PIPE AND FITTING SYMBOLS

DOUBLE LINE | SINGLE LINE

- EXISTING PIPE
- NEW PIPE
- EXISTING PIPE TO BE ABANDONED
- EXISTING PIPE TO BE REMOVED
- WELDED JOINT
- GROOVED END JOINT
- FLANGED JOINT
- MECHANICAL JOINT & PROPRIETARY RESTRAINED JOINT
- BELL & SPIGOT JOINT (LEADED)
- HUB & SPIGOT JOINT (RUBBER GASKET)
- BALL JOINT
- ADAPTER SIDE GROOVED END ADAPTER FLANGE
- FLANGED COUPLING ADAPTER
- FLEXIBLE COUPLING
- METAL BELLOWS EXP JOINT
- ELASTOMER BELLOWS EXP JOINT
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- LATERAL UP
- LATERAL DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- REDUCING BUSHING
- UNION
- CAP
- ANCHOR
- ELBOW, 90 DEGREE
- CROSS
- TEE
- ELBOW, 45 DEGREE
- LATERAL

NOTES:

1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

VALVE SYMBOLS

SINGLE LINE | DOUBLE LINE

- GATE
- KNIFE GATE (K) — OR
- BUTTERFLY — OR
- GLOBE — OR
- BALL — OR
- SEATING PORT
- ECCENTRIC PLUG — OR
- PLUG OR COCK — OR
- NEEDLE (T) — OR
- DIAPHRAGM — OR
- PINCH — OR
- SWING CHECK — OR
- BALL CHECK — OR
- HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS
- SAMPLE (S)
- MUD
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE
- PRESSURE CONTROL (INTERNAL PILOT)
- REGULATED SIDE
- PRESSURE CONTROL (EXTERNAL PILOT)
- MULTI-PORT VALVE, ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- TELESCOPING SCUM VALVE

ACTUATOR SYMBOLS

- PNEUMATIC DIAPHRAGM
- PNEUMATIC CYLINDER
- ELECTRIC MOTOR (M)
- HYDRAULIC (H)
- MANUAL
- SOLENOID (S)
- ELECTRO HYDRAULIC (EH)

PIPING DESIGNATION

EXAMPLE:

16" TWE

16" TWE — SERVICE, SEE SPECIFICATIONS FOR PIPE SCHEDULE

PIPE DIAMETER

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

V 500

VALVE DESIGNATION

VALVE TYPE, SEE SPECIFICATIONS

CONTROL VALVES

M

UNIT PROCESS

VALVE FUNCTION

20FV 6112

UNIQUE TAG NUMBER

NOTE:

SEE I&C LEGENDS FOR FURTHER DEFINITIONS AND ACTUATOR TYPES.

SELF-CONTAINED REGULATING VALVES

20PRV8011

UNIQUE TAG NUMBER. SEE SELF-CONTAINED REGULATION VALVE SCHEDULE IN THE SPECIFICATIONS

VALVE TYPE AND FUNCTON. SEE I&C LEGENDS FOR FURTHER DEFINITIONS

PROCESS OR FACILITY NUMBER.
05 = YARD
95 = CONTROL BUILDING
SEE P&IDS FOR PROCESS VALVES

MECHANICAL LEGEND AND NOTES

GENERIC PIPING NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
7. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
10. FOR FLOW STREAM IDENTIFIERS SEE ABBREVIATIONS; AND INSTRUMENTATION AND CONTROLS LEGEND, DRAWING I941001-F-0001 AND PIPE SCHEDULE, DRAWING M941001-F-0003.

NOTE:
FLOW STREAM IDENTIFICATIONS ARE SHOWN ON THE INSTRUMENTATION AND CONTROL LEGENDS

THIS DRAWING IS LOANED FOR SOLE USE OF THE INTENDED RECIPIENT AND ONLY FOR THE LIMITED PURPOSES FOR WHICH IT WAS PROVIDED. USE BY OTHER ENTITIES OR FOR OTHER PURPOSES IS PROHIBITED AND AT THE USER'S OWN RISK. DRAWINGS ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING RECIPIENT.

PART	REV	DESCRIPTION (REVISION OR ISSUE PURPOSE)	DRW	CHKR	DE	DVR	DM	DATE	PE	DATE
	0	ISSUED FOR CONSTRUCTION	CS	QW	NB		LE	06/2017		

REVISION APPROVALS

SQUAD CHECK: WE AR CV ST HV EM FP PD EE IE M NP

RPE: JAMES ROBERT ADDISON, REGISTERED PROFESSIONAL ENGINEER, AGRICULTURE, No. 110972, STATE OF TENNESSEE

DRAWING APPROVALS		DATE
DRW	C SCHNEE	06/16/17
CHKR	Q WANG	06/16/17
DE	N BERGLAND	06/16/17
DVR		
DM	L ELLIS	06/16/17
PE	Teresa J. Pierce, P.E.	

REV. DATE

UCOR URS | CH2M Oak Ridge LLC

OF200 Mercury Treatment Facility

Designed by URS|CH2M Oak Ridge LLC (UCOR) for the Department of Energy Oak Ridge Office of Environmental Management under U. S. Government contract DE-SC-0004645

Y-12 National Security Complex managed and operated by Consolidated Nuclear Security, LLC for the Department of Energy under U.S. Government contract DE-NA0001942 • Oak Ridge, Tennessee •

PROJECT NAME: OF200 MERCURY TREATMENT FACILITY

GENERAL PROCESS MECHANICAL LEGEND

USE	DISC	DT	DC	CM	SYSTEM	STAT	SIZE	BLDG	FL	CLASS
3	M	X	X	NC	FAC	IN	E	9410-01	X	U

SH.	OF	TYPE		PART	REV
1	1	DD	M941001-F-0001	000	0

DATE

ISSUED FOR CONSTRUCTION

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