



Department of Energy
Ohio Field Office
Fernald Environmental Management Project
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



5495

JUN 17 2004

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V, SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0300-04

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

**TRANSMITTAL OF DOCUMENT CHANGE NOTICE #1486, FERNALD CLOSURE PROJECT,
WASTE PIT PROJECT, CLOSURE OF CLEARWELL AND PROCESS WATER ROUTING TO
STORMWATER MANAGEMENT POND**

The purpose of this letter is to transmit to the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (OEPA) the Document Change Notice (DCN) #1486 for the Waste Pit Project (WPP) at the Fernald Closure Project (FCP). The subject of the DCN is "Closure of the Clearwell and re-routing process water to the Stormwater Management Pond." Typically, the WPP DCNs are transmitted informally via FAX or E-mail, however, the enclosures to this DCN, which are fold-out 11x17 prints of Process Flow Diagrams and Process Instrumentation Drawings, necessitate transmittal of the hard copy. The DCN is submitted for your agency's review and approval.

If you have any questions or require additional information, please contact Dave Lojek at (513) 648-3127.

Sincerely,


William J. Taylor
Director

FCP:Lojek

Enclosure: As Stated

5495

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DOE-0300-04

Mr. James A. Saric
Mr. Tom Schneider

-2-

cc w/enclosure:

D. Lojek, OH/FCP
T. Schneider, OEPA-Dayton (three copies of enclosure)
G. Jablonowski, USEPA-V, SR-6J
M. Cullerton, Tetra-Tech
M. Shupe, HSI GeoTrans
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:

K. Johnson, OH/FCP
D. Carr, Fluor Fernald, Inc./MS1
M. Cherry, Fluor Fernald, Inc./MS52-1
T. Hagen, Fluor Fernald, Inc./MS1
T. Walsh, Fluor Fernald, Inc./MS52-3
ECDC, Fluor Fernald, Inc./MS52-7

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Clearwell Closure Plan – 08JUN04

The Fernald Waste Pits Project (WPP) is nearing completion with over 90% of the pit waste excavated and shipped to Envirocare for disposal. In order to facilitate efficient completion of the pit waste excavation, an alternate contact storm water collection area is needed to enable closure of the Clearwell. The SWM Pond has been proposed as the alternate collection area. The following is a justification for this approach.

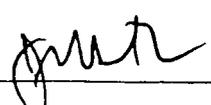
Technical Justification

1. Pit waste excavation is expected to be complete in less than six months: Closure of the Clearwell was originally planned for near the end of waste pit excavation. The project has progressed to the point where Clearwell closure is needed at this time to efficiently complete waste pit excavation.
2. Excavation of Clearwell is planned for the month of July 2004 to ensure the Thermal Drying Unit throughput is maximized. Clearwell waste will likely require processing through the Thermal Drying System. Excavation of dryer feed waste from Pits 3 and 5 should be completed by the end of June 2004. Excavation of dryer feed from Pit 2 is concurrent with the clearwell
3. Final removal of pit waste will require the removal of some waste from areas outside the original design boundaries of the waste pits. Specifically, there is visible waste extending into the upper portions of Pit 1 south berm and Pit 3 west berm. Removal of this waste will require relocation of above ground storm water and wastewater lines that transfer water to the Clearwell. Once the berm waste is removed, it will be impractical to reinstall the storm water lines feeding the Clearwell as gravity drainage will not be achieved without great expense.
4. The project would prefer to reroute contact storm water to an alternate holding area in lieu of allowing water to stand in the pits prior to treatment. The SWM Pond is a suitable location for the following reasons: a) It is a lined pond which minimizes potential impacts to the aquifer, b) is located adjacent to the waste pits, c) would require minimum equipment or piping modifications to enable receipt of water presently going to the Clearwell and to enable discharge to the Water Treatment System (WTS), d) operations personnel are familiar with monitoring SWM Pond level to prevent overflow.
5. The Clearwell and SWM Pond have similar operational capacities. The increase in storm water collection area should be offset by the expected reduced rainfall during the summer. Contact water will be further reduced as pits are transferred to the Soil project following completion of waste removal.
6. There will be a period of approximately two to four weeks when contaminated water will remain in the waste pits prior to treatment to enable the switch from

Clearwell to SWM Pond. This time is needed to make equipment and piping modifications. Efforts will be made to minimize this time by implementing some changes prior to terminating use of the Clearwell.

7. SWM Pond level will be managed such that an overflow is very unlikely (e.g. curtailing pumping from the excavation). The existing SWM Pond pump can be used to transfer water out of the SWM Pond and back to the waste pits should the SWM Pond water reach a predetermined level. The existing SWM Pond overflow will be blocked to eliminate the potential for contaminated water to overflow to the north and on to Paddys Run. A portable pump will also be available to transfer water out of the SWM Pond should there be a power interruption or other operational problem with the existing SWM Pond pump.
8. Contaminated solids accumulated in the SWM Pond will be removed upon completion of waste pit excavation.
9. Operational and engineering considerations are detailed in DCN 1486.

Engineering / Document Change Notice

Shaw Project No. 773481 / FF No. 98SC000001		Project Name: WPRAP	PCP: N/A
Subject: Process Water Routing to SWM Pond			
Type of Change: ECN _____ DCN <u> X </u>	Change Class: Class 1 _____ (PCP Req'd) Class 2 _____ (PCP Req'd) Class 3 <u> X </u> (Minor Mod)	Change Number: 1486	Issue Date: 06/04/04 Page <u> 1 </u> of <u> 3 </u>
Reason for Change: Reference DCN 1466 04/08/04 and DCN 1475 05/21/04. Closure of the Clearwell and continued operations require the utilization of the SWM Pond as the primary collection point for contact surface water from excavation, blowdown, and building sumps.			
Description of Change: In DCN 1466, a 2 nd submersible pump (P-9081) was added to the truckwash settling basin in addition to P-9080. P-9080 and P-9081 have 400-500ft 4" HDPE discharges direct to the clearwell. 12"PW-9021-UW, which delivers surface water from the plant and haul road sumps to the clearwell was re-directed from the point near the BSL where it surfaces to run by gravity to the truckwash basin. The reason for this change was to remove the 12" line from the Pit 1 area to allow excavation to proceed. In this DCN 1475, the closure of the clearwell is addressed by allowing the re-direction of the settling basin pumps to discharge to the SWM Pond. This is achieved by relocating the 4" above-ground lines to discharge to the CW. In order to get SWM Pond discharge into the WTS, the FM-6" underground PIV station near pole 699 will be excavated and the West PIV, which currently allows the connection of FM-6" to the 12" line (referenced above), will be connected to the WTS influent 6" located in the influent/effluent pit (roughly 75yds away). This WTS influent line is the clearwell pump discharge, which will be abandoned for removal with the clearwell excavation. D-90-10-001 Rev 2 06/04/04, D-90-10-002 Rev 1 06/04/04, D-05-11-002 Rev 3 06/04/04 D-65-11-001 Rev 6 10/07/02, D-65-11-002 Rev 6 10/08/02, D-90-11-001 Rev 8 10/04/02, D-90-11-004 Rev 5 04/08/04			
Document Title: CFC Package	Document No.: C-C5	Rev No. See above	Rev. Date
Is This Change.....	Safety Related _____ Configuration _____ Administrative <u> X </u>	Permanent <u> X </u> Temporary _____ Expiration Date _____	Required Approvals Lead Proj. Engr. <u> X </u> P.E. _____
Prepared By: J. Satkoski	Date: 06/04/04		
Approved By: J. Satkoski 	(Lead Proj. Engr.)	Date: 06/04/04	
Approved By:	Date:		

By JMS Date 06/04/04 Subject SWM Pond use in place of Sheet No. 2 of 3
Chk'd By _____ Date _____ Clearwell Project No. 773481

Operational & Engineering Considerations

Capacity:

The clearwell has been operating between Elev 567 and 573 for the last 12 months, for a operating capacity of 1,007,336 gallons. The SWM Pond operates between 572 and 578, for an operating capacity of 981,728. Although there is a decrease in capacity, the change is being implemented to service the remainder of dryer operations, the end of excavation, safe-shutdown and D&D - which will continue to produce less process water for treatment as the completion nears.

SWM Pond Overflow:

The SWM Pond has an overflow at Elev 578 to an area East of the rail tracks. This 24" overflow will be sealed, and overflow will be managed via pumping to an available pit. During high-level conditions in the SWM Pond, pumping from the excavation may be curtailed (hold the water in the pits) in a similar fashion as currently practiced when the BSL is closed to WPRAP influent after strong rain events.

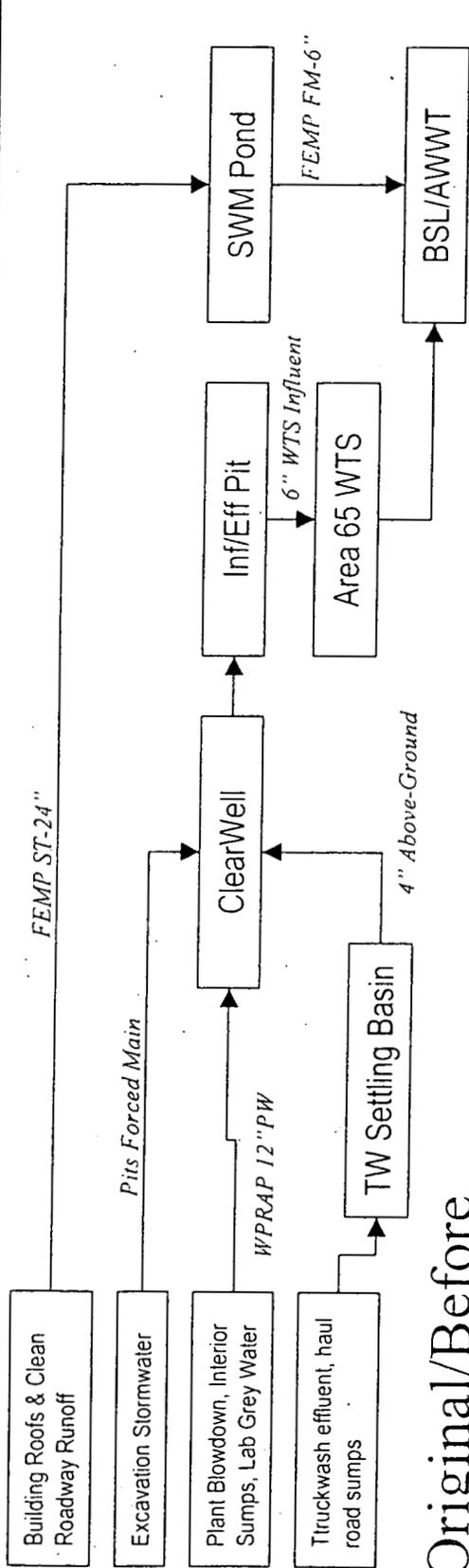
SWM Pond Closure

The addition of process waters to the SWM Pond will result in increased sediment collection of the bottom of the SWM Pond. During Safe Shutdown of the WPRAP facility prior to the shutdown of the Area 65 WTS systems, the SWM Pond will also undergo a cleaning - using the WTS to continue to treat the water and the sediments prior to discharge to the BSL. The solids will be collected in the Area 60 filter press for loadout. If the solids are not easily removed, the SWM Pond could then be excavated to recover the solids.

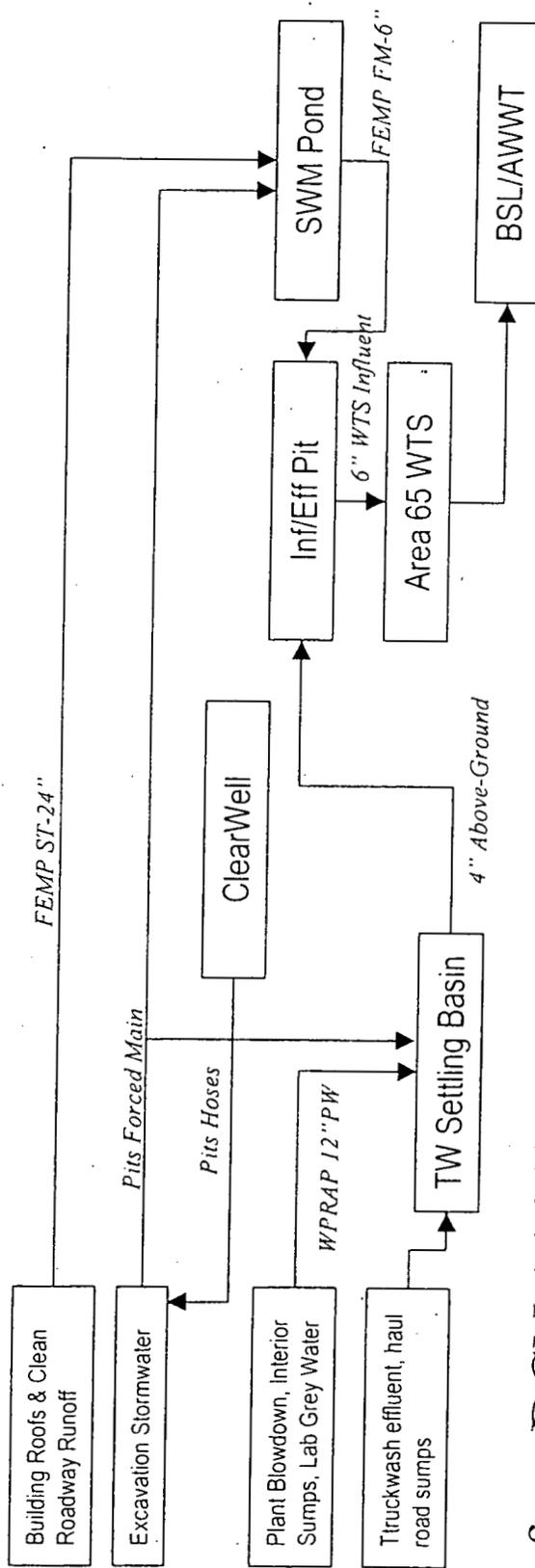
DESCRIPTION OF DRAWING CHANGES

- D-90-10-001: Added Truckwash Basin, Consolidated Clearwell flows to either Truckwash Settling Basin or SWM Pond, new Stream 930.
- D-90-10-002: Now 2 sheets, 2nd sheet reflects current conditions and expected as of Dryer Cessation - 1st page left unchanged (original design)
- D-05-11-002: Added P-9080/81 influent to SWM Pond, added seal of overflow, added manual pump for overflow relief, modified FM-6" tie-in valve to show D-65-11-001.
- D-65-11-001: removed FE-656, added line from D-05-11-002 and HV-6501A, showed a blind on Clearwell influent to valve station. Changed sludge reference, removing clearwell.
- D-65-11-002: removed reference to clearwell for D-90-11-001 blowdown.
- D-90-11-001: removed excavation pumps on line to truckwash basin 12" PW-6500-UW.
- D-90-11-004: showed waste pits pumps direct to settling basin, overflow to Ppit 2, and P-9080/9081 effluent to D-05-11-002 (SWM Pond)

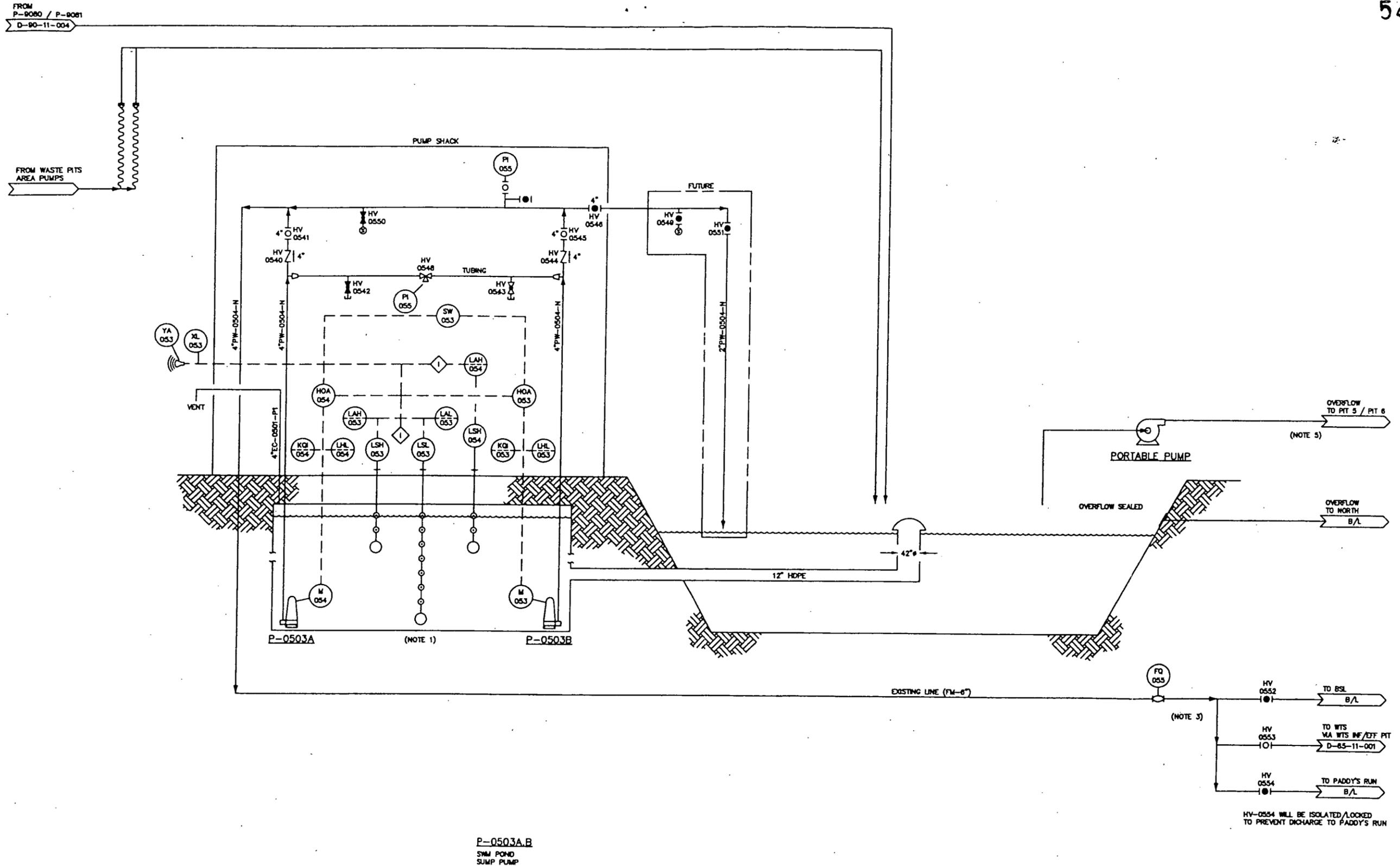
DCN 1486: Before/After Stormwater Flow



Original/Before



After: DCN 1466/1486



P-0503A.B
SWM POND
SUMP PUMP

1. WELL DIMENSIONS ARE 80"x24"x20'-0".
2. PUMP SHACK IS LABELED 98-256-ASVP.
3. UNDERGROUND VALVES AND FLOWMETER . (VALVES ARE NORMALLY CLOSED)
4. DCN 1486, 06/04/04: ADDED D-65-11-001 AS DESTINATION FOR HV-0553 EFFLUENT TO ROUTE SWM POND EFFLUENT DIRECT TO WTS
5. OVERFLOW CAN BE MANUALLY PUMPED TO PITS AT SWM POND OR MAY BE PUMP VIA P-0503 A/B THROUGH THE WTS BACK TO THE WASTE PITS IF NEEDED.

REV	DATE	BY	CHK'D	APPR'VE	DESCRIPTION
3	8/04/04	JMS	MSD	JMS	DCN 1486
2	08/13/00	JAM	PA	JAN	UPDATE PER DCN 538
1	9/29/99	JMH	PA	JAN	AS BUILT
0	7/12/99	JMH	BAH	JAN	ISSUED FOR CONSTRUCTION

FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 FDF SUBCONTRACT NO. 98SC000001

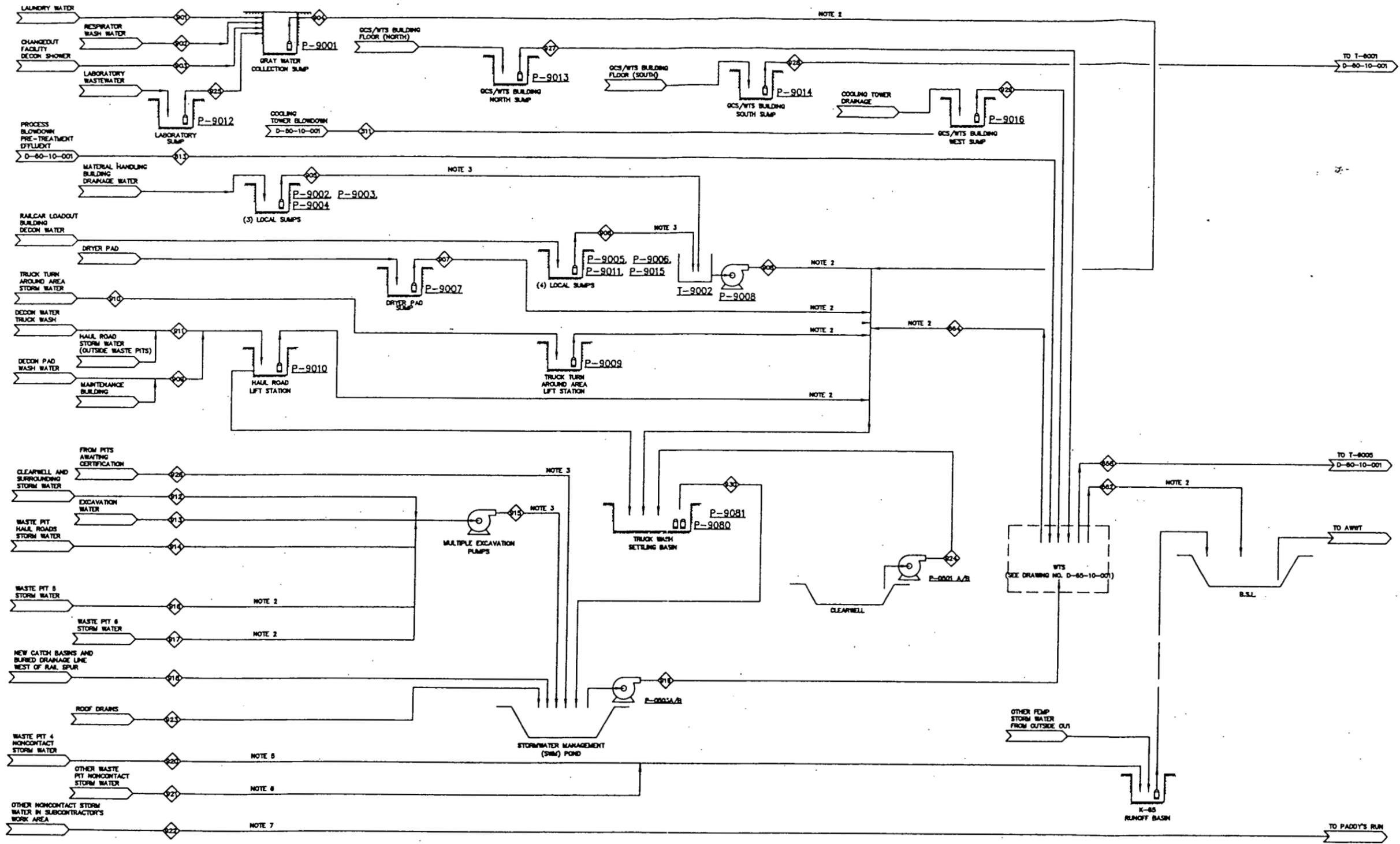
PROJECT NAME
 WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE
 AREA 05
 PIPING & INSTRUMENTATION DIAGRAM
 STORMWATER MANAGEMENT POND (SWM)

Shaw Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

DESIGNED BY	SKZ	CHECKED BY	BAH	7/9/99	REVISION
DRAWN BY	JMH	APPROVED BY	JAM	7/9/99	
DATE	7/9/99	DWG. SCALE	NONE		3
IT PROJECT NO.	773481	DRAWING NO.	D-05-11-002		

NOTE 3) HV-0554 WILL BE ISOLATED/LOCKED TO PREVENT DISCHARGE TO PADDY'S RUN



P-9001	P-9002, 9003, 9004	P-9005, 9006	P-9015	P-9011	P-9012	P-9007	I-9002	P-9008	P-0501A/B	P-0503A/B	P-9080/81	P-9009	P-9010	P-9013	P-9014	P-9016
GRAY WATER PUMP	MATERIAL HANDLING BUILDING (MHB) SUMP PUMPS	RAILCAR LOADOUT BUILDING (RLB) SUMP PUMPS (NORTH AND SOUTH)	RAILCAR LOADOUT BUILDING WASH WATER SUMP PUMP	RAILCAR LOADOUT BUILDING (RLB) DECON SUMP PUMP	LABORATORY SUMP PUMP	DRYER PAD SUMP PUMP	MHB COLLECTION TANK (MHBCT)	MHBCT TRANSFER PUMP	CLEARWELL TRANSFER PUMPS	SWM POND TRANSFER PUMPS	TRUCKWASH SETTLING BASIN TRANSFER PUMPS	TRUCK TURN AROUND AREA SUMP PUMP	TRUCK WASH SUMP PUMP	OCS/WTS BUILDING SUMP PUMP (NORTH)	OCS/WTS BUILDING SUMP PUMP (SOUTH)	OCS/WTS BUILDING SUMP PUMP (WEST)

STREAM NUMBER	511	613	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	658	662	664
(NOTE 1)	COOLING TOWER BLOWDOWN	PROCESS BLOWDOWN PRE-TREATMENT EFFLUENT	LAUNDRY WATER	RESPIRATOR WASH WATER	DECON SHOWER	GRAY WATER SUMP	MATERIAL HANDLING BLDG SLUMPS	RAILCAR LOADOUT BLDG SLUMPS	DRYER PAD SUMP	MHBCT TRANSFER PUMP	DECON PAD WATER	TRUCK TURN AROUND AREA SUMP	TRUCK WASH SUMP	CLEARWELL STORM WATER	EXCAVATION WATER	HAUL ROAD STORM WATER	EXCAVATION PUMPS	WASTE PIT 5 STORM WATER	WASTE PIT 6 STORM WATER	SWM POND COLLECTION BASINS	SWM POND EFFLUENT	WASTE PIT 4 NONCONTACT STORM WATER	OTHER WASTE PIT NONCONTACT STORM WATER	NONCONTACT STORM WATER OUTSIDE PITS	ROOF DRAINS	CLEARWELL TRANSFER PUMP	LABORATORY WASTEWATER	FROM PITS AWAITING CERTIFICATION	OCS/WTS BUILDING (NORTH)	OCS/WTS BUILDING (SOUTH)	COOLING TOWER DRAINAGE	SETTLING BASIN DISCHARGE	WATER IN WTS SLUDGE DISCHARGE	WTS EFFLUENT	WTS BACKWASH

- NOTES:**
- STREAM DESCRIPTIONS ARE GIVEN ON DWG D-90-11-002, BY PHASE.
 - BURIED LINE.
 - SHOWN AS A SINGLE STREAM FOR CALCULATION PURPOSES. ACTUAL FIELD CONDITIONS MAY REQUIRE SEVERAL SEPARATE STREAMS.
 - STREAM CAN GO TO THE BSL IF IT MEETS THE WAC FOR DISCHARGE TO THE BSL.
 - COLLECTION TRENCH AROUND PIT AND THROUGH EXISTING CULVERTS.
 - EXISTING TRENCHES AND CULVERTS.
 - DRAINAGE SLOPES AROUND NORTH AND SOUTH SIDE OF BSL; AND AREA NORTH OF PIT 6 AND SWM POND.
 - STREAM CAN GO TO BSL OR CLEARWELL IF IT DOES NOT MEET CRITERIA FOR HPIES-DISCHARGE.
 - EXISTING BURIED LINE FROM SWM POND TO BSL.
 - EXISTING BURIED LINE FROM CLEARWELL TO BSL.

2	8/04/04	JMS	MSD	JMS	DCN 1486, 1486 & ASBULT CONDITION
1	3/8/99	COB	PA	JAM	DCN 086
0	8/28/98	PMS	PA	JAM	CERTIFIED FOR CONSTRUCTION
REV	DATE	BY	CHK'D	APPR'D	DESCRIPTION

FLUOR FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 FDF SUBCONTRACT NO. 9852.000001

Shaw Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

PROJECT NAME: WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 TITLE: AREA 90 SITE WATER BALANCE PROCESS FLOW DIAGRAM

DESIGNED BY	PMS	CHECKED BY	PA	8/28/98	REVISION
DRAWN BY	COB	APPROVED BY	JAM	8/28/98	
DATE	8/28/98	DWG. SCALE	NO SCALE		2
IT PROJECT NO.	773481	DRAWING NO.	D-90-10-001		

NO.	DESCRIPTION	UNITS	PH. 1	PH. 2	PH. 3	PH. 4	PH. 5	PH. 6	PH. 7	PH. 8	PH. 9	PH. 10	PH. 11	PH. 12	PH. 13	PH. 14	PH. 15	PH. 16	PH. 17	PH. 18	PH. 19
511	COOLING TOWER BLOWDOWN	gpd	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400	14,400
613	PROCESS BLOWDOWN PRE-TREATMENT	gpd	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520	47,520
901	LAUNDRY WATER	gpd	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
902	RESPIRATOR WASH WATER	gpd	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
903	DECON SHOWERS	gpd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
904	GWCT TRANSFER PUMP	gpd	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950
905	MATERIAL HANDLING BLDG SUMPS	gpd	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
906	RAILCAR LOADOUT BLDG SUMPS	gpd	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
907	DRYER PAD SUMP	gpd	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418
908	MHBCT TRANSFER PUMP	gpd	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428
909	DECON PAD WATER	gpd	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
910	TRUCK TURN-AROUND AREA STORM WATER	gpd	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
911	TRUCK WASH SUMP	gpd	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
912	CLEARWELL STORM WATER	gpd	7,266	4,181	4,181	4,181	4,181	4,181	3,136	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	0	0
913	EXCAVATION WATER	gpd	20,578	28,037	29,030	70,344	92,405	97,488	98,410	124,114	125,597	109,195	112,406	56,189	63,230	109,598	122,659	114,984	19,930	15,336	0
914	WASTE PIT HAUL ROAD STORM WATER	gpd	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060
915	EXCAVATION PUMPS	gpd	22,638	30,097	31,090	72,404	94,465	99,548	100,470	126,174	127,657	111,255	114,466	58,249	65,290	111,658	124,719	117,044	21,990	17,396	2,060
916	WASTE PIT 5 STORM WATER	gpd	11,169	11,169	11,169	11,169	11,169	11,169	11,169	11,169	8,153	6,242	5,794	4,569	4,241	2,598	2,568	1,672	0	0	0
917	WASTE PIT 6 STORM WATER	gpd	2,210	2,210	2,210	2,210	2,210	2,210	2,210	0	0	0	0	0	0	0	0	0	0	0	0
918	SWM POND COLLECTION BASINS	gpd	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160	9,160
919	SWM POND EFFLUENT	gpd	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051	17,051
920	WASTE PIT 4 N.C. STORM WATER	gpd	4,480	4,480	4,480	4,480	2,598	2,598	2,538	2,538	2,538	2,538	2,538	2,329	2,329	0	0	0	0	0	0
921	OTHER WASTE PIT N.C. STORM WATER	gpd	19,791	11,199	8,959	6,719	2,240	1,493	1,493	1,493	1,493	1,493	1,493	0	0	0	0	0	0	0	0
922	NONCONTACT STORM WATER OUTSIDE PITS	gpd	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290	10,290
923	ROOF DRAINS	gpd	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891	7,891
924	CLEARWELL TRANSFER PUMP	gpd	78,829	83,203	84,197	125,510	156,974	152,654	152,531	181,785	180,252	177,376	180,139	157,286	141,607	195,160	173,602	165,030	163,215	147,766	146,052
925	LABORATORY WASTEWATER	gpd	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
926	WATER FROM PITS AWAITING CERTIFICATION	gpd	0	0	0	0	9,403	0	0	6,955	6,955	22,392	22,392	56,981	34,589	43,416	8,827	8,827	103,738	94,824	108,446
927	GCS/WTS BUILDING NORTH SUMP	gpd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
928	GCS/WTS BUILDING SOUTH SUMP	gpd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
929	GCS/WTS BUILDING WEST SUMP	gpd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
658	WATER IN WTS SLUDGE DISCHARGE	gpd	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747	12,747
662	WTS EFFLUENT	gpd	98,602	102,976	103,969	145,283	176,747	172,427	172,304	201,558	200,024	197,149	199,912	177,059	161,380	214,932	193,374	184,803	182,987	167,539	165,825
664	WTS BACKWASH	gpd	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000

REV	DATE	BY	CHKD	APPV	DESCRIPTION
1	8/28/98	JMS	MSD	JMS	MODIFIED TO ALLOW FOR 2ND SHEET - DCN 1486
0	8/28/98	PMS	PA	JAN	CERTIFIED FOR CONSTRUCTION

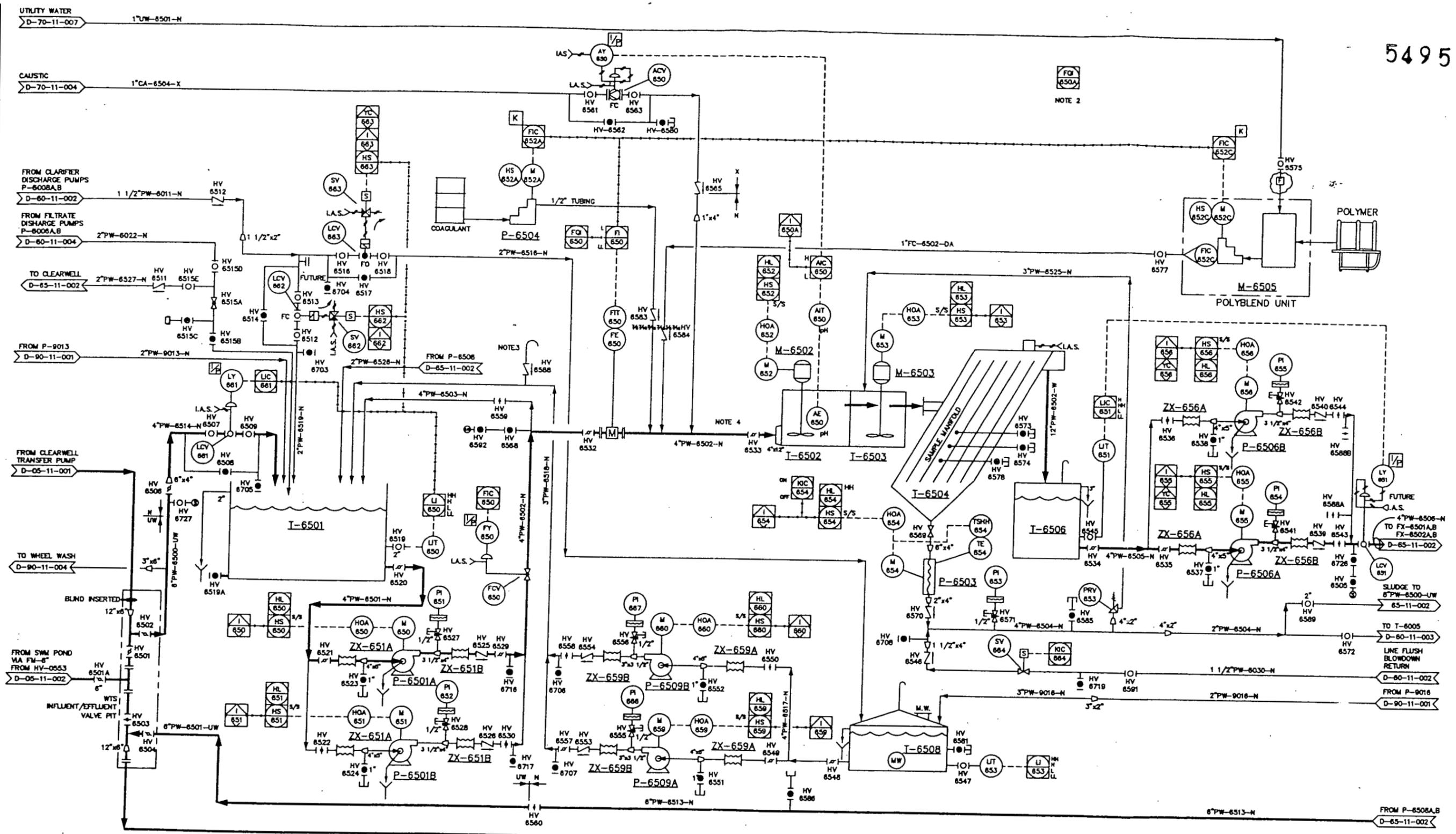
FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 PDE SUBCONTRACT NO. 98SC000001

PROJECT NAME
 WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE
 AREA 90
 SITE WATER BALANCE
 PROCESS STREAM TABLE

Shaw Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

DESIGNED BY	PMS	CHECKED BY	PA	8/28/98	REVISION
DRAWN BY	COB	APPROVED BY	JAN	8/28/98	1
DATE	8/28/98	DWG. SCALE	NO SCALE		
PROJECT NO.	773481	DRAWING NO.	D-90-10-002	1 OF 2	



- I-6501** INFLUENT TANK 5,000 GAL
- P-6501A,B** CLARIFIER FEED PUMPS 250 GPM, 20 PSIG 7.5 HP
- ZX-651A** **ZX-651B** CLARIFIER FEED PUMP EXPANSION JOINTS
- P-6504** COAGULANT METERING PUMP 10 GPH, 10 PSIG
- ZX-659A** **ZX-659B** TEMPORARY HOLDING TANK TRANSFER PUMP EXPANSION JOINTS
- P-6509 A,B** TEMPORARY HOLDING TANK TRANSFER PUMPS 200 GPM, 20 PSIG, 7.5 HP
- I-6504** INCLINED PLATE CLARIFIER
- M-6502** FLASH MIXER
- M-650** STATIC MIXER
- I-6502** FLASH MIX TANK
- M-6503** FLOCCULATION MIXER
- I-6503** FLOCCULATION TANK
- I-6508** TEMPORARY HOLDING TANK 20,000 GAL
- I-6506** CLARIFIER OVERFLOW TANK 6,000 GAL
- P-6503** CLARIFIER SLUDGE PUMP 80 GPM, 35 PSIG, 5 HP
- ZX-656A** **ZX-656B** FILTER FEED PUMP EXPANSION JOINTS
- M-6505** POLYMER MIXER UNIT 5 GPH, 10 PSIG
- P-6506A,B** FILTER FEED PUMPS 250 GPM, 65 PSIG, 20 HP

- NOTES:**
1. ALL SECONDARY PUMPS ARE INSTALLED SPARES.
 2. TOTAL ESTIMATED FLOW FROM CLEARWELL (DERIVED FROM FQI-650, FQI-643, FQI-610).
 3. ANTI SIPHON WENT BACK TO T-6508
 4. M-650 REMOVED AND REPLACED BY SPOOLPIECE
 5. DCN 1384 06/08/03: ADDED FCV-650 (REPLACING HV-6531), 2\"/>

REV	DATE	BY	CHK'D	APPROV	DESCRIPTION
6	10/07/02	DAL	JMS	JMS	UPDATE DRAWING PER DCN'S 384 & 1029
5	08/13/02	JAW	PA	JAN	UPDATE DRAWING PER DCN'S 431, 470/473, 514, 538, 570, 611
4	8/29/02	COB	PA	JAN	AS BUILT
3	4/18/99	JPS	PA	JAN	CONTROL SYSTEM REVIEW - DCN #246
2	2/1/99	COB	JAN	JAN	DESIGN UPDATE
1	8/25/98	JWM	BAH	JAN	HAZOP REVIEW - DCN 033
0	8/28/98	PWS	PA	JAN	CERTIFIED FOR CONSTRUCTION

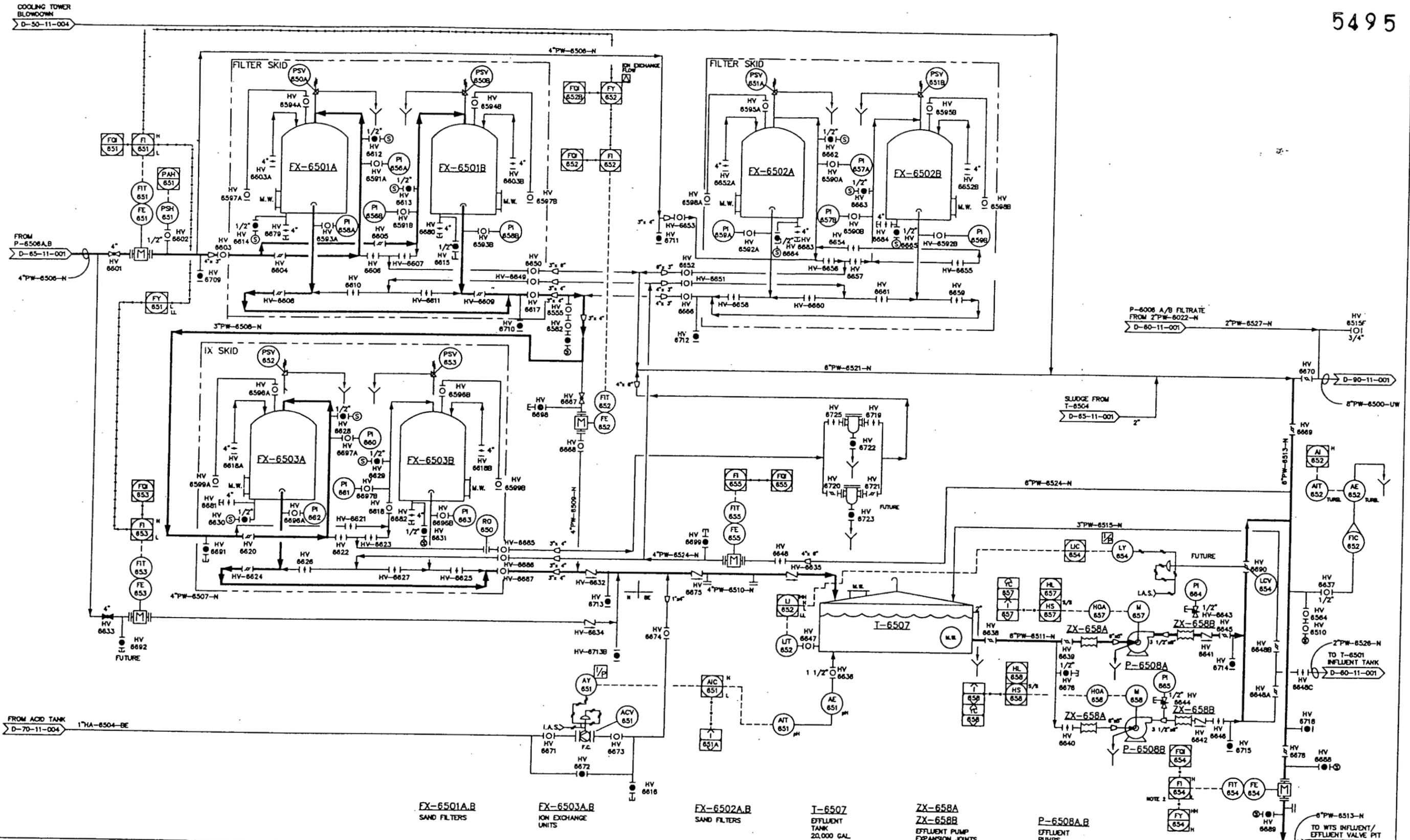
FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 FDF SUBCONTRACT NO. 885000001

PROJECT NAME: WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE: AREA 65 PIPING & INSTRUMENTATION DIAGRAM WASTEWATER TREATMENT SYSTEM (WTS)

Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

DESIGNED BY	PWS	CHECKED BY	PA	2/1/99	REVISION
DRAWN BY	COB	APPROVED BY	JAN	2/1/99	
DATE	2/1/99	DWG. SCALE	NONE		6
IT PROJECT NO.	773481	DRAWING NO.	D-65-11-001		



- NOTES:
1. ALL SECONDARY PUMPS ARE INSTALLED SPARES.
 2. 24-HR. AVERAGE
 3. TFE LINED T (USE BE SPEC.)
 4. DCN 1384 06/09/03: ADDED 2" PW-6526-N TO P-6508 DISCHARGE RECYCLE; ADDED 2" PW-6527-N TO 6" PW-6500-UW
 5. DCN 1486 06/04/04: CHANGED AREA 65 BLOWDOWNS REFERENCE TO CLEARWELL

REV	DATE	BY	CHK'D	APPROV'D	DESCRIPTION
8	10/08/02	DAL	JMS	JMS	UPDATE DRAWING PER DCN'S 877
5	09/13/00	JAM	PA	JAM	UPDATE DRAWING PER DCN'S 451, 500, 560, 570, 611
4	9/29/99	COB	PA	JAM	AS BUILT
3	4/19/99	JPS	PA	JAM	CONTROL SYSTEM REVIEW - DCN #246
2	2/1/99	COB	JAM	JAM	DESIGN UPDATE
1	9/23/98	JNH	BAH	JAM	HAZOP REVIEW - DCN 033
0	5/28/98	PMS	PA	JAM	CERTIFIED FOR CONSTRUCTION

FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 FDF SUBCONTRACT NO. 985C000001

PROJECT NAME
WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

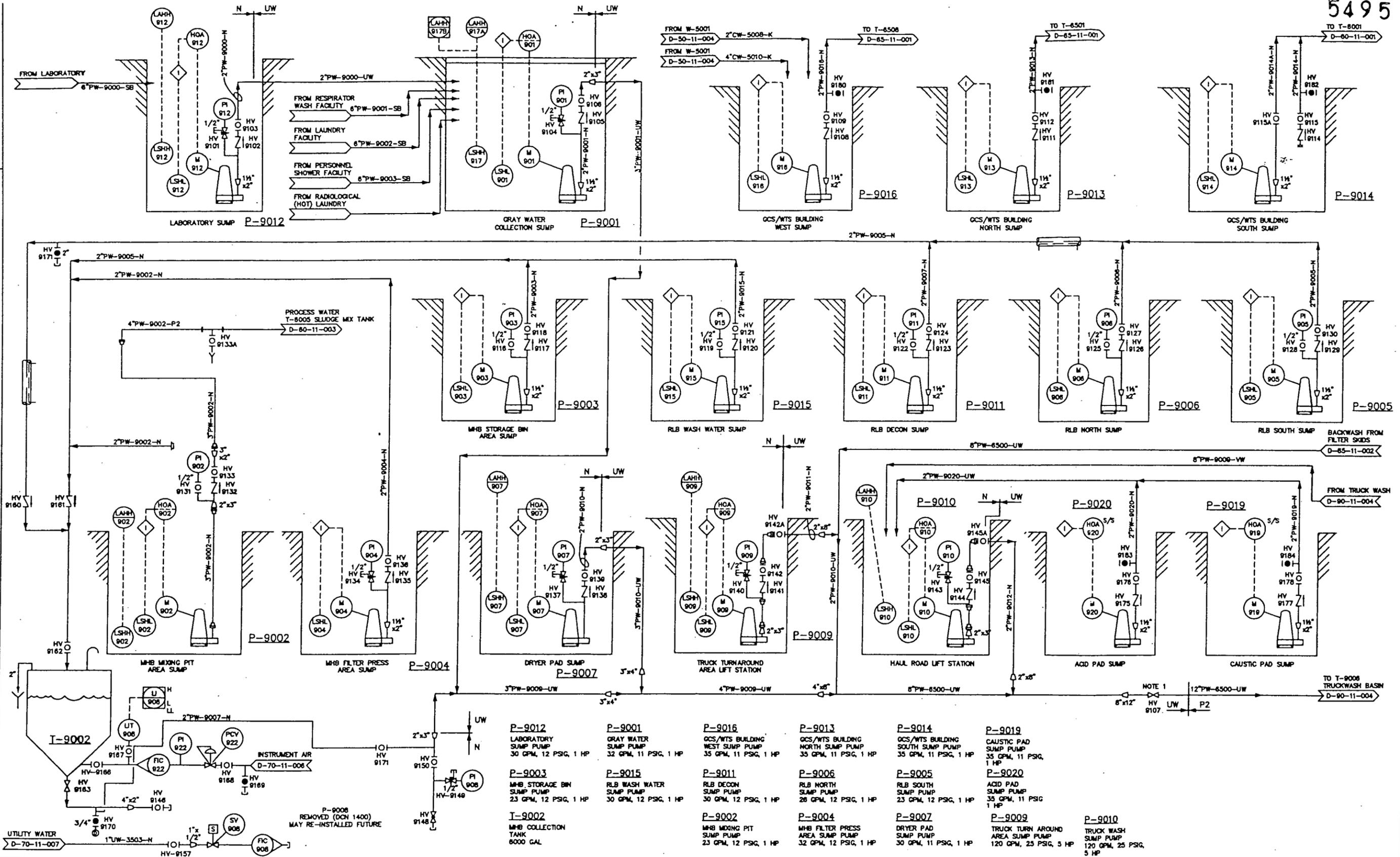
TITLE
**AREA 65
 PIPING & INSTRUMENTATION DIAGRAM
 WASTEWATER TREATMENT SYSTEM (WTS)**

Shaw Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

DESIGNED BY	PMS	CHECKED BY	PA	2/1/99	REVISION
DRAWN BY	COB	APPROVED BY	JAM	2/1/99	
DATE	2/1/99	DWG. SCALE	NONE		
PROJECT NO.	773481	DRAWING NO.	D-65-11-002		

6

13



- P-9012** LABORATORY SUMP PUMP
30 GPM, 12 PSIG, 1 HP
- P-9001** GRAY WATER COLLECTION SUMP
32 GPM, 11 PSIG, 1 HP
- P-9016** OCS/WTS BUILDING WEST SUMP PUMP
35 GPM, 11 PSIG, 1 HP
- P-9013** OCS/WTS BUILDING NORTH SUMP PUMP
35 GPM, 11 PSIG, 1 HP
- P-9014** OCS/WTS BUILDING SOUTH SUMP PUMP
35 GPM, 11 PSIG, 1 HP
- P-9019** CAUSTIC PAD SUMP PUMP
35 GPM, 11 PSIG, 1 HP
- P-9020** ACID PAD SUMP PUMP
35 GPM, 11 PSIG, 1 HP
- P-9009** TRUCK TURN AROUND AREA SUMP PUMP
120 GPM, 25 PSIG, 5 HP
- P-9010** TRUCK WASH SUMP PUMP
120 GPM, 25 PSIG, 5 HP
- P-9003** MHB STORAGE BIN SUMP PUMP
23 GPM, 12 PSIG, 1 HP
- P-9015** RLB WASH WATER SUMP
30 GPM, 12 PSIG, 1 HP
- P-9011** RLB DECON SUMP
30 GPM, 12 PSIG, 1 HP
- P-9006** RLB NORTH SUMP
28 GPM, 12 PSIG, 1 HP
- P-9005** RLB SOUTH SUMP
23 GPM, 12 PSIG, 1 HP
- P-9002** MHB MIXING PIT SUMP PUMP
23 GPM, 12 PSIG, 1 HP
- P-9004** MHB FILTER PRESS AREA SUMP PUMP
32 GPM, 12 PSIG, 1 HP
- T-9002** MHB COLLECTION TANK
6000 GAL

- NOTES
- VALVE IN BURIED SERVICE WITH HAND WHEEL ACCESSIBLE.
 - DCN 1400 REMOVED P-9008, INCLUDING HS-908, HOA-908
 - DCN 1486 REROUTED 12"PW-8500-UW TO D-90-11-004
 - DCN 1486 06/04/04: MOVED EXCAVATION PUMPS ON 12"PW-8500-UW TO D-90-11-004

THIS DOCUMENT AFFECTED BY THE FOLLOWING:

DCN 033 - 09/24/98	DCN 453 - 10/04/99
DCN 514 - 10/20/99	DCN 570 - 11/18/99
DCN 786 - 09/12/00	DCN 877 - 10/23/00
DCN 923 - 01/09/01	DCN 1137 - 05/06/02
DCN 1212 - 10/04/02	DCN 1400 - 08/15/03
DCN 1466 - 04/08/04	DCN 1486 - 06/04/04

REV	DATE	BY	CHK'D	APPROV	DESCRIPTION
8	10/04/02	DAL	JS	JMS	DCN 1212 - 2"PW-8014A-N
7	08/03/02	JMS	JN	JMS	DCN'S 786, 885, 877, 823, 1137
6	09/13/00	JAM	PA	JAM	UPDATE DRAWING PER DCN'S 453, 514, 570
5	07/28/99	COB	PA	JAM	AS BUILT
4	07/12/99	JNH	BAH	JAN	FIELD MODIFICATIONS
3	04/18/99	WPC	PA	JAN	ADDED ACID/CAUSTIC SUMP
2	02/17/99	COB	JAN	JAN	DESIGN UPDATE
1	09/25/98	JNH	BAH	JAN	HAZOP REVIEW - DCN 033
0	08/28/98	PMS	PA	JAN	CERTIFIED FOR CONSTRUCTION

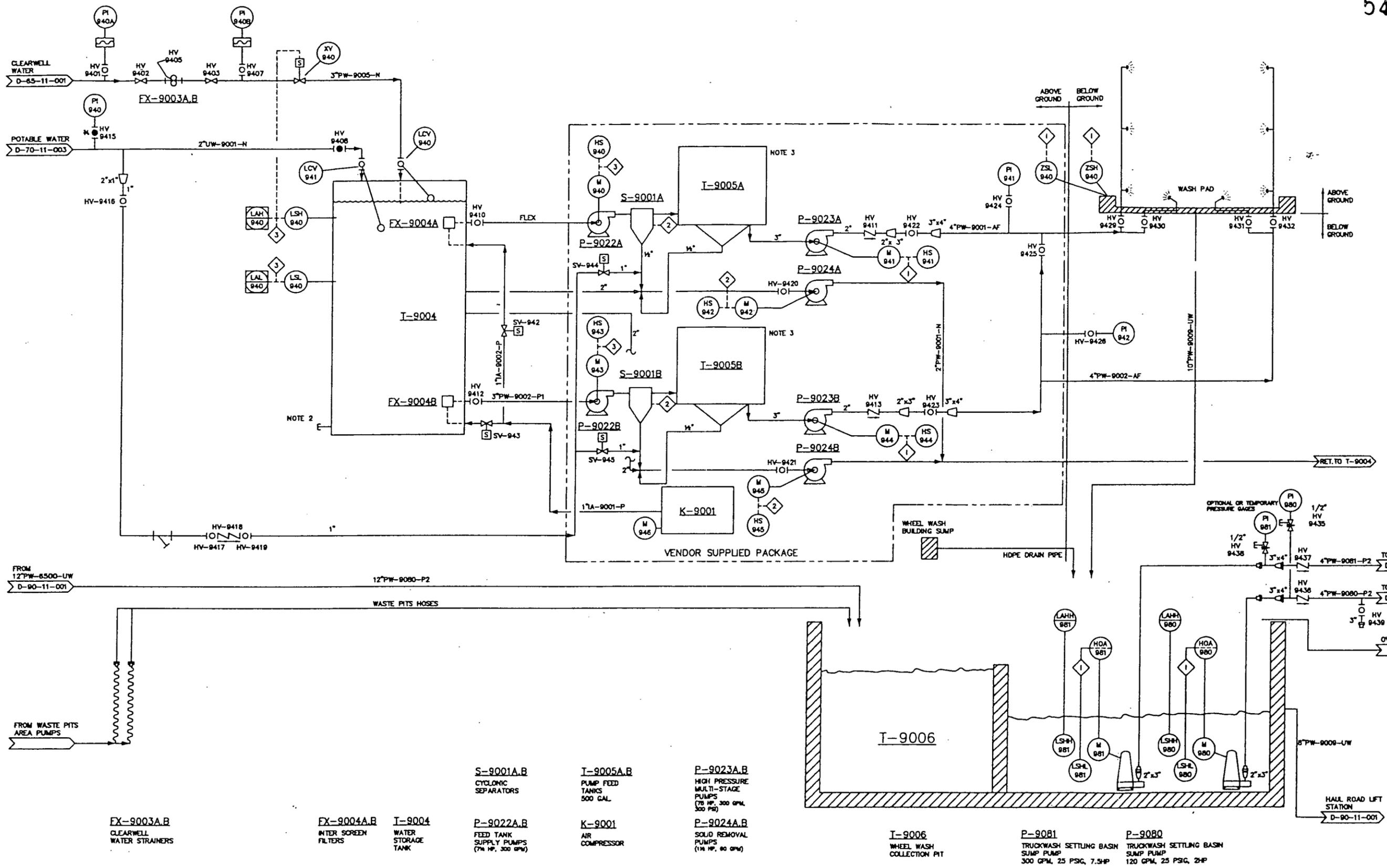
FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
 FERNALD, OHIO
 FDF SUBCONTRACT NO. 98SC000001

PROJECT NAME
WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE
AREA 90 PIPING & INSTRUMENTATION DIAGRAM YARD AND BUILDING SUMPS

Shaw Environmental & Infrastructure, Inc.
 ... Creating a Safer Tomorrow

DESIGNED BY	PMS	CHECKED BY	PA	2/1/99	REVISION
DRAWN BY	COB	APPROVED BY	JAM	2/1/99	8
DATE	2/1/99	DWG. SCALE	NONE		
PROJECT NO.	773481	DRAWING NO.	D-90-11-001		



FX-9003A,B
CLEARWELL
WATER STRAINERS

FX-9004A,B
INTER SCREEN
FILTERS

I-9004
WATER
STORAGE
TANK

S-9001A,B
CYCLONIC
SEPARATORS

P-9022A,B
FEED TANK
SUPPLY PUMPS
(7 1/2 HP, 300 GPM)

I-9005A,B
PUMP FEED
TANKS
500 GAL.

K-9001
AIR
COMPRESSOR

P-9023A,B
HIGH PRESSURE
MULTI-STAGE
PUMPS
(7 1/2 HP, 300 GPM,
300 PSI)

P-9024A,B
PUMP FEED
TANKS
500 GAL.

I-9006
WHEEL WASH
COLLECTION PIT

P-9081
TRUCKWASH SETTLING BASIN
SUMP PUMP
300 GPM, 25 PSIG, 7.5HP

P-9080
TRUCKWASH SETTLING BASIN
SUMP PUMP
120 GPM, 25 PSIG, 2HP

1. FUTURE CONNECTION TO P-9022A/B INLET PIPING.
2. TANK HAS 3 PLUGGED DRAINS
3. TANK HAS 3 LEVEL SWITCHES
4. DCN 1403: REVISED LOCATION OF 4"PW-9002-AF
5. DCN 1486: ADDED 2ND P-9081 PUMP, 12"PW-9080-P2
6. DCN 1486 06/04/04: REFLECTED EXCAVATION PUMPS DIRECT TO SETTLING BASIN T-9006. ADDED SETTLING BASIN P-9080/9081 DISCHARGE TO SWM POND

REV	DATE	BY	CHK'D	APPROV	DESCRIPTION
5	04/08/04	DAL	JMS	JFS	DCN 1486, P-9081
4	08/05/03	DAL	JMS	JFS	AS-BUILT PER FIELD CONDITIONS
3	05/03/02	JMS	JN	JMS	DCN'S 877, 918, 1138
2	08/13/00	JAM	PA	JAM	UPDATE DRAWING PER DCN'S 468, 538, 740
1	9/29/99	CDB	PA	JAM	AS BUILT
0	5/5/99	JMH	BAH	JAM	CERTIFIED FOR CONSTRUCTION

FLUOR DANIEL FERNALD WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
FERNALD, OHIO
FD SUBCONTRACT NO. 98SC000001

PROJECT NAME
WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE
**AREA 90
PIPING & INSTRUMENTATION DIAGRAM
WHEEL WASH FACILITY**

Shaw Shaw Environmental & Infrastructure, Inc.
... Creating a Safer Tomorrow

DESIGNED BY	SJL	CHECKED BY	BAH	5/8/99	REVISION
DRAWN BY	JMH	APPROVED BY	JAM	5/8/99	
DATE	4/28/98	DWG. SCALE	NONE		
IT PROJECT NO.	773481	DRAWING NO.	D-90-11-004		