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# Operations & Maintenance Manual

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## Section 1

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### Introduction

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## 1.1 Introduction

Old Lycoming Township's sanitary sewer system, which is owned and operated by the Old Lycoming Area Authority and operated by the Township's Sewer Department, receives and conveys wastewater generated from residential and commercial properties within the Township and a portion of Lycoming Township to the Williamsport Sanitary Authority's West Wastewater Treatment Plant (WWTP). The Township's sanitary sewer system is comprised of pipes and manholes constructed with various materials and dimensions. The wastewater is collected and conveyed to an interceptor sewer. The interceptor sewer conveys the wastewater to the Flexer Court meter Station (final metering point within the Township), where it flows by gravity through the Newberry section of the City of Williamsport to the Williamsport Sanitary Authority's West WWTP.

The sanitary sewer system is susceptible to a variety of problems. Depending on the wastewater flow characteristics, the surrounding soil conditions and quality of construction; over time, deterioration of the sanitary sewer system may occur and the sanitary sewer system may suffer from clogging, scouring, corrosion and collapse. These conditions dramatically increase the potential for the "back-up" of wastewater into structures, the surcharge of wastewater from manholes and potentially cause sanitary sewer overflows (SSOs). IN ORDER TO MINIMIZE FURTHER DETERIORATION OF THE EXISTING SANITARY SEWER SYSTEM AND THE POTENTIAL FOR THE ADVERSE AFFECTS, IT IS IMPERATIVE FOR THE TOWNSHIP TO EFFECTIVELY OPERATE AND PROVIDE ADEQUATE MAINTENANCE OF THE SANITARY SEWER SYSTEM. If effective operation and adequate maintenance are provided, the sanitary sewer system will accomplish its primary function, collecting and conveying wastewater to the Township's interceptor, while preventing SSO occurrences to Lycoming Creek and/or the West Branch of the Susquehanna River during wet weather events.

The Township's elected/appointed officials and administrative staff's goal is to provide wastewater collection and conveyance service to the Township's residents in a manner that protects their health and safety and minimizes adverse impacts on the environment. To achieve this goal, the following guidelines have been established.

1. Provide the necessary maintenance to preserve the integrity of the sanitary sewer system and quality of service.
2. Provide prompt response to sanitary sewer system related complaints followed by corrective action, if warranted.
3. Respect for private ownership in the pursuit of sanitary sewer system maintenance work.
4. Maintain good public relations with the Township's citizens.

## **1.2 Purpose and Scope**

The purpose of operation and maintenance (O&M) programs is to maintain design functionality (capacity and integrity) and/or to restore the system components to the original condition. The ability to effectively operate and maintain a wastewater collection system so it performs as intended depends greatly on site conditions, proper design (including selection of appropriate materials and equipment), construction and inspection, testing and acceptance, and system start-up. This is true for both the collection system and the service laterals and connections. O&M staff should be involved at the beginning of each project, including planning, design, construction, acceptance and start-up. When the collection system is designed with future O&M considerations in mind, the result is a more effective program in terms of O&M cost and performance.

Wastewater system maintenance can be either a proactive or reactive activity. Effective O&M programs are based on knowing what components make up the system, where they are located, and the condition of the components. With that information, proactive maintenance can be planned and scheduled, rehabilitation needs identified and long-term Capital Improvement Programs (CIPs) planned and budgeted.

## **1.3 Basis of Manual**

The information provided in this manual is based upon CMOM (Capacity, Management, Operations and Maintenance) documents and information. CMOM is a flexible, dynamic framework for municipalities to identify and incorporate widely accepted wastewater industry practices to better manage, operate and maintain the collection system, investigate capacity constrained areas of the collection system and respond to emergency events.

## 1.4 Abbreviations

CBOD5	Carbonaceous Biochemical Oxygen Demand
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CMOM	Capacity, Management, Operations and Maintenance
COD	Chemical Oxygen Demand
EPA	United States Environmental Protection Agency
FH	Fox Hollow
GIS	Geographic Information System
GPS	Global Positioning System
GR	Grimesville
GV	Gardenview
I & I	Inflow and Infiltration
LACP	Lateral Assessment Certification Program
MACP	Manhole Assessment Certification Program
NAS	Network Attached Storage
NASSCO	National Association of Sewer Service Companies
O & M	Operation and Maintenance
PACP	Pipeline Assessment Certification Program
PADEP	Pennsylvania Department of Environmental Protection
POTW	Public Owned Treatment Works
SCADA	Supervisory Control and Data Acquisition
SCBOD5	Soluble Carbonaceous Biochemical Oxygen Demand
SFSTF	Small Flow Sewage Treatment Facility
SMP	Standard Maintenance Procedure
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow
SUO	Sewer Use Ordinance
TSS	Total Suspended Solids
WSA	Williamsport Sanitary Authority
WWTP	Wastewater Treatment Plant