

ATTACHMENT J4

# Hanscom AFB Wastewater System

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# J4 Hanscom AFB Wastewater System

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## J4.1 Hanscom AFB Overview

Hanscom AFB is located 20 miles northwest of Boston and is surrounded by the historic towns of Bedford, Lexington, Lincoln, and Concord. The Base occupies approximately 830 acres of land and has approximately 200 buildings and other facilities with a total square footage of approximately 5.5 million square feet.

More than 13,000 people live and work at Hanscom AFB. Many are employees of the following major on-Base tenants:

- The Electronics Systems Center (ESC) plans and manages the acquisition of electronic command, control, communications, and intelligence systems for the Air Force, other military services, and various DoD and other entities. The ESC has an annual budget of \$4 billion and manages more than 200 programs ranging from secure communication systems to mission planning systems. The Airborne Warning and Control System (AWACS) and the Joint Surveillance Target Attack Radar System (JSTARS) are two of the ESC's premiere programs.
- The MITRE Corporation is a federal contract research center that provides assistance to the ESC on systems engineering, architectures and interoperability, technology application, system development, and acquisition and process implementation.
- The Massachusetts Institute of Technology (MIT) Lincoln Laboratory is a federally funded research center with areas of responsibility that include radar, communications, digital signal processing, optic research, and advanced electronics.
- The Air Force Research Laboratory, a consolidation of the former Phillips and Rome Laboratories, houses the Air Force Center for Research in the Environmental Sciences, and for Scientific Research and Development of Command, Control, Communication, and Intelligence Technology. It operates several laboratories and technical facilities including vacuum testing chambers. It also operates a research library that also serves the ESC, MITRE, the Base community, and area businesses and academic institutions.
- The 66th Air Base Wing provides municipal services to the Base community.

Hanscom AFB dates from 1941, when the Massachusetts legislature authorized the purchase of a large tract of farmland for an auxiliary Boston airport to be funded by the federal government in anticipation of the future war effort. In 1942 the Bedford Airport was leased to the War Department and used as a training site. The airport was renamed Laurence G. Hanscom Field in 1943. Through the years, the airfield – renamed Laurence G. Hanscom AFB in 1973, and shortened to Hanscom AFB in 1977 – became an important radar research and testing center. All flight operations, except for transient aircraft servicing, ceased in 1973; the Air Force terminated its lease on the airfield portion of the Base, but retained the right to use the airfield.

Projected future mission requirements have necessitated the renovation or demolition of older facilities at Hanscom AFB and the construction of new facilities. The Hanscom AFB Capital Improvements Program (CIP) emphasizes consolidating existing facilities and maximizing their utilization as much as possible. Over the next 5 years, key projects planned for Hanscom AFB, if implemented, will increase the total square footage of buildings and facilities on Base by approximately 5 percent.

## J4.2 Wastewater System Description

### J4.2.1 Wastewater System Fixed Equipment Inventory

The Hanscom 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, controls, treatment plants, and meters. 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:

- Hanscom AFB Military Family Housing wastewater collection system
- MWRA supervisory control and data acquisition (SCADA) system

#### J4.2.1.1 Description

The sanitary wastewater system at Hanscom AFB includes collection mains, two main pump stations, and one small pump station, each of which is described below. Wastewater is discharged to the Town of Bedford's sewer system. The Massachusetts Water Resources Authority (MWRA) provides treatment for wastewater in the region.

The collection piping consists of vitrified clay, asbestos cement (AC), ductile iron, and polyvinyl chloride (PVC) piping. There are no wastewater treatment facilities on Base. The average depth of buried piping is approximately eight feet.

The Upper Main pump station (Building 1306) sewage pumping controls were upgraded in 1999. The pump station includes three pumps located in a belowgrade concrete dry well. The pumps draw from two wet wells that have a combined capacity of 250,000 gallons. The station is designed for two pumps, with one on stand-by. The Upper Main pump station pumps the Base's total sewage flow to the Town of Bedford's sewer force main through a new ductile iron pipe force main constructed in 1996 along Hartwell Avenue. The point of connection is at Route 2 with Bedford's force main; from there the flow continues on to the regional treatment facility owned by MWRA. There also is a Town of Bedford metered connection at the intersection of Wood Street and Hartwell Ave., which is used for emergency overflow only.

The Lower Main pump station (Building 1359) was rebuilt in 1987 and upgraded in 1994. The Lower Main lift station includes three centrifugal pumps (two duty pumps plus a standby) located in a concrete dry well. The pumps draw from a wet well that has a maximum working capacity of approximately 7,500 gallons. One small lift station is also used to provide collection for Building 1101. This duplex submersible lift station is currently non-operational.

#### J4.2.1.2 Inventory

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

**TABLE 1**  
Fixed Inventory  
*Wastewater System Hanscom AFB*

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Main Base</b>				
<b>Piping</b>				
PVC pipe	6-in.	270	LF	1985
	6-in.	1,860	LF	1955
	8-in.	3,295	LF	1955
	8-in.	1,060	LF	1985
	10-in.	1,810	LF	1955
	12-in.	745	LF	1955
Ductile iron pipe	12-in.	2,570	LF	1965
Vitrified clay pipe	3-in.	200	LF	1955
	4-in.	600	LF	1955
	5-in.	95	LF	1955
	6-in.	9,525	LF	1955
	8-in.	28,725	LF	1955
	10-in.	7,530	LF	1955
	12-in.	2,940	LF	1955
	15-in.	785	LF	1955
	18-in.	1,900	LF	1955
24-in.	460	LF	1955	
Cast iron pipe	4-in.	640	LF	1965
	10-in.	1,460	LF	1955
	12-in.	4,750	LF	1955
<b>Manholes</b>				
Standard sanitary sewer manhole		5	EA	1985
		342	EA	1955

TABLE 1  
Fixed Inventory  
Wastewater System Hanscom AFB

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Wastewater Pump Stations</b>				
<b>Lower Main wastewater pump station (Building 1539) 410 sf brick and CIP concrete, wet pit/dry pit type 28 feet deep, Electric heat</b>		1	EA	1979
Three 38.7-hp 1,000 gpm explosion-proof pumps		3	EA	1994
4-inch gate valves	4-in.	3	EA	1994
6-inch check valves	6-in.	3	EA	1994
Pipe and Fittings		1	LS	1979
Pump controls, air bubbler transducer		1	LS	1979
Concrete wet well 7,500 gallons		1	LS	1979
Communitor, 5-hp, electric drive		1	EA	1999
Stand by power, 1 230-kW diesel		1	EA	1979
Auto transfer switch 480 VAC		1	EA	1979
Flow measuring Foxboro tube type mag		1	EA	1979
Diesel tank, double-walled steel, 500 gallon, abovegrade		1	EA	1979
<b>Upper Main wastewater pump station (Building 1306) 366 sf block with stucco, wet pit/dry pit type, 20 feet deep</b>		1	EA	1954
Two 40-hp 800 gpm 3-phase pumps		2	EA	1987
One 125-hp 1,500 gpm 3-phase pump		1	EA	1987
4-inch knife gate valves	4-in.	3	EA	1987
8-inch check valves	8-in.	3	EA	1987
Pipe and fittings		1	LS	1954
Pump controls, Milltronics Ultrasonic		1	LS	1997
<b>Concrete Wet Wells</b>				
128,000-gallon concrete cast in place		1	EA	1954
162,000-gallon concrete cast in place		1	EA	1954
Communitor, 5-hp, hydraulic drive		1	EA	1999
Standby power 275-kW diesel		1	EA	1987
500-gallon saddle style diesel tank		1	EA	1987
Auto transfer switch 480 VAC		1	EA	1987
Flow measuring Foxboro Ultrasonic Influent		1	EA	1995
Pump controls Milltronics HydroRanger		1	EA	1999
<b>Building 1101 Pump Station(non-functional)</b>		1	EA	1954
Two 5-hp 30 submersible pumps		2	EA	1993
Valves and fittings		1	LS	1954
Float type controls		1	LS	1993
Concrete wet well 1,000-gallon		1	LS	1954
(Note: Station currently not in use because of force main failure)				

TABLE 1  
Fixed Inventory  
Wastewater System Hanscom AFB

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Trailer Park</b>				
<b>Piping</b>				
PVC pipe	4-in.	1,910	LF	1965
	6-in.	240	LF	1965
	8-in.	2,800	LF	1965
Vitrified clay pipe	3-in.	3,470	LF	1965
	6-in.	1,865	LF	1965
<b>Manholes</b>		26	EA	1965
<b>Family Campground</b>				
<b>Piping</b>				
PVC pipe	4-in.	1,310	LF	2000
	6-in.	1,265	LF	2000
Vitrified clay pipe	4-in.	595	LF	2000
	8-in.	655	LF	2000
	10-in.	1,165	LF	2000
<b>Manholes</b>		20	EA	2000

## Notes:

ea = each  
gpm = gallons per minute  
hp = horsepower  
in. = inch  
kW = kilowatt  
lf = linear feet  
LS = lump sum  
PVC = polyvinyl chloride  
VAC = volts AC

## 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 Hanscom AFB

Qty	Item	Make/Model	Description	Remarks
No spare parts are included with the system to be privatized.				

TABLE 3  
Specialized Vehicles and Tools  
*Wastewater System Hanscom AFB*

Qty	Item	Make/Model	Description	Remarks
No specialized vehicles or tools are included with the system to be privatized.				

### 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 Hanscom AFB*

Qty	Item	Description	Remarks
1	Manufacturer's cutsheets	Bldg. 1306 Sewer Lift Station	Building 1883
3	Manufacturer's cutsheets	Bldg. 1539 Sewer Lift Station	Building 1883
1	Sewer shutoff locations	3-ring binder	Building 1883
1	Log	Spill Prevention Log	Building 1883
1	Base Comprehension Plan "Composite Utilities—Wastewater System" (1 job)	G-tabs	Hard Copy and CD

## J4.3 Specific Service Requirements

The service requirements for the Hanscom AFB wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Hanscom 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.

- The Contractor shall coordinate with FAA and Massport L.G. Hanscom Field and schedule any testing, flow measuring, cleaning, or other maintenance activities, including any emergency response activities, on the existing gravity main within the boundary of the Massport L.G. Hanscom Field and conform to all requirements and all restrictions.
- The Contractor shall enter into a Memorandum of Understanding with the Hanscom AFB Fire Department for fire protection and detection system of all facilities included in the purchase of the utility. The MOU shall be completed during the transition period and a copy provided to the Contracting officer.

- The Contractor shall abide by Hanscom AFB fire protection and detection system requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire protection and detection systems. Where required by federal, state or local regulations, the Contractor shall maintain the fire protection and detection 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.

## J4.4 Current Service Arrangement

Wastewater from Hanscom AFB is discharged to the Town of Bedford's sewer force main and is then further conveyed to the MWRA system for final treatment.

Data for 1998 indicate that wastewater flow at Hanscom AFB totals approximately 350 million gallons. In 1998 the peak wastewater monthly flow was 36 million gallons in October, and the lowest monthly flow was 23 million gallons in August.

## J4.5 Secondary Metering

There are currently no requirements for secondary metering of wastewater included in this contract. Any future wastewater secondary metering requested by the Government will be IAW Section C.3 of the RFP, *Future Secondary Meters*.

## J4.6 Monthly Submittals

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

1. Invoice (IAW G.2). 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 25<sup>th</sup> of each month for the previous month. Invoices shall be submitted to:

*Name:* 66MSG/CEK  
*Address:* 120 Grenier Street  
 Hanscom AFB, MA 01731-1910

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:* 66MSG/CEK  
*Address:* 120 Grenier Street  
 Hanscom AFB, MA 01731-1910

3. Infiltration and Inflow Report. If required by Paragraph C.3, the Contractor shall submit an Infiltration and Inflow report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25<sup>th</sup> of each month for the previous month. System efficiency reports shall be submitted to:

*Name:* 66MSG/CEK

*Address:* 120 Grenier Street  
Hanscom AFB, MA 01731-1910

## 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.

- There are no projects for managing and monitoring the I&I for the system to be privatized.

## J4.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Hanscom AFB boundaries; and also includes two easements. An easements with Massport L.G. Hanscom Airfield for the sewer line under the airfield. And an easement with the Town of Bedford for the sewer line on Hartwell Avenue.

## J4.9 Off-Installation Sites

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

## J4.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 5** provides a listing of service connections and disconnections required upon transfer.

**TABLE 5**  
Service Connections and Disconnections  
*Wastewater System Hanscom AFB*

Location	Description
There are no specific transition requirements for the system to be privatized.	

## J4.11 Government Recognized System Deficiencies

**Table 6** provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Hanscom 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 6**  
System Deficiencies  
*Wastewater System Hanscom AFB*

<b>Project Location</b>	<b>Project Description</b>
Offut Street	Replace sewer system
Capehart Street	Replace sewer system
Building 1101	Construct sanitary sewer line, 84-1101-03