

This document could not be  
authenticated and has been  
placed in the file for  
historical purposes only.

Initial KB Date 1/13/93

TABLE 4.1-XVIII

CHARACTERISTICS OF THE ICPP SANITARY WASTE COLLECTION SYSTEMS

003082

<u>Estimated Flow, gal/day</u>	<u>Design Capacity, gal/day</u>	<u>Sewage Treatment</u>	<u>Equipment</u>
26,000	59,000[a]	Imhoff process, digester chlorination basis, trickle filter, drying bed, and deepage area (closed underground)	Imhoff tank -- 3400 gal, (457 ft <sup>3</sup> ) Trickling filter -- 0.0678 acre ft Final settling tank -- 2580 gal (344 ft <sup>3</sup> ) Chlorination tank -- 450 gal (60 ft <sup>3</sup> ) Modified tank -- 570 gal (77 ft <sup>3</sup> ) Seepage area -- 5150 ft <sup>2</sup> Sludge drying beds -- 730 ft <sup>3</sup>
	655[c]	Fuel Storage Building (CPP-603), septic tank with open bottom dry well  Sewage Lift Station (CPP-724),	Septic tank -- 1000 gal, Dry well -- 5 ft diameter  2 sewage lift pumps -- Pacific Submersible Sewage Pump, 55 gpm, Balder 3 HP, 60 cycle, 220/440 electric motor
	655[c]	Temporary trailer offices (south of CPP-637), septic tank and seepage cesspool	Septic tank -- 1000 gal, Seepage cesspool -- 7 ft
	1330[c]	Construction and Maintenance Warehouse (CPP-655), septic tanks plus seepage cesspool	Two septic tanks: Each tank -- 1000 gal Cesspool -- 7 ft

[a] Imhoff retention time of 1.38 hr.  
[b] Design V = 1125 + 0.75 (gal sewage).  
[c] Sewage tanks designed to hold 1-1/2 days flow.

14

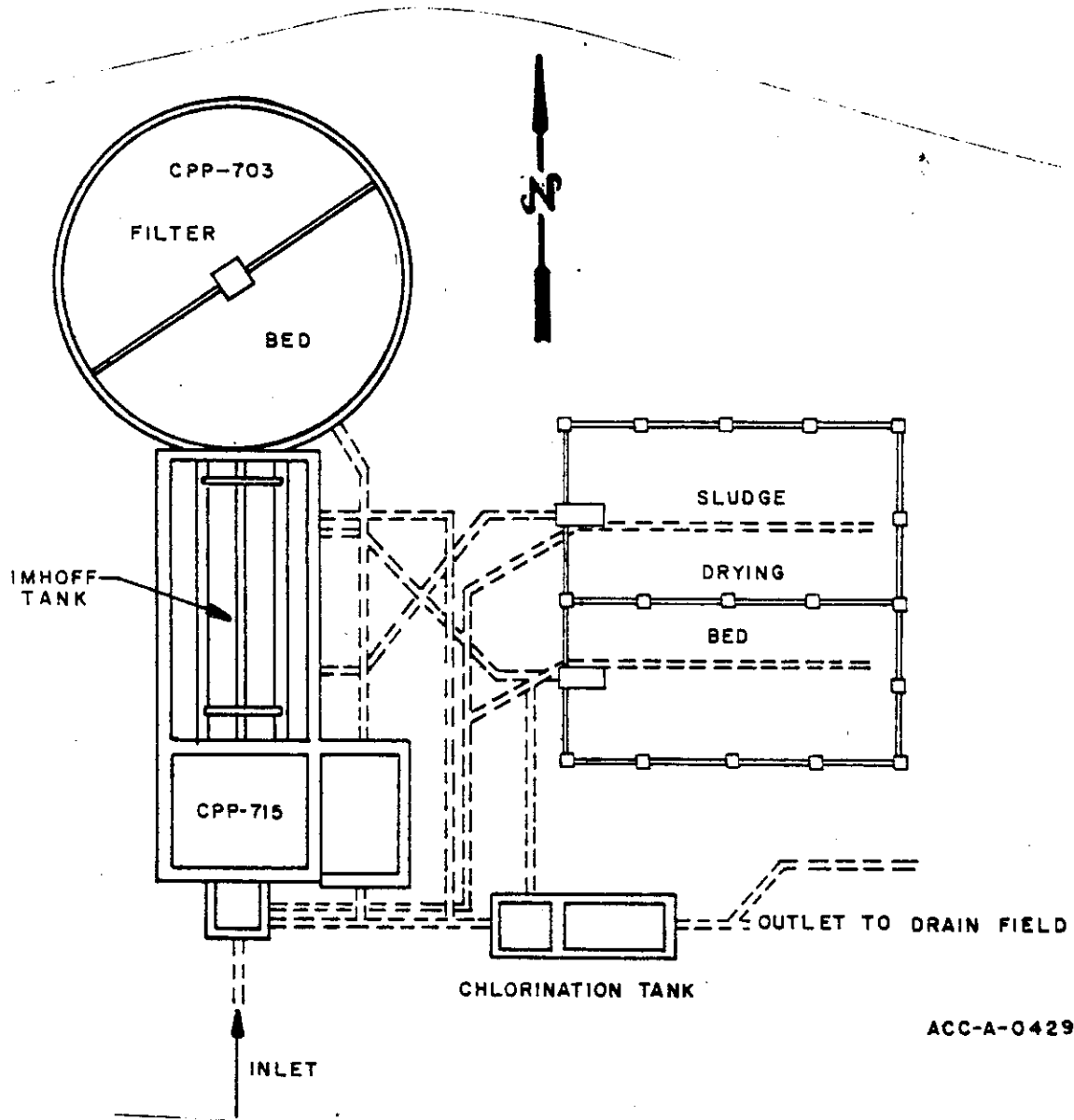


Fig. 4.1-22 ICPP Main Sewage Treatment Plant (CPP-715).

**OFFICIAL USE ONLY**

003682

The sewage treatment plant serves only CPP-602, -604, -605, -606, -624, -627, -633, -637, and -663. Sewage from these nine facilities is collected in underground sanitary sewer lines that lead to the sewage treatment plant filter (CPP-703) and into a manhole, which serves as a receiving station for the raw plant effluent. Two sewage ejectors, with a total capacity of 60 gpm, transfer the raw effluent from the manhole to the Imhoff tank for digestion. The digested sludge from the tank then flows to sludge drying beds; approximately 400 ft<sup>3</sup> of sludge remains in the tank at all times as "seed". Effluent from the Imhoff tank flows to a trickling filter where further digestion occurs. Later, all effluent liquids are chlorinated and released to an effluent disposal field.

The untreated ICPP plant effluent is an innocuous waste, varying from 24 to 80 ppm of 5-day Biochemical Oxygen Demand (BOD) with a BOD per person of 1 to 10 g daily, which is slightly over 1/5 of that accepted as one population equivalent. Overall BOD reduction of 80 percent is attained by this system.

All other sanitary waste at ICPP is disposed of in septic tanks and associated cesspools, as detailed in Table 4.1-XVIII. The septic tank for the Guard House is located immediately south of CPP-609. The septic tank for the Fuel Storage Facility is located west of the northwest portion of CPP-603, while the main sewage treatment plant (CPP-715) is located northeast of the fuel oil storage tanks.

4.1.1.9 ICPP Miscellaneous Gas and Vacuum Systems. Several different gas systems (besides compressed air) are used at ICPP. These consist primarily of large storage tanks and multibottle manifolds. Single bottle systems are not discussed in this section. Those systems that are discussed include the carbon dioxide (CO<sub>2</sub>) fire extinguishing system; the Halon-1301 fire protection system; the nitrogen (N<sub>2</sub>), propane (C<sub>3</sub>H<sub>8</sub>), oxygen (O<sub>2</sub>), argon (Ar), helium (He), and acetylene (C<sub>2</sub>H<sub>2</sub>) systems. Building CPP-637 has a separate vacuum system

**OFFICIAL USE ONLY**

003682

throughout CPP-602, through horizontal ducts leading from the two risers on each floor. The risers join just below the roof, forming a single duct that extends south through the CPP-602 fan room, terminating at the north wall adjacent to the CPP-601 PM area. Air in the horizontal ducts exhausts through ceiling or wall diffusers into offices, locker rooms, laboratories, and other occupied areas. A volume control lever in the duct leading to each diffuser regulates the amount of air. The ventilating air to the mass analysis laboratories in CPP-602 passes through a sprayed cooling coil air conditioner.

K  
JAN 04 1991

Most of the air from CPP-602 is directed to the CPP-601 main air supply duct, where it enters a diversion plenum immediately inside the north end of CPP-601. There the air is directed to the access corridor, the service corridor, and the operating corridor. Air in the access corridor enters the process building cells through louvers in the cell doors. Air in the operating corridor flows through the corridor and then back through the east and west sample corridors. Upon reaching the north end of the sample corridors, it passes through grill work into the east and west vent corridors.

The CPP-601 PM area receives air from two satellite heating and ventilating units, one each located on the east and west sides of the PM area. Outside air, drawn through louvers and steam heaters by two centrifugal fans, is discharged to the ductwork that runs north and south, against the east and west walls of the PM area. Air in the horizontal ductwork is released through diffusers to the PM area at several locations along the ducts. Air removed from the PM area is exhausted to the atmosphere by four roof fans.

4.1.1.8 Sanitary Waste Systems. Sanitary wastes generated at ICPP are treated by six separate systems, five of which use septic tanks (Waste Calcining Facility, Fuel Storage Facility, Waste Treatment Building, Temporary Trailer Offices, and the Construction/Maintenance Warehouse) and one sewage treatment plant. The characteristics of the various sanitary waste collection systems at ICPP are presented in Table 4.1-XVIII. The main sewage treatment plant layout is shown in Figure 4.1-22.