Final

CMOM

Business Practice Evaluation

For

City of Somersworth
Department of Public Works and Utilities

CMOM Program Development Project
Business Practice Evaluation
Criteria and Measurements

Element Criteria

Attribute	Subcategory	Description
Stage 5		Continual improvement, refinement of processes, standards and procedures
Stage 4	High	Quantitative measurements are defined for processes and quality standards
	Medium	
	Low	
Stage 3	High	Defined repeatable approach that is documented and communicated within the utility
	Low	
Stage 2		Reactionary and without a systematic approach
Stage 1		Total unawareness within the utility

Measurements

- Defined Purpose
- Short- and Long- Term Goals
- Documentation
- Implemented by Well-Trained Personnel
- Performance Measures
- Program for Continuing Improvement

COLLECTION SYSTEM POLICY – MISSION STATEMENT

A mission statement should include all the activities that would be conducted to make the utility as efficient and effective as possible. A mission statement should be a clear and concise statement that says who the agency is, what it does, for whom, and on what part of the system.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Internal Mission Statement	The internal mission statement includes all of the characteristics mentioned above.	There is no written internal mission statement. Utility Director was able to verbalize general principles.
Public Works Mission Statement	The external mission statement complements and supports the goals and ideals of the internal mission statement.	There is a written Public Works mission statement. The contract operations firm running the pump stations has a separate mission statement.

COLLECTION SYSTEM POLICY – STRATEGIC GOALS RELATED TO CUSTOMER SERVICE

By setting strategic goals for customer service, the utility will be able to provide its customers with high quality service. A comprehensive customer service program should address the quality of information relayed to its customers, as well as the quantity and reliability of the information, and the responsiveness to customer concerns and complaints. It should also address typical environmental concerns its customers might have and analyze user rates and cost of service.

Elements of a customer service program are as follows:

- A customer service program should include training for administrators, staff, and first responders. It should be performed and updated regularly.
- A formalized process for call attendants to receive complaints, contact first responders for dispatch, and saving complaint records for follow-up should be in place. A detailed script of questions and responses should be available to call attendants and updated on a regular basis.
- Call out and notification lists should be up-to-date and reviewed regularly.
- A complaint management program should include components such as standard forms and codes, customer follow-up, and a central location for complaint records.
- A public information program should keep the public informed and aware of the utility's activities, e.g. smoke testing, major construction and notify them about maintenance to be performed.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Quality	The utility's customer service policy refers to the quality of information a customer service representative is able to provide a customer.	There is no written customer service policy or scripted dialogue. The utility does process calls and follow-ups in a timely manner.
Quantity	The utility's customer service policy refers to the depth and breadth of the information relayed to the public.	There is no written customer service policy. The website posts some information related to contact information, compliant forms and development forms.
Reliability	The utility's customer service policy refers to the reliability of the information a customer service representative is able to provide a customer.	There is no written customer service policy. What information that is provided is current
Responsiveness	The utility's customer service policy states the responsiveness goals for customer service.	There is no written program but staff is service orientated.
Environmental Acceptability	The utility's customer service policy addresses typical environmental concerns of the customer.	There is no written customer service policy to address typical environmental concerns.

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Cost/User Rates	The utility should regularly review rates versus cost of providing service (operation and maintenance costs), with a general trend toward increasing rates.	City Council has a committee that reviews rates every year. Utility works to maintain user rates that support the utility.

POLICY – STRATEGIC GOALS TO ACHIEVE REGULATORY COMPLIANCE

By setting strategic goals for regulatory compliance, the utility will avoid SSOs, permit violations, fines, consent orders, and penalties. The result will be protection of the environment, public health, and the well being of operators.

The primary elements for meeting regulatory compliance goals are as follows:

- Meeting SPDES or NYSDEC permit requirements.
- Utility practices which follow the CMOM guidance to include proactive O&M activities and thorough documentation of such activities.
- The utility will take all prudent actions to avoid compliance orders or decrees.
- The utility actively seeks and remediates illicit connections from and to the sanitary system.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Permit Requirements	Permit requirements are being met.	There are no written goals regarding permit compliance.
CMOM Guidance	The guidance is being followed.	No written goals regarding CMOM guidance. Participation in this evaluation supports the development of a CMOM program
Compliance Orders or Decrees	The utility is not under an order or decree.	There are no written goals for avoidance of Compliance Orders or Decrees.
Illicit Connection Elimination Program	The utility actively detects and resolves illicit connections.	In the past, this program has been funded with grant money. The program is presently unfunded.

POLICY – STRATEGIC GOALS FOR MANAGING UTILITY ASSETS

By setting strategic goals for asset management, the utility will be able to utilize assets in a more efficient manner and to their fullest extent. A utility with well managed assets will have processes in place for condition assessment, rehabilitation, and replacement. In addition, it will dispose of its assets in an economical manner.

Measures of strategic goals for managing assets include:

- The utility has a written condition assessment process in place.
- A written process or set of criteria for rehabilitation and from that the ability to determine which assets need rehabilitation.
- A written process or set of criteria for replacement, which includes the ability to determine which assets need replacement.
- The utility has a written process for disposal of assets when it is no longer cost-effective to keep them and considers alternatives to landfill disposal, e.g. recycling, reuse.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Condition Assessment	There is a written process in place to modify or stipulate condition assessment of assets.	There is no written process in place for condition assessment.
Rehabilitation	There is a written process or set of criteria in place to aid in the determination of asset rehabilitation.	There are no written criteria for rehabilitation.
Replacement	There is a written process or set of criteria in place to aid in the determination of asset replacement.	There are no written criteria for asset replacement.
Disposal	There is a written process for disposal of assets in an economical manner.	There is no written process for asset disposal.

POLICY – STRATEGIC GOALS FOR WORK MANAGEMENT

A well managed utility will strive for efficiency and proficiency, and will have a prioritization process in place. In addition, it will recognize the quality of life of its employees.

Measures of strategic goals for work management include:

- The utility has a written goal regarding managing productively without waste.
- A written prioritization process and form from which various programs and priority lists can be created.
- Management considers safety a "way of life".
- Management has a written goal to consider the quality of life of its employees as a priority of the utility.
- The utility has a written strategic goal for providing the tools and training necessary for its employees to insure that they are proficient and knowledgeable in their respective positions.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Efficiency	The utility is managing productively without waste.	There is no written strategic goal regarding efficiency.
Prioritization	There is a written process in place to create a priority list.	There is no written prioritization process is in place.
Safety	Management has a written strategic goal supporting a safe work place. There is written documentation for safety training.	There are no written safety goals. Safety training is tracked for each employee.
Quality of Life	Management has a written goal recognizing needs and issues in the work environment.	There is no written strategic goal regarding quality of life.
Proficiency	Management has a written goal regarding providing the tools and training necessary for its employees.	There is no written strategic goal regarding providing the tools and training necessary for its employees.

MAINTENANCE – GRAVITY SYSTEM CORRECTIVE

The proficiency of a good corrective maintenance program is reflective of the level of service provided in the preventive maintenance program. For example, a comprehensive and well functioning preventive maintenance process will reduce or nearly eliminate corrective maintenance activities on critical equipment and assets.

Measures of a proficient corrective maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- Backlog system as an indication of the proficiency of the utility's overall maintenance activities.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Priority System	A system has been developed.	The priority system is to respond to the limited backups that occur. Estimated about one call per month. One recurrent problem area was investigated and corrected with piping change. This eliminated one pump station and several recurrent back up calls.
Backlog System	There is a process in place to reduce backlog.	There is a backlog in place. There is no written process to reduce backlog.

MAINTENANCE – GRAVITY SYSTEM PREVENTIVE

The proficiency of a gravity system preventive maintenance program, as compared to a corrective maintenance program, is reflective of how well a system is managed, operated and maintained.

Key elements of a gravity system preventive maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- Recognizing the need of a thorough hydraulic cleaning program, which is performed routinely, but not to the point of over cleaning (cleaning clean sewers).
- A root control program that is monitored, documented, and adequate to assure system capacity.
- A method of prioritizing manholes for inspection. For example, buried manholes, manholes in critical locations or facilities, and manholes in easements.
- An effective Fats, Oils, and Grease (FOG) Program is in place with ordinances, education materials, and coordination with grease trap inspection authorities.
- CCTV inspections should be conducted prior to cleaning efforts.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Maintenance Prioritization	There is a process in place to prioritize maintenance activities.	There is no process in place to prioritize maintenance activities.
Hydraulic Cleaning	There is a program in place.	A sewer jet was contracted to come in and clean trouble areas two years ago. All other cleaning is reactive (plug) with an old flush trailer that moves plug along, does not remove. Combination machine from neighboring municipality is called in 4 times year to handle problems the flush truck can't correct.
FOG Program	There is a program in place for addressing FOG.	There is no written FOG control program in place. Pretreatment coordinators monitors pump out rates and gets feedback from hauler.
Root Control	There is a program in place.	The utility identified some significant root problem areas in 2004. Root control program has been effectively used in these areas. The service calls have decreased as a result.
Manholes	There is a program to prioritize manholes for inspection.	There is no written manhole inspection program in place. Manholes are evaluated during routine system work and road construction and resurfacing. A manhole evaluation form is used.
Condition Assessment -	There is a program in place to prioritize	About 50% of system was cleaned and

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
CCTV	pipelines for CCTV inspection.	televised in 2001 based on location and age of system.

MAINTENANCE OF RIGHT- OF- WAYS

A program designed to maintain right-of-ways will provide access to the right-of-way for the manpower and equipment necessary to properly manage, operate and maintain any collection system appurtenance within the right-of-way.

Elements of a thorough maintenance of right-of-way program include:

- Keeping all cross country and residential easements clear of all obstructions.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Maintenance Prioritization	There is a process in place to prioritize maintenance activities.	The utility is in the process of putting easement information into their Geographic Information System (GIS). This information will aid the future prioritization process.
Cross Country Easements and Right-of-Ways	There is a program in place to maintain easements and ROW.	Right-of-Way (ROW) maintenance is starting for the main trunk lines along the river.
Residential Easements and Right-of-Ways	There is a program in place to maintain easements and ROW.	Public Service maintains some of these easements.

MAINTENANCE – GRAVITY SYSTEM EMERGENCY

An emergency maintenance program will be a thoroughly documented, repeatable program, which provides the necessary elements by which the utility can respond to complaints, calls for dispatch, customer follow-up phone calls and natural disasters.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Emergency Maintenance Program	There is a program in place to address emergencies within the wastewater collection system.	The utility has an undocumented system in place to respond to customer calls and complaints, as well as other emergencies. Off-hour emergencies are documented. Call in procedure can be cumbersome during the summer when it is difficult finding a person to respond.

MAINTENANCE – PRESSURE SYSTEM CORRECTIVE

The proficiency of a good corrective maintenance program is reflective of the level of service provided in the preventive maintenance program. For example, a comprehensive and well functioning preventive maintenance process will reduce or nearly eliminate corrective maintenance activities on critical equipment and assets.

Measures of a proficient corrective maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- Backlog system as an indication of the proficiency of the utility's overall maintenance activities.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Priority System	A system has been developed.	There is no system in place.
Backlog System	There is a process in place to reduce backlog.	There is no written process to identify or reduce backlog.

MAINTENANCE – PRESSURE SYSTEM PREVENTIVE

A pressure system (force main) preventive maintenance program will include the efficient and thorough inspection of air release valves, internal and external force main components, and isolation valves all of which is appropriately documented.

The elements of a pressure system preventive maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- A cleaning prioritization method, based on pump performance or pump discharge pressure.
- Cathodic protection is looked at as a means to aid against corrosion.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Maintenance Prioritization	There is a process in place to prioritize maintenance activities.	There is no documented process in place.
Cleaning	There is a program to prioritize for cleaning.	There is no cleaning program in place.
Cathodic Protection	There is a cathodic protection program in place to aid against corrosion.	No formal program.

MAINTENANCE – PRESSURE SYSTEM EMERGENCY

A pressure system emergency maintenance program will be a thoroughly documented, repeatable program which provides the necessary elements by which the utility can respond to complaints, calls for dispatch, customer follow-up phone calls and natural disasters.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Emergency Maintenance Program	There is a program in place to address emergencies within the wastewater collection pressure system.	There is no program in place.

MAINTENANCE – PUMP STATION CORRECTIVE

The proficiency of a good corrective maintenance program is reflective of the level of service provided in the preventive maintenance program. For example, a comprehensive and well functioning preventive maintenance process will reduce or nearly eliminate corrective maintenance activities on critical equipment and assets.

Measures of a proficient corrective maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- Backlog system as an indication of the proficiency of the utility's overall maintenance activities.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Priority System	A system has been developed.	There is a priority corrective maintenance system in place.
Backlog System	There is a process in place to reduce backlog.	There is a backlog system.

MAINTENANCE – PUMP STATION PREVENTIVE

A pump station preventive maintenance program will incorporate a system for documenting and prioritizing routine maintenance activities to include all mechanical, electrical, control and structural assets associated with the wastewater pumping station.

Elements of a pumping station preventive maintenance program are as follows:

- Prioritization system to include an asset criticality rating.
- A method of addressing equipment failures by implementing a short-term repair program followed by rehabilitation/replacement for long-term operation.
- A documented, scheduled evaluation and testing of electronic control systems.
- A documented and systematic program for testing electrical loads and electrical equipment.
- A documented, scheduled mechanical maintenance program for all pumping station equipment.
- Valve exercise and maintenance plan.
- A documented, scheduled program for addressing pump station structure needs such as cleaning, painting, and site maintenance.
- Cathodic protection is looked at as a means to aid against corrosion.
- A document, scheduled program for painting of assets as a form of corrosion control.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Maintenance Prioritization	There is a process in place to prioritize maintenance activities.	Station visits are based on reliability and maintenance needs.
Short-Term Pumping Station Repair	The utility only performs short-term repairs.	Short-term repairs are done with long range operation considered.
Electronics	There are scheduled programs for these components.	The program is incorporated into the regular station preventive maintenance program.
Electrical	There are scheduled programs for these components.	The program is incorporated into the regular station preventive maintenance program.
Mechanical	There are scheduled programs for these components.	The program is incorporated into the regular station preventive maintenance program.
Physical	There are scheduled programs for these components.	The program is incorporated into the regular station preventive maintenance program.
Valve Exercise	There is a program in place to exercise valves	The program is incorporated into the regular station preventive maintenance program.
Cathodic Protection	There is a cathodic protection program in place to aid against corrosion	There is no program in place
Corrosion Control	There is a corrosion control program in place	There is no program in place. The Black Water pump station has some corrosion issues.

MAINTENANCE – PUMP STATION EMERGENCY

A pump station emergency maintenance program will be a thoroughly documented, repeatable program which provides the necessary elements by which the utility can respond to complaints, calls for dispatch, customer follow-up phone calls and natural disasters.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Emergency Maintenance Program	There is a program in place to address emergencies within the wastewater collection pump stations.	The utility has a documented system in place to respond to customer calls and complaints, as well as other emergencies. Off-hour emergencies are documented.

OPERATIONS – PUMP STATIONS

Pump stations are critical assets in the wastewater conveyance system. A well documented and routinely updated set of SOPs/Effective Practice Guidelines (EPGs) for normal and emergency operations should be available at each location. SCADA should be used in the capacity for which it was designed.

The key elements of pump station operations are as follows:

- EPGs for normal operations should be up-to-date and used by staff. For example, checking alarms, bleeding air compressors, checking pump run times, checking pump starts and stop, etc.
- EPGs for emergency operation should be up-to-date and used by staff. All normal operation elements should be included as well as emergency contact information, stand-by power operation, special monitoring or sampling consideration, etc.
- Supervisory Control and Data Acquisition (SCADA) operation is being used effectively as a tool for efficient pump station operation.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Normal Operation	Updated SOPs/EPGs are in place and used by staff.	There are written policies in place and used.
Emergency Operation	Updated SOPs/EPGs are in place and used by staff.	There are written EPGs in place.
Supervisory Control and Data Acquisition (SCADA)	This system is being used effectively.	A SCADA system is available. Data is stored on site. One station relies on a visual alarm only.

OPERATIONS – CORROSION CONTROL

Measures for system-wide corrosion control should include a documented and scheduled approach to the inspection and testing of critical assets within the wastewater conveyance system; for example cathodic protection for force mains, pumps stations, and pipes; protective coatings and wrappings, chemical addition, etc.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Corrosion Control Program	There is a program in place that includes inspection and testing of assets for corrosion.	There is no program in place.

OPERATIONS – FLOW MONITORING

Flow monitoring within the gravity system, which includes pumping stations, helps provide a reliable measure of system capacity, system response to storms, and system performance. Other areas of flow monitoring the utility should include are pre- and post-construction certification, indicators of systems blockages or breaks, and identification of sources of inflow and infiltration. A good flow monitoring system will include routine data retrieval and analysis.

Elements of a flow monitoring program are as follows:

- Gravity system flow monitoring program for identifying areas of infiltration and inflow (I/I).
- Flow monitoring data is used to determine system performance, response to storms, and as a measure of capacity.
- Pump station flow monitoring program for accurately measuring the flow leaving the pump station. Changes in baseline data can be an indicator of force main failure, pump failure, valve failure, etc.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Gravity Systems	Flow monitoring is being conducted.	The utility did conduct a gravity system flow study, however study period was too short (no rain events). Portable flow metering is available but not used.
Pumping Stations	There are flow meters at pumping stations.	A combination of flow meters and pump run time is used to evaluate pump station operation.

OPERATIONS – LINE LOCATION

Force mains and gravity sewers are very important assets in the wastewater conveyance system. It is critical to know the location of these assets in order to inspect them for maintenance and protect them from geologic or construction damage.

Effective Practices

Business Process Area	Business Practice Characteristics	Findings of the Readiness Review
Line Location Program	There is a program in place to determine the location of critical assets for inspection, maintenance, and protection from damage.	There is a program in place. The utility participates in Dig Safe program. There is no SOP for coverage or after hours notification.

TECHNICAL – ENGINEERING

An effective engineering function is aware of current operation and maintenance practices, performance standards and the expectations of collection system customers. Engineering supports O & M through strong interaction with collection system personnel to produce facilities that meet capacity requirements that are both operable and maintainable.

Elements of an effective technical support engineering program are as follows:

- A documented and regularly updated program for maintaining as-built drawings.
- A process for clearly documenting and regularly updating system maps.
- A trained and qualified technical staff proficient with respect to their job functions as it pertains to construction inspection.
- A method of prioritizing condition assessment data.
- A thorough condition assessment program must include smoke testing, dyed water flooding, and CCTV with the necessary interaction with power cleaning. This data should be documented in an easily accessible and useable format.
- A thorough manhole inspection should include a top to bottom survey of the manhole including frame and cover as well as complete documentation of its condition. This data should be documented in an easily accessible and useable format.
- A corrosion identification program should not be limited to H_2S and should also include chemicals, and flows with varying pH. This data should be documented in an easily accessible and useable format.
- Clearly identify the owner of the service lateral from the house to the public sewer main. If the utility is responsible for the lateral, it is recommended that this responsibility be transferred to the home owner.
- Technical staff performing gravity system defect analysis should be trained using a national standard for defect analysis, for example the PACP course from NASSCO.
- Force mains condition assessment data should be documented in an easily accessible and useable format.
- A pump station condition assessment program will incorporate a system for assessing all mechanical, electrical, control and structural assets associated with the wastewater pumping station. This data should be documented in an easily accessible and useable format.
- The collection system must have capacity to convey all dry weather and wet weather flows. Engineering must assure this capacity through adequate design.
- A key component of capacity assurance is a flow monitoring program to monitor system performance.
- Optimize pump run times to maximize system storage capacity. In addition, flexibility of the pumping station to increase or decrease flow should be considered.
- A current and up-to-date flow modeling program calibrated to actual performance of the collection system is a key element in a capacity assurance program.
- A capacity assurance process program should incorporate all the elements of this section.
- Pump stations should be sized adequately for future flow projections.
- All new construction should meet capacity assurance parameters for future flow projections.
- Wastewater collection systems should be sized appropriately and have existing capacity to allow for new system tap-ins.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
As-Built Plans	As-builts are kept on record and up-to-date.	As-built plans are retained. They are incorporated into GIS and the system inventory once a year.
Asset Inventory	There is a complete inventory of collection system assets that is kept up to date.	An inventory is available of most of the collection system assets.
Sewerage System Maps	Sewerage system maps are kept on record and up-to-date.	System maps are available. The utility is working on getting the map information onto computers.
Design – Gravity Lines	The design is done by a consultant.	The design is done by a consultant and must meet standards outlined in NH ENV-WQ700. The utility and a consultant review. NH DES must approve.
Design – Pumping Stations	The design is done by a consultant.	The design is done by a consultant and must meet standards outlined in NH ENV-WQ700. The utility and a consultant review. NH DES must approve.
Design – Force Mains	The design is done in-house with sufficient staff or by a consultant.	The design is done by a consultant and must meet standards outlined in NH ENV-WQ700. The utility and a consultant review. NH DES must approve.
Construction Field Inspection	The utility performs construction inspection.	Construction inspection is performed either in-house (smaller jobs) or by consultant (for larger jobs).
Testing and Acceptance	The utility performs testing	For new construction, testing is conducted by the consultant.
Infrastructure Acquisition	There is a procedure for ensuring the condition of assets acquired during annexation or exchange of responsibility.	A written policy exists.
Condition Assessment – Priorities	There is a process in place to prioritize.	There is no written priority process in place.
Condition Assessment - Smoke Testing	The utility conducts smoke testing.	Smoke testing is used as necessary when state grant money is available.
Condition Assessment – CCTV	The utility does CCTV and information collected is reviewed to determine what actions, if any, are to be taken.	50% of the sewers were televised in 2001 based on the location and age of the pipe.
Condition Assessment - Manhole Inspection	The utility performs manhole inspections using standard forms and procedures.	Manholes are evaluated during routine system work and road construction and resurfacing. A manhole evaluation form is used.

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Condition Assessment - Corrosion Identification	The utility performs corrosion identification.	There is no corrosion identification done.
Condition Assessment - Gravity System Defect Analysis	Analysis is done by a qualified professional.	About 50% of the gravity system was assessed in 2001. A follow up with a qualified professional is needed.
Condition Assessment - Force Mains	There is a program in place to assess the condition of force mains.	There is no written program in place.
Condition Assessment - Pumping Stations	There is a program in place to assess condition of pumping stations.	The utility relies on flow/pump hours and regular visits to assess condition.
Rehabilitation/Replacement Gravity Line - Criteria	Criteria exist for determining rehabilitation or replacement of sewers.	There is no written criteria but trouble spots or identified problem areas are the highest priority. The utility tries to coordinate work with road paving.
Rehabilitation/Replacement Gravity Line – Methods	A variety of methods are considered for rehab and replacement.	The consultant and utility determine the appropriate method on a case by case basis.
Rehabilitation/Replacement Gravity Line – Design Specifications	The utility has and maintains specifications for sewer construction.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Gravity Line – Inspection	The utility has an inspection procedure for gravity sewer construction.	There is a procedure is in place. Inspection is done in-house or by independent consultant depending on size of job.
Rehabilitation/Replacement Gravity Line – Testing	The utility has acceptance testing criteria for rehabilitated sewers.	The sewer must past a pressure test.
Rehabilitation/Replacement Manhole – Criteria	Criteria exist for determining rehabilitation or replacement of manholes.	There is no written program in place. Some problem manholes have been identified but the work is backlogged.
Rehabilitation/Replacement Manhole – Methods	A variety of methods are considered for rehab and replacement.	The consultant and utility determine the appropriate method on a case by case basis.
Rehabilitation/Replacement Manhole – Design Specifications	The utility has and maintains specifications for manhole construction.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Manhole – Inspection	The utility has an inspection procedure for manhole construction.	There is a procedure is in place. Inspection is done in-house or by independent consultant depending on size of job.
Rehabilitation/Replacement Manhole – Testing	The utility has acceptance testing criteria for rehabilitated manholes.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Pumping Stations – Criteria	Criteria exist for determining rehabilitation or replacement of pumping stations.	There is no written program in place. The criteria is based on staff

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
		evaluation using pump hours/flow and maintenance history.
Rehabilitation/Replacement Pumping Stations – Methods and Techniques	A variety of methods are considered for rehabilitation and replacement.	The consultant and utility determine the appropriate method on a case by case basis.
Rehabilitation/Replacement Pumping Stations – Design Specifications	The utility has and maintains specifications for pumping station construction.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Pumping Stations – Inspection	The utility has an inspection procedure for pumping station construction.	The inspection is performed by an independent consultant.
Rehabilitation/Replacement Pumping Stations – Testing	The utility has acceptance testing criteria for rehabilitated pumping stations.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Force Main – Criteria	Criteria exist for determining rehabilitation or replacement of force mains.	There is no written criteria in place.
Rehabilitation/Replacement Force Main – Methods and Techniques	A variety of methods are considered for rehab and replacement.	The consultant and Utility determine the appropriate method on a case by case basis.
Rehabilitation/Replacement Force Main – Design Specifications	The utility has and maintains specifications for force main construction.	The utility uses the standards outlined in NH ENV-WQ700.
Rehabilitation/Replacement Force Main – Inspection	The utility has an inspection procedure for force main construction.	The inspection is performed by an independent consultant.
Rehabilitation/Replacement Force Main – Testing	The utility has acceptance testing criteria for rehabilitated force mains.	The utility uses the standards outlined in NH ENV-WQ700.
Capacity Assurance - Definition of Adequate Capacity	There is a definition of adequate capacity.	There is an undocumented process in place.
Capacity Assurance - Flow Monitoring	There is a program in place for conducting flow monitoring.	There is no written program in place but the equipment is available to conduct flow monitoring.
Capacity Assurance Management - Assurance Process	There is an assurance process in place by management.	There is a review process in place to ensure that there is adequate capacity for proposed additions to the system
Capacity Assurance - Pumping Stations Adequacy and Performance	Pumping stations are sized adequately for projected growth.	The utility uses the standards outlined in NH ENV-WQ700.
Capacity Assurance - New Construction	There is a program or process in place to aid in the determination of capacity assurance.	The utility uses information from the CCTV history. The contractor is required to set aside money for downstream corrective work.
Capacity Assurance - New	There is a program or process in place to	The utility uses information from the

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Service and Tap-Ins	assure capacity that allows new service & tap-ins.	CCTV history.

TECHNICAL SUPPORT FUNCTION – INFORMATION MANAGEMENT

A highly functioning utility has a well defined and documented system for addressing information management in all aspects of its daily activities.

Elements of an efficient information management system are as follows:

- A documented and regularly updated program for record keeping, notification and reporting overflow information to regulatory agencies.
- A documented and regularly updated program for record keeping, notification and reporting overflow information to other affected communities, agencies, utilities and the general public, particularly those downstream of the overflow area.
- A documented method of record keeping by which the utility tracks all operational activities performed on equipment, vehicles, and the wastewater conveyance system.
- A documented method of reporting using standard forms for tracking all complaints received by the utility. This process will include a mechanism for reviewing all complaints by a field supervisor.
- A mechanism for bringing all information together in order to provide management with the most complete picture of utility function.
- A documented method of record keeping by which the utility tracks all financial activities at an asset level for equipment, vehicles, and the wastewater conveyance system in general.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Overflow Reporting, Notification, and Record Keeping - Regulatory Agencies	There is an information management system in place to conduct regulatory reporting.	The utility follows New Hampshire state regulations and requirements.
Overflow Reporting, Notification, and Record Keeping - Affected Agencies and Public	There is an information management system in place to notify affected agencies and the public.	The utility follows New Hampshire state regulations and requirements.
Information Management - Maintenance	There is an information management system in place to track maintenance records.	A system is in place for pump stations. Maintenance activities in the collection system are tracked but consistency needs improvement.
Information Management - Operations	There is an information management system in place to track operations records.	There is a management system in place for pump stations operations.
Information Management - Complaints	There is an information management system in place to track and follow-up on complaints.	There is a management system in place to track and follow-up on complaints.
Information Management – System-Wide Information Coordination to Support Management	There is an information management system in place to support management decisions.	There is an information management system in place.
Information Management - Financial	There is an information management system in place to track costs and budgets.	There is an informal system in place.
Information Management – Document Control	There is a system in place to control the use, addition or deletion of information, and where it should reside.	There is no document policy or control in place.

TECHNICAL SUPPORT FUNCTION – CONTINGENCY PLANNING

A well thought out contingency plan is an essential component of a utility's ability to respond to an operational emergency. There should be a mechanism to initiate updates to the contingency plan at least semi-annually and for new contingency plans updates should be initiated quarterly.

The key elements of a Sewer Overflow Response Plan (SORP) are as follows:

- A well documented and routinely updated SSO response plan to include prioritized steps and organized tasks.
- A reliable method of public notification.
- A method of notifying the proper regulatory agencies and authorities. This information should be in a detailed documented list identifying the agencies, authorities and required reporting information.
- A process in place for emergency flow control i.e. regulating pump run times for maximum utilization of in system storage, and the use of portable pumping around equipment.
- A documented and regularly updated process for emergency operation and maintenance to include routine testing of stand-by power, emergency pump operation, portable pumps etc.
- A documented and regularly practiced emergency response training program, specifically mock drills, for all administrative and operations staff who would be required to respond to an emergency.
- A documented and regularly updated emergency response safety plan.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Planning Process - Steps and Tasks	An overflow response plan exists which shows steps and tasks for response.	There currently is no sewer overflow response plan (SORP) for the gravity and pressure collection systems. There is a SORP for the pump stations.
Planning Process - Public Notification	An overflow response plan exists which explains procedures.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations
Planning Process - Regulatory Notification	An overflow response plan exists which states requirements and process for reporting.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations
Planning Process - Emergency Flow Control	An overflow response plan exists for managing flows.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations
Planning Process - Emergency Operations and Maintenance	An overflow response plan exists for emergency O&M.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations
Preparedness Training	An overflow response plan exists that describes preparedness training.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations
Planning Process - Safety Issues	An overflow response plan exists and explains safety issues during overflow response.	There currently is no SORP for the gravity and pressure collection systems. There is a SORP for the pump stations

TECHNICAL SUPPORT FUNCTION – SOURCE CONTROL

An important mechanism for protecting the utility's/public infrastructure investment is a comprehensive source control program. A comprehensive source control program includes various aspects of fats, oils, and grease (FOG) control, as well as a pretreatment program.

The key elements in the establishment of a comprehensive source control program are as follows:

- The utility has the available resources to establish and maintain a comprehensive source control program.
- A permitting program exists for both pretreatment and FOG control.
- Inspections of the pretreatment program, as well as sources of FOG, are conducted regularly.
- Control measures that are in place for each source are enforced.
- The utility requests compliance assistance from different branches/departments within the County or the state if it becomes necessary to do so.
- The utility includes information regarding the control of FOG in its public education program.
- Performance measures for the various aspects of each program are in place and used consistently.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Fats, Oils, and Grease Control - Permitting	There is a permitting program for FOG control in place.	A permitting program in place. Class 2 permits for all commercial contributors are issued. FOG control (grease trap) is included if warranted.
Fats, Oils, and Grease Control - Inspection	Inspections are conducted on a regular basis.	No routine inspections are conducted. However information on pump out records and FOG hauler feedback is reviewed.
Fats, Oils, and Grease Control - Enforcement	FOG control measures are enforced.	There is a 100 mg/l FOG limit in the sewer use ordinance (SUO). Penalties can be assessed if needed.
Fats, Oils, and Grease Control – Compliance Assistance	If necessary, the utility provides compliance assistance to regulated community. If necessary requests compliance assistance from different departments within the County or the state.	There is no established mechanism for assistance.
Fats, Oils, and Grease Control – Public Education	There is a program in place to educate the public on FOG control.	There is no public education program in place.
Fats, Oils, and Grease Control – Performance Measures	Performance measures for FOG control are in place.	There are no performance measures for FOG control in place.

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Pretreatment Program - Permitting	There is a permitting program in place.	There is a permitting program in place. There are 3 categorical and 2 Significant Industrial Users. Commercial users have a simple permit system.
Pretreatment Program - Inspection	Inspections are conducted on a regular basis.	All 5 SIUs are done on a yearly basis. Monthly sampling is required and conducted.
Pretreatment Program - Enforcement	The pretreatment program is enforced.	The SUO provides enforcement capability. The city attorney is available if needed.
Pretreatment Program – Compliance Assistance	If necessary, the utility provides compliance assistance to regulated community. If necessary, the utility requests compliance assistance from different branches or departments within the County or the state.	The utility provides, and would request, compliance assistance if necessary.
Pretreatment Program – Performance Measures	Performance measures for the pretreatment program are in place.	The primary performance measure is compliance. Industries are meeting pretreatment standards

TECHNICAL SUPPORT FUNCTION – LEGAL SUPPORT

An important mechanism for protecting the utility's/public infrastructure investment is the legal authority granted the utility through the sewer use ordinance and inter-municipal agreements.

The key elements in the establishment of a comprehensive legal authority are as follows:

- Annual report of any enforcement actions taken, new connections approved, the amount in feet of new pipe, (laterals or mains), added to the system.
- A fat, oil, and grease interception program which includes inspection, permitting, and reporting requirement to identify cleaning of grease interception devices, enforcement and notices of violations.
- Provision to prevent the illicit discharge into the system of high strength waste by waste haulers.
- Inter-governmental agreement with the satellite system to include the amount of flow, duration of agreement, penalties and fines for violations, and a means for making modifications to the agreement.
- The legal authority for the inspection, enforcement and permitting of all new connections and additions to the collection system.
- Resources available for legal counsel.
- Clearly identify the owner of the service lateral from the house to the public sewer main. If the utility is responsible for the lateral, it is recommended that this responsibility be transferred to the home owner.
- A documented and regularly updated program for the receiving and disseminating of utility location request.
- A documented and regularly updated process for addressing damages and law suits related to basement back-ups.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Sewer Use Ordinance	The utility has an effective SUO in place.	The utility has an effective SUO in place. Restricted materials, limits and penalties are part of the SUO.
Fats, Oils, and Grease Control Ordinance	The utility has established limits for FOG as well as a grease trap policy.	There is no FOG ordinance in place. A 100 mg/l limit is in the SUO. The informal policy reviews pump out records and hauler feedback.
Line Location	The utility utilizes Dig Safe.	The Utility participates in and utilizes the Dig Safe program.
Liquidated Damages and Lawsuits	Back-ups are resolved in a timely manner according to an adopted policy.	The SUO provides for a Sewer Board review on any legal issues. This has never been used. Damage liability is part of City Ordinance. First time if the city is unaware, homeowner pays. Second time, city is responsible.

ADMINISTRATIVE SUPPORT FUNCTION – HUMAN RESOURCES

Comprehensive support of the human resources program consists of, at a minimum, a table of organization, position descriptions, succession planning, a disciplinary action program, an effective training program, as well as a comprehensive safety program, which includes a written safety policy, safety officer, and standardized reporting forms.

Elements of a human resources support function are as follows:

- A table of organization to show the structure of a utility and lines of authority.
- Position descriptions to act as a guide.
- Succession planning for sustainability of utility work force.
- Administering disciplinary actions in a timely manner.
- Appropriate certification requirements.
- Technical training for continued growth of staff.
- Skills training to address managerial requirements of all supervisory positions.
- Compensation comparable to regional and industry standards.
- Confined space entry (CSE), entry procedure and permit system.
- General safety procedures to include personal sanitation, CPR, first aid, lifting techniques, slips and falls, personal protective equipment (PPE), and defensive driving.
- Traffic management to include standard traffic management procedures, scheduling work during non-peak hours, and coordination with emergency services utilities (i.e. fire and law enforcement).
- Lock-out/tag-out procedure to include permit system, equipment marking, lock out tag with information defining the only person responsible for tag removal.
- Safety equipment to include but not limited to tripod and hoist, atmospheric testing equipment, self-contained breathing apparatus (SCBA), personal protective equipment, lights and barricades, and air supply equipment.
- Trenching and shoring to include general trenching and shoring procedures used during underground construction.
- Performance measures to include records to management information system, workman's compensation claims, lost time, and injuries.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Human Resources - Table of Organization	An up-to-date table of organization exists.	There is no up-to-date-organization table.
Human Resources - Position Descriptions	An up-to-date set of descriptions exists.	The position titles need to be updated.
Human Resources – Succession Planning	Human resources supports a succession planning policy.	There is no policy is place. Several critical retirements are pending that will impact customer service and institutional knowledge.

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Human Resources – Disciplinary Actions	Human resources supports an effective disciplinary program.	The disciplinary procedures are defined, but not implemented.
Human Resources – Certification and License Requirements	Certifications that are required by job description are maintained.	A commercial drivers license (CDL) is required for foreman, auto mechanic and motor equipment operator titles. There are no other certifications required.
Human Resources - Training - Technical	Training is available and/or conducted.	Most of the technical training received is on-the-job training. SOPs are needed for equipment and tasks.
Human Resources - Training - Skills	Training is available and/or conducted to address a multitude of effective business practices.	The training provided for collection personnel is minimal.
Human Resources – Compensation	Compensation of sewer workers is comparable to regional and industry standards.	The compensation seems adequate. There is a reasonable candidate pool for job openings.
Human Resources - Safety Program - Safety Authority	A safety authority exists.	The City Safety Committee reviews all accidents. There is no policy if you violate safety committee. Limited short training sessions are provided. All training is tracked.
Human Resources - Safety Program - Confined Space Entry (CSE)	A confined space entry program exists and a confined space entry procedure is in place and followed according to standard operating procedures.	No confined space entry is allowed. The pump station personnel have received confined space training. Not all collections people have received this training.
Human Resources - Safety Program - General Safety Procedures	General safety procedures exist and are followed according to standard operating procedures.	The program is in place for the pump station. The program needs improvement for collections personnel.
Human Resources - Safety Program - Traffic Management	There is a traffic management safety program that is followed according to standard operating procedures.	There is no traffic management safety program in place.
Human Resources - Safety Program - Lock Out, Tag Out	An SOP exists and is followed.	A lock out tag out program is in place for pump station personnel. The SOP must be implemented for collections personnel.
Human Resources - Safety Program - Safety Equipment	The utility has the necessary safety equipment to perform all job functions.	There is limited safety equipment available to collections staff. Boots, gloves, hard hat, and goggles provided. The gas meter and tripod are maintained by the

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
		Fire Department.
Human Resources - Safety Program - Performance Measures	Performance measures are in place such as tracking lost time accidents and the number of workman's compensation cases.	There is an awareness of the accident rate but no performance measures are in place.
Human Resources - Workman's Compensation	There is a downward trend in the number of lost time accidents.	The workman's compensation rate is decreasing. Short term disability has increased. Management is actively monitoring.

ADMINISTRATIVE SUPPORT FUNCTION – PROCUREMENT

Procurement is a support service that has a direct impact on the ability of the field staff (and others) to efficiently perform their jobs. Business practices that hinder the ability of staff to perform efficiently can have an impact on regulatory compliance. A comprehensive procurement program for equipment, tools, spare parts, and supplies consists of, at a minimum, a procurement policy and procurement officer.

Elements of an equipment, spare parts, supplies, services and tool procurement policy are as follows:

- Procurement request process.
- A system to track equipment, tools, spare parts, and supplies.
- A procurement review process.
- The procurement process provides for performance based equipment specifications rather than low bid on capital projects leading to high quality equipment and/or standardization of assets.
- A process for procurement of "single source" for proprietary equipment, as well as commonly purchased materials and supplies.
- Cost criteria for purchase authority at various levels.
- Criteria for the number of quotes required for commonly procured items and single source items.
- A process for procuring high priority maintenance items in a timely fashion.
- A procedure for procurement under emergency conditions.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Vehicle Purchase and Repair	There is a process in place to facilitate vehicle purchase and repair.	There is a process in place for vehicle purchase. Routine repairs are done by DPW.
Equipment Purchase and Repair	There is a process in place to facilitate equipment purchase and repair.	The equipment purchase and repair process seems to be working.
Tools Purchase and Inventory	There is a process or program in place to facilitate purchasing of tools, which includes the criteria used for purchase. The whereabouts of the tools are tracked.	In general, adequate tools are available for all workers.
Spare Parts Purchase and Inventory	There is a process or program in place to facilitate spare parts purchasing, which includes the criteria used for purchase. The whereabouts of the spare parts are tracked.	There are adequate spare parts on hand and replaced as used.
Supplies Purchase and Inventory	There is a process or program in place to facilitate purchasing supplies, which includes the criteria used for purchase. The whereabouts of the supplies are tracked.	There are adequate supplies parts on hand and replaced as used.

ADMINISTRATIVE SUPPORT FUNCTION – FINANCIAL

A comprehensive financial administration program consists of at a minimum; a budgeting process, periodic rate analysis, a CIP, an accounting of operation and maintenance, life-cycle cost analysis, and insurance.

Elements of a financial administration program are as follows:

- A budgeting process to include input from all sections within the utility.
- A routinely performed rate analysis.
- Cost of management, operation and maintenance to include previous year's expenditures, projected labor and equipment, support of non-core municipal functions and contracted services.
- Capital improvement plan funding to include a minimum five year planning horizon, how much spent in the preceding five years, how much to be spent during the next five years and the level of current indebtedness.
- Life-cycle cost analysis should include analysis for infrastructure and analysis for equipment.
- Insurance as an indicator of the utility's ability to manage, operate and maintain its assets.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Budgeting	Various individuals have input into the budgeting process.	The Director and Wastewater Superintendent develop budget with feed back from staff.
Rate Analysis	Rate analysis is performed regularly.	Rate analysis is done regularly.
Cost of Operation	Previous years' expenditures are taken into account.	The previous years' expenditures are taken into account.
Cost of Maintenance	Previous years' expenditures are taken into account.	The previous years' expenditures are taken into account.
Capital Improvement Plan	There is a CIP that extends 5 or more years into the future.	The infrastructure replacement CIP is driven by road and utility work. There is a need to evaluate all utilities.
Cost of Management	Previous years' expenditures are taken into account.	The previous years' expenditures are taken into account.
Life Cycle Cost Analysis	Life cycle cost analysis is performed.	A life cycle cost analysis is considered.
Insurance	The utility is self-insured.	The city is not self insured. This does not hinder operation. Frequency of blockage's has been reduced.

ADMINISTRATIVE SUPPORT FUNCTION – CUSTOMER SERVICE

A comprehensive customer service program consists of, at a minimum, a process for complaint management, administrative support to staff, public information dissemination, and public education.

Elements of a customer service program are as follows:

- A complaint management program should include components such as standard forms and codes, customer follow-up, and a central location for complaint records.
- A public information program should keep the public informed and aware of the utility's activities, e.g. smoke testing, major construction and notify them about the maintenance to be performed.
- A public education program should be well defined, documented and include public meetings, as well as flyers, or bill inserts to educate the public. A regularly scheduled facility tour for any interested citizens also works well in keeping the public informed about the utility's mission and operation.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Complaint Management	Complaints are prioritized and/or categorized.	There is an effective but undocumented complaint management program in place. The city is taking steps to document the process.
Public Information	Staff is knowledgeable and able to inform the public on issues that arise.	The staff is knowledgeable but could be more proactive in getting information out to the public.
Public Education	Staff is knowledgeable and able to educate the public on issues that arise.	Public education opportunities need to be explored.

NON-CORE BUSINESS FUNCTIONS

Any activity not dedicated to the collection and conveyance of wastewater is considered a non-core function. These activities should be tracked and documented to help establish expenditures of the core business.

Effective Practices

Business Process Area	Business Practice Characteristics	Finding of the Readiness Review
Storm Drainage	The highway department staff performs O&M on the storm drainage system without disrupting delivery of sewer services.	Staff performs O&M on the storm drainage system and the time is documented.
Streets and Highways	The highway staff is required to plow snow, pave streets & highways, but without disrupting delivery of sewer services.	Staff is required to plow snow, etc and the time is documented.
Parks and Recreation	The staff is required to pick up leaves, etc., in addition to their normal job function, but without disrupting delivery of sewer services.	Staff is required to pick up leaves, etc. and the time is documented.
Water Treatment and Distribution	The staff is required to operate the water system and maintain the water distribution system in addition to their normal job function, but without disrupting delivery of sewer services.	The time is documented.