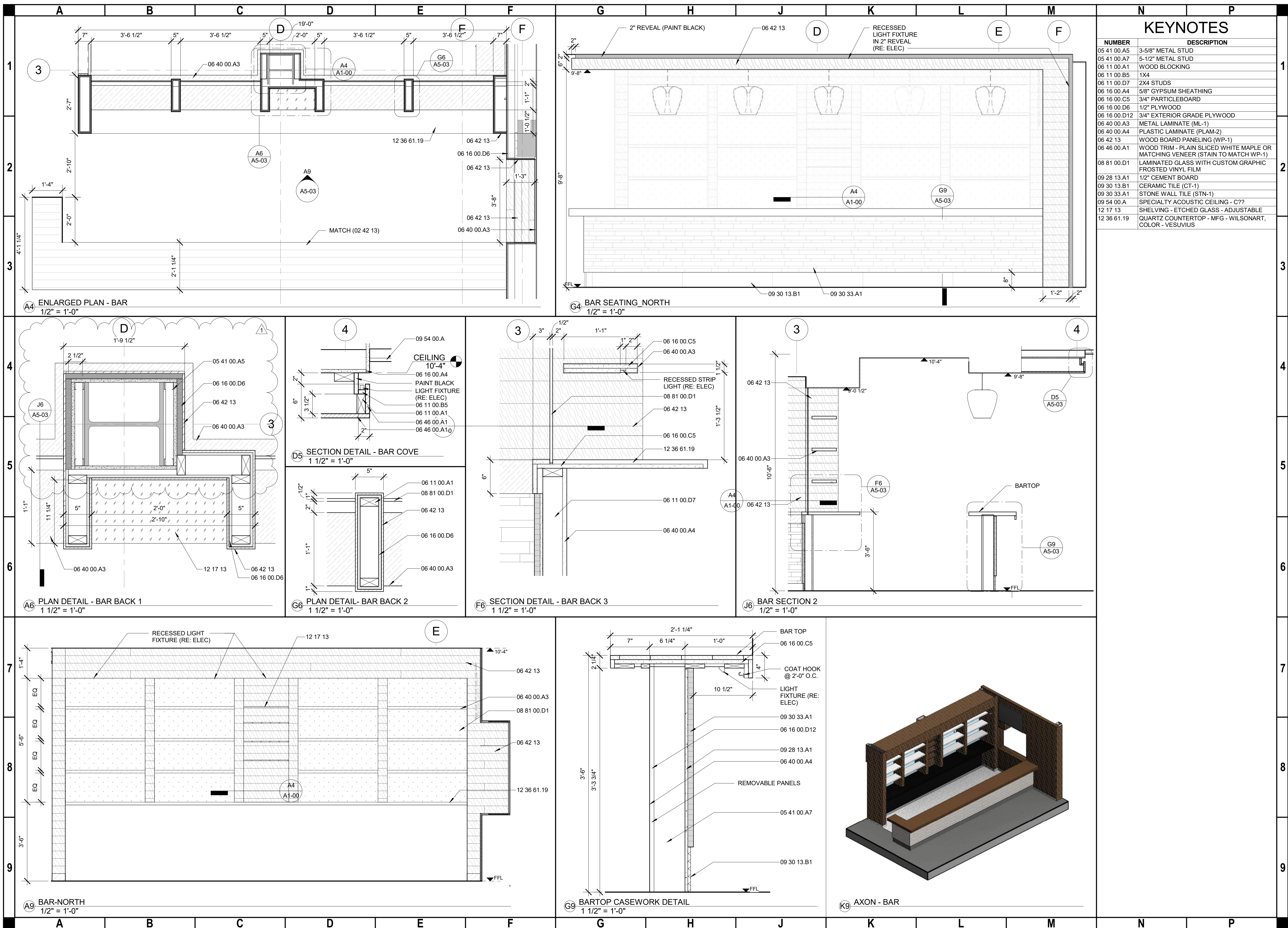
Revisions		
No.	Description	Date
1	CODE REVIEW	10.06.21

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

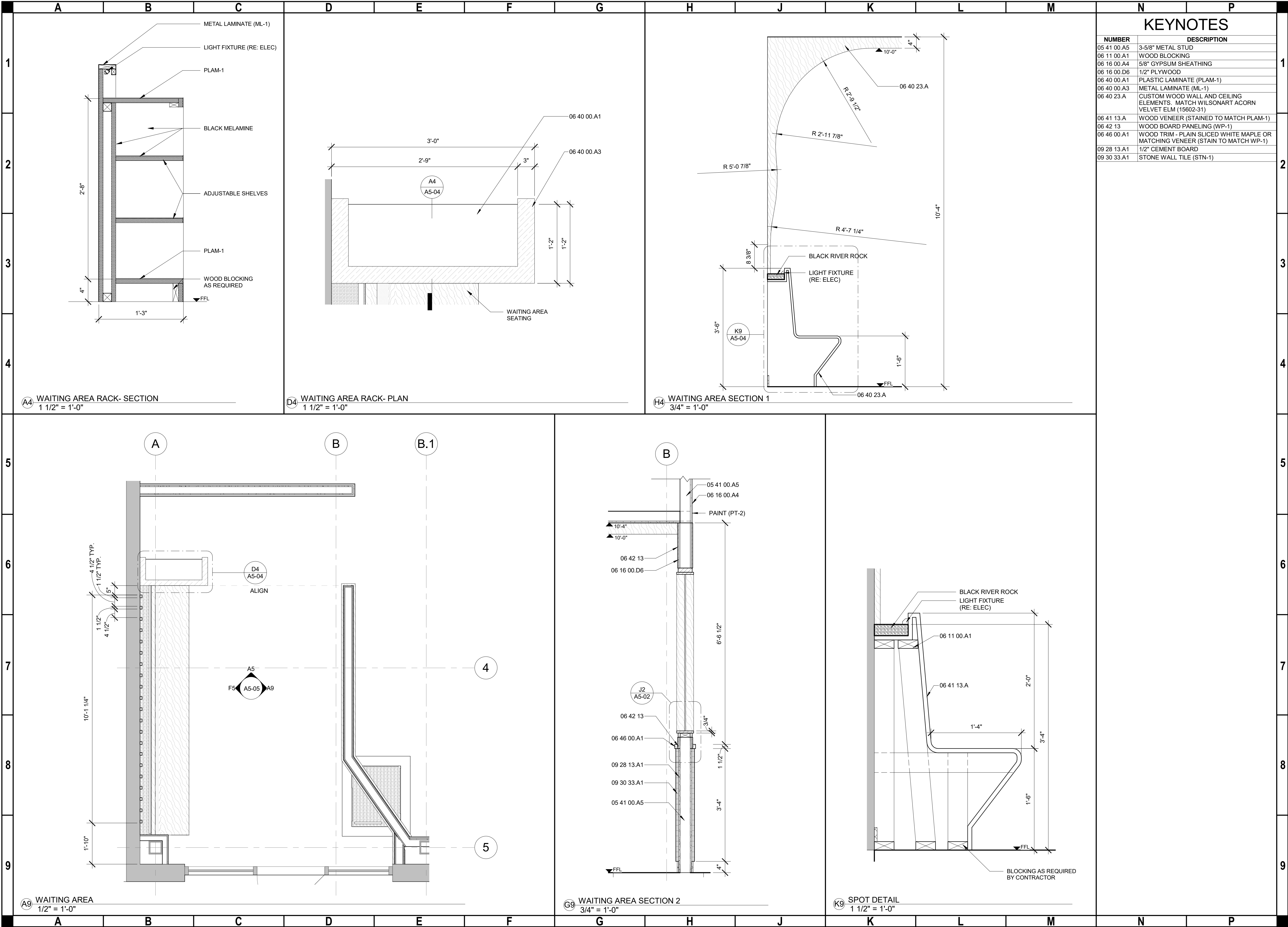
INTERIOR  
DETAILS/ELEVATIONS

A5-03

PERMIT SET

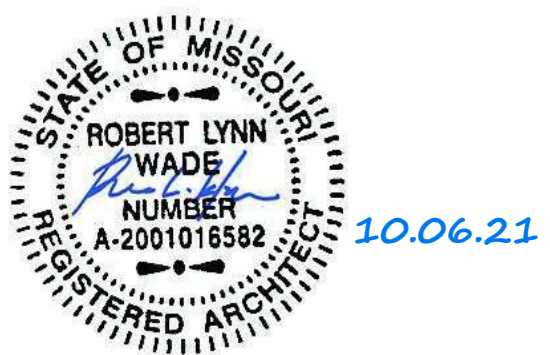






# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

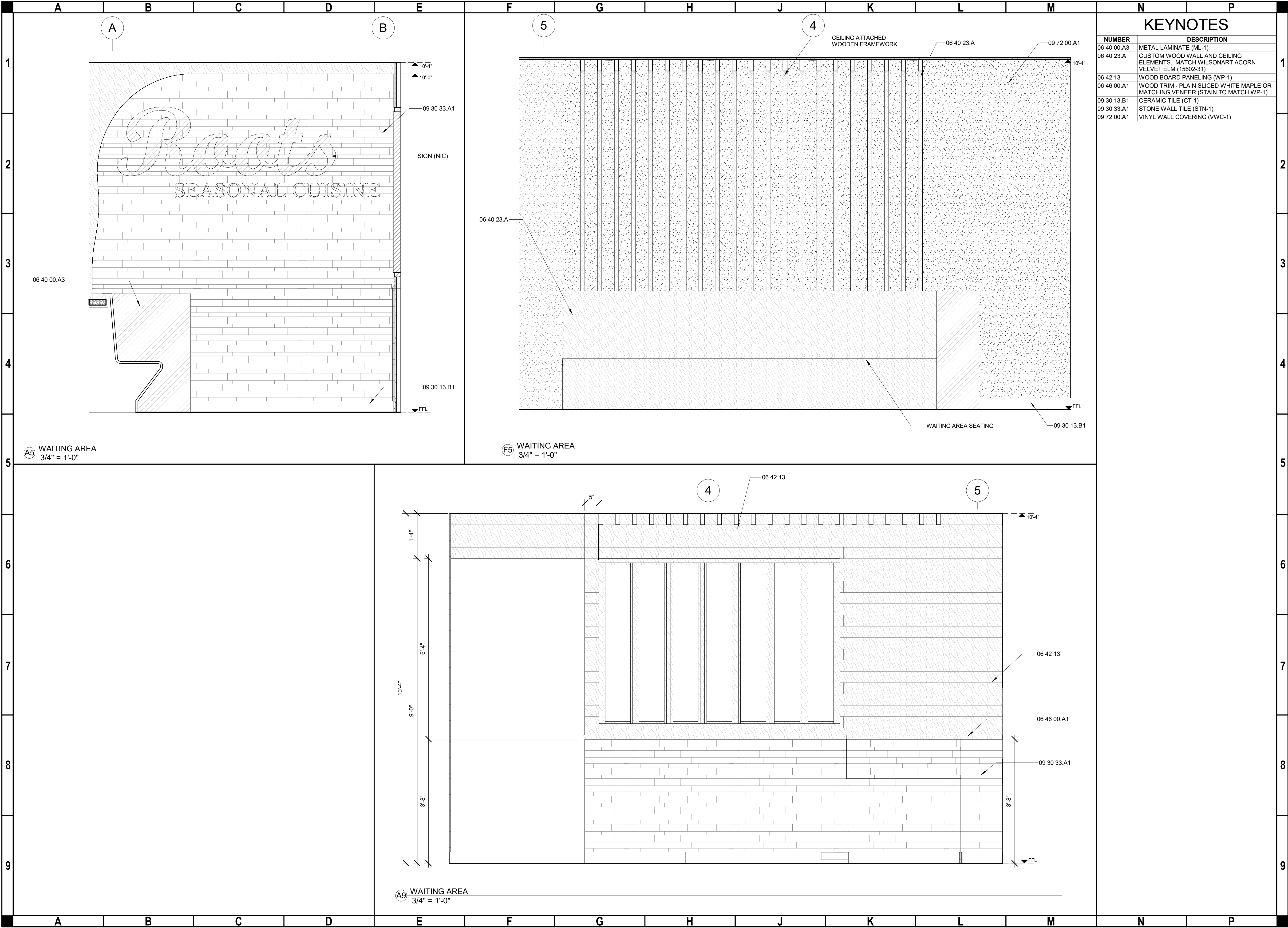
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS

A5-04

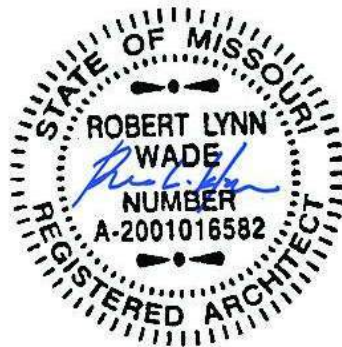
PERMIT SET





# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

Revisions		
No.	Description	Date

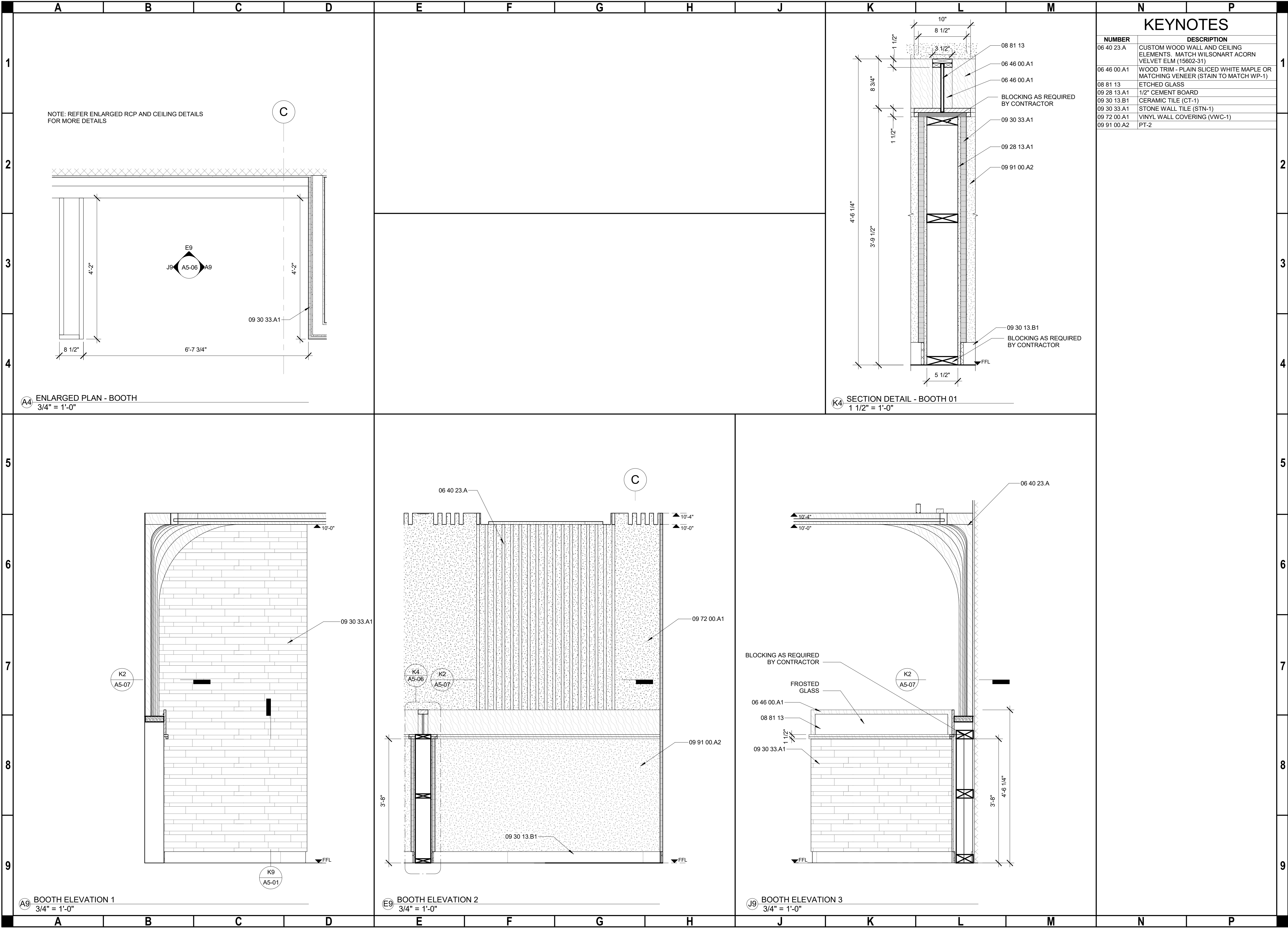
Project Number: 2106  
Scale: 3/4" = 1'-0"  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS

A5-05

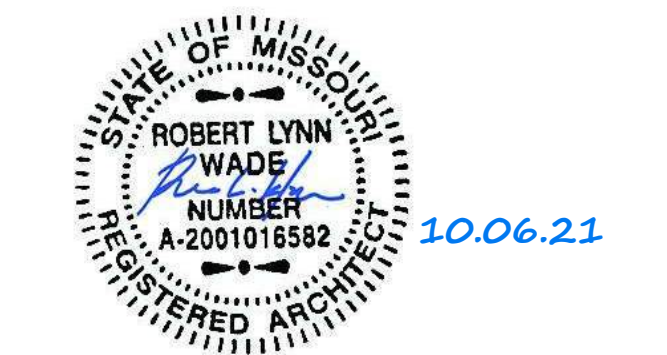
PERMIT SET





ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



Revisions		
No.	Description	Date

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS

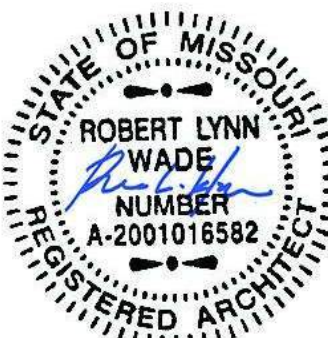
A5-06

PERMIT SET



ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

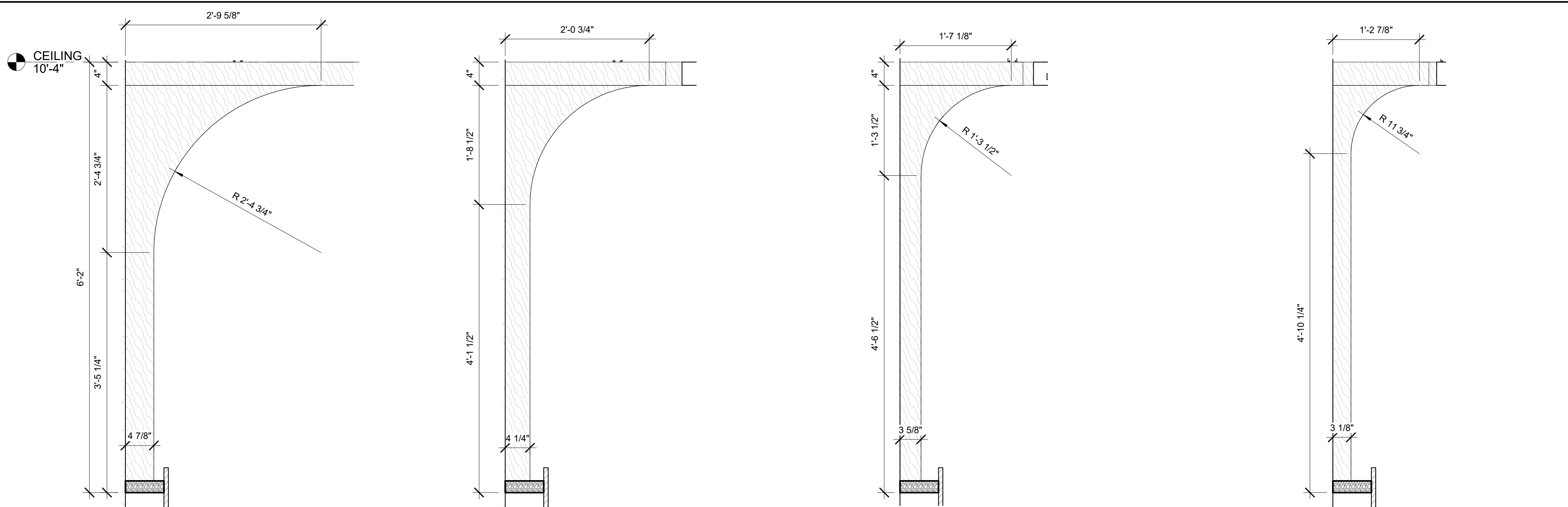
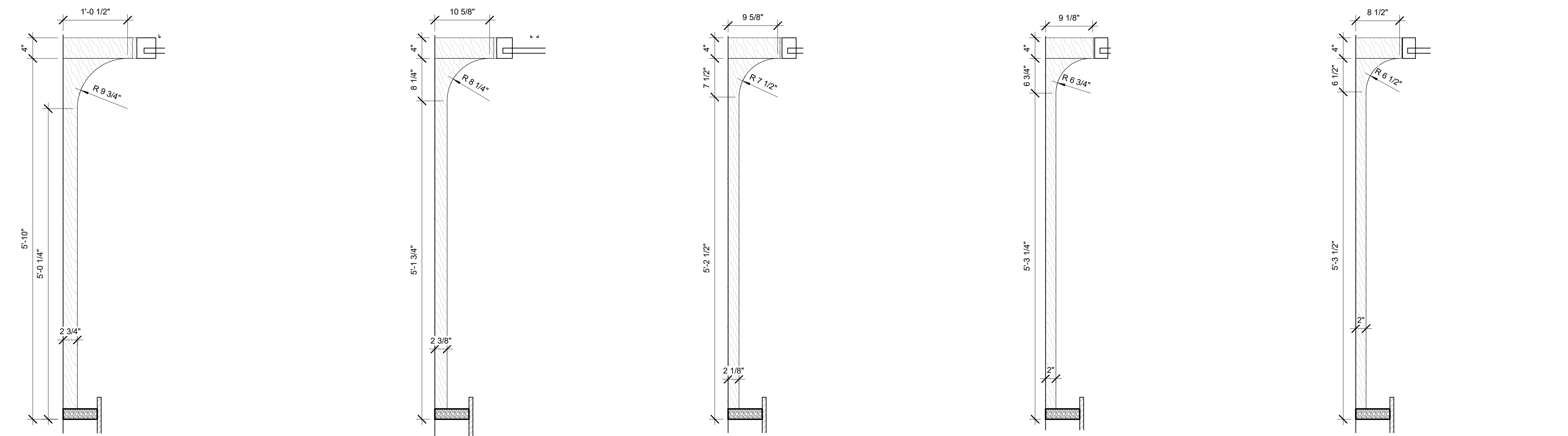
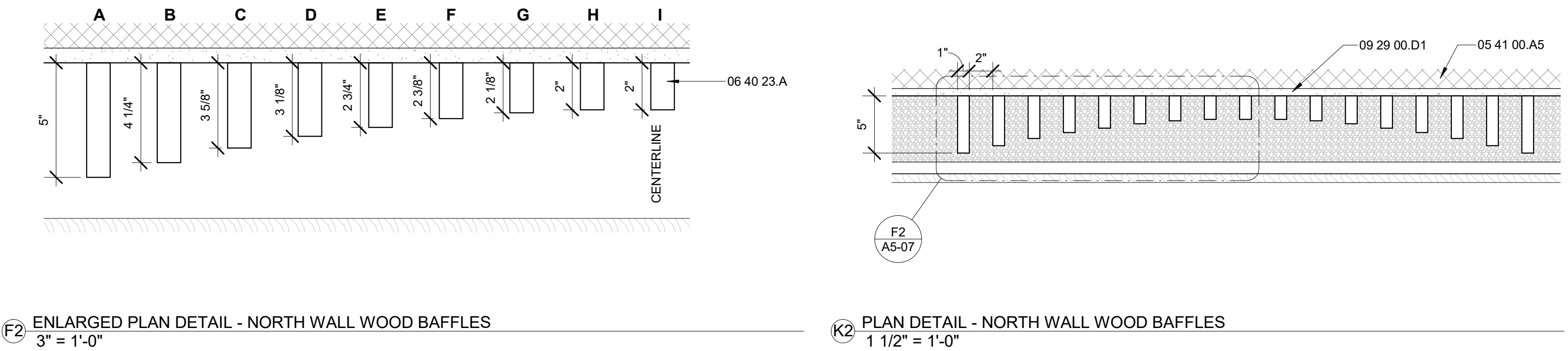
Revisions		
No.	Description	Date

Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

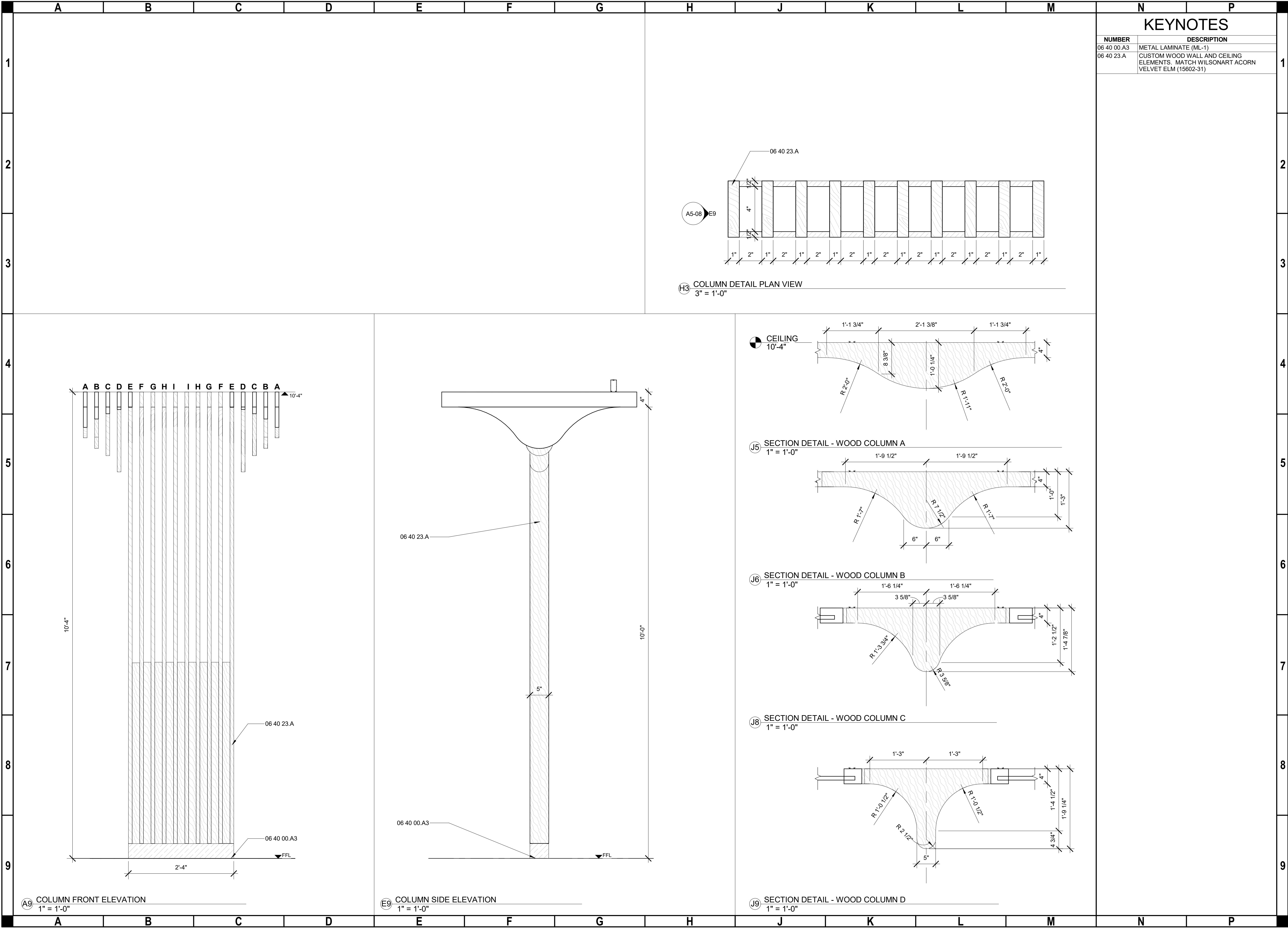
INTERIOR  
DETAILS/ELEVATIONS

A5-07

PERMIT SET

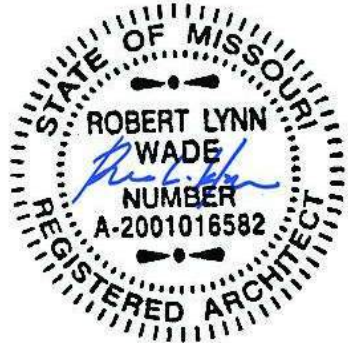






ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

Revisions		
No.	Description	Date

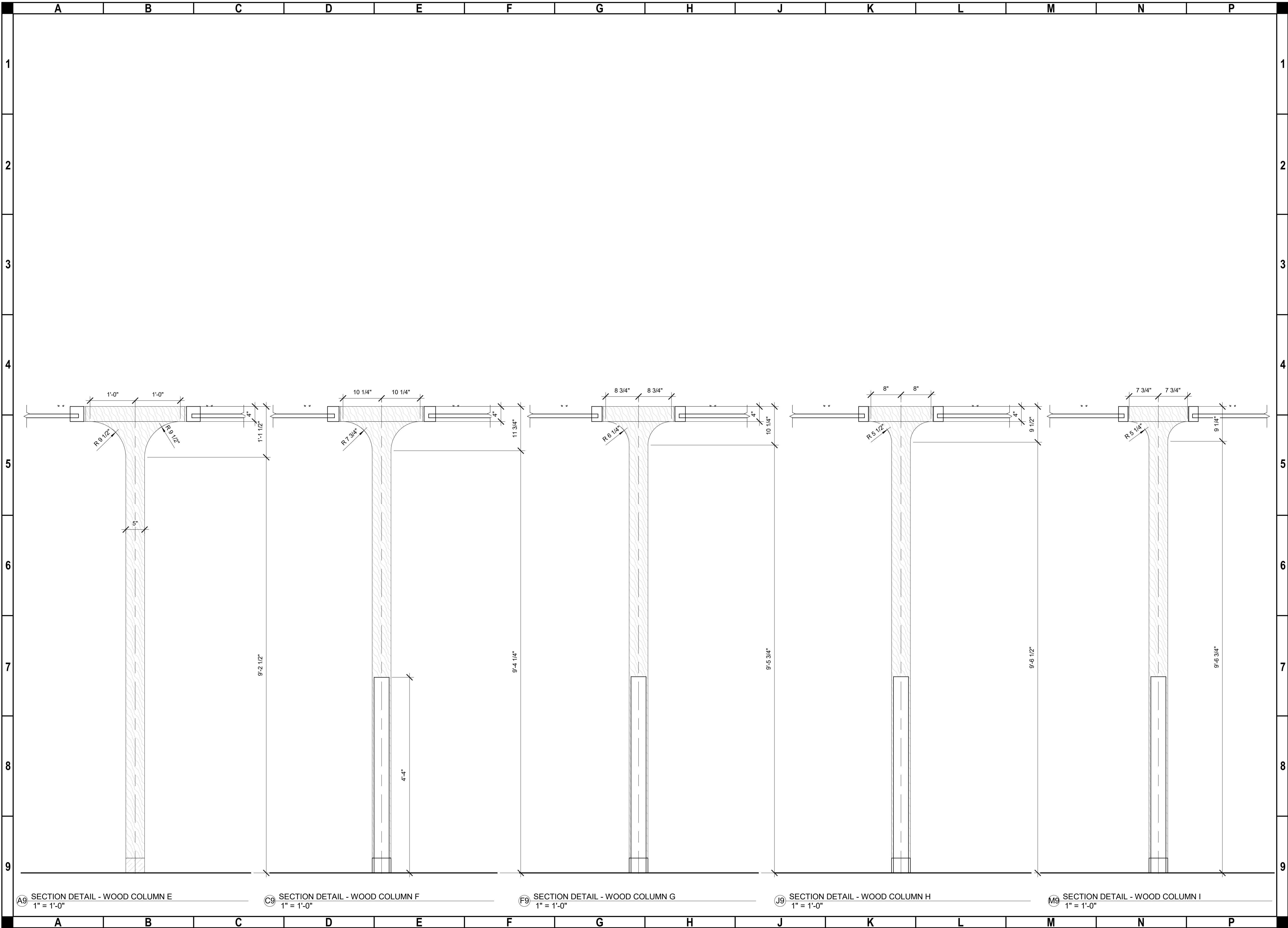
Project Number: 2106  
Scale: As indicated  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS

A5-08

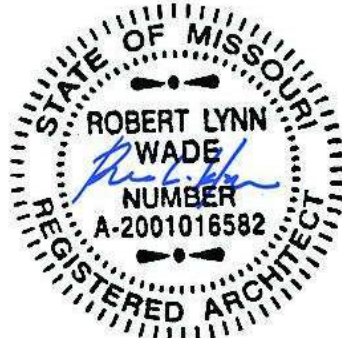
PERMIT SET





# ROOTS SEASONAL CUISINE

940 NW PRYOR RD, SUITE M  
LESS'S SUMMIT, MO 64081



10.06.21

Revisions		
No.	Description	Date

Project Number: 2106  
Scale: 1" = 1'-0"  
Date: 09.15.2021

INTERIOR  
DETAILS/ELEVATIONS

## A5-09

PERMIT SET

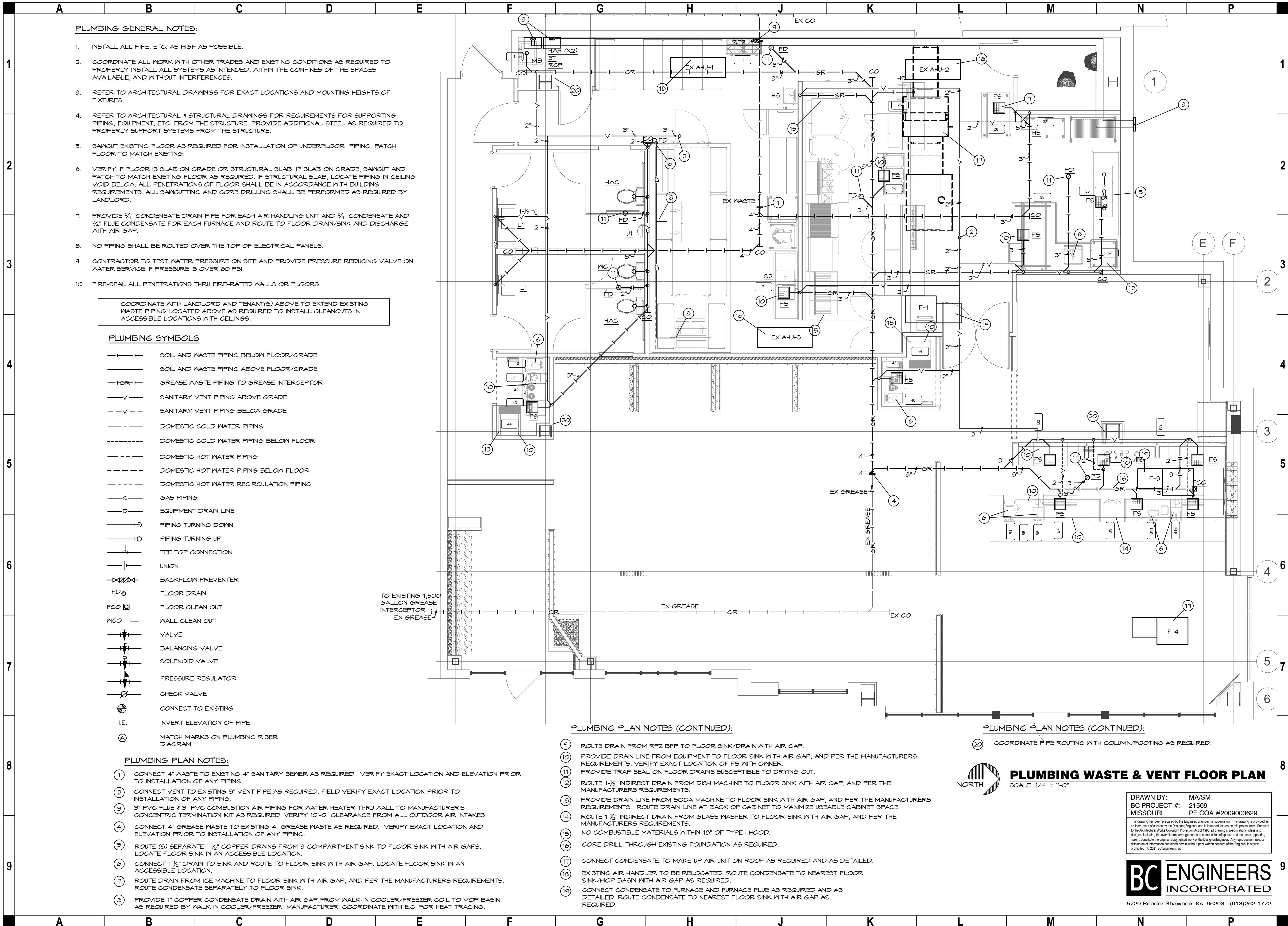


	A	B	C	D	E	F	G	H	J	K	L	M	N	P															
	MECHANICAL SPECIFICATIONS							MECHANICAL SPECIFICATIONS (CONTINUED)							MECHANICAL SPECIFICATIONS (CONTINUED)														
1	1. GENERAL PROVISIONS:							7. PIPING:							8. WATER HEATERS							1							
	A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING AND MECHANICAL SYSTEMS OUTLINED.							A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).							A. GAS-FIRED, TANKLESS, DOMESTIC-WATER HEATERS														
	B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.							1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88.							1) STANDARD: ANSI Z21.10.3/GSA 4.3 FOR GAS-FIRED, INSTANTANEOUS, DOMESTIC-WATER HEATERS FOR INDOOR APPLICATION.														
	C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.							a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200, ANSI B16.22, MSS SP-104.							2) CONSTRUCTION: COPPER PIPING OR TUBING COMPLYING WITH NSF 61 AND NSF 312 BARRIER MATERIALS FOR POTABLE WATER, WITHOUT STORAGE CAPACITY.														
	D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.							b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS, ASME B16.22, ASME B16.51, OR ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO ASTM PS-117 OR ASME B16.51.							a) PRESSURE RATINGS: 150 PSIG.														
	E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDA							2) PEK, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4-03. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)							b) HEAT EXCHANGER: STAINLESS STEEL.														
	F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.							a) PEK-A AND PEK-B MEETING ANSI/NSF61 AND ANSI/NSF312 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PPW-51," "NSF-61-S" OR OTHER NSF-APPROVED MARKING, ASTM F2023 FOR USE WITH CHLORINATED WATER. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)							c) INSULATION: COMPLY WITH ASHRAE/IES														
	G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.							b) PEK MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE. INCREASE PEK PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)							d) JACKET: METAL, WITH UNPAINTED FINISH, OR PLASTIC.														
2	2. OPERATION AND MAINTENANCE MANUALS:							3) VALVES							e) BURNER: FOR USE WITH TANKLESS, DOMESTIC-WATER HEATERS AND NATURAL-GAS FUEL.							2							
	A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPIL OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOGS, PARTS LISTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.							a) TO BE INSTALLED ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE.							f) AUTOMATIC IGNITION: MANUFACTURERS PROPRIETARY SYSTEM FOR AUTOMATIC, GAS IGNITION.														
	B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.							b) TO BE INSTALLED ON THE WATER SUPPLY SIDE TO EACH APPLIANCE OR MECHANICAL EQUIPMENT.							g) TEMPERATURE CONTROL: ADJUSTABLE THERMOSTAT.														
	C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.							c) TYPES:							3) SUPPORT: BRACKET FOR WALL MOUNTING.														
	3. MANUFACTURERS:							1. GATE VALVE: JOMAR T/9-301G OR EQUAL, LEAD-FREE NSF 61, ANSI B1.20.1.							B. DOMESTIC-WATER EXPANSION TANKS:														
	A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.							2. GLOBE VALVE: JOMAR TGG OR EQUAL.							1) DESCRIPTION: STEEL, PRESSURE-RATED TANK CONSTRUCTED WITH WELDED JOINTS AND FACTORY-INSTALLED, BUTYL-RUBBER DIAPHRAGM. INCLUDE AIR PRECHARGE TO MINIMUM SYSTEM-OPERATING PRESSURE AT TANK.														
	4. MOTORS:							3. BALL VALVE: JOMAR JPI20PXP OR EQUAL COMPACT LEAD FREE BRASS BALL VALVE, UL842, CSA 3371-12 & 3371-14, CALIFORNIA CODE A8988, NSF61 ANNEX G APPROVED.							2) CONSTRUCTION:														
	A. PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.							4. BALL VALVE: JOMAR T-100NE OR EQUAL, UL842, FM, CSA, NSF 61-S, MSS SP-110							a) TAPINGS: FACTORY-FABRICATED STEEL, WELDED TO TANK BEFORE TESTING AND LABELING. INCLUDE ASME B1.20.1 PIPE THREAD.														
	5. TESTING, BALANCING, AND CLEANING:							B. LEAD CONTENT OF WATER SUPPLY PIPE AND FITTINGS:							b) INTERIOR FINISH: COMPLY WITH NSF 61 AND NSF 312 BARRIER MATERIALS FOR POTABLE WATER TANK LININGS, INCLUDING EXTENDING FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.														
	A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.							1) PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, UTILIZED IN THE WATER SUPPLY SYSTEM SHALL NOT HAVE MORE THAN 0% LEAD CONTENT.							c) AIR-CHARGING VALVE: FACTORY INSTALLED.														
	B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.							2) PIPE, PIPE FITTINGS, JOINTS, VALVES, FAUCETS, AND FIXTURE FITTINGS UTILIZED TO SUPPLY WATER FOR DRINKING OR COOKING PURPOSES SHALL COMPLY WITH NSF 312 AND SHALL HAVE A WEIGHTED AVERAGE LEAD CONTENT OF 0.25% OR LESS.							3) CAPACITY AND CHARACTERISTICS:														
	C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.							C. SANITARY SEWER, GREASE WASTE, AND VENTS (UNDERGROUND, INTERIOR TO THE BUILDING):							a) WORKING-PRESSURE RATINGS: 150 PSIG.														
	D. NATURAL GAS PIPING SHALL BE PNEUMATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.							1) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:																					
	E. DUCTWORK AND PIPING SHALL BE BALANCED BY QUALIFIED INDEPENDENT BALANCING PERSONNEL WHO HAVE PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE CERTIFIED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).							PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3465 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 625 FITTINGS SHALL CONFORM TO ASTM D 2665. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2225.																					
	1) BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION OF PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.							2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:																					
	2) WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THE REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELED OR MAY BE AN ELECTRONIC PDF SUBMITTAL.							PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4596 FOR PIPE AND 12454 PER ASTM D 1184 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 641. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564.																					
	F. GREASE DUCT SHALL BE TESTED PRIOR TO USE OR CONCEALMENT OF ANY PORTION OF THE GREASE DUCT SYSTEM. DUCTS SHALL BE CONSIDERED TO BE CONCEALED WHEN INSTALLED IN SHAFTS OR COVERED BY DUCT WRAP INSULATION THAT PREVENTS THE DUCTWORK FROM BEING VISUALLY INSPECTED FROM ALL SIDES. THE PERMIT HOLDER SHALL BE RESPONSIBLE TO PROVIDE THE NECESSARY EQUIPMENT AND PERFORM THE GREASE DUCT LEAKAGE TEST PER NFPA 96 AND ALL LOCAL CODES.							3) PVC SCHEDULE 40 SOLID WALL PIPE AND DWV FITTING SYSTEM:																					
	G. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION, SAMPLES OF WATER IN THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.							PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 12454 PER ASTM D 1184 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1185 AND ASTM D 2665. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. (WHERE APPROVED BY LOCAL JURISDICTIONS) (NOT FOR USE IN A RETURN AIR PLENUM)																					
	H. FIRE PROTECTION PIPING SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA.							4) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON PIPE AND SHALL CONFORM TO ASTM A 889 AND CSPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CSPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.																					
	6. PLUMBING:							5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 14.																					
	A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.							D. SANITARY SEWER, GREASE WASTE, AND VENTS (ABOVE GROUND, INTERIOR TO THE BUILDING):																					
	B. ALL EXPOSED WASTE PIPE SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.							1) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:																					
	C. PROVIDE CLEANOUTS AT EACH CHANGE OF DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.							PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3465 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 625 FITTINGS SHALL CONFORM TO ASTM D 2665. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2225. (NOT FOR USE IN A RETURN AIR PLENUM)																					
	D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.							2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:																					
	E. CLEANOUTS:							PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4596 FOR PIPE AND 12454 PER ASTM D 1184 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 641. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. (WHERE APPROVED BY LOCAL JURISDICTIONS) (NOT FOR USE IN A RETURN AIR PLENUM)																					
	1) VINYL TILE FLOOR, JR SMITH #4140, OR EQUAL.							3) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON PIPE AND SHALL CONFORM TO ASTM A 889 AND CSPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CSPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.																					
	2) QUARRY TILE FLOOR, JR SMITH #4200, OR EQUAL.							5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 14.																					
	3) CARPETED FLOOR, JR SMITH #4020-Y, OR EQUAL.							E. CONDENSATE DRAINS & INDIRECT WASTE (ABOVEGROUND):																					
	4) UNFINISHED FLOOR, JR SMITH #4020, OR EQUAL.							1) DWV, WROUGHT COPPER, ANSI B-16.21 (CONDENSATE FROM COOLER/FREEZER).																					
	5) WALL, JR SMITH #4412, OR EQUAL, 24" ABOVE THE FLOOR.							2) POLYVINYLCHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT (CONDENSATE ON ROOF/HVAC/MAU UNITS).																					
	F. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTIONS TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION TANKS.							3) POLYVINYLCHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT (INDIRECT WASTE FROM FURNACES/ AHUS).																					
	G. WATER HEATERS:							4) DWV, WROUGHT COPPER, ANSI B-16.21 (WATER HEATER TIP).																					
	1) EVERY WATER HEATER SHALL HAVE AN APPROVED MEANS INSTALLED ON THE COLD WATER SUPPLY LINE ABOVE THE EQUIPMENT TO PREVENT SIPHONING OF A STORAGE WATER HEATER OR TANK.							F. REFRIGERANT:																					
	2) BOTTOM FED WATER HEATERS AND TANKS CONNECT TO WATER HEATERS SHALL HAVE A VACUUM RELIEF VALVE INSTALLED, ANSI Z21.22.							1) ASTM B 280, TYPE ACR, HARD-DRAWN STRAIGHT LENGTHS, AND SOFT-ANNEALED COILS, SEAMLESS COPPER TUBING.																					
	3) STORAGE HEATERS OPERATING ABOVE ATMOSPHERIC PRESSURE SHALL HAVE AN APPROVED PRESSURE RELIEF VALVE AND/OR TEMPERATURE RELIEF VALVE.							2) WROUGHT COPPER, ANSI B16.22, STREAMLINED PATTERN, FITTINGS, BRAZED JOINTS, AMS A 5.8, CLASSIFICATION BA9-1 (SILVER).																					
	H. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES:							3) TUBING SHALL BE FACTORY CLEANED, READY FOR INSTALLATION, AND HAVE ENDS CAPPED TO PROTECT CLEANLINESS OF PIPE INTERIORS PRIOR TO SHIPPING.																					
	1) INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.							4) SIZE AND INSTALLATION OF PIPE SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.																					
	2) INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.							G. NATURAL GAS:																					
	3) INSTALL ALL GREASE WASTE PIPING AT 1/4" PER FOOT FALL.							1) BLACK STEEL PIPE, SCHEDULE 40, ASTM A53.																					
								a) PIPE 3" AND SMALLER, 150 LB. MALLEABLE IRON, THREADED FITTINGS.																					
								b) PIPE 4" AND SMALLER: VEGA MEGAPRESS G FOR WATER AND GAS, CSA LC4, T35A/ASME B31 FOR USE WITH ASTM A53 SCHEDULE 40 BLACK IRON PIPE.																					
								c) PIPE 2-1/2" AND LARGER, WELDED.																					
								d) FLUG VALVE: ROCKWELL NORDSTRØM FIGURE NO. 142 OR 143.																					
								e) BALL VALVE: JOMAR T-100NE, APPROVALS- UL842, FM, CSA, NSF 61-S, MSS SP-110																					
								2) GAS PIPING LABELING:																					
								a) ALL ELEVATED PRESSURE GAS PIPING SHALL BE LABELED EVERY 40 FEET WITH SIGNS INDICATING ELEVATED PRESSURE.																					
								3) GAS PIPING PAINTING:																					
								a) ALL BLACK STEEL GAS PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE PRIMED AND PAINTED TO EITHER MATCH ADJACENT EXTERIOR WHERE LOCATED OR ON NEAR EXTERIOR WALL AND PAINTED SAFETY YELLOW WHERE LOCATED ON THE ROOF.																					
								H. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ELCEN. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-64.																					
								I. SLEEVES																					
								1) PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.																					
								2) INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.																					
								3) ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.																					
								4) PROTECTION AGAINST CONTACT: METALLIC PIPING, EXCEPT FOR CAST IRON, DUCTILE IRON AND GALVANIZED STEEL, SHALL NOT BE PLACED IN DIRECT CONTACT WITH STEEL FRAMING MEMBERS, CONCRETE, OR CINDER WALLS AND FLOORS OR OTHER MASONRY. METALLIC PIPING SHALL NOT BE PLACED IN DIRECT CONTACT WITH CORROSIVE SOIL. SHEATHING USED TO PREVENT DIRECT CONTACT SHALL HAVE A THICKNESS OF GREATER THAN .002" AND THE SHEATHING SHALL BE MADE OF PLASTIC. ANY PIPE THAT PASSES THROUGH A FOUNDATION WALL OR FOOTING SHALL BE PROVIDED WITH A RELIEVING ARCH, OR A PIPE SLEEVE SHALL BE BUILT INTO THE FOUNDATION WALL. THE SLEEVE SHALL BE TWO SIZES GREATER THAN THE PIPE PASSING THOUGH THE WALL OR FOOTING.																					
								5) PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.																					
								J. PROVIDE CHROME PLATED ESCUTCHEONS ON ALL PIPE ENTERING FINISHED AREAS.																					
9															DRAWN BY: MA/SM BC PROJECT #: 21569 MISSOURI PE COA #2009003629 <small>This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.</small>							BC ENGINEERS INCORPORATED 5720 Reeder Shawnee, Ks. 66203 (913)262-1772							9
	A	B	C	D	E	F	G	H	J	K	L	M	N	P															



	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
1	MECHANICAL SPECIFICATIONS (CONTINUED)							MECHANICAL SPECIFICATIONS (CONTINUED)							1
	9. INSULATION AND DUCT LINING:							F. EQUIPMENT CONNECTIONS:							
	A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPED RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.							1) CONNECT METAL DUCTWORK TO EQUIPMENT AS INDICATED, PROVIDE FLEXIBLE CONNECTION FOR EACH DUCTWORK CONNECTION TO EQUIPMENT MOUNTED ON VIBRATION ISOLATORS, AND/OR EQUIPMENT CONTAINING ROTATING MACHINERY. PROVIDE ACCESS DOORS AS REQUIRED.							
	B. PIPE INSULATION - ABOVE GRADE:							6) SEAL ALL CONCEALED DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK. OIL BASE CAULKING AND GLAZING COMPOUNDS SHALL NOT BE ACCEPTABLE. DUCTS SHALL BE SEALED TO THE CLASS LEVEL LISTED BELOW.							
	1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER IN/IN**SQ FT**FT OR LESS.							1) UNCONDITIONED SPACES CLASS B CLASS A CLASS A CLASS B CLASS B CLASS C							
	2) FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, ASJ JACKET, FACTORY APPLIED PRESSURE SEALING LONGITUDE LAP JOINT, NO STAPLES, ZESTON PREMOLDED PVC FITTING COVERS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.							SUPPLY < 2' W.C. SUPPLY > 2' W.C. EXHAUST RETURN							
	3) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMAFLEX AP ARMAFLEX OR ARMAFLEX 2000.							11. GREASE HOOD AND EXHAUST DUCT:							
	4) FOR NON CIRCULATING SYSTEMS, THE FIRST 8 FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND THE HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED.							A. HOOD SHALL BE CONSTRUCTED OF 18 GAUGE STEEL OR 20 GAUGE STAINLESS STEEL IN ACCORDANCE WITH NFPA 96 AND LOCAL CODES.							
	5) FOR CIRCULATING SYSTEMS, ALL HOT WATER PIPING IN THE CIRCULATION LOOP MUST BE INSULATED AS SPECIFIED BELOW.							1) GREASE FILTERS SHALL BE UL LISTED ALUMINUM GREASE EXTRACTORS.							
	6) INSULATION SCHEDULE:							2) PROVIDE A COMPLETE AUTOMATIC MIST CHEMICAL FIRE EXTINGUISHING SYSTEM FOR THE HOOD AND DUCT AS REQUIRED BY NFPA AND LOCAL CODES. ALL COOKING EQUIPMENT UNDER THE HOOD SHALL BE INTERLOCKED WITH THE SYSTEM, TO SHUTDOWN IN AN ALARM CONDITION.							
	a) DOMESTIC COLD WATER 1/2"							a) THE GREASE HOOD FIRE SUPPRESSION SYSTEM SHALL BE EQUAL TO AMEREX KP SERIES PRE-ENGINEERED, MIST CHEMICAL, STORED-PRESSURE TYPE WITH A FIXED NOZZLE ASBEST DISTRIBUTION SYSTEM. THE SYSTEM SHALL BE UL LISTED AND TESTED TO UL STANDARD 300.							
	b) DOMESTIC HOT WATER 1" FOR PIPING UP TO 1-1/4"Ø, & 1-1/2" FOR PIPING 1-1/2"Ø AND LARGER							b) THE SYSTEM SHALL UTILIZE AN AGENT EQUAL TO AMEREX KP LIQUID FIRE SUPPRESSANT, A POTASSIUM ACETATE BASED SOLUTION THAT SUPPRESSES COOKING GREASE FIRES, SHALL HAVE A PH OF 9 OR LESS, AND SHALL NOT HARM STAINLESS STEEL SURFACES.							
	c) HOT WATER REGIRCULATING 1"							c) THE SYSTEM SHALL BE PROVIDED WITH A MANUAL "DUAL ACTION" TYPE PULL STATION. PULL STATION SHALL BE LOCATED NOT LESS THAN 10 FEET AND A MAXIMUM OF 20 FEET FROM THE GREASE HOOD AND IN THE PATH OF EGRESS. THE MANUAL ACTUATION SHALL REQUIRE A MAXIMUM FORCE OF 40 POUNDS AND A MAXIMUM MOVEMENT OF 14 INCHES TO ACTUATE THE FIRE SUPPRESSION SYSTEM.							
	d) CONDENSATE DRAINS INSIDE BUILDING 3/2"							d) PROVIDE A GAS SHUT OFF VALVE FOR MOUNTING IN THE GAS PIPE THAT WILL SHUT OFF GAS FLOW TO EQUIPMENT UNDER THE HOOD IN AN ALARM CONDITION. PROVIDE AN ELECTRICAL SWITCH WHICH SHALL BE CAPABLE OF DE-ENERGIZING ALL ELECTRICAL DEVICES AND EQUIPMENT UNDER THE HOOD IN AN ALARM CONDITION.							
	e) REFRIGERANT SUCTON 3/4"							B. GREASE DUCT SHALL BE CONSTRUCTED OF 16 GAUGE CARBON STEEL OR 18 GAUGE STAINLESS STEEL IN ACCORDANCE WITH NFPA 96 AND LOCAL CODES.							
	C. PIPE INSULATION - BELOW GRADE:							a) JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM.							
	1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER IN/IN**SQ FT**FT OR LESS.							b) DUCT JOINTS SHALL BE BUTT JOINTS, WELDED FLANGE JOINTS WITH A MAXIMUM FLANGE DEPTH OF 1/2" OR OVERLAPPING DUCT JOINTS OF EITHER THE TELESCOPING OR BELL TYPE. OVERLAPPING JOINTS SHALL BE INSTALLED TO PREVENT LEDGES AND OBSTRUCTIONS FROM COLLECTING GREASE OR INTERFERING WITH GRAVITY DRAINAGE TO THE INTENDED COLLECTION POINT.							
	2) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO NIFLEX INSUL-TUBE OR EQUAL RATED FOR UNDERGROUND INSTALLATION ABOVE THE WATER TABLE.							c) DUCT TO HOOD CONNECTIONS SHALL BE MADE WITH LISTED AND LABELED DUCT TO HOOD COLLAR CONNECTIONS THAT ARE INSTALLED PER THE TERMS OF THEIR APPROVAL AND PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS.							
	3) PRE-INSULATED PIPE SYSTEMS WITH CLOSED CELL PEX-FOAM INSULATION AND COVERED BY A WATERPROOF CORRUGATED HDPE JACKET. UPONOR ECOTFLEX OR EQUAL, ASTM F876, F877, CSA B137.5							d) DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AT THE BASE OF THE FAN FOR VERTICAL DISCHARGE FANS, OR SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE INLET UTILITY FANS. GASKET SEALING MATERIALS SHALL BE RATED FOR A MINIMUM CONTINUOUS DUTY TEMPERATURE OF 1,500°F.							
	4) INSULATION SCHEDULE:							12. FLEXIBLE DUCT:							
	a) DOMESTIC HOT WATER 1-1/2"							A. ATCO #086 (R-6), OR EQUAL.							
	b) HOT WATER REGIRCULATING 1-1/2"							B. FACTORY APPLIED INSULATION AND VAPOR BARRIER, 1-1/2" THICK.							
	D. EQUIPMENT INSULATION:							C. MAXIMUM LENGTH OF 8'-0".							
	1) FLEXIBLE FIBERGLASS, GLASS FIBER INSULATION, ASTM C 553, TYPE 1, CLASS B-4, SEMI-RIGID BOARD, WITH FACTORY LAMINATED KRAFT ALUMINUM FOIL (ALL SERVICE JACKET), VAPOR BARRIER, OXYGEN/CORNING PIPE AND TANK INSULATION.							13. FLUES AND ACCESSORIES:							
	E. DUCTWORK: ACQUSTICAL INSULATION.							A. FLUE FOR GAS FIRED CONDENSING WATER HEATER OR FURNACE SHALL BE AS RECOMMENDED BY THE GAS APPLIANCE MANUFACTURER. FLUES SHALL BE SCHEDULE 40, PVC OR CPVC PIPE PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.							
	1) DUCT LINING: 2 LB./CF, THICKNESS AS SCHEDULED, AIR STREAM SIDE COATED, INSTALL PER SMACNA STANDARDS.							B. PROVIDE MANUFACTURER'S STANDARD ACCESSORY ITEMS INCLUDING BIRD PROOF TOP, STORM COLLAR, ROOF THIMBLE, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. ROW OF THIMBLES THROUGH THE BUILDING ROOF SHALL BE SUITABLE FOR USE WITH THE ROOF PROVIDED.							
	a) DUCT LINING SCHEDULE:							14. EXHAUST FANS:							
	(1) RECTANGULAR SUPPLY DUCT 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT.							A. CENTRIFUGAL CEILING EXHAUSTERS SHALL BE ELECTRICALLY POWERED CENTRIFUGAL TYPE FAN SUITABLE FOR MOUNTING IN THE CEILING WITH A PERFORATED OFF-WHITE METAL GRILLE WITH A THUMBSCREW ATTACHMENT FOR EASY ACCESS TO FAN HOUSING. UNIT SHALL CONSIST OF A GALVANIZED STEEL HOUSING LINED WITH ACOUSTICAL INSULATION AND SHALL INCLUDE AN INTEGRAL BACKDRAFT DAMPER ON FAN DISCHARGE. MOTOR SHALL BE A PERMANENT SPLIT-CAPACITOR TYPE MOTOR, PERMANENTLY LUBRICATED, WITH THERMAL OVERLOAD PROTECTION. PROVIDE DISCONNECT SWITCH OR OTHER MEANS OF DISCONNECT AT MOTOR IN FAN HOUSING.							
	(2) RETURN AIR DUCT 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT.							15. FURNACE AND CONDENSING UNIT:							
	F. DUCTWORK: THERMAL INSULATION.							A. CONDENSING FURNACES:							
	1) DUCT COVERING: 3/4 LB./CF, FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER AND FRAGING, THICKNESS AS SCHEDULED, INSTALLATION IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.							1) GAS FIRED FURNACE SHALL BE FACTORY ASSEMBLED, PRE-WIRED UNIT CONSISTING OF SHEETMETAL CASING, SUPPLY FAN, GAS FIRED HEAT EXCHANGER, AND CONTROLS. CAPACITY SHALL BE AS SCHEDULED.							
	a) DUCT COVERING SCHEDULE: MINIMUM R-8							2) THE PRIMARY HEAT EXCHANGER SHALL BE ALUMINIZED STEEL CONSTRUCTION WITH A STAINLESS STEEL SECONDARY HEAT EXCHANGER.							
	(1) ROUND SUPPLY DUCT 2"							3) THE FURNACE SHALL BE OF THE CONDENSING TYPE, UTILIZING A SEALED COMBUSTION CHAMBER. UNIT SHALL INCLUDE FINNED CAST IRON HEAT EXCHANGER, ALUMINIZED STEEL EXHAUST DEQUIFIER SECTION, AND FINNED STAINLESS STEEL TUBE CONDENSER SECTION.							
	(2) RECTANGULAR SUPPLY DUCT 2"							4) THE UNIT SHALL BE EQUIPPED WITH THE MANUFACTURER'S STANDARD CONTROLS INCLUDING 24 VOLT CONTROL TRANSFORMER, AUTOMATIC SPARK IGNITION, AUTOMATIC GAS VALVE TRAIN, HIGH TEMPERATURE LIMIT SWITCH, AND FAN TIMED DELAY RELAY.							
	(3) RETURN AIR DUCT 2"							5) RETURN AIR INLET ON UNIT SHALL BE PROVIDED WITH A 1" THROWAWAY TYPE FILTER AND SLIDE IN FRAME, MOUNTED ON THE UNIT.							
	(4) OUTDOOR AIR / MAKE-UP AIR DUCT 2"							6) FAN SHALL BE A DIRECT DRIVE MULTI-SPEED BLOWER, RESILIENTLY MOUNTED IN THE CASING. MOTOR SHALL BE PROVIDED WITH AUTOMATIC THERMAL OVERLOAD PROTECTION.							
	2) DUCT COVERING (EXTERIOR SUPPLY AND RETURN)							7) FURNACE SHALL BE ASA APPROVED.							
	a) EXTERIOR INSULATION: JOHN MANVILLE XSPG8 ISOFOAM AFF BOARD, 1-1/2" THICK R-4.9, UNIFORM CLOSED-CELL POLYISOCYANURATE FOAM CORE BONDED WITH A FOIL FASER, INSTALLED PER MANUFACTURER'S REQUIREMENTS. COVER ISOFOAM BOARD INSULATION WITH POLYGUARD ALUMASGUARD, COMPOSITE MEMBRANE MULTI-PLY EMBOSSED UV-RESISTANT ALUMINUM FOIL/POLYMER LAMINATE, ALL WEATHER FLEXIBLE WEATHER-PROOFING JACKET. MINIMUM R-8 RATINGS.							B. CONDENSING UNIT SHALL BE FACTORY-ASSEMBLED AND TESTED AIR-COOLED CONDENSING UNIT, CONSISTING OF COMPRESSOR, CONDENSER COIL, FAN, MOTOR, REFRIGERANT RESERVOIR, OPERATING CONTROLS, ETC. CAPACITY AND ELECTRICAL CHARACTERISTICS SHALL BE AS SCHEDULED.							
	10. DUCTWORK:							1) COMPRESSOR: HERMETICALLY SEALED WITH BUILT-IN OVERLOADS AND VIBRATION ISOLATION. COMPRESSOR MOTOR SHALL HAVE THERMAL AND CURRENT SENSITIVE OVERLOAD DEVICES, INTERNAL HIGH-PRESSURE PROTECTION, HIGH AND LOW PRESSURE CUTOFF SWITCHES, START CAPACITOR AND RELAY, 2-POLE CONTACTOR, CRANKCASE HEATER, AND TEMPERATURE ACTUATED SWITCH AND TIMER TO PREVENT COMPRESSOR RAPID CYCLE.							
	A. ALL DUCTWORK, UNLESS OTHERWISE INDICATED, SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 521, LOCKFORMING QUALITY, WITH 5 90 ZINC COATING IN ACCORDANCE WITH ASTM A 525; AND MILL PHOSPHATIZED FOR EXPOSED LOCATIONS.							2) COIL SHALL BE COPPER TUBING WITH ALUMINUM FINS, COMPLETE WITH LIQUID ACCUMULATOR AND LIQUID SUBCOOLER. UNIT SHALL INCLUDE FILTER DRYER, SIGHT GLASS, COMPRESSOR SERVICE VALVE, LIQUID LINE SERVICE VALVE, AND REFRIGERANT PIPING EXTENDED TO EXTERIOR OF CASING.							
	B. WHERE DUCTWORK IS INDICATED TO BE EXPOSED TO VIEW IN OCCUPIED SPACES, PROVIDE MATERIALS WHICH ARE FREE FROM VISUAL IMPERFECTIONS INCLUDING FITTING, SEAM MARKS, ROLLER MARKS, STAINS AND DISCOLORATIONS, AND OTHER IMPERFECTIONS, INCLUDING THOSE WHICH WOULD IMPAIR PAINTING.							16. CONTROL WIRING:							
	C. DUCTWORK, METAL GAUGES, REINFORCING, ETC. SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION FOR A 2 INCH WATER GAUGE STATIC PRESSURE.							A. ELECTRICAL WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM, SHALL BE PROVIDED BY THIS CONTRACTOR, UNLESS SPECIFICALLY SHOWN ON THE ELECTRICAL DRAWINGS OR SPECIFICATIONS.							
	1) RECTANGULAR DUCT:							B. INSTALL CONTROL WIRING, WITHOUT SPLICES BETWEEN TERMINAL POINTS, COLOR CODED. INSTALL IN NEAT WORKMANLIKE MANNER, SECURELY FASTENED; INSTALL IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND THE ELECTRICAL SPECIFICATIONS.							
	a) ELBOWS, UNLESS INDICATED OTHERWISE SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1.5 DUCT WIDTH OR SQUARE ELBOW WITH DOUBLE WALL STREAMLINE VANES.							1) INSTALL CIRCUITS OVER 25 VOLT WITH COLOR CODED NUMBER 12 WIRE.							
	b) RETURN AIR ACOUSTICAL ELBOWS AND SOUND BOOTLS SHALL BE A SQUARE ELBOW WITH NO TURNING VANES.							2) INSTALL CIRCUITS UNDER 25 VOLT WITH COLOR CODED NUMBER 18 WIRE WITH 0.031 INCH HIGH TEMPERATURE 105 DEGREES F PLASTIC INSULATION ON EACH CONDUCTOR AND PLASTIC SHEATH OVER ALL.							
	c) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.							3) INSTALL ELECTRONIC CIRCUITS WITH COLOR CODED NUMBER 22 WIRE WITH 0.025 INCH POLYETHYLENE INSULATION ON EACH CONDUCTOR WITH PLASTIC JACKETED COPPER SHIELD OVER ALL.							
	2) ROUND AND OVAL SPIRAL SEAM DUCT:							4) INSTALL LOW VOLTAGE CIRCUITS, LOCATED IN CONCRETE SLABS AND MASONRY WALLS, OR EXPOSED IN OCCUPIED AREAS, IN ELECTRIC CONDUIT.							
	a) PROVIDE RADIUS TYPE FITTINGS FABRICATED OF MULTIPLE SECTIONS WITH MAXIMUM 15 DEGREE CHANGE OF DIRECTION PER SECTION. UNLESS SPECIFICALLY DETAILED OTHERWISE, USE 45 DEGREE LATERALS FOR BRANCH TAKEOFF CONNECTIONS. WHERE 90 DEGREE BRANCHES ARE INDICATED PROVIDE CONICAL TYPE TEES.							5) ALL WIRING IN AREAS USED AS AIR PLENUMS SHALL BE IN ELECTRIC CONDUIT EXCEPT THAT LOW VOLTAGE WIRING MAY BE TEFLON COATED, ALUMINUM SHEATHED CABLE OR OTHER WIRE SPECIFICALLY APPROVED FOR INSTALLATION IN AIR PLENUMS, WHERE ACCEPTABLE BY LOCAL CODES.							
	b) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.							6) ALL WIRING IN AREAS NOT USED FOR AIR MOVEMENT SHALL BE IN ELECTRIC METALLIC TUBING EXCEPT LOW VOLTAGE WIRING MAY BE IN APPROVED SIGNAL CABLE WHERE ACCEPTED BY LOCAL CODES.							
	c) AS AN OPTION, PROVIDE FACTORY-FABRICATED DUCT AND FITTINGS, IN LIEU OF SHOP-FABRICATED DUCT AND FITTINGS.														
	(1) ELBOWS: ONE PIECE CONSTRUCTION FOR 90 DEGREES AND 45 DEGREE ELBOW 14" AND SMALLER. PROVIDE MULTIPLE GORE CONSTRUCTION FOR LARGER DIAMETERS WITH STANDING SEAM CIRCUMFERENTIAL JOINT.														
	(2) DIVIDED FLOW FITTINGS: 90 DEGREE TEES, CONSTRUCTED WITH SADDLE TAP SPOT WELDED AND BONDED TO DUCT FITTING BODY.														
	d) ROUND LONGITUDINAL SEAM DUCT. USE FOR RIGID METAL DUCT ON LEAVING SIDE OF DUCT IN CONCEALED LOCATIONS FOR EXTENSION TO FLEX FOR DIFFUSERS, UNLESS OTHERWISE INDICATED.														
	D. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEETMETAL SIZES, ALLOWANCE FOR DUCT LINER HAS BEEN MADE WHERE APPLICABLE.														
	E. INSTALLATION OF METAL DUCTWORK:														
	1) GENERAL: ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES WHICH WILL ACHIEVE AIR-TIGHT SYSTEMS (MAXIMUM 5% LEAKAGE), WITH NO OBJECTIONABLE NOISE, AND CAPABLE OF PERFORMING INDICATED SERVICE. INSTALL EACH RUN WITH MINIMUM NUMBER OF JOINTS. ALIGN DUCTWORK ACCURATELY WITH INTERNAL SURFACES SMOOTH. SUPPORT DUCTS RIGIDLY WITH SUITABLE STRAPS, BRACES, HANGERS AND ANCHORS IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION. DUCT HANGERS SHALL BE OF THE TYPE WHICH WILL HOLD DUCTS TRUE-TO-SHAPE AND TO PREVENT BUCKLING. SUPPORT VERTICAL DUCTS AT EVERY FLOOR.														
	2) AUXILIARY STEEL: PROVIDE AUXILIARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT DUCTWORK.														





PLUMBING GENERAL NOTES:

1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES.
4. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING PIPING, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
5. SAWCUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF UNDERFLOOR PIPING. PATCH FLOOR TO MATCH EXISTING.
6. VERIFY IF FLOOR IS SLAB ON GRADE OR STRUCTURAL SLAB. IF SLAB ON GRADE, SAWCUT AND PATCH TO MATCH EXISTING FLOOR AS REQUIRED. IF STRUCTURAL SLAB, LOCATE PIPING IN CEILING VOID BELOW. ALL PENETRATIONS OF FLOOR SHALL BE IN ACCORDANCE WITH BUILDING REQUIREMENTS. ALL SAWCUTTING AND CORE DRILLING SHALL BE PERFORMED AS REQUIRED BY LANDLORD.
7. PROVIDE 3/4" CONDENSATE DRAIN PIPE FOR EACH AIR HANDLING UNIT AND 3/4" CONDENSATE AND 3/4" FLUE CONDENSATE FOR EACH FURNACE AND ROUTE TO FLOOR DRAIN/SINK AND DISCHARGE WITH AIR GAP.
8. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
9. CONTRACTOR TO TEST WATER PRESSURE ON SITE AND PROVIDE PRESSURE REDUCING VALVE ON WATER SERVICE IF PRESSURE IS OVER 80 PSI.
10. FIRE-SEAL ALL PENETRATIONS THRU FIRE-RATED WALLS OR FLOORS.

COORDINATE WITH LANDLORD AND TENANT(S) ABOVE TO EXTEND EXISTING WASTE PIPING LOCATED ABOVE AS REQUIRED TO INSTALL CLEANOUTS IN ACCESSIBLE LOCATIONS WITH CEILINGS.

PLUMBING SYMBOLS

- |— SOIL AND WASTE PIPING BELOW FLOOR/GRADE
- |— SOIL AND WASTE PIPING ABOVE FLOOR/GRADE
- GR— GREASE WASTE PIPING TO GREASE INTERCEPTOR
- V— SANITARY VENT PIPING ABOVE GRADE
- V— SANITARY VENT PIPING BELOW GRADE
- — — DOMESTIC COLD WATER PIPING
- — — DOMESTIC COLD WATER PIPING BELOW FLOOR
- — — DOMESTIC HOT WATER PIPING
- — — DOMESTIC HOT WATER PIPING BELOW FLOOR
- — — DOMESTIC HOT WATER RECIRCULATION PIPING
- G— GAS PIPING
- D— EQUIPMENT DRAIN LINE
- +— PIPING TURNING DOWN
- +— PIPING TURNING UP
- |— TEE TOP CONNECTION
- |— UNION
- X—X— BACKFLOW PREVENTER
- FD O FLOOR DRAIN
- FCO FLOOR CLEAN OUT
- WCO WALL CLEAN OUT
- |— VALVE
- |— BALANCING VALVE
- |— SOLENOID VALVE
- |— PRESSURE REGULATOR
- |— CHECK VALVE
- |— CONNECT TO EXISTING
- I.E. INVERT ELEVATION OF PIPE
- (A) MATCH MARKS ON PLUMBING RISER DIAGRAM

PLUMBING PLAN NOTES:

1. CONNECT 4" WASTE TO EXISTING 4" SANITARY SEWER AS REQUIRED. VERIFY EXACT LOCATION AND ELEVATION PRIOR TO INSTALLATION OF ANY PIPING.
2. CONNECT VENT TO EXISTING 3" VENT PIPE AS REQUIRED. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
3. 3" PVC FLUE & 3" PVC COMBUSTION AIR PIPING FOR WATER HEATER THRU WALL TO MANUFACTURER'S CONCENTRIC TERMINATION KIT AS REQUIRED. VERIFY 10'-0" CLEARANCE FROM ALL OUTDOOR AIR INTAKES.
4. CONNECT 4" GREASE WASTE TO EXISTING 4" GREASE WASTE AS REQUIRED. VERIFY EXACT LOCATION AND ELEVATION PRIOR TO INSTALLATION OF ANY PIPING.
5. ROUTE (3) SEPARATE 1-1/2" COPPER DRAINS FROM 3-COMPARTMENT SINK TO FLOOR SINK WITH AIR GAPS. LOCATE FLOOR SINK IN AN ACCESSIBLE LOCATION.
6. CONNECT 1-1/2" DRAIN TO SINK AND ROUTE TO FLOOR SINK WITH AIR GAP. LOCATE FLOOR SINK IN AN ACCESSIBLE LOCATION.
7. ROUTE DRAIN FROM ICE MACHINE TO FLOOR SINK WITH AIR GAP, AND PER THE MANUFACTURERS REQUIREMENTS. ROUTE CONDENSATE SEPARATELY TO FLOOR SINK.
8. PROVIDE 1" COPPER CONDENSATE DRAIN WITH AIR GAP FROM WALK-IN COOLER/FREEZER COIL TO MOP BASIN AS REQUIRED BY WALK-IN COOLER/FREEZER MANUFACTURER. COORDINATE WITH E.C. FOR HEAT TRACING.

PLUMBING PLAN NOTES (CONTINUED):

9. ROUTE DRAIN FROM RPZ BFP TO FLOOR SINK/RAIN WITH AIR GAP.
10. PROVIDE DRAIN LINE FROM EQUIPMENT TO FLOOR SINK WITH AIR GAP, AND PER THE MANUFACTURERS REQUIREMENTS. VERIFY EXACT LOCATION OF FS WITH OWNER.
11. PROVIDE TRAP SEAL ON FLOOR DRAINS SUSCEPTIBLE TO DRYING OUT.
12. ROUTE 1-1/2" INDIRECT DRAIN FROM DISH MACHINE TO FLOOR SINK WITH AIR GAP, AND PER THE MANUFACTURERS REQUIREMENTS.
13. PROVIDE DRAIN LINE FROM SODA MACHINE TO FLOOR SINK WITH AIR GAP, AND PER THE MANUFACTURERS REQUIREMENTS. ROUTE DRAIN LINE AT BACK OF CABINET TO MAXIMIZE USEABLE CABINET SPACE.
14. ROUTE 1-1/2" INDIRECT DRAIN FROM GLASS WASHER TO FLOOR SINK WITH AIR GAP, AND PER THE MANUFACTURERS REQUIREMENTS.
15. NO COMBUSTIBLE MATERIALS WITHIN 18" OF TYPE I HOOD.
16. CORE DRILL THROUGH EXISTING FOUNDATION AS REQUIRED.
17. CONNECT CONDENSATE TO MAKE-UP AIR UNIT ON ROOF AS REQUIRED AND AS DETAILED.
18. EXISTING AIR HANDLER TO BE RELOCATED. ROUTE CONDENSATE TO NEAREST FLOOR SINK/MOP BASIN WITH AIR GAP AS REQUIRED.
19. CONNECT CONDENSATE TO FURNACE AND FURNACE FLUE AS REQUIRED AND AS DETAILED. ROUTE CONDENSATE TO NEAREST FLOOR SINK WITH AIR GAP AS REQUIRED.

PLUMBING PLAN NOTES (CONTINUED):

20. COORDINATE PIPE ROUTING WITH COLUMN/FOOTING AS REQUIRED.



PLUMBING WASTE & VENT FLOOR PLAN

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

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Forward to the Architectural Works Copyright Protection Act of 1980, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

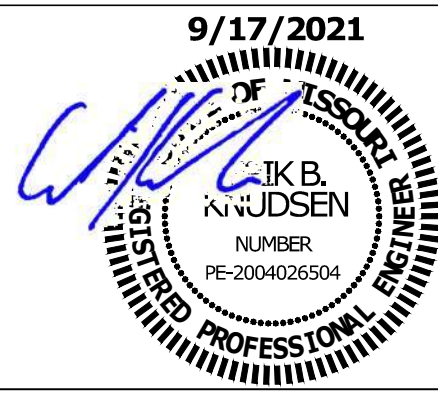
**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



Revision Date No.

Project Number: 2002

Scale:

Date: 09/15/2021

PLUMBING WASTE & VENT FLOOR PLAN

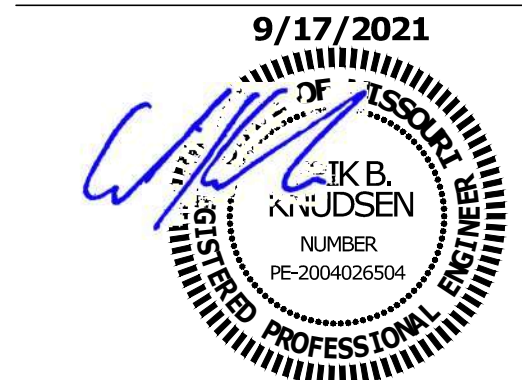
P1.0

PHASE



NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT  
940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



Revision	Date	No.

Project Number: 2002  
Scale:  
Date: 09/15/2021

PLUMBING WATER & GAS FLOOR PLAN

P1.1  
PHASE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

BC ENGINEERS  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

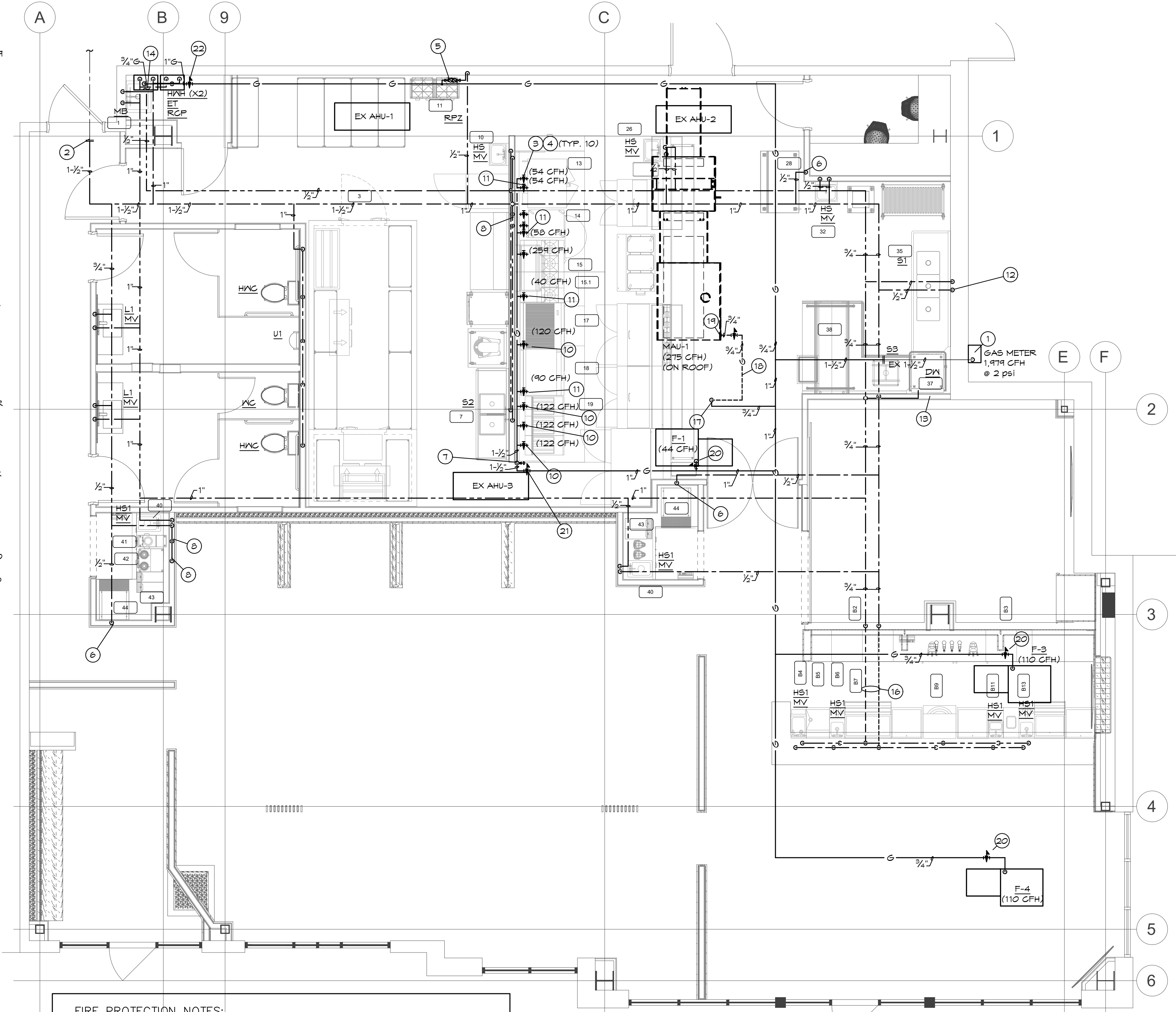


PLUMBING WATER & GAS FLOOR PLAN  
SCALE: 1/4" = 1'-0"

- FIRE PROTECTION NOTES:**
- THE EXISTING SPACE IS PROTECTED WITH AN EXISTING WET PIPE SPRINKLER SYSTEM.RELOCATE AND PROVIDE ADDITIONAL SPRINKLER HEADS AND PIPING AS REQUIRED FOR THE NEW CONSTRUCTION. SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE SEMI-RECESSED PENDENT TYPE (VERIFY FINISH). SPRINKLER HEADS IN ROOMS WITHOUT CEILINGS SHALL BE UPRIGHT BRASS TYPE HEADS.
  - SPRINKLER WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR PRE-APPROVED BY THE OWNER/LANDLORD.
  - REFER TO THE ARCHITECTURAL DRAWINGS FOR NEW WALL CONSTRUCTION.
  - SPRINKLER PIPING SHALL MATCH EXISTING AND COMPLY WITH NFPA 13 WITH ORDINARY HAZARD FOR KITCHEN AND LIGHT HAZARD FOR DINING AREA.
  - SPRINKLER SYSTEM (SHOP DRAWINGS) SHALL BE APPROVED BY THE LOCAL FIRE AUTHORITY AND OWNERS/LANDLORD'S INSURANCE CARRIER PRIOR TO START OF WORK. ARCHITECT SHALL REVIEW ALL FIRE SPRINKLER LOCATIONS DURING SUBMITTAL.

**PLUMBING PLAN NOTES:**

- COORDINATE WITH GAS COMPANY FOR INSTALLATION OF NEW METER WITH CAPACITY FOR 1,919 CFH @ 2 PSI.
- CONNECT 1-1/2" CW TO EXISTING 1-1/2" DOMESTIC CW AS REQUIRED. VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
- CONNECT GAS PIPING TO EQUIPMENT AS DETAILED AND PER THE MANUFACTURERS INSTRUCTIONS.
- PROVIDE GAS MANIFOLD WITH SHUTOFF VALVE AT 24" AFF. ALL APPLIANCE CONNECTIONS SHALL BE MADE WITH UL LISTED FLEXIBLE APPLIANCE CONNECTOR. FLEX CONNECTORS SHALL BE PROVIDED BY EQUIPMENT SUPPLIER. CONTRACTOR SHALL PROVIDE SAFETY LOCK AND CHAIN AT ALL GAS APPLIANCES ON WHEELS. PROVIDE PIPING REDUCERS AND INCREASERS AS REQUIRED TO MATE HARD PIPING WITH FLEX CONNECTORS.
- PROVIDE 1/2" CW TO SODA SYSTEM. PROVIDE RPZ BACKFLOW PREVENTOR AS APPROVED BY WATER DEPARTMENT IN ACCESSIBLE LOCATION (24" AFF) ADJACENT TO BAG-IN-BOX. NO COPPER PIPE DOWNSTREAM OF BFP.
- PROVIDE 1/2" CW WITH SHUT-OFF VALVE TO ICE MAKER WITH BFP-1 AS REQUIRED BY LOCAL JURISDICTION.
- ROUTE 1-1/2" GAS PIPE TO COOKING LINE. INSTALL GAS SOLENOID SHUT-OFF VALVE (FIRE SUPPRESSION SYSTEM) ON WALL BELOW CEILING IN AN ACCESSIBLE LOCATION AS REQUIRED. ROUTE 1-1/2" MANIFOLD PIPE BEHIND EQUIPMENT AT 24" AFF.
- CONNECT 1/2" CW WITH SHUTOFF VALVE AND BACKFLOW PREVENTOR TO EQUIPMENT AS REQUIRED BY THE KITCHEN EQUIPMENT SUPPLIER.
- CONNECT 3/4" GAS PIPE TO WATER HEATER AS REQUIRED BY MANUFACTURER AND AS DETAILED.
- 1" GAS CONNECTION TO APPLIANCE.
- 3/4" GAS CONNECTION TO APPLIANCE.
- ROUTE PIPING ON INTERIOR SIDE OF INSULATION/IN FURR-OUT WALL FOR FREEZE PROTECTION.
- 1/2" HW TO D.V. CONNECT VV VACUUM BREAKER & HAMMER ARRESTOR AS REQUIRED BY MANUFACTURER.
- CONNECT HOT WATER RECIRC. PIPING BACK TO WATER HEATER AS REQUIRED. REFER TO RISER DIAGRAM FOR DETAILS.
- 1-1/2" GAS CONNECTION TO APPLIANCE.
- ROUTE CW AND HW UNDER SLAB.
- ROUTE 1-1/2" GAS PIPE UP THROUGH CHASE TO ROOF AS REQUIRED. SEAL PENETRATION WEATHERTIGHT. ALL CONCEALED JOINTS ARE TO BE WELDED OR USE FITTINGS APPROVED FOR CONCEALED USE.
- GAS PIPING ON ROOF. SUPPORT AS REQUIRED AND AS DETAILED.
- CONNECT GAS PIPING TO MAU WITH REGULATOR AS REQUIRED BY MANUFACTURER AND AS DETAILED.
- CONNECT GAS PIPING TO EQUIPMENT WITH VENTLESS REGULATOR AS REQUIRED AND AS DETAILED.
- PROVIDE AND INSTALL VENTLESS REGULATOR TO DROP 1,041 CFH FROM 2 PSI TO 1" W.C. 1" TO REGULATOR, 1-1/2" FROM REGULATOR.
- PROVIDE AND INSTALL VENTLESS REGULATOR TO DROP 398 CFH FROM 2 PSI TO 1" W.C. 3/4" TO REGULATOR, 1" FROM REGULATOR.





	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
1	PLUMBING FIXTURE SCHEDULE (OR EQUAL):														1
2	WC	WATER CLOSET: TOTO, #CST144E(R)/G/N, "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON FLUSH, ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC534 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER.													2
	HWC	HANDICAP WATER CLOSET: TOTO, #CST144EL(R)/N, "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON FLUSH, 18-1/2" HIGH ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC534 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER, HANDLE ON WIDE SIDE OF FIXTURE.													
	U	URINAL, WALL HUNG: TOTO, #UT44T.O1, VITREOUS CHINA, WASHOUT, WALL HUNG URINAL WITH 3/4" TOP SPUD, #TEU16NG-12 SENSOR OPERATED FLUSH VALVE, BATTERY POWERED, FLOOR MOUNTED FIXTURE SUPPORT. SET RIM HEIGHT PER ARCHITECTURAL DRAWINGS.													
	L1	HANDICAP LAVATORY, WALL HUNG: HOMARY, #JO20810, VITREOUS CHINA, 39"x20" RECTANGULAR BASIN, SLOAN "BASYS" EFX-350 SENSOR BATTERY POWERED FAUCET, OFFSET GRID DRAIN WITH 1-1/4" TAILPIECE, CHROME PLATED P-TRAP(MOUNTED PARALLEL WITH WALL), CHROME PLATED ANGLE STOPS AND RISERS,INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.													
	MV	MIXING VALVE: MATTS, #LFV56-B, THERMOSTATIC CONTROLLED MIXING VALVE, LEAD FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT), COPPER ENCAPSULATED THERMOSTAT ASSEMBLY WITH BRASS SHUTTLE, STAINLESSSTEEL SPRINGS, INTEGRAL CHECK VALVES ON HOT AND COLD INLETS. (SET TO 110°F). ASSE 1070 LISTED.													
3	RPZ	REDUCED ZONE PRESSURE BACKFLOW PREVENTOR: MATTS #LF009, LEAD FREE BRONZE BODY CONSTRUCTION, TWO IN-LINE INDEPENDENT CHECK VALVES, REPLACEABLE CHECK SEATS WITH AN INTERMEDIATE RELIEF VALVE, AND BALL VALVE TEST COCKS.													3
	FD	FLOOR DRAIN: JR SMITH, #2005-A-PO50, CAST IRON FLOOR DRAIN WITH ADJUSTABLE TOP, 6" NIKALOY STRAINER, AND TRAP PRIMER (TS) CONNECTION.													
4	FS	FLOOR SINK: JR SMITH, #3161, CAST IRON RECEPTOR, A.R.E. INTERIOR, 12" x 12" NICKEL BRONZE STRAINER, SEDIMENT BUCKET.													4
	TS	TRAP SEAL: SURE SEAL PRE-ASSEMBLED INLINE FLOOR DRAIN TRAP SEALER. FLOOR RATING ASSE - 1072 AF-G/N.													
	HWH	HOT WATER HEATER: RINNAI, #CU1991, GAS FIRED, 98% THERMAL EFFICIENCY, INSTANTANEOUS HEATER, 199 MBTUH INPUT, 5 GPM AT 75 DEGREES F RISE, WITH INTERNAL RECIRCULATION PUMP. PROVIDE WITH REMOTE CONTROLLER, EASY VALVE SET, PRESSURE RELIEF VALVE, CONDENSATE DRAIN HOSE, CONDENSATE NEUTRALIZER, VENT TERMINATORS. SET AT 140°F.													
	ET	HOT WATER EXPANSION TANK: AMTROL, #ST-5, 2 GALLON EXPANSION TANK WITH DIAPHRAGM.													
5	RCP	HOT WATER RECIRCULATING PUMP: BELL & GOSSETT, #SERIES NBF-10, 3 GPM @ 7 FT. HEAD, 1/12 HP, 120 VOLT, WITH HONEYWELL #L6006CG1019 AQUASTAT & TACO #265-3 7-DAY DIGITAL TIMER, 135°-140°F, 1/2" Ø PIPE.													
6															6
7															7
8															8
9															9
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	

PIPE HANGER SCHEDULE			FOODSERVICE EQUIPMENT SCHEDULE	
PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER	ITEM	DESCRIPTION
ABS (All sizes)	4'	3/8"	1	MOP SINK CABINET
PVC (All Sizes)	4'	3/8"	3	WALK IN COOLER/ FREEZER
CPVC, 1 inch and smaller	3'	1/2"	7	TWO COMPARTMENT PREP SINK
CPVC, 1-1/4 inches and larger	4'	1/2"	10	HAND SINK
Cast Iron (All Sizes)	5'	5/8"	11	BAG-N-BOX - NOT BY K.E.C.
Cast Iron (All Sizes) with 10 foot length of pipe	10'	5/8"	13	CONVECTION OVEN - DOUBLE
Copper Tube, 1-1/4 inches and smaller	6'	1/2"	14	CONVECTION STEAMER
Copper Tube, 1-1/2 inches and larger	10'	1/2"	15	8 OPEN BURNERS, 1 STANDARD OVEN, 1 CABINET
Steel, 3 inches and smaller	12'	1/2"	15.1	SALAMANDER
Steel, 4 inches and larger	12'	5/8"	17	COUNTERTOP CHAR-GRILL GAS 36"
Pex, 1" and below without support channel	32"	3/8"	18	COUNTERTOP GRIDDLE 36"
Pex, 1-1/4" and above without support channel	48"	3/8"	19	FRYERS
Pex 3/4" and below with support channel	6'	3/8"	24	ELECTRIC PORTABLE HOT FOOD UNITS W/ SEALED WELLS & DRAINS
Pex 1" and above with support channel	8'	3/8"	26	HAND SINK
			28	ICE MACHINE - NOT BY K.E.C.
			30	DISH CABINET
			32	HAND SINK
			35	CLEAN STRAIGHT DISHTABLE
			37	DISHWASHER-NOT BY K.E.C.
			38	DIRTY DISHTABLE WITH LANDING & UNDERCOUNTER DUMP SINK
			40	DROP IN SINK
			41	TEA BREWER - NOT BY K.E.C
			42	COFFEE BREWER - NOT BY K.E.C.
			43	BEVERAGE DISPENSERS - NOT BY K.E.C
			44	SODA & ICE DISPENSER - NOT BY K.E.C

PLUMBING FIXTURE SCHEDULE (OR EQUAL):				
HS	HAND SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER. THIS CONTRACTOR TO PROVIDE AND INSTALL P-TRAP WITH CLEANOUT, WASTE ARM TO WALL, AND WALL FLANGE. PROVIDE CHROME PLATED ANGLE STOPS AND RISERS.			
HS1	HAND SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER. THIS CONTRACTOR TO PROVIDE AND INSTALL P-TRAP WITH CLEANOUT, WASTE ARM TO WALL, AND WALL FLANGE. PROVIDE CHROME PLATED ANGLE STOPS AND RISERS.			
HS2	HAND SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER. THIS CONTRACTOR TO PROVIDE AND INSTALL P-TRAP WITH CLEANOUT, WASTE ARM TO WALL, AND WALL FLANGE. PROVIDE CHROME PLATED ANGLE STOPS AND RISERS.			
S1	3-COMPARTMENT SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER, INSTALLED BY GENERAL CONTRACTOR. PROVIDE (3) 1-1/2" COPPER TAILPIECES, CHROME PLATED ANGLE STOPS AND RISERS.			
S2	2-COMPARTMENT SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER, INSTALLED BY GENERAL CONTRACTOR. PROVIDE (2) 1-1/2" COPPER TAILPIECES, CHROME PLATED ANGLE STOPS AND RISERS.			
S3	PRE RINSE SINK: FURNISHED BY KITCHEN EQUIPMENT SUPPLIER, INSTALLED BY GENERAL CONTRACTOR. PROVIDE 1-1/2" TAILPIECE, WASTE PIPING, CHROME PLATED ANGLE STOPS AND RISERS.			
BFP	BACKFLOW PREVENTOR: MATTS #SD-3, STAINLESS STEEL DUAL CHECK VALVE FOR CARBONATED BEVERAGE MACHINES. (ASSE 1022 LISTED)			
BFP-1	BACKFLOW PREVENTOR: MATTS #LF007, LEAD FREE BRONZE BODY CONSTRUCTION, TWO IN-LINE INDEPENDENT CHECK VALVES, REPLACEABLE CHECK SEATS, AND BALL VALVE TEST COCKS.			
DW	DISHWASHER: LOW TEMPERATURE CHEMICAL DISHWASHER, FURNISHED BY OWNER, INSTALLED BY PLUMBING CONTRACTOR. CONNECT HOT WATER, SHUT-OFF VALVE AND DRAIN PIPING PER MANUFACTURERS REQUIREMENTS.			
WHA	WATER HAMMER ARRESTOR: JR SMITH "HYDROTROL" #5000 LEAD-FREE WATER HAMMER ARRESTOR, SIZED AS PER MANUFACTURER'S RECOMMENDATIONS.			

PLUMBING FIXTURE BRANCH PIPING SCHEDULE				
FIXTURE	WASTE	VENT	CW	H/W
WATER CLOSET (TANK TYPE)	4"	2"	1/2"	--
URINAL	2"	1-1/2"	3/4"	--
LAVATORY	1-1/4"	1-1/4"	1/2"	1/2"
SINK	1-1/2"	1-1/2"	1/2"	1/2"
FLOOR SINK	3"	2"	--	--
FLOOR DRAIN	2"/3"	2"	--	--
MOP BASIN	2"	2"	1/2"	1/2"

NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.

PROVIDE RISE IN PIPE IF REQ'D. TO GET CONFIGURATION OF DIRT LEG SHOWN

GAS FIRED EQUIPMENT

UNION

GAS SHUT-OFF VALVE

DIRT LEG (SAME SIZE AS GAS PIPE - 6" LENGTH)

**GAS CONNECTION DETAIL**  
SCALE: NONE

PROVIDE RISE IN PIPE IF REQ'D. TO GET CONFIGURATION OF DIRT LEG SHOWN

GAS SHUT-OFF VALVE

GAS REGULATOR

GAS FIRED EQUIPMENT

UNION

DIRT LEG (SAME SIZE AS GAS PIPE - 6" LENGTH)

**GAS CONNECTION DETAIL**  
SCALE: NONE

GAS PRESSURE REGULATORS FOR ROOFTOP UNITS (RTU) AND MAKE-UP AIR UNITS (MAU) SHALL BE SENSUS #143-80-2, 2 PSI INLET / 1" WC OUTLET PRESSURE WITH THE ORIFICE & SPRING SIZE AS RECOMMENDED BY THE MANUFACTURER.

**GAS CONNECTION DETAIL**  
SCALE: NONE

FOR ROOFTOP UNITS, MAKE-UP AIR UNITS, ETC. WITH 2 PSI GAS PRESSURE

BAR EQUIPMENT	
ITEM	DESCRIPTION
B4	HAND SINK
B5	DRAINBOARD
B6	BLENDER STATION W/ SINK
B7	ICE BIN W/ COLD PLATE
B9	GLASSWASHER - NOT BY KEC
B11	CHEMICAL STORAGE CABINET W/ SINK
B13	BLENDER STATION W/ SINK

1" x 1/8" GALVANIZED IRON STRAP. DO NOT CLAMP PIPE TIGHT

1/4" x 1-1/2" CADMIUM PLATED LAG SCREWS (TYP.)

4" x 6" x 12" PRESSURE TREATED WOOD BLOCKING

18" x 18" x 3/8" THICK (PIPE 2" OR LESS) 18" x 18" x 3/4" THICK (PIPE GREATER THAN 2") "CAREY-TRED" OR EQUAL ROOF WALKWAY MATERIAL

PIPE

DIRECTION OF GRAIN

6"

ROOF INSULATION

ROOF DECK

**ROOF PIPE SUPPORT DETAIL**  
SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2001 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

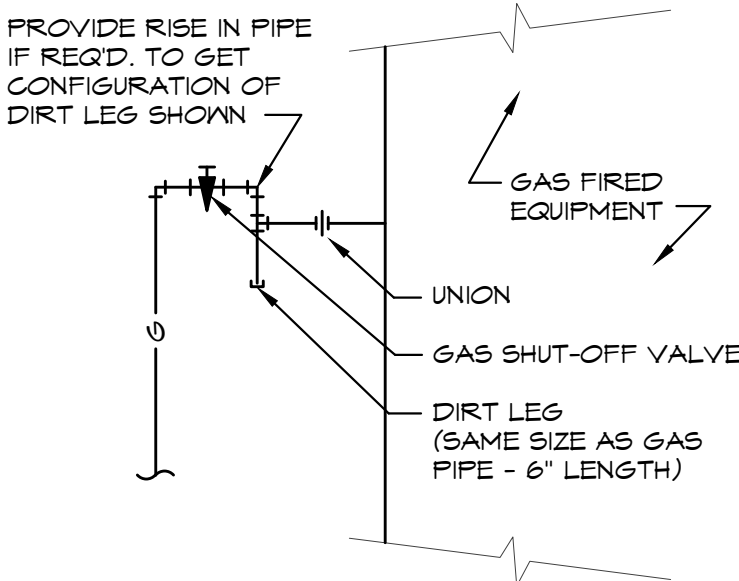
NewLine Studio, LLC  
3965 W. 83rd St, #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

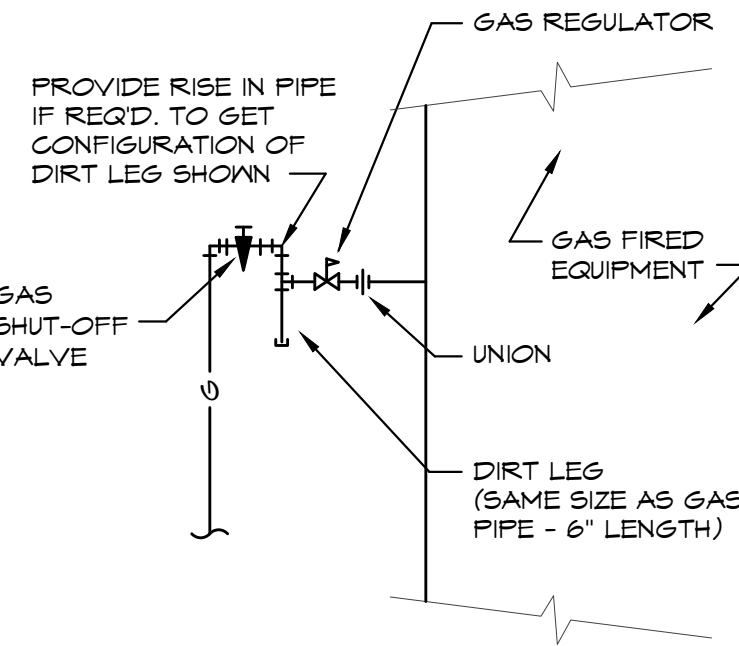
940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

PIPE HANGER SCHEDULE			FOODSERVICE EQUIPMENT SCHEDULE	
PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER	ITEM	DESCRIPTION
ABS (All sizes)	4'	3/8"	1	MOP SINK CABINET
PVC (All Sizes)	4'	3/8"	3	WALK IN COOLER/ FREEZER
CPVC, 1 inch and smaller	3'	1/2"	7	TWO COMPARTMENT PREP SINK
CPVC, 1-1/4 inches and larger	4'	1/2"	10	HAND SINK
Cast Iron (All Sizes)	5'	5/8"	11	BAG-N-BOX - NOT BY K.E.C.
Cast Iron (All Sizes) with 10 foot length of pipe	10'	5/8"	13	CONVECTION OVEN - DOUBLE
Copper Tube, 1-1/4 inches and smaller	6'	1/2"	14	CONVECTION STEAMER
Copper Tube, 1-1/2 inches and larger	10'	1/2"	15	8 OPEN BURNERS, 1 STANDARD OVEN, 1 CABINET
Steel, 3 inches and smaller	12'	1/2"	15.1	SALAMANDER
Steel, 4 inches and larger	12'	5/8"	17	COUNTERTOP CHAR-GRILL GAS 36"
Pex, 1" and below without support channel	32"	3/8"	18	COUNTERTOP GRIDDLE 36"
Pex, 1-1/4" and above without support channel	48"	3/8"	19	FRYERS
Pex 3/4" and below with support channel	6'	3/8"	24	ELECTRIC PORTABLE HOT FOOD UNITS W/ SEALED WELLS & DRAINS
Pex 1" and above with support channel	8'	3/8"	26	HAND SINK
			28	ICE MACHINE - NOT BY K.E.C.
			30	DISH CABINET
			32	HAND SINK
			35	CLEAN STRAIGHT DISHTABLE
			37	DISHWASHER-NOT BY K.E.C.
			38	DIRTY DISHTABLE WITH LANDING & UNDERCOUNTER DUMP SINK
			40	DROP IN SINK
			41	TEA BREWER - NOT BY K.E.C
			42	COFFEE BREWER - NOT BY K.E.C.
			43	BEVERAGE DISPENSERS - NOT BY K.E.C
			44	SODA & ICE DISPENSER - NOT BY K.E.C

BAR EQUIPMENT	
ITEM	DESCRIPTION
B4	HAND SINK
B5	DRAINBOARD
B6	BLENDER STATION W/ SINK
B7	ICE BIN W/ COLD PLATE
B9	GLASSWASHER - NOT BY KEC
B11	CHEMICAL STORAGE CABINET W/ SINK
B13	BLENDER STATION W/ SINK

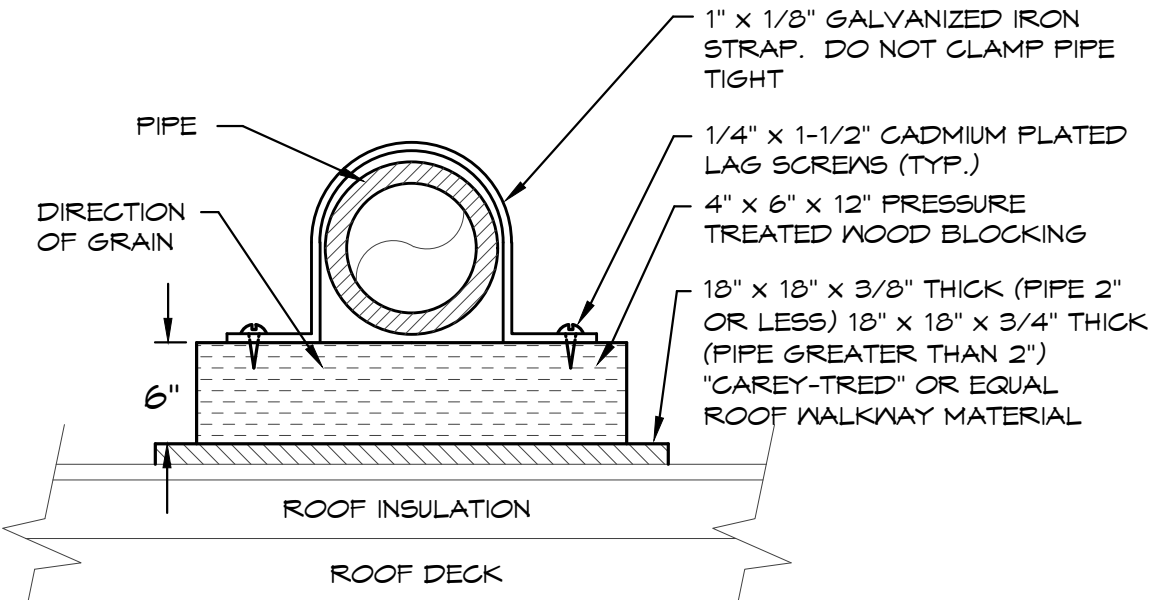


**GAS CONNECTION DETAIL**  
SCALE: NONE



GAS PRESSURE REGULATORS FOR ROOFTOP UNITS (RTU) AND MAKE-UP AIR UNITS (MAU) SHALL BE SENSUS #143-20-2, 2 PSI INLET / 7" WC OUTLET PRESSURE WITH THE ORIFICE & SPRING SIZE AS RECOMMENDED BY THE MANUFACTURER.

**GAS CONNECTION DETAIL**  
SCALE: NONE  
FOR ROOFTOP UNITS, MAKE-UP AIR UNITS, ETC. WITH 2 PSI GAS PRESSURE



**ROOF PIPE SUPPORT DETAIL**  
SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED  
5720 Reeder Shawnee, Ks. 66203 (913)262-1772

Project Number: 2002  
Scale:  
Date: 09/15/2021

PLUMBING SCHEDULES & DETAILS

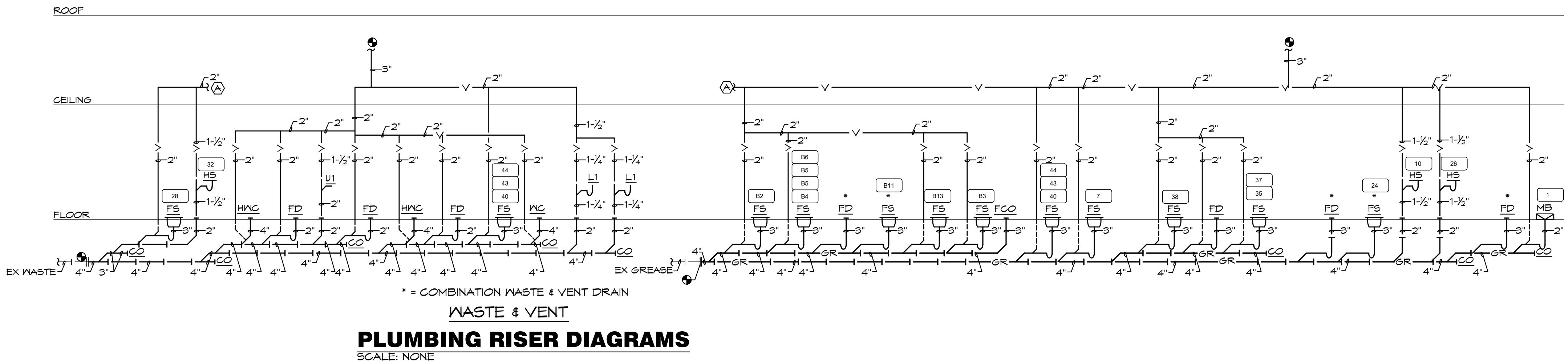
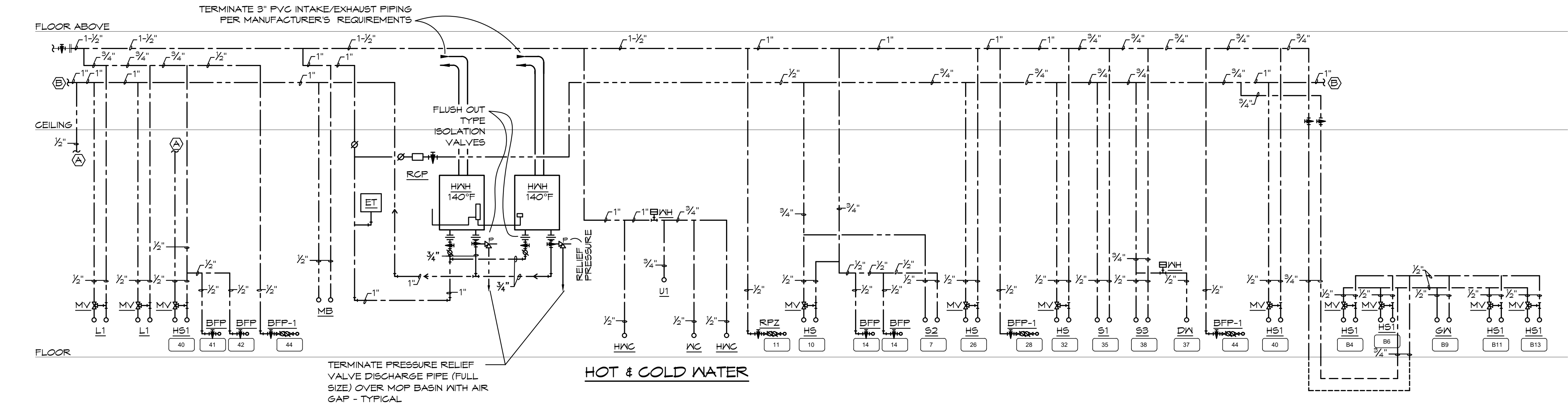
P2.0

PHASE



ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

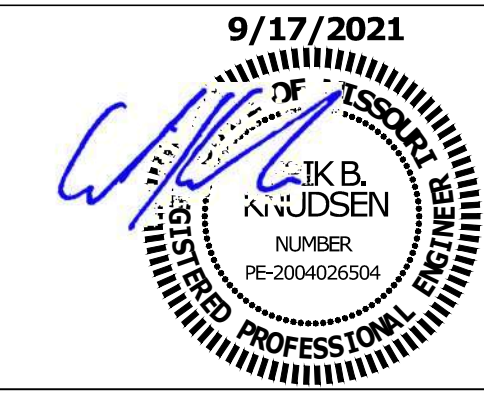


DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772



Revision	Date	No.

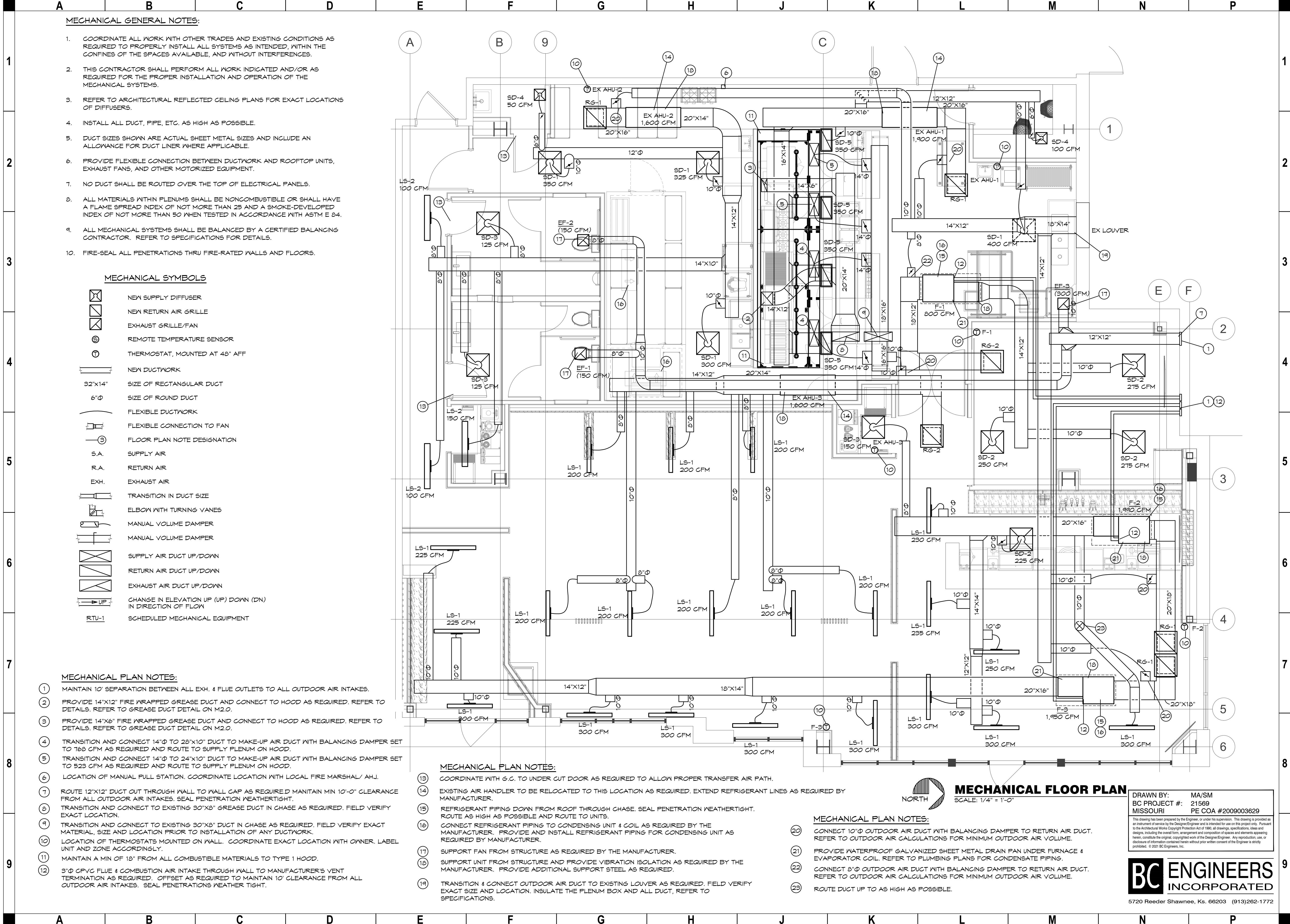
Project Number: 2002  
Scale:  
Date: 09/15/2021

PLUMBING RISERS

P2.1

PHASE





MECHANICAL GENERAL NOTES:

- COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE MECHANICAL SYSTEMS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS.
- INSTALL ALL DUCT, PIPE, ETC. AS HIGH AS POSSIBLE.
- DUCT SIZES SHOWN ARE ACTUAL SHEET METAL SIZES AND INCLUDE AN ALLOWANCE FOR DUCT LINER WHERE APPLICABLE.
- PROVIDE FLEXIBLE CONNECTION BETWEEN DUCTWORK AND ROOFTOP UNITS, EXHAUST FANS, AND OTHER MOTORIZED EQUIPMENT.
- NO DUCT SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
- ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
- ALL MECHANICAL SYSTEMS SHALL BE BALANCED BY A CERTIFIED BALANCING CONTRACTOR. REFER TO SPECIFICATIONS FOR DETAILS.
- FIRE-SEAL ALL PENETRATIONS THRU FIRE-RATED WALLS AND FLOORS.

MECHANICAL SYMBOLS

- |  |  |
|--|--|
|  | NEW SUPPLY DIFFUSER  |
|  | NEW RETURN AIR GRILLE                                      |
|  | EXHAUST GRILLE/FAN   |
|  | REMOTE TEMPERATURE SENSOR                                  |
|  | THERMOSTAT, MOUNTED AT 48" AFF                             |
|  | NEW DUCTWORK   |
|  | SIZE OF RECTANGULAR DUCT                                   |
|  | SIZE OF ROUND DUCT   |
|  | FLEXIBLE DUCTWORK  |
|  | FLEXIBLE CONNECTION TO FAN                                 |
|  | FLOOR PLAN NOTE DESIGNATION                                |
|  | SUPPLY AIR   |
|  | RETURN AIR   |
|  | EXHAUST AIR  |
|  | TRANSITION IN DUCT SIZE                                    |
|  | ELBOW WITH TURNING VANES                                   |
|  | MANUAL VOLUME DAMPER                                       |
|  | MANUAL VOLUME DAMPER                                       |
|  | SUPPLY AIR DUCT UP/DOWN                                    |
|  | RETURN AIR DUCT UP/DOWN                                    |
|  | EXHAUST AIR DUCT UP/DOWN                                   |
|  | CHANGE IN ELEVATION UP (UP) DOWN (DN) IN DIRECTION OF FLOW |
|  | SCHEDULED MECHANICAL EQUIPMENT                             |

MECHANICAL PLAN NOTES:

- MAINTAIN 10' SEPARATION BETWEEN ALL EXH. & FLUE OUTLETS TO ALL OUTDOOR AIR INTAKES.
- PROVIDE 14"X12" FIRE WRAPPED GREASE DUCT AND CONNECT TO HOOD AS REQUIRED. REFER TO DETAILS. REFER TO GREASE DUCT DETAIL ON M2.0.
- PROVIDE 14"X6" FIRE WRAPPED GREASE DUCT AND CONNECT TO HOOD AS REQUIRED. REFER TO DETAILS. REFER TO GREASE DUCT DETAIL ON M2.0.
- TRANSITION AND CONNECT 14"Ø TO 28"X10" DUCT TO MAKE-UP AIR DUCT WITH BALANCING DAMPER SET TO 168 CFM AS REQUIRED AND ROUTE TO SUPPLY PLENUM ON HOOD.
- TRANSITION AND CONNECT 14"Ø TO 24"X10" DUCT TO MAKE-UP AIR DUCT WITH BALANCING DAMPER SET TO 523 CFM AS REQUIRED AND ROUTE TO SUPPLY PLENUM ON HOOD.
- LOCATION OF MANUAL PULL STATION. COORDINATE LOCATION WITH LOCAL FIRE MARSHAL/ AHJ.
- ROUTE 12"X12" DUCT OUT THROUGH WALL TO WALL GAP AS REQUIRED. MAINTAIN MIN 10'-0" CLEARANCE FROM ALL OUTDOOR AIR INTAKES. SEAL PENETRATION WEATHERTIGHT.
- TRANSITION AND CONNECT TO EXISTING 30"X8" GREASE DUCT IN CHASE AS REQUIRED. FIELD VERIFY EXACT LOCATION.
- TRANSITION AND CONNECT TO EXISTING 30"X8" DUCT IN CHASE AS REQUIRED. FIELD VERIFY EXACT MATERIAL, SIZE AND LOCATION PRIOR TO INSTALLATION OF ANY DUCTWORK.
- LOCATION OF THERMOSTATS MOUNTED ON WALL. COORDINATE EXACT LOCATION WITH OWNER. LABEL UNIT AND ZONE ACCORDINGLY.
- MAINTAIN A MIN OF 18" FROM ALL COMBUSTIBLE MATERIALS TO TYPE 1 HOOD.
- 3"Ø CPVC FLUE & COMBUSTION AIR INTAKE THROUGH WALL TO MANUFACTURER'S VENT TERMINATION AS REQUIRED. OFFSET AS REQUIRED TO MAINTAIN 10' CLEARANCE FROM ALL OUTDOOR AIR INTAKES. SEAL PENETRATIONS WEATHER TIGHT.

MECHANICAL PLAN NOTES:

- COORDINATE WITH G.C. TO UNDER CUT DOOR AS REQUIRED TO ALLOW PROPER TRANSFER AIR PATH.
- EXISTING AIR HANDLER TO BE RELOCATED TO THIS LOCATION AS REQUIRED. EXTEND REFRIGERANT LINES AS REQUIRED BY MANUFACTURER.
- REFRIGERANT PIPING DOWN FROM ROOF THROUGH CHASE. SEAL PENETRATION WEATHERTIGHT. ROUTE AS HIGH AS POSSIBLE AND ROUTE TO UNITS.
- CONNECT REFRIGERANT PIPING TO CONDENSING UNIT & COIL AS REQUIRED BY THE MANUFACTURER. PROVIDE AND INSTALL REFRIGERANT PIPING FOR CONDENSING UNIT AS REQUIRED BY MANUFACTURER.
- SUPPORT FAN FROM STRUCTURE AS REQUIRED BY THE MANUFACTURER.
- SUPPORT UNIT FROM STRUCTURE AND PROVIDE VIBRATION ISOLATION AS REQUIRED BY THE MANUFACTURER. PROVIDE ADDITIONAL SUPPORT STEEL AS REQUIRED.
- TRANSITION & CONNECT OUTDOOR AIR DUCT TO EXISTING LOUVER AS REQUIRED. FIELD VERIFY EXACT SIZE AND LOCATION. INSULATE THE PLENUM BOX AND ALL DUCT, REFER TO SPECIFICATIONS.

MECHANICAL PLAN NOTES:

- CONNECT 10"Ø OUTDOOR AIR DUCT WITH BALANCING DAMPER TO RETURN AIR DUCT. REFER TO OUTDOOR AIR CALCULATIONS FOR MINIMUM OUTDOOR AIR VOLUME.
- PROVIDE WATERPROOF GALVANIZED SHEET METAL DRAIN PAN UNDER FURNACE & EVAPORATOR COIL. REFER TO PLUMBING PLANS FOR CONDENSATE PIPING.
- CONNECT 8"Ø OUTDOOR AIR DUCT WITH BALANCING DAMPER TO RETURN AIR DUCT. REFER TO OUTDOOR AIR CALCULATIONS FOR MINIMUM OUTDOOR AIR VOLUME.
- ROUTE DUCT UP TO AS HIGH AS POSSIBLE.

MECHANICAL FLOOR PLAN



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

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

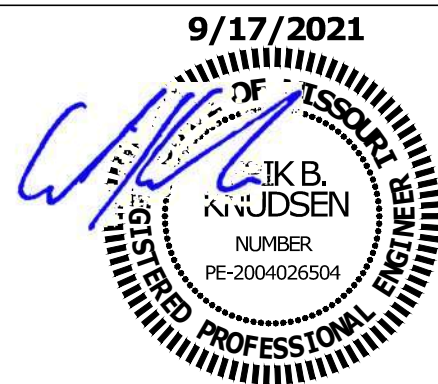
**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



Revision Date No.

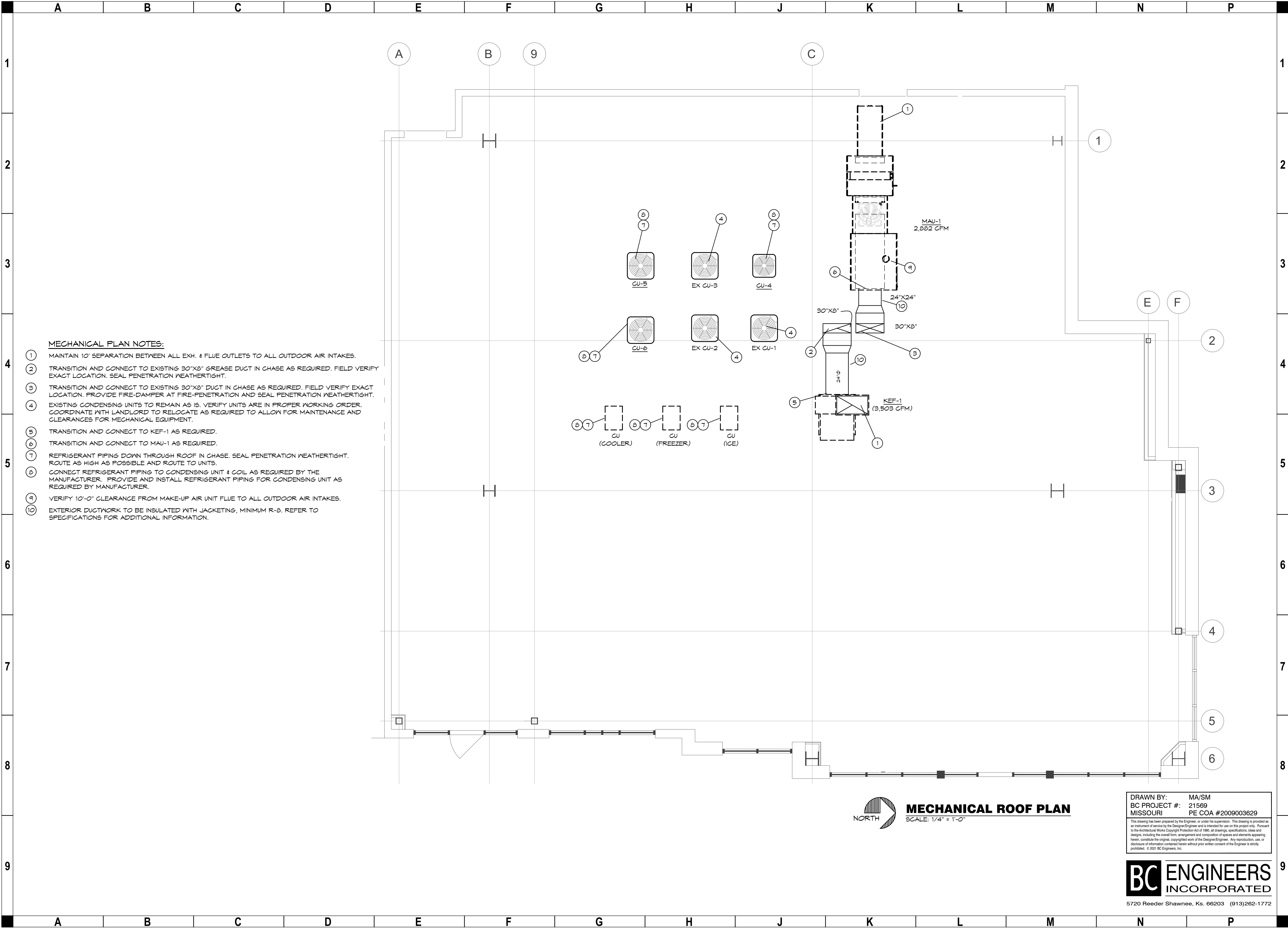
Project Number: 2002  
Scale:  
Date: 09/15/2021

MECHANICAL FLOOR PLAN

M1.0

PHASE





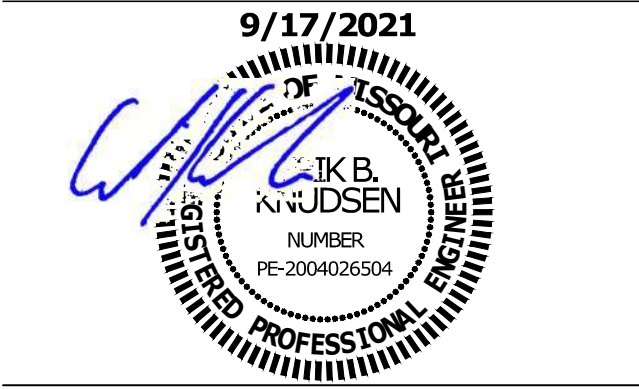
MECHANICAL PLAN NOTES:

- ① MAINTAIN 10' SEPARATION BETWEEN ALL EXH. & FLUE OUTLETS TO ALL OUTDOOR AIR INTAKES.
- ② TRANSITION AND CONNECT TO EXISTING 30"X8" GREASE DUCT IN CHASE AS REQUIRED. FIELD VERIFY EXACT LOCATION. SEAL PENETRATION WEATHERTIGHT.
- ③ TRANSITION AND CONNECT TO EXISTING 30"X8" DUCT IN CHASE AS REQUIRED. FIELD VERIFY EXACT LOCATION. PROVIDE FIRE-DAMPER AT FIRE-PENETRATION AND SEAL PENETRATION WEATHERTIGHT.
- ④ EXISTING CONDENSING UNITS TO REMAIN AS IS. VERIFY UNITS ARE IN PROPER WORKING ORDER. COORDINATE WITH LANDLORD TO RELOCATE AS REQUIRED TO ALLOW FOR MAINTENANCE AND CLEARANCES FOR MECHANICAL EQUIPMENT.
- ⑤ TRANSITION AND CONNECT TO KEF-1 AS REQUIRED.
- ⑥ TRANSITION AND CONNECT TO MAU-1 AS REQUIRED.
- ⑦ REFRIGERANT PIPING DOWN THROUGH ROOF IN CHASE. SEAL PENETRATION WEATHERTIGHT. ROUTE AS HIGH AS POSSIBLE AND ROUTE TO UNITS.
- ⑧ CONNECT REFRIGERANT PIPING TO CONDENSING UNIT & COIL AS REQUIRED BY THE MANUFACTURER. PROVIDE AND INSTALL REFRIGERANT PIPING FOR CONDENSING UNIT AS REQUIRED BY MANUFACTURER.
- ⑨ VERIFY 10'-0" CLEARANCE FROM MAKE-UP AIR UNIT FLUE TO ALL OUTDOOR AIR INTAKES.
- ⑩ EXTERIOR DUCTWORK TO BE INSULATED WITH JACKETING, MINIMUM R-8. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



Revision	Date	No.

Project Number: 2002  
Scale:  
Date: 09/15/2021

MECHANICAL ROOF PLAN

M1.1

PHASE

 **MECHANICAL ROOF PLAN**  
SCALE: 1/4" = 1'-0"

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772



	A	B	C	D	E	F	G	H	J	K	L	M	N	P																																																																																																				
1	<table><tr><th colspan="11">EXHAUST FAN SCHEDULE</th></tr><tr><th>MARK</th><th>MFGR</th><th>MODEL</th><th>CFM</th><th>EXTERNAL STATIC P. IN. WG.</th><th>RPM</th><th colspan="2">ELECTRICAL</th><th>FAN TYPE</th><th>CONTROLS</th><th>NOTES</th></tr><tr><th></th><th></th><th></th><th></th><th></th><th></th><th>VOLT/Ø/HZ</th><th>PWR</th><th></th><th></th><th></th></tr><tr><td>EF-1</td><td>COOK</td><td>GC-186</td><td>150</td><td>0.375</td><td>800</td><td>120/1/60</td><td>68 W</td><td>CEILING EXH.</td><td>LIGHTS</td><td>1</td></tr><tr><td>EF-2</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td></tr><tr><td>EF-3</td><td>↓</td><td>GC-542</td><td>300</td><td>0.25</td><td>1,387</td><td>↓</td><td>100 W</td><td>↓</td><td>↓</td><td>↓</td></tr></table> <p>NOTES: 1. PROVIDE CEILING GRILLE, INTEGRAL BACK DRAFT DAMPER, VARI-SPEED CONTROLLER (NEAR FAN AND ABOVE CEILING).</p>														EXHAUST FAN SCHEDULE											MARK	MFGR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL		FAN TYPE	CONTROLS	NOTES							VOLT/Ø/HZ	PWR				EF-1	COOK	GC-186	150	0.375	800	120/1/60	68 W	CEILING EXH.	LIGHTS	1	EF-2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	EF-3	↓	GC-542	300	0.25	1,387	↓	100 W	↓	↓	↓	1																																	
EXHAUST FAN SCHEDULE																																																																																																																		
MARK	MFGR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL		FAN TYPE	CONTROLS	NOTES																																																																																																								
						VOLT/Ø/HZ	PWR																																																																																																											
EF-1	COOK	GC-186	150	0.375	800	120/1/60	68 W	CEILING EXH.	LIGHTS	1																																																																																																								
EF-2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓																																																																																																								
EF-3	↓	GC-542	300	0.25	1,387	↓	100 W	↓	↓	↓																																																																																																								
2	<table><tr><th colspan="10">DIFFUSER SCHEDULE</th></tr><tr><th>MARK</th><th>MFGR</th><th>MODEL</th><th>BORDER TYPE</th><th>NECK SIZE</th><th>FACE SIZE</th><th>FINISH</th><th>DAMPER</th><th>ACCESSORIES</th><th>NOTES</th></tr><tr><td>SD-1</td><td>TITUS</td><td>TMS</td><td>3</td><td>10"Ø</td><td>24"x24"</td><td>WHITE</td><td></td><td></td><td></td></tr><tr><td>SD-2</td><td></td><td></td><td></td><td>↓</td><td>↓</td><td>↓</td><td>OB DAMPER</td><td>GYP. FRAME</td><td></td></tr><tr><td>SD-3</td><td></td><td></td><td></td><td>8"Ø</td><td>↓</td><td>↓</td><td>OB DAMPER</td><td>GYP. FRAME</td><td></td></tr><tr><td>SD-4</td><td></td><td></td><td></td><td>6"Ø</td><td>12"x12"</td><td>↓</td><td></td><td></td><td></td></tr><tr><td>SD-5</td><td></td><td>PAR</td><td></td><td>10"x22"</td><td>12"x24"</td><td>↓</td><td>OB DAMPER</td><td></td><td></td></tr><tr><td>RG-1</td><td></td><td></td><td></td><td>18"x18"</td><td>24"x24"</td><td>↓</td><td></td><td></td><td></td></tr><tr><td>RG-2</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td></td><td>GYP. FRAME</td><td></td></tr></table>														DIFFUSER SCHEDULE										MARK	MFGR	MODEL	BORDER TYPE	NECK SIZE	FACE SIZE	FINISH	DAMPER	ACCESSORIES	NOTES	SD-1	TITUS	TMS	3	10"Ø	24"x24"	WHITE				SD-2				↓	↓	↓	OB DAMPER	GYP. FRAME		SD-3				8"Ø	↓	↓	OB DAMPER	GYP. FRAME		SD-4				6"Ø	12"x12"	↓				SD-5		PAR		10"x22"	12"x24"	↓	OB DAMPER			RG-1				18"x18"	24"x24"	↓				RG-2	↓	↓	↓	↓	↓	↓		GYP. FRAME		2									
DIFFUSER SCHEDULE																																																																																																																		
MARK	MFGR	MODEL	BORDER TYPE	NECK SIZE	FACE SIZE	FINISH	DAMPER	ACCESSORIES	NOTES																																																																																																									
SD-1	TITUS	TMS	3	10"Ø	24"x24"	WHITE																																																																																																												
SD-2				↓	↓	↓	OB DAMPER	GYP. FRAME																																																																																																										
SD-3				8"Ø	↓	↓	OB DAMPER	GYP. FRAME																																																																																																										
SD-4				6"Ø	12"x12"	↓																																																																																																												
SD-5		PAR		10"x22"	12"x24"	↓	OB DAMPER																																																																																																											
RG-1				18"x18"	24"x24"	↓																																																																																																												
RG-2	↓	↓	↓	↓	↓	↓		GYP. FRAME																																																																																																										
3	<p>AIR BALANCE SCHEDULE:</p> <table><tr><th>SUPPLY AIR UNIT</th><th>OUTSIDE AIRFLOW (CFM)</th><th>RETURN AIRFLOW</th><th>SUPPLY AIRFLOW</th><th>OA/SA %</th><th>EXHAUST AIR UNIT</th><th>EXHAUST AIRFLOW (CFM)</th><th>REMARKS</th></tr><tr><td>EX AHU-1</td><td>360</td><td>1,630</td><td>1,990</td><td>18.1%</td><td>EF-1</td><td>150</td><td></td></tr><tr><td>EX AHU-2</td><td>290</td><td>1,310</td><td>1,600</td><td>18.1%</td><td>EF-2</td><td>150</td><td></td></tr><tr><td>EX AHU-3</td><td>290</td><td>1,310</td><td>1,600</td><td>18.1%</td><td>EF-3</td><td>300</td><td></td></tr><tr><td>F-1</td><td>145</td><td>655</td><td>800</td><td>18.1%</td><td></td><td></td><td></td></tr><tr><td>F-2</td><td>360</td><td>1,630</td><td>1,990</td><td>18.1%</td><td></td><td></td><td></td></tr><tr><td>F-3</td><td>360</td><td>1,630</td><td>1,990</td><td>18.1%</td><td></td><td></td><td></td></tr><tr><td>MUA-1</td><td>2,582</td><td>0</td><td>2,582</td><td>100.0%</td><td>KEF-1</td><td>3,503</td><td></td></tr><tr><td>TOTAL</td><td>4,397</td><td>7,845</td><td>12,552</td><td>35.5%</td><td>TOTAL</td><td>4,103</td><td></td></tr><tr><td colspan="6">RESULTING BUILDING PRESSURIZATION</td><td>294 CFM</td><td></td></tr></table>														SUPPLY AIR UNIT	OUTSIDE AIRFLOW (CFM)	RETURN AIRFLOW	SUPPLY AIRFLOW	OA/SA %	EXHAUST AIR UNIT	EXHAUST AIRFLOW (CFM)	REMARKS	EX AHU-1	360	1,630	1,990	18.1%	EF-1	150		EX AHU-2	290	1,310	1,600	18.1%	EF-2	150		EX AHU-3	290	1,310	1,600	18.1%	EF-3	300		F-1	145	655	800	18.1%				F-2	360	1,630	1,990	18.1%				F-3	360	1,630	1,990	18.1%				MUA-1	2,582	0	2,582	100.0%	KEF-1	3,503		TOTAL	4,397	7,845	12,552	35.5%	TOTAL	4,103		RESULTING BUILDING PRESSURIZATION						294 CFM		3																			
SUPPLY AIR UNIT	OUTSIDE AIRFLOW (CFM)	RETURN AIRFLOW	SUPPLY AIRFLOW	OA/SA %	EXHAUST AIR UNIT	EXHAUST AIRFLOW (CFM)	REMARKS																																																																																																											
EX AHU-1	360	1,630	1,990	18.1%	EF-1	150																																																																																																												
EX AHU-2	290	1,310	1,600	18.1%	EF-2	150																																																																																																												
EX AHU-3	290	1,310	1,600	18.1%	EF-3	300																																																																																																												
F-1	145	655	800	18.1%																																																																																																														
F-2	360	1,630	1,990	18.1%																																																																																																														
F-3	360	1,630	1,990	18.1%																																																																																																														
MUA-1	2,582	0	2,582	100.0%	KEF-1	3,503																																																																																																												
TOTAL	4,397	7,845	12,552	35.5%	TOTAL	4,103																																																																																																												
RESULTING BUILDING PRESSURIZATION						294 CFM																																																																																																												
4	<table><tr><th colspan="11">CONDENSING UNIT SCHEDULE</th></tr><tr><th>MARK</th><th>MFGR</th><th>MODEL NO.</th><th colspan="3">COOLING</th><th colspan="2">ELECTRICAL</th><th>EVAP. COIL MODEL NO.</th><th>SEER</th><th>NOTES</th></tr><tr><th></th><th></th><th></th><th>TOTAL BTUH</th><th>AMB.</th><th>EVAP. EAT DB/°B</th><th>VOLT/Ø/HZ</th><th>MIN. MCA (AMPS)</th><th>MIN. MOCP (AMPS)</th><th></th><th></th></tr><tr><td>EX CU-1</td><td>GOODMAN</td><td>65X14-0601</td><td>57,500</td><td>95</td><td>80/67</td><td>208/1/60</td><td>26.3</td><td>50</td><td>EX AHU-1</td><td>14</td></tr><tr><td>EX CU-2</td><td>↓</td><td>65X14-0481</td><td>46,000</td><td></td><td></td><td></td><td>21</td><td>45</td><td>EX AHU-2</td><td>↓</td></tr><tr><td>EX CU-3</td><td></td><td>↓</td><td></td><td></td><td></td><td></td><td>21</td><td>45</td><td>EX AHU-3</td><td>↓</td></tr><tr><td>CU-4</td><td>LENNOX</td><td>14ACX024</td><td>23,400</td><td></td><td></td><td></td><td>15</td><td>25</td><td>CHX35-24B</td><td>15</td></tr><tr><td>CU-5</td><td></td><td>14ACX060</td><td>56,500</td><td></td><td></td><td></td><td>34.8</td><td>60</td><td>CHX35-60D</td><td>14.5</td></tr><tr><td>CU-6</td><td>↓</td><td>14ACX060</td><td>56,500</td><td></td><td></td><td></td><td>34.8</td><td>60</td><td>CHX35-60D</td><td>14.5</td></tr></table> <p>NOTES: 1. PROVIDE TIME DELAY ON COMPRESSOR RE-START, CRANKCASE HEATER, AND COMPRESSOR LOCK-OUT WITH AMBIENT BELOW 35 °F. PROVIDE INDOOR COIL WITH THERMAL EXPANSION VALVE (TXV). 2. MECHANICAL CONTRACTOR SHALL COORDINATE ALL UNIT MOCP'S OF ACTUAL INSTALLED EQUIPMENT WITH ELECTRICAL CONTRACTOR. 3. PROVIDE HAIL GUARDS FOR EACH UNIT. 4. UNITS ARE EXISTING TO REMAIN.</p>														CONDENSING UNIT SCHEDULE											MARK	MFGR	MODEL NO.	COOLING			ELECTRICAL		EVAP. COIL MODEL NO.	SEER	NOTES				TOTAL BTUH	AMB.	EVAP. EAT DB/°B	VOLT/Ø/HZ	MIN. MCA (AMPS)	MIN. MOCP (AMPS)			EX CU-1	GOODMAN	65X14-0601	57,500	95	80/67	208/1/60	26.3	50	EX AHU-1	14	EX CU-2	↓	65X14-0481	46,000				21	45	EX AHU-2	↓	EX CU-3		↓					21	45	EX AHU-3	↓	CU-4	LENNOX	14ACX024	23,400				15	25	CHX35-24B	15	CU-5		14ACX060	56,500				34.8	60	CHX35-60D	14.5	CU-6	↓	14ACX060	56,500				34.8	60	CHX35-60D	14.5	4
CONDENSING UNIT SCHEDULE																																																																																																																		
MARK	MFGR	MODEL NO.	COOLING			ELECTRICAL		EVAP. COIL MODEL NO.	SEER	NOTES																																																																																																								
			TOTAL BTUH	AMB.	EVAP. EAT DB/°B	VOLT/Ø/HZ	MIN. MCA (AMPS)	MIN. MOCP (AMPS)																																																																																																										
EX CU-1	GOODMAN	65X14-0601	57,500	95	80/67	208/1/60	26.3	50	EX AHU-1	14																																																																																																								
EX CU-2	↓	65X14-0481	46,000				21	45	EX AHU-2	↓																																																																																																								
EX CU-3		↓					21	45	EX AHU-3	↓																																																																																																								
CU-4	LENNOX	14ACX024	23,400				15	25	CHX35-24B	15																																																																																																								
CU-5		14ACX060	56,500				34.8	60	CHX35-60D	14.5																																																																																																								
CU-6	↓	14ACX060	56,500				34.8	60	CHX35-60D	14.5																																																																																																								
5	<table><tr><th colspan="13">EXISTING AIR HANDLING UNIT SCHEDULE</th></tr><tr><th>MARK</th><th>MFGR</th><th>MODEL NO.</th><th>CFM</th><th>E.S.P. IN. WG.</th><th colspan="2">COOLING</th><th colspan="2">HEATING (ELECTRIC) (RESISTANCE)</th><th colspan="2">ELECTRICAL</th><th>OUTSIDE AIR (CFM)</th><th>NOTES</th></tr><tr><th></th><th></th><th></th><th></th><th></th><th>TOTAL BTUH</th><th>AMB.</th><th>EVAP. EAT DB/°B</th><th>KW</th><th>STAGES</th><th>VOLT/Ø/HZ</th><th>HP</th><th></th></tr><tr><td>EX AHU-1</td><td>GOODMAN</td><td>ARUF61D14</td><td>1,990</td><td>0.5</td><td>57,500</td><td>95</td><td>80/67</td><td>11.4</td><td>2</td><td>208/1/60</td><td>3/4</td><td>360</td></tr><tr><td>EX AHU-2</td><td></td><td>↓</td><td>1,600</td><td></td><td>46,000</td><td></td><td></td><td></td><td></td><td></td><td></td><td>290</td></tr><tr><td>EX AHU-3</td><td>↓</td><td>↓</td><td>1,600</td><td></td><td>46,000</td><td></td><td></td><td></td><td></td><td></td><td></td><td>290</td></tr></table> <p>NOTES: 1. UNITS ARE EXISTING TO REMAIN. VERIFY UNITS ARE IN PROPER WORKING ORDER. 2. PROVIDE AND INSTALL GFS# FC-48-AC AS REQUIRED BY MANUFACTURER. 3. PROVIDE GALVANIZED WATERTIGHT DRAIN PAN AND CONDENSATE FLOAT SWITCH TO DE-ENERGIZE THE FURNACE IF THE DRAIN PAN FILLS WITH WATER.</p>														EXISTING AIR HANDLING UNIT SCHEDULE													MARK	MFGR	MODEL NO.	CFM	E.S.P. IN. WG.	COOLING		HEATING (ELECTRIC) (RESISTANCE)		ELECTRICAL		OUTSIDE AIR (CFM)	NOTES						TOTAL BTUH	AMB.	EVAP. EAT DB/°B	KW	STAGES	VOLT/Ø/HZ	HP		EX AHU-1	GOODMAN	ARUF61D14	1,990	0.5	57,500	95	80/67	11.4	2	208/1/60	3/4	360	EX AHU-2		↓	1,600		46,000							290	EX AHU-3	↓	↓	1,600		46,000							290	5																					
EXISTING AIR HANDLING UNIT SCHEDULE																																																																																																																		
MARK	MFGR	MODEL NO.	CFM	E.S.P. IN. WG.	COOLING		HEATING (ELECTRIC) (RESISTANCE)		ELECTRICAL		OUTSIDE AIR (CFM)	NOTES																																																																																																						
					TOTAL BTUH	AMB.	EVAP. EAT DB/°B	KW	STAGES	VOLT/Ø/HZ	HP																																																																																																							
EX AHU-1	GOODMAN	ARUF61D14	1,990	0.5	57,500	95	80/67	11.4	2	208/1/60	3/4	360																																																																																																						
EX AHU-2		↓	1,600		46,000							290																																																																																																						
EX AHU-3	↓	↓	1,600		46,000							290																																																																																																						
6	<div><div><p>20 GAUGE SHEET METAL CAP ATTACHED WITH SHEET METAL SCREWS</p><p>OVERLAP ROOFING UP &amp; INTO BOX</p><p>2" MIN. PITCH</p><p>CANT</p><p>ROOF</p><p>ROOF INSULATION VERIFY THICKNESS ON ARCH. DWGS.</p><p>2X4 BLOCKING INSULATION</p><p>CONG. DECK OR STEEL DECK (CORE DRILL)</p><p>8" OVERHANG</p><p>SILICONE CAULK BEFORE ROOFING IS APPLIED. ALL AROUND PIPE(S)</p><p>PIPE OR CONDUIT</p><p>18 GAUGE FLASHING</p><p>10" MIN</p></div><p><b>MULTIPLE PIPES THRU ROOF DETAIL</b> SCALE: NONE</p></div> <div><p>CONDENSING UNIT</p><p>LAG BOLTS (TYP.)</p><p>6" x 6" x 8" PRESSURE TREATED WOOD BLOCKING</p><p>18" x 18" x 3/4" THICK "CARREY-TRED" OR EQUAL ROOF WALKWAY MATERIAL</p><p>6"</p><p>ROOF INSULATION</p><p>ROOF DECK</p><p>SET SUPPORT BLOCKS IN MASTIC ON WALKWAY MATERIAL.</p><p><b>CONDENSING UNIT SUPPORT DETAIL</b> SCALE: NONE</p></div> <div><p>BRANCH DUCT</p><p>SPIN IN WITH VOLUME DAMPER</p><p>ROUND FLEX DUCT, 5" MAX. LENGTH</p><p>LAY-IN CEILING</p><p>DIFFUSER</p><p><b>DIFFUSER DETAIL</b> SCALE: NONE</p></div>														6																																																																																																			
7	<div><p><b>FIRE RATED ENCLOSURE - GREASE DUCTS</b></p><p>1. THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2336 AND UL LISTED PER HNKT.G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1- OR 2- HOUR ENCLOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC-ES APPROVAL PER REPORT ESR 2213 OR ESR 2832.</p><p>2. COMPLIANT TO THE FOLLOWING CODES: NFPA 96 INTERNATIONAL MECHANICAL CODES UNIFORM MECHANICAL CODE CALIFORNIA MECHANICAL CODE</p><p>3. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.</p><p>4. MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT</p><p>5. INSTALL UL LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.</p><p>6. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.</p><p>7. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.</p><p>8. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND UL LISTINGS.</p></div> <div><p>INSTALL UL LISTED FIRESOP SYSTEM WITH EQUAL F AND T-RATING AT PENETRATIONS OF RATED ASSEMBLIES</p><p>1/2 IN. (13MM) STEEL BANDING PLACED 1-1/2 IN. (38MM) FROM TRANSVERSE JOINTS AND MAXIMUM 12 IN (305 MM) O.C.</p><p>FASTDOOR XL - UL LISTED DUCT ACCESS AND 2-HOUR RATED INSULATION COVER</p><p>UL LISTED - FASTDOOR XL</p><p>1 1/2" (38)</p><p>TIGHT COMPRESSION JOINT ON BOTH LAYERS</p><p><b>Morgan ThermalCeramics</b> P.O. Box 923 Augusta, Georgia 30903-0923 Phone: (706) 560-4038</p></div>														7																																																																																																			
8	<div><p>DRAWN BY: MA/SM BC PROJECT #: 21569 MISSOURI PE COA #2009003629</p><p>This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on the project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2001 BC Engineers, Inc.</p><p><b>BC ENGINEERS INCORPORATED</b> 5720 Reeder Shawnee, Ks. 66203 (913)262-1772</p></div>														8																																																																																																			
9															9																																																																																																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P																																																																																																				

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

9/17/2021

RevisionDateNo.

Project Number:2002

Scale:

Date:09/15/2021

MECHANICAL SCHEDULES & DETAILS

M2.0

PHASE



9/17/2021  
OF TSSO  
TK B.  
KNUDSEN  
NUMBER  
PE-2004026504

## M2.1

## PHASE

OUTDOOR AIR CALCULATIONS									
UNIT	Area (sqft)	OCCUPANCY CLASSIFICATION	Occupant Density #/1000 sqft	People outdoor airflow rate in breathing zone, (Rp) cfm/person	Area outdoor airflow rate in breathing zone, (Ra) cfm/sqft	Exhaust airflow rate cfm/sqft	Breathing zone outdoor airflow (Vbz)	Zone air distribution effectiveness (Ez)	Zone outdoor airflow (cfm)
EX AHU-1, EX AHU-2	1068	Kitchens (cooking)	0	0	0	0.7	0	0.8	0
	167	Corridors	0	0	0.06		10	0.8	13
								Total	13

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.



FOR QUESTIONS, CALL THE  
Tulsa Office  
REGION 80  
PHONE: (918) 258-0291  
EMAIL: reg80@captiveaire.com

PATENT NUMBERS  
AC-PSP (UNITED STATES) - US PATENT 7963830 B2.  
AC-PSP WALL (CANADA) - CA PATENT 2820509.  
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#5043183

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)						TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL			SP	END TO END
1	27-L	5424 ND-2-PSP-F	CAPTIVEAIRE	12' 3"	600 DEG	I	HEAVY	190	2328	12"	14"	4"	2328	1995	-1.240'	1536	430 SS WHERE EXPOSED	LEFT	ALONE
2	27-R	5424 ND-2-PSP-F	CAPTIVEAIRE	7' 10"	600 DEG	I	HEAVY	150	1175	6"	14"	4"	1175	2014	-0.852'	1046	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	FILTER(S)			EFFICIENCY @ 7 MICRONS	QTY	LIGHT(S)			WIRE GUARD	AVERAGE FOOT CANDLES @ 36" AFF	LOCATION	SIZE	UTILITY CABINET(S)		ELECTRICAL	SWITCHES	FIRE SYSTEM	HOOD HANGING PIPING WEIGHT
			QTY	HEIGHT	LENGTH			TYPE	SIZE	TYPE					SIZE	MODEL #				
1	27-L	CAPTRATE SOLID FILTER	9	16"	16"	85% SEE FILTER SPEC	6	RECESSED ROUND	NO	51									YES	701 LBS
2	27-R	CAPTRATE SOLID FILTER	5	16"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	45			RIGHT	12"x54"x24"	ANSUL R102	3.0/3.0/3.0	DCV-1111	1 LIGHT 1 FAN	YES	666 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION									
1	27-L	FIELD WRAPPER	6.00"	HIGH	FRONT, LEFT.						
		RISER SENSOR INSTALL	6IN	PLEN.							
2	27-R	FIELD WRAPPER	6.00"	HIGH	FRONT, RIGHT.						
		RISER SENSOR INSTALL	6IN	PLEN.							

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	27-L	Front	147"	12"	6"	MUA	10"	28"		768	0.213"
							10"	28"		768	0.213"
2	27-R	Front	106"	12"	6"	MUA	10"	24"		523	0.150"
							10"	24"		523	0.150"

PLAN VIEW - HOOD #1 (27-L)  
12' 3.00" LONG 5424ND-2-PSP-F  
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12" AND LONGER.

PLAN VIEW - HOOD #2 (27-R)  
7' 10.00" LONG 5424ND-2-PSP-F

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

1

2

3

4

5

6

7

8

9

1

2

3

4

5

6

7

8

9

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

Tulsa Office  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 258-0291 FAX: (918) 227-5847 EMAIL: reg80@captiveaire.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

DATE: 8/17/2021  
DWG.#: 5043183  
DRAWN BY: RJH-80  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 1

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

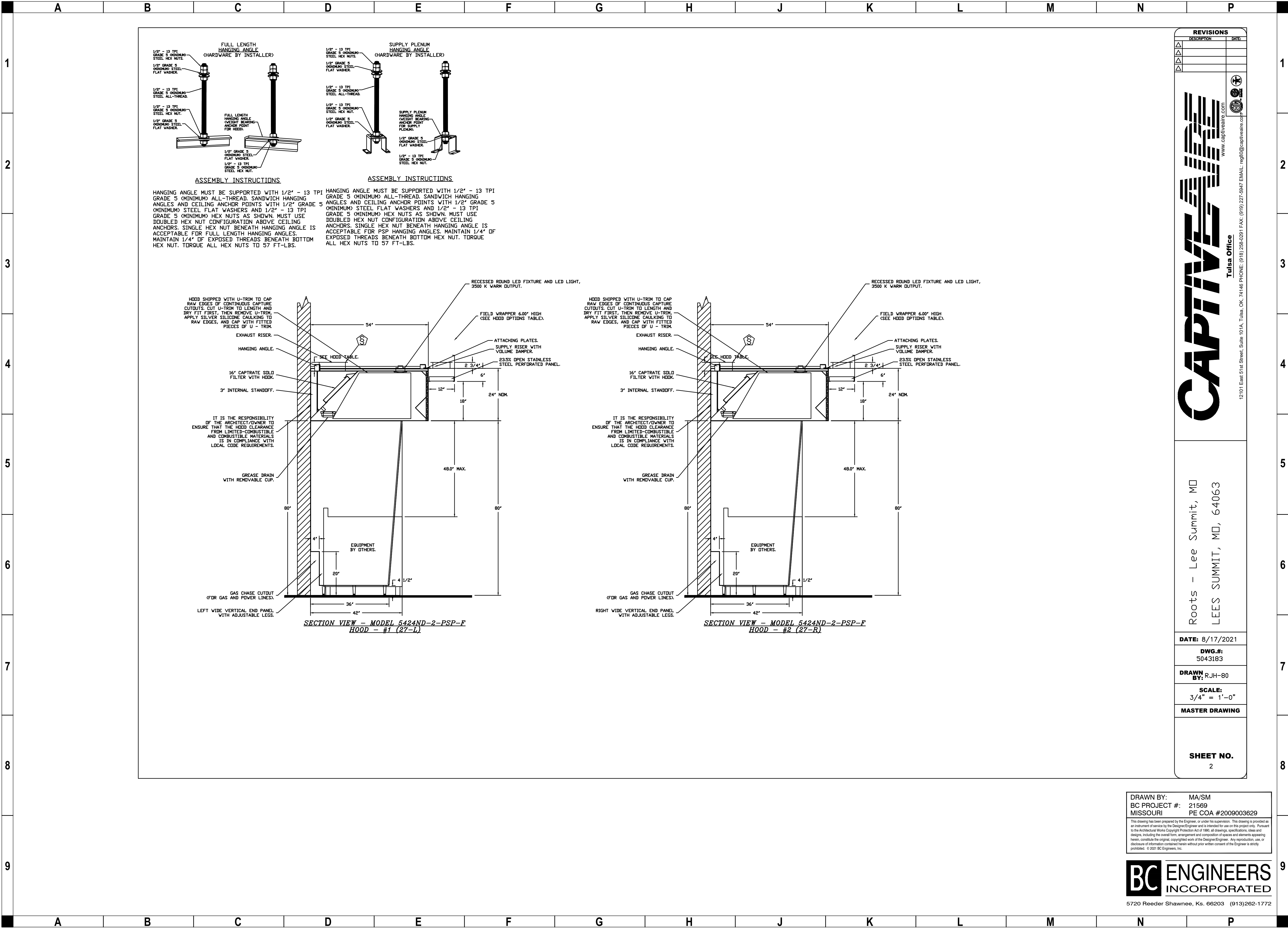
1

2

3

4





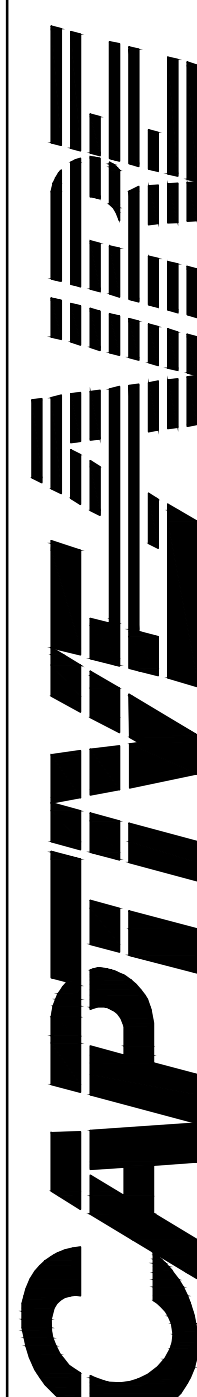
NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

# ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEES SUMMIT, MO 64081

REVISIONS

DESCRIPTION	DATE




**Tulsa Office**  
12101 East 51st Street, Suite 101A, Tulsa, OK 74146  
PHONE: (918) 259-0281 FAX: (918) 227-5947 EMAIL: reg808@captivestudio.com

Roots - Lee Summit, MO  
LEES SUMMIT, MO, 64063

**DATE:** 8/17/2021  
**DWG.#:** 5043183  
**DRAWN BY:** R.JH-80  
**SCALE:** 3/4" = 1'-0"  
**MASTER DRAWING**

**SHEET NO.**  
2

9/17/2021



Revision	Date	No.

Project Number:

2002

Scale:

Date:

09/15/2021

## KITCHEN HOOD DETAILS

M3.1

PHASE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, notes and designs, including the overall form, arrangement and composition of space and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772



FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
		0 - 0 - 43-15733 AIR CYLINDER ASSEMBLY - AIR CYLINDER AND TUBING FOR MECHANICAL GAS VALVES (ANSUL PART #15733).	0	1
		0 - 0 - 439861 LARGE BLOWOFF CAP, METAL, TO FIT NEW LASER-ETCHED ANSUL NOZZLES, A0024201.	17	0
		0 - 0 - CBI-146 CHROME PLATED PIPE NIPPLE 3/8" NPT 60 INCHES LONG.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR ANSUL TANKS.	3	0
		0 - 0 - UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS.	3	0
		1 - 1 - AT - 30 TANK(H1B) - 30 GALLON SS TANK (FOR USE WITH AUTOMAN RELEASE, ACTUATOR, DR SS ENCLOSURE (UL/ULC) MACOLA # 01-629862	3	0
		3 - 3 - ANS-DEM REGULATED RELEASE - ANSUL REGULATED MECHANICAL RELEASE/BRACKET ASSEMBLY, DEM, R-102, CARTRIDGE DETECTION INCLUDED, ANSUL PART # 79493.	1	0
		5 - 5 - LIQ-30 AGENT - ANSULEX LOW PH VET CHEMICAL AGENT, 3 GALLON (UL) 79372.	0	3
		9 - 9 - DT-CART DOUBLE TANK NITROGEN CARTRIDGE.	0	1
		10 - 10 - TLINK LINK - TEST LINK (1 TEST LINK) ANSUL PART # 24916, MACOLA # 20-24916.	0	1
		11 - 11 - MICRO-SDA MICROSWITCH KIT- INCLUDES 2 SWITCHES AND MOUNTING HARDWARE, SINGLE DUAL ELECTRIC SWITCH, ONE STANDARD SWITCH, ONE ALARM DUTY SWITCH ANSUL PART # 437155, MACOLA # 08-437155.	1	0
		12 - 12 - HOSE HOSE - RUBBER HOSE.	2	0
		13 - 13 - 419337 NOZZLE - 2W NOZZLE, DUCT (REPLACES ANSUL PART# 419348, CAS PART# 419337) A0001267.	1	0
		14 - 14 - 419336 NOZZLE - 1W NOZZLE, DUCT/APPLIANCE (REPLACES ANSUL PART# 419347, CAS PART# 419336) A0001266.	1	0
		16 - 16 - 419335 NOZZLE - 1N NOZZLE, PLENUM/APPLIANCE (REPLACES ANSUL PART# 419346, CAS PART# 419335) A0001265.	6	0
		20 - 20 - 419340 NOZZLE - 245 NOZZLE, APPLIANCE (REPLACES ANSUL PART# 419351, PART# 419340) A0001270.	4	0
		24 - 24 - 419341 NOZZLE - 260 NOZZLE, APPLIANCE (REPLACES ANSUL PART# 419352, CAS PART# 419341) A0001271.	5	0
		25 - 25 - 418569 NOZZLE ADAPTOR - SWIVEL NOZZLE ADAPTOR (REPLACES CAS PART # 418569) A0001274.	12	0
		26 - 26 - OSA-3/8 QUIK SEAL - 3/8" (UL).	17	0
		27 - 27 - OPSA-1/2 PULLEY SEAL - 1/2" HOOD SEAL (UL) ANSUL PART # 423253, MACOLA # 32-79768.	5	0
		28 - 28 - S-DET DETECTOR - SERIES (SCISSOR LINKAGE) ANSUL PART # 435547/435548 (OLD # 417369/434480), MACOLA # 05-417369.	10	0
		29 - 29 - ANS-360FL FUSIBLE LINK - 360DEG F, R-102 AND PIRANHA, ANSUL PART # 439088.	2	0
		30 - 30 - ANS-500FL FUSIBLE LINK - 500DEG F, R-102 AND PIRANHA, ANSUL PART # 439232.	8	0
		34 - 34 - RPS-A REMOTE PUL STATIION - RED COMPOSITE (WITHOUT WIRE ROPE) 434618 (UL) MACOLA #06-4835).	1	0
		35 - 35 - PE-1T PULLEY ELBOW - LOW TEMP. PULLEY ELBOW, SET SCREW TYPE ANSUL PART # 415670, MACOLA # 11-415671.	5	0
		36 - 36 - PE-HT PULLEY ELBOW - HIGH TEMP PULLEY ELBOW, COMPRESSION TYPE, ANSUL PART # 423851, MACOLA # 10-45771.	4	0
		38 - 38 - ELB-90 3/8" CHROME PLATED ELBOW - 90 DEG.	4	0
		39 - 39 - ELB-45 3/8" CHROME PLATED ELBOW - 45 DEG.	4	0

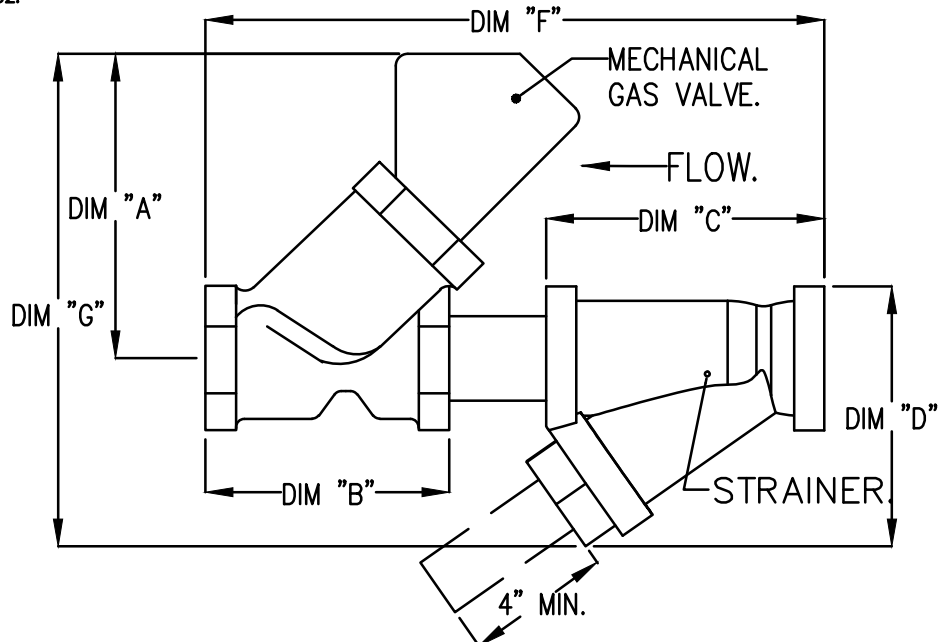
**ALL GAS VALVES/STRAINERS**

PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

**CALCULATIONS**

TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP  
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP<sup>0.5</sup>

TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY  
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)<sup>0.5</sup>.



<b>DATE:</b>	8/17/2021
<b>DWG.#:</b>	5043183
<b>DRAWN BY:</b>	RJH-80
<b>SCALE:</b>	3/4" = 1'-0"
<b>MASTER DRAWING</b>	
<b>SHEET NO.</b>	3

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

[illegible]

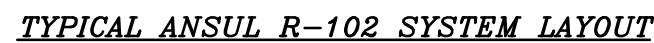
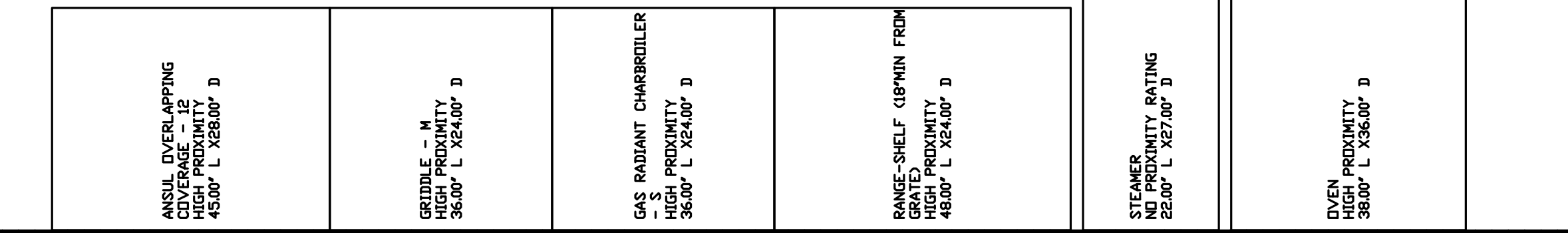
Project Number:	2002
Scale:	
Date:	09/15/2021

## KITCHEN HOOD DETAILS

## M3.2

## PHASE





- 1A 1.5 GALLON TANK.
- 1B 3 GALLON TANK.
- 2 DEM AUTOMAN RELEASE.
- 3 DEM REGULATED RELEASE.
- 4 DEM REGULATED ACTUATOR.
- 5 ANSULEX LIQUID AGENT (3 GAL.).
- 6 ANSULEX LIQUID AGENT (1.5 GAL.).
- 7 CARTRIDGE (101-20).
- 8 CARTRIDGE (101-10).
- 9 CARTRIDGE (101-30).
- 9A CARTRIDGE (LT-A 101-30).
- 9B DOUBLE TANK CARTRIDGE.
- 10 TEST LINK.
- 11 DOUBLE MICROSWITCH.
- 12 HOSE ASSEMBLY.
- 110 DUCT NOZZLE (430913).
- 2W DUCT NOZZLE (419337).
- 1W NOZZLE ASSEMBLY (419336).
- 1F NOZZLE ASSEMBLY (419333).
- 1N NOZZLE ASSEMBLY (419335).
- 1/2N NOZZLE ASSEMBLY (419334).
- 3N NOZZLE ASSEMBLY (419338).
- 245 NOZZLE ASSEMBLY (419340).
- 230 NOZZLE ASSEMBLY (419339).
- 210 NOZZLE ASSEMBLY (419333).
- 290 NOZZLE ASSEMBLY (419342).
- 260 NOZZLE ASSEMBLY (419341).
- 28 DETECTOR BRACKET.
- 29 LOW TEMP FUSIBLE LINK.
- 30 HIGH TEMP FUSIBLE LINK.
- MGV MECHANICAL GAS VALVE.
- EGV ELECTRICAL GAS VALVE.
- 34 REMOTE MANUAL PULL STATION.
- S SWIVEL ADAPTOR.

**BC ENGINEERS**  
INCORPORATED

20 Reeder Shawnee, Ks. 66203 (913)262-1772

## PHASE











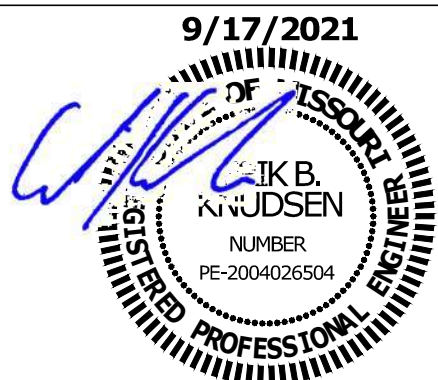




[illegible]

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

# ROOTS RESTAURANT

[illegible]

Project Number:	2002
Scale:	
Date:	09/15/2021

## KITCHEN HOOD DETAILS

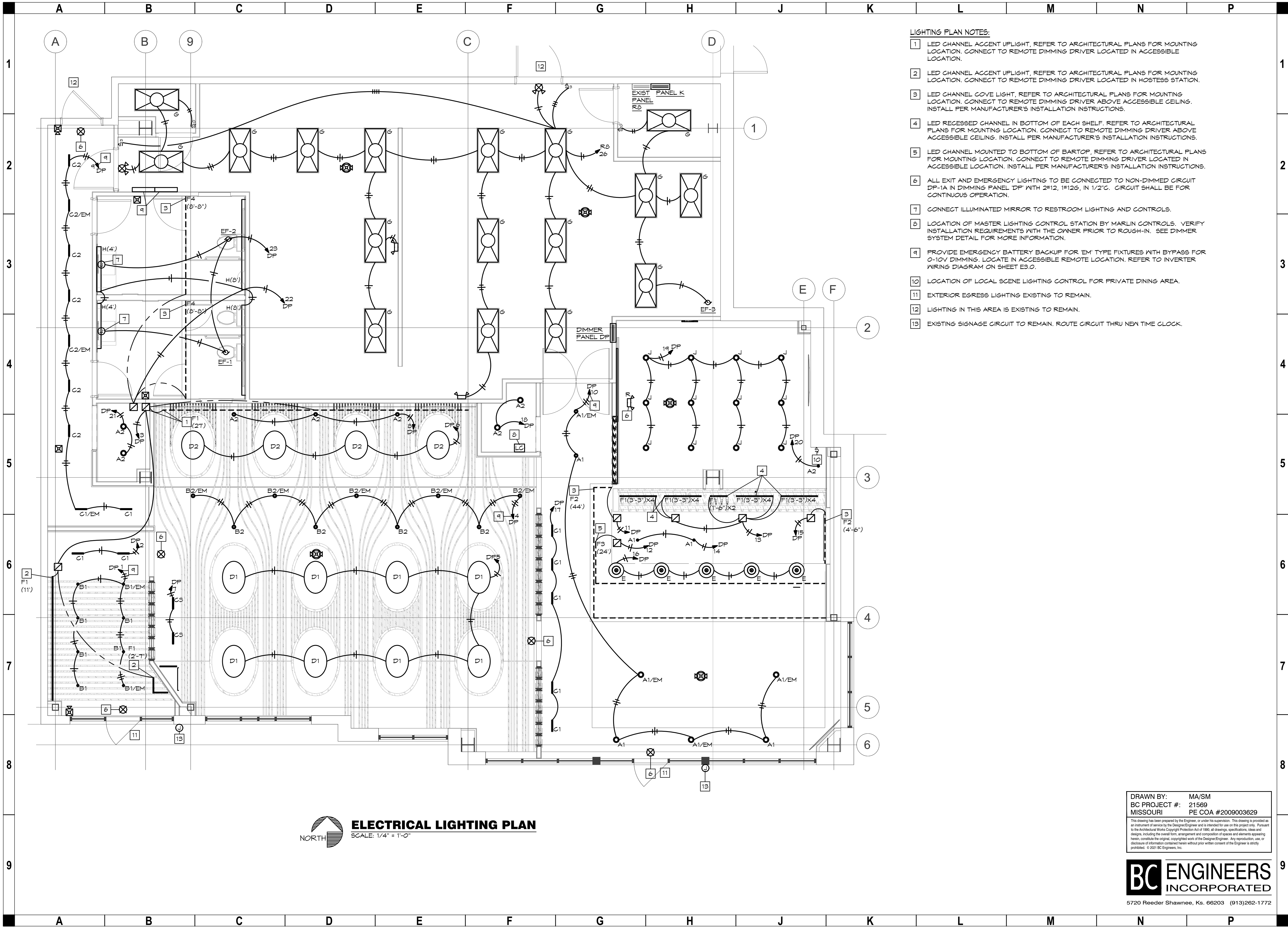
# M3.7

## PHASE



	A	B	C	D	E	F	G	H	J	K	L	M	N	P			
	ELECTRICAL SPECIFICATIONS				ELECTRICAL SPECIFICATIONS (CONTINUED)				ELECTRICAL SYMBOLS LIST				ELECTRICAL SYMBOLS LIST (CONTINUED)				
1	1. GENERAL PROVISIONS:				10. PANELBOARDS:				CIRCUITING & NOTES				FIRE ALARM - FIRE ALARM SYSTEM IS EXISTING TO REMAIN. PROVIDE ADDITIONAL COMPATIBLE DEVICES AND CONNECT TO EXISTING SYSTEM AS REQUIRED.				1
	A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.				A. FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED BY UL AND SO LABELED, AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE NQ OR NF WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.				+46" SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE (CENTERLINE OF DEVICE)				FIRE ALARM				
	B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.				1) CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.				GFI GROUND FAULT CIRCUIT INTERRUPTER DEVICE				SED CEILING MOUNT SMOKE DETECTOR				
2	C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.				B. CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 489 AND NEMA AB-1. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 80% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40° C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGEABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITION.				WP WEATHERPROOF ENCLOSURE ON DEVICE				ED DUCT MOUNT SMOKE DETECTOR				2
	D. ALL TESTS REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.				a) BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.				WR WEATHERPROOF RESISTANT DEVICE				HD CEILING MOUNT HEAT DETECTOR				
	E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDA				C. PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLE WIRING SUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR, CYLINDER TUMBLER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS.				IG ISOLATED GROUND DEVICE				F FIRE ALARM PULL STATION, TOP OF BOX AT 48" AFF				
3	F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.				D. PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH ALUMINUM BUS BARS AND CIRCUIT BREAKERS, PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID ALUMINUM NEUTRAL AND GROUND BUS.				EM EMERGENCY BATTERY BACKUP				FH FIRE ALARM HORN/STROBE COMBINATION SIGNAL, CENTERLINE AT 6'-8" AFF				3
	G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.				E. BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT CURRENTS.				TR TAMPER RESISTANT OUTLET				FH FIRE ALARM HORN/STROBE COMBINATION SIGNAL, CEILING MOUNTED				
	H. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE NECESSARY FOR CONCEALED ELECTRICAL COMPONENTS.				F. DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPEWRITER, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREINBEFORE SPECIFIED.				USB COOPER HTR1756-X OR EQUAL DUPLEX RECEPTACLE WITH DUAL USB CHARGING PORTS. PROVIDE 2-1/8" DEEP BACK BOX.				F FIRE ALARM VISUAL STROBE, CENTERLINE AT 6'-8" AFF				
4	I. CONTRACTOR SHALL PROMPTLY CALL ENGINEERS ATTENTION TO ANY APPARENT CONTRADICTIONS, AMBIGUITIES, ERRORS, DISCREPANCIES, OR OMISSIONS IN THE PLANS OR SPECIFICATIONS.				11. DISCONNECTS:				(TIE) PARTIAL HOMERUN. REFER TO PLANS FOR ADDITIONAL DEVICES CONNECTED TO THIS CIRCUIT.				R RELAY				4
	2. OPERATION AND MAINTENANCE MANUALS:				A. DISCONNECTS SHALL BE EXTERNALLY OPERATED, QUICK-MAKE, QUICK-BREAK, SAFETY, WITH PROVISIONS FOR PAD LOCKING. FUSED AND NON-FUSED DISCONNECT SWITCHES SHALL BE PROVIDED AS INDICATED.				X ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION								
	A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.				B. INDOOR SWITCHES SHALL BE NEMA 1 AND OUTDOOR SWITCHES SHALL BE NEMA 3R, UNLESS INDICATED OTHERWISE.				2 LF CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED				TS TAMPER SWITCH				
5	B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.				12. FUSES:				+12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION				R RELAY				5
	C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE COLLATED AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC. CONTRACTORS, ETC. DOCUMENTS SHALL BE COMPILED AND BOUND IN DIGITAL FILE OR 3 RING BINDER.				A. FUSES PROTECTING CIRCUIT BREAKER PANELS SHALL BE CURRENT LIMITING U.L. CLASS RK-1 FUSES WITH 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE SILVER FOR RATINGS ABOVE 60 AMPERES.				GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION								
	3. MANUFACTURERS:				B. ALL OTHER FUSES SHALL BE U.L. CLASS RK-5, DUAL-ELEMENT WITH A MINIMUM TIME-DELAY OF 10 SECONDS AT 500% RATING. FUSES SHALL HAVE CURRENT-LIMITING SHORT-CIRCUIT RINGS AND 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE COPPER.				CONDUIT ROUTED UNDER FLOOR/GRADE								
6	A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.				13. LIGHT FIXTURES:				LIGHTING				ELECTRICAL GENERAL NOTES:				6
	4. TESTING, AND BALANCING:				A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.				EMERGENCY TWIN HEAD LIGHT FIXTURE				1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.				
	A. ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.				B. FIXTURES ARE REQUIRED AT ALL LIGHTINGS OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.				EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED				2. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.				
7	B. POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.				C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS.				A STRIP FIXTURE WITH TYPE DESIGNATION				3. ALL EXPOSED RACEWAYS SHALL BE IN EMT CONDUIT, MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.				7
	C. ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.				14. SLEEVES:				RECESSED OR SURFACE MOUNTED FIXTURE WITH TYPE DESIGNATION				4. ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, FIXTURES, SYSTEMS, CONDUIT AND WIRE, ETC. NOT BEING REUSED. DO NOT JUST ABANDON.				
	5. RACEWAYS:				A. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.				NIGHT LIGHT, CONNECT TO UNSWITCHED CIRCUIT				5. ELECTRICAL CONTRACTOR TO COORDINATE MANUFACTURER ELECTRICAL REQUIREMENTS FOR HVAC EQUIPMENT BEING FURNISHED WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. EQUIPMENT DISCONNECTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE IN MECHANICAL SCHEDULES.				
8	A. CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS OR SCREEN SET FITTINGS.				B. INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND GASKS AT EACH END WITH FIRE RESISTANT SEALANT.				A CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION				6. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES AND DEVICES.				8
	B. CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.				C. ROOF: PROSECT OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.				A WALL MOUNTED FIXTURE WITH TYPE DESIGNATION				7. ALL ELECTRICAL DEVICES ARE EXISTING AND TO REMAIN UNLESS NOTED OTHERWISE OR CONFLICT WITH NEW CONSTRUCTION. MAINTAIN PROPER OPERATION OF ALL EXISTING ELECTRICAL.				
	C. UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 78 DEGREES C, AND A TENSILE STRENGTH OF 8,200 PSI. JOINTS SHALL BE FLUSH. SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PROVIDED BY THE SAME MANUFACTURER.				15. GROUNDING:				POWER DEVICES				8. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.				
9	D. FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".				A. GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.				DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE				9. EACH BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL PER NEC 210.4.				9
	6. CONDUCTORS:				B. BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).				FOURPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE				10. FIRE ALARM SYSTEM IS SHOWN FOR SCHEMATIC PURPOSES. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGN AND SHOP DRAWINGS SUBMITTAL TO FIRE MARSHAL FOR APPROVAL AS REQUIRED BY THE FIRE MARSHAL. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES, POWER SUPPLIES, ETC FOR COMPLIANCE WITH CODE.				
	A. WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, MINIRAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.				A. DEMOLITION, DISCONNECT, DEMOLISH AND REMOVE ABANDONED ELECTRICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.				DEVICE MOUNTED ABOVE COUNTER AND/OR SPLASH GUARD				11. ALL BRANCH CIRCUITS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 3% VOLTAGE DROP. ALL FEEDERS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 2% VOLTAGE DROP. ELECTRICAL CONTRACTOR SHALL VERIFY WIRING INDICATED IS SUFFICIENT AND INCREASE CONDUCTOR SIZE AS REQUIRED BASED OFF ACTUAL INSTALLED LENGTH OF CONDUCTORS.				
10	B. CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 AWG, 600 VOLT.				B. EQUIPMENT TO BE SALVAGED:				HEAVY DUTY OUTLET - NEMA CONFIGURATION SIZE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION				12. PROVIDE LOW VOLTAGE WIRING BETWEEN ALL 0-10V DIMMING DRIVERS CONTROLLED BY 0-10V DIMMERS PER MANUFACTURER'S INSTRUCTIONS WHETHER INDICATED ON PLANS OR NOT.				10
	C. NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THIN (WET LOCATIONS) OR THIN (DRY LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.				1) DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE.				PANEL BOARD, TOP OF BOX 6'-0" AFF				13. PROVIDE SEAL-OFF FITTINGS AT ALL COOLER/FREEZER PENETRATIONS.				
	D. NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THIN (WET LOCATIONS) OR THIN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.				2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO LIKE NEW CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.				JUNCTION BOX				14. TYPE 1 HOOD FIRE SUPPRESSION SYSTEM TO BE INTERLOCKED WITH FIRE ALARM SYSTEM. UPON ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM SIGNAL SHALL BE SENT TO FIRE ALARM.				
11	E. SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHW-2 (WET LOCATIONS) OR THIN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.				D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.				NON-FUSED DISCONNECT SWITCH								11
	7. MC CABLE:				E. PROVIDE ALL ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS, INTEGRATING THE NEW AND EXISTING AREAS, LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.				FUSED DISCONNECT SWITCH								
	A. MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THIN SOLID (16 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS RATED 90°C FOR DRY LOCATIONS, WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 83. THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OF ALUMINUM OR GALVANIZED STEEL.				1) ABANDONED CONDUIT SHALL HAVE WIRE REMOVED AND SHALL BE CAPPED. ABANDONED OUTLETS IN WALLS OR PARTITIONS SHALL HAVE DEVICES AND WIRE REMOVED, AND SHALL BE COVERED.				MAGNETIC STARTER								
12	B. CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1564 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 90 DEG. C FOR DRY LOCATIONS AND 75 DEG. C FOR WET LOCATIONS.				2) WHERE EXISTING CONDUITS TERMINATE AT AN EXISTING OUTLET IN A WALL, CEILING, OR FLOOR TO BE REMOVED, DISCONNECT AND REMOVE DEVICE AND WIRE FROM CONDUIT. CONDUIT SHALL BE CUT BACK AND CAPPED (BELOW THE FLOOR OR ABOVE THE CEILING) SO NOT TO CREATE AN OBSTRUCTION. PATCH FLOOR TO MATCH EXISTING.				MOTOR WITH DESIGNATION								12
	8. WIRING DEVICES:				3) WHERE EXISTING CIRCUITS EXTEND BEYOND THE OUTLET IN THE EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, FURNISH AND INSTALL NEW CONDUIT AND WIRE TO EITHER REROUTE THE CIRCUIT OR FEED THE REMAINING OUTLET(S) FROM ANOTHER ELECTRICAL SOURCE, BUT IN SUCH A MANNER AS NOT TO REVISE THE CIRCUIT. ALL REROUTED CONDUIT SHALL BE APPROVED BY THE ARCHITECT.				FLOOR BOX								
	A. WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.				4) WHERE EXISTING OUTLETS IN A WALL, CEILING, OR FLOOR TO BE REMOVED ARE ESSENTIAL TO MAINTAIN OPERATION OF OTHER REMAINING OUTLETS, RELOCATE THE OUTLET TO A NEW CONVENIENT LOCATION. EXISTING WIRING DEVICES SHALL NOT BE REUSED, UNLESS OTHERWISE INDICATED.				CONTROLS								
13	1) SINGLE POLE: HUBBELL KCS1221-X, OR EQUAL.				5) WHERE LIGHTING FIXTURES ARE INDICATED TO BE DEMOLISHED, REMOVE ALL WIRE AND MODIFY THE EXISTING CONDUIT (IF APPLICABLE) FOR THE NEW LIGHTING. ALL UNUSED CONDUIT SHALL BE REMOVED.				S SINGLE POLE WALL SWITCH, TOP OF BOX AT 48" AFF								13
	2) THREE WAY: HUBBELL KCS1223-X, OR EQUAL.				6) WHERE A TELEPHONE CIRCUIT EXTENDS BEYOND AN OUTLET IN AN EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, PROVIDE NECESSARY EMPTY CONDUIT AND NOTIFY THE OWNER WHO WILL REQUEST THE OWNER TO ARRANGE WITH THE TELEPHONE COMPANY FOR NEW WIRING TO OUTLETS THAT REMAIN.				S SINGLE POLE WALL SWITCH WITH PILOT LIGHT, TOP OF BOX AT 48" AFF								
	3) AS SPECIFIED ON PLANS				7) WHERE EXISTING CONDUIT AND WIRE RUNS ARE LOCATED IN OR ATTACHED TO AN EXISTING WALL, CEILING OR FLOOR TO BE REMOVED, THEY SHALL BE REROUTED IN EITHER NEW OR EXISTING CONSTRUCTION TO MAINTAIN CONTINUITY OF CIRCUITS UNLESS OTHERWISE INDICATED.				S TWO POLE WALL SWITCH, TOP OF BOX AT 48" AFF								
14	B. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. HUBBELL KCR5552-X, OR EQUAL.				8) CONDUIT SHALL BE CONCEALED WITHIN THE EXISTING BUILDING CONSTRUCTION WHEREVER POSSIBLE, EXCEPT WHERE OTHERWISE INDICATED.				S THREE-WAY WALL SWITCH, TOP OF BOX AT 48" AFF								14
	C. GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL RGF20-XL. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.				9) EXISTING WIRE SHALL BE DISCONNECTED AND REMOVED WHEREVER EXISTING CIRCUITS ARE ABANDONED.				SD DIMMER SWITCH, TOP OF BOX AT 48" AFF								
	D. ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL KCR5552G, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.								SM MANUAL MOTOR STARTER WITH OVERLOADS								
15	E. RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF, SHALL BE LISTED WEATHER-RESISTANT HUBELL RGF220-X OR EQUAL AND SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERMEDIATE WIPROOFING OR WIPROOFING DIECAST METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE.								OCCUPANCY SENSORS								15
	F. VERIFY DEVICES AND DEVICE COVERPLATES COLOR AND STYLE WITH ARCHITECT.								1. DUAL TECHNOLOGY/ULTRASONIC CEILING SENSORS SHALL BE MOUNTED 6' FROM SUPPLY/EXHAUST AIR DIFFUSERS.								
	9. BOXES:								2. LOW VOLTAGE CEILING SENSORS SHALL BE PROVIDED WITH 6' SLACK CONDUCTOR COILED AT SENSOR.								
16	A. HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.								S O WALL MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR, WATT STOPPER 10VA-100, TOP OF BOX AT 48" AFF								16
	B. ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.								COMMUNICATIONS								
									DATA/TELEPHONE OUTLET WITH MINIMUM 3/4" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH PULL STRING								
17									FLAT SCREEN TELEVISION - PROVIDE AND INSTALL ONE (1) HUBBELL HRR1510X RECESSED TAMPER-RESISTANT DUPLEX RECEPTACLE WITH COVERPLATE AND ONE(1) HUBBELL HBL260 TWO GANG LARGE CAPACITY WALL BOX (UP TO 2" KNOCKOUT) IV. MUD RING AND COVERPLATE FOR DATA. PROVIDE 2'G WITH PULL STRING TO ABOVE ACCESSIBLE CEILING FOR DATA CABLES. MOUNT BOX AT 7'-6" AFF UNLESS NOTED OTHERWISE (VERIFY)								17
18													DRAWN BY: MA/SM				18
													BC PROJECT #: 21569				
													MISSOURI PE COA #2009003629				
19													This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on the project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.				19
													BC ENGINEERS INCORPORATED				
													5720 Reeder Shawnee, Ks. 66203 (913)262-1772				
	A	B	C	D	E	F	G	H	J	K	L	M	N	P			





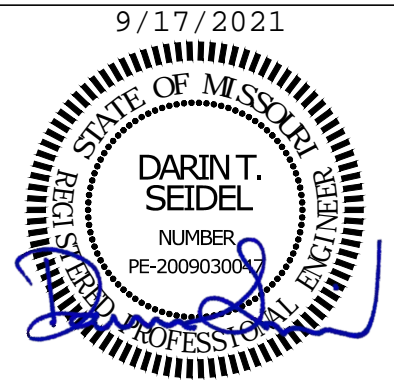
- LIGHTING PLAN NOTES:**
- LED CHANNEL ACCEENT UPLIGHT, REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION. CONNECT TO REMOTE DIMMING DRIVER LOCATED IN ACCESSIBLE LOCATION.
  - LED CHANNEL ACCEENT UPLIGHT, REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION. CONNECT TO REMOTE DIMMING DRIVER LOCATED IN HOSTESS STATION.
  - LED CHANNEL COVE LIGHT, REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION. CONNECT TO REMOTE DIMMING DRIVER ABOVE ACCESSIBLE CEILING. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - LED RECESSED CHANNEL IN BOTTOM OF EACH SHELF. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION. CONNECT TO REMOTE DIMMING DRIVER ABOVE ACCESSIBLE CEILING. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - LED CHANNEL MOUNTED TO BOTTOM OF BARTOP. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION. CONNECT TO REMOTE DIMMING DRIVER LOCATED IN ACCESSIBLE LOCATION. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - ALL EXIT AND EMERGENCY LIGHTING TO BE CONNECTED TO NON-DIMMED CIRCUIT DP-1A IN DIMMING PANEL 'DP' WITH 2\*12, 1\*12G, IN 1/2" G. CIRCUIT SHALL BE FOR CONTINUOUS OPERATION.
  - CONNECT ILLUMINATED MIRROR TO RESTROOM LIGHTING AND CONTROLS.
  - LOCATION OF MASTER LIGHTING CONTROL STATION BY MARLIN CONTROLS. VERIFY INSTALLATION REQUIREMENTS WITH THE OWNER PRIOR TO ROUGH-IN. SEE DIMMER SYSTEM DETAIL FOR MORE INFORMATION.
  - PROVIDE EMERGENCY BATTERY BACKUP FOR 'EM' TYPE FIXTURES WITH BYPASS FOR 0-10V DIMMING. LOCATE IN ACCESSIBLE REMOTE LOCATION. REFER TO INVERTER WIRING DIAGRAM ON SHEET E3.0.
  - LOCATION OF LOCAL SCENE LIGHTING CONTROL FOR PRIVATE DINING AREA.
  - EXTERIOR EGRESS LIGHTING EXISTING TO REMAIN.
  - LIGHTING IN THIS AREA IS EXISTING TO REMAIN.
  - EXISTING SIGNAGE CIRCUIT TO REMAIN. ROUTE CIRCUIT THRU NEW TIME CLOCK.

NewLine Studio, LLC  
3965 W. 83rd St, #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

**ROOTS RESTAURANT**

**940 NW PRYOR RD, SUITE M**

**LEE'S SUMMIT, MO 64081**



Revision	Date	No.

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of graphic and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED  
5720 Reeder Shawnee, Ks. 66203 (913)262-1772

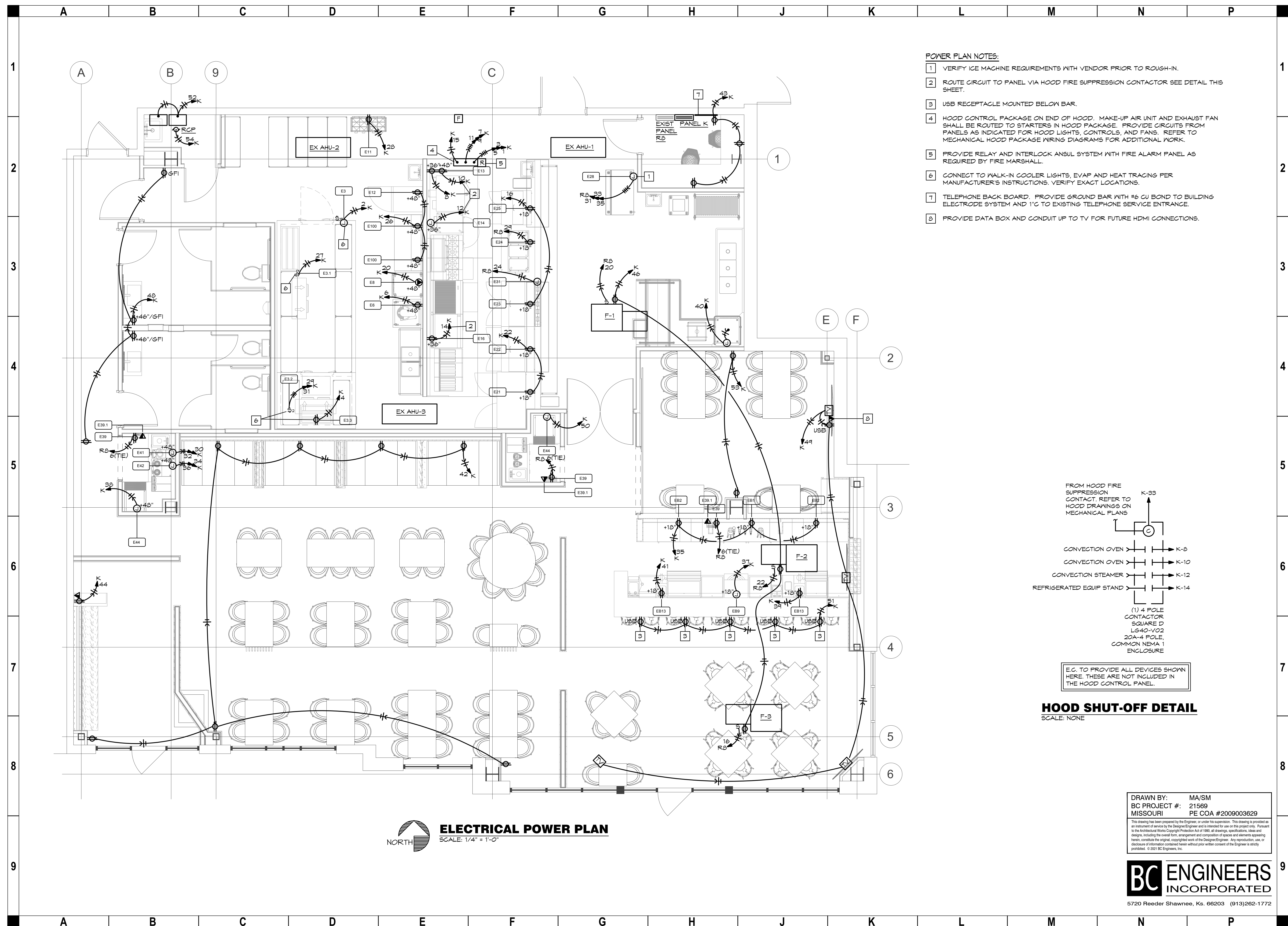
Project Number: **2002**  
Scale:  
Date: **09/15/2021**

**ELECTRICAL LIGHTING PLAN**

**E1.0**

PHASE

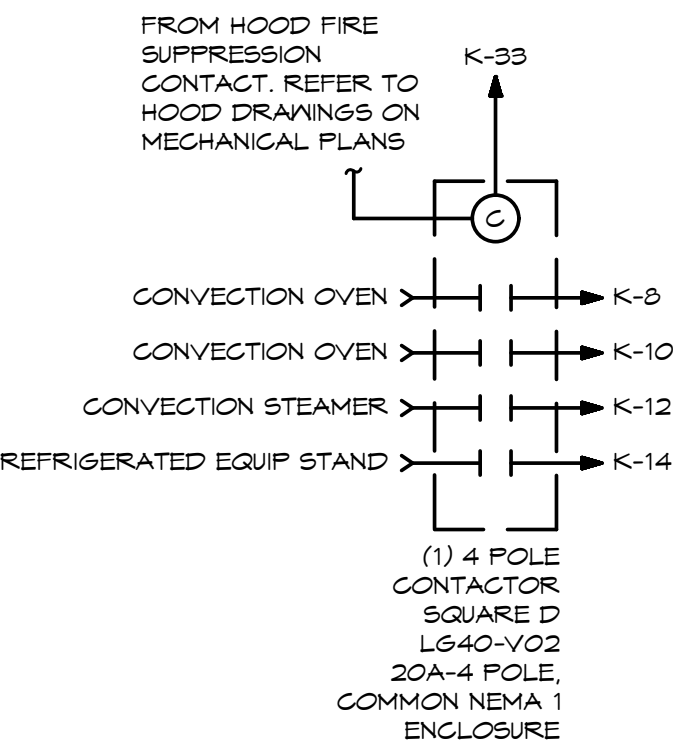




NewLine Studio, LLC  
3965 W. 83rd St, #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
[www.newlinestudio.net](http://www.newlinestudio.net)  
[info@newlinestudio.net](mailto:info@newlinestudio.net)

# ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



## HOOD SHUT-OFF DETAIL

SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

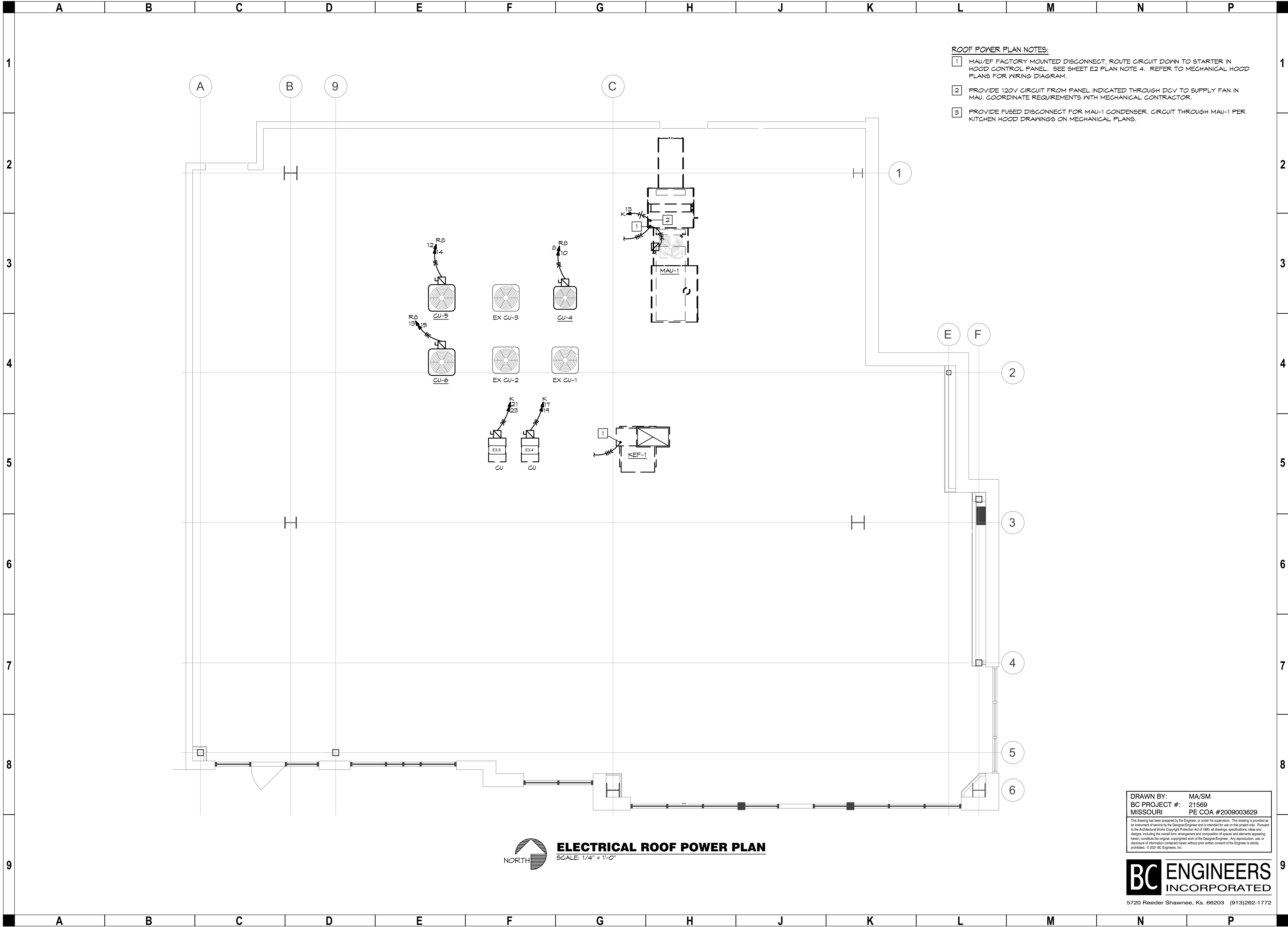
Project Number:	2002
Scale:	
Date:	09/15/2021

# ELECTRICAL POWER PLAN

# E2.0

## PHASE



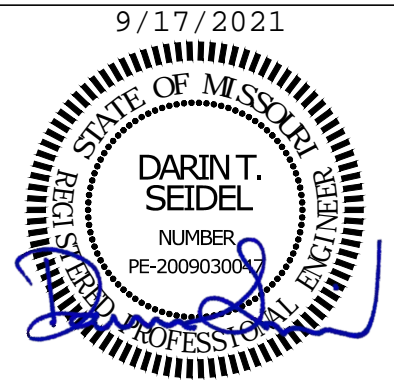


- ROOF POWER PLAN NOTES:
- 1 MAU/EF FACTORY MOUNTED DISCONNECT, ROUTE CIRCUIT DOWN TO STARTER IN HOOD CONTROL PANEL. SEE SHEET E2 PLAN NOTE 4. REFER TO MECHANICAL HOOD PLANS FOR WIRING DIAGRAM.
  - 2 PROVIDE 120V CIRCUIT FROM PANEL INDICATED THROUGH DCV TO SUPPLY FAN IN MAU. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
  - 3 PROVIDE FUSED DISCONNECT FOR MAU-1 CONDENSER. CIRCUIT THROUGH MAU-1 PER KITCHEN HOOD DRAWINGS ON MECHANICAL PLANS.

NewLine Studio, LLC  
3965 W. 83rd St, #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

**ROOTS RESTAURANT**

**940 NW PRYOR RD, SUITE M**  
**LEE'S SUMMIT, MO 64081**



Revision	Date	No.

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of graphic and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

**BC ENGINEERS**  
**INCORPORATED**  
5720 Reeder Shawnee, Ks. 66203 (913)262-1772




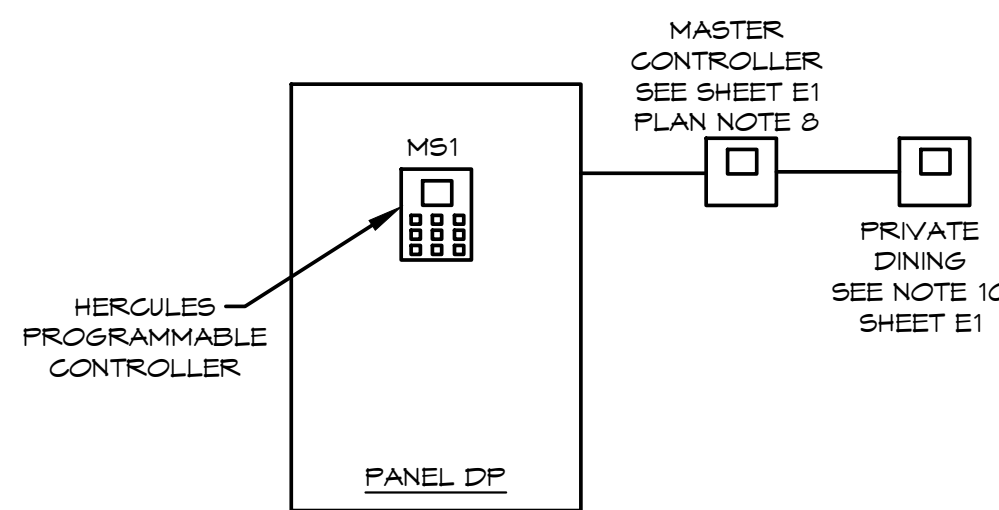
Project Number: **2002**  
Scale:  
Date: **09/15/2021**

**ELECTRICAL**  
**ROOF POWER PLAN**

**E2.1**

PHASE



	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
1															1
2	LIGHT FIXTURE SCHEDULE														2
	MARK NO.	MANUFACTURER & CATALOG NUMBER	VOLTS WATTS	LIGHT SOURCE	DESCRIPTION	EQUIVALENT MANUFACTURERS									
	A1	TECH LIGHTING ENCL3R-F-L15-I ENCL3R-F-D-42T-M-N 353LEDGATOPT-60-MOC-EG	120 15	LED 1300LUM 2700K	3" DOWNLIGHT WITH 40° OPTIC AND 60° FIELD INSTALLED OPTIC AND EGGRATE LOUVER, WHITE FINISH 0-10V DIMMING (1%)	OR EQUAL									
3	A2	TECH LIGHTING ENCL3R-F-L08-I ENCL3R-F-D-42T-M-N 353LEDGATOPT-20-MOC-EG	120 8	LED 700LUM 2700K	3" DOWNLIGHT WITH 40° OPTIC AND 20° FIELD INSTALLED OPTIC AND EGGRATE LOUVER, WHITE FINISH 0-10V DIMMING (5%)	OR EQUAL									3
	B1	LUMEN ART ACL-90-2700K-120V-30- BLACK-0-10V	120 15	LED 1060LUM 2700K	4" CYLINDER, BLACK FINISH 0-10V DIMMING (1%)										
	B2	LIGHTHEADED C3P-R-6-24-24-B28-2T-9018- P1-120-??-HC	120 16	LED 1800LUM 2700K	3" CYLINDER, BLACK FINISH 0-10V DIMMING (1%)	OR EQUAL									
4	C1	LIGHTHEADED MMD-10-T-M-N5-LWN-2T- 9002-RM DRM-M10-P-120-MMD10TFP	120 20	LED 1800LUM 2700K	MULTI-(10)LAMP WALL WASH, WHITE FINISH 0-10V DIMMING (1%)										4
	C2	LIGHTHEADED MMD-15-T-M-N5-LWN-2T- 9002-RM DRM-M15-P-120-MMD10TFP	120 30	LED 2700LUM 2700K	MULTI-(10)LAMP WALL WASH, WHITE FINISH 0-10V DIMMING (1%)										
	C3	LIGHTHEADED MMD-10-T-04-BA-LWN-2T- 9002-RM DRM-M10-P-120-MMD10TFP	120 20	LED 1800LUM 2700K	MULTI-(10)LAMP WALL WASH, BLACK FINISH 0-10V DIMMING (1%)										
5	D1	KELVIX FF2-SG-20W-27K-IP20-24	120 120	LED 8250LUM 2700K	CUSTOM WITH OVAL BARRISOL COVER AND 6 SQFT OF LED SHEET 0-10V DIMMING										5
	D2	KELVIX FF2-SG-20W-27K-IP20-24	120 100	LED 6875LUM 2700K	CUSTOM WITH OVAL BARRISOL COVER AND 5 SQFT OF LED SHEET 0-10V DIMMING										
	D1 ALT	WILLIAMS (2) T5S-2-L25-8-2T-DIM-UNV (2) T5S-3-L40-8-2T-DIM-UNV	120 93	LED 13000LUM 2700K	CUSTOM FIXTURE WITH OVAL BARRISOL COVER AND LED STRIP FIXTURES 0-10V DIMMING (10%)										
6	D2 ALT	WILLIAMS (2) T5S-2-L25-8-2T-DIM-UNV (2) T5S-3-L40-8-2T-DIM-UNV	120 93	LED 13000LUM 2700K	CUSTOM FIXTURE WITH OVAL BARRISOL COVER AND LED STRIP FIXTURES 0-10V DIMMING (10%)										6
	E	ZANEEN D101T9T-COP	120 10.7	LED 1260LUM 2700K	DECORATIVE BAR PENDANT, COPPER FINISH										
	F1	KELVIX DL2TK-24V CH502A-#-WH-CP-EG	120 2.6W/FT	LED 200LUM/FT 2700K	SHELF LIGHTING, LED TAPE, FLAT CHANNEL IV FLAT WHITE LENS PROVIDE 0-10V DIMMING DRIVER										
7	F2	KELVIX DK2TK-24V CH502A-#-WH-CP-EG	120 3.3W/FT	LED 400LUM/FT 2700K	COVE LIGHTING, LED TAPE, FLAT CHANNEL IV FLAT WHITE LENS PROVIDE 0-10V DIMMING DRIVER										7
	F3	KELVIX DL2TK-MR-24V CH60T-#-CP-EG	120 2.6W/FT	LED 200LUM/FT 2700K	BAR SHELF LIGHTING, LED TAPE, MUD-IN CHANNEL IV FLAT WHITE LENS PROVIDE 0-10V DIMMING DRIVER										
	F4	KELVIX DK2TK-24V CH0013-#-WH-EG	120 3.3W/FT	LED 400LUM/FT 2700K	COVE LIGHTING, LED TAPE, MUD-IN CHANNEL IV FLAT WHITE LENS PROVIDE 0-10V DIMMING DRIVER										
8	G	COOPER 24CGT5535C	120 46.8	LED 5100LUM 3500K	2'X4' TROFFER										8
	H	NULITE RZ4-OTL30-YNV-D3-1C-N-M-#	120 7.65W/FT	LED 765LUM/FT 3000K	RECESSED LINEAR GRAZER, REFER TO PLANS FOR INDIVIDUAL LENGTHS 0-10V DIMMING (1%)										
	J	BEGA 50 698-K2T-1	120 21	LED 1840LUM 2700K	SEMI-RECESSED LED DOWNLIGHT - DIRECT/INDIRECT 0-10V DIMMING										
9		DUAL-LITE EV4D-02L	120 2	INCL	EMERGENCY LIGHT WITH TWIN ADJUSTABLE 2 WATT LED HEADS AND BATTERY, MOUNT AT 7'-6", TO CLEAR OBSTACLES. (PROVIDES 1 FC AVG. ON 39" CENTER FIXTURE SPACING) DAMP LOCATION RATED.	SURE-LITES LITHONIA OR EQUAL									9
		ISOLITE M1GN2-WH-MR-L-	120 9	INCL	RECESSED/CONCEALED FLUSH MOUNT EMERGENCY LIGHT WITH TWIN LED HEADS AND BATTERY, DAMP LOCATION RATED.	OR EQUAL									
		LITHONIA ED6-1-R-EL-XX	120 1	INCL	EXIT LIGHT WITH LED LAMPS, RED LETTERS ON CLEAR BACKGROUND, VERIFY MOUNTING CONFIGURATION, BATTERY BACKUP	OR EQUAL									
10		LITHONIA LHQM-LED-R-HO-SD	120 3	INCL	COMBINATION EMERGENCY/EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, TWIN LED EMERGENCY LIGHT HEADS, UNIVERSAL MOUNT, BATTERY BACKUP	SURE-LITES LITHONIA OR EQUAL									10
	NOTES:														

'DP ' DIMMER PANEL SCHEDULE			
MARK	FIXTURE MARK	TYPE	LOCATION
1	B1	0-10V	VESTIBULE
2	C1	0-10V	VESTIBULE SIGN
3	F1	0-10V	WAITING ACCENT
4	B2	0-10V	DINING CYLINDERS
5	D1	0-10V	DINING
6	D2	0-10V	DINING
7	C3	0-10V	DINING WALL
8	A2	0-10V	DINING ACCENT
9	C1/C1	0-10V	RESTROOM HALLWAY
10	A1	0-10V	BAR DINING
11	F2	0-10V	BAR SOFFIT
12	F3	0-10V	UNDER BAR
13	F1	0-10V	BAR SHELF
14	A1	0-10V	BAR
15	F2	0-10V	BAR TV NOOK
16	E	PHASE	BAR PENDANTS
17	C1	0-10V	BAR DINING WALL
18	A2	0-10V	BEVERAGE STATION
19	J	0-10V	PRIVATE DINING
20	A2	0-10V	PRIVATE DINING ALCOVE
21	A2	0-10V	BEVERAGE STATION
22	F4/H	ON/OFF	RESTROOM
23	-	ON/OFF	RR MIRROR/EF
24	-	-	SPARE
1A			EM/EXIT
NOTES:			

HERCULES PROGRAMMABLE CONTROLLER

MS1

PANEL DP

MASTER CONTROLLER  
SEE SHEET E1  
PLAN NOTE 8

PRIVATE DINING  
SEE NOTE 10  
SHEET E1

DIMMER SYSTEM DETAIL

SCALE: NONE

DETAIL NOTES:

1. INFORMATION SHOWN ON THIS DETAIL IS DIAGRAMMATIC ONLY. VERIFY EXACT PART NUMBER OF EACH COMPONENT AND ALL NECESSARY MATERIALS WITH MANUFACTURER PRIOR TO BID AS REQUIRED FOR AN OPERABLE DIMMING SYSTEM.

2. RUN SEPARATE NEUTRAL PER CIRCUIT TO THE DIMMER CABINET.

3. MOUNTING OF DIMMER PANEL AND ALL REQUIRED CONNECTIONS SHALL BE BY THE ELECTRICAL CONTRACTOR. NOTE: EACH PANEL SHALL CONTAIN 24 DIMMER MODULE, EACH WITH A 20 AMP CIRCUIT BREAKER PER NON-DIM/DIM CIRCUITS AND ONE 10 AMP CONTROL CIRCUIT BREAKER PER PANEL, SEE DIMMER SCHEDULE THIS SHEET.

4. PROVIDE 0-10 VOLT CONTROL WIRING FROM 0-10 VOLT DIMMING FIXTURES TO DIMMER MODULE. COORDINATE DIMMER WITH MARLIN CONTROLS.

5. INSTALLATION QUESTIONS: MARLIN CONTROLS, MOE CHIGANI 1-800-788-5750.

(FROM DIMMING PANEL DM)

H

N

EM

EM

10TA 115 125 SM DR. INVERTER

TYPICAL INVERTER WIRING DIAGRAM

SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

BC ENGINEERS INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081

9/17/2021



Revision	Date	No.

Project Number: 2002  
Scale:  
Date: 09/15/2021

LIGHTING SCHEDULES AND DETAILS

E3.0

PHASE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Design/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of plans and elements appearing herein, constitute the original, copyrighted work of the Design/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2001 BC Engineers, Inc.

BC ENGINEERS  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772



	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
1															1
2															2
3															3
4															4
5															5
6															6
7															7
8															8
9															9
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	

EXIST PANEL: R8		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: OFFICE		MOUNTING: SURFACE						
BUS: 400A		MAIN: 400A MLO								FEEDER: EXISTING						
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO	
1	AHU-R8/1 [EX]	70	2	4	5,92Ø			50			12	1	20	EXIT LIGHTING [EX]	2	
3						5,92Ø		1,200			12	1	20	EXTERIOR SIGNAGE [EX]	4	
5	AHU-R8/2 [EX]	70	2	4			5,92Ø			360	12	1	20	POS RECEPTS (E34) [GF]	6	
7					5,92Ø			1,560			10	2	25	CU-4	8	
9	AHU-R8/3 [EX]	70	2	4			5,92Ø			1,560					10	
11										3,619	6	2	60	CU-5	12	
13	CU-6	60	2	6	3,619			3,619							14	
15						3,619				1,30Ø	12	1	15	F-3	16	
17	CU-R8/1 [EX]	50	2	6				2,735			Ø45	12	1	20	BOH LIGHTING/EF	18
19					2,735					Ø16	12	1	15	F-1	20	
21	CU-R8/2 [EX]	45	2	Ø				2,1Ø4			1,30Ø	12	1	15	F-2	22
23								2,1Ø4								24
25	CU-R8/3 [EX]	45	2	Ø	2,1Ø4					2,376						26
27						2,1Ø4					2,376					28
29	HOT FOOD WELL (E24) [GF]	30	1					2,256					2,376			30
31					1,500					4,416						32
33	ICE MACHINE [HL]	20	3	12				1,500					4,416			34
35								1,500						4,416		36
37					14,507					Ø96						38
39	PANEL K	125	3	1				14,415			1,30Ø	3	3	100	DIMMER PANEL 'DP'	40
41								13,349						1,074		42
NOTES:					36,401		35,75Ø		33,ØØ0		13,733		13,476		15,Ø36	
[EX]-EXISTING BRKR, [GF]-GFCI BRKR 5mA					50,134		49,234		49,716		TOTAL CONNECTED LOAD:		149,084 VA			
[HL]-HANDLE LOCK											NEG DEMAND LOAD:		110,Ø71 VA			
											DEMAND AMPS @ 20Ø VOLT / 3Ø:		307.75 A			

PANEL: K		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: OFFICE		MOUNTING: SURFACE						
BUS: 125A		MAIN: 125A MLO		IG: 10,000		RMS SYM AMPS				FEEDER: SEE RISER DIAGRAM						
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO	
1	SPARE	20	1					600			12	1	20	WALK-IN LIGHTS (E3)	2	
3	SPARE	20	1						1,000		12	1	20	WALK-IN HEAT TRACE (E3.3) [GF]	4	
5	SPARE	20	1							720	12	1	20	STAND MIXER (E6) [GF]	6	
7	SPARE	20	1					94Ø			12	1	20	CONVECTION OVEN (E13) [GF]	8	
9	SPARE	20	1						94Ø		12	1	20	CONVECTION OVEN (E13) [GF]	10	
11	SPARE	20	1							1,800	12	1	20	CONVEG. STEAMER (E14) [GF]	12	
13	MAU FAN CONTROLS	20	1	12	492			780			12	1	20	REFRIG. EQ. STAND (E15) [GF]	14	
15	HOOD LIGHTING & CTRL	20	1	12		500			1,080		12	1	20	PREP REFRIG (E23/E25) [GF]	16	
17	WALK-IN COOLER CU (E3.4)	20	2	12			1,186					1	20	SPARE	18	
19					1,186				2,004		12	1	20	HEATED CABINET (E8) [GF]	20	
21	WALK-IN FREEZER CU (E3.5)	20	2	12		1,310			1,200		12	1	20	REFRIG./FRZR (E21/E22) [GF]	22	
23								1,310				1	20	SPARE	24	
25	SPARE	20	1					360			12	1	20	REF./RCPTS (E12/E100) [GF]	26	
27	WALK-IN COOLER EVAP (E3.1)	15	1	12		192			1,200		12	1	20	BAG-IN-BOX (E11) [GF]	28	
29	WALK-IN FRZR EVAP (E3.2)	15	2	12			593			1,004	12	2	20	TEA BREAKER (E41) [HL]	30	
31					593				1,004						32	
33	HOOD CONTACTOR	20	1	12		100			1,560		12	2	20	COFFEE BREAKER (E42) [HL]	34	
35	BAR REFRIG (EB1/EB2) [GF]	20	1	12			936			1,560					36	
37	GLASSWASHER (EB4)	20	1	12	1,320				1,800		12	1	20	SODA/ICE MACHINE (E44) [HL]	38	
39	BLENDER (EB13) [GF]	20	1	12		1,800			1,125		12	1	20	DISHWASHER [HL]	40	
41	BLENDER (EB13) [GF]	20	1	12			1,800			1,260	12	1	20	DINING RECEPTS	42	
43	OFFICE RECEPTS	20	1	12	540				360		12	1	20	HOSTESS STATION	44	
45	SPARE	20	1						540		12	1	20	CONVENIENCE RECEPTS	46	
47	SPARE	20	1							720	12	1	20	RR CONV. RECEPTS	48	
49	TV RECEPTS	20	1	12	720				1,800		12	1	20	SODA/ICE MACHINE (E44)	50	
51	BAR RECEPTS	20	1	12		900			960		12	1	20	WATER HEATER CTRL	52	
53	PRIVATE DINING RECEPTS	20	1	12			360			100	12	1	20	REGIRC PUMP	54	
55	SPARE	20	1									1	20	SPARE	56	
57	SPARE	20	1									1	20	SPARE	58	
59	SPARE	20	1									1	20	SPARE	60	
NOTES:					4,851		4,802		6,185		9,656		9,613		7,164	
[GF]-GFCI BRKR 5mA, [GF]-GFEP BRKR 30mA					14,507				14,415		13,349		TOTAL CONNECTED LOAD:		42,271 VA	
[HL]-HANDLE LOCK													NEG DEMAND LOAD:		36,377 VA	
													DEMAND AMPS @ 20Ø VOLT / 3Ø:		100.97 A	

EXIST  
PANEL R8  
120/208V  
3Ø, 4W  
400A MLO

PANEL K  
120/208V  
3Ø, 4W  
125A MLO

DIMMER  
PANEL 'DP'

(4)#1, (1)#6G, 1-1/2"Ø

(4)#3, (1)#8G, 1-1/4"Ø

PROVIDE NEW COMPATIBLE  
BREAKERS IN EXISTING PANEL.  
REFER TO PANEL SCHEDULE  
FOR DETAILS.

ELECTRICAL RISER DIAGRAM

SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

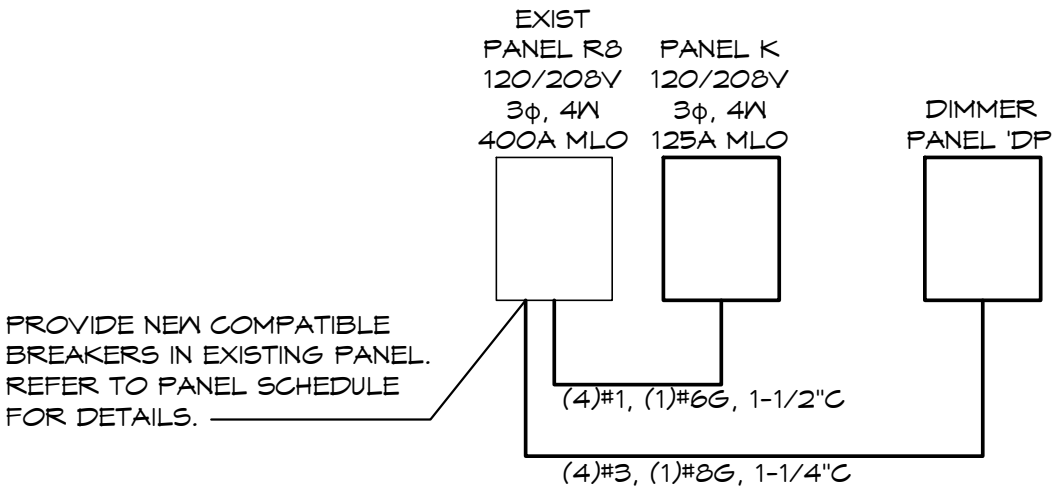
This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on the project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

BC ENGINEERS  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

EXIST PANEL: R8				VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: OFFICE			MOUNTING: SURFACE		
BUS: 400A				MAIN: 400A MLO								FEEDER: EXISTING			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	AHU-R8/1 [EX]	70	2	4	5,928			50			12	1	20	EXIT LIGHTING [EX]	2
3					5,928				1,200		12	1	20	EXTERIOR SIGNAGE [EX]	4
5	AHU-R8/2 [EX]	70	2	4			5,928			360	12	1	20	POS RECEP.TS (E34) [GF]	6
7					5,928			1,560			10	2	25	CU-4	8
9	AHU-R8/3 [EX]	70	2	4		5,928			1,560						10
11							5,928			3,619	6	2	60	CU-5	12
13	CU-6	60	2	6	3,619			3,619							14
15						3,619			1,308		12	1	15	F-3	16
17	CU-R8/1 [EX]	50	2	6			2,735			895	12	1	20	BOH LIGHTING/EF	18
19					2,735			816			12	1	15	F-1	20
21	CU-R8/2 [EX]	45	2	8		2,184			1,308		12	1	15	F-2	22
23							2,184			3,096	8	1	40	FOOD WARMER (E31) [GF]	24
25	CU-R8/3 [EX]	45	2	8	2,184			2,376							26
27						2,184			2,376		8	3	35	KEF-1	28
29	HOT FOOD WELL (E24) [GF]	30	1				2,256			2,376					30
31					1,500			4,416							32
33	ICE MACHINE [HL]	20	3	12		1,500			4,416		6	3	50	MAU-1	34
35							1,500			4,416					36
37					14,507			896							38
39	PANEL K	125	3	1		14,415			1,308		3	3	100	DIMMER PANEL 'DP'	40
41							13,349			1,074					42
NOTES:					36,401	35,758	33,880	13,733	13,476	15,836					
[EX]-EXISTING BRKR, [GF]-GFCI BRKR 50mA					50,134		49,234		49,716		TOTAL CONNECTED LOAD:			149,084 VA	
[HL]-HANDLE LOCK										NEG DEMAND LOAD:			110,871 VA		
										DEMAND AMPS @ 208 VOLT / 3Ø:			307.75 A		

PANEL: K			VOLTS: 120/208V			PH: 3Ø		WIRE: 4W		LOCATION: OFFICE			MOUNTING: SURFACE				
BUS: 125A			MAIN: 125A MLO			IC: 10,000		RMS SYM AMPS			FEEDER: SEE RISER DIAGRAM						
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO		
1	SPARE	20	1					600			12	1	20	WALK-IN LIGHTS (E3)	2		
3	SPARE	20	1						1,000		12	1	20	WALK-IN HEAT TRACE (E3.3) [GF]	4		
5	SPARE	20	1							720	12	1	20	STAND MIXER (E6) [GF]	6		
7	SPARE	20	1					948			12	1	20	CONVECTION OVEN (E13) [GF]	8		
9	SPARE	20	1						948		12	1	20	CONVECTION OVEN (E13) [GF]	10		
11	SPARE	20	1							1,800	12	1	20	CONVEG. STEAMER (E14) [GF]	12		
13	MAU FAN CONTROLS	20	1	12	492			780			12	1	20	REFRIG. EQ. STAND (E15) [GF]	14		
15	HOOD LIGHTING & CTRL	20	1	12		500			1,080		12	1	20	PREP REFRIG (E23/E25) [GF]	16		
17	WALK-IN COOLER CU (E3.4)	20	2	12			1,186					1	20	SPARE	18		
19					1,186			2,004			12	1	20	HEATED CABINET (E3) [GF]	20		
21	WALK-IN FREEZER CU (E3.5)	20	2	12		1,310			1,200		12	1	20	REFRIG./FRZR (E21/E22) [GF]	22		
23							1,310					1	20	SPARE	24		
25	SPARE	20	1					360			12	1	20	REF./RCPTS (E12/E100) [GF]	26		
27	WALK-IN COOLER EVAP (E3.1)	15	1	12		192			1,200		12	1	20	BAG-IN-BOX (E11) [GF]	28		
29	WALK-IN FRZR EVAP (E3.2)	15	2	12			593			1,004	12	2	20	TEA BREWER (E41) [HL]	30		
31					593			1,004							32		
33	HOOD CONTACTOR	20	1	12		100			1,560		12	2	20	COFFEE BREWER (E42) [HL]	34		
35	BAR REFRIG (EB1/EB2) [GF]	20	1	12			936			1,560					36		
37	GLASSWASHER (EB4)	20	1	12	1,320			1,800			12	1	20	SODA/ICE MACHINE (E44) [HL]	38		
39	BLENDER (EB13) [GF]	20	1	12		1,800			1,125		12	1	20	DISHWASHER [HL]	40		
41	BLENDER (EB13) [GF]	20	1	12			1,800			1,260	12	1	20	DINING RECEP.TS	42		
43	OFFICE RECEP.TS	20	1	12	540			360			12	1	20	HOSTESS STATION	44		
45	SPARE	20	1						540		12	1	20	CONVENIENCE RECEP.TS	46		
47	SPARE	20	1							720	12	1	20	RR CONV. RECEP.TS	48		
49	TV RECEP.TS	20	1	12	720			1,800			12	1	20	SODA/ICE MACHINE (E44)	50		
51	BAR RECEP.TS	20	1	12		900			960		12	1	20	WATER HEATER CTRL	52		
53	PRIVATE DINING RECEP.TS	20	1	12			360			100	12	1	20	RECIRC PUMP	54		
55	SPARE	20	1									1	20	SPARE	56		
57	SPARE	20	1									1	20	SPARE	58		
59	SPARE	20	1									1	20	SPARE	60		
NOTES:					4,851	4,802	6,185	9,656	9,613	7,164							
[GF]-GFCI BRKR 50A, [GF]-GFEP BRKR 300A					14,507		14,415		13,349		TOTAL CONNECTED LOAD:					42,271 VA	
[HL]-HANDLE LOCK										NEG DEMAND LOAD:					36,377 VA		
										DEMAND AMPS @ 208 VOLT / 3Ø:					100.97 A		



ELECTRICAL RISER DIAGRAM  
SCALE: NONE

DRAWN BY: MA/SM  
BC PROJECT #: 21569  
MISSOURI PE COA #2009003629

This drawing has been prepared by the Engineer, or under his supervision. This drawing is provided as an instrument of service by the Designer/Engineer and is intended for use on this project only. Pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form, arrangement and composition of graphics and elements appearing herein, constitute the original, copyrighted work of the Designer/Engineer. Any reproduction, use, or disclosure of information contained herein without prior written consent of the Engineer is strictly prohibited. © 2021 BC Engineers, Inc.

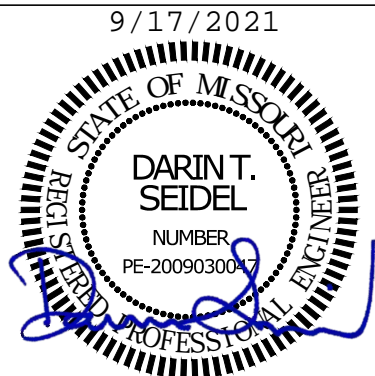
BC ENGINEERS  
INCORPORATED

5720 Reeder Shawnee, Ks. 66203 (913)262-1772

NewLine Studio, LLC  
3965 W. 83rd St. #135  
Prairie Village, KC 66208  
Phone: 913.318.5030  
www.newlinestudio.net  
info@newlinestudio.net

ROOTS RESTAURANT

940 NW PRYOR RD, SUITE M  
LEE'S SUMMIT, MO 64081



Revision	Date	No.

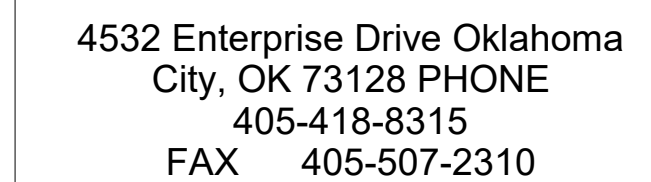
Project Number: 2002  
Scale:  
Date: 09/15/2021

ELECTRICAL RISER  
AND SCHEDULES

E3.1

PHASE



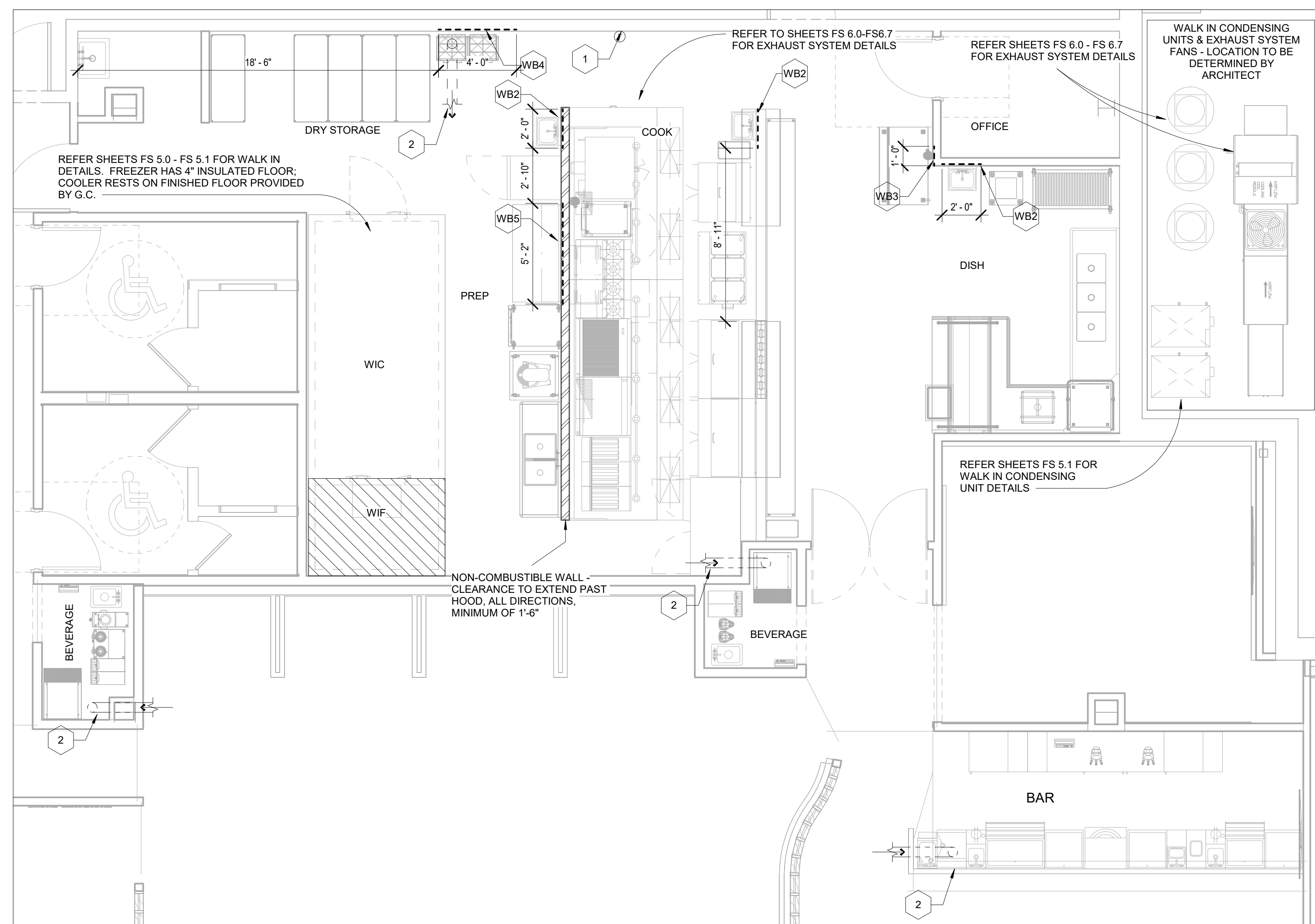


<b>BAR EQUIPMENT</b>	
<b>ITEM</b>	<b>DESCRIPTION</b>
B1	BACK BAR KEG REFRIGERATOR
B2	BACK BAR REFRIGERATOR
B3	BACK BAR REFRIGERATOR
B4	HAND SINK
B5	DRAINBOARD
B6	BLENDER STATION W/ SINK
B7	ICE BIN W/ COLD PLATE
B8	GLASS RACK STORAGE
B9	GLASSWASHER - NOT BY KEC
B10	GLASS RACK STORAGE
B11	CHEMICAL STORAGE CABINET W/ SINK
B12	TRASH
B13	BLENDER STATION W/ SINK
B14	ICE BIN W/ COLD PLATE
B15	GLASS RACK STORAGE

Project Title:		<div>ROOTS RESTAURANT</div> <div>LEE'S SUMMIT, MO</div>	
Sheet Title:			
FOODSERVICE EQUIPMENT PLAN			
Issue Date: 09/15/2021	Scale:	1/4" = 1'-0"	
Date:	Sheet No.		
Drawn By: OSW	<div>FS 1.0</div>		
Check By: L.R.			

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

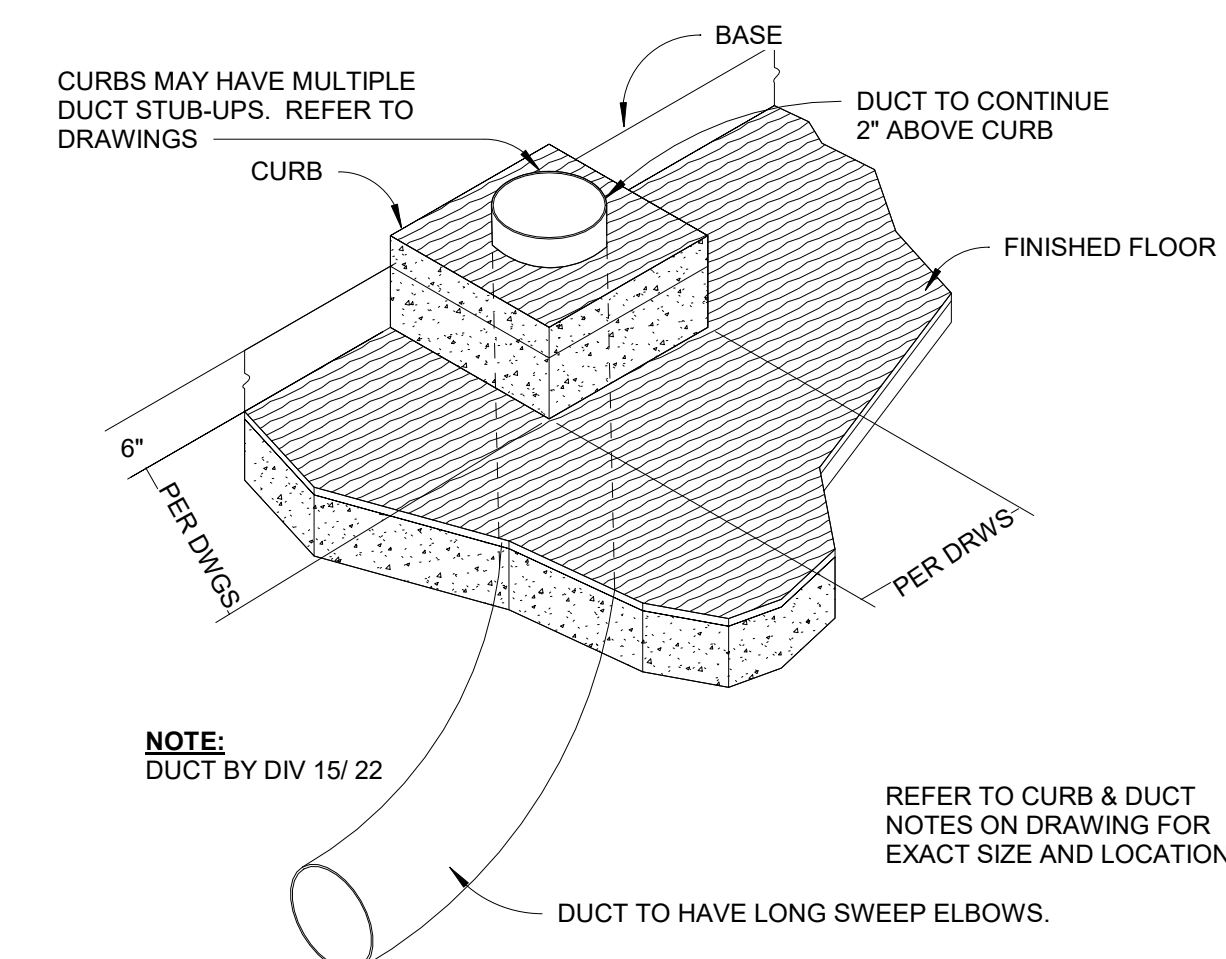




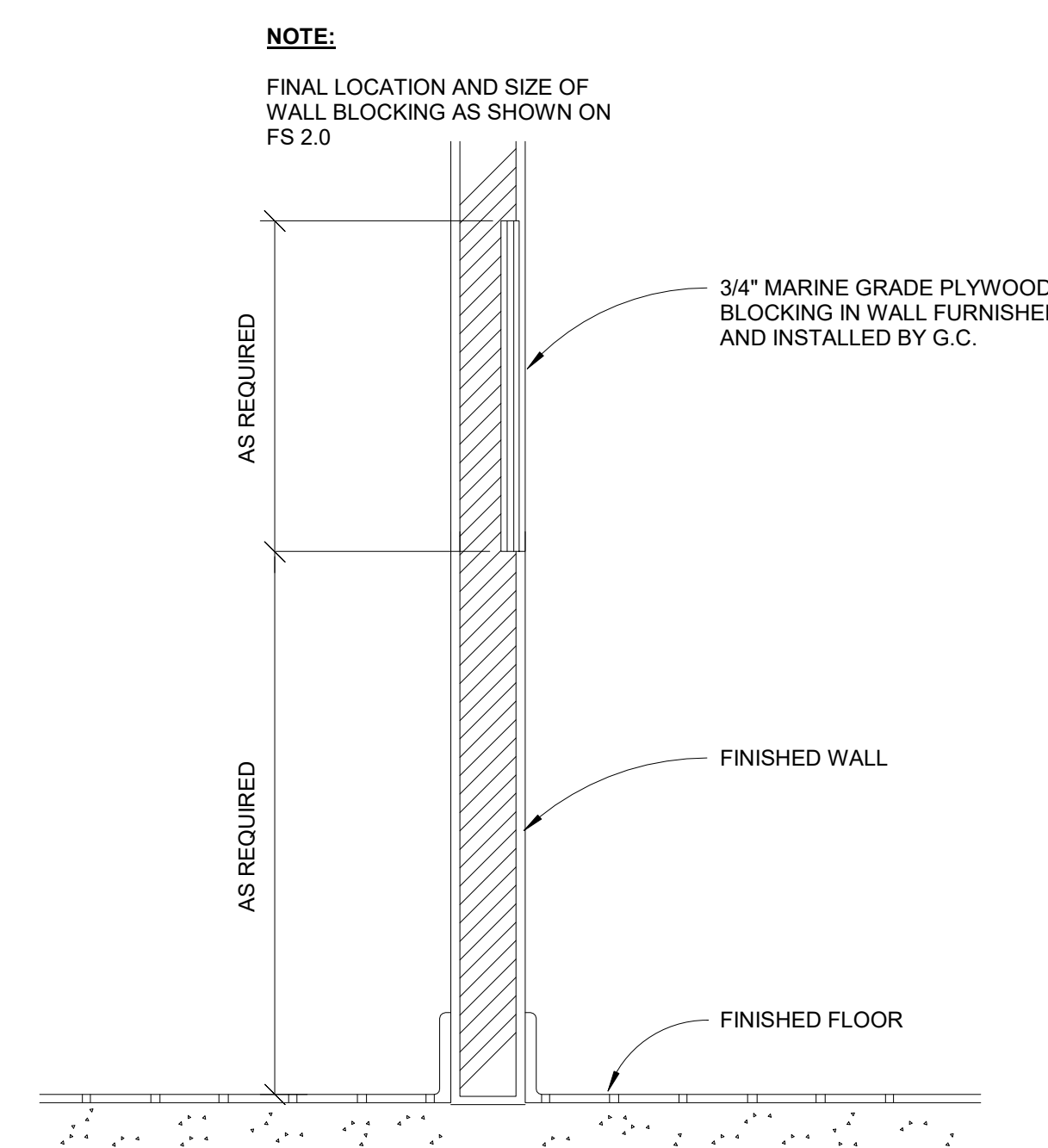
① FOODSERVICE SPECIAL CONDITIONS/ MECH PLAN  
1/4" = 1'-0"

SPECIAL CONDITIONS NOTES	
1	FIRE SUPPRESSION PULL STATION (PROPOSED LOCATION); REFER 2/FS3.0
2	BEVERAGE LINES - THE G.C. IS TO PROVIDE A 6" DIA. PVC CHASE BELOW THE FLOOR FOR THE BEVERAGE LINES FROM BAG-N-BOX TO (2) BEVERAGE STATIONS & (1) BAR AREA. PROVIDE ELBOWS WITH A 30" MINIMUM DIAMETER RADIUS AT ALL CHASE TURNS. STUB-UP 6" AT EACH END OF THE CHASE. THE CHASE IS TO BE WATERTIGHT. REFER 3/FS 2.0.

WALL BACKING NOTES		
WB1	FOR ALL WALL BACKING REFER 2/FS 2.0	
WB2	WALL BACKING FOR HAND SINK	24"-74" AFF
WB3	WALL BACKING FOR ICE MAKER FILTER PROVIDED BY OWNER ***VERIFY	60"-72" AFF
WB4	WALL BACKING FOR BAG N BOX SYSTEM PROVIDED BY OWNER ***VERIFY	24"-60" AFF
WB5	WALL BACKING FOR OVERSHELVES	48"-80" AFF


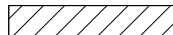







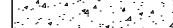







③ BEVERAGE LINE DETAIL  
NOT TO SCALE



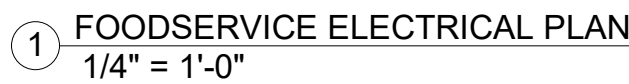
② WALL BLOCKING DETAIL  
NOT TO SCALE

## BUILDING CONDITIONS / VENTILATION SYMBOLS
















	WALL BACKING
	FLOOR DEPRESSION
	NON-COMBUSTIBLE WALL
	EXHAUST DUCT
	EXHAUST DUCT
	MAKE-UP AIR DUCT
	SUPPLY DUCT
	BEVERAGE CONDUIT
	UTILITY CURB
	REFRIGERATION PAD
	FULL HEIGHT WALL
	GRAVITY EXHAUST CONNECTION
	FIRE PULL STATION
	REFRIGERATION LINE CHASE
	4" MIN. DIA. UNDER SLAB REFRIGERATION LINES

[illegible]

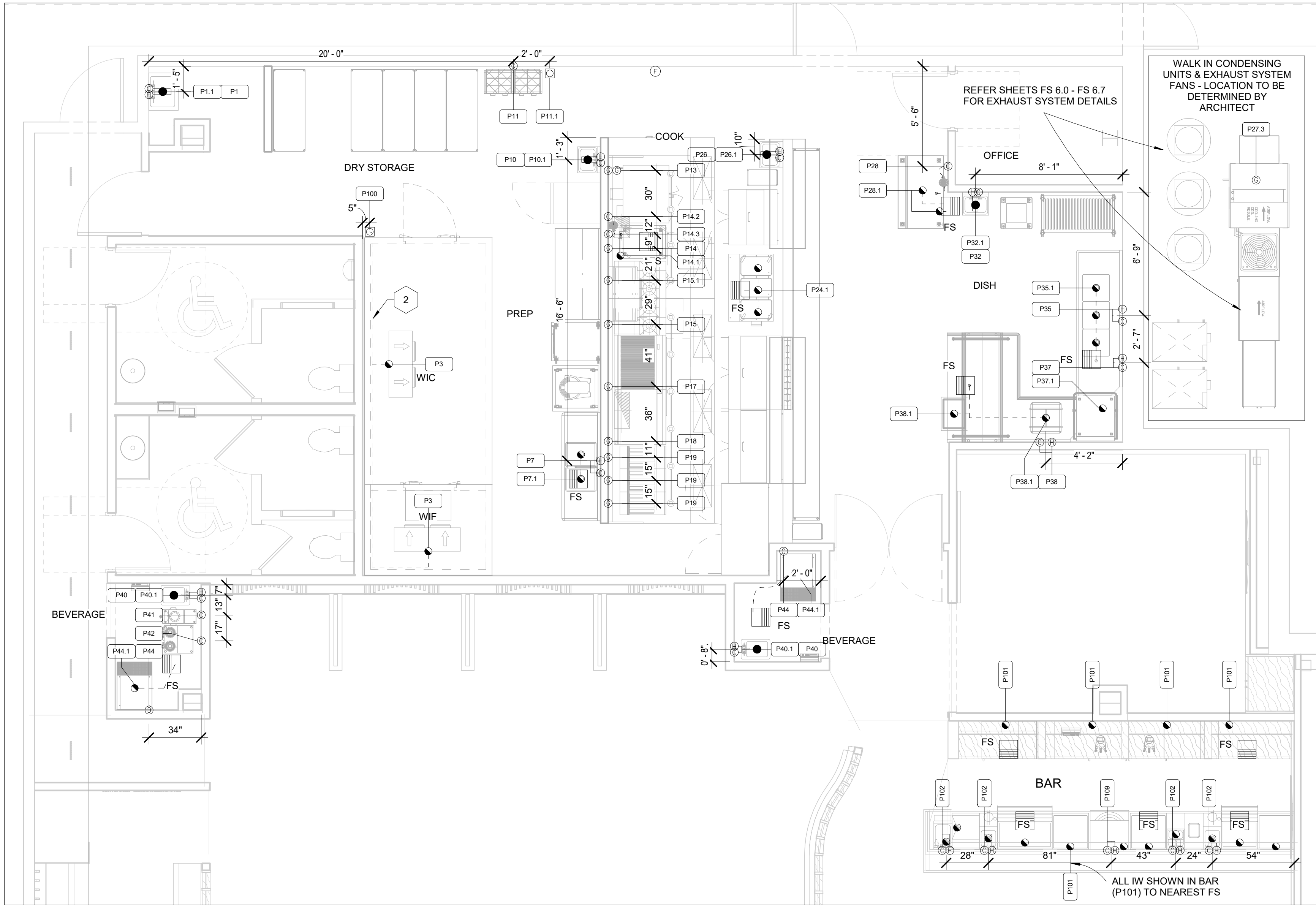




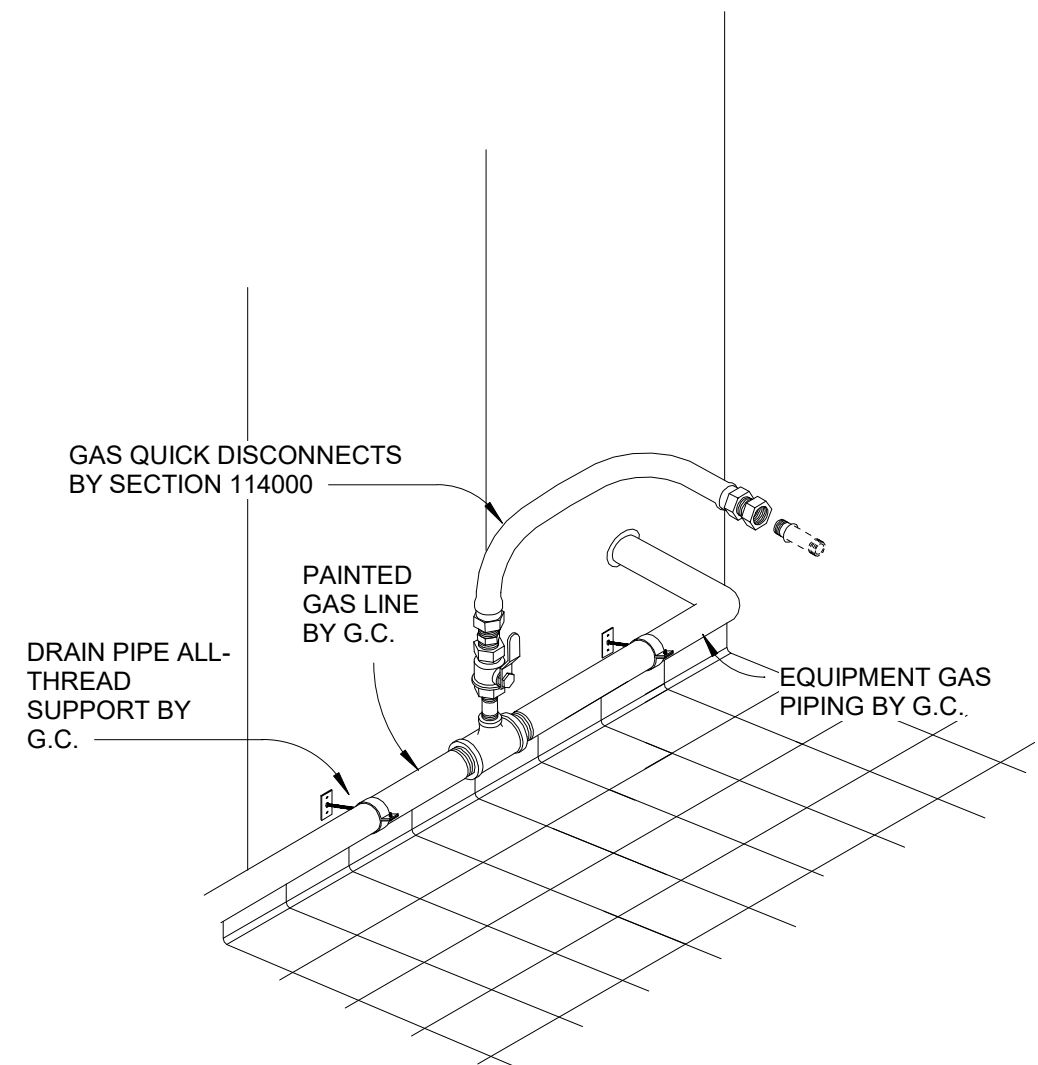
ELECTRICAL NOTES	
1	ELECTRICAL CONNECTIONS INDICATED ARE THOSE REQUIRED FOR THE FOODSERVICE EQUIPMENT. FOR ADDITIONAL REQUIREMENTS REFER TO ELECTRICAL ENGINEER'S DRAWINGS
2	DIMENSIONS INDICATED ARE TO BE VERIFIED BY G.C. AND ADJUSTED AS REQUIRED
3	ACCESSORIES AND FITTINGS PROVIDED LOOSE WITH FOODSERVICE EQUIPMENT BY K.E.C. TO BE INSTALLED BY G.C.
4	ALL ELECTRICAL CONNECTIONS BENEATH EXHAUST HOOD TO EXTEND TO SHUNT TRIP BREAKERS WITHIN ELECTRICAL PANEL BOX FOR SHUT-DOWN DURING FIRE MODE - BY G.C.
5	INTERCONNECT EXHAUST HOOD FANS, SWITCHES, LIGHTS, & COMPONENTS BY G.C.
6	INTERCONNECT FIRE PROTECTION SYSTEM TO PANEL BOX SHUNT TRIP BREAKERS AND BUILDING ALARM BY G.C.
7	EMPTY CONDUIT FROM EACH CASH REGISTER TO OWNER DETERMINED LOCATION - BY G.C.
8	CONNECTION OF ELECTRICAL TO EXHAUST HOOD SYSTEM AND ALL COMPONENTS BY G.C. REFER TO EXHAUST HOOD DETAIL SHEETS
9	FIRE SUPPRESSION PULL STATION (PROPOSED LOCATION): REFER 2/FS3.0

ELECTRICAL SYMBOLS					
	DR	DUPLEX RECEPTACLE IN WALL		F	REMOTE FIRE PULL STATION
	JB	JUNCTION BOX IN WALL		VP	VAPOR-PROOF LIGHT
	SR	SINGLE PURPOSE RECEPTACLE		JB/DS	JUNCTION BOX WITH DISCONNECT
	DR	DUPLEX RECEPTACLE FROM ABOVE		SW	SWITCH
	JB	JUNCTION BOX FROM ABOVE		CSR	CONDUIT STUB-BT
	DR/ST	DUPLEX RECEPTACLE STUB-UP			
	JB/ST	JUNCTION BOX STUB-UP		BTC	BRANCH TO CONNECTION
	SR/ST	SINGLE PURPOSE RECEPTACLE STUB-UP		AFF	ABOVE FINISHED FLOOR
	DATA	DATE LINE		DFA	DROP FROM ABOVE
	WPR	WEATHERPROOF RECEPTACLE			





1 FOODSERVICE PLUMBING PLAN  
1/4" = 1'-0"



2 GAS DISCONNECT DETAIL  
NOT TO SCALE

FOODSERVICE PLUMBING SCHEDULE						
NO	SIZE	CONNECTI ON	SERVICE TO	LOCAT ON	AFF	REMARKS
P1	1/2"	HW & CW	MOP SINK	FLOOR	--	
P1.1	2"	DW	MOP SINK	FLOOR	--	
P3	1"	IW	WALK IN	--	--	IW TO P100; REFER NOTE 2 FS 4.0
P7	1/2"	HW & CW	FAUCET	WALL	18"	
P7.1	1-1/2"	IW	SINK	--	--	IW TO FS; PROVIDE AIR GAP
P10	1/2"	HW & CW	HAND SINK	WALL	18"	
P10.1	1-1/2"	DW	HAND SINK	WALL	20"	
P11	1/2"	CW	BAG-N-BOX	WALL	36"	VERIFY WITH PROVIDER - NOT BY KEC
P11.1	VERIFY	FD	BAG-N-BOX	FLOOR	--	VERIFY WITH PROVIDER - NOT BY KEC
P13	3/4" (2 EA)	NG	CONVECTION OVEN	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 54.0 MBTU EACH
P14	3/4"	NG	STEAMER	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 58.0 MBTU
P14.1	3/4"	IW	STEAMER	--	--	IW TO FS; PROVIDE AIR GAP
P14.2	3/4"	CW	STEAMER (FILTERED)	WALL	36"	BTC: THRU WATER FILTER PROVIDED BY KEC
P14.3	3/4"	CW	STEAMER (UNFILTERED)	WALL	36"	BTC: CONNECT UNFILTERED WATER TO STEAMER "CONDENSATE WATER CONNECTION"
P15	3/4"	NG	RANGE	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 259.0 MBTU
P15.1	3/4"	NG	SALAMANDER	WALL	48"	BTC: HARD PIPED; 40.0 MBTU
P17	3/4"	NG	CHARBROILER	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 120.0 MBTU
P18	3/4"	NG	GRIDDLE	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 90.0 MBTU
P19	3/4" (3 EA)	NG	FRYER	WALL	24"	BTC: THRU GAS HOSE PROVIDED BY KEC; REFER 2/FS4.0; 122.0 MBTU EACH
P24.1	3/4" (3 EA)	IW	HOT FOOD WELLS	--	--	IW TO FS; PROVIDE AIR GAP
P26	1/2"	HW & CW	HAND SINK	WALL	18"	
P26.1	1-1/2"	DW	HAND SINK	WALL	20"	
P27.3	1"	NG	MAKE UP AIR HEATER	TBD	--	VERIFY 306.0 MBTU
P28	1/2"	CW	ICE MAKER	WALL	66"	VERIFY WITH PROVIDER - NOT BY KEC
P28.1	1"	IW	ICE MAKER	--	--	IW TO FS; PROVIDE AIR GAP: VERIFY - NOT BY KEC
P32	1/2"	HW & CW	HAND SINK	WALL	18"	
P32.1	1-1/2"	DW	HAND SINK	WALL	20"	
P35	1/2"	HW & CW	FAUCET	WALL	18"	
P35.1	1-1/2" (3 EA)	IW	SINK	--	--	IW TO FS; PROVIDE AIR GAP
P37	1/2"	HW & CW	DISH MACHINE	WALL	18"	VERIFY WITH PROVIDER - NOT BY KEC
P37.1	1"	IW	DISH MACHINE	--	--	IW TO FS; PROVIDE AIR GAP: VERIFY - NOT BY KEC
P38	1/2"	HW & CW	FAUCET	WALL	18"	
P38.1	1-1/2"	IW	DISH TABLE	--	--	IW TO FS; PROVIDE AIR GAP
P40	1/2"	HW & CW	SINK	WALL	18"	
P40.1	1-1/2"	DW	SINK	WALL	20"	
P41	1/2"	CW	TEA BREWER	WALL	48"	VERIFY WITH PROVIDER - NOT BY KEC
P42	1/2"	CW	COFFEE BREWER	WALL	48"	VERIFY WITH PROVIDER - NOT BY KEC
P44	1/2"	CW	DISPENSER	WALL	18"	VERIFY WITH PROVIDER - NOT BY KEC
P44.1	1"	IW	DISPENSER	--	--	IW TO FS; PROVIDE AIR GAP: VERIFY - NOT BY KEC
P100	VERIFY	FD	WALK IN	FLOOR	--	
P101	1-1/2"	IW	BAR EQUIPMENT	--	--	IW TO FS; PROVIDE AIR GAP
P102	1/2"	HW & CW	BAR FAUCETS	WALL	12"	
P109	1/2"	HW & CW	BAR DISHMACHINE - NOT BY KEC	WALL	12"	VERIFY REQUIREMENTS - NOT BY KEC

PLUMBING SYMBOLS					
	FS	3/4 GRATE FLOOR SINK		G	GAS SUPPLY
	FS	1/2 GRATE FLOOR SINK		G	GAS SUPPLY STUB-UP
	FS	FULL GRATE FLOOR SINK		IW	INDIRECT WASTE (PROVIDE AIR GAP)
	FD	FLOOR DRAIN		DW	DIRECT WASTE
	CW	COLD WATER		FFD	FUNNEL FLOOR DRAIN
	HW	HOT WATER		CWI	CHILLED WATER INLET
	CW	COLD WATER STUB-UP		CWO	CHILLED WATER OUTLET
	HW	HOT WATER STUB-UP		AFF	ABOVE FINISHED FLOOR
	SI	STEAM INLET		BTC	BRANCH TO CONNECTION
	SO	STEAM OUTLET		DFA	DROP FROM ABOVE

PLUMBING NOTES	
1	WATER & DRAIN CONNECTIONS INDICATED ARE THOSE REQUIRED FOR THE FOODSERVICE EQUIPMENT. FOR ADDITIONAL REQUIREMENTS REFER TO PLUMBING ENGINEER'S DRAWINGS
2	DRAIN LINE TO BE ROUTED BY WALK IN SUPPLIER. WI SUPPLIER TO FURNISH AND INSTALL HEAT TAPE IN FREEZER SECTION
3	DRAINAGE AND PIPING SYSTEMS TO BE CLEANED BY G.C. PRIOR TO FINAL CONNECTION TO FOODSERVICE EQUIPMENT.
4	ENGINEER TO VERIFY W/ LOCAL CODE TO BYPASS OR PIPE THRU GREASE TRAP AND/OR INTERCEPTOR.
5	6" W.C. AT EQUIPMENT. MECHANICAL GAS SHUT-OFF VALVE FURNISHED BY HOOD SUPPLIER. FINAL CONNECTION TO EQUIPMENT AND INSTALLATION OF MECHANICAL GAS VALVE BY G.C.
6	ALL EXPOSED FIRE SYSTEM PIPING TO BE CHROME PLATED OR STAINLESS STEEL.
7	PROTECTIVE DEVICES TO PROTECT AGAINST BACK FLOW. BACK SYPHONAGE SHALL BE INSTALLED AT ALL FIXTURES AND EQUIPMENT WHERE BACKFLOW AND/OR BACKSYPHONAGE MAY OCCUR AND WHERE A MINIMUM AIR GAP CANNOT BE PROVIDED BETWEEN THE WATER TO THE FIXTURE OR EQUIPMENT AND ITS FLOOD/LEVEL RIM. TO BE PROVIDED AND INSTALLED BY G.C. VACUUM BREAKERS, WHEN FURNISHED WITH EQUIPMENT, SHALL OVERRIDE ABOVE, IF ACCEPTABLE WITH APPLICABLE CODES, BUT G.C. TO PIPE WHEN NOT PREPIPED BY FACTORY. INTERCONNECT THRU WATER FILTER TO EQUIPMENT BY G.C.
8	BACKFLOW PREVENTION BY G.C.

Rev	Description	Date

Project Title:

ROOTS RESTAURANT  
LEE'S SUMMIT, MO

Sheet Title:

FOODSERVICE PLUMBING PLAN

Issue Date:  
09/15/2021  
Date:

Scale: As indicated  
Sheet No.

Drawn By:  
OSW

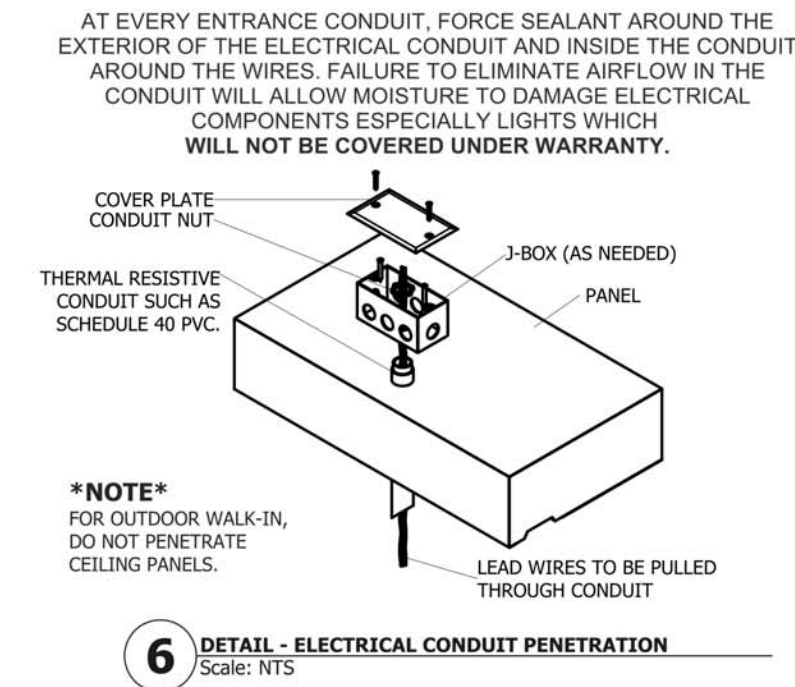
Check By:  
L.R.

FS 4.0

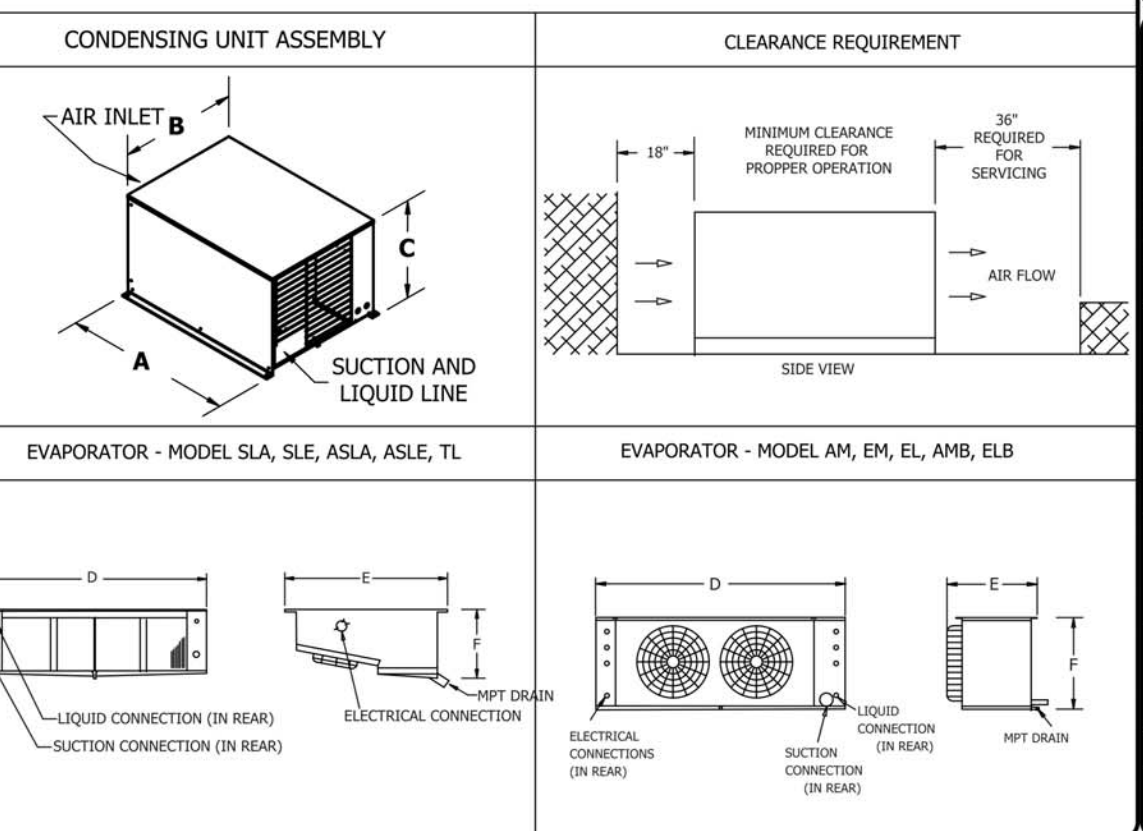








COMPARTMENT				CONDENSING UNIT																			
TEMP F		QTY	MODEL#	REFRIGERANT	COMPRESSOR TYPE	DIMENSIONS				COMPRESSOR					CONDENSER FAN MTR			TOTAL AMPS	MX AMP	CONNECTIONS O.D.		RCV CAP	
DESCRIPTION	WI					L (A)	W (B)	H (C)	LBS	HP	RLA	LRA	V	HZ	Φ	FLA	V			Φ	SUCT		LIQ
F01 FREEZER	-10	1	KPC149LOP-2E	R404A	HERMETIC	33	25.5	19.25	177	1 1/2	11.4	59.2	208-230	60	1	1.1	208-230	1	12.6	25	7/8	3/8	10.4
C01 COOLER	35	1	KPC99MOP-2E	R404A	HERMETIC	33	25.5	19.25	169	1	10	51	208-230	60	1	1.2	208-230	1	11.4	20	5/8	3/8	10.4
COMPARTMENT				UNIT COOLER																			
TEMP F		QTY	MODEL # (DEFROST: A-AIR E-ELECTRIC)	REFRIGERANT	DIMENSIONS				FAN			HEATER			CONNECTIONS O.D.								
DESCRIPTION	WI				L (D)	W (E)	H (F)	LBS	TOTAL AMPS	V	TOTAL AMPS	V	Φ	SUCT	LIQ	DRAIN							
F01 FREEZER	-10	1	KASLEZ5-46-2EC-PR-4	R404A	49.1875	19.8125	9.1875	83	0.6	208-230	5.7	208-230	1	7/8	3/8	7/8							
C01 COOLER	35	1	KAM26-094-1EC-PR-4	R404A	43.625	15.5	16.75	55	1.6	115	0	N/A	0	5/8	3/8	3/4							

[illegible]