

P2 PANELBOARD											
SERVICES: HOUSE LOCATION: GARAGE											
DESCRIPTION	WIRE	BRKR	PL	A	B	PL	BRKR	WIRE	DESCRIPTION		
1 LIGHTING GARAGE / MASTER (6)	12	20 A	1	0.89	2.87		2	25 A	10	CU-1	
3 LIGHTING LIVING AREA (6)	12	20 A	1		0.71	2.87	--	--	--		
5 LIGHTING BEDROOMS (6)	12	20 A	1	1.27	1.50		1	15 A	12	GAS FURNACE (6)	
7 RECEPTS KITCHEN (6)	12	20 A	1		0.54	--	1	--	--	SPACE	
9 RECEPT KITCHEN COUNTER (6)	12	20 A	1	1.50	--	1.50	0.10	1	20 A	12	GAS WATER HEATER (6)
11 RECEPT KITCHEN COUNTER (6)	12	20 A	1	1.08	0.18			1	20 A	12	GAS RANGE (6)
13 REFRIGERATOR (6)	12	20 A	1		1.20	1.20	1	20 A	12	GAS DRYER (6)	
15 DISHWASHER / DISPOSAL (6)	12	20 A	1	1.20	2.50		2	30 A	10	FUTURE ELEC DRYER	
17 RANGE HOOD OR MICROWAVE (6)	12	20 A	1		0.54	2.50	--	--	--		
19 RECEPTS DINING ROOM (6)	12	20 A	1	0.90	1.50		1	20 A	12	WASHER (6)	
21 RECEPTS LIVING ROOM (6)	12	20 A	1		0.54	1.20	1	20 A	12	GARAGE DOOR OPENER (6)	
23 RECEPTS LIVING ROOM (6)	12	20 A	1	0.72	0.90		1	20 A	12	RECEPTS EXTERIOR (6)	
25 RECEPTS MASTER BDRM (6)	12	20 A	1		0.54	0.54	1	20 A	12	RECEPTS GARAGE (6)	
27 RECEPTS MASTER BDRM (6)	12	20 A	1	0.18	0.54		1	20 A	12	RECEPTS GARAGE (6)	
29 RECEPT MASTER BATH (6)	12	20 A	1		1.08	0.36	1	20 A	12	RECEPTS HALL / LAUNDRY (6)	
31 RECEPTS BEDROOM 2 (6)	12	20 A	1	0.18	0.08		1	20 A	12	SMOKE DETECTORS (6)	
33 RECEPT BATHROOM (6)	12	20 A	1		1.08	0.21	1	20 A	12	MASTER CLOSET (6)	
35 RECEPTS BEDROOM 3 (6)	12	20 A	1		0.00	--	1	20 A	--	SPACE (6)	
37 SPACE	--	--	1	--	--	--	1	--	--	SPACE	
39 SPACE	--	--	1	--	--	--	1	--	--	SPACE	
41 SPACE	--	--	1	--	--	--	1	--	--	SPACE	
TOTAL CONNECTED				17.98	16.70	KVA					
TOTAL CONNECTED				149.87	139.15	AMPS		SEE RESIDENTIAL LOAD CALCS			

LIGHTING FIXTURE SCHEDULE										
TYPE	QTY	MANUFACTURER	CATALOG NUMBER	VOLT	WATT	LAMP	DESCRIPTION			
A	12	ELITE	REL637-1200L-DIMTR-120-30K-90-WH	120V	16 VA	LED	6" RECESSED CAN LIGHT, DAMP LOCATION RATED, RT-CL-WH			
B	1	GOLDEN	HOMESTEAD 4 LIGHT MINI CHANDELIER	120V	48 VA	LED	DECORATIVE DINING ROOM LIGHT, PROVIDE 100 EQV E26 3000K LED BULBS			
D	2	COMMERCIAL	9IN 120W EQU MUSHROOM FLUSH MOUNT	120V	32 VA	LED	9" DOME LIGHT			
E	2	VOGUE	WS-3127-3000K	120V	39 VA	LED	3" VANITY LIGHT			
F	4	EELP	CGF7-19L-120V-30K	120V	480 VA	LED	CEILING FAN W/ LIGHT - VEIRIFY COLOR W/ ARCHITECTURAL			
G	2	ELITE	4-OEC-LED-5000L-DIM10-40K-85	120V	37 VA	LED	4" GARAGE LIGHT			
H	4	HAMPTON	WICKFORD 1-LIGHT WALL LANTERN	120V	16 VA	LED	WALL MOUNTED PORCH LIGHT, PROVIDE 100W EQV E26 4000K LED BULB			
J	2	BROAN	679	120V	240 VA	LED	BATHROOM EXHAUST FAN W/ LIGHT - REF MECHANICAL			

- PANELBOARD NOTES (#):
1. TERMINATE GROUND ON ISOLATED GROUND BUS.
 2. PROVIDE LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE).
 3. PROVIDE LOCKING DEVICE (LOCK-ON FOR CRITICAL LOAD).
 4. PROVIDE GFCI BREAKER (PERSONNEL PROTECTION 5 mA).
 5. PROVIDE GFCI BREAKER (EQUIPMENT PROTECTION 30 mA).
 6. PROVIDE COMBINATION ARC FAULT CIRCUIT BREAKERS WHERE INDICATED PER NEC 210.12(A).
 7. CONDUCTOR SIZE HAS BEEN INCREASED TO ACCOUNT FOR VOLTAGE DROP. SIZE GROUNDING CONDUCTOR PROPORTIONALLY PER NEC.
 8. COORDINATE PANELBOARD AIC RATING WITH UTILITY.
 9. REFERENCE ONE-LINE DIAGRAM FOR WIRE SIZE/QUANTITY.

TYPICAL MOUNTING HEIGHTS

ALL HEIGHTS ARE FROM FINISHED FLOOR TO THE CENTERLINE OF THE DEVICE UNLESS NOTED OTHERWISE. DEVICES ABOVE A COUNTERTOP SHALL BE MOUNTED 4" ABOVE THE BACKSPASH TO THE CENTERLINE.

RECEPTACLES	+18"
TELEPHONE JACKS	+48"
DATA JACKS	+18"
SWITCHES	+44"

RESIDENTIAL LOAD CALCULATION

PANELBOARD VOLTAGE	= 240 V
DWELLING UNIT AREA	= 1173 SQFT
GENERAL LIGHTING/POWER (3W/SQFT)	= 3519 VA
SMALL APPLIANCE CIRCUIT (2 CIRCUITS)	= 3000 VA
WASHER (ASSUMED)	= 1500 VA
DRYER (MINIMUM)	= 5000 VA
REFRIGERATOR (ASSUMED)	= 1080 VA
VENT HOOD / MICROWAVE (ASSUMED)	= 1200 VA
DISHWASHER / DISPOSAL (ASSUMED)	= 1200 VA
GAS RANGE (ASSUMED)	= 240 VA
GAS WATER HEATER (ASSUMED)	= 100 VA
SUBTOTAL	= 16839 VA
FIRST 10KVA AT 100%	= 10000 VA
REMAINDER AT 40%	= 2736 VA
CONDENSING UNIT / HEAT PUMP	= 5736 VA
GAS FURNACE (0%)	= 1500 VA
HVAC LOAD PER NEC 220.82(C)	= 5736 VA
TOTAL FEEDER LOAD PER NEC 220.85	= 18472 VA
	= 77 A

- ELECTRICAL KEYNOTES
- E01 REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.
 - E02 MOUNT FIXTURE HORIZONTALLY AND CENTER ABOVE VANITY MIRROR.
 - E03 SEAL FIXTURE TO CEILING WITH WEATHERPROOF SILICONE PER MANUFACTURERS INSTRUCTION. PROVIDE SHOWER LENS AND TRIM FOR FIXTURE.
 - E04 WHERE POSSIBLE, SWITCH INTEGRAL LIGHT AND FAN SEPARATELY.
 - E05 DISCONNECT SWITCH SIZED PER MANUFACTURERS MOCP RATING (MAXIMUM OVER-CURRENT PROTECTION).
 - E06 PROVIDE CONNECTION OF THERMOSTAT TO FCU USING 18/7 THERMOSTAT WIRING. COORDINATE WITH MECHANICAL CONTRACTOR FOR FINAL LOCATION PRIOR TO ROUGH-IN.
 - E07 LOCATION OF PUSHBUTTON CONTROLS FOR GARAGE DOOR OPENER.
 - E08 DISHWASHER RECEPTACLE TO BE GFCI TYPE. GARBAGE DISPOSAL SWITCH FOR STANDARD RECEPTACLE SHALL BE INSTALLED AFTER DISHWASHER RECEPTACLE TO ENSURE SWITCH OPERATION DOES NOT CONFLICT WITH GFCI FUNCTIONALITY.
 - E09 RECEPTACLE FOR RANGE HOOD OR OVER THE RANGE MICROWAVE SHALL BE INSTALLED IN CABINETRY OVER RANGE. COORDINATE ROUTING OF CORD THROUGH MILLWORK IN FIELD.
 - E10 COORDINATE METER CAN LOCATION AND REQUIREMENTS WITH UTILITY PRIOR TO SITE WORK OR ROUGH-IN.
 - E11 TRANSFER CENTER WITH MANUAL TRANSFER SWITCH CONTAINING A MINIMUM OF TWO BREAKERS. GENERATOR TWIST LOCK RECEPTACLE LOCATED BELOW.
 - E12 CONNECT LIGHT AND RECEPTACLE IN HARDENED SPACE ON A DEDICATED CIRCUIT TO BE ROUTED THROUGH TRANSFER CENTER PRIOR TO LANDING ON ELECTRICAL PANEL.

- GENERAL NOTES:
1. NOT ALL SYMBOLS MAY APPLY TO ALL SHEETS.
 2. PROVIDE ALL POWER CIRCUITS, WIRING, CONDUIT, OUTLETS, DISCONNECT SWITCHES, ETC., AND PROVIDE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT.
 3. PROVIDE A GROUNDING CONDUCTOR FOR ALL CIRCUITS IN ACCORDANCE WITH N.E.C. ARTICLE 250. VERIFY EXACT CONNECTIONS REQUIRED FOR ALL EQUIPMENT PRIOR TO ROUGH-IN.
 4. THE USE OF EXTENSION CORDS OR POWER STRIPS AS PERMANENT WIRING TO EQUIPMENT, LIGHTING, FANS, ETC. IS PROHIBITED. ALL ELECTRICAL WIRING SHALL BE IN COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE.
 5. ALL ELECTRICAL DEVICE AND COVER PLATE COLORS TO BE COORDINATED WITH ARCHITECTURAL FINISH PLANS.
 6. ALL DEVICES LOCATED WITHIN CLOSE PROXIMITY TO ONE ANOTHER SHALL BE COVERED BY A SINGLE FACE PLATE WHENEVER POSSIBLE.
 7. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENTS SHALL TAKE PRECEDENCE.
 8. BIDDERS SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS TO FULLY UNDERSTAND THE NATURE AND SCOPE OF THE WORK PRIOR TO SUBMITTING A BID. THE SUBMISSION OF A BID IS CONSIDERED EVIDENCE THAT SUCH EXAMINATION HAS BEEN PERFORMED AND THAT COMPLIANCE WITH ALL GOVERNING CODES/REQUIREMENTS IS INCLUDED IN BID. LATER CLAIMS FOR LABOR, EQUIPMENT, MATERIALS REQUIRED, OR FORESEEABLE DIFFICULTIES ENCOUNTERED SHALL NOT BE ALLOWED. ALL PERMIT AND INSPECTION FEES SHALL BE INCLUDED IN BASE BID.

- GENERAL POWER NOTES:
1. PROTECT ALL ADJACENT SURFACES DURING CONSTRUCTION. ANY SURFACES DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 2. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS WITH OTHER TRADES. SEE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT.
 3. PROVIDE A IN-GROUND PULL BOX EVERY 200' FOR ALL UNDERGROUND CONDUIT RUNS.
 4. PROVIDE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHER WISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY. REFERENCE TYPICAL MOUNTING HEIGHT SCHEDULE FOR MOUNTING HEIGHTS.
 5. WIRING SHALL INCLUDE FINAL CONNECTIONS TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.
 6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD IDENTIFICATION SCHEDULES UPON COMPLETION.
 7. WHERE BRANCH CIRCUITS ARE GROUPED, SIZE CONDUITS AND DE-RATE CURRENT CARRYING CONDUCTORS PER NEC.
 8. PROVIDE APPROPRIATE HANDLE TIES FOR TWO SINGLE POLE CIRCUIT BREAKERS AS REQUIRED WHEN USING MULTI-WIRE BRANCH CIRCUITS PER NEC ARTICLE 210.4 PART (B).
 9. PROVIDE BLANK FILLERS FOR ALL UNUSED SPACES IN PANELBOARDS WHERE FACTORY KNOCKOUTS HAVE BEEN REMOVED.
 10. FEEDERS SHALL CONFORM TO NEC 215.2. BRANCH CIRCUITS AND VOLTAGE DROP REQUIREMENTS SHALL CONFORM TO NEC 210.19(A).
 11. ONLY FEEDER CIRCUITS SPECIFICALLY NOTED AS UNDERGROUND ON THE ONE-LINE DIAGRAM AND BRANCH CIRCUITS NOTED BY LEGEND SHALL BE INSTALLED UNDER SLAB. ALL OTHER FEEDER AND BRANCH CIRCUITS SHALL BE INSTALLED OVERHEAD WHERE POSSIBLE. ALL SITE CONDUITS SHALL BE INSTALLED AT A MINIMUM OF 24" UNDER FINISHED GRADE.
 12. HOME RUNS ARE SHOWN SEPARATELY TO PRESERVE DRAWING CLARITY. COMBINE HOME RUNS SERVING LIGHTING AND WIRING DEVICES AS ALLOWED BY THE NEC.
 13. NO EXPOSED CONDUIT OR WIRING IN FINISHED SPACES SHALL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM ARCHITECT/ENGINEER.

- GENERAL LIGHTING NOTES:~
1. PROVIDE ALL ACCESSORIES REQUIRED FOR FUNCTIONAL ELECTRICAL INSTALLATION AND SUPPORT.
 2. PROVIDE DRY WALL/PLASTER KIT FOR FIXTURES MOUNTED ON GYPSUM BOARD PER CEILING PLAN.
 3. LIGHT FIXTURES SHALL BE SUPPORTED IN ACCORDANCE WITH NEC ARTICLE 300; SPECIFICALLY PARAGRAPH 300.11(A).
 4. COORDINATE EXACT FIXTURE LOCATIONS WITH STRUCTURE, DIFFUSERS, ETC.
 5. THE LOCATION OF DUCTS, PIPE AND EQUIPMENT AS SHOWN ON THE DRAWINGS IS DIAGRAMMATIC AND SCHEMATIC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES BEFORE INSTALLATION. LIGHT FIXTURE LOCATIONS SUPERSEDE HVAC DUCTWORK, GRILLES AND DIFFUSERS. OFFSET TO AVOID STRUCTURE AND/OR ANY OTHER PIPING.
 6. REFER TO LIGHT FIXTURE SCHEDULE FOR ALL LIGHT FIXTURES THAT ARE IC RATED. ALL RECESSED FIXTURES SHALL ADHERE TO ARTICLE 410.116 OF THE NATIONAL ELECTRICAL CODE (NEC).
 7. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ALL LIGHT FIXTURES AND LIGHT CONTROLS.

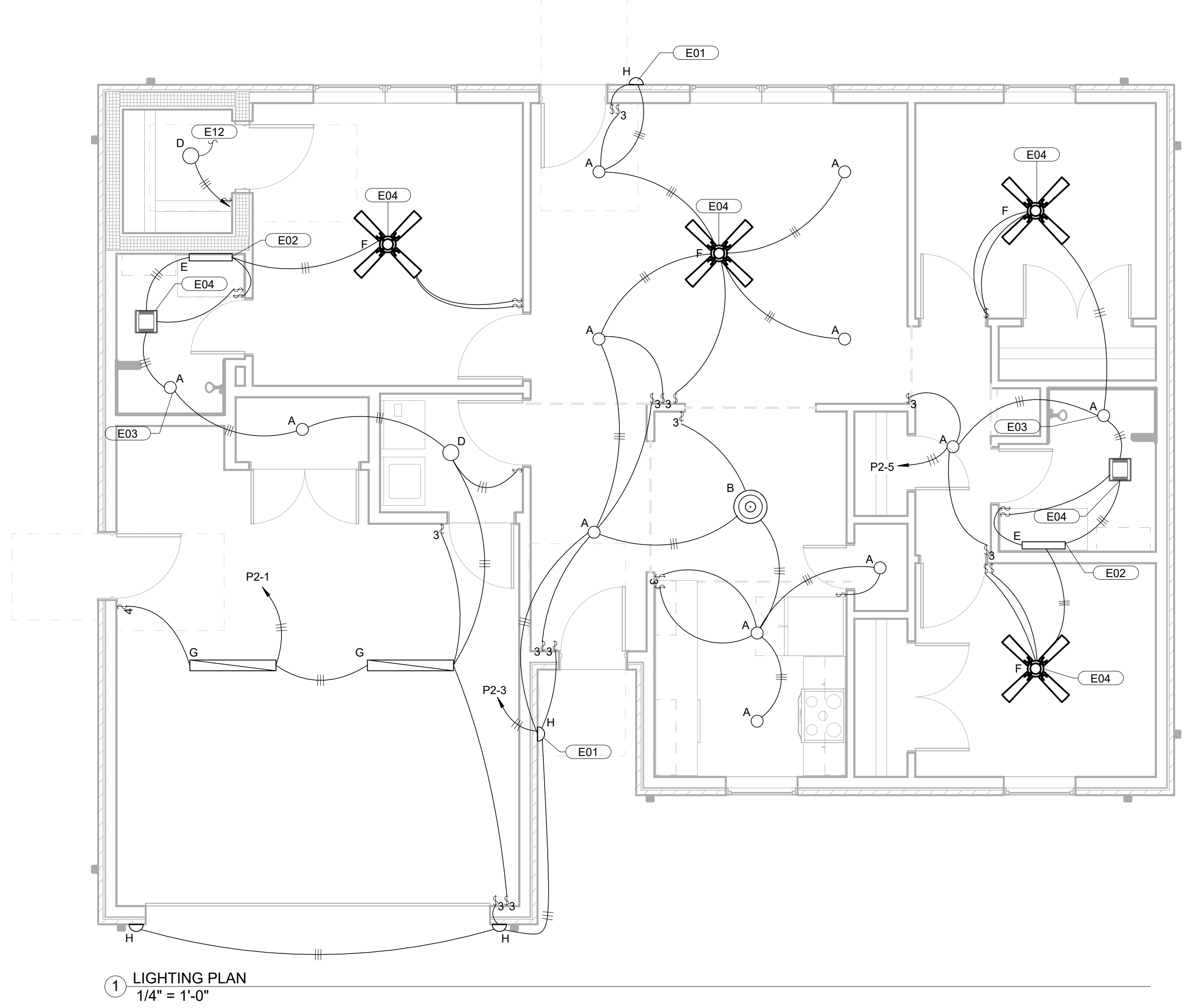
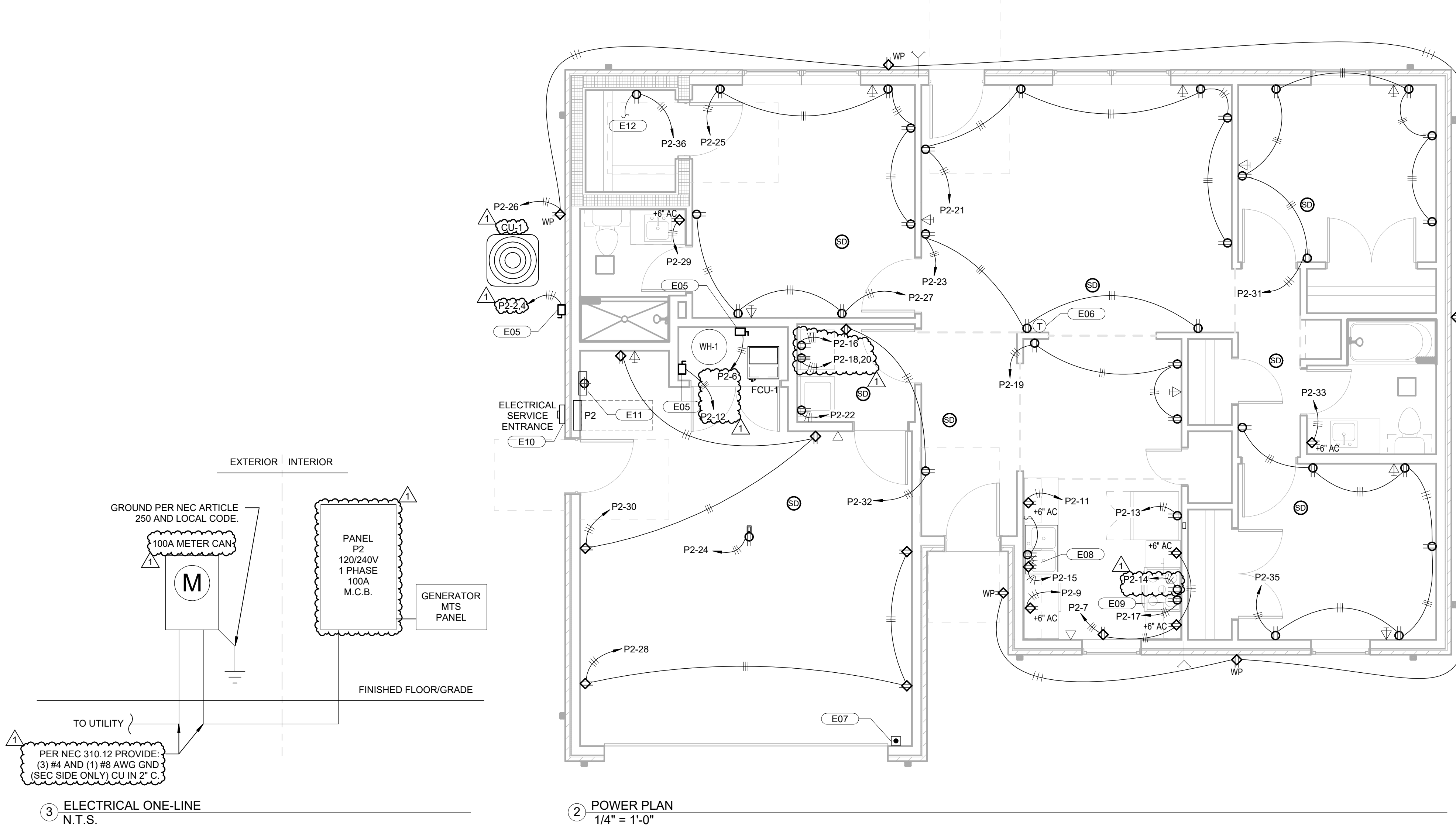
ELECTRICAL LEGEND

(NOT ALL SYMBOLS MAY BE USED)

SYMBOL	DESCRIPTION
⊕	JUNCTION BOX
⊕	RECEPTACLE, 120V DUPLEX
⊕	RECEPTACLE, 120V GFI DUPLEX
⊕	RECEPTACLE, 240V SIMPLEX
⊕	RECEPTACLE, 120V QUADPLEX
■	PANELBOARD
□	DISCONNECT SWITCH, NON-FUSED
□	DISCONNECT SWITCH, FUSED
⚡	SWITCH, SINGLE POLE
⚡	SWITCH, 3-WAY
⚡	SWITCH, 4-WAY
⚡	SWITCH, DIMMER
□	LIGHT FIXTURE, LINEAR
○	LIGHT FIXTURE, CEILING MOUNTED
○	LIGHT FIXTURE, WALL MOUNTED
⤴	CIRCUIT, CONCEALED IN WALLS OR CEILING
⤴	CIRCUIT, CONCEALED IN SLAB
▽	TELEPHONE
▽	DATA
▽	DATA AND COAXIAL CONNECTION UNDER SINGLE FACE PLATE
SD	SMOKE / CARBON MONOXIDE DETECTOR

ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR
 WP - WEATHER PROOF
 AFCI - ARC FAULT CIRCUIT INTERRUPTING
 GFCI - GROUND FAULT CIRCUIT INTERRUPTING
 AC - ABOVE COUNTER
 TR - TAMPER RESISTANT
 CF - CEILING FAN
 EC - ELECTRICAL CONTRACTOR
 EF - EXHAUST FAN
 NTS - NOT TO SCALE
 FCU - FAN COOL UNIT (INDOOR)
 HP - HEAT PUMP (OUTDOOR)
 WH - WATER HEATER
 UNO - UNLESS OTHERWISE NOTED



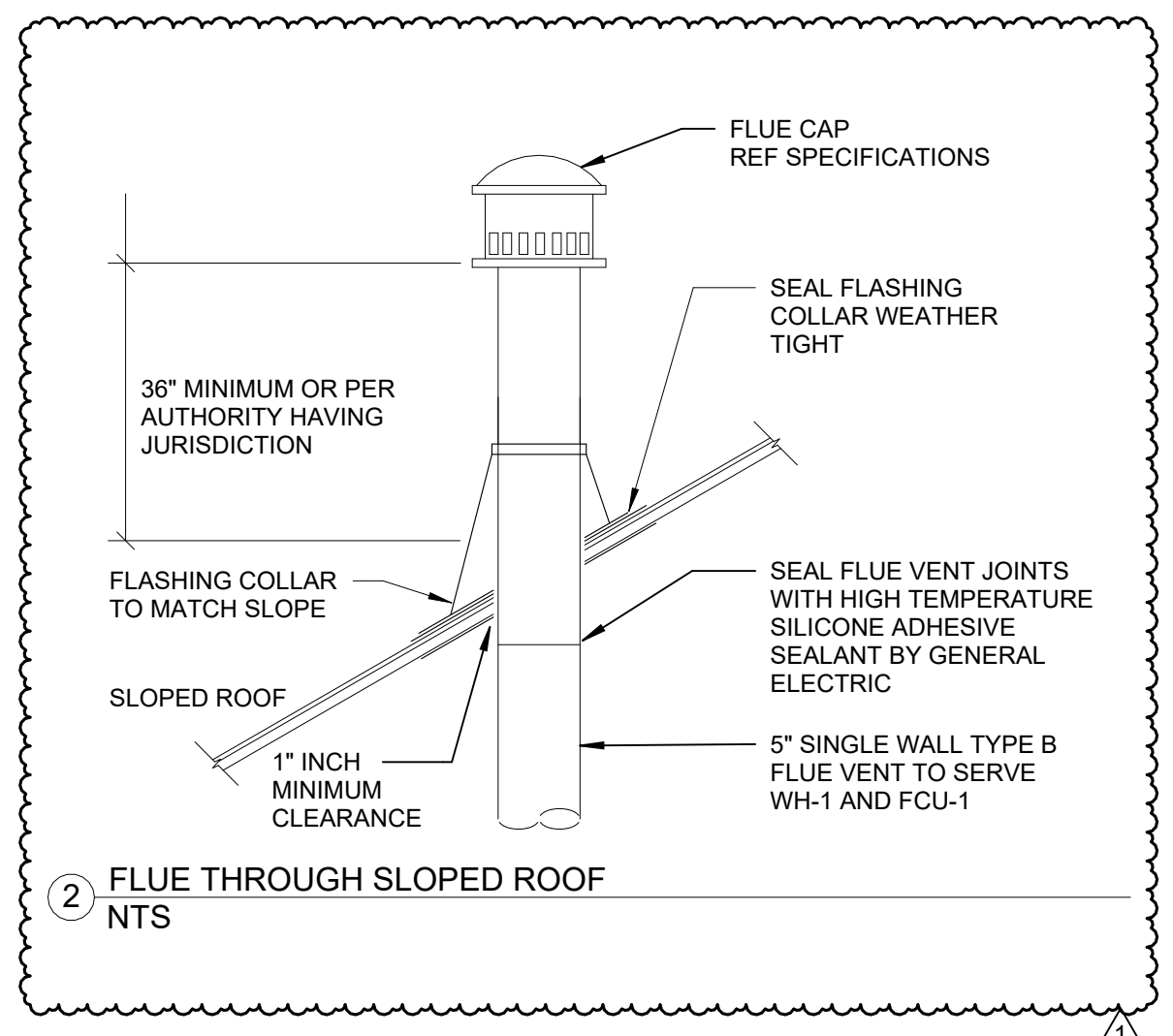
CHEROKEE NATION TAHELEQUAH HOUSING DEVELOPMENT - TYPE 2

E101
TYPE 2 ELECTRICAL PLAN



BLUE RIVER PROJECT NUMBER: 20220104
 ISSUE DATE: 08/18/2022
 ISSUE: CONSTRUCTION DOCUMENTS
 OTHER ISSUE DATES:
 NO. DESCRIPTION DATE
 1 ASH1 03/03/2023

SHEET NAME: TYPE 2 ELECTRICAL PLAN
 SHEET NUMBER: E101
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CONDENSING UNIT SCHEDULE

MARK	MANUFACTURER & MODEL	RATED COOLING CAPACITY (BTU/H)	HEATING CAPACITY MAX/MIN (BTU/H)	ELECTRICAL			ELECTRICAL			SEER	WEIGHT	NOTES
				VOLTS	HZ	PHASE	MCA	MCCP	RLA			
CU-1	DAIKIN DX6VSS3610	33,600	N/A	230 V	60 Hz	1	23.9 A	25 A	16.8 A	16.2	150 lb	1,2,3,4,5

NOTES:
 1. ALL UNITS SHALL BE SUPPLIED AS COMPLETE SYSTEMS WITH EXPANSION VALVES (TXV), FILTER-DRYERS, SIGHT GLASS, LOW AMBIENT HEATER, CRANKCASE HEATER AND R410A REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 2. CONTRACTOR SHALL VERIFY WITH THE UNIT MANUFACTURER THAT REFRIGERANT LINES ARE WITHIN THE RECOMMENDED ALLOWABLE LINE LENGTHS OF RUN AND RISE. CONTACT THE ENGINEER IF LINE LENGTHS EXCEED THESE REQUIREMENTS.
 3. INSTALL NEW UNITS ON 4" THICK CONCRETE PAD SUITABLE FOR HVAC SYSTEMS. ANCHOR UNIT TO PAD.
 4. INSTALLING CONTRACTOR SHALL BE CERTIFIED BY THE MANUFACTURER TO BID AND INSTALL THE EQUIPMENT.
 5. FIELD INSTALLED DISCONNECT SWITCH BY DIF #26 ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS.

FURNACE/COIL UNIT SCHEDULE

MARK	MANUFACTURER	MODEL #	S/A CFM	ESP	HEATING OUTPUT CAPACITY (BTU/H)	ELECTRICAL			SUPPLY FAN			NOTES		
						V	HZ	PHASE	MCA	MCCP	MOTOR HP		FLA	CONFIG
FCU-1	DAIKIN	DC80TN0804BN	1200	0.5	64,000	115 V	60 Hz	1	12 A	15 A	0.75	5 A	VERTICAL	1,2,3,4

NOTES:
 1. INSTALL REFRIGERANT LINES PER MANUFACTURER GUIDELINES BASED ON RUN LENGTH.
 2. EXTEND CONDENSATE DRAIN PIPING TO NEAREST FLOOR DRAIN WITH CODE APPROVED AIR GAP.
 3. PROVIDE MANUFACTURER RECOMMENDED 7 DAY PROGRAMMABLE THERMOSTAT.
 4. PROVIDE DAIKIN CASED COIL CAPF313786 NOMINAL 3 TON COOLING COIL.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER & MODEL	LOCATION	MOUNTING	CFM	ESP	SONES	ELECTRICAL			SPEEDS	REMARKS	
							V	P	HZ			WATTS
EF-1	BROAN 679	BATHROOM	CEILING	70	0.1	3.5	120 V	1	60 Hz	240 W	1	A, B, C, E
EF-2	BROAN 679	BATHROOM	CEILING	70	0.1	3.5	120 V	1	60 Hz	240 W	1	A, B, C, E

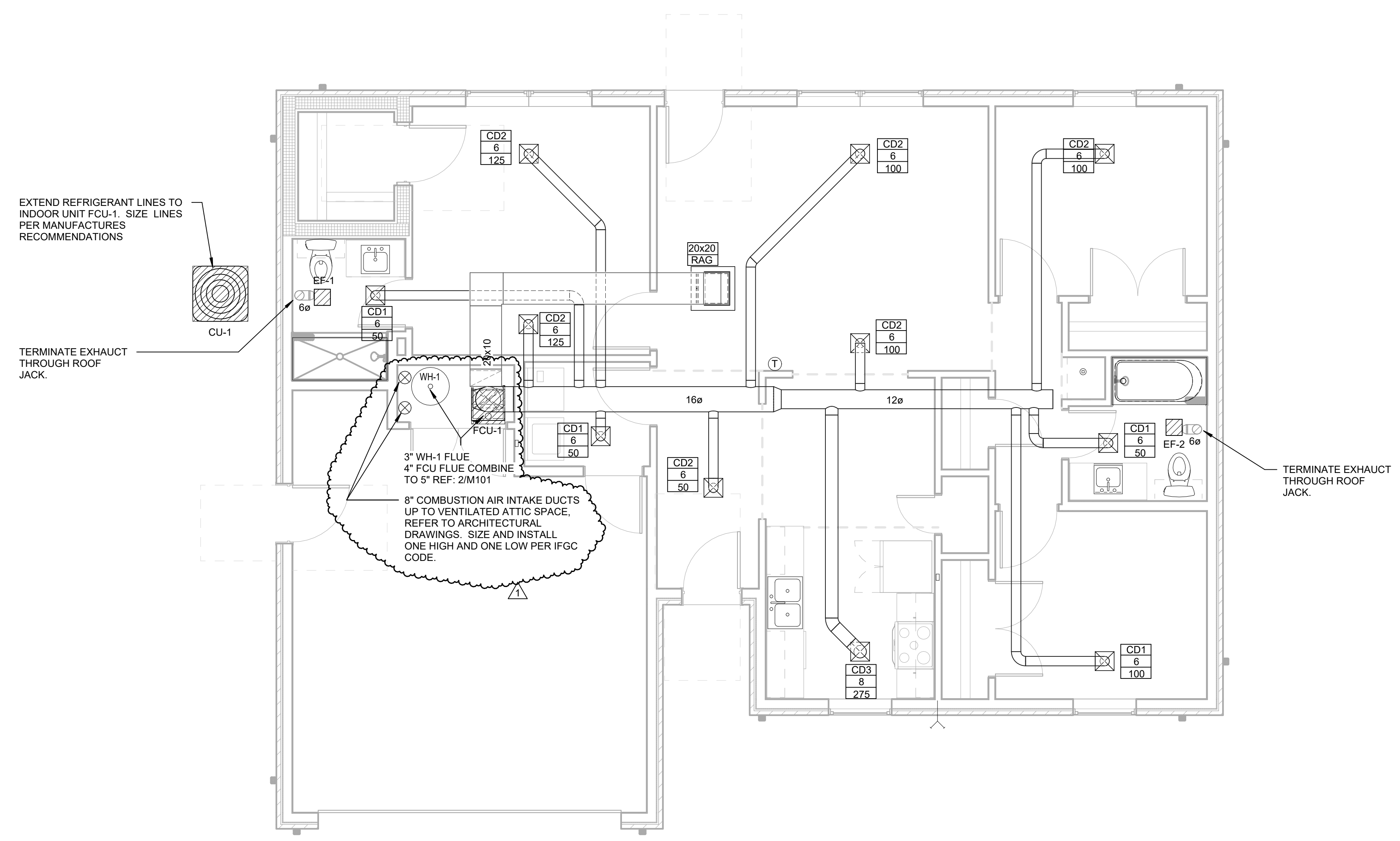
NOTES:
 1. REFER TO DIVISION 23 SPECIFICATIONS.
 2. REFER TO SPECIFICATIONS FOR ACCEPTABLE ALTERNATE MANUFACTURERS.
 3. INSTALL FAN SYSTEM COMPLETE PER MANUFACTURER'S INSTRUCTIONS.
 4. MECHANICAL CONTRACTOR SHALL COORDINATE FAN OPERATION AND RELAYS REQUIRED WITH THE ELECTRICAL WORK.
 5. PROVIDE LABEL FOR EACH PIECE OF MECHANICAL EQUIPMENT. COORDINATE LABEL NAMING CONVENTION WITH OWNER.

REMARKS:
 A. STANDARD DISCONNECT, COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
 B. PROVIDE ROUND WALL CAP.
 C. INTEGRAL BACKDRAFT DAMPER.
 D. FAN CONTROLLED BY TIME CLOCK TO RUN CONTINUOUSLY DURING HOURS OF OPERATION. REFER TO ELECTRICAL DRAWINGS.
 E. FAN CONTROLLED BY WALL SWITCH. REFER TO ELECTRICAL DRAWINGS FOR LOCATION BY BAR. PROVIDE LABEL FOR SWITCH ON SWITCH PLATE.
 F. FLEXIBLE CONNECTIONS AT DISCHARGE DUCT CONNECTIONS TO MINIMIZE VIBRATION.

AIR DEVICE SCHEDULE

MARK	MANUFACTURER & MODEL#	SERVICE	MATERIAL	FACE TYPE	MOUNTING LOCATION	FACE SIZE	NECK SIZE	NOISE CRITERIA (NC)	NUMBER OF SLOTS	SLOT INCHES	NOTES
CD1	TITUS TMS	SUPPLY AIR	ALUMINUM	ROUND NECK	SURFACE	12"X12"	6	25	--	--	1,3,4,6,7
CD2	TITUS TMS	SUPPLY AIR	STEEL	ROUND NECK	SURFACE	12"X12"	6	25	--	--	1,3,4,6,7
CD3	TITUS TMS	SUPPLY AIR	STEEL	ROUND NECK	SURFACE	12"X12"	8	25	--	--	1,3,4,6,7
RAG	TITUS 350RLF1	RETURN AIR	STEEL	SQUARE NECK	SURFACE	24X24	20	25	--	--	1,3,6,7,8

NOTES:
 1. COORDINATE FRAME TYPE WITH CEILING MATERIALS. DUCT MOUNT WHERE SPIRAL DUCTWORK EXPOSED.
 2. NOT ALL GRILLE AND DIFFUSERS SHOWN ARE NECESSARILY USED. REFER TO HVAC PLAN FOR LOCATION AND QUANTITY.
 3. FOR SURFACE MOUNTED LAY-IN TYPE DIFFUSERS OR GRILLES PROVIDE TRIM RINGS. REFER TO ARCHITECTURAL DRAWINGS AND COORDINATE CEILING TYPES WITH AIR DEVICE MOUNTING STYLE.
 4. WHERE BACK PAN OF DIFFUSER IS EXPOSED TO NON-CONDITIONED ATTIC TYPE SPACES, PROVIDE FACTORY R-6 FOIL BACKED INSULATION TO MINIMIZE CONDENSATION.
 5. COORDINATE LOCATION OF GRILLES, REGISTERS AND DIFFUSERS WITH CEILING GRID, LIGHT LOCATIONS, STRUCTURAL MEMBERS AND ARCHITECTURAL FEATURES.
 6. FINAL FINISH OF ALL AIR DEVICES SHALL BE VERIFIED WITH ARCHITECT'S FINISH AND PAINTING SCHEDULE.
 7. ACCEPTABLE ALTERNATE MANUFACTURERS: HART & COOLEY, TRUJARE, ANEMOSTAT, AND METALAIR.
 8. PROVIDE 1 INCH THICK 20X20 FILTER.



1 FIRST FLOOR HVAC PLAN
1/4" = 1'-0"



PIPE AND FITTINGS	
	GATE VALVE
	GLOBE VALVE
	ANGLE GATE VALVE
	SOLENOID VALVE
	NON SLAM CHECK VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	BALL VALVE
	TWO WAY CONTROL VALVE
	PRESSURE REGULATOR
	THREE WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	AUTOMATIC AIR VENT
	STRAINER, Y TYPE W/GATE VALVE OR HOSE BIBB
	FLEXIBLE CONNECTION
	JOINT
	EXPANSION JOINT
	FLOW METER
	FLOW DIRECTION
	ELBOW BASE
	ELBOW REDUCING
	UNION
	PRESSURE GAUGE WITH TRI-COCK
	PRESSURE INDICATOR
	TEST PLUG
	TEMPERATURE INDICATOR
	FLOW SWITCH
	FLOW INDICATOR
	REDUCER, CONCENTRIC
	REDUCER, ECCENTRIC
	STRAIGHT CROWN
	REDUCER, ECCENTRIC
	STRAIGHT INVERT
	AUTO FLOW BALANCING VALVE
	FIRE PUMP
	FNS PER INCH
	FEET PER MINUTE
	FEET
	FACE VELOCITY
	WALL CLEANOUT
	BACKFLOW PREVENTER
	LUBRICATED PLUG COCK
	HOSE BIBB W/VACUUM BREAKER
	CAPPED END
	SIDEWALL SPRINKLER HEAD
	PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	SIAMESE FIRE DEPARTMENT CONNECTION
	ALARM CHECK VALVE
	DELUGE VALVE
	PIPE SWAY BRACING
	PIPE ANCHOR SUPPORT
	BALANCING VALVE

ABBREVIATIONS					
A	ABV	AIR ABOVE	K	KW	KILOWATT
ACCU	ACU	AIR COOLED CONDENSING UNIT	L	LAB	LABORATORY
AD	AF	AIR FILTER	LAV	LAT	LEAVING AIR TEMPERATURE
AFF	AFH	AIR FILTER, HIGH EFFICIENCY	LB	LAV	LAVATORY
AHU	AHJ	AIR HANDLING UNIT	LD	LD	LINEAR DIFFUSER
APD	APR	AIR PRESSURE DROP	LDB	LDB	LEAVING DRY BULB
ASSY	AUX	AUXILIARY	LF	LF	LINEAR FEET
AV	AV	AUTOMATIC AIR VENT	LFD	LFD	LAMINAR FLOW DIFFUSER
B	BDD	BACKDRAFT DAMPER	LP	LP	LIQUID PROPANE
BHP	BHP	BRAKE HORSE POWER	LIS	LIS	LITERS PER SECOND
BP	BP	BACKFLOW PREVENTER	LWB	LWB	LEAVING WET BULB
BS	BS	BIRD SCREEN	LWT	LWT	LEAVING WATER TEMPERATURE
C	C	CONDENSATE	M	MAU	MAKE-UP AIR UNIT
CIL	CIL	CENTER LINE	MAX	MAX	MAXIMUM
CD	CD	CEILING DIFFUSER	MB	MB	MIXING BOX/MOP BASIN
CFM	CFM	CUBIC FEET PER MINUTE	MBH	MBH	THOUSAND BTU/HR
CH	CH	CHILLER	MD	MD	MOTORIZED DAMPER
CHDR	CHDR	CHEMICAL DRAIN	MECH	MECH	MECHANICAL
CHP	CHP	CHILLED WATER PUMP	MIN	MIN	MINUTE/MINIMUM
CLG	CLG	CEILING CLEANOUT	MM	MM	MILLIMETERS
CO	CO	CONCRETE	MS	MS	MOTOR STARTER
CONC	CONC	CONCRETE	N	N	NITROGEN
CONN	CONN	CONNECTION	NC	NC	NORMALLY CLOSED
CONT	CONT	CONTINUOUS/CONTINUATION/CONTINUOUS	NG	NG	NATURAL GAS
COTG	COTG	CLEAN OUT TO GRADE	NC	NC	NOT IN CONTRACT
CU	CU	CONDENSING UNIT/COPPER	NO	NO	NUMBER
CV	CV	CONSTANT VOLUME	NOX	NOX	NITROGEN OXIDE
CW	CW	COLD WATER	NTS	NTS	NOT TO SCALE
D	DDC	DIRECT DIGITAL CONTROL	O	O	OXYGEN
DC	DC	DOOR GRILLE	OA	OA	OUTSIDE AIR
DIA	DIA	DIAMETER	OAL	OAL	OUTSIDE AIR LOUVER
DIM	DIM	DIMENSION	OB	OB	OPPOSED BLADE DAMPER
DN	DN	DOWN	OC	OC	ON CENTER
DMPR	DMPR	DAMPEN	OS	OS	OVERFLOW SCUPPER
DR	DR	DRAIN	OS&Y	OS&Y	OUTSIDE SCREW & YOKE
DSD	DSD	DUCT SMOKE DETECTOR	P	PD	PRESSURE DROP
DSW	DSW	DISTILLED WATER	POC	POC	POINT OF CONNECTION
DWG	DWG	DRAWING	PRESS	PRESS	PRESSURE
E	EAT	ENTERING AIR TEMPERATURE	PRV	PRV	PRESSURE REDUCING VALVE
ED	ED	EQUIPMENT DRAIN	PSI	PSI	POUNDS PER SQUARE INCH
EDB	EDB	ENTERING DRY BULB	PVC	PVC	POLYVINYL CHLORIDE
EER	EER	ENERGY EFFICIENCY RATIO	R	RA	RETURN AIR
EF	EF	EXHAUST FAN	RAG	RAG	RETURN AIR GRILLE
EFF	EFF	EFFICIENCY	RAR	RAR	RETURN AIR REGISTER
EG	EG	EXHAUST GRILLE	RC	RC	RAIN CONDUCTOR
EL	EL	ELEVATION	RD	RD	ROOF DRAIN
ELEC	ELEC	ELECTRICAL	REF	REF	REFERENCE
ENT	ENT	ENTERING	RF	RF	RETURN FAN
ER	ER	EXHAUST REGISTER	RL	RL	RAIN LEADER
EWB	EWB	ENTERING WET BULB	RM	RM	ROOM
EWC	EWC	ELECTRIC WATER COOLER	RTN	RTN	RETURN
EWT	EWT	ENTERING WATER TEMPERATURE	S	SA	SUPPLY AIR
EXH	EXH	EXHAUST	SAG	SAG	SUPPLY AIR GRILLE
EWS	EWS	EYE WASH/SHOWER STATION	SAN	SAN	SANITARY
F	FCO	FLOOR CLEANOUT	SAR	SAR	SUPPLY AIR REGISTER
FD	FD	FIRE DAMPER/FLOOR DRAIN	SD	SD	SMOKE DAMPER
FH	FH	FUME HOOD	SD/DF	SD/DF	COMB. SMOKE DAMPER/FIRE DAMP.
FL	FL	FLOOR	SF	SF	SUPPLY FAN
FLEX	FLEX	FLEXIBLE	SH	SH	SHEET
FOR	FOR	FUEL OIL RETURN	SP	SP	STATIC PRESSURE
FOS	FOS	FUEL OIL SUPPLY	SQ FT	SQ FT	SQUARE FEET
FP	FP	FIRE PUMP	SST	SST	STAINLESS STEEL
FPI	FPI	FNS PER INCH	T	TCU	TERMINAL CONTROL UNIT
FFM	FFM	FEET PER MINUTE	TEMP	TEMP	TEMPERATURE
FT	FT	FEET	TG	TG	TRANSFER GRILLE
FV	FV	FACE VELOCITY	TP	TP	TRAP PRIMER
G	GA	GAUGE	TYP	TYP	TYPICAL
GIV	GIV	GRAVITY INTAKE VENTILATOR	U	UC	UNDERCUT
GND	GND	GROUND	V	V	VENT
GPM	GPM	GALLONS PER MINUTE	VAV	VAV	VARIABLE AIR VOLUME
GRV	GRV	GRAVITY RELIEF VENTILATOR	VD	VD	VOLUME DAMPER
H	HB	HOSE BIBB	VEL	VEL	VELOCITY
HORIZ	HORIZ	HORIZONTAL	VERT	VERT	VERTICAL
HP	HP	HORSE POWER/HEAT PUMP	VFD	VFD	VARIABLE FREQUENCY DRIVE
HTG	HTG	HEATING	VSD	VSD	VARIABLE SPEED DRIVE
HUMID	HUMID	HUMIDISTAT	VTR	VTR	VENT THRU ROOF
HWS	HWS	HOT WATER SUPPLY	W	W	WITH
HWB	HWB	HOT WATER BOILER	W/O	W/O	WITHOUT
HWP	HWP	HOT WATER PUMP	WCO	WCO	WALL CLEANOUT
HWR	HWR	HOT WATER RETURN	WC	WC	WATER COLUMN
I	ID	INSIDE DIAMETER	WH	WH	WALL HYDRANT
IN	IN	INCHES	WHA	WHA	WATER HAMMER ARRESTORS
INV	INV	INVERT ELEVATION	WR	WR	WATER RISER
EL	EL		WTR	WTR	WATER

DOMESTIC WATER GENERAL NOTES

- CUTOFF VALVES AND STOPS SHALL BE PROVIDED WHERE SHOWN ON DRAWINGS AND AT FIXTURE CONNECTIONS.
- TEST ALL WATER SYSTEM IN PRESENCE OF OWNER'S REPRESENTATIVE AT MIN. 100 PSIG FOR 8 HOURS. SANITARY, WASTES, AND VENTS SHALL BE TESTED WITH 10' HEAD OF WATER FOR 8 HOURS WITH LEVEL OF WATER REMAIN UNCHANGED.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.
- INSTALL ALL WATER PIPING SYSTEMS SO THAT THEY WILL NOT BE SUBJECT TO ANY UNDOE STRAINS OR STRESSES. PROVISIONS SHALL BE MADE FOR EXPANSION, CONTRACTION AND STRUCTURAL SETTLEMENT.
- ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOOR CEILING ASSEMBLY SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING WITH U.L. LISTED ASSEMBLIES, MATERIALS AND SEALANTS.
- BELOW GROUND PIPE SHALL BE INSTALLED NO LESS THAN 6" BELOW FROST LINE. REFER TO STRUCTURAL DETAILS FOR FOUNDATION PENETRATION.
- DRAWING IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO BE SCALED FOR DIMENSIONS.
- COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
- ALL TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR, WITHOUT EXTRA COST FOR THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A WATER FLOW AND PRESSURE TEST FOR EVALUATING INCOMING DOMESTIC AND FIRE PROTECTION SERVICE PRESSURES.
- WHERE STREET WATER MAIN PRESSURES FLUCTUATE, THE BUILDING WATER DISTRIBUTION SYSTEM SHALL BE DESIGNED FOR MINIMUM PRESSURE AVAILABLE. WHEREVER WATER PRESSURE FROM THE STREET MAIN OR OTHER SOURCE OF SUPPLY IS LESS THAN 60 PSI, A WATER PRESSURE BOOSTER SYSTEM SHALL BE INSTALLED ON THE BUILDING WATER SUPPLY SYSTEM. WHERE WATER PRESSURE WITHIN A BUILDING EXCEEDS 80 PSI STATIC, AN APPROVED WATER-PRESSURE REDUCING VALVE WITH STRAINER CONFORMING TO ASSE. 1003 SHALL BE INSTALLED TO REDUCE THE PRESSURES TO BELOW 80 PSI.

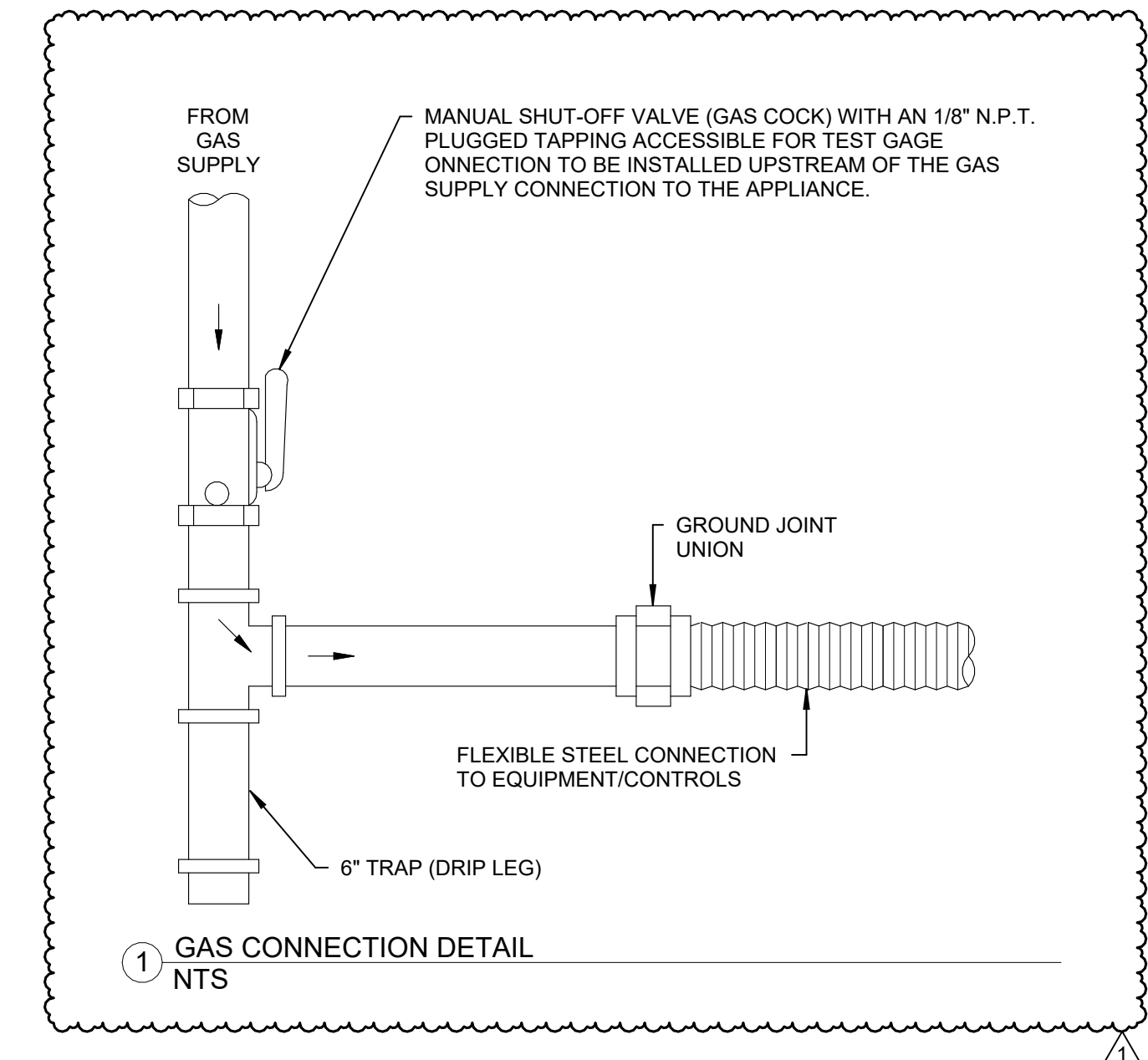
SANITARY SEWER GENERAL NOTES

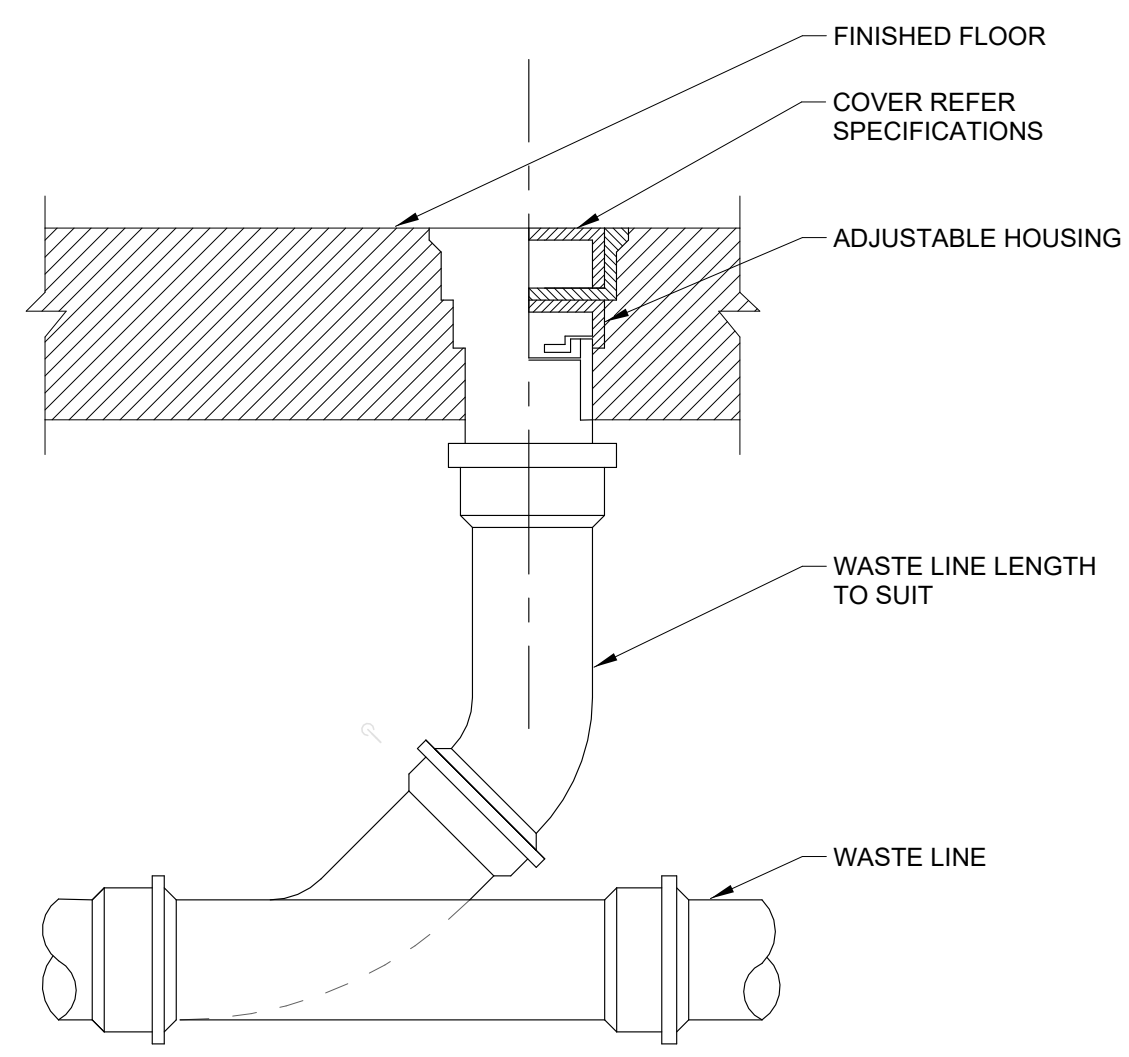
- PROVIDE CLEANOUTS AT LOCATIONS AND WITH CLEARANCES AS REQUIRED BY THE CODE NOT EXCEEDING 50 FEET IN HORIZONTAL RUNS AT EACH CHANGE OF DIRECTION, VERTICAL OR HORIZONTAL. GREATER THAN 45°. AT THE BASE OF EACH WASTE OR VENT STACK 5 FEET AFF. PROVIDE WALL CLEANOUTS IN LIEU OF FLOOR CLEANOUTS WHEREVER POSSIBLE. ALL INTERIOR CLEANOUTS SHALL BE ACCESSIBLE FROM WALLS OR FLOORS.
- THE FLOOR DRAIN IN TOILETS AND MECHANICAL ROOMS SHALL BE PROVIDED WITH BACKWATER VALVES.
- MAINTAIN MINIMUM OF 10 FEET CLEARANCE BETWEEN ANY VTR AND OUTSIDE AIR INTAKES. WHERE HORIZONTAL CLEARANCE CANNOT BE PROVIDED, EXTEND VENTS A MIN OF 24" ABOVE EACH OUTSIDE AIR INTAKE.
- VTR'S ROOF PENETRATIONS, WATER PROOFING AND FLASHINGS SHALL BE PROVIDED BY ROOF CONTRACTOR.
- ALL TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR. TEST ALL SEWER AND VENT SYSTEMS IN PRESENCE OF OWNER'S REPRESENTATIVE.
- INVERT ELEVATION SHOWN BASED ON 100.0 FT. FF ELEVATION, REFER TO CIVIL DRAWINGS FOR ACTUAL ELEVATIONS.
- SEWER PIPE SHALL BE INSTALLED NO LESS THAN 6" BELOW THE FROST LINE.

NOTE:
THIS IS A STANDARD SYMBOLS & ABBREVIATIONS SHEET. THEREFORE, SOME SYMBOLS & ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

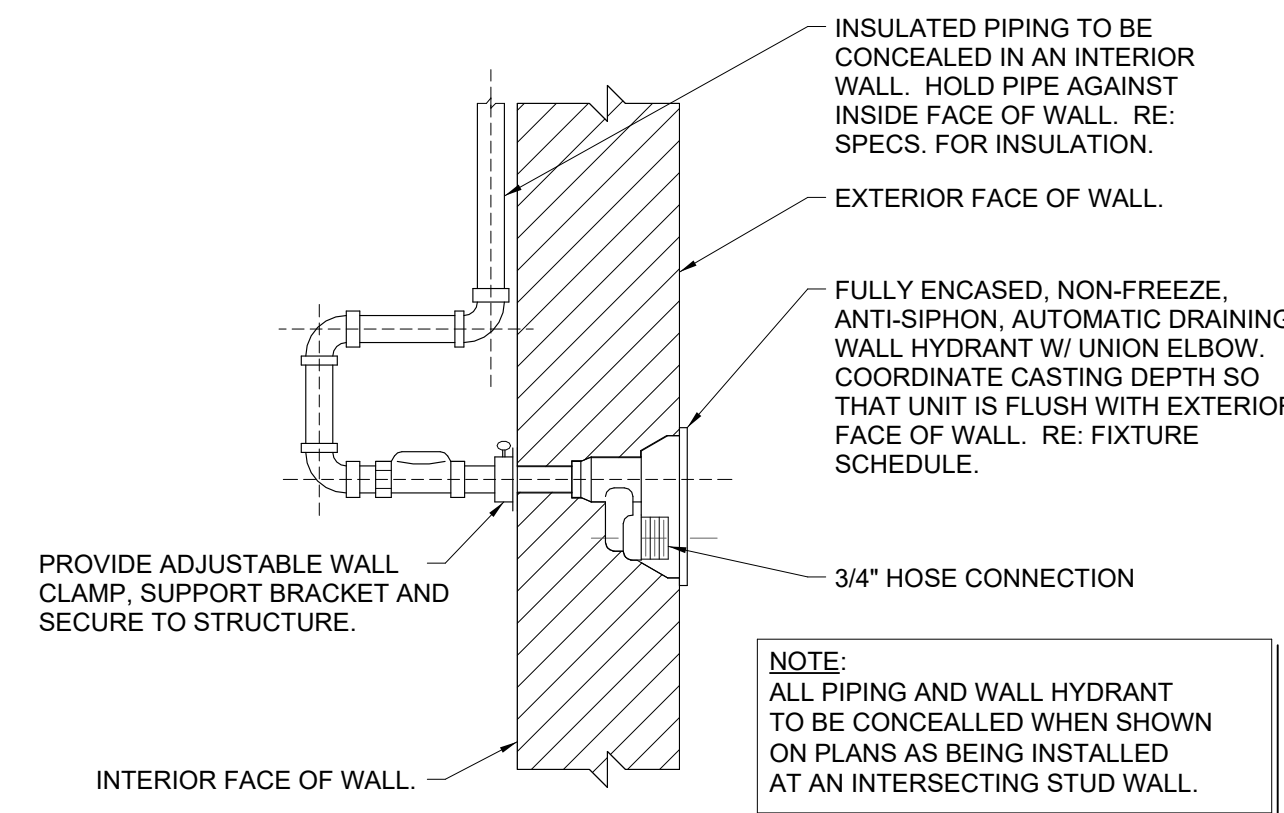
PIPE LINES	
---	POTABLE COLD WATER
---	POTABLE HOT WATER
---	POTABLE HOT WATER RETURN
---	VENT

PIPE TAGS	
XX' CW	POTABLE COLD WATER
XX' HW	POTABLE HOT WATER
XX' HWR	POTABLE HOT WATER RETURN
XX' V	VENT
XX' CA	COMPRESSED AIR
XX' SS	SANITARY SEWER
XX' OW	OIL/WASTE WATER
XX' G	NATURAL GAS
XX' VTR	VENT THROUGH ROOF

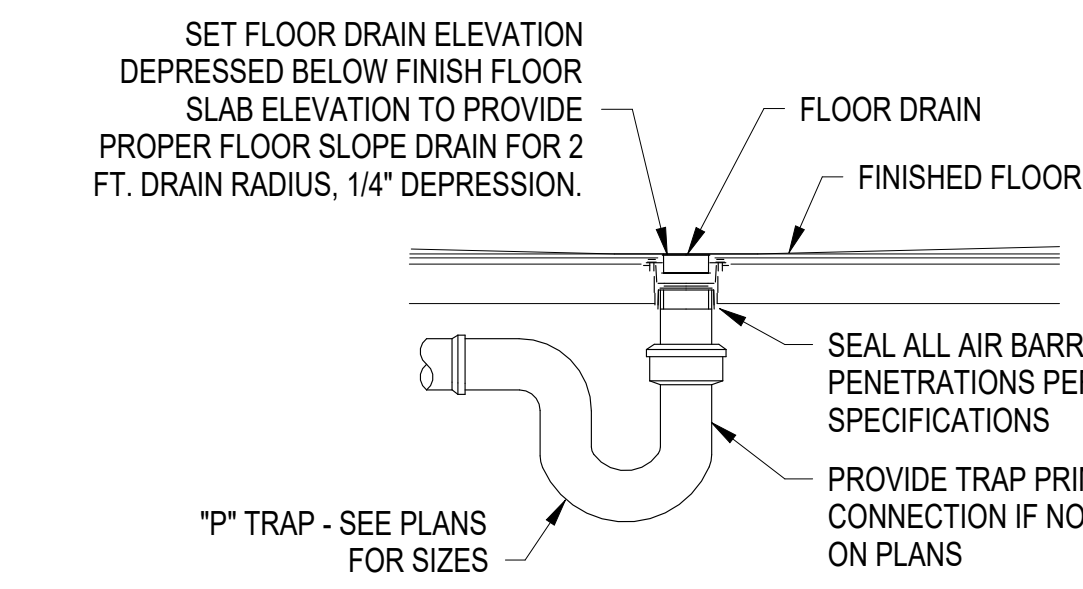




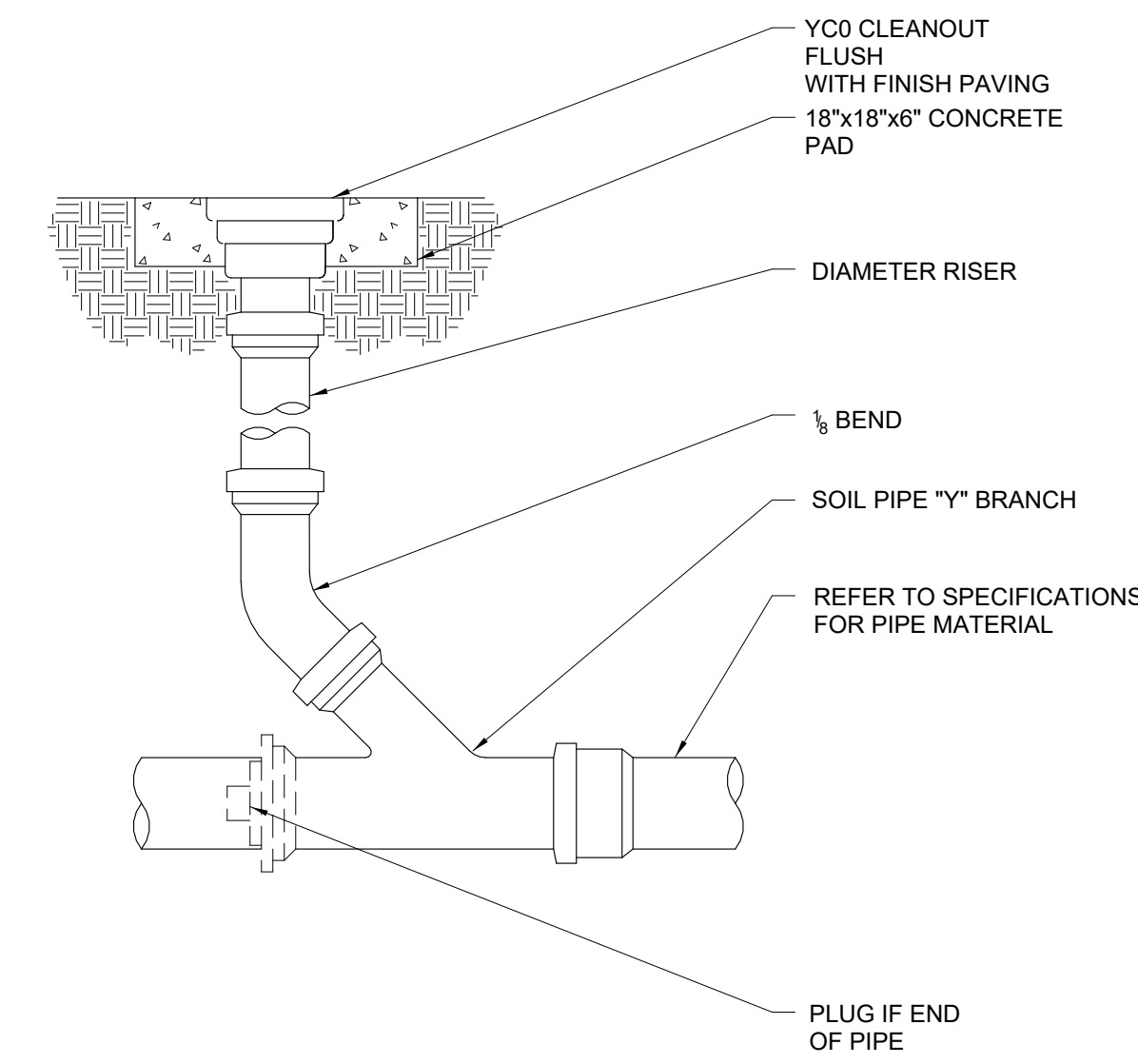
3 FLOOR CLEAN-OUT (FCO) NTS



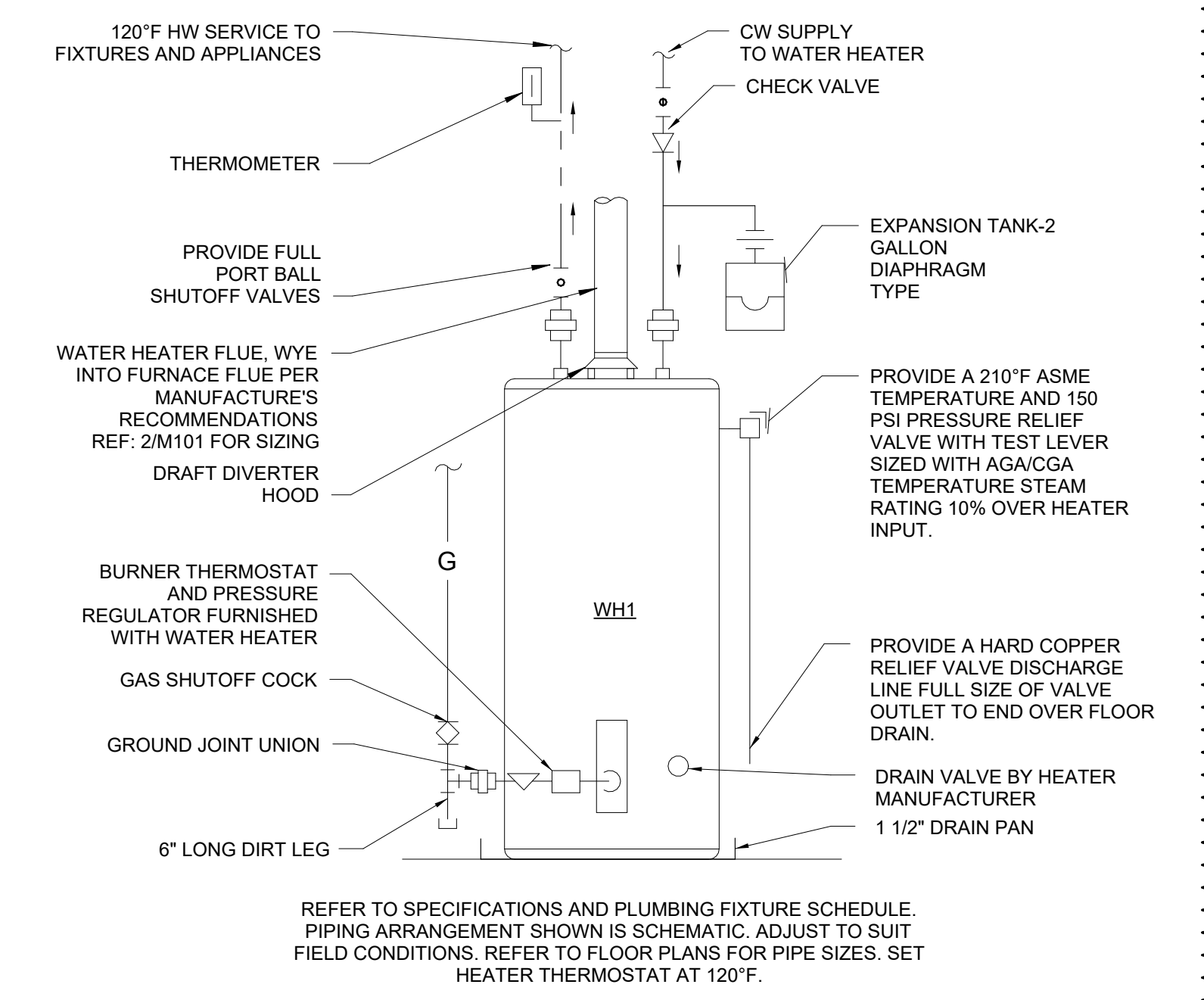
4 FREEZE PROOF WALL HYDRANT (FPWH) NTS



5 FLOOR DRAIN DETAIL NO SCALE



6 YARD CLEAN-OUT (YCO) NTS



7 GAS WATER HEATER DETAIL NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

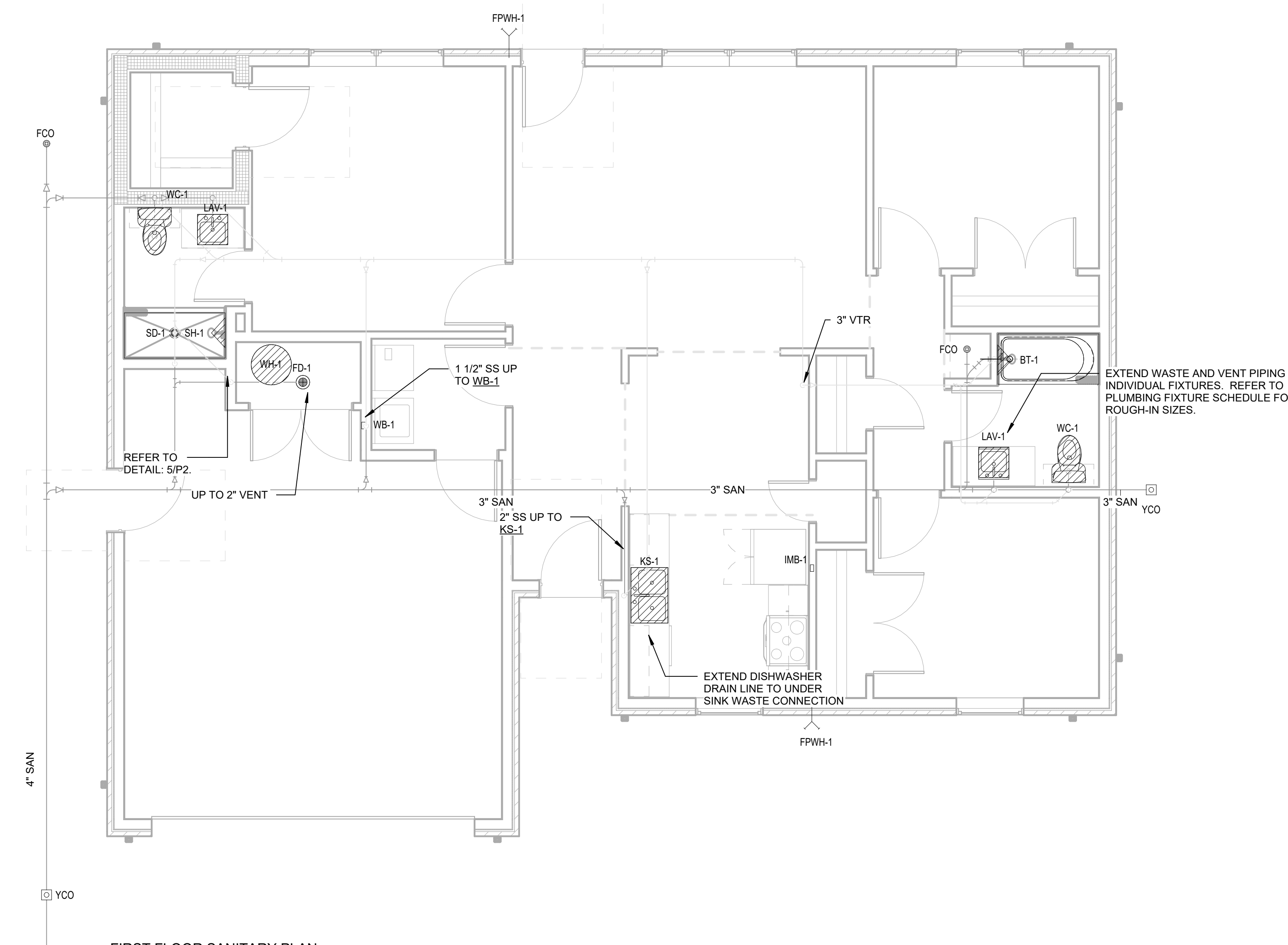
MARK	UNIT TYPE	BRANCH SIZES (MIN)				MANUFACTURER & MODEL	FAUCET	DESCRIPTION
		WASTE	VENT	CW	HW			
BT-1	SHOWER VALVE	0"	0"	1/2"	1/2"	AMERICAN STANDARD RU102SS	T385.502 RELIANT 3 BATH-SHOWER TRIM KIT	FLASH ROUGH VALVE BODY FLOOR DRAIN SQUARE
FD-1	FLOOR DRAIN	2"	1 1/2"	1/2"		JAY R. SMITH 2005B		FREEZELESS WALL HYDRANT
FPWH-1	WALL HYDRANT			1/2"		WOODFORD 987		DOUBLE HOSE BIBB OUTLET CONNECTION OUTLET BOX WITH DRAIN BOX
IMB-1	ICE MAKER BOX	0"	0"	1/2"	0"	SIoux CHIEF 696-G1010MF		COLONY 33 x 22 ADA DOUBLE BOWL STAINLESS STEEL KITCHEN SINK KIT
KS-1	KITCHEN SINK	2"	1 1/2"	1/2"	1/2"	AMERICAN STANDARD 22DB 6332283C 075.50/5	AMERICAN STANDARD 4175.300 F15	AQUALYN DROP IN SINK VITREOUS CHINA
LAV-1	DROP IN	2"	1 1/2"	1/2"	1/2"	AMERICAN STANDARD 0476.028.020		
SD-1	SHOWER DRAIN	2"	1 1/2"			JAY R. SMITH 216		
SH-1	SHOWER VALVE	0"	0"	1/2"	1/2"	AMERICAN STANDARD RU102SS	TU662SG.211 SHOWER TRIM	FLASH ROUGH VALVE BODY
WB-1	WASHER WALL BOX	2"	1 1/2"	1/2"	1/2"	SIoux CHIEF 696 series		1/4" COMPRESSION OUTLET CONNECTION OUTLET BOX 1/2" COMPRESSION OUTLET CONNECTION OUTLET BOX WITH DRAIN BOX COMPLETE TOILET WITH ANK AND SEAT HYDRAPRO MODEL HPWP25ESC
WC-1	TANK TYPE RIGHT FLUSH	3"	2"	3/4"		AMERICAN STANDARD 211AA.004	N/A	CAST IRON OR PVC BODY. ROUND EXTRA HEAVY-DUTY CAST OR DUCTILE IRON TOP. POLYPROPYLENE OR ABS PLUG. ADJUSTABLE TO FINISH SURFACE.
FCO	FLOOR CLEAN-OUT	4"				ZURN ZN1400		CAST IRON FERRULE AND PLUG. DURA-COATED CAST IRON. DOUBLE-FLANGED HOUSING AND EXTRA HEAVY DUTY SCORRIATED CAST IRON COVER WITH LIFTING DEVICE, VANDAL-PROOF SCREWS.
YCO	YARD CLEAN-OUT	4"				ZURN ZH449		

- NOTES:
 1. CONTRACTOR TO COORDINATE FINAL SELECTIONS OF ALL PLUMBING FIXTURES WITH OWNER PRIOR TO ORDERING.
 2. NOT USED.

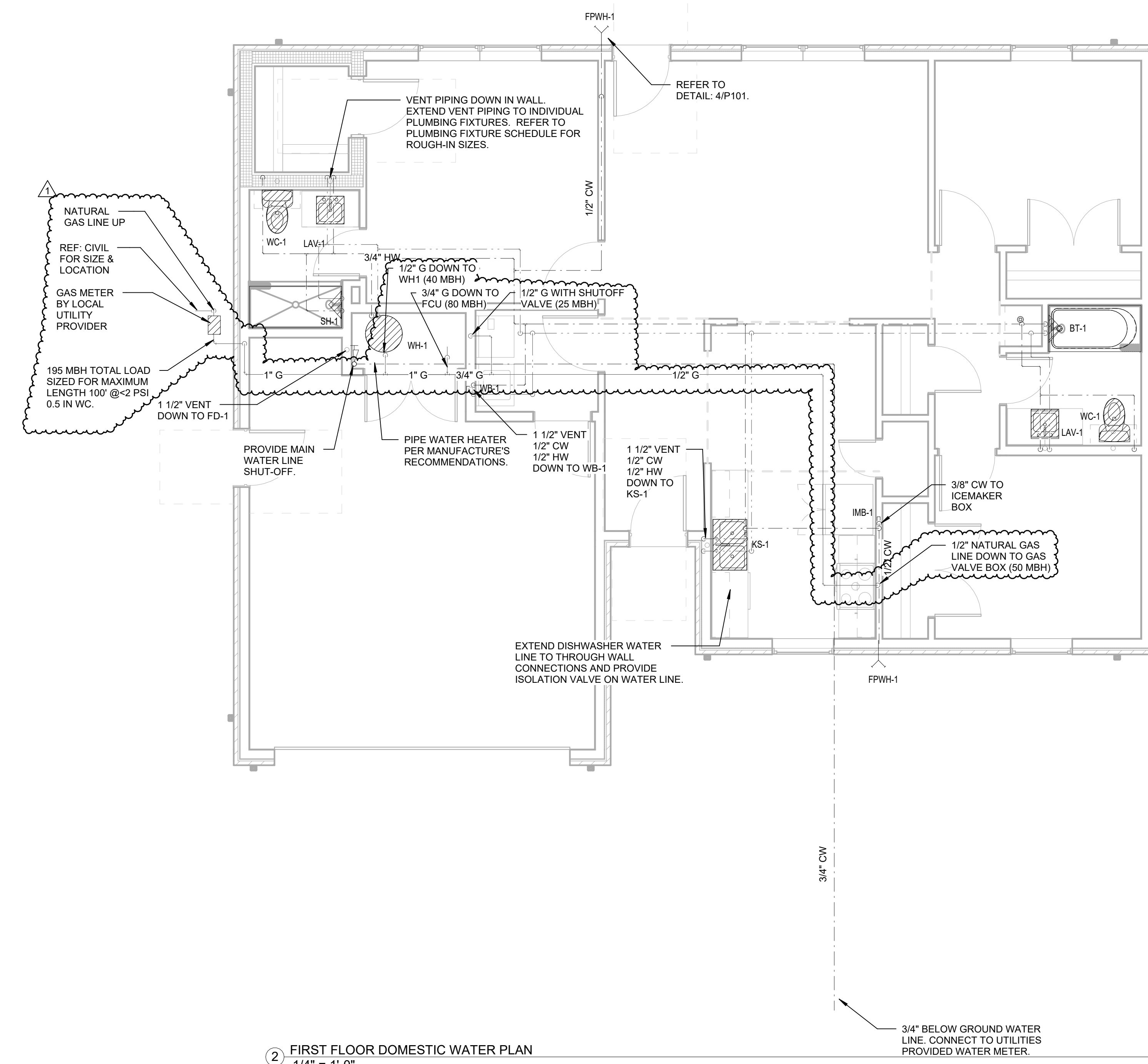
GAS WATER HEATER SCHEDULE

MARK	SERVICE	MANUFACTURER & MODEL	TANK VOLUME	MBH	RECOVERY GPH @ 90 RISE	VOLTAGE	FREQUENCY	PHASE	WEIGHT	NOTES
WH-1	HOT WATER	AM STD GSN50T1-3-G	50.0 gal	40	38	120 V	60 Hz	1	185 lb	1,3,4,5

- NOTES:
 1. WH-1 GAS WATER HEATER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL CODE REQUIRED SAFETY DEVICES.
 2. PROVIDE CIRCULATION PUMP AS REQUIRED PER CODE.
 3. PROVIDE OVERFLOW PAN OATEY MODEL 34173.
 4. PROVIDE EXPANSION TANK, EACH SIZED PER MANUFACTURER'S RECOMMENDATION.
 5. ROUTE PRESSURE RELIEF TO NEAREST FLOOR DRAIN WITH CODE APPROVED AIR GAP.



1 FIRST FLOOR SANITARY PLAN 1/4" = 1'-0"



2 FIRST FLOOR DOMESTIC WATER PLAN 1/4" = 1'-0"



CHEROKEE NATION TAHLEQUAH HOUSING DEVELOPMENT - TYPE 2
 P101 TYPE 2 PLUMBING PLANS



BLUE RIVER PROJECT NUMBER: 20220104
 ISSUE DATE: 08/18/2022
 ISSUE: CONSTRUCTION DOCUMENTS
 OTHER ISSUE DATES:
 NO. DESCRIPTION DATE
 1 ASH1 03/03/2023

SHEET NAME: TYPE 2 PLUMBING PLANS

SHEET NUMBER: P101
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