VILLAGE OF RYE BROOK

DEPARTMENT of PUBLIC WORKS
And ENGINEERING

Village of Rye Brook Sewer System Maintenance Plan
Capacity, Management, Operations and Maintenance of Sewer Collection System

CHRISTOPHER BRADBURY
VILLAGE ADMINISTRATOR/CLERK

MICHAL J. NOWAK
SUPERINTENDENT OF PUBLIC WORKS
AND ENGINEERING

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1) COLLECTION SYSTEM MANAGEMENT

a. Goals

Rye Brook's Preventive Maintenance Plan (PMP) covers the assets we manage in our wastewater collection system and is one component of our overall Capacity, Management, Operations and Maintenance (CMOM) Plan. The Village implements and enforces all required MS4 requirements. The PMP combines preventive, predictive and corrective maintenance strategies with our best management practices. The CMOM and PMP plan will be annually reviewed and updated accordingly. The CMOM Plan and PMP have been prepared to help Rye Brook effectively manage our wastewater collection system, identify, remove, and eliminate inflow and infiltration, minimize sewer overflows and achieve the following goals:

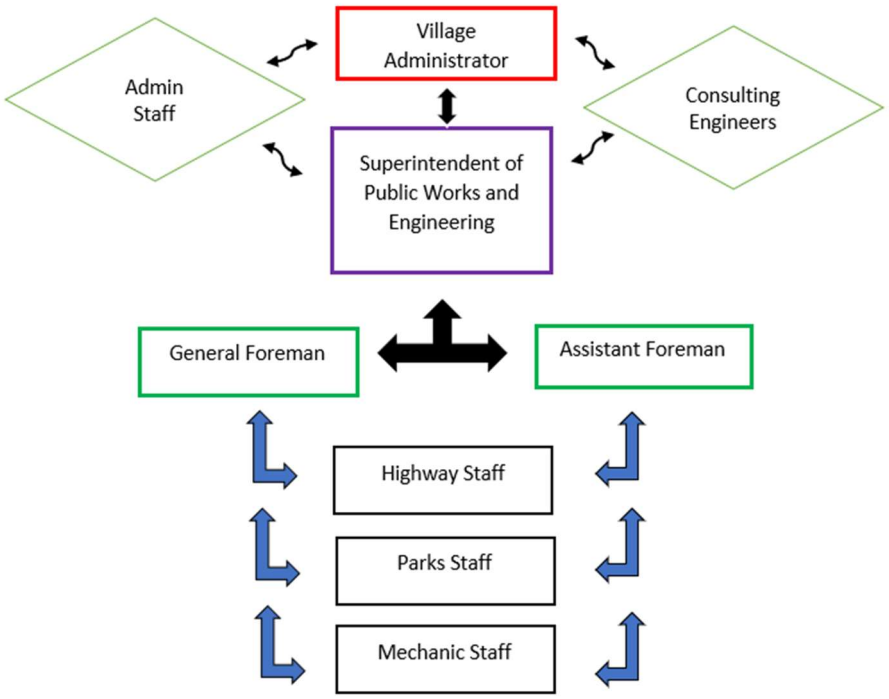
Goals

- Prevent public health hazards
- Protect the environment
- Comply with regulations
- Minimize the frequency of SSOs
- Mitigate the impact of SSOs
- Minimize disruptions in service
- Minimize complaints
- Provide quick response to any disruption in service that occurs
- Protect Rye Brooks' large investment in the sewer collection system by maintaining maximum capacity and extending the useful life of the associated assets
- Prevent unnecessary damage to public/private property
- Efficiently use the funds available for the maintenance of the infrastructure and the operation of services
- Reduce expenditures for emergency maintenance
- Convey wastewater to the Port Chester and Blind Brook wastewater treatment facility with a minimum of infiltration, inflow, and exfiltration
- Provide adequate capacity to convey peak flow
- Provide immediate, responsive, and efficient service to all emergency calls
- Provide a safe work environment for employees, employers, and residents in Rye Brook
- Perform all operations in a safe manner to prevent personal injury
- Utilize evolving technology to increase our effectiveness and efficiency
- Provide reliable service now and into the future

b. Organization

Rye Brooks' Highway Department is responsible for all aspects of our wastewater collection system, except for the Port Chester and Blind Brook Sewage Processing and Treatment Plants which are maintained by Westchester County. The Highway Department has a staff of 13 full time operation and maintenance positions. Contractors are used for some maintenance activities and for emergency support. Figure 1 shows the organizational structure of the Highway Department.

Figure 1- Rye Brook Organizational Chart



Village Administrator – Establishes policy, plans strategy, leads staff and delegates responsibility, allocates financial and staff resources, is the Chief Financial Officer and serves as the Public Information Officer. Christopher Bradbury is our Village Administrator.

Superintendent of Public Works and Engineering – Under the Supervision of the Village Administrator establishes policy, plans strategy, leads staff and delegates responsibility, allocates resources, authorizes outside contractors to perform services. Ensure that new and rehabilitated assets meet Village standards, works with field crews to handle emergencies when contractors are involved, and provides reports to Village Administrator. Coordinates development and implementation of CMOM Plan. Michal Nowak is our Superintendent of Public Works and Engineering.

Dolph Rotfeld a Division of AI Engineers Consulting – at the direction and supervision of the Village Administrator and/or Superintendent of Public Works, assists in preparing wastewater collection system planning documents, capital improvement project design, documents new and rehabilitated assets. Provide Professional Engineering and Consulting services

Foremen and General Foremen – Under the Supervision of the Superintendent of Public Works and Engineering manage field operations and maintenance activities, provide relevant information to agency management, implements contingency plans, leads emergency response, investigates and reports SSOs, and supervises field crews. Paul Vinci is our General Foreman and Joe Vasile is our Assistant General Foreman

Highway Department Staff – Under General/ Assistant Foremen supervision conduct staff operations and preventive maintenance activities, mobilize and respond to notification of stoppages and SSOs (e.g., mobilize sewer cleaning equipment, by-pass pumping equipment, and portable generators). Highway Department has 8 full time staff on our field crew.

Parks Department Staff – Under General / Assistant Foremen supervision conduct staff operations and may be utilized to supplement highway department staff levels as situations warrant. Parks Department has 3 full time staff on our field crew

Mechanic Staff – Under General / Assistant Foremen supervision conduct repair and maintenance to Village fleet vehicles. Mechanics assist in fabrication, repairs and maintenance of sewer related items such as pumps, panels, wiring and similar. Mechanics Department has 1 full time lead mechanic and 1 Junior mechanic/laborer

Administrative Staff - Support staff assist with data entry and quality control, handle billing, route calls, payroll, customer response, outreach, education, and other support functions as needed.

Relation to Other Municipal Functions

Rye Brook Highway Department is a standalone department within the Village. It is responsible solely for management, operations, and maintenance of the wastewater collection system, along with maintenance of roads, culverts, storm drains, emergency response, storm damage and other important functions. Many activities of the Villages sewer collection system are supported by the following Public Works department:

- Collection system mapping is supported by Public Works Superintendent and through shared services with Westchester County GIS Department and professional services as provided through Dolph Rotfeld Engineers, A division of AI Engineering. This department also provides support, policy recommendations, and advice concerning Rye Brook's future growth and development, and is responsible for maintaining and updating Rye Brooks' GIS existing sewer infrastructure mapping system.
- Resources and budget are overseen by the Superintendent of Public Works and through the Treasury Department
- Training for safety and operations is provided through FOA and Sons, NY Rural, Cornell Local Roads Local Technical Assistance program.
- Outreach to plumbers and building contractors is done by the Building Department
- Design and Construction Standards for installation, rehabilitation and repair are overseen and reviewed by the Superintendent of Public Works and outside Engineering Consultant Dolph Rotfeld - AI Engineers or other Jurisdictional Authorities
- Standards for inspection and testing are developed by the Superintendent of Public Works and outside Engineering Consultant Dolph Rotfeld - AI Engineers
- Inspection of grease interceptors/separators is performed by the Building Department
- Outreach for Fats, Oils and Grease is performed jointly by Building Department and Public Works personnel and utilize the MIS system for distribution.

• Procurement of non-routine equipment, services or supplies is authorized by the Superintendent of Public works up to $35,000. Sealed bids and Trustee approval required over $35,000.
• Legal Counsel provides legal services and advisory opinions to the Village of Rye Brook on departmental issues, contracts and agreements, and is responsible for handling all claims against the Village of Rye Brook and prosecuting violations of all Sewer Use Ordinances.
• The Highway Department provides paving services on all sewer repairs performed within public streets and works to coordinate street-paving schedules with sewer work unless work is performed through third party contractor at which point paving is included.
• The Village Administrator / Clerk within the Administration Department maintains copies of Resolutions and Rye Brook Ordinances passed by the Board of Trustees related to the operation of all Village Departments.

c. Training

Rye Brook's training program provides a mechanism for educating employees and establishing their technical competence through the various training outlets such as FOA and Sons Risk Management, NY Rural, Westchester County Association of Municipal Public Works Association (WCAMPWA) and American Public Works Association (APWA), Cornell Local Roads Programs Local Technical Assistance Program and the Superintendent of Public Works. Rye Brook utilizes a combination of in-house skill training and specialized training through the above vendor training programs to enhance skills for performing daily work duties and provide continuing education. Skills training for Highway Department employees includes, but is not limited to:

- Routine Line Maintenance
- Heavy Equipment Operation
- Maintenance Equipment Operation
- Pump Station Operation and Maintenance
- Emergency Response
- Public Relations
- Safety
- Confined Space Training
- Hazcomm / SDS
- Personal Protective Equipment
- MS4 Training

Safety training is obtained from training agencies including FOA and Sons Risk Management, NY Rural, Westchester County Association of Municipal Public Works Association (WCAMPWA) and American Public Works Association (APWA), Cornell Local Roads Programs Local Technical Assistance Program. Rye Brook expects employee adherence to the following written safety policies and procedures.

- Confined Space Entry
- Hard Hat Policy
- Vehicle Operation Policy
- Seat Belt Policy

- Excavation Safety Policy and Program
- Injury Reporting Policy
- Post-Accident Drug Testing Policy
- Safety Teams and Committee Policy
- Personal Protective Equipment (provided for the employee)
- First Aid, CPR and AED (First aid supplies are available in office areas and vehicles)
- Flaggers
- Hazard Communication Program
- Defensive Driving Program *(*employees who are required to maintain a commercial driver's license must complete a four (4) hour defensive driving course)

Training records are maintained for each employee in training logs stored with the Administration Department. The General Foreman maintains appropriate safety equipment including protective clothing, safety glasses, hard hats, gloves, masts, filters, harnesses, tripods, hoists and fire extinguishers. The General Foreman / Assistant Foreman also maintains and calibrates atmospheric testing equipment. Lights, barricades, signage, and exhaust fans are also available at the Highway Department and/or on the truck.

d. Customer Service

1. Complaint Management Program

Complaints and requests are received by various means (e.g., phone calls, e-mail, other Village departments, and occasionally in person). Regardless of the nature or means of receipt, all complaints and requests are routed to the Superintendent of Public Works or General Foreman and tracked via spreadsheet. Entries include the following detailed information about the complaint/request:

- Time and date of request
- Complainant information (Name, address, call back phone number)
- Location of the problem
- Type of complaint (Codes, e.g., home back up, odor, manhole overflow, etc.)
- Specific request
- Personnel assigned to complaint
- Findings type, including cause of problem
- Complaint closeout information
- Date complaint closed

Once a complaint is assigned, our field personnel perform an investigation. If Rye Brook is not responsible for correcting the problem, the Superintendent of Public Works will provide the complainant with guidance on a recommended course of action. Once an investigation has been completed, the staff enters closeout information into the spreadsheet. See **Attachment** which depicts a typical form.

2. Public Information and Education Program

Rye Brook uses a variety of outlets for providing information and education to customers. The outlet(s) used to disseminate information is often based on the type of information and the

targeted audience. Rye Brook utilizes the outlets listed below to help provide its citizens with the most up-to-date information possible:

- NY-Alert System / Everbridge
- Rye Brook Cable TV Channel
- Rye Brook Website
- Local Media (TV and Newspaper)
- Neighborhood / Town Hall Meetings
- Trustees Agenda
- Public Hearings
- Personal Visits / Phone Calls
- Door Hangers
- Sign Postings
- Social Media
- Reverse 911/Automated Email Blasts

Rye Brook has had good community relations regarding issues with the operation and maintenance of our collection system. Types of information and education provided to our customers are as follows:

Information and Education Programs

Sewer System Evaluation Survey Work	Sewer Use Ordinances
Major Repairs and Rehabilitation	Types of Waste Treated
Customer Emergency Response	FOG Program
Road Closures	Service Connection Requirements
Point Repairs	Complaint Procedures
Smoke testing	Private Hauler Instructions
Illicit Discharge and Elimination	Site Plan Applications
Wetlands and Steep Slopes Permits	MS4 Regulations

e. Information Management and Geographic Information Systems

Rye Brook uses paper copies, excel files, pdf, limited GIS to manage information on our collection system. This data is connected to Westchester County's Geographic Information System (GIS) through a shared services agreement. Rye Brook receives support from Westchester County GIS and Tax Assessor Parcel Data Viewer. Rye Brook continues to expand on its GIS system and database with assistance from Westchester County and continues to explore Asset Management Packages. Rye Brook through the Sleepy Hollow Mapping Consortium has mapped out Sanitary and Storm Manholes, Sanitary and Storm lines and Catch Basins. Our GIS and Asset Management program is ongoing and evolving. Table 1 shows the information that is included in our GIS of the collection system.

Table 1: **Collection System Map Information included in Rye Brook's Paper/Excel/GIS maps**

Manholes Basic Map Information	**Manholes Additional Map Information**
- ID number or another unique identifier	To be supplied later such as:

- Location, with reference to streets and property lines - GPS coordinates as required	-Inverts -Rim Elevations -Date repairs Made and Type of repairs
Pipes Basic Map Information - Location, with reference to streets, surface waters, property lines and manholes - Size - Direction of flow - Length - Date built	**Pipes Additional Map Information** - Slope - Pipe invert elevations - Plan or as-built ID number - Service laterals
Pump Stations Basic Information - Location - Capacity	**Pump Stations Information** - Additional information on drawings Public Works, and in files

System information managed in our Spreadsheets, Paper, PDF, and or GIS includes:

General

- System specific inventory
- Equipment and tools
- Purchase orders
- Revenue

Collection System

- Continuous Sewer System Assessment
- Collection system mapping
- Collection system inventory
- FOG compliance
- Flow monitoring
- Inflow and Infiltration detection and elimination
- SSO/Emergency response

Personnel

- Department staff
- Safety incidents
- Training
- Job performance

Maintenance program

- Routine and Priority Planned maintenance (cleaning, inspections, etc.)
- Inspection scheduling and tracking
    - Manhole
    - Pipeline (Closed Circuit Television (CCTV), camera)
    - Pump station
- Vehicle maintenance

Customer service program

- Complaints
- Customer service response

Activities performed by department personnel is generated and tracked through the various spreadsheets on file. The excel sheets track the performance of routine maintenance as well as repairs and corrective actions in response to inspection findings or customer complaints. Upon completion of the task(s), data related to the work order is entered into the sheets for tracking performance and historical information on the various types of work performed.

Examples of procedures and forms are provided in the **Appendix**.

f. Legal Authorities and Controls

The Village Building and Public Works Departments are empowered to enforce the Village Code and the Code of the State of New York. In performing day to day duties below is a snapshot of legal controls afforded with regards to maintenance of sewer system:

- Control sources of infiltration and inflow
- Control sources of Fats, Oils and Grease (FOG)
- Require proper design and construction of new and rehabilitated sewers and connections
- Require proper installation, testing and inspection of new and rehabilitated sewers
- Access all components of the collection system
- Identify and eliminate illicit discharges into sanitary sewers, storm drains and water bodies.
- Control the quantity and quality of wastewater from developments and satellite collection systems.

g. Sewer Use Ordinance

Rye Brook has established and implemented regulations regarding the use of the wastewater collection system. Rye Brook has a comprehensive sewer use ordinance, consistent with EPA's model ordinance, in place since 2007. As regulations and requirements have changed, Rye Brook has passed additional ordinances and updates to address unforeseen issues. Ordinances are kept up-to-date and are available electronically at https://ecode360.com/RY1192?needHash=true.

The items addressed through our sewer ordinances include sewer use and standards, access to pipelines and structures, FOG management, pretreatment requirements, service connections, permitting of flows into the system, inflow/infiltration control, enforcement of proper design, installation, and testing standards, and inspection requirements for new and rehabilitated sewers.

2. GENERAL INFORMATION ABOUT THE RYE BROOK SANITARY SEWER SYSTEM

a. Wastewater Treatment and Collection System Description

Rye Brook's first formal wastewater collection system dates to approximately 1950 or earlier. The Village was created in 1982 when annexed from Port Chester. The collection system transports wastewater to the Port Chester Treatment Plant 75 Fox Island Rd, Port Chester, NY 10573 and Blind Brook County Treatment Plants 141 Oakland Beach Ave, Rye, NY 10580, both of which are Westchester County Operated. Approximately 200 residences discharge into the Port Chester Treatment Plant with the remaining majority being treated by the Blind Brook Treatment Plant.

Annual Sewer Service fees are applied by Westchester County directly to individual homeowners. Such fees include but are not limited to wastewater treatment, sewer reserve funds, repairs etc.

The Village maintains approximately 60 miles of gravity sewer, 1/3 of a mile of force main and approximately 950 manholes. Approximately 42 miles of sewer are 0 to 30 years of age, and 18 miles of sewer are approximately 31 to 55 years of age.

Rye Brook does not own or maintain any portion of the sewer laterals that drain each privately owned parcel or property beyond the property line. However, we do work with homeowners to prevent backups into their homes.

Highway staff and contractors perform planned maintenance tasks at scheduled frequencies. Frequencies are established based on experience and collection system information to minimize the risk of blockages or equipment failures that could lead to sewer overflows. Some portions of the wastewater collection system are maintained more frequently than others based upon history and their importance to the effective operation of the wastewater collection system. Staff and/or contractors also perform unplanned maintenance

b. Collection System Details

- Service Area: 3 Square miles
- Population Served in primary community: 10,047 (2020 Census)
- System Inventory owned by Rye Brook, below:

Miles of gravity sewer	Miles of force main	Number of manholes	Number of pump stations		Number of siphons	Number of air relief valves
			Public	Private		
60	0.31	950	2	0	0	0

c. Age Distribution of Collection System

Rye Brook conducts an ongoing program to assess the structural condition and maintenance needs of the collection system as a part of our Cleaning, Inspection and Assessment program and

CMOM described in this document and our capital planning described in Resources and Budget section 10, below.
The ages of the components of our wastewater collection system are as follows:

Age	Gravity Sewer miles	Force Main miles	Number of pump stations
0-30 years	42	0.31	2
31-55 years	18		

d. Sanitary Sewer Overflow History

The Village maintains files in excel format tracking past and current overflow history.

To assure sewer capacity Rye brook has developed a maintenance plan regarding CCTV inspections of sewers, 3D Manhole Inspections, Flow Monitoring, Smoke testing and FOG Ordinances to address capacity, inflow/infiltration, and condition of our collection system. These programs are described later in this document.

e. System Map

A system map is located on the Village website at: https://ryebrook.org/departments/engineering-public-works/. Original system mapping was performed by URS Consultants in 1985. Since that time, various additions have been made to the maps. Updates will continue to be made as the need arises. Through the Sleepy Hollow Mapping Grant Consortium, The Village was able to get matching grants to map out sections of sewer and storm drain lines including sewer manholes, lines, storm drains, manhole covers and storm water outfalls. The Village will continue to seek ways of better mapping and digitizing its infrastructure.

3. CLEANING, INSPECTION AND ASSESSMENT PROGRAM

In 2018 Rye Brook began development of our preventive maintenance plan (PMP) and CMOM. This includes our Cleaning, Inspection, and Assessment program to assess the maintenance needs and structural condition of the entire collection system. The goal of this program is to complete the entire system assessment within a reasonable time. The current schedule from the time of this report is as follows

- Sanitary sewer manholes 3D camera inspected within a 5-year rotation,
- Sanitary sewers cleaned within a 10-year rotation
- Sanitary sewers CCTV Inspected on a 20-year rotation

Rye Brook began the cleaning, inspection and assessment program with a focus on the known problem areas and the older sections of Rye Brook. The results from the cleaning, inspection and assessment program were used to categorize the cleaning frequency and the repair or replacement needs for each component. Critical infrastructure components will also be identified and assessed. Previous knowledge of the condition of the sewer system has also been used to establish more frequent cleaning scheduled for identified problem areas.

The cleaning, inspection and assessment efforts are performed by third party vendors such as Green Mountain Pipeline, National Watermain and Subsurface Utility and reviewed by Dolph Rotfeld/AI Engineers. All data is entered into the vendors camera system program and documented in Village files in various formats.

The cleaning, inspection and assessment program includes sewer cleaning, CCTV inspection of piping, 3D manhole Inspections, visual inspection and classification of the manhole structures and their flow channels, an evaluation of the condition of the pipes and manholes, Results from the assessment program are used to categorize the cleaning and inspection frequencies for both the sub-areas and problem pipe-sections

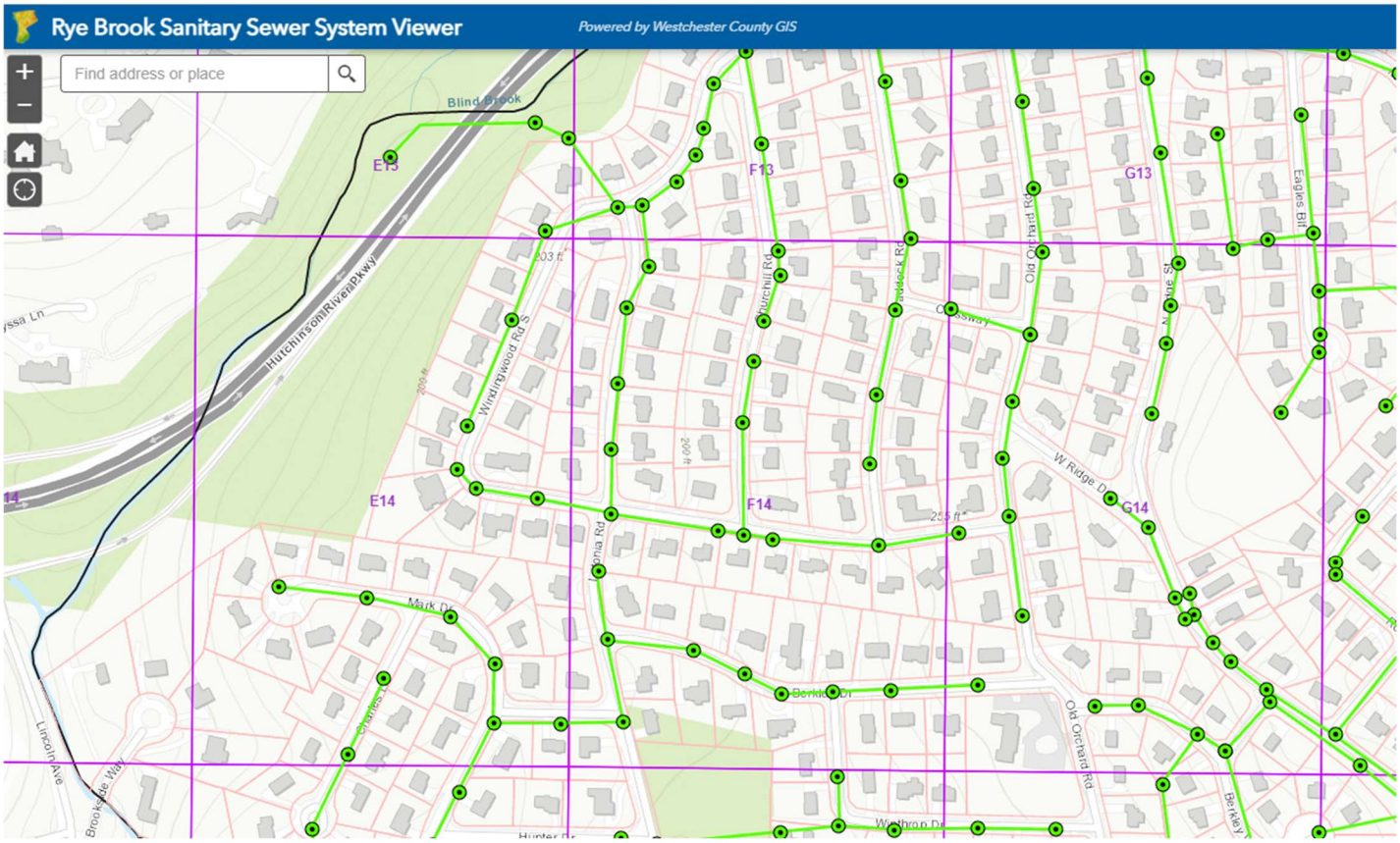
The cleaning and CCTV schedules are closely coordinated with Dolph Rotfeld / AI Engineering, Staff and feedback received from third party Support Crews. As Rye Brooks' goal is to have a complete cleaning, inspection and system assessment every 5 years for Manhole structures, every 10 Years for cleaning and 20 years for CCTV. The approximate miles /percent of the system reviewed by CCTV each year will be documented. Approximate percent / mileage of the system cleaned annually will be documented. The cleaning performed each year includes the priority cleaning plus grid identified areas of the remaining parts of the collection system, factoring in the intermediate and long-term interval cleaning schedules. Most of the system cleaning is for gravity lines, as described in more detail in Section a, below.

Information from cleaning and inspections (see Inspection section, below), including any findings, is entered into Field Logs, Excel sheets, PDF reports, and incorporated into scheduled maintenance and capital improvement. This information is also used to update this long-term Preventive Maintenance Plan (PMP).

a. Cleaning

Our primary sewer maintenance activity is sewer line cleaning. The Rye Brook service area is divided into 5, 10, 20 sewer shed areas as shown on attached maps

Illustration - Multi Year Grid Approach (Courtesy Westchester County GIS)



The cleaning of sewer lines, manholes, and other appurtenances is categorized as:

- Sanitary sewer manholes 3D camera inspected within a 5-year rotation,
- Sanitary sewers cleaned within a 10-year rotation
- Sanitary sewers CCTV Inspected on a 20-year rotation
- Hot Spot Cleaning more than once a year

Cleaning Schedules – Priority Cleaning

Pipe-sections on a priority cleaning frequency are identified based on known HOT Spots and Critical Service Areas lists. The HOT Spots (**see Appendix**) have a history of blockages, slower flow, flat lines, odor or overflows as noted in chart. These areas get more frequent attention due to the collection of solids, grit, grease, and similar debris which may adversely affect the sewer system.

Cleaning - Gravity Lines Routine Cleaning
This section details schedules for the routine cleaning of each sub-area of the collection system. Figure (**See Appendix)** the collection system is broken into each section and associated cleaning frequency.

During the first cycle of the Cleaning, Inspection and Assessment program, each pipe and manhole will be evaluated to determine cleaning frequency. A crawler camera will be used to evaluate each sewer line to determine the need for cleaning and/or a CCTV structural inspection. If the camera evaluation indicates a need for cleaning, the pipe section will put on the intermediate cleaning frequency. The cleaning schedules for other pipe sections in the sub-area will determine whether the cleaning frequency will be increased.

Sewer shed areas break out the frequency of each respective cleaning and inspection interval on a grid system. Sewer cleaning intervals may be adjusted and tuned as required based on field data. Areas requiring more attention may be placed on HOT Spot cleaning rotation. These areas may include the older parts of the sewer system, lines within the commercial district, lines subject to grease and similar.

All cleaning records are kept in a Spreadsheet format through excel worksheets that tracks the following:

- date, time, and location of cleaning activity.
- specific lines cleaned.
- equipment used.
- identity of cleaning crew.
- presence of root, grease, or debris; and
- problems identified or other follow up actions necessary.

Each line segment cleaned is identified by an upstream and downstream manhole number. A log is submitted for each day of work completed. Attachment (**See Appendix)** provides the log form. Support from Fred Cook Jr, Highland Sewer and Drain, National Water Main and Green Mountain Pipeline to name a few are also used for cleaning and repairs, and for emergencies during non-business hours.

Manhole deficiencies are also noted in cleaning logs (see Section b, below). Information about manholes requiring attention is provided to the Superintendent of Public Works and or Dolph Rotfeld / AI Engineers and either a repair work order is issued, or it is added to the capital repair schedule. A standard method for evaluating deficiencies is utilized to rate defects and prioritize repairs.

b. Pipe and Manhole Inspection

Planned manhole and pipe inspections are coordinated with the cleaning program and generally follow the cleaning schedule. However, as Rye Brook implements the PMP, CMOM and Grid Approach and establishes cleaning frequencies and repair schedules, inspection by zoom camera will be used to help establish those cleaning frequencies. The cleaning, inspection and assessment program goal is to inspect the entire collection system within timeline specified in section a above. years. During the inspection and assessment program, a crawler camera is used

to screen a pipe section to determine the cleaning effectiveness and a full CCTV screening is utilized to assess its structural condition or other deficiencies. Rye Brook uses third party services to provide crawler camera support to document:

- the structural condition of the pipe
- root intrusion
- grease
- protruding taps
- evidence of inflow and infiltration (I/I) or surcharging
- manhole pave-overs, and
- other deficiencies that factor into condition assessment

Planned video inspections are generally scheduled to follow the planned cleaning schedule. However, in the event of a blockage, a video inspection assesses the cause of the blockage. After the blockage is removed the line is evaluated with a crawler camera again to determine if an inspection with a CCTV crawler is needed to assess the condition of the pipe.

All newly constructed sewer lines are required to be certified by a Licensed NY State Professional Engineer and pass Westchester County Health Department Testing Standards. Additionally, all new pipes and manholes are required to be Pressure and or Vacuum tested to ensure tightness and prevent release of sewer odors and future infiltration of storm water. This inspection and testing process must be completed prior to backfilling and before Rye Brook will accept the infrastructure from the construction contractor.

Manhole inspections help keep our asset inventory up to date and are used not only to update collection system maps, but to determine structural condition. During manhole inspections, field crews take a complete inventory of each manhole including construction materials, ring size, depth to invert, flow conditions and evidence of problems according to industry standard checklists). Information is recorded in computer software from the Vendor and on excel sheets and used to schedule maintenance and repairs. A 3-Dimensional Digital Robotic Camera is used during the inspection to document defects.

Manhole inspection results are reviewed for condition rating. Those needing repair are placed on a priority schedule, and routine repairs are coordinated accordingly.

Highway Department along with contracted third-party crews are responsible for completing structural repairs to manholes. Repairs include invert work, frame and cover grade adjustment, and frame and cover replacement. More comprehensive repairs, such as complete relining of the manhole structure, are performed by third party contract vendors. Rye Brook maintains a limited inventory of frames and covers.

c. Assessment

While routine cleaning and visual inspection are used to assess the condition of manholes and surface facilities, CCTV video inspections are the primary method used to assess the condition of the sewer pipes. All records are entered into Excel Spreadsheets and digital files are archived.

The results from routine inspection and monitoring are used to prioritize areas needing CCTV

inspections to assess pipe condition such as manholes with evidence of slow flow or surcharging. The assessment is logged into a tracking list using conventional defect criteria. These defects are reviewed by Village Consultants to establish priority.

Pipe condition information is used to determine short- and long-term maintenance strategies including increased cleaning, root treatment, sewer line repair, or replacement. The condition assessment helps establish the cleaning frequency and inform Rye Brook's capital planning. As more condition assessment information becomes available, the priority of capital projects may change.

Condition assessments may document the following details and deficiencies: Characteristics may include pipe diameter, and age and type of material

1) Dips in line
2) Grease build-up
3) Root intrusion
4) Sediment accumulation and encrustation
5) Structural condition, including cracks, corrosion, and erosion
6) Joint alignment and movement
7) Reverse slope
8) Obstructions
9) Deformations in line

Rye Brook's third-party contractors' software may include a defect assessment table where each asset (pipe, manhole, pump, etc.) is rated for specific criteria (e.g., roots, grease, sedimentation, cracks, etc.). Based on the criteria ratings, the program may assign an overall rating for each asset. A ranking of each asset, based on its condition assessment rating (see Table 2), may then use for prioritizing capital repairs and replacement.

Table 2

Condition Rating	**Condition Description**	**Maintenance Required**
0	New	Normal
1	Excellent Condition	Normal
2	Minor Defects Only	Minor
3	Backlog Maintenance	Significant
4	Requires Major Renewal	Renew
5	Almost Unserviceable	Replace

Assessment Factor	**Consideration**	**Scale**
Criticality	How critical is the service of this asset?	0 (noncritical) – 10 (critical)
Performance	What level of performance is it providing?	New to unserviceable (on a scale of 0 to 5)
Impact of Failure	Is there a process, environmental, or	0 (no issue) - 3 (significant)

	safety issue?	for each impact category
Capacity	Is it capable of meeting system needs?	Undersized – Oversized
Remaining Life	How much of its design life is used up?	Percentage from 0 to 100%
Redundancy	Does the component have a backup?	From 0 (no back up) to 200%

d. Staffing and Equipment

Rye Brook has 10 Highway staff trained for cleaning, inspection and SSO response, and they are deployed in a 3-person crew year-round for cleaning. Inspection work is coordinated with third party contractors, with oversight from the Superintendent of Public Works and or Dolph Rotfeld Engineering / AI Engineers. Village Staff work with Third Party Contractors and Dolph Rotfeld / AI Engineers on assessing the condition of our collection system, using industry standard techniques.

Third party crews will be assigned a specific area of the collection system with an associated map and are responsible for cleaning all lines and or manholes within the assigned area within the specified time frame. The **Appendix** contains detailed cleaning procedures that crews must follow. Crews will have received training on use of equipment and how to address problems that might be encountered while cleaning the collection system (roots, fats, oils and grease, and confined space).

Crews report back on progress and problems including any inconsistencies between the map and the actual sewer lines which are noted and submitted with their log to the General Foreman and or Superintendent of Public Works for entry into the database and correction of mapping or location errors. As the crews perform cleaning and evaluation, the long-term cleaning schedule for the entire sub-area is reviewed to determine if any lines designated for long term cleaning need to be cleaned before the crew moves to a new area.

Contracted Crews will perform manhole inspections on a 5-year Grid Rotation utilizing Robotic Inspection technology, approximately 20-25 % of manholes will be inspected in the average year. Such work is contracted out through third party companies as the Village does not have staffing levels nor equipment to accommodate such needs.

Contracted Crews will perform Sewer line cleaning on a 10-year Grid Rotation utilizing High-pressure high-volume sewer jets and or Vactor Trucks, approximately 10-15 % of lines will be cleaned in the average year. Such work is contracted out through third party companies as the Village does not have staffing levels nor equipment to accommodate such needs.

Contracted Crews will perform Sewer line CCTV on a 20-year Grid Rotation utilizing Crawler Camera technology with jet truck support, approximately 5-10 % of lines will be inspected in the average year. Such work is contracted out through third party companies as the Village does not have staffing levels nor equipment to accommodate such needs

The following Village equipment is available for cleaning:

Sewer Jet Truck is used to clean most lines. The standard attachment used is a cleaning nozzle

head as manufactured by Nozzteq. Root saws are attached to the jetting equipment and used as needed. Jetting is used to remove blockages from lines. Equipment inventory is covered more fully in Section 8.

4. GRAVITY LINE PREVENTIVE MAINTENANCE

a. Fats, Oils and Grease (FOG)

Grease and grease-like products can significantly increase the likelihood of sewer overflows. Grease can also cause blockages or aggravate blockages due to roots or structural deficiencies. Restaurants, cafeterias, and other food service facilities, as well as industrial facilities, can discharge grease as part of their normal sanitary flows that can lead, in time, to blockages, backups and overflows.

Code Section 122 Fats, Oils and Grease Abatement was added into the Rye Brook Code on September 2021. Code section attached to the **Appendix.**

The discharge of fats, oils and grease (FOG) is regulated through our Code Section 122; however, backups can sometimes occur. Areas of the collection system with known grease problems are identified and placed on the Hot Spot cleaning list.

The Rye Brook Building Department is tasked with the inspection of all Food Service Establishments (FSE) with grease creating capabilities.

Beginning 2021, all FSEs will be visited to develop a database of contacts and to determine the types of FOG removal technologies employed at each facility. Information regarding the FOG program will be posted on Rye Brook's website.

Keane and Beane Law reviewed the existing sewer use ordinance and found that it grants authority to Rye Brook to regulate discharges to the sewer system, including grease. Rye Brook's sewer use ordinance prohibits discharges to the collection system FOG, or at levels that interfere with the operation of the system. The ordinance also authorizes inspection of facilities during normal business hours.

The Village Board of Trustees enacted a policy and procedures requiring all commercial and similar grease generating facilities to install and maintain a grease interceptor or automatic grease removal device and maintain records of maintenance and operation. The policy also includes annual inspections of FSEs that will be done by our Building Department Staff. The inspection is part of the Annual Place of Public Assembly inspection. If the grease interceptor has not been maintained (with documented removal of accumulated grease and cleaning), has been bypassed, or if significant grease is discovered within the service connection, Rye Brook will issue a letter to the owner giving notice of the ordinance/policy non-compliance and requiring action be taken to prevent further discharge of grease into the system. A follow-up inspection may require a fee as indicated on License and Fee Schedule. If the non-compliance is not remedied within time allotted, the policy states that the enforcement authority of the sewer use ordinance may be invoked.

Rye Brook has a sewer jet truck and third party Vactor Truck on retainer to clean the sewers in problem areas. All emergencies are handled by the Highway Department immediately. Sewer emergencies get immediate priority by Highway Staff and Superintendent of Public Works.

b. Root Control – Mechanical

Rye Brook currently uses mechanical root removal for sewer lines with chronic root problems: Root saw attachments are standard equipment on cleaning trucks. When a crew encounter roots during routine cleaning, a hydraulic saw is attached to the jetter and used to cut and remove the roots. The severity of the problem is recorded on the daily log, and if necessary, the pipe section is placed on the list for priority cleaning.

Cutting a tree's roots is like pruning the tree and stimulates root growth into the system. Consequently, mechanical treatment must be repeated every year or two, which is factored into the cleaning schedules. Rye Brook DOES NOT utilize a chemical root treatment program to control root growth in the collection system. Sections are further camera inspected and determined whether to be placed on repair list such as lining or spot repair.

c. Service Laterals

While Rye Brook maintains Sewer mains only, service laterals from the residence to the sewer main (including portions of the public right-of-way), is the owner's responsibility. Property Owners must repair laterals that are in the public right-of-way when compromised.

d. Flow Monitoring

Rye Brook is evaluating our flow monitoring data to determine the amount of infiltration from various sources and sewer sheds. The Village will continue to perform flow monitoring at intervals to assess effectiveness of its various programs

5. EASEMENTS AND PAVING: MAINTENANCE AND ACCESS

a. Maintenance of Right of Way and Easements

Easements give Rye Brook the right to install and maintain sewer and water facilities on property not owned by the Village. Easements in Rye Brook are usually no more than 20 feet wide typically but run from may run several hundred feet to in length. Rye Brook has numerous sewer access easements. These easements are recorded as deed records that are accessed through Rye Brook's Laserfiche program, Building Files, or Westchester County Land records.

Easements are important for our ability to operate and maintain our collection system. Rye brook's Highway Departments' goal is that all easements remain clear of any fences, buildings, gardens, trees, shrubs and extensive landscaping, to allow equipment access for maintenance of the collection system. The Village typically is not liable to repair or replace any such items that are removed in the process of completing repairs or maintenance on the collection system. Crews are, however, instructed to work with the property owner whenever possible.

Maintenance of easements is accomplished in various ways. Easements on privately-owned parcels are often maintained by the owner. The Building Inspector refers construction questions as they arise, to the Public Works Department. Easements on public land are maintained by the entity responsible for property upkeep, Manholes in easements are inspected as part of our ongoing preventive maintenance program.

b. Street Paving Coordination

Rye Brook's Public Works department is responsible for coordinating street resurfacing and ensuring that all utilities are aware of scheduled resurfacing. A list of streets to be paved on a 20-year schedule is developed each budget year. This list is distributed to Con Edison to facilitate coordination of all underground work.

Rye Brook as much as possible will try to utilize least invasive repair techniques such as lining, grouting, parging and similar. When excavation is required, roads will; be restored to original condition.

6. PUMP STATION/FORCE MAIN MAINTENANCE

Rye Brook owns and operates 2 wastewater pump stations listed in Table 3. The pump stations owned and operated by Rye Brook are routinely checked by Village personnel. The maintenance for the grinder pumps is the responsibility of the Village. The Village has a contract for Semi Annual pump inspections, and system evaluation at which point pump clearances are checked, systems are tested and inspected, and pump grinder parts are rebuilt annually.

The performance of the Rye Brook pump stations is monitored through Monthly inspections and through Remote Dialer for warning messages. During these inspections, Highway Department reviews pump run hours, totalized flow, wet well levels and alarms. Back-up generators are exercised weekly automatically, and load bank tested annually. On a semiannual schedule, Highway Department along with third party service contractor pumps the wet wells, removes grease build up, and calibrates the levels. LBA is administered automatically to aid in digestion of FOGS. Specific pump station inspection protocols are attached in the **Appendix** for Rye Brooks pump stations.

Inspection, maintenance, and repairs are recorded on Westchester County Annual Pump Station reports and a diary at each station. If a problem or maintenance issue is encountered, personnel must also report it directly to the General Foreman for resolution. Repairs are a higher priority than routine maintenance.

Rye Brook has remote dialers for the Village Hall and Belleair pump stations with online viewing capabilities. The Dialers remotely controls and monitors pump station operations, and sends alarms to the General Foreman, Assistant Foreman, Superintendent of Public Works and Police Department in the event of a malfunction or emergency. Dialer will keep calling such rotation until alarm is acknowledged. The system records all activities at a pump station and provides a running tab for backup documentation. The Sensa phone Dialer can provide continuous status of pump station operations for the following items:

- Number of pumps in operation
- Pump Failure
- Status of pumps (including operational alarms)
- Power status (including power failure alarms)
- Wet well conditions (depth, lead / lag elevations, etc.)
- High- and Low-Level Alarms
- Power Loss

Pump stations with the remote monitoring capabilities of an installed and fully functioning Dialer can be evaluated to determine the need for daily physical inspections.

Table 3. Pump Station Locations

Pump Station Location	Description	Inspection Frequencies*
Village Hall 938 King Street	Dual Barnes Grinders 30GPM Ea.	M
Atria 1200 King Street	Dual ABS Grinders 76GPM Ea.	M

*** D = daily; W = weekly; M = monthly; Q = quarterly; SA = semiannually; A = annually**

Manufacturer's Operation and Maintenance (O&M) manuals for equipment are in Village Hall at the office of the Superintendent of Public Works.

Pump rebuilding, motor rewinds, and other repairs for the pump stations are contracted to Third party ABS Authorized service contractor. Repairs to motor control centers, flow meters, remote monitoring equipment, valves, and macerators are typically repaired by third party maintenance crews. In general, any replacement parts that are difficult to acquire are kept in stock by the Highway Department; other parts are obtained from local vendors or the manufacturer's service center.

Whether repairs are made by local vendors or by Rye Brook personnel, all repairs are recorded and tracked with the Westchester County Annual Sewer Pump Station report.

a. Mechanical and Electrical Maintenance

The size of the pump station and its related equipment determine its specific mechanical and electrical maintenance needs. The Public Works Department coupled with R&R Pump Service is responsible for incorporating the routine maintenance of each pump station. The Superintendent of Public Works and R and R Pump Services uses manufacturers' Operation and Maintenance manuals to establish action items for pump station equipment. Pump stations listed in Table 3 have individual inspection protocols attached in the **Appendix**. A general description of bi-annual maintenance performed on pump stations by Third Party Service is listed as follows:

Mechanical Maintenance/Inspections	Electrical Maintenance/Inspections
	Check backup generator Exercise stands by power
Bi-Annual	
-Replace hydraulic fluids and oils (as required by manufacturer) -Inspect pumps (oil levels, seals, packing, bearings, etc.) -Replace packing -Inspect pump impellers and clearances -Inspect discharge piping -Check outflow pressure -Calibrate gauges (including pressure gauges used in monitoring) -Check for corrosion problems -Exercise check valves	-Inspect internal Motor Control Center components -Check insulation resistance -Inspect & grease electrical contacts -Inspect electrical pump cables -Inspect electrical breakers -Perform amperage readings on equipment -Check MCC for proper operations Check Generator: -Oil level -Water level [*if a level gauge is installed]* -Fuel level

-Check air release valves -Check floats/bubbler system (clean and/or replace) - -Inspect building and grounds -Check operation of building heat and fans -Inspect HVAC equipment -Check building security	-Inspect hoses and belts -Check piping for leaks -Check battery condition
Annual	
-Pump the wet wells -Remove grease build up (annual or sooner) Service and calibrate all instrumentation: -Flow meters, level sensors, alarms, elapsed time meters and telemetry equipment	-Alternate Power Sources checked and run as part of emergency drill

Capacity and discharge head in the pump stations are reviewed annually, following confirmation that the pumps are in good working order. Changes in capacity and discharge head are evaluated to determine whether cleaning of the force main is warranted.

All mechanical and electrical maintenance activities are recorded on a log sheet at each station and entered and tracked by The Highway crew. Any problems or maintenance issues noted by crews are reported to the General foreman for resolution.

b. Force Main Maintenance

Rye Brook currently has 2 force mains in the collection system with a combined length of 0.31 miles. The Village Hall and Bellefair Pump Stations force mains have NO air release valves located at the high points. The Village Hall and Bellefair Pump Stations force mains is not long enough to warrant air release valves.

7. REACTIVE MAINTENANCE

This chapter outlines the process used by Rye Brook to respond to non-overflow, unplanned maintenance needs in our collection system. It also provides an overview of responsibilities for emergency events. While Chapter 3 outlines Rye Brooks' preventive maintenance and the **Appendix** details Rye Brooks response procedures for emergency sewer overflows, this chapter is written to address those unscheduled maintenance events that don't result in overflows or backups of sewage into basements.

The following programs are typically utilized in a reactive maintenance situation:

- Record Tracking spreadsheets
- Information management system being explored
- Equipment and supplies
- Customer service
- Pump station program

Sewer Overflow Response – (See **Appendix**) – is always a priority situation.

Responsibilities for reactive maintenance are assigned by the Superintendent of Public Works and or general Foreman based on level of priority for response.

a. Corrective Maintenance

Most repair needs are identified while conducting routine maintenance, inspections, and assessments. Because there is such a wide range of potential unexpected events that it is not possible to prescribe the appropriate repair for every possible scenario, Rye Brook has established a prioritization scheme for determining the timing of repairs. This is based on the types of problems that have occurred in the collection system in the past or could occur in the future. While this contingency analysis focuses on system upsets that would not result in immediate sewer overflow, the response timing is based on the potential for a resulting sanitary sewer overflow. Overflow response is covered in the **Appendix**.

Low-risk items, such as light bulbs or lightning arrestors, motor starters, fuses, and impellers, are planned for run-to-failure, and as such, are not part of the PM Program. These items are replaced when they fail. When assets critical to the process fail, they are scheduled for corrective maintenance either on an urgent or routine schedule. Some of these repairs are handled under the operations and maintenance account, and some must be put in as capital improvements as part of our asset management activities depending on asset cost and life expectancy. Assets valued at greater than $20,000 dollars and with a useful life of greater than 10 years are included in the capital budget.

Corrective maintenance repairs include (but are not limited to):

- cleaning to eliminate flow problems that are noted during inspections
- spot repair or replacement of a pipe that shows signs of deterioration
- replacing a rattling or failed manhole cover

- repairing or replacing a pump that is becoming clogged or has been damaged by debris
- responding to, investigating and mitigating customer complaints
- repairing system parts subject to vandalism

Corrective maintenance response is outlined in Table 4

b. Scheduling

Scheduling of repairs runs the range from repairing components found to be in substandard condition during inspection, immediate repairs to pump stations that are malfunctioning, to major, capital-intensive, repair projects, such as a manhole-to-manhole pipe replacement or rehabilitation. An emergency, however, always supersedes scheduled maintenance. Timing of other repairs is done by programming into long term capital plans or if severe enough by emergency bid and Trustee authorization. Major replacement or rehab may be capitalized outside of the annual operating budget when they are deemed necessary to maintain the long-term operation such as pump replacement, emergency spot repairs, emergency collapse.

Table 4: Collection System Non-Emergency Response and Repair Priority (not fully comprehensive – but a sampling of response scenarios)

Problem	Response Time	Action	Repair Time Goal
Failure of Bellefair or Village Hall Pump Station.	Respond within 1 hour or less by General Foreman or Assistant Foreman.	Call crew with sewer truck, Clear Alarm codes, assess water level in pit, manually pump down pit. Switch to standby backup system, Call R&R Pump Service if needed. Clear pump as needed or replace parts.	Alarm deactivation within 1 hour, pump down levels within 2 hours. Back to normal within 4 hours.
Potential Pipeline failure / Collapse imminent.	Within 2 hours assess situation and determine stability, corrective course of action.	Obtain emergency RFP or utilize existing contracts if possible. Piggyback contracts if available. Obtain multiple quotes.	Within 48 hours for RFP and start within 24 hours of lowest proposal.
Sewer system Surcharging but no overflows reported.	Direct Highway to respond with sewer jet truck. Within 30 minutes regular workday. Within 1 hour on call out.	Check downstream manholes to find low flow manhole, begin jetting sewer line to break through clog/debris. Assess debris. Jet again and verify line and manholes dropped in flow. Direct Supt. of Public Works as needed and camera line.	Within 1 hour from time of call.

Problem	Response Time	Action	Repair Time Goal
Failure of Backup power at Pump Stations (during power outage event).	Immediate within 30 minutes or less with crew on staff. Within 1 hour otherwise on call out.	Assess Breakers on system, check for fuel, and transfer switch. Notify Supt. of P.W. immediately. Obtain emergency standby Generator immediately. Possibly rewire for portable generator.	Permanent repair depends on problem, Temporary solution within 2 hours.
Homeowner calls in Sewer Spill / Backup inside residence.	Immediate within 30 minutes or less with crew on staff. Within 1 hour otherwise on call out.	Check downstream manholes to find verify flow in manhole and begin jetting sewer line to break through clog/debris if any. If situation remains, direct homeowner to call private plumber to clean lateral.	Within 30 minutes from time of call, 1 hour for call out.

c. Tracking and Recording Repairs

The Village documents corrective maintenance needs on premade spreadsheet and in contract folders at the time of the event. Corrective maintenance tasks are recorded when completed and then Superintendent of Public Works or Administrative Staff inputs them into our database. CCTV or other failure analysis may also be done by staff as a corrective maintenance task after a problem occurs when crews are here surveying the sewer system to diagnose the cause of problems or performing routine ongoing reconnaissance and recommend repairs and schedule changes if needed. Findings may lead to a spot repair of the pipe, pipe lining, root cutting, re-cleaning for grease or debris removal on a periodic preventive basis, and if so, these tasks are included in an update of our schedule as described in Section 3, Cleaning, Inspection and Assessment.

d. Complaint Response

The Public Works and Highway Department is responsible for responding to sewer service complaints. Complaints are generally related to sewer stoppages, overflows, or odors. Response is performed by the Highway Department during work hours (Highway 7:30am to 4:00pm) and by General Foreman and Superintendent of Public Works during off work hours (4:00pm to 7:30am). The Superintendent of Public Works provides directions for after-hours service calls that may be received by the Police Department, or through emails.

Complaint response includes both assessing the complaint and resolving the problem. Most of our complaints are related to sewer laterals from homeowners being obstructed, or backups within residences due to lateral line issues. During work hours, a cleaning crew is diverted to assess the situation, jet the sewer lines, and remove stoppages. During non-work hours, Rye Brook uses a call out rotation of Highway Staff to address complaints.

The Village tracks these complaints and response activities on prescribed spreadsheets attached

in the **Appendix**, evaluates response time, trouble spots and uses the information to assess our performance, update this plan and prioritize repairs.

8. EQUIPMENT AND TOOL INVENTORY

a. Essential Day-to-Day Items

Rye Brook provides operations and maintenance crews with the essential work-related items they use on a day-to-day routine basis. Should new or replacement equipment or tools be needed, the crew leader notifies the General Foreman. The General Foreman will issue the crew leader stocked items. For non-stocked items, the General Foreman advises the crew leader of a local vendor to utilize. The crew leader will then procure the requested items through the local vendor in an "in-stock" format.

b. Spare Equipment and Tools

Rye Brook keeps a limited supply of spare equipment and tools for personnel. In lieu of maintaining a full supply of spare equipment and tools for personnel. Rye brook maintains a Intermunicipal Agreement with various other municipalities and will reach out to obtain parts as needed in an emergency.

c. Sewer Jet Truck and Camera

Rye Brook has ordered a new Sewer Jet truck October 2021 to assist with ongoing maintenance. Due to Global pandemic shortages truck is on order and scheduled for delivery by mid2023.

On order for late 2022 delivery is an IRIS main Line portable sewer crawler camera. This will be used to inspect and monitor sewers should problems arise. Camera will be used in emergency situations thus providing faster response to determining if overflows or sewer clogs are a result of broken of collapsed sewers.

9. CAPACITY MANAGEMENT

a. Capacity Background

In 1993 Metcalf and Eddy Inc. conducted a Sewer System Evaluation Survey (SSES) for all the sewer collection systems that discharge to the Blind Brook Wastewater Treatment Plant. This included the Village of Rye Brook along with the Town of Harrison and the City of Rye. The investigation was part of a County wide effort to evaluate local sewers that are tributary to the County's trunk sewers and that discharge to County Operated Wastewater Treatment Plants. Significant sources of Inflow and Infiltration include area drains, roof leaders and leaky house connections. Recommendations included lining sewers, repair of sanitary sewers and manholes, and elimination of stormwater connections to sanitary sewers. This included additional CCTV and Engineering inspection of sewers, manholes and ongoing repairs.

The Village of Rye Brook has taken a proactive approach to address sewer capacity concerns and utilizes the following tools:

- Smoke and Dye Testing of Sewers
- Lining of sewer mains
- Implementation of 5,10- and 20-year cleaning program as listed in this report
- CCTV Inspections to locate broken mains and illicit connections
- Plumbing permits require certifications of no known illicit taps. Homeowners responsible for sewer laterals.
- Teardowns require new sewer lateral of lining of existing
- Implementation of Fats, Oils & Grease programs
- Manhole Cover replacements with chimney seal epoxy coatings
- Strict Storm water Management Code requiring full capture/handling of all rainwater from impervious surfaces onsite through recharging.
- Flow monitoring

b. Sewer Capacity Certification/ Connection Policy

Sewer Capacity Certification is a process where any new development requiring the connection of its sanitary sewer service to the Rye Brook sewer system is reviewed to determine whether adequate sewer system capacity exists to convey the new wastewater flow from the proposed development to our wastewater treatment facility. A capacity certification analysis by a professional engineer is required for all new developments larger than a 1 family residence.

Separate from the connection fee, developers of newly constructed homes and businesses are required to pay a sewer capacity charge for removal of infiltration/inflow (I/I) from the system. The fee is based on $100 per unit of proposed development. Such funds then are utilized to execute programs outlined above.

c. Lateral replacement program

Rye Brook does not have a sewer lateral program. Laterals are owned and maintained by the property owner. The Village implemented a certification under Plumbing permits which requires an affidavit attesting to no illicit discharges or connections. Building Department staff then performs a walk through at closeout of permit to verify statement.

10. RESOURCES AND BUDGET

a. Budget Process

Rye Brook 's budget process requires that the annual budget be completed and adopted by May 31 of each year. The process begins with last year's numbers and projected needs for the following year. Multiple work sessions and Public Hearings are held and ample time for public comment is given at 2 Public Board Meetings.

The Village works diligently to provide necessary funding to ongoing capital projects while providing a lean and balanced budget all while functioning under a restrictive tax cap.

b. Rate Setting, Budgetary Policies and Financial History

Westchester County Department of Environmental Facilities and the Westchester County Finance Department set the rates and bill for usage directly to homeowners

c. Historical Rate Review

Westchester County Department of Environmental Facilities and the County Clerk's office retain such records.

d. Operating and Maintenance Expense

The Village Continues to fund infrastructure repairs and provides sensible fiscally sustainable funding to maintain the sewer infrastructure.

Operating and maintenance expenses include:

- Employee salary and compensation
- Operating supplies
- Utilities
- Repair and maintenance
- Professional services
- Routine capital outlay
- Debt service expenses for repair and replacement

Professional Services includes planning and engineering studies for repair and replacement projects.

Contractor Services includes contractual work for cleaning sewer lines and manholes, CCTV, sewer main lining, manhole rehabilitation, manhole cover replacement and improvements to the collection system map.

Routine Capital Outlay includes items that are considered capital assets and are purchased from annual operating revenue rather than through bonds or the capital reserve fund. Items such as contractual work for cleaning sewer lines and manholes, CCTV, sewer main lining, manhole rehabilitation, manhole cover replacement and improvements to the collection system map.

Debt service is the annual principal and interest payments for bonds, loans and other fiduciary instruments owed by Rye Brook. The debt service supports capital improvement projects. Rye Brook's policy is to not accumulate a unsustainable debt greater than manageable. Rye Brook continues to expend money through Debt services as required for long term repairs where it fiscally is appropriate

e. Capital Improvement Program Overview

The Capital Improvement Plan (CIP) is part of the long-term CMOM planning, which uses the Cleaning, Inspection, and Assessment program (see Chapter 3) to evaluate the existing system and to recommend improvements needed to correct existing deficiencies. The CIP also incorporates our Capacity Assessment (Chapter 9) program to assess projected needs for maintaining the integrity of the collection system and expanding sewer capacity to accommodate growth by providing a detailed 5-year capital improvement program.

Capital projects are evaluated based on their severity, impact to service, rate of failure and long-term benefits to name a few.

The capital reserve funds result from the balance of funds remaining after the payment of all operating and maintenance, debt service and other expenses. The capital reserve fund also accounts for the depreciation expense in the O&M budget. The reserve funds are primarily used for:

- Non-bond funded capital projects
- Additional funds for bonded projects
- Emergency repair and maintenance

f. Capital Improvement Plan

The CIP adopted by Rye Brook can be located on the Villages website at https://ryebrook.org/search-site/?term=budget. The CIP shows funded projects.

g. Grants

The Village of Rye Brook in 2022 has retained the services of Millennium Strategies of Nanuet Ny to assist with grant writing. The Village will try to pursue grants as they become available for Sanitary sewer repairs, mapping and Illicit Discharge detection and elimination

UPDATES / CHANGES

Reviewed By	Date	Changes / Comments
Michal Nowak	2022-9-13	Page Numbers added, Page 34 Added Grants, Page 31 added Camera and Jet Truck