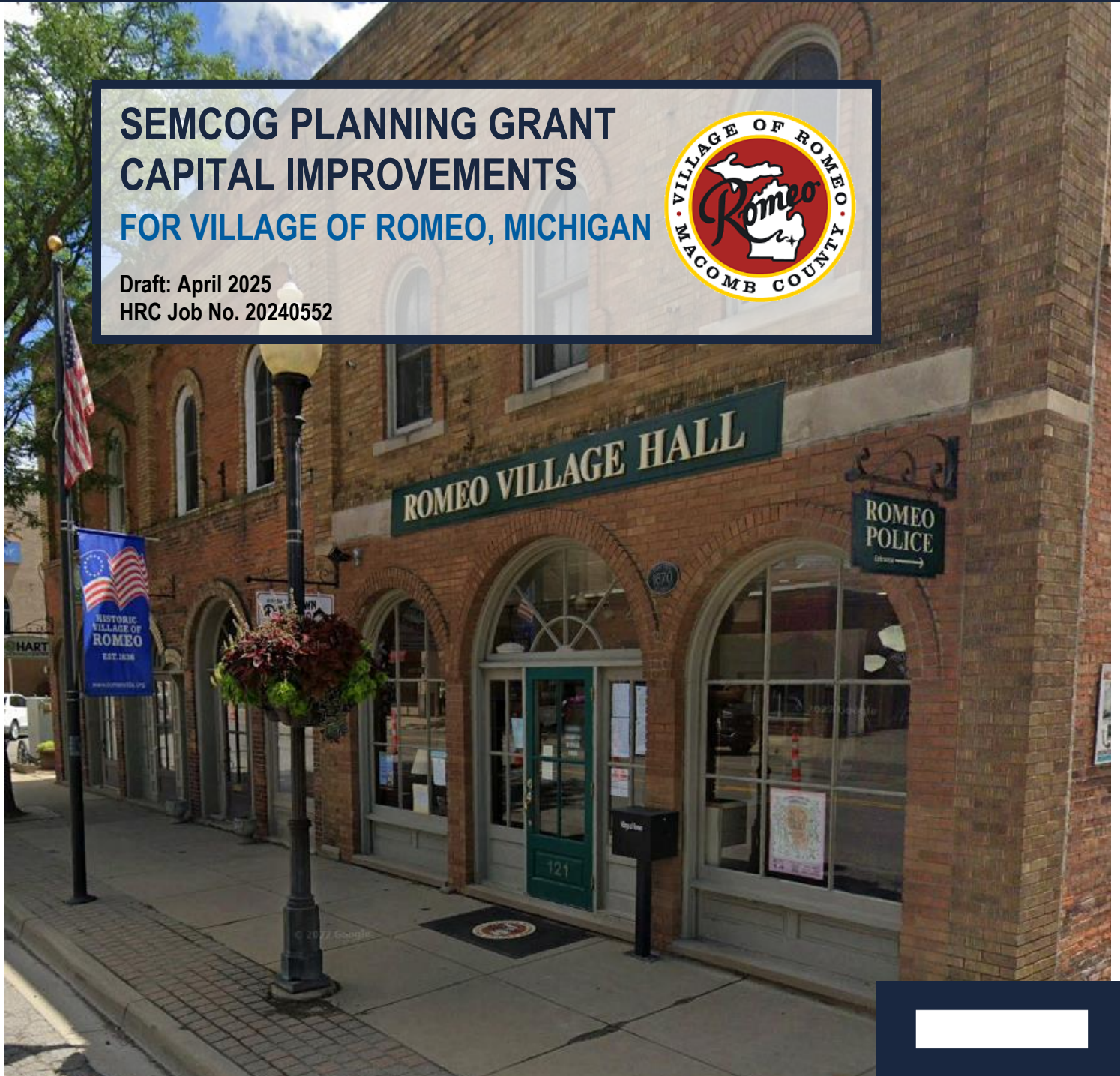


SEMCOG PLANNING GRANT CAPITAL IMPROVEMENTS FOR VILLAGE OF ROMEO, MICHIGAN

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SECTION 1.0 — OVERVIEW & INVENTORY

The Village of Romeo applied for and received a planning grant from the Southeastern Michigan Council of Government (SEMCOG). This grant is to develop an asset inventory and Capital Improvement Plan (CIP) for various Village assets. This will allow the Village to complete long-term planning and prioritization of capital improvements for their assets. The project will focus primarily on inventory and a high level CIP.

Over the past several years, there have been several analyses and reports completed on the condition of some of these assets. Majority of the assets inventory and assessed was under Michigan's Environment, Great Lakes, and Energy's (EGLE) Stormwater, Wastewater and Asset Management (SAW) grant which reviewed the sanitary and storm sewer systems (including the wastewater treatment plant), the drinking water system, and the roadways (PASER ratings).

The purpose of this report is to provide a long-term Plan that will assist the Village of Romeo in planning for the short and long-term needs of their assets. The goal of the Plan is to provide the Village of Romeo with the information required that will allow the organization to be able to continue to provide the desired level of service to the community at the lowest life cycle costs. This will be achieved by developing a strategic process to perform proactive maintenance and investment in the system, rather than reacting to failures.

1.1 GRANT SCOPE OF WORK

The scope of work for development of this Plan included review of the wastewater plant and sanitary collection system, water distribution system, iron removal plant, storm sewer system, sidewalks, Village parking lots, roads, and Village buildings. Each asset had its condition and criticality assessed. In some cases, these determinations were made by review of record documents on file for the asset, while other assets included detailed field inspections completed during this grant period.

One of the priorities of SEMCOG in the planning grant process is to garner input from the public about planning priorities. A public meeting was held at the beginning of the planning process in fall of 2024 at a Village Board Meeting to provide a brief overview of the grant program, the purpose of the project, the existing asset information that was available, and the Village goals. Comments from the Village Board of Trustees and any members of the public were welcomed as to whether there are certain priorities that are more critical than others. A second public meeting took place once a draft of this report was available for discussion. This meeting was to recap the grant program and provide a review of the report. Public comment was considered at this meeting and incorporated into the planning process.

A capital improvement plan was developed for rehabilitation and/or replacement of assets, facilities and structures with useful lives of more than 20 years, and recommendations made for these improvements.

1.2 ASSET INVENTORY & CONDITION ASSESSMENTS

The section below outlines the Village assets selected to be included in this Capital Improvement Planning Grant. Due to a limited grant scope, not all of these assets were assessed in the field during the grant period. However, majority of their assessments were evaluated in recent years under other grants and studies. Any existing asset condition assessment data the Village already had is included in this section. The field condition assessments that

were completed under this grant include inspection of the Iron Removal Plant Facility, the Well House, portions of Village Hall, and the Village Community Center.

Condition assessment can be completed in many different ways, depending on the budget and resources available. The simplest way is to assign a numerical ranking to each asset using the best record information available. If additional resources are available, a higher level of assessment could include physical inspection of some or all of the system assets. If only a portion will be physically inspected, priority should be given to those with the potential to be in the worst condition (the oldest, for example) or to the assets deemed most critical to maintaining service or preventing catastrophic failure. If possible, detailed condition assessment should include a sample of each major asset grouping, such as a sample of each age or type of sewer in a system.

The value of the asset is the cost to replace the asset after it has exhausted its useful life. Obtaining costs for the asset replacement is not easy. In some cases, the utility will use an estimate based on best practices; in other cases, the utility may rely on a consultant or manufacturer's catalogs and sales representatives. More reliable data can be added when available.

1.1.1 Wastewater Treatment Plant and Sanitary Sewer System

Wastewater Treatment Plant

The Village has its own wastewater treatment plant (WWTP) which serves a portion of Bruce Township. All wastewater received at the facility is treated and discharged to East Pond Creek. The WWTP was originally constructed in the early 1920s. Subsequent major expansion and improvement projects were completed in 1962, 1980, and 2005. A CIP was developed for the WWTP in the fall of 2019 under the SAW Grant. Over the past 5 years, some improvements from the CIP were made to the plant. This includes the following:

- Purchased a new generator
- Replaced the secondary digester boiler
- Installed a reductant motorized gas valve on the primary digester boiler
- Updated some concrete on the primary clarifier tanks
- Rehabilitation of the feed pumps
- Replaced gear box and chains on the secondary clarifier tanks

Sanitary Collection System

The sanitary collection system includes sewers and manholes that collect sanitary sewerage from the customers and convey it to the Village WWTP. There are approximately 19 miles of 6-inch to 42-inch diameter sewers and 414 manholes in the system. Installation dates range from 1968 to 2005. Major rehabilitation of the manholes was undertaken in 1994-1995 and 2010-2013.

Approximately 80% of the sanitary sewers were cleaned, televised, and scored using the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) protocols under the SAW Grant in 2018-2019. Each sewer inspected was assigned PACP Structural and Operation/ Maintenance quick scores which are used to assess the severity of the sewer's condition and included in the Village GIS system. Approximately 75% of the sanitary sewer manholes were field inspected following NASSCO Manhole Assessment Certification Program (MACP) protocols. The

manholes were given an overall rating of good, fair, or poor and all the data collected, including photos, is linked to each manhole in the GIS system. A CIP was created based on these findings of the sanitary collection system. Some rehabilitation of sewers listed in the CIP were completed in coordination with recent road projects in 2022-2024. This includes the following:

- Trenchless cured-in-place pipe (CIPP) lining of sewers in the northwest, northeast, and some areas of the southeast sections of the Village.
- Lining projects are anticipated to be completed as part of the southwest quadrant street rehabilitation in 2025.

1.1.2 Water Distribution System

The Village of Romeo is serviced by two separate water systems: The Village well water supply system (Village System) and the Great Lakes Water Authority (GLWA) water system. The portion of the Village's system supplied by GLWA does not currently serve residential units, so it is not considered a Type 1 system by EGLE. The Village System is a well water supply system which serves the central and western portions of the Village. It contains two (2) operational production wells, one (1) backup well, an Iron Removal Plant (IRP), a one (1) million-gallon elevated water tank, an auxiliary booster pumping station (Morton Street Booster Station) and over 16-miles of 4-inch to 16-inch water main.

Several studies have been completed on the Water System in recent years. This includes the Water Asset Management Plan (WAMP) in 2017 with updates in 2019 to include vertical assets and updates in 2020 to include the Preliminary Distribution Service Material Inventory (PDSMI), the Water Reliability Study in 2009 with updates in 2017 and 2023, and a Complete Distribution System Materials Inventory (CDSMI) in 2024. No major water system projects have been completed since the original WAMP, as the focus has been mainly on the lead service line material verification programs in order to comply with state requirements issued under the Safe Drinking Water Act (SDWA).

Elevated Water Tank

The 1.0 million gallon elevated, spheroid water storage tank is located just north of the Village of Romeo Cemetery and off of Walter Sheetz Drive. The tank was built in 2002 by CB&I with a height to low-water level of 46 feet and helps manage system pressures and provides supplemental flows during peak demand periods. Minor rehabilitation efforts were completed on the tank in 2002 and 2013. In fall of 2023, Dixon Engineering Inc. performed a maintenance inspection on the water storage tank, included in Appendix A. Purposes of the inspection were to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, review safety and health aspects, and make budgetary recommendations for continued maintenance of the tank. All recommendations with budgeting estimates for repairs are incorporated in this report.

Iron Removal Plant (IRP) Facility

The IRP facility consists of four separate structures within a fenced field area. These are Well House #3, Well House #5, Well House #6 and the Iron Removal Plant. The Iron Removal Plant is a masonry block building constructed in 1998 when the facility was upgraded to provide iron removal. This building contains the five Tonka pressure filters, facility controls, chemical feed room, restroom and laboratory.

The full assessment report for the Iron Removal Plant Facility can be found in Appendix B. This report addresses items of interest that were visible during these inspection proceedings.

Well Houses

The Village System obtains its primary daily water supply from two (2) operational productions well houses (Well #3 and Well #5) located at the end of First Street in the southwest portion of the Village. Well #5 replaced Well #1 in 2009. Well #3 and #5 were refurbished in 2015 and 2016, respectively. Well #6 serves as a backup well for the system.

Well House #5 is a masonry block building originally constructed in the 1970's to house Well #2 and electrical gear, with an expansion in the 1990's when Well #5 was added and Well #2 was abandoned. The building has a concrete slab and asphalt shingle roof. Well #5 and associated above grade discharge piping is contained in the expansion area and the main electrical gear for the facility is in the original area. The motor and piping for Well #2 originally was co-located in the electrical room but was demolished when Well #2 was decommissioned.

Well House #3 is also a masonry block building originally constructed in the 1970's. This building has a concrete floor slab and single asphalt roof. The building contains Well #3, the Well #3 discharge piping and the variable frequency drives for Wells #3 and #6.

Well House #6 is a 3-sided plywood structure with an asphalt roof constructed as a temporary enclosure to provide limited weather protection to the Well #6 motor. There are no electrical systems within this structure, other than the pump motor. The Well House 6 electrical disconnect and VFD are located in the adjacent Well House #3.

A full assessment report for the Well Houses can be found in Appendix B.

1.2.1 Storm System

A review of the stormwater system, and related structures and facilities was completed under the SAW Grant and compiled in a report in 2019. The stormwater sewer system includes the sewers, manholes, inlets, and catch basins that collect stormwater from the service area and convey it to outfalls. Original installation dates range from 1972 to 2001, with rehabilitation done on the storm structures between 1994 to 1995, and 2014 to 2017. A CIP was completed during the SAW Grant for recommendations to rehabilitate the storm system. Some rehabilitation of the system was completed in coordination with road projects in 2022-2024. This includes the following:

- Storm structure rehabilitation and adjustments in some areas of the northwest, northeast, and southeast sections of the Village.
- New storm sewer modifications and extensions to improve drainage in some areas of the northwest, northeast, and southeast sections of the Village.

1.2.2 Roads

Road conditions throughout the Village was completed in 2020 as part of a PASER Rating update. Since then, the roads in the northwest, northeast, and southeast sections of the Village have been rehabilitated with the exception of the following Village-owned Roads:

- Chandler and Prospect, both south of Hollister to Saint Clair
- Romeo Towne Square and mobile park neighborhood (private)
- Village-owned roads east of Crawford
- Apple Valley Townhome roads (private)

An updated PASER study is planned to be completed in 2025. The roads in the Southwest corner of the Village have not been completed yet, and it is our understanding that the road millage to complete those roads was unsuccessful. Funding for these roads should be prioritized.

Roads not rehabilitated that are under the County or state jurisdiction include Saint Clair Street, 32 Mile Road, Main Street, Gates Street, Powell Road, 33 Mile Road, and M-53.

1.2.3 Sidewalks

The Village Master Plan, adopted in 2021, outlined various improvements throughout the downtown development area including streetscape, lighting, park, and sidewalk improvements. The sidewalks throughout downtown include tree planting areas, antique lighting, and brick paver accents. The goal is to keep the historic look of the downtown sidewalk areas, while also improving the condition, safety and pedestrian crossings. The Master Plan has a long-term outlook for updating the sidewalks as part of the Streetscape Program, with a goal of investing \$100,000/year towards general road and streetscape improvements which include the sidewalks. Some repairs have been completed on the sidewalks since the adoption of this Master Plan; however, this report incorporates the improvement of all sidewalk areas in the downtown district with an updated cost estimate.

1.2.4 Village Parking Lots

Parking improvements throughout the Village was also outlined in the 2021 Village Master Plan. The parking improvement program goal included a study of the adequacy of existing parking facilities servicing the downtown development area and potential acquisition of new parking facilities and regulatory devices such as meters, signs and enforcement officers. This program had a long-term timeline in the Master Plan with a cost estimate of \$900,000. The report herein includes a cost for the engineering services to prepare the construction needs and costs for the improvement of these Village Parking Lots. However, the anticipated construction cost estimates for the parking lots have not been determined at this time. Therefore, we used the Master Plan cost estimate as a preliminary reference for purposes of estimating an overall CIP.

1.2.5 Village Buildings

As part of this Grant, two Village Buildings were included to be assessed, the Village Hall located at 121 W. Clair Street and the Community Center Meeting Building located at 361 Morton Street. The assessment report for Village Hall and the Village Community Center Buildings is provided in Appendix C and addresses general items of interest that were visible during these inspection proceedings. As such, this assessment report may not address every problem that exists at the time of the inspection.

Village Hall

The Village Hall building is a historic brick building located in downtown Romeo. The building was initially constructed around 1870. The wall construction of the building is a multi-wythe brick assembly, while the roofs are supported by wood joists. The front portion of the 1st floor is dedicated to the Village Hall, while the rear portion is occupied by the Police Department (PD). The 2nd floor of the building (over the Village Hall) includes support spaces – large meeting room, storage space and HVAC equipment space.

As shown in the Assessment Memo in Appendix C, the areas that were identified for assessment include the exterior envelope, roofing, interior conditions, and building accessibility. Given the age of the Village Hall building, it is assumed that it could potentially contain asbestos and/or lead paint. When intact these do not pose a threat, however, proper precautions should be taken during any construction or repair activities to avoid releasing toxic materials into the air. If any improvements are made to the buildings, these materials will need to be properly removed and abated by a company licensed to perform the work. If hazardous material surveys have not been done, it is recommended to have these performed as part of an overall due care plan for the buildings.

All of the items inspected are recommended for monitoring. The items that need repair or updating include the exterior bricks, trim, exterior stairs, gutters and downspouts, curbs and flashing, interior flooring, interior wall finishes, the ceilings, and the entrances. The items needing complete replacement include the windows, the roof covering, the doors and hardware, and the floor level changes.

Village Community Center

The Community Center Meeting Building is located North of downtown on Morton Street. It is a wood framed building with vinyl siding and a shingle roof. The age of the building is unknown, but it was indicated to be an old TV station before the Village took it over for use at a meeting space. This building serves to host the Village Board Regular Meetings.

As shown in the Assessment Memo in Appendix C, the areas that were identified for assessment include the exterior envelope, roofing, interior conditions, and building accessibility. Given the unknown age of the Community Center building, it is likely that it could potentially contain asbestos and/or lead paint. Overall, the interior and exterior of the building needs attention. All of the areas inspected are recommended for monitoring. The items that need repair or updating include the exterior trim and siding and replacing missing roof shingles. The items needing complete replacement include the broken seal windows and the damaged interior wall panels located in the meeting room.

SECTION 2.0 — ASSET CRITICALITY

2.1 CRITICALITY ASSESSMENT

Not all assets are equally important to the utility's operation. Some assets are highly critical to maintaining operations, and others are not critical at all. Certain assets or types of assets may be critical in one location, but not critical in another. A utility must examine its assets very carefully to determine which assets are critical and why. In determining criticality, one assesses how likely it is that the asset will fail and what is the consequence of failure. Determining an asset's criticality will allow a utility to manage its risk and aid in determining where to spend operation and maintenance dollars and plan capital expenditures.

2.1.1 Wastewater Treatment Plant and Sanitary Sewer System

Sanitary manholes and sewers were inspected, cleaned, and televised to assess the condition of the sewage collection system in 2019 during the SAW Program. To determine the criticality of the sewer system, Probability of Failure (POF), Consequence of Failure (COF), and Business Risk Evaluation (BRE) were analyzed to prioritize the system. POF scores were assigned based on the condition assessment, COF scores based on the criticality to the system, and BRE scores as the product of POF and COF. The POF is ranked on a performance scale 1-5 with 5 meaning that a failure of the asset will most likely occur and 1 meaning it is very unlikely to occur. The COF is ranked on a performance scale 1-5 with 5 meaning catastrophic disruption will occur if the asset fails and 1 meaning insignificant disruption. The BRE scores were used to prioritize repairs and rehabilitation of the collection system. Assets with greatest BRE scores are likely candidates for immediate rehabilitation or replacement.

The criticality for the WWTP was completed during the WWTP Asset Management Plan in 2019. Using a computerized maintenance management system (CMMS) software, the asset assessment included a BRE criticality analysis that combined the probability of failure of the fixed asset and the criticality of the fixed asset. The POF scores were assigned based on maintenance history, failure history, and remaining percentage of useful life (or years remaining). The COF scores were assigned based on criticality to the system versus the desired level of service for the facility. BRE was a combined score of the POF and COF ratings, and assets with greatest BRE scores were determined to be likely candidates for immediate rehabilitation or replacement.

2.1.2 Water Distribution System

Physical condition assessment of water transmission and distribution pipes is generally not cost effective. Likelihood or POF for horizontal assets can be evaluated using physical attributes (i.e. pipe age, material, soil conditions, etc.) and historical records (i.e. break history, maintenance logs, etc.). The POF for vertical assets is based on age, asset type and operator knowledge. The COF for horizontal assets is evaluated based on the anticipated cost of repairs due to failure of the asset and estimated social costs (i.e. repair/replacement costs related to collateral damage caused by the failure; legal costs related to additional damage caused by the failure; environmental costs created by the failure; loss of business revenue to the community; and any other associated costs or asset losses). Factors that will increase the COF for horizontal assets include diameter of water main, proximity to main roads, railroads, water bodies,

service to critical customers or vital businesses, as well as other social, regulatory or safety impacts. The COF can be lowered if redundancy is available in the system. The COF for vertical assets is evaluated based on redundancy, asset type and operator knowledge. Similar to the sanitary system, assets with greatest scores are likely candidates for immediate rehabilitation or replacement.

2.1.3 Iron Removal Plant

The criticality of the Iron Removal Plant was determined mainly based on visual inspection conducted in the fall of 2024. The current condition, safety hazards, and whether code was being met were the main priorities for ranking assets that were needed for immediate rehabilitation or replacement. The assets were then ranked based on failure prevention, efficiency improvement, and the expected asset service life. Majority of the projects listed herein were determined to be completed within the next 5 years in order to address the major concerns within the facility.

2.1.4 Storm System

Each of the storm assets was given a ranking from 1 to 5 for probability of failure. This ranking was based on the asset's current condition, the environment in which the asset functions, and the historical experience of failure for that service. For storm sewers that were not televised, the POF scores was mostly useful life, which is calculated based on material and age, and also considered the surrounding soils. Most structures were inspected; therefore, the POF was based on mostly observed condition, but also useful life and surrounding soils. The COF ranking was based on the relative importance of the asset in the overall system, potential impacts to the surrounding area and downstream systems in failure, and historical experience. The calculation included pipe diameter, type of road, depth, surface type, and water/wetland proximity. The product of the POF and the COF resulted in the final BRE score. Similar to the sanitary and water system, assets with greatest scores are likely candidates for immediate rehabilitation or replacement.

2.1.5 Roads

An updated assessment has not been completed on the road assets within the Village yet. An updated PASER study will be completed later this year. However, road criticality can be analyzed based on consequence of failure and likelihood of failure. Consequence of failure for roads can be based on whether it is a major or minor road owned by the Village, County or State-owned roads, location (e.g. bridge, railroad), traffic volume, or surface type. The likelihood of failure is based on number of temporary road fixes already completed on the road or PASER rating.

2.1.6 Sidewalks

Criticality for sidewalks can be prioritized based on a number of criteria. The most importance aspect to consider when rating the criticality of sidewalk improvements are ADA-compliance. This includes addressing ramps (e.g. slopes, landing areas, warning signs), sidewalk cross slope and longitudinal slopes, sidewalk widths, obstructions (e.g. trees, signs, utilities, business outdoor facilities), and tripping hazards (e.g. cracks in the sidewalk, unlevel bricks). Other criticality factors that can be considered are safe routes to schools and walkability/connectivity between the downtown area and other parts of the

Village. It is important too also coordinate sidewalk improvements with other asset improvements to minimize disruption in the downtown area.

2.1.7 Village Parking Lots

The parking lots outlined in this repair are in varying states of deterioration, with some needing full reconstruction including curbs and islands, while others may need lesser intervention. Criticality has not been determined for these lots yet. A preliminary study phase will be conducted this summer to determine the proposed method to fix each of these lots based on their current condition. Criticality for Village parking lots can be based on number of parking stalls, occupancy throughout the day, whether utilities are located within the lot, the business-types the lots are for, or proximity to downtown areas. It is also important to note that the Village has also recently adopted the Macomb County Stormwater Standards. Based on these standards, and the rehabilitation method required for each of these lots, there may be improvements required to the stormwater system, which may include water quality improvements or stormwater detention and will be considered when determining criticality of these lots. Whether a parking lot complies with the Stormwater Standards is another factor to consider when determining the criticality of parking lots.

2.1.8 Village Buildings

The Village Buildings included in the assessment for this report are Village Hall and the Village Community Center building. Due to the scope of these inspections, general items of interest that were visible during these inspection proceedings were assessed. Reasonable efforts were made to view all safely accessible areas of the noted properties. Items located within enclosed surfaces that cannot be inspected without the use of invasive techniques are beyond the scope of this investigation. With that being said, criticality for ranking the improvement projects at these facilities was mainly based condition at the time of the assessment. The projects were further broken down to identify the need for replacement and repair or updating versus need for just monitoring. The projects with the greatest criticality are those that are addressing structural concerns for the buildings. Projects that are addressing cosmetic concerns were rated a lower criticality for improvement.

SECTION 3.0 — CAPITAL IMPROVEMENT PLAN

3.1 INTRODUCTION

A long-term CIP should look at the utility's needs for the future, typically over a period of at least 20 years, with greater emphasis on the first five years of the plan. It is understood that the specific expenditures and needs of the utility in the latter years are more speculative than the needs for the first 5 years; however, the inclusion of the needs for this longer time period will provide a better opportunity for the utility to ensure the system is evaluated in a comprehensive manner. Capital improvement projects are projects that the utility has an extended period of time to plan for and are projects that usually cover high cost, non-recurring items. Not all assets listed herein have a CIP outlook past 10 years.

In order to fund any short or long-term project, the utility must first identify the desired project and its anticipated cost. Once costs have been identified, the utility could choose to begin to set money aside to fund future projects. The Capital Improvement Fund could be funded on an annual basis and the accumulated Capital Improvement Fund monies can be used to supplement bonding for the particular project, act as a down payment, or cover the entire cost of the project as determined by the utility.

The utility determines the estimated cost of each identified project and the intended date for project initiation. The clear identification of the project, its cost, and the intended timeframe provides the utility with a defensible presentation for setting aside and safeguarding funds for projects.

The following information is helpful when prioritizing and gaining support for a capital improvement project:

- Description of the project
- Brief statement regarding the need for the project
- Year project is needed
- Is the year needed flexible or absolute
- Estimate of project cost
- How costs were estimated
- Funding source(s) considered/available for this type of project

It should be noted that more refined costs will be provided for the short-term recommendations, as the long-term recommendations will likely change over time.

3.2 RECOMMENDED PROJECTS

Wastewater Treatment Plant

Since the AMP report, some improvements have been made to the WWTP. Therefore, an updated 0-20 Year CIP can be found in the table below. These projects were identified in 2019, therefore, many of the 0-5 Year priority projects are overdue for rehabilitation. The costs included in the table below are from the 2019 CIP, so escalation rates were included to account for inflation in the past 5 years, which was approximately 24%.

Table 3-1. WWTP CIP Projects

Project	CIP Year	2025 Estimated Cost
Replace Main Transformer	0-5	\$372,000
Structural Concrete Rehab of Primary Tank	0-5	\$131,000
Replace Backwash Pumps	0-5	\$31,000
Replace VFD Feed Pump	0-5	\$31,000
Replace Backwash Blower	0-5	\$31,000
Replace Secondary Clarifier Augers and Skimmers	6-10	\$362,000
Replace Dystor and Secondary Digester Cover	6-10	\$868,000
Replace Equalization Tank Feed Pumps & Mixer	11-15	\$124,000
Rehab Trickling Filter Media and Steel Filter Vessel	11-15	\$496,000
Replace Grinder/Auger Screening Unit	11-15	\$372,000
Rehab Primary Pump Station Pumps and VFDs	11-15	\$248,000
Secondary Treatment Project	16-20	\$2,480,000
Subtotal Cost		\$5,546,000
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)		\$8,319,000

Sanitary Sewer System

Using the available CCTV data and condition assessments, repair recommendations were made for the sewers and included in the SAW Grant CIP. With the improvements made in recent years, projects completed have been removed and the CIP has been updated accordingly. Also, it is generally recommended that inspection on the sanitary sewers and manholes be done every 10-15 years. The costs of televising the system, routine manhole inspections, and the remaining CIP projects are shown in the table below with a recommended year of rehabilitation assigned to each project. Since the CIP costs are from 2019, escalation rates were applied to account for inflation from the past 5 years, approximately 24%, and included in the summary below.

Table 3-2. Sanitary Sewer System CIP Projects

Project	Quantity	CIP Year	2025 Estimated Cost
Cured-In-Place Pipe Lining	3,214-lft	0-5	\$260,000
Open Cut Repair	21-ea	0-5	\$285,000
Spot Liner	18-lft	0-5	\$33,000
Joint Grouting	9-ea	0-5	\$20,000
Routine Cleaning & CCTV (footage not completed in 2018)	6,200-lft	0-5	\$45,000
Cured-In-Place Pipe Lining	6,473-lft	6-10	\$502,000
Open Cut Repair	6-ea	6-10	\$75,000
Joint Grouting	3-ea	6-10	\$7,000
Manhole Rehabilitation	64-ea	6-10	\$73,000
Routine Cleaning & CCTV (last completed 2018)	31,000-lft	6-10	\$225,000
Subtotal Cost			\$1,525,000
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)			\$2,288,000

Water Distribution System

Below summarizes the improvements projects listed in the original WAMP, the WAMP update in 2019, the WAMP update in 2020, and the Dixon Engineering Water Tower Report in 2023. Since the costs outlined in the WAMPs are from past years, escalation rates were applied to account for inflation, approximately 4% for each year passed since the report submittal, and included in the summary below. The year the report was completed is also listed in the table for reference.

Table 3-3. Water Distribution System CIP Projects

Report Year	Project	CIP Year	Estimated Cost
2017	Chandler St (West Saint Clair to Minot) 8-inch Replacement	0-5	\$242,000
2017	Church St (Dead End off Chandler) 8-inch Replacement	0-5	\$31,000
2017	Benjamin St (Bradley to Village Limits) 8-inch Replacement	0-5	\$55,000
2020	Any Confirmed Lead Service Line Replacements	0-5	TBD
2023	Replace Water Tower Roof Vent	0-5	\$9,000
2023	Water Tower Upgrades (Including Cleaning & Paint Project)	0-5	\$283,000
2017	Blaine Ct 8-inch Replacement	6-10	\$31,000
2017	Cuthbert Ct 8-inch Replacement	6-10	\$31,000
2017	Gates St (N Bailey St to Prospect) 8-inch Replacement	6-10	\$143,000
2017	Michelle Drive 8-inch Replacement	6-10	\$73,000
2017	Brook St (Blaine Dr to Benjamin St) 8-inch Replacement	6-10	\$85,000
2017	Morton St (West Saint Clair to Minot) 8-inch Replacement	6-10	\$242,000
2017	West Saint Clair Rd (Morton to Chandler) 8-inch Installation	6-10	\$106,000
2017	Wonder Ln 8-inch Replacement	6-10	\$121,000
2019	Morton St Booster Station: Rehab or replace pumps within exist.	6-10	\$55,000
2019	Replace Backwash Blowers	6-10	\$45,000
2019	Valve and Actuator Replacement	6-10	\$25,000
Subtotal Cost			\$1,577,000
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)			\$2,366,000

Iron Removal Plan and Well Houses

For the Iron Removal Plant (IRP), the original main plant roof and gutters are nearing the end of expected service life of 30 years and should be planned for replacement. Other recommended repairs and upgrades include constructing an equipment maintenance building, installing emergency lighting, maintenance on the distribution and lighting panels, upgrade the MicroLogix platform, re-glaze the doors and windows, and repairing the building's south wall.

For Well House No. 5, it is recommended to replace the main distribution panel, install emergency lighting, replace the roof and gutters, recoat the interior floor slab, and upgrade the exterior of the makeup air vent by adding a fabric filter. In long term planning, the Village should plan to replace the VFD and the generator. For Well House No. 3, it is recommended to install emergency lighting, replace roof and gutters,

replace the concrete entrance walkway, replace the exhaust fan, repair the masonry, and replace the service sink. For long term planning, the Village should plan for replacing the distribution panel, transformer, lighting panelboard, and VFDs. For Well House No. 6, it is recommended to construct a proper masonry structure with door, ventilation, applicable lighting, and local pump disconnect switch of similar construction to the existing buildings onsite to protect the well.

Table 3-4. Iron Removal Plant Facility CIP Projects

Item	Project	CIP Year	Est. Cost
IRP	Install Emergency Lighting	0-5	\$5,000
IRP	Perform Maintenance on Distribution and Lighting Panels	0-5	\$3,000
IRP	Replace Building Roof and Gutters with Metal Roofing System	0-5	\$39,100
IRP	Reglaze and Re-caulk Doors and Windows	0-5	\$3,500
IRP	New Power Equipment Maintenance Building	0-5	\$75,000
IRP	Remove Staining and Correct Seepage from Gutter	0-5	\$2,000
Well No. 5	Replace Main Distribution Panel, Transformer, and Panelboard	0-5	\$40,000
Well No. 5	Install Emergency Lighting	0-5	\$3,000
Well No. 5	Replace Building Roof and Gutters with Metal Roofing System	0-5	\$14,450
Well No. 5	Recoat Floor Slab with Epoxy	0-5	\$3,400
Well No. 5	Fabric Filter for Makeup Air Vent	0-5	\$250
Well No. 3	Install Emergency Lighting	0-5	\$3,000
Well No. 3	Replace Building Roof and Gutters with Metal Roofing System	0-5	\$8,500
Well No. 3	Replace Concrete Walkway	0-5	\$750
Well No. 3	Replace Exhaust Fan	0-5	\$2,500
Well No. 3	Repair Unit Masonry	0-5	\$4,000
Well No. 3	Replace Service Sink	0-5	\$2,000
Well No. 3	Distribution Panel, Transformer and Lighting Panel Replacement	0-5	\$40,000
Well No. 6	New Masonry Building with Metal Roof	0-5	\$115,000
Well No. 6	Building Electrical Improvements	0-5	\$11,000
IRP	Upgrade PLC Platform (5-10 Years)	6-10	\$20,000
Well No. 5	VFD Replacement	6-10	\$40,000
Well No. 3	VFD Replacement	6-10	\$25,000
Well No. 5	Generator Replacement	11-20	\$250,000
Subtotal Cost			\$710,450
Total CIP Cost (incl. 5% mobilization, 20% contingency, 5% general requirements, 25% engineering and admin.)			\$1,101,000

Storm System

Majority of the storm sewer structures were inspected during the SAW Grant in 2019 and a CIP of the necessary repairs was completed at that time. Some of these repairs were made during the recent road projects. Since the CIP costs were determined in 2019, escalation rates were applied to account for inflation in the past 5 years, approximately 24%, and included in the updated CIP below. Some of the storm sewer pipes were inspected as well during the Grant, however, no repairs were found to be needed based on these inspections. It is recommended the remaining storm sewers not televised during SAW be completed within the next 5 years. Also, it is recommended that routine maintenance and cleaning of the storm structures and sewers be completed ever 7-10 years. Therefore, costs for routine maintenance of the system inspected during SAW is included in the 6-10 year CIP.

Table 3-5. Storm System CIP Projects

Project	Quantity	CIP Year	2025 Estimated Cost
Reconstruct Manhole	7-ea	0-5	\$70,000
Interior Cementitious Grouting	53-ea	0-5	\$35,000
Structural Lining	11-ea	0-5	\$85,000
Cover Replacement	9-ea	0-5	\$10,000
Chimney Replacement (Pavement)	2-ea	0-5	\$5,000
Reconfigure Storm Connection	1-ea	0-5	\$35,000
Locate and Inspect Manholes (Not Found/ No Access/ Buried)	20-ea	0-5	\$10,000
Routine Cleaning & CCTV (footage not completed in 2018)	54,860-lft	0-5	\$412,000
Replace Frame & Cover (Grass)	1-ea	6-10	\$2,000
Interior Cementitious Grouting	72-ea	6-10	\$45,000
Structural Lining	2-ea	6-10	\$15,000
Routine Sewer Cleaning & CCTV (last completed 2018)	4,740-lft	6-10	\$36,000
Routine Structure Cleaning & Inspection (last completed 2018)	548-ea	6-10	\$877,000
Subtotal			\$1,637,000
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)			\$2,456,000

Sidewalks

While this study focuses on the sidewalks in the DDA, it would be recommended that the Village do an assessment of all Village sidewalks. Based on the road length in the Village, we estimate approximately 25-30 miles of sidewalk to be walked and inspected. Should a consultant be hired to perform sidewalk inspections, it is anticipated that the budget would be \$30-40,000. Below is the preliminary cost estimate of the DDA sidewalks and future costs to perform inspections on the remaining 25-30 miles. The DDA includes sidewalks along St. Clair and Main Street. These quantities are for preliminary purposes only and were estimated using GIS and Google Earth. A more comprehensive inspection survey will be required to accurately estimate the DDA sidewalk quantities once the project is in the preliminary design phase. Therefore, 25% contingency was included in the total cost estimate.

Table 3-6. Sidewalk Improvements Cost Estimate

Project	Quantity	CIP Year	Estimated Cost
Sidewalk, Rem	4,005-syd	0-5	\$80,095
Curb and Gutter, Rem	2,355-lft	0-5	\$35,325
Curb and Gutter, Conc, Det C4	2,355-lft	0-5	\$89,490
Sidewalk, Conc, 4-inch, Integral Brick Pavers	31,542-sft	0-5	\$630,840
Sidewalk Ramp, Conc, 6 inch	4,500-sft	0-5	\$67,500
Detectable Warning Surface, Special	300-lft	0-5	\$16,500
Tree Planting Areas	1,050-sft	0-5	\$787,500
Village-wide Sidewalk Inspections	30-miles	6-10	\$40,000
Village-wide Sidewalk Repairs	TBD	6-10	TBD
Subtotal			\$1,707,205
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)			\$2,561,000

Village Parking Lots

Due to the lack of knowledge of what is needed at the Village Parking Lots, the cost estimate listen herein is only for the engineering services to design the rehabilitation of five (5) Village-owned parking lots in the downtown area and at the Sewage Treatment Plant. The Village-owned lot located at Church and N. Rawles is not included in this cost estimate for engineering services because it was constructed very recently. The work listed below includes several phases of work, including a preliminary investigation, design, and bidding services. Once preliminary investigation has been completed, a construction cost estimate for the parking lot improvements will be provided later this year and a timeline can be included based on that.

Table 3-7. Village Parking Lots Engineering Services Costs

Project	Estimated Cost
DDA Parking Lots	
Preliminary Design Phase	\$12,300
Topographic Survey	\$20,000
Design	\$101,760
Bidding Phase	\$7,380
Sewage Treatment Plant Lot	
Preliminary Design Phase	\$2,870
Topographic Survey	\$5,000
Design	\$23,000
Bidding Phase	\$2,170
Total Cost	\$175,200

Village Roads

As for the roads within the Village, the southwest corner of the Village is anticipated for improvement in the near future, as well as part of the northwest quadrant that was not completed as part of the project in 2023. The rest of the areas of the Village have been improved on to date, as noted in the report.

Table 3-8. Village Roads CIP Costs

Project	CIP Year	Estimated Cost
2026 Local Street Resurfacing (NW Quadrant not completed in 2023)		
NW Quadrant Sewer Rehabilitation	0-5 Year	\$30,200
NW Quadrant Street Resurfacing	0-5 Year	\$341,003
2026 Local Street Resurfacing (SW Quadrant)		
SW Quadrant Sewer Rehabilitation	0-5 Year	\$399,887
SW Quadrant Street Resurfacing	0-5 Year	\$4,489,214
General Road Maintenance	6-10 Year	TBD
General Road Maintenance	11-20 Year	TBD
Subtotal		\$5,260,304
Total Cost (incl. 16% contingency, engineering and admin.)		\$6,102,004

Village Buildings

Based on the visual inspection completed in the fall of 2024, a CIP for the Village Hall and Village Community Center are listed below. As stated earlier, it should be noted that these recommended projects are based on general items of interest that were visible during these inspections. Reasonable efforts were made to view all safely accessible areas. However, items located within enclosed surfaces that could not be inspected without the use of invasive techniques were not included. The projects below were prioritized based on safety, ADA compliance, and structural concerns. The projects that were given less priority were cosmetic upgrades that could enhance the aesthetics of the buildings but were not determined to affect the structural integrity of the building.

Table 3-9. Village Buildings CIP Projects

Project	Quantity	CIP Year	Estimated Cost
Village Hall			
Minor Brick Repairs and Repointing	1 LS	0-5	\$4,500
Clean & Seal Masonry Planter Bed Caps	1 LS	0-5	\$1,200
Window Repair or Replacement Allowance	5-ea	0-5	\$25,000
Exterior Door Repairs	1 LS	0-5	\$6,500
Miscellaneous Roof Cleanup & Flashing Repairs	1 LS	0-5	\$5,000
PD Ceiling Repairs	1 LS	0-5	\$500
Allowance for Miscellaneous ADA Improvements	1 LS	0-5	\$25,000
Clean & Recoat Exterior Stair	1 LS	6-10	\$3,500
Upper Roof - Roofing Replacement (Future)	2,050-sft	6-10	\$71,750
PD Flooring Repairs/Replacement	1 LS	6-10	\$7,500
Community Center			
Roof Shingle Repairs	1 LS	0-5	\$500
Window Replacement	3-ea	0-5	\$10,500
Interior Patio Door Replacement Allowance	1 LS	0-5	\$10,000
Meeting Room Wall Repairs	1 LS	6-10	\$2,500
Vinyl Siding Repairs	1 LS	6-10	\$1,500
Subtotal			\$175,450
Total CIP Cost (incl. 5% mobilization, 20% contingency, 25% engineering and admin.)			\$263,000

3.3 0-20 YEAR CAPITAL IMPROVEMENT PLAN COST SUMMARY

Table 3-10. Village 0-5 Year CIP Projects

Village Asset	Total Estimated Cost	Average Yearly Cost (over 5 years)
Wastewater Treatment Plant	\$894,000	\$178,800
Sanitary Sewerage System	\$964,500	\$192,900
Water Distribution System	\$930,000	\$186,000
Iron Removal Plant & Well Houses	\$563,175	\$112,635
Storm Sewer System	\$993,000	\$198,600
Sidewalks	\$2,560,875	\$512,175
Parking Lots (engineering-only)	\$262,800	\$52,560
Parking Lots (anticipated based on the Village Master Plan estimate)	\$900,000	\$180,000
Roads (NW & SW quadrants)	\$6,102,004	\$1,220,401
Village Buildings	\$101,550	\$20,310
Total	\$14,271,904	\$2,854,381

Table 3-11. Village 6-10 Year CIP Projects

Village Asset	Total Estimated Cost	Average Yearly Cost (over 5 years)
Wastewater Treatment Plant	\$1,845,000	\$369,000
Sanitary Sewerage System	\$1,323,000	\$264,600
Water Distribution System	\$1,435,500	\$287,100
Iron Removal Plant & Well Houses	\$127,500	\$25,500
Storm Sewer System	\$1,462,500	\$292,500
Sidewalks	\$60,000	\$12,000
Road (Maintenance)	TBD	TBD
Village Buildings	\$6,000	\$1,200
Total	\$6,259,500	\$1,251,900

Table 3-12. Village 11-20 Year CIP Projects

Village Asset	Total Estimated Cost	Average Yearly Cost (over 10 years)
Wastewater Treatment Plant	\$5,580,000	\$558,000
Sanitary Sewerage System (Routine Sewer Cleaning & CCTV)	\$1,500,000	\$150,000
Sanitary Sewerage System (Structure Cleaning & Inspection)	\$1,230,000	\$123,000
Storm Sewer System (Routine Sewer Cleaning & CCTV)	\$832,500	\$83,250
Storm Sewer System (Routine Structure Cleaning & Inspection)	\$1,632,000	\$163,200
Road (Maintenance)	TBD	TBD
Iron Removal Plant & Well Houses	\$375,000	\$37,500
Total	\$11,150,000	\$1,115,000

3.4 ANTICIPATED SCHEDULE AND FUNDING

Improvements to the parking lots, sidewalks, and Village Buildings can be budgeted using the Village General Fund. The roads remaining for improvement should be budgeted out of the Roads Fund. Since majority of the roads have been improved, it is recommended that maintenance on the roads be budgeted into the long-term Roads Fund to maintain the condition of the newly renovated roads. The Village should invest in maintenance costs for the upkeep of these newly improvement roads over the next 5 years. These costs will be outlined in the updated PASER Report later this summer. Since most communities don't have storm sewer funding, the CIP projects are generally done as needed as part of road projects which the Village has been implementing and can be budgeted using the Roads Fund. As the roads are maintained and improved, it is recommended the storm be inspected in coordination. Lastly, the remaining asset improvements including the WWTP, the sanitary sewers, the water system, the Iron Removal Plant, and the Well Houses can be budgeted using the Village Water/Sewer Fund.

Appendix A — 2023 Water Tower Report (Dixon Engineering Inc.)

Appendix B — 2024 Iron Removal Plant & Well House Report (HRC)

Appendix C — 2024 Village Buildings Assessment Memo (HRC)

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