

ATTACHMENT J2

# Fort Dix Wastewater System

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## **J2.0 Fort Dix Wastewater System**

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### **J2.1 Fort Dix Overview**

Fort Dix (Installation) is a U.S. Army Installation situated in the center of New Jersey, seventeen miles southeast of Trenton, seventy two miles south of New York City and forty-five miles east of Philadelphia. The Installation covers over 30,000 acres of wooded New Jersey countryside and shares common borders with McGuire Air Force Base and Naval Air Station Lakehurst. The mission of Fort Dix is to provide a high quality training environment for the Army Reserve component of the Armed Services. Construction was begun in June 1917 and the Installation has been a training center for all military actions since that date.

### **J2.2 Wastewater System Description**

#### **J2.2.1 Wastewater System Fixed Equipment Inventory**

##### **J2.2.1.1 System Description**

The Fort Dix wastewater system is wholly located within the New Jersey Pinelands and falls under the State of New Jersey Pineland Comprehensive Management Plan (New Jersey Administrative Code, NJ AC7-50). The system consists of a collection system, a number of lift stations, a wastewater treatment plant and a land application site. The sewer collection system has been constructed over many years, mostly in the 1940s with upgrades and additions since then. The wastewater treatment plant was constructed in 1994 and treats wastewater from both Fort Dix and McGuire Air Force Base.

##### **J2.2.1.2 Collection System**

The wastewater collection system pipe sizes range from less than 4 inches to 36 inches. The total length of the sewer collection system is approximately 267,000 linear feet. The majority of the line is 8 inches in diameter. There are about 1,056 manholes located throughout the sewer system. For the most part, the sewage flows to lift stations where it is pumped to the treatment plant. There are 17 lift stations in the wastewater collection system. The lift stations have been thoroughly upgraded during the past five years. The upgrade for the most part consists of building a new lift station near each existing lift station to completely replace the existing lift station.

##### **J2.2.1.3 Wastewater Treatment**

The wastewater treatment plant was constructed at Fort Dix in 1994. It serves both Fort Dix and McGuire AFB. The wastewater treatment facility has an average design capacity of 4.6 MGD and the peak plant flow is 12.7 MGD. Approximately half of the flow is from Fort Dix.

The wastewater treatment plant is considered a tertiary treatment facility. The primary treatment consists of two primary settling tanks that remove settleable or easily floatable material. The sludge removed from the facility is pumped to the sludge dewatering facility for further treatment. The flow passing through the primary tanks goes into the secondary tanks. There the flow is treated by a Bardenpho process; a variation of the activated sludge process. The process removes phosphorus and nitrogen. The flow from the tanks enters the

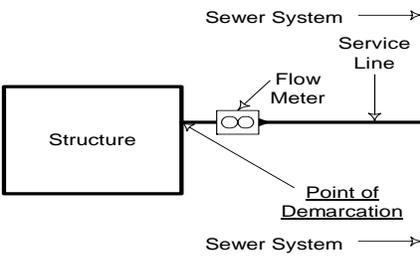
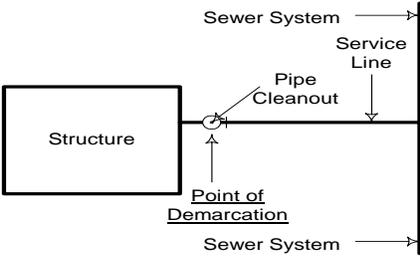
final settling tanks where a majority of the solids settle out and are returned to the secondary treatment tanks. Excess sludge is wasted to the thickener. Following the final settling tanks the flow enters the gravity filtration tanks where the suspended solids are reduced below 10 mg/l and the flow is disinfected by ultraviolet radiation. After disinfection, the flow enters the effluent pump station where it is pumped to the land application site percolation lagoons. The effluent percolates from the lagoons and recharges the groundwater. The 50 acres of land associated with the wastewater treatment plant and the 100 acres at the land application site will also transfer with the system.

The plant also has the capability to both divert the incoming flow to a diversion facility if the waste stream is known to be untreatable and to divert disinfected flow to another diversion facility in case of failure of the effluent pumping or recharging system.

**J2.2.1.2 Points of Demarcation**

The Fort Dix wastewater collection and treatment system consists of all components from the point where wastewater is collected from individual facilities to the land application site. The point of demarcation for each end user is defined as the point or component on the collection system where ownership changes from building owner to the utility owner. The beginning point of demarcation was described above in Paragraphs J2.2.1.1.1 through J2.2.1.1.3. In most cases the point of demarcation for the users is the first upstream component (i.e., cleanout, valve, etc.) of the system located outside of the facility footprint. Table 1 identifies the type of service and general location of the point of demarcation with respect to each building served by the collection system.

**TABLE 1**  
Wastewater Collection and Treatment System Points of Demarcation  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Point of Demarcation	Applicable Scenario	Sketch
<p>Point where the service line exits the structure</p> <p><i>Note: A new cleanout device should be installed within 10' of building during any stoppage or maintenance action. The upstream side of the cleanout device will then become the new point of demarcation.</i></p>	<p>Non-residential service. Wastewater system flow meter is located on the service line exiting the structure.</p>	
<p>Point of demarcation is the upstream side of the cleanout device.</p>	<p>Non-residential service. No flow meter exists and a wastewater system cleanout is located within 10 feet of the building perimeter on the service line exiting the structure.</p>	

Point of Demarcation	Applicable Scenario	Sketch
<p>Point where the service line exits the structure</p> <p><i>Note: A new cleanout device should be installed within 10' of building during any stoppage or maintenance action. The upstream side of the cleanout device will then become the new point of demarcation.</i></p>	<p>Non-residential service. No flow meter or cleanout exists within 10 feet of the building perimeter on the service line exiting the structure.</p>	

### J2.2.1.4 Inventory

**TABLE 2A**

Fixed Inventory, Wastewater Collection Piping  
 Wastewater Collection and Treatment System, Fort Dix, New Jersey

Approximate Year of Construction (quantity is LF)									
MATERIAL	Size	1940s	1950s	1960s	1970s	1980s	1990s	2000s	Total
Vitrified Clay	4 in.	800	0	0	0	0	0	0	800
Vitrified Clay	6 in.	67,005	0	0	0	0	0	0	67,005
Vitrified Clay	8 in.	104,740	0	0	0	0	0	0	104,740
Vitrified Clay	10 in.	41,375	0	0	0	0	0	0	41,375
Pre-cast Concrete	12 in.	14,445	0	0	0	0	0	0	14,445
Pre-cast Concrete	15 in.	5,345	0	0	0	0	0	0	5,345
Pre-cast Concrete	16 in.	160	0	0	0	0	0	0	160
Pre-cast Concrete	18 in.	6,310	0	0	0	0	0	0	6,310
Pre-cast Concrete	20 in.	1,200	0	0	0	0	0	0	1,200
Pre-cast Concrete	21 in.	9,715	0	0	0	0	0	0	9,715
Pre-cast Concrete	24 in.	10,460	0	0	0	0	22,760	0	33,220
Pre-cast Concrete	30 in.	3,480	0	0	0	0	0	0	3,480
Pre-cast Concrete	36 in.	2,280	0	0	0	0	0	0	2,280
Total		267,315	0	0	0	0	22,760	0	267,315

**TABLE 2B**

Fixed Inventory, Wastewater Pump/Lift Stations  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Facility Number	Facility Name	Year Built/ Year Remodeled	Backup Generator
00199	Lift Station R	1958/1997	No
00221	Lift Station G-1	1997/1997	Yes – 20 kW
00521	Lift Station G-2	1997/1997	Yes – 20 kW
01803	Lift Station G	1957/1997	No
03155	Lift Station Golf	1997/1997	Yes – 20 kW
04301	Lift Station L	1954/1997	No
04310	Lift Station E	1997/1997	Yes – 100 kW
04353	WWTP Lift Station	1996/1996	No
04399	WWTP L.S. E	1997/1997	Yes – 100 kW
04443	Lift Station H	1997/1997	No
05659	Lift Station @ AWWC	1973/1973	No
05727	Lift Station P	1965/1997	Yes – 100 kW
05860	Lift Station D	1966/1997	Yes – 100 kW
05998	L.S. Doughboy	1997/1997	No
05999	Lift Station C	1997/1997	No
08333	Lift Station k	1941/1941	No
09671	L.S. Stratcom	1997/1997	No

**TABLE 2C**

Fixed Inventory, Wastewater Collection System Manholes, Services and Grinder Stations  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Material	Approximate Year of Construction							Total
	1940s	1950s	1960s	1970s	1980s	1990s	2000s	
Manhole	1,056	0	0	0	0	0	0	1,056
Building Services	668	0	0	0	0	0	0	668
Pump Station & Grinder	0	1	0	0	0	0	0	1

## J2.2.2 Wastewater System Non-Fixed Equipment and Specialized Tools

**Table 3** lists other ancillary equipment (spare parts), and **Table 4** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

**TABLE 3**  
Spare Parts  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Qty	Item	Make/Model	Description	Remarks
No spare parts are included with the Fort Dix Wastewater Collection and Treatment System.				

**TABLE 4**  
Specialized Vehicles and Tools  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Qty	Item	Make/Model	Description	Remarks
No specialized tools or vehicles are included with the Fort Dix Wastewater Collection and Treatment System.				

### J2.2.3 Wastewater System Manuals, Drawings, and Records

Table 5 lists the manuals, drawings, and records that will be transferred with the system.

**TABLE 5**  
Manuals, Drawings, and Records  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Qty	Item	Description	Remarks
Fort Dix maintains a limited collection of technical manuals, drawings, and records on the installed components of the wastewater system. This information will be transferred to the new owner during the transition period. System maps will be available in the bidders' library.			

## J2.3 Specific Service Requirements

The service requirements for the Fort Dix wastewater system are as defined in the Paragraph C, *Description/Specifications/Work Statement*. The following requirements are specific to the Fort Dix wastewater system and are in addition to those found in Paragraph C. If there is a conflict between requirements described below and Paragraph C, the requirements listed below take precedence over those found in Paragraph C.

### J2.3.2 Digging Permits

#### J2.3.2.1 Contractor-Provided Permits

Contractor shall participate in the Fort Dix Department of Public Works (DPW) digging permit process. The Contractor shall complete the section of form FHT 420-X10, Coordination for Land Excavation, which may impact on the integrity of his Utility Systems and the safety of the requestors and return it to the DPW at Building 5318, Fort Dix, New Jersey for each permit within 3 working days of receipt of the form from DPW. As part of this process, the Contractor shall routinely accept and process digging permit requests from Government work force; military units; maintenance, construction, and Army operations contractors; cable and phone maintenance and installation companies; fence rental companies; individual residents, and additional entities as identified by Contracting Officer to have a valid need for a digging permit. Contractor shall identify methodology of accepting,

processing, approving, and listing reason(s) for disapproval. Contractor shall be responsible for all repairs, costs, and damages due to excavations by others for which he did not properly mark his utilities as part of the DPW digging permit process.

### **J2.3.2.2 Fort Dix-Provided Permits**

The Contractor shall first obtain digging permits directly from DPW for utilities owned by the Government before any drilling, digging, or excavation is undertaken. The Contractor shall provide a completed form FHT 420-X10, Coordination for Land Excavation, to the DPW Building 5318, Fort Dix, New Jersey 08640 for each permit. Allow 14 Working days for Government review of digging permit requests. A digging permit for a specified area of excavation expires 30 days after the issue date; Contractor must re-apply for a new permit to perform excavation in the area if the excavation was not started within the 30-day period. Permits will identify all underground utilities within 5 feet of the designated area. Contractor shall be responsible for all repairs, costs, and damages due to his excavations that fail to comply with the DPW digging permit process, including excavations extending beyond areas that have been cleared for excavation.

### **J2.3.5 Fire Control and Safety**

The Contractor shall abide by Fort Dix fire protection requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

### **J2.3.6 Cost of Supporting Utilities**

The Contractor is responsible for all supporting utilities that may be required to own, operate and maintain the utility system being privatized. Supporting utilities are defined as the supply of electricity necessary to own, operate, and maintain the utility system. The Contractor shall coordinate with Fort Dix DPW and the Contracting Officer for any supporting utilities to be provided by the Government.

### **J2.3.8 Crisis Situations**

IAW Paragraph C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the Contractor shall provide support as directed by Fort Dix DPW or equivalent agency for exercises and crisis situations. Contractor shall submit Emergency Response Plans for approval by the Government For all Exercise and Crisis situations IAW C.9.8.

## **J2.4 Current Service Arrangement**

Fort Dix provides wastewater treatment for both Fort Dix and McGuire Air Force Base. Wastewater collection is only for Fort Dix facilities.

## **J2.5 Secondary Metering**

There are currently no secondary meters included with the utility system being privatized and no requirements for secondary metering of wastewater at Fort Dix facilities included in

this contract. Any future wastewater secondary metering requested by the Government will be IAW Paragraph C.3, *Metering*.

## J2.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW Paragraph G.2, *Submission and Payment of Invoices* and Paragraph J2.3.1, *Non-Government Installed Utilities Infrastructure*). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. The Contractor's monthly invoice shall include segregated costs IAW with each CLIN. Costs shall be segregated into two categories: costs associated with Housing areas and costs associated with non-Housing areas. The Contractor shall provide sufficient supporting documentation with each monthly invoice to substantiate all costs included in the invoice for each CLIN as approved by the Contracting officer. The proposed system of accounts shall be made available in electronic format as directed by the Contracting Officer. Invoices shall be submitted by the 25<sup>th</sup> of each month for the previous month. Invoices shall be submitted to:

*Name:* DIRECTORATE OF PUBLIC WORKS  
*Address:* 5320 DELAWARE AVENUE  
 FORT DIX, NEW JERSEY 08640

2. Outage Report. The Contractor's monthly outage report (blockage and overflow information) will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25<sup>th</sup> of each month for the previous month. Outage reports shall be submitted to:

*Name:* DIRECTORATE OF PUBLIC WORKS  
*Address:* 5320 DELAWARE AVENUE  
 FORT DIX, NEW JERSEY 08640

## J2.7 Infiltration and Inflow (I&I) Projects

IAW Paragraph C.3.4, Energy and Water Efficiency and Conservation, the following projects have been implemented by the Government for managing and monitoring I&I.

- There are no infiltration and inflow projects associated with the utility system being privatized.

## J2.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Fort Dix boundaries.

## J2.9 Off-Installation Sites

No off-installation sites are included in the privatization of the Fort Dix wastewater collection system.

## J2.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 6** provides a list of service connections and disconnections required upon transfer.

**TABLE 6**  
System Improvement Projects  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

Location	Description
There are no service connections or disconnections required upon transfer of the Fort Dix Wastewater Collection and Treatment System	

## J2.11 Government Recognized System Deficiencies

**Table 7** provides a list of Government recognized deficiencies. The deficiencies listed may be physical deficiencies, functional deficiencies, or operational in nature. If the utility system is sold, the Government will not accomplish a remedy for the recognized deficiencies listed. The Offeror shall make a determination as to its actual need to accomplish and the timing of any and all such deficiency remedies.

**TABLE 7**  
Wastewater System Deficiencies  
*Wastewater Collection and Treatment System, Fort Dix, New Jersey*

System Component	Deficiency Description	Type of Project
None Identified		

## J2.12 Environmental Compliance

The contractor is required to comply with all applicable State and Federal laws, State and Federal regulations, and Army instructions in effect at the time of performance. The laws and regulations include, but are not limited to: environmental and occupational safety and health. The contractor shall be responsible for compliance with construction and operating permits, and also responsible for penalties, fines, or natural resource damage claims that may be required or assessed by the State of New Jersey, Federal or Local Governments resulting from performance, or failure to perform, during the course of performance.