START

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Mr. John Grantham
State of Washington
Department of Ecology
Nuclear & Mixed Waste Program
P.O. Box 47600
Olympia, WA 98504-8711

FLUOR DANIEL, INC.

Date: May 10, 1993

Reference: Hanford Waste Vitrification Plant
DOE Contract DE-AC06-86RL10838
Fluor Contract 8457

Transmittal No.: WDOE-416

Dear Mr. Grantham:

TRANSMITTAL

We enclose 2 copies of the items listed below. These are issued per US-DOE request.

Response due to Fluor: N/A
Responds to: N/A

NUMBER		REV	DATE	TITLE
H-2-123060	SHT 08	7	05\04\93	SYSTEM 20C REMOTE MAINTAINED SUMP PUMPS/JETS
H-2-123060	SHT 09	7	05\04\93	SYSTEM 20C CONTACT MAINTAINED SUMP JETS
H-2-123060	SHT 10	5	05\04\93	SYSTEM 20C CONTACT MAINTAINED SUMP PUMPS
H-2-123060	SHT 12	6	05\04\93	SYSTEM 20C SUMP INSTRUMENT/PIPING SUMMARY
H-2-123060	SHT 14	3	05\04\93	SYSTEM 20C CONTACT MAINTAINED SUMP PUMPS
H-2-123060	SHT 15	3	05\04\93	SYSTEM 20C SUMP INSTRUMENT/PIPING SUMMARY
H-2-123060	SHT 23	6	05\04\93	SYSTEM 20C WARM WASTE HEADER
H-2-123060	SHT 24	6	05\04\93	SYSTEM 20C WARM WASTE HEADER
				AND TABLE OF CONTENTS
CONTROLLED COPIES 25 & 26				TO ACKNOWLEDGE RECEIPT OF THE DOCUMENTS LISTED ABOVE, PLEASE SIGN AND DATE A COPY OF THIS TRANSMITTAL FORM AND MAIL TO: FLUOR DANIEL, HWVP - EDC - 513J, 3333 MICHELSON DRIVE, IRVINE, CA 92730

9413092.0375

Distribution:
Reference:FRP-917, FUP-451
R. L. Long: DOE-RL W/O
TWP/AME Corresp Cntrl Cntr, MSIN A5-10 (SYSTEM 20C),w/O
Environmental Data Management Center (MSIN H4-22)w/1 #31
D. Duncan, US EPA, Region X w/O

Very truly yours,

Rosalie Cadenas for

R. S. Poulter
Project Director

DEC 1993
RECEIVED
EDMC

KMC

RSP:KMC:ts

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1A
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NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
** VOLUME NUMBER: 1A					
	H-2-123001	01	4	LEGEND OF SYMBOLOGY FOR PROCESS FLOW AND PIPING AND INSTRUMENT DIAGRAMS	3201
	H-2-123001	02	4	LEGEND OF SYMBOLOGY FOR PROCESS FLOW AND PIPING AND INSTRUMENT DIAGRAMS	3201
	H-2-123001	03	4	LEGEND OF SYMBOLOGY FOR PROCESS FLOW AND PIPING AND INSTRUMENT DIAGRAMS	3201
	H-2-123001	04	4	LEGEND OF SYMBOLOGY FOR PROCESS FLOW AND PIPING AND INSTRUMENT DIAGRAMS	3201
	H-2-123001	05	4	LEGEND OF SYMBOLOGY FOR PROCESS FLOW AND PIPING AND INSTRUMENT DIAGRAMS	3201
	H-2-123030	01	0	P&ID SYSTEMS 12 & 20 CPC EMBED SPARES	6320
	H-2-123030	02	0	P&ID SYSTEMS 11,14, 15, 20 CPC EMBED SPARES	6320
	H-2-123030	03	1	P&ID SYSTEM 20C & 21 CDMC EMBED SPARES	6320
	H-2-123030	04	0	P&ID SYSTEM 21 REDC EMBED SPARES	6320
	H-2-123030	05	0	P&ID SYSTEM 16 CDC EMBED SPARES	6320
	H-2-123030	06	1	P&ID SYSTEM 13, 17, & 20C MELTER CELL EMBED SPARES	6320
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	H-2-123030	08	0	P&ID SYSTEM 14 & 15 SBS CELL EMBED SPARES	6320
	H-2-123030	09	0	P&ID SYSTEMS 12, 20 & 22 SEMI FIXED PIPEWAY	6320
	H-2-123030	10	0	P&ID SYSTEMS 12, 20 & 22	6320
	H-2-123030	11	1	P&ID SYSTEM 20C, 23 & 71 EMBED SPARES	6320
	H-2-123030	12	1	P&ID SYSTEM 14, 20C & 41 EMBED SPARES	6320
	H-2-123030	13	0	P&ID SYSTEMS 12 & 22 CPC EMBED SPARES	6320
	H-2-123030	14	0	P&ID SYSTEMS 20 CPC EMBED SPARES	6320
	H-2-123040	03	1	P&ID SYSTEM 11 FEED RECEIPT	6370
	H-2-123040	04	1	P&ID SYSTEM 11 FEED RECEIPT	6370
	H-2-123050	01	3	SYSTEM 11 RECEIPT AND LAG STORAGE TANK-A VOIDED DWG PER CR-0584	3211
	H-2-123050	02	3	SYSTEM 11 RECEIPT AND LAG STORAGE TANK-A VOIDED DWG PER CR-0584	3211
	H-2-123050	03	3	SYSTEM 11 RECEIPT AND LAG STORAGE TANK-A VOIDED DWG PER CR-0584	3210
	H-2-123050	04	3	SYSTEM 11 RECEIPT AND LAG STORAGE TANK-B VOIDED DWG PER CR-0584	3211

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	H-2-123050	06	3	SYSTEM 11 RECEIPT AND LAG STORAGE TANK-B VOIDED DWG PER CR-0584	3211
	H-2-123050	07	3	RLST INTERFACE WITH CHEMICAL PROCESS CELL SYSTEM 11A/B VOIDED DWG PER CR-0584	3211
	H-2-123050	08	3	SYSTEM 11 RLST INTRA-AREA LINE LEAK DETECTION VOIDED DWG PER CR-0584	3211
	H-2-123051	01	4	SYSTEM 12 SLURRY RECEIPT & ADJUSTMENT TANK (SRAT)	3212
	H-2-123051	02	4	SYSTEM 12 SLURRY RECEIPT & ADJUSTMENT TANK (SRAT)	3212
	H-2-123051	03	4	SYSTEM 12 SLURRY RECEIPT & ADJUSTMENT TANK (SRAT)	3212
	H-2-123051	04	1	SYSTEM 12 SLURRY RECEIPT AND ADJUSTMENT TANK (SRAT)	3212
	H-2-123051	05	1	SYSTEM 12 SLURRY MIX EVAPORATOR (SME)	3212
	H-2-123051	06	4	SYSTEM 12 SLURRY MIX EVAPORATOR (SME)	3212
	H-2-123051	07	4	SYSTEM 12 SLURRY MIX EVAPORATOR (SME)	3212
	H-2-123051	08	4	SYSTEM 12 SLURRY MIX EVAPORATOR (SME)	3212
	H-2-123051	09	1	SYSTEM 12 SPARE FEED PREPARATION TANK (FUTURE)	6320
	H-2-123060	01	4	SYSTEM 20A WASTE ADJUSTMENT TANK (WAT-A)	3213
	H-2-123060	02	4	SYSTEM 20A WASTE ADJUSTMENT TANK (WAT-A)	3213
	H-2-123060	03	4	SYSTEM 20A DECON WASTE TREATMENT TANK (DWTT)	3213
	H-2-123060	04	4	SYSTEM 20A DECON WASTE TREATMENT TANK (DWTT)	3213
	H-2-123060	05	4	SYSTEM 20A DECON WASTE TREATMENT TANK (DWTT)	3213
	H-2-123060	06	4	SYSTEM 20A WASTE HOLD TANK (WHT)	3211
	H-2-123060	07	4	SYSTEM 20A WASTE HOLD TANK (WHT)	3211
***	H-2-123060	08	7	SYSTEM 20C REMOTE MAINTAINED SUMP PUMPS/JETS	3214
***	H-2-123060	09	7	SYSTEM 20C CONTACT MAINTAINED SUMP JETS	3214
***	H-2-123060	10	5	SYSTEM 20C CONTACT MAINTAINED SUMP PUMPS	3214

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	H-2-123060	13	1	SYSTEM 20A DECON WASTE TREATMENT TANK (DWTT)	3214
***	H-2-123060	14	3	SYSTEM 20C CONTACT MAINTAINED SUMP PUMPS	3214
***	H-2-123060	15	3	SYSTEM 20C SUMP INSTRUMENT / PIPING SUMMARY	3214
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	H-2-123060	18	4	SYSTEM 20A FILTER FEED TANK (FFT)	3213
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	H-2-123060	20	4	SYSTEM 20A SBS FILTER	3213
	H-2-123060	21	4	SYSTEM 20A PRECOAT FEED TANK (PFT)	3213
	H-2-123060	22	1	SYSTEM 20D RECYCLE WASTE COLLECTION TANK (RWCT)	3212
***	H-2-123060	23	6	SYSTEM 20C WARM WASTE HEADER	3214
***	H-2-123060	24	6	SYSTEM 20C WARM WASTE HEADER	3214
	H-2-123060	25	4	SYSTEM 20C HOT/INTERMEDIATE WASTE HEADERS	3214
	H-2-123060	26	4	SYSTEM 20C JET VENT HEADER	3214
	H-2-123060	27	4	SYSTEM 20A WHT INTRA-AREA LINE LEAK DETECTION	3211
	H-2-123060	28	4	SYSTEM 20D SLURRY MIX EVAPORATOR CONDENSATE TANK (SMECT)	3212
	H-2-123060	29	4	SYSTEM 20D SLURRY MIX EVAPORATOR CONDENSATE TANK (SMECT)	3212
	H-2-123060	30	4	SYSTEM 20D RECYCLE WASTE COLLECTION TANK (RWCT)	3212
	H-2-123060	31	4	SYSTEM 20D RECYCLE WASTE COLLECTION TANK (RWCT)	3212
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	H-2-123060	33	4	SYSTEM 20B WASTE ADJUSTMENT TANK (WAT-B)	3212
	H-2-123060	34	4	SYSTEM 20D RECYCLE WASTE COLLECTION TANK (RWCT)	3212
	H-2-123061	01	4	SYSTEM 22 MELTER FEED TANK (MFT)	3212
	H-2-123061	02	4	SYSTEM 22 MELTER FEED TANK (MFT)	3212
	H-2-123061	03	4	SYSTEM 22 MELTER FEED TANK (MFT)	3212
	H-2-123070	01	5	SYSTEM 58 DRY FRIT HANDLING	3210
	H-2-123070	02	4	SYSTEM 58 FRIT SLURRY MAKEUP TANK (FSMT)	3210
	H-2-123070	03	6	SYSTEM 58 PROCESS FRIT SLURRY FEED TANK (PFSFT)	3210

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	H-2-123070	06	5	SYSTEM 58 DECON FRIT SLURRY PUMP & FILTER	3210
	H-2-123150	01	5	SYSTEM 13 POUR TURNTABLE	3217
	H-2-123150	02	4	SYSTEM 13 POUR TURNTABLE	3217
	H-2-123150	03	5	SYSTEM 13 DRAIN TURNTABLE	3217
	H-2-123150	04	5	SYSTEM 13 MELTER THERMOCOUPLES FOR GLASS TEMPERATURE MEASUREMENT AND ELECTRODE CONTROL	3217
	H-2-123150	05	5	SYSTEM 13 MELTER DRAIN VALVE AND DRAIN BELLOWS	3217
	H-2-123150	06	6	SYSTEM 13 MELTER PRESSURE, LEVEL, AND POUR CONTROLS	3217
	H-2-123150	07	5	SYSTEM 13 MELTER TV CAMERA COOLING AND CLEANING	3217
	H-2-123150	08	5	SYSTEM 13 POWER AND CONTROL FOR MELTER ELECTRODES	3217
	H-2-123150	09	5	SYSTEM 13 POWER AND CONTROL FOR MELTER ELECTRODES	3217
	H-2-123150	10	5	SYSTEM 13 DRAIN VALVE HEATERS	3217
	H-2-123150	11	5	SYSTEM 13 CCTV CAMERA AND DRAIN VALVE HEATER CONTROLS	3217
	H-2-123150	12	5	SYSTEM 13 RISER AND POUR SPOUT HEATER	3217
	H-2-123150	13	5	SYSTEM 13 REFRACTORY COLD-FACE TEMPERATURE MEASUREMENT AND MELTER DOME HEATERS	3217
	H-2-123150	14	5	SYSTEM 13 MELTER DOME HEATERS	3217
	H-2-123150	15	5	SYSTEM 13 MELTER DOME HEATERS	3217
	H-2-123150	16	5	SYSTEM 13 MELTER DOME HEATERS	3217
	H-2-123150	17	5	SYSTEM 13 MELTER COOLING WATER FOR TOP AND BOTTOM HEADS AND SHELL	3217
	H-2-123150	18	5	SYSTEM 13 MELTER COOLING WATER FOR TOP AND BOTTOM HEADS AND SHELL	3217
	H-2-123150	19	5	SYSTEM 13 PROCESS COOLING WATER FOR FEED NOZZLES	3217
	H-2-123150	20	5	SYSTEM 13 MELTER COOLING WATER FOR ELECTRODES, PADS, AND DOME HEATER TRANSFORMERS	3217
	H-2-123150	21	5	SYSTEM 13 MELTER COOLING WATER FOR DOME HEATERS AND BOTTOM PAD	3217

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	H-2-123151	01	4	SYSTEM 16A FCDC SERVICE HEADERS	3219
	H-2-123151	02	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #1	3219
	H-2-123151	03	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #2	3219
	H-2-123151	04	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #3	3219
	H-2-123151	05	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #4	3219
	H-2-123151	06	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #5	3219
	H-2-123151	07	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #6	3219
	H-2-123151	08	4	SYSTEM 16A FCDC NOZZLE FEED PUMP #7	3219
	H-2-123151	09	4	SYSTEM 16A FCDC RIBBON NOZZLE FEED PUMP	3219
	H-2-123151	10	4	SYSTEM 16A FCDC #1 SPRAY NOZZLES	3219
	H-2-123151	11	4	SYSTEM 16A FCDC #1 GRAPPLE AND RINSE CYCLE	3219
	H-2-123151	12	4	SYSTEM 16A FCDC #1 SPENT FRIT HANDLING AND CCTV	3219
	H-2-123151	13	4	SYSTEM 16B FCDC #2 SPRAY NOZZLES	3219
	H-2-123151	14	4	SYSTEM 16B FCDC #2 GRAPPLE AND RINSE CYCLE	3219
	H-2-123151	15	4	SYSTEM 16B FCDC #2 SPENT FRIT HANDLING AND CCTV	3219
	H-2-123151	16	5	SYSTEM 16A PRELIMINARY DECON WATER WASH	3219
	H-2-123151	17	0	SYSTEM 16A FCDC #1 SPRAY NOZZLES	3219
	H-2-123151	18	0	SYSTEM 16B FCDC #2 SPRAY NOZZLES	3219
	H-2-123152	01	4	SYSTEM 17 INNER CANISTER CLOSURE AND TEMPERATURE SURVEY STATION	3219
	H-2-123152	02	4	SYSTEM 17 INNER CANISTER CLOSURE LEAK TEST STATION	3219
	H-2-123152	03	3	SYSTEM 17 TIG WELDERS AND LEAK CHECK EQUIPMENT DELETED PER CR-634	3219
	H-2-123152	04	1	SYSTEM 17 ICC PRESS AND CANISTER TROLLEY	6320
	H-2-123152	05	1	SYSTEM 17 PLUG WELDER	6320
	H-2-123152	06	1	SYSTEM 17 POWER PACK CLG & WELDER NITROGEN SUPPLY	6320
	H-2-123152	07	1	SYSTEM 17 FUTURE OVERPACK WELDER WALL PENETRATIONS	6320
	H-2-123152	08	0	P&ID SYSTEM 17 PLUG WELDER	
	H-2-123160	01	4	SYSTEM 21 CRANE DECON FEED TANK (ACID)	3220
	H-2-123160	02	4	SYSTEM 21 CRANE DECON FEED TANK (CAUSTIC)	3220
	H-2-123160	03	4	SYSTEM 21 REDC UTILITIES	3220

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PROCESS PIPING AND INSTRUMENT DIAGRAMS
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	H-2-123160	04	4	SYSTEM 21 REDC UTILITIES	3220
	H-2-123160	05	4	SYSTEM 21 REDC UTILITIES	3220
	H-2-123160	06	4	SYSTEM 21 REDC UTILITIES	3220
	H-2-123160	07	5	SYSTEM 21 REDC UTILITIES	3220
	H-2-123160	08	4	SYSTEM 21 CDMC UTILITIES	3220
	H-2-123160	09	4	SYSTEM 21 CDMC UTILITIES	3220
	H-2-123160	10	5	SYSTEM 21 CDMC UTILITIES	3220
	H-2-123160	11	5	SYSTEM 21 CDMC UTILITIES	3220
	H-2-123160	12	4	SYSTEM 21 CDMC UTILITIES	3220
	H-2-123160	13	4	SYSTEM 21 CELL DECON	3220
	H-2-123160	14	4	SYSTEM 21 CPC AND ANALYTICAL FACILITY DECON	3220
	H-2-123160	15	3	SYSTEM 21 MSM DECON GLOVE BOX	3220
	H-2-123160	16	0	SYSTEM 21 SHIELD DOORS	6320
	H-2-123160	17	0	SYSTEM 21 SHIELD DOORS	

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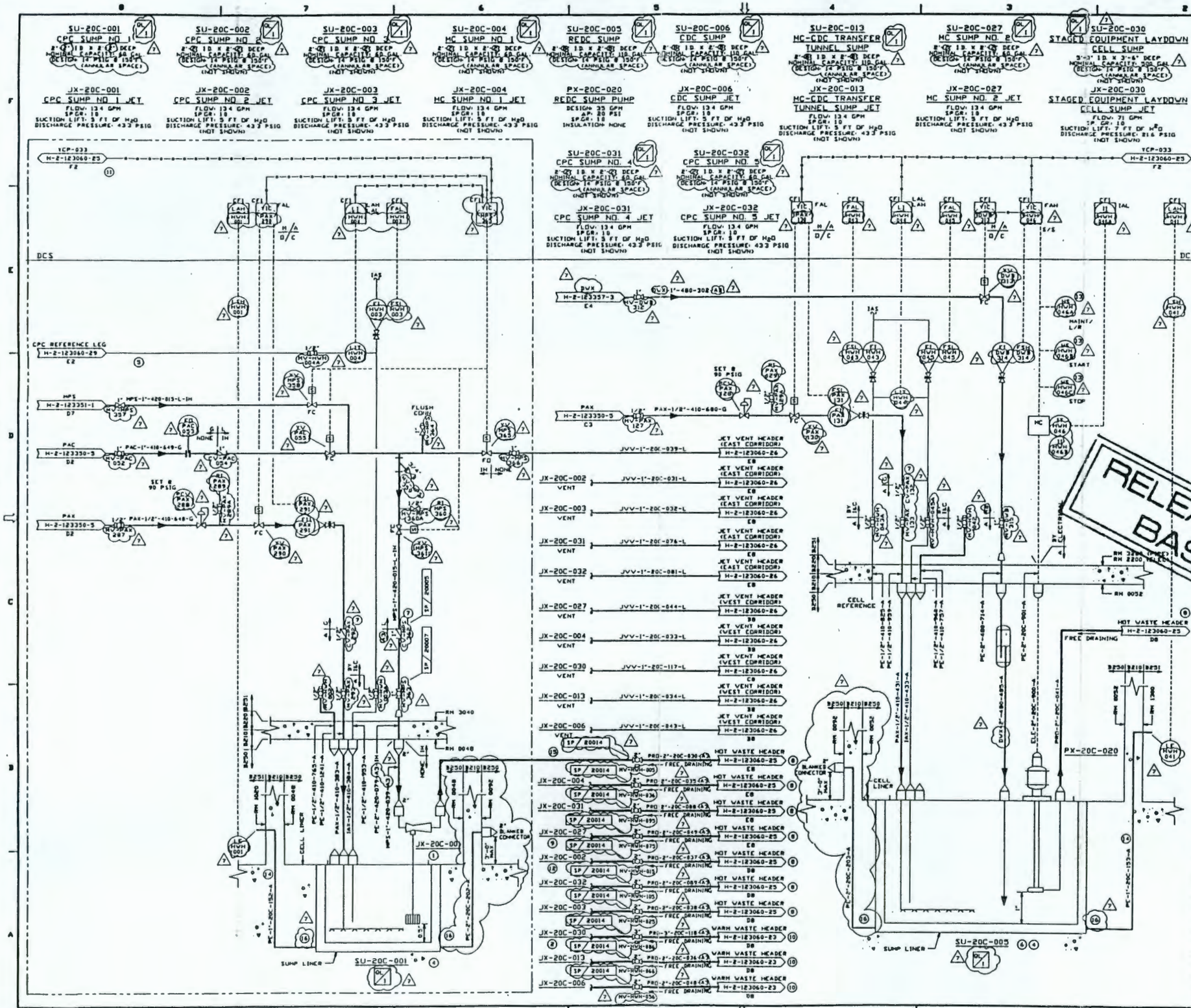

GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123060-1.

NOTES:

1. TYPICAL FOR TEN REMOTE MAINTAINED SUMP JETS. DASHED LINES INDICATE REPLICATED EQUIPMENT. PIPING AND INSTRUMENTATION NUMBERS APPLY TO CPC SUMP NO 1 ONLY. INFORMATION FOR ALL OTHER SUMPS IS SHOWN ON DRAWING H-2-123060-12 & 15
2. MRV (H-2-123355-2) AND PRC (H-2-123352-2) PURGES DISCHARGE TO STAGED EQUIPMENT LAYDOWN CELL SUMP
3. DELETED
4. ALL SUMPS HAVE REMOVABLE STRAINER INSERTS TO FACILITATE REMOVAL OF ACCUMULATED SOLIDS.
5. THE STANDARD CPC CELL REFERENCE WILL PROVIDE INPUT TO THE LEVEL BUBBLERS IN SU-20C-001, 002, 003, 031 AND 032. A DEDICATED REFERENCE LEG IS PRESENT IN OTHER CELLS. REFERENCE LEG WILL BE A DUPLICATE OF THE LEVEL BUBBLER SUMP LEG.
6. THE REDC SOAK TANK DRAIN AND REDC TANK DRAIN PUMP PX-210-001 ARE PIPED TO SU-20C-005.
7. CHECK VALVE IS LOCATED MINIMUM DISTANCE FROM CELL WALL.
8. HOT WASTE HEADER DRAINS TO BWTT.
9. HOG CELL AND SBS CELL DRAIN TO MC SUMP NO 2.
10. WARM WASTE HEADER DRAINS TO WAT-A.
11. WARM WASTE JETS HAVE SOFTWARE LINK WITH WARM WASTE HEADER CONTROL PROGRAM YPC-20C-032 RATHER THAN HOT WASTE HEADER CONTROL PROGRAM YPC-20C-033
12. DELETED
13. HANDSWITCH LOCATED AT MCC.
14. MAXIMUM OF 2 TURNS WITH A TOTAL OF 180°.
15. LAYDOWN CELL DRAINS TO CPC SUMP NO. 1.
16. BOTTOM OF PIPE TO BE FLUSH WITH SUMP LINER.

QUALITY LEVEL II (EXCEPT AS NOTED)

SAFETY CLASS 3

REV	DATE	REVISED DESCRIPTION	APPROVAL INITIALS				
7	3/4/93	RENUMBERED VALVES AND INSTRUMENTS PER CR-0708. CHANGED LPW SUPPLY TO DWX PER CR-0683 AND CR-0684. ADDED EVACUATION LINE TO SUMP SECONDARY CONTAINMENT. CHANGED SUMP DIMENSIONS. ADDED QL 1 DESIGNATION TO DOUBLE LINER SUMPS			DNC		
6	3/23/93	INCREASED HPS AND LPW ORIFICE TO 8" MIN PER CR-0676. CHANGED LAYDOWN AREA DRAINAGE POINT TO CPC. AND ADDED SP ITEM NUMBERS.	EH	SDS	KMC	VVC	
			BGJ	HJH	JGK	RSP	
5	10/12/92	MINOR REVISIONS FOR B210A SLAB ONLY DESIGN DEVELOPMENT	EH	SDS	KMC	VVC	
			BGJ	AKY	JGK	RSP	

ENGINEERING RELEASE
REV. ____ DATE ____
ERO ____

R GIBBONS	8/14/93
D CHAVLA	8/14/93
F BROOKS	8/14/93
B J BECKMAN	8/14/93
M FELDON	8/14/93
R TAGNEY	8/14/93
H H CRABB	8/14/93
V H PIERCE	8/14/93
M KHOURI	08/12/93

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-86RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 20C
REMOTE MAINTAINED
SUMP PUMPS/JETS

HANFORD WASTE VITRIFICATION PLANT

PROJECT 8-595	SUMP DIAGRAM NO. 8457		DWG NO. 3214
SCALE NONE			
NONE	NOT REQ'D	H-2-123060	8 34 7

AATF8204 / CD
28 APRIL 93

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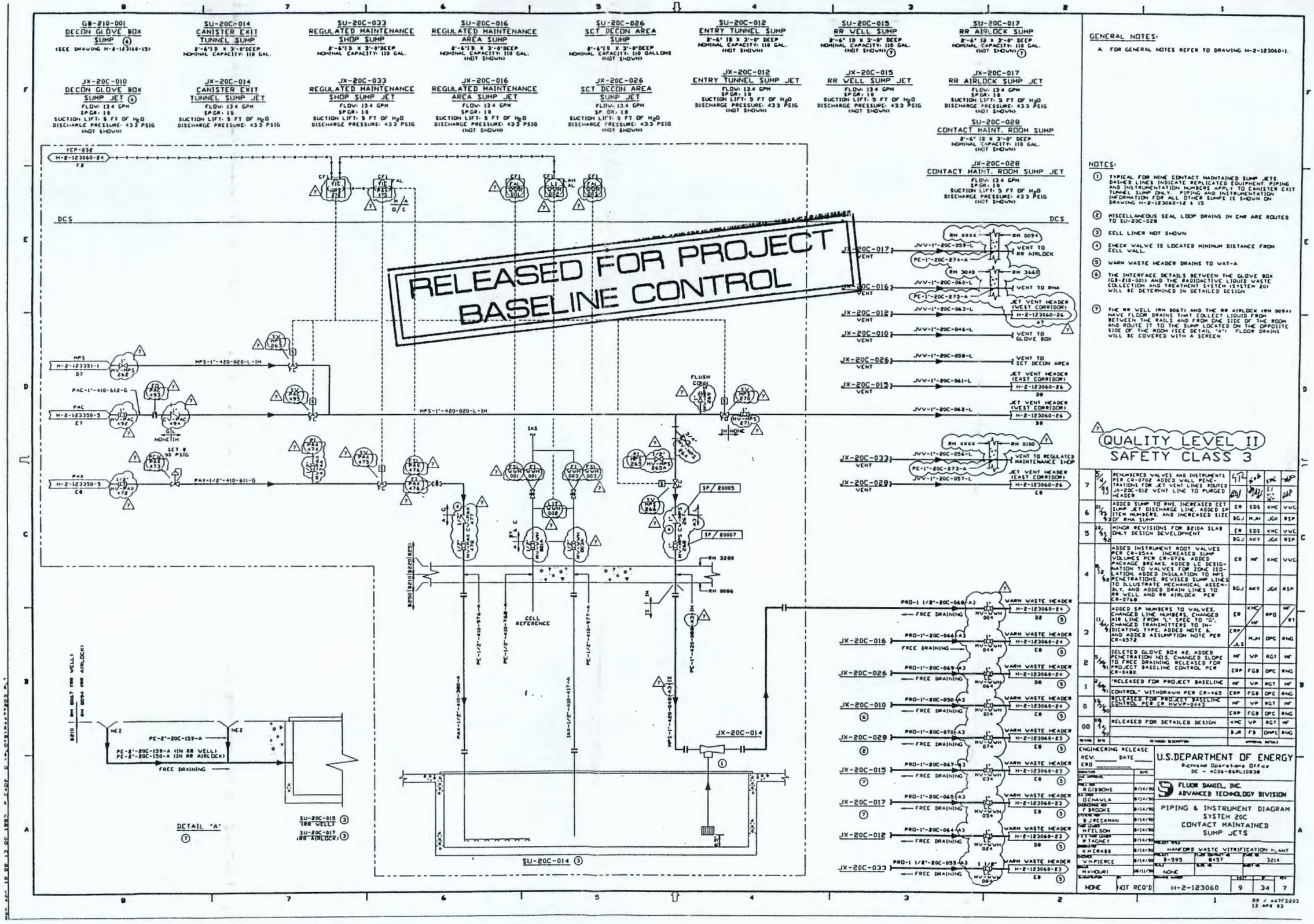

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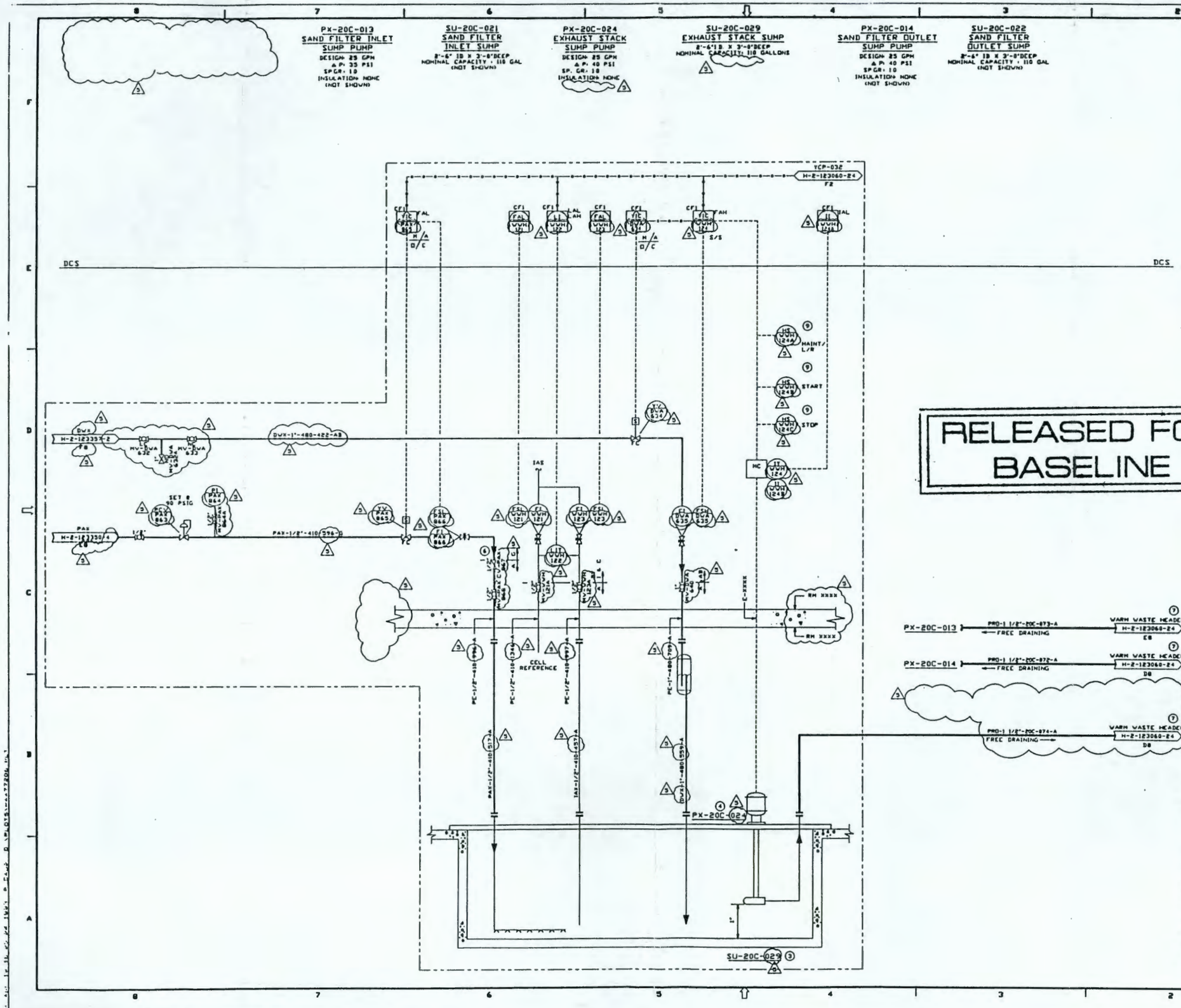


GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123060-1.

NOTES:

1. NOTE DELETED
2. NOTE DELETED
3. CELL LINER NOT SHOWN
4. TYPICAL FOR THREE OF THE CONTACT MAINTAINED SUMP PUMPS. DASHED LINES INDICATE REPLICATED EQUIPMENT. PIPING AND INSTRUMENTATION NUMBERS APPLY TO EXHAUST (STACK) SUMP ONLY. PIPING AND INSTRUMENTATION INFORMATION FOR ALL OTHER SUMPS IS SHOWN ON DRAWINGS H-2-123060-12 & 15
5. NOTE DELETED
6. CHECK VALVE IS LOCATED MINIMUM DISTANCE FROM CELL WALL.
7. WARM WASTE HEADER DRAINS TO WAT-A
8. NOTE DELETED
9. HANDSWITCH LOCATED AT MCC.

RELEASED FOR PROJECT BASELINE CONTROL

QUALITY LEVEL II
SAFETY CLASS 3

REV	DATE	REVISION DESCRIPTION	APPROVAL DETAILS				
5	5/4/93	RENUMBERED VALVES AND INSTRUMENTS PER CR-0702. CHANGED LPW SUPPLY TO DWX PER CR-0623 AND CR-0624. DELETED EXHAUST TUNNEL SUMP	GR / EW	GR / JW	KMC / FJ-WZ	KAP / GAP
4	3/12/93	DUE TO SPACE LIMITATIONS THIS DRAWING WAS EXPANDED FROM 1 SHEET TO 2 SHEETS. ADDED INSTR ROOT VALVES PER CR-0544. REVISED INSTR TAG NUMBERS AND ADDED VALVE NUMBERS PER CR-0702. ADDED PACKAGE BREAKS. REVISED SUMP LINES TO ILLUSTRATE MECHANICAL ASSEMBLY. DELETED ELEC CONNECTOR AND DELETED PIPING RESPONSIBILITY FOR ELECTRICAL EMBED PER CR-0768	ER / BGJ	HF / AKY	KMC / JGK	VWC / RSP
3	1/14/91	ADDED LOCAL HANDSWITCHES TO MOTORS PER CR-0480. CHANGED PAX LINES FROM "L" SPEC TO "G". ADDED ASSUMPTION NOTE AND CHANGED TRANSMITTERS TO INDICATING TYPE PER CR-0572.	ER / ERP	KMC / HF / J.S	RPG / MJH	HF / RT / DPC	RNG
2	5/14/91	ADDED MOTOR HANDSWITCH. ADDED PENETRATION NO'S. CHANGED SLOPE TO FREE DRAINING. RELEASED FOR PROJECT BASELINE CONTROL PER CR-0480	HF / ERP	VP / FGB	RGT / DPC	HF / RNG
1	2/14/91	"RELEASED FOR PROJECT BASELINE CONTROL" WITHDRAWN PER CR-465	HF / ERP	VP / FGB	RGT / DPC	HF / RNG
0	10/31/90	RELEASED FOR PROJECT BASELINE CONTROL PER CR HWVP-0442	HF / ERP	VP / FGB	RGT / DPC	HF / RNG
00	08/14/90	RELEASED FOR DETAILED DESIGN	KMC / BJR	VP / FB	RGT / DMPC	HF / RNG

ENGINEERING RELEASE
REV. ____ DATE ____
ERD ____

SIGNATURE	DATE
R GIBBONS	8/14/90
D CHAWLA	8/14/90
F BROOKS	8/14/90
B J BECKMAN	8/14/90
H FELDON	8/14/90
R TAGNEY	8/14/90
K M CRABB	8/14/90
V M PIERCE	8/14/90
M K MOURI	08/13/90

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-86RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 20C
CONTACT MAINTAINED
SUMP PUMPS

HANFORD WASTE VITRIFICATION PLANT

PROJECT	PLANT DRAWING	FILE
3-595	8457	3214

SCALE: NONE

ENGINEERING	QA	DRAWING NUMBER	SHEET	REV
NONE	NOT REQ'D	H-2-123060	10	34	5

88 / AA37D806
13 APR 93

9413092.0384

SUMP	LOCATION	JET	PUMP	JET GANG VALVE ASSEMBLY							PUMP CONTROLS				LEVEL INSTRUMENTS			AGITATION				LEAK DETECTION	DRAWING
				PURGE ORIFICE	STRAINER PRESSURE INDICATOR	STEAM VALVE	PURGE VALVE	VENT VALVE	ISOLATION VALVE	CONTROL PROGRAM	FLUSH FLOW	PUMP CONTROLLER	CURRENT MONITOR	FLUSH CONTROL	REF LEG ROTAMETER	SUMP LEG ROTAMETER	LEVEL TRANSMITTER	SPARGE FLOW	SPARGE ROTAMETER	SPARGE PCV	SPARGE PRESSURE INDICATOR	LEVEL ELEMENT	
SU-20C-001	CPC (SUMP 1)	JX-20C-001	—	FO-PAC-053	PI-HPS-360	YV-HPS-358	YV-PAC-033	YV-HPS-365	YV-HPS-361	YIC-HPS-363	—	—	—	—	—	FI/FSL/FAL-HVH-003	LI/LIT-HVH-004	YV/YIC-PAX-290	FI/FSL-PAX-291	PCV-PAX-288	PI-PAX-289	LE-HVH-001	H-2-123060-8
SU-20C-002	CPC (SUMP 2)	JX-20C-002	—	FO-PAC-443	PI-HPS-383	YV-HPS-382	YV-PAC-445	YV-HPS-390	YV-HPS-386	YIC-HPS-390	—	—	—	—	—	FI/FSL/FAL-HVH-013	LI/LIT-HVH-014	YV/YIC-PAX-395	FI/FSL-PAX-396	PCV-PAX-393	PI-PAX-394	LE-HVH-011	H-2-123060-8
SU-20C-003	CPC (SUMP 3)	JX-20C-003	—	FO-PAC-208	PI-HPS-349	YV-HPS-343	YV-PAC-218	YV-HPS-350	YV-HPS-346	YIC-HPS-350	—	—	—	—	—	FI/FSL/FAL-HVH-023	LI/LIT-HVH-024	YV/YIC-PAX-320	FI/FSL-PAX-321	PCV-PAX-318	PI-PAX-319	LE-HVH-021	H-2-123060-8
SU-20C-004	MELTER CELL (SUMP 1)	JX-20C-004	—	FO-PAC-503	PI-HPS-178	YV-HPS-168	YV-PAC-385	YV-HPS-175	YV-HPS-171	YIC-HPS-175	—	—	—	—	FI/FSL/FAL-HVH-033	FI/FSL/FAL-HVH-035	LI/LIT-HVH-034	YV/YIC-PAX-325	FI/FSL-PAX-326	PCV-PAX-323	PI-PAX-324	LE-HVH-031	H-2-123060-8
SU-20C-005	RCDC	—	PX-20C-020	—	—	—	—	—	—	—	FI-183 FSH-183	HS-HVH-046A,B,C YIC-HVH-046	IT-HVH-046 II-HVH-046A,B	YIC-DVA-313 YV-DVB-313	FI/FSL/FAL-HVH-043	FI/FSL/FAL-HVH-045	LI/LIT-HVH-044	YV/YIC-PAX-403	FI/FSL-PAX-406	PCV-PAX-403	PI-PAX-404	LE-HVH-041	H-2-123060-8
SU-20C-006	CDC	JX-20C-006	—	FO-PAC-343	PI-HPS-245	YV-HPS-243	YV-PAC-343	YV-HPS-250	YV-HPS-246	YIC-HPS-250	—	—	—	—	FI/FSL/FAL-HVH-053	FI/FSL/FAL-HVH-055	LI/LIT-HVH-054	YV/YIC-PAX-483	FI/FSL-PAX-486	PCV-PAX-483	PI-PAX-484	LE-HVH-051	H-2-123060-8
SU-20C-007	CDHC	—	PX-20C-021	—	—	—	—	—	—	—	FI-298 FSH-298	HS-VVH-124A,B,C YIC-VVH-124	IT-VVH-124 II-VVH-124A,B	YIC-DVA-248 YV-DVA-248	FI/FSL/FAL-VVH-131	FI/FSL/FAL-VVH-133	LI/LIT-VVH-132	YV/YIC-PAX-630	FI/FSL-PAX-631	PCV-PAX-628	PI-PAX-629	LE-VVH-130	H-2-123060-14
SU-20C-008	CRANE MAINTENANCE AREA(SUMP 1)	—	PX-20C-022	—	—	—	—	—	—	—	FI-628 FSH-628	HS-VVH-144A,B,C YIC-VVH-144	IT-VVH-144 II-VVH-144A,B	YIC-DVA-159-1 YV-DVA-159-1	FI/FSL/FAL-VVH-141	FI/FSL/FAL-VVH-143	LI/LIT-VVH-142	YV/YIC-PAX-403	FI/FSL-PAX-406	PCV-PAX-403	PI-PAX-404	LE-VVH-140	H-2-123060-14
SU-20C-009	CRANE MAINTENANCE AREA(SUMP 2)	—	PX-20C-023	—	—	—	—	—	—	—	FI-678 FSH-678	HS-VVH-154A,B,C YIC-VVH-154	IT-VVH-154 II-VVH-154A,B	YIC-DVA-159-2 YV-DVA-159-2	FI/FSL/FAL-VVH-151	FI/FSL/FAL-VVH-153	LI/LIT-VVH-152	YV/YIC-PAX-453	FI/FSL-PAX-456	PCV-PAX-453	PI-PAX-454	LE-VVH-150	H-2-123060-14
GB-210-001 (VENDOR PKG)	DECON GLOVE BOX	JX-20C-010	—	FO-PAC-811	PI-HPS-493	YV-HPS-493	YV-PAC-813	YV-HPS-500	YV-HPS-496	YIC-HPS-500	—	—	—	—	FI/FSL/FAL-VVH-011	FI/FSL/FAL-VVH-013	LI/LIT-VVH-012	YV/YIC-PAX-150	FI/FSL-PAX-151	PCV-PAX-148	PI-PAX-149		H-2-123060-9
SU-20C-012	ENTRY TUNNEL	JX-20C-012	—	FO-PAC-573	PI-HPS-200	YV-HPS-198	YV-PAC-373	YV-HPS-203	YV-HPS-201	YIC-HPS-205	—	—	—	—	FI/FSL/FAL-VVH-021	FI/FSL/FAL-VVH-023	LI/LIT-VVH-022	YV/YIC-PAX-510	FI/FSL-PAX-511	PCV-PAX-508	PI-PAX-509		H-2-123060-9
SU-20C-013	HC-CDC TRANSFER TUNNEL	JX-20C-013	—	FO-PAC-530	PI-HPS-219	YV-HPS-213	YV-PAC-560	YV-HPS-220	YV-HPS-216	YIC-HPS-220	—	—	—	—	FI/FSL/FAL-VVH-063	FI/FSL/FAL-VVH-065	LI/LIT-VVH-064	YV/YIC-PAX-500	FI/FSL-PAX-501	PCV-PAX-498	PI-PAX-499	LE-VVH-061	H-2-123060-8
SU-20C-014	CANISTER EXIT TUNNEL	JX-20C-014	—	FO-PAC-493	PI-HPS-263	YV-HPS-263	YV-PAC-493	YV-HPS-270	YV-HPS-266	YIC-HPS-270	—	—	—	—	FI/FSL/FAL-VVH-001	FI/FSL/FAL-VVH-003	LI/LIT-VVH-002	YV/YIC-PAX-473	FI/FSL-PAX-476	PCV-PAX-473	PI-PAX-474		H-2-123060-9
SU-20C-015	RR WELL	JX-20C-015	—	FO-PAC-843	PI-HPS-303	YV-HPS-303	YV-PAC-845	YV-HPS-310	YV-HPS-306	YIC-HPS-310	—	—	—	—	FI/FSL/FAL-VVH-031	FI/FSL/FAL-VVH-033	LI/LIT-VVH-032	YV/YIC-PAX-273	FI/FSL-PAX-276	PCV-PAX-273	PI-PAX-274		H-2-123060-9
SU-20C-016	REGULATED MAINTENANCE AREA	JX-20C-016	—	FO-PAC-478	PI-HPS-409	YV-HPS-403	YV-PAC-480	YV-HPS-410	YV-HPS-406	YIC-HPS-410	—	—	—	—	FI/FSL/FAL-VVH-041	FI/FSL/FAL-VVH-043	LI/LIT-VVH-042	YV/YIC-PAX-414	FI/FSL-PAX-413	PCV-PAX-412	PI-PAX-413		H-2-123060-9
SU-20C-017	RR AIRLOCK	JX-20C-017	—	FO-PAC-035	PI-HPS-373	YV-HPS-373	YV-PAC-037	YV-HPS-380	YV-HPS-376	YIC-HPS-380	—	—	—	—	FI/FSL/FAL-VVH-051	FI/FSL/FAL-VVH-053	LI/LIT-VVH-052	YV/YIC-PAX-263	FI/FSL-PAX-266	PCV-PAX-263	PI-PAX-264		H-2-123060-9
△6																							△6
SU-20C-021	SAND FILTER INLET	—	PX-20C-013	—	—	—	—	—	—	—	FI-578 FSH-578	HS-VVH-104A,B,C YIC-VVH-104	IT-VVH-104 II-VVH-104A,B	YIC-DVA-644 YV-DVA-644	FI/FSL/FAL-VVH-101	FI/FSL/FAL-VVH-103	LI/LIT-VVH-102	YV/YIC-PAX-846	FI/FSL-PAX-847	PCV-PAX-844	PI-PAX-845		H-2-123060-10
SU-20C-022	SAND FILTER OUTLET	—	PX-20C-014	—	—	—	—	—	—	—	FI-593 FSH-593	HS-VVH-114A,B,C YIC-VVH-114	IT-VVH-114 II-VVH-114A,B	YIC-DVA-654 YV-DVA-654	FI/FSL/FAL-VVH-111	FI/FSL/FAL-VVH-113	LI/LIT-VVH-112	YV/YIC-PAX-853	FI/FSL-PAX-856	PCV-PAX-853	PI-PAX-854		H-2-123060-10
SU-20C-026	SCT DECON AREA	JX-20C-026	—	FO-PAC-818	PI-HPS-475	YV-HPS-473	YV-PAC-820	YV-HPS-480	YV-HPS-476	YIC-HPS-480	—	—	—	—	FI/FSL/FAL-VVH-061	FI/FSL/FAL-VVH-063	LI/LIT-VVH-062	YV/YIC-PAX-136	FI/FSL-PAX-137	PCV-PAX-134	PI-PAX-135		H-2-123060-9
SU-20C-027	MELTER CELL (SUMP 2)	JX-20C-027	—	FO-PAC-663	PI-HPS-050	YV-HPS-048	YV-PAC-663	YV-HPS-055	YV-HPS-051	YIC-HPS-055	—	—	—	—	—	FI/FSL/FAL-VVH-073	LI/LIT-VVH-074	YV/YIC-PAX-335	FI/FSL-PAX-336	PCV-PAX-333	PI-PAX-334	LE-VVH-071	H-2-123060-8
SU-20C-028	CONTACT MAINTENANCE ROOM	JX-20C-028	—	FO-PAC-863	PI-HPS-320	YV-HPS-318	YV-PAC-863	YV-HPS-325	YV-HPS-321	YIC-HPS-325	—	—	—	—	FI/FSL/FAL-VVH-071	FI/FSL/FAL-VVH-073	LI/LIT-VVH-072	YV/YIC-PAX-300	FI/FSL-PAX-301	PCV-PAX-298	PI-PAX-299		H-2-123060-9
SU-20C-029	EXHAUST STACK	—	PX-20C-024	—	—	—	—	—	—	—	FI-648 FSH-648	HS-VVH-124A,B,C YIC-VVH-124	IT-VVH-124 II-VVH-124A,B	YIC-DVA-634 YV-DVA-634	FI/FSL/FAL-VVH-121	FI/FSL/FAL-VVH-123	LI/LIT-VVH-122	YV/YIC-PAX-863	FI/FSL-PAX-866	PCV-PAX-863	PI-PAX-864		H-2-123060-10
SU-20C-030	STAGED EQUIPMENT LAYDOWN CELL	JX-20C-030	—	FO-PAC-763	PI-HPS-020	YV-HPS-018	YV-PAC-763	YV-HPS-025	YV-HPS-021	YIC-HPS-025	—	—	—	—	FI/FSL/FAL-VVH-083	FI/FSL/FAL-VVH-085	LI/LIT-VVH-084	YV/YIC-PAX-390	FI/FSL-PAX-391	PCV-PAX-388	PI-PAX-389	LE-VVH-081	H-2-123060-8
SU-20C-031	CPC(SUMP4)	JX-20C-031	—	FO-PAC-313	PI-HPS-183	YV-HPS-183	YV-PAC-318	YV-HPS-190	YV-HPS-186	YIC-HPS-190	—	—	—	—	—	FI/FSL/FAL-VVH-093	LI/LIT-VVH-094	YV/YIC-PAX-330	FI/FSL-PAX-331	PCV-PAX-328	PI-PAX-329	LE-VVH-091	H-2-123060-8
SU-20C-032	CPC(SUMP5)	JX-20C-032	—	FO-PAC-128	PI-HPS-230	YV-HPS-228	YV-PAC-130	YV-HPS-235	YV-HPS-231	YIC-HPS-235	—	—	—	—	—	FI/FSL/FAL-VVH-103	LI/LIT-VVH-104	YV/YIC-PAX-310	FI/FSL-PAX-311	PCV-PAX-308	PI-PAX-309	LE-VVH-101	H-2-123060-8
SU-20C-033	REGULATED MAINTENANCE SHOP	JX-20C-033	—	FO-101	PI-102	YV-108	YV-115	YV-116	YV-118	YIC-813	—	—	—	—	FI/FSL/FAL-VVH-081	FI/FSL/FAL-VVH-083	LI/LIT-VVH-082	YV/YIC-PAX-463	FI/FSL-PAX-466	PCV-PAX-463	PI-PAX-464		H-2-123060-9

△6

GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123068-1.

△6

△6 QUALITY LEVEL II
SAFETY CLASS 3

RELEASED FOR PROJECT
BASELINE CONTROL

REV NO	DATE	REVISION DESCRIPTION	APPROVAL DETAILS			
6	5/21/93	RENUMBERED VALVES AND INSTRUMENTS PER CR-0702 DELETED EXHAUST TUNNEL SUMP				
5	5/4/93	RENUMBERED INSTRUMENT TAGS PER CR-0702 ADDED DATA FOR SUMP IN RMS AND ADDED LEVEL ELEMENT TAG NUMBERS FOR CMA SUMP LEAK DETECTION	ER	EDS	KMC	VWC
			BGJ	MJH	JGR	RSP

ENGINEERING RELEASE
REV. ____ DATE ____
ERO ____

SUBMITTED BY		DATE
CHIEF ENGINEER		
PROJECT ENGINEER	R GIBBONS	8/14/90
SYSTEM ENGINEER	D CHAVLA	8/14/90
SYSTEM ENGINEER	F BROOKS	8/14/90
SYSTEM ENGINEER	B J BECKMAN	8/14/90
SUMP LEADER	H FELDON	8/14/90
T & T MAT LEADER	R TAGNEY	8/14/90
DESIGNER	K M CRABB	8/14/90
DRAFTER	V M PIERCE	8/14/90
CHECKER	H KHOURI	08/15/90
COMPLIANCE		
NONE	NOT REQ'D	

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-86RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 20C
SUMP INSTRUMENT / PIPING
SUMMARY

HANFORD WASTE VITRIFICATION PLANT

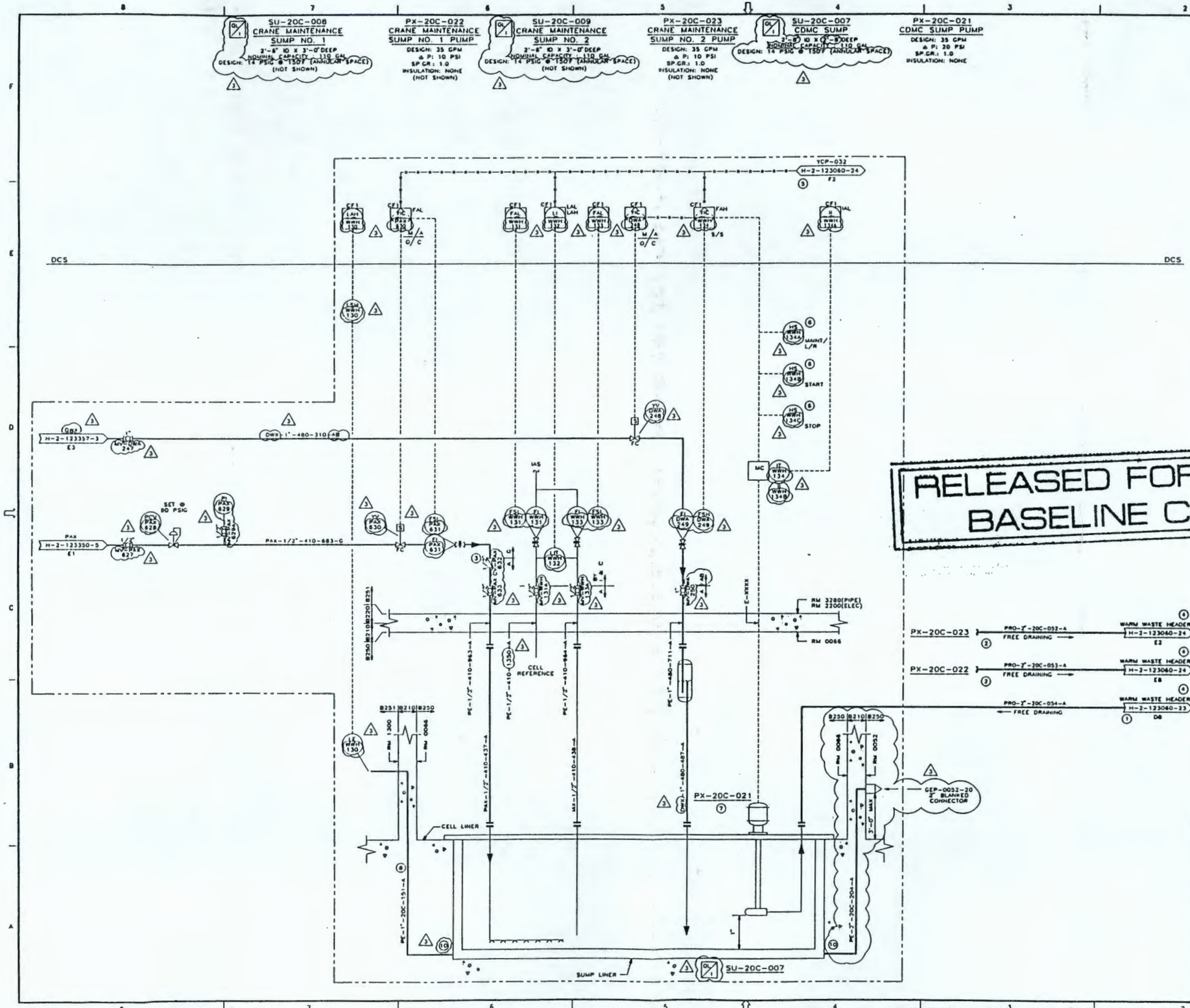
PROJECT	PLANT DISCIPLINE NO	PLANT NO
B-593	6457	3214

NONE

DRAWING NUMBER	SHEET	OF	REV
H-2-123060	12	34	6

AA7F0207 / PB
21 APR 93

9413092.0385



RELEASED FOR PROJECT BASELINE CONTROL

GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123060-1.

NOTES:

1. CDMC RUN-IN TANK DRAIN IS PIPED TO SU-20C-007.
2. CRANE MAINTENANCE AREA SUMPS (SU-20C-008 & 009) HAVE DRAINS HARD PIPED IN FROM THE CRANE DECON FEED TANKS (TK-210-001 & 002).
3. CHECK VALVE IS LOCATED MINIMUM DISTANCE FROM CELL WALL.
4. WARM WASTE HEADER DRAINS TO WAT-A.
5. CDMC LEVEL INDICATOR (LI-WWH-132) ALSO PROVIDES SIGNAL TO YIC-NE2-048 ON DRAWING H-2-123160-11.
6. HANDSWITCH LOCATED AT MCC.
7. TYPICAL FOR THE THREE CONTACT MAINTAINED SUMPS WITH LEAK DETECTION. DASHED LINES INDICATE REPLICATED EQUIPMENT. PIPING & INSTRUMENTATION NUMBERS APPLY TO CDMC SUMP ONLY. PIPING AND INSTRUMENTATION FOR ALL OTHER SUMPS ARE SHOWN ON DRAWINGS H-2-123060-12 & 15
8. MAXIMUM OF TWO TURNS WITH A TOTAL OF 180°.
9. THE SECONDARY CONTAINMENT EVACUATION LINES FOR THE CRANE MAINTENANCE AREA SUMPS WILL TERMINATE WITH A BLIND FLANGE RATHER THAN A BLANKED PUREX CONNECTOR.
10. BOTTOM OF PIPE TO BE FLUSH WITH SUMP LINER.

QUALITY LEVEL II (EXCEPT AS NOTED)
SAFETY CLASS 3

REV NO.	DATE	REVISION DESCRIPTION	DRAWN	CHECKED	ENGINEERING	APPROVAL
3	6/4/93	RENUMBERED VALVES AND INSTRUMENTS PER CR-0702. CHANGED LPW SUPPLY TO DWK PER CR-0623 AND CR-0624. ADDED EVACUATION LINES TO SUMP SECONDARY CONTAINMENT. CHANGED CDMC SUMP DIMENSIONS. ADDED OL 1 DESIGNATION TO DOUBLE LINED SUMPS				
2	1/25/93	INCREASED CDMC DISCHARGE TO 3". UPDATED INSTRUMENT TAG NUMBERS PER CR-0702	ER / BGJ	SDS / MJH	KMC / JGK	VWG / RSP
1	10/9/92	MINOR REVISIONS FOR B210A SLAB ONLY DESIGN DEVELOPMENT	ER / BGJ	SDS / AKY	KMC / JGK	VWG / NHW
0	8/12/92	THIS DRAWING WAS CONSTRUCTED FROM PORTIONS OF H-2-123060-10 REV 3 DUE TO SPACE LIMITATIONS. ADDED WSTR ROOT VALVES PER CR-0544. REVISED WSTR TAG NO'S AND ADDED VALVE NO'S PER CR-0702. ADDED LINER AND LEAK DETECTION PER CR-0587. ADDED PACKAGE BREAKS. REVISED SUMP LINES TO SHOW MECH. ASSEMBLY. DELETED ELECTRICAL CONN. AND DELETED PIPING RESPONSIBILITY ON ELEC EMBED PER CR-0768	ER / BGJ	MF / AKY	KMC / JGK	VWG / RSP

SAMPLE: B123060P
LAYOUT: 2B IBM ACD2:10 C2:SS

ENGINEERING RELEASE
REV _____ DATE _____
ERQ _____

U.S. DEPARTMENT OF ENERGY
Richland Field Office
DE - AC06-88RL10930

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

SIGNATURE	DATE
PROJ. ENG. R.S. POULTER	8/11/92
S.E. DWG. J KELLY	8/11/92
INDEPENDENT SAFETY A YEE	8/11/92
DISCIPLINE MGR. B JOHNSON	7/14/92
DISCIPLINE ENGINEER V GRANGER	7/13/92
DRAFTSMAN K CRABB	7/13/92
CHECKED S D SHARP	7/14/92
DRAWN T P BROWN	06/07/92

P & I D
SYSTEM 20C
CONTACT MAINTAINED
SUMP PUMPS

PROJECT TITLE: HANFORD WASTE VITRIFICATION PLANT
PROJECT: B-595 | FLUOR DANIEL JOB NO.: 8457 | DWG NO.: 3214
SCALE: NONE | S.E. NO.: 01 | SHEET NO.: 1
SIZE: NONE | NOT REQ'D | DRAWING NUMBER: H-2-123060 | SHEET 14 | OF 34 | REV 3

DISTRIBUTION CODE.

ACAD

INITIALS: PB
DATE: 20 APR 93

9413092.0386

SUMP	LOCATION	JET	PUMP	UTILITIES: LINE NUMBERS	UTILITIES: INTERFACE DRAWING NUMBER, COORDINATE	UTILITIES: UTILITY ROOM PENETRATION BLDG./ROOM	IN CELL LINE NUMBERS	WALL PENETRATION LINE NUMBERS (SEE DETAIL "A" THIS SHEET): PENETRATION NUMBER	WALL PENETRATION LINE NUMBERS: GEP NUMBER	DETAIL "A" CWBS PACKAGE BREAKS DESCRIPTION: B210	B220	B250	B257	ROOM NO.: F	ROOM NO.: G	LEAK DETECTION (SEE DETAIL "B" THIS SHEET UNLESS NOTED OTHERWISE): WALL PENETRATION LINE NUMBER	EVACUATION LINE: WALL PENETRATION LINE NUMBER GEP NUMBER	EVACUATION LINE: ROOM NO.	DRAWING
SU-20C-001	CPC (SUMP 1) (ROOM 0048)	JX-20C-001	—	WPS-1"-420-015-L-IH PAX-1/2"-410-648-G PAC-1"-410-649-G	H-2-123351-1 D7 H-2-123350-5 C7 H-2-123350-5 D7	VIT BLDG. RM 3040	WPS-1"-420-038-(43) (1) PAX-1/2"-410-383-A IAX-1/2"-410-384-A SPARE (BLANKED) (3)	PE-2"-420-078-(43)IH PE-1/2"-410-1241-A PE-1/2"-410-853-A PE-1/2"-410-7[illegible] (3)								PE-1"-20C-152-A (DETAIL "B" DOES NOT APPLY SEE SHT 8)	PE-2"-20C-202-A SEE SHT 8	SEE SHT 8	H-2-123060-8
SU-20C-002	CPC (SUMP 2)	JX-20C-002	—	WPS-1"-420-014-L-IH PAX-1/2"-410-650-G PAC-1"-410-651-G	H-2-123351-1 D6 H-2-123350-5 D6 H-2-123350-5 C6	VIT BLDG. RM 3040	WPS-1"-420-040-(43) (1) PAX-1/2"-410-385-A IAX-1/2"-410-386-A SPARE (BLANKED) (3)	PE-2"-420-080-(43)IH PE-1/2"-410-854-A PE-1/2"-410-855-A PE-1/2"-410-1[illegible] (3)								PE-1"-20C-148-A	PE-2"-20C-183-A GEP-0036-26	0036	H-2-123060-8
SU-20C-003	CPC (SUMP 3) (ROOM 0048)	JX-20C-003	—	WPS-1"-420-013-L-IH PAX-1/2"-410-652-G PAC-1"-410-653-G	H-2-123351-1 D4 H-2-123350-5 C4 H-2-123350-5 D4	VIT BLDG. RM 3040	WPS-1"-420-041-(43) (1) PAX-1/2"-410-387-A IAX-1/2"-410-423-A SPARE (BLANKED) (3)	PE-2"-420-081-(43)IH PE-1/2"-410-856-A PE-1/2"-410-857-A PE-1/2"-410-1[illegible] (3)								PE-1"-20C-149-A	PE-2"-20C-198-A GEP-0047-20	0047	H-2-123060-8
SU-20C-004	MELTER CELL (SUMP 1) (ROOM 0047)	JX-20C-004	—	WPS-1"-420-025-L-IH PAX-1/2"-410-618-G PAC-1"-410-620-G	H-2-123351-1 D6 H-2-123350-5 E6 H-2-123350-5 E6	VIT BLDG. RM 3280	WPS-1"-420-042-(43) (1) PAX-1/2"-410-382-A IAX-1/2"-410-424-A SPARE (BLANKED) (3)	PE-2"-420-082-(43)IH PE-1/2"-410-857-A PE-1/2"-410-858-A PE-1/2"-410-1[illegible] (3)		H	A	B	3280 3260 3260 3280	0047	PE-1"-20C-144-A	PE-2"-20C-196-A GEP-0044-08	0044	H-2-123060-8
SU-20C-005	REDC (ROOM 0032)	—	PX-20C-020	PAX-1/2"-410-680-G DWX 1"-480-302-(48) (2) (3)	H-2-123350-5 E2 H-2-123357-3 E4	VIT BLDG. RM 3280(PIPE) RM 2200(ELEC)	PAX-1/2"-410-431-A DWX 2"-480-485-A IAX-1/2"-410-433-A CELL REFERENCE (3) SPARE (BLANKED)	PE-1/2"-410-959-A PE-2"-480-714-A PE-1/2"-410-910-A (FI-190) PE-1/2"-410-825-A (FI-188) PE-1/2"-410-7[illegible]								PE-1"-20C-153-A (DETAIL "B" DOES NOT APPLY SEE SHT 8)	PE-2"-20C-203-A SEE SHT 8	SEE SHT 8	H-2-123060-8
SU-20C-006	CDC (ROOM 0036)	JX-20C-006	—	WPS-1"-420-021-L-IH PAX-1/2"-410-613-G PAC-1"-410-614-G	H-2-123351-1 D7 H-2-123350-5 E7 H-2-123350-5 E7	VIT BLDG. RM 3280	WPS-1"-420-037-(43) (1) PAX-1/2"-410-435-A IAX-1/2"-410-436-A SPARE (BLANKED) (3)	PE-2"-420-083-(43)IH PE-1/2"-410-861-A PE-1/2"-410-862-A PE-1/2"-410-1332-A (3)		H	A	B	3280	0036	PE-1"-20C-141-A	PE-2"-20C-195-A GEP-0044-04	0044	H-2-123060-8
SU-20C-007	CDMC (ROOM 0066)	—	PX-20C-021	PAX-1/2"-410-683-G DWX 1"-480-310-(48) (2) (3)	H-2-123350-5 E1 H-2-123357-3 E3	VIT BLDG. RM 3280(PIPE) RM 2200(ELEC)	PAX-1/2"-410-437-A DWX 2"-480-487-A IAX-1/2"-410-438-A CELL REFERENCE (3)	PE-1/2"-410-863-A PE-2"-480-711-A PE-1/2"-410-864-A (FI-608) PE-1/2"-410-1330-A (FI-621)		C.E	D	A	B	3260 3280 3280 3280	0066	PE-1"-20C-151-A (DETAIL "B" DOES NOT APPLY SEE SH. 14)	PE-2"-20C-204-A SEE SHT 14	SEE SHT 14	H-2-123060-14
SU-20C-008	CRANE MAINTENANCE AREA(SUMP 1) (ROOM 0044)	—	PX-20C-022	PAX-1/2"-410-608-G DWX 1"-480-392-(48) (2) (3)	H-2-123350-5 D8 H-2-123357-3 C8	VIT BLDG. RM 3040	PAX-1/2"-410-387-A DWX 1"-480-550-A IAX-1/2"-410-425-A CELL REFERENCE (3)	PE-1/2"-410-865-A PE-1"-480-712-A PE-1/2"-410-866-A (FI-825) PE-1/2"-410-1348-A (FI-624)								PE-1"-20C-137-A	PE-2"-20C-XXX-A	3200	H-2-123060-14
SU-20C-009	CRANE MAINTENANCE AREA(SUMP 2) (ROOM 0067)	—	PX-20C-023	PAX-1/2"-410-607-G DWX 1"-480-393-(48) (2) (3)	H-2-123350-5 C8 H-2-123357-3 B6	VIT BLDG. RM 3280	PAX-1/2"-410-404-A DWX 1"-480-551-A IAX-1/2"-410-426-A CELL REFERENCE (3)	PE-1/2"-410-867-A PE-1"-480-713-A PE-1/2"-410-868-A (FI-675) PE-1/2"-410-1348-A (FI-674)								PE-1"-20C-138-A	PE-2"-20C-XXX-A	3200	H-2-123060-14
GB-210-001 (VENDOR PKG)	DECON GLOVE BOX	JX-20C-010	—	WPS-1"-420-019-L-IH PAX-1/2"-410-572-G PAC-1"-410-571-G	H-2-123351-1 A8 H-2-123350-4 D8 H-2-123350-4 D8	MANIPULATOR REPAIR BLDG	WPS-1"-420-044-(43)IS (1) PAX-1/2"-410-438-A IAX-1/2"-410-427-A CELL REFERENCE (3)	PE-2"-420-084-(43)IH PE-1/2"-410-969-A PE-1/2"-410-970-A (FI-483) PE-1/2"-410-1338-A (FI-485)								—	—	—	H-2-123060-9
SU-20C-012	ENTRY TUNNEL	JX-20C-012	—	WPS-1"-420-024-L-IH PAX-1/2"-410-617-G PAC-1"-410-618-G	H-2-123351-1 D6 H-2-123350-5 E6 H-2-123350-5 E6	VIT BLDG. RM 3280	WPS-1"-420-045-(43)IS (1) PAX-1/2"-410-430-A IAX-1/2"-410-428-A CELL REFERENCE (3)	PE-2"-420-085-(43)IH PE-1/2"-410-972-A PE-1/2"-410-973-A (FI-401) PE-1/2"-410-1[illegible]-A (FI-402)	(3)	C.E	D	A	B	3280	0040	—	—	—	H-2-123060-9
SU-20C-013	WC-CDC TRANSFER TUNNEL (ROOM 0044)	JX-20C-013	—	WPS-1"-420-023-L-IH PAX-1/2"-410-615-G PAC-1"-410-616-G	H-2-123351-1 D6 H-2-123350-5 E7 H-2-123350-5 E7	VIT BLDG. RM 3280	WPS-1"-420-047-(43) (1) PAX-1/2"-410-407-A IAX-1/2"-410-429-A SPARE (BLANKED) (3)	PE-2"-420-087-(43)IH PE-1/2"-410-874-A PE-1/2"-410-875-A PE-1/2"-410-1[illegible] (3)	GEP-0044-02	C.E	D	A	B	3280	0044	PE-1"-20C-143-A	PE-2"-20C-197-A GEP-0047-18	0047	H-2-123060-8
SU-20C-014	CANISTER EXIT TUNNEL	JX-20C-014	—	WPS-1"-420-020-L-IH PAX-1/2"-410-611-G PAC-1"-410-612-G	H-2-123351-1 D7 H-2-123350-5 E6 H-2-123350-5 E6	VIT BLDG. RM 3280	WPS-1"-420-048-(43)IS (1) PAX-1/2"-410-380-A IAX-1/2"-410-417-A CELL REFERENCE (3)	PE-2"-420-088-(43)IH PE-1/2"-410-976-A PE-1/2"-410-977-A (FI-443) PE-1/2"-410-768-A (FI-442)								—	—	—	H-2-123060-9
SU-20C-015	RR WELL (ROOM 0067)	JX-20C-015	—	WPS-1"-420-012-L-IH PAX-1/2"-410-682-G PAC-1"-410-681-G	H-2-123351-1 D3 H-2-123350-5 D2 H-2-123350-5 D2	VIT BLDG. RM 3040	WPS-1"-420-049-(43)IS (1) PAX-1/2"-410-441-A IAX-1/2"-410-430-A CELL REFERENCE (3)	PE-2"-420-089-(43)IH PE-1/2"-410-978-A PE-1/2"-410-979-A (FI-483) PE-1/2"-410-1338-A (FI-485)		C.E	D	A	B	3280 3260 3260 3260	0067	—	—	—	H-2-123060-9
SU-20C-016	REGULATED MAINTENANCE AREA	JX-20C-016	—	WPS-1"-420-018-L-IH PAX-1/2"-410-625-G PAC-1"-410-624-G	H-2-123351-1 D7 H-2-123350-5 C8 H-2-123350-5 C8	VIT BLDG. RM 3040	WPS-1"-420-050-(43)IS (1) PAX-1/2"-410-463-A IAX-1/2"-410-443-A CELL REFERENCE (3)	PE-2"-420-090-(43)IH PE-1/2"-410-980-A PE-1/2"-410-981-A (FI-347) PE-1/2"-410-1338-A (FI-345)								—	—	—	H-2-123060-9
SU-20C-017	RR AIRLOCK	JX-20C-017	—	WPS-1"-420-006-L-IH PAX-1/2"-410-567-G PAC-1"-410-568-G	H-2-123351-1 B2 H-2-123350-4 B2 H-2-123350-4 B3	VIT BLDG. RM XXX	WPS-1"-420-051-(43)IS (1) PAX-1/2"-410-464-A IAX-1/2"-410-444-A CELL REFERENCE (3)	PE-2"-420-091-(43)IH PE-1/2"-410-982-A PE-1/2"-410-983-A (FI-307) PE-1/2"-410-1313-A (FI-305)								—	—	—	H-2-123060-9
(3)																			
SU-20C-021	SAND FILTER INLET	—	PX-20C-013	PAX-1/2"-410-598-G DWX 1"-480-420-(48) (2) (3)	H-2-123350-4 E8 H-2-123357-2 F8	SAND FILTER BLDG.	PAX-1/2"-410-468-A DWX 1"-480-563-A IAX-1/2"-410-420-A CELL REFERENCE (3)	PE-1/2"-410-983-A PE-1"-480-715-A PE-1/2"-410-[illegible] (FI-372) PE-1/2"-410-[illegible]-A (FI-[illegible])								—	—	—	H-2-123060-10
SU-20C-022	SAND FILTER OUTLET	—	PX-20C-014	PAX-1/2"-410-595-G DWX 1"-480-418-(48) (2) (3)	H-2-123350-4 F7 H-2-123357-2 F8	SAND FILTER BLDG.	PAX-1/2"-410-476-A DWX 1"-480-548-A IAX-1/2"-410-445-A CELL REFERENCE (3)	PE-1/2"-410-988-A PE-1"-480-708-A PE-1/2"-410-989-A (FI-387) PE-1/2"-410-[illegible] (FI-[illegible])								—	—	—	H-2-123060-10
SU-20C-026	SCT DECON AREA	JX-20C-026	—	WPS-1"-420-007-L-IH PAX-1/2"-410-582-G PAC-1"-410-583-G	H-2-123351-1 B8 H-2-123350-4 D7 H-2-123350-4 D7	MANIPULATOR REPAIR BLDG	WPS-1"-420-052-(43)IS (1) PAX-1/2"-410-469-A IAX-1/2"-410-446-A CELL REFERENCE (3)	PE-2"-420-092-(43)IH PE-1/2"-410-990-A PE-1/2"-410-991-A (FI-327) PE-1/2"-410-1310-A (FI-325)								—	—	—	H-2-123060-9
SU-20C-027	MELTER CELL (SUMP 2) (ROOM 0047)	JX-20C-027	—	WPS-1"-420-034-L-IH PAX-1/2"-410-638-G PAC-1"-410-639-G	H-2-123351-1 D4 H-2-123350-5 E5 H-2-123350-5 E5	VIT BLDG. RM 3280	WPS-1"-420-053-(43) (1) PAX-1/2"-410-497-A IAX-1/2"-410-447-A SPARE (BLANKED) (3)	PE-2"-420-093-(43)IH PE-1/2"-410-992-A PE-1/2"-410-993-A PE-1/2"-410-1314-A								PE-1"-20C-146-A	PE-2"-20C-189-A GEP-0048-80	0048	H-2-123060-8
SU-20C-028	CONTACT MAINTENANCE ROOM	JX-20C-028	—	WPS-1"-420-035-L-IH PAX-1/2"-410-640-G PAC-1"-410-641-G	H-2-123351-1 C3 H-2-123350-5 B2 H-2-123350-5 B2	VIT BLDG. RM 3040	WPS-1"-420-054-(43)IS (1) PAX-1/2"-410-498-A IAX-1/2"-410-454-A CELL REFERENCE (3)	PE-1"-420-094-(43)IH PE-1/2"-410-994-A PE-1/2"-410-995-A (FI-327) PE-1/2"-410-1314-A (FI-325)		C.E	D	A	B	3040	0053	—	—	—	H-2-123060-9
SU-20C-029	EXHAUST STACK	—	PX-20C-024	PAX-1/2"-410-596-G DWX 1"-480-422-(48) (2) (3)	H-2-123350-4 E8 H-2-123357-2 F8	STACK	PAX-1/2"-410-517-A DWX 1"-480-559-A IAX-1/2"-410-457-A CELL REFERENCE (3)	PE-1/2"-410-996-A PE-1"-480-709-A PE-1/2"-410-997-A (FI-845) PE-1/2"-410-1316-A (FI-844)								—	—	—	H-2-123060-10
SU-20C-030	STAGED EQUIPMENT LAYDOWN CELL (ROOM 0082)	JX-20C-030	—	WPS-2"-420-070-L-IH PAX-1/2"-410-784-G PAC-1"-410-785-G	H-2-123351-1 D3 H-2-123350-5 E3 H-2-123350-5 E3	VIT BLDG RM 3280	WPS-2"-420-055-(43) (1) PAX-1/2"-410-518-A IAX-1/2"-410-783-A SPARE (BLANKED) (3)	PE-2"-420-181-(43)IH PE-1/2"-410-998-A PE-1/2"-410-999-A PE-1/2"-410-1314-A								PE-1"-20C-148-A	PE-2"-20C-201-A GEP-0055-7	0055	H-2-123060-8
SU-20C-031	CPC(SUMP4) (ROOM 0048)	JX-20C-031	—	WPS-1"-420-125-L-IH PAX-1/2"-410-1021-G PAC-1"-410-971-G	H-2-123351-1 D7 H-2-123350-5 D6 H-2-123350-5 D6	VIT BLDG. RM 3040	WPS-1"-420-120-(43) (1) PAX-1/2"-410-621-A IAX-1/2"-410-787-A SPARE (BLANKED) (3)	PE-2"-420-115-(43)IH PE-1/2"-410-1011-A PE-1/2"-410-1013-A PE-1/2"-410-1316-A								PE-1"-20C-142-A	PE-2"-20C-184-A GEP-0044-05	0044	H-2-123060-8
SU-20C-032	CPC(SUMP3) (ROOM 0048)	JX-20C-032	—	WPS-1"-420-126-L-IH PAX-1/2"-410-1023-G PAC-1"-410-1022-G	H-2-123351-1 D6 H-2-123350-5 D3 H-2-123350-5 D3	VIT BLDG RM 3040	WPS-1"-420-121-(43) (1) PAX-1/2"-410-627-A IAX-1/2"-410-789-A SPARE (BLANKED) (3)	PE-2"-420-116-(43)IH PE-1/2"-410-1015-A PE-1/2"-410-1020-A PE-1/2"-410-1317-A								PE-1"-20C-147-A	PE-2"-20C-200-A GEP-0043-10	0043	H-2-123060-8
SU-20C-033	REGULATED MAINTENANCE SHOP	JX-20C-033	—	WPS-1"-420-095-L-IH PAX-1/2"-410-1492-G PAC-1"-410-1493-G	H-2-123351-1 XX H-2-123350-4 XX H-2-123350-4 XX	VIT BLDG RM XXXX	WPS-1"-420-096-(43) (1) PAX-1/2"-410-1493-A IAX-1/2"-410-1496-A CELL REFERENCE (3)	PE-1"-420-128-(43)IH PE-1/2"-410-1494-A PE-1/2"-410-1497-A PE-1/2"-410-1498-A								—	—	—	H-2-123060-9
(3)																			

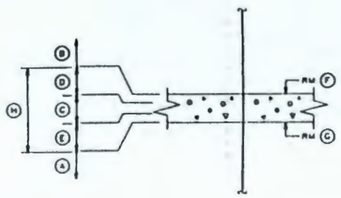
GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123060-1.

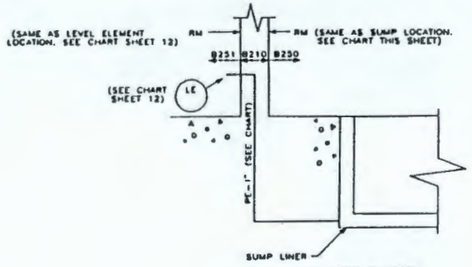
NOTES:

(1) SEE CHART FOR SPECIFIC ROOM NUMBERS AND CWBS PACKAGE BREAKS.

(3) QUALITY LEVEL II
SAFETY CLASS 3



CWBS PACKAGE BREAK DESCRIPTION
DETAIL "A" (1)



SU-20C-(SEE CHART)

CWBS PACKAGE BREAK DESCRIPTION
DETAIL "B"

RELEASED FOR PROJECT
BASELINE CONTROL

REV NO.	DATE	REVISION DESCRIPTION	DRAWN	CHECKED	DESIGNED	APPROVED, AGENCY
3	5/4/93	CHANGED LPW SUPPLY TO DWX PER CR-0623 AND CR-0624 ADDED EVACUATION LINES TO SUMP. SECONDARY CONTAINMENT. DELETED EXHAUST TUNNEL SUMP	KR 5/4/93	SDS 5/4/93	KMC 5/4/93	VWG 5/4/93
2	10/7/92	INCREASED MPS EMBEDS TO 2" PER CR-0676. ADDED PENETRATION NUMBERS FOR CWA SUMP LEAK DETECTION. AND ADDED DATA FOR RMS SUMP	ER	SDS	KMC	VWG
			BGJ	MJH	JGK	RSP
1	10/7/92	MINOR REVISIONS FOR B210A SLAB ONLY DESIGN DEVELOPMENT	ER	SDS	KMC	VWG
			BGJ	AHY	JGK	NHW
0	8/13/92	THIS DRAWING WAS CONSTRUCTED FROM PORTIONS OF H-2-123060-12 REV 3 DUE TO SPACE LIMITATIONS. INCREASED FLUSH LINE TO 2" TO CORRESPOND TO MIN. CONNECTOR SIZE PER CR-0676. ADDED LEAK DETECTION PE NUMBERS PER CR-0587. ADDED PACKAGE BREAKS. ADDED PE NUMBERS FOR CELL REF AND SPARE LINES. AND ADDED INSULATION TO MPS EMBEDS PER CR-0788	ER	SDS	KMC	VWG
			BGJ	AHY	JGK	RSP

B123060R — 28-JUN-93 ACD2:12 C1:SS

ENGINEERING RELEASE
REV _____ DATE _____
ERD _____

U.S. DEPARTMENT OF ENERGY
Richland Field Office
DE-AC06-89RL10830

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

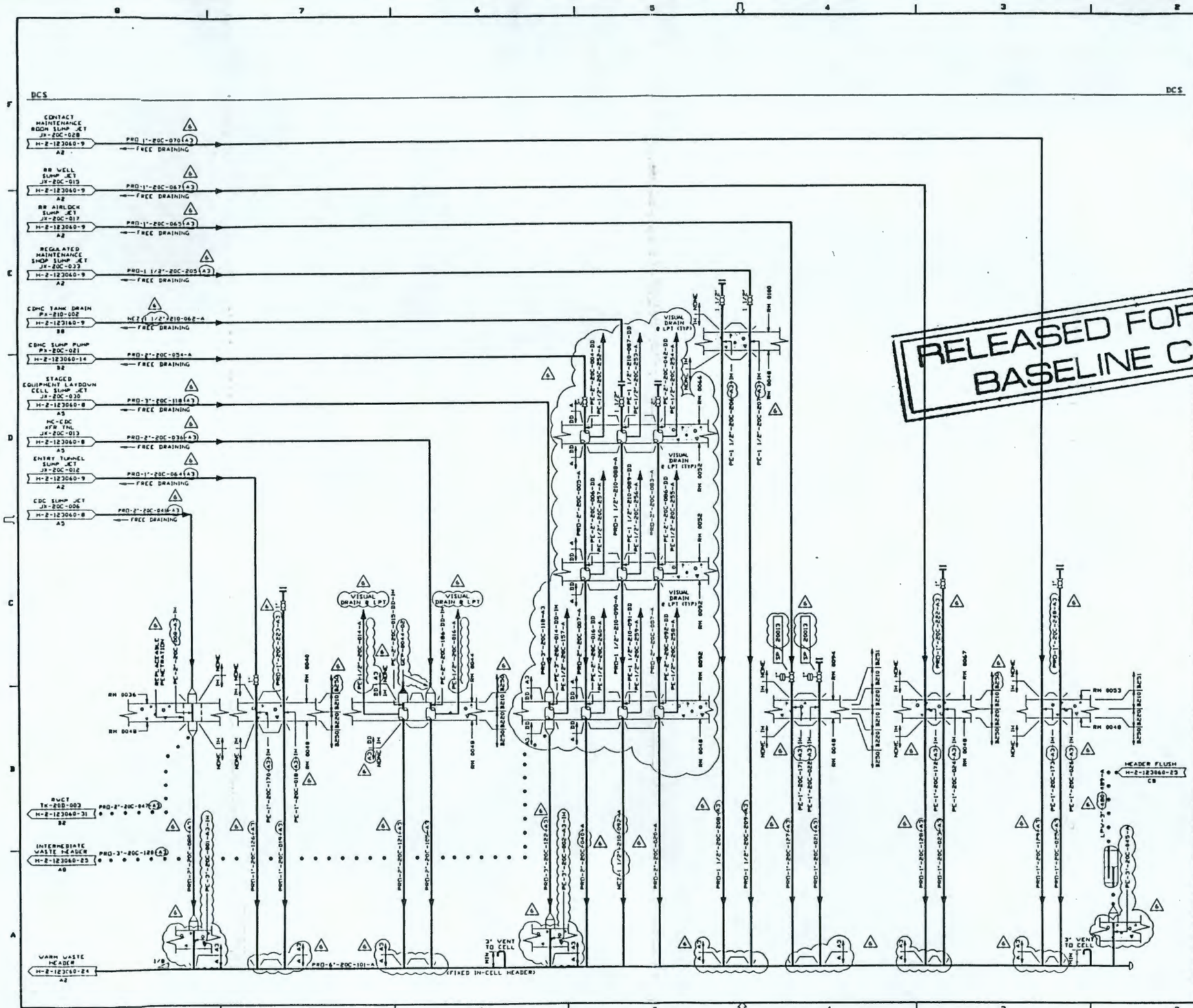
R.S. POULTER	8/11/92	
J. KELLY	8/11/92	
A. YEE	7/14/92	
B. JOHNSON	7/13/92	
V. GRANGER	7/13/92	
K.M. CRABB	7/14/92	
S.D. SHARP	7/14/92	
E. ROBLES	7/13/92	

P & I D
SYSTEM 20C
SUMP INSTRUMENT / PIPING
SUMMARY

PROJECT TITLE: HANFORD WASTE VITRIFICATION PLANT
PROJECT B-595 — PLANT DRAWING NO. 8457 — DWG NO. 3214
SCALE NONE — SCR. NO. — SHEET NO.
CONSTRUCTION NONE — NOT REQ'D
DRAWING NUMBER H-2-123060 — SHEET 15 — OF 34 — REV 3

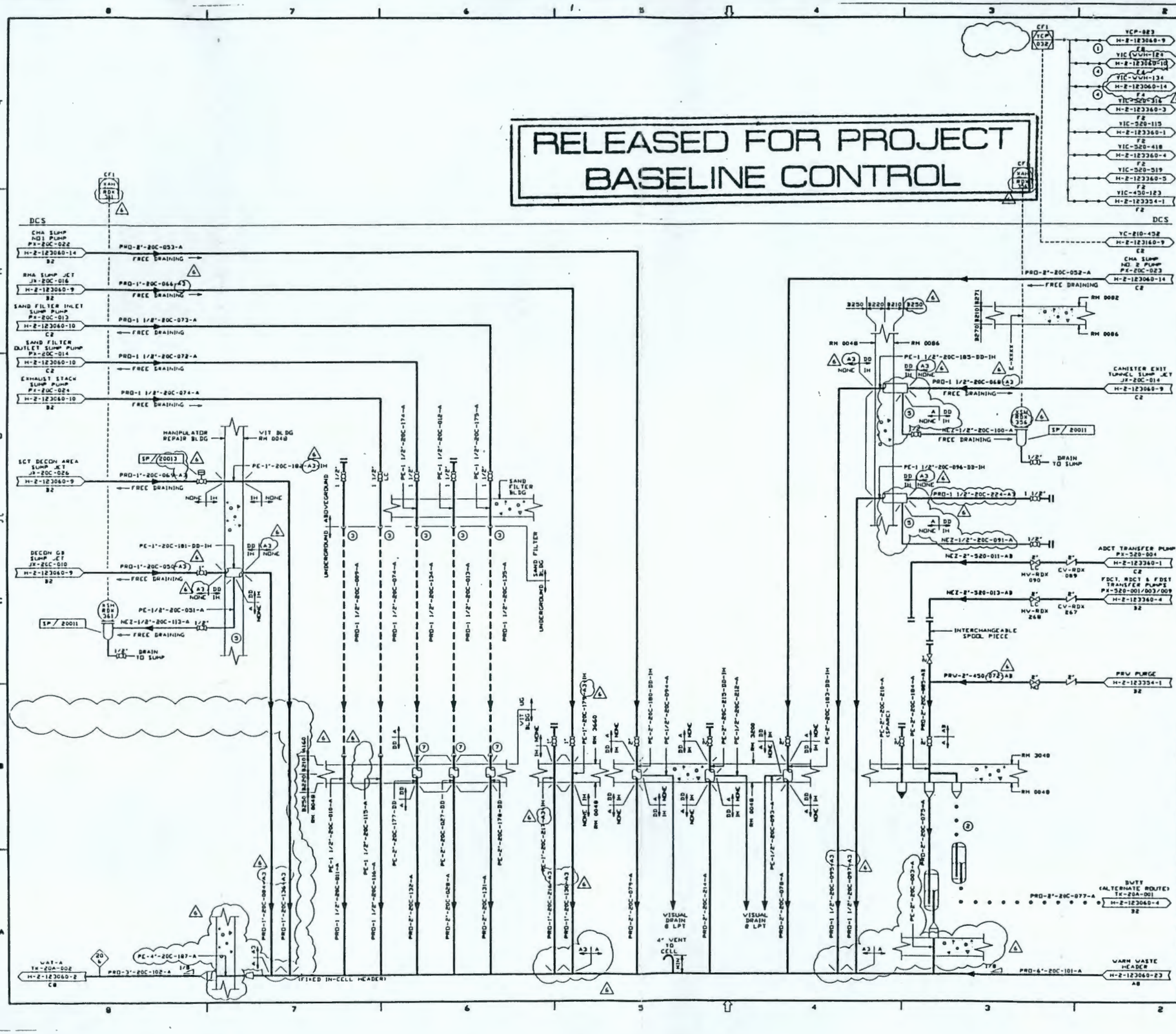
DISTRIBUTION CODE: ACAD — INITIALS: RR — DATE: 12 APR 93

94113092.0382


DCS
CONTACT MAINTENANCE ROOM SUMP JET
JX-20C-028
H-2-123060-9
A2
PRO 1"-20C-070
FREE DRAINING
RR WELL SUMP JET
JX-20C-015
PRO-1"-20C-067
RR AIRLOCK SUMP JET
JX-20C-017
PRO-1"-20C-065
REGULATED MAINTENANCE SHOP SUMP JET
JX-20C-033
PRO-1 1/2"-20C-205
CDMC TANK DRAIN
PX-210-002
NCZ-1 1/2"-210-062-A
CDMC SUMP PUMP
PX-20C-021
PRO-2"-20C-054-A
STAGED EQUIPMENT LAYDOWN CELL SUMP JET
JX-20C-030
PRO-3"-20C-118
HC-CDC XFR TNL
JX-20C-013
PRO-2"-20C-036
ENTRY TUNNEL SUMP JET
JX-20C-012
PRO-1"-20C-064
CDC SUMP JET
JX-20C-006
PRO-2"-20C-041
RWCT
TK-20D-003
H-2-123060-31
B2
PRO-2"-20C-047
INTERMEDIATE WASTE HEADER
H-2-123060-23
A8
PRO-3"-20C-128
WARM WASTE HEADER
H-2-123060-24
A2
PRO-6"-20C-101-A
(FIXED IN-CELL HEADER)
VISUAL DRAIN 8 LPT
VISUAL DRAIN 8 LPT (TYP)
3" VENT TO CELL
HEADER FLUSH
H-2-123060-23
C8
RELOCATABLE PE-1 1/2"-20C-050
RH 0036
RH 0048
RH 0044
RH 0052
RH 0054
RH 0056
RH 0067
RH 0068
RH 0069
RH 0080
RH 0082
RH 0084
RH 0086
RH 0088
RH 0090
RH 0092
RH 0094
RH 0096
RH 0098
RH 0100
RH 0102
RH 0104
RH 0106
RH 0108
RH 0110
RH 0112
RH 0114
RH 0116
RH 0118
RH

9413092.0389

RELEASED FOR PROJECT BASELINE CONTROL



GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123060-1

NOTES:

1. TYPICAL SOFTWARE INTERFACE POINT FOR TWELVE WARM WASTE HEADER SUMP JETS REMOTE STATUS ARE SHOWN ON H-2-123060-8 RATHER THAN H-2-123060-9
2. ALTERNATE ROUTE TO BUTT REQUIRES JUMPER CHANGE.
3. BURIED SUMP TRANSFER LINES ARE TO BE COATED, WRAPPED AND CATHODICALLY PROTECTED
4. TYPICAL SOFTWARE INTERFACE POINT FOR THREE WARM WASTE HEADER SUMP PUMPS
5. LEAK DETECTION LINE IS LOCATED ON LOW POINT OF OUTER PIPE.
6. DELETED
7. ENCASED PIPING IS PROVIDED TO SATISFY RCRA REQUIREMENTS IN THE EVENT THAT THE SAND FILTER IS REPLACED WITH METAL FIBER FILTERS. IF REQUIRED, LEAK DETECTION WILL BE PROVIDED AT THE METAL FIBER FILTER BUILDING

QUALITY LEVEL II
SAFETY CLASS 3

REV	DATE	REVISION DESCRIPTION	APPROVAL INITIALS			
6	5/14/93	RENUMBERED VALVES AND INSTRUMENTS PER CR-0702. DELETED EXHAUST TUNNEL SUMP. SHOWED PENETRATIONS FOR HEADER CONNECTIONS. MOVED LEAK DETECTION LINES FOR JX-20C-014 DISCHARGE				
5	31/12/92	ADDED SPARE PC FOR UTILITY PURGE PER CR-0728. ADDED SPARE LINES TO HEADER FROM CMA AND RMA. INCREASED SIZE OF EMBEDS FROM SAND FILTER AND ADDED ENCASEMENT. INCREASED SIZE OF CET DISCHARGE LINE. ADDED INSULATION FOR HIGH TEMPERATURE EMBEDS. ADDED MATERIAL SPEC BREAK AND LINE NO'S FOR ENCASEMENT DRAINS. AND CHANGED BELLOWS SEAL GLOBE VALVE TO BELLOWS SEAL BALL VALVE	ER	SDS	KMC	VWC
			BGJ	AKY	JGK	RSP
4	10/12/92	ADDED SPARE EMBEDS PER CR-0728. ADDED PACKAGE BREAKS. REVISED HEADER CONN SYMBOLOGY. DELETED ELECTRICAL CONN. CHANGED ENCASEMENT PIPE SPEC. ADDED LC DESIGNATION TO EXHAUST STACK VALVE. AND REROUTED SAND FILTER LINES UNDERGROUND	ER	SDS	KMC	VWC
			BGJ	AKY	JGK	RSP
3	31/4/91	CHANGED PRO LINE FROM "A" SPEC TO "DA". ADDED LINE NUMBERS. AND SHOWED WALL EMBEDS PER CR-0572	ER	HF	RPO	HF
			ERP	HJH	DPC	RNG
2	5/12/91	DELETED GLOVE BOX #2. REVISED VALVING. ADDED PENETRATION AND LINE NO'S. CHANGED SLOPE TO FREE DRAINING. RELEASED FOR PROJECT BASELINE CONTROL PER CR-0480	HF	VP	RGT	HF
			ERP	FGB	DPC	RNG
1	2/14/91	"RELEASED FOR PROJECT BASELINE	HF	VP	RGT	HF
		CONTROL" WITHDRAWN PER CR-463	ERP	FGB	DPC	RNG
0	12/31/90	RELEASED FOR PROJECT BASELINE CONTROL PER CR HWVP-044?	HF	VP	RGT	HF
			ERP	FGB	DPC	RNG
00	28/1/90	RELEASED FOR DETAILED DESIGN	KMC	VP	RGT	HF
			BJR	FB	DMPC	RNG

ENGINEERING RELEASE
REV. _____ DATE _____
ERD _____

SIGNATURE	DATE
R GIBBONS	8/14/90
D CHAWLA	8/14/90
F BROOKS	8/14/90
B J BECKMAN	8/14/90
H FELDON	8/14/90
R TAGNEY	8/14/90
K M CRABB	8/14/90
V M PIERCE	8/14/90
F HOLLSTEIN	8/14/90

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-86RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 20C
WARM WASTE HEADER

PROJECT TITLE: HANFORD WASTE VITRIFICATION PLANT

PROJECT	CLIENT DRAWING NO	CAD NO	SHEET NO
B-595	8457		3214

SCALE	SIZE	DRAWING NUMBER	SHEET	OF	REV
NONE	NOT REQ'D	H-2-123060	24	34	6

ER / AA3FD209
19 APR 93