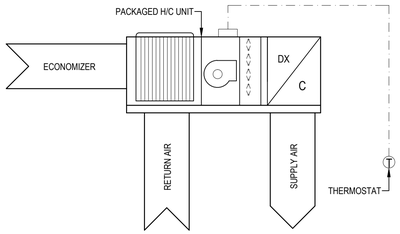
SEQUENCE OF OPERATIONS

PACKAGED H/C UNIT WITH ECONOMIZER:

THE SUPPLY FAN WILL START DURING THE OCCUPIED PERIODS AS SET BY THE PROGRAMMABLE THERMOSTAT. IF COOLING IS REQUIRED AND OUTDOOR AIR CONDITION IS SUITABLE THE CONTROLLER WILL MODULATE THE MIXED AIR DAMPER TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT. IF OUTDOOR CONDITION IS NOT SUITABLE THE MIXED AIR DAMPERS WILL BE MODULATED TO A MINIMUM POSITION. IF THE MIXED AIR DAMPERS ARE AT MINIMUM POSITION OR THE OUTDOOR DAMPERS ARE AT 100% OPEN AND ADDITIONAL COOLING IS REQUIRED THE UNIT SHALL START THE CONDENSER FAN(S) AND COMPRESSOR(S) TO MAINTAIN THE USER ADJUSTABLE COOLING SPACE SETPOINT. IF HEATING IS REQUIRED THE UNIT WILL ENERGIZE THE HEATING SYSTEM AND CYCLING THE HEATING STAGE(S) AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE HEATING SETPOINT. IF THE SPACE TEMPERATURE IS BETWEEN THE HEATING AND COOLING SETPOINT, THE SUPPLY FAN WILL CONTINUE TO OPERATE, BUT NEITHER HEATING NOR COOLING WILL BE ENABLED.

IN THE UNOCCUPIED MODE THE SUPPLY FAN WILL BE STOPPED AND THE ECONOMIZER DAMPERS SHALL CLOSE. IF SPACE TEMPERATURE WERE TO RISE ABOVE OR FALL BELOW THE UNOCCUPIED SPACE SET POINTS THE SUPPLY FAN WILL START AND HEATING OR COOLING WILL BE ENABLED TO MAINTAIN THE SPACE TEMPERATURE AT THE UNOCCUPIED SPACE TEMPERATURE SETPOINT.



PACKAGED H/C UNIT CONTROL SYSTEM SCHEMATIC

NTS

ENERGY CODE COMPLIANCE NOTES

A. COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE IS REQUIRED FOR THIS PROJECT. THESE NOTES COVER MANDATORY REQUIREMENTS OF THE CODE. ADDITIONAL REQUIREMENTS ARE NOTED ON THE DRAWINGS AND IN THE SPECIFICATIONS.

B. MINIMUM REQUIREMENTS FOR SUPPLY AND RETURN DUCTWORK INSULATION:

1. R-5: DUCTS LOCATED IN UNCONDITIONED SPACES (SPACE NEITHER HEATED NOR COOLED SUCH AS ABOVE CEILING SPACES, WALL SPACES, DUCT CHASES, SOFFITS, ATTICS, CRAWL SPACES, UNHEATED BASEMENTS, AND UNHEATED GARAGES).

2. R-8: DUCTS LOCATED OUTSIDE OF THE BUILDING'S INSULATION ENVELOPE (SUCH AS ABOVE THE ATTIC INSULATION).

TYPICAL INSULATION THICKNESS REQUIRED TO MEET THESE REQUIREMENTS:

1. FIBERGLASS DUCT WRAP: R-5 (2"), R-8 (3").

2. FIBERGLASS DUCT LINER: R-5 (1 1/2"), R-8 (2").

C. CONTRACTOR SHALL VERIFY WITH THE MANUFACTURER, THE R-VALUES OF THE ACTUAL INSULATION USED. R-VALUES SHALL BE INSTALLED VALUES.

D. WHERE DUCTS USED FOR COOLING ARE EXTERNALLY INSULATED, THE INSULATION SHALL BE COVERED WITH A VAPOR RETARDER HAVING A MAXIMUM PERMEANCE OF 0.05 PERM OR ALUMINUM FOIL HAVING A MINIMUM THICKNESS OF 2 MILS. INSULATION HAVING A PERMEANCE OF 0.05 PERMS OR LESS SHALL NOT BE REQUIRED TO BE COVERED. ALL JOINTS AND SEAMS SHALL BE SEALED TO MAINTAIN THE CONTINUITY OF THE VAPOR RETARDER.

E. ALL DUCT JOINTS, SEAMS, AND CONNECTIONS SHALL BE FASTENED AND SEALED WITH WELDS, GASKETS, ADHESIVES, MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS, OR TAPES. TAPES AND MASTICS SHALL BE LISTED AND LABELED PER UL181A OR UL181B. DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS. DUCT CONNECTIONS TO FLANGES OR EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED.

F. MINIMUM REQUIREMENTS (THICKNESS) FOR PIPING INSULATION SHALL BE AS FOLLOWS:

FLUID	NOMINAL PIPE DIAMETER 1/2" TO 1 1/2"	2" AND ABOVE
1. REFRIGERANT	1"	1 1/2"

THE ABOVE INSULATION IS BASED ON HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU-INCH/HOUR-FT2-°F.

G. DOMESTIC HOT WATER PIPING SYSTEMS SHALL BE INSULATED WITH 1" INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU-INCH/HOUR-FT2-°F.

H. DOMESTIC WATER HEATERS WHICH ARE NOT PROVIDED WITH INTEGRAL HEAT TRAPS AND SERVE NONCIRCULATING SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING AT THE WATER HEATER.

I. DOMESTIC HOT WATER SYSTEMS WITH RECIRCULATION PUMPS OR ELECTRIC HEAT TRACE SHALL BE CONTROLLED WITH 7-DAY TIME CLOCKS.

J. AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE O&M MANUAL SHALL CONTAIN THE FOLLOWING INFORMATION AS A MINIMUM:

1. EQUIPMENT CAPACITY (INPUT & OUTPUT).

2. EQUIPMENT OPERATING AND MAINTENANCE INSTRUCTIONS.

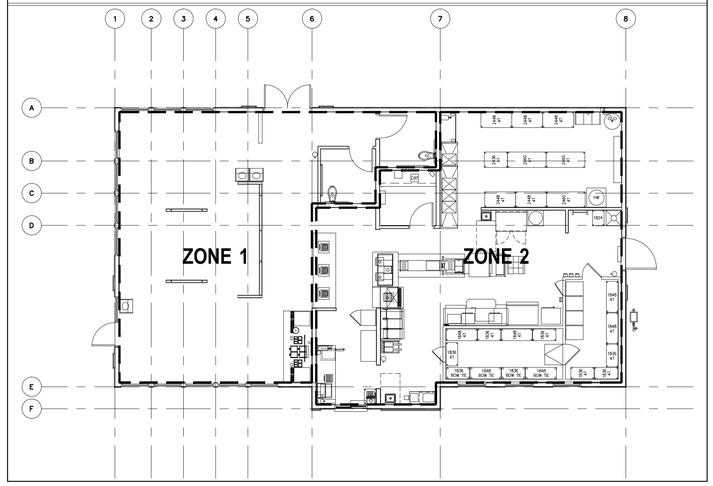
3. CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCES.

4. CONTROL SYSTEM SETPOINTS SHALL BE SHOWN ON CONTROL DRAWINGS, AT CONTROL DEVICES, OR IN PROGRAMMING COMMENT ON DDC SYSTEMS.

5. A COMPLETE WRITTEN NARRATIVE ON HOW EACH MECHANICAL SYSTEM IS INTENDED TO OPERATE.

ZONING PLAN

RE: MECHANICAL HVAC PLAN



MUSGROVE ENGINEERING, PA

234 S. WHISPERWOOD WAY BOISE, IDAHO 83709

Zone Summary

PROJECT:	Carl's Jr. Spokane		Design Conditions		Winter	4	Summer	93		
COMPUTED BY:	TCH		DATE:	19-May-16	CHK BY:	CEP				
			Heating Load		Sensible Cooling Load	Total Cooling Load				Unit Selection Size
	Zone Reference	FLOOR SQ. FT.	BTUH	kW	BTUH	BTUH	NOMINAL TON (12000-BTUH/TON)	SQ. FT PER NOMINAL TON	NUMBER OF PEOPLE	OSA	TONS
1	Dining Area	1025	131,603	39	109,319	124,466	10.4	98.8	54	1425	
2	Kitchen	1270	125,204	37	124,299	125,982	10.5	121.0	6	1425	
	Total Loads =	2295	256,807	75	233,618	250,448	20.9	110	60	2850	

Energy Compliance Calculations *(Not Equipment Schedule)*

Equipment is selected based on next available size

erstad ARCHITECTS, PA
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(208) 331 9031 www.erstadarchitects.com

PROTOTYPE T27-C-54 2450.8 - CONTEMPORARY STAR

1230 N. Division Street.
Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: cep

Permit Set

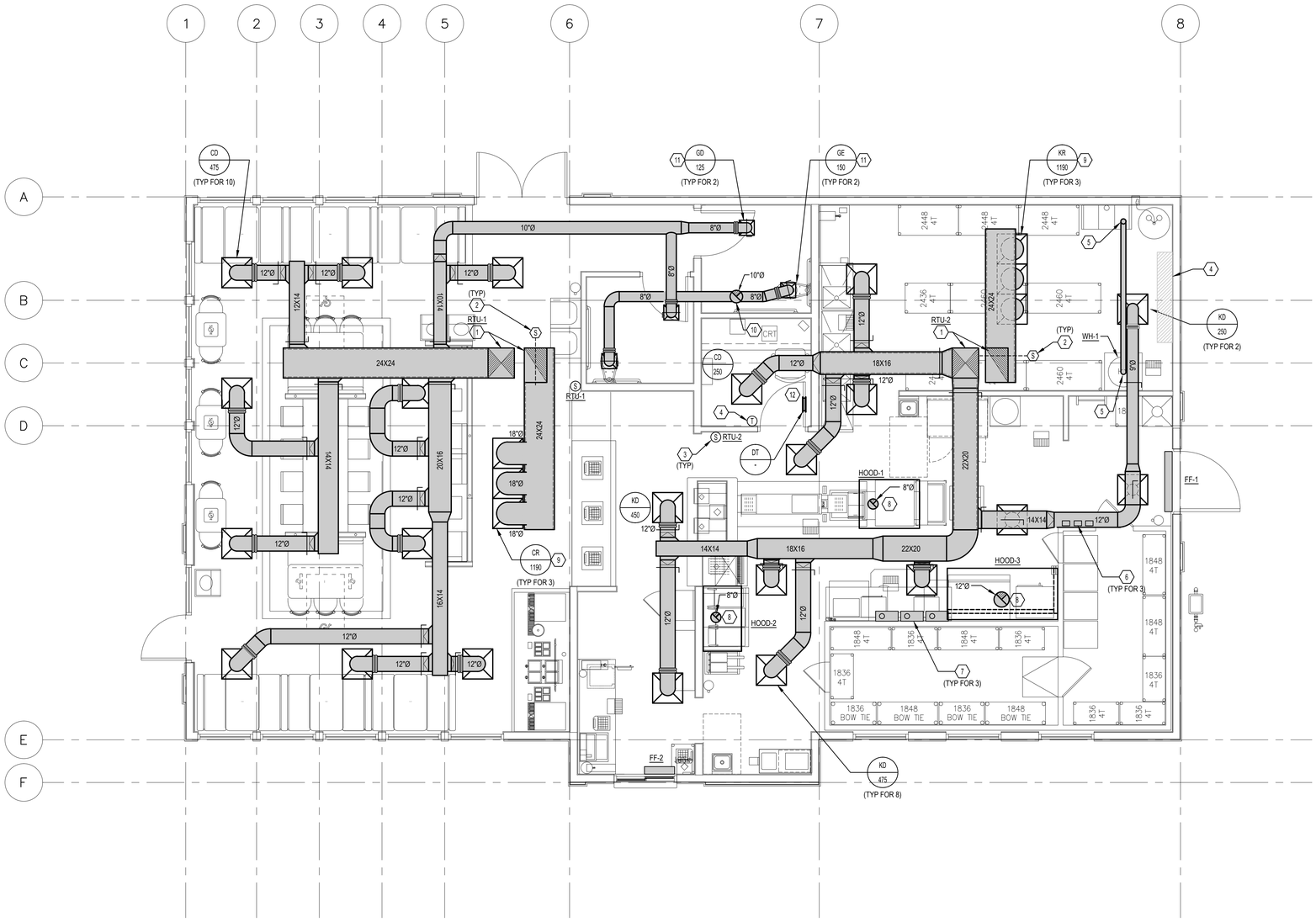
	DATE	DESCRIPTION

SHEET TITLE:

MECHANICAL ENERGY NOTES

SHEET NUMBER:

M0.0



KEYED NOTES

1.	ROUTE SUPPLY AND RETURN DUCTS DOWN FROM THE RTU CONNECTIONS AND TRANSITION THROUGH THE ROOF TO SIZES AS SHOWN. INSTALL COMPLETE WITH FLEXIBLE CONNECTIONS AT EQUIPMENT. PROVIDE 1/2" INTERNALLY LINED ACOUSTIC INSULATION FOR RETURN DUCTWORK AND THE FIRST 10'-0" OF SUPPLY DUCTWORK.
2.	FACTORY AVAILABLE SMOKE DETECTOR CAPABLE OF SHUTTING DOWN THE RESPECTIVE MECHANICAL UNIT UPON ACTIVATION.
3.	WALL MOUNTED REMOTE ZONE COMBINATION TEMPERATURE SENSOR SHALL BE MOUNTED AT 54" AFF, AND WIRED BACK TO HVAC CONTROLS PACKAGE INTEGRATED INTO THE ELECTRICAL GEAR. COORDINATE PLACEMENT WITH WALL DECOR AND EQUIPMENT. FIELD VERIFY WITH THE OWNER'S REPRESENTATIVE FOR THE FINAL LOCATION PRIOR TO INSTALLATION.
4.	PROGRAMMABLE THERMOSTAT CONTROLS SHALL BE INSTALLED IN THE ELECTRICAL PANEL (BY OTHERS). COORDINATE THE COMPLETE INSTALLATION WITH HILL PHOENIX.
5.	ROUTE 4" CPVC EXHAUST AND INTAKE FLUES FROM WATER HEATER TO TERMINATION LOCATION ON THE ROOF. INSTALL WITH THE MINIMUM ELBOWS AND OFFSETS AS NECESSARY FOR A COMPLETE INSTALLATION PER THE WATER HEATER MANUFACTURER'S REQUIREMENTS. OFFSET AS NEEDED TO MAINTAIN CLEARANCES.
6.	MANUAL PULL STATION FOR TYPE-1 KITCHEN HOOD FIRE SUPPRESSION SYSTEM ACTIVATION AND GAS SUPPLY SHUT-OFF, TO BE FURNISHED WITH THE OWNER PROVIDED EXHAUST HOOD PACKAGE, AND INSTALLED COMPLETE BY THE FIRE SUPPRESSION SUBCONTRACTOR. GENERAL CONTRACTOR SHALL PROVIDE SURFACE MOUNTED JUNCTION BOX AND CONDUIT FOR PULL STATION LINKAGE. FIRE SUPPRESSION SUBCONTRACTOR SHALL VERIFY APPROVED LOCATION WITH THE LOCAL AUTHORITY AND COORDINATE THE COMPLETE INSTALLATION WITH ALL OTHER TRADES.
7.	FIRE SUPPRESSION CABINET(S) TO BE FURNISHED WITH THE OWNER PROVIDED EXHAUST HOOD PACKAGE, AND INSTALLED COMPLETE BY THE FIRE SUPPRESSION SUBCONTRACTOR.
8.	GREASE EXHAUST DUCT RISER FROM HOOD COLLAR CONNECTION. SHALL BE ROUTED STRAIGHT UP TO ROOF MOUNTED EXHAUST FAN. GREASE DUCT SHALL BE PREMANUFACTURED 20 GAUGE STAINLESS STEEL SINGLE WALL. FACTORY BUILT DUCT SUITABLE FOR USE WITH TYPE 1 EXHAUST HOODS. THE EXHAUST DUCT, FITTINGS, SUPPORTS, FAN ADAPTORS AND HOOD CONNECTIONS SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. EXHAUST DUCT SHALL BE FACTORY EQUIPPED WITH UL LISTED FIRE WRAP INSULATION FOR 0" CLEARANCE TO COMBUSTIBLES. REFER TO DUCT MANUFACTURER'S LITERATURE FOR PROPER INSTALLATION METHODS. SEE SHEET M3.0 FOR INSTALLATION DETAILS.
9.	ALL RETURN GRILLE AIR QUANTITIES LISTED ARE FOR STANDARD OPERATING HOURS WITH FULL OUTDOOR AIR INTAKE AT THE RTU. RETURN DUCT BRANCHES AND VOLUME DAMPER ARE SIZED FOR FULL RETURN AIR FOR NIGHT SETBACK CONDITIONS. REFER TO SHEET M2.0 FOR THE AIR BALANCE SCHEDULE AND NOTES ON DESIGN AIRFLOW RATES.
10.	EXTEND THE RESTROOM EXHAUST RISER HORIZONTALLY AS SHOWN AND ROUTE UP TO ROOF MOUNTED EXHAUST FAN.
11.	AIR DEVICE IN HARD LID CEILING SHALL BE INSTALLED COMPLETE WITH AN ACCESSIBLE OPPOSED BLADE DAMPER FOR MANUAL VOLUME ADJUSTMENT.
12.	FIELD COORDINATE THE INSTALLATION OF THE OFFICE DOOR LOUVERS. AIR DEVICES SHALL BE FURNISHED BY THE M.C. AND INSTALLED BY THE G.C.

PROJECT N / TRUE N

MECHANICAL FLOOR PLAN
SCALE: 1/4"=1'-0" | 1

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DATE: 06/10/16
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CHECKED: cep

Permit Set

	DATE	DESCRIPTION

SHEET TITLE:
MECHANICAL FLOOR PLAN

SHEET NUMBER:
M1.0

EXHAUST FAN SCHEDULE

MARK	SERVICE	CFM	E.S.P. "WG	RPM	MOTOR HP	VOLTS/ PH	MANUFACTURER	MODEL	TYPE	WEIGHT	NOTES
KEF-1	HOOD #1 - BROILER	660	1.00	1144	0.50	120/1	CAPTIVEAIRE	NCA14HPFA	ROOF UPBLAST FAN	130	1,3,5,6,7
KEF-2	HOOD #2 - FRYER	650	0.75	1419	0.33	120/1	CAPTIVEAIRE	DU33HFA	ROOF UPBLAST FAN	60	1,3,5,6,7
KEF-3	HOOD #3 - GRIDDLE	1133	0.75	1289	0.50	120/1	CAPTIVEAIRE	DU50HFA	ROOF UPBLAST FAN	60	1,3,5,6,7
TEF-1	RESTROOMS	300	0.50	1515	0.08	120/1	CAPTIVEAIRE	DR10HFA	ROOF DOWNBLAST FAN	30	2,4,6,7

NOTES: (NOT ALL MAY APPLY)

1. EXHAUST FAN SHALL BE CONTROLLED VIA INTEGRATED SWITCHGEAR. COORDINATE REQUIRED WORK WITH THE ELECTRICAL CONTRACTOR.
2. PROVIDE INDEPENDENT WEATHER PROOF DISCONNECT SWITCH IN SIGHT OF THE EQUIPMENT. COORDINATE REQUIRED WORK WITH THE ELECTRICAL CONTRACTOR.
3. WEATHER PROOF DISCONNECT SWITCH AND INTERNAL WIRING SHALL BE FACTORY INSTALLED.
4. PROVIDE GRAVITY BACKDRAFT DAMPER.
5. PROVIDE FACTORY AVAILABLE GREASE BOX.
6. EXHAUST FAN SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR.
7. FOR ADDITIONAL INFORMATION PERTAINING TO THE FAN PACKAGE, CONTACT MR. STEVE SANKEY OF CAPTIVEAIRE AT 800.967.7701 OR REG86@CAPTIVEAIRE.COM

FLY FAN SCHEDULE

MARK	SERVICE	CFM	MOTOR HP	VOLTS/ PH	MANUFACTURER	MODEL	TYPE	WEIGHT	NOTES
FF-1	REAR SERVICE DOOR	2550	0.50	120/1	MARS	48 CH	WALL MNTD, DOWNBLAST	60	1 THRU 3
FF-2	DRIVE THRU WINDOW	900	0.17	120/1	MARS	LPV 36	WALL MNTD, DOWNBLAST	35	1 THRU 3

NOTES: (NOT ALL MAY APPLY)

1. INSTALL COMPLETE WITH MANUFACTURER AVAILABLE DOOR LIMIT MICRO SWITCH.
2. FAN SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE GENERAL CONTRACTOR.
3. REFER TO KITCHEN EQUIPMENT SHEET K1.0 FOR PROPOSED LOCATION(S).

AIR DEVICE SCHEDULE

MARK	FACE SIZE	TYPE	MOUNTING TYPE	MAXIMUM N.C.	DIRECTION	MANUFACTURER	MODEL	NOTES
CD	24x24	SUPPLY	LAY-IN	30	4-WAY	TITUS	OMNI	1,2,3
DT	12x12	TRANSFER	SURFACE (ON DOOR)	30	1-WAY	TITUS	CT700L	1
GD	12x12	SUPPLY	SURFACE	30	4-WAY	TITUS	OMNI	1,2,3
KD	24x24	SUPPLY	LAY-IN	30	1-WAY	TITUS	PAR	1,2,3,4
CR	24x24	RETURN	LAY-IN	30	1-WAY	TITUS	4FL	1,2,3
GE	12x12	EXHAUST	SURFACE	30	1-WAY	TITUS	4FL	1,2,3
KR	24x24	RETURN	LAY-IN	30	1-WAY	TITUS	PAR	1,2,3,4

NOTES: (NOT ALL MAY APPLY)

1. PROVIDE NECESSARY MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED FOR INTENDED INSTALLATION.
2. AIR DEVICE(S) SHALL BE FACTORY FINISHED WHITE.
3. AIR DEVICE(S) SHALL BE INSTALLED WITH MANUFACTURER AVAILABLE MOLDED INSULATION BACKING.
4. DO NOT INSTALL WITH PATTERN CONTROLLERS FOR DIRECTED AIRFLOW. VERTICAL 'DUMP' DISCHARGE IS INTENDED.

EXHAUST HOOD SCHEDULE

MARK	SERVICE	WIDTH	EXH. RATE (CFM/LF)	EXHAUST (CFM)	FILTER(S)	EXHAUST COLLAR	MOUNTING HEIGHT (AFF)	NOTES
HOOD #1	BROILER	3'-3"	200	660	(2)20"x16"	8"Ø	65"	1 THRU 7
HOOD #2	FRYER	4'-4"	150	650	(2)16"x16" (1)16"x20"	8"Ø	71"	1 THRU 7
HOOD #3	GRIDDLE	7'-1"	160	1133	(4)16"x16" (1)16"x20"	12"Ø	78"	1 THRU 7

NOTES: (NOT ALL MAY APPLY)

1. ALL EXPOSED SURFACES ARE TO BE FABRICATED OF 18 GA. TYPE 430 SS.
2. ALL NON-EXPOSED STRUCTURAL SURFACES TO BE 16 GA. GALVANIZED STEEL.
3. GREASE EXHAUST PLENUM TO BE 16 GA. GALVANIZED STEEL, CONTINUOUSLY WELDED AND PITCHED AT A MINIMUM 1/4" PER FOOT TO A CLEANABLE RECEPTOR.
4. HOODS ARE OF UL LISTED CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH ALL UL SPECIFICATIONS.
5. EXHAUST HOODS SHALL BE FIELD CUT FOR THE INSTALLATION OF THE EXHAUST COLLARS. EXHAUST COLLARS SHALL BE EXTERNALLY WELDED ON TO THE HOOD FOR A LIQUID TIGHT SEAM.
6. GREASE FILTERS ARE OF UL LISTING R6593, AND SHALL BE CLASS 1 WHEN TESTED IN ACCORDANCE WITH THE TEST METHOD IN SFM 12-71-1.
7. EXHAUST HOOD SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR.
8. FOR ADDITIONAL INFORMATION PERTAINING TO THE HOOD PACKAGE, CONTACT MR. STEVE SANKEY OF CAPTIVEAIRE AT 800.967.7701 OR REG86@CAPTIVEAIRE.COM

AIR BALANCE SCHEDULE

MARK	DINING (CFM)			KITCHEN (CFM)		
	S/A	O/A	E/A	S/A	O/A	E/A
RTU-1	5000	1425	-	-	-	-
RTU-2	-	-	-	5000	1425	-
RTU-3	-	-	-	-	-	-
KEF-1	-	-	-	-	-	660
KEF-2	-	-	-	-	-	650
KEF-3	-	-	-	-	-	1133
TEF-1	-	-	300	-	-	-
TOTAL	5000	1425	300	5000	1425	2443

DINING PRESSURIZATION (O/A) - (E/A)= +1125 CFM

KITCHEN PRESSURIZATION (O/A) - (E/A)= -1018 CFM

NET BUILDING PRESSURIZATION (DINING + KITCHEN)= +107 CFM

PACKAGED ROOFTOP UNIT SCHEDULE

	MARK	RTU-1	RTU-2
GENERAL	SERVING	DINING	KITCHEN
	MANUFACTURER	YORK	YORK
	MODEL NO.	ZH150	ZH150
	TYPE	GAS/ELEC	GAS/ELEC
	OPERATING WEIGHT, LBS.	1665	1665
	LENGTH, WIDTH, HEIGHT	120"x59"x51"	120"x59"x51"
	MINIMUM EER	11.2	11.2
ELECTRICAL	VOLTS/ PH/ HZ	208/3/60	208/3/60
	MCA (AMPS)	74.1	74.1
	MOCP (AMPS)	90	90
SUPPLY FAN	SUPPLY AIR CFM	5000	5000
	OUTSIDE AIR CFM	1425	1425
	ESP ("W.G.)	0.8	0.8
	FAN RPM	1389	1389
	MOTOR BHP	4.74	4.74
COOLING	NOMINAL SIZE TONS	12.5	12.5
	TOTAL CAPACITY (MBH)	156.4	156.4
	SENSIBLE CAPACITY (MBH)	145.3	145.3
	OUTSIDE AIR DB/WB, °F.	95	95
	ENTERING AIR DB/WB, °F.	80/62	80/62
HEATING	HEAT SOURCE (ELEC/GAS)	GAS	GAS
	HEATING INPUT (kW/MBH)	240	240
	HEATING OUTPUT (kW/MBH)	192	192
	OUTSIDE AIR DB/WB, °F.	17	17
	LEAVING AIR DB/WB, °F.	92.7	92.7
NOTES		1 THRU 12	1 THRU 12

NOTES: (NOT ALL MAY APPLY)

1. PROVIDE A FACTORY AVAILABLE UN-INSULATED FLAT ROOF CURB THAT SHALL BE FIELD ASSEMBLED AND SHIMMED SUCH THAT THE TOP OF THE CURB SETS LEVEL. ROOF CURBS TO BE INSTALLED BY THE GENERAL CONTRACTOR, AND FIELD INSULATED BY THE MECHANICAL CONTRACTOR.
2. PROVIDE WITH LOW AMBIENT CONTROLS, HAIL GUARD, HINGED ACCESS PANELS, CRANK CASE HEATER, FROSTAT, AND STAINLESS STEEL HEAT EXCHANGERS.
3. SENSORS AND LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. COORDINATE TERMINATION AT THE INTEGRATED CONTROLS PACKAGE AT THE GEAR WITH THE ELECTRICAL CONTRACTOR.
4. PROVIDE WITH MANUFACTURER AVAILABLE REMOTE TEMPERATURE SENSOR AND PROGRAMMABLE 24/7 THERMOSTAT CAPABLE OF AUTOMATIC CLG/ HTG CHANGEOVER.
5. PROVIDE FACTORY INSTALLED ENTHALPY CONTROLLED ECONOMIZER WITH MOTORIZED OUTSIDE AIR DAMPER.
6. PROVIDE FACTORY AVAILABLE RETURN AIR SMOKE DETECTOR(S), CAPABLE OF SHUTTING DOWN THE ROOFTOP UNIT UPON ACTIVATION.
7. PROVIDE FACTORY INSTALLED ELECTRICAL DISCONNECT. CONVENIENCE RECEPTACLE SHALL BE FIELD WIRED BY THE E.C. AND POWERED SEPARATELY FROM THE UNIT.
8. PROVIDE BOTTOM ENTRY SINGLE POINT ELECTRICAL POWER AND GAS CONNECTIONS.
9. UNIT SELECTIONS ARE BASED ON R-410A REFRIGERANT.
10. CKE HAS A NATIONAL ACCOUNT AGREEMENT WITH YORK INTERNATIONAL THAT INCLUDES AN OPTION FOR A SPECIAL 10-YEAR PARTS AND LABOR ALLOWANCE WARRANTY ON THE ENTIRE PACKAGED UNIT. IT SHALL BE THE INSTALLERS RESPONSIBILITY TO VERIFY THIS IS INCLUDED WITH THE UNITS INSTALLED.
11. ROOFTOP UNIT SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR.
12. FOR ADDITIONAL INFORMATION PERTAINING TO THE HVAC PACKAGE, CONTACT MR. MATTHEW McNAIR OF YORK INDUSTRIES AT 405.419.6543 OR MATTHEW.R.MCNAIR@JCI.COM

MECHANICAL LEGEND

SYMBOL	ABBR.	DESCRIPTION
	CD	CEILING DIFFUSER - SUPPLY
	CD	CEILING DIFFUSER BELOW DUCT - SUPPLY
	SAD	RISER - SUPPLY AIR DUCT
	SAD	DROP - SUPPLY AIR DUCT
	CR	CEILING REGISTER - RETURN
	CR	CEILING REGISTER BELOW DUCT - RETURN
	RAD	RISER - RETURN AIR DUCT
	RAD	DROP - RETURN AIR DUCT
	CE	CEILING REGISTER - EXHAUST
	CE	CEILING REGISTER BELOW DUCT - EXHAUST
	EAD	RISER - EXHAUST AIR DUCT
	EAD	DROP - EXHAUST AIR DUCT
	(L)	LINED DUCTWORK
	VD	MANUAL VOLUME DAMPER
	FC	FLEXIBLE CONNECTION
		NEW DUCT
TAG / CFM		AIR DEVICE DESIGNATION
T	TSTAT	PROGRAMMABLE THERMOSTAT
S	SENS	REMOTE TEMPERATURE SENSOR
H	HUM	REMOTE HUMIDITY SENSOR
S	SD	SMOKE DETECTOR
	POC	POINT OF CONNECTION
	CFM	CUBIC FEET PER MINUTE
	S/A	SUPPLY AIR
	O/A	OUTSIDE AIR
	E/A	EXHAUST AIR
	S.P.	STATIC PRESSURE
	FOH	FRONT OF HOUSE
	BOH	BACK OF HOUSE

O/A VENTILATION SCHEDULE

AREA SERVED	# OF PEOPLE	CFM/PERSON	CFM
DINING	64	20	1280
KITCHEN	8	15	120
		TOTAL O/A REQUIRED	1400

NOTES:

1. CALCULATIONS ARE BASED ON 2012 IMC, TABLE 403.3
2. OUTDOOR AIR DEMAND IS: - 1400 CFM
   OUTDOOR AIR PROVIDED IS: + 2850 CFM

   OUTDOOR AIR DIFFERENCE IS: + 1450 CFM
3. REFER TO THE AIR BALANCE SCHEDULE ON THIS SHEET FOR ADDITIONAL INFORMATION

MECHANICAL GENERAL NOTES

1. NOTE: FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
2. THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE INFORMATION AND COOPERATE WITH THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR THE COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
3. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH THEY FURNISH AND INSTALL.
4. PROVIDE WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO TENANT, FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. WARRANTIES SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION.
5. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES ALL REQUIRED OPENINGS AND PENETRATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOF SHALL BE CONSTRUCTED INTO THE STRUCTURE WITH THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
6. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
7. ALL OUTDOOR AIR INTAKES BY MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, COMBUSTION EXHAUST OR PLUMBING VENT.
8. COORDINATE THE INSTALLATION AND FINISH OF ALL SUPPLY AND RETURN AIR DEVICES. ALL INTERIOR FACES OF DUCTWORK BEHIND RETURN AIR GRILLES SHALL BE PAINTED FLAT BLACK FOR LINE OF SIGHT.
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHT FIXTURES AS WELL AS SPRINKLER PIPING AND HEADS (WHERE INCLUDED IN THE PROJECT) FOR A COMPLETE INSTALLATION.
10. ROOFTOP UNITS SHALL BE SET TO RUN IN "FAN CONTINUOUS" MODE DURING OCCUPIED HOURS. DURING NIGHT SET-BACK HOURS, THE ROOFTOP UNITS SHALL RUN IN "FAN AUTO" MODE.
11. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" HIGH BLACK OVER WHITE LAMINATE NAMEPLATE WITH 2" LETTERS VISIBLE ADJACENT TO DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT.
12. ALL CONDUITS, DISCONNECT SWITCHES AND FINAL CONNECTIONS FOR LINE VOLTAGE WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR. LOW VOLTAGE CONDUIT, WIRING AND FINAL CONNECTION BY MECHANICAL CONTRACTOR.
13. PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO ALL MOVING MACHINERY NOT INTERNALLY ISOLATED.
14. SUPPLY, RETURN AND RESTROOM EXHAUST DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL. ANY REQUIRED GAUGES, SWAY BRACING AND SUSPENSION SHALL CONFORM TO SMACNA STANDARDS. SEAL ALL SEAMS AND JOINTS AIR AND WATERTIGHT. FLEXIBLE ALUMINUM DUCTWORK OR FIBERGLASS DUCTBOARD IS NOT ALLOWED (UNO).
15. ALL RECTANGULAR, ROUND, AND FLEXIBLE DUCTWORK SHALL BE SIZED WITH CLEAR INSIDE DIMENSIONS AS SHOWN ON THESE DRAWINGS; AND SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED SMACNA STANDARDS. ALL JOINTS, SEAMS, AND CONNECTIONS MUST BE SECURELY FASTENED & SEALED.
16. ALL HVAC SUPPLY AND RETURN CONCEALED DUCTWORK TO BE EXTERNALLY WRAPPED AND SECURED WITH MINIMUM R-6.0 INSULATION WITH VAPOR BARRIER PER 2012 INTERNATIONAL MECHANICAL CODE, WITH LOCAL JURISDICTION CODE AMENDMENTS. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED.
17. ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.
18. THE WALL MOUNTED TYPE-1 KITCHEN EXHAUST HOODS SHALL BE INSTALLED WITH TOP OF HOOD HEIGHTS AS NOTED IN THE HOOD SCHEDULE. COORDINATE THEIR COMPLETE INSTALLATION AND PLACEMENT IN THE FIELD.
19. REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM, FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.
20. PITCH ALL HORIZONTAL GREASE DUCTWORK UNIFORMLY BACK TOWARDS THE RESPECTIVE HOOD AT A MINIMUM 1/4" PER FOOT.
21. ROOF CURBS FOR EXHAUST FANS SHALL BE PER DETAIL 5/A3.4, AND FURNISHED WITH THE FAN BASE, HOOD AND FAN PACKAGE. THE GENERAL CONTRACTOR SHALL FLASH ROOF CURBS AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
22. ROOF CURBS FOR ROOFTOP UNITS SHALL BE FACTORY FABRICATED OF GALVANIZED STEEL CONSTRUCTION WITH WOOD NAILER, AND FURNISHED WITH THE HVAC EQUIPMENT PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FIELD ASSEMBLE THE ROOF CURBS, FLASH AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
23. THE GREASE EXHAUST DUCT RISERS BETWEEN THE HOOD COLLARS AND EXHAUST FANS SHALL BE OF THE SAME SIZE AS THE RESPECTIVE HOOD COLLAR SIZE, UNO. REFER TO THE HOOD SHEETS FOR THE HOOD COLLAR SIZES AS PROVIDED BY THE HOOD MANUFACTURER.
24. PER 2012 INTERNATIONAL MECHANICAL CODE, WITH LOCAL JURISDICTION CODE AMENDMENTS WHEN REQUIRED, EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CUBIC FEET PER MINUTE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR MOVING EQUIPMENT DEVICES WHICH WILL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT, AND WHICH COMPLY WITH THE IBC, SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING, SMOKE DETECTORS SHALL BE SUPERVISED BY SUCH SYSTEMS.
25. A FULL CERTIFIED MECHANICAL AIR TEST AND BALANCE REPORT SHALL BE PERFORMED BY AN APPROVED CONTRACTOR, AND SHALL BE PERFORMED UNDER THIS CONTRACT.
26. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE AIR FILTERS AT THE ROOFTOP UNITS WITH 2" THICK PLEATED MERV 7 THROW AWAY TYPE AIR FILTERS AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO AIR BALANCE AND STORE TURNOVER.
27. MECHANICAL CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF STORE TURNOVER.

erstad ARCHITECTS, PA
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(208) 331 9031 www.erstadarchitects.com

PROTOTYPE T27-C-54 2450.8 - CONTEMPORARY STAR

1230 N. Division Street.
Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: cep

Permit Set

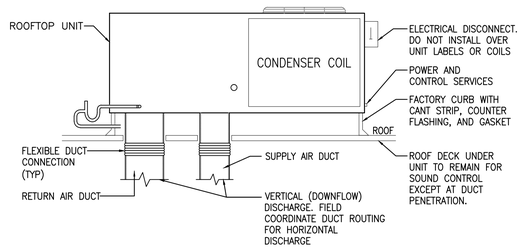
	DATE	DESCRIPTION

SHEET TITLE:

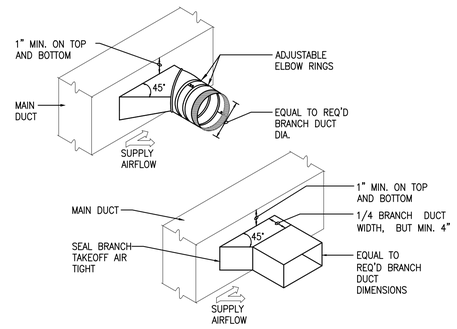
MECHANICAL SCHEDULES

SHEET NUMBER:

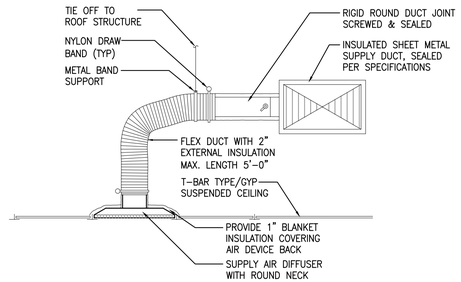
M2.0



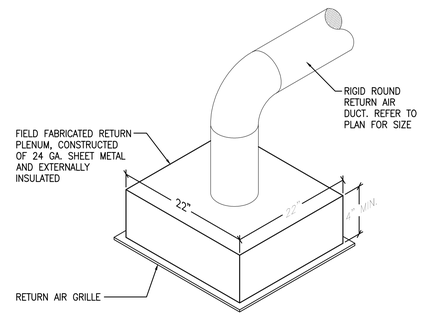
ROOFTOP UNIT DETAIL 1
SCALE: NONE



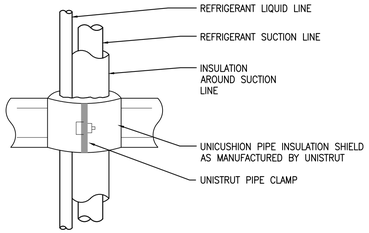
BRANCH TAKE-OFF FITTING DETAIL 2
SCALE: NONE



CEILING MOUNTED SUPPLY AIR DIFFUSER DETAIL 3
SCALE: NONE



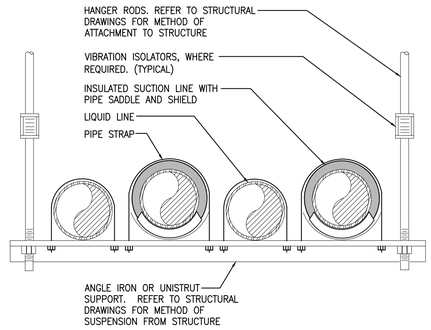
CEILING MNTD. RETURN AIR GRILLE DETAIL 4
SCALE: NONE



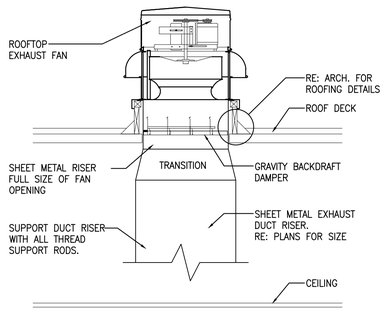
NOTES:

1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
4. REFER TO MANUFACTURER'S GUIDELINES FOR THE COMPLETE INSTALLATION.

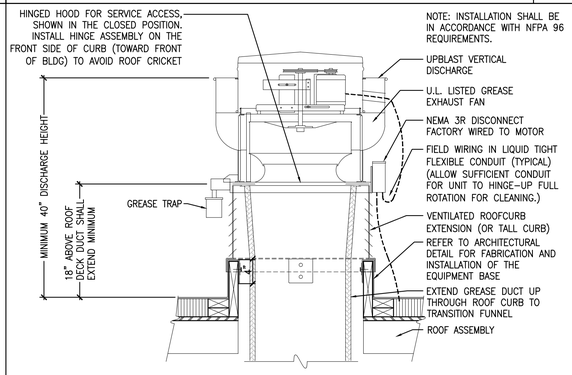
VERTICAL REFRIGERANT PIPE SUPPORT DETAIL 5
SCALE: NONE



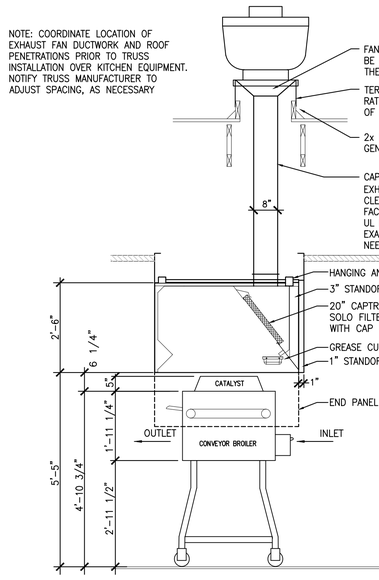
HORIZONTAL REFRIGERANT PIPE SUPPORT DETAIL 6
SCALE: NONE



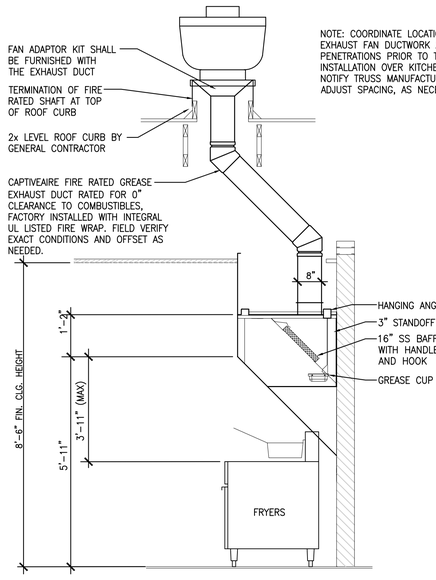
RESTROOM DOWNBLAST EXHAUST FAN DETAIL 7
SCALE: NONE



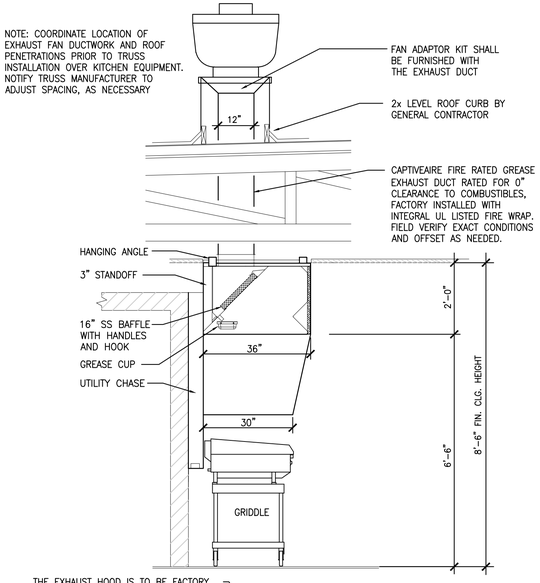
KITCHEN UPBLAST GREASE EXHAUST FAN DETAIL 8
SCALE: NONE



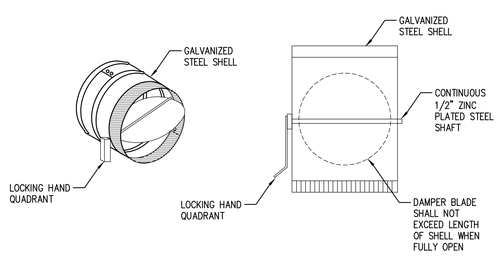
BROILER HOOD DETAIL 9
SCALE: NONE



FRYER HOOD DETAIL 10
SCALE: NONE



GRIDDLE HOOD DETAIL 11
SCALE: NONE



NOTE:
DAMPER AND SHELL ASSEMBLY SHALL BE BY YOUNG REGULATOR (MODEL NUMBER 5020R) OR EQUAL.

MANUAL VOLUME DAMPER DETAIL 12
SCALE: NONE

NOT USED 12
SCALE: NONE

Todd Nelson
STATE OF WASHINGTON
49547
REGISTERED
PROFESSIONAL ENGINEER

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PROTOTYPE T27-C-54 24508 - CONTEMPORARY STAR

1230 N. Division Street.
Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: cep

Permit Set

DATE	DESCRIPTION

SHEET TITLE:

MECHANICAL DETAILS

SHEET NUMBER:

M3.0

HOOD INFORMATION – Job#1930398

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM						HOOD CONSTRUCTION	HOOD CONFIG.	
					TOTAL EXH. CFM	RISER(S)						END TO END	ROW
						WIDTH	LENG.	DIA.	CFM	S.P.			
1	BROILER	4830	3' 1.00"	600 Deg.	660			8"	660	-0.225"	430 SS	ALONE	ALONE
		ND-2									Where Exposed		

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD HANGING WGHT
		TYPE	QTY.	HEIGHT	LENGTH	QTY.	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM		ELECTRICAL	SWITCHES		
										TYPE	SIZE	MODEL #	QUANTITY		
1	BROILER	FlameGard with Handles	2	20"	16"	0								YES	284 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1	BROILER	FIELD WRAPPER 7.00" High Front, Left, Right, Back
		RIGHT END PANEL 40" Top Width, 24" Bottom Width, 18" High 430 SS
		LEFT END PANEL 40" Top Width, 24" Bottom Width, 18" High 430 SS
		LEFT END STANDOFF (FINISHED) 1" Wide 48" Long Insulated
		RIGHT END STANDOFF (FINISHED) 1" Wide 48" Long Insulated
		FINISHED BACK - GROUND/POLISH 37.00" Long

EXHAUST FAN INFORMATION – Job#1930398

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
1	EF1BROIL	NCA14HPFA	660	1.000	1144	0.500	1	115	8.0	142	8.7

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	EF1BROIL	1 - Grease Box
		1 - Upblast Fan Wheel Access Port
		1 - TCW15 - Teflon Coated Wheel.

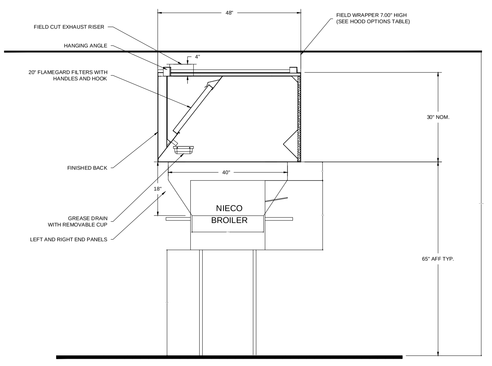
FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF1BROIL	YES						

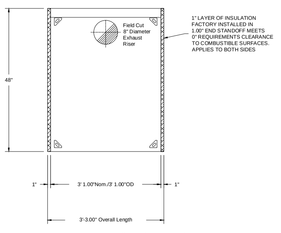
CURB ASSEMBLIES

NO.	ON FAN	WEIGHT	ITEM	SIZE
1		26 LBS	Exhaust Adapter	From 27.000"sq To 23.000"sq x 20.000"H

ROOF HEIGHT – 15' 8.75"
VERIFY DUCT OFFSET PRIOR TO ORDERING EQUIPMENT

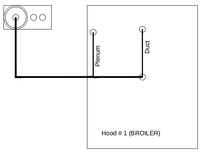


SECTION VIEW – MODEL 4830ND-2
HOOD – #1 (BROILER)

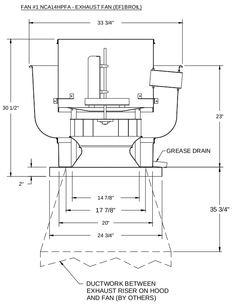


PLAN VIEW – Hood #1 (BROILER)
3' 1.00" LONG 4830ND-2

Job Name: CARL'S JR - T27 - BROILER HOOD
System Size: ANSUL-3.0 Total FP required: 6
Hood # 3 3' 1.00" Long x 48" Wide x 30" High
Riser # 1 Size: 8" Dia.



FAN #1 NCA14HPFA - EXHAUST FAN (EF1BROIL)



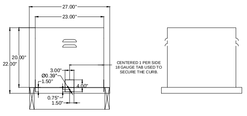
FEATURES:

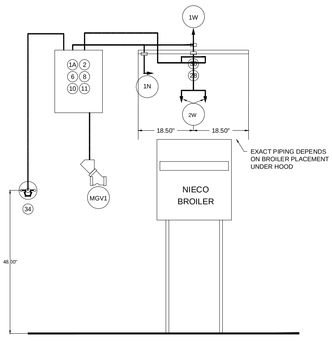
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (148°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 800°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
GREASE BOX
UPBLAST FAN WHEEL ACCESS PORT
TCW15 - TEFLON COATED WHEEL.





REVISIONS

DESCRIPTION	DATE

CAPTIVE-AIRE
Southern California Office
Stonemill Design Center, 2915 Red Hill Ave., Suite C106, Costa Mesa, CA. 92626 PHONE: (714) 957-1500 FAX: (949) 227-5975 EMAIL: regfile@captiveaire.com
www.captiveaire.com

Carl's Jr T-27 - 2014 Prototype

DATE: 1/7/2014
DWG.#: 1930398
DRAWN BY: AHJ-86
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

HOOD INFORMATION – Job#1930398

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM						HOOD CONSTRUCTION	HOOD CONFIG.	
					TOTAL EXH. CFM	RISER(S)						END TO END	ROW
						WIDTH	LENG.	DIA.	CFM	S.P.			
2	FRYER	3347	4' 4.00"	450 Deg.	650			8"	650	-0.333"	430 SS	ALONE	ALONE
		BD-2									Where Exposed		

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD HANGING WGHT
		TYPE	QTY.	HEIGHT	LENGTH	QTY.	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM		ELECTRICAL	SWITCHES		
										TYPE	SIZE	MODEL #	QUANTITY		
2	FRYER	SS Baffle with Handles	2	16"	16"	0								YES	177 LBS
			1	16"	20"										

HOOD OPTIONS

HOOD NO.	TAG	OPTION
2	FRYER	FIELD WRAPPER 17.00" High Front, Left, Right
		LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
		RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS

EXHAUST FAN INFORMATION – Job#1930398

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
2	EF-2 FRYER	DU33HFA	650	0.750	1419	0.333	1	115	4.1	65	9.2

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
2	EF-2 FRYER	1 - Grease Box

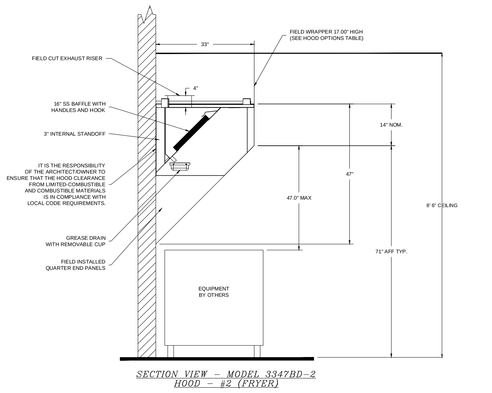
FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
2	EF-2 FRYER	YES						

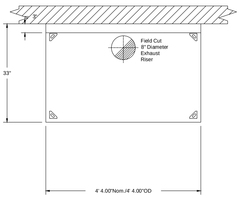
CURB ASSEMBLIES

NO.	ON FAN	WEIGHT	ITEM	SIZE
2		24 LBS	Exhaust Adapter	From 23.500"sq To 19.500"sq x 22.000"H

ROOF HEIGHT – 15' 8.75"
VERIFY DUCT OFFSET PRIOR TO ORDERING EQUIPMENT

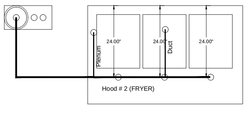


SECTION VIEW – MODEL 3347BD-2
HOOD – #2 (FRYER)

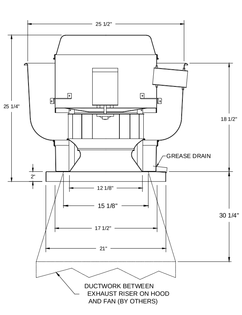


PLAN VIEW – Hood #2 (FRYER)
4' 4.00" LONG 3347BD-2

Job Name: CARL'S JR - T27 FRYER HOOD
System Size: ANSUL-3.0 Total FP required: 11
Hood # 2 4' 4.00" Long x 33" Wide x 47" High
Riser # 1 Size: 8" Dia.



FAN #2 DU33HFA - EXHAUST FAN (EF2 FRYER)



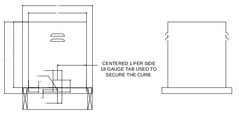
FEATURES:

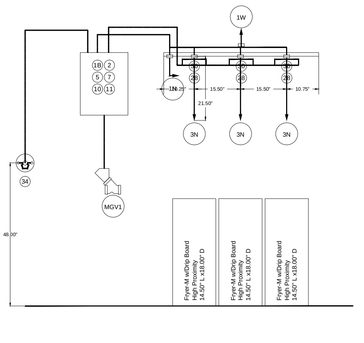
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 800°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
GREASE BOX





REVISIONS

DESCRIPTION	DATE

CAPTIVE-AIRE
Southern California Office
Stonemill Design Center, 2915 Red Hill Ave., Suite C106, Costa Mesa, CA. 92626 PHONE: (714) 957-1500 FAX: (949) 227-5975 EMAIL: regfile@captiveaire.com
www.captiveaire.com

Carl's Jr T-27 - 2014 Prototype

DATE: 1/7/2014
DWG.#: 1930398
DRAWN BY: AHJ-86
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 2

HOOD DRAWINGS
SCALE: NONE
1

SHEET NUMBER: M4.0
SHEET TITLE: HOOD DRAWINGS

DESCRIPTION	DATE

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: tch

Permit Set

Carl's Jr CHARBROILED BURGERS
PROTOTYPE T27-C-54 2450.8 - CONTEMPORARY STAR
1230 N. Division Street.
Spokane, WA 99202

erstad ARCHITECTS, PA
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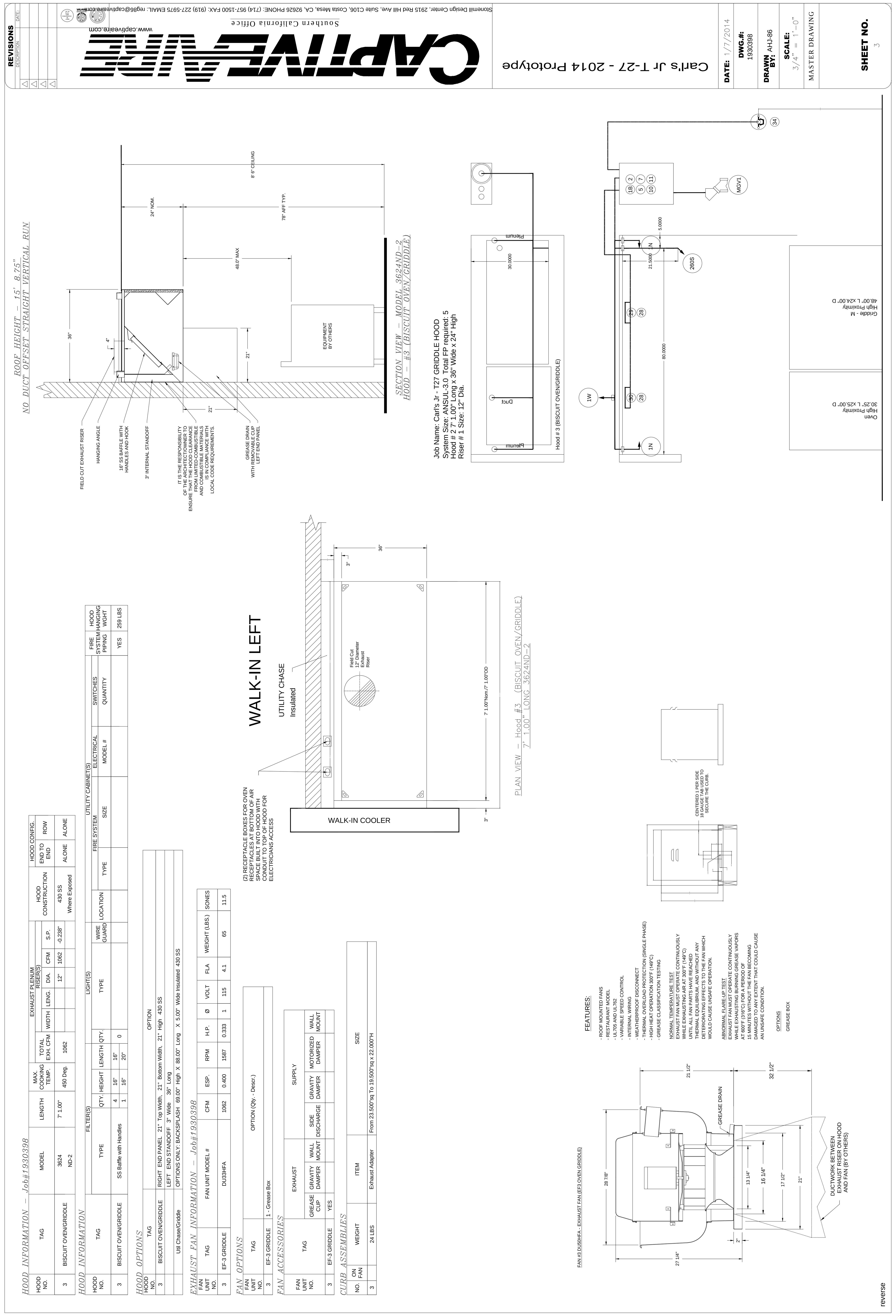
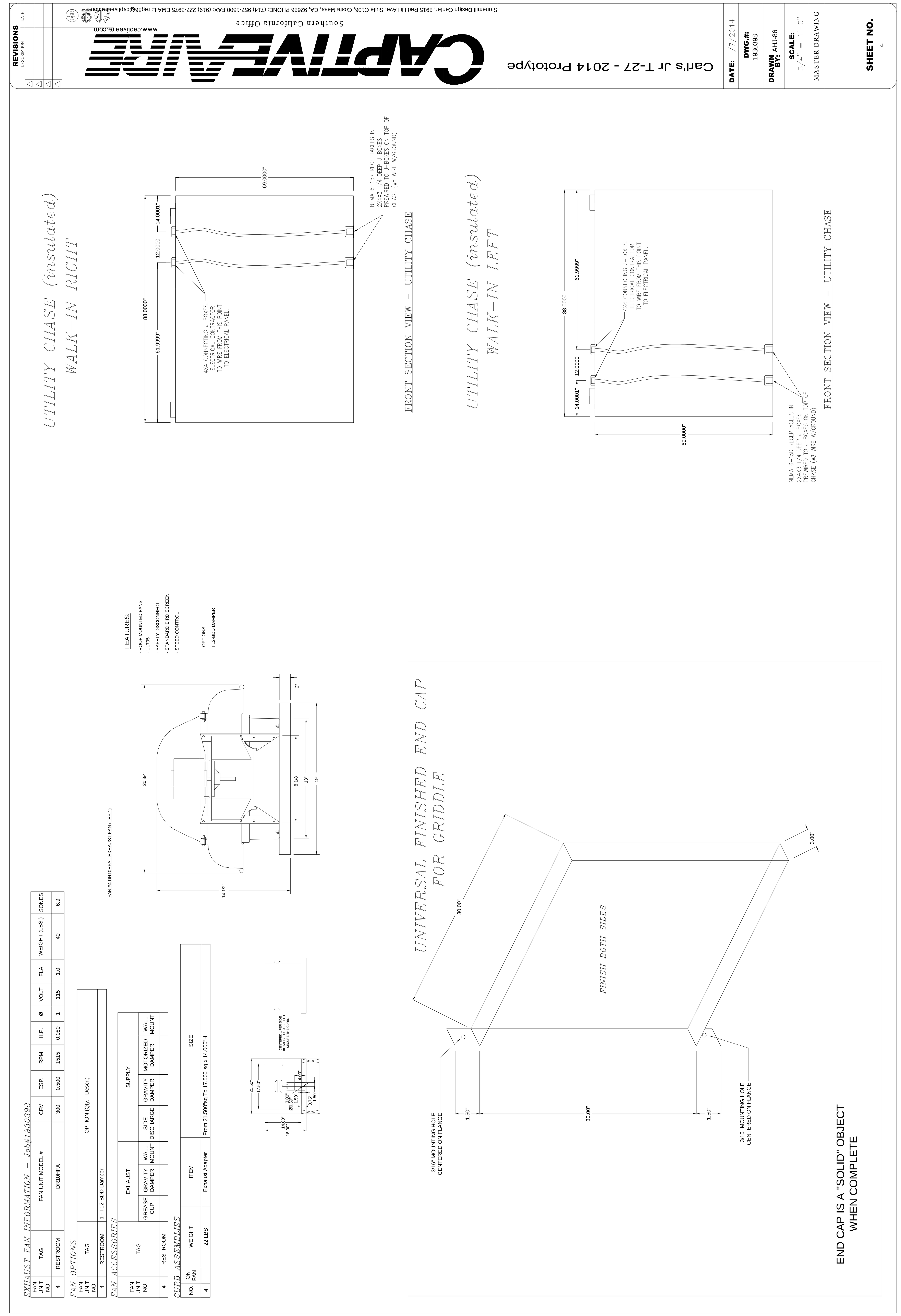
REGISTERED PROFESSIONAL ENGINEER





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Carl's Jr. CHARBROILED BURGERS

PROTOTYPE T27-C-54 2450.8 – CONTEMPORARY STAR

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PROJECT: 151101
DATE: 06/10/16
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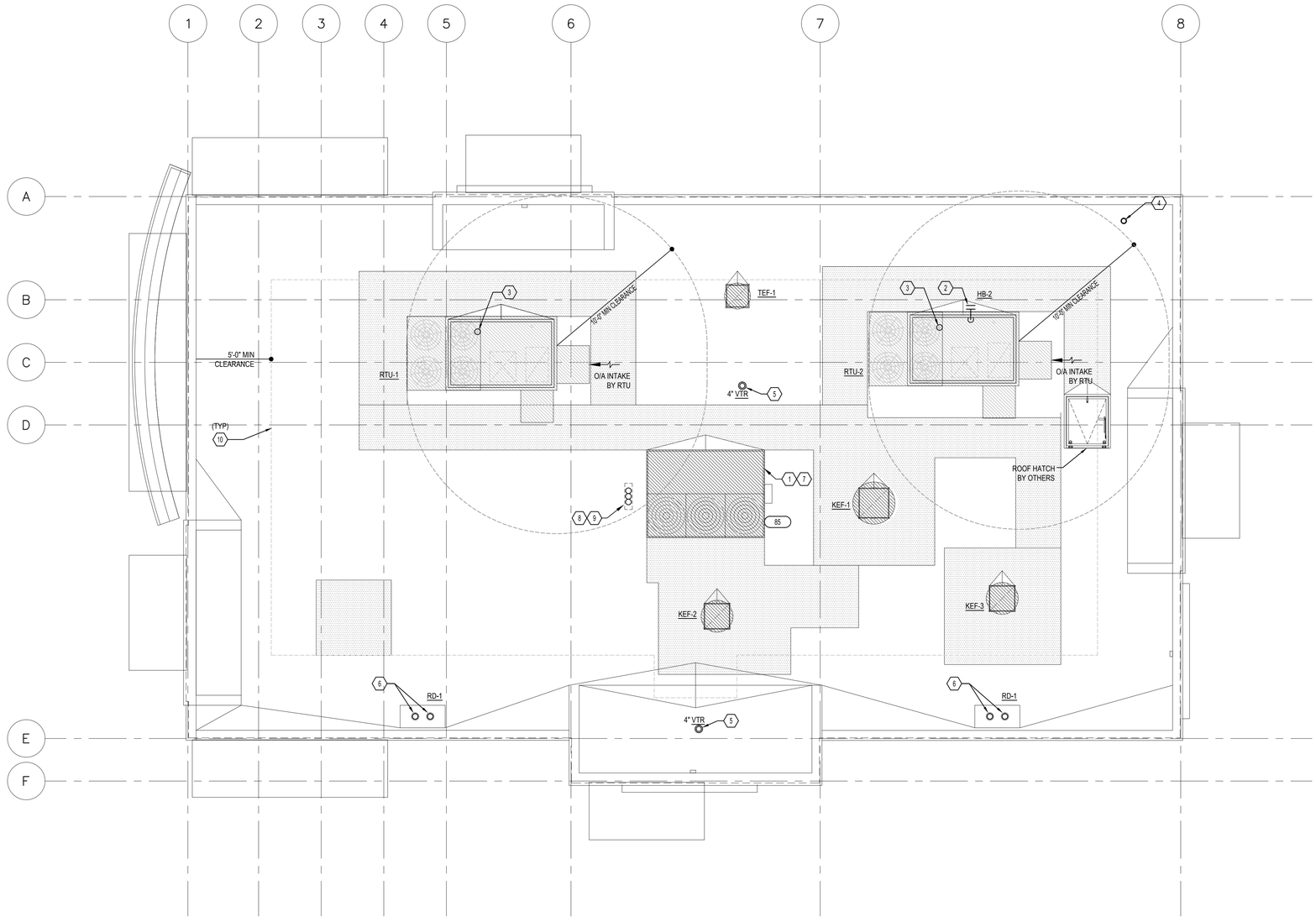
△	DATE	DESCRIPTION

SHEET TITLE:

HOOD DRAWINGS

SHEET NUMBER:

M4.1



KEYED NOTES

1.	ROOFTOP REFRIGERATION SYSTEM, ITEM 85. REFER TO KITCHEN SHEET K2.0 FOR INSTALLATION INFORMATION ON THIS UNIT.
2.	ROUTE 3/4" COLD WATER UP THROUGH THE HVAC UNIT ROOF CURB, AND CONNECT TO HOSE BIBB MOUNTED ON THE SIDE OF THE ROOF CURB. REFER TO WATER AND GAS PLUMBING PLAN FOR CONTINUATION OF PIPING BELOW THE ROOF. SEE DETAIL 6/P3.0.
3.	GAS PIPING TO THE MECHANICAL UNIT SHALL SHALL BE A BOTTOM ENTRY CONNECTION ROUTED UP WITHIN THE CURB AS SHOWN. REFER TO THE WATER AND GAS PLUMBING PLAN FOR CONTINUATION OF PIPING BELOW THE ROOF. SHUTOFF TO BE RUN TO OUTSIDE FOR ACCESS.
4.	CONCENTRIC VENT KIT FOR THE GAS FIRED WATER HEATER. COORDINATE ROOF PENETRATION, FLASHING AND COUNTER-FLASHING WITH THE GENERAL CONTRACTOR.
5.	ROOF MOUNTED VTR, SIZED AS SHOWN. INSTALLED LOCATION SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTDOOR AIR INTAKE. TOP OF VTR STACK SHALL BE EVEN WITH PARAPET WALL.
6.	ROOF DRAINAGE FIXTURE SHALL BE INSTALLED BY THE PLUMBING CONTRACTOR. COORDINATE ROOF PENETRATION, FLASHING AND COUNTER-FLASHING WITH THE GENERAL CONTRACTOR. REFER TO SANITARY PLUMBING PLAN FOR CONTINUATION OF STORM DRAINAGE PIPING BELOW THE ROOF.
7.	CONDENSING UNIT SHALL BE FURNISHED BY THE OWNER, AND INSTALLED COMPLETE BY THE REFRIGERATION CONTRACTOR.
8.	FIELD COORDINATE THE INSTALLATION OF THE PRE-CHARGED REFRIGERANT LINES BETWEEN THE ROOF MOUNTED CONDENSING UNIT AND THE ICE MACHINE HEAD BELOW.
9.	REFRIGERANT PIPING SHALL ROUTE DOWN THROUGH THE ROOF THIS AREA NEAR CONDENSING UNIT, VIA A WATER TIGHT PITCH POCKET FIELD FABRICATED BY THE GENERAL CONTRACTOR. REFER TO THE ARCHITECTURAL DETAILS FOR ADDITIONAL INFORMATION.
10.	PROVIDE MINIMUM 5'-0" SETBACK FROM INSIDE FACE OF PARAPET WALLS, FOR INSTALLATION OF ANY MECHANICAL AND ELECTRICAL EQUIPMENT.

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

1

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Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
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	DATE	DESCRIPTION

SHEET TITLE:

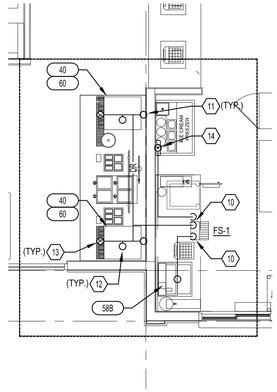
MEP ROOF PLAN

SHEET NUMBER:

MEP1.0

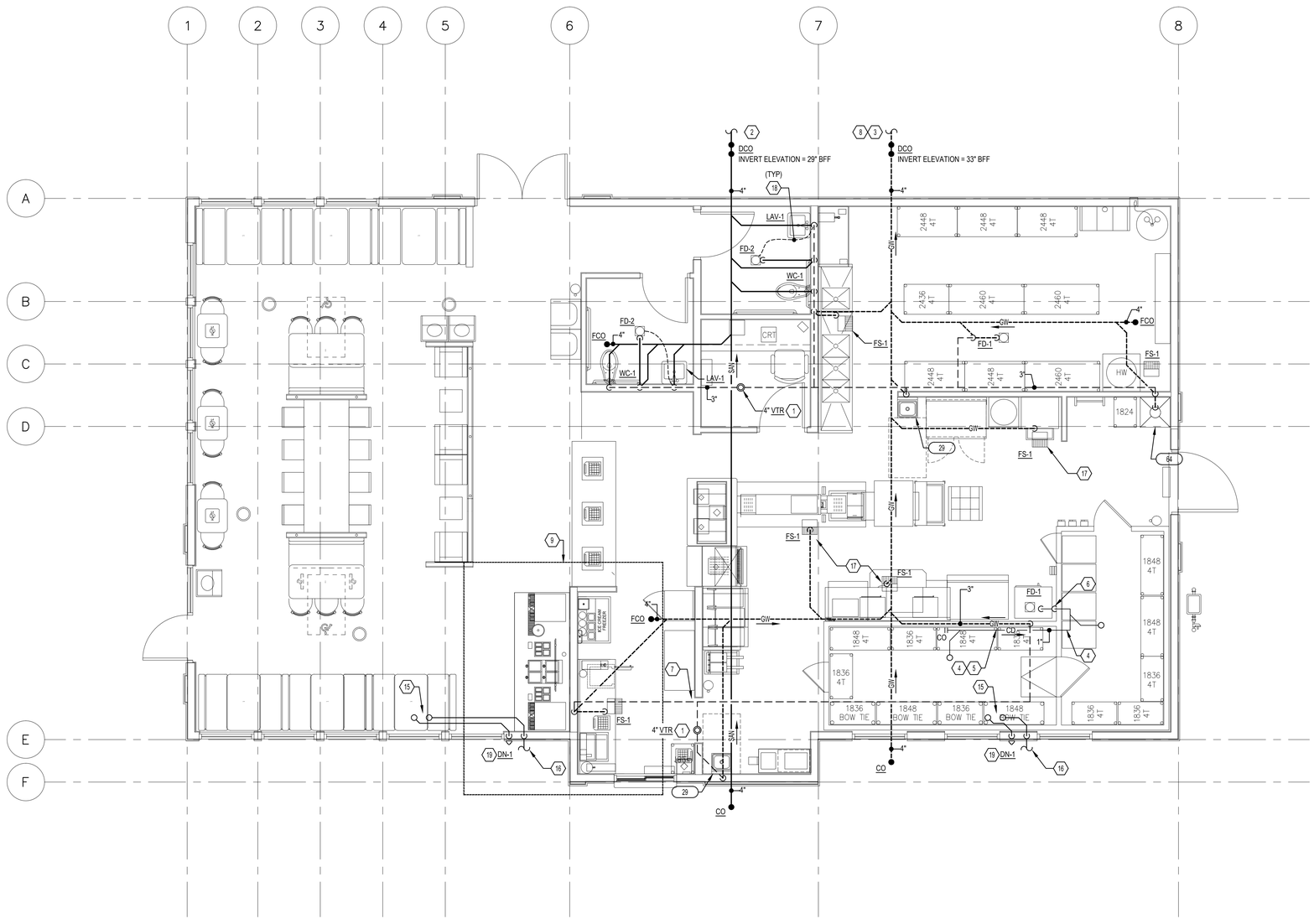
NOT USED
SCALE: NONE

3



SANITARY FLOOR PLAN - BEVERAGE COUNTER
SCALE: 1/4"=1'-0"

2



PLUMBING SANITARY FLOOR PLAN
SCALE: 1/4"=1'-0"

1

GENERAL NOTES

1. KEY NOTES WITH ELLIPTICAL SYMBOL AND NUMBER CORRESPOND TO KITCHEN EQUIPMENT SHOWN IN KITCHEN PLAN SHEETS. REFER TO KITCHEN PLANS FOR SUPPLEMENTAL INFORMATION.
2. ALL EXPOSED PIPING IN PUBLIC AREAS SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE WARM SIDE OF THE EXPOSED ROOF STRUCTURE.
3. THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE COORDINATED WITH ALL ELECTRICAL AND MECHANICAL EQUIPMENT, AND STRUCTURAL SLAB AND FRAMING.
4. REFER TO PLUMBING SHEET P2.0 FOR PLUMBING FIXTURE AND EQUIPMENT SCHEDULES INCLUDING SPECIFICATIONS AND ROUGH-IN SIZES.
5. REFER TO THE KITCHEN DRAWING FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS SHEET.
6. PLUMBING CONTRACTOR SHALL COORDINATE WITH THE KITCHEN EQUIPMENT SUPPLIER FOR THE COMPLETE INSTALLATION AND SERVICE CONNECTIONS OF ALL KITCHEN EQUIPMENT.
7. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL DRAIN LINES FROM KITCHEN EQUIPMENT. REFER TO THE KITCHEN DRAWING(S) FOR PROPOSED SIZES AND ROUTING. ALL INDIRECT DRAIN LINES SHALL BE INSTALLED WITH APPROVED AIR GAPS.
8. REFER TO ARCHITECTURAL AND MILLWORK DRAWINGS FOR DETAILS OF COUNTERTOPS, CASEWORK, AND OTHER FIXTURES, SHOWING EXACT LOCATION OF OPENINGS FOR PLUMBING ITEMS BEING INSTALLED. COORDINATE THE COMPLETE INSTALLATION WITH THE GENERAL CONTRACTOR.
9. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE COMPLETE INSTALLATION OF OVERHEAD BUNDLED SODA LINES WITH OTHER DISCIPLINES.
10. ALL WALL PIPING STUB-OUTS SHALL BE SECURELY TIED TO THE STRUCTURE WITH SUFFICIENT BACKING TO ELIMINATE MOVEMENT. FINAL CONNECTIONS TO KITCHEN SINKS SHALL BE HARD PIPED.
11. PITCH ALL WASTE AND DRAIN LINES A MINIMUM OF 1/4" PER FOOT IN THE DIRECTION OF FLOW, OR AS REQUIRED BY LOCAL CODE.
12. ALL OPENINGS IN DWV SYSTEMS RESULTING FROM INSTALLATION ROUGH-IN SHALL BE PROTECTED WITH A TEST PLUG THAT IS SECURELY LOCKED IN PLACE UNTIL FINAL FINISHED CONNECTIONS ARE INSTALLED.
13. PLUMBING CONTRACTOR TO ARRANGE AND PAY FOR ALL REQUIRED FEES, PERMITS, AND MISCELLANEOUS COSTS ASSOCIATED WITH THE PLUMBING WORK PER LOCAL PLUMBING CODES.
14. ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.

KEYED NOTES

#	
1.	ROUTE VENT UP TO VTR. COORDINATE ROOF PENETRATION LOCATION WITH OUTDOOR AIR INTAKE OF ROOFTOP EQUIPMENT. MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 10'-0".
2.	EXTEND 4" SANITARY PIPING ON SITE. REFER TO THE CIVIL UTILITY PLAN FOR PROPOSED ROUTING PAST THE BUILDING. VERIFY LOCATION & INVERT ELEVATIONS OF CONNECTIONS ON SITE PRIOR TO ANY WORK.
3.	EXTEND 4" GREASE WASTE PIPING ON SITE. REFER TO THE CIVIL UTILITY PLAN FOR PROPOSED ROUTING PAST THE BUILDING. VERIFY LOCATION & INVERT ELEVATIONS OF CONNECTIONS ON SITE PRIOR TO ANY WORK.
4.	ROUTE WALK-IN COOLER/ FREEZER CONDENSATE DRAIN LINE AS HIGH AS POSSIBLE AND ALONG WALLS AS SHOWN. INSULATE ALL CONDENSATE PIPING AND PITCH A MINIMUM OF 1/4" PER FOOT IN THE DIRECTION OF FLOW. SEAL ALL COOLER WALL PENETRATIONS WATER TIGHT AND COVER EACH WITH AN ESCUTCHEON PLATE. PROVIDE FULL SIZE TRAP AND EXTEND ABOVE FLOOR AND BEHIND EQUIPMENT FOR AN INDIRECT CONNECTION TO AN APPROVED RECEPTOR.
5.	CONDENSATE DRAIN LINE IN THE WALK-IN FREEZER SHALL BE HEAT TRACED TO PREVENT FREEZING. HEAT TRACE TAPE SHALL BE FURNISHED AND INSTALLED BY THE KITCHEN EQUIPMENT CONTRACTOR.
6.	ROUTE 1" CONDENSATE PIPING DOWN IN WALL AND TERMINATE WITH AN INDIRECT CONNECTION AT APPROVED RECEPTOR AS SHOWN.
7.	ANY ABOVE SLAB DWV PIPING AT COOKLINE WALL WITHIN 18" OF THE TYPE 1 EXHAUST HOOD SHALL BE INSTALLED AS CAST IRON.
8.	REFER TO THE CIVIL SITE UTILITY PLAN FOR PROPOSED LOCATION OF THE GREASE INTERCEPTOR. PROVIDE VENT PIPING FROM THE EXTERIOR GREASE INTERCEPTOR FOR THE LOCAL CODE.
9.	REFER TO THE ENLARGED PLAN FOR CONTINUATION OF PIPING AND EQUIPMENT LAYOUT AT THE BEVERAGE STATION.
10.	ROUTE 1 1/2" BEVERAGE DRAIN LINE AND TERMINATE WITH AN INDIRECT CONNECTION AT APPROVED RECEPTOR AS SHOWN.
11.	ROUTE DRAIN LINE DOWN FROM ICE MACHINE CONNECTION.
12.	ROUTE DRAIN LINE DOWN FROM BEVERAGE DISPENSER CONNECTION.
13.	ROUTE DRAIN LINE DOWN FROM TROUGH DRAIN CONNECTION.
14.	ROUTE 1" DIPPERWELL DRAIN LINE TO APPROVED RECEPTOR AND TERMINATE WITH AN INDIRECT CONNECTION.
15.	ROUTE PRIMARY AND OVERFLOW STORM DRAIN LINES DOWN FROM ROOF DRAINS AND EXTEND ABOVE FINISHED CEILING AS SHOWN. PROVIDE END-CAP CLEANOUTS AS REQUIRED. ROUTE DOWN IN EXTERIOR WALL FRAMING FOR A CONCEALED INSTALLATION. PROVIDE PIPING IN WALL WITH 1/2" INSULATION.
16.	PRIMARY STORM DRAIN LINE OUT TO STORM DRAIN COLLECTION MAIN. SEE CIVIL SITE UTILITY PLAN FOR CONTINUATION. SEE STRUCTURAL PLANS FOR FOUNDATION BLOCK OUT.
17.	FIXTURE DRAIN IS CONNECTED TO A HORIZONTAL BRANCH DRAIN AND IS CONSIDERED COMMON VENTED PER 2012 UPC, SECTION 911.
18.	ROUTE 1/2" DRAIN FROM LAVATORY TAILPIECE TRAP PRIMER TO FLOOR DRAIN CONNECTION.
19.	TERMINATE OVERFLOW DRAIN WITH A DOWNSPOUT NOZZLE AT EXTERIOR WALL. REFER TO ARCHITECTURAL FOR EXACT MOUNTING HEIGHT.

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PROJECT: 151101
DATE: 06/10/16
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	DATE	DESCRIPTION

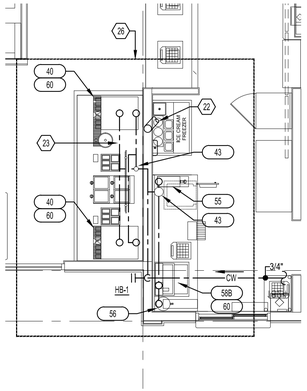
SHEET TITLE:

PLUMBING
SANITARY
FLOOR PLAN

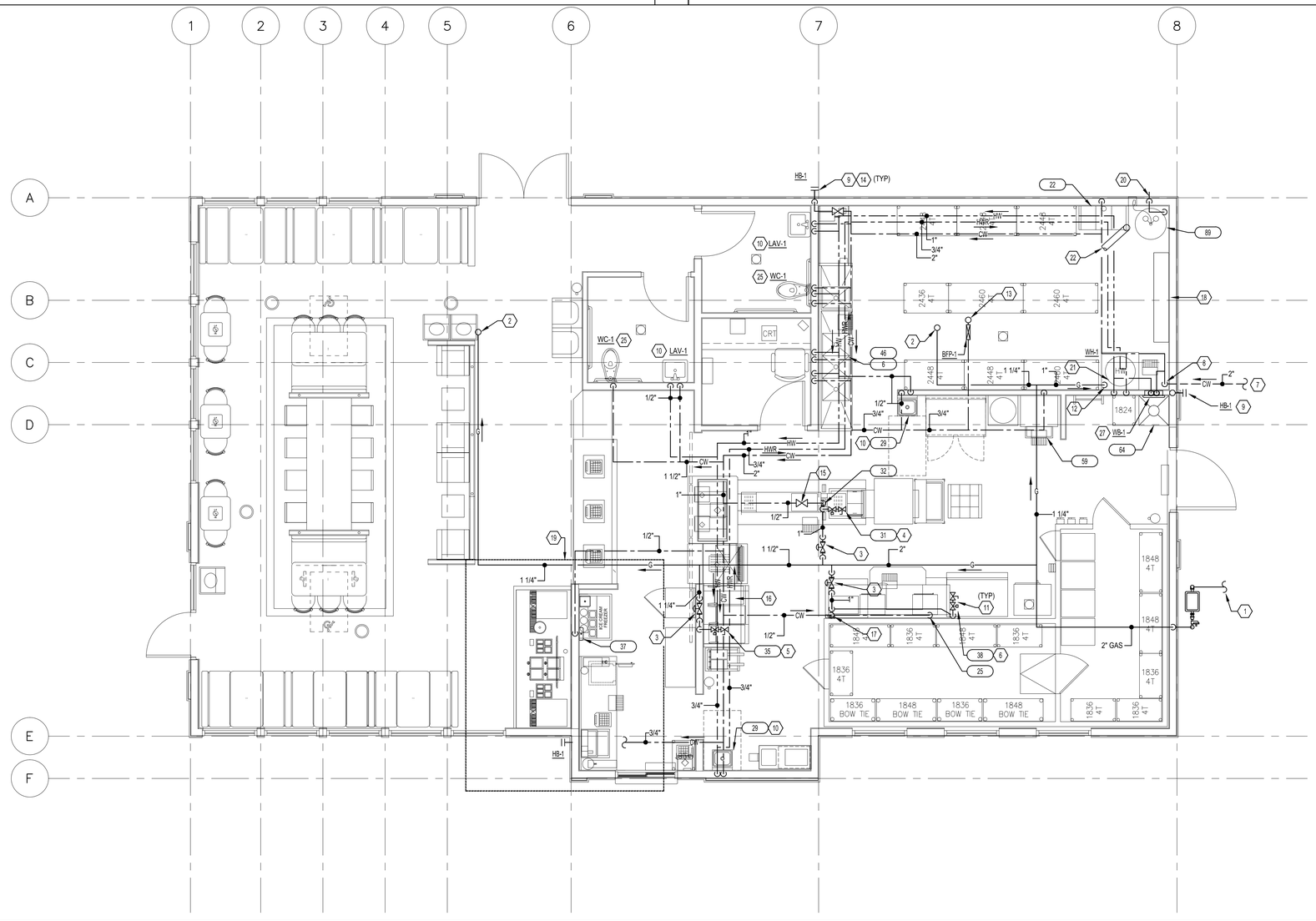
SHEET NUMBER:

P1.1

NOT USED
SCALE: 1/4"=1'-0" 3



WATER FLOOR PLAN - BEVERAGE COUNTER
SCALE: 1/4"=1'-0" 2



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

GENERAL NOTES

1. KEY NOTES WITH ELLIPTICAL SYMBOL AND NUMBER CORRESPOND TO KITCHEN EQUIPMENT SHOWN IN KITCHEN PLAN SHEETS. REFER TO KITCHEN PLANS FOR SUPPLEMENTAL INFORMATION.
2. ALL EXPOSED PIPING IN PUBLIC AREAS SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE WARM SIDE OF THE EXPOSED ROOF STRUCTURE.
3. THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE COORDINATED WITH ALL ELECTRICAL AND MECHANICAL EQUIPMENT, AND STRUCTURAL SLAB AND FRAMING.
4. REFER TO PLUMBING SHEET P2.0 FOR PLUMBING FIXTURE AND EQUIPMENT SCHEDULES INCLUDING SPECIFICATIONS ROUGH-IN SIZES, AND REQUIRED BACKFLOW PREVENTERS.
5. REFER TO THE KITCHEN DRAWING FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS SHEET.
6. PLUMBING CONTRACTOR SHALL COORDINATE WITH THE KITCHEN EQUIPMENT SUPPLIER FOR THE COMPLETE INSTALLATION AND SERVICE CONNECTIONS OF ALL KITCHEN EQUIPMENT.
7. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WATER LINES TO KITCHEN EQUIPMENT. REFER TO THE KITCHEN DRAWINGS FOR PROPOSED SIZES AND ROUTING. ALL WATER LINES UNDER EQUIPMENT/ MILLWORK SHALL BE INSTALLED SECURELY.
8. REFER TO ARCHITECTURAL AND MILLWORK DRAWINGS FOR DETAILS OF COUNTERTOPS, CASEWORK, AND OTHER FIXTURES, SHOWING EXACT LOCATION OF OPENINGS FOR PLUMBING ITEMS BEING INSTALLED. COORDINATE THE COMPLETE INSTALLATION WITH THE GENERAL CONTRACTOR.
9. PLUMBING CONTRACTOR TO FLUSH AND SANITIZE ALL WATER LINES PRIOR TO THE INSTALLATION OF THE FILTRATION SYSTEM.
10. ALL WALL PIPING STUB-OUTS SHALL BE SECURELY TIED TO THE STRUCTURE WITH SUFFICIENT BACKING TO ELIMINATE MOVEMENT. FINAL CONNECTIONS TO KITCHEN SINKS SHALL BE HARD PIPED.
11. ALL FIXTURES AND EQUIPMENT SHALL BE INSTALLED WITH WATER SUPPLY STOP VALVES IN ACCESSIBLE LOCATIONS. PROVIDE LINE SIZED BALL VALVES FOR BEVERAGE FIXTURES.
12. PROVIDE PIPE SUPPORTS AND EXPANSION LOOPS AS REQUIRED.
13. PLUMBING CONTRACTOR TO ARRANGE AND PAY FOR ALL REQUIRED FEES, PERMITS, AND MISCELLANEOUS COSTS ASSOCIATED WITH THE PLUMBING WORK PER LOCAL PLUMBING CODES.
14. ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.
15. ALL WATER LINES ROUTED IN EXTERIOR WALLS SHALL BE ROUTED ON THE WARM SIDE OF THE INSULATION TO HELP PREVENT FREEZING.
16. PROVIDE ISOLATION VALVES IN AN ACCESSIBLE LOCATION FOR ALL HOSE BIBBS.

KEYED NOTES

1. PROPOSED LOCATION OF GAS SERVICE TO THE BUILDING. MIN. 7" WC SERVICE PRESSURE. REFER TO CIVIL PLANS AND COORDINATE WITH THE LOCAL GAS UTILITY FOR EXACT LOCATION.
2. GAS UP THRU ROOF TO GAS CONNECTION AT ROOFTOP UNIT. REFER TO MEP ROOF PLAN FOR PIPING CONTINUATION.
3. LINE SIZED MECHANICAL PLUG VALVE SHALL BE FURNISHED WITH EXHAUST HOOD PACKAGE AND INSTALLED BY THE PLUMBING CONTRACTOR. VALVE SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION (ABOVE THE LAY-IN CEILING IF ALLOWED BY LOCAL JURISDICTION). CONTRACTOR SHALL PROVIDE A UNION FITTINGS BOTH UPSTREAM AND DOWNSTREAM OF THE ELECTRONIC GAS SHUT-OFF VALVE TO ALLOW ADJUSTMENT OF THE FIRE SUPPRESSION SYSTEM OR FOR REPLACEMENT/MAINTENACE ISSUES.
4. 1"G COMPLETE W/ SOC AND UNION (100 MBH) FOR BROILER. FLEXIBLE HOSE CONNECTION WITH QUICK DISCONNECT PROVIDED BY KEC AND INSTALLED BY PLUMBING CONTRACTOR.
5. 1 1/2"G COMPLETE W/ SOC AND UNION (240 MBH) FOR FRYER BATTERY. FLEXIBLE HOSE CONNECTION WITH QUICK DISCONNECT PROVIDED BY KEC AND INSTALLED BY PLUMBING CONTRACTOR.
6. 3/4"G COMPLETE W/ SOC AND UNION (96 MBH) FOR GRIDDLE. FLEXIBLE HOSE CONNECTION WITH QUICK DISCONNECT PROVIDED BY KEC AND INSTALLED BY PLUMBING CONTRACTOR.
7. 2" DOMESTIC WATER SERVICE. REFER TO THE CIVIL DWG PACKAGE FOR CONNECTION TO SITE UTILITIES. BACKFLOW PREVENTION SHALL BE SPECIFIED BY THE CIVIL ENGINEER, AND INSTALLED ON SITE AS SHOWN BY THE CIVIL DESIGN.
8. DOMESTIC WATER SERVICE RISER SHALL BE INSTALLED WITH LINE SIZED SHUT OFF VALVE AND BACKFLOW PREVENTOR (BFP-3) ASSEMBLY, AND PRESSURE REDUCING VALVE WHERE INLET PRESSURE EXCEEDS 75 PSI.
9. ROUTE 3/4" TEMPERED WATER DOWN FROM WB-1 WITHIN THE WALL AND TERMINATE WITH HOSE BIBB. PROVIDE ACCESSIBLE SHUT-OFF VALVE UPSTREAM OF FIXTURE.
10. ROUTE 1/2" HW & CW TO HAND WASHING FIXTURE. INSTALL SUPPLIES COMPLETE WITH HOT WATER TEMPERING VALVE.
11. REFER TO GAS PIPING DETAILS ON SHEET P3.0 FOR CONNECTION TO COOKING EQUIPMENT.
12. 1" GAS DOWN TO THE WATER HEATER.
13. ROUTE 3/4" COLD WATER UP WITHIN THE HVAC UNIT CURB AND TERMINATE WITH HOSE BIBB. REFER TO THE MEP ROOF PLAN FOR CONTINUATION OF PIPING TO HB-2.
14. COORDINATE PLACEMENT OF WALL MOUNTED FREEZE PROOF HOSE BIBB WITH INTERIOR FRAMING. TYPICAL OF ALL HOSE BIBBS.
15. COORDINATE INSTALLATION OF ACCESSIBLE LINE SIZED SHUT OFF VALVE TO BROILER STATION.
16. ALL WATER PIPING IN THE COOKLINE WALL WITHIN 18" OF A TYPE 1 EXHAUST HOOD SHALL BE INSTALLED AS RIGID COPPER PIPE. NO PLASTIC TUBING ALLOWED UNLESS FIRST APPROVED BY THE OWNER.
17. ROUTE GAS AND WATER PIPING DOWN IN STAINLESS STEEL CHASE (BY OTHERS). PROVIDE CONNECTIONS TO EQUIPMENT FOR COMPLETE INSTALLATION.
18. NO PIPING SHALL BE INSTALLED ABOVE THE PROPOSED LOCATION OF INTERIOR ELECTRICAL PANEL(S).
19. REFER TO THE ENLARGED PLAN FOR CONTINUATION OF PIPING AND EQUIPMENT LAYOUT AT THE BEVERAGE STATION.
20. FILL PORT AND LINE FOR BULK CO2 TO BE INSTALLED COMPLETE PER MANUFACTURER'S RECOMMENDATIONS.
21. SEE WATER HEATER PIPING DIAGRAM FOR CONNECTION DETAILS.
22. SODA SYRUP BUNDLE SHALL BE INSTALLED OVERHEAD FROM THE BAG-N-BOX STATION TO LOCATION SHOWN AND ROUTED DOWN TIGHT IN CORNER. SODA VENDOR SHALL PROVIDE ALL TEE'S NECESSARY FOR FINAL CONNECTIONS TO SODA DISPENSERS. REFER TO DETAIL #7 ON SHEET P3.1 FOR ADDITIONAL INFORMATION.
23. WATER PIPING SHALL BE SUPPORTED FROM AND INSTALLED TIGHT TO THE UNDERSIDE OF THE BEVERAGE COUNTER. REFER TO KITCHEN PLANS FOR ROUGH-IN INFORMATION.
24. REFER TO THE ARCHITECTURAL CONDUIT THROUGH WALL DETAIL ON SHEET A3.4 FOR INSTALLATION OF PIPING THROUGH THIS WALL.
25. INSTALL WHA-1 JUST UPSTREAM OF FIXTURE.
26. COORDINATE INSTALLATION OF ALL BACKFLOW PREVENTERS PER SCHEDULES, SHEET P2.0.
27. OUTLET OF WALL BOX SHALL BE CONNECTED TO INLET OF HB-1 LOCATED BELOW. HOT WATER HOSE BIBB SHALL BE USED TO WASH DOWN TRASH ENCLOSURE.

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CHECKED: cep

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	DATE	DESCRIPTION

SHEET TITLE:

PLUMBING WATER AND GAS FLOOR PLAN

SHEET NUMBER:

P1.2

FOOD SERVICE EQUIPMENT PLUMBING SCHEDULE

#	EQUIPMENT DESCRIPTION	WATER			SANITARY			GAS		
		TYPE	SIZE	HEIGHT	TYPE	SIZE	RECEPTOR	BTU/HR	SIZE	HEIGHT
6	POT WASH SINK	CW & HW	1/2"	18" A.F.F.	INDIRECT	2"	FLOOR SINK	-	-	-
6	VEGETABLE SINK	CW & HW	1/2"	18" A.F.F.	INDIRECT	2"	FLOOR SINK	-	-	-
22	"BAG IN BOX" RACK	-	-	-	INDIRECT	2"	FLOOR SINK	-	-	-
25	STEAMER	CW	1/2"	DFC	INDIRECT	3/4"	FLOOR SINK	-	-	-
29	HAND SINK	CW & HW	1/2"	18" A.F.F.	DIRECT	2"	-	-	-	-
31	BROILER UNIT	-	-	-	-	-	-	100	1"	DFC
32	FOOD WARMER UNIT	CW	1/2"	DFC	INDIRECT	3/4"	FLOOR SINK	-	-	-
35	FRYER UNIT	-	-	-	-	-	-	240	1 1/2"	24" A.F.F.
37	DIPPERWELL	CW	1/2"	24" A.F.F.	INDIRECT	3/4"	FLOOR SINK	-	-	-
38	GRIDDLE	-	-	-	-	-	-	96	3/4"	24" A.F.F.
40	DRINK DISPENSER	FW	1/2"	18" A.F.F.	-	-	-	-	-	-
43	WATER FILTER	CW	3/4"	72" A.F.F.	-	-	-	-	-	-
46	PRE-RINSE UNIT	CW & HW	1/2"	18" A.F.F.	-	-	-	-	-	-
55	COFFEE BREWER	CW	1/2"	48" A.F.F.	-	-	-	-	-	-
56	ICED TEA DISPENSER	FW	1/2"	48" A.F.F.	-	-	-	-	-	-
58	DRINK SYSTEM	FW	1/2"	96" A.F.F.	INDIRECT	3/4"	FLOOR SINK	-	-	-
59	ICE MACHINE	CW	1/2"	90" A.F.F.	INDIRECT	3/4"	FLOOR SINK	-	-	-
60	ICE MACHINE ON DRINK DISP.	FW	1/2"	18" A.F.F.	INDIRECT	3/4"	FLOOR SINK	-	-	-
64	MOP SINK	CW & HW	1/2"	18" A.F.F.	DIRECT	3"	-	-	-	-

GAS DEMAND LOAD

NO.	DESCRIPTION	CONN. SIZE	QTY.	INPUT (MBH/EA)	TOTAL (MBH)
31	BROILER UNIT	1"	1	100	100
35	FRYER UNIT	1 1/2"	1	240	240
38	GRIDDLE	3/4"	1	96	96
WH-1	WATER HEATER	3/4"	1	100	100
RTU-1	RTU - DINING	3/4"	1	240	240
RTU-2	RTU - KITCHEN	3/4"	1	240	240
		COOKING APPLIANCE SUB-TOTAL			436
		WATER HEATING SUB-TOTAL			100
		HVAC SUB-TOTAL			480
		GAS DEMAND TOTAL			1016

NOTE(S):

1. THE ACTUAL LENGTH TO THE MOST REMOTE APPLIANCE CONNECTION IS 90'-0". THE SYSTEM IS SIZED FOR A TOTAL DEVELOPED LENGTH OF MAXIMUM 125'-0".
2. THE SERVICE TO THE BUILDING SHALL BE INSTALLED AS A LOW PRESSURE SUPPLY (INLET PRESSURE OF 0.5 PSI) AND A 0.5" WC PRESSURE DROP.
3. PIPE SIZES SHOWN ARE BASED ON 2012 INTERNATIONAL FUEL AND GAS CODE, TABLE 402.4(2). VERIFY FIELD CONDITIONS FOR ACTUAL DEVELOPED LENGTH AND POSSIBLE ADJUSTMENTS TO PIPE SIZES.
4. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR THE PROVISION OF THE COMPLETE METER ASSEMBLY INCLUDING REGULATOR AND VENTING REQUIREMENTS.

BACKFLOW DEVICE SCHEDULE

ITEM/ FIXTURE	ITEM/ EQUIPMENT #	BACKFLOW DEVICE
BAG-N-BOX SODA SYSTEM	22	RPZ-1
ROOF MOUNTED HOSE BIBB	HB-2	BFP-1
ECOLAB CONNECTION(S)	-	BFP-2
STEAMER	25	
FOOD WARMER	32	
DIPPER WELL(S)	37	
SODA DISPENSER(S)	40	
COFFEE BREWER(S)	55A	
TEA BREWER(S)	56	
ICE MAKER(S)	59	
ICE MAKER(S)	60	
WALL MOUNTED HOSE BIBB(S)	HB-1, HB-3	INTEGRAL
SERVICE SINK FAUCET	SS-1	

PLUMBING FIXTURE SCHEDULE

NOTE: ALL FIXTURES LISTED BELOW SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE. SUBSTITUTIONS ARE NOT ALLOWED.

MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WC-1	WATER CLOSET (ADA)	4"	2"	1 1/2"	-	ZURN #Z5665-BWL ADA COMPLIANT FLOOR MOUNTED, FLUSH VALVE, WHITE VITREOUS CHINA, 1.28 GPF WITH ELONGATED BOWL, 1 1/2" TOP SPUD CONNECTION, BOLT CAPS. INSTALL COMPLETE WITH ADA COMPLIANT ZURN #Z6000AV-WSI-DF AQUAVANTAGE 'AV' EXPOSED FLUSH VALVE, BENEKE #523-SS ELONGATED OPEN FRONT SEAT (LESS COVER) WITH CHECK HINGE STOPS, HERCULES #90241 JUMBO WAX RING, AND JONES #CO2-993 BRASS ANCHOR BOLT AND NUT PACK.
WC-2	WATER CLOSET	4"	2"	1 1/2"	-	ZURN #Z5655-BWL FLOOR MOUNTED, FLUSH VALVE, WHITE VITREOUS CHINA, 1.28 GPF WITH ELONGATED BOWL, 1 1/2" TOP SPUD CONNECTION, BOLT CAPS. INSTALL COMPLETE WITH ADA COMPLIANT ZURN #Z6000AV-WSI-DF AQUAVANTAGE 'AV' EXPOSED FLUSH VALVE, BENEKE #523-SS ELONGATED OPEN FRONT SEAT (LESS COVER) WITH CHECK HINGE STOPS, HERCULES #90241 JUMBO WAX RING, AND JONES #CO2-993 BRASS ANCHOR BOLT AND NUT PACK.
UR-1	URINAL (ADA)	2"	1 1/2"	3/4"	-	ZURN #5798.207.00 ADA COMPLIANT WALL MOUNTED HIGH EFFICIENCY URINAL, WHITE VITREOUS CHINA, 0.13 GPF WITH EXTENDED RIM, 3/4" TOP SPUD CONNECTION FOR INCLUDED ADA COMPLIANT EXPOSED DIAPHRAGM TYPE MANUAL OPERATED FLUSH VALVE. INSTALL COMPLETE WITH ZURN #Z1221 PLATE TYPE WALL CARRIER AND JONES #G13-002 WAX GASKET WITH URINAL HORN.
LAV-1	LAVATORY (ADA)	2"	1 1/2"	1/2"	1/2"	ZURN #Z5344 VITREOUS CHINA WITH 4" CENTER FAUCET HOLE. INSTALL WITH #Z1231 CARRIER BRACKET. ZURN #Z81101 MANUAL LAVATORY FAUCET, INCLUDES STRAINER, TAILPIECE. AND AERATOR. PROVIDE PLUMEX #3011 WHITE DRAIN INSULATOR.
FD-1	FLOOR DRAIN	3"	2"	-	-	ZURN #415 TYPE 'B' STRAINER, 5"Ø NICKEL BRONZE GRATE, CAST IRON BODY, CONVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.
FD-2	FLOOR DRAIN	3"	2"	-	1/2"	ZURN #415 TYPE 'B' STRAINER, 5"Ø NICKEL BRONZE GRATE, CAST IRON BODY, CONVERTIBLE MEMBRANE CLAMP, ADJUSTABLE COLLAR, AND TRAP PRIMER CONNECTION.
FS-1	FLOOR SINK	3"	2"	-	-	ZURN #FD2375 A.R.E. FLOOR SINK, 12x12x6 ACID RESISTING PORCELAIN ENAMEL INTERIOR AND TOP, CAST IRON BODY, SQUARE SLOTTED LIGHT DUTY GRATE, AND WHITE ABS DOME STRAINER. COORDINATE GRATE CONFIGURATION WITH KITCHEN ROUGH IN PLANS.
FCO	FLOOR CLEANOUT	LINE SIZED	-	-	-	ZURN #1400 ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND 5"Ø ROUND POLISHED NICKEL BRONZE TOP.
WCO	WALL CLEANOUT	LINE SIZED	-	-	-	ZURN #1468-3 ROUND WALL CLEANOUT COVER WITH STAINLESS STEEL SMOOTH WALL ACCESS PLATE AND BRONZE RAISED HEX HEAD PLUG.
HB-1	HOSE BIBB (WALL MOUNTED)	-	-	3/4"	-	ZURN #Z1315 EXPOSED NON-FREEZE WALL HYDRANT, WITH INTEGRAL ANTI-SIPHON VACUUM BREAKER. KEYED OPERATION REQUIRED FOR USE.
HB-2	HOSE BIBB (ROOF MOUNTED)	-	-	3/4"	-	ZURN #Z1344-VB EXPOSED NON-FREEZE WALL HYDRANT, WITH OPTIONAL ANTI-SIPHON VACUUM BREAKER. HAND OPERATION REQUIRED FOR USE.
WB-1	WALL BOX (RECESSED)	-	-	1/2"	1/2"	ACORN STAINLESS STEEL RECESSED REMOTE SUPPLY BOX MODEL 8200. WITH TEMPERATURE GAUGE AND VACUUM BREAKER. REMOTE CONNECTION SHALL SUPPLY ADJACENT HB-1.
RD-1	ROOF DRAIN	3"	-	-	-	ZURN #RD2130-NH3-C" COMBINATION ROOF AND OVERFLOW DRAIN, CAST IRON BODY WITH UNDERDECK CLAMP WITH INTEGRAL GRAVEL GUARD AND CAST IRON DOME STRAINER.
DN-1	DOWNSPOUT NOZZLE	3"	-	-	-	ZURN #199 DOWNSPOUT NOZZLE, NICKEL BRONZE BODY WITH DECORATIVE FACE OF WALL FLANGE AND OUTLET NOZZLE.
SS-1	SERVICE SINK	3"	2"	3/4"	3/4"	ZURN #Z1996-24-BV MOLDED COMPOSITE BASIN. INSTALL COMPLETE WITH ZURN AQUA SPEC #Z843M1-RC CHROME PLATED SERVICE FAUCET W/ VACUUM BREAKER, INTEGRAL STOPS, WALL BRACE, PAIL HOOK AND HOSE THREAD OUTLET.
(LOT)	SINK FAUCETS	VARIES	VARIES	VARIES	VARIES	KITCHEN EQUIPMENT SUPPLIER SHALL PROVIDE THE POT AND VEGETABLE SINKS. OWNER TO PROVIDE (3)EA. ZURN Z843J1-XL FAUCETS, (1)EA. ZURN Z825X1-HCT PRE-RINSE UNIT & (4)EA. ZURN Z89600 LEVER WASTES.

PLUMBING EQUIPMENT SCHEDULE

NOTE: ALL EQUIPMENT LISTED BELOW SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR. SUBSTITUTIONS ARE NOT ALLOWED.

MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WH-1	TANK TYPE WATER HEATER	-	-	1"	1"	A.O. SMITH CYCLONE Xi #BTX-100 NATURAL GAS FIRED TANK TYPE UNIT COMPLETE WITH T&P VALVE, 50 GAL. CAPACITY, 100,000 BTUH INPUT, 96+% EFFICIENCY WITH A 116 GPH RECOVERY AT A 100°F RISE. PROVIDE WITH OPTIONAL CONCENTRIC VENT KIT. PROVIDE HOT AND COLD WATER HEAT TRAP FITTINGS/ RISERS.
ET-1	EXPANSION TANK	-	-	3/4"	-	WILKINS HXT-30 EXPANISON TANK, WITH STEEL BODY AND BUTYL RUBBER DIAPHRAGM FOR 4.8 GALLONS TOTAL CAPACITY/ 1.9 GALLONS ACCEPTANCE CAPACITY, 12 PSI FACTORY PRE-CHARGED.
TP-1	TRAP PRIMER	-	-	1/2"	-	ZURN #Z1021 WATERSAVER TRAP PRIMER, CHROME PLATED POLISHED WITH 1-1/2" CAST BRASS BODY ELBOW WITH CLEANOUT, FOR 1-1/4" SINK TAILPIECE HOOKUP. ASSEMBLY SHALL BE INSTALLED COMPLETE WITH ESCUTCHEONS AND STAINLESS STEEL BRAIDED PRIMER HOSE WITH 1/2" COMPRESSION FITTINGS.
WHA-1	WATER HAMMER ARRESTER	-	-	LINE SIZED	-	ZURN #Z1700, FULLY MECHANICAL WATER HAMMER ARRESTER SIZED AND LOCATED PER THE MANUFACTURER SPECIFICATIONS.
MXV-1	MIXING VALVE	-	-	1/2"	1/2"	WILKINS MODEL #W1070-XL AQUA-GARD UNDER SINK THERMOSTATIC MIXING VALVE, WITH BRONZE BODY AND INTEGRAL MOUNTING HOLES, TAMPER RESISTANT ENCLOSURE.
RPZ-1	REDUCED PRESSURE BACKFLOW PREVENTER	-	-	LINE SIZED	-	WILKENS MODEL #975XLST REDUCED PRESSURE ZONE ASSEMBLY WATER SUPPLY TO CARBONATOR(S) SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, THE BODY & ADAPTERS ARE OF STAINLESS STEEL CONSTRUCTION, ALL RUBBER COMPONENTS COMPLY WITH FDA FOOD ADDITIVE REGULATIONS.
BFP-1	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WILKENS MODEL #350 DOUBLE CHECK VALVE ASSEMBLY. WATER SUPPLY TO ROOFTOP UNIT MOUNTED HOSE BIBB(S) SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, TWO POSITIVE SEATING CHECK MODULES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS.
BFP-2	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WILKENS MODEL #740 DUAL CHECK WITH ATMOSPHERIC PORT. WATER SUPPLY TO BEVERAGE FIXTURE APPLIANCES, ICE MAKERS, ETC. SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR CONTINUOUS OR INTERMITTENT PRESSURE, STAINLESS STEEL BODY CONSTRUCTION AND ALL RUBBER INTERNAL COMPONENTS.
BFP-3	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WILKENS MODEL #350 DOUBLE CHECK VALVE ASSEMBLY. DOMESTIC WATER SERVICE TO THE BUILDING SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, TWO POSITIVE SEATING CHECK MODULES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. VERIFY APPROVAL WITH UTILITY AND JURISDICTION PRIOR TO INSTALLATION.
GI-1	GREASE INTERCEPTOR	4"	2"	-	-	PRECAST CONCRETE 1500 GALLON GREASE INTERCEPTOR. REFER TO CIVIL DRAWING(S) FOR PROPOSED LOCATION AND LAYOUT RELATIVE TO THE BUILDING.

PIPING MATERIAL SCHEDULE

1.	WATER PIPE (ABOVE GROUND)	CROSSLINKED POLYETHYLENE (PEX) TUBING WITH BRASS INSERT FITTINGS. NO PEX PIPING SHALL BE INSTALLED WHERE IT IS EXPOSED TO DIRECT SUNLIGHT.
2.	WATER PIPE (BELOW GROUND)	CROSSLINKED POLYETHYLENE (PEX) TUBING WITH BRASS INSERT FITTINGS. NO JOINTS OR UNIONS SHALL BE INSTALLED BELOW THE BUILDING SLAB.
3.	SEWER AND VENT PIPE (ABOVE AND BELOW GRADE)	INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS.
4.	CONDENSATE DRAIN PIPE AND INDIRECT DRAINAGE PIPE (INTERIOR TO BUILDING)	TYPE 'DWV' POLYVINYL CHLORIDE PVC PIPING. INDIRECT DRAIN AT 3-COMPARTMENT SINK SHALL BE ROUTED IN COPPER PIPING PER SPECIFICATIONS.
5.	CONDENSATE DRAIN PIPE (EXTERIOR TO BUILDING)	TYPE 'DWV' POLYVINYL CHLORIDE PVC PIPING.
6.	STORM DRAIN PIPE (ABOVE AND BELOW GRADE)	INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS. INSULATE WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT.
7.	GAS PIPE	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS. WELDED JOINTS FOR PIPE 2-1/2" AND LARGER AND ALL JOINTS BELOW GRADE.
8.	SLEEVE PIPE FOR REFRIGERANT, CO2 AND SYRUP BUNDLES	SCHEDULE 40 PVC EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, AND MUST BE WATER TIGHT. ALL BENDS MUST BE NO LESS THAN 24" RADIUS SWEEPS.
9.	PVC AND PEX PIPING	IS ALLOWED FOR INSTALLATION WHERE APPROVED BY THE JURISDICTION HAVING AUTHORITY. PROVIDE WRITTEN APPROVAL TO THE ARCHITECT/ ENGINEER FOR DOCUMENTATION.

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
SAN	S OR W	SOIL OR WASTE (BELOW GRADE)
--------GW--------	GW	GREASE WASTE
	V	VENT
CD	CD	CONDENSATE DRAIN
DR	DR	DRAIN LINE
ST	ST	STORM DRAIN
CW	CW	COLD WATER
FW	FW	FILTERED WATER
FW/S	FW	FILTERED WATER WITH SCALE INHIBITOR
SW	SW	SOFTENED WATER
FSW	FSW	FIRE SERVICE WATER
HW	HW	HOT WATER
HWR	HWR	HOT WATER RETURN
RCL	RCL	RECLAIMED HEAT WATER
G	G	GAS, NATURAL OR PROPANE
	UP	PIPE UP
	DN.	TEE DOWN
	DN.	PIPE DOWN
	FCO	FLOOR CLEANOUT
	DCO	DOUBLE CLEANOUT
	CO	CLEANOUT, WALL OR PIPE
	SOV	SHUT-OFF VALVE
NO	SOV	SHUT-OFF VALVE, NORMALLY OPEN
NC	SOV	SHUT-OFF VALVE, NORMALLY CLOSED
	C.V.	CHECK VALVE
	B.V.	BALANCING VALVE
	U	UNION
	P.V.	MECHANICAL PLUG VALVE (GAS)
	SOC	SHUT-OFF COCK (GAS)
	SOC	SHUT-OFF COCK W/ QUICK DISCONNECT (GAS)
	S.V.	ELECTRIC SOLENOID VALVE (GAS)
R	P.R.	PRESSURE REGULATOR (GAS)
	POC	POINT OF CONNECTION
	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
	VTR	VENT TO ROOF
	HD	HUB DRAIN
	FD	FLOOR DRAIN (COORDINATE GRATE REQS)
	FS	FLOOR SINK (COORDINATE GRATE REQS)
	RP	RECIRCULATION PUMP
	HB	HOSE BIBB
	KEC	KITCHEN EQUIPMENT CONTRACTOR
	BTUH	BRITISH THERMAL UNITS PER HOUR
	MBH	BTUH X 1000
	CFH	CUBIC FEET PER HOUR (1 MBH = 1 CFH)
	(E)	EXISTING
	I.E.	INVERT ELEVATION
	CONN	CONNECTION
	FU	FIXTURE UNITS
	GPM	GALLONS PER MINUTE
	GPH	GALLONS PER HOUR
	HP	HORSEPOWER
	PSI	POUNDS PER SQUARE INCH
	AP	ACCESS PANEL
	W/	WITH
	FLR	FLOOR
	CLG	CEILING
	ABV	ABOVE
	BEL	BELOW
	UG	UNDERGROUND
	DN	DOWN
	CONT.	CONTINUE
	TYP.	TYPICAL
	FOH	FRONT OF HOUSE
	BOH	BACK OF HOUSE
	A.D.A.	AMERICAN DISABILITIES ACT
	A.F.F.	ABOVE FINISH FLOOR
	B.F.F.	BELOW FINISH FLOOR

TESTING PROCEDURES

1. TEST INSTALLED WATER PIPING AT 100 PSI FOR A PERIOD OF 8 HOURS, OBSERVING FOR ANY VISIBLE LEAKS. TEST PIPING AGAIN WITH FIXTURES INSTALLED.
2. CHLORINATE ALL WATER PIPING FOR A PERIOD OF 8 HRS, BY CHARGING WITH A HYPOCHLORINATE SOLUTION TO ACHIEVE A 5 PPM STRENGTH AT THE FIXTURE FURTHEST FROM THE POINT OF APPLICATION. UPON COMPLETION OF THE CHLORINATION, FLUSH ALL PIPING UNTIL NO CHLORINE CAN BE DETECTED BY TASTE. CLEAN ALL STRAINERS AND SET WATER FLOWS FROM FIXTURES IN ACCORDANCE WITH MANUFACTURER AND LOCAL REQUIREMENTS.
3. TEST INSTALLED GAS PIPING AT 60 PSI FOR A PERIOD OF 2 HRS, USING SOAP AND WATER OBSERVING FOR ANY VISIBLE LEAKS AT ALL JOINTS.
4. TEST INSTALLED WASTE AND VENT PIPING FOR A PERIOD OF 8 HRS, BY CAPPING OR PLUGGING ALL JOINTS TO A LEVEL OF THE HIGHEST FIXTURE OR FITTING. FILL THE SYSTEM WITH WATER AND OBSERVE FOR ANY LEAKS.

PLUMBING GENERAL NOTES

1. NOTE: FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
2. THE PLUMBING SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
3. PLUMBING QUALITY, WEIGHTS OF MATERIALS AND ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO THE 2009 INTERNATIONAL PLUMBING CODE, WITH LOCAL JURISDICTION CODE AMENDMENTS.
4. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS WITH ALL DISCIPLINES AND TRADES PRIOR TO SUBMITTAL OF BID AND INSTALLATION OF SYSTEM.
5. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL FEES, CHARGES, PERMITS AND METERS.
6. THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND LABOR (INCLUDING THE COMPLETE PLUMBING SYSTEM) FOR A PERIOD OF ONE YEAR FROM WRITTEN ACCEPTANCE BY THE TENANT. ANY DEFECTS IN MATERIALS AND OR LABOR FOUND WITHIN THE GUARANTEE PERIOD SHALL BE REMEDIED OR REPAIRED BY THIS CONTRACTOR IN A TIMELY FASHION, AT NO COST TO THE TENANT.
7. ALL PLUMBING FIXTURE LOCATIONS (WATER CLOSETS, LAVATORIES ETC.) ARE DIAGRAMMATIC. CONTRACTOR SHALL REFER TO FOOD SERVICE AND ARCHITECTURAL DRAWINGS FOR EXACT PLACEMENT AND MOUNTING HEIGHTS.
8. ANY DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
9. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTAL OF BID AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. SUBMITTAL OF BID WILL VERIFY THAT THE CONTRACTOR HAS VISITED THE SITE.
10. PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. THE INSTALLATION SHALL MEET ALL CONSTRUCTION CONDITIONS AND ALLOW FOR THE INSTALLATION OF OTHER TRADES.
11. SUPPORT PIPING WITH CLEVIS OR SPLIT RING TYPE PIPE HANGERS WITH 3/8" ALL THREAD ROD AND BEAM CLAMPS. "PLUMBERS TAPE AND WIRE" NOT PERMITTED.
12. TRAP PRIMERS FOR FLOOR DRAINS AND FLOOR SINKS AND WATER HAMMER ARRESTORS TO BE INSTALLED AS PER THE 2009 INTERNATIONAL PLUMBING CODE, WITH LOCAL JURISDICTION CODE AMENDMENTS AND THE LATEST EDITION OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE 1010) SIZING AND INSTALLATION REQUIREMENTS.
13. ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED BEHIND AN ACCESS PANEL.
14. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE 2009 INTERNATIONAL PLUMBING CODE, WITH LOCAL JURISDICTION CODE AMENDMENT REQUIREMENTS AND LABELED AS SUCH.
15. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
16. ALL WATER PIPING TO BE INSULATED AS PER THE 2009 INTERNATIONAL PLUMBING CODE, WITH LOCAL JURISDICTION CODE AMENDMENT REQUIREMENTS:

PIPE SIZE	INSULATION THICKNESS	INSULATION VALUE
1/2" THRU 1 1/4"	1/2"	R = 4.0
1-1/2" THRU 2"	1"	R = 6.0

17. CONTRACTOR SHALL PROVIDE: FAUCETS, TRAPS, STOPS, BALL VALVES, BACKFLOW DEVICES FOR KITCHEN EQUIP. GASCOCKS, WATER HAMMER ARRESTORS, CLEANOUT COVERS AND INDIRECT WASTE TO AN APPROVED RECEPTOR AND ALL NECESSARY TRIM FOR A COMPLETELY CONNECTED PLUMBING SYSTEM.
18. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE AND LOCATED AS PER CODE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL CLEAN OUT LOCATIONS WITH EQUIPMENT, MILLWORK, ETC., PRIOR TO INSTALLATION.
19. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10'-0" FROM OR 3'-0" ABOVE ANY MECHANICAL EQUIPMENT OUTSIDE AIR INTAKE.
20. ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS CONNECTED SUPPLY LINE UNLESS OTHERWISE NOTED ON DRAWINGS.
21. UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH SCREW-TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
22. PIPING SHALL BE INSTALLED COMPLETE WITH DIELECTRIC UNIONS BETWEEN CONNECTIONS OF NON-FERROUS MATERIALS.
23. PROVIDE ACCESSIBLE WATER SUPPLY STOP VALVE(S) AT EACH PLUMBING FIXTURE.
24. PROVIDE A LINE SIZED PRESSURE REDUCING VALVE AT THE BUILDING SERVICE CONNECTION SHOULD THE SUPPLY PRESSURE EXCEED 80 PSI.
25. ALL UNDERGROUND METALLIC PIPE AND FITTINGS SHALL BE PROTECTED IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.
26. NO PIPING SHALL BE DIRECTLY EMBEDDED IN CONCRETE, MASONRY WALLS, OR CONCRETE FOOTINGS.
27. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO START OF WORK.
28. VERIFY EXACT LOCATIONS, DEPTH AND SIZE OF ALL PIPING TO WHICH CONNECTIONS ARE REQUIRED. COORDINATE ALL CONNECTIONS WITH SITE CONDITIONS AND SITE UTILITY CONTRACTOR/ REPRESENTATIVE.
29. ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATIONS AND NOT LESS THAN 6" ABOVE THE FLOOR TO PROVIDE CLEARANCE FOR CLEANING.
30. ALL CUTTING OF EXISTING PAVING, WALKS AND/OR FLOORS SHALL UTILIZE MACHINE SAW CUTTING EQUIPMENT. HOLES FOR PIPES IN CONCRETE WALLS OR FLOORS SHALL UTILIZE CORE DRILLING EQUIPMENT. COORDINATE WITH ARCHITECTURAL DETAILS FOR FLOOR CUTTING AND PATCHING.
31. THE PLUMBING CONTRACTOR IS TO PROVIDE ALL ADDITIONAL STEEL, HANGER MATERIALS, RODS AND CLAMPS AS REQUIRED FOR COORDINATION WITH WORK OF OTHER TRADES.
32. PIPING LAYOUT IS SCHEMATIC ONLY, EXACT ROUTING AND INSTALLATION OF PIPES TO BE COORDINATED WITH THE BUILDING STRUCTURE AND THE WORK OF OTHER CONTRACTORS. NO WATER OR DRAIN LINES ARE PERMITTED TO BE INSTALLED OVER OR UNDER ELECTRICAL PANELS.
33. NO LIQUID TRANSMISSION PLUMBING PIPING SHALL BE INSTALLED ABOVE ELECTRICAL SWITCH GEAR, EQUIPMENT, OR PANELS. MAKE ADJUSTMENTS NECESSARY TO REROUTE PIPING FOR ACTUAL INSTALLATION OF ELECTRIC EQUIPMENT.
34. WHENEVER FOUNDATION WALLS, EXTERIOR WALLS, ROOFS, ETC. ARE PENETRATED FOR THE INSTALLATION OF PLUMBING SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT.
35. ANY EXPOSED PIPING IN THE GUEST AREAS SHALL BE PAINTED TO MATCH THE WALL COLOR. ANY EXPOSED GAS PIPING IN THE KITCHEN SHALL BE PAINTED WHITE.
36. DURING THE PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE PLUMBING SYSTEMS. THE RECORD DRAWING SHALL SHOW CHANGES IN MANUFACTURER (WITH NUMBERS AND TRADE NAMES). MATERIALS, SIZES, LOCATIONS AND HOOK-UP POINTS. AS-BUILTS SHALL BE GIVEN TO OWNER'S CONSTRUCTION MANAGER AT COMPLETION OF JOB.
37. UPON COMPLETION OF JOB, THIS CONTRACTOR SHALL INSPECT ALL EXPOSED PORTIONS OF THE PLUMBING INSTALLATION AND COMPLETELY REMOVE ALL EXPOSED LABELS, SOIL, MARKINGS AND FOREIGN MATERIAL EXCEPT PRODUCT LABELS AND THOSE REQUIRED BY LAW.
38. PLUMBING CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF STORE TURNOVER.
39. PLUMBING CONTRACTOR SHALL PROVIDE MANUFACTURER'S OPERATION LITERATURE FOR ALL INSTALLED EQUIPMENT AND FIXTURES AT THE DATE OF STORE TURNOVER.

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CHARBROILED BURGERS

PROTOTYPE T27-C-54 2450.8 - CONTEMPORARY STAR

1230 N. Division Street.
Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: cep

Permit Set

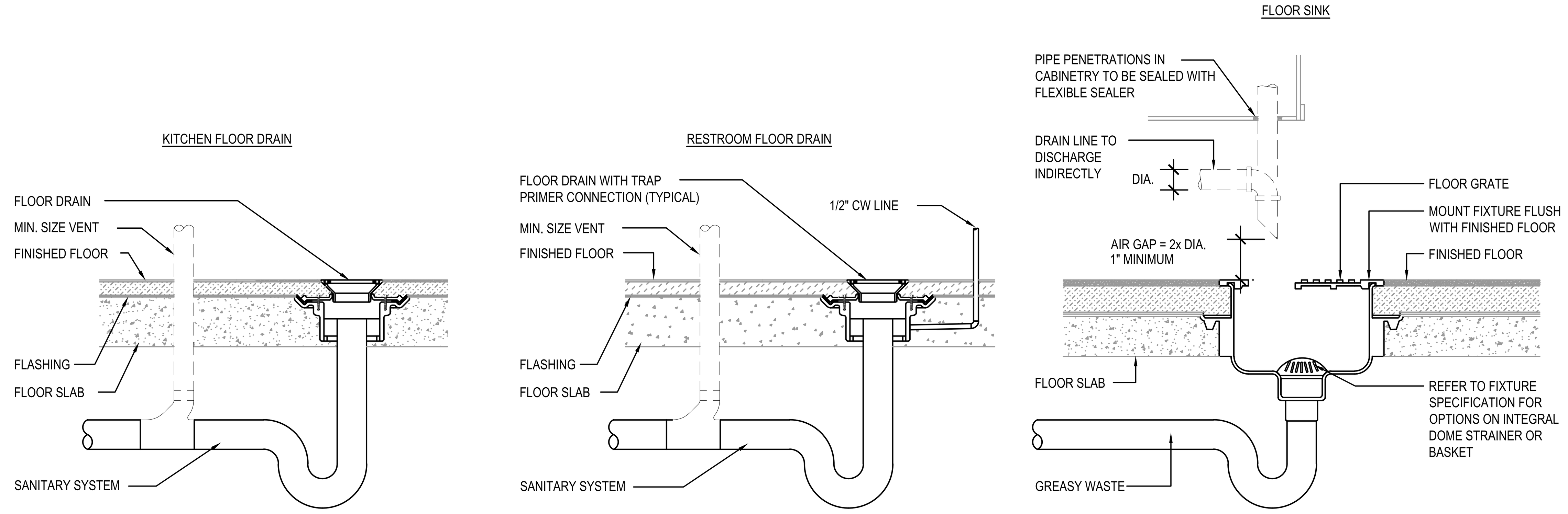
△	DATE	DESCRIPTION

SHEET TITLE:

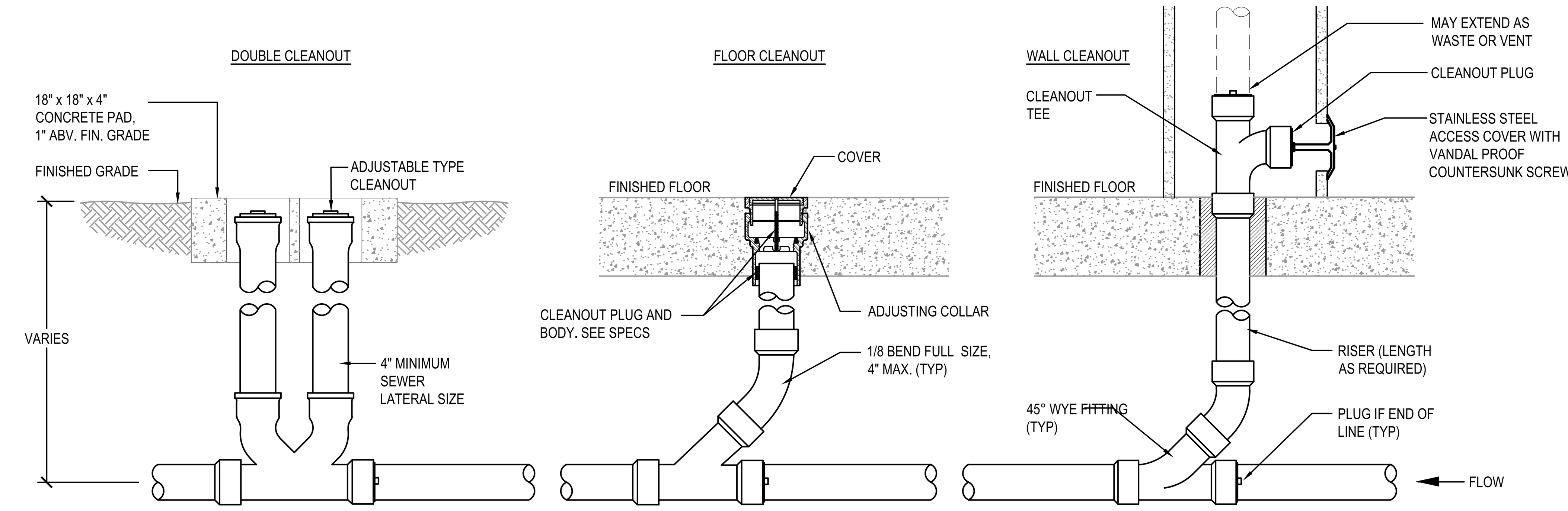
PLUMBING SCHEDULES

SHEET NUMBER:

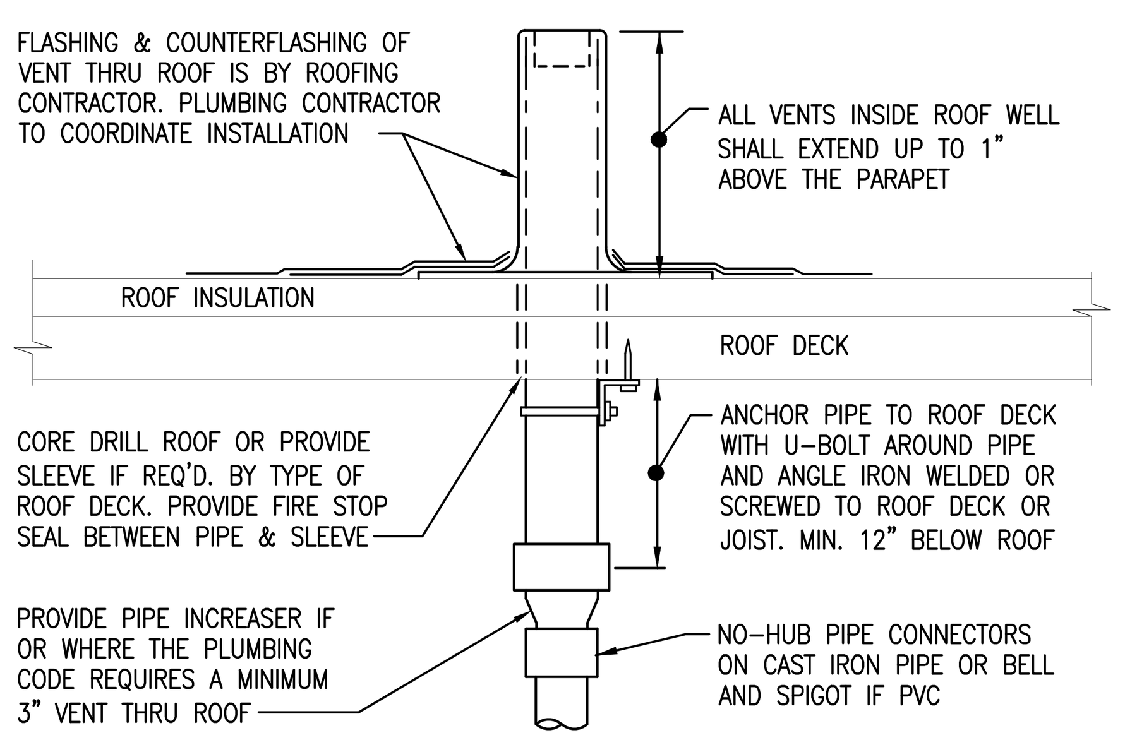
P2.0



INDIRECT DRAINAGE DETAILS 1
SCALE: NONE

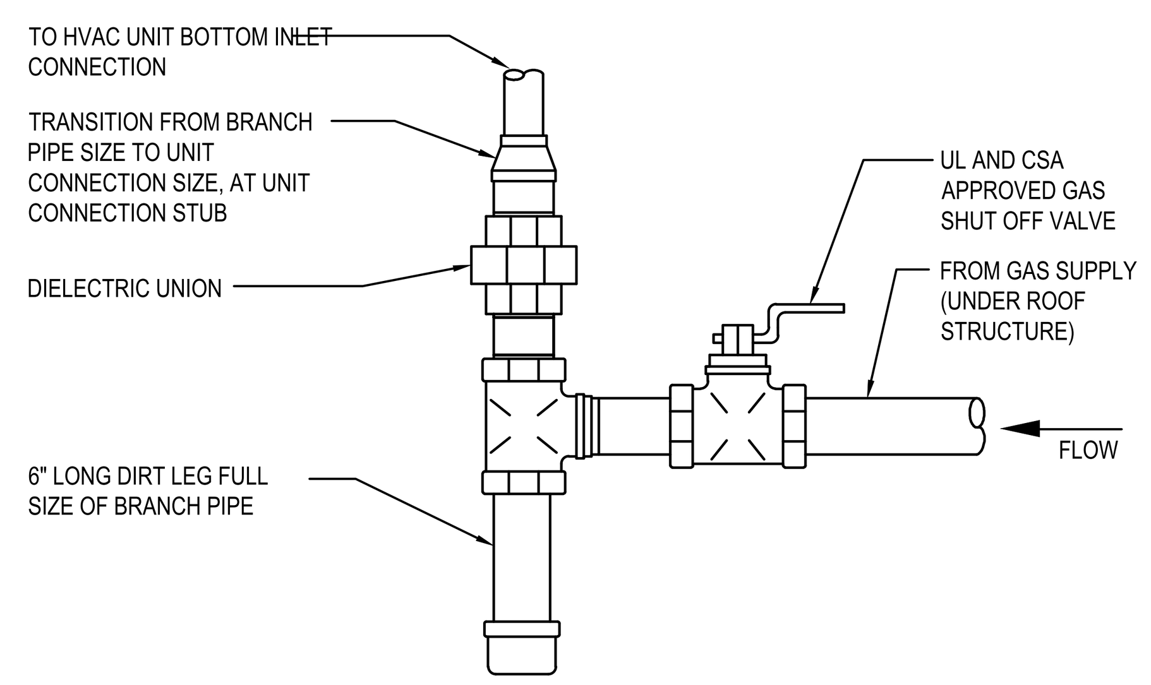


CLEANOUT DETAILS 2
SCALE: NONE



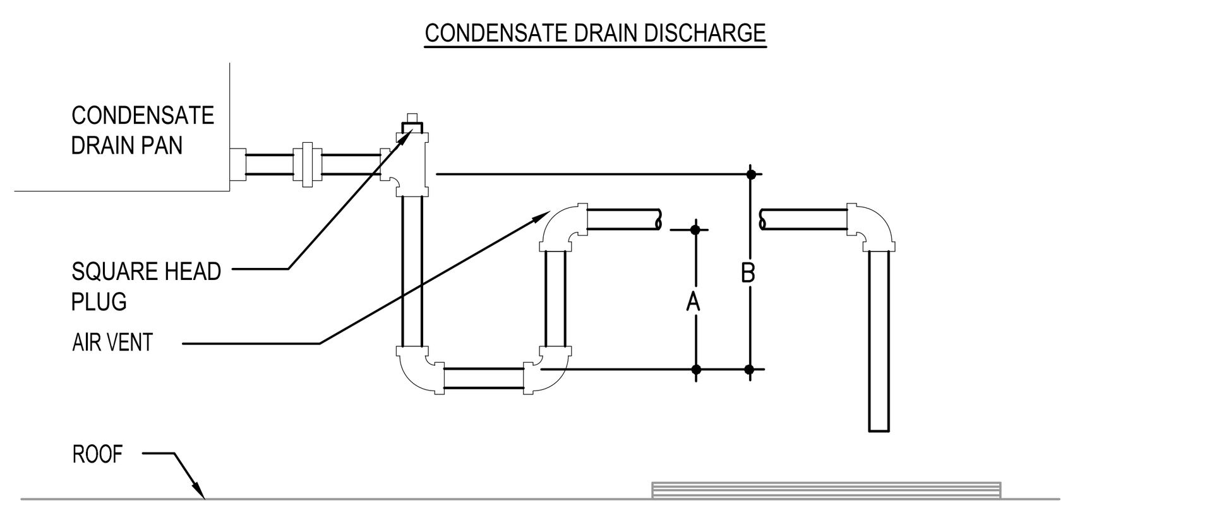
REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MIN. THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE. LOCATE VTR MINIMUM 18" FROM PARAPET, EXPANSION JOINT, EQUIPMENT CURB, ETC. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS

VENT THROUGH ROOF DETAIL 3
SCALE: NONE



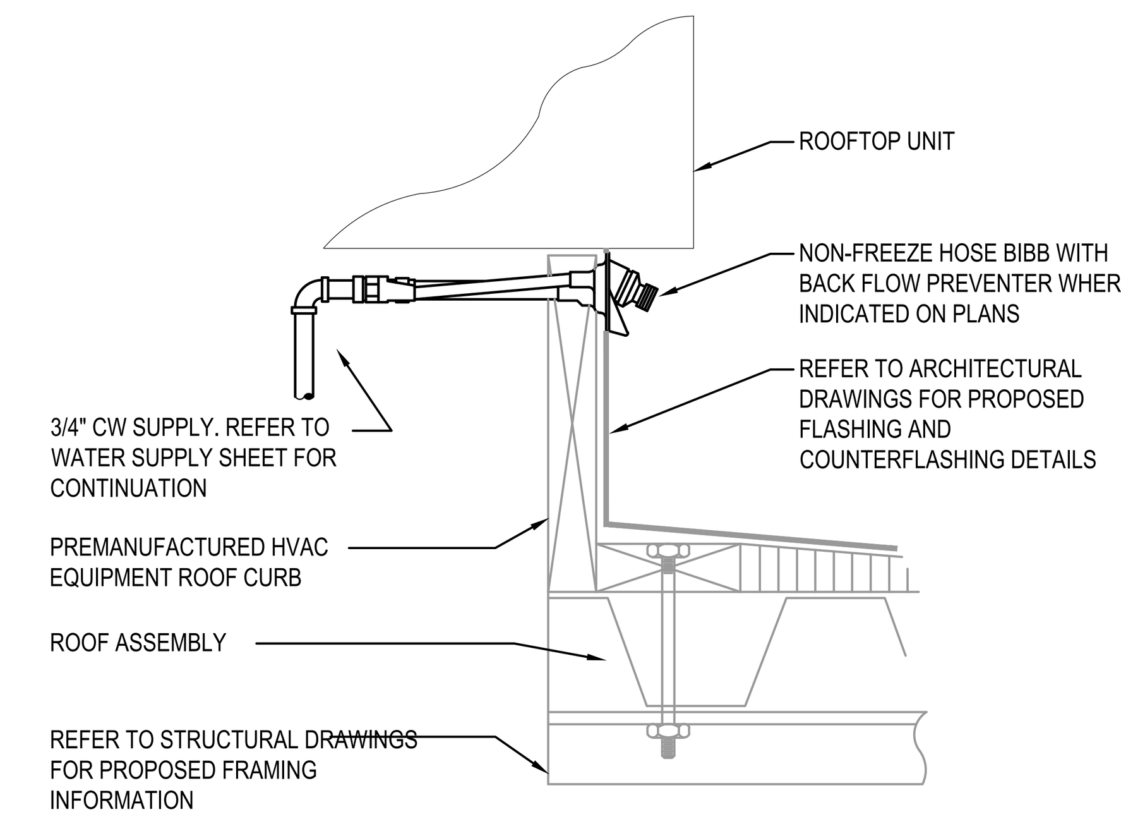
NOTES:
1. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT ACTUAL CONDITIONS.
2. ARRANGEMENT SHOWN IS FOR ROOFTOP UNIT (RTU), GAS CONNECTION SHALL BE BOTTOM ENTRY WITHIN THE CURB.
3. CONDENSATE TRAP SHALL BE ROUTED TO AVOID INTERFERENCE WITH MAINTENANCE ACCESS DOORS.

HVAC GAS CONNECTION DETAIL 4
SCALE: NONE



NOTES:
1. FILL TRAP MANUALLY ON INITIAL START-UP.
2. TRAP EACH COMPONENT DRAIN CONNECTION.
3. A = NEGATIVE STATIC PRESSURE = 2"
4. B = 2x NEGATIVE STATIC PRESSURE = 4"

HVAC CONDENSATE CONNECTION DETAIL 5
SCALE: NONE



ROOFCURB HOSE BIBB DETAIL 6
SCALE: NONE

ROOF PIPE SUPPORT SCHEDULE	
PIPE SIZE	MAXIMUM SPACING
1"	6'-0"
1 1/4"	6'-0"
1 1/2"	6'-0"
2"	6'-0"
2 1/2"	8'-0"
3"	8'-0"
4"	8'-0"

NOTES:
1. SUPPORTED PIPE AT ALL ELBOWS AND AT SPACING SPECIFIED.
2. PIPE SUPPORT BLOCK SHALL BE A MINIMUM OF ONE PIPE SIZE LARGER THAN PIPE
3. DO NOT ATTACH PIPESTANDS TO ROOF

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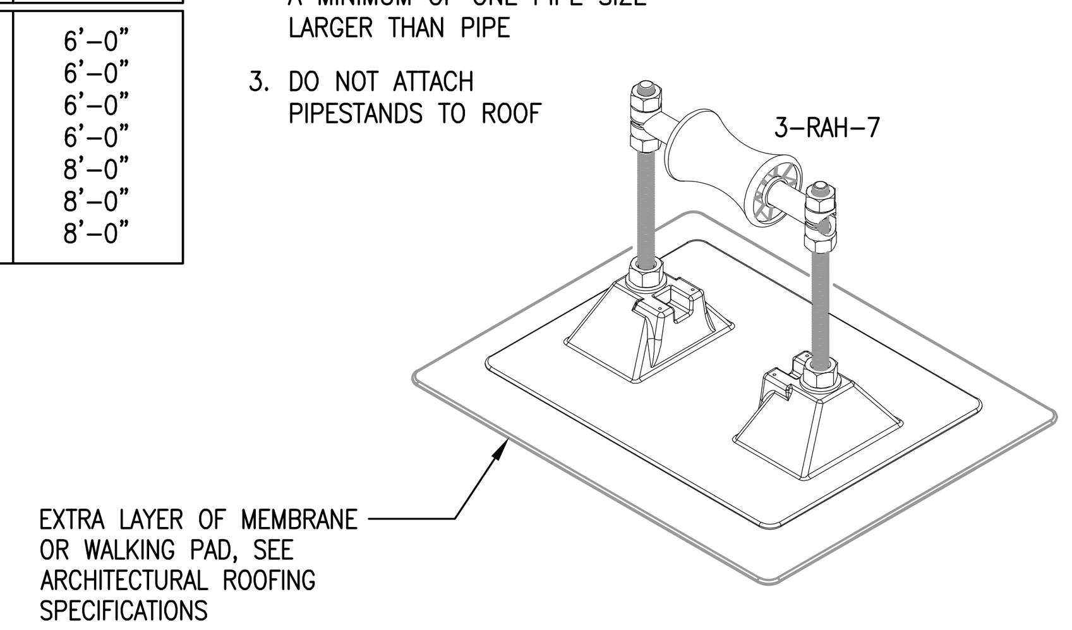
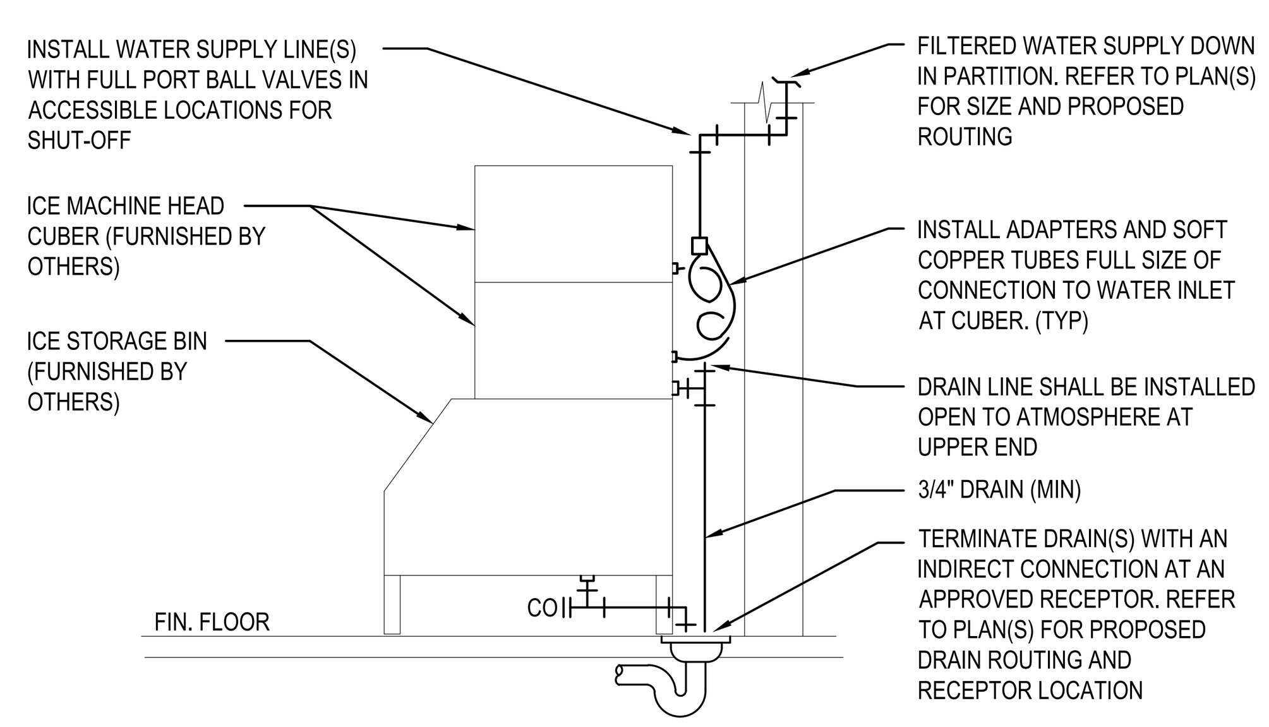
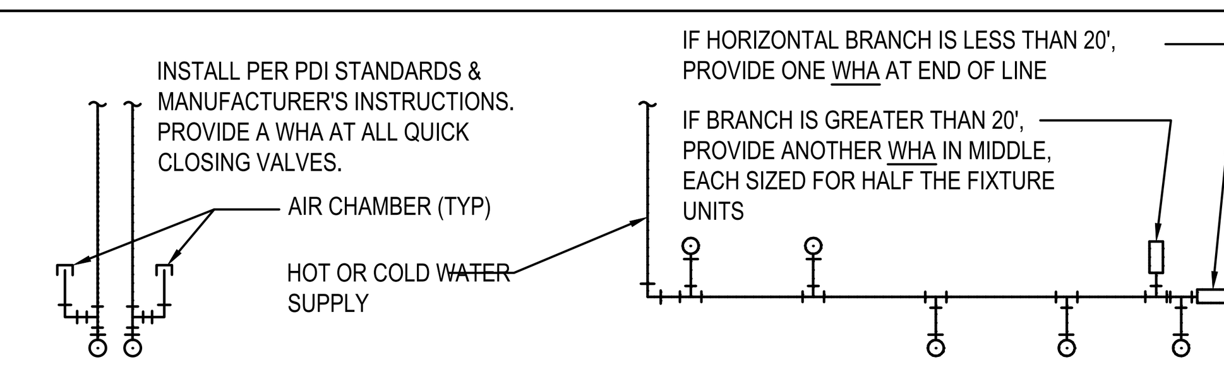


ROOF PIPING SUPPORT DETAIL (WHERE REQUIRED) 7
SCALE: NONE



NOTE:
PROVIDE COLD WATER ROUGH-IN AT TOP OF ICE MACHINE. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT CONDITIONS. VERIFY CONNECTIONS WITH MANUFACTURER.

ICE MACHINE CONNECTION DETAIL 8
SCALE: NONE

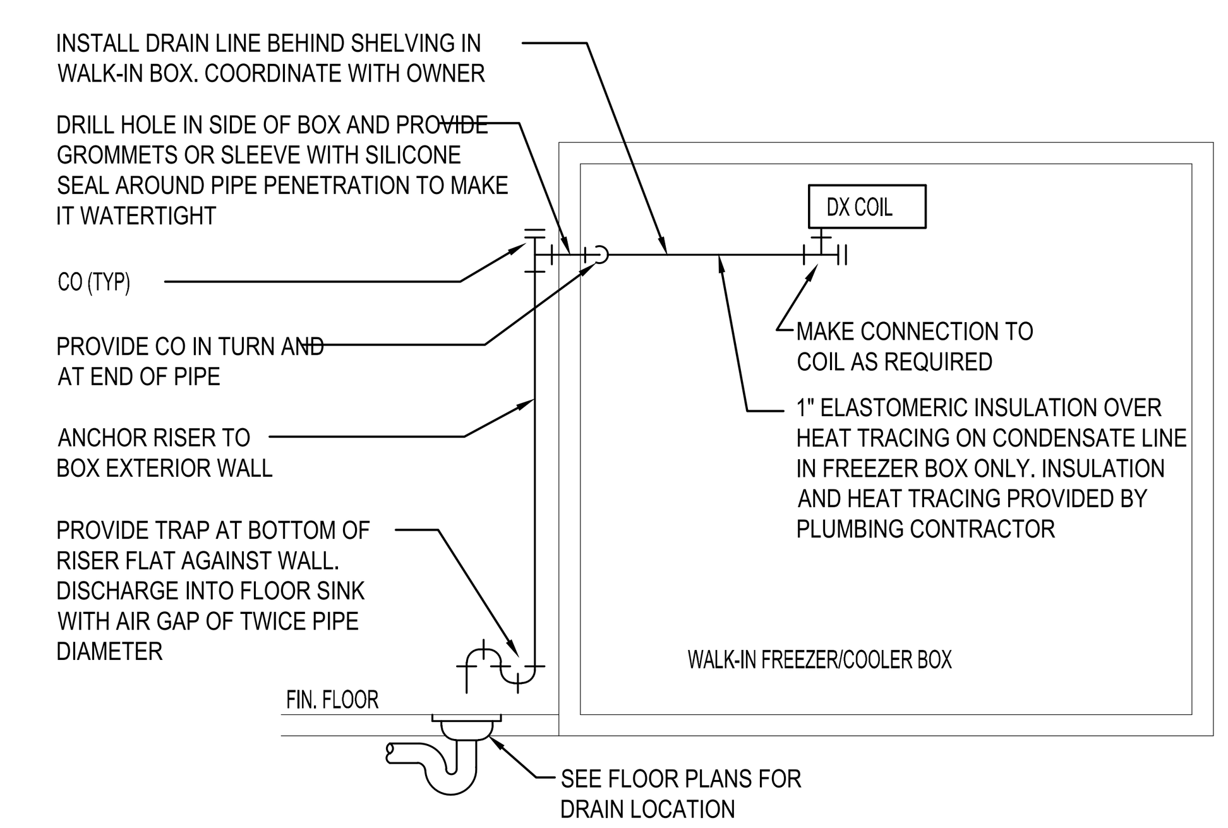


SINGLE/DOUBLE FIXTURE	PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
	A	1/2"	1-11
	B	3/4"	12-32
	C	1"	33-60
	D	1-1/4"	61-113
	E	1-1/2"	114-154
	F	2"	154-330

MULTIPLE FIXTURES	FIXTURE UNIT TABULATION		
	FIXTURE	COLD	HOT
	VALVE WATER CLOSET	10	--
	TANK WATER CLOSET	5	--
	URINAL	5	--
	LAVATORY/SINK	1.5	1.5
	JANITOR'S SINK	3	3
	SHOWER/BATHTUB	2	2

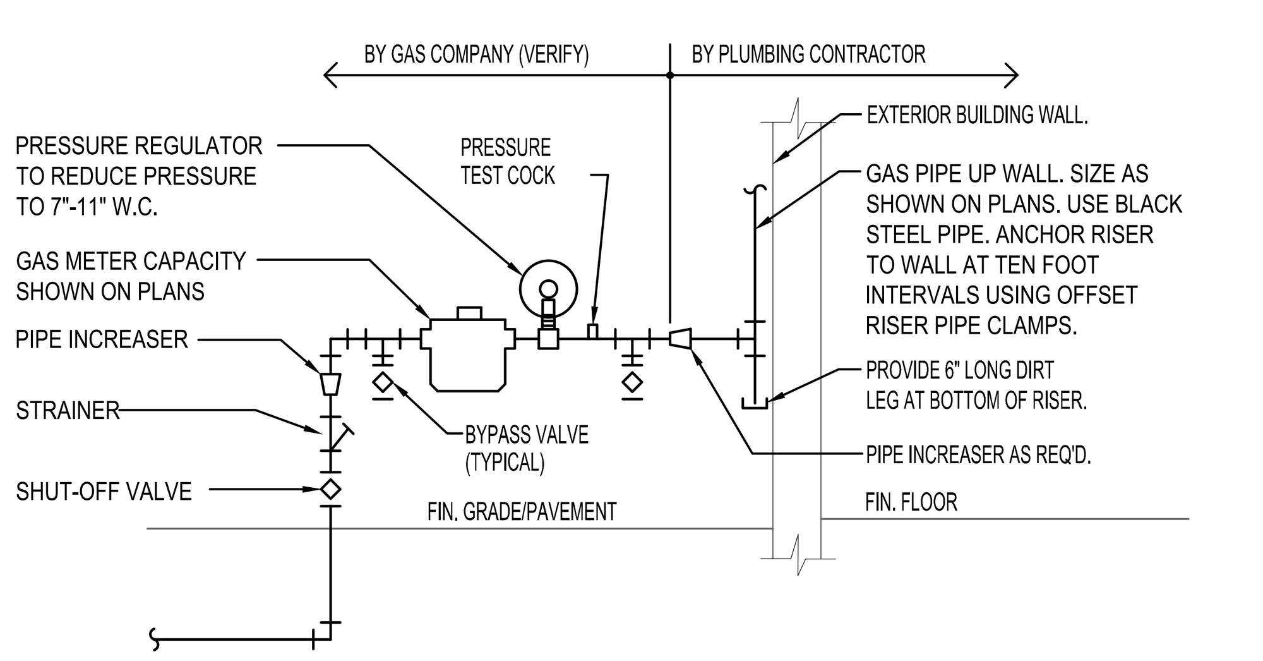
NOTE:
FOR BATTERIES OF FIXTURES, PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON & O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 & ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESSIBILITY WHERE REQUIRED BY LOCAL CODE.

WATER HAMMER ARRESTOR DETAIL 9
SCALE: NONE



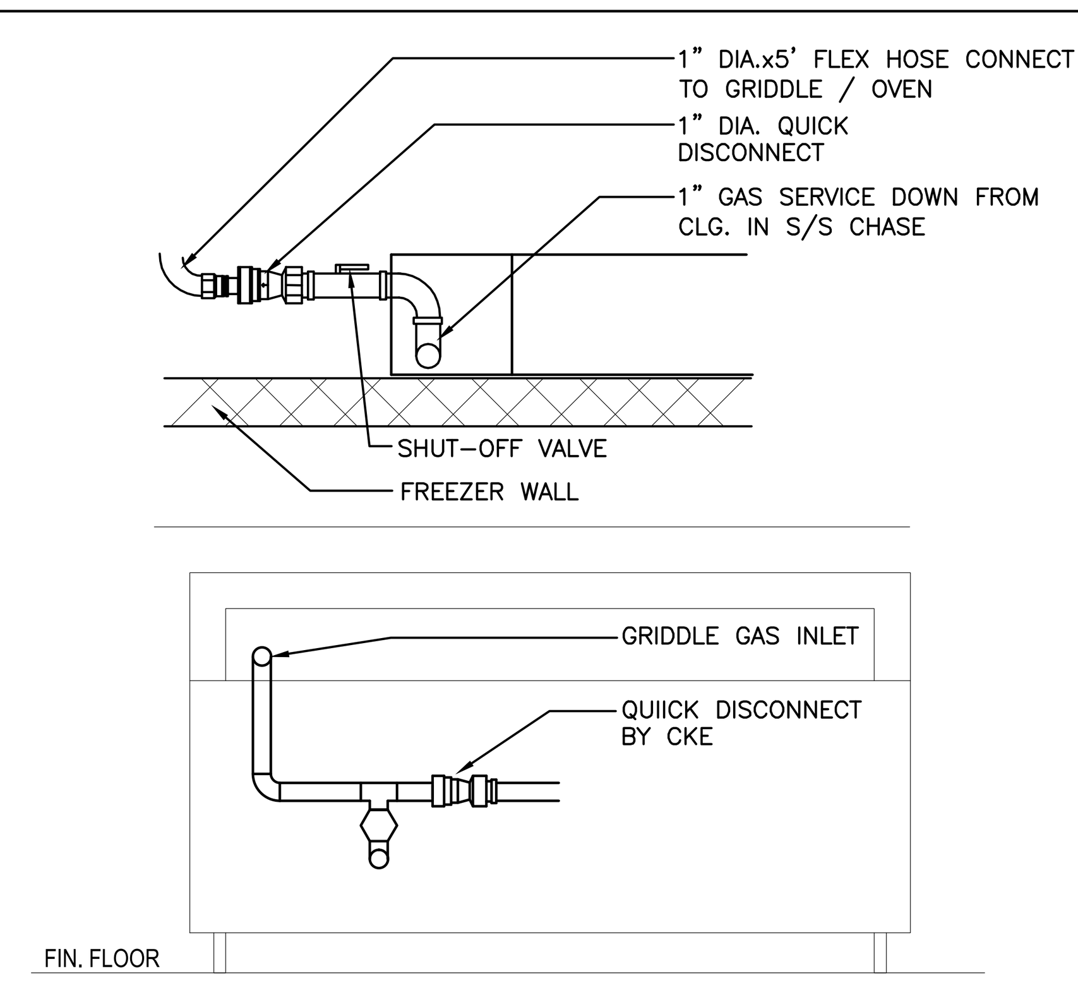
NOTE:
INSTALL PIPE AS HIGH AS POSSIBLE, ANCHORED TO WALL OF BOX WITH SUPPORTS AT MAXIMUM 6'-0" ON CENTERS. SLOPE HORIZONTAL PIPE AT MINIMUM TWO PERCENT IN THE DIRECTION OF FLOW. FINISH PIPE EXTERIOR TO WALK-IN BOX WITH CHROMATONE PAINT.

FREEZER/ COOLER CONDENSATE DRAIN DETAIL 10
SCALE: NONE

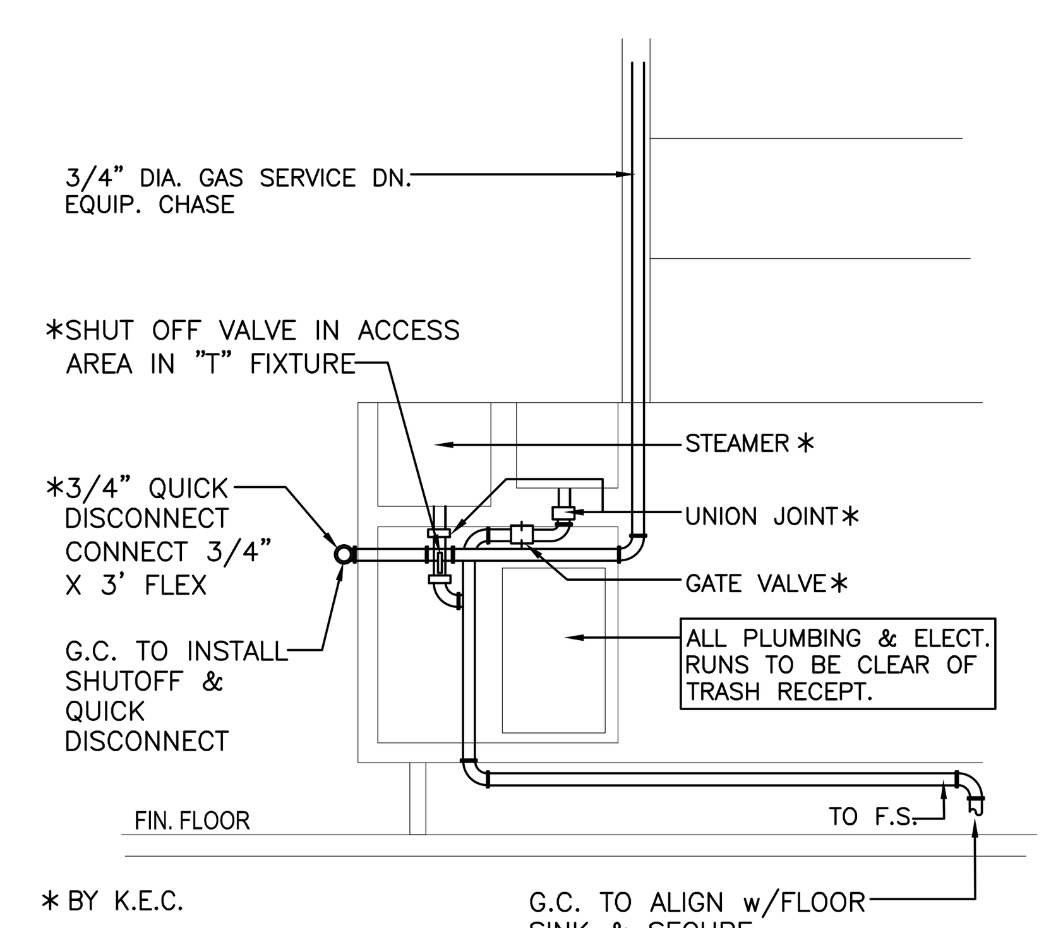


NOTE:
VERIFY REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. INSTALL OTHER UTILITIES A MINIMUM OF 10'-0" FROM GAS LINE. PLUMBING CONTRACTOR SHALL PAY ALL GAS COMPANY FEES FOR INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER PLUMBING SPECS. GAS COMPANY SHALL EXCAVATE, BACKFILL AND REPAIR ANY PAVING OR SOD FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING.

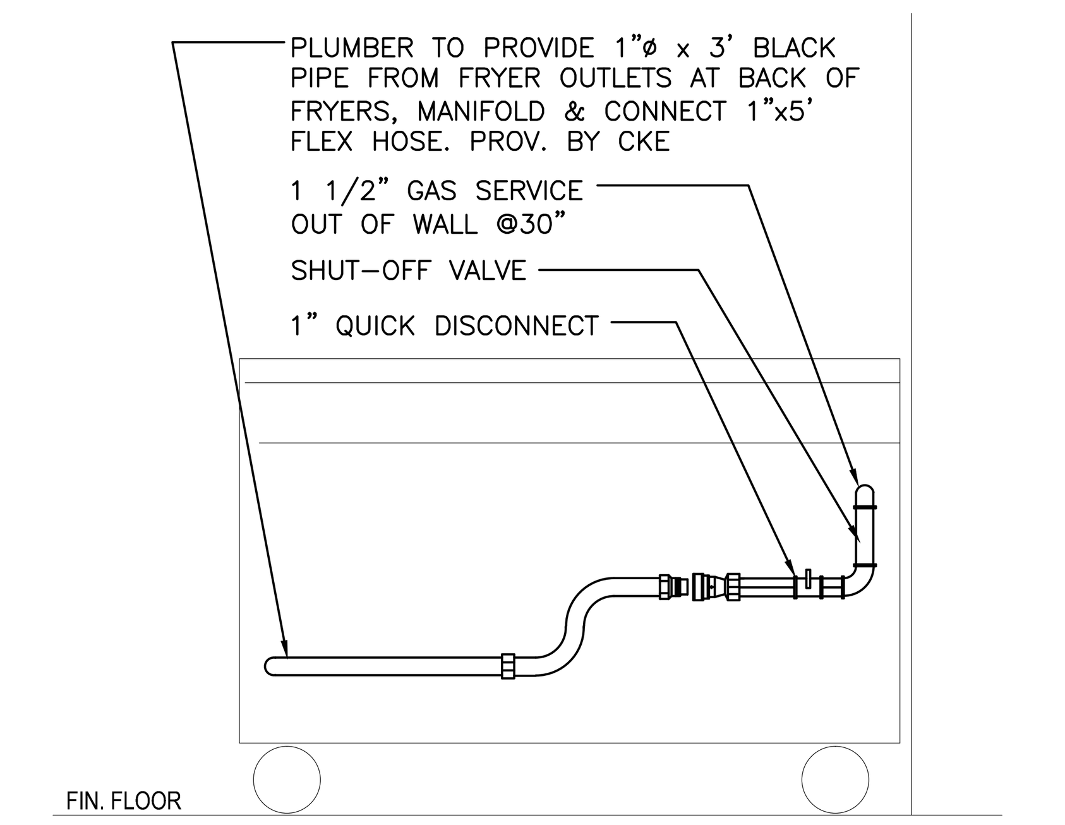
GAS SERVICE DETAIL 11
SCALE: NONE



GAS CONNECTION AT GRIDDLE DETAIL 12
SCALE: NONE



GAS CONNECTION AT BROILER DETAIL 13
SCALE: NONE



GAS CONNECTION AT FRYER DETAIL 14
SCALE: NONE

TODD NELSON
STATE OF WASHINGTON
49647 REGISTERED
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Spokane, WA 99202

PROJECT: 151101
DATE: 06/10/16
DRAWN: tch
CHECKED: cep

Permit Set

DATE	DESCRIPTION

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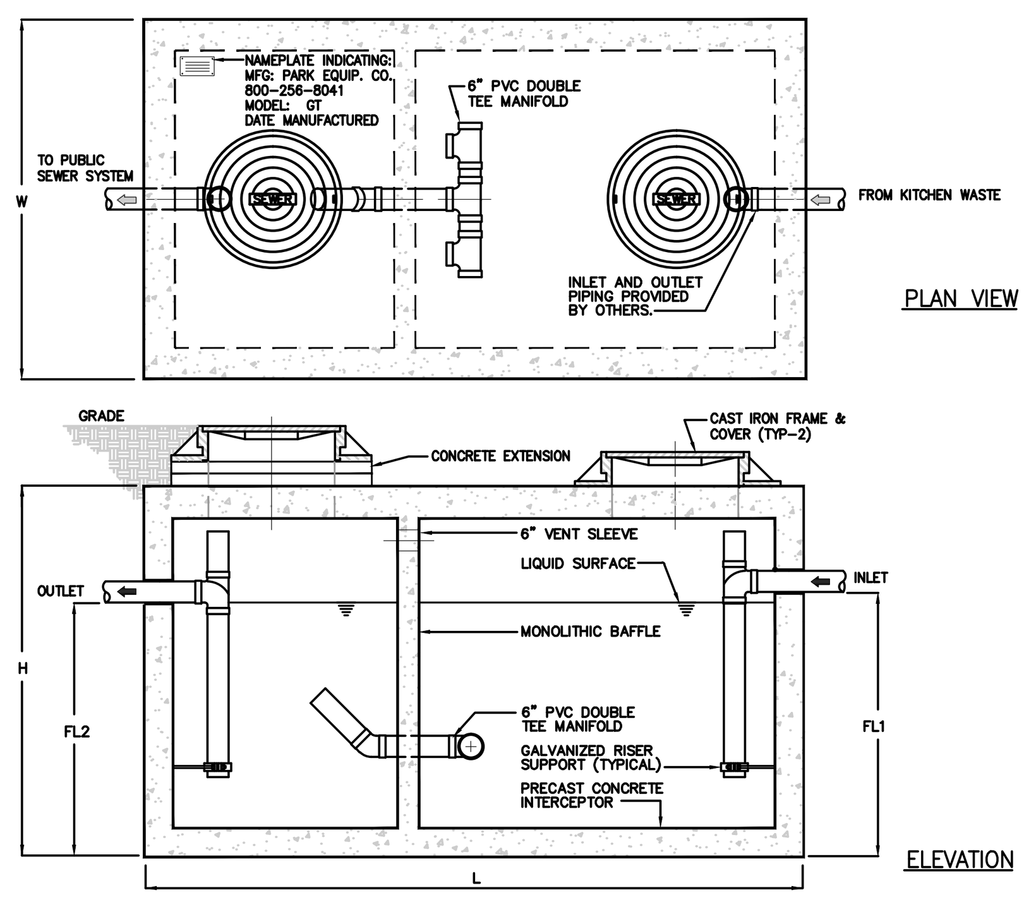
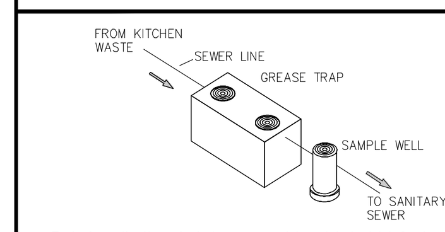
PLUMBING DETAILS

SHEET NUMBER:
P3.0





Typical applications include commercial and industrial food service kitchens where excessive grease may interfere with the proper drainage of the sewer system. The grease interceptor is generally buried below grade for gravity flow sewer systems. A sample well is utilized on the outlet side for sampling by the local water authoritiy.

Specifications

CONCRETE : Class 1 concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor, first stage of wall and baffle with sectional riser to required depth. (Monolithic baffle required, slide-in type is not acceptable)

REINFORCEMENT: Grade 60 reinforced with steel rebar conforming to ASTM A615 on required centers or equal.

C.I. CASTINGS: Manhole frames, covers or grates are manufactured of grey cast iron conforming to ASTM A48-76 Class 30. Manhole shall be nominal 24 inch diameter and be traffic duty.

GREASE INTERCEPTOR SCHEDULE

MODEL NO.	CAPACITY USGal	GREASE CAP. (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-500	500	1,200	7,000	7'-10"	4'-4"	4'-6"	3'-3"	3'-0"
GT-750	750	1,700	11,000	7'-10"	4'-4"	6'-0"	4'-5"	4'-2"
GT-1000	1,000	2,300	13,200	8'-8"	5'-0"	6'-0"	4'-9"	4'-6"
GT-1250	1,250	2,900	15,500	9'-2"	5'-8"	6'-0"	4'-9"	4'-6"
GT-1500	1,500	3,500	18,000	9'-2"	5'-8"	7'-0"	5'-9"	5'-6"
GT-2000	2,000	4,600	24,500	12'-10"	6'-10"	5'-10"	4'-7"	4'-4"
GT-2500	2,500	5,700	27,500	13'-0"	7'-0"	7'-0"	5'-9"	5'-6"
GT-3000	3,000	6,900	30,000	13'-0"	7'-0"	8'-0"	6'-9"	6'-6"
GT-3500	3,500	8,000	31,000	13'-0"	7'-0"	8'-4"	7'-1"	6'-10"
GT-4000	4,000	9,300	39,000	16'-0"	8'-6"	7'-0"	5'-9"	5'-6"

OTHER SIZES ARE AVAILABLE. CONTACT US FOR MORE INFORMATION

Engineering Data

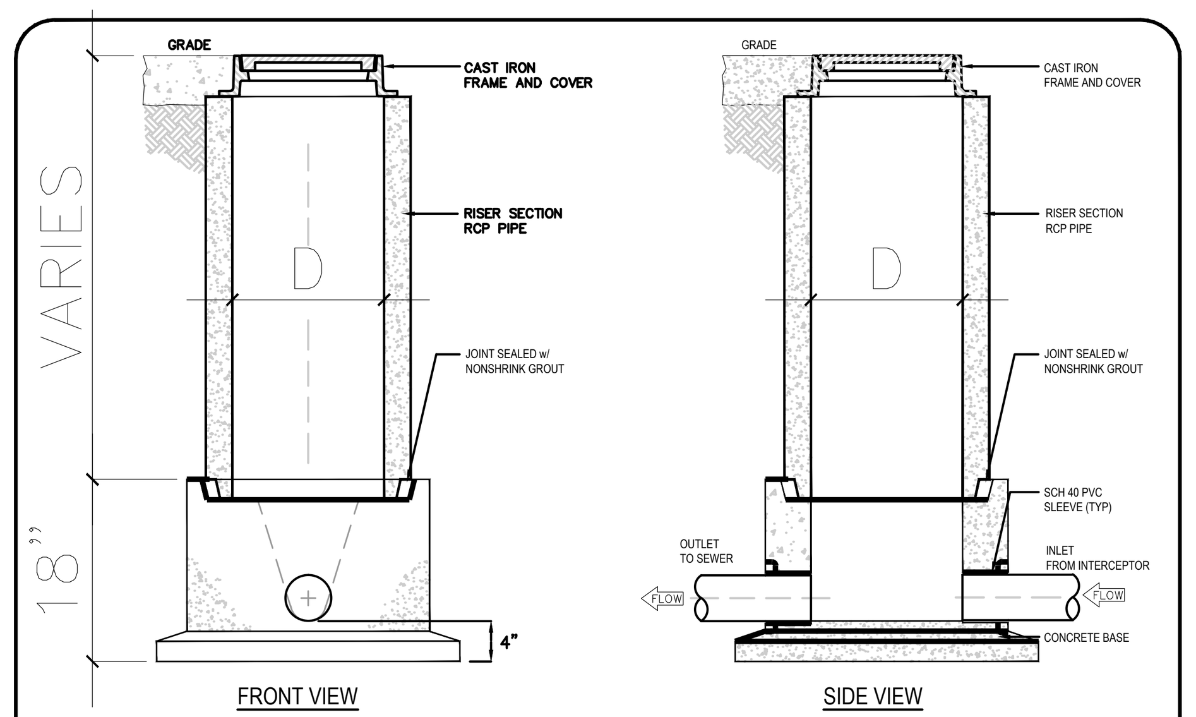
The grease interceptor is structurally & hydraulically engineered to conform to regional plumbing codes recommended in most cities. Consult with local authorities for specific application requirements.

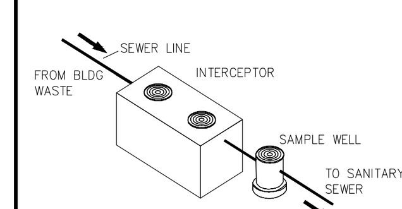
Shop drawings shall include complete structural & bouyancy calculations certified by a licensed professional engineer.

Consult with Park Equipment Company for exact excavation dimensions & shipping information.

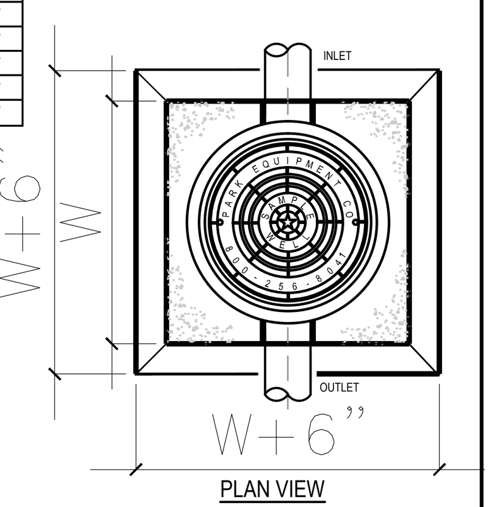
UPC EPA AMERICAN SOCIETY OF SANITARY ENGINEERING ASSE MEMBER ASPE ASTM C-913

GREASE INTERCEPTOR DETAIL 1
SCALE: NONE





MODEL	DIAMETER "D"	IN & OUT PIPE SIZE	WIDTH "W"
SWB-154	15"	4"	24"
SWB-156	15"	6"	24"
SWB-184	18"	4"	28"
SWB-186	18"	6"	28"
SWB-244	24"	4"	34"
SWB-246	24"	6"	34"



NOTES

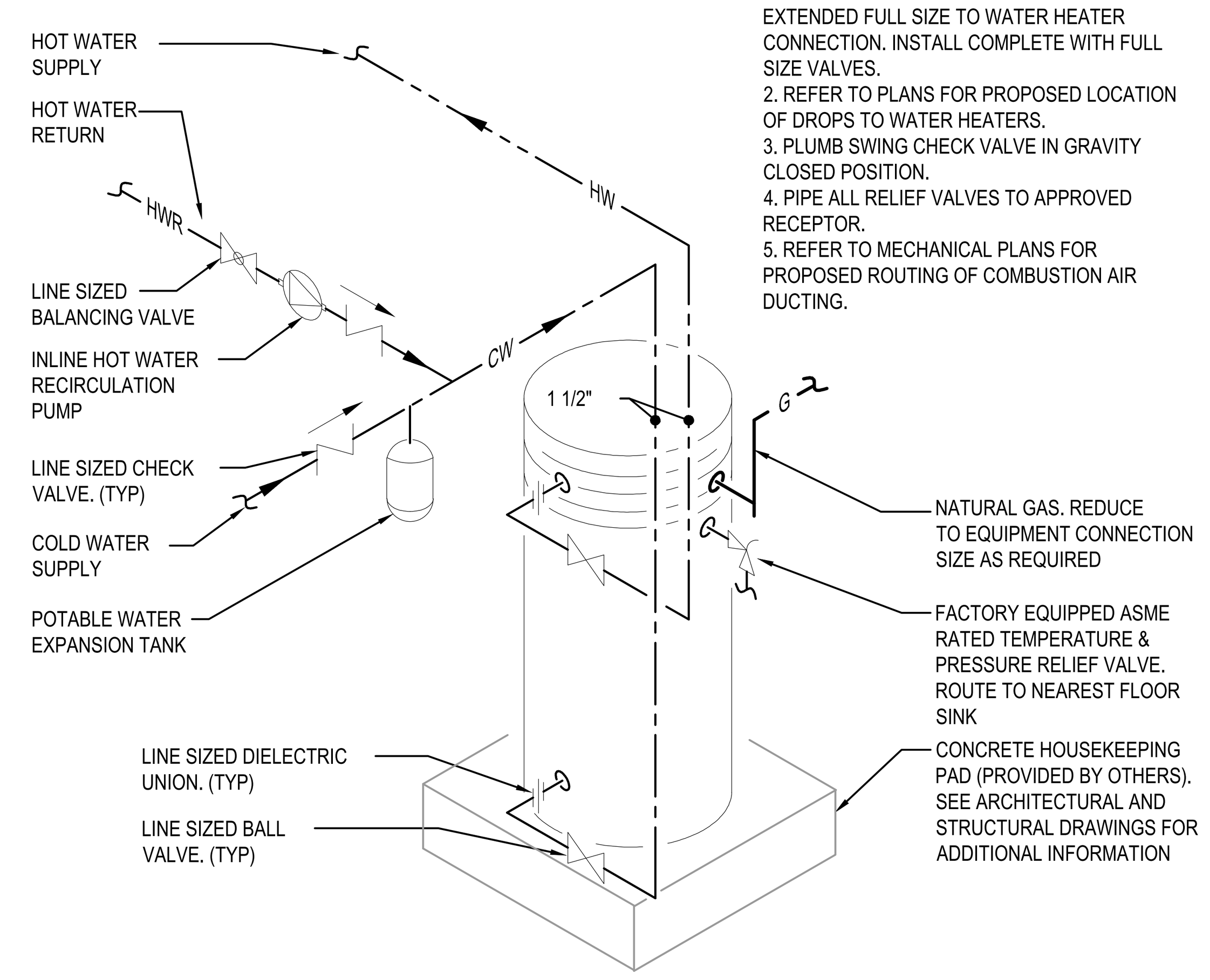
1. SAMPLING WELL MUST BE INSTALLED UNDER A SEPARATE PLUMBING PERMIT.
2. USE 15" T&G R.C.P. FOR INSTALLATION FOR INSTALLATION 6'-0" DEEP AND LESS.
3. USE 24" T&G R.C.P. FOR INSTALLATION GREATER THAN 6'-0" DEEP. (STD RING AND M.H. COVER REQUIRED)
4. SAMPLING WELL MUST BE SET IN A CIRCULAR OR SQUARE CONCRETE PAD (1'-0" GREATER THAN OUTSIDE DIAMETER OF PIPE.)
5. INSIDE INSTALLATION NOT PERMITTED, WHERE OUTSIDE INSTALLATION IS POSSIBLE.
6. INSTALLATION INSIDE BLDG MUST BE POURED IN PLACE (15"MIN) NO CONCRETE PIPE IS PERMITTED, (AIR-TIGHT COVER REQUIRED.)
7. LAWN INSTALLATION MUST BE 4" ABOVE FINISHED GRADE.
8. DRIVE & SIDEWALK INSTALLATION MUST BE BROUGHT TO FINISHED GRADE
9. TO BE INSTALLED ON PRIVATE PROPERTY, IN AN ACCESSIBLE LOCATION TO CITY PERSONNEL.

SPECIFICATIONS

CONCRETE : Class 1 concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48-76 Class 30, Heavy-Duty AASHTO H-20

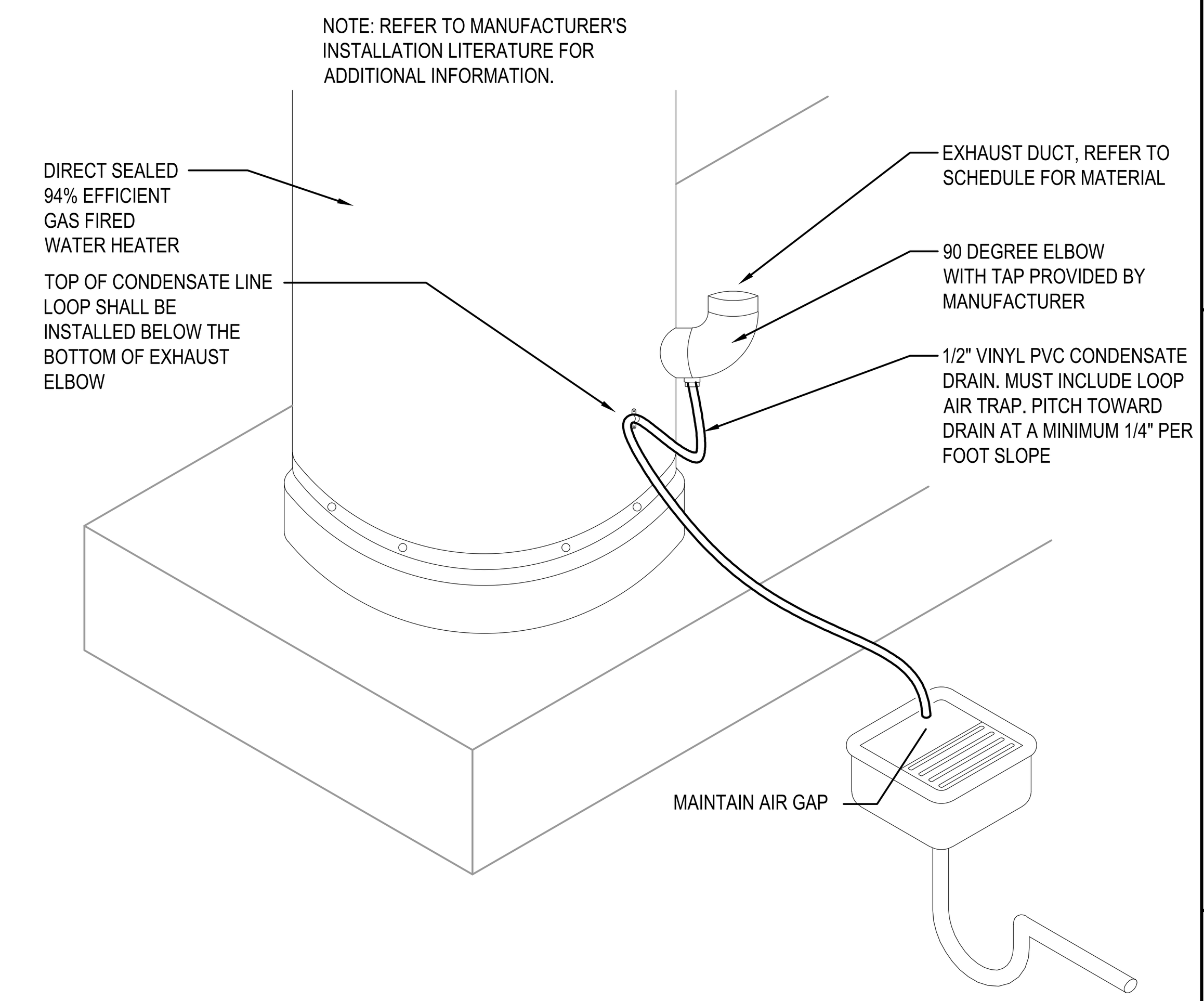
GREASE INTERCEPTOR SAMPLE WELL DETAIL 2
SCALE: NONE



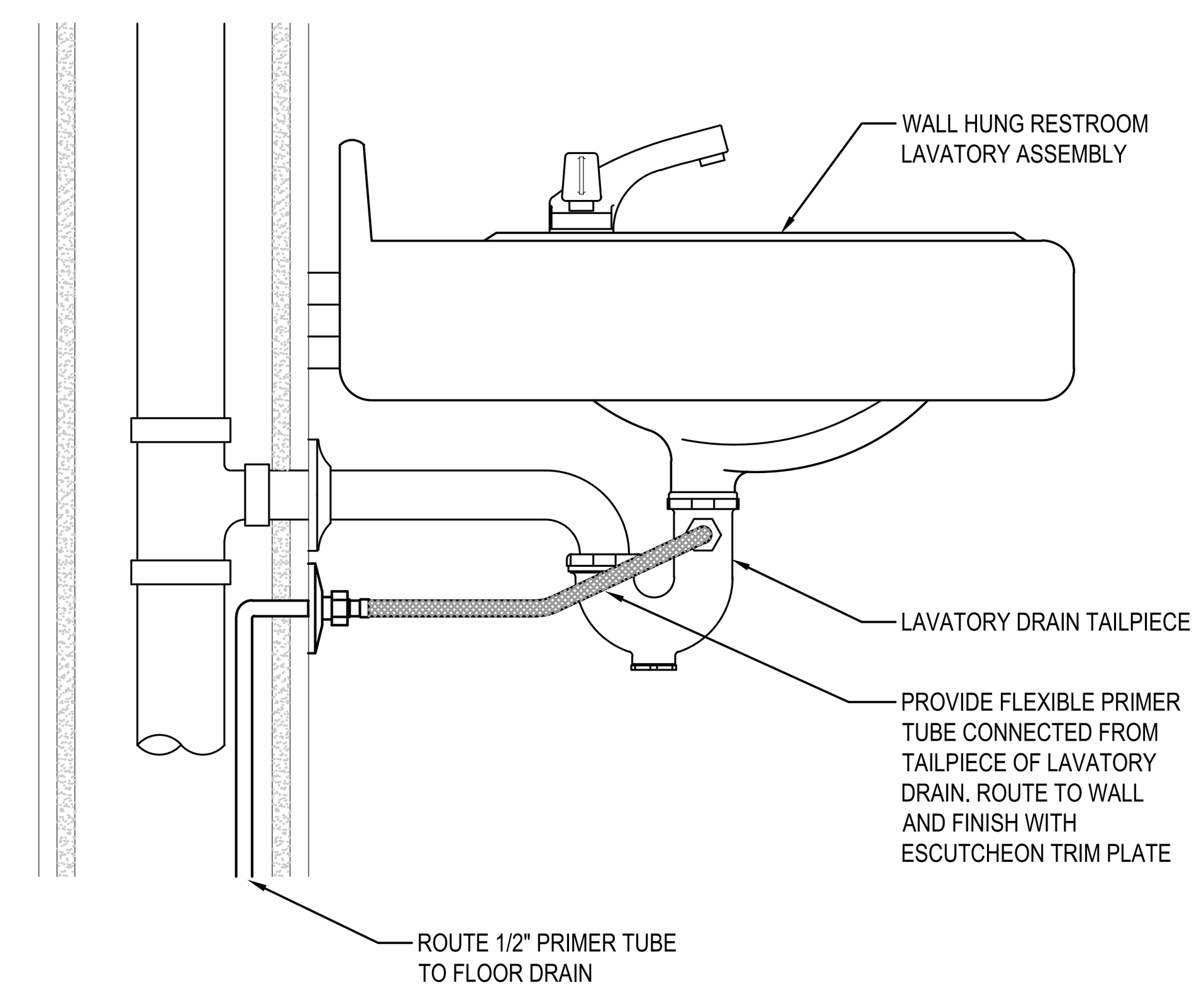
NOTES:
1. PIPE SIZES TO BE AS SHOWN ON PLANS AND EXTENDED FULL SIZE TO WATER HEATER CONNECTION. INSTALL COMPLETE WITH FULL SIZE VALVES.
2. REFER TO PLANS FOR PROPOSED LOCATION OF DROPS TO WATER HEATERS.
3. PLUMB SWING CHECK VALVE IN GRAVITY CLOSED POSITION.
4. PIPE ALL RELIEF VALVES TO APPROVED RECEPTOR.
5. REFER TO MECHANICAL PLANS FOR PROPOSED ROUTING OF COMBUSTION AIR DUCTING.

GAS FIRED WATER HEATER PIPING DETAIL 3
SCALE: NONE

NOTE: REFER TO MANUFACTURER'S INSTALLATION LITERATURE FOR ADDITIONAL INFORMATION.

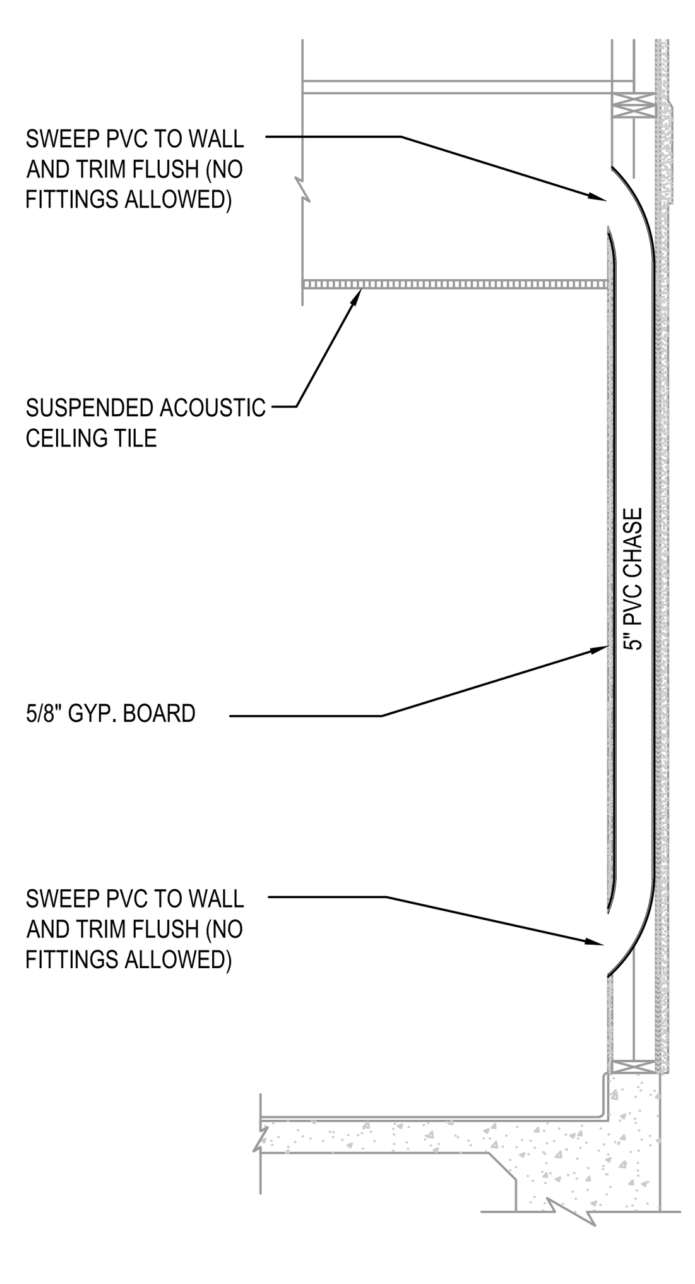


WATER HEATER CONDENSATE DETAIL 4
SCALE: NONE

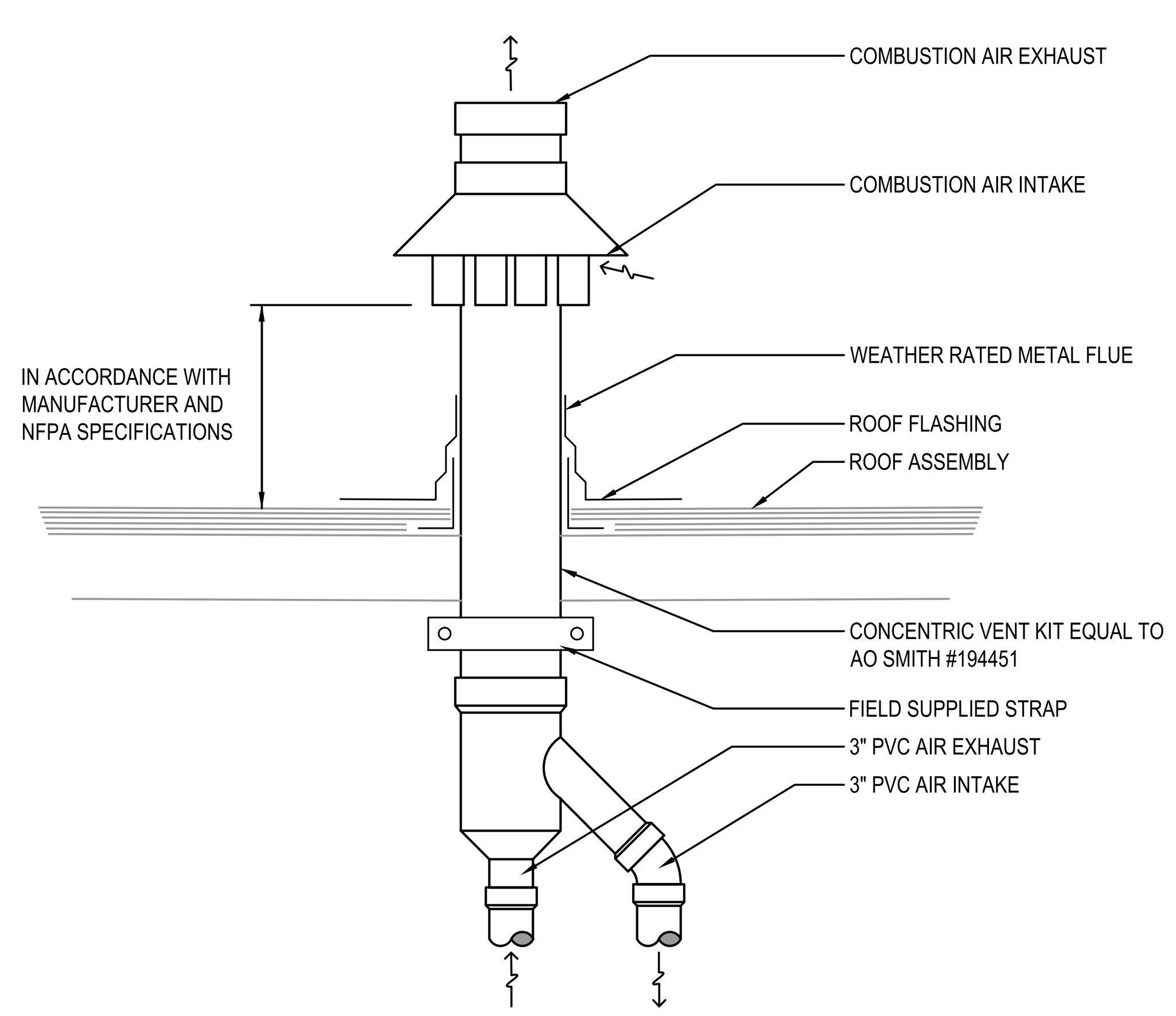


WATER SAVER TRAP PRIMER 5
SCALE: NONE

NOT USED 6
SCALE: NONE



PVC SODA CHASE 7
SCALE: NONE



WATER HEATER COMBUSTION FLUE DETAIL 8
SCALE: NONE

NOT USED 9
SCALE: NONE

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