

**PLUMBING ABBREVIATIONS**

A/E	ARCHITECT / ENGINEER	L/S	LITER PER SECOND
AD	AREA DRAIN	LA	LABORATORY AIR
AFF	ABOVE FINISH FLOOR	LAV	LAVATORY
AFG	ABOVE FINISH GRADE	LBS/HR	POUNDS PER HOUR
AG	AIR GAP	LCW	LABORATORY COLD WATER
AP	ACCESS PANEL	LHW	LABORATORY HOT WATER
AS	AUTOMATIC SPRINKLER	LNG	LIQUID NATURAL GAS
ASD	ADJUSTABLE SPEED DRIVES	LOX	LIQUID OXYGEN
ASD	AUTOMATIC SPRINKLER DRAIN	LV	LABORATORY VACUUM
ASHRAE	AMERICAN SOCIETY HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS	LW	LOW WATER
		M	METER
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS	MA	MEDICAL AIR
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS	MAV	MANUAL AIR VENT
ASR	AUTOMATIC SPRINKLER RISER	MBH	1000 BTUH
AV	ACID VENT	MED	MEDICAL
AW	ACID WASTE	MER	MECHANICAL EQUIPMENT ROOM
BFP	REDUCED PRESSURE BACKFLOW PREVENTER	MH	MANHOLE
BHP	BREAK HORSEPOWER	MOU	MEMORANDUM OF UNDERSTANDING
BSP	BLACK STEEL PIPE	MSB	MOP SERVICE BASIN
BT	BATHTUB	MV	MEDICAL VACUUM
BTU	BRITISH THERMAL UNIT	N2	NITROGEN
BTUH	BRITISH THERMAL UNIT PER HOUR	N2O	NITROUS OXIDE
		NC	NORMALLY CLOSED
C	CELSIUS	NG	NATURAL GAS
CGA	COMPRESSED GAS ASSOCIATION	NIC	NOT IN CONTRACT
CI	CAST IRON	NO	NORMALLY OPEN
CO	CLEANOUT	NOM.	NOMINAL
CS	CLINICAL SINK	NPW	NON POTABLE WATER
CV	CONTROL VALVE	NTC	NOT TO SCALE
DCW	DOMESTIC COLD WATER	O2	OXYGEN
DHW	DOMESTIC HOT WATER	OC	ON CENTER
DHWR	DOMESTIC HOT WATER RETURN	OD	OUTSIDE DIAMETER
DHWR	DOMESTIC WATER RETURN	OFD	OVERFLOW DRAIN
DHWS	DOMESTIC HOT WATER SUPPLY	OR	OPERATING ROOM
DI	DEIONIZED WATER	OVFL	OVERFLOW
DN	DOWN	PA	PASCAL
DOE	DEPARTMENT OF ENERGY	PD	PRESSURE DROP OR DIFFERENCE
DS	DOWNSPOUT	PDI	PLUMBING AND DRAINAGE INSTITUTE
DW	DISHWASHER	PG	PRESSURE GAGE
DWG	DRAWING	PP	PLUMBING PUMP
DWH	DOMESTIC WATER HEATER	PPM	PARTS PER MILLION
DWR	DRINKING WATER RETURN	PRS	PRESSURE REDUCING STATION
DWS	DRINKING WATER SUPPLY	PRV	PRESSURE REDUCING VALVE
DWV	DRAIN WASTE VENT	PSI	POUNDS PER SQUARE INCH
EL	ELEVATION	PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
EMCS	ENERGY MONOSERRAT AND CENTRAL SYSTEM	PSIG	POUNDS PER SQUARE INCH GAUGE
EPA	ENVIRONMENTAL PROTECTION AGENCY	PTRV	PRESSURE TEMPERATURE RELIEF VALVE
EPACT	ENERGY POLICY ACT	PW	POTABLE WATER
ESC	ESCUTCHEON	RD	ROOF DRAIN
ESH	EMERGENCY SHOWER	RDL	ROOF DRAIN LEADER
ET	EXPANSION TANK	RL	ROOF LEADER
EW	ELECTRIC WATER COOLER	RO	REVERSE OSMOSIS WATER
EW	ELECTRIC WATER HEATER	RWL	RAIN WATER LEADER
EWS	EYE WASH STATION	SAN	SANITARY SEWER
EX	EXISTING	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
F	FAHRENHEIT	SCFM	STANDARD CUBIC FOOT/MINUTE
FCO	FLOOR CLEANOUT	SCW	SOFTENED COLD WATER
FCW	FILTERED COLD WATER	SDMH	STORM DRAIN MANHOLE
FD	FLOOR DRAIN	SP	SUMP PUMP
FDC	FIRE DEPARTMENT (HOSE) CONNECTION	SPR	SPRINKLER LINE
FM	FLOW METER	SQFT	SQUARE FEET
FOP	FUEL OIL PUMP	SS	STAINLESS STEEL
FOR	FUEL OIL RETURN	ST	STORAGE TANK
FOS	FUEL OIL SUPPLY	SW	STORM WATER
FOV	FUEL OIL VENT	TCV	TEMPERATURE CONTROL VALVE
FS	FLOOR SINK	TD	TEMPERATURE DIFFERENCE
FS	FLOW SWITCH	TDH	TRENCH DRAIN
FU	FIXTURE UNITS	TEMP	TOTAL DYNAMIC HEAD
GAL	GALLON	TMV	TEMPERATURE
GCO	GRADE CLEANOUT	TMV	THERMOSTATIC MIXING VALVE
GPD	GALLONS PER DAY	TP	TRAP PRIMER
GPH	GALLONS PER HOUR	TSTAT	THERMOSTAT
GPM	GALLONS PER MINUTE	TWR	TEMPERED WATER RETURN
GPR	GAS PRESSURE REGULATOR	TWS	TEMPERED WATER SUPPLY
GRS	GAS REGULATOR STATION	TYP	TYPICAL
GT	GREASE TRAP	UPC	UNIFORM PLUMBING CODE
GVTR	GAS VENT THROUGH ROOF	V	VENT
GWH	GAS FIRED WATER HEATER	VAC	VACUUM
H&CW	HOT AND COLD WATER	VB	VACUUM BREAKER
HB	HOSE BIBB	VCO	VACUUM CLEANER OUTLET
HD	HUB DRAIN	VP	VACUUM PUMP
HEX	HEAT EXCHANGER	VS	VENT STACK
HP	HORSEPOWER	VTR	VENT THROUGH ROOF
HS	HAND SINK	W	WASTE
HST	HOT WATER STORAGE TANK (DOMESTIC)	WC	WATER CLOSET
HWB	HOT WATER BOILER	WCO	WALL CLEANOUT
HWCP	HOT WATER CIRCULATING PUMP	WG	WATER GAGE
HWP	HOT WATER PUMP	WH	WALL HYDRANT
HYD	HYDRANT	WH	WATER HEATER
ICW	INDUSTRIAL COLD WATER	WHA	WATER HAMMER ARRESTER
INV	INVERT	WL	WATER LINE
IPC	INTERNATIONAL PLUMBING CODE	WM	WATER METER
IRW	IRRIGATION WATER	WPD	WATER PRESSURE DROP
IW	INDIRECT WASTE	WS	WASTE STACK
IWH	INSTANTANEOUS WATER HEATER	YCO	YARD CLEANOUT
IWR	INDUSTRIAL WATER RETURN	YH	YARD HYDRANT
IWS	INDUSTRIAL WATER SUPPLY		
KW	KILOWATT		
KWHR	KILOWATT-HOUR		

**GENERAL NOTES**

1. THE PLUMBING SYSTEM SHALL CONFORM TO INTERNATIONAL PLUMBING CODE 2006.
2. FOR HOT WATER HEATING AND SUPPLY, PROVIDE A MAXIMUM TEMP OF 122-128 DEG. F AT THE FIXTURE (PER ADA SPECS), UNLESS SPECIFIC APPLIANCES OR EQUIPMENT SPECIFICALLY REQUIRE HIGHER TEMPERATURE WATER SUPPLY. THE TEMPERATURE DROP ACROSS THE SYSTEM SHALL BE NO MORE THAN 6° F.
3. UNLESS OTHERWISE SPECIFIED OF DIRECTED, PROVIDE IN ACCORDANCE WITH ASHRAE HANDBOOK SERIES (APPROPRIATE CHAPTERS), ASHRAE STANDARD 90.1, AND THE ENERGY CONSERVATION REQUIREMENTS OF THE CONTRACT. SIZE AND PLACE EQUIPMENT SO THAT IT IS EASILY ACCESSIBLE AND REMOVEABLE FOR REPAIR OR REPLACEMENT.
4. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES.
5. COORDINATE PLUMBING PIPING WITH AIR CONDITIONING DUCTS, ELECTRICAL CONDUIT AND ALL TRADES.
6. CONTRACTOR SHALL VERIFY DISTANCE TO CONNECTION TO EXISTING UTILITIES PRIOR TO BID.
7. REFER TO UNITED FACILITIES CODE (UFC) 3-420-01 AND 4-510-01.

**PLUMBING PIPING SYMBOLS**

-----	DOMESTIC COLD WATER, COLD WATER
-----	DOMESTIC HOT WATER, HOT WATER
-----	DOMESTIC HOW WATER RETURN, HOT WATER RETURN
MA MA MA	MEDICAL AIR
MV MV MV	MEDICAL VACUUM
LA LA LA	LABORATORY AIR
LV LV LV	LABORATORY VACUUM
OA OA OA	ORAL EVACUATION
IA IA IA	INDUSTRIAL AIR
D D D	DRAIN
SAN SAN SAN	SANITARY SEWER
SS SS SS	SANITARY SEWER (OPTIONAL)
SAN SAN SAN	SANITARY SEWER, BELOW GRADE
-----	SANITARY SEWER VENT
SD SD SD	STORM WATER
SD SD SD	STORM WATER, BELOW GRADE
SCW SCW SCW	SOFTEN COLD WATER
FCW FCW FCW	FILTERED COLD WATER
DWS DWS DWS	DRINKING WATER SUPPLY
DWR DWR DWR	DRINKING WATER RETURN
TWS TWS TWS	TEMPERED WATER SUPPLY
TWR TWR TWR	TEMPERED WATER RETURN
NO NO NO	NITROUS OXIDE
O O O	OXYGEN
N N N	NITROGEN
NG NG NG	NATURAL GAS
NG NG NG	NATURAL GAS, BELOW GRADE
FSD FSD FSD	FUEL OIL DISCHARGE
FOS FOS FOS	FUEL OIL SUPPLY
FOV FOV FOV	FUEL OIL VENT
FOR FOR FOR	FUEL OIL RETURN

**GENERAL PLUMBING SYMBOLS**

	DIRECTION OF PIPE PITCH (DOWN)
	DIRECTION OF FLOW
	ANCHOR
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	TOP CONNECTION, 45° OR 90°
	BOTTOM CONNECTION, 45° OR 90°
	SIDE CONNECTION
	CAPPED OUTLET
	RISE OR DROP IN PIPE
	UNION
	PIPE UP
	PIPE DOWN
	POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
	LIMIT OF DEMOLITION
	INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
	FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
	STRAINER
	THERMOMETER
	PRESSURE GAGE
	FLOW ELEMENT
	CLEAN OUT
	HOSE BIB (FROSTPROOF)
	FLOOR DRAIN W/ TRAP PRIMER
	WATER HAMMER ARRESTOR

**PLUMBING VALVE SYMBOLS**

	GATE VALVE
	GLOBE VALVE
	GATE VALVE WITH 3/4 " HOSE ADAPTER
	CHECK VALVE
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING CONTROL VALVE
	TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	THREE-WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
	AUTOMATIC FLOW CONTROL VALVE
	PRESSURE RELIEF VALVE
	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)
	AUTOMATIC AIR VENT

FINAL SUBMISSION  
APRIL 9, 2013

IF SHEET IS LESS THAN (30"x42") IT IS  
A REDUCED PRINT; SCALE ACCORDINGLY

P001



 766 MIDDLE ST., FARMHSE, AL 36532 251-890-5778 ARCH. & ENGR. SEAL 	NATURAL RESOURCES & ENVIRONMENTAL AFFAIRS SATISFACTORY TO DATE	P.W. DWG. NO.	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL SUPPORT ACTIVITY PANAMA CITY, FLORIDA
	SAFETY DEPARTMENT SATISFACTORY TO DATE	DRAWN BY JLL	CONSTRUCT NAVAL BRANCH HEALTH CLINIC PANAMA CITY
	FIRE DEPARTMENT SATISFACTORY TO DATE	CHECKED BY WWB	PLUMBING LEGEND, ABBREVIATIONS AND SYMBOLS
	PUBLIC WORKS SUPERVISOR SATISFACTORY TO DATE	SUPERVISOR WWB	SIZE F HONC PROJ. NO. 520-13-200 SCALE NONE
	APPROVED DATE	N A V Y A C DRAWING NO. N/A	CONSTR. CONTR. NO. MACC. T.O.# SHEET 1 OF 8