TOKYO GRILLE

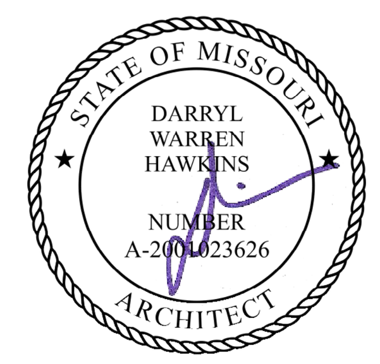
3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

date: 10-21-21

REVISIONS:

INNOVATIVE DESIGN & RENOVATION

8011 PASEO SUITE 201
KANSAS CITY, MO. 64131
(816) 444-6260
Arkitec35@aol.com



12-14-21

CODE REVIEW

International Building Code, 2018 Edition
International Mechanical Code, 2018 Edition
International Energy Conservation Code, 2018 Edition
International Fuel Gas Code, 2018 Edition
International Plumbing Code, 2018 Edition
National Electrical Code, 2017 Edition
ICC/ANSI-A117.1 Providing Accessibility and Usability for Physically Handicapped People, 2009 Edition

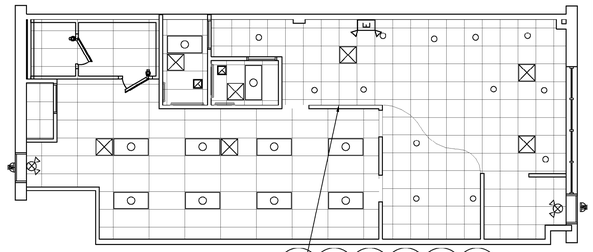
BUILDING OCCUPANCY	GROUP B
BUILDING HEIGHT	15 ft.
STORIES	1
TENANT AREA	1430 SQ.FT
CONSTRUCTION TYPE	V-B (TABLE 503)
FIRE RESISTIVE REQUIREMENTS (TABLE 601)	STRUCTURAL FRAME 0 HRS BEARING WALLS EXTERIOR 0 HRS NONBEARING WALLS 0 HRS FLOOR CONSTRUCTION 0 HRS ROOF CONSTRUCTION 0 HRS
OCCUPANT LOAD: (TABLE 1004.1.1)	DINING 393 SF/15 SF/OCC. = 26 OCCUPANTS KITCHEN 552 SF/200 SF/OCC. = 3 OCCUPANTS TOTAL = 29
REQUIRED EXITS	1 REQUIRED 2 SUPPLIED
SPRINKLER SYS:	SPRINKLED

SHEET INDEX

VICINITY MAP

FRONT ELEVATION

SUPPLIED AND INSTALLED BY GC	CEILING SYMBOL LEGEND
SYMBOL	DESCRIPTION
	ACOUSTICAL CEILING TILE SEE FINISH SCHEDULE
	RECESSED LIGHT FIXTURE
	HANGING FIXTURE
	2X4 FLOURESCENT FIXTURE
	SUPPLY AIR DIFFUSERS– FINISH TO MATCH ADJACENT CEILING TILE SEE MECHANICAL DWGS.
	RETURN AIR DIFFUSERS– FINISH TO MATCH ADJACENT CEILING TILE. SEE MECHANICAL DWGS.
EL	EMERGENCY LIGHT SEE ELECTRICAL DWGS.
EXT	EXTERIOR EMERGENCY LIGHT SEE ELECTRICAL DWGS.
	EXIT LIGHT/EMERGENCY LIGHT. SEE ELECTRICAL DWGS.
EF	EXHAUST FAN



REFLETED CEILING PLAN

Scale 1/8"=1'-0"

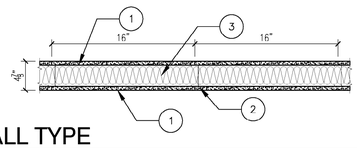
INSTALL OUTLET WITHIN 25' OF MECHANICAL EQUIPMENT ON THE SAME LEVEL.
THE OUTLET MUST BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTION MEANS

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR	WALLS				CEILING		NOTES
			N	S	E	W	MATL	HEIGHT	
101	DINING	VINYL	GYP.BD	GYP.BD	GYP.BD	GYP.BD	2X4	8'-6"	--
102	KITCHEN	TILE	TILE	TILE	FRP	TILE	2X4	8'-6"	--
103	BATH	TILE	TILE 4'A.F.F.	TILE 4' A.F.F.	TILE 4' A.F.F.	TILE 4' A.F.F.	2X4	8'-6"	--
104	BATH	TILE	TILE 4'A.F.F.	TILE 4' A.F.F.	TILE 4' A.F.F.	TILE 4' A.F.F.	2X4	8'-6"	--
105	ELEC.	EXIST'G	EXIST'G	EXIST'G	GYP. BD	EXIST'G	2X4	8'-6"	--
106	ENTRY	VINYL	GYP.BD	GLASS	GLASS	GLASS	2X2	8'-6"	--

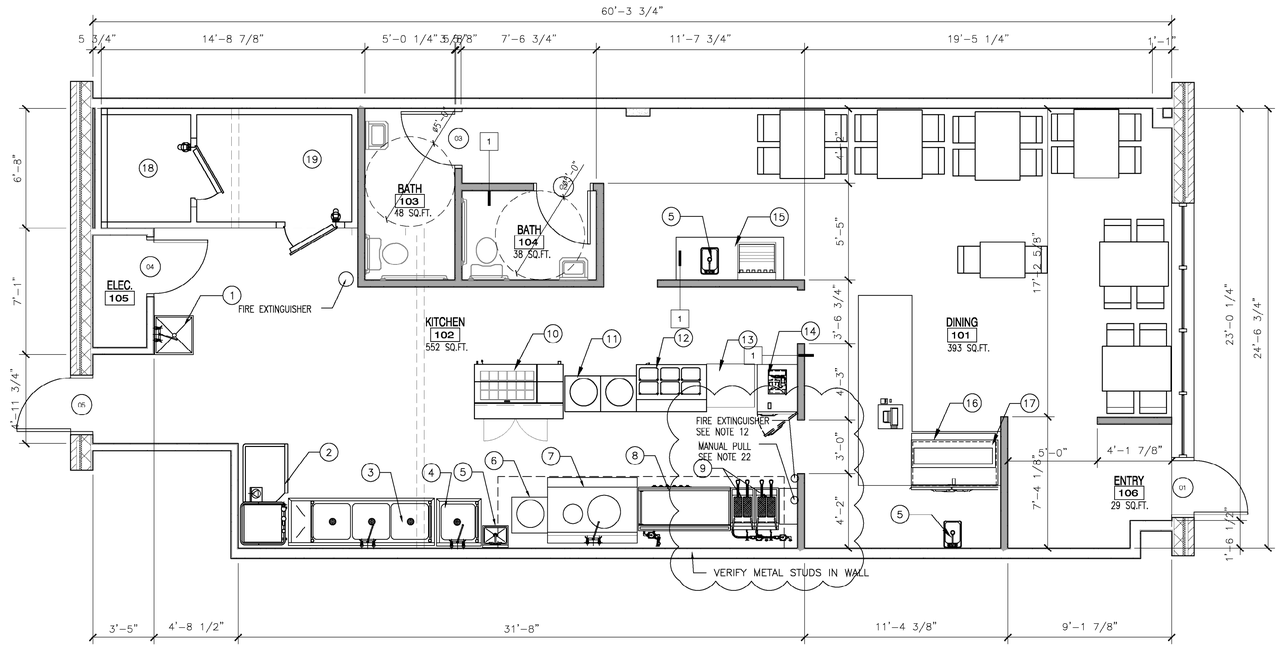
DOOR AND FRAME SCHEDULE

MARK	DOOR SIZE			MATL	FRAME MATL	NOTES
	WD	HGT	THK			
01	3'-0"	6'-8"	1 3/4"	EXIST'G	EXIST'G	--
02	3'-0"	6'-8"	1 3/4"	WD	WD	Closure
03	3'-0"	6'-8"	1 3/4"	WD	WD	Closure
04	3'-0"	6'-8"	1 3/4"	EXIST'G	EXIST'G	--
05	3'-0"	6'-8"	1 3/4"	EXIST'G	EXIST'G	--
06	3'-0"	6'-8"	1 3/4"	GLASS	METAL	Closure



1 WALL TYPE

1. GYPSUM BOARD: 5/8 IN. THICK GYPSUM BOARD APPLIED VERTICALLY.
2. METAL STUDS: 3 5/8 METAL STUDS @16" O.C.
3. INSULATION: MIN. 3-1/2 IN. THICK FIBERGLASS. INSULATION



FLOOR PLAN

Scale 1/4"=1'-0"

EQUIPMENT SCHEDULE

1. MOP SINK
2. DISHWASHER
3. 3 COMPARTMENT SINK
4. SINGLE COMPARTMENT SINK
5. HAND SINK
6. RICE COOKER
7. CHINESE STOVE
8. GRIDDLE
9. FRYER (2 THUS)
10. REFRIGERATED PREP TABLE
11. RICE WARMERS
12. FOOD WELLS
13. STAINLESS STEEL TABLE
14. COKE REFRIGERATOR
15. SODA DISPENSER
16. SUSHI DISPLAY
17. UNDERCOUNTER REFRIGERATOR

GENERAL NOTES

1. All refrigeration units are capable of maintaining refrigerated foods at or below 41° Fahrenheit at all times. Reach-in refrigerators, prep refrigerators, refrigerated display cases, and freezers must be specifically constructed for commercial use.
2. This is a non-smoking establishment.
3. All cooking and food service equipment must be commercial grade and shall meet NSF Standards.
4. Adequate and suitable space has been provided for the storage of food. Approximately twenty-five percent (25%) of the food preparation area, and at least 32 lineal feet of approved shelving for each 100 square feet of storage area are considered adequate (excluding refrigeration). Shelving is easily cleanable and durable. The lowest shelf of any shelving unit shall be at least six inches above the floor.
5. The floor surfaces, in all areas in which food is prepared, packaged, or stored, where any utensil is washed, where refuse or garbage is stored and where janitorial facilities are located, and in all toilet and hand washing areas, shall be smooth and of such durable construction and non-absorbent material as to be easily cleaned. Floor surfaces are covered at the juncture of the floor and wall, with a three-eighths inch (3/8") minimum radius coving.
6. Walls and ceilings of food preparation and utensil washing areas shall be light colored and constructed with materials that provide a durable, smooth, non-absorbent, washable surface. Conduits of all types shall be installed within walls as practicable. When otherwise installed, they are mounted or enclosed so as to facilitate cleaning.
7. The delivery door leading to the outside shall have a self-closing device.
8. The main entrance door leading to the outside shall have a self-closing device.Provide a sign on the main exit door that says "THIS DOOR MUST REMAIN UNLOCKED DURING BUSINESS HOURS" instead of panic hardware.
9. All floors, walls and ceilings in the kitchen, restrooms, food prep areas and storage areas will be smooth washable and nonabsorbent.
10. Install batt insulation in all interior walls for sound transmission.
11. Building address shall be posted in a conspicuous place during construction.
12. Fire extinguishers shall be installed in accordance with the International Fire Code and NFPA 10. Extinguishers shall be mounted 5 feet for 40 lbs or 3.5 feet for greater the 40 lbs above finished floor. Provide blocking in wall for mounting. A class "K" fire extinguisher shall be supplied in the kitchen, install extinguisher next to manual pull station.
13. Tactile "Exit" signs shall be placed at each Exit door. ADA required wall signage shall be placed on the latch side of single doors 9-inches center-line from the door edge. Tactile signs shall be installed 48-inches minimum and 60-inches maximum AFF to the baseline of the highest text. Tactile unisex toilet room signage shall be provided.
14. Verify existing dimensions before construction.
15. Hood system must have a current inspection tag and shall be cleaned upon final inspection.
16. Additional emergency lighting/exit signs may be required if upan final fire inspection it is determined there is not adequate lighting to show a clear path of egress.
17. Install towel and soap dispenser at all hand sinks
18. Use suspended ceiling with a flame spread rating of 25
20. All floors, walls and ceilings in the kitchen, restrooms, food prep areas and storage areas will be smooth washable and nonabsorbent.
21. Post occupant load signage of 29 near front door.
22. The manual actuation device shall be installed not more than 48 inches (1200 mm) nor less than 42 inches (1067 mm) above the floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 pounds (178 N) and a maximum movement of 14 inches (356 mm) to actuate the fire suppression system.
23. Verify installation of metal studs in wall behind and 18" adjacent to Type I hood.

Door Hardware:
All doors required for egress (exit doors) shall be installed with approved hardware as listed below:
a. Exit doors shall be operable from the inside without the use of a key or any special knowledge of effort. For exception on the main exterior exits.
b. Manually operated edge- or surface-mounted flush bolts and surface bolts are prohibited.
c. Handles, pulls, latches, locks and other operating devices on accessible doors shall be easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. Lever-operated mechanisms, push-type mechanisms and U-shaped mechanisms are acceptable designs.

INNOVATIVE DESIGN & RENOVATION
8011 PASEO SUITE 201
KANSAS CITY, MO. 64131
(816) 531-2221
A-kite35@aol.com

DARRYL W. HAWKINS
STATE OF MISSOURI
DARRYL WARREN HAWKINS
NUMBER A-2001023626
ARCHITECT
1-28-22

TOKYO GRILLE
3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

date 10-21-21
drawn by R.E.S.
checked by 12-9-21
revised 1-26-22

sheet no.
A1

SPECIFICATION

THE WORK includes new materials, fittings and accessories necessary for a complete functioning plumbing system. The Work also includes final connections to all equipment and equipment systems. All Work shall be in accordance with local codes or ordinances and subject to inspection.

HOOK–UP CHARGES, permits and all other expenses related to a complete and functioning plumbing system are included as a part of this Section.

COORDINATE with the Work of other Sections, equipment furnished by others, and with the constraints of the existing conditions of the Project Site.

PIPING SYSTEMS – GENERAL: All piping shall be run parallel to building lines and supported and anchored as required to facilitate expansion and contraction. All piping shall be concealed except in unfinished spaces. Install as required to meet all construction conditions and to allow for installation of other Work including ducts and electrical conduit. At all connections between ferrous piping and nonferrous piping, provide an isolating dielectric union. All faucets with hose connections shall have a backflow preventor.

PROVIDE all fittings, accessories, offsets, and materials necessary to facilitate the Plumbing system's functioning as indicated by the design and the equipment indicated.

SEWER AND WASTE PIPING: Provide all drain, waste and sewer piping within the project space with connection to existing sanitary waste systems on–site. All piping below floor slabs shall be schedule 40 PVC pipe, connectors and fittings. All piping shall be uniformly pitched, two percent (2%) or more unless otherwise required by existing conditions.

VENTS: Provide a complete system of vent piping, consisting of schedule 40 PVC pipe, connectors and fittings. Combine the vent risers in the ceiling space and penetrate through the roof with flashing.

WATER PIPING: Provide a domestic hot and cold water piping system as shown on the Drawings. Lay out water piping so that the entire system can be drained. Hot and cold water piping shall be Type "L" copper tubing with wrought copper fittings and sweat connections using lead–free solder. Provide min. 18" high full air chamber or water hammer arrestors at each fixture stop. Flush water piping clear of debris and clean the aerators at the termination of the installation. Install escutcheon plates at all penetrations through finished surfaces (including cabinet interiors).

CLEANOUTS: Provide cleanouts at the end of each horizontal run, and at the base of all vertical waste and drain pipes. Cleanouts shall be of the same size as the pipes they serve.

PIPE INSULATION: Insulate all cold water piping with 1/2" thickness, and all hot water piping with 1" thickness of preformed fiberglass, ASJ–VB, flame spread 25, smoke developed 50, ASTM C–547, as manufactured by CT, OCF, JM, PPG, or Knauf. Install hot water insulation over heat tracing. At contractor's option, unicellular insulation meeting above flame spread rating and as manufactured by Armstrong, Rubatex or equal may be provided.

SHUTOFF VALVES, with unions shall be provided at each hot and cold water connection to each plumbing fixture or equipment, at connections to existing piping systems, and at branches to groups of more than two fixtures, to facilitate isolation for repair or replacement. Valves shall be equal to Jenkins #90–T ball valve, chrome–finished bronze, Teflon seats and packing, 400 lb. W.O.G., solder end.

ACCESS PANELS shall be provided where concealed control devices, valves, etc. are concealed within walls. Where access for adjustment and maintenance is possible through lay–in suspended ceilings, access panels are not required.

SUPPLIES AND TRAPS: Provide water sealed traps and/or supplies installed as close as possible to all plumbing fixtures, drains, and equipment items having a waste connection, or requiring water service. Exposed traps and supplies in exposed areas (including cabinet interiors) shall be chromium plated brass, with chrome plated escutcheon plates.

INSTALLATION: Thoroughly clean items before installation. Cap pipe openings to exclude dirt until fixtures are installed and final connections have been made. Proceed as rapidly as construction will permit. Set fixtures level and in proper alignment. Install supplies in proper alignment with fixtures. Install silicone sealant between fixtures and adjacent material, for sanitary joint.

REPAIR DAMAGE to existing elements and restore to original conditions. Provide clean and sanitary conditions at the completion of the Work.

TEST water system under 150 PSIG hydrostatic pressure, for four (4) hours minimum. When testing indicates materials or workmanship is deficient, replace or repair as required, and repeat test until standards are achieved.

GUARANTEE the Work and the installation for one year after acceptance by the Owner.

PLUMBING LEGEND

HANDICAP WATER CLOSET – American Standard model #3351.511.020 Afwall System with Everclean and Selectronic battery–powered flush valve elongated vitreous china toilet, 1.1 GPF Flushometer Toilet elongated bowl powerful direct fed siphon jet action 18" mounting bowl height, bolt caps, wall mounted, high efficiency, condesation channel, fully glazed 2–1/8" trapway. For handicap locations only. The spud shall be Crane model 047007–0070A inlet 1.5" inlet. Recommended working pressure 25 psi at valve when flushing and 80 psi static. Use Selectronic Toilet flush valve battery powered 6065.111 universal sensor flush valve. Use CR–P2 Lithium Battery. The seat shall be Zoro #G0820023 open front seat 18 3/8" without cover for elongated bowl.

LAVATORY – American Standard Declyn wall hung lavatory model #0321.026 with wall hanger, faucet holes @ 4" centers vitreous china lavatory with rear overflow, rectangular basin, soap depressions, faucet ledge and concealed hanger. Unit shall be drilled for carrier with concealed arms. Use Ceranix faucet with lever handle and aerator perforated open grid strainer. Use trap #8–5260 chrome plated cast brass adjustable "P" trap (1.25") with cleanout and waste to wall. Lavatory size is 18.5" x17" with a basin that is 14.25" x 10.75" and 6" deep.

TOILET PAPER DISPENSER – Install one standard dispenser next to each water closet. Units shall be white in color or match the tile in each bathroom. Install 19" above finished floor.

WATER HEATER – Rheem or equal model ECOH200DVRHLN with natural gas input 199,000 BTUH max and 18,000 BTUH min. The unit provides 11 gallons per minute with a temperature range of 100–140 degrees, indoor direct vent, sealed combustion direct single vent, electronic ignition and automatic flame sensing. The unit holds 2 gallons, height 28.7", width 17.3", depth 14.8", weight 85 lbs. Use 2" schedule 40 PVC for 50' length and 3" for 100' length with 120 volt circuit and a maximum of 172 watts. The unit has a 3/4" gas and water connection.

FLOOR DRAIN – Oatley Zoro #G6139217 Mfr # 42021 plastic drain cover with 6.75" overall diameter. Include trap. See drawings for exact locations.

BATH MIRROR – 24" x 48". Location one over each lavatory.

MOP SINK – Fiat model #MSB–2424 mop sink shall have 10" high walls. Factory installed drain body shall be stainless steel and designed to provide for a lead caulk or QDC–3 joint to a 2" drain pipe. A combination dome strainer and lint basket made from stainless steel shall be included. Include faucet #830–AA, backflow preventer, mop hanger, hose and hose bracket.

RPZ VALVE – EXISTING

THREE COMPARTMENT SINK – Stainless steel triple compartment sink. Compartment size is 24"X24"x13" deep. Install two splash mount faucets model #K–119 with 16 inch swing spout. Install basket type drain with continuous waste pipe to floor sink. A 2" gap must be formed between the bottom of the pipe and the floor sink. (3CS–1)

SINGLE COMPARTMENT SINK – Advance model 7–PS–50 stainless steel single compartment sink. Compartment size is 17.75"x15"x5" deep. Install one splash mount faucet model #K–121 gooseneck spout. Install basket type drain with continuous waste pipe. Use as hand sink in dishwashing and cooking areas. Install soap and towel dispensers at hand sink. (HS–1)

GREASE INTERCEPTOR

Use 100 lbs grease interceptor with a 50 gpm flow control. Unit shall be polyethylene material shall not be placed under the 3 compartment sink and or flush with the floor. The unit shall be cleaned out at once per week. The top shall have a nonskid polyethylene cover. The size is based on the size of the 3 compartment sink.
(3x24x24x13/1728x2.5=18.28 gpm)

VOLUME OF 3 COMPARTMENT SINK
=(24 x 24x 13) x 3 = 22,464 CU. IN.
= 22,464/1728 = 13 CU. FT.
7.31 x 7.24 = 94.12 GAL.

FLOW RATE
94.12 / 2.5 = 37.64 GPM

FLOW RATE < 50 GPM
USE 100 LB GREASE INTERCEPTOR

PLUMBING NOTES

1. Use existing water service to existing building.
2. Supply and install all supply lines to each fixture.
3. Supply and install all wastewater plumbing with vents as required.
4. Supply and install new water heater.
5. Supply and install a valve on the entrance side to hot water heater.
6. Supply and install all fixtures in kitchen.
7. Use existing sanitary sewer line to the existing building.
8. The grease trap is new inside the building.
9. Supply and install all new floor drains.
10. Plumbing contractor shall supply all faucets for all fixtures.
11. Plumbing contractor is responsible for breakage of any plumbing units.
12. Use pex for the supply lines.
13. Use PVC schedule 40 for all sanitary lines.
14. Install approved backflow prevention of all beverage dispensers.

WATER SUPPY PIPING CALCULATION

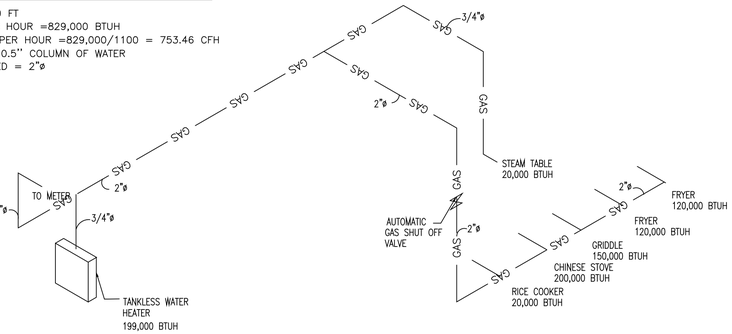
MARK	DESCRIPTION	QTY.	SIZE OF FIX. SUPPLY	WSFU C	WSFU H	WSFU TOTAL	TOTAL WSFU C	TOTAL WSFU H	TOTAL WSFU TOTAL
L	LAVATORY	2	1/2"	1.0	1.0	2.0	4.0	4.0	8.0
WC	WATER CLOSET	2	1/2"	2.5	–	2.5	5.0	–	5.0
HS	HAND SINK	3	1/2"	1.0	1.0	2.0	6.0	6.0	12.0
3CS	3 COMP. SINK	1	1/2"	2.0	2.0	4.0	2.0	2.0	4.0
MS	MOP SINK	1	1/2"	1.0	1.0	2.0	1.0	1.0	2.0
FS	FLOOR SINK	1	–	–	–	–	–	–	–
FD	FLOOR DRAIN	3	–	–	–	–	–	–	–
CS	CHINESE STOVE	1	1/2"	1.0		1.0	1.0		1.0
DF	DRINKING FOUNTAIN	1	1/2"	1.0		1.0	1.0		1.0
	TOTAL						20.0	13.0	33.0

AVAILABLE PRESSURE : 35 PSI
MAXIMUM DEVELOPMENT LENGTH > 120 FT
SIZE OF MAIN SERVICE PIPE : ø 3/4"

GAS DEMAND SCHEDULE:

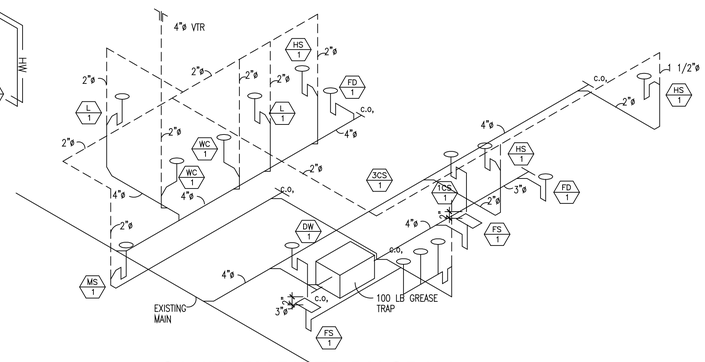
NO.	ITEM	BTUH
1	RICE COOKER	20,000
2	CHINESE STOVE	200,000
3	GRIDDLE	150,000
4	FRYERS (2 THUS)	240,000
5	WATER HEATER	199,000
6	STEAM TABLE	20,000
	TOTAL	829,000

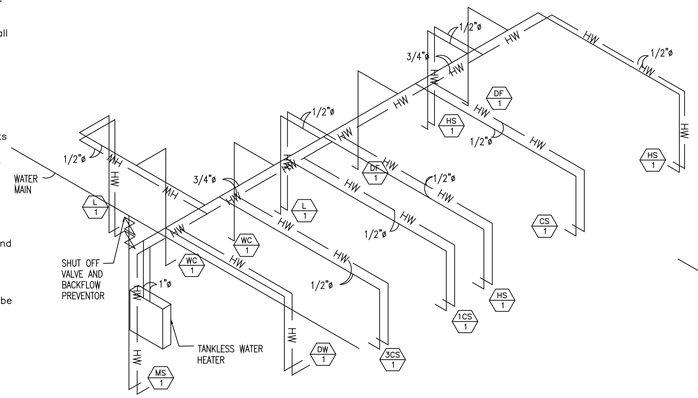
MAX. DEVELOPED LENGTH > 100 FT
TOTAL GAS DEMAND IN BTU PER HOUR =829,000 BTUH
TOTAL GAS DEMAND IN CU. FT. PER HOUR =829,000/1100 = 753.46 CFH
ALLOWABLE PRESSURE DROP IS 0.5" COLUMN OF WATER
MIN. SIZE OF GAS LINE REQUIRED = 2"ø



GAS RISER DIAGRAM

use schedule 40 steel piping



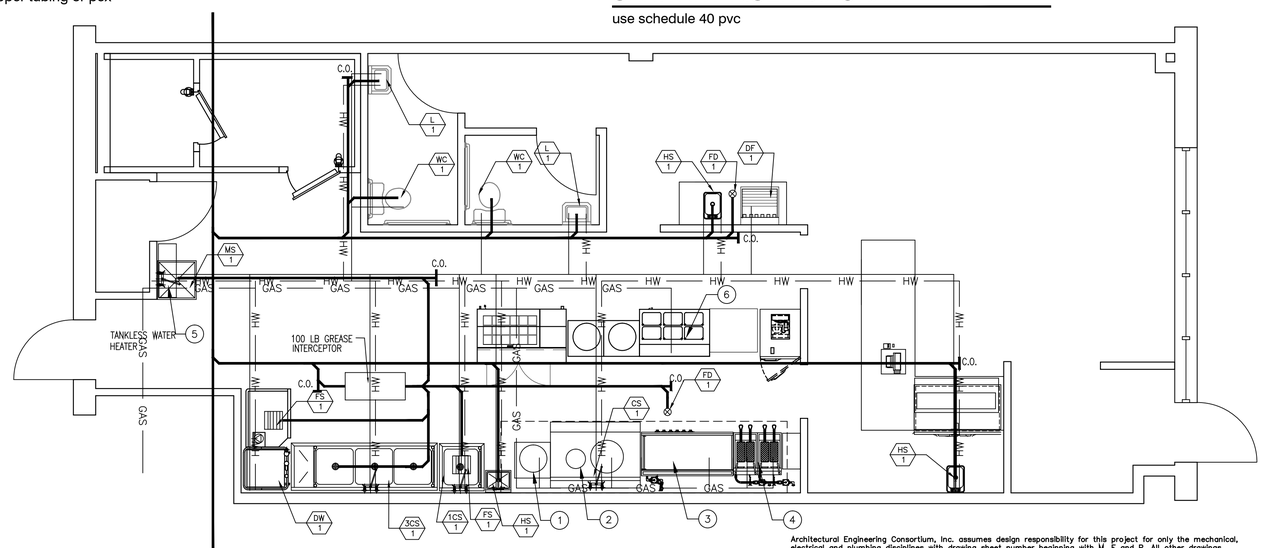


WATER SUPPLY RISER DIAGRAM

use copper tubing or pex

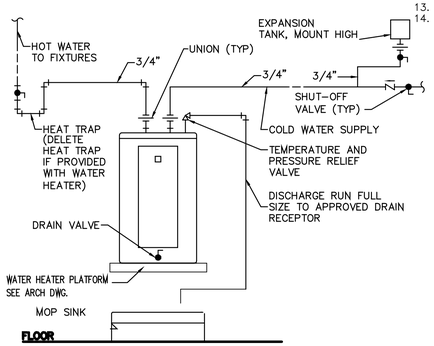
SANITARY RISER DIAGRAM

use schedule 40 pvc

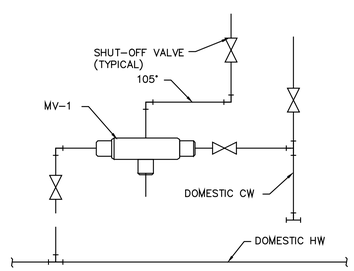


PLUMBING FLOOR PLAN

Scale 1/4"=1'-0"



NOTE:
AT CONTRACTOR OPTION, MOUNT ON WALL SHELF OR PLATFORM PROVIDED BY OTHERS.



MIXING VALVE DETAIL

(FOR LAVS AND HAND SINKS)

Architectural Engineering Consortium, Inc. assumes design responsibility for this project for only the mechanical, electrical and plumbing disciplines with drawing sheet number beginning with M, E and P. All other drawings should be considered the work of others. Further, drawings in this project set may contain drawing information, including but not limited to: architectural plans, sections and elevations, site plans and surveys and other information pertinent to showing the mechanical, plumbing and electrical work which is furnished by others, generally indicated by screened or light type. Architectural Engineering Consortium, Inc. assumes no responsibility or liability for the accuracy or regulatory compliance for work prepared by others even though shown on MEP drawings. Architectural Engineering Consortium, Inc. assumes responsibility only for the design of mechanical, electrical and plumbing disciplines contained herein, generally indicated in bold type.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/13/2022

STATE OF MISSOURI
GREGORY P. GLADFELTER
NUMBER E–2000150421
REGISTERED PROFESSIONAL ENGINEER

TOKYO GRILLE
3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

AEC
□R□□□□□□R□□
□□□□□R□□□
□□□□□R□□M□□□□

M□□□□□□□□□□□□R□□□□M□□□□
□R□□□R□□□R□□R□□□□□□□

□ □ □ □□□□□□□R□□□M

KANSAS OFFICE
11□□□□□□4□□□Rd□
□□□□□□□□□□□1
□1□8□□□8□□□

MISSOURI OFFICE
□□□□□□□□□D□□□□□
□□□□□□□M□□□□□
□□□□□□□□1□
□□□□□□□□□1□

Date:	Issued for:

Project number:

Drawn: RES

Date: 10-21-21

Sheet Number: P1

ELECTRICAL SYMBOLS

NOTE: ALL MOUNTING HEIGHTS ARE TO CENTER LINE OF THE OUTLET BOX UNLESS OTHERWISE INDICATED.

SYMBOL	DESCRIPTION	MTG. HT.
	FIXTURE–FLUORESCENT–CEILING	
	FIXTURE–FLUORESCENT–CEILING	
	EXIT LIGHT – CEILING, WALL	
	EMERGENCY BATTERY UNIT	
	EXTERIOR EMERGENCY BATTERY UNIT	
	EXTERIOR SURFACE MOUNTED LIGHTING	
	PANELBOARD 120/208 VOLTS–FLUSH MOUNTED	6'–6" TO TOP
F	DISCONNECT SWITCH–UNFUSED/FUSED FUSE SIZE SHOWN OVER FRAME SIZE	5'–6" TO TOP
$ $3 $a	SWITCH–SINGLE POLE, THREE–WAY, SUBSCRIPT DENOTES OUTLET CONTROLLED	3'–10"
$PL $OS	SWITCH–PILOT LIGHT, OCCUPANCY SENSOR	3'–10"
$M	SWITCH–MOTOR RATED	
J	JUNCTION BOX	
	RECEPTACLE–20A–125 VOLTS–DUPLEX, DOUBLE DUPLEX	1'–8"
	RECEPTACLE–20A–125 VOLTS–DUPLEX – MOUNTED FLUSH IN CEILING	
IG	RECEPTACLE–20A–125 VOLTS–ISOLATED GROUND	1'–8"
GFI	RECEPTACLE–20A–125 VOLTS– GROUND FAULT CIRCUIT INTERRUPTER	1'–8"
	RECEPTACLE–20A–125 VOLTS–COUNTER HEIGHT	
WP	RECEPTACLE–20A–125 VOLTS– WITH WEATHERPROOF IN–USE COVER	1'–8"
	RECEPTACLE–20A–125 VOLTS– FLOOR MOUNTED	
	MOTOR–SINGLE PHASE, THREE PHASE, HORSEPOWER AS NOTED.	
	SPECIAL RECEPTACLE AS NOTED	
	OUTLET–COMBINATION TELEPHONE/DATA	1'–8"
	HOOD FIRE SUPPRESSION SYSTEM	
	TELEPHONE TERMINAL BACKBOARD	
1 1	DRAWING NOTE, SPECIAL EQUIPMENT NUMBER	
	GROUND CONNECTION	
	BRANCH CIRCUIT–IN CEILING OR WALLS	
	BRANCH CIRCUIT–IN FLOOR	
	HOMERUN TO PANEL–LETTER AND NO. INDICATES CIRCUIT NUMBER.	
	CEILING SPEAKER	

ABBREVIATIONS

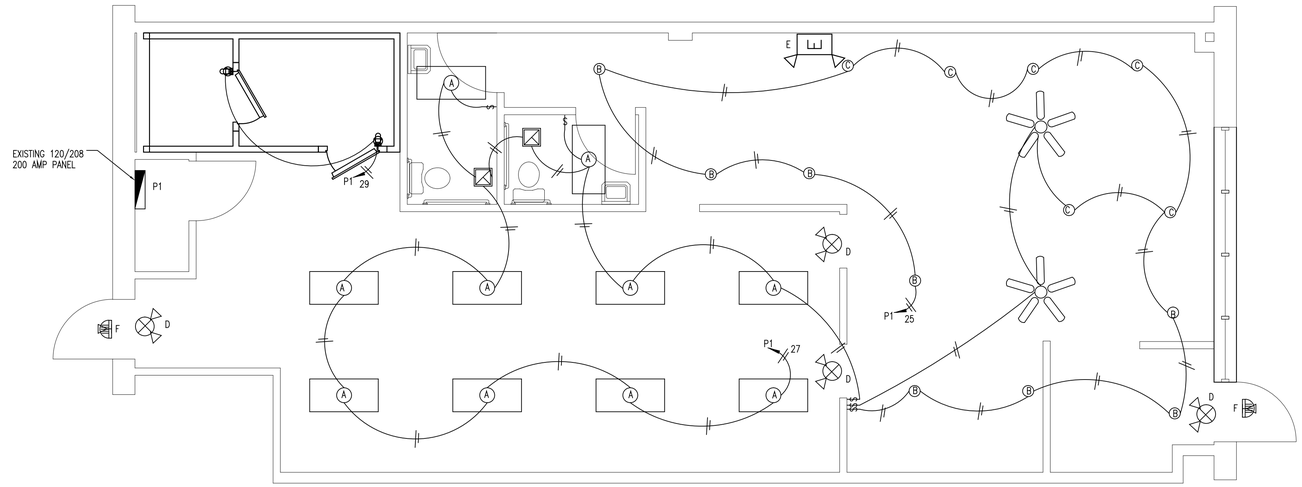
AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
C,CDT	CONDUIT	NEC	NATIONAL ELECTRIC CODE
EF	EXHAUST FAN	NL	NIGHT LIGHT
GFI	GROUND FAULT INTERRUPTER	PL	PILOT LIGHT
HP	HORSEPOWER	RX	REMOVE EXISTING
IG	ISOLATED GROUND	N	NEW
MH	MOUNTING HEIGHT	WP	WEATHERPROOF
MTD	MOUNTED	XR	EXISTING TO REMAIN

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTS	MOUNTING
A	Columbia Lighting Model #LLT 24–50 ML G–FA A12F–E U–SLLGRL 52 WATT Fixture with electronic ballast, 120Volt with acrylic lens.	120	CEILING, RECESSED
B	INCANDESCENT LED, RECESSED	120	CEILING, RECESSED
C	LED DOWNLIGHT	120	SURFACE, WALL
D	Lithonia # F2XEL–S–W–1–RW–120–EL Titan Series 2 lamp, 5W, florescent with stencil on single face, ivory white housing, red letters on white background, 120 Volt and a lead calcium battery.	120	CEILING, WALL
E	Lithonia # 6ELM2 Quantum Series White Exterior, 6 Volt–16 Watt–1.5 Hour Emergency Light, 120 Volt–20 Watt lead calcium battery with 2–N0806 7.2 square sealed beam halogen lamp heads.	120	CEILING, WALL
F	EXTERIOR EXIT LIGHTING (EXISTING)		

NOTES:

PROVIDE BATTERY PACK WITH CHARGER, INDICATOR LAMP, 90 MINUTE POWER, AND CAPACITY TO ILLUMINATE ONE FLUORESCENT LAMP TO 1400 LUMENS. BATTERY PACK ASSEMBLY SHALL COMPLY WITH NEC 700–12.



LIGHTING FLOOR PLAN

Scale 1/4"=1'-0"

STATE OF MISSOURI
GREGORY P. GLADFELTER
NUMBER E-2000150421
REGISTERED PROFESSIONAL ENGINEER

TOKYO GRILLE

3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

AEC
KANSAS OFFICE
MISSOURI OFFICE

Date:	Issued for:

Project number:

Drawn: RES

Date: 10-21-21

Sheet Number: E1

ELECTRICAL SPECIFICATION

THE WORK includes materials, fixtures, devices and accessories necessary for a complete functioning electrical system. All Work shall be in accordance with local codes or ordinances and subject to inspection.

PROVIDE ALL fixtures, devices, accessories, offsets and materials necessary to facilitate the system's functioning.

COORDINATE with the Work of other Sections, make all connections to equipment furnished by others, and with the constraints of the existing conditions of the Project Site.

COMPLY with all laws applying to electrical installations in effect, and with the most recent addition of the National Electric Code. All materials used shall be new and shall conform to the standards established by the Underwriters Laboratories Inc.

VERIFY voltage drops and A.I.C. ratings for all equipment connected, and verify size of electrical system breakers, conduit, etc. as necessary.

ROOF PENETRATIONS shall comply with SMACNA and NRCA standards, with requirements of the Owner, and with all requirements of the roofing warrantee or guarantee. Sub-contract roofing penetration Work to an entity approved for use by the Owner. Do not perform roofing penetrations in a manner which would void or otherwise limit the roofing warrantee or guarantee.

PANELBOARDS shall be as manufactured by Square D or equal, meeting U.L. Standards 50 and 67, with U. L. label. Use equipment provided by owner where possible.

BREAKERS shall be thermal magnetic type, quick-make, quick-break, plug-in type of single unit construction. Two and three pole breakers shall be single unit common trip type. Breakers used as switches for 120V lighting circuits shall be approved for that use and marked "SWD".

CABINETS shall be one piece code gauge galvanized steel with mounting studs, wiring gutters of ample size and knockouts for conduit connections as required. Bus bars shall be 98% conductive copper, aluminum, or copper-clad aluminum. Fronts shall be one piece code gauge furniture steel with adjustable fasteners. Provide flush mount units unless otherwise indicated. Provide a plastic covered typewritten schedule identifying all branch circuits inside each cabinet.

GROUNDING SYSTEM: Permanently and effectively ground all metallic Conduit, supports, cabinets, panelboards and systems neutral conductors. Maintain continuity of equipment ground throughout the system. Ground clamps shall be approved type, specifically designed for grounding. Where grounding conductor is enclosed in conduit, ground clamp shall be of a type which grounds both conductor and conduit. All circuits in flexible metal or plastic conduit shall include a ground wire sized in accordance with NEC Table 250-95. Equipment requiring a dedicated ground wire has been shown on the plans and must be verified in the field.

CONDUIT shall be sized to comply with NEC for number and size of conductors installed, minimum 1/2" above grade. Provide Schedule 40 PVC plastic or rigid steel conduit below grade, minimum 3/4". Provide electrical metal tubing (EMT) meeting FS W-C563, Armour cable, or flexible conduit (in lengths 6' or less) for interior locations. EMT connectors and couplings 2" and smaller shall be set-screw type. Clamp conduit to boxes with bushing inside and locknut outside.

CONDUCTORS shall be insulated soft annealed copper with color coding, B and S gage, #10 and smaller to be solid, #8 and larger to be stranded, minimum #12 unless otherwise indicated. THW and THHN may not be used underground, at service entrances, outside, or in wet locations. All insulation to be rated for 600V and types as follows:

#10 and smaller:	THW, THWN or THHN
#8 to #4/0:	THW or THHN
Over #4/0 ordinary service:	THW
Over #4/0 wet or hot service:	THW
Service Entrance:	THW
Wire through Fluorescent fixture channels or within 3 feet of heating equipment:	THHN

DEVICES shall be manufactured by Leviton or equal. All devices shall be ivory color. All cover plates shall be ivory color plastic. Standard duplex receptacles shall be grounding type, 20A, NEMA WD-2 standard 5-20R, back and side wired. Other devices shall be as indicated on the Drawings, or as required by the equipment item intended to be served. Where switches are grouped, provide gangplates.

LIGHT FIXTURES: Provide fixtures with lamps as indicated on Drawings. Provide fixture hickeys, suspension nipples and splice fixture wiring to outlet box wiring as required. Provide trim to fit each ceiling condition encountered, notwithstanding model numbers indicated in Fixture Schedule.

LAYOUT branch circuit wiring and arrangement of home runs for maximum economy and efficiency. Increase wire size if volume drop exceeds 3% or 100 feet of length.

CONCEAL WIRING SYSTEM above suspended ceilings or in wall or floor construction where possible. Install conduit parallel to building lines, and to clear all openings, depressions, pipes, ducts, structure, etc.

METAL-CLAD CABLE Type "MC" may be used in place of conduit and wire. Installation to conform to Article 334, of the National Electric Code.

ADJUSTING AND TESTING: All electrical equipment shall be adjusted and tested for proper operation. Completed wiring system shall be free from short circuits.

TOUCH-UP or refinish damaged surfaces of fixtures and equipment, exposed to view.

INSTALL CONDUIT continuous between boxes and cabinets with no more than three (3) 90 degree bends. Securely fasten in place with straps, hangers and steel supports as required. Do not support conduit from suspended ceiling grid or suspension wires. Ream conduit ends before installation and thoroughly clean before installation. Openings shall be plugged or covered to keep conduit terminals on switches and outlets shall not be used to "feed thru" to the next switch or outlet. The disconnection or removal of a receptacle, fixture, or other device fed from a box shall not interfere with or interrupt the conductor continuity.

CLEAN all fixtures, glassware and lamps, ready for use.

ELECTRICAL NOTES

1. Supply and install telephone jacks.
2. Use copper wire for all circuits. The panel supply wire shall be copper.
3. All outlets within 6 feet of a sink must be GFI protected.
4. All main feeders from the transformer to the meter are new.
5. The exterior lighting shall be controlled with a motion detector which detects movement within 50' of building and a photocell.
7. The fault current at the transformer is 10,000 amps.
8. The overcurrent protection at the main breaker is 100,000 A.I.C.

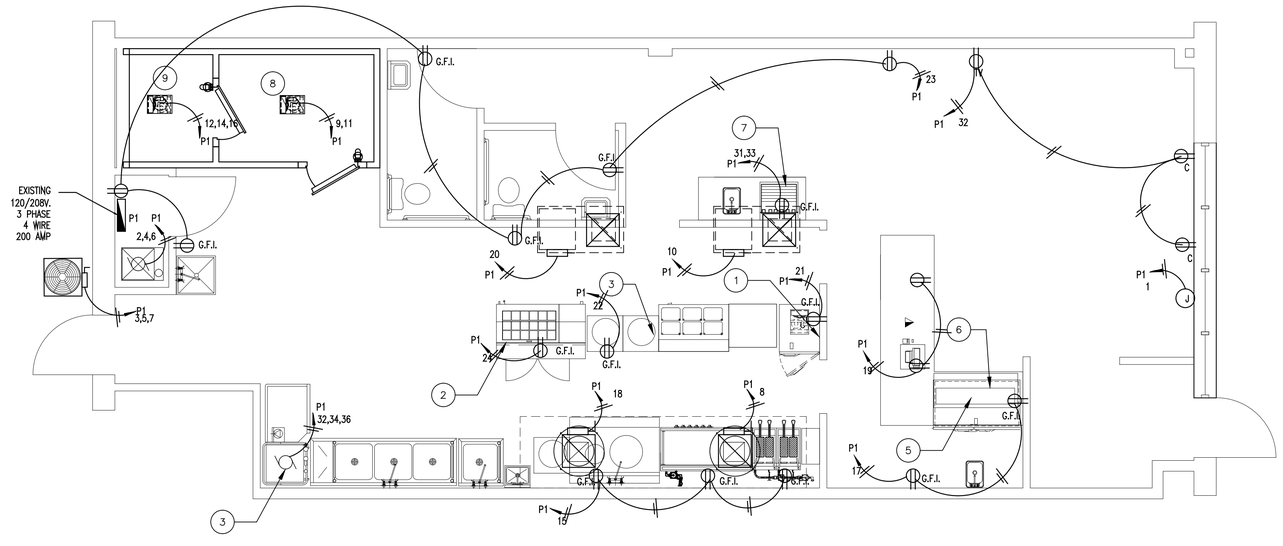
P1 PANELBOARD

120 / 208 VAC, 3PH/4W
200 A MLO

LOCATION: STORE
SERVES:
2 SECTION

	DESCRIPTION	WIRE	BRKR	PL	KVA A	KVA B	KVA C	PL	BRKR	WIRE	DESCRIPTION	
1	SIGN	12	20	1	0.10	5.76						2
3						3.84	5.76	3	60	6	FURNACE	4
5	CONDENSOR	8	40	3			3.84	5.76				6
7					3.84	0.50		1	20	12	EXHAUST FANS	8
9						1.50	0.50	1	20	12	MAKE UP AIR	10
11	WAKK IN COOLER	12	20	2			1.50	3.84				12
13	EXIT/EMERGENCY LIGHTS	12	20	1	0.30	3.84		3		8	WALK IN FREEZER	14
15	OUTLETS	12	20	1		0.54	3.84					16
17	SUSHI DISPLAY & REFRIGERATOR	12	20	1			1.56	0.50	1	20	12	EXHAUST FANS 18
19	POS	12	20	1	0.20	0.55		1	20	12	MAKE UP AIR	20
21	REFRIGERATOR	12	20	1		0.78	1.29	1	20	12	RICE WARMERS	22
23	OUTLETS	12	20	1			1.08	0.83	1	20	12	PREP TABLE 24
25	LIGHTS	12	20	1	1.11	2.40						26
27	LIGHTS	12	20	1		0.51	2.40	3	20	10	DISHWASHER	28
29	FREEZER/COOLER LIGHTS	12	20	1			0.05	2.40				30
31	SODA & ICE MAKER	12	20	1	1.04	0.54		1	20	12	OUTLETS	32
33						1.04	0.00					34
35							0.00	0.00				36
37					0.00	0.00						38
39						0.00	0.00					40
41							0.00	0.00				42
	TOTAL PER PHASE				20.19	22.01	21.37	KVA				44
	CALCULATED LOAD PER PHASE				145.71	152.06	140.91	AMPS				46
												48
	LOADS CALCULATED PER NEC ARTICLE 220				TOTAL CALCULATED LOAD		152.06	AMPS				50
												52

EQUIPMENT CONNECTION SCHEDULE				
ITEM NO	DESCRIPTION	VOLTAGE	LOAD	DISCONNECT DEVICE AT UNIT
1	MERCHANDISE FRIDGE	115V/1	6.8 AMPS	CORD AND PLUG
2	PREP TABLE	115V/1	7.2 AMPS	CORD AND PLUG
3	DISHWASHER	208/3	20 AMP	DIRECT CONNECTION
4	RICE WARMERS	115V/1	5.3 AMPS	CORD AND PLUG
5	UNDERCOUNTER FRIDGE	115/1	7 AMPS	CORD AND PLUG
6	SUSHI DISPLAY	115/1	5 AMPS	CORD AND PLUG
8	WALK IN COOLER	115/1	12.9 AMPS	DIRECT CONNECTION
9	WALK-IN FREEZER	208/60/3	40 AMPS	DIRECT CONNECTION
10	SODA & ICE MAKER	208/2	26 AMPS	DIRECT CONNECTION



POWER FLOOR PLAN

Scale 1/4"=1'-0"

Architectural Engineering Consortium, Inc. assumes design responsibility for this project for only the mechanical, electrical and plumbing disciplines with drawing sheet number beginning with M, E and P. All other drawings should be considered the work of others. Further, drawings in this project set may contain drawing information, including but not limited to: architectural plans, sections and elevations, site plans and surveys and other information pertinent to showing the mechanical, plumbing and electrical work which is furnished by others, generally indicated by screened or light type. Architectural Engineering Consortium, Inc. assumes no responsibility or liability for the accuracy or regulatory compliance for work prepared by others even though shown on MEP drawings. Architectural Engineering Consortium, Inc. assumes responsibility only for the design of mechanical, electrical and plumbing disciplines contained herein, generally indicated in bold type.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
01/31/2022

STATE OF MISSOURI
GREGORY P. GLADFELTER
NUMBER E-2000150421
REGISTERED PROFESSIONAL ENGINEER

1 □□1 □□□□1

TOKYO GRILLE

3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

AEC
□R□□□□□□R□□
□□□□□R□□
□□□□□R□□M□□□□

M□□□□□□□□□□R□□□□□R□□□□M□□□□
□□R□□□□R□□□R□□□R□□□□□□□□

□ □ □ □□□□□□□□R□□□□M

KANSAS OFFICE
11□□□□□□□F□□□Rd□
□□□□□□□□□□□□□□□
□1□8□□□8□□
□□□1□8□□□□□□□

MISSOURI OFFICE
□□□□□□□□□D□□□□□
□□□□□□□F□□M□□□□□
□□□□□□□1□□
□□□□□□□□□□□1□

Date:	Issued for:

Project number:

Drawn: RES

Date: 10-21-21

Sheet Number:

E2

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Lee's Summit, Missouri
01/31/2022

MECHANICAL LEGEND

FU 1	EXISTING
CU 1	EXISTING
MUA 1	MAKE UP AIR SEE HOOD PLAN
EF 2	MAKE UP AIR SEE HOOD PLAN
EF 1	BATH EXHAUST FAN Use Broan or equal model AE50110DC Flex DC Series ceiling exhaust fan. Unit is 120 volt, 0.3 amps with a 70 cfm exhaust capacity at .5" static pressure, 4.5 sones and 7" round duct to outside. Install damper at the end of the flue. Use in bathrooms with 1 commode.

MECHANICAL SPECIFICATION

1. THE TYPE 1 EXHAUST HOOD SHALL BE TIED TO FIRE ALARM SYSTEM.
2, PROVIDE A WEATHERPROOF GFI OUTLET WITHIN 25' OF ANY ROOFTOP EQUIPMENT.
3 THE FIRE CODE OFFICIAL SHALL BE NOTIFIED 48 HOURS BEFORE ANY REQUIRED HOOD TRIP ALARM TESTING.
4 . ALL RETURN AIR SHALL BE DUCTED.

AIR BALANCE SCHEDULE

ITEM	OUT DOOR AIR	RETURN AIR	SUPPLY AIR	EXHAUST AIR	PRESSURE
EF 1	140	0	0	-140	0
HVAC 1	534	866	1400		0
TOTAL	**674**	**866**	**1400**	**-140**	**0**
BUILDING PRESSSURE = 0 CFM					

OCCUPANCY	ZONE FLOOR AREA SQ. FT.	OCCUPANCY DENSITY #1000	OCCUPANT LOAD Pz	PEOPLE OUTDOOR AIR RATE (Rp) CFM/PERSON	AREA OUTDOOR AIR FLOW RATE (Ra) CFM/SF	TOTAL SUPPLY AIR CFM/SF	EXHAUST AIRFLOW RATE CFM	EXHAUST AIRFLOW PER FIXTURE CFM	NUMBER OF FIXTURES	TOTAL EXHAUST CFM
DINING	636	15	10	7.5	0.12	148	0	0	0	0
KITCHEN	552				0.7	386	0		0	0
BATH EXHAUST							70		2	140
FRESH AIR						534				
TOTAL SUPPLY AIR						534				
TOTAL EXHAUST AIR										140

MECHANICAL SPECIFICATION

THE WORK INCLUDES providing new ductwork, grilles, registers, diffusers, duct insulation, thermostats and wiring, and other work as indicated by the Drawings, and as required for a complete and functioning system.

DRAWINGS for HVAC work are diagrammatic, showing the general location, type, layout, and equipment required. The drawings shall not be scaled for exact measurements. Refer to manufacturer's standard installation drawings for device connections and installation requirements. Provide ALL connections, accessories, offsets, and materials necessary to facilitate the system's functioning.

CODE COMPLIANCE: All Work shall comply with the latest edition of the applicable mechanical code, as approved and adopted by authorities having jurisdiction, and applicable sections of NFPA, OSHA, or any interim amendments at the time of the proposal, or other ordinances. All work is subject to inspection.

COORDINATE with the Work of other Sections, equipment furnished by others, requirements of the owners, and with the constraints of the project site. Coordinate with electrical and plumbing subcontractors and their associated drawings as necessary to install all work of the Project. Changes required in the field that require relocation of devices beyond the room or space shown, or those beyond a distance of three feet in any direction of the approximate location shown on the drawings, must be approved by the Engineer prior to fabrication or installation.

EMPLOY experienced tradesmen. The work shall be of the highest industry standards and quality, and shall be acceptable to the Engineer and Owner.

DUCTWORK: Shop fabricated and factory purchased sheet metal ductwork shall conform to ASHRAE and SMACNA standards, minimum of 26 gage. Sheet metal shall be galvanized sheet steel of lock–forming quality, ASTM A–525. Unless otherwise noted, duct dimensions on drawings are net inside clear dimensions on lined ducts, or sheet metal dimensions on unlined ducts. All angle iron used for support shall be galvanized. Connections to walls or floors shall be airtight with angle iron and caulking.

SEAL all duct seams, transverse and longitudinal, air–tight. Provide turning vanes at all elbows or offsets exceeding 33 degrees.

CEILING DIFFUSERS/RETURNS: Provide supply diffusers, grilles and registers, capacities and pattern indicated on the Drawings. The pattern shall be in all four directions unless noted otherwise on the drawings. All return air shall be ducted.

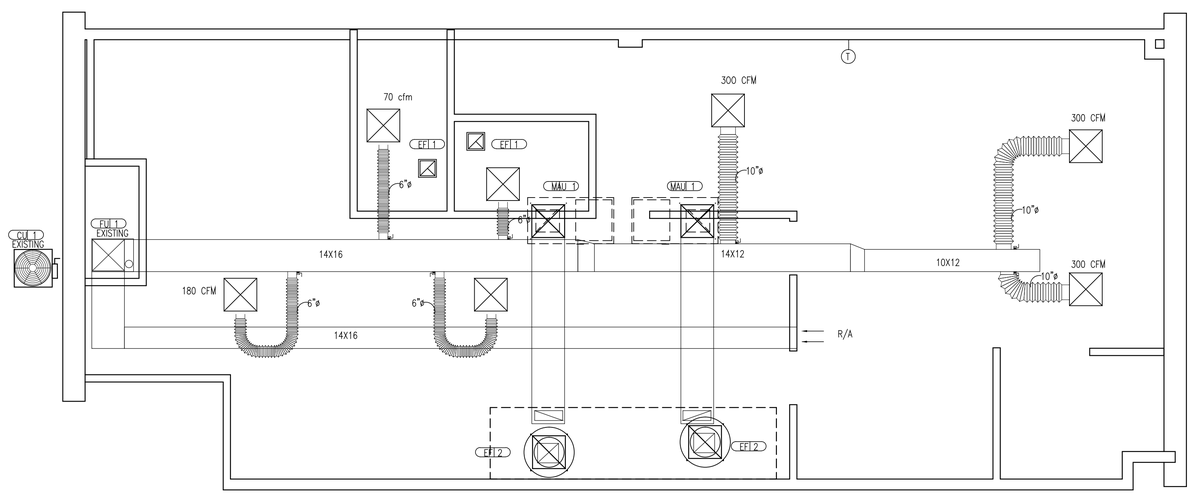
ROUND FLEXIBLE DUCTWORK: Provide Thermaflex # GK–M or other equivalent product approved for use by the Engineer, factory assembled class 1 air duct (UL 181) with 1" thick 1 PCF fiberglass insulation and reinforced outer protective cover/vapor barrier. Flex duct shall meet NFPA 90A with flame spread under 25, smoke developed under 50, and shall be rated for 2" w.g. pressure and 0 to 250 degree temperature. Provide all grilles and louvers with a minimum 4" duct starter collars, or sheet metal elbows. Attach flexible ductwork to grilles or duct collars with inner helix banded separately from the external vapor barrier and insulation. Fold over insulation material inward to cover exposed insulation with vapor barrier and band on outside. Provide Panduit straps or metal adjustable bands only. Use twistlock conical tap collars at connections into sheet metal ductwork.

AUTOMATIC TEMPERATURE CONTROL: Provide three wire type proportional thermostats where indicated on the drawings. Provide plenus rated cable or conduit and wire, of minimum 18 AWG wire, for connection from thermostats to their termination point in the air handling unit.

TEST, ADJUST, AND BALANCE each grille, fan, and damper of the new ductwork and HVAC system. Follow NEBB and ASHRAE guideline for test and balance procedures. Eliminate noise and vibration, and assure proper functioning of controls, maintenance of temperature, and equipment operation. Provide follow–up after necessary corrections have been made by to correct deficiencies or objections to assure that the system balance has not been disturbed. All CFM's shall be balanced to within five percent (5%) below the CFM shown. Wherever possible, do not exceed the CFM shown on the drawings.

DUCT INSULATION shall be provided on all ductwork. The insulation must be provided on the outside of the ductr. The exterior duct from the unit to the building must be insulated with an exterior duct insulation rated for the exterior use.

GUARANTEE all new work from defects in installation, and material defects for a period of one year after acceptance of the system by the Owner.



MECHANICAL FLOOR PLAN

Scale 1/4"=1'-0"

GREGORY P. GLADFELTER
NUMBER
E-2000150421

12/17/2021

TOKYO GRILLE

3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

KANSAS OFFICE

MISSOURI OFFICE

REVISIONS

12-9-21

Project number:

Drawn:
RES

Date:
10-21-21

Sheet Number:

M1

Architectural Engineering Consortium, Inc. assumes design responsibility for this project for only the mechanical, electrical and plumbing disciplines with drawing sheet number beginning with M, E and P. All other drawings should be considered the work of others. Further, drawings in this project set may contain drawing information, including but not limited to: architectural plans, sections and elevations, site plans and surveys and other information pertinent to showing the mechanical, plumbing and electrical work which is furnished by others, generally indicated by screened or light type. Architectural Engineering Consortium, Inc. assumes no responsibility or liability for the accuracy or regulatory compliance for work prepared by others even though shown on MEP drawings. Architectural Engineering Consortium, Inc. assumes responsibility only for the design of mechanical, electrical and plumbing disciplines contained herein, generally indicated in bold type.

HOOD SPECIFICATION

HOOD – Locate UL listed short cycle compensating hood over kitchen equipment as shown. Hood shall be 8'–0" long, 4'–0" wide and 2'–0" tall. The hood shall be made from 20 gage (.037 inch) stainless steel and shall be fabricated in accordance with NFPA Bulletin #96. The grease filters shall be listed by an accredited agency and shall be one square inch in size for every 2 cfm of air exhausted. All joints and seams shall be made with a liquid–tight weld. Two surface mounted, 150 watt U.L. approved for type 1 hoods incandescent lights, shall be installed in the hood. All extracting filters are to be fitted for continuous grease collecting, draining and removal of grease to a pitched trough gutter and discharged into the removable collecting tray. Hood shall be mounted 18" from the wood roof trusses and 6" from the wood studs in the back and left side of the hood. The walls between the hood shall be covered with .024 inch (No. 24 Gage) stainless steel spaced 1 inch off the combustible assembly. The gap between the hood and the wall shall be filled with stainless steel. Use 2–8 ft hoods to make 16 ft total length or get a 16 ft hood.

HOOD DUCTS – The exhaust hood shall have 16 Standard gauge steel exhaust duct connected at the top. The continuously welded duct shall be liquid–tight. The exhaust duct shall go to the exhaust fan located on the roof. A shaft is not required because the roof consists of a steel deck with steel bar joists that are not combustible. The duct shall be 12" x 16" in size. Use one for each hood. Extend duct straight up to exhaust fan.

FIRE SUPPRESSION SYSTEM – Install a U.L. 310 listed wet chemical fire suppression system in the hood equal to the Range Guard System. The suppression system shall have a head over each piece of equipment in the cooking line. A gas shut–off valve shall be installed in the gas line to the cooking equipment so that it can shut off all gas to the cooking units if the fire suppression system is activated. Extinguishing equipment shall be readily accessible for periodic maintenance and inspection and shall have a manual trip in the path of egress located no less than 10' from the hood and the storage cylinder no less than 15' from the hood. The system shall be in accordance with NFPA Bulletin #17. The contractor shall submit plans to the city before he begins working on the fire suppression system if he plans to deviate from the one shown. The system shall be installed in accordance with the terms of its listing and the manufactures' instructions.

HOOD EXHAUST FAN – Use Loren Cook exhaust fan model #120V4B. The exhaust fan shall exhaust a total of 1,800 cfm @ 0.75" s.p, 3/4 h.p, 110 volt, 1 phase, 12 FLA. The amount of exhaust is based on the UL listing of the hood. The unit shall be mounted on the roof with a roof curb. Discharge height shall be 40" above the roof and a minimum of 10'–0" from any intake vents or adjacent buildings and/or property lines except where air from the exhaust outlet discharges away from such locations. Air velocity in the duct shall be between 1500 fpm and 2500 fpm. Mount exhaust fan to roof curb with eight #12 tek screws. Install two screws on each side of curb. Mount roof curb to wood deck with eight bugle head 10 x 1.5" wood screws. Install two screws on each side of curb. Use 1 fan for each 8 ft of hood. Or each 8' of the 16' hood

MAKE–UP AIR UNITS – Use Larkin or equal model ARS 10 supply air fan with 1,800 cfm @ 0.75" s.p., 3/4 h.p, 110V, 1 phase, 12 FLA. An electrical interlocking switch shall connect the exhaust fan and the make–up air system so they are on at the same time. Mount make–up air fan to roof curb with eight #12 tek screws. Install two screws on each side of curb. Mount roof curb to wood deck with eight bugle head 10 x 1.5" wood screws. Install two screws on each side of curb. Use 1 fan for each 8 ft of hood. Or each 8' of the 16' hood

DUCT WORK FOR MAKE–UP AIR UNIT – Use insulated galvanized metal for air ducts.

Fire Barrier Duct Wrap 15A

Duct Wrap Fire Protection System for Commercial Kitchen Grease, Chemical Fume Exhaust, and Ventilation Air Ducts

Product Data

BATTS AND BLANKETS FOR USE IN FIRE RESISTIVE DUCT ASSEMBLIES SEE UL FIRE RESISTANCE DIRECTORY 90G9

LISTED DUCT INSULATION 90G9

LISTED FIRESTOP SYSTEMS SEE INTERTEK DIRECTORY

LISTED FIRESTOP SYSTEMS SEE INTERTEK DIRECTORY

1. Product Description

3M™ Fire Barrier Duct Wrap 15A is a fire resistant wrap consisting of a patented inorganic blanket encapsulated with a scrim-reinforced foil. It is used to fire rate commercial kitchen grease ducts and is a proven alternative to 1 or 2 hour fire resistant rated shaft enclosures. This mold resistant[1], non-asbestos wrap installs easily because of its high flexibility and strength.

Two-layer applications of 3M Fire Barrier Duct Wrap 15A meet all the criteria of ASTM E 2336 'Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems'.

3M Fire Barrier Duct Wrap 15A as single-layer fire resistant wrap application has passed the UL 1978 Grease Duct test and ASTM E 119 engulfment.

With its excellent insulating capabilities, it is an ideal choice for tight spaces because it protects combustible constructions at zero clearance throughout the entire enclosure system. 3M™ Fire Barrier Water Tight Sealant 1000 NS, 3M™ Fire Barrier Water Tight Sealant 1003 SL or 3M Fire Barrier Water Tight Sealant 2000+ Silicone Sealants used in combination 3M Fire Barrier Duct Wrap 15A provide an effective firestop when the duct penetrates fire rated walls and floors.

3M Fire Barrier Duct Wrap 15A Features

- Two-layer wrap for grease ducts rated as a shaft alternative per ASTM E 2336
- One-layer wrap for grease ducts rated as a shaft alternative per UL 1978 and ASTM E 119 Engulfment
- Zero clearance to combustible throughout the entire enclosure system for congested spaces
- High flexibility for installation ease
- Foil encapsulated with unique center overlap seam for blanket protection, less dust, and high wrap strength
- Widest range of penetration seal systems
- Stitched edges

2. Applications

3M Fire Barrier Duct Wrap 15A is an ideal fire resistive enclosure for commercial kitchen grease ducts. It is a proven performance alternative to a 1 or 2 hour fire resistant rated shaft enclosures and provides zero clearance to combustible construction throughout the entire enclosure system. 3M Fire Barrier Water Tight Sealant 1000 NS, 3M Fire Barrier Water Tight Sealant 1003 SL or 3M Fire Barrier Water Tight Sealant 2000+ Silicone Sealants is used in combination with 3M Fire Barrier Duct Wrap 15A to firestop the duct when the duct penetrates fire rated floors and walls.

3. Availability

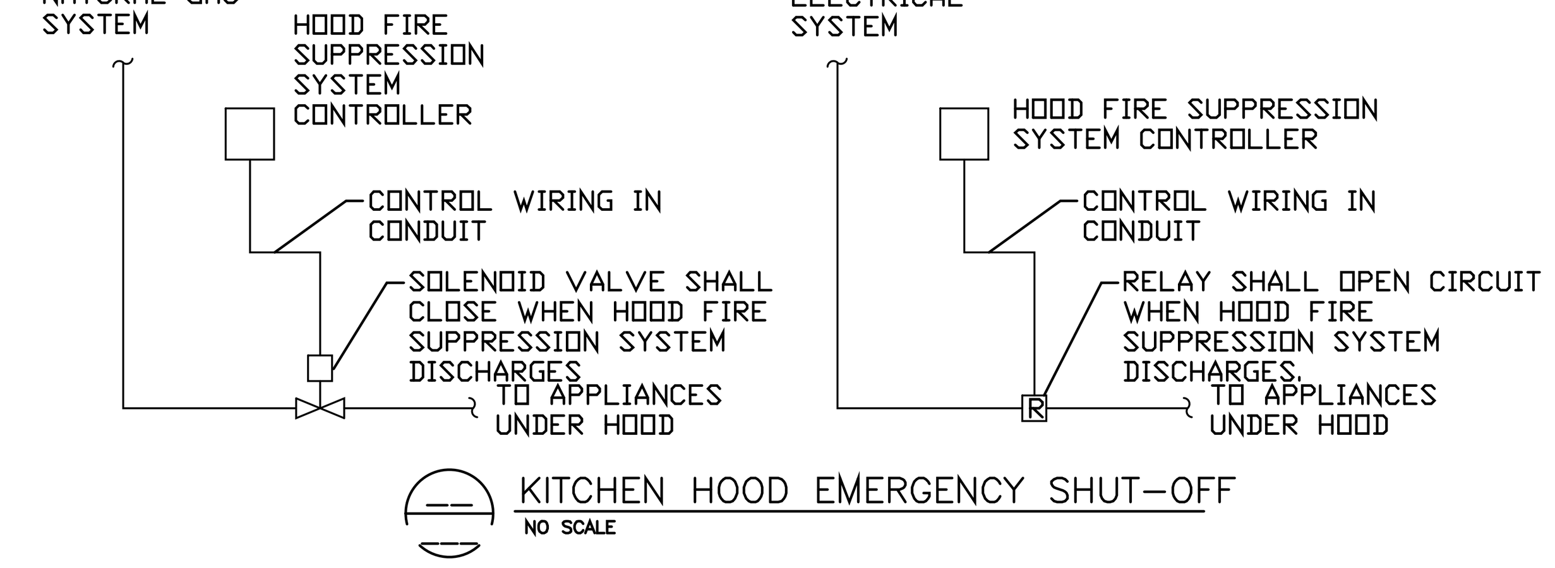
Unit	Size	Quantity	Weight
Roll	1.5 in. x 24 in. x 20 ft. (38 mm x 60,9 mm x 609 cm)	1	53 lbs (24 kg)
Roll	1.5 in. x 48 in. x 20 ft. (38 mm x 121 cm x 609 cm)	1	106 lbs (48 kg)

4. Typical Physical Properties

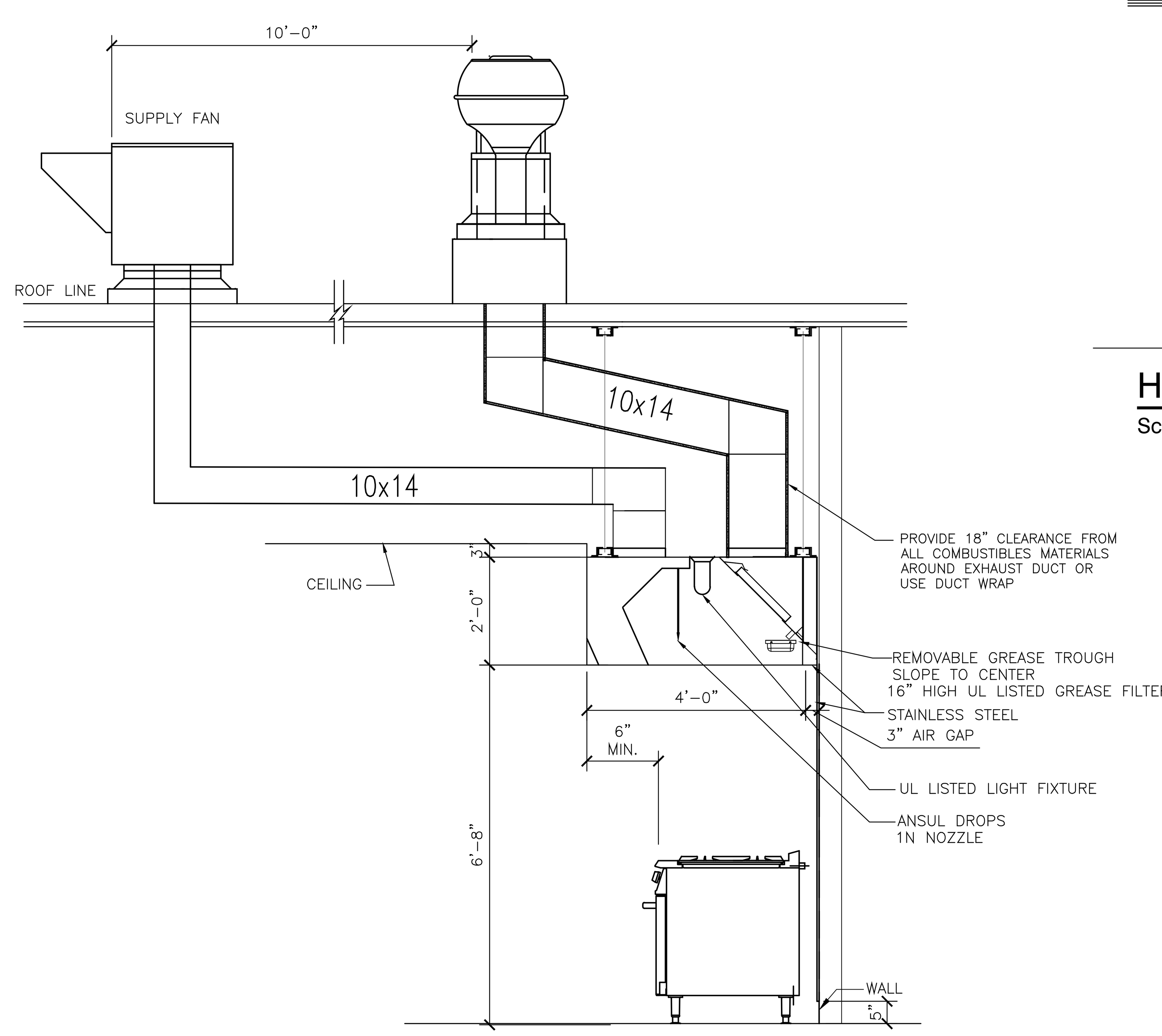
Blanket Color	Weight
Brown/Greenish	1.38 lbs./ft.² (6.73 kg/m²)

SCOPE OF WORK

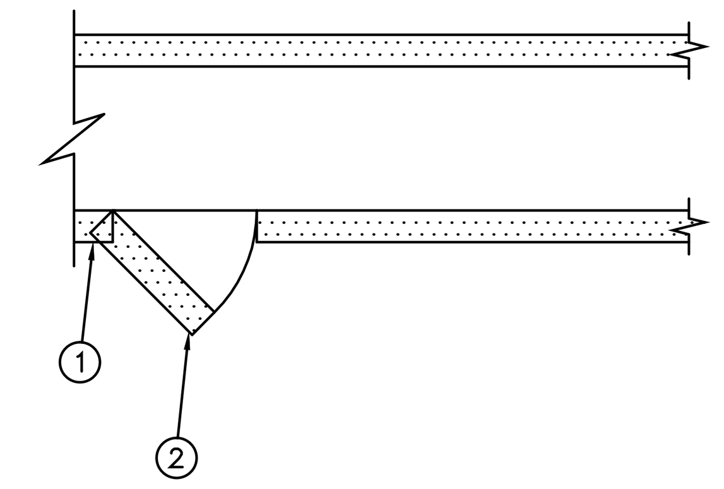
1. Install new hoods, exhaust fans and make–up air fans.
2. The hoods and fans must operate simultaneously.
3. Install exhaust fans on roof with curb.
4. Install make–up air unit on roof with curb.
5. Install UL approved fire system inside hood.
6. Install gas line to equipment below hood.
7. Wire electrical to fans and lights as required.
8. Install micro switches in hood to control exhaust and make–up air fans along with any electrical to the cooking equipment for total shutdown when fire suppression system is activated. All electricity and gas to the cooking equipment must shut down along with any electrical outlets behind the cooking equipment.
9. Hood shall be designed to activate automatically whenever cooking operations occur. The activation of the exhaust fan shall occur through an interlock with the cooking appliances, by means of a heat sensor or by means of other approved methods.
10. Add stainless steel to the wall behind the hood from the floor to the top of the hood.
11. Install electrical to kitchen equipment.
12. Provide zero clearance insulation on top of the hood if it is within 18" of combustibles.



KITCHEN HOOD EMERGENCY SHUT–OFF
NO SCALE



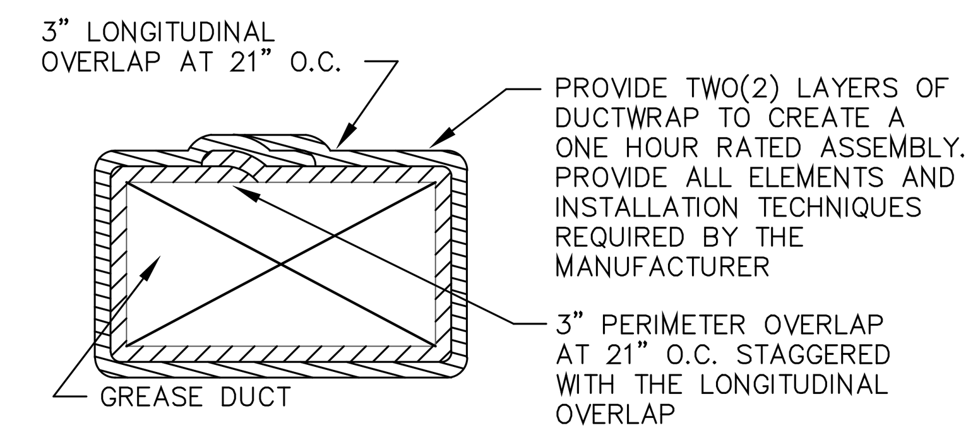
1/8 SECTION
Scale 1/2"=1'-0"



NOTES:

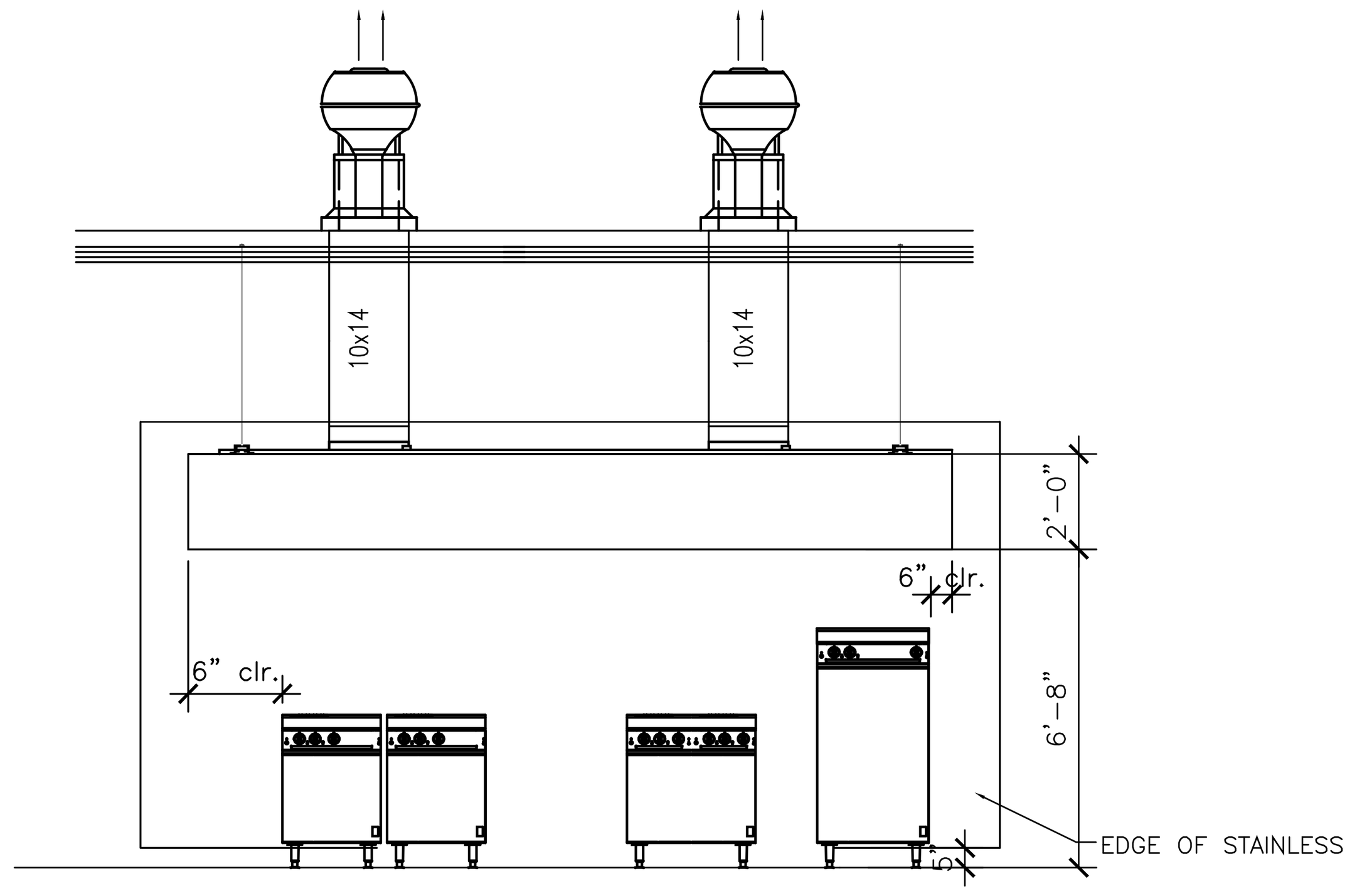
1. EXHAUST DUCT FOR CLASS 1 GREASE HOOD TO BE FULLY WELDED 16 GA. STEEL. ENTIRE LENGTH OF NEW EXHAUST DUCT SHALL BE PROTECTED WITH 1–HOUR FIRE–RATED U.L. CLASSIFIED DUCT WRAP INSULATION, SERVING AS A "SHAFT REPLACEMENT" AND PROVIDING FOR ZERO CLEARANCE OF COMBUSTIBLES FROM GREASE DUCT. PROVIDE DUCT WRAP INSULATION EQUIVALENT TO "3M FIRE BARRIER DUCT WRAP 15A", INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND APPROVED INSTALLATION DETAILS.
2. PROVIDE GREASE DUCT CLEANOUT ACCESS PANELS AT DUCT OFFSETS, AND AT 20' MAX INTERVALS. PROVIDE HINGED ACCESS PANELS WITH NEATLY CUT, REMOVABLE DUCT WRAP INSULATION COVERING THE PANEL.

GREASE DUCT DETAIL



DUCTWRAP – 3M FIREMASTER OR EQUAL, GREASE DUCT FIRE PROTECTION SYSTEM, UL 1978 APPROVED, 2300°F RATING, FOR 0 CLEARANCE TO COMBUSTIBLES.
Note: A duct enclosure shall not be required for a grease duct that penetrates a nonfire–resistance–rated roof/ceiling assembly.

GREASE DUCT ENCLOSURE DETAIL



HOOD ELEVATION

Scale 1/4"=1'-0"

GENERAL NOTES

INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL MECHANICAL AND UNIFORM PLUMBING CODES, NFPA 90A AND 101 AND ALL STATE AND LOCAL CODES, ORDINANCES AND REGULATIONS.

PLANS AND SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THE CODE WHERE CODE REQUIREMENTS ARE EXCEEDED.

CONTRACTOR SHALL FULLY COOPERATE WITH THE GENERAL CONTRACTOR TO MAINTAIN THE SCHEDULE AND PHASING OF THE WORK.

DRAWINGS ARE DIAGRAMATIC AND ARE INTENDED TO INDICATE THE GENERAL DESIGN CONCEPT. THEY DO NOT NECESSARILY INDICATE EACH AND EVERY FITTING OR FEATURE. THE CONTRACTOR SHALL PROVIDE ALL ITEMS NECESSARY FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT.

VERIFY ALL ACTUAL JOB CONDITIONS AND DETERMINE WHICH MAY AFFECT PROSECUTION OF THE WORK. COORDINATE WITH BUILDING STRUCTURE, EXISTING CONDITIONS AND ALL OTHER TRADES AS REQUIRED TO PROPERLY, NEATLY AND ORDERLY INSTALL ALL SYSTEMS WITHIN THE CONFINES OF THE SPACE AVAILABLE AND WITHOUT INTERFERENCES. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE PURCHASE OF EQUIPMENT AND COMMENCEMENT OF THE WORK.

FIELD VERIFY CLEARANCES IN ALL AREAS. CLEARANCES IN SOME AREAS MAY BE EXTREMELY LIMITED. ROUTE DUCTWORK AND PIPING AS SHOWN OR AS REQUIRED BY ACTUAL FIELD CONDITIONS. REPORT TO THE ENGINEER ANY OBSERVED CONFLICT, DEFICIENCY OR PERCEIVED OBSTRUCTION PRIOR TO INSTALLATION. FIT OF ALL ITEMS IS THE RESPONSIBILITY OF THE CONTRACTOR.

INSTALLATION OF RANGE HOOD DUCTS SHALL COMPLY WITH NFPA 96, "VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS" CHAPTER 3, "DUCT SYSTEM". FABRICATE RANGE HOOD EXHAUST DUCTS OF 0.0575–INCH THICK, CARBON STEEL SHEET (ASTM 366/A366M, COLD ROLLED SHEETS). EXTERNALLY WELD AND FLANGE SEAMS AND JOINTS WITH A CONTINUOUS LIQUID TIGHT WELD. INSTALL DUCTS TO ALLOW FOR THERMAL EXPANSION THROUGH 2000 DEGREES F. INSTALL DUCTS WITHOUT DIPS OR TRAPS. INSTALL ACCESS OPENING AT EACH CHANGE IN DIRECTION AND AT 50 FT INTERVALS. LOCATE ACCESS OPENINGS ON SIDES OF DUCT (IF POSSIBLE) AND FIT WITH GREASE TIGHT COVERS OF SAME MATERIAL AS DUCT.

PROVIDE FIRE PROOFING INSULATION ON KITCHEN HOOD EXHAUST DUCTWORK, INORGANIC BLANKET WRAP TYPE, 1–1/2 INCHES THICK, FLEXIBLE, FOIL ENCAPSULATED, ZERO CLEARANCE TO COMBUSTIBLE CONSTRUCTION TO THE OVERLAP OR COLLAR. INSULATION SHALL BE TESTED AND/OR APPROVED IN ACCORDANCE WITH UL 1978, ASTM–C411, C51, E84, E119, E136, AND E814 AND BE CODE–COMPLIANT. THE INSULATION SHALL SERVE AS 1 HOUR FIRE RESISTIVE BARRIER (AS REQ'D) AND BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A CONTINUOUS BARRIER AT JOINTS AND THROUGH PENETRATIONS. 3M FIRE BARRIER DUCT WRAP 15A OR EQUAL.

HORIZONTAL CLEANOUTS MAY BE LOCATED ON THE BOTTOM OF THE DUCT WHERE OTHER LOCATIONS ARE NOT AVAILABLE. EACH SHALL BE PROVIDED WITH INTERNAL DAMMING OF THE OPENING SUCH THAT GREASE WILL FLOW PAST THE OPENING WITHOUT POOLING. BOTTOM CLEANOUTS SHALL BE APPROVED FOR THE APPLICATION AND INSTALLED LIQUID TIGHT.

ACCESS OPENINGS IN THE ONE HOUR ENCLOSURE SHALL BE PROVIDED AT ALL CLEANOUTS. ACCESS OPENINGS SHALL BE COMPATIBLE WITH THE ONE HOUR ENCLOSURE SYSTEM BEING USED. IF HINGED ACCESS OPRNINGS ARE USED, COORDINATE THE SWING WITH THE LAY–IN CEILING SYSTEM AND PROVIDE EASILY REMOVABLE CEILING TRACK TO ALLOW FULL OPENING OF THE ACCESS OPENING. PLACE A SIGN ON THE ACCESS OPENING PANEL READING "ACCESS PANEL, DO NOT OBSTRUCT".

GREASE DUCTS SHALL BE LIGHT TESTED IN ACCOEDANCE WITH THE 2012 IMC (SECTION 506.3.2.5).

SUPPORT ALL DUCTWORK INDEPENDANTLY, DIRECTLY FROM STRUCTURAL MEMBERS, NOT METAL DECK.

CAULK AND SEAL ALL DUCT AND PIPING PENETRATIONS OF DEMISING WALLS.

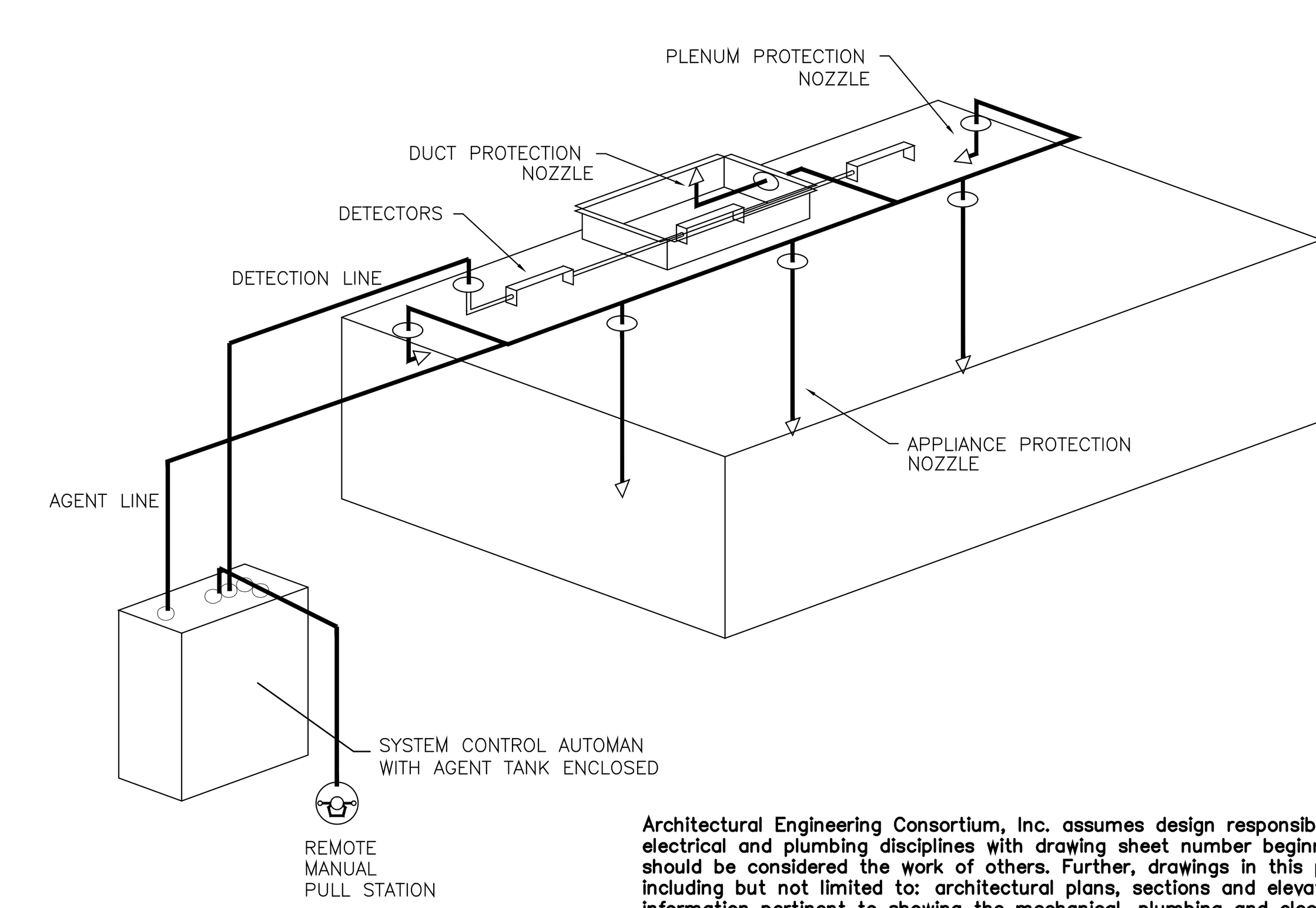
THE CONTRACTOR SHALL TAKE CARE TO MAINTAIN THE INTEGRITY OF ALL FIRE RATED AND SOUND RATED ASSEMBLIES.

VERIFY EXACT LOCATION, SIZE, CONDITION AND SERVICE OF EXISTING DUCTWORK. DETERMINE SUITABILITY OF USE, CAPACITY AND CONNECTION PRIOR TO MAKING NEW CONNECTIONS. NOTIFY A/E OF ANY OBSERVED OR SUSPECTED DEFICIENCY.

DRAWINGS SHOWING EXISTING CONDITIONS ARE BASED ON INFORMATION FURNISHED BY OTHERS, EXISTING BUILDING CONSTRUCTION & 'RECORD' DRAWINGS AND LIMITED SITE OBSERVATIONS. THEY ARE INTENDED TO INDICATE DESIGN CONCEPTS ONLY AND ARE NOT GUARANTEED TO BE 100% ACCURATE OR ALL INCLUSIVE NOR DO THEY NECESSARILY SHOW EACH AND EVERY FITTING AND DEVICE NOR ARE THEY GUARANTEED TO SHOW EACH AND EVERY ITEM REQUIRING REMOVAL AND/OR RELOCATION. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS AND HOW THEY MAY EFFECT THE PROSECUTION OF THE WORK OF THIS CONTRACT.

DRAINAGE PIPING SHALL BE SLOPED IN ACCORDANCE WITH CODE, BUT NOT LESS THAN 1/8" PER FOOT FOR 3" AND LARGER PIPING AND 1/4" PER FOOT FOR 2–1/2" AND SMALLER PIPING. ALL INVERT ELEVATIONS SHALL BE COORDINATED WITH THE STRUCTURAL FOOTINGS.

TEST AND CLEAN PIPING SYSTEMS PER INDUSTRY STANDARDS. PRESSURE TEST OF PRESSURE PIPING SHALL BE AT 1–1/2 TIMES THE ANTICIPATED OPERATING PRESSURE, BUT NOT LESS THAN 50 PSIG FOR 2 HOURS. NON–PRESSURIZED SYSTEMS SHALL BE TESTED WITH 10' WATER COLUMN ABOVE NORMAL OPERATING CONDITIONS OR 5 PSI FOR 2 HOURS. THERE SHALL BE NO MEASURABLE DROP DURING THE TEST PERIOD.



STATE OF MISSOURI
GREGORY P. GLADFELTER
NUMBER E–2000150421
REGISTERED PROFESSIONAL ENGINEER
1□□1□□□□□1

TOKYO GRILLE
3528 S.W. MARKET ST. LEE'S SUMMIT, 64082

AEC
□R□□□□□□R□□
□□□□□R□□
□□□□□R□□M□□□
KANSAS OFFICE
MISSOURI OFFICE

Date:	Issued for:

Project number:

Drawn: RES

Date: 10-21-21

Sheet Number: M2