



February 23, 2020

To: All Planholders

**RE: W.O. 20-11: WRF Equipment Installation
City of Billings Public Works Department, Billings, Montana**

Attached is Addendum No. 2 for the above-referenced project. On the Bid Form, Specification Section 00300, acknowledge this addendum by writing the number and date in the first available blank line in Paragraph 3.01 A.c

Sincerely,

HDR ENGINEERING, Inc.

A handwritten signature in blue ink, appearing to read 'Craig Habben'.

Craig Habben
Project Manager

cc: File

**ADDENDUM NO. 2
TO
CONTRACT DOCUMENTS AND SPECIFICATIONS
FOR
W.O. 20-11: WRF EQUIPMENT INSTALLATION
FOR
CITY OF BILLINGS, MONTANA
PUBLIC WORKS DEPARTMENT**

Prepared by: HDR Engineering, Inc.
970 South 29th Street West
Billings, MT 59102

Owner: City of Billings
Public Works Department

Date: February 23, 2020

TO ALL PLANHOLDERS:

This addendum shall become a part of the Contract Documents as if originally included. The Bidders shall acknowledge receipt of the Addendum on the Bid Form.

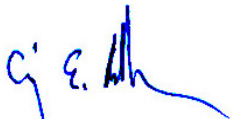
The Specifications and Drawings shall be modified as required by the following items:

SPECIFICATIONS

AD-1 Item 1. Section 40 94 43. ADD the attached “PLC Input/Output Usage Table Attachment A” as the Attachment A to Section 40 94 43.

This addendum is made part of the specifications and contract documents and shall be noted on the Bid Form. Bidders must acknowledge receipt and acceptance of this Addendum No. 2 by indicating such acknowledge in the Bid Form. **FAILURE TO ACKNOWLEDGE RECEIPT AND ACCEPTANCE MAY RESULT IN REJECTION OF THE BID.**

HDR ENGINEERING, INC.



Craig Habben, P.E.

DATE: February 23, 2020

PLC Input/Output Usage Table
Attachment A

DEVICE(S)	DESCRIPTION	FUNCTION	TYPE	QTY	PANEL	P&ID	NOTES
HWB-GATE-INBX2-2	HEADWORKS INLET BOX GATE	OPEN	DI	1	CP-HDX	30Y601	NOTE 1
HWB-GATE-INBX2-2	HEADWORKS INLET BOX GATE	CLOSED	DI	1	CP-HDX	30Y601	NOTE 1
HWB-LTX-CHNL4	SCREEN CHANNEL 4	UP LEVEL	AI	1	CP-HDX	30Y601	NOTE 1
HWB-LTX-CHNL4	SCREEN CHANNEL 4	DOWN LEVEL	AI	1	CP-HDX	30Y601	NOTE 1
HWB-LSH-CHNL1 (4)	SCREEN CHANNEL 1 (4)	HIGH LEVEL	DI	4	CP-HDX	30Y601	NOTE 1
HWB-LSH-CHNL1 (4)	SCREEN CHANNEL 1 (4)	HIGH LEVEL	DI	4	CP-100	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	c	DI	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	IN AUTO	DI	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	ON SLOW	DI	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	ON FAST	DI	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	FAULT	DI	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	SLOW CMD	DO	1	CP-HDX	30Y601	NOTE 1
HWB-SD-SCRN-4	FINE SCREEN 4 DRIVE	FAST CMD	DO	1	CP-HDX	30Y601	NOTE 1
HWB-BG-SCRN-4	FINE SCREEN 4 BRUSH GEAR	RUN STATUS	DI	1	CP-HDX	30Y601	NOTE 1
HWB-BG-SCRN-4	FINE SCREEN 4 BRUSH GEAR	FAULT	DI	1	CP-HDX	30Y601	NOTE 1
HWB-BG-SCRN-4	FINE SCREEN 4 BRUSH GEAR	PLC RUN	DO	1	CP-HDX	30Y601	NOTE 1
HWB-RD-SCRN-4	FINE SCREEN 4 ROTATING DEFLECTOR	RUN STATUS	DI	1	CP-HDX	30Y601	NOTE 1
HWB-RD-SCRN-4	FINE SCREEN 4 ROTATING DEFLECTOR	FAULT	DI	1	CP-HDX	30Y601	NOTE 1
HWB-RD-SCRN-4	FINE SCREEN 4 ROTATING DEFLECTOR	PLC RUN	DO	1	CP-HDX	30Y601	NOTE 1
HWB-GRTRP-4	GRIT UNIT 4	IN AUTO	DI	1	CP-HDX	30Y601	NOTE 1
HWB-GRTRP-4	GRIT UNIT 4	RUN STATUS	DI	1	CP-HDX	30Y601	NOTE 1
HWB-GRTRP-4	GRIT UNIT 4	FAULT	DI	1	CP-HDX	30Y601	NOTE 1
HWB-GRTRP-4	GRIT UNIT 4	PLC RUN	DO	1	CP-HDX	30Y601	NOTE 1
HWB-PUMP-GRTP-4	GRIT PUMP 4	IN AUTO	DI	1	CP-HDX	30Y601	NOTE 1
HWB-PUMP-GRTP-4	GRIT PUMP 4	RUN STATUS	DI	1	CP-HDX	30Y601	NOTE 1
HWB-PUMP-GRTP-4	GRIT PUMP 4	FAULT	DI	1	CP-HDX	30Y601	NOTE 1
HWB-PUMP-GRTP-4	GRIT PUMP 4	PLC RUN	DO	1	CP-HDX	30Y601	NOTE 1
HWB-LSH-WC1 (2)	WASHER/COMPACTOR LEVEL SWITCH	HIGH LEVEL	DI	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	IN AUTO	DI	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	RUN STATUS	DI	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	FAULT	DI	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	E-STOP	DI	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	PLC START	DO	2	CP-HDX	30Y601	NOTE 1
HWB-MACR-1 (2)	COMPACTED SCREENINGS GRINGER (2)	PLC STOP	DO	2	CP-HDX	30Y601	NOTE 1

PLC Input/Output Usage Table
Attachment A

DEVICE(S)	DESCRIPTION	FUNCTION	TYPE	QTY	PANEL	P&ID	NOTES
UV-FTX-CHNL3	UV CHANNEL 3 FLOW METER	CHANNEL FLOW	AI	1	CP-300R2	30Y602	NOTE 1
UV-FTX-CHNL3	UV CHANNEL 3 FLOW METER	CHANNEL FLOW	AI	1	CP-UV	30Y602	NOTE 1
UV-LTX-CHNL3	UV CHANNEL 3 LEVEL TRANSMITTER	CHANNEL LEVEL	AI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-1	UV CHANNEL 3 INLET GATE	REMOTE	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-1	UV CHANNEL 3 INLET GATE	OPEN	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-1	UV CHANNEL 3 INLET GATE	CLOSED	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-1	UV CHANNEL 3 INLET GATE	OPEN CMD	DO	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-1	UV CHANNEL 3 INLET GATE	CLOSE CMD	DO	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-2	UV CHANNEL 3 OUTLET GATE	OPEN	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-2	UV CHANNEL 3 OUTLET GATE	CLOSED	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-3	UV CHANNEL 3 WEIR GATE	REMOTE	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-3	UV CHANNEL 3 WEIR GATE	FAULT	DI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-3	UV CHANNEL 3 WEIR GATE	POSITION FDBK	AI	1	CP-UV	30Y602	NOTE 1
UV-GATE-CHNL3-3	UV CHANNEL 3 WEIR GATE	POSITION CMD	AO	1	CP-UV	30Y602	NOTE 1
AFT-DR-SKMR-1 (2)	AFT SKIMMER DRIVES (2)	AVAILABLE	DI	2	CP-AFT	30Y603	NOTE 1
AFT-DR-SKMR-1 (2)	AFT SKIMMER DRIVES (2)	RUN STATUS	DI	2	CP-AFT	30Y603	NOTE 1
AFT-DR-SKMR-1 (2)	AFT SKIMMER DRIVES (2)	FAULT	DI	2	CP-AFT	30Y603	NOTE 1
AFT-DR-SKMR-1 (2)	AFT SKIMMER DRIVES (2)	HI TORQUE	DI	2	CP-AFT	30Y603	NOTE 1
AFT-DR-SKMR-1 (2)	AFT SKIMMER DRIVES (2)	PLC RUN	DO	2	CP-AFT	30Y603	NOTE 1
AFT-SKMR-1 (2)	AFT SKIMMINGS CONVEYORS (2)	AVAILABLE	DI	2	CP-AFT	30Y603	NOTE 1
AFT-SKMR-1 (2)	AFT SKIMMINGS CONVEYORS (2)	RUN STATUS	DI	2	CP-AFT	30Y603	NOTE 1
AFT-SKMR-1 (2)	AFT SKIMMINGS CONVEYORS (2)	PLC RUN	DO	2	CP-AFT	30Y603	NOTE 1
AFT-SCRP-BTM-1 (2)	AFT BOTTOM SCRAPERS (2)	AVAILABLE	DI	2	CP-AFT	30Y603	NOTE 1
AFT-SCRP-BTM-1 (2)	AFT BOTTOM SCRAPERS (2)	RUN STATUS	DI	2	CP-AFT	30Y603	NOTE 1
AFT-SCRP-BTM-1 (2)	AFT BOTTOM SCRAPERS (2)	PLC RUN	DO	2	CP-AFT	30Y603	NOTE 1
AFT-FCV-1 (2)	AFT SLUDGE DRAW-OFF VALVES (2)	OPENED	DI	2	CP-AFT	30Y603	NOTE 1
AFT-FCV-1 (2)	AFT SLUDGE DRAW-OFF VALVES (2)	CLOSED	DI	2	CP-AFT	30Y603	NOTE 1

PLC Input/Output Usage Table
Attachment A

DEVICE(S)	DESCRIPTION	FUNCTION	TYPE	QTY	PANEL	P&ID	NOTES
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PLC PANEL LOCATIONS:

CP-100 (EXISTING): ADMINISTRATION BUILDING
 CP-HDX (EXISTING): HEADWORKS
 CP-300R2 (EXISTING): EAST MECHANICAL BUILDING
 CP-AFT (EXISTING): AIR FLOATATION THICKENER
 CP-UV (EXISTING): UV BUILDING

PLC INPUT/OUTPUT TYPE:

AI - ANALOG INPUT CHANNEL
 AO - ANALOG OUTPUT CHANNEL
 DI - DISCRETE INPUT POINT
 DO - DISCRETE OUTPUT POINT

NOTES:

1. UTILIZE EXISTING SPARE PLC I/O POINT.