
VILLAGE OF MOUNT PROSPECT, ILLINOIS
NPDES PERMIT NO. IL0052400



COMBINED SEWER OVERFLOW OPERATIONAL & MAINTENANCE PLAN

National Pollutant Discharge Elimination System Program
Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand East
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Village of Mount Prospect CSO Operational & Maintenance Plan

Table of Contents

Section 1 – General Information

- 1.1 Objectives of the Plan

Section 2 – Sewer System Information

- 2.1 Watershed and Drainage Characteristics
- 2.2 Sewer System Description
- 2.3 Combined Sewer Relief System
- 2.4 Wastewater Treatment
- 2.5 CSO Outfall Structures
- 2.6 Monitoring and Reporting of CSO Events
- 2.7 Public Notification Program
- 2.8 Maximizing Storage of Pollutants in Combined Sewer System
- 2.9 Pollution Prevention
- 2.10 Illinois Pollution Control Board
- 2.11 Sensitive Areas Considerations

Section 3 – Maintenance

- 3.1 Maintenance Objectives
- 3.2 Street Sweeping and Leaf Collection
- 3.3 Catch Basin Cleaning
- 3.4 Sewer Cleaning
- 3.5 Root Cutting
- 3.6 Sewer Rehabilitation
- 3.7 Manhole Rehabilitation

Section 4 – Inspections and Monitoring

- 4.1 Manhole Inspections
- 4.2 Sewer Inspections
- 4.3 Outfall Structures
- 4.4 Flow Monitoring
- 4.5 Building Inspections
- 4.6 Rehabilitation and Maintenance Work
- 4.7 Elimination of Dry Weather Overflows

Section 5 – Other CSO Permit Efforts

- 5.1 Recordkeeping
- 5.2 Sewer System Mapping
- 5.3 Procedures for Land Developments

Appendix

A-1 Village of Mount Prospect Combined and Separate Sanitary Sewer Map

A-2 Operational & Maintenance Plan Checklist and Certification

SECTION 1 - GENERAL INFORMATION

This Operational and Maintenance (O&M) Plan was developed to conform to the requirements of NPDES General Permit No. IL0052400 issued by the Illinois Environmental Protection Agency (IEPA) to the Village of Mount Prospect. The NPDES permit allows the Village of Mount Prospect to operate and maintain combined sewer overflow (CSO) structures that have been constructed as part of its sewer system.

1.1 OBJECTIVES OF THE PLAN

It is widely recognized that pollutants conveyed by surface runoff and other drainage sources can degrade the quality of surface waters, making them unsafe for drinking, fishing, swimming, and other purposes. In recognition of this situation the United States Environmental Protection Agency (USEPA), under the authority granted by the Clean Water Act, created a permit program entitled the National Pollutant Discharge Elimination System (NPDES) to identify and regulate such discharges. The Federal NPDES permit program is locally administered in the State of Illinois by the IEPA. The permit program is intended to control water pollution and improve water quality by regulating the discharge of pollutants from point sources into surface waters. Point sources include sewer pipe, culvert, and open ditch conveyance systems that route polluted drainage into waterways. NPDES permits are required for all industrial, municipal and other regulated facilities.

In consideration of the risks to the environment presented by CSOs, the primary objective of this plan is to provide a program for effectively improving the Village's CSO management and thereby reducing likelihood for CSO events. The plan has been prepared to generally comply with the nine minimum control requirements of the NPDES permit by:

1. Implementing and maintaining a proper O&M program for sewer system and CSO outfalls;
2. Making maximum use of the collection system for storage of wet weather flows;
3. Reviewing and modifying pretreatment requirements to ensure that CSO impacts are minimized;
4. Maximizing the volume of polluted waters processed and treated by the Publically Operated Treatment Works (POTW);
5. Eliminating and preventing the discharge of dry weather flows from CSO structures to waterways;
6. Implementing controls to limit the solids and floatable materials in CSO discharges;
7. Implementing a pollution prevention program to reduce contaminants in CSO discharges;
8. Implementing a public notification program to ensure that the public receives adequate notification of CSO event occurrences and impacts; and
9. Monitoring CSO events to effectively characterize CSO impacts and efficacy of CSO controls.

SECTION 2 - SEWER SYSTEM INFORMATION

2.1 WATERSHED AND DRAINAGE CHARACTERISTICS

The Village of Mount Prospect is a northwest suburb of Chicago located in Cook County. The Village's stormwater drains into the Des Plaines River primarily through Higgins Creek, McDonald Creek, Feehanville Ditch and Weller Creek.

The Village covers an area of 10.28 square miles and has a population of 56,265 (2000 census). The Chicago Metropolitan Agency for Planning (CMAP) projects that by the year 2030, this population will grow to 58,049. However, from 2000 to 2010 the population has declined 6 percent. Generally, a total population growth of 3.2% over a 30 year period indicates that the urbanization of the Village is nearly complete. As a result, very little growth in stormwater runoff from current levels is expected to be generated by new development over the next thirty years. The division of land use based upon zoning classification within the CSO area is shown in the Land Use Area table to the right. Land development within the community generally involves the redevelopment of existing developed properties.

Land Use Area by Zoning Classification			
District	Description	Land Area	
		(acres)	(%)
B1	Office	14.35	1%
B3	Community Shopping	31.35	2%
B3*	Community Shopping PUD	1.15	0%
B4	Commercial Corridor	0.55	0%
B5	Central Commercial	47.43	3%
B5*	Central Commercial PUD	3.66	0%
B5C	Central Commercial Core	8.80	1%
B5C*	Central Commercial Core PUD	14.35	1%
CR	Conservation Recreation	151.52	10%
I1	Limited Industrial	21.50	1%
I2	Railroad	10.63	1%
P1	Off-street Parking	4.87	0%
R1	Single Family Residential	218.25	14%
R1*	Single Family Residential PUD	7.13	0%
R2	Attached Single Family Residential	9.96	1%
R2*	Attached Single Family Residential PUD	1.46	0%
R3	Low Density Residential	17.09	1%
R3*	Low Density Residential PUD	5.76	0%
R4*	Multi-family Development PUD	5.17	0%
RA	Single Family Residential	932.58	60%
RX	Single Family Residential	58.80	4%
	Total Mount Prospect	1,566.37	100%

The existing Village combined sewer system covers approximately 2.47 square miles and was constructed primarily in the 1940's, 1950's and 1960's. However, portions of the system were constructed as early as the 1920's. The population of the Village grew from 1,720 in the 1940's to 4,009 in the 1950's to 18,906 in the 1960's. When compared to the 2000 population of 56,265, the Village's population has increased by roughly 3,000% since the 1940's, 1,400% since the 1950's, and 300% since the 1960's, with little recent expansion in extent or capacity of the storm sewers.

This high rate of population growth equates to rapid infrastructure growth within the Village in the form of new buildings, additional roads, parking lots and general development. This infrastructure growth increased the total impervious (paved) area in the Village, thereby

increasing the overall volume and peak flows of stormwater runoff. Consequently, certain areas of the Village system are overtaxed, currently providing conveyance for up to ten times their original design capacity.

2.2 SEWER SYSTEM DESCRIPTION

History of the Village's Sewer System

The early farmers settling the area organized specialized drainage districts to construct ditch and tile systems for the specific purpose of draining their fields following the area's frequent heavy rains. The Weller Creek and Feehanville Creek drainage districts installed drainage tiles and excavated the creek channels to better drain their fields and minimize flood damage. However, these early drainage systems were insufficient to serve the rapidly growing settlement. Consequently, one of the earliest tasks of the Village's founding fathers was to commission the construction of a local sewer system.

The local sewer system serving early Mount Prospect was comprised entirely of combined sewers. Today, combined sewers constitute approximately 34% of the Village-owned sewer system (see Village of Mount Prospect Combined and Separate Sanitary Sewer Map, Appendix A-1).

Starting in the 1920s, both storm water and wastewater were conveyed using the same pipe. Initially, these pipes discharged both stormwater and sanitary wastewater directly into area creeks. When the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) interceptor system was constructed, wastewater was transported to the treatment plant in Skokie. During rain events, stormwater and sanitary wastewater flows usually over-taxed the interceptor pipes and were discharged to the creeks.

The MWRDGC interceptor system helped to reduce the amount of sanitary discharges in local waterways, but did not prove to be an effective solution, with hundreds of sanitary discharges still discharging to the creeks each year. Drenching rains in 1949, 1953 and 1955 prompted a flood study, which recommended the construction of relief sewers throughout the Village-owned sewer system.

Unfortunately, the Village lacked the financial resources at the time to fund these improvements. To solve this problem, the Village deeded title of its local combined sewer system to the MWRDGC in 1955. The MWRDGC issued \$2 million in revenue bonds to finance the construction of a series of relief sewers in the Mount Prospect sewer system in 1955. The MWRDGC would retain ownership of the Village's local combined sewer system until the debt from the revenue bonds was retired in 1980. The relief sewers were large diameter pipes designed to fill during rain events. The pipes would temporarily store combined sewer flows during a storm surge and release them to the interceptor sewers after the rain subsided. A series of 6 relief sewers were constructed in Mount Prospect between 1955 and 1957. In total, 35,575 feet of pipes, ranging in size from 21" in diameter to 58" x 91" rectangular conduit, were installed. Similar relief sewers were constructed in other locations throughout the MWRDGC service area, since the flooding problem was not unique to Mount Prospect.

The goal of these relief sewer projects was to provide protection from a “5-year” recurrence storm event. Unfortunately, despite the millions of dollars spent on intercepting sewers, treatment plants and relief sewers, structure and surface flooding remained a persistent problem in Mount Prospect and throughout Cook County.

Separate Sanitary Sewers

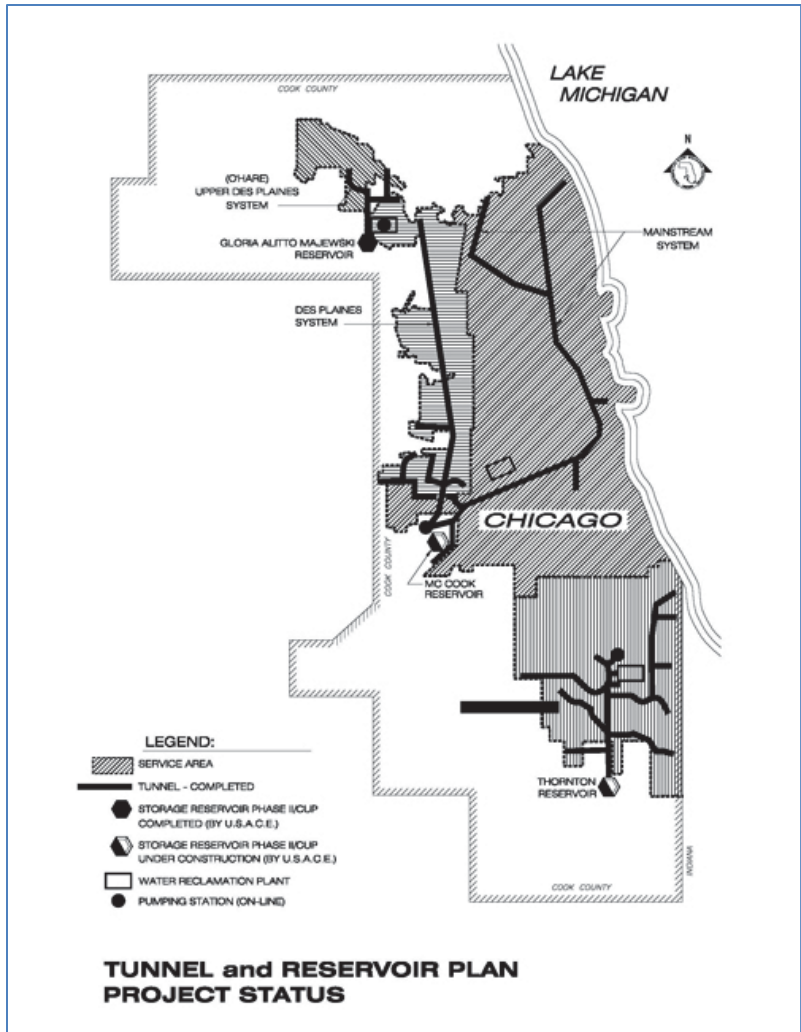
The Village’s first separate sanitary sewer systems were installed during the 1960’s. The separate sanitary sewers discharge to the MWRDGC interceptor system which, in turn, conveys the wastewaters to a treatment plant. The storm sewers discharge directly to area creeks. Generally, the outlying, or newer, areas of the Village are served by separate storm and sanitary sewers. Today, approximately 66 percent of the Village is served by separate sanitary and separate storm sewers. All new developments utilize separate sanitary and storm sewer systems. The Village has also enacted ordinances to limit construction within floodplains and ensure new construction projects meet current design standards for sewer construction and stormwater management.

2.3 COMBINED SEWER RELIEF SYSTEM

The “Deep Tunnel”, or as it is more formally known the Tunnel and Reservoir Plan (TARP), was adopted by the MWRDGC in 1972. The proposed system was Chicagoland’s plan to comply with federal and state water quality standards in the areas served by combined sewer systems. The primary goals of the TARP system were to protect Lake Michigan, improve the water quality of local streams and waterbodies, and to provide an outlet for floodwaters to reduce street and basement sewage backup and flooding.

	Combined Sewer	Separate Sanitary Sewer	Storm Sewer
Diameter	Total Feet		
UNK	420.29	0.00	2,396.33
3.00	0.00	512.61	45.26
4.00	165.20	0.00	1,826.30
6.00	481.01	234.50	8,992.74
7.00	0.00	0.00	255.13
8.00	8,876.29	263,828.64	78,260.27
10.00	5,957.41	62,325.41	40,341.87
12.00	84,855.86	24,691.18	173,312.15
14.00	0.00	0.00	219.93
15.00	52,772.05	171.02	83,329.85
16.00	0.00	0.00	463.01
17.00	0.00	0.00	51.92
18.00	33,471.51	8,903.05	79,625.01
20.00	0.00	2,694.96	2,183.21
19.00	17.50	4,102.44	34,100.37
21.00	15,386.71	0.00	0.00
22.00	0.00	0.00	1,132.03
24.00	18,358.22	3,764.55	44,832.03
26.00	938.89	0.00	12.66
27.00	6,342.89	0.00	16,653.99
29.00	0.00	0.00	290.52
30.00	10,512.20	0.00	33,572.76
31.00	0.00	0.00	359.26
32.00	0.00	0.00	530.43
33.00	4,835.94	0.00	5,296.54
34.00	0.00	0.00	17.86
36.00	8,846.77	0.00	30,067.98
40.00	0.00	0.00	949.46
42.00	9,244.64	0.00	13,389.11
43.00	0.00	0.00	518.67
46.00	0.00	0.00	2,688.39
48.00	3,013.28	1,554.23	21,809.89
52.00	0.00	0.00	988.25
53.00	0.00	0.00	337.28
54.00	0.00	47.22	9,728.62
57.00	792.37	0.00	0.00
58.00	2,424.91	0.00	0.00
60.00	7,997.91	2,137.61	8,468.26
63.00	0.00	0.00	174.72
66.00	4,670.81	0.00	3,929.05
72.00	1,499.60	171.81	7,902.78
78.00	0.00	0.00	1,550.76
83.00	368.19	0.00	0.00
90.00	812.64	0.00	719.18
96.00	0.00	0.00	214.03
144.00	0.00	1,343.75	0.00
TOTALS	283,063.07	376,482.97	711,537.89

Phase 1 of the TARP plan includes four distinct tunnel systems: the Mainstream, Des Plaines, Calumet and O'Hare (Upper Des Plaines) tunnels. The configuration of the tunnel system is shown at right. During an intense storm event, CSOs are directed into the tunnel and are stored until after the event. Pumping stations then dewater the tunnels and direct the water to identified water reclamation plants as capacity becomes available. Construction of the Phase 1 tunnel systems began in 1975 and portions of the tunnel system were in operation by 1985. By 2006, all of Phase 1 was completed and in operation. In total, the system contains 109.4 miles of large diameter deep rock tunnels that provide 2.3 billion gallons of storage volume to capture overflow. The total construction cost of all Phase I tunnels (Mainstream, Des Plaines, Calumet and O'Hare) was over \$4.4 billion. Phase 1 of the TARP plan includes those improvements that impact the Village of Mount Prospect.



Mount Prospect is served by the O'Hare tunnel. The O'Hare tunnel is comprised of 6.6 miles of pipe ranging in size from 9 feet to 20 feet in diameter at depths approaching 300 feet. It has the capacity to hold approximately 70 million gallons of combined sewer flows.

Mount Prospect is directly served by the Majewski reservoir. This reservoir is located southwest of the Route 83 bridge over Interstate 90. This facility was completed in 1998 and has the capacity to store over 350 million gallons of combined sewer flow. It is dewatered and treated by the Kirie Wastewater Reclamation Plant on Oakton Street in Des Plaines.

2.4 WASTEWATER TREATMENT

As mentioned previously, the Village of Mount Prospect wastewater collection system consists of both combined and separate sanitary sewer systems. These combined systems convey wastewater to MWRDGC interceptors and the TARP Facilities. Wastewater generated within the Village is ultimately treated at the MWRDGC Kirie Wastewater Reclamation Plant in Des Plaines, Illinois. Mount Prospect wastewater can also be directed to the Northside Wastewater

Reclamation Plant located in Skokie, Illinois via the MWRDGC interceptor system.

Completed in May 1980, the Kirie Plant is the MWRDGC's newest facility. The Kirie Plant serves a predominantly residential area which includes Arlington Heights, Mount Prospect, Elk Grove Village, Prospect Heights, Wheeling, Buffalo Grove and parts of Rolling Meadows and Des Plaines. The Kirie Plant has a design capacity of 72 million gallons of wastewater per day. It has its own tunnel and reservoir plan (TARP), which is independent of the Mainstream, Des Plaines and Calumet systems. The Kirie TARP is designed with the dual purpose of conveying dry weather flows to the plant and storing excess flows during rainstorms.

During storm events in the Kirie TARP service area, flows that exceed the capacity of MWRDGC interceptors overflow into the O'Hare tunnel. Once the O'Hare tunnel is full, the Majewski TARP Reservoir fills. When the Majewski TARP Reservoir fills to capacity, combined sewer overflows can occur, with wet weather flow being discharged directly into area waterways and tributaries including the Des Plaines River, the Chicago River, and ultimately, Lake Michigan.

2.5 CSO OUTFALL STRUCTURES

CURRENT PERMITTED CSO FACILITIES VILLAGE OF MOUNT PROSPECT					
CSO No.	Location	Latitude	Longitude	Receiving Stream	Stream Classification
001	Can-Dota Avenue	42° 03' 13" North	87° 56' 47" West	Weller Creek	General Use
002	Wa-Pella Avenue	42° 03' 13" North	87° 56' 42" West	Weller Creek	General Use
003	Elmhurst Road	42° 03' 18" North	87° 56' 27" West	Weller Creek	General Use
004	William St. Bridge	42° 03' 06" North	87° 55' 42" West	Weller Creek	General Use
005	Feehanville Rd/N of the Ditch	42° 04' 31" North	87° 55' 20" West	Feehanville Ditch	General Use
006	Feehanville Rd/S of the Ditch	42° 04' 29" North	87° 55' 19" West	Feehanville Ditch	General Use

By design, when the capacity of the combination sewer is exceeded a CSO event will occur. The overflow is typically directed to surface waters through the CSO structure. With the relief sewer capacity of 420 million gallons provided by the MWRD deep tunnel system, the likelihood for overflow events attributed to the Village of Mount Prospect sewer system is minimized.

2.6 MONITORING AND REPORTING OF CSO EVENTS

In accordance with Special Conditions 10.11 and 14.11 of the North Side and Kirie NPDES Permit Numbers IL0028088 (effective March 1, 2002) and IL0047741 (effective August 1, 2004), the MWRD monitors the frequency and duration of the discharge from select, representative CSO outfalls authorized in the permits and for all other CSO outfalls connected to TARP, for which the MWRD has the ability to monitor through an automated telemetry system.

Through the monitoring process, the MWRD documents the frequency and duration of CSO events and the associated depth and duration for each rainfall event. The MWRD continues to monitor the CSO outfalls at all times unless the telemetry is out of service due to malfunction or routine maintenance. The results of the monitoring is submitted to the IEPA on a quarterly basis, and is typically scheduled to be transmitted on February 15, May 15, August 15 and November

15 of each year.

Pursuant to the NPDES CSO Permit requirements, the Village is responsible for the reporting of all wet and dry weather overflow discharges. However, since the MWRD has installed telemetry equipment on all of the Village's CSOs and is reporting monitoring data, detailing any overflows, directly to the IEPA on the Village's behalf, the Village believes that the monitoring requirements of the NPDES permit have been satisfied.

2.7 PUBLIC NOTIFICATION PROGRAM

Pursuant to the NPDES permit requirements, the Village is responsible for developing a program for notifying the public of any CSO discharges. The Village has developed a Public Notification Program that incorporates the MWRDGCs CCSO Public Notification Plan. The program consists of a publication on the Village newsletter with background information on CSOs and directions to access the MWRDGC website for CSO occurrences. The MWRD maintains a network of flow monitoring devices throughout the Chicago area to detect and automatically report the occurrence of CSOs. Members of the public are able to sign up to receive e-mail notification of CSO events by accessing the MWRD's website (www.mwrdd.org). These parties will be sent an email alert in the event of a known CSO or diversion to a surface waterway. Reference materials concerning the CSO monitoring program can be found on the MWRD's website using the following link: <http://www.mwrdd.org/iri/portal/anonymous/overview>.

The USEPA developed water quality guidelines for the discharge of urban drainage into surface waterways and also developed the NPDES permit program to identify and regulate such drainage sources. Reference materials concerning the NPDES permit program, as well as information concerning CSO guidelines can be found on the USEPA website at the following location: <http://cfpub.epa.gov/npdes/home.cfm>.

2.8 MAXIMIZING STORAGE OF POLLUTANTS IN COMBINED SEWER SYSTEM

The following is a summary of many of the Village's efforts to maximize the storage of wastewater pollutants within the combined sewer system, or to minimize the flow of storm water into the combined sewer system, and thereby minimize the likelihood of CSO events.

1. Plan for the construction of relief sewer systems intended to provide additional storage for the combined sewer system.
2. Prohibit the connection of roof drainage and sump pumps drainage systems directly to the combined sewer system. The disconnection of existing downspout from the combined sewer system has been implemented where feasible.
3. Correct structural deficiencies in the combined sewer system (sewer mains, catch basins, manholes, etc.) and groundwater infiltration by reconstruction or through sewer lining projects.
4. Manhole and drainage structure replacement has been implemented as part of the capital projects or as part of system maintenance project to improve deteriorating manholes and minimize the flow of groundwater into structures.
5. The Village continues a program to regularly clean and inspect the combined sewer system, including sewer mains and catch basins, so that their capacity is undiminished by debris, sediment and roots which can impede the flow in the sewers.

6. Storm water management practice guidelines are being developed for public distribution in order to reduce the amount of storm water drainage entering the sewer system, to improve sediment control and to improve the quality of storm water runoff in the most cost effective manner.

2.9 POLLUTION PREVENTION

Pursuant to the NPDES CSO permit requirements, the Village is responsible for creating a Pollution Prevention Plan. The Pollution Prevention Plan compliments this O&M Plan and provides more details about the Village's efforts to prevent contaminants from entering into the combined sewer system.

The following list identifies the activities or services the Village provides to collect and remove various solid waste materials to keep pollutants and other debris from entering the Village's combined sewer system. These activities and services reduce the potential of discharging any solid waste materials into Weller Creek, Feehanville Ditch and the Des Plaines River watershed.

1. Street sweeping/cleaning.
2. Catch basin/drainage structure cleaning.
3. Solid waste collection and disposal (refuse, recyclable, yard waste, bulk items).
4. Leaf collection and disposal.

2.10 ILLINOIS POLLUTION CONTROL BOARD

The Illinois Pollution Control Board has not issued any orders or violations to the Village of Mount Prospect regarding its CSO outfall structures.

2.11 SENSITIVE AREA CONSIDERATIONS

The Village of Mount Prospect's CSO outfall structures discharge to Weller Creek and Feehanville Ditch, which are tributaries to the Des Plaines River, which functions largely as a regional urban drainage waterway. The CSO does not discharge to sensitive areas such as wetlands, beaches, Outstanding Natural Resource Waters, National Marine Sanctuaries, shellfish beds, or to waters containing threatened or endangered species. Weller Creek, Feehanville Ditch and the downstream Des Plaines River are not used as a potable water source.

SECTION 3 - MAINTENANCE

3.1 GENERAL MAINTENANCE OBJECTIVES

The Village of Mount Prospect periodically conducts preventative maintenance of the combined sewer system to ensure proper operation during dry and wet weather flows. The Village recognizes that proper and regular maintenance of the combined sewer system effectively maximizes its conveyance and storage capacity. Maintenance can also reduce excessive inflow and/or infiltration into the system, help prevent basement sewer backups, mitigate adverse surcharging of the manholes and help reduce the volume of solids that is typically conveyed during the initial “first flush” associated with rainfall events.

3.2 STREET SWEEPING AND LEAF COLLECTION

The Village of Mount Prospect operates a street sweeper on a daily basis (weather permitting) from mid-March through mid-December. Under this program each street is scheduled to be cleaned on a bi-weekly cycle. During the Village’s leaf collection season, which runs from October 1 through November 16, property owners rake leaves into the street. The leaves are then removed from Village streets and hauled to a recycling site by the Department of Public Works. The removal is integrated with the sweeping operations to ensure thorough cleaning and removal of leaves in a timely manner.

3.3 CATCH BASIN CLEANING

The Village of Mount Prospect conducts cleaning operations of surface drainage collection structures and catch basins on a five-year cycle using vactor-type equipment. In those areas where sediment and debris is known to accumulate more rapidly, cleaning is conducted seasonally. During periods of rainfall, particularly during the fall season, catch basin operation and surface flooding conditions are monitored and extra cleaning is conducted as necessary to ensure proper operation. Material gathered during the cleaning process is regarded as landscape waste and is temporarily stored and conveyed to an appropriate landfill.

3.4 SEWER CLEANING

The Village is grouped into 14 distinct geographic areas. These areas have both combined and separate sanitary basins. Each area has approximately the same amount of pipe and the same number of services (customers). The Village performs televising, cleaning and pipe condition assessment operations in one area per year. Therefore, the Village assesses the entire combined sewer system on a 14-year cycle. Furthermore, the Village assesses the entire wastewater collection system (including both combined and separate sanitary sewers) on a 14-year cycle.

The cleaning of screening equipment after and during storms is completed by the MWRD, which regulates diversion and bypass devices. There are no screening or bypass devices included as part of the Village’s combined sewer system.

3.5 ROOT CUTTING

Root cutting is performed on an as-needed basis. Sewers with a history of problems are serviced more frequently. If necessary, sewers with excessive root problems are treated with chemical root retardant, or lined or replaced as determined to be necessary by the Director of Public Works.

3.6 SEWER REHABILITATION

Sewer rehabilitation involves the replacement or lining of existing sewers based upon the findings of a televised inspection. The replacement methodology is used to correct sewer segments with structural deficiencies or leakage problems. The lining methodology is applied where feasible to minimize surface disruption while improving functional capacity. Sewer lining preserves the structural integrity, reduces maintenance requirements and improves flow capacity by eliminating root intrusion through joints and reducing friction losses along pipe walls due to its extremely smooth surface. The lining process consists of pulling or inverting a resin-saturated, polyester felt tube into a designated segment of sewer. Hot water or steam is then pumped into the tube to cure the resin and form a tight-fitting, jointless and corrosion-resistant replacement pipe within the original pipe. Service laterals are reconnected by internally cutting openings at the catalogued service locations. The sewer is then inspected by a sewer televising system to verify that the lining process was successful and that all service connections are restored.

3.7 MANHOLE REHABILITATION

Manhole rehabilitation involves the replacement, repair, or lining of existing manholes. Replacement involves the excavation and removal of the defective manhole structure and the installation of a new precast concrete manhole structure that meets current fabrication standards. Repair involves the removal or improvement of only a portion of the manhole structure, such as grade rings, cast iron frame and lid, and steps. Manhole lining extends the life of brick and block structures which are still structurally sound, but are exhibiting signs of distress that could eventually fail and require complete removal and replacement. Many manholes exhibit distress within the top 24 inches of the structure resulting from climatic conditions associated with repetitive freeze-thaw cycles and traffic loads. If a manhole exhibits distress at a depth greater than 24 inches, but is still structurally functional, then the full depth of the manhole is lined using either a cement or polyurea coating system. Manholes that are severely distressed or are within the boundary of a sewer replacement project are typically replaced.

SECTION 4 - INSPECTIONS & MONITORING

4.1 MANHOLE INSPECTIONS

All manholes are routinely inspected, and the results of the inspections are documented to develop work orders and budgets for programmed repairs. Inspections focus on structural as well as operational matters, including conditions affecting the manhole frame and lid, frame seal, grade rings, steps, walls, bench and trough, and pipe connections. The inspections also identify the sources of leakage, safety and function to ensure proper operation and maintenance.

4.2 SEWER INSPECTIONS

As previously stated, the Village is divided into 14 distinct geographic areas. The Village performs televising, cleaning and pipe condition assessment in one area each year. Therefore, the Village assesses the entire combined sewer system on a 14-year cycle. The structural and functional condition of the sewer mains and service connections are documented so that repairs can be scheduled and budgeted. The video recordings of the televised inspection are retained by the Department of Public Works.

The Village completed a combined sewer evaluation study in 2005 that assigned all the combined sewers a rating from 1 to 5; 5 representing the worst condition and 1 representing the best condition. Subsequent to the evaluation, the Village launched a 10-year program to rehabilitate the worst sewer pipes at the pace of \$1 million per year. Each year the Village contracts for CIPP linings and spot pipe replacements totaling \$1 million. Naturally, all this work is televised as part of the inspection process.

4.3 OUTFALL STRUCTURE

The CSO outfall structures are inspected on a monthly basis, and cleaned or repaired as determined to be necessary by the Director of Public Works.

4.4 FLOW MONITORING

Monitoring of the CSO structures is conducted on a continuous basis by the MWRD. The record of CSO operation is transmitted to the MWRD operations section and reported to the IEPA on a quarterly basis. The Village's Department of Public Works conducts monthly visual inspections of the CSO to confirm function of the system. The Village also inspects the operation of the sewer system at designated manholes to confirm consistency of operation. If determined to be necessary, the Director of Public Works may retain the services of a specialist to conduct flow monitoring studies.

4.5 BUILDING INSPECTIONS

Building inspections are done on a 14-year cycle. Buildings in combined sewer areas are inspected to make certain that sump pumps and downspouts are discharged at grade.

4.6 REHABILITATION AND MAINTENANCE WORK

The rehabilitation work determined to be necessary by the Director of Public Works as a result of the inspections and investigations is scheduled and budgeted as required. Rehabilitation methods employed reflect current engineering standards, conventions and regulations.

4.7 ELIMINATION OF DRY WEATHER OVERFLOWS

The CSO system for the Village of Mount Prospect is configured such that the dry weather flows conveyed by the outlet sewer are intercepted by the dry weather interceptor maintained by the MWRD. Flow conveyed by the outlet sewer drops into a deep flow channel which is routed into the interceptor. The interceptor functions as a weir device, in which flows must exceed the capacity of the intercepting sewer structure before reaching and passing through the outfall flood gates. This will only occur if the interceptor system capacity is exceeded, and is unable to receive additional flow from the outlet sewer. The flow monitoring devices installed by the MWRD are designed to identify such dry weather flows. In the unlikely event that a dry weather overflow occurs, the MWRD will alert the Village when the flow metering equipment records the overflow condition. In the event a dry weather overflow is documented and observed by Village staff, the Village will notify the IEPA and implement corrective actions to prevent the overflows.

SECTION 5 - OTHER CSO PERMIT EFFORTS

5.1 RECORD KEEPING

The Department of Public Works maintains records of work orders routinely issued in the process of repairing collapsed and blocked sewers, investigating basement backups, street flooding, collection system complaints and excess flow levels at combined sewer overflows. The records and documentation are generally used to aid planning for future maintenance work.

5.2 SEWER SYSTEM MAPPING

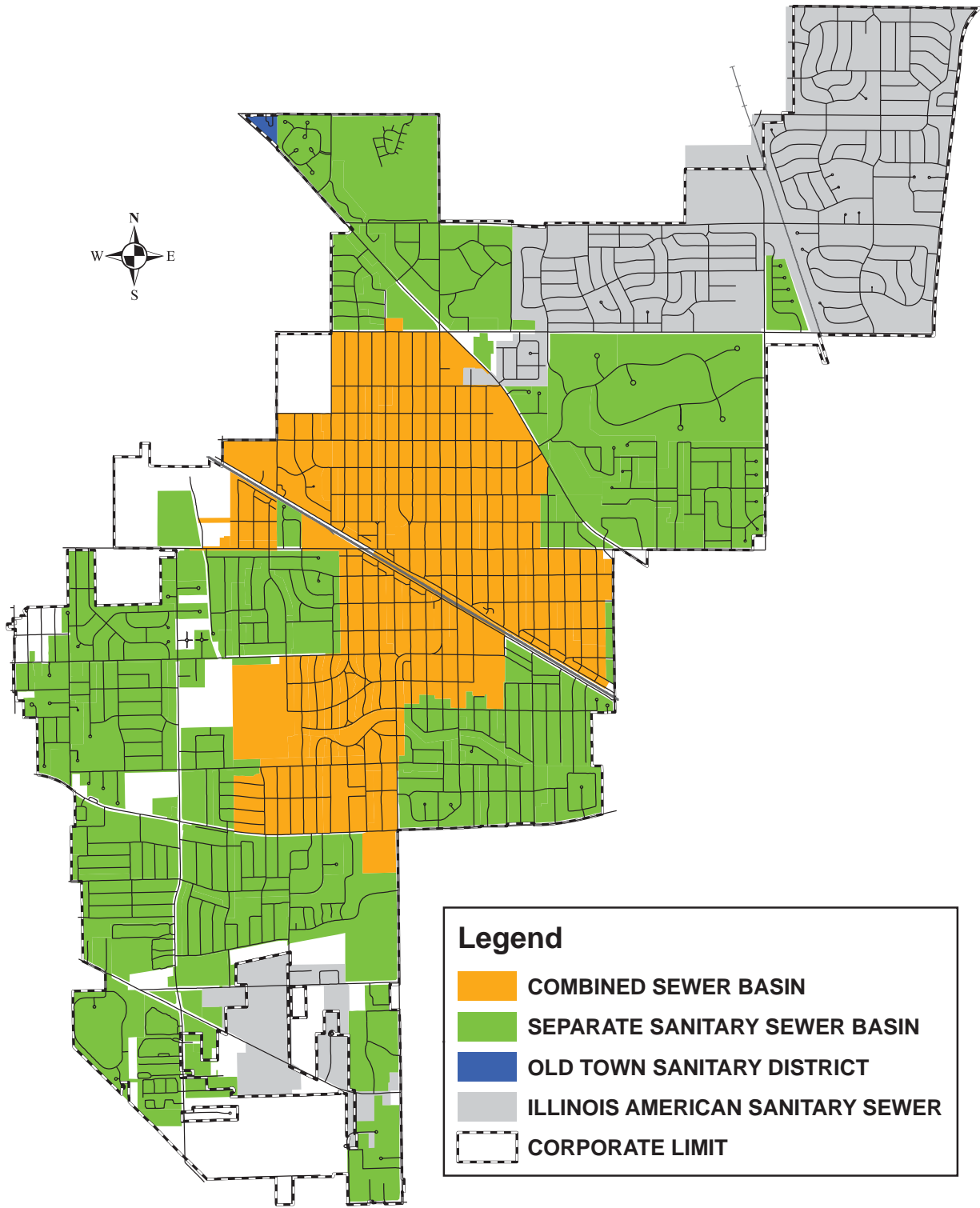
The Village maintains both an electronic and printed map of its sewer system, detailing the configuration of the combined sewer, sanitary sewer and storm sewer systems. The sewer system map generally displays the inventory of the entire sewer system, showing a record of measured elevations and pipe lengths and sizes. The map is updated on a periodic basis to reflect changes to the sewer system from sewer system improvements, and to add content as new information becomes available. Printed copies of the latest version of the map are distributed to Village staff as determined to be required by the Director of Public Works to support maintenance operations.

5.3 PROCEDURES FOR LAND DEVELOPMENT

The Village of Mount Prospect issues building permits for land development projects following approval by the MWRD in compliance with its Sewer Permit Ordinance, or as otherwise determined to be appropriate by local code and standards.

Appendix A-1

VILLAGE OF MOUNT PROSPECT



Appendix A-2

CSO OPERATIONAL PLAN CHECKLIST AND CERTIFICATION

(To be Completed by Permittee)

Facility Name Village of Mount Prospect

NPDES No. IL 0052400

Section I. *The following information should be included in the CSO Operational Plan.*

General Information

Included Administrative
Yes No N/A Acceptance

- Describe the collection system including all outfalls and overflows, control (diversion) structures, treatment facilities, pumping stations, and associated capacities
- Describe the relationship to other collection entities, esp. other CSO collection entities
- Has the Illinois Pollution Control Board issued any orders, currently in effect, regarding any of these outfalls? If yes, include a copy of the Board Order with the Plan.....
- Are any of these outfalls to sensitive areas (designated Outstanding National Resource Waters, National Marine Sanctuaries, bathing beaches, shellfish beds, waters with threatened or endangered species and their habitat, contact recreation, or drinking water intakes)? If yes, explain as indicated at the end of Section II
- Describe efforts undertaken to minimize the discharge of pollutants from all CSO outfalls.....
- Describe efforts undertaken to maximize storage of pollutants in the collection system.....
- Describe the pollution prevention aspects of this Operational Plan
- Describe efforts to monitor CSO impacts and the efficacy of CSO controls.....
- Describe the public notification program for CSO occurrences and impacts.....
- Latitude and longitude information given for each outfall.....

Maintenance

- Schedule for regular street cleaning in combined sewer areas
- Added emphasis for leaf removal
- Schedule for catch basin cleaning
- Schedule for routine cleaning of trunk and interceptor sewers
- Stop planks at highest level practical without causing basement backups or excessive street flooding
- Date system stop planks last adjusted _____
(month) (day) (year)
- Describe your procedures for:
 - Cleaning screening equipment after and, if necessary, during each storm
 - Regulating diversion and bypass valves.....
 - Reducing solids deposition in the combined sewer system.....

Inspections and Monitoring

- Schedule to inspect regulator and diversion structures included
- Routine pump/lift station inspection and preventive maintenance discussed
- Schedule to inspect manholes and sewers (e.g., televise, etc.) included
- Schedule to inspect surface water anti-intrusion devices (e.g., flapgates, etc.).....
- Describe your procedures for finding and eliminating illegal sewer connections
- Describe your procedures for finding and eliminating dry-weather overflows.....

Section II. *Information in the following section should be included in the Plan and kept on file by the permittee. This information will be verified by IEPA during a facility inspection. The submission of the information in Section II to the Agency should only be done when requested. **DO NOT SUBMIT THE INFORMATION REQUESTED IN THE FOLLOWING SECTION WITH THE CSO OPERATIONAL PLAN.***

Maps and Diagrams

Included IEPA Field
Yes No N/A Verification

- Sewer system map included
- Combined sewers and sanitary sewers tributary to combined sewers marked
- Storm sewers using combined sewers as a transport link marked
- All major interceptors and trunk sewers marked
- Sewer sizes, slope, and material indicated
- Manholes and catch basins identified
- All CSOs, treatment plant bypasses, outfalls, and their receiving waters identified.....
- All control (diversion) structures, including valves, marked
- All pump and lift stations and their capacities marked
- Diagram of CSO Treatment Facilities
- All unit processes and associated capacities identified

CSO OPERATIONAL PLAN CHECKLIST AND CERTIFICATION (CONT'D)

(To be Completed by Permittee)

Included IEPA Field
Yes No N/A Verification

Section II. (cont'd)

Sewer System Characterization

Drainage area and population tributary to each overflow indicated.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewer capacity immediately upstream and downstream of each overflow indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Description of structural and physical condition of sewer system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Age of system included	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bottlenecks in the system included	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Average dry weather flow rate through sewer at each overflow (diversion structure).....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Year last monitored.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Land use and zoning classification in the vicinity of each overflow indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projected growth tributary to each overflow indicated	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
List of non-residential sewer users tributary to each overflow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dischargers of toxics indicated.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dischargers of high strength wastewater indicated.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High-volume dischargers indicated.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Percent pervious area developed and kept current for each sewerage basin	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Record Keeping

Logs should be maintained on the following subjects:

Collapsed and blocked sewers.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basement backups, street flooding, and other collection system complaints	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator and diversion structure inspections.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CSO and excess flow retention basin levels	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explain all 'No' and 'N/A' (and 'Yes' for the question on sensitive areas) on a separate sheet and attach.

I attest that this form has been completed by me or by others under my direct supervision and that the information contained herein is, to the best of my knowledge, true and complete.

(Signature) (Title) (Date)

NOTE: Signature should be authorized according to 35 Ill. Adm. Code 309.103(e).

Contact Person: _____ Title: _____
Address: _____ Phone: _____

-----SPACE BELOW RESERVED FOR IEPA USE ONLY-----

ADMINISTRATIVE REVIEW

FIELD VERIFICATION

(Signature) (Date) (Signature) (Date)

CSO Operational Plan Checklist and Certification “No” and “N/A” Items

The following items are marked “No” or “N/A” on the Operational Plan Checklist for the Village of Mount Prospect, Illinois.

Maintenance

Stop planks at highest level practical without causing basement backups or excessive street flooding

This item is marked “N/A” because the MWRD operates and maintains the control structures.

Date system stop planks last adjusted

This item is marked “N/A” because the MWRD operates and maintains the control structures.

Describe your procedures for:

Cleaning screening equipment after and, if necessary, during each storm

Regulating diversion and bypass valves

Reducing solids deposition in the combined sewer system

These items are marked “N/A” because the MWRD operates and maintains the control structures.

Inspections and Monitoring

Schedule to inspect regulator and diversion structures included

This item is marked “N/A” because the MWRD operates and maintains the control structures.

Routine pump/lift station inspection and preventive maintenance discussed

This item is marked “N/A” because the system has no pump/lift stations.

Schedule to inspect surface water anti-intrusion devices (e.g., flap gates, etc.)

This item is marked “N/A” because the MWRD operates and maintains the control structures.

Sewer System Characterization

Bottlenecks in the system included

This item is marked “N/A” because system has no bottlenecks.

Average dry weather flow rate through sewer at each overflow (diversion structure)

This item is marked “N/A” because the flow rate has not been monitored.

Year last monitored

This item is marked “N/A” because the flow rate has not been monitored.

Projected growth tributary to each overflow indicated

This item is marked “N/A” because the tributary areas are built out.

List of non-residential sewer users tributary to each overflow

This item is marked “N/A” because there are no non-domestic flows tributary to the system.

Dischargers of toxics indicated

This item is marked “N/A” because there are no non-domestic flows tributary to the system.

Dischargers of high strength wastewater indicated

This item is marked “N/A” because there are no non-domestic flows tributary to the system.

High-volume dischargers indicated

This item is marked “N/A” because there are no non-domestic flows tributary to the system.

Percent pervious area developed and kept current for each sewerage basin

This item is marked “N/A” because the extent of impervious coverage has not been determined.

Record Keeping

Regulator and diversion structure inspections

This item is marked “N/A” because the MWRD operates and maintains the control structures.

CSO and excess flow retention basin levels

This item is marked “N/A” because the system has no CSO and excess flow retention basins.