ATTACHMENT J4

Dover AFB Wastewater System

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J4 Dover AFB Wastewater System

J4.1 Dover AFB Overview

Dover Air Force Base (AFB) is home to the 436th Airlift Wing (AW) and the 512th Air Force Reserve Airlift Wing. The installation is located in the center of the Delmarva Peninsula approximately 3 miles from downtown Dover, Delaware. Dover AFB provides the nation with airlift, airdrop, Special Operations capabilities, and Port Mortuary facilities. It has 17 tenant units including the Detachment 3, 373 TRS, Air Force Office of Special Investigations, Air Force Audit Agency, and the Defense Reutilization Management Office (DRMO). The 436th AW is an all C-5 wing that serves as the busiest Department of Defense (DoD) aerial port. The 512th AW recruits, trains, and equips military personnel to augment active duty operational forces worldwide. The economic impact of Dover AFB is over $470 million on the local economy.

Dover AFB occupies approximately 3,900 acres (3,300 acres owned and 589 acres under grants). In December 1941 the Army Air Corps leased the Dover Municipal Airfield which would later become Dover AFB. In 1952, Dover AFB became part of the Military Transport Service flying C-54s, C124s, and C133s and was designated as a permanent installation which brought major expansion and construction to the Base. In 1966, the 436th Military Airlift Wing was activated at Dover AFB. The 512th Military Airlift Wing was activated at Dover AFB in July 1973. In 1992 the 436th was re-designated the 436th Airlift Wing under the Air Mobility Command and the 512th was re-designated the 512th Airlift Wing. Dover AFB has provided humanitarian airlift in time of disaster and military airlift when United States' forces were needed around the world.

The Base employs approximately 4,200 military, 1,200 civilians, and 2,500 reservists. It has two runways and 707 buildings. Approximately 227 buildings are industrial and administrative. The remaining 480 buildings are military family housing (MFH) consisting of approximately 1,500 housing units. The MFH is split into two neighborhood developments, Eagle Heights and Eagle Meadows. Eagle Heights is located on the western portion of the AFB. Eagle Meadows is located 4 miles southwest of the main Base. A church, elementary and middle school, plus a Community Area (Lodging, Swimming Pool, Shoppette, Chapel and youth center and housing referral office) are located northeast of the Eagle Heights MFH area. Utility systems in Eagle Heights and Eagle Meadows are excluded from the Utility Privatization process because the systems located there are included as part of the MFH privatization process. However, utility systems that serve the Community Area are included in this Utility Privatization RFP.

Within the next ten years, the Base mission is expected to remain stable. Due to safety and environmental constraints, much of the land on Dover AFB cannot be developed. Future development of the Base, if implemented, will occur largely through selective renovation of existing structures, demolition and redevelopment of existing sites, and consolidation

J4.2 Wastewater System Description

J4.2.1 Wastewater System Fixed Equipment Inventory

The Dover wastewater system consists of all appurtenances physically connected to the collection system from the point of demarcation defined by the Right of Way. The system may include, but is not limited to, pipelines, manholes, lift stations, valves, and controls. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the wastewater system privatization are:

- Oil/water separators
- Grease traps
- Septic systems and associated pumps.
- Water quality sampling station
- Collection lines, manholes and lift stations located in Eagle Heights Housing Area
- Wastewater collection lines and manholes in Eagle Meadows Housing Area

J4.2.1.1 Description

Wastewater generated by Dover AFB discharges to the Kent County sanitary sewer collection system at two locations. Wastewater from the main base enters the Kent County collection system at the downstream side of manhole number 132 located in Lebanon Road. Wastewater is metered by Kent County in the Kent County Pump Station No. 6. Dover AFB has and will retain an industrial pretreatment permit with Kent County Sewage Disposal District.

The Dover AFB wastewater collection system consists of vitrified clay pipe, cast iron, polyvinyl chloride (PVC), and asbestos cement pipe. Force main piping is constructed from cast iron and PVC. The collection system is made up of laterals, oil/water separators, grease traps, sewage ejector pumps, lift stations, and collector mains. The oil/water separators, and grease traps are not included in this contract. Most changes to the original system have been through addition or removal of laterals. The pipes range in size from 2 to 24-inches with a range of depth normally between 3 to 20 feet, although the actual depth may be deeper or more shallow.

The Base has several lift stations. The wastewater lift stations are generally duplex units consisting of two submersible pumps located in a concrete wet well. The pumps are controlled using level switches placed at varying locations to start and stop the pumps. Lift station 1351 has an emergency generator to provide power in the event of an electrical

outage. Lift stations 703, 850, and 923 have cannon plugs suitable for connection to a portable generator. Lift Station 703 has a concrete masonry unit structure above the wet well. There are no above ground structures associated with the remaining lift stations. The system also includes several ejector pumps that collect water from specific building locations and discharges the effluent to the main gravity flow sections of the collection system. Ejector pump locations are identified in Table 1.

Wastewater from the Eagle Heights Military Family Housing area will enter the privatized wastewater collection system at manholes 62, 133, 230, and 231.

Collection laterals and sewer mains serving the Eagle Heights Housing units are excluded. However, several base facilities are located in the northeast portion of Eagle Heights MFH in an area known as the Community Area (Lodging, Swimming Pool, Shoppette, Chapel and youth center and housing referral office) are included in this Utility Privatization Process.

J4.2.1.2 Inventory

Table 1 provides a general listing of the major wastewater system fixed assets for the Dover AFB wastewater system included in the sale.

TABLE 1
Fixed Inventory
Wastewater Utility System Dover AFB

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Main Base				
Piping				
PVC Pipe	4.0	500	LF	2002
	6.0	1,030	LF	2002
	8.0	330	LF	1980
	8.0	30	LF	2002
	10	760	LF	2002
PVC Forced Mains	2.0	850	LF	1980
	2.0	400	LF	2004
	3.0	1,960	LF	1980
	4.0	2,080	LF	1980
	6.0	2,380	LF	1980
Cast Iron Pipe	6.0	210	LF	1955
	8.0	1,420	LF	1955
	10.0	400	LF	1955

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Cast Iron Pipe Forced Mains	4.0	1,660	LF	1955
	6.0	1,000	LF	1947
Asbestos Cement Pipe	6.0	480	LF	1955
	8.0	2,020	LF	1955
Vitrified Clay Pipe	4.0	26,060	LF	1955
	6.0	6,930	LF	1955
	8.0	48,030	LF	1955
	10.0	8,740	LF	1955
	12.0	2,890	LF	1955
	15.0	2,770	LF	1955
	20.0	1,390	LF	1955
	24.0	1,860	LF	1955
	24.0	2,000	LF	1947
Brick Manholes				
Sanitary Manholes	48x72	49	EA	1955
	48x96	73	EA	1955
	48x96	16	EA	1980
	48x144	20	EA	1955
Rehabilitated Brick Manholes				
Sanitary Manholes– Replace Covers	48x72	14	EA	2002
Sanitary Manholes– Replace Covers	48x96	14	EA	2002
Sanitary Manholes– Reset and Seal frame, riser, corbel	48x72	2	EA	2002
Sanitary Manholes– Patch	48x72	8	EA	2002
Sanitary Manholes– Patch	48x96	7	EA	2002
Precast Manholes				
Sanitary Manholes	4'	12	EA	2002
(Ave. Depth 6-8' deep)	4'	15	EA	1980
(Ave. Depth 12 feet deep)	6'	6	EA	1990
Lift Stations				
Fac No. 703 lift station controls with two 5-hp pumps	Med	1	EA	2003
703 Building	Med	1	EA	2003
703 Wet Well	Med	1	EA	2003

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Fac No. 850 lift station controls with two 10-hp pumps (400 gpm)	Large	1	EA	1999
850 Wet Well	Large	1	EA	1999
Fac No. 923 lift station controls with two 1 1/2-hp pumps	Small	1	EA	2003
923 Wet Well	Small	1	EA	2003
Fac No. 1351 lift station controls with two 1 1/2-hp pumps	Med	1	EA	1986
1351 Wet well and structure	Med	1	EA	1958
Mounted Emergency Generator	7.5 kW	1	EA	2001
Sewage Ejector Pumps				
Building 135	1 – 1/2hp pump	1	EA	1999
Building 524	2 –3/4 hp pumps	1	EA	1999
Building 719	2-6 hp pumps	1	EA	1998
Building 826	2-3 hp pumps	1	EA	2003
Building 1315	2 –1/2 hp pumps	1	EA	1998
Building 1270	2-2hp pumps	1	EA	2004
Building 1272	2-2hp pumps	1	EA	2004

Notes:

EA = Each
GPM= Gallon Per Minute
hp = Horse power
kW = kilowatt
LF = Linear Feet
PVC = Polyvinyl Chloride

J4.2.2 Wastewater System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** 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 2
Spare Parts
Wastewater System Dover AFB

Qty	Item	Make/Model	Description	Remarks

The government will not transfer any spare parts with the system.

TABLE 3
Specialized Vehicles and Tools
Wastewater System Dover AFB

Description	Quantity	Location	Maker
The government will not transfer any specialized vehicles and tools with the system.			

J4.2.3 Wastewater System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Wastewater System Dover AFB

Qty	Item	Description	Remarks
1	Maps	Wastewater Collection System Lines	AUTOCADD, maps of the installation and utility system will be provided at the time of the pre-proposal meeting
1	Report	Infiltration and Inflow Study Report and Rehabilitation Plan	Hard copy available in Technical Library
1	Manual	Building 850 and 703 Verbatim Owners Manual	CD available in Technical Library
1	Drawing	Lift Station Mechanical Drawings	CD available in Technical Library
1	Drawing	Building 624 Floor Plan	CD available in Technical Library
1	Manual	Building 850 Operation and Maintenance Manual	CD available in Technical Library
1	Manual	Building 703 Operation and Maintenance Manual	CD available in Technical Library
1	Manual	Building 923 and 703 Operation and Maintenance Manual	CD available in Technical Library
1	Report	HQ AMC Infrastructure Assessment Report	Available in Technical Library

J4.3 Specific Service Requirements

The service requirements for the Dover AFB wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Dover AFB wastewater system and are in addition to those found in Section C. If there is a

conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- Contractor shall not commence any activities until any required permits are formally approved (e.g., construction), and will immediately notify the Base of any contractor activity that may constitute a permit violation.
- Provide marks on the ground to show locations of wastewater collection lines on an as needed basis as other entities request. Mark utilities in the field to show location and depth.
- Contractor shall grant access to any government personnel, who requires access to the system for purposes of monitoring and/or sampling of this system in accordance with any federal, state or local wastewater permits requirements.
- Contractor shall install meters in the system to accurately account for wastewater flow from the industrial side of the base. Recommend installing meters downstream of manholes 317 and 147.
- Contractor shall coordinate with Kent County Regional Waste/Water Treatment Facilities to determine if there are additional requirements to operate the Dover AFB wastewater system.

J4.4 Current Service Arrangement

The Kent County Regional Treatment Plant treats Dover AFB's wastewater. The Dover AFB sewage discharge is metered by Kent County owned meters prior to entering the Kent County lift stations. The FY 2002 total annual discharge was 291,612 kgal. The average monthly discharge was 24,300 kgal with a maximum occurring in March 2002 with 28,000 kgal and the minimum occurring in June 2002 with 21,000 kgal. Totals for the year, excluding MFH flows, include 117,424 kgal total flow, with an average monthly flow of 9,785 kgal, and a maximum in March 2002 of 15,717 kgal, and the minimum flow of 2,250 kgal occurring in August 2002.

Dover AFB has an Industrial Wastewater Discharge Permit through Kent County. The Base will retain the permit after privatization.

J4.5 Secondary Metering

J4.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J3.6 below.

TABLE 5
Existing Secondary Meters
Wastewater Collection System Dover AFB

Meter Location	Meter Description (Type)
None.	

J4.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J6.6 below.

TABLE 6
New Secondary Meters
Wastewater Collection System Dover AFB

Meter Location	Meter Description
Downstream of Manhole 317	Secondary meter
Downstream of Manhole 147	Secondary meter

J4.6 Monthly Submittals

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

1. Invoice (IAW Section G.2 of the RFP). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: 436 CES/CEC
   Address: 600 Chevron Ave., Dover AFB, DE 19902
   Phone number: (302) 677-6447

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 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: 436 CES/CER
   Address: 600 Chevron Ave., Dover AFB, DE 19902
   Phone number: (302) 677-6447

3. Infiltration and Inflow Report. The Contractor shall submit an Infiltration and Inflow report in a format proposed by the Contractor and accepted by the Contracting Officer The Contracting Officer will determine the frequency of the report based on Government requirements. System efficiency reports shall be submitted to:

   Name: 436 CEV/CEVQ
   Address: 600 Chevron Ave., Dover AFB, DE 19902

Phone number: (302) 677-6839

J4.7 Infiltration and Inflow (I&I) Projects

IAW Paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for managing and monitoring I&I.

- An I&I report and rehabilitation plan was developed for the main section of the Dover AFB in May 2000. The rehabilitation plan has three phases. Phase I has been completed. Phase II is completed and Phase III has been funded and is in progress, with expected completion date estimated for summer 2004. The report is available in the technical library. The number and type of items that will be upgraded by the Phase III projects is not known at this time. An addendum will be prepared to outline the work accomplished later in the bid period if the situation is warranted.

J4.8 Service Area

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

J4.9 Off-Installation Sites

No off-installation sites are included in the sale of the Dover AFB wastewater system.

J4.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
Service Connections and Disconnections
Wastewater System Dover AFB

Description
Install two new meters as noted in Table 6 (above). Provide meters that will allow accurate measurement of expected flows and not plug excessively.

J4.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Dover AFB wastewater system. If the utility system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades

and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AC.

TABLE 8
System Deficiencies
Wastewater System Dover AFB

Project Location	Project Description
Rehabilitate sewage lift station 1351	Replace pumps, motor controls, and electrical components
6 inch Ductile Iron force main between Lift Station 703 and Manhole 342	Replace or rehabilitate in place, 1000 linear feet of 6 inch diameter ductile iron pipe between Lift Station 703, and Manhole 342. This work is needed because the pipe has failed several times in recent years.