

**ATTACHMENT J4**

# **Selfridge ANGB Wastewater System**

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## J4 Selfridge ANGB Wastewater System

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### J4.1 Selfridge ANGB Overview

Selfridge is located on the north side of the metropolitan area of Detroit, Michigan, along the western shore of Lake St. Clair. It is the home of the 127th Wing of the Michigan Air National Guard and the United States Army Garrison-Selfridge. The 127th Wing of the ANG includes the Logistics, Operations, and Support Groups. Aircraft that are assigned to the base include the F-16 “Fighter Falcon,” and C-130 “Hercules” (ANG), KC-135 “Stratotanker” (AFRC), and the HH-65 “Dolphin” helicopter of the Coast Guard. The Army portion of Selfridge also provides housing for military personnel. The Air Force Reserve (AFRC) 927th Air Refueling Wing provides the KC-135 mission on base and occupies numerous facilities on ANG property, making it the third largest group on base. The 127th Wing is the host command.

U.S. Army Garrison-Selfridge serves the Tank-automotive and Armaments Command (TACOM) supporting tank construction in the Detroit area. Other army units stationed at Selfridge include an active Army Readiness unit, Army Reserves, and a unit of the Army Guard (Rangers).

Several other branches of the U.S. military also have offices or units on the base. They include the 425th infantry and Army Guard Recruiting, Naval Mobile Construction Battalion, Naval Air Reserve Activity Selfridge, Naval Reserve Center, Immigration and Naturalization Service for U.S. Boarder Patrol, Marine Wing Support Group 47, the Army’s 3rd Brigade, 85th Division, and the 75th Explosive Ordnance Company. The Coast Guard Air Station Detroit also uses Selfridge as a base of operations.

The working population of the base is currently 550 on active duty, 1,720 civilian workers, and 4,200 reservists and guardsmen.

The site upon which Selfridge is located initially was established as an airfield during the early part of the 20th century. It began being used as an airfield for the U.S. Army Air Corps in the 1920s. Over the years, it grew into an active duty base for the Air Force. In 1971 the U.S. granted a license to the State of Michigan for the use of the former Selfridge Air Force Base for National Guard purposes. The base at that time consisted of roughly 3,075 acres of land, including a complete airfield, buildings to support base operations and flight-line activities, 593 on-base housing units and associated quality of life facilities, and miscellaneous other buildings. In 1989, the Air Force transferred 520 acres of the base and the 102-acre Seville Manor housing area to the U.S. Army. The ANG also leases another area at the southeast corner of the base to the U.S. Army.

Currently the 127th Wing side of the base contains 228 buildings, and the U.S. Army side including Seville Manor contains 495 buildings (mostly housing). The total structure surface area over the entire base covers 1,922,310 ANG, 1,513,954 Army for a total of 3,436,255 square feet.

In 1997 Team Selfridge completed the Vision 2000 Base Renovation Plan. The Vision 2000 document identifies the condition of many aspects of the utility infrastructure, pavement, and buildings on the site. It also lays out a plan for implementing the recommendations for renovations presented in the plan. Based upon the Vision 2000 document, plans for demolition, construction, and new infrastructure projects have begun. Of particular interest to this feasibility analysis report is the expectation that demolition and construction on the base will result in a net reduction in the surface area of structures (127th Wing and U.S. Army). The reduction in building area is expected to result in a proportionate reduction in demand for the four commodities being analyzed by the project..

## J4.2 Wastewater System Description

### J4.2.1 Wastewater System Fixed Equipment Inventory

The Selfridge ANGB 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:

- Oil Water Separators
- Storm Sewers
- Grease Traps
- Septic Systems and holding tanks

#### J4.2.1.1 Description

The wastewater collection system at the Selfridge ANGB consists of 158,000 linear feet of gravity and force sewer mains. The system uses gravity sewers, pump stations, and force mains to convey wastewater to the south end of the base for discharge to the Harrison Township sewer system. There are four major sanitary sewer basins that consist of gravity sewers that feed pump stations. The pump stations convey sewage to the next downstream network until final discharge to Harrison Township. There are also several remote areas on the base that use septic systems or holding tanks that are pumped for sewage disposal. Septic systems and tanks are not being privatized.

The base previously had an onsite treatment facility, which was used until 1976. The facility was converted to pump station 501 and is now used for flow equalization and storage. The

tanks can store up to 700,000 gallons of temporary sewage storage. The station also has a flowmeter operated by Harrison Township for billing purposes.

The main base contains 12 pump stations. There are five large pump stations (four that service each of the drainage basins plus pump station 501 for discharge to Harrison Township). Three medium-sized stations, and four smaller stations move wastewater within the different collection basins on the 127<sup>th</sup>. Approximate dates of original construction are shown in Table 1.

#### J4.2.1.2 Inventory

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

TABLE 1  
 Fixed Inventory  
 Wastewater Utility System Selfridge ANGB

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
PVC Pipe	4	1,229	Lf	1998
	6	3,874	Lf	1997
	8	5,773	Lf	1997
	10	1,875	Lf	1997
	12	4,120	Lf	1994
Cast Iron Pipe	4	26,295	Lf	1955
	6	12,789	Lf	1952
	8	10,168	Lf	1962
	10	1,500	Lf	1959
	24	900	Lf	1950
Vitrified Clay Pipe	4	388	Lf	1956
	6	5,029	Lf	1961
	8	11,284	Lf	1958
	10	6,086	Lf	1950
Concrete				
	8	1,451	Lf	1959
Standard Sanitary Sewer Manhole		145	Ea	1980
Wastewater Lift/Pump Station (large)		1	Ea	1940
Wastewater Lift/Pump Station (Large)		2	Ea	1955
Wastewater Lift/Pump Station (Large)		2	Ea	1996
Wastewater Lift/Pump Station (Medium)		2	Ea	1955
Wastewater Lift/Pump Station (Medium)		1	Ea	1996
Wastewater Lift/Pump Station (Small)		2	Ea	1955
Wastewater Lift/Pump Station (small)		1	Ea	1998
Wastewater Lift/Pump Station (small)		1	Ea	2000

Notes:  
 PVC = Polyvinyl Chloride

LF = Linear Feet  
 EA = Each

### 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 Selfridge ANGB*

Qty	Item	Make/Model	Description	Remarks
None				

**TABLE 3**  
 Specialized Vehicles and Tools  
*Wastewater System Selfridge ANGB*

Description	Quantity	Location	Maker
None			

### 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 Selfridge ANGB*

Qty	Item	Description	Remarks
2	Pump	MANUALS	
2	DRAWINGS	Drawings from design and construction of various projects. Including the design drawings from Infrastructure update	
2	Preventative maintenance records	As available	

## J4.3 Specific Service Requirements

The service requirements for the Selfridge ANGB wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Selfridge ANGB 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 must subscribe to the *MISS DIG* utilities locating service
- Grounds and structures area shall be maintained to meet base standards
- Operate the wastewater discharge system in conformance with discharge limits set by Harrison Township. Limit is 660 gallons per minute as discussed below in Current Service Agreement. Take steps as needed to meet that limit. Pay fines or damages that result of exceeding limit.

## J4.4 Current Service Arrangement

The current provider of wastewater service to Selfridge ANGB is Harrison Township. According to the billing records, the average daily wastewater flow is roughly 276,000 gallons.

Future wastewater system demand based upon the construction of new buildings and demolition from the Vision 2000 plan has been estimated. The additions appear to equal or be less than the demolition plan for the base. Therefore, the demand of 276,000 gallons per day is similar to the calculated future demand.

System capacity has been historically limited by the Harrison Township to a discharge limit of 950,000 gallons per day, with a maximum instantaneous peak flow rate and 732,000 gallons for the maximum daily flow. Future wastewater flows are expected to be below these values. Generally, these high flows are reached during wet weather conditions, and the excess wastewater is stored in the equalization basin at pump station 501.

Recently, Harrison Township set a maximum wastewater discharge rate from the Base system at 660 Gallons per minute. They have also asked for reduced or eliminated discharge flows from time to time during wet weather events to avoid overloading their collection main south of the base.

The new owner will be required to monitor and manage water discharge rates so that the maximum limit is not exceeded. Additionally, the New Owner shall divert excess flow to holding tanks at Building 501 (when needed) to prevent wastewater from backing up into buildings on base. Contractor will be responsible for all costs due to managing discharge rates to conform with these discharge limits.

## 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 J4.6 below.

TABLE 5  
 Existing Secondary Meters  
 Wastewater System Selfridge ANGB

Meter Location	Meter Description (Type)
Building 2500	Sebille Manor
Building 501	Pump Station Discharge to Harrison Township

### 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 J4.6 below.

TABLE 6  
 New Secondary Meters  
 Wastewater System Selfridge ANGB

Meter Location	Meter Description
Meters at Manhole demarcation points to measure inflow from Army	Flow 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:* 127WG/CERU  
*Address:* 43275 Mulberry, Selfridge ANGB, MI 48045  
*Phone number:* (810) 307-4655

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 10<sup>th</sup> of each month for the previous month. Outage reports shall be submitted to:

*Name:* 127WG/CEO

*Address:* 43275 Mulberry, Selfridge ANGB, MI 48045

*Phone number:* (810) 307-4992

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 10<sup>th</sup> of each month for the previous month. System efficiency reports shall be submitted to:

*Name:* 127WG/CEO

*Address:* 43275 Mulberry, Selfridge ANGB, MI 48045

*Phone number:* (810) 307-4992

## 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.

None are formally active. However, it is known that I&I is a problem with the Selfridge system. Previous reports on utility systems are available for review in the Technical Library.

## J4.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Selfridge ANGB boundaries and Seville Manor.

## J4.9 Off-Installation Sites

The Seville Manor Housing area is an off-installation site located 2.6 miles north of the base. It is currently owned and managed by the U.S. Army. Seville Manor is included in the sale of the U.S. Army Garrison-Selfridge wastewater collection system. There are no off-installation sites associated with the 127<sup>th</sup> Wing.

## 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 Selfridge ANGB

Location	Description
West Side of Base	Design and construct pump stations and pipes as necessary to allow a new wastewater system connection to the base. Recent studies performed for Selfridge indicate that a connection to the wastewater interceptor on Joy Boulevard can accept wastewater from the base. This connection may be used to divert some or all of the base waste-stream so that discharge limits currently set on existing sewer connection are not exceeded.
Septic Field at Building 1492 and 1500	Extend sanitary system to connect building 1492 and 1500 to the sanitary sewer. This is required by DEQ because operations in building 1492 generate industrial waste that cannot be delivered to a septic system.
Infrastructure Upgrade Project East side Cantonment Area	The 127 <sup>th</sup> is currently completing a project to upgrade infrastructure in the center/east side of the installation. Construction is under way and is scheduled for completion in mid 2001. The completion date may be after the award and transfer date for utility privatization. Ownership of these new portions of the utility system will be transferred after the construction is completed and the new portions of the system have been accepted by the 127 <sup>th</sup> Wing. Contractor shall allow service connections to be made as part of the infrastructure project if they need to occur after the utility systems have been transferred..

## 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 Selfridge ANGB 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 AB.

**Table 8**

System Deficiencies  
 Wastewater System Selfridge ANGB

Project Location	Project Description
Manholes	The manholes have exceeded their service life and need to be replaced with gasket-sealed manholes (145 of them). Additionally, 45 manholes settled (approximately 2 feet) and need replacement
Building 1416	Needs cross-connection of storm and sanitary sewers separated
Building 1422	The manhole is a combination storm and sanitary with dividers to separate the streams. This does not perform adequately, need individual Manholes.
Building 1050	Disconnect roof drains from sanitary sewer – building is scheduled for demolition in 2001, so this may not be an issue at award.
Entire Sanitary System	Inflow and Infiltration are a constant challenge. Specifically during wet weather. Constant monitoring and testing are determined to identify and then repair areas with infiltration problems.
Lift Station 2500	There is not a back-up power supply in the event of an outage, install an

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	emergency generator
Pump Station 501	The back-up transfer switch is inoperable, repair.
Pump Station 1402	There is not a back-up power supply in the event of an outage, install an emergency generator.
Lift Station 510	Lift station 510 does not have adequate controls to allow control of discharge rate to meet new limits set by Harrison Township. Upgrade the system to allow discharge rate to be managed.
Manholes from Area 1000 south to building 997	These manholes need to be replaced.
Upgrade Infrastructure; East Side Cantonment area	<p>The Base infrastructure systems are old and have not been upgraded to meet current demands in many areas. The overhead electrical system is old undersized, and unreliable. The wooden poles are old, warped, cracked and not properly located. The street lighting system is direct buried at shallow depths and is unreliable. The domestic water system is over 50 years old in some areas, full of iron deposits that limits flow and not looped leading to dead-end lines. Since the water cannot properly circulate, the chlorination system does not work and as a result there is higher than normal bacteria content in these lines. The system is supplied by a single off-base source. The water lines that feed the Fire protection and suppression systems are undersized. The sanitary sewer system dates back to the 1930's with no significant upgrades and the lines experience storm water infiltration as a result of age and cracked lines.</p> <p>A project to correct these deficiencies in the East Side Cantonment Area is currently under construction and is scheduled to be completed by July 2001. The work being performed includes primary electrical, domestic water, fire suppression water system, sanitary sewers, storm water system, street lighting, communication system, sidewalks, parking lots, secondary roadways and supporting systems. All systems to be in accordance with their respective national codes. Estimated cost \$10,000,000</p>

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