PLUMBING SYMBOLS

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

ANNOTATION

- (1) PLUMBING PLAN NOTE CALLOUT
- (1) PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- [1] EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- (CU 1) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- (1 M1) DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- (1 M1) SECTION CUT DESIGNATION

STANDARD MOUNTING HEIGHTS

PLUMBING

(AFF, AFG, UNLESS NOTED OTHERWISE)

REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS. UNO, INSTALL PLUMBING FIXTURES WITH THE MOUNTING HEIGHTS AS LISTED BELOW WITH FINAL APPROVAL BY THE ARCHITECT.

ADA ACCESSIBLE DRINKING FOUNTAIN	35" FLOOR TO RIM
ADA ACCESSIBLE LAVATORIES	34" FLOOR TO RIM
ADA ACCESSIBLE SHOWER VALVES	38" MINIMUM TO 48" MAXIMUM FLOOR TO CENTERLINE
ADA ACCESSIBLE TUB VALVES	CENTER BETWEEN GRAB BAR AND TUB RIM
ADA ACCESSIBLE URINALS	17" FLOOR TO RIM
ADA ACCESSIBLE WATER CLOSET	17" TO 19" FLOOR TO TOP OF SEAT
ADA ACCESSIBLE WATER COOLER	35" FLOOR TO RIM
ADULT STANDARD DRINKING FOUNTAIN	40" FLOOR TO RIM
ADULT STANDARD WATER COOLER	30" FLOOR TO RIM
CHILD STANDARD DRINKING FOUNTAIN	30" FLOOR TO RIM
CHILD STANDARD WATER COOLER	14" FLOOR TO RIM
CHILD URINAL	14" FLOOR TO RIM
CLINIC SERVICE SINKS	30" FLOOR TO RIM
JANITOR'S SINK FAUCET FITTINGS	42" FLOOR TO CENTERLINE
HOSE BIBBS	36" AFF TO CENTERLINE
ICE MAKER OUTLET BOXES	24" FLOOR TO CENTER OF BOX
LAVATORY OR SINK	31" FLOOR TO RIM
NON FREEZE HYDRANT	18" AFG TO CENTERLINE
SHOWER HEADS	6'-0" MEN & 5'-6" WOMEN FLOOR TO CENTERLINE
SHOWER VALVES	48" MEN & 42" WOMEN FLOOR TO CENTERLINE
STANDARD URINALS	22" FLOOR TO RIM
SURGEON'S SCRUB-UP SINKS	35" FLOOR TO FRONT RIM
TUB VALVES	32" FLOOR TO CENTELINE
WASHING MACHINE OUTLET BOXES	42" FLOOR TO RIM
WATER CLOSET	15" FLOOR TO RIM

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
AFG	ABOVE FINISHED GRADE	MIN	MINIMUM
AHU	AIR HANDLING UNIT	N/C	NORMALLY CLOSED
BFF	BELOW FINISHED FLOOR	N/O	NORMALLY OPEN
BFG	BELOW FINISHED GRADE	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	PDI	PLUMBING DRAINAGE INSTITUTE
BOS	BOTTOM OF STRUCTURE	PVC	POLYVINYL CHLORIDE
BTU	BRITISH THERMAL UNIT	PRV	PRESSURE REDUCING VALVE
CPVC	CHLORINATED POLYVINYL CHLORIDE	RD	ROOF DRAIN
		RPM	REVOLUTIONS PER MINUTE
DN	DOWN	RTU	ROOFTOP UNIT
DFU	DRAINAGE FIXTURE UNIT	SF	SQUARE FEET, SUPPLY FAN
DS	DOWNSPOUT	SP	SUMP PUMP
ETR	EXISTING TO REMAIN	SS	STAINLESS STEEL, SANITARY
EWC	ELECTRIC WATER COOLER	SEWER, SOIL	STACK
FD	FLOOR DRAIN	TDH	TOTAL DYNAMIC HEAD
FFA	FROM FLOOR ABOVE	TFA	TO FLOOR ABOVE
FFB	FROM FLOOR BELOW	TFB	TO FLOOR BELOW
FF	FINISHED FLOOR	TYP	TYPICAL
FL	FLOW LINE	UL	UNDERWRITERS LABORATORIES INC.
FLA	FULL LOAD AMPS		
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
GPM	GALLONS PER MINUTE	UPS	UNINTERRUPTIBLE POWER SUPPLY
HD	HEAD, HUB DRAIN	V	VOLT(S)
IE	INVERT ELEVATION	VCP	VITRIFIED CLAY PIPE
IN WC	INCHES OF WATER COLUMN	VS	VENT STACK
JB	JUNCTION BOX	VTR	VENT THROUGH ROOF
J-BOX	JUNCTION BOX	W/	WITH
kW	KILOWATT	W/O	WITHOUT
MAU	MAKE-UP AIR UNIT	WC	WATER COLUMN
MAX	MAXIMUM	WS	WET STACK
MBH	1000 BTU PER HOUR	WSFU	WATER SUPPLY FIXTURE UNIT

PIPING

- DOMESTIC COLD WATER (CW)
- SCW — SOFTENED COLD WATER (SCW)
- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER RECIRC. (HWR)
- 140° — 140° DOMESTIC HOT WATER (140°)
- T — TRAP PRIMER LINE (T)
- S — SOIL PIPING - ABOVE FLOOR (S)
- S — SOIL PIPING - BELOW FLOOR (S)
- W — WASTE PIPING - ABOVE FLOOR (W)
- W — WASTE PIPING - BELOW FLOOR (W)
- GW — GREASE WASTE - ABOVE FLOOR (GW)
- GW — GREASE WASTE - BELOW FLOOR (GW)
- ST — STORM DRAIN - ABOVE FLOOR (ST)
- ST — STORM DRAIN - BELOW FLOOR (ST)
- OST — OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
- VBG — VENT BELOW GRADE (VBG)
- VBF — VENT BELOW FLOOR (VBF)
- ID — INDIRECT DRAIN (ID)
- CDH — CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
- CD — CONDENSATE DRAIN (CD)
- ACD — AUXILIARY CONDENSATE DRAIN (ACD)
- SPD — SUMP OR SEWAGE PUMP DISCHARGE (SPD)
- G — NATURAL GAS (G)
- G — NATURAL GAS ON ROOF (G)
- MPG — MEDIUM PRESSURE NATURAL GAS (MPG)
- MPG — MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
- NPW — NON POTABLE WATER (NPW)
- LPG — LIQUIFIED PETROLEUM GAS (LPG)
- WS — WATER SERVICE (WS)
- FP — FIRE PROTECTION (FP)
- PD — CONDENSATE PUMP DISCHARGE (PD)
- EXISTING PIPING TO BE REMOVED
- EXISTING PIPING TO REMAIN
- V — VENT PIPING (V)
- SQUARE FLOOR DRAIN (FS), SIZE & TYPE
- ROUND FLOOR DRAIN (FD), SIZE & TYPE
- ROOF DRAIN (RD), SIZE & TYPE
- BALL VALVE
- CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- WATER METER
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS PRESSURE REGULATOR
- THERMOSTATIC MIXING VALVE
- PA — PIPE ANCHOR
- EJ — EXPANSION JOINT
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- UNION
- FLANGE CONNECTION
- HOSE BIBB (HB)
- NONFREEZE WALL HYDRANT (NW)
- MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF VALVE
- CLEANOUT
- TRAP
- WALL CLEANOUT (WCO)
- FLOOR CLEANOUT (FCO)
- EXTERIOR CLEANOUT (ECO)
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT-OFF VALVE (SOV)
- "A" — WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
- RECIRCULATION PUMP
- P-TRAP
- GAS COCK
- TRAP PRIMER
- TRAP PRIMER WITH DISTRIBUTION UNIT

PLUMBING FIXTURE SCHEDULE:

FIXTURES IN THIS SCHEDULE OR THEIR APPROVED EQUIVALENT ARE PROVIDED BY THE PLUMBING CONTRACTOR. SUBMIT SHOP DRAWINGS ON EACH OF THESE ITEMS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION AND INSTALLATION REQUIREMENTS. VERIFY ROUGH-IN REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE PLUMBING FIXTURE MOUNTING HEIGHTS.

EWC — ELECTRIC WATER COOLER (ADA ACCESSIBLE): ELKAY # EZSTL8C WALL-MOUNTED, LEAD FREE, BARRIER FREE, DUAL-LEVEL, FRONT AND SIDE PUSH ACTUATOR BARS, STAINLESS STEEL BOWL, FLEXIBLE POLYESTER ELASTOMER SAFETY BUBBLER AND GALVANIZED STEEL FRONT AND SIDES, CHILLER WITH 8.0 GALLONS PER HOUR CAPACITY, 50° F DRINKING WATER AT 80° F INLET TEMPERATURES 90° F ROOM TEMPERATURE.

TRIM- MCGUIRE # LF2165CC LEAD FREE BRASS COMPRESSION ANGLE STOP VALVE WITH RISER AND ESCUTCHEON, MCGUIRE #B8912CF 1-1/2" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, AND SUITABLE CARRIER WITH STANCHIONS TO FLOOR.

ELECTRICAL REQUIREMENTS: 120-VOLT, 4 FULL LOAD AMPS.

FD — FLOOR DRAIN: JAY R. SMITH # 2005L (-A). CAST IRON BODY AND CLAMPING COLLAR, ADJUSTABLE 6" ROUND NICKEL BRONZE STRAINER. PROVIDE TRAP PRIMER PORT IF TRAP PRIMER IS PROVIDED ON THE DRAWINGS. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

JS — JANITOR'S SINK: STERN-WILLIAMS # MTB-2424, 24" X 24" X 10" HIGH TERRAZZO BASIN WITH INTEGRAL STAINLESS STEEL DRAIN BODY.

FAUCET- CHICAGO FAUCET # 897-CP FAUCET WITH WALL BRACE, INTEGRAL VACUUM BREAKER, PAIL HOOK, AND 3/4" MALE HOSE THREADED OUTLET. SECURE FAUCET IN WALL WITH BACKBOARD.

TRIM- [# BP SB-850 TYPE 304, 20 GAUGE, STAINLESS STEEL WALL SURROUNDS,]# T-35 THREE FOOT LONG REINFORCED HOSE WITH 3/4" CHROME COUPLING AND WALL HOOK, # V-70 EXTRUDED VINYL BUMPER GUARD, AND # T-40 24" STAINLESS STEEL MOP HANGER.

LV — WALL-MOUNTED LAVATORY (ADA ACCESSIBLE): AMERICAN STANDARD # 0355.012 "LUCERNE" 20-1/2" X 18-1/4" RECTANGULAR WALL MOUNTED WHITE VITREOUS CHINA FIXTURE WITH FAUCET LEDGE AND FRONT OVERFLOW.

FAUCET- PROVIDE WITH SLOAN # EBF-650-C 4" CENTERSET, BATTERY POWERED VANDAL RESISTANT, FAUCET WITH 0.5 GPM AERATOR AND ASSE 1070 COMPLIANT BELOW DECK THERMOSTATIC MIXING VALVE.

TRIM- MCGUIRE # 155A GRID DRAIN WITH TAILPIECE, MCGUIRE # LF2165CCLK LEAD FREE BRASS LOOSE KEY COMPRESSION ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, MCGUIRE # B8872CF 1-1/4" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, CONCEALED ARM CARRIER WITH STANCHIONS TO FLOOR, PLUMBERex "PRO-EXTREME" # X-4222 INSULATION KIT FOR WATER AND WASTE PIPES.

TMV — THERMOSTATIC MIXING VALVE: POWERS # LFG480, SOLID LEAD FREE BRASS BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS, ASSE 1070 COMPLIANT, CAPABLE OF 1.6 GPM WITH A 20 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 0.25 GPM. SET TEMPERATURE TO 110F FOR DUEL TEMPERATURE LAVATORIES AND HAND SINKS, 100F FOR SINGLE TEMPERATURE LAVATORIES AND HAND SINKS AND 120F FOR SINKS. MOUNT BELOW THE PLUMBING FIXTURE WHERE INDICATED ON PLAN(S).

TP — TRAP PRIMER: PRECISION PLUMBING PRODUCTS # PR-500 "PRIME RITE", CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, AND INTEGRAL VACUUM BREAKER. INSTALL THE VALVE AT A MINIMUM OF 12" ABOVE FINISHED FLOOR. PROVIDE WITH DISTRIBUTION # DU-2 FOR TWO, # DU-3 FOR THREE, OR # DU-4 FOR FOUR DRAIN CONNECTIONS.

TS — TIME SWITCH: INTERMATIC #ET1705CSPST, 7 DAY, ONE CIRCUIT-SINGLE POLE SINGLE THROW, ELECTRONIC TIME SWITCH OR EQUAL BY TORK. [THE SWITCH SHALL BE MOTOR RATED (1 H.P. @ 120 VOLT, SINGLE PHASE), MINIMUM OF 20 SET POINTS (14 ON/OFF CYCLES) AND BATTERY BACK UP. COORDINATE WITH DIVISION 16 FOR INSTALLATION AND INTERLOCK OF TIME SWITCH IN SERIES WITH AQUASTAT AND RECIRCULATION PUMP.

WCO — WALL CLEANOUT: JAY R. SMITH # 4530S, CAST IRON CLEANOUT, COUNTER SUNK PLUG, STAINLESS STEEL ROUND COVER AND SCREW, AND IRON BODY WITH GASKET SEAL. REFER TO SPECIFICATIONS FOR INSTALLATION.

WC — FLOOR-MOUNTED WATER CLOSET (ADA ACCESSIBLE): KOHLER "HIGHLINE" TANK TYPE WHITE VITREOUS CHINA [ ] FIXTURE WITH ELONGATED BOWL, 1.0 GALLON PER FLUSH, [ ] COUPLER TANK WITH PRESSURE ASSISTED SIPHONIC JET ACTION AND [ ] CONNECT TANK/BOWL COUPLING SYSTEM. INSTALL [ ] MOUNTED CLEANOUT LOWER ON THE WIDE SIDE OF THE STALL.

#K-3519, LEFT HAND TRIP LEVER TANK, #K-3519A, RIGHT HAND TRIP LEVER TANK. REFERENCE DRAWINGS FOR EXPLANATION OF RIGHT AND LEFT HAND TRIP LEVER TANKS REQUIRED.

TRIM- CHURCH # 9500SSC WHITE OPEN FRONT CONTOURED, SOLID PLASTIC, HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND STAINLESS STEEL BOLTS, MCGUIRE # 2166CC ANGLE STOP VALVE WITH RISER AND CHROME-PLATED ESCUTCHEON.

WHA — WATER HAMMER ARRESTER: PRECISION PLUMBING PRODUCTS, HARD DRAWN COPPER BODY WITH WROUGHT COPPER FITTINGS, PISTON TYPE WITH LUBRICATED EPDM "O" RING SEALS, MEETING ASSE 1010 OR PDI WH-201. PROVIDE PDI SIZES "A" THROUGH "F" AS SHOWN ON PLANS. PROVIDE SIZE "A" UNLESS SHOWN OTHERWISE ON THE PLANS.

WM — WATER METER: BADGER METER # 55 1", LEAD FREE BRONZE MAINCASE AND MEASURING CHAMBER, BOTTOM PLATE, STAINLESS STEEL TRIM AND BOLTS, THERMOPLASTIC STRAINER, OSCILLATING PISTON MEASURING ELEMENT, STRAIGHT READING HERMETICALLY SEALED REGISTER, REGISTRATION IN US GALLONS, MAGNETIC DRIVE, AND COMPLIANCE WITH ANSI / AWWA C700, PROVIDE WITH REMOTE READING SYSTEM IF / AS REQUIRED.

WATER HEATER SCHEDULE

MARK	MANUFACTURER/ MODEL#	AREA SERVED	ENERGY SOURCE	TANK SIZE (GALLONS)	INPUT(WPH/FLA) VOLTS	PHASE	FLA	RECOVERY (GPH)	NOTES
WH	A.O. SMITH # DEL-10	BACK OF HOUSE	ELECTRIC	10	208	1	9.6	10	A-E

NOTES:

A. 80° TEMPERATURE RISE WITH 120°F OPERATING TEMPERATURE.
B. FURNISH WITH ONE 2KW DIRECT-IMMERSION HEATING ELEMENT.
C. FURNISH WITH SURFACE-MOUNTED THERMOSTATS.
D. FURNISH WITH ANODE ROD.
E. FURNISH WITH T&P VALVE

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER / MODEL #	TANK SIZE (GALLONS)	MIN. ACCEPTANCE VOLUME (GALLONS)	MAX. AIR PRESSURE SETTING (PSI)	SERVICE	NOTES
ET	AMTROL "THERM-X-TROL" #ST-5	2	0.9	150	BACK OF HOUSE	A-G

NOTES:

A. WELDED STEEL PRESSURE TANK.
B. FURNISHED WITH POLYPROPYLENE LINING.
C. FURNISHED WITH FLEXIBLE BUTYL DIAPHRAGM
D. FURNISHED WITH AIR CHARGING VALVE
E. 0.45 MAXIMUM ACCEPTANCE FACTOR.
F. 3/4" PIPE CONNECTION.
G. SET THE AIR CHARGE PRESSURE TO MATCH EXISTING WATER SYSTEM PRESSURE.

RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER / MODEL	LOCATION	GPM	HEAD (FT.)	CONNECTION SIZE	IMPELLER SIZE (IN.)	ELECTRICAL DATA VOLTS	PHASE	HP	NOTES
RP	BELL & GOSSETT # NBF-9U	WATER HEATER	2	7	1/2"	N/A	120	1	1/18	A-C

NOTES:

A. LEAD FREE BRONZE BODY WITH UNION CONNECTIONS
B. PROVIDE [illegible] FLEXIBLE, SURFACE MOUNTED AQUASTAT WITH SINGLE POLE DOUBLE THROW SWITCH FOR CIRCULATOR CONTROL AND [illegible] AND ADJUSTABLE DIFFERENTIAL SET TO 10F - HONEYWELL L6006C
C. [illegible] AQUASTAT TO SHUT OFF RECIRCULATION PUMP AT WATER HEATER SET POINT AND ON AT 10F BELOW SET POINT.

FIXTURE BRANCH CONNECTION SCHEDULE

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (TANK)	1/2"	--	4"	2"
LAVATORY	1/2"	1/2"	2"	2"
ELECTRIC WATER COOLER	1/2"	--	2"	2"
JANITOR'S SINK	3/4"	3/4"	3"	2"
FLOOR DRAIN	--	--	3"	2"

NOTE:

PIPE SIZES SHOWN ARE MINIMUM.

RMTA
2000 SHAWNEE MISSION PARKWAY
STE 100 MISSION WOODS, KS 66205
TEL 816 502 1500 FAX 816 842 1878

Sprint
#1641 WHITEHAVEN PLAZA
4088 ELVIS PRESLEY BLVD.
SUITE 104
MEMPHIS, TENNESSEE 38116

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL (913) 742-5000 FAX (913) 742-5001
WWW.HENDERSONENGINEERS.COM
1850001011
TN. CORPORATE NUMBER: 3847

MARK	DATE	REVISION DESCRIPTION

SHEET TITLE
PLUMBING SCHEDULES

PROJECT NUMBER
2017014.056
SHEET AUTHOR
MEC
REVIEWED BY
ASK
DATE
JANUARY 5, 2017

SHEET NUMBER
P-3
RMTA.BIZ

Order Plans @ WWW.DILine.com

J:\Lenexa\Programs_Restricted\SPRINT - MASTER\Sprint PCS_2018\1850001011 Sprint F9 Memphis\000\Plum\1850001011P3.dwg, Plot, 1/5/2018 12:44:45 PM, jane.wagner, 1:1
ANDREW S. KNIGHT