GENERAL LEGEND NOTE:

THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

ACCESS CONTROL/INTRUSION DETECTION LEGEND

SYMBOL	DESCRIPTION
S A	SECURITY ALARM POINT CONTACT
S C	SECURITY PROXIMITY CARD READER (+48" AFF)
S E	SECURITY ELEVATOR LOCKOUT CONTROL
S P	SECURITY PANIC BUTTON
S K	SECURITY KEYPAD
SC D	SECURITY DOOR CONTACT D - INTEGRAL TO DOOR HARDWARE OR HINGE, SEE ARCHITECTURAL DOOR HARDWARE SCHEDULES. S - SURFACE MOUNTED CONTACT/MAGNET COMBO WITH TAMPER RESISTANT METAL-CLAD PIGTAIL. R - FULLY RECESSED CONTACT/MAGNET COMBO INSTALLED IN DOOR FRAME HEADER / TOP OF DOOR.
SL D	SECURITY DOOR LOCK CONNECTION (LOCK BY OTHERS) D - INTEGRAL TO DOOR HARDWARE VIA POWER-TRANSFER HINGE, SEE ARCHITECTURAL DOOR HARDWARE SCHEDULES. S - ELECTRIC STRIKE IN DOOR FRAME LATCH. M - MAGNETIC LOCK ON DOOR FRAME HEADER.
S M	SECURITY MOTION SENSOR - ARROW INDICATES DIRECTION OF SENSING; 360° INDICATES SENSING IN ALL DIRECTIONS
SC	SECURITY CAMERA, PTZ - PAN, TILT, ZOOM
SM	SECURITY MONITOR DISPLAY/ WORKSTATION
REX D	REQUEST TO EXIT SIGNAL DEVICE D - INTEGRAL TO DOOR HARDWARE VIA POWER-TRANSFER HINGE, SEE ARCHITECTURAL DOOR HARDWARE SCHEDULES. P - PASSIVE INFRARED DETECTOR MOUNTED ABOVE DOOR FRAME. PROVIDE J-BOX TYPE 'B' HORIZONTALLY MOUNTED 6" ABOVE DOOR FRAME.
DVM	DIGITAL VIDEO MULTIPLEXER
DJB	DOOR JUNCTION BOX
P	POWERED DOOR OPERATOR ACTUATOR

GENERAL COMMUNICATION PLAN NOTES:

GC1. ALL CONDUIT FOR COMMUNICATIONS SYSTEMS SHALL BE 3/4" MINIMUM UNLESS OTHERWISE NOTED.

GC2. ALL SECURITY CAMERA, ACCESS CONTROL, AND INTRUSION DETECTION CABLING SHALL BE INSTALLED IN MINIMUM SIZE 3/4" CONDUIT. NO FREE AIR OR CABLE TRAY INSTALLATION ALLOWED.

GC3. MOUNTING HEIGHTS AS INDICATED UNLESS OTHERWISE NOTED ON ARCHITECTURAL DETAILS. CONFIRM ALL HEIGHTS WITH OWNER PRIOR TO INSTALLATION.

GC4. CONTRACTOR SHALL INSTALL 3/4" CONDUIT FROM OUTLET BOX TO NEAREST ACCESSIBLE SPACE IN CORRIDOR CEILING FOR TELEPHONE, TELEVISION AND COMPUTER DATA COMMUNICATIONS SYSTEMS CABLES. ALL SYSTEM CABLES SHALL BE ENCLOSED IN CONDUIT.

GC5. CONDUIT SYSTEMS SHALL BE IDENTIFIED BY DIFFERENT COLOR PAINT OR FACTORY ANODIZED COLOR, ABOVE ACCESSIBLE CEILINGS AND WHERE EXPOSED. UTILIZE THE FOLLOWING COLORS:

RED	-	FAS
GREEN	-	ENS
BLUE	-	DATA/TELECOMMUNICATION
YELLOW	-	ACIDS

GC6. ALL DATA/TELEPHONE STATION CABLES FOR OUTLETS SHALL BE ROUTED FROM THE OUTLET TO THE RESPECTIVE BUILDING MDF, UNLESS OTHERWISE NOTED.

MOUNTING REFERENCE:

XX - MOUNTING HEIGHT TO CENTER
CLG - MOUNTING IN/ON CEILING

JUNCTION BOX TYPES:

A - 4-GANG x 3 1/2" DEEP
B - 4" SQ x 3 1/2" DEEP W/1-GANG PLASTER RING
C - 4" SQ x 3 1/2" DEEP W/2-GANG PLASTER RING
D - 4" SQ x 2 1/2" DEEP W/2-GANG PLASTER RING
E - 4" SQ x 2 1/2" DEEP W/1-GANG PLASTER RING
F - 10" W x 10" H x 4" DEEP
G- FURNISHED BY SPECIAL COMM. SYSTEMS CONTRACTOR
I - 16" W x 16" H x 4" DEEP
J - AS SPECIFIED/ REQUIRED

COMMUNICATIONS LEGEND

SYMBOL	DESCRIPTION-SUBSCRIPT IDENTIFIERS	MOUNTING HT-CTR (U.N.O.)
	VOICE / DATA SYSTEM:	
2	TELEPHONE/DATA OUTLET: # INDICATES NUMBER OF CABLES NO SUBSCRIPT - STANDARD HEIGHT, U.N.O. E - EMERGENCY WALL PHONE WITH BLUE STROBE (TALK-A-PHONE MODEL #ETP-WM WITH ETP-400, OR EQUAL) (1-CABLE) F - FIRE FIGHTER'S TELEPHONE JACK L - WIRELESS LAN HUB POINT (2-CABLES) W - WALL MOUNTED (1-CABLE) T - T.V. MONITOR, WALL MOUNT (1-CABLE) A - ABOVE COUNTER (2-CABLE) 4" ABOVE COUNTER OR BACKSPLASH	 +18" +18" +48" CLG +48" 72"
	TELEPHONE / DATA FLOOR BOX; FLUSH MOUNTED	
	COMBINATION FLOOR BOX WITH DOUBLE DUPLEX CONVENIENCE RECEPTACLE/DATA OUTLET; FLUSH MOUNTED	
IC W	INTERCOM STATION: D - DESK MOUNTED W - WALL MOUNTED S - SUBSTATION	 +18" +48" +48"
	CABLE TRAY; 12" WIDE WITH 2 DIVIDERS	

EMERGENCY NOTIFICATION SYSTEM LEGEND

SYMBOL	DESCRIPTION-SUBSCRIPT IDENTIFIERS	MOUNTING HT-CTR (U.N.O.)
H	LOUD SPEAKER HORN (WALL-SURFACE MOUNT) # - INITIAL WATTAGE SETTING	+90"
S	CONE TYPE SPEAKER: NONE- SINGLE CONE D - DUAL CONE W - SINGLE CONE; WALL-SURFACE MOUNTED V - INTEGRAL VOLUME CONTROL # - INITIAL WATTAGE SETTING	 CLG CLG +90" CLG
	VOLUME CONTROL - WALL MOUNTED (FOR SPEAKERS WITHIN SAME ROOM, OR AS INDICATED)	+48"
SPD	SURGE PROTECTIVE DEVICE	

FIRE ALARM STANDARD SYMBOLS

SYMBOL	DESCRIPTION
	FIRE ALARM MANUAL PULL STATION
FACP	FACP - FIRE ALARM CONTROL PANEL FCP - FAN CONTROL PANEL FAA - FIRE ALARM ANNUNCIATOR FACT - FIRE ALARM COMMUNICATOR/TRANSCEIVER FACU - FIRE ALARM CONTROL UNIT FTJB - FIRE ALARM TERMINAL JUNCTION BOX GDC - GAS DETECTION CONTROLLER NACP - NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY SSCP - SUPPRESSION SYSTEM CONTROL PANEL
X	SMOKE DETECTOR, X= DEVICE TYPE IF OTHER THAN TYPE PH PH - ADDRESSABLE COMBINATION PHOTOELECTRIC/HEAT I - ADDRESSABLE IONIZATION P - ADDRESSABLE PHOTOELECTRIC AV - WITH INTEGRAL HORN/STROBE APPLIANCE CO - WITH CO DETECTION
X	HEAT DETECTOR, X= DEVICE TYPE IF OTHER THAN TYPE RF RF - ADDRESSABLE COMBINATION RATE OF RISE/ FIXED TEMP RC - RATE COMPENSATION, 135°F, MOISTURE AND EXPLOSION PROOF F - ADDRESSABLE FIXED TEMP R - ADDRESSABLE RATE OF RISE
X	DUCT SMOKE DETECTOR, ADDRESSABLE PHOTOELECTRIC R - INSTALLED ON RETURN AIR DUCT S - INSTALLED ON SUPPLY AIR DUCT
X	WALL MOUNT FIRE ALARM HORN/STROBE COMBO DEVICE, CLEAR LENS. X = NFPA 72 TABLE 18.5.4.3.1(a) CANDELA MINIMUM, IF GREATER THAN 15cd, TYP.
X	CEILING MOUNT FIRE ALARM HORN/STROBE COMBO DEVICE, CLEAR LENS. X = NFPA 72 TABLE 18.5.4.3.1(b) CANDELA MINIMUM, IF GREATER THAN 15cd, TYP.
X	CEILING MOUNT FIRE ALARM STROBE DEVICE, CLEAR LENS. X = NFPA 72 TABLE 18.5.4.3.1(b) CANDELA MINIMUM, IF GREATER THAN 15cd, TYP.
X	WALL MOUNT FIRE ALARM STROBE DEVICE, CLEAR LENS. X = NFPA 72 TABLE 18.5.4.3.1(a) CANDELA MINIMUM, IF GREATER THAN 15cd, TYP.
	WALL MOUNT FIRE ALARM HORN DEVICE
	CEILING MOUNT FIRE ALARM HORN DEVICE
	FIRE DOOR INTERFACE POINT
O	OXYGEN GAS DETECTOR X = DEVICE TYPE IF OTHER THAN TYPE STI STI - SENSOR ELEMENT WITH INTEGRAL TRANSMITTER AND INDICATOR SE - SENSOR ELEMENT ONLY ST - SENSOR ELEMENT WITH BLANK-FACE TRANSMITTER
M	METHANE GAS DETECTOR X = DEVICE TYPE IF OTHER THAN TYPE STI STI - SENSOR ELEMENT WITH INTEGRAL TRANSMITTER AND INDICATOR SE - SENSOR ELEMENT ONLY ST - SENSOR ELEMENT WITH BLANK-FACE TRANSMITTER
	FLAME DETECTOR
IS	SLC ISOLATION MODULE
NC	NAC CONTROL MODULE, SUPERVISED OUTPUT
CM	CONTROL MODULE, UNSUPERVISED RELAY CONTACT OUTPUT
IM	IDC SUPERVISING MODULE, DRY CONTACT SINGLE INPUT SUPERVISION
DM	IDC SUPERVISING MODULE, DRY CONTACT DUAL INPUT SUPERVISION
AM	ANALOG MODULE, 4-20ma SIGNAL INPUT
	JUNCTION BOX OR CABINET
X	WATER FLOW SWITCH V -VANE TYPE P -PRESSURE SWITCH
	VALVE TAMPER SWITCH
PIV	PIV TAMPER SWITCH
FS	FIRE/SMOKE DAMPER
SPD	SURGE PROTECTIVE DEVICE
KB	KNOX BOX

ABBREVIATIONS

ACIDS	ACCESS CONTROL INTRUSION DETECTION SYSTEM	MC	METAL CLAD
AFF	ABOVE FINISH FLOOR	MDF	MAIN DISTRIBUTION FRAME
AHU	AIR HANDLING UNIT	NAC	NOTIFICATION APPLIANCE CIRCUIT (AUDIBLE OR VISUAL)
B.G.	BELOW GRADE	NTS	NOT TO SCALE
BLDG	BUILDING	O.C	ON CENTER
C	CONDUIT	PIV	POST INDICATOR VALVE
CLG	CEILING	PR	PAIR
CO	CARBON MONOXIDE	PS	PUMP STATION
CONT	CONTINUED	PVC	POLYVINYL CHLORIDE CONDUIT
DAS	DISTRIBUTED ANTENNA SYSTEM	QTY	QUANTITY
DN	DOWN	RM	ROOM
DTC	DATA/TELECOMMUNICATIONS	SH	SHIELD OR SHIELDED
DWG	DRAWING	SLC	SIGNALING LINE CIRCUIT (ADDRESSABLE)
(E)	EXISTING	TB	TRANSITION BUILDING
EA	EACH	TW	TWISTED
EF	EXHAUST FAN	TYP	TYPICAL
ENS	EMERGENCY NOTIFICATION SYSTEM	U.N.O.	UNLESS NOTED OTHERWISE
EQ	EQUIPMENT	UPS	UNINTERRUPTABLE POWER SUPPLY
EMT	ELECTRICAL METALLIC TUBING	VFD	VARIABLE FREQUENCY DRIVE
EXP	EXPLOSION-PROOF RATED	W/	WITH
FAC	FIRE ALARM COMMUNICATOR/ TRANSCEIVER	W/O	WITHOUT
FAS	FIRE ALARM SYSTEM	WCH	WALL MOUNTED CONNECTOR HOUSING
FD	FIRE DOOR	WP	WEATHERPROOF
FLR	FLOOR	WRP	WATER RE-CIRCULATION PLANT
FO	FIBER OPTIC		
FZ	FIRE ZONE		
G	GROUND CONDUCTOR		
HTR	HEATER		
IDC	INITIATING DEVICE CIRCUIT (CONVENTIONAL)		
IDF	INTERMEDIATE DISTRIBUTION FRAME		

GENERAL FIRE ALARM PLAN NOTES:

1. FOR FIRE ALARM SYSTEM LEGEND REFER TO THIS SHEET.
2. ALL STROBES SHALL BE RATED AT 15 CANDELA MINIMUM UNLESS OTHERWISE NOTED. ALL STROBES SHALL BE SYNCHRONIZED THROUGHOUT ANY GIVEN FIRE ZONE.
3. ALL SLC AND IDC CONDUCTORS SHALL BE A MINIMUM OF #16 AWG. ALL AUDIBLE NAC CONDUCTORS SHALL BE A MINIMUM OF #16 AWG. ALL VISUAL NAC CONDUCTORS SHALL BE A MINIMUM OF #14 AWG. INCREASE CONDUCTOR GAUGE ACCORDING TO VOLTAGE DROP CALCULATIONS THAT SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL PRIOR TO INSTALLATION.
4. ALL SYSTEM CONDUCTORS SHALL BE ROUTED IN CONDUIT OF MINIMUM 3/4" SIZE. JUNCTION BOXES AND COVERPLATES SHALL BE RED IN COLOR. ALL CONDUIT SHALL BE FACTORY PAINTED (ANODIZED) RED.
5. COORDINATE LOCATION OF NOTIFICATION APPLIANCES WITH OTHER DEVICES (HVAC, PROCESS MECHANICAL, ETC) BUT MAINTAIN ADEQUATE SPACE AND QUANTITY TO MEET NFPA 72 REQUIREMENTS. INSTALLER IS RESPONSIBLE FOR SETTING AND ADJUSTING HORN TAP SETTINGS AS NECESSARY TO ACHIEVE AUDIBILITY ABOVE AMBIENT NOISE CONDITIONS AS REQUIRED BY NFPA 72.
6. THE SYSTEM LAYOUT SHOWS THE INTENT OF THE COVERAGE AND IS SHOWN IN SUGGESTED LOCATIONS. FINAL QUANTITY, LAYOUT AND COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR. FOR ADDITIONAL REQUIREMENTS SEE SPECIFICATIONS SECTION 28 31 00, FIRE DETECTION AND ALARM.
7. ROUGH-IN INSTALLATION OF CONDUITS AND BACK BOXES SHALL BE BY ELECTRICAL CONTRACTOR WITH INSTALLATION AND TERMINATION OF CONDUCTORS AND DEVICES BY NICET CERTIFIED FIRE ALARM INSTALLERS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING LOCATIONS AND CONDITIONS OF ITEMS RELATED TO THIS PROJECT PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DETAILS OF WORK. VERIFY DIMENSIONS IN THE FIELD, AND ADVISE THE OWNER OF ANY DISCREPANCY BEFORE PERFORMING ANY WORK.
10. THE FOLLOWING CODES AND STANDARDS SHALL APPLY:
NFPA 70 - NATIONAL ELECTRIC CODE (2014 EDITION)
NFPA 72 - NATIONAL FIRE ALARM CODE (2013 EDITION)
NFPA 101 - LIFE SAFETY CODE (2012 EDITION)

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PART	REV	DESCRIPTION	DRW	CHKR	DE	DVR	DM	DATE	PE	DATE
	0	ISSUED FOR CONSTRUCTION	KB	BW	CC		LE	06/2017		

REVISION OR ISSUE PURPOSE — REVISION APPROVALS — SQUAD CHECK: WE AR CV ST HV EM FP PD EE IE M NP

RPE — JAMES KEITH LANDMAN, REGISTERED ENGINEER, AGRICULTURE, COMMERCE, No. 119038, STATE OF TENNESSEE — 6-30-2017

DRAWING APPROVALS		DATE
DRW	K BARTLETT	06/16/17
CHKR	B WILKINSON	06/16/17
DE	C CURTIS	06/16/17
DVR		
DM	L ELLIS	06/16/17
PE	Teresa J. Pierce, P.E.	

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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

ELECTRICAL
FIRE ALARM / COMMUNICATIONS
LEGEND

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

SH.	OF	TYPE	DRAWING NO.	PART	REV
1	1	DD	E941001-F-0003	000	0

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