Wastewater and Stormwater Asset Management Program

Exeter, New Hampshire

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Prepared by:

UNDERWOOD engineers

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1. Asset Management Program Overview

1.1. Introduction

The purpose of this report is to summarize the wastewater and stormwater asset management program (AMP) for the Town of Exeter. The AMP was funded by a $60,000 Clean Water State Revolving Fund (CWSRF) loan with principal forgiveness from the New Hampshire Department of Environmental Services (NHDES). The work was completed by Underwood Engineers (UE). The following tasks were completed as part of the AMP:

- Update and expand the Town's sanitary sewer inventory files.
- Update and expand the Town's stormwater inventory files.
- Create an ArcGIS-based system that allows the Town to integrate various sources of data to allow more efficient planning and analysis.
- Assemble and organize information from multiple data sources.
- Develop an asset replacement schedule to serve as a template for capital improvement planning.

The Town owns and operates nearly forty-seven (47) miles of gravity collection mains, over four (4) miles of force main and 1,166 sewer structures. Some sections of the system are thought to have been built in the early 1900's.

Town-owned stormwater system assets include thirty-three (33) miles of stormwater pipe and 2,491 structures of various types.

The framework of this AMP includes the following core components.

- Vision Statement
- Asset Inventory and Condition Assessment
    - What sewer and stormwater assets is the Town responsible for maintaining?
    - Which are able to serve their purpose? Which are not?
    - What is their condition?
- Level of Service (LOS)
    - What are the Town's goals in operating and maintaining the system?
    - Goals should be specific, measurable, attainable, realistic, timely (SMART).
    - Goals should be periodically evaluated and re-evaluated.
- Criticality
    - Prioritize assets by their probability of failure versus their impact of failure.
- Minimum Life Cycle Cost (Practices)
    - Estimate costs needed to properly inspect and repair assets in order to maintain the desired LOS.
- Long-Term Funding Strategy (Budget)
    - Schedule estimated replacement costs out over the life of the assets.

- Implementation and Communication Plan
    - Data collection
    - Planning tools
    - Management reporting
- Recommendations and next Steps

1.2. Prior Asset Management Efforts

The Town has been building its asset management program for some time. Those efforts include:

- A water distribution system asset management program was completed for the Town by Tata & Howard in 2015.
- A water asset management program for the Town's vertical water system assets was completed by Underwood Engineers in May 2020.
- An asset management program for the recently completed wastewater treatment facility was completed by Wright-Pierce in July 2020.
- The Town implemented a work order management system by PeopleGIS in 2012 to track maintenance tasks completed for water, wastewater and stormwater system assets.
- The Town has recently upgraded its PeopleGIS work order management system to include an asset management module.
- The Town purchased a CCTV camera system to perform in-house inspections on wastewater and stormwater pipe in 2012. The inspection software is called Granite XP.

1.3. Vision Statement

The Town has made several key investments in data collection and processing in order to manage its underground utilities more effectively. At this point in time, the critical task is to integrate the various data sources and use them to streamline reporting and decision-making.

For instance, the Town has collected a lot of data on the sediment in its stormwater collection structures. This information needs to be included in periodic reports. However, the information collected is not readily usable for this purpose in its current form. A similar situation exists for the in-house CCTV inspections of the gravity mains. The information is collected and stored within the CCTV inspection software, and is not readily available in a sharable format.

"Integrate data sources and leverage available information in order to coordinate and streamline reporting and decision-making to optimize system performance."

1.4. Source Data

The Town provided Underwood Engineers (UE) with a tremendous amount of material to begin work on the wastewater and stormwater asset management program. Over 5,000 files were provided, including GIS files, work order system exports, record drawings, tie sheets, and other documents. UE also included information from the Capacity Management Operations and Maintenance Program Document, which was completed for the Town in 2018. A summary list of this information is provided below.

Record drawings

- Tie Sheets
- Wastewater System GIS Files
- Stormwater System GIS Files
- Granite XP Export
- PeopleGIS Work Order System Export - Wastewater
- PeopleGISWork Order System Export - Stormwater
- PeopleGIS Wastewater Files

Using the information provided, UE created the following files:

- Record Drawing ArcGIS File
- Wastewater Inventory Files
- Wastewater Maintenance Files – historical information
- Wastewater Financial Planning Files
- Stormwater Inventory Files
- Stormwater Maintenance Files – historical information
- Stormwater Financial Planning Files

1.5. Record Drawing ArcGIS File

The Town's existing ArcGIS files had been assembled by collecting the locations of structures in the field and then mapping the pipes. This process had been partially completed when the wastewater and stormwater asset management program began.

The wastewater and stormwater systems are somewhat complex because they began as a combined system and several separation projects had been completed over the years, along with numerous improvements and extensions. UE organized and mapped the record drawings provided in order to gain additional insight into the history of the system; collect as much information as possible on the age and material of the components; and, if necessary, to revise the layout. The resulting ArcGIS file includes links to pdf versions of the record drawings.

Several edits were made to the wastewater system map to fill in missing data or to account for revisions in the system. Two examples are provided in **Figures 1 and 2** below. Figure 1 is a close-up of the Water Street area southeast of the Duck Pond. **Figure 2** is a close-up of the abandoned pump station in the Meadowood Drive area.

Figure 1. Added Gravity Mains – Water Street Area

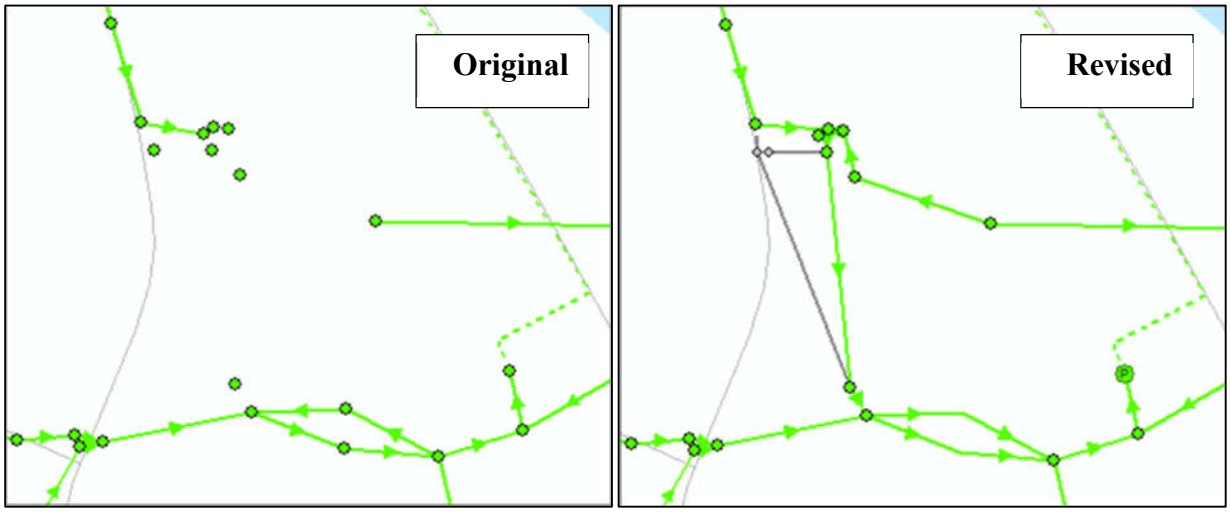
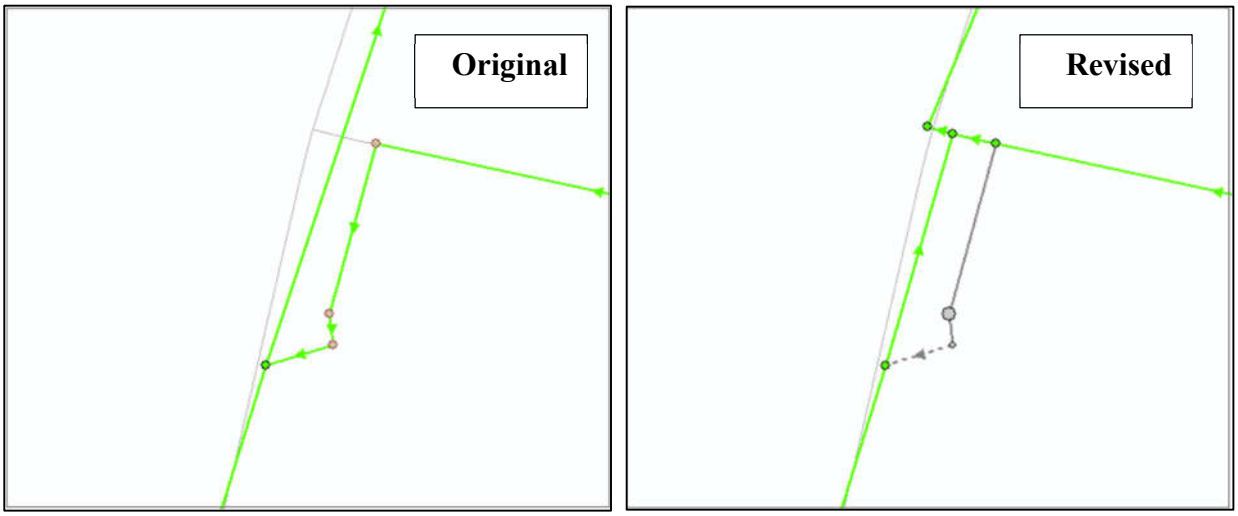
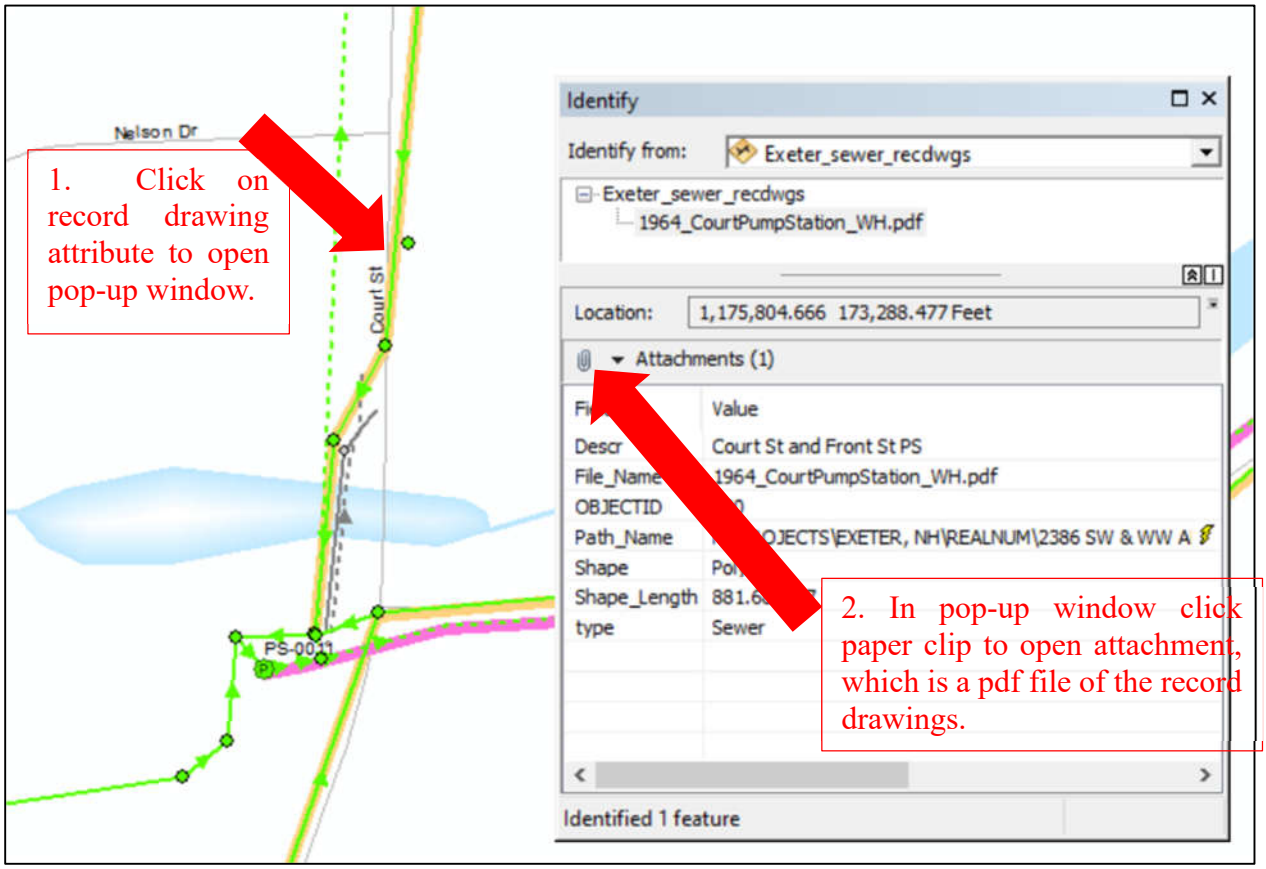


Figure 2. Revised Piping Due to Abandoned Pumping Station – Meadowood Drive



As many record drawings as possible where assembled into an ArcGIS file with attachments. A snapshot is provided as an example in **Figure 3**.

Figure 3. Record Drawing file



1.6. Wastewater ArcGIS Files

1.6.1. Wastewater Inventory Files

Both the wastewater and stormwater system inventory files expanded upon the original ArcGIS files provided by the Town. One of the major issues with the wastewater files was the lack of a unique identification number for each asset. As UE worked on the asset management program, PeopleGIS was also implementing the asset management module purchased by the Town. UE compared its files with those of PeopleGIS. The asset identifiers provided by PeopleGIS were adopted wherever possible. When duplicated numbers were found, UE assigned a unique one. A field for UE's asset identifiers was added to the PeopleGIS files so that the two can be cross-referenced. This allows for UE files to be easily integrated into the PeopleGIS system.

Details regarding file data structure have been provided in **Appendix A-1**, and a list of inventory files is provided in **Table 1** below.

Table 1. Wastewater Inventory Files

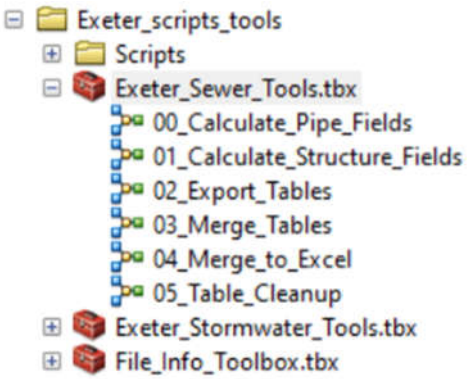
File Name
ForceMains
ForceMains_abandoned
GravityMains
GravityMains_abandoned
Sewer_Pump_Stations
Sewer_Pump_Stations_abandoned
SewerStructures
SewerStructures_abandoned

There were some assets in the original files which appear to have been abandoned. Rather than deleting these records, UE transferred them to a new file. They can still be deployed on the map, but they are not included in the inventory.

The Town frequently provides the wastewater files to consultants for modeling of the sanitary sewer system. In order to facilitate that type of work in the future, UE checked the flow direction of each pipe. Upstream and downstream structure asset identification numbers were matched to each pipe. Each pipe bearing was calculated and joined to the structure file to help workers identify the correct invert in the field. The invert fields in the original file were identified with a letter and populated with invert elevations. These fields have been left in place to preserve the data. As invert information is field verified and collected, the invert elevations can be matched to the correct pipe invert.

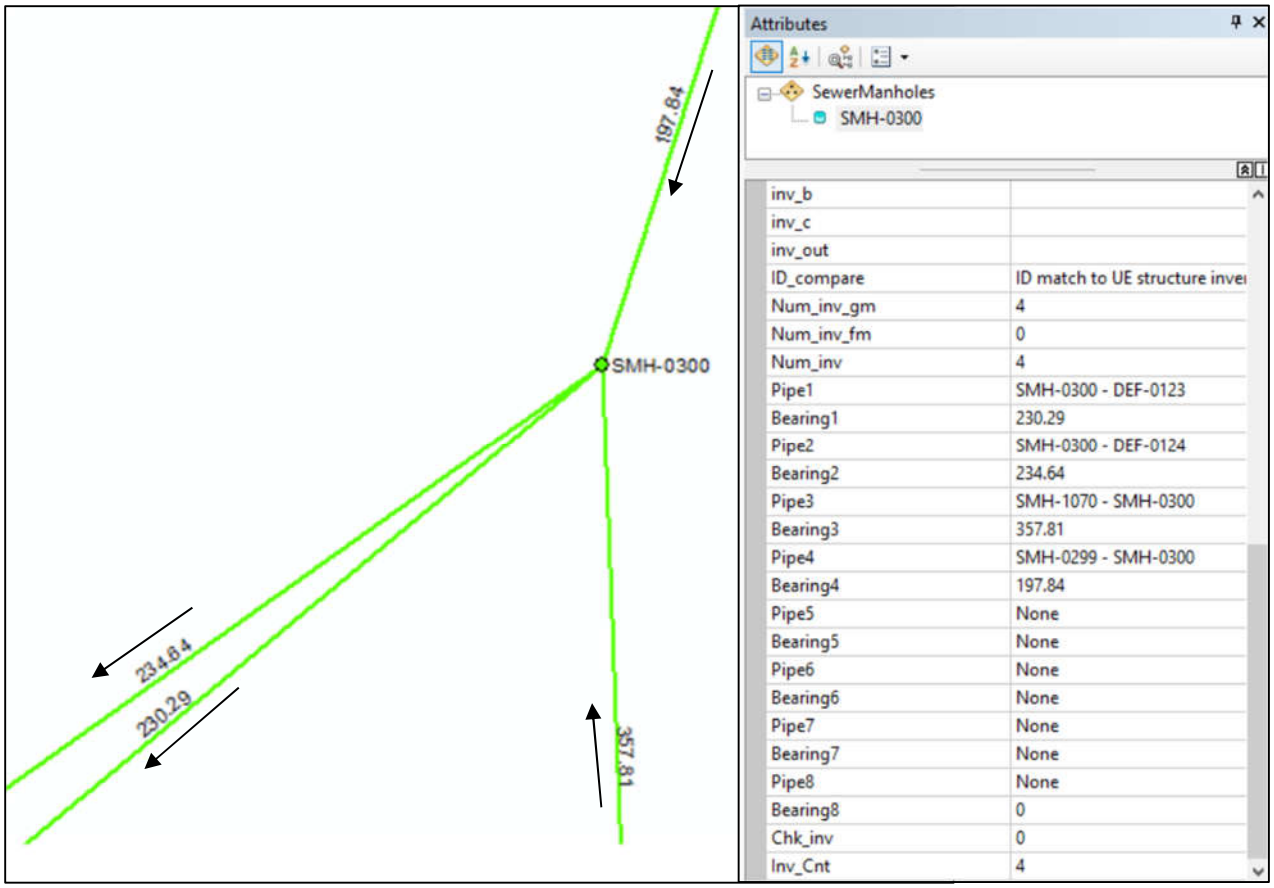
As mentioned above, several fields in the inventory files were calculated. Fields in an ArcGIS attribute table are not automatically re-calculated as they are in an Excel spreadsheet. Rather, a series of tools have been created to re-calculate attribute fields. These tools are summarized in **Figure 4** below.

Figure 4. Sewer Toolbox



An example is shown in **Figure 5**. Structure SMH-300 has four inverts, according to the updated GIS map. The inverts are included in the structure attribute table and are identified with the pipe's bearing and unique asset number.

Figure 5. Identify Invert by Compass Direction



1.6.2. Wastewater Maintenance Files

There are two main sources of wastewater system maintenance information maintained by the Town. One is the PeopleForms work order files. The other are exports from the Town's CCTV inspection software, Granit XP. UE also imported information from the Town's Capacity, Management, Operation and Maintenance (CMOM) Plan.

PeopleForms and PeopleGIS Asset Management Module

The Town provided two sets of work order files in Excel format. They were exported from the Town's existing PeopleForms work order system. The Town is in the process of upgrading from PeopleForms to an asset management module developed by PeopleGIS.

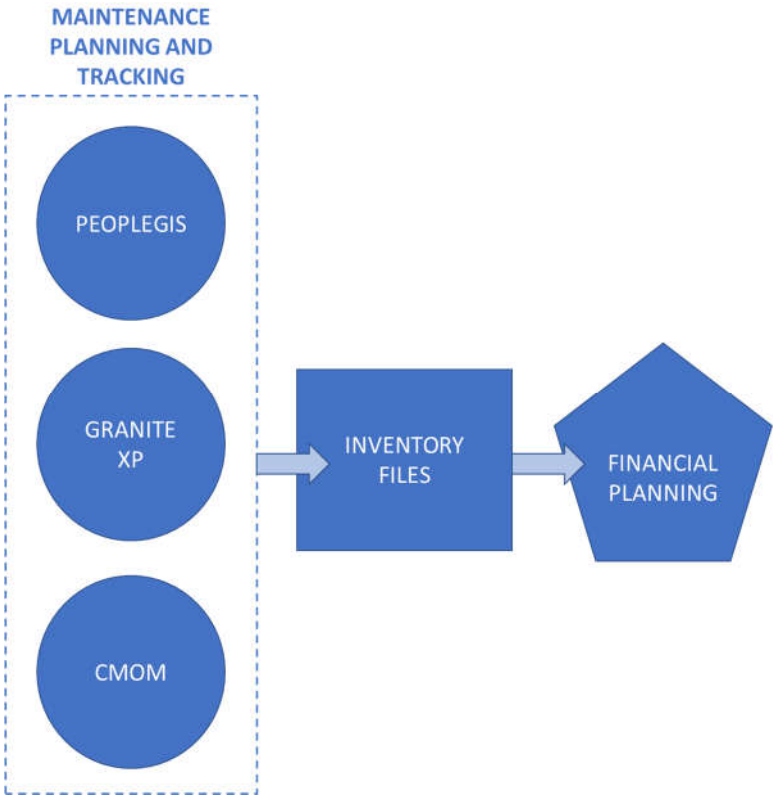
The PeopleForms exports provided a detailed list of tasks assigned between November 2012 and June 2019. The tasks do not reference specific asset identification numbers, but they do include asset descriptions and locations by street address and xy coordinates. Sixty-six of the work orders were categorized as sewer collection system work. UE could not link to mapped assets to the task order entries because there wasn't enough information to make a precise match between the work order item and the affected asset. A training video has been provided to demonstrate how to check for and correct duplicate asset identifiers. See 1.12.

Examples of tasks that affect the inventory file would include the following:

- A replacement or lining would affect the year installed, material, useful life, condition score, probability of failure score, remaining useful life, and replacement year.
- An inspection might affect the condition score.
- A repair might affect the condition score and could extend the useful life of the asset, which in turn would change the remaining useful life and replacement year.

A detailed flow chart demonstrating how information from the maintenance files would affect the inventory files and financial planning files is provided in **Appendix A-3** and a simplified version is provided in **Figure 6**.

Figure 6. Simplified Information Flow Chart - Sewer

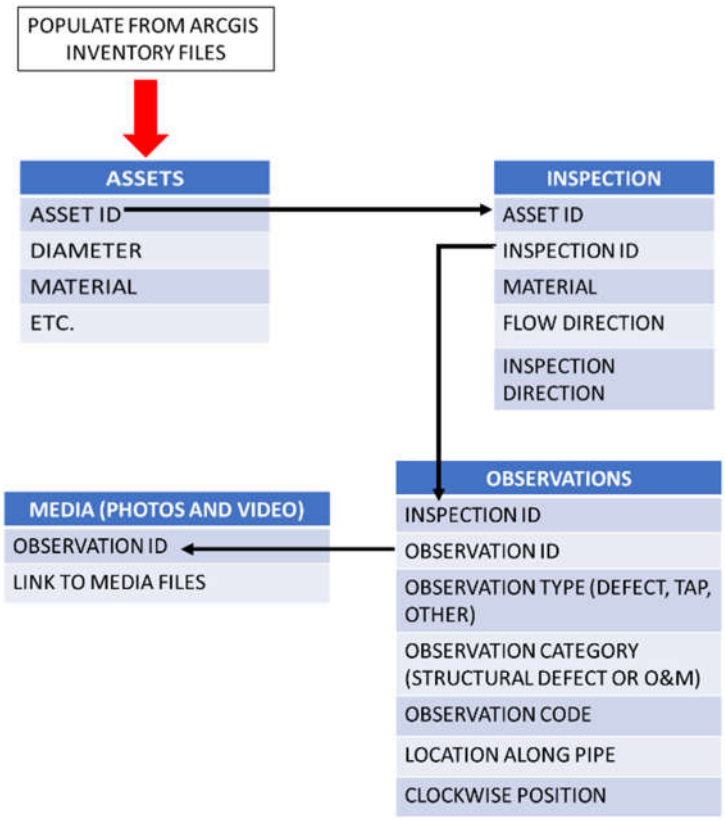


If the new PeopleGIS asset management and work order module uses the same asset identifiers as the ArcGIS inventory files, it will allow for each maintained asset to be easily and precisely identified. Passing or sharing other parameters, such as the xy coordinates or street address of the asset would be beneficial as well.

Granite XP Pipe Inspection Software

The Town purchased a CCTV inspection camera in order to inspect gravity mains in accordance with its CMOM plan. The data from these inspections is captured in the Granite XP program. UE exported tables from Granite XP, and while the table relationships were not preserved in that download, it appears that the file structure is similar to other CCTV inspection exports provided by CCTV inspection contractors. A simplified relationship diagram is shown in **Figure 7**.

Figure 7. General CCTV Data Set-Up



If the "Asset" table is populated using the ArcGIS inventory files, there will be an exact match between asset identifiers – meaning that the inspection findings can easily be linked to the correct gravity main and mapped. For example, if a CCTV inspection project turns up several pipes in Town that need to be lined, this information can be exported to a shape file and easily shared with a lining contractor.

The Town's sanitary sewer system began as a combined sewer system in the early 1900's. There was a large expansion of the system in the 1960's. Subsequent to that, the Town undertook several sewer and stormwater separation projects. Identifying and correcting interconnections between the sanitary sewer system and the stormwater system in privately-owned facilities is an ongoing concern. One benefit of the CCTV inspection program is that it can help identify stormwater connections by logging the locations of taps – not only the taps' location along the pipe, but also its clockwise location on the pipe.

CMOM Plan Update

UE completed a CMOM Plan update for the Town in June 2018. Relevant information from that effort has been included in this wastewater and stormwater asset management program. That information includes the following:

- Mapped grease traps listed in Table 9 of the CMOM document.
- Mapped high maintenance gravity mains listed in Table 6 of the CMOM document.
- Imported wastewater collection basins from AutoCAD into ArcGIS, and further divided them into sub-basins.
- Reversed condition scoring shown in Tables 7 and 8 of the CMOM document to better align with NASSCO. Most severe defects are given the highest score. Minor defects are given the lowest.

A copy of the CMOM Plan may be found at this link: http://gofile.me/2RfIJ/erNVSte0j

1.7. Stormwater ArcGIS Files

1.7.1. Stormwater Inventory Files

The stormwater structure files also lacked a unique identification number for each asset. UE assigned unique identifiers by selecting those structures with duplicate identifiers or that lacked an identifier; and numbered them sequentially starting at 6000. The Town's original numbering system stopped in the 5000 range. The Town assigned letter prefixes associated with each type of stormwater structure asset. UE incorporated this existing system.

Stormwater pipes were assigned a prefix of "STW" in the Town's source file. However, this duplicates a prefix also found in the structure inventory. UE changed the stormwater pipe prefix from "STW" to "SWP" to distinguish between the two and avoid duplicates. The Town's file contained stormwater pipe owned by Phillips Exeter Academy, but no stormwater structures. These were assigned a prefix of "PEA". Approximately 300 stormwater pipes lacked identification numbers. Most of these are noted as privately-owned. UE supplied unique identifiers by numbering sequentially from 6000.

Prefixes and associated asset types are shown in **Table 2** below.

Table 2. Stormwater Asset Types and Prefixes

Prefix	Stormwater Asset Type
SWP	Stormwater Pipe
PEA	Stormwater Pipe owned by Phillips Exeter Academy
CB	Catch Basin
STW	Clean-out Foundation Drain Other (stormwater treatment system, plug/cap) Outfall Pipe End Inlet Pipe End Outlet Roof Drain Vortechs
DMH	Drain Manhole
CLPD **DBBK** **EXRV** **INT** **LTRV** **NRBK** **OF** **PKBK** **SQRV** **STW** **TLRV** **UNBK** **UNCLPD** **UNEXRV** **WWCK** **WWEXRS**	Outfall
OCS	Outlet Control
YD	Yard Drain

UE also noted stormwater assets in the stormwater pipe file that appeared to be stormwater management systems or large structures, rather than pipes. These were deleted from the stormwater pipe file and relocated to a new inventory file named "Exeter_Stormwater_Management_Systems". In addition, several pipes had been noted as "abandoned" in the "comments" field. These were saved to "Exeter_SW_Pipes_abandoned".

Detailed field maps have been provided in **Appendix A-2**, and a list of inventory files is provided in **Table 3** below.

Table 3. Stormwater Inventory Files

File Name
Exeter_SW_Pipes
Exeter_SW_Pipes_abandoned
Exeter_SW_Structures*
Exeter_SW_Systems
Exeter_SW_Systems_abandoned

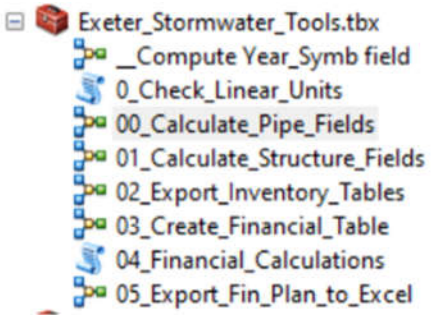
*Structures include catch basins, drainage manholes, foundation drains, roof drains, pipe inlets, pipe outlets, outfalls, and other structure types identified by the Town.

As was the case with the wastewater files, there were some stormwater assets in the original files which appear to have been abandoned. Rather than deleting these records, UE transferred them to a new file. They can still be deployed on the map, but they are not included in the inventory.

The flow direction of stormwater pipes are not always as clear as they are with sewer pipe. UE matched structure asset identification numbers to each stormwater pipe. However, the fields refer to "Structure 1" and "Structure 2" rather than "upstream structure" and "downstream structure". Each pipe bearing was calculated and joined to the structure file to help workers identify the correct invert in the field. The invert fields in the original file were identified with a letter and populated with invert elevations. These fields have been left in place to preserve the data. As invert information is field verified and collected, the pipe information can be matched to the correct invert.

As mentioned above, several fields in the inventory files are calculated. Fields in an ArcGIS attribute table are not automatically re-calculated as they are in an Excel spreadsheet. Rather, a series of tools have been created to re-calculate attribute fields. These tools are similar to those provided for the sewer system and are summarized in **Figure 8** below.

Figure 8. Stormwater Toolbox



1.7.2. Stormwater Maintenance Files

There is currently one source of stormwater maintenance information. These are PeopleForms work order files completed in 2017 and 2018 for stormwater structure inspections. The PeopleGIS asset management module has not been purchased to manage stormwater facilities. Stormwater files have been set up in ArcGIS and can be integrated with PeopleGIS at a later time. In the future, the Town plans to use its CCTV inspection software, Granit XP, to inspect stormwater pipes. The Town uses pavement evaluation software, PAVER, to identify roads which need upgrade and repair. Stormwater assets located on roads scheduled for improvements will be inspected to determine if they need to be replaced or repaired as well.

PeopleForms

The Town provided two sets of work order files in Excel format. They were exported from the Town's existing PeopleForms work order system. The files provide 460 stormwater structure inspection results from 2017 and 2018. Not all of the 460 inspection records could be associated with a particular stormwater structure in the inventory file. However, nearly all could be associated with a street address. UE used the ArcGIS geolocating tool to first map as many records as possible to the street addresses provided. Those that could be matched by a structure identification number were then snapped to the corresponding structure.

As with the sewer system, inspection and maintenance activities will affect the stormwater inventory files. Examples of tasks that affect the inventory file would include the following:

- A replacement or lining would affect the year installed, material, useful life, condition score, probability of failure score, remaining useful life, and replacement year.
- An inspection might affect the condition score.
- A repair might affect the condition score and could extend the useful life of the asset, which in turn would change the remaining useful life and replacement year.

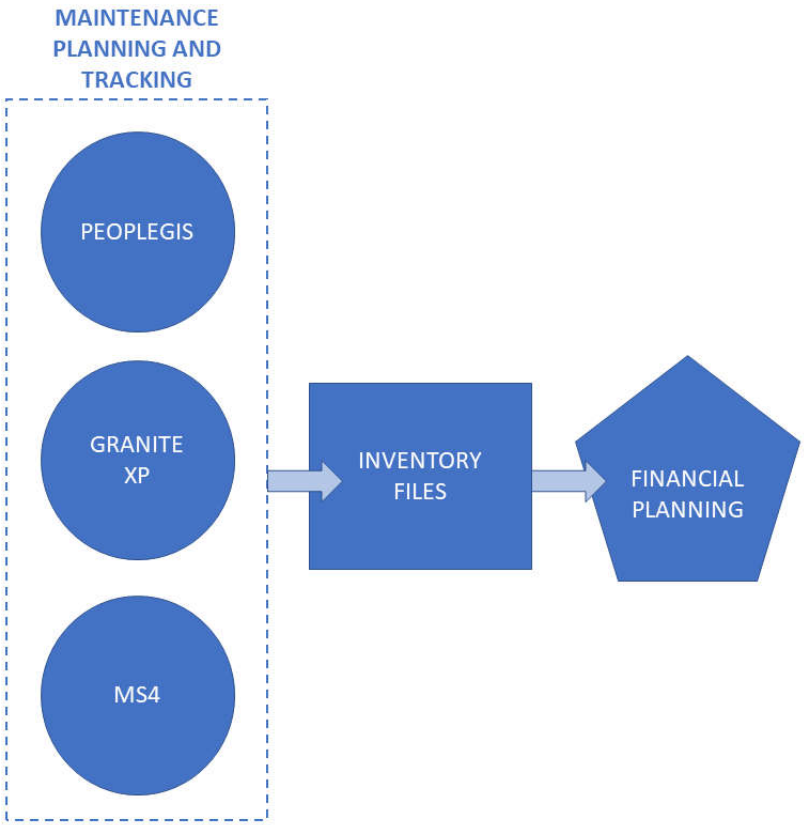
If CCTV inspections are conducted on a number of stormwater pipes, and condition scores are assigned, that information can be exported from Granit XP to Access or Excel. The new condition scores can then be joined to the inventory file in ArcGIS using the "Join Field" tool.

The Town must provide an annual self-assessment to comply with NH Small MS4 General Permit requirements (permit no. NHR041007). This assessment includes updates on public outreach and, stormwater system mapping, inspection, and maintenance activities. Additional information may be found on the Town's website at the following link:

https://www.exeternh.gov/publicworks/stormwater

A detailed flow chart demonstrating how information from the maintenance files would affect the inventory files and financial planning files is provided in **Appendix A-3** and a simplified version is provided in **Figure 9** below.

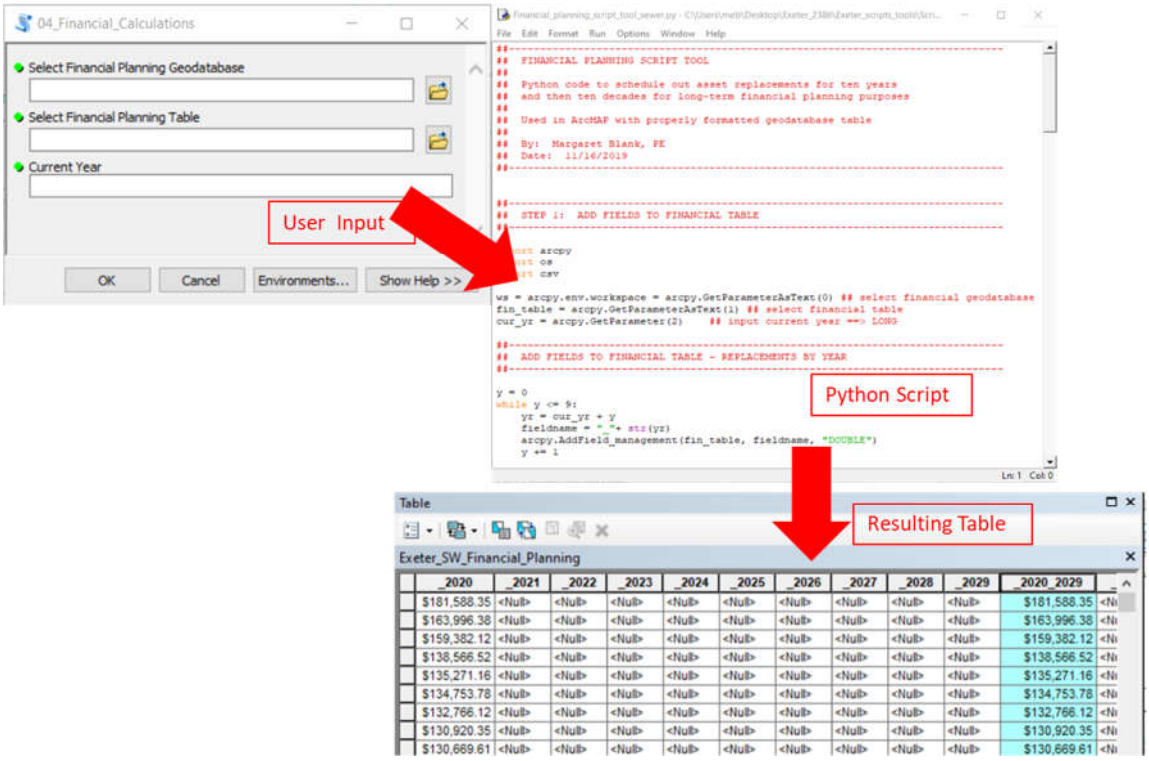
Figure 9. Simplified Information Flow Chart – Stormwater



1.8. Financial Planning Files

The inventory files for sewer and stormwater can be updated and revised in accordance with the maintenance files and the financial planning files are updated and revised in accordance with the inventory files. Each of the inventory files have certain fields in common that serve as the basis for the financial planning files. Information from the various inventory files is exported to a common financial table, and that information is used to schedule out asset renewals for ten years and ten decades using a Python script tool. The result is exported to an Excel spreadsheet where the information can be summarized in various ways using pivot tables. The general process is shown in **Figure 10**.

Figure 10. Example of Python Script Tool



1.9. Level of Service Goals

The Level of Service (LOS) provides specific goals for the operation, maintenance, and performance of sanitary sewer collection and stormwater system assets. The first step in formulating the LOS was to identify potential goals during the Asset Inventory and Condition Assessment process. LOS workshops were held in January and March of 2019. At those meetings, Wright-Pierce provided a sample LOS matrix for the sanitary sewer system and UE provided one for the stormwater system. With extensive input and direction from Town staff, UE combined and revised the two separate LOS matrices into a single one for the wastewater and stormwater asset management program.

The LOS Matrix includes a combined section for data integration. The Town has been and would like to continue, combining utility upgrades with roadway and drainage improvements. The data integration goals will allow them to do this more efficiently.

The LOS Matrix can be found in **Appendix A-4**. An electronic version of this document will be delivered to the Town so that it can be updated on annual, or more frequent basis.

Many of the goals listed in the LOS Matrix are items that the Town has already identified. Goals added or refined as a product of the AMP are provided below.

- Data integration
    - Assign unique asset identification numbers so that assets can be tracked across platforms.
    - Create a common "landing spot" for data.
    - Enhance coordination between departments.
- Wastewater and Stormwater
    - Use information collected from PeopleGIS/PeopleForms and Granite XP to update asset inventory files in ArcGIS. Most frequent update will be condition information.
    - Create and enhance mechanisms for integrating capital projects.

1.10. Critical Assets and Priority Projects

In order to allocate scarce financial and physical resources in the most efficient possible way, it is necessary to systematically prioritize projects. For the purposes of this AMP, assets will be ranked by their criticality. Criticality is defined as probability of failure versus impact of failure.

1.10.1. Probability of Failure

The probability of failure is based on numerous factors, including age, material, performance and, most importantly, condition. The Town has collected a substantial amount of information on the condition of its stormwater and sewer collection system assets. In situations where condition information was not available, the probability of failure was surmised based on the age and material of the asset. While age is a contributing factor in most asset failures, it is not always the main factor. Therefore, it is important to routinely collect information on asset condition, and monitor asset capacity.

Probability of failure was assigned to each asset in accordance with the following scale.

1. Very low probability of failure: Asset is in excellent condition and extremely reliable. No known defects, capacity issues, or recurring maintenance issues.
2. Low probability of failure: Asset is in good condition, sporadic are failures possible. Minor defects or recurring maintenance issues. No known capacity issues.
3. Moderate probability of failure: Asset is in fair condition with moderate defects or recurring maintenance issues noted. May require more frequent monitoring.
4. High probability of failure: Asset is in poor condition with significant defects, or has serious recurring maintenance issues, or is lacking in capacity. Repair or replacement should be scheduled within a year or two.
5. Very high probability of failure: Asset is likely to fail or has failed to meet performance requirements. Repair or replacement should be scheduled as soon as possible, preferably within one year.

1.10.2. Impact of Failure

The impact of failure is determined by the severity of the possible consequences of an asset failure. A failure that might affect the environment or public health and safety would have a very high

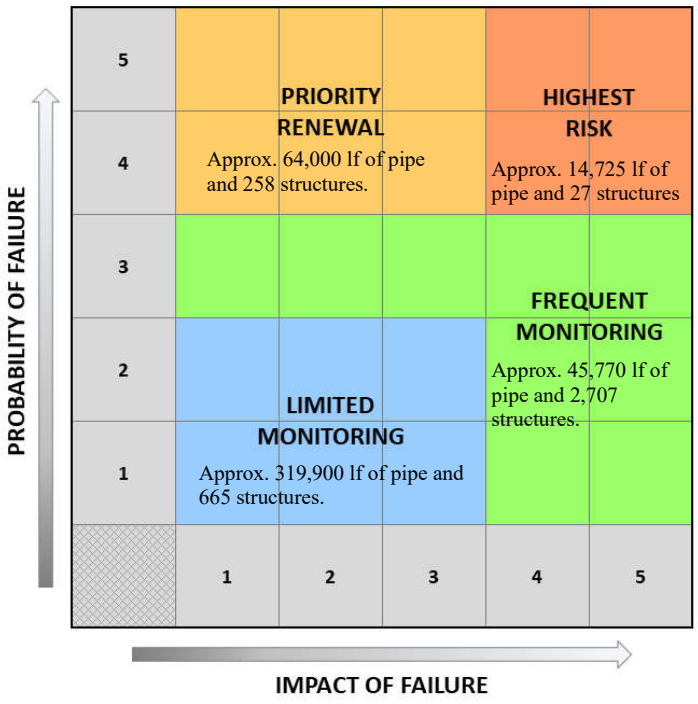
impact. A failure that would affect a large number of customers, or a critical customer such as a school or manufacturing facility, would have a high impact. A failure that would cause temporary inconvenience to a few customers would have a low impact.

1. Very low impact of failure: Affects a small number of customers, little to no risk to health and safety, little to no risk of environmental damage, repair not especially difficult or costly.
2. Low impact of failure: Affects a moderate number of customers, little to no risk to health and safety, little to no risk of environmental damage. Repair not especially difficult or costly.
3. Moderate impact: Unlikely to cause environmental damage or affect public health and safety. Has the potential to impact a moderate to large number of customers, or single important customer. Moderately difficult and expensive to repair.
4. High impact: Possible effect on public health and safety and environmental damage. Located in a congested area or on a major roadway. Has the potential to impact a moderate to large number of customers.
5. Very high impact: Probable effect on public health and safety, high potential for environmental damage. Potential impact on a large number of customers or an important customer. Extremely difficult and expensive to repair.

1.10.3. Criticality and Risk Score

As mentioned above the criticality of an asset is defined as its probability of failure versus its impact of failure. See **Figure 11** for a visual representation.

Figure 11. Criticality Matrix



Highest Risk

- High Probability of Failure/Poor Condition (≥ 4)
- High Impact of Failure (≥ 4)

Priority Renewal

- High Probability of Failure/Poor Condition (≥ 4)
- Low Impact of Failure (< 4)

Frequent Monitoring

- Moderate Probability of Failure/Fair Condition (< 4 And ≥ 3)
- High Impact of Failure (≥ 4)

Limited Monitoring

- Low Probability of Failure/Good Condition (< 4)
- Low Impact of Failure (< 4)

The Risk Score is the Probability of Failure multiplied by the Impact of Failure. According to the scale provided in this AMP, the highest risk score possible is 25 and the lowest is 1. The risk score allows the ranking of and prioritization of each asset to assist in project planning and budgeting.

1.11. Communication Plan

This AMP report is one part of the overall communication plan. Stakeholders and a communication schedule were identified in the Vertical Wastewater AMP prepared by Wright-Pierce, which applies to the various components of the overall AMP.

In addition, ArcGIS software expands the Town's communication capabilities in three main ways.

1. Town staff keeps track of maintenance and inspection activities in various ways including:
    a. PeopleGIS Asset Management Module for sewer and water.
    b. PeopleForms for stormwater and sewer and water legacy information.
    c. Granite XP for CCTV inspections of sewer and stormwater piping.
    d. PAVER for pavement evaluations.
2. ArcGIS data can be exported to spreadsheets to be shared with non-ArcGIS users or incorporated with other data. Data from other sources can be exported as shapefiles, tables or spreadsheets and imported into ArcGIS. At a minimum, data coordination should be done annually at the start of budget season.
    a. Review progress on inspection and maintenance items to determine if staffing levels are adequate to perform necessary tasks.
    b. Review inspection and repair information contained in the Activity Logs. Use it to update the inventory files.

3. In addition, maps and presentations can be updated on AGOL and made available to the Public by providing a link to the material or embedding it in the Town's website.

1.12. Training

Five (5) training videos were completed for the Town. These are summarized below and can be found on UE's file distribution site. A link to the training files and other deliverables has been sent by email.

- Use "Join Field" tool to update ArcGIS inventory files with inspection and maintenance information from other sources such as PeopleGIS or Granite XP.
- How to update and export information from ArcGIS to Excel spreadsheets.
    - Update inventory files using calculation tools
    - Schedule out replacements and export to Excel using financial planning tools
    - Use pivot tables in Excel to summarize and share data
- How to identify and correct duplicate asset identifiers.

Additional options for follow-up training and assistance are listed below:

- Courses at https://www.esri.com/training/ (Many are free.)
- Local consultants, including Underwood Engineers

2. Sanitary Sewer System

2.1. Sanitary Sewer System Inventory

This asset management project focused on horizontal sewer system assets, which includes items such as manholes, gravity mains and force mains. Vertical assets, such as pumping stations were excluded from the scope. An AMP was created by Wright-Pierce in July 2020 for the new wastewater treatment facility. Wright-Pierce and UE worked with Town staff to incorporate each component into the overall AMP.

The first gravity collection system was built in the early 1900's. Major expansions and upgrades were completed in the 1960's and included wastewater pumping stations and treatment facilities. Since the 1980's the Town has completed numerous sewer and stormwater separation projects. In addition, the Town has seen rapid development which has increased the demands on the sewer collection system.

A summary table of the estimated full replacement cost of sanitary sewer collection system assets in 2020 dollars is provided below. These costs are averages. For instance, replacement of deep gravity mains in the NHDOT right-of-way will cost more than replacement of relatively shallow gravity mains on a quiet local street.

Table 4. Estimated Replacement Cost of Sewer Collection System Assets

Type	Town	Private	Grand Total
Air Release Manhole	$10,000		$10,000
Diversion Structure	$10,000		$10,000
Force Main	$8,371,862	$4,655,819	$13,027,682
Gravity Main	$92,272,673	$12,395,327	$104,668,000
Manhole	$11,640,000	$2,580,000	$14,220,000
Grand Total	**$112,304,536**	**$19,631,146**	**$131,935,682**

Note: Costs are in 2020 dollars

The replacement value of Town-owned sanitary sewer collection system assets is estimated to be approximately $112.3 million dollars. A visual representation is provided in **Figure 12**.
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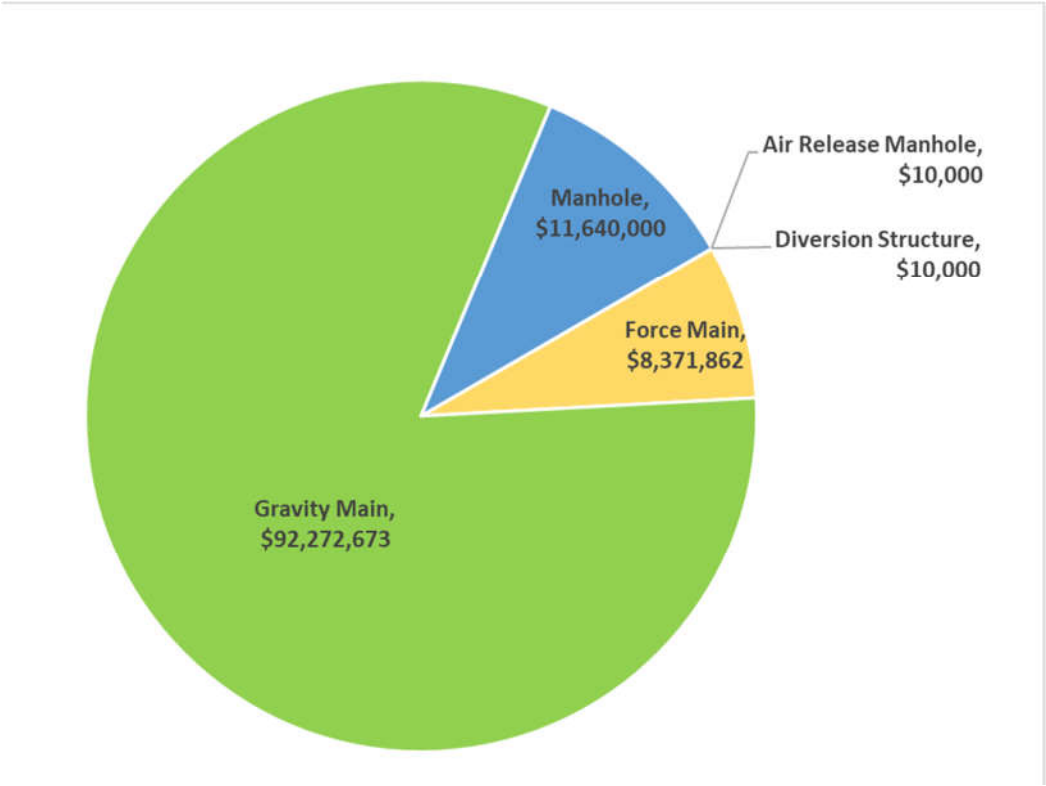
Figure 12. Estimated Replacement Value of Town-Owned Sanitary Sewer Assets



Note: Costs are in 2020 dollars. **Total = $112,304,536**

2.2. Condition Assessment

The Town has collected condition assessment information on sanitary sewer structures and gravity mains. However, matching inspection and repair records to specific assets is not a straightforward matter. To streamline and simplify this aspect of the Town's asset management program, UE has expanded upon the Town's existing asset numbering system and has eliminated any duplicate asset identification numbers.

It would also be helpful to have a numeric condition scoring system in place that helps to prioritize assets and guide decision-making. The National Association of Sewer Service Companies (NASSCO) system is widely used. NASSCO provides a scoring system for gravity mains (PACP), sewer structures (MACP) and laterals (LACP).

2.3. Level of Service

2.3.1. System Inventory and Maintenance

The Town monitors the condition of its sewer collection system assets on a regular basis. In general, it is recommended that each gravity main and manhole structure be inspected once every

five years, at least initially. However, certain areas have recurring maintenance issues and are inspected on a more frequent basis.

Sewer main and manhole inspections are typically done in-house. If the work is all done in-house, it would take a two-man crew approximately 40 hours to inspect 2000 linear feet of gravity main, or approximately 394 hours per year. An additional 15 minutes would be needed for a two-man crew to inspect each manhole structure, which amounts approximately 117 hours per year.

If the work were performed by a specialty contractor, it would cost an estimated $2 per linear foot to inspect gravity mains, and $60 per structure to inspect manholes. Staff time would still be required to engage and supervise the contractor, review the resulting inspection reports, and upload the information into ArcGIS, PeopleGIS or Excel.

Estimated costs and manhours associated with routine inspections is shown in **Table 5** below. The Town owns its own inspection camera and software. However, this equipment is used not only for the sewer system but also for the stormwater system. Given the large quantities associated with each system, it is likely that a mix of in-house staff and contractors would best optimize available resources.

Table 5. Estimated Cost of Routine Sanitary Sewer System Cleaning and Inspections

	Gravity Mains		Manholes	
	Contractor	**In-House**	**Contractor**	**In-House**
Total Quantity	246,060	246,060	1164	1164
Quantity Inspected Each Year	49,212	49,212	233	233
Performed by	Contractor	In-house	Contractor	In-house
Additional Annual Cost	$98,424	TBD	$13,980	TBD
Additional Annual Manhours	45	394	30	117
Note: Costs are in 2020 dollars	**$2/lf x 49,212 lf = $98424**	**49,212 lf x 2000 lf/day x 8 hours/day x 2 staff = 394 hours**	**233 mh x $60/mh = $13,980**	**233 mh x 0.25 hrs x 2 staff = 117 hours**

2.4. Criticality and Project Prioritization

Most of the Town's sewer collection system dates from the 1960's through the 1980's. However, available record drawings indicated that the system goes as far back as 1907, and it is not clear if all of the original sewer lines have been replaced. The system began as a combined sewer system, which collected both wastewater and stormwater and relayed it to nearby waterbodies. A wastewater treatment facility was constructed during the large system expansion in the 1960s.

2.4.1. Impact of Failure

The gravity mains which feed into the Main Pumping Station on Water Street, and the force main from the pumping to the wastewater treatment facilities are considered to have the highest impact. Dead-end gravity mains which serve few properties were considered to have the lowest impact. The sewer system is mapped by Impact of Failure in **Appendix C-5**.

2.4.2. Probability of Failure

A Probability of Failure score was initially assigned based on the age and the estimated remaining useful life of the asset. A condition score was assigned if available or if it could be estimated based on other available information. Specifically, facilities included in the 2016-2021 CIP, were given a condition score of 5. Condition scores will be added and updated as the Town continues to collect and quantify condition information. The system is mapped by Probability of Failure in **Appendix C-6**.

2.4.3. Criticality

See paragraph 1.10.3.

2.5. Short-term Funding and Operating Costs

The Town should take steps to ensure that adequate staffing, funding, and other resources are available to complete all the inspection and maintenance tasks required to keep the system in good working order. These tasks would include annual cleaning and inspections of the gravity mains and gravity structures, performing or overseeing necessary replacements and repairs, and responding to emergencies such as a sanitary sewer back-up.

2.5.1. Estimated Repair and Replacement Costs

Repair costs will vary from year to year depending on what is discovered during the inspections. Not all repairs will be urgently needed. Some can be scheduled for a later time rather than tackled immediately. Ideally, condition assessments can guide the Town in prioritizing and combining capital projects. The Town has included various water and sewer improvements with road and drainage projects in its CIP. In a situation where the road is in good condition, but the sewer is not, CIPP lining may be the better option if it is an appropriate fix for the defects observed. While the cost of CIPP lining is substantially lower than the cost of full replacement, its estimated useful life is about half.

Table 6. Estimated Gravity Main Replacement and Repair Costs

Repair Description	Unit Cost	Increase in Useful Life
Root Removal	$500/EA	0
Mainline Point Repair for Actively Leaking Pipe	$2,000/EA	20
Mainline Point Repair for Other Mainline Defects	$2,000/EA	20
CIPP Line Pipe from MH to MH	$225/LF	50
Excavation Repair or Replacement (<= 20 feet deep)	$375/LF	100
Excavation Repair or Replacement (<= 20 feet deep, in Primary Arterial Roadway)	$600/LF	100
Excavation Repair or Replacement (> 20 feet deep, in Primary Arterial Roadway)	$800/LF	100
Abandon pipe in place	$500/CY	0
Lateral/Break- In Rehab	$2,500/EA	50

Note: Costs are in 2020 dollars.

Table 7. Estimated Manhole Replacement and Repair Costs

Repair Description	Unit Cost	Increase in Useful Life
Reset Frame and Cover, Replace Corbel	$2,500/EA	10
Repair/Grout Leaks	$250/VF	0
Repair Leaking Pipe Connection	$1,000/EA	0
Excavation Repair or Replacement (<= 20 feet deep)	$10,000/EA	100
Excavation Repair or Replacement (<= 20 feet, in Primary Arterial Roadway deep)	$15,000/EA	100
Excavation Repair or Replacement (> 20 feet deep)	$20,000/EA	100

Note: Costs are in 2020 dollars.

2.5.2. Staffing Levels and Staff Training

Adequate staffing levels and training assure that the system will be properly maintained, tasks will be completed safely, and that down time is minimized. Training related to the AMP is discussed in paragraph 1.12.

A system inspection schedule was formulated as part of the CMOM plan. Twenty percent (20%) of the system was to be inspected each year for five (5) years. CCTV inspections, if done completely in-house will take a significant amount of staff time. Estimated inspection costs and manhours have been provided in **Table 5**. A combination of in-house inspections and inspections

performed by a specialty contractor may prove to be the most feasible alternative. In addition, administrative staff will need to procure services, review the results of the inspections, upload the results to ArcGIS, PeopleGIS or Excel and schedule needed repairs.

2.5.3. Ten-Year Look Ahead

The Town has identified several pressing issues within its sanitary sewer collection system. These include:

- Westside Drive – Infiltration and inflow (I&I) planning and improvements.
- Salem Street Area – Vitrified clay pipe in poor condition.
- Court Street Pumping and Station and Force Main – Replace existing 6-inch force main with larger 8-inch or 10-inch force main. Replace existing pumps.
- School Street Area Reconstruction – Vitrified clay pipe in poor condition.

A summary of anticipated asset renewals within the next ten years is summarized by risk score and criticality in **Table 8** below. A detailed listing by asset identification number is provided in **Appendix D-5.** The risk score is result of the impact of failure score multiplied by the probability of failure score. In the absence of a condition score, the probability of failure is based on the estimated age and useful life of the pipe. These numbers are in 2020 dollars and inflation will need to be considered as project planning proceeds

Table 8. Ten Year Look Ahead for 2020 to 2029 – Sewer Collection System Assets

Risk Score	Type	Street	Total
20	**Gravity Main**	CROSS COUNTRY (LINCOLN TO TAN)	$99,546
		SWAZEY PARKWAY	$374,252
		SWAZEY PKWY	$216,008
		TAN LN	$66,312
		WATER ST	$234,352
		WINTER ST	$700,447
	Manhole	WINTER ST	$40,000
16	**Gravity Main**	CROSS COUNTRY (DRINKWATER TO FOLSOM)	$107,333
		CROSS COUNTRY (GILMAN TO FOX CHAPEL)	$738,253
		DRINKWATER RD	$122,838
		FOLSOM ST	$63,803
		FOX CHAPEL CT	$302,866
		GILMAN LN	$137,909
		LINCOLN ST	$72,531
		STRING BRIDGE	$114,645
		WATER ST	$596,214
15	**Gravity Main**	SALEM ST	$77,667
12	**Gravity Main**	ASHBROOK RD	$77,892
		CHESTNUT ST	$56,889
		CROSS COUNTRY (ASHBROOK TO HAMPTON FALLS)	$315,901

		CROSS COUNTRY (HAMPTON FALLS TO PLEASANT VIEW)	$1,130,696
		CROSS COUNTRY (PINE MEADOW TO HAMPTON FALLS)	$971,301
		DRINKWATER RD	$157,864
		HAMPTON FALLS RD	$157,198
		MEADOW LN	$136,112
		PLEASANTVIEW DR	$206,962
10	**Gravity Main**	COLUMBUS AVE	$715,471
		PARK ST	$228,590
		WINTER ST	$85,298
	Manhole	COLUMBUS AVE	$50,000
		PARK ST	$20,000
5	**Gravity Main**	COLUMBUS AVE	$215,997
		OAK ST	$106,791
		PARK ST	$35,097
	Manhole	COLUMBUS AVE	$20,000
		OAK ST	$10,000
		PARK ST	$10,000
Total			**$8,773,033**

2.6. Long Term Funding Plan (Budget)

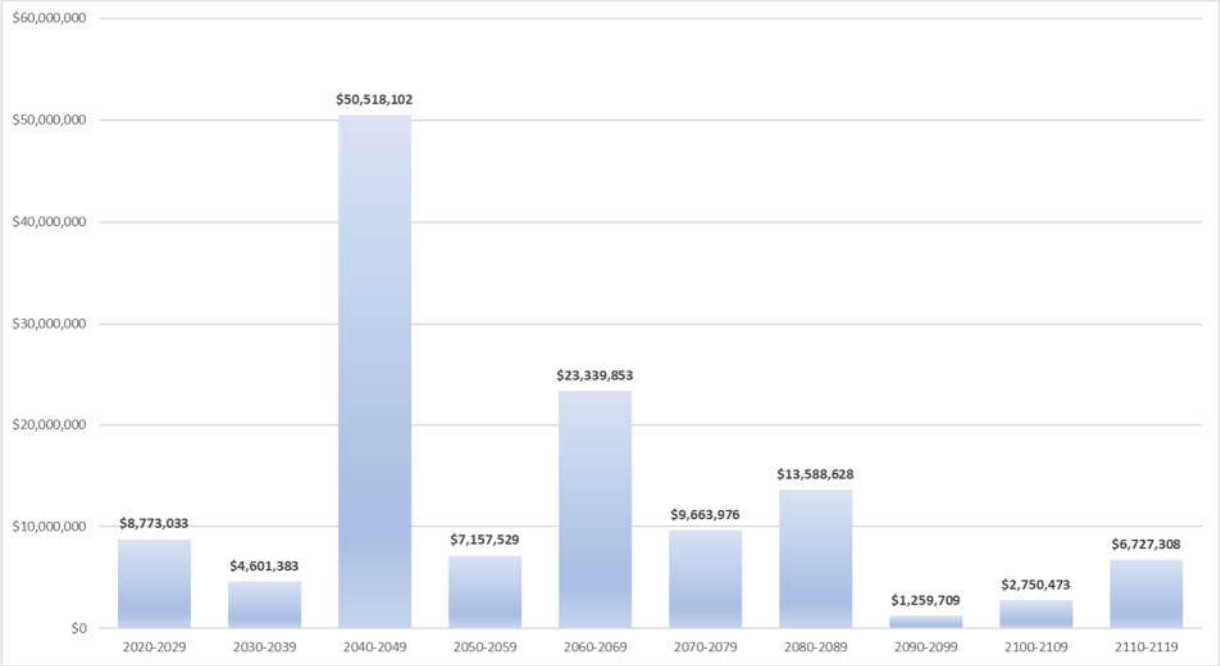
The long-term funding plan should include not only an adequate operating budget as discussed in paragraph 2.5, but also funding for necessary capital improvements. Estimated asset renewals by decade are shown in **Table 9** and **Figure 13**. They are estimated to be approximately $1.3 million per year. The Town has included $1.5 million per year in its CIP, which is a reasonable estimate. It should be noted that these cost estimates are based on full replacement cost of the existing system in 2020 dollars. Some gravity mains may be suitable for CIPP lining, which is approximately half the cost of full replacement. However, its estimated useful life is also lower.

Table 9. Estimated Replacement Cost of Sanitary Sewer System by Decade

Decade	Estimated Cost
2020-2029	$8,773,033
2030-2039	$4,601,383
2040-2049	$50,518,102
2050-2059	$7,157,529
2060-2069	$23,339,853
2070-2079	$9,663,976
2080-2089	$13,588,628
2090-2099	$1,259,709
2100-2109	$2,750,473
2110-2119	$6,727,308
Total	**$128,379,994**
$/Year	**$1,283,800**

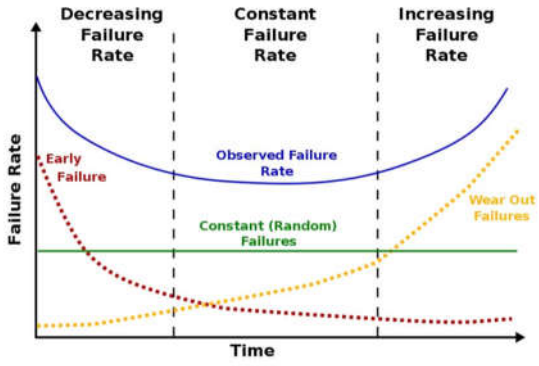
Note: Costs are in 2020 Dollars

Figure 13. Estimated Replacement Costs of Sanitary Sewer Assets Over 100 Years



A spike in anticipated replacements occurs between 2030 and 2040 because of the large amount of sewer installed in the 1960's. Much of the sewer pipe installed at that time was vitrified clay (VC) or asbestos cement (AC) material, both of which have an estimated useful life of approximately 80 years. Of course, both types of materials can fail sooner than that. While VC pipe itself can be very long-lived, the joints tend to fail. Certain types of AC pipe can be very long-lived but can fail earlier than expected due to installation conditions. The chart above assumes that all assets will fail at the end of their estimated useful lives. In reality, the failure rate of pipe resembles a "bathtub curve". The failure rate is higher in the early years due to installation issues, then settles down over time, and finally rises again as the pipe ages.

Figure 14. Bathtub Curve



Source: EPA Primer on Water Main Failure Curves (2013)

3. Stormwater

3.1. Stormwater Asset Inventory

Stormwater assets include such items as catch basins, drainage manholes and stormwater pipe. There are also several stormwater treatment facilities throughout the Town. These are all privately-owned. The Vortechs units at 137 Portsmouth Avenue are one example.

Summary tables of stormwater system assets are provided in **Table 10** and **Table 11** below.

Table 10. Stormwater System Structures by Type and Owner

Structure Type	Town	State	Private	Unknown	Grand Total
Catchbasin	1408	84	871	161	2524
Cleanout	7		39		46
Drain Manhole	453	10	262	57	782
Foundation Drain	3		55	7	65
Other	2	1			3
Outfall	140				140
Outlet Control	4	3	58	4	69
Pipe End Inlet	227	58	317	6	608
Pipe End Outlet	232	79	496	27	834
Roof Drain	15		209	14	238
Vortechs			4		4
Yard Drain			40		40
Grand Total	**2491**	**235**	**2351**	**276**	**5353**

Note: Items in "Other" category include plug, cap or stormwater treatment system. Additional verification required.

Table 11. Stormwater Pipe by Type and Owner

Type	Town	State	PEA	Private	Unknown	Grand Total
CULVERT	7,599	3,506	190	7,254		18,549
OTHER	535		108	76		720
SWPIPE	167,932	10,324	23,260	123,481	18,043	343,040
Grand Total	**176,065**	**13,830**	**23,558**	**130,812**	**18,043**	**362,309**

Note: Item type in "OTHER" category are not specified. Additional verification is required.

The overall replacement value of the Town's stormwater assets is estimated to be approximately $91.2 million. Replacement value by category is shown in **Figure 15**. Estimated unit replacement costs are shown in **Table 12** and **Table 13.** Note that all dollar amounts are in 2020 dollars.

Table 12. Estimated Unit Replacement Cost of Stormwater Structures

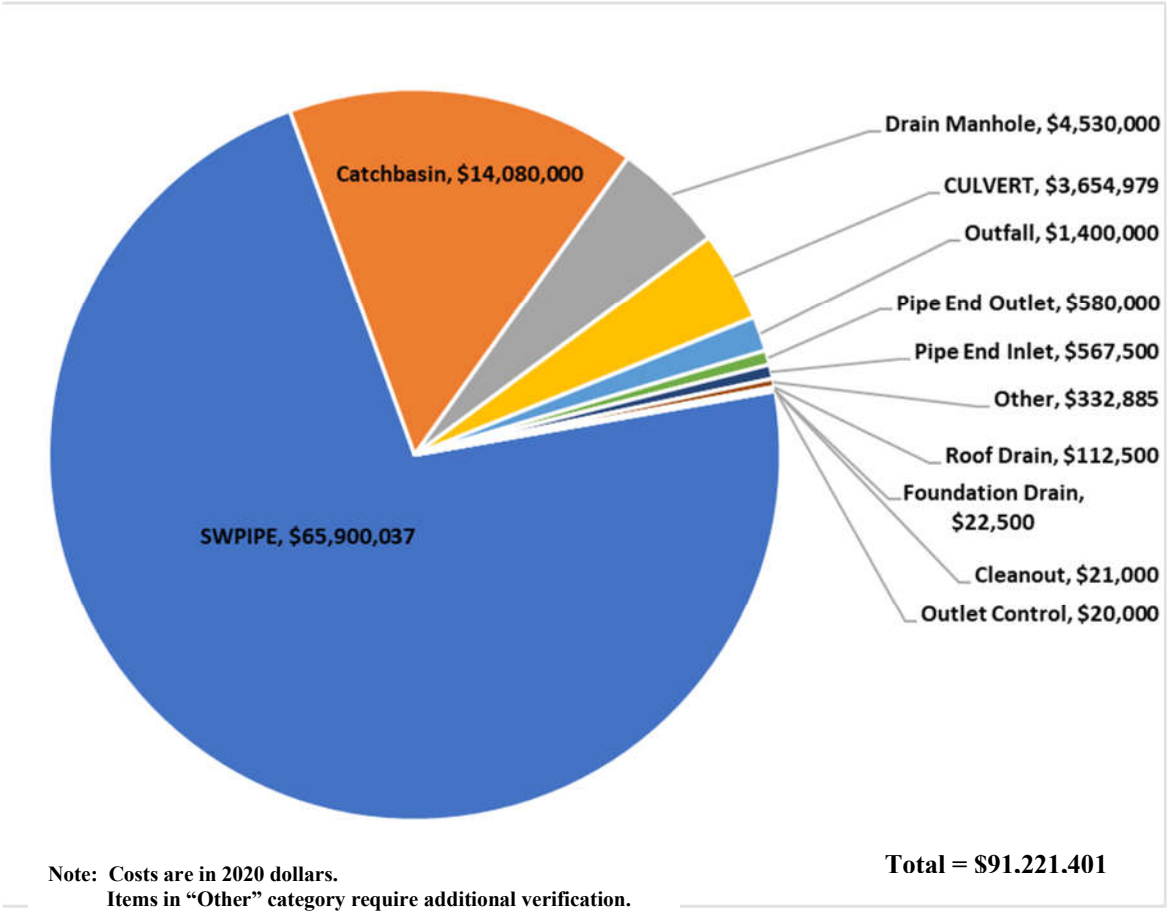
Structure Type	Quantity	Replacement Cost	Unit Cost
Catchbasin	1408	$14,080,000	$10,000
Cleanout	7	$21,000	$3,000
Drain Manhole	453	$4,530,000	$10,000
Foundation Drain	3	$22,500	$7,500
Other	2	$15,000	$7,500
Outfall	140	$1,400,000	$10,000
Outlet Control	4	$20,000	$5,000
Pipe End Inlet	227	$567,500	$2,500
Pipe End Outlet	232	$580,000	$2,500
Roof Drain	15	$112,500	$7,500
Grand Total	**2491**	**$21,348,500**	

Note: Costs are in 2020 dollars
Items in "Other" category require additional verification.

Table 13. Estimated Unit Replacement Cost of Stormwater System Pipe

Diameter	Stormwater Pipe	Culvert	Other	Grand Total
<= 6"	$2,717,782	$25,745	$167,015	$2,910,542
> 6", <= 12"	$33,323,191	$856,843		$34,180,034
>12", <= 20"	$20,334,684	$1,121,427	$20,870	$21,476,981
> 20" <= 32"	$8,182,731	$844,380		$9,027,111
> 32"	$1,081,135	$156,584		$1,237,720
Rectangular Conduit	$260,512	$650,000	$130,000	$1,040,512
Grand Total	**$65,900,037**	**$3,654,979**	**$317,885**	**$69,872,901**

Figure 15. Estimated Replacement Value of Stormwater Assets



Note: Costs are in 2020 dollars.
Items in "Other" category require additional verification.

3.2. Condition Assessment

Town staff inspects stormwater structures each year. A general condition description was provided in the Town's original inventory file. UE provided a corresponding condition score in order to provide a way to rank the structures. The results are summarized in **Table 14** below.

Table 14. Summary of Stormwater Structure Condition

Condition	Condition Score	Town	State	Private	Unknown	Grand Total
No score assigned	N/A	63	1	93	271	428
Crumbling	5	29	4			33
Fair	3	2,230	227	2,240	4	4,701
Good	2	21				21
Poor	4	148	3	18	1	170
Grand Total		**2,491**	**235**	**2,351**	**276**	**5,353**

The Town provided 460 stormwater structure inspection records. All but seven were mapped to a street address. Of those, 261 could be matched to a structure in the inventory file by using the original identification number. The sumps of seventy-seven (77) were more than 50% full of debris and sediment. These have been mapped in **Appendix E-8.**

3.3. Level of Service

See paragraph 1.9 and **Appendix A-4**.

3.4. Criticality and Project Prioritization

The Town has identified the following stormwater projects in its 2016-2021 CIP. The stormwater facilities within these project areas have all been assigned a condition score of 5.

- Kimmins Brook Stormwater Mitigation
- Portsmouth Avenue Reconstruction Phase II
- Salem Street Area Utility Replacements
- School Street Area Reconstruction

These projects are mapped in **Appendix E-8**. In addition to the projects listed above, the Town has approximately 31,000 linear feet of corrugated metal pipe (CMP) in its stormwater system. CMP has an estimated useful life of approximately thirty-five (35) years, which is significantly shorter than other pipe materials.

3.4.1. Impact of Failure

Impact of failure scores have been preliminarily assigned based on the stormwater pipe diameter. The larger the diameter, the higher the score.

3.4.2. Probability of Failure

Where condition scores are available, they serve as the probability of failure score. Condition scoring for stormwater assets was discussed in **Table 14**.

3.4.3. Criticality

See paragraph 1.10.3.

3.5. Short-term Funding Plan and Operating Costs

The cost of maintaining stormwater assets includes regular inspections, cleanings, repairs and replacements when needed. Staff has been inspecting and cleaning stormwater facilities on a regular basis. Records have been kept using PeopleForms. However, not all the structure identification numbers in the inspection records can be matched to a structure in the inventory. A training video has been provided to demonstrate one way to find and correct duplicate asset identifiers. See paragraph 1.12.

A common list of structure identification numbers should be used to track maintenance activities and match them to the inventory files.

3.5.1. Staffing and Manhours

The Town owns nearly 2,500 stormwater structures. If we assume it takes two staff members fifteen minutes to inspect and clean each structure, it would take approximately 1,250 manhours per year to complete the task – or enough work to keep two people busy for more than fifteen (15) weeks. This would not include performing or coordinating the repairs found during the inspections. Nor does it include emergency callouts or overseeing contractors hired to complete replacements and repairs.

As inspection and cleaning results are recorded, it will become more clear which structures really do need to be cleaned and inspected annually or more often and which require attention less frequently.

3.5.2. CCTV Inspections

The Town owns over 176,000 linear feet (33 miles) of storm water pipe. CCTV inspection costs an estimated $2.00 per linear foot or over $352,000 in 2020 dollars. However, it's neither necessary nor feasible to CCTV the entire system.

The Town has been reviewing the pavement condition of its roads. Ideally, stormwater pipe will be inspected for road sections where roadway improvements are planned.

3.5.3. Ten-Year Look-Ahead

A detailed list of Town-owned stormwater assets by criticality are listed by street in **Appendix D-5**. Asset renewals are summarized by Risk Score and Criticality in **Table 15**. These numbers are in 2020 dollars and inflation will need to be considered as project planning proceeds

Table 15. Stormwater System Ten-Year Look Ahead (2020 to 2029)

Risk Score	Highest Risk	Priority Renewal	Frequent Monitoring	Grand Total
25	$182,538			$182,538
20	$986,435			$986,435
16	$236,746			$236,746
15		$2,420,625		$2,420,625
12		$1,476,356	$5,000	$1,481,356
10		$5,945,821		$5,945,821
9			$302,500	$302,500
8		$2,770,861		$2,770,861
5		$867,341		$867,341
4		$80,631		$80,631

3			$397,500	$397,500
Grand Total	**$1,405,720**	**$13,561,635**	**$705,000**	**$15,672,355**

Note: Costs are in 2020 dollars

3.6. Long-term Funding Plan

The stormwater system contains assets with a wide range of useful lives. Long-lived assets include precast structures or plastic pipe, which have estimated useful lives of approximately 75 years. On the other end of the spectrum, corrugated metal pipe has an estimated useful life of 35 years.

The replacement value of all Town-owned stormwater system assets was estimated to be $91.2 million. However, this figure does not consider the multiple replacements required. The estimated replacement cost over 100 years, taking multiple replacements into account is approximately $121.2 million, or $1.2 million per year.

The calculation above provides a target for planning and budgeting for asset renewals. It is based on full replacement cost, including restoration and engineering costs. In practice, stormwater projects may be combined with water and sewer upgrades or roadway improvement projects, thus increasing the overall project costs but lowering the individual unit costs. Estimated replacement costs over the next one hundred are shown in **Table 16** and **Figure 16.**

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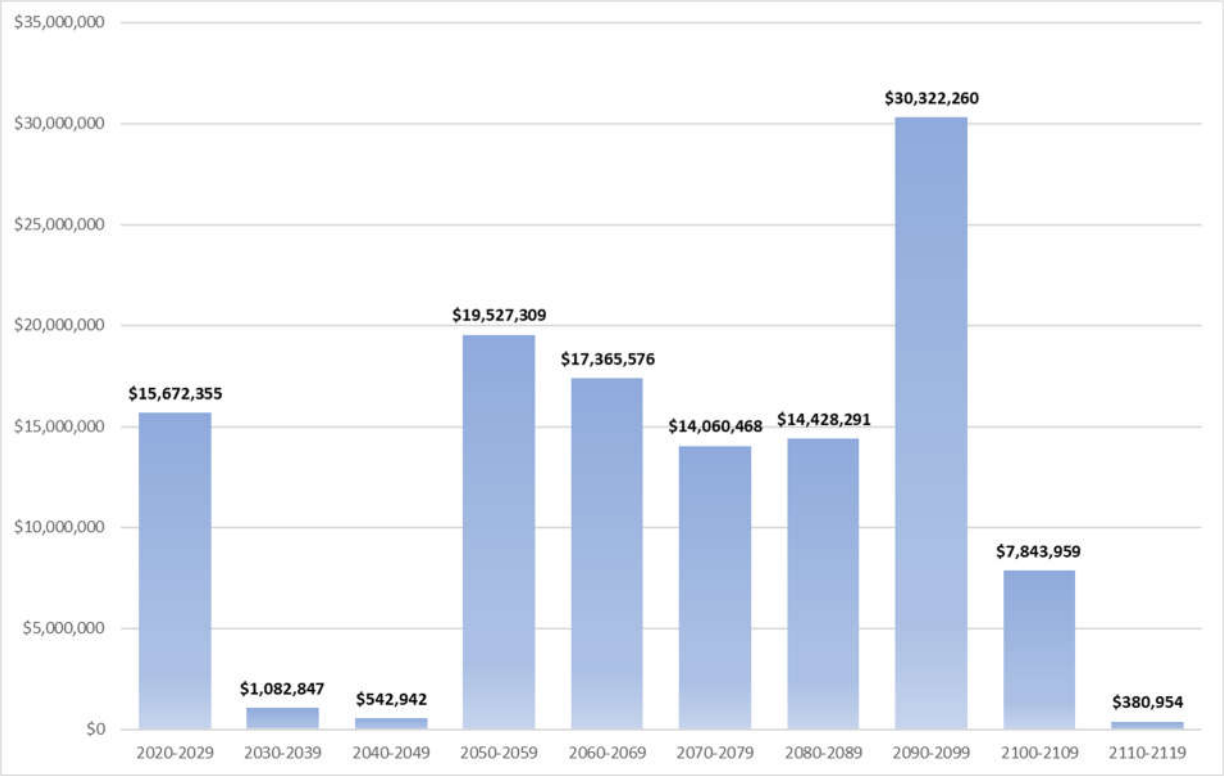
Table 16. Stormwater System Replacement Cost Over 100 Years

Decades	Estimated Cost
2020-2029	$15,672,355
2030-2039	$1,082,847
2040-2049	$542,942
2050-2059	$19,527,309
2060-2069	$17,365,576
2070-2079	$14,060,468
2080-2089	$14,428,291
2090-2099	$30,322,260
2100-2109	$7,843,959
2110-2119	$380,954
Grand Total	**$121,226,961**
$/Year	**$1,212,270**

Note: Costs are in 2020 dollars.

Figure 16. Stormwater System Replacement Cost Over 100 Years



4. Conclusions and Recommendations

The Town received a CWSRF Program Loan with $60,000 of principal forgiveness from the NHDES to fund the sanitary sewer system and stormwater system asset management program. The Town's existing inventory files were combined and updated and then cross-referenced with the Town's PeopleGIS maintenance records to the extent possible.

The total replacement value of the Town's sanitary sewer system assets in 2020 dollars is estimated to be approximately $112.3 million as shown in **Table 4** and **Figure 12**.

An estimated $8.8 million dollars' worth of sanitary sewer collection system assets are due for replacement in the next ten years as shown in **Table 8**. Over one-hundred years, the total replacement cost is $128.4 million or approximately $1.3 million per year in 2020 dollars. (See Table 9.) The Town has established a budget of $1.5 million per year for sewer collection system upgrades. As the Town proceeds with detailed project planning, inflation will need to be included in cost estimates.

The total replacement value of the Town's stormwater system assets is estimated to be approximately $91.2 million as shown in **Table 12**, **Table 13** and **Figure 15**. However, much of the stormwater pipe is corrugated metal, which tends to have a significantly shorter useful life than other materials. Over a period of one hundred years, the estimated replacement value is estimated to be $121.4 million or approximately $1.2 million dollars per year. See **Table 16** and **Figure 16.** These numbers are in 2020 dollars and inflation will need to be considered as project planning proceeds.

To maintain the asset management program, the following activities are recommended.

1. Regularly update the Level of Service Matrix provided in **Appendix A-4**.
2. A unique asset identifier has been assigned to each component so that information can be linked across platforms. The Town currently uses Granite XP and The Town should periodically check for duplicate or missing identifiers.
3. Assets should be correlated by other parameters, such as xy coordinates, if appropriate to serve as a back-up to the asset identifier.
4. Pipe identifiers and pipe bearings have been joined to the structure files to assist personnel in identifying the correct invert in the field.
5. Upstream and downstream structure identifiers have been joined to the pipe files.
6. The inventory files which have been provided in ArcGIS format, should be updated with information from the inspection and maintenance files at least once per year. Fields in the inventory tables should then be recalculated with the ArcGIS tools provided.
7. The Town should activate the ArcGIS Online (AGOL) account that comes with its Basic ArcGIS license. AGOL will be active and accessible as long as the $500 annual maintenance is up to date. The AGOL account will allow the Town to do the following:

a. Provide staff with access ArcGIS files in the field, including record drawings and tie sheets.
b. Provide a way to communicate with the public by using Story Maps.

The asset management program is meant to be used as a tool to inform and guide decision-making related to asset renewals. Information collected from ongoing inspection and maintenance activities will be collected and used to update financial planning documents. This information can then be used as the basis for budgeting and establishing adequate financial resources. It can also be used as a communication tool to share information with the Selectboard, the public and other stakeholders.

Simplified information flow charts are shown in **Figure 6** and **Figure 9**. A more detailed chart is provided in Appendix A-3.

APPENDIX A

Files and Data Structure

Appendix A-1: File and Data Structure - Sewer

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	AssetID	AssetID	String	50	UE		concatentate "US_struct" and "DS_struc"
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	AssetID	AssetID	String	50	UE		concatentate "US_struct" and "DS_struc"
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	AssetID	AssetID	String	50	UE		concatentate "US_struct" and "DS_struc"
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	AssetID	AssetID	String	50	UE		concatentate "US_struct" and "DS_struc"
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	AssetID_old	AssetID (dpw_id)	String	50	Town		Asset ID from orignal file provided by Town
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	AssetID_old	AssetID (dpw_id)	String	50	Town		Asset ID from orignal file provided by Town
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	AssetID_rev	AssetID (revised)	String	50	UE		Revised by UE
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	AssetID_rev	AssetID (revised)	String	50	UE		Revised by UE
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	base	base	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	base	base	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	base	base	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	base	base	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Basin	Basin	String	50	UE		Assigned by UE based on CMOM update.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Bearing	Bearing	Double	8	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Bearing_0	Bearing_0	Double	8	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Bearing_l	Bearing_l	Double	8	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing1	Bearing1	Double	8	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing2	Bearing2	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing3	Bearing3	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing4	Bearing4	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing5	Bearing5	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing6	Bearing6	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing7	Bearing7	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Bearing8	Bearing8	String	255	UE		Computed for pipe files and joined to structure files.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	cast_shape	cast_shape	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	cast_shape	cast_shape	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	category	category	String	24	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	category	category	String	24	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Chk_inv	Chk_inv	SmallInteger	2	UE	= Inv_Cnt - Num_inv	Compare to ensure correct invert count
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Comment	Comment	String	255			
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	comment	comment	String	48	Town		not included in AMP scope, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Comment	Comment	String	255			not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Comment	Comment	String	255			not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	comment	comment	String	48			not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Comment	Comment	String	255			
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	condition	condition	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	condition	condition	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	CondScore	Condition Score	Double	8	UE		NULL for now. Will be populated in future as routine inspections are completed and condition information is provided as numeric score.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Condtxt	Condtxt	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Condtxt	Condtxt	String	50	UE		

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Condtxt	Condtxt	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Condtxt	Condtxt	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	cover_cond	cover_cond	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	cover_cond	cover_cond	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Crit	Criticality	String	50	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Dia	Dia	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Dia	Dia	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Dia	Dia	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Dia	Dia	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Dia_int	Dia_int	Integer	4	UE		Converted string diameter value to integer
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Dia_int	Dia_int	Integer	4	UE		Converted string diameter value to integer
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Dia_int	Dia_int	Integer	4	UE		Converted string diameter value to integer
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Dia_int	Dia_int	Integer	4	UE		Converted string diameter value to integer
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	discharge	discharge	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	discharge	discharge	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	division	division	String	13	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	division	division	String	13	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	DPW_ID	DPW_ID	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	dpw_id	dpw_id	String	14	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	DPW_ID	DPW_ID	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	dpw_id	dpw_id	String	14	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	DPW_ID	DPW_ID	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	DS_struc	DS_struc	String	50	UE		Downstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	DS_struc	DS_struc	String	50	UE		Downstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	DS_struc	DS_struc	String	50	UE		Downstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	DS_struc	DS_struc	String	50	UE		Downstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	edit_insp	edit_insp	String	3	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	edit_insp	edit_insp	String	3	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	elevunits	elevunits	String	4	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	elevunits	elevunits	String	4	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	EU_life	EU_life	SmallInteger	2	UE	= Year_In + U_life	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	EU_life	EU_life	Integer	4	UE	= Year_In + U_life	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	EU_life	EU_life	Integer	4	UE	= Year_In + U_life	not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	EU_life	EU_life	Integer	4	UE	= Year_In + U_life	not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	EU_life	EU_life	SmallInteger	2	UE	= Year_In + U_life	not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	EU_life	EU_life	Integer	4	UE	= Year_In + U_life	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	flow	flow	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	flow	flow	String	7	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	fr_struct	fr_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	fr_struct	fr_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	fr_struct	fr_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	fr_struct	fr_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	ID_compare	ID_compare	String	50	UE		Note field to compare UE file to PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Impact	Impact of Failure	Double	8	UE		Preliminary score assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	inOID	inOID	Integer	4	UE		used for joining data generated by Python script
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	installyr	installyr	String	4	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	installyr	installyr	String	4	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	inv	inv	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	inv	inv	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	inv	inv	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	inv	inv	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	inv_a	inv_a	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	inv_a	inv_a	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	inv_a	inv_a	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	inv_a	inv_a	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	inv_b	inv_b	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	inv_b	inv_b	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	inv_b	inv_b	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	inv_b	inv_b	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	inv_c	inv_c	String	255	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	inv_c	inv_c	String	255	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	inv_c	inv_c	String	255	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	inv_c	inv_c	String	255	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Inv_Cnt	Inv_Cnt	Integer	4	UE		Invert count based on intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	inv_out	inv_out	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	inv_out	inv_out	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	inv_out	inv_out	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	inv_out	inv_out	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Lin_Unit	Lin_Unit	String	50	UE		Confirm units of automated ESRI geometry fields (Shape_Length). Units depend on coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Lin_Unit	Lin_Unit	String	50	UE		Confirm units of automated ESRI geometry fields (Shape_Length). Units depend on coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	loc_insp	loc_insp	String	3	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	loc_insp	loc_insp	String	3	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Material	Material	String	50	Town/UE		Imported from source file or assigned based on record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Material	Material	String	50	Town/UE		Some from Town, most from record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Material	Material	String	50	Town/UE		Some from Town, most from record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Material	Material	String	50	Town/UE		Some from Town, most from record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Material	Material	String	50	Town/UE		Some from Town, most from record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Material	Material	String	50	Town/UE		Some from Town, most from record drawings
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	material1	material1	String	16	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	material1	material1	String	16	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	material2	material2	String	16	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	material2	material2	String	16	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	method	method	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	method	method	String	6	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Num_inv	Num_inv	SmallInteger	2	UE	= Num_inv_gm + Num_inv_fm	Total number of inverts
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Num_Inv	Num_Inv	SmallInteger	2	UE	= Num_inv_gm + Num_inv_fm	Total number of inverts
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Num_inv_fm	Num_inv_fm	Integer	4	UE		Calculated using "Intersect" tool
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Num_inv_gm	Num_inv_gm	SmallInteger	2	UE		Calculated using "Intersect" tool
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	OBJECTID	OBJECTID	OID	4	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Owner	Owner	String	51	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Owner	Owner	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	owner	owner	String	7	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Owner	Owner	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Owner	Owner	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	owner	owner	String	7	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Owner	Owner	String	51	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Owner	Owner	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	Path_Name	Path_Name	String	255	UE		path name to record drawing, used to create attachments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	Path_Name	Path_Name	String	255	UE		path name to record drawing, used to create attachments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe1	Pipe1	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe2	Pipe2	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe3	Pipe3	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe4	Pipe4	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe5	Pipe5	String	255	UE		Joined from intersecting pipe file

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe6	Pipe6	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe7	Pipe7	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Pipe8	Pipe8	String	255	UE		Joined from intersecting pipe file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 1	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 2	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 3	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 4	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 5	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Prob	Probability of Failure	Double	8	UE	= CondScore if available. Otherwise if RU_life <= 0 then Prob = 5, else if RU_life > 0 or <= 10 then Prob = 4, else if RU_life >10 or <= 20 then Prob = 3, else if RU_life > 20 and <= 50 then Prob = 2, else if RU_life > 50 then Prob = 6	Based on Condition Score if available. Otherwise based on Remaining Useful Life.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Rec_Dwg	Rec_Dwg	String	100			not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Rec_Dwg	Rec_Dwg	String	100			not included in inventory, provided for mapping purposes
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Repl_Cost	Repl_Cost	Double	8	UE		Unit cost estimated by UE. Total cost computed by ArcGIS tools.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Repl_year	Repl_year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	rim_elev	rim_elev	String	11	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	rim_elev	rim_elev	String	11	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	rim_elev	rim_elev	String	11	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	rim_elev	rim_elev	String	11	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	rimelevcor	rimelevcor	String	18	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	rimelevcor	rimelevcor	String	18	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	rimelevcor	rimelevcor	String	18	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	rimelevcor	rimelevcor	String	18	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Risk_Score	Risk Score	Double	8	UE	= Impact x Prob	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	rodheight	rodheight	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	rodheight	rodheight	String	5	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	RU_life	RU_life	SmallInteger	2	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	RU_life	RU_life	Integer	4	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	RU_life	RU_life	Integer	4	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	RU_life	RU_life	Integer	4	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	RU_life	RU_life	SmallInteger	2	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	RU_life	RU_life	Integer	4	UE	= EU_life - Current_Year	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Shape	Shape	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Shape	Shape	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	Shape	Shape	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	SHAPE	SHAPE	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	SHAPE	SHAPE	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	Shape	Shape	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	SHAPE	SHAPE	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Shape	Shape	Geometry	0	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Shape_Length	Shape_Length	Double	8	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	SHAPE_Length	SHAPE_Length	Double	8	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	SHAPE_Length	SHAPE_Length	Double	8	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Shape_Length	Shape_Length	Double	8	ESRI		automatically assigned by ESRI
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	street1	street1	String	18	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	street1	street1	String	18	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Street1	Street1	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	street2	street2	String	21	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	street2	street2	String	21	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Street2	Street2	String	50	Town		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	SubBasin	SubBasin	String	10	UE		Assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	SubBasin	SubBasin	String	10	UE		Assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	SubBasin	SubBasin	String	10	UE		Assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	SubBasin	SubBasin	String	10	UE		Assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	SubBasin	SubBasin	String	10	UE		Assigned by UE.
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	to_struct	to_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	to_struct	to_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	to_struct	to_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	to_struct	to_struct	String	20	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations	type	type	String	12	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	Sewer_Pump_Stations_abandoned	type	type	String	12	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Type	Type	String	50	Town/PGIS		from original Town GIS file and/or updated PGIS file
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	U_life	U_life	SmallInteger	2	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	U_life	U_life	Integer	4	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	U_life	U_life	Integer	4	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	U_life	U_life	Integer	4	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	U_life	U_life	SmallInteger	2	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	U_life	U_life	Integer	4	UE		Estimated based on material
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	US_struc	US_struc	String	50	UE		Upstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	US_struc	US_struc	String	50	UE		Upstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	US_struc	US_struc	String	50	UE		Upstream structure
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	US_struc	US_struc	String	50	UE		Upstream structure

Appendix A-1: File and Data Structure - Sewer

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Year_in	Year_In	Integer	4	UE		Assigned based on rec drawings if available, otherwise estimated
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	GravityMains_abandoned	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains_abandoned	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	SewerStructures_abandoned	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_sewer_inventory.gdb	ForceMains	Year_txt	Year_txt	String	20	UE	= Year_In, if Year_In = NULL, then "Unknown"	

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	age	age	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	age	age	String	9	Town		Basis for estimated year of installation
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	age	age	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	AssetID	AssetID	String	50	UE		Based on Town's original id number. Duplicates replaced and blanks filled in.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	AssetID	AssetID	String	50	UE		Based on Town's original id number. Duplicates replaced and blanks filled in.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	AssetID	AssetID	String	50	UE		Based on Town's original id number. Duplicates replaced and blanks filled in.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	AssetID	AssetID	String	50	UE		Based on Town's original id number. Duplicates replaced and blanks filled in.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	AssetID	AssetID	String	50	UE		Based on Town's original id number. Duplicates replaced and blanks filled in.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Assumed_shape	Assumed_shape	String	50	UE		Supplied by UE for stormwater pipe
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	base_elev	base_elev	String	255	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Bearing	Bearing	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Bearing	Bearing	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing1	Bearing1	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing2	Bearing2	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing3	Bearing3	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing4	Bearing4	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing5	Bearing5	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Bearing6	Bearing6	Double	8	UE		Computed by UE in pipe files and joined to structure files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	cb_diam	cb_diam	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	cb_sump	cb_sump	String	4	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	cb_sump_ft	cb_sump_ft	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	comment	comment	String	142	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	comment	comment	String	142	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	comment	comment	String	168	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	comment	comment	String	142	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	comment	comment	String	142	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	condition	condition	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	CondScore	CondScore	Double	8	UE		Based on "condition" provided by Town. "Good" = 2; "Fair" = 3; "Poor" = 4; "Crumbling" = 5
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	CondScore	CondScore	Integer	4	UE		Based on "condition" provided by Town. "Good" = 2; "Fair" = 3; "Poor" = 4; "Crumbling" = 5
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	CondScore	CondScore	Double	8	UE		Based on "condition" provided by Town. "Good" = 2; "Fair" = 3; "Poor" = 4; "Crumbling" = 5
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	CondScore	CondScore	Integer	4	UE		Based on "condition" provided by Town. "Good" = 2; "Fair" = 3; "Poor" = 4; "Crumbling" = 5
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	CondScore	CondScore	Integer	4	UE		Based on "condition" provided by Town. "Good" = 2; "Fair" = 3; "Poor" = 4; "Crumbling" = 5
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	corrrimele	corrrimele	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Crit	Crit	String	255	UE	if [Owner] = "Town" and [Prob]>=4 and [Impact]>=4 Then [Crit]="Highest Risk"; elseif [Owner] = "Town" and [Prob]>=4 and [Impact] < 4 Then [Crit]="Priority Renewal"; elseif ([Owner] = "Town" and ([Prob]<4 and [Prob]>= 3)) or ([Owner] = "Town" and ([Prob] < 3 and [Impact] >= 4)) Then [Crit]="Frequent Monitoring"; elseif [Owner] = "Town" and [Prob] <3 and [Impact]<4 Then [Crit]="Limited Monitoring"; elseif [Owner] <> "Town" then [Crit] = "Not Town Owned"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Crit	Crit	String	255	UE	if [Owner] = "Town" and [Prob]>=4 and [Impact]>=4 Then [Crit]="Highest Risk"; elseif [Owner] = "Town" and [Prob]>=4 and [Impact] < 4 Then [Crit]="Priority Renewal"; elseif ([Owner] = "Town" and ([Prob]<4 and [Prob]>= 3)) or ([Owner] = "Town" and ([Prob] < 3 and [Impact] >= 4)) Then [Crit]="Frequent Monitoring"; elseif [Owner] = "Town" and [Prob] <3 and [Impact]<4 Then [Crit]="Limited Monitoring"; elseif [Owner] <> "Town" then [Crit] = "Not Town Owned"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Crit	Crit	String	255	UE	if [Owner] = "Town" and [Prob]>=4 and [Impact]>=4 Then [Crit]="Highest Risk"; elseif [Owner] = "Town" and [Prob]>=4 and [Impact] < 4 Then [Crit]="Priority Renewal"; elseif ([Owner] = "Town" and ([Prob]<4 and [Prob]>= 3)) or ([Owner] = "Town" and ([Prob] < 3 and [Impact] >= 4)) Then [Crit]="Frequent Monitoring"; elseif [Owner] = "Town" and [Prob] <3 and [Impact]<4 Then [Crit]="Limited Monitoring"; elseif [Owner] <> "Town" then [Crit] = "Not Town Owned"	

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Crit	Crit	String	255	UE	if [Owner] = "Town" and [Prob]>=4 and [Impact]>=4 Then [Crit]="Highest Risk"; elseif [Owner] = "Town" and [Prob]>=4 and [Impact] < 4 Then [Crit]="Priority Renewal"; elseif ([Owner] = "Town" and ([Prob]<4 and [Prob]>= 3)) or ([Owner] = "Town" and ([Prob] < 3 and [Impact] >= 4)) Then [Crit]="Frequent Monitoring"; elseif [Owner] = "Town" and [Prob] <3 and [Impact]<4 Then [Crit]="Limited Monitoring"; elseif [Owner] <> "Town" then [Crit] = "Not Town Owned"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Crit	Crit	String	255	UE	if [Owner] = "Town" and [Prob]>=4 and [Impact]>=4 Then [Crit]="Highest Risk"; elseif [Owner] = "Town" and [Prob]>=4 and [Impact] < 4 Then [Crit]="Priority Renewal"; elseif ([Owner] = "Town" and ([Prob]<4 and [Prob]>= 3)) or ([Owner] = "Town" and ([Prob] < 3 and [Impact] >= 4)) Then [Crit]="Frequent Monitoring"; elseif [Owner] = "Town" and [Prob] <3 and [Impact]<4 Then [Crit]="Limited Monitoring"; elseif [Owner] <> "Town" then [Crit] = "Not Town Owned"	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Dia_label	Dia_label	String	20	UE		Used to create "Diameter" map.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_a	diameter_a	String	29	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_b	diameter_b	String	19	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_c	diameter_c	String	27	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_d	diameter_d	String	13	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_o	diameter_o	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	diameter_p	diameter_p	String	26	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	dpw_id	dpw_id	String	17	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	dwg_type	Record Drawing Type	String	25	UE		Type of record drawing if applicable (ie. water, sewer, stormwater)
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	dwg_type	Record Drawing Type	String	25	UE		Type of record drawing if applicable (ie. water, sewer, stormwater)
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	dwg_type	Record Drawing Type	String	25	UE		Type of record drawing if applicable (ie. water, sewer, stormwater)
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	elev_geoid	elev_geoid	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	elevation	elevation	String	12	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	elevunit	elevunit	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	EU_Life	EU_Life	Integer	4	UE	[Year_in] + [U_life]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	EU_Life	EU_Life	Integer	4	UE	[Year_in] + [U_life]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	EU_Life	EU_Life	Integer	4	UE	[Year_in] + [U_life]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	EU_Life	EU_Life	Integer	4	UE	[Year_in] + [U_life]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	EU_Life	EU_Life	Integer	4	UE	[Year_in] + [U_life]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	File_Name	File_Name	String	255	UE		Name of record drawing associated with asset if applicable
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	File_Name	File_Name	String	255	UE		Name of record drawing associated with asset if applicable
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	File_Name	File_Name	String	255	UE		Name of record drawing associated with asset if applicable
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	File_Name	File_Name	String	255	UE		Name of record drawing associated with asset if applicable
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	File_Name	File_Name	String	255	UE		Name of record drawing associated with asset if applicable
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	geoidft	geoidft	String	17	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Impact	Impact	Double	8	UE		Impact of Failure score. Highest Impact = 5; Lowest =1.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Impact	Impact	Integer	4	UE		Impact of Failure score. Highest Impact = 5; Lowest =1.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Impact	Impact	Double	8	UE		Impact of Failure score. Highest Impact = 5; Lowest =1.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Impact	Impact	Integer	4	UE		Impact of Failure score. Highest Impact = 5; Lowest =1.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Impact	Impact	Integer	4	UE		Impact of Failure score. Highest Impact = 5; Lowest =1.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	inelev_a	inelev_a	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	inelev_b	inelev_b	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	inelev_c	inelev_c	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	inelev_d	inelev_d	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	inelev_p	inelev_p	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	inlet_d	inlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	inlet_d	inlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	inlet_d	inlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	inlet_d	inlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	inlet_ele	inlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	inlet_ele	inlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	inlet_ele	inlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	inlet_ele	inlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	inlet_mat	inlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	inlet_mat	inlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	inlet_mat	inlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	inlet_mat	inlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_a	invert_a	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_aft	invert_aft	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_b	invert_b	String	4	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_bft	invert_bft	String	11	Town		

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_c	invert_c	String	4	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_cft	invert_cft	String	11	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_d	invert_d	String	3	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_dft	invert_dft	String	11	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_o	invert_o	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_oft	invert_oft	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_p	invert_p	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	invert_pft	invert_pft	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Len_ft	Len_ft	Double	8	UE		For pipe file, computes length in feet
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	lengt	lengt	String	16	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	lengt	lengt	String	16	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	lengt	lengt	String	16	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	lengt	lengt	String	16	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Lin_Unit	Lin_Unit	String	10	UE		"Shape_Length" field provided by ESRI is in the units associated with the coordinate system. The units are displayed in this field.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	locmeth	locmeth	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Material	Material	String	50	UE		Concatentated inlet pipe material and outlet pipe material.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_a	material_a	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_b	material_b	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_c	material_c	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_d	material_d	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_o	material_o	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	material_p	material_p	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Max_Dia	Max_Dia	Double	8	UE		Took the maximum of inlet diameter and outlet diameter
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	mh_diam	mh_diam	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	OBJECTID	OBJECTID	OID	4	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	OBJECTID	FID	OID	4	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	OBJECTID	OBJECTID	OID	4	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	OBJECTID	OBJECTID	OID	4	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	OBJECTID	OBJECTID	OID	4	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	outelev_o	outelev_o	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	outlet_d	outlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	outlet_d	outlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	outlet_d	outlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	outlet_d	outlet_d	String	33	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	outlet_ele	outlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	outlet_ele	outlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	outlet_ele	outlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	outlet_ele	outlet_ele	String	6	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	outlet_mat	outlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	outlet_mat	outlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	outlet_mat	outlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	outlet_mat	outlet_mat	String	9	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Owner	Owner	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	owner	owner	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Owner	Owner	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	owner	owner	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	owner	owner	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Path_Name	Path_Name	String	255	UE		Path to record drawing if available
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Path_Name	Path_Name	String	255	UE		Path to record drawing if available
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Path_Name	Path_Name	String	255	UE		Path to record drawing if available
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe1	Pipe1	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe2	Pipe2	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe3	Pipe3	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe4	Pipe4	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe5	Pipe5	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Pipe6	Pipe6	String	255	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	PipeID	PipeID	String	10	UE		Joined pipe information to structure file
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	PipeID	PipeID	String	10	UE		Joined pipe information to structure file

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Prob	Prob	Double	8	UE	If [Owner] = "Town" and [RU_life] <= 0 Then [Prob] = 5; elseif [Owner] = "Town" and [RU_life] >0 And [RU_life] <=10 Then [Prob] =4; elseif [Owner] = "Town" and [RU_life] >10 And [RU_life] <=20 Then [Prob] =3; elseif [Owner] = "Town" and [RU_life] >20 And [RU_life] <=50 Then [Prob] =2; elseif [Owner] = "Town" and [RU_life] >50 Then [Prob] =1	Initially based on remaining useful - estimated using year of installation and useful life. Superceded by Condition Score if available.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Prob	Prob	SmallInteger	2	UE	If [Owner] = "Town" and [RU_life] <= 0 Then [Prob] = 5; elseif [Owner] = "Town" and [RU_life] >0 And [RU_life] <=10 Then [Prob] =4; elseif [Owner] = "Town" and [RU_life] >10 And [RU_life] <=20 Then [Prob] =3; elseif [Owner] = "Town" and [RU_life] >20 And [RU_life] <=50 Then [Prob] =2; elseif [Owner] = "Town" and [RU_life] >50 Then [Prob] =1	Initially based on remaining useful - estimated using year of installation and useful life. Superceded by Condition Score if available.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Prob	Prob	Double	8	UE	If [Owner] = "Town" and [RU_life] <= 0 Then [Prob] = 5; elseif [Owner] = "Town" and [RU_life] >0 And [RU_life] <=10 Then [Prob] =4; elseif [Owner] = "Town" and [RU_life] >10 And [RU_life] <=20 Then [Prob] =3; elseif [Owner] = "Town" and [RU_life] >20 And [RU_life] <=50 Then [Prob] =2; elseif [Owner] = "Town" and [RU_life] >50 Then [Prob] =1	Initially based on remaining useful - estimated using year of installation and useful life. Superceded by Condition Score if available.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Prob	Prob	SmallInteger	2	UE	If [Owner] = "Town" and [RU_life] <= 0 Then [Prob] = 5; elseif [Owner] = "Town" and [RU_life] >0 And [RU_life] <=10 Then [Prob] =4; elseif [Owner] = "Town" and [RU_life] >10 And [RU_life] <=20 Then [Prob] =3; elseif [Owner] = "Town" and [RU_life] >20 And [RU_life] <=50 Then [Prob] =2; elseif [Owner] = "Town" and [RU_life] >50 Then [Prob] =1	Initially based on remaining useful - estimated using year of installation and useful life. Superceded by Condition Score if available.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Prob	Prob	SmallInteger	2	UE	If [Owner] = "Town" and [RU_life] <= 0 Then [Prob] = 5; elseif [Owner] = "Town" and [RU_life] >0 And [RU_life] <=10 Then [Prob] =4; elseif [Owner] = "Town" and [RU_life] >10 And [RU_life] <=20 Then [Prob] =3; elseif [Owner] = "Town" and [RU_life] >20 And [RU_life] <=50 Then [Prob] =2; elseif [Owner] = "Town" and [RU_life] >50 Then [Prob] =1	Initially based on remaining useful - estimated using year of installation and useful life. Superceded by Condition Score if available.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Repl_Cost	Repl_Cost	Double	8	UE		Estimated by UE based on recent bid information and summary bid costs from NHDOT (2019).
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Repl_Cost	Repl_Cost	Integer	4	UE		Estimated by UE based on recent bid information and summary bid costs from NHDOT (2019).
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Repl_Cost	Repl_Cost	Double	8	UE		Estimated by UE based on recent bid information and summary bid costs from NHDOT (2019).
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Repl_Cost	Repl_Cost	Integer	4	UE		Estimated by UE based on recent bid information and summary bid costs from NHDOT (2019).
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Repl_Cost	Repl_Cost	Integer	4	UE		Estimated by UE based on recent bid information and summary bid costs from NHDOT (2019).
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Repl_Year	Repl_Year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Repl_Year	Repl_Year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Repl_Year	Repl_Year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Repl_Year	Repl_Year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Repl_Year	Repl_Year	Integer	4	UE	If [EU_Life] > %Current Year% Then [Repl_Year] = [EU_Life]; else [Repl_Year] = %Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Risk_Score	Risk_Score	Integer	4	UE	[Impact] x [Prob]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Risk_Score	Risk_Score	Integer	4	UE	[Impact] x [Prob]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Risk_Score	Risk_Score	Integer	4	UE	[Impact] x [Prob]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Risk_Score	Risk_Score	Integer	4	UE	[Impact] x [Prob]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Risk_Score	Risk_Score	Integer	4	UE	[Impact] x [Prob]	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	rodheight	rodheight	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	RU_Life	RU_Life	Integer	4	UE	[EU_Life] -%Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	RU_Life	RU_Life	Integer	4	UE	[EU_Life] -%Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	RU_Life	RU_Life	Integer	4	UE	[EU_Life] -%Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	RU_Life	RU_Life	Integer	4	UE	[EU_Life] -%Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	RU_Life	RU_Life	Integer	4	UE	[EU_Life] -%Current Year%	
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Shape	Shape	Geometry	0	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Shape	Shape	Geometry	0	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Shape	Shape	Geometry	0	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	SHAPE	SHAPE	Geometry	0	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	SHAPE	SHAPE	Geometry	0	ESRI		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	SHAPE_Area	SHAPE_Area	Double	8	ESRI		Note that units depend on the coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	SHAPE_Area	SHAPE_Area	Double	8	ESRI		Note that units depend on the coordinate system.

Geodatabase	File	Field	Field Alias	Field Type	Field Length	Source	Formula	Comments
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Shape_Length	Shape_Length	Double	8	ESRI		Note that units depend on the coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Shape_Length	Shape_Length	Double	8	ESRI		Note that units depend on the coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	SHAPE_Length	SHAPE_Length	Double	8	ESRI		Note that units depend on the coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	SHAPE_Length	SHAPE_Length	Double	8	ESRI		Note that units depend on the coordinate system.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	slope	slope	String	23	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	slope	slope	String	23	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	slope	slope	String	23	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	slope	slope	String	23	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	snout	snout	String	3	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	St_Name	St_Name	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	St_Name	St_Name	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	St_Name	St_Name	String	50	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Street	Street	String	255	Town		renamed Town's "street" fields so that they all match across files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Street	Street	String	255	Town		renamed Town's "street" fields so that they all match across files
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Struc_Mat	Struc_Mat	String	50	UE		supplied by UE for stormwater structures
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Struc1	Struc1	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Struc1	Struc1	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Struc1	Struc1	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Struc1	Struc1	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Struc2	Struc2	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Struc2	Struc2	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Struc2	Struc2	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Struc2	Struc2	String	50	UE		Matched structures at beginning and end of sw pipe to structure id
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	sw_id	sw_id	String	8	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	sw_id	sw_id	String	8	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	sw_id	sw_id	String	8	Town		Supplied by source files from Town
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	sw_id	sw_id	String	8	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	totaldepft	totaldepft	String	18	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	totaldepth	totaldepth	String	5	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Type	Type	String	255	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	type	type	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Type	Type	String	255	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	type	type	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	type	type	String	7	Town		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	U_Life	U_Life	Integer	4	UE		Estimated useful life of asset
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	U_Life	U_Life	Integer	4	UE		Estimated useful life of asset
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	U_Life	U_Life	Integer	4	UE		Estimated useful life of asset
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	U_Life	U_Life	Integer	4	UE		Estimated useful life of asset
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	U_Life	U_Life	Integer	4	UE		Estimated useful life of asset
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	UE_Comments	UE_Comments	String	255	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	UE_Comments	UE_Comments	String	255	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	UE_Comments	UE_Comments	String	255	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	UE_Comments	UE_Comments	String	255	UE		
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Year_In	Year_In	Integer	4	UE		Estimated year of installation - usually in Town file, sometimes supplied by rec drawings.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes_abandoned	Year_In	Year_In	Integer	4	UE		Estimated year of installation - usually in Town file, sometimes supplied by rec drawings.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Year_In	Year_In	Integer	4	UE		Estimated year of installation - usually in Town file, sometimes supplied by rec drawings.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems	Year_In	Year_In	Integer	4	UE		Estimated year of installation - usually in Town file, sometimes supplied by rec drawings.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Systems_abandoned	Year_In	Year_In	Integer	4	UE		Estimated year of installation - usually in Town file, sometimes supplied by rec drawings.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Year_Symb	Year_Symb	String	50	UE		For creating estimated year of installation map
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Year_Symb	Year_Symb	String	50	UE		For creating estimated year of installation map
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Pipes	Year_txt	Year_txt	String	50	UE		If year of installation was not provided by Town or available from record drawings, and was estimated based on nearby or adjoining facilities, it is noted as "Unknown" in this field.
C:\Users\meb\Desktop\Exeter_2386\Exeter_SW_Inventory.gdb	Exeter_SW_Structures	Year_txt	Year_txt	String	50	UE		If year of installation was not provided by Town or available from record drawings, it is noted as "Unknown" in this field.

Appendix A-3: Data Flow Chart

INVENTORY FIELDS REVISED BASED ON MAINTENANCE ACTIVITIES	
Condition Score	Maintenance and inspection activities
Useful Life	• Initially based on material • Can extend to next inspection date if asset is past estimated useful life but in serviceable condition. • Extend if asset has been lined, repaired or replaced. • Shortened if asset is obsolete, non-functional or in poor condition.
Year Installed	Replacement or lining.
Material	Replacement or lining.
Replacement Cost	Input for a particular asset or average for similar assets.

FIELDS RECALCULATED BASED ON REVISED FIELDS FROM ABOVE:	
Probability of Failure	Defaults to condition score if known. Otherwise it depends on estimated Remaining Useful Life.
End of Useful Life	Year Installed + Useful Life
Replacement Year	Is equal to End of Useful Life unless 1. Asset is already passed its Useful Life, then defaults to current year. 2. Asset is in poor condition, then defaults to a year or two from current year.
Criticality	Depends on Impact of Failure and Probability of Failure.
Risk Score	Impact of Failure x Probability of Failure
Replacement Cost	Can be calculated for all

EXPORTED FROM INVENTORY TO FINANCIAL PLANNING SPREADSHEET	
Type	Asset Category or Type (ex. manhole, gravity main, etc.)
Condition Score	Maintenance and inspection activities
Useful Life	Condition Score and Material
Year Installed	Replacement or inventory update.
Material	Replacement or inventory update.
Replacement Cost	Input for a particular asset
Probability of Failure	Defaults to condition score if known. Otherwise it depends on estimated Remaining Useful Life.
End of Useful Life	Year Installed + Useful Life
Replacement Year	Is equal to End of Useful Life unless 1. Asset is already passed its Useful Life, then defaults to current year. 2. Asset is in poor condition, then defaults to a year or two from current year.
Criticality	Depends on Impact of Failure and Probability of Failure.
Risk Score	Impact of Failure x Probability of Failure
Replacement Cost	Can be calculated for all

FIELDS IN FINANCIAL PLANNING SPREADSHEET CALCULATED BASED ON FIELDS FROM ABOVE	
Current Year	User Input
Scheduled Replacement Costs Each Year for Ten Years	Calculated based on Current Year, Replacement Year, and Replacement Cost.
Scheduled Replacement Costs Each Decade for One Hundred Years	Calculated based on Current Year, Replacement Year, and Replacement Cost

ESTIMATED REPLACEMENT VALUE PIE CHART FIELDS	TEN- OR TWENTY-YEAR LOOK AHEAD	ONE HUNDRED YEAR LOOK AHEAD
Type	Risk Score (Descending Order)	All Replacement Decades
Replacement Cost	Criticality = Highest Risk or Priority Renewal	
	Replacement Decade (1st decade or 1st and 2nd decade)	

Exeter, NH - Sewer and Stormwater System
Asset Management Plan - Level of Service
November 16, 2020

Asset Management Program Vision Statement: **"Integrate data sources to better leverage available information and coordinate and streamline reporting and decision-making in order to optimize system efficiency."**

Goal	Objective	Measure	Units	2019 Benchmark	2020 Goals	2020 Attainment	Corrective Measures / Comments
STORMWATER AND WASTEWATER							
Data Integration	Coordinate maintenance activities with asset inventories.	Ensure each asset has a unique identification number	Annual update and review		New WWTF		Unique identification numbers assigned as part of WWTF FSP completed by WP, and WW and SW AMP completed by UE.
					SW structures and pipe		
					WW structures and pipe		
	Create mechanism to update asset inventory files using information from maintenance system record keeping	How-to videos	Annual update and review		Analyze data sources and determine how best to integrate		UE to provide how-to videos which demonstrate how to take information from various information sources and use them to merge data
	Enhance coordination between departments	Create common "landing spot" for data (ArcGIS)	Annual update and review		Update and expand existing ArcGIS files		Provide ArcGIS files to Town.
Employee Development & Fiscal Sustainability	Consistent Budgetary Controls	O&M expenditures versus fiscal year budgets	% FY spend rate ($ assessed/$ expended)		90%		Monitor expenditures vs. annual FY budget; improve forecast based on spend rate trends and needs
	Effective Resource Management	Employee injury incident rate	Hours lost time/hours worked (# workers)	0	0%		Continued focus on safe work environment and safety training
		Evaluate staffing levels	Identify required tasks and resources needed to complete those tasks	Annual review			Create staffing plan based on resources needed.
	Employee Retention	Timely Employee Evaluations	# evaluations > 1 year old/total # filled positions (%)	2/2 (100%)	2/2 (100%)		Employee evaluations performed annually and include achievable goals
		Effective staff recruitment and retention	# filled positions/necessary positions (%)	3/3 (100%)	3/3 (100%)		Evaluate open positions to determine need to fill; identify appropriate job accountabilities; knowledge and skills
		Cross-training Implemented	# positions with trained back-up/total # necessary positions (%)	2/3 (66%)	3/3 (100%)		Implement exmployee mentoring and cross-training plans; include in transition plan for each section
	Employee Professional Certified Training	Maintain certifications and training	# employees with appropriate certification /# employees	2/3 (66%)	2/3 (66%)		

Appendix A-4: Level of Service Matrix

WASTEWATER							
Customer Satisfaction	Eliminate Sewer Discharges to the Environment	Sanitary sewer overflow (SSOs) & Gallons	# SSOs/year, Total Gal	0	0		Continue routine inspections and performance of any necessary repairs within 8-hours
	Increase reliability of response to customer complaints	Number of Complaints	# complaints/year	0	0		Initial evaluation and response within one (1) business day. Follow-up until ultimate closure.
		Customer Response within one (1) business day	Responses over 24-hours	0	0		
	Sewer Connection Request	Time to process less than 2 weeks	# responses over 48-hr/total requests	0/2	>80%		
	Public Outreach to Customers	Outreach calls/meetings/events	# completed/year	12	12		12 Public Meetings per year
		Post Commission Meeting agenda & minutes within 7-days	# posted over 7 days	0	0		Post on website and ensure public is aware (e.g. yearly bill)
	Sewer Rate Increase	Cost to Average User	% increase/year	50.00%	5 - 10 %		Rate increase 5-10% per year until ultimate goal is reached.
Operational Performance	Infiltration/Inflow (I/I) Identified	Collection Sys Inspection	Units Inspected (# MH/lf sewer)	0	10		I/I Studies, update Collection System asset tab, assess overall condition
		Project Planning	Review performance and condition information to plan and budget for needed projects	Annual review			Westside Drive - I/I and sump pump removal planning.
	NPDES Permit Compliance	Discharge permit violations (all types)	# violations/year	0	0		Track violations and determine measures to eliminate causes
		Effluent BOD, mg/l	Ave BOD mg/1	8	10		NPDES limit is 30 mg/l
		Effluent TSS, mg/l	Ave TSS mg/l	6	10		NPDES limit is 30 mg/l
		Effluent TN, mg/l	Ave TN mg/l	10	8		No NPDES limit
	Industrial/Commercial Discharge Compliance	Contract Violations	# violations/year	0	0		Track violations and determine measures to eliminate causes
STORMWATER							
Customer Satisfaction	Eliminate Sewer Discharges to the Environment	Combined sewer overflow (CSOs) & Gallons	# CSOs/year, Total Gal	0	0		Continue routine inspections and performance of any necessary repairs within 8-hours
	Increase reliability of response to customer complaints	Number of Complaints	# complaints/year	0	0		Initial evaluation and response within one (1) business day. Follow-up until ultimate closure.
		Customer Response within 24-hours	Responses over 24-hours	0	0		
	Stormwater Financial Information	Determine true Cost of Service	$/year				Share with public through story maps or other content posted on website
Operational Performance	NPDES Permit Compliance	Track MS4 Permit Requirements	Annual progress	0	0		Track BMPs
	Coordinate stormwater projects with roadway projects and other utility projects	Inspection & cleaning	Review and map annually				Mapped to extent possible
		CCTV					Collect information throughout 2021
		Pavement Evaluation					Collect information throughout 2021

APPENDIX B

Sanitary Sewer Attribute Tables and Summaries

SEWER STRUCTURES BY OWNER AND TYPE

Count of AssetID (revised)		Owner		
Type	**Unit cost**	**Private**	**Town**	**Grand Total**
Air Release Manhole	$10,000		1	1
Diversion Structure	$10,000		1	1
Manhole	$10,000	258	1164	1422
Grand Total		**258**	**1166**	**1424**

Owner	Town

SEWER STRUCTURES BY ESTIMATED YEAR OF INSTALLATION

Year_txt	Year_In	Sum of Repl_Cost
1907	1907	$150,000
1964	1964	$1,240,000
	2009	$20,000
1968	1968	$560,000
1969	1969	$710,000
1973	1973	$80,000
1978	1978	$40,000
1985	1985	$130,000
1986	1986	$270,000
1987	1987	$370,000
1988	1988	$10,000
1990	1990	$60,000
1991	1991	$40,000
1994	1994	$320,000
1995	1995	$160,000
1999	1999	$260,000
2000	1964	$30,000
	2000	$230,000
2001	2001	$120,000
2003	2003	$170,000
2005	2005	$50,000
2008	2008	$180,000
2009	1999	$10,000
2011	2011	$30,000
2012	2012	$40,000
2013	1964	$60,000
	2013	$40,000
2014	2014	$460,000
2015	1968	$60,000
	2015	$120,000
post-1969	1969	$100,000
pre-1980	1964	$40,000
pre-1983	1964	$100,000
pre-1990	1964	$50,000
	1984	$20,000
	1985	$50,000
Unknown	1964	$2,880,000
	1965	$300,000
	1968	$220,000
	1969	$60,000
	1970	$550,000
	1973	$10,000
	1978	$10,000
	1983	$10,000
	1985	$710,000
	1988	$10,000
	1989	$70,000
	1990	$160,000
	1999	$120,000
	2000	$40,000
	2003	$80,000
	2005	$10,000
	2008	$20,000
	2013	$10,000
	2014	$10,000
Grand Total		**$11,660,000**

GRAVITY MAINS BY OWNER

Row Labels	Sum of Len_ft	Sum of Repl_Cost
Private	33,054	$12,395,327
Town	246,060	$92,272,673
Grand Total	**279,115**	**$104,668,000**

Owner	Town

GRAVITY MAINS BY DIAMETER

Row Labels	Sum of Len_ft	Sum of Repl_Cost
6	3,610	$1,353,587
8	168,754	$63,282,629
10	17,747	$6,655,275
12	22,374	$8,390,429
15	21,127	$7,922,812
18	6,973	$2,614,726
21	592	$222,177
24	2,839	$1,064,551
36	2,044	$766,487
Grand Total	**246,060**	**$92,272,673**

46.60 miles

Owner	Town

GRAVITY MAINS BY MATERIAL

Row Labels	Average of U_life	Sum of Len_ft	Sum of Repl_Cost
AC	80	43,747	$16,405,191
CIPP	50	309	$115,925
DI	100	1,635	$613,039
PVC	75	81,781	$30,667,711
RCP	60	19,665	$7,374,434
Unknown	100	51	$18,969
VC	80	98,873	$37,077,405
Grand Total	**77**	**246,060**	**$92,272,673**

Owner	Town

GRAVITY MAINS BY ESTIMATED YEAR OF INSTALLATION

Year_txt	Year_In	Sum of Len_ft	Sum of Repl_Cost
1907	1907	5,774	$2,165,356
1964	1964	29,847	$11,192,680
1968	1968	13,643	$5,116,010
1969	1969	18,634	$6,987,915
1973	1973	1,632	$611,855
1978	1978	680	$254,846
1984	1984	3,302	$1,238,423
1985	1985	2,275	$853,291
	1986	1,184	$444,102
1986	1986	4,666	$1,749,869
	1987	2,449	$918,380
1987	1987	4,460	$1,672,625
1988	1988	1,008	$378,054
1990	1990	3,957	$1,483,931
1991	1991	346	$129,576
1994	1994	4,927	$1,847,479
1995	1995	2,537	$951,422
1999	1999	5,484	$2,056,550
2000	2000	5,790	$2,171,292
2001	2001	2,259	$847,157
2003	2003	3,327	$1,247,714
2005	2005	942	$353,077
2008	2008	3,433	$1,287,310
2013	2013	727	$272,774
2014	2014	9,715	$3,643,125
2015	2015	2,639	$989,709
post-1968	1968	1,283	$481,241
post-1969	1969	2,149	$805,691
pre-1980	1964	3,410	$1,278,576
pre-1983	1964	3,819	$1,432,274
pre-1990	1964	5,291	$1,983,948
	1985	691	$259,292
pre-2000	1964	2,679	$1,004,674
Unknown	1964	47,477	$17,803,902
	1965	8,625	$3,234,545
	1968	3,633	$1,362,460
	1970	11,482	$4,305,699
	1985	13,447	$5,042,508
	1988	416	$156,091
	1989	1,710	$641,411
	1990	1,208	$452,936
	1999	2,434	$912,902
	2003	366	$137,349
	2008	300	$112,651
Grand Total		**246,060**	**$92,272,673**

FORCE MAIN BY OWNER

Row Labels	Sum of Len_ft	Sum of Repl_Cost
Private	12,416	$4,655,819
Town	22,325	$8,371,862
Grand Total	**34,740**	**$13,027,682**

Owner	Town

FORCE MAIN BY DIAMETER

Row Labels	Sum of Len_ft	Sum of Repl_Cost
2	1,191	$446,525
4	3,327	$1,247,810
6	5,033	$1,887,460
8	2,060	$772,614
10	5,080	$1,905,128
16	5,633	$2,112,326
Grand Total	**22,325**	**$8,371,862**

4.23 miles

Owner	Town

FORCE MAIN BY MATERIAL

Row Labels	Sum of Len_ft	Sum of Repl_Cost
AC	4,817	$1,806,360
CI	5,633	$2,112,326
DI	1,864	$698,971
PVC	8,738	$3,276,729
Unknown	1,273	$477,476
Grand Total	**22,325**	**$8,371,862**

Owner	Town

FORCE MAIN BY ESTIMATED YEAR OF INSTALLATION

Year_txt	Year_In	Sum of Len_ft	Sum of Repl_Cost
1964	1964	8,492	$3,184,340
1969	1969	861	$322,734
1983	1983	5,080	$1,905,128
1986	1986	2,467	$925,076
1987	1987	1,864	$698,971
2003	2003	1,191	$446,525
Unknown	1964	1,270	$476,419
	1985	1,039	$389,644
	1996	61	$23,025
Grand Total		**22,325**	**$8,371,862**

APPENDIX B-4: Sewer Asset Data Table

Pages 1-2 of 105, Excel spreadsheet provided.

OBJECTID	AssetID	Type	Owner	Street	Year_in	Repl_Cost	U_life	EU_life	RU_life	Repl_year	Impact	Prob	CondScore	Risk_Score	Crit
1	SMH-0039 - SMH-0038	Force Main	Town	AMBERWOOD DR	1996	23025.15024	75	2071	51	2071	2	1	0	2	Limited Monitoring
2	PS-0005 - SMH-0772	Force Main	Private	BROOKSIDE DR	1970	267322.7073	100	2070	50	2070	3	2	0	6	Privately Owned
3	SMH-1132 - SMH-0442	Force Main	Private	CHADWICK LN	1964	193553.4795	75	2039	19	2039	2	3	0	6	Privately Owned
4	PS-0003 - SMH-0765	Force Main	Town	COLCORD POND DR	1986	475694.959	75	2061	41	2061	3	2	0	6	Limited Monitoring
5	LP-0001 - SMH-1251	Force Main	Private	CONTINENTAL DR	2001	51375.08632	75	2076	56	2076	3	1	0	3	Privately Owned
6	LP-0002 - SMH-1251	Force Main	Private	CONTINENTAL DR	2001	57596.47027	75	2076	56	2076	3	1	0	3	Privately Owned
7	LP-0003 - SMH-1251	Force Main	Private	CONTINENTAL DR	2001	26878.75787	75	2076	56	2076	3	1	0	3	Privately Owned
8	LP-0004 - SMH-1251	Force Main	Private	CONTINENTAL DR	2001	25674.21235	75	2076	56	2076	3	1	0	3	Privately Owned
9	SMH-1251 - SMH-1250(1)	Force Main	Private	CONTINENTAL DR	2001	191113.5249	75	2076	56	2076	3	1	0	3	Privately Owned
10	SMH-1250 - SMH-1249(4)	Force Main	Private	CONTINENTAL DR	2001	143152.2605	75	2076	56	2076	3	1	0	3	Privately Owned
11	SMH-1250 - SMH-1249(3)	Force Main	Private	CONTINENTAL DR	2001	139587.8018	75	2076	56	2076	3	1	0	3	Privately Owned
12	SMH-1250 - SMH-1249(2)	Force Main	Private	CONTINENTAL DR	2001	139373.0843	75	2076	56	2076	3	1	0	3	Privately Owned
13	SMH-1250 - SMH-1249(1)	Force Main	Private	CONTINENTAL DR	2001	139958.193	75	2076	56	2076	3	1	0	3	Privately Owned
14	SMH-1251 - SMH-1250(4)	Force Main	Private	CONTINENTAL DR	2001	188740.2121	75	2076	56	2076	3	1	0	3	Privately Owned
15	SMH-1251 - SMH-1250(3)	Force Main	Private	CONTINENTAL DR	2001	188960.7877	75	2076	56	2076	3	1	0	3	Privately Owned
16	SMH-1251 - SMH-1250(2)	Force Main	Private	CONTINENTAL DR	2001	189817.0588	75	2076	56	2076	3	1	0	3	Privately Owned
17	SMH-0427 - SMH-0381	Force Main	Town	COURT ST	1986	54424.0999	75	2061	41	2061	2	2	0	4	Limited Monitoring
18	PS-0010 - SMH-0428	Force Main	Town	COURT ST	1986	394956.4636	75	2061	41	2061	2	2	0	4	Limited Monitoring
19	SMH-1569 - SMH-0244	Force Main	Town	COURT ST	1983	1887517.57	75	2058	38	2058	4	2	0	8	Frequent Monitoring
20	SMH-1569 - SMH-0681	Force Main	Town	COURT ST	1964	322425.6371	80	2044	24	2044	4	5	5	20	Highest Risk
21	PS-0011 - SMH-1569	Force Main	Town	COURT ST	1983	17610.87939	75	2058	38	2058	4	2	0	8	Frequent Monitoring
22	PS-0006 - SMH-0477	Force Main	Town	CULLEN WAY	1987	698971.0175	100	2087	67	2087	3	1	0	3	Limited Monitoring
23	PS-0009 - SMH-1095	Force Main	Private	DEEP MEADOWS PK	1985	122404.5572	75	2060	40	2060	2	2	0	4	Privately Owned
24	PS-0007 - SMH-0596	Force Main	Town	FRONT ST	1964	411611.8556	80	2044	24	2044	4	2	0	8	Frequent Monitoring
25	SMH-1357 - SMH-0068	Force Main	Town	HOLLAND WAY	1964	64806.87765	75	2039	19	2039	1	3	0	3	Frequent Monitoring
26	PS-0015 - SMH-0127	Force Main	Town	LANGDON AVE	1969	322734.1301	80	2049	29	2049	3	2	0	6	Limited Monitoring
27	PS-0008 - SMH-0446	Force Main	Private	LINDEN ST	1985	507349.8573	75	2060	40	2060	2	2	0	4	Privately Owned
28	PS-0014 - SMH-0172	Force Main	Town	PRENTISS WAY	1985	389644.2532	75	2060	40	2060	2	2	0	4	Limited Monitoring
29	PS-0004 - SMH-1312	Force Main	Private	UNKNOWN	1985	175354.1809	75	2060	40	2060	2	2	0	4	Privately Owned
30	SMH-1302 - SMH-1301	Force Main	Private	UNKNOWN	1969	10353.30914	75	2044	24	2044	1	2	0	2	Privately Owned
31	PS-0020 - SMH-1435	Force Main	Private	WINSLOW WAY	2014	468581.5644	75	2089	69	2089	2	1	0	2	Privately Owned
32	PS-0017 - SMH-1474	Force Main	Private		2003	186831.7315	75	2078	58	2078	2	1	0	2	Privately Owned
33	SMH-1474 - SMH-1475	Force Main	Private		2003	126157.0316	75	2078	58	2078	2	1	0	2	Privately Owned
34	SMH-1475 - SMH-1464	Force Main	Private		2003	289459.5751	75	2078	58	2078	2	1	0	2	Privately Owned
35	PS-0016 - SMH-1525	Force Main	Private		2003	340963.7256	75	2078	58	2078	3	1	0	3	Privately Owned
36	SMH-1434 - SMH-1433	Force Main	Town		2003	169250.7361	75	2078	58	2078	1	1	0	1	Limited Monitoring
37	SMH-1449 - SMH-1430	Force Main	Town		2003	174242.5311	75	2078	58	2078	1	1	0	1	Limited Monitoring
38	PS-0013 - SMH-0295	Force Main	Town	WEBSTER AVE	1964	749588.8052	80	2044	24	2044	2	5	5	10	Priority Renewal
39	PS-0018 - SMH-1361	Force Main	Private	HOSPITAL	1988	400663.8076	75	2063	43	2063	2	2	0	4	Privately Owned
40	SMH-?KimballPS - SMH-0380	Force Main	Private	STRING BRIDGE	1964	84596.21969	75	2039	19	2039	1	3	0	3	Privately Owned
41	PS-0012 - SMH-1523	Force Main	Town	SWAZEY PARKWAY	1964	2112325.583	100	2064	44	2064	5	2	0	10	Frequent Monitoring
42	SMH-1433 - SMH-1430	Force Main	Town		2003	103031.846	75	2078	58	2078	1	1	0	1	Limited Monitoring
43	SMH-1178 - SMH-1179	Gravity Main	Private	ALDER ST	1970	39073.03559	80	2050	30	2050	1	2	0	2	Privately Owned
44	SMH-1172 - SMH-1173	Gravity Main	Private	ALDER ST	1970	102300.0776	80	2050	30	2050	1	2	0	2	Privately Owned
45	SMH-1181 - SMH-1179	Gravity Main	Private	ALDER ST	1970	67994.82874	80	2050	30	2050	1	2	0	2	Privately Owned
46	SMH-0784 - SMH-0785	Gravity Main	Town	ALLARD ST	1985	114787.9633	75	2060	40	2060	2	2	0	4	Limited Monitoring
47	SMH-0785 - SMH-0786	Gravity Main	Town	ALLARD ST	1985	110925.5995	75	2060	40	2060	2	2	0	4	Limited Monitoring
48	SMH-0786 - SMH-0776	Gravity Main	Town	ALLARD ST	1985	61555.98366	75	2060	40	2060	2	2	0	4	Limited Monitoring
49	SMH-0257 - SMH-0256	Gravity Main	Town	ALLEN ST	1968	123054.7907	80	2048	28	2048	1	2	0	2	Limited Monitoring
50	SMH-0254 - SMH-0255	Gravity Main	Town	ALLEN ST	1968	114099.7601	80	2048	28	2048	2	2	0	4	Limited Monitoring
51	SMH-0258 - SMH-0257	Gravity Main	Town	ALLEN ST	1968	108436.4052	80	2048	28	2048	1	2	0	2	Limited Monitoring
52	SMH-0255 - SMH-0256	Gravity Main	Town	ALLEN ST	1968	82772.15674	80	2048	28	2048	2	2	0	4	Limited Monitoring
53	SMH-1383 - SMH-0132	Gravity Main	Town	APPLEDORE AVE	1969	59139.25796	80	2049	29	2049	2	2	0	4	Limited Monitoring
54	SMH-0134 - SMH-0133	Gravity Main	Town	APPLEDORE AVE	1969	70321.85204	80	2049	29	2049	2	2	0	4	Limited Monitoring
55	SMH-0133 - SMH-0132	Gravity Main	Town	APPLEDORE AVE	1969	61350.57443	80	2049	29	2049	2	2	0	4	Limited Monitoring
56	SMH-0660 - SMH-0661	Gravity Main	Town	ARBOR ST	1964	142115.392	80	2044	24	2044	2	2	0	4	Limited Monitoring
57	SMH-0660 - SMH-0659	Gravity Main	Town	ARBOR ST	1964	123056.0765	80	2044	24	2044	2	2	0	4	Limited Monitoring
58	SMH-0019 - SMH-0020	Gravity Main	Town	ASHBROOK RD	2008	86570.17782	75	2083	63	2083	2	1	0	2	Limited Monitoring
59	SMH-0018 - SMH-0019	Gravity Main	Town	ASHBROOK RD	2008	89974.17477	75	2083	63	2083	2	1	0	2	Limited Monitoring
60	SMH-0022 - SMH-0021	Gravity Main	Town	ASHBROOK RD	2008	121345.1566	75	2083	63	2083	3	1	0	3	Limited Monitoring
61	SMH-0023 - SMH-0022	Gravity Main	Town	ASHBROOK RD	2008	99663.12719	75	2083	63	2083	2	1	0	2	Limited Monitoring
62	SMH-0024 - SMH-0023	Gravity Main	Town	ASHBROOK RD	2008	121630.828	75	2083	63	2083	2	1	0	2	Limited Monitoring
63	SMH-0025 - SMH-0024	Gravity Main	Town	ASHBROOK RD	2008	79609.65089	75	2083	63	2083	2	1	0	2	Limited Monitoring
64	SMH-0026 - SMH-0025	Gravity Main	Town	ASHBROOK RD	1964	72414.06514	80	2044	24	2044	2	2	0	4	Limited Monitoring
65	SMH-0027 - SMH-0026	Gravity Main	Town	ASHBROOK RD	1964	71090.12463	80	2044	24	2044	2	2	0	4	Limited Monitoring
66	SMH-0028 - SMH-0027	Gravity Main	Town	ASHBROOK RD	1964	94491.3785	80	2044	24	2044	2	2	0	4	Limited Monitoring
67	SMH-0029 - SMH-0028	Gravity Main	Town	ASHBROOK RD	1964	116198.7182	80	2044	24	2044	2	2	0	4	Limited Monitoring
68	SMH-0030 - SMH-0029	Gravity Main	Town	ASHBROOK RD	1988	122577.2485	75	2063	43	2063	2	2	0	4	Limited Monitoring
69	SMH-0020 - SMH-0021	Gravity Main	Town	ASHBROOK RD	2008	86784.69233	75	2083	63	2083	3	1	0	3	Limited Monitoring
70	SMH-0903 - SMH-0904	Gravity Main	Town	ASH ST	1964	67737.65994	80	2044	24	2044	1	2	0	2	Limited Monitoring
71	SMH-0904 - SMH-0905	Gravity Main	Town	ASH ST	1964	20343.58971	80	2044	24	2044	1	2	0	2	Limited Monitoring
72	SMH-0905 - SMH-0906	Gravity Main	Town	ASH ST	1964	71401.79015	80	2044	24	2044	2	2	0	4	Limited Monitoring
73	SMH-1362 - SMH-0345	Gravity Main	Town	AUBURN ST	1964	141367.6525	80	2044	24	2044	1	2	0	2	Limited Monitoring
74	SMH-0082 - SMH-0081	Gravity Main	Town	BAYBERRY LN	1964	25647.67697	80	2044	24	2044	2	2	0	4	Limited Monitoring
75	SMH-0081 - SMH-0059	Gravity Main	Town	BAYBERRY LN	1964	127176.0601	80	2044	24	2044	2	2	0	4	Limited Monitoring
76	SMH-0083 - SMH-0082	Gravity Main	Town	BAYBERRY LN	1964	93967.39209	80	2044	24	2044	2	2	0	4	Limited Monitoring
77	SMH-0070 - SMH-0067	Gravity Main	Town	BAYBERRY LN	1964	66788.05194	80	2044	24	2044	2	2	0	4	Limited Monitoring
78	SMH-0421 - SMH-0422	Gravity Main	Town	BELL AVE	1968	102707.7472	80	2048	28	2048	2	2	0	4	Limited Monitoring
79	SMH-0420 - SMH-0421	Gravity Main	Town	BELL AVE	1968	95282.57498	80	2048	28	2048	2	2	0	4	Limited Monitoring
80	SMH-0419 - SMH-0420	Gravity Main	Town	BELL AVE	1968	93868.56367	80	2048	28	2048	2	2	0	4	Limited Monitoring
81	SMH-0418 - SMH-0419	Gravity Main	Town	BELL AVE	1968	83222.88089	80	2048	28	2048	2	2	0	4	Limited Monitoring
82	SMH-0425 - SMH-0437	Gravity Main	Town	BELL AVE	1968	114416.0749	80	2048	28	2048	2	2	0	4	Limited Monitoring

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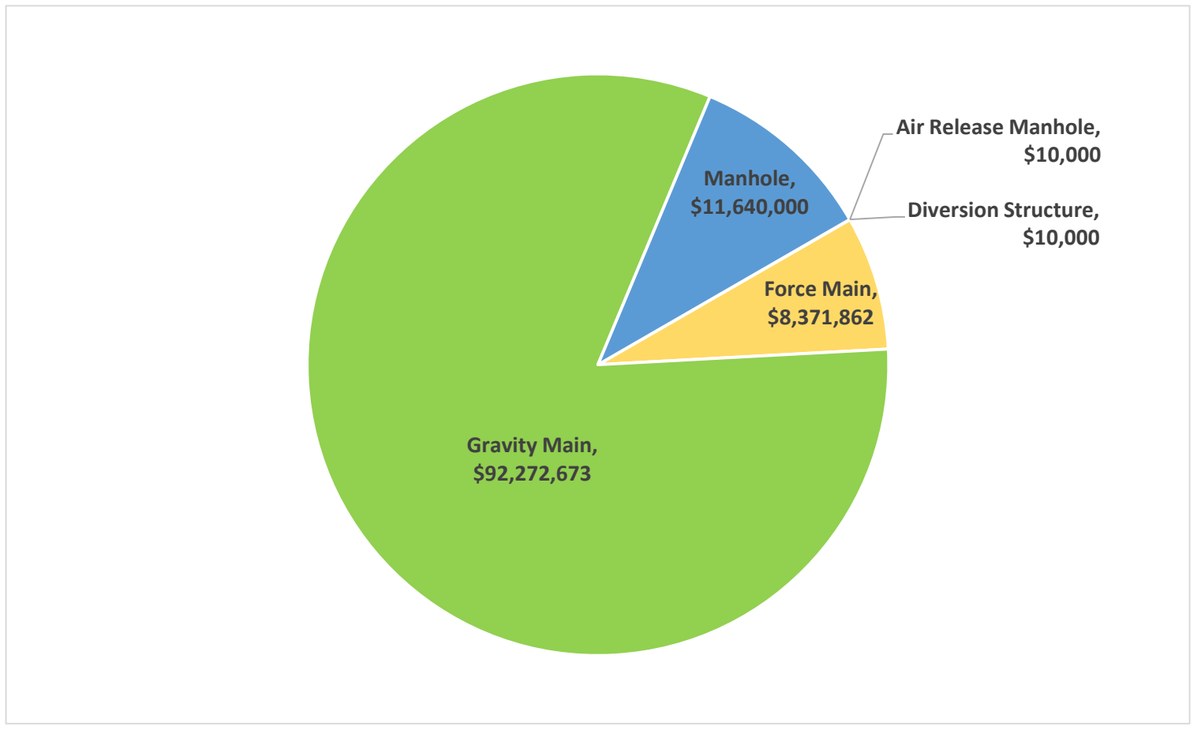
SMH-0418 - SMH-0419													83222.88089								1
SMH-0425 - SMH-0437													114416.0749								1

Sum of Repl_Cost	Owner		
Type	Town	Private	Grand Total
Air Release Manhole	$10,000		$10,000
Diversion Structure	$10,000		$10,000
Force Main	$8,371,862	$4,655,819	$13,027,682
Gravity Main	$92,272,673	$12,395,327	$104,668,000
Manhole	$11,640,000	$2,580,000	$14,220,000
Grand Total	**$112,304,536**	**$19,631,146**	**$131,935,682**

Owner	Town

Sum of Repl_Cost	
Type	Total
Air Release Manhole	$10,000
Diversion Structure	$10,000
Force Main	$8,371,862
Gravity Main	$92,272,673
Manhole	$11,640,000
Grand Total	**$112,304,536**



TEN-YEAR RENEWAL SUMMARY BY RISK SCORE AND TYPE

Owner Town

Sum of _2020_2029 Risk_Score	Type	Crit Highest Risk	Priority Renewal	Grand Total
20	Gravity Main	$1,690,916		$1,690,916
	Manhole	$40,000		$40,000
16	Gravity Main	$2,256,392		$2,256,392
15	Gravity Main		$77,667	$77,667
12	Gravity Main		$3,210,816	$3,210,816
10	Gravity Main		$1,029,359	$1,029,359
	Manhole		$70,000	$70,000
5	Gravity Main		$357,884	$357,884
	Manhole		$40,000	$40,000
Grand Total		**$3,987,308**	**$4,785,725**	**$8,773,033**

TEN-YEAR RENEWAL DETAIL BY RISK SCORE AND STREET

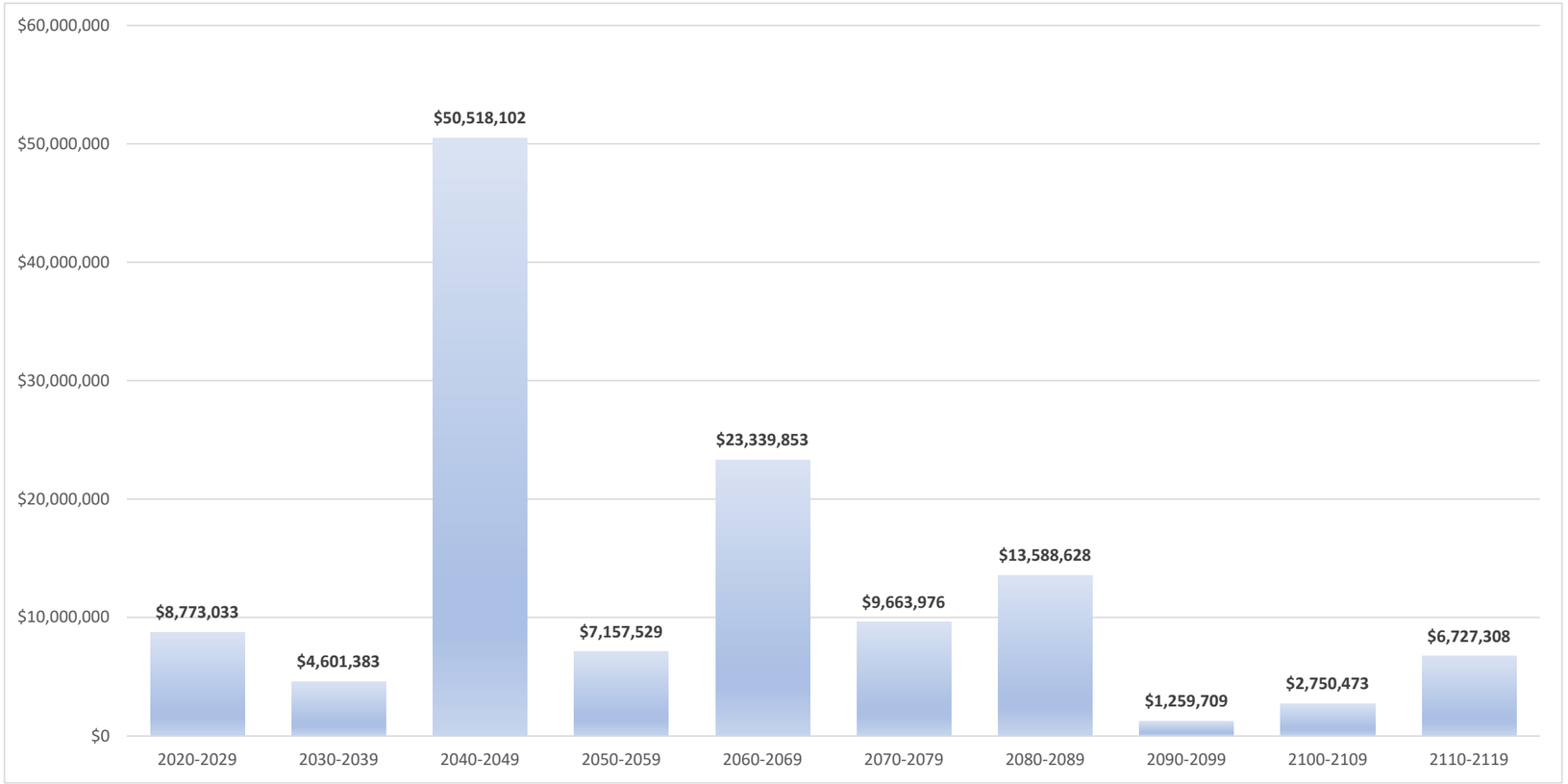
Owner Town

Sum of _2020_2029 Risk_Score	Type	Street1	Total
20	**Gravity Main**	CROSS COUNTRY (LINCOLN TO TAN)	$99,546
		SWAZEY PARKWAY	$374,252
		SWAZEY PKWY	$216,008
		TAN LN	$66,312
		WATER ST	$234,352
		WINTER ST	$700,447
	Manhole	WINTER ST	$40,000
16	**Gravity Main**	CROSS COUNTRY (DRINKWATER TO FOLSOM)	$107,333
		CROSS COUNTRY (GILMAN TO FOX CHAPEL)	$738,253
		DRINKWATER RD	$122,838
		FOLSOM ST	$63,803
		FOX CHAPEL CT	$302,866
		GILMAN LN	$137,909
		LINCOLN ST	$72,531
		STRING BRIDGE	$114,645
		WATER ST	$596,214
15	**Gravity Main**	SALEM ST	$77,667
12	**Gravity Main**	ASHBROOK RD	$77,892
		CHESTNUT ST	$56,889
		CROSS COUNTRY (ASHBROOK TO HAMPTON FALLS)	$315,901
		CROSS COUNTRY (HAMPTON FALLS TO PLEASANT VIEW)	$1,130,696
		CROSS COUNTRY (PINE MEADOW TO HAMPTON FALLS)	$971,301
		DRINKWATER RD	$157,864
		HAMPTON FALLS RD	$157,198
		MEADOW LN	$136,112
		PLEASANTVIEW DR	$206,962
10	**Gravity Main**	COLUMBUS AVE	$715,471
		PARK ST	$228,590
		WINTER ST	$85,298
	Manhole	COLUMBUS AVE	$50,000
		PARK ST	$20,000
5	**Gravity Main**	COLUMBUS AVE	$215,997
		OAK ST	$106,791
		PARK ST	$35,097
	Manhole	COLUMBUS AVE	$20,000
		OAK ST	$10,000
		PARK ST	$10,000
Grand Total			**$8,773,033**

Appendix B-7: One-Hundred Year Look Ahead (Sanitary Sewer)

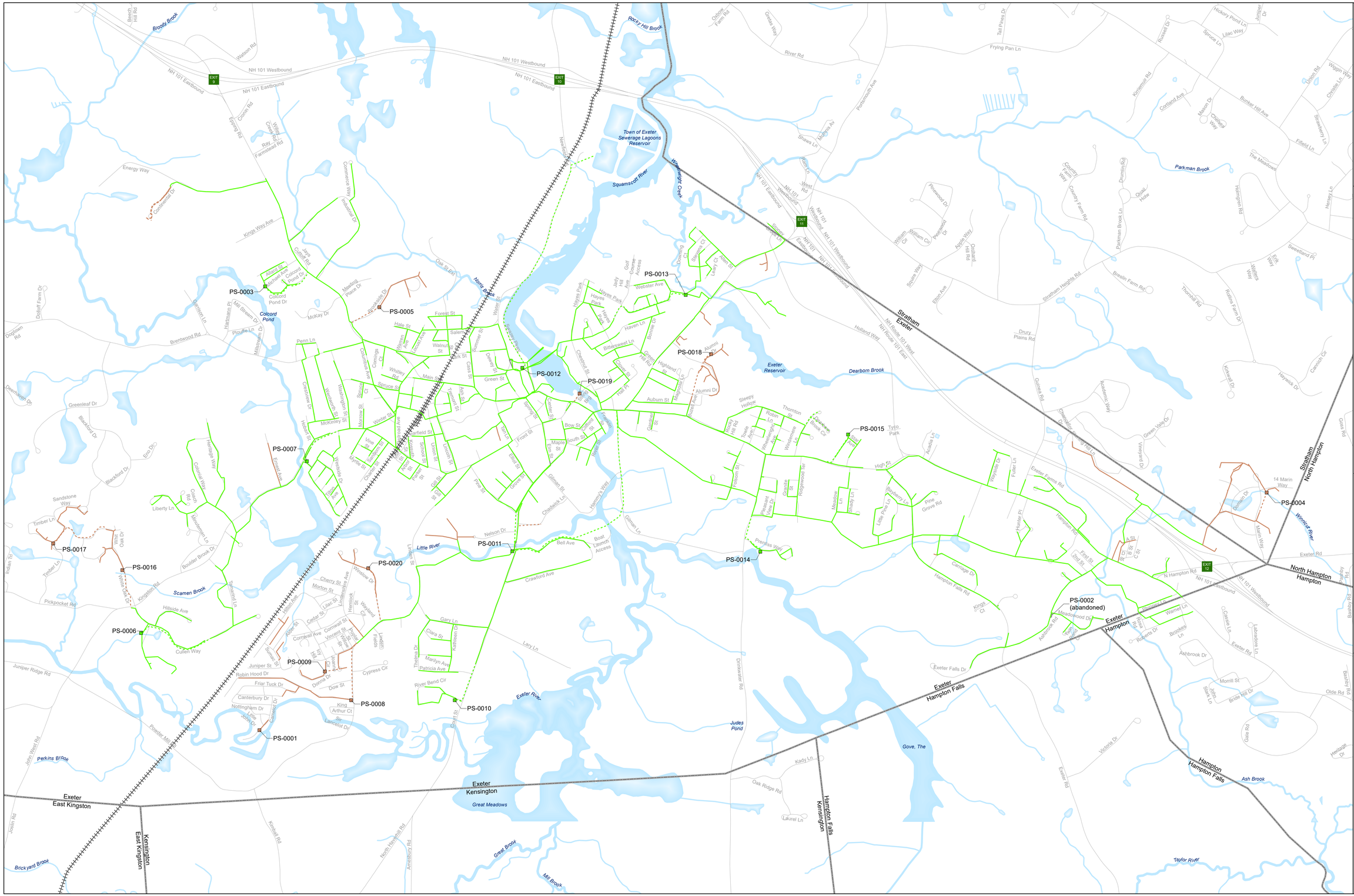
Owner	Town

Values	
2020-2029	$8,773,033
2030-2039	$4,601,383
2040-2049	$50,518,102
2050-2059	$7,157,529
2060-2069	$23,339,853
2070-2079	$9,663,976
2080-2089	$13,588,628
2090-2099	$1,259,709
2100-2109	$2,750,473
2110-2119	$6,727,308
	$128,379,994
	$1,283,800



APPENDIX C

Sanitary Sewer Collection System Maps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PS-0002 (abandoned)
PS-0003
PS-0004
PS-0005
PS-0006
PS-0007
PS-0008
PS-0009
PS-0010
PS-0011
PS-0012
PS-0013
PS-0014
PS-0015
PS-0016
PS-0017
PS-0018
PS-0019
PS-0020
Exeter
East Kingston
Kensington
East Kingston
Exeter
Kensington
Exeter
Hampton
Exeter
Hampton Falls
Hampton
Hampton Falls
Hampton Falls
Kensington
North Hampton
Hampton
Stratham
Exeter
Stratham
North Hampton
Town of Exeter Sewerage Lagoons Reservoir
Exeter Reservoir
Squamscott River
Wheelwright Creek
Rocky Hill Brook
Bloody Brook
Nerris Brook
Colcord Pond
Dearborn Brook
Parkman Brook
Little River
Scamen Brook
Exeter River
Judes Pond
Gove, The
Great Meadows
Perkins Brook
Brickyard Brook
Great Brook
Mill Brook
Taylor River
Ash Brook
Winnicut River
NH 101 Eastbound
NH 101 Westbound
EXIT 9
EXIT 10
EXIT 11
EXIT 12
Energy Way
Kings Way Ave
Commerce Way
Industrial Dr
Continental Dr
Jays Cutoff Rd
Colcord Pond Dr
Allard St
Michael Ave
Meadow Place Dr
Blackstone Dr
Oak St Ext
Water St
Forest St
Salem St
Summer St
Hale St
Myrtle St
Cloud Ave
Walnut St
Park St
Cass St
Cummings Ct
Whitley Rd
Main St
Spruce St
Columbus Ave
Crestview Dr
Woodworth St
Washington St
Morrow St
Winter St
McKinley St
Hobart St
Penn Ln
Brentwood Rd
Mill Brook Dr
Pioville Ln
Hartmann Pl
Garrison Ln
Dolloff Farm Dr
Doctown Rd
Deerhaven Dr
Greenleaf Dr
Blackford Dr
Elm Dr
Emerald Ave
Heritage Way
Colonial Way
Liberty Ln
Coach Rd
Timber Ln
Sandstone Way
Helen Th
Pickpocket Rd
Juniper Ridge Rd
Powder Mill Rd
John Wentt Rd
Josiah Rd
Kingston Rd
Hillside Ave
Cullen Way
Arthur Oak Dr
Wild Oak Dr
Kensington Rd
Boulder Brook Dr
Rawlsford Ln
Maplewood Ave
Cherry St
Morton St
Lisa Ln
Cedar St
Cornwall Ave
Cornwall St
Vincent St
Lindenstrae Ave
Hemlock
Waterhouse Rd
Linden Ave
Alder St
Summer St
Juniper St
Robin Hood Dr
Friar Tuck Dr
Canterbury Dr
Nottingham Dr
Little John Dr
Sir Lancelot Dr
King Arthur Ct
Guinevere Dr
Dow St
Sonia Dr
Wayland Cir
Lindell Fields
Cypress Cir
Nelson Dr
Bell Ave
Boat Launch Access
Crawford Ave
Gary Ln
Clara St
Kathleen Dr
Marilyn Ave
Patricia Ave
River Bend Cir
Thelma Dr
Lary Ln
Chadwick Ln
Hemmy's Way
Gilman St
Glenn St
Elm St
Pine St
Grove St
Spring St
Center St
Bow St
Maple St
South St
Union St
Linden St
Prospect St
Garfield St
Myrtle St
Chapel St
Vine St
Water St
Front St
Hall St
Auburn St
Gardner St
Hill Pl
Highland St
Green St
Chestnut St
Pleasant St
Franklin St
Ridge St
Water St
Court St
Lincoln St
Union St
Short St
Pine St
Tremont St
Ash St
Tremont Sq
Hayes Park
Hayes Park Park
Jady Hill Ave
Golf Course Access
Webster Ave
Haven Ln
Bittersweet Ln
Bonnie Dr
Green Hill Rd
Alumni Dr
Alumni
Dowling
Stevens Ct
Leary Ct
Alden St
Stoney Hill Rd
Holland Way
Exeter Falls Dr
Drinkwater Rd
Kady Ln
Oak Ridge Rd
Laurel Ln
Sleepy Hollow
Rosa Ln
Robin Ln
Thornton St
Rosa Ln
Brook Cir
Tyco Park
Tyco Dr
Acadia Dr
Wentworth Ave
Windermere Ln
Pleasant View Dr
Ridgewood Ter
Glenside Dr
Meadowview Ln
Shady Ln
Little Pine Ln
Pine Grove Rd
Cartlidge Dr
Hampton Falls Rd
Knight Ct
Prentiss Way
Folsom St
Exeter Farms Rd
Hunter Pl
Fuller Ln
Hampden Rd
First St
2nd St
3rd St
4th St
5th St
CGI
Meadowood Dr
Ashbrook Rd
Roberts Dr
Kensington Ln
Warren Ln
Brookside Ln
Ashbrook Dr
Cassie Ln
Lahtadore Ln
Exeter Rd
Morrill St
John Stark Ln
Bridle Hill Dr
Gale Rd
Olde Rd
Bunker Rd
Victoria Dr
Heritage Dr
Goss Rd
Academic Way
Guinea Rd
Drury Plains Rd
Stratham Heights Rd
Breslin Farm Rd
Thornhill Rd
Robins Farm Dr
Kirkwall Dr
Haywick Dr
Cannon Cir
Green Vale Dr
Vineyard Dr
Country Farm Rd
Country Farm Way
Plumtrees Rd
Quail Hollow
Parkman Brook Ln
Harrington Rd
Hersey Ln
Elm Way
Wolters Way
Sweetland Pl
The Meadows
Fifield Ln
Strawberry Ln
Chrestia Ln
Wiggin Way
Tuxbury Rd
Bunker Hill Ave
Mason Dr
Chelsea Way
Cortland Ave
Kristmastree Rd
Russell Dr
Spruce Ln
Lilac Way
Hickory Pond Ln
Juniper Dr
Frying Pan Ln
Tall Pines Dr
Gosling Rd
Portsmouth Ave
Maplevale Ave
Shaws Ln
Route 108
Oxbow Farm Rd
Gosling Way
River Rd
Newfields Rd
Watson Rd
Beech Hill Rd
Epping Rd
Cronia Rd
Cheney Rd
Wiley Rd
Ray Farmstead Rd
Continental Dr
Woodward Ave
Pheasant Dr
Peppertree Dr
Apple Way
Orchard Hill Rd
William Cir
Steuro Way
Elton Ave
Dearborn Rd
Bayberry Ln
Pine Grove Rd
Exeter Rd
Bayberry Rd
Winnicut Rd
Cranberry Ln
Dodge Dr
Marin Way
14 Marin Way
Portsmouth Ave
N Hampton Rd
Exeter Rd
Ashbrook Dr
Morrill St
Olde Rd
Bridle Hill Dr
Gale Rd
Victoria Dr
Heritage Dr
Bunker Hill Ave
Fifield Ln
Strawberry Ln
Chrestia Ln
Wiggin Way
Tuxbury Rd

APPENDIX C2

PIPE DIAMETER

Force Mains

- 16
- 10
- 8
- 6
- 4
- 2
- Unknown

Gravity Mains

- 36
- 24
- 21
- 18
- 15
- 12
- 10
- 8
- 6
- 4
- Unknown

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

UNDERWOOD engineers

99 N. State Street
Concord N.H. 03301
Tel. 603-230-9898
Fax. 603-230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel. 603-436-6192
Fax. 603 -431-4753

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C3

PIPE MATERIAL

Force Mains
- AC
- VC
- RCP
- CI
- DI
- PVC
- CIPP
- Unknown

Gravity Mains
- AC
- VC
- RCP
- CI
- DI
- PVC
- CIPP
- Unknown

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

UNDERWOOD engineers

99 N. State Street
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Tel. 603-230-9898
Fax. 603-230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C4

ESTIMATED YEAR INSTALLED

Force Mains
- pre-1960
- 1960-1969
- 1970-1979
- 1980-1989
- 1990-1999
- 2000-2009
- 2010-2019

Gravity Mains
- pre-1960
- 1960-1969
- 1970-1979
- 1980-1989
- 1990-1999
- 2000-2009
- 2010-2019

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

UNDERWOOD engineers

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Concord N.H. 03301
Tel. 603-230-9898
Fax. 603-230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Project No. 2386

Date: September 29, 2020

APPENDIX C5

IMPACT OF FAILURE

Force Mains

- 5 - Very High
- 4 - High
- 3 - Moderate
- 2 - Low
- 1 - Very Low
- Not Assigned

Gravity Mains

- 5 - Very High
- 4 - High
- 3 - Moderate
- 2 - Low
- 1 - Very Low
- Not Assigned

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

UNDERWOOD engineers

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Concord N.H. 03301
Tel. 603-230-9898
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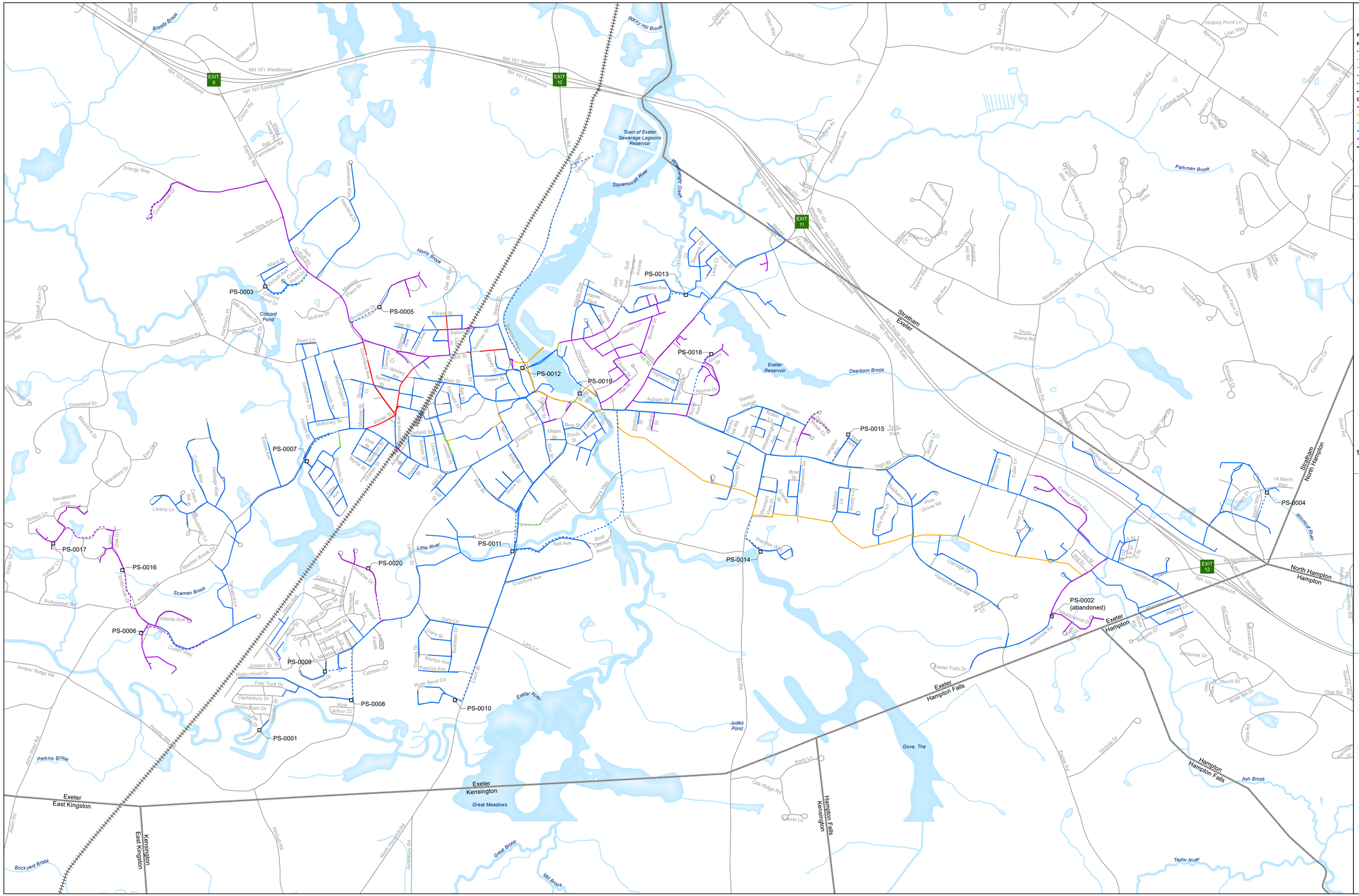
Fax. 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386



APPENDIX C-6

PROBABILITY OF FAILURE

Force Mains

- 5 - Very High
- 4 - High
- 3 - Moderate
- 2 - Low
- 1 - Very Low
- Not Assigned

Gravity Mains

- 5 - Very High
- 4 - High
- 3 - Moderate
- 2 - Low
- 1 - Very Low
- Not Assigned

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

UNDERWOOD engineers

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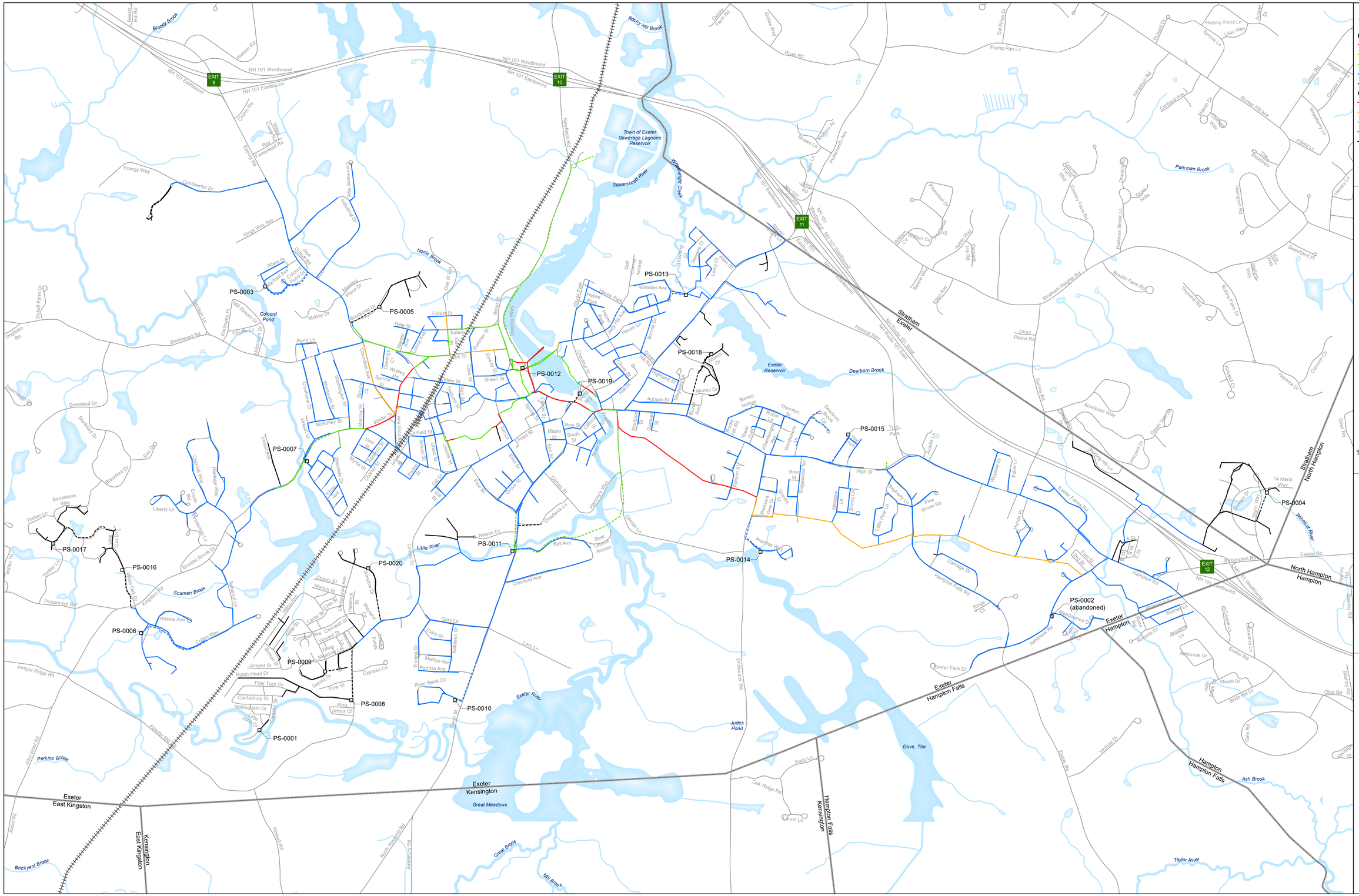
TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386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PS-0002 (abandoned)
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PS-0004
PS-0005
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PS-0009
PS-0010
PS-0011
PS-0012
PS-0013
PS-0014
PS-0015
PS-0016
PS-0017
PS-0018
PS-0019
PS-0020
Town of Exeter Sewerage Lagoons Reservoir
Exeter Reservoir
Squamscott River
Wheelwright Creek
Rocky Hill Brook
Bloody Brook
Norris Brook
Little River
Dearborn Brook
Parkman Brook
Wrinkle Brook
Scamen Brook
Perkins Brook
Exeter River
Great Brook
Mill Brook
Brickyard Brook
Ash Brook
Taylor River
Drinkwater Rd
Judes Pond
Gove, The
Great Meadows
Colcord Pond
NH 101 Westbound
NH 101 Eastbound
EXIT 9
EXIT 10
EXIT 11
EXIT 12
Stratham
Exeter
Exeter
Hampton Falls
Exeter
Kensington
Exeter
East Kingston
Kensington
East Kingston
Hampton
Hampton Falls
Hampton Falls
Kensington
North Hampton
Hampton
Exeter
Hampton
Stratham
North Hampton
Energy Way
Continental Dr
Kings Way Ave
Commerce Way
Industrial Dr
Allard St
Michael Ave
Colcord Pond Dr
Jane Colcord Rd
Meadow Place Dr
Blueside Dr
McKay Dr
Dodoff Farm Dr
Dodtown Rd
Brentwood Rd
Heathmere Pl
Mill Stream Dr
Plourde Ln
Millstream Dr
Barrdale Ln
Penn Ln
Greenleaf Dr
Deerhaven Rd
Blackford Dr
Eric Dr
Sandstone Way
Timber Ln
Timber Ln
Pickpocket Rd
Peters Hl
Liberty Ln
Coach Rd
Coastal Way
Heritage Way
Boulder Brook Dr
Rivermeet Ln
Kingston Rd
Hillside Ave
Cates Way
Juniper Ridge Rd
Robin Hood Dr
Friar Tuck Dr
Canterbury Dr
Nottingham Dr
John Dr
Sherwood Dr
King Arthur Ct
Dow St
Powder Mill Rd
John Wentworth Rd
Josiah Rd
Brickyard Brook
Kensington Rd
North Hampton Rd
Amesbury Rd
Oak Ridge Rd
Laurel Ln
Kady Ln
Exeter Falls Dr
Drinkwater Rd
Exeter Rd
Portsmouth Ave
Shaws Ln
Main Ln
Water Rd
Newfields Rd
Oxbow Farm Rd
Greta Way
River Rd
Tall Pines Dr
Frying Pan Ln
Kristmas Rd
Orchard Ave
Maple Dr
Hickory Pond Ln
Spruce Ln
Lilac Way
Juniper Dr
Bunker Hill Ave
Pine Rd
Wiggin Way
Chisholm Ln
Strawberry Ln
Tilton Rd
Fifield Ln
Tibbetts Way
Hanson Rd
Hersey Ln
Sweetland Pl
Clark Way
Hallstrom Way
Country Farm Way
Country Farm Rd
Parkman Brook Ln
Dunmore Rd
Quail Hollow
Hampton Rd
Breslin Farm Rd
Thornell Rd
Roberts Farm Dr
Kimberly Ln
Kimball Dr
Haywick Dr
Clarendon Cir
Goss Rd
Academic Way
Gilman Rd
Drury Plains Rd
Stratham Heights Rd
Holland Way
Ellis Ave
Squire Way
Orchard Hill Rd
Apple Way
Wyman Cir
Hillcrest Dr
Sherwood Dr
Pickering Ln
Nelson Dr
Bell Ave
Boat Launch Access
Crawford Ave
Gary Ln
Lary Ln
Clara St
Kathleen Dr
Marilyn Ave
Patricia Ave
River Bend Cir
Thelma Dr
Cypress Cir
Vincent St
Cherry St
Mercer St
Cedar St
Chestnut St
Hemlock St
Walnut St
Union St
Pine St
Maple St
Elm St
Front St
Water St
Green St
Main St
Spring St
Bow St
South St
Court St
Winter St
Myrtle St
Linden St
Garfield St
Pearl St
Oak St
Church St
Vine St
Tanglewood Dr
Deerfield Rd
Lincoln St
Union St
Gilman St
Chaswick Ln
Hammy's Way
Perry St
Grove St
Water St
Gilbert St
Cass St
Ash St
Tremont St
Forest St
Salem St
Hale St
Columbia Ave
Summer St
Willey St
Spring Point

APPENDIX C8

MAPBOOK INDEX

Sewer Pumping Stations
- Town
- Private

Force Mains
- Town
- Private

Gravity Mains
- Town
- Private

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-9898
Fax. 603-230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin A1 & A2

Page 1 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

Powder Mill Rd
Juniper Ridge Rd
Perkins Brook
Exeter River
Pickpocket Rd
Timber Ln
Runawit Rd
Kingston Rd
Riverwoods Dr
Cutting Way
Scamen Brook
Valley Creek Dr
Bellside Ave
Sandstone Way
White Oak Dr
Cobblestone Way
Fieldstone Dr
Blackford Dr
Robin Hood Dr
Friar Tuck Dr
Tennessee Ln
Boulder Brook Dr
Liberty Ln
Minuteman Ln
Colwell Rd
Eno Dr

PS-0006
PS-0016
PS-0017

A1
A2
A3

APPENDIX C8
Map Book

Sub- Basin A3

Page 2 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-3888
Fax. 603- 230-8899

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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin A4

Page 3 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-9898
Fax. 603 - 230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel. 603-436-6192
Fax. 603 - 431-4753

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin A5 & I0

Page 4 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
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Fax. 603-230-9899

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Portsmouth, N.H. 03801
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin A6

Page 5 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
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Fax. 603 - 230-9899

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Portsmouth, N.H. 03801
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin B0

Page 6 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

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Tel. 603-436-8192
Fax. 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin C0 & D0

Page 7 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

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Concord N.H. 03301
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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin E1

Page 8 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

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Concord N.H. 03301
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Fax. 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

Scamen Brook
Little River
Exeter River
Powder Mill Rd
Pickering Rd
Cutler Rd
Cutler Way
Allerdale Ave
Tamarind Ln
Juniper St
Simac St
Icy Hill
Strouts Park
Deep Meadow Ln
Donna Dr
Robin Hood Dr
Friar Tuck Dr
Friar Tuck Cir
Canterbury Dr
Nottingham Dr
Little John Dr
Maid Marion Dr
Sherwood Cir
Hilton Ave
Alder St
Cedar St
Cornwall Ave
Cornwall St
Peach St
Plum St
Pecan St
Morton St
Lilac St
Cherry St
Lattimore Ave
Hemlock St
Heyland Cir
Vincent St
Wanda Ln
Willow St
Poplar St
Jolene Cir
Lindon Fields
Cypress Cir
Dow St
King Arthur Ct
Sir Lancelot Dr
Sawtelle Way
Wescott Dr
Village Dr
Gary Ln
Cicero St
Thelma Cir
Marilyn Ave
Patricia Ave
Lyford Ave
River Bend Cir
PS-0001
PS-0008
PS-0009
PS-0020
A1
A2
A3
E1
E2
E3
8" PVC
8" AC
10" PVC
4" PVC
8" DI
6" PVC
6" AC
8" Unknown

APPENDIX C8
Map Book
Sub- Basin E2 & E3
Page 9 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

N

Feet
0
100
200
400
600
800

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-9898
Fax. 603- 230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel. 603-436-6192
Fax. 603 - 431-5453

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM
Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin E4

Page 10 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

N

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-8898
Fax. 603-230-8899

25 Vaughan Mall
Portsmouth, N.H. 03901
Tel. 603-436-8192
Fax. 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin E5

Page 11 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel: 603-230-3898
Fax: 603- 230-8899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel: 603-436-6192
Fax: 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin F1

Page 12 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-8898
Fax. 603- 230-8899

25 Vaughan Mall
Portsmouth, N.H. 03901
Tel. 603-436-8192
Fax. 603 - 431-4733

TOWN OF EXETER, NH

WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin F2

Page 13 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

N

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
Concord N.H. 03301
Tel. 603-230-9898
Fax. 603 - 230-9899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel. 603-436-6192
Fax. 603 - 431-4753

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book
Sub - Basin F3
Page 14 of 17

LEGEND
Sewer Structures
Town
Private
Abandoned
Sewer Pumping Stations
Town
Private
Abandoned
Force Mains
Town
Private
Abandoned
Gravity Mains
Town
Private
Abandoned

1 inch = 200 feet
Feet
0
100
200
400
600
800

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM
Project No. 2366
Date: September 29, 2020

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel: 603-436-8100
Fax: 603 : 431-4735

99 N. Main Street
Concord, N.H. 03301
Tel: 603-230-9898
Fax: 603 : 230-9899

F4
F3
F2
F1
Exeter
Hampton
Hampton
Hampton Falls
Exeter
Hampton Falls
NH 101 Westbound
NH Route 101 West
NH Route 101 East
NH 101 Eastbound
N Hampton Rd
Exeter Rd
Donnas Ln
John Stark Ln
Brookes Ln
Ashbrook Dr
Rosa Ln
Robert Dr
Dearborn Ln
Hampton Rd
Fern St
2nd St
Ash Brook
Hunter Pl
Ambassador Dr
Kristi Ct
Exeter Falls Dr
Hampton Falls Rd

APPENDIX C8
Map Book

Sub- Basin F4

Page 15 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

99 N. State Street
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Tel. 603-230-3898
Fax. 603 - 230-3899

25 Vaughan Mall
Portsmouth, N.H. 03801
Tel. 603-436-6192
Fax. 603 - 431-4753

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX C8
Map Book

Sub- Basin G0

Page 16 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

1 inch = 200 feet

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Fax: 603 - 230-8899

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Portsmouth, N.H. 03801
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Fax: 603 - 431-4733

TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

PS-0018

PS-0015

Exeter Reservoir

Dearborn Brook

Holland Way

Tyco Park

Gilman Ln

Auburn St

Marlborough St

Marlborough Ln

Proposed St

Parking Lot Access

Buzzell Ave

Merrimon St

Cleveland Dr

Grove St

Portsmouth Ave

Chapel St

Grange Ct

Woodsawn Cir

Charron Cir

Walnut St

Mallard Dr

Alumni Dr

Unknown

Swamp Hollow

Dockyard Rd

Kenison St

Robin Ln

Orchard Cir

Towle Ave

Cowell Ln

Amos Ln

Smith Ave

Hickory Ln

Wentworth Rd

Kathryn Ln

Wentworth Ln

Windemere Ln

Struthwolde Cir

Dearborn Brook Cir

Laurel Ct

Rosewood Ct

Fox Chapel Ct

Tallman St

Shipbrook Rd

Briar St

Crocus St

Yew Brooks Rd

Grandview Ter

Pleasant View Dr

Applebee Ave

Briar Ave

Meadow Ln

Brook View Ln

Shadow Ln

Barberry Ln

Hanover Falls Rd

Unknown

8" PVC

6" PVC

12" PVC

10" PVC

15" PVC

6" VC

8" VC

12" VC

10" VC

15" VC

6" AC

8" AC

12" AC

10" AC

15" AC

2" HDPE

10" RCP

12" RCP

15" RCP

H0 E5

B0 E5

E4 E5

E5 F1

G0 E5

G0 F1

G0 F2

F2 F1

APPENDIX C8
Map Book

Sub- Basin H0

Page 17 of 17

LEGEND

Sewer Structures
- Town
- Private
- Abandoned

Sewer Pumping Stations
- Town
- Private
- Abandoned

Force Mains
- Town
- Private
- Abandoned

Gravity Mains
- Town
- Private
- Abandoned

0 100 200 400 600 800 Feet

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TOWN OF EXETER, NH
WASTEWATER COLLECTION SYSTEM
ASSET MANAGEMENT PROGRAM

Date: September 29, 2020

Project No. 2386

APPENDIX D

Stormwater System Attribute Tables and Summaries

Count of AssetID	Column Labels				
Row Labels	Town	State	Private	Unknown	Grand Tota
Catchbasin	1408	84	871	161	2524
Cleanout	7		39		46
Drain Manhole	453	10	262	57	782
Foundation Drain	3		55	7	65
Other	2	1			3
Outfall	140				140
Outlet Control	4	3	58	4	69
Pipe End Inlet	227	58	317	6	608
Pipe End Outlet	232	79	496	27	834
Roof Drain	15		209	14	238
Vortechs			4		4
Yard Drain			40		40
Grand Total	**2491**	**235**	**2351**	**276**	**5353**

Owner	Town

Row Labels	Count of Asset	Sum of Repl_C	Unit Cost
Catchbasin	1408	$14,080,000	$10,000
Cleanout	7	$21,000	$3,000
Drain Manhole	453	$4,530,000	$10,000
Foundation Drain	3	$22,500	$7,500
Other	2	$15,000	$7,500
Outfall	140	$1,400,000	$10,000
Outlet Control	4	$20,000	$5,000
Pipe End Inlet	227	$567,500	$2,500
Pipe End Outlet	232	$580,000	$2,500
Roof Drain	15	$112,500	$7,500
Grand Total	**2491**	**$21,348,500**	

Count of AssetID		Owner				
condition	Condition Score	Town	State	Private	Unknown	Grand Total
No score assigned	N/A	63	1	93	271	428
Crumbling	5	29	4			33
Fair	3	2,230	227	2,240	4	4,701
Good	2	21				21
Poor	4	148	3	18	1	170
Grand Total		**2,491**	**235**	**2,351**	**276**	**5,353**

Note: Items in “Other” category include plug, cap or stormwater treatment system. Additional verification required.

STORMWATER PIPE BY TYPE AND OWNER

Sum of Len_ft	Owner					
Type	Town	State	PEA	Private	Unknown	Grand Total
CULVERT	7,599	3,506	190	7,254		18,549
OTHER	535		108	76		720
SWPIPE	167,932	10,324	23,260	123,481	18,043	343,040
Grand Total	**176,065**	**13,830**	**23,558**	**130,812**	**18,043**	**362,309**

TOWN-OWNED STORMATER PIPE BY MATERIAL AND ESTIMATED USEFUL LIFE

Owner	Town

Sum of Len_ft		
Material	U_Life	Total
AC	80	7,011
AC\HDPE	75	37
BRICK	50	3
CAST IRON	100	1,284
CAST IRON\HDPE	75	172
CAST IRON\RCP	100	53
CMP	35	30,491
CMP\AC	35	250
CMP\HDPE	35	512
CMP\PVC	35	365
CMP\RCP	35	516
DI	100	305
DI\HDPE	75	796
HDPE	75	23,085
HDPE\CMP	35	541
HDPE\PVC	75	59
HDPE\RCP	75	718
HDPE\VC	75	294
PVC	75	9,426
PVC\AC	75	24
PVC\CAST IRON	75	39
PVC\CMP	35	217
PVC\HDPE	75	134
PVC\RCP	75	31
PVC\VC	75	696
RCP	100	89,888
RCP\CMP	35	1,022
RCP\HDPE	75	875
RCP\PVC	75	707
RCP\VC	80	101
STONE	100	46
UNKNOWN	50	43
VC	80	5,147
VC\AC	80	237
VC\CAST IRON	80	202
VC\PVC	75	358
VC\RCP	80	381
Grand Total		**176,065**

TOWN-OWNED STORMWATER PIPE BY ESTIMATED INSTALLATION DATE AND FIRST REPLACEMENT YEAR

Owner	Town

Sum of Len_ft		
Year_In	Repl_Year	Total
1900	2020	46
1930	2020	6,075
	2030	444
1959	2059	1,112
1961	2061	644
1964	2020	122
1968	2020	278
1970	2050	2,608
	2070	557
1973	2020	177
1975	2050	1,550
	2075	11,276
1978	2020	200
	2053	230
	2058	194
	2078	1,666
1979	2020	319
	2054	258
	2079	4,595
1980	2020	17,504
	2055	1,182
	2060	3,914
	2080	2,716

Appendix D-2: Stormwater Pipe Summary Tables

Material	U_Life	Total
1983	2020	1,132
	2058	15
	2063	67
1984	2020	56
	2059	214
	2084	11,158
1985	2020	39
	2060	10,021
	2085	3,695
1986	2021	2,680
	2036	3
	2086	544
1987	2022	57
	2087	1,364
1988	2023	4,277
	2063	215
	2088	198
1990	2025	3,569
	2065	2,003
	2070	1,279
	2090	30,293
1991	2066	83
1992	2027	1,089
	2092	300
1993	2028	213
	2093	811
1994	2029	61
	2069	66
1995	2030	1,365
1996	2071	497
	2096	118
1998	2033	192
1999	2034	72
	2074	272
	2099	7,550
2000	2075	2,051
	2080	39
	2100	10,341
2001	2076	267
2002	2102	43
2003	2038	167
	2078	2,933
	2103	307
2004	2079	693
	2104	188
2005	2080	1,161
	2105	316
2006	2081	75
2008	2083	262
2009	2044	122
	2084	2,566
	2089	227
	2109	1,295
2011	2086	935
2012	2087	40
2013	2063	41
	2088	1,201
2014	2049	222
	2089	5,374
2015	2090	486
2016	2066	1
	2091	1,096
2017	2092	350
2018	2093	31
Grand Total		**176,065**

Owner	Town

Sum of Repl_Cost Max_Dia2	Type SWPIPE	CULVERT	OTHER	Grand Total
<= 6"	$2,717,782	$25,745	$167,015	$2,910,542
> 6" , <= 12"	$33,323,191	$856,843		$34,180,034
>12", <= 20"	$20,334,684	$1,121,427	$20,870	$21,476,981
> 20" <= 32"	$8,182,731	$844,380		$9,027,111
> 32"	$1,081,135	$156,584		$1,237,720
Rectangular Conduit	$260,512	$650,000	$130,000	$1,040,512
Grand Total	**$65,900,037**	**$3,654,979**	**$317,885**	**$69,872,901**

Note: Item type in “OTHER” category are not specified. Additional verification is required.

Appendix D-3: Stormwater Asset Data Table
Pages 1-3 of 516 only, Excel spreadsheet provided

OBJECTID	Owner	Type	Street	Asset ID	Year Installed	Useful Life	End of Useful Life	Remaining Useful Life	Replacement Year	Replacement Cost
1	Town	Catchbasin	ALLARD ST	CB-0001	1985	75	2060	40	2060	$10,000
2	Town	Pipe End Inlet	ALLARD ST	STW-0011	1986	75	2061	41	2061	$2,500
3	Town	Pipe End Outlet	ALLARD ST	STW-0201	1986	75	2061	41	2061	$2,500
4	Town	Catchbasin	ALLEN ST	CB-0002	1980	75	2055	35	2055	$10,000
5	Town	Catchbasin	ALLEN ST	CB-0003	1999	75	2074	54	2074	$10,000
6	Town	Catchbasin	ALLEN ST	CB-0004	1999	75	2074	54	2074	$10,000
7	Town	Catchbasin	ALLEN ST	CB-0005	1999	75	2074	54	2074	$10,000
8	Town	Catchbasin	ALLEN ST	CB-0006	1999	75	2074	54	2074	$10,000
9	Town	Catchbasin	ALLEN ST	CB-0007	1980	75	2055	35	2055	$10,000
10	Town	Catchbasin	ALLEN ST	CB-0008	1985	75	2060	40	2060	$10,000
11	Town	Catchbasin	ALLEN ST	CB-0009	1980	75	2055	35	2055	$10,000
12	Town	Outfall	ALLEN ST	SQRV-0001	1980	75	2055	35	2055	$10,000
13	Town	Outfall	ALLEN ST	WWCK-0040	1980	75	2055	35	2055	$10,000
14	Town	Catchbasin	ALUMNI DR	CB-0010	1987	75	2062	42	2062	$10,000
15	Town	Catchbasin	ALUMNI DR	CB-0011	1987	75	2062	42	2062	$10,000
16	Private	Catchbasin	ALUMNI DR	CB-1476	2000	75	2075	55	2075	$10,000
17	Private	Catchbasin	ALUMNI DR	CB-1477	2000	75	2075	55	2075	$10,000
18	Private	Catchbasin	ALUMNI DR	CB-1478	2000	75	2075	55	2075	$10,000
19	Private	Catchbasin	ALUMNI DR	CB-1479	1987	75	2062	42	2062	$10,000
20	Private	Catchbasin	ALUMNI DR	CB-1480	1987	75	2062	42	2062	$10,000
21	Private	Catchbasin	ALUMNI DR	CB-1481	2000	75	2075	55	2075	$10,000
22	Private	Catchbasin	ALUMNI DR	CB-1482	2000	75	2075	55	2075	$10,000
23	Private	Catchbasin	ALUMNI DR	CB-1483	2000	75	2075	55	2075	$10,000
24	Private	Catchbasin	ALUMNI DR	CB-1484	2000	75	2075	55	2075	$10,000
25	Private	Catchbasin	ALUMNI DR	CB-1485	2000	75	2075	55	2075	$10,000
26	Private	Catchbasin	ALUMNI DR	CB-1486	2000	75	2075	55	2075	$10,000
27	Private	Catchbasin	ALUMNI DR	CB-1487	2000	75	2075	55	2075	$10,000
28	Private	Catchbasin	ALUMNI DR	CB-1488	2000	75	2075	55	2075	$10,000
29	Private	Catchbasin	ALUMNI DR	CB-1489	2000	75	2075	55	2075	$10,000
30	Private	Catchbasin	ALUMNI DR	CB-1490	2000	75	2075	55	2075	$10,000
31	Private	Catchbasin	ALUMNI DR	CB-1491	2000	75	2075	55	2075	$10,000
32	Private	Catchbasin	ALUMNI DR	CB-1492	2000	75	2075	55	2075	$10,000
33	Private	Catchbasin	ALUMNI DR	CB-1493	2000	75	2075	55	2075	$10,000
34	Private	Catchbasin	ALUMNI DR	CB-1494		75			2020	$10,000
35	Private	Catchbasin	ALUMNI DR	CB-1495		75			2020	$10,000
36	Private	Catchbasin	ALUMNI DR	CB-1496		75			2020	$10,000
37	Private	Catchbasin	ALUMNI DR	CB-1497		75			2020	$10,000
38	Private	Catchbasin	ALUMNI DR	CB-1498		75			2020	$10,000
39	Private	Catchbasin	ALUMNI DR	CB-1499	1987	75	2062	42	2062	$10,000
40	Private	Catchbasin	ALUMNI DR	CB-1500	1987	75	2062	42	2062	$10,000
41	Private	Catchbasin	ALUMNI DR	CB-1501	1987	75	2062	42	2062	$10,000
42	Private	Catchbasin	ALUMNI DR	CB-1502	1987	75	2062	42	2062	$10,000
43	Private	Catchbasin	ALUMNI DR	CB-1503	1987	75	2062	42	2062	$10,000
44	Private	Catchbasin	ALUMNI DR	CB-1504	1987	75	2062	42	2062	$10,000
45	Private	Catchbasin	ALUMNI DR	CB-1505	1987	75	2062	42	2062	$10,000
46	Private	Catchbasin	ALUMNI DR	CB-1506	1987	75	2062	42	2062	$10,000
47	Private	Catchbasin	ALUMNI DR	CB-1507	1987	75	2062	42	2062	$10,000
48	Private	Catchbasin	ALUMNI DR	CB-1508	1987	75	2062	42	2062	$10,000
49	Private	Catchbasin	ALUMNI DR	CB-1509	1987	75	2062	42	2062	$10,000
50	Private	Catchbasin	ALUMNI DR	CB-1510	1987	75	2062	42	2062	$10,000
51	Private	Catchbasin	ALUMNI DR	CB-1511	1987	75	2062	42	2062	$10,000
52	Private	Catchbasin	ALUMNI DR	CB-1512	1987	75	2062	42	2062	$10,000
53	Private	Catchbasin	ALUMNI DR	CB-1513	1987	75	2062	42	2062	$10,000
54	Private	Catchbasin	ALUMNI DR	CB-1514	1987	75	2062	42	2062	$10,000
55	Private	Catchbasin	ALUMNI DR	CB-1515	1987	75	2062	42	2062	$10,000
56	Private	Catchbasin	ALUMNI DR	CB-1516	1987	75	2062	42	2062	$10,000

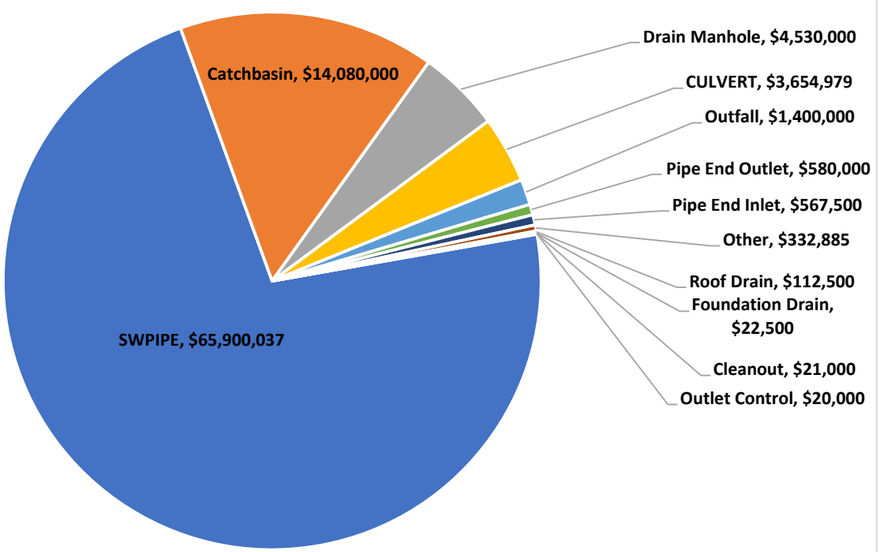
Asset ID	Impact of Failure	Probability of Failure	Condition Score	Criticality	Risk Score	_2020	_2021	_2022	_2023	_2024	_2025	_2026	_2027	_2028
CB-0001	3	3	3	Frequent Monitoring	9									
STW-0011	4	3	3	Frequent Monitoring	12									
STW-0201	4	3	3	Frequent Monitoring	12									
CB-0002	3	3	3	Frequent Monitoring	9									
CB-0003	3	2	2	Limited Monitoring	6									
CB-0004	3	2	2	Limited Monitoring	6									
CB-0005	3	2	2	Limited Monitoring	6									
CB-0006	3	2	2	Limited Monitoring	6									
CB-0007	4	5	5	Highest Risk	20									
CB-0008	1	4	4	Priority Renewal	4									
CB-0009	1	3	3	Frequent Monitoring	3									
SQRV-0001	3	3	3	Frequent Monitoring	9									
WWCK-0040	4	3	3	Frequent Monitoring	12									
CB-0010	3	3	3	Frequent Monitoring	9									
CB-0011	3	3	3	Frequent Monitoring	9									
CB-1476	4	3	3	Privately Owned	12									
CB-1477	4	3	3	Privately Owned	12									
CB-1478	4	3	3	Privately Owned	12									
CB-1479	3	3	3	Privately Owned	9									
CB-1480	3	3	3	Privately Owned	9									
CB-1481	3	3	3	Privately Owned	9									
CB-1482	1	3	3	Privately Owned	3									
CB-1483	3	3	3	Privately Owned	9									
CB-1484	3	3	3	Privately Owned	9									
CB-1485	3	3	3	Privately Owned	9									
CB-1486	3	3	3	Privately Owned	9									
CB-1487	1	3	3	Privately Owned	3									
CB-1488	3	3	3	Privately Owned	9									
CB-1489	3	3	3	Privately Owned	9									
CB-1490	3	3	3	Privately Owned	9									
CB-1491	3	3	3	Privately Owned	9									
CB-1492	3	3	3	Privately Owned	9									
CB-1493	3	3	3	Privately Owned	9									
CB-1494	3			Privately Owned		$10,000								
CB-1495	3			Privately Owned		$10,000								
CB-1496	3			Privately Owned		$10,000								
CB-1497	3			Privately Owned		$10,000								
CB-1498	3			Privately Owned		$10,000								
CB-1499	3	3	3	Privately Owned	9									
CB-1500	3	3	3	Privately Owned	9									
CB-1501	3	3	3	Privately Owned	9									
CB-1502	3	3	3	Privately Owned	9									
CB-1503	3	3	3	Privately Owned	9									
CB-1504	1	3	3	Privately Owned	3									
CB-1505	3	3	3	Privately Owned	9									
CB-1506	3	3	3	Privately Owned	9									
CB-1507	3	3	3	Privately Owned	9									
CB-1508	3	3	3	Privately Owned	9									
CB-1509	3	3	3	Privately Owned	9									
CB-1510	3	3	3	Privately Owned	9									
CB-1511	3	3	3	Privately Owned	9									
CB-1512	3	3	3	Privately Owned	9									
CB-1513	3	3	3	Privately Owned	9									
CB-1514	3	3	3	Privately Owned	9									
CB-1515	3	3	3	Privately Owned	9									
CB-1516	3	3	3	Privately Owned	9									

Asset ID	_2029	_2020_2029	_2030_2039	_2040_2049	_2050_2059	_2060_2069	_2070_2079	_2080_2089	_2090_2099	_2100_2109	_2110_2119	repl_cnt
CB-0001						$10,000						1
STW-0011						$2,500						1
STW-0201						$2,500						1
CB-0002					$10,000							1
CB-0003							$10,000					1
CB-0004							$10,000					1
CB-0005							$10,000					1
CB-0006							$10,000					1
CB-0007					$10,000							1
CB-0008						$10,000						1
CB-0009					$10,000							1
SQRV-0001					$10,000							1
WWCK-0040					$10,000							1
CB-0010						$10,000						1
CB-0011						$10,000						1
CB-1476							$10,000					1
CB-1477							$10,000					1
CB-1478							$10,000					1
CB-1479						$10,000						1
CB-1480						$10,000						1
CB-1481							$10,000					1
CB-1482							$10,000					1
CB-1483							$10,000					1
CB-1484							$10,000					1
CB-1485							$10,000					1
CB-1486							$10,000					1
CB-1487							$10,000					1
CB-1488							$10,000					1
CB-1489							$10,000					1
CB-1490							$10,000					1
CB-1491							$10,000					1
CB-1492							$10,000					1
CB-1493							$10,000					1
CB-1494		$10,000						$10,000				2
CB-1495		$10,000						$10,000				2
CB-1496		$10,000						$10,000				2
CB-1497		$10,000						$10,000				2
CB-1498		$10,000						$10,000				2
CB-1499						$10,000						1
CB-1500						$10,000						1
CB-1501						$10,000						1
CB-1502						$10,000						1
CB-1503						$10,000						1
CB-1504						$10,000						1
CB-1505						$10,000						1
CB-1506						$10,000						1
CB-1507						$10,000						1
CB-1508						$10,000						1
CB-1509						$10,000						1
CB-1510						$10,000						1
CB-1511						$10,000						1
CB-1512						$10,000						1
CB-1513						$10,000						1
CB-1514						$10,000						1
CB-1515						$10,000						1
CB-1516						$10,000						1

Sum of Replacement Cost	Owner					
Type	Town	State	PEA	Private	Unknown	Grand Total
SWPIPE	$65,900,037	$4,129,382	$8,868,531	$47,564,099	$7,201,403	$133,663,452
Catchbasin	$14,080,000	$840,000		$8,710,000	$1,610,000	$25,240,000
CULVERT	$3,654,979	$1,886,882	$75,421	$3,312,719		$8,930,001
Drain Manhole	$4,530,000	$100,000		$2,620,000	$570,000	$7,820,000
Pipe End Outlet	$580,000	$197,500		$1,240,000	$67,500	$2,085,000
Roof Drain	$112,500			$1,567,500	$105,000	$1,785,000
Pipe End Inlet	$567,500	$145,000		$792,500	$15,000	$1,520,000
Outfall	$1,400,000					$1,400,000
Foundation Drain	$22,500			$412,500	$52,500	$487,500
Other	$332,885	$7,500	$40,633	$28,557		$409,575
Outlet Control	$20,000	$15,000		$290,000	$20,000	$345,000
Yard Drain				$200,000		$200,000
Cleanout	$21,000			$117,000		$138,000
Vortechs				$100,000		$100,000
Grand Total	**$91,221,401**	**$7,321,264**	**$8,984,585**	**$66,954,876**	**$9,641,403**	**$184,123,529**

Owner	Town
Sum of Replacement Cost Type	**Total**
SWPIPE	$65,900,037
Catchbasin	$14,080,000
Drain Manhole	$4,530,000
CULVERT	$3,654,979
Outfall	$1,400,000
Pipe End Outlet	$580,000
Pipe End Inlet	$567,500
Other	$332,885
Roof Drain	$112,500
Foundation Drain	$22,500
Cleanout	$21,000
Outlet Control	$20,000
Grand Total	**$91,221,401**

Note: Additional verification required for items in "Other" category.



Owner	Town

Sum of _2020_2029 Type	Total
Catchbasin	$530,000
CULVERT	$1,533,656
Drain Manhole	$160,000
Outfall	$140,000
Pipe End Inlet	$12,500
Pipe End Outlet	$17,500
SWPIPE	$13,278,699
Grand Total	**$15,672,355**

Owner	Town

Sum of _2020_2029 Risk Score	Criticality Highest Risk	Priority Renewal	Frequent Monitoring	Limited Monitoring	Grand Total
25	$182,538				$182,538
20	$986,435				$986,435
16	$236,746				$236,746
15		$2,420,625			$2,420,625
12		$1,476,356	$5,000		$1,481,356
10		$5,945,821			$5,945,821
9			$302,500		$302,500
8		$2,770,861			$2,770,861
5		$867,341			$867,341
4		$80,631			$80,631
3			$397,500		$397,500
Grand Total	**$1,405,720**	**$13,561,635**	**$705,000**		**$15,672,355**

Owner	Town

Sum of _2020_2029 Risk Score	Street	Criticality Highest Risk	Priority Renewal	Frequent Monitoring	Limited Monitoring	Grand Total
25	GREENLEAF DR	$130,000				$130,000
	INDUSTRIAL DR	$52,538				$52,538
20	ALLEN ST	$31,456				$31,456
	ASH ST	$115,409				$115,409
	ASHBROOK RD	$80,214				$80,214
	BEECH HILL RD	$16,509				$16,509
	BOULDER BROOK DR	$19,750				$19,750
	CHESTNUT ST	$105,843				$105,843
	GARY LN	$19,406				$19,406
	GREENLEAF DR	$25,800				$25,800
	HAMPTON RD	$130,000				$130,000
	JOHN WEST RD	$16,541				$16,541
	JUNIPER RIDGE RD	$44,106				$44,106
	LINDA ST	$9,320				$9,320
	LITTLE PINE LN	$79,758				$79,758
	MILL STREAM DR	$20,548				$20,548
	PICKPOCKET RD	$18,423				$18,423
	PORTSMOUTH AVE	$116,623				$116,623
	TAN LN	$71,187				$71,187
	TREMONT ST	$36,842				$36,842
	WEBSTER AVE	$28,700				$28,700
16	ALLARD ST	$40,493				$40,493
	HERITAGE WAY	$71,390				$71,390
	KELBY SCOTT WAY	$17,474				$17,474
	TAMARIND LN	$47,098				$47,098
	TREMONT ST	$60,292				$60,292
15	ASHBROOK RD		$70,579			$70,579
	BEECH HILL RD		$72,812			$72,812
	BIRCH RD		$22,682			$22,682
	BLACKFORD DR		$16,888			$16,888
	COURT ST		$11,817			$11,817
	CRAWFORD AVE		$19,624			$19,624
	DEWEY ST		$10,000			$10,000
	FOX CHAPEL CT		$105,389			$105,389
	GREAT HILL CT		$46,509			$46,509
	GREEN HILL RD		$1,353			$1,353
	GREENLEAF DR		$27,989			$27,989
	GREYSTONE RD		$13,310			$13,310
	HAMPTON FALLS RD		$136,207			$136,207
	HIGH ST		$532,685			$532,685
	HOBART		$127,526			$127,526
	INDUSTRIAL DR		$51,277			$51,277
	JOHN WEST RD		$53,660			$53,660
	KATHLEEN DR		$9,662			$9,662
	LINDEN ST		$457,405			$457,405
	MICHAEL AVE		$15,667			$15,667
	OAKLANDS RD		$48,890			$48,890
	OLD TOWN FARM RD		$73,061			$73,061
	PARK ST		$10,000			$10,000