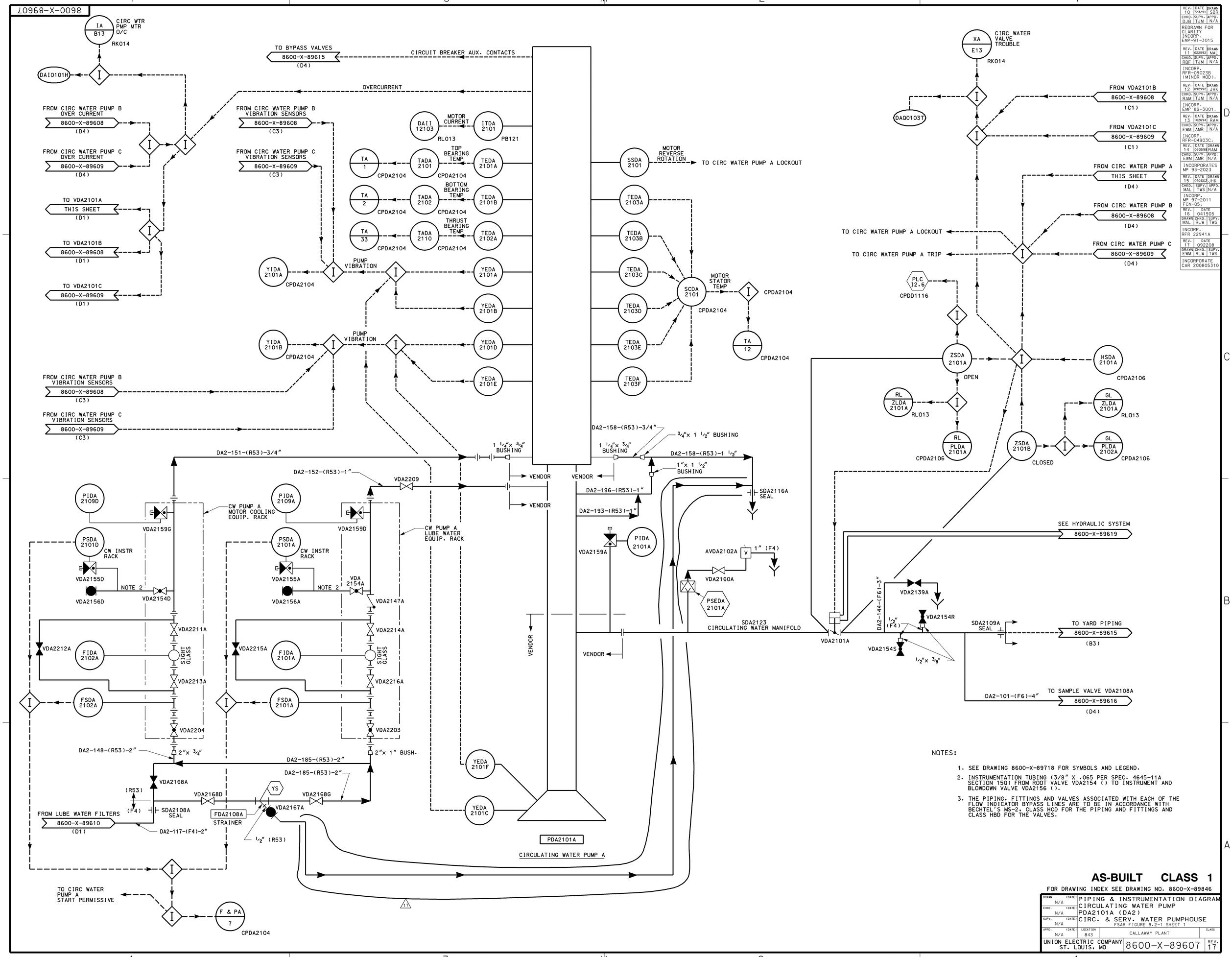


NOTES:

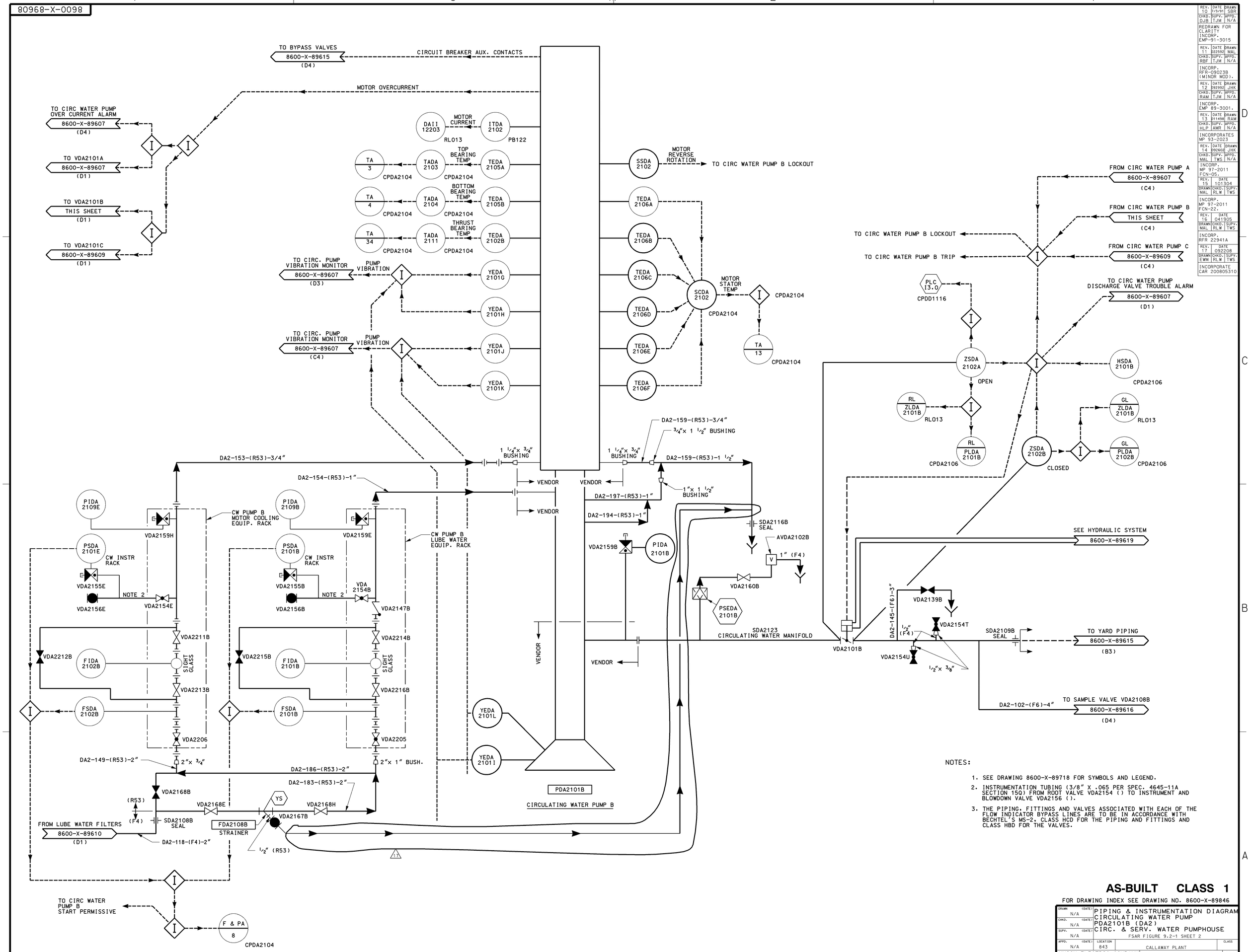
1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" X .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2154 () TO INSTRUMENT AND BLOWDOWN VALVE VDA2156 ().
3. THE PIPING, FITTINGS AND VALVES ASSOCIATED WITH EACH OF THE FLOW INDICATOR BYPASS LINES ARE TO BE IN ACCORDANCE WITH BECHTEL'S MS-2, CLASS HCD FOR THE PIPING AND FITTINGS AND CLASS HBD FOR THE VALVES.

REV.	DATE	DRAWN
10	7/3/91	SBR
CHKD. DJB	SUPV. TJM	APPD. N/A
REDRAWN FOR CLARITY. INCORP. EMP-91-3015		
REV. 11	DATE 022592	DRAWN MAL
CHKD. RBF	SUPV. TJM	APPD. N/A
INCORP. RFR-09023B (MINOR MOD).		
REV. 12	DATE 092992	DRAWN JHK
CHKD. RAM	SUPV. TJM	APPD. N/A
INCORP. EMP 89-3001.		
REV. 13	DATE 102694	DRAWN RAM
CHKD. EWM	SUPV. AMR	APPD. N/A
INCORP. RFR-04903C.		
REV. 14	DATE 050598	DRAWN RAM
CHKD. EWM	SUPV. AMR	APPD. N/A
INCORPORATES MP 93-2023		
REV. 15	DATE 092602	DRAWN JHK
CHKD. MAL	SUPV. TWS	APPD. N/A
INCORP. MP 97-2011 FCN-05.		
REV. 16	DATE 041905	
DRAWN MAL	CHKD. RLW	SUPV. TWS
INCORP. RFR 22941A		
REV. 17	DATE 092208	
DRAWN EWM	CHKD. RLW	SUPV. TWS
INCORPORATE CAR 200805310		

AS-BUILT CLASS 1

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM CIRCULATING WATER PUMP PDA2101A (DA2)	
CHKD. N/A (DATE)		
SUPV. N/A (DATE)	CIRC. & SERV. WATER PUMPHOUSE FSAR FIGURE 9.2-1 SHEET 1	
APPD. N/A (DATE)	LOCATION 843 CALLAWAY PLANT	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89607	REV. 17



NOTES:

1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" X .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2154 () TO INSTRUMENT AND BLOWDOWN VALVE VDA2156 ().
3. THE PIPING, FITTINGS AND VALVES ASSOCIATED WITH EACH OF THE FLOW INDICATOR BYPASS LINES ARE TO BE IN ACCORDANCE WITH BECHTEL'S MS-2, CLASS HCD FOR THE PIPING AND FITTINGS AND CLASS HBD FOR THE VALVES.

REV.	DATE	DRAWN
10	7/3/91	SBR
CHKD.	SUPV.	APPD.
DJB	TJM	N/A

REDRAWN FOR CLARITY INCORP. EMP-91-3015

REV.	DATE	DRAWN
11	022592	MAL
CHKD.	SUPV.	APPD.
RBF	TJM	N/A

INCORP. RFR-09023B (MINOR MOD).

REV.	DATE	DRAWN
12	092992	JHK
CHKD.	SUPV.	APPD.
RAM	TJM	N/A

INCORP. EMP 89-3001.

REV.	DATE	DRAWN
13	011498	RAM
CHKD.	SUPV.	APPD.
HLP	AMR	N/A

INCORPORATES MP 93-2023

REV.	DATE	DRAWN
14	092602	JHK
CHKD.	SUPV.	APPD.
MAL	TWS	N/A

INCORP. MP 97-2011 FCN-05.

REV.	DATE
15	101304
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

INCORP. MP 97-2011 FCN-22.

REV.	DATE
16	041905
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

INCORP. RFR 22941A

REV.	DATE
17	092208
DRAWN	CHKD.	SUPV.
EWM	RLW	TWS

INCORPORATE CAR 200805310

AS-BUILT CLASS 1

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM CIRCULATING WATER PUMP PDA2101B (DA2) CIRC. & SERV. WATER PUMPHOUSE	
CHKD. N/A (DATE)		
SUPV. N/A (DATE)	FSAR FIGURE 9.2-1 SHEET 2	
APPD. N/A (DATE)	LOCATION 843 CALLAWAY PLANT	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89608	REV. 17

60968-X-0098

REV.	DATE	DRAWN
11	7/3/91	SBR
CHKD.	SUPV.	APPD.
DJB	TJM	N/A

REDRAWN FOR CLARITY. INCORP. EMP-91-3015

REV.	DATE	DRAWN
12	022592	MAL
CHKD.	SUPV.	APPD.
RBF	TJM	N/A

INCORP. RFR-09023B (MINOR MOD).

REV.	DATE	DRAWN
13	092992	JHK
CHKD.	SUPV.	APPD.
RAM	TJM	N/A

INCORP. EMP 89-3001.

REV.	DATE	DRAWN
14	050598	RAM
CHKD.	SUPV.	APPD.
EWM	AMR	N/A

INCORPORATES MP 93-2023

REV.	DATE	DRAWN
15	092602	JHK
CHKD.	SUPV.	APPD.
MAL	TWS	N/A

INCORP. MP 97-2011 FCN-05.

REV.	DATE
16	101304
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

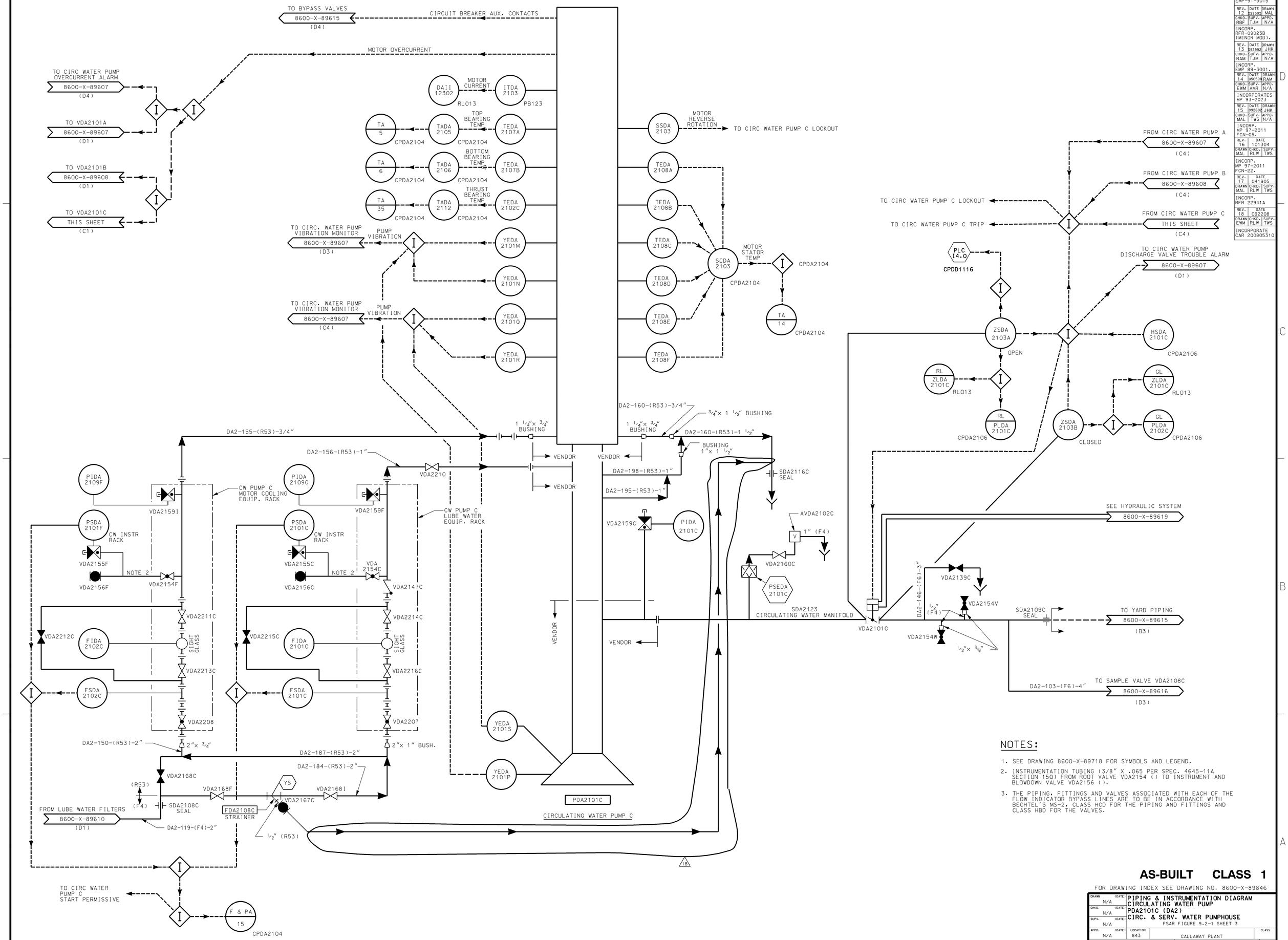
INCORP. MP 97-2011 FCN-22.

REV.	DATE
17	041905
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

INCORP. RFR 22941A

REV.	DATE
18	092208
DRAWN	CHKD.	SUPV.
EWM	RLW	TWS

INCORPORATE CAR 200805310



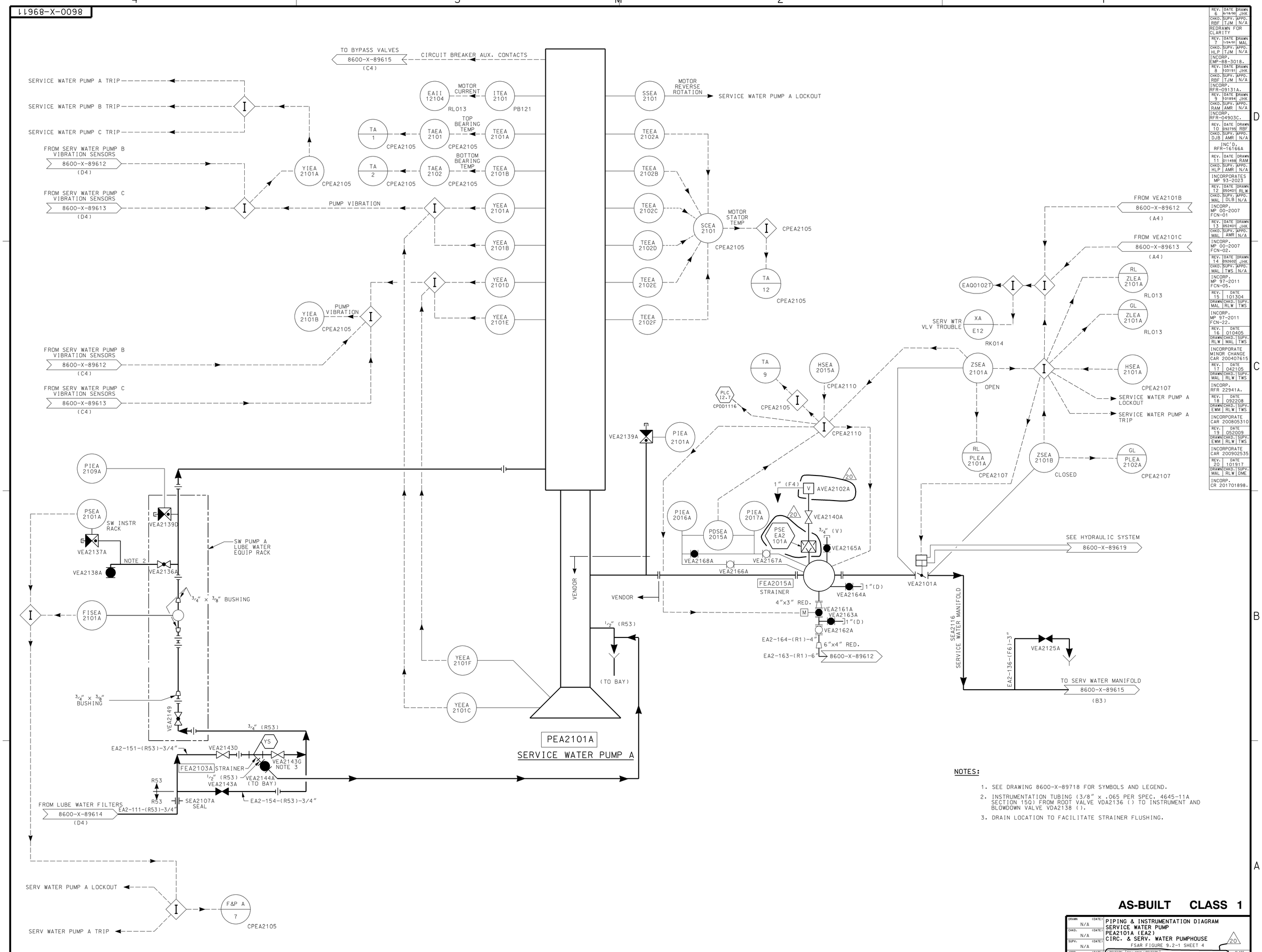
NOTES:

1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" X .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2154 () TO INSTRUMENT AND BLOWDOWN VALVE VDA2156 ().
3. THE PIPING, FITTINGS AND VALVES ASSOCIATED WITH EACH OF THE FLOW INDICATOR BYPASS LINES ARE TO BE IN ACCORDANCE WITH BECHTEL'S MS-2, CLASS HCD FOR THE PIPING AND FITTINGS AND CLASS HBD FOR THE VALVES.

AS-BUILT CLASS 1

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM CIRCULATING WATER PUMP PDA2101C (DA2) CIRC. & SERV. WATER PUMPHOUSE FSAR FIGURE 9.2-1 SHEET 3	
CHKD. N/A (DATE)		
SUPV. N/A (DATE)		
APPD. N/A (DATE)	LOCATION 843	CLASS
	CALLAWAY PLANT	
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89609	REV. 18



NOTES:

1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" x .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2136 ( ) TO INSTRUMENT AND BLOWDOWN VALVE VDA2138 ( ).
3. DRAIN LOCATION TO FACILITATE STRAINER FLUSHING.

REV.	DATE	DRAWN
6	6/18/90	JHK
CHKD.	SUPV.	APPD.
RBF	TJM	N/A

REDRAWN FOR CLARITY

REV.	DATE	DRAWN
7	1/24/91	MAL
CHKD.	SUPV.	APPD.
HLP	TJM	N/A

INCORP. EMP-88-3018.

REV.	DATE	DRAWN
8	103191	JHK
CHKD.	SUPV.	APPD.
RBF	TJM	N/A

INCORP. RFR-091131A.

REV.	DATE	DRAWN
9	101894	JHK
CHKD.	SUPV.	APPD.
RAM	AMR	N/A

INCORP. RFR-049030.

REV.	DATE	DRAWN
10	092795	RBF
CHKD.	SUPV.	APPD.
DJB	AMR	N/A

INC'D. RFR-16166A

REV.	DATE	DRAWN
11	011498	RAM
CHKD.	SUPV.	APPD.
HLP	AMR	N/A

INCORPORATES MP 93-2023

REV.	DATE	DRAWN
12	050401	RLW
CHKD.	SUPV.	APPD.
MAL	DLB	N/A

INCORP. MP 00-2007 FCN-01

REV.	DATE	DRAWN
13	052401	JHK
CHKD.	SUPV.	APPD.
MAL	AMR	N/A

INCORP. MP 00-2007 FCN-02.

REV.	DATE	DRAWN
14	092602	JHK
CHKD.	SUPV.	APPD.
MAL	TWS	N/A

INCORP. MP 97-2011 FCN-05.

REV.	DATE
15	101304
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

INCORP. MP 97-2011 FCN-22.

REV.	DATE
16	010405
DRAWN	CHKD.	SUPV.
RLW	MAL	TWS

INCORPORATE MINOR CHANGE CAR 200407615

REV.	DATE
17	042105
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS

INCORP. RFR 22941A.

REV.	DATE
18	092208
DRAWN	CHKD.	SUPV.
EWM	RLW	TWS

INCORPORATE CAR 200805310

REV.	DATE
19	052009
DRAWN	CHKD.	SUPV.
EWM	RLW	TWS

INCORPORATE CAR 200902535

REV.	DATE
20	101917
DRAWN	CHKD.	SUPV.
MAL	RLW	DME

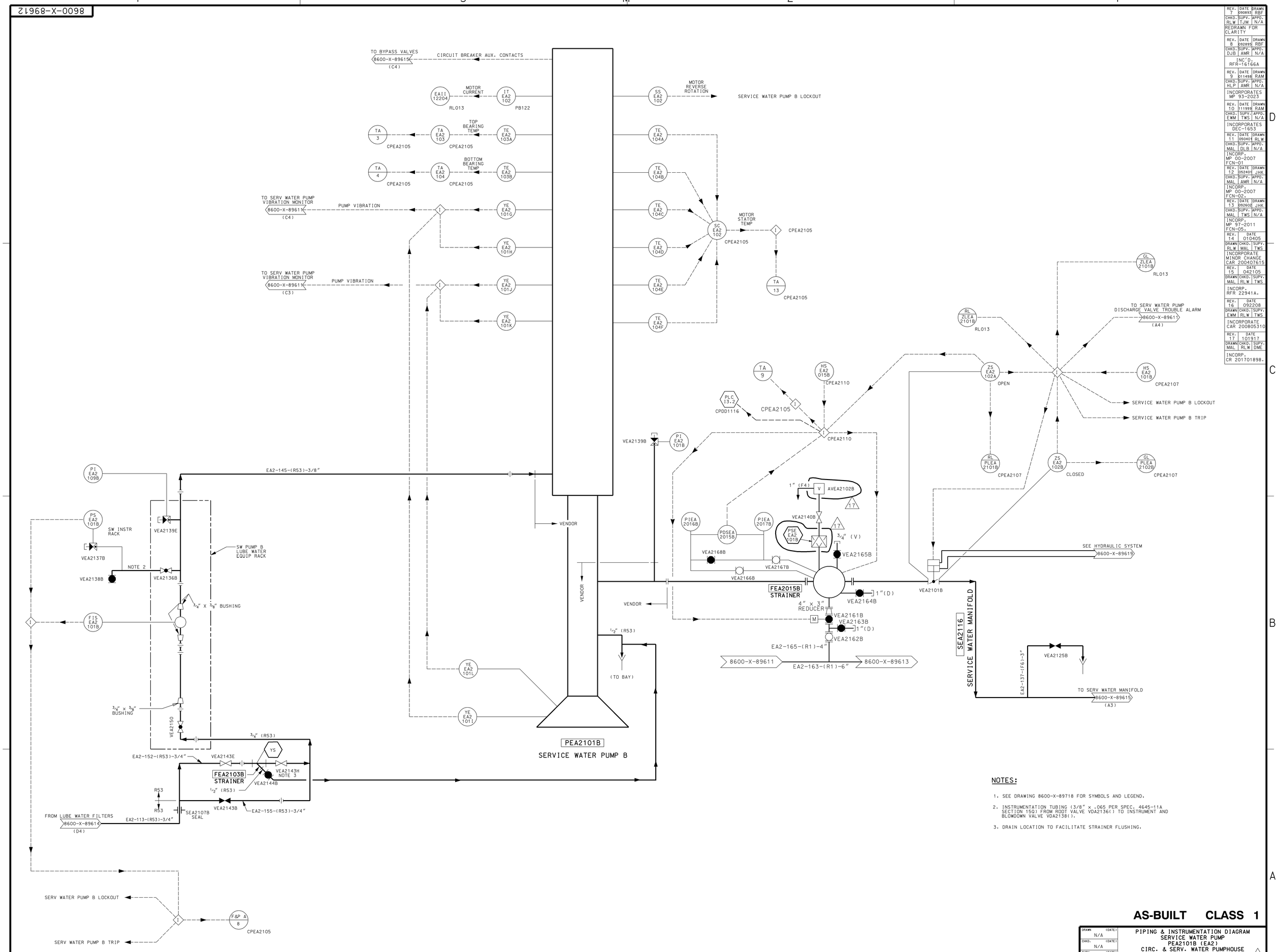
INCORP. CR 201701898.

AS-BUILT CLASS 1

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM SERVICE WATER PUMP PEA2101A (EA2) CIRC. & SERV. WATER PUMPHOUSE	
CHKD. N/A (DATE)		
SUPV. N/A (DATE)	FSAR FIGURE 9.2-1 SHEET 4	20
APPD. N/A (DATE)	LOCATION 001017 / CALLAWAY LOCATION 843 / CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89611	REV. 20

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846

8600-X-89612



REV.	DATE	DRAWN
7	090893	RBF
CHKD.	SUPV.	APPD.
RLW	TJM	N/A
REDRAWN FOR CLARITY		
REV.	DATE	DRAWN
8	092895	RBF
CHKD.	SUPV.	APPD.
DJB	AMR	N/A
INC'D. RFR-16166A		
REV.	DATE	DRAWN
9	011498	RAM
CHKD.	SUPV.	APPD.
HLP	AMR	N/A
INCORPORATES MP 93-2023		
REV.	DATE	DRAWN
10	111999	RAM
CHKD.	SUPV.	APPD.
EWM	TWS	N/A
INCORPORATES DEC-1653		
REV.	DATE	DRAWN
11	050401	RLW
CHKD.	SUPV.	APPD.
MAL	DLB	N/A
INCORP. MP 00-2007 FCN-01		
REV.	DATE	DRAWN
12	052401	JHK
CHKD.	SUPV.	APPD.
MAL	AMR	N/A
INCORP. MP 00-2007 FCN-02.		
REV.	DATE	DRAWN
13	092602	JHK
CHKD.	SUPV.	APPD.
MAL	TWS	N/A
INCORP. MP 97-2011 FCN-05.		
REV.	DATE	
14	010405	
DRAWN	CHKD.	SUPV.
RLW	MAL	TWS
INCORPORATE MINOR CHANGE CAR 200407615		
REV.	DATE	
15	042105	
DRAWN	CHKD.	SUPV.
MAL	RLW	TWS
INCORP. RFR 22941A.		
REV.	DATE	
16	092208	
DRAWN	CHKD.	SUPV.
EWM	RLW	TWS
INCORPORATE CAR 200805310		
REV.	DATE	
17	101917	
DRAWN	CHKD.	SUPV.
MAL	RLW	DME
INCORP. CR 201701898.		

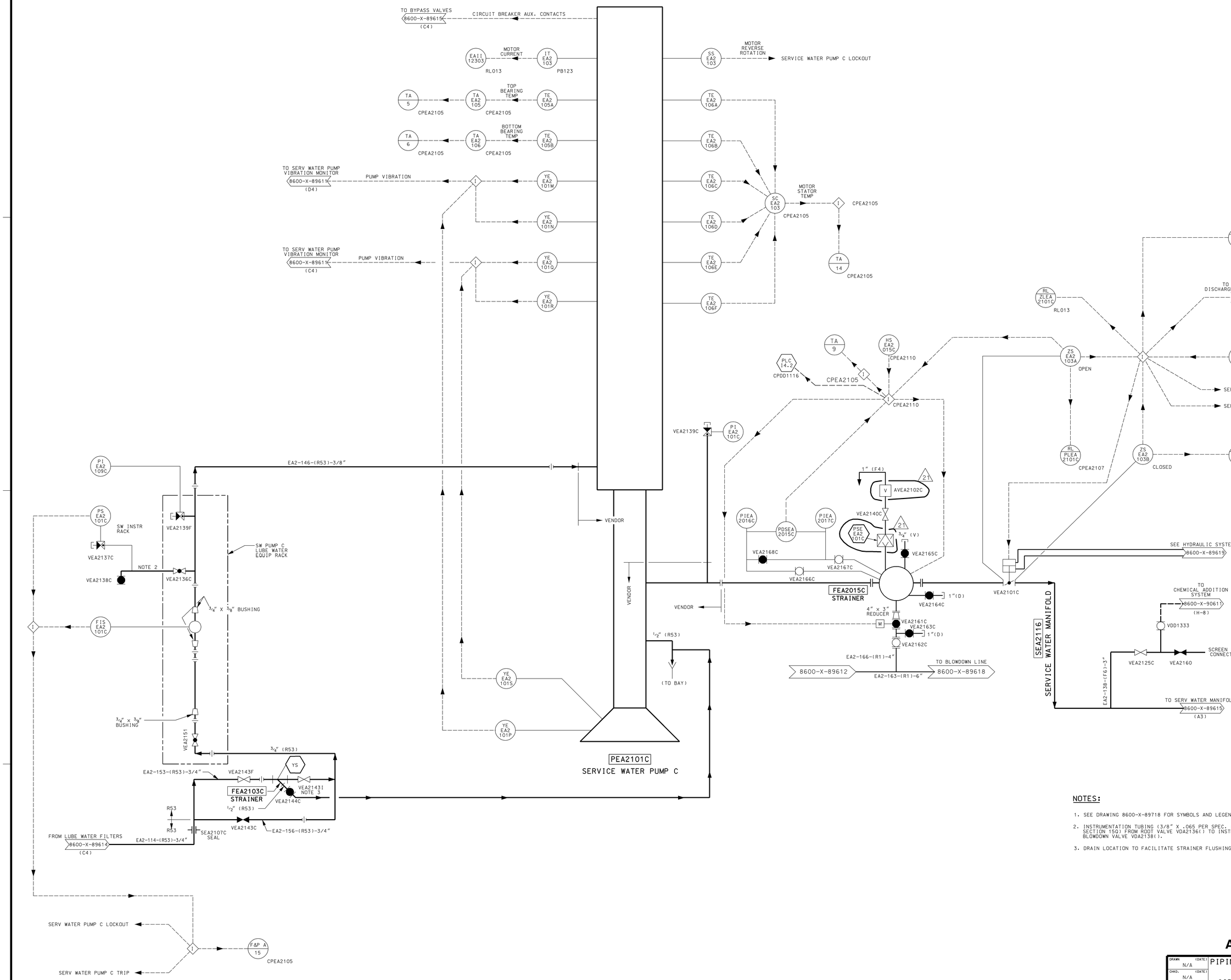
NOTES:

1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" x .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2136() TO INSTRUMENT AND BLOWDOWN VALVE VDA2138().
3. DRAIN LOCATION TO FACILITATE STRAINER FLUSHING.

AS-BUILT CLASS 1

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM SERVICE WATER PUMP PEA2101B (EA2) CIRC. & SERV. WATER PUMPHOUSE FSAR FIGURE 9.2-1 SHEET 5	17
CHKD. N/A (DATE)		
SUPV. N/A (DATE)		
APPD. N/A (DATE)	LOCATION 001017 / CALLAWAY LOCATION 843 / CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89612	REV. 17

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846



NOTES:

1. SEE DRAWING 8600-X-89718 FOR SYMBOLS AND LEGEND.
2. INSTRUMENTATION TUBING (3/8" X .065 PER SPEC. 4645-11A SECTION 15Q) FROM ROOT VALVE VDA2136( ) TO INSTRUMENT AND BLOWDOWN VALVE VDA2138( ).
3. DRAIN LOCATION TO FACILITATE STRAINER FLUSHING.

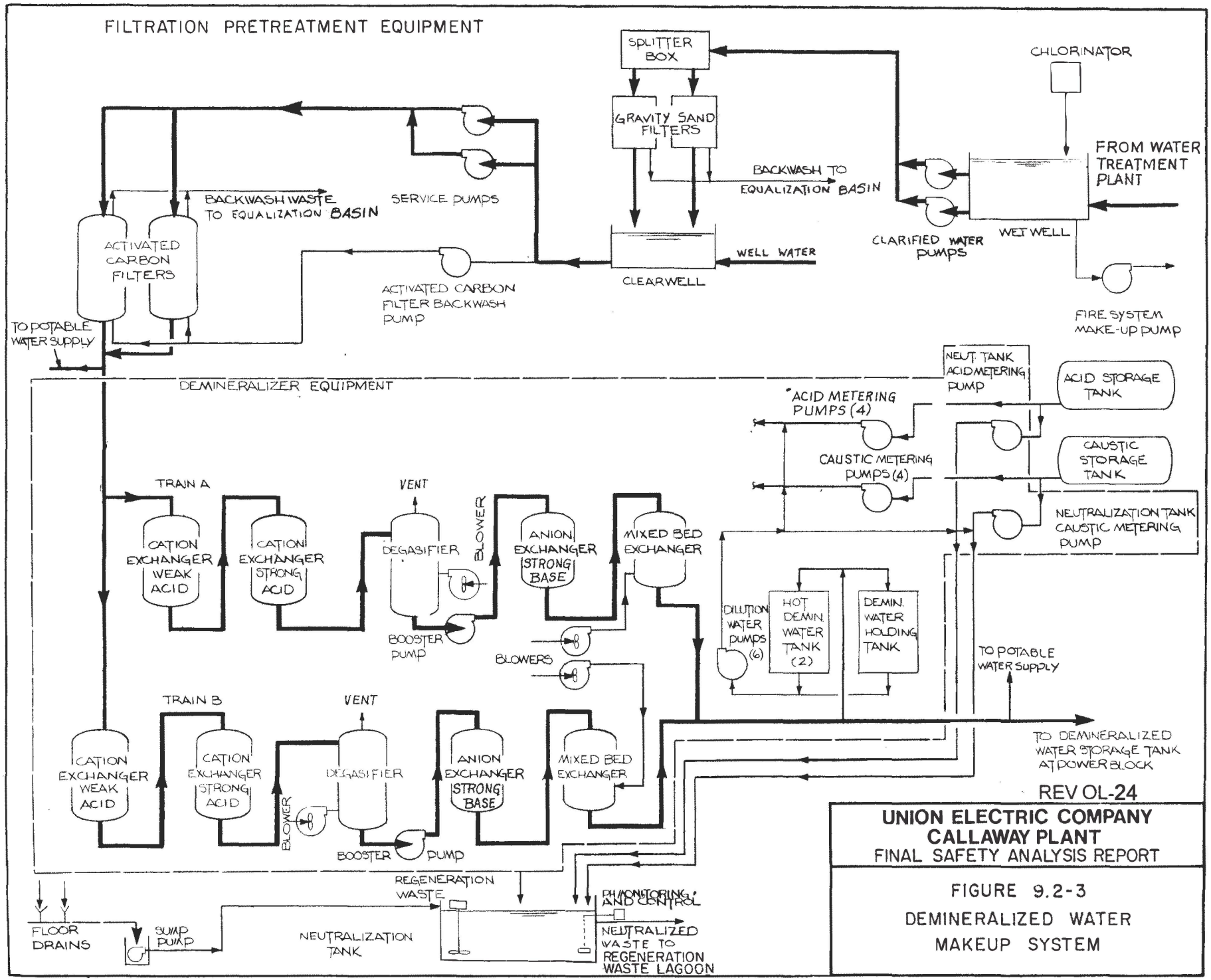
REV.	DATE	DRAWN
7	090893	RBF
CHKD. RLW	SUPV. TJM	APPD. N/A
REDRAWN FOR CLARITY		
8	092895	RBF
DJB	AMR	N/A
INC'D. RFR-16166A		
9	062596	RBF
DJB	AMR	N/A
INC'D. RFR-16180D		
10	011498	RAM
HLP	AMR	N/A
INCORPORATES MP 93-2023		
11	050401	RLW
MAL	DLB	N/A
INCORP. MP 00-2007 FCN-01 (PARTIAL)		
12	051001	EWM
DJB	AMR	N/A
INCORP. MP 00-2007 FCN-01		
13	052401	JHK
MAL	AMR	N/A
INCORP. MP 00-2007 FCN-02.		
14	051702	RAM
DJB	AMR	N/A
INCORPORATES MP 97-2011 FCN-06.		
15	082902	MAL
SKC	TWS	N/A
INCORP. MP 97-2011 FCN-09.		
16	092602	JHK
MAL	TWS	N/A
INCORP. MP 97-2011 FCN-05.		
17	101304	
MAL	RLW	TWS
INCORP. MP 97-2011 FCN-22.		
18	010405	
RLW	MAL	TWS
INCORPORATE MINOR CHANGE CAR 200407615		
19	042105	
MAL	RLW	TWS
INCORP. RFR 22941A.		
20	092208	
EWM	RLW	TWS
INCORPORATE CAR 200805310		
21	101917	
MAL	RLW	DME
INCORP. CR 201701898.		

AS-BUILT CLASS 1

DRAWN N/A (DATE)	PIPING & INSTRUMENTATION DIAGRAM SERVICE WATER PUMP PEA2101C (EA2) CIRC. & SERV. WATER PUMPHOUSE	
CHKD. N/A (DATE)		
SUPV. N/A (DATE)	FSAR FIGURE 9.2-1 SHEET 6	21
APPD. N/A (DATE)	LOCATION 001017 / CALLAWAY LOCATION 843 / CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO	8600-X-89613	REV. 21

FOR DRAWING INDEX SEE DRAWING NO. 8600-X-89846

FIGURE 9.2-2 has been deleted



REV OL-24

UNION ELECTRIC COMPANY
CALLAWAY PLANT
FINAL SAFETY ANALYSIS REPORT

FIGURE 9.2-3
DEMINERALIZED WATER MAKEUP SYSTEM

Figure 9.2-4 Deleted

FIGURE 9.2-5 HAS BEEN DELETED

Figure 9.5-1 has been deleted.

Figure 9.5-2 has been deleted.