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Sewer Utility

The City of Mequon Sewer Utility is seeking qualified consultants to complete a feasibility study to provide public sanitary sewer services to portions of Section 31, located in the southwest corner of the City. Portions of the section are contemplated for rezoning for industrial use (see attached map). Section 31 is currently outside of the City's Sewer Service Area, although within SEWRPC and MMSD's Planning Areas. The Sewer Utility is assessing the capability to provide regional utilities with a mainline trunk sewer that can provide service to adjacent properties, rather than requiring each individual development to provide its own service.

Please see the attached memo that was generated for the discussion with the City's Economic Development Board regarding public sanitary sewer service.

Interested parties should submit proposals to the City of Mequon by noon on Friday, March 22. It is preferred that proposals be submitted electronically via email to Engineering@ci.mequon.wi.us. Hard copies, if necessary, may be mailed to Engineering Division c/o Kaye Redeker, 11333 N. Cedarburg Road, Mequon, WI 53092.

Scope

The scope for the feasibility study will include, at a minimum, the following tasks:

1. Define the options of how to serve the area within the boundary of the attached maps with public sewer.
 - The intent of Task 1 is to provide the Sewer Utility District Commission with a technical memorandum validating whether the property can be legally and practically served by public sanitary sewer.
 - Include a narrative of both the general layout and the location of the MIS connection for each option. If general linework showing the path can be mapped, it should be included as well.
 - Task 1 is not design, but shall be verified as feasible. Both gravity systems and pressure systems can be considered, but the number of lift stations and linear footage and size of pipe should be summarized in a table for each option.
 - Similarly, utilizing both existing right-of-way and easement acquisition within the identified parcels should be considered.
 - If there are any portions of the property that are not serviceable by the Mequon Sewer Utility, the consultant shall explain any and all alternatives available.
 - Provide pros and cons for each option.
2. Define parcels outside of the proposed area that could be served by the options in Task 1. While the focus of the current discussion is on the potential industrial zoned lands, if additional parcels could be served by the same infrastructure, the Sewer Utility may allow for further expansion of the Sewer Service Area.

The following tasks are all designated as "if authorized". It is anticipated that the results of Tasks 1 and 2 will be summarized and presented to the Sewer Utility District Commission. If the Commission determines that there is sufficient merit in serving the area with public sewer, the following tasks would be considered. Please note that the Commission may elect to complete one, some, all or none of the following tasks:

3. Master Trunk Plan – IF AUTHORIZED

- The intent of Task 3 is to map the layout, size and critical depths for the master trunk system serving the identified parcels. The Sewer Utility typically operates on a build and contribute system, whereby the developer builds the infrastructure required to serve the development. If the infrastructure requires upsizing or additional depth in order to serve the rest of the parcels, the Sewer Utility would require those specifications at the time of construction.
- Depending on the results of Task 1, the Master Trunk Plan could have multiple layouts to serve the area.
- Identify tributary areas (sewersheds) for each section of the master trunk plan. For example, if a portion of the lands can be served by a gravity trunk line, but a portion requires a lift station ultimately discharging downstream, the master trunk plan shall identify the parcels tributary to each. Tributary areas may overlap if parcels can be served multiple ways.

4. Cost Estimate – IF AUTHORIZED

Provide cost estimate(s) for the Master Trunk Plan(s) identified in Task 3.

5. Funding Mechanisms – IF AUTHORIZED

As noted, the Sewer Utility historically operates on a build and contribute basis, where the Developer designs, constructs, finances and installs the required infrastructure and dedicates it to the Sewer Utility upon acceptance. For sanitary sewer construction, this incentivizes the downstream parcels over the upstream parcels and may not equitably distribute costs across all benefitting properties. Based upon the cost estimates generated in Task 4, provide the options and costs of any of a variety of funding mechanisms, including, but not limited to: special assessment, TIF, etc.

If the consultant anticipates or recommends additional tasks in order to complete the feasibility study, the proposal shall include the outline of the task as well as the cost and timeline to complete.

Schedule

It is anticipated that the contract award, if necessary, will be approved by the Common Council on April 9th. The proposal shall indicate whether Tasks 1 and 2 can be completed by April 30th for inclusion in the packets for the May 14th meetings. Alternatively, Tasks 1 and 2 would require completion prior to May 24th for inclusion in the packets for the June 11th meetings.

The proposal shall identify, based upon either the May 14th or June 11th meeting dates, the timeline for completion of Tasks 3-5, if authorized.

Proposal Format

Consultants' proposals should include a brief resume of the firms' qualifications and a listing of any similar projects completed. Proposals shall include an introduction to the project team and plan approach. The cost for each task shall be broken down as provided in the attached format.

The City reserves the right to reject any and all proposals. The City reserves the right to negotiate the terms of the contract, including the award amount, with the selected proposer prior to entering into a contract. If contract negotiations cannot be concluded successfully with the preferred proposer, the City may negotiate a contract with the next preferred proposer.

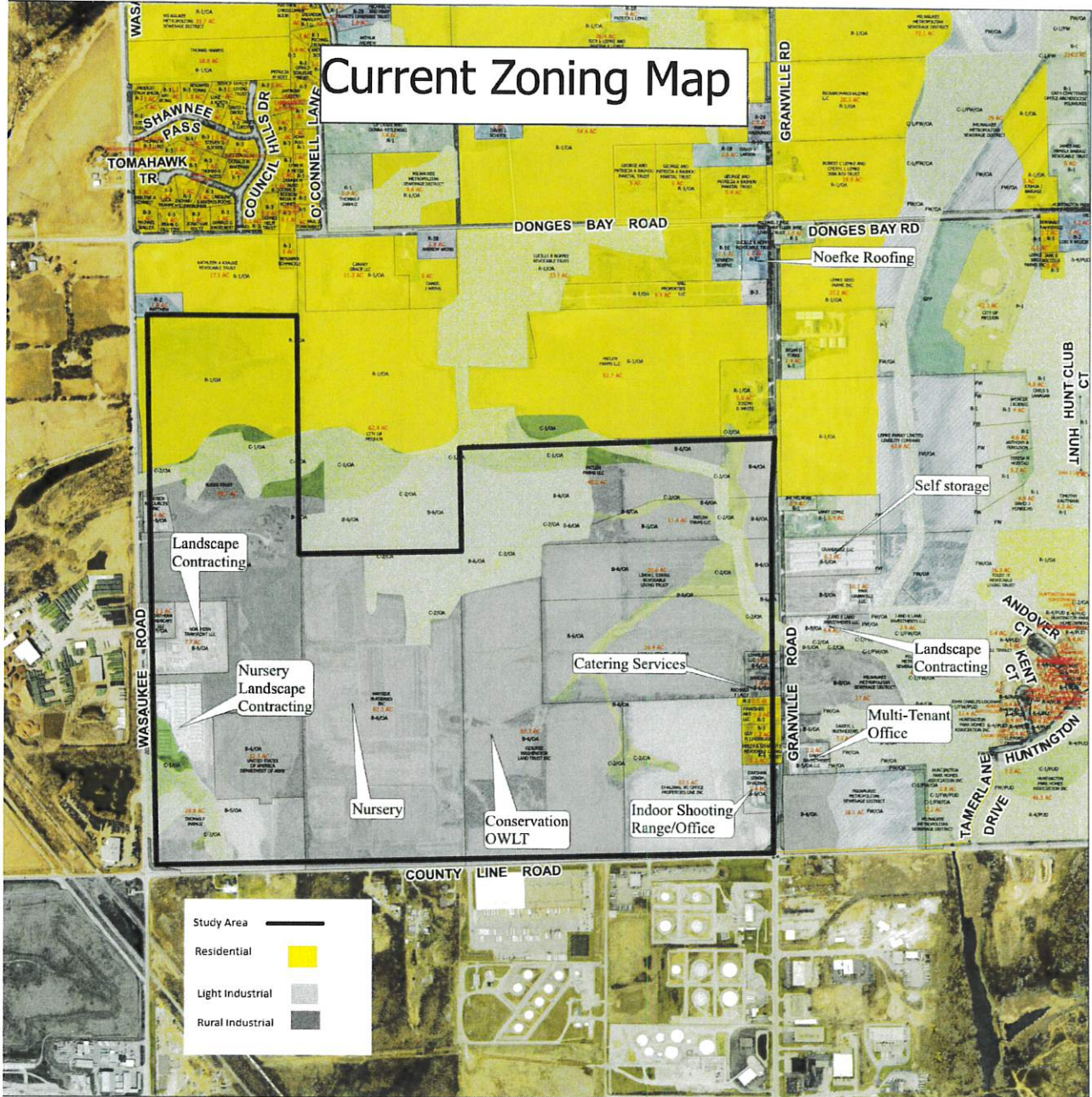
Consultants must submit their proposals by noon on Friday, March 22. Consultant selection will be based on quality of proposal, qualifications of the design team, and fee to complete the work.

Cost

Please note that the low proposal cost will be based upon Tasks 1 and 2. If there is additional cost savings if Tasks 3-5 are authorized (as compared to the sum of all tasks), please indicate that in the proposal as well. The City reserves the right to consider the total proposal cost during the selection process.

Task	Description	Cost
1	Identification of Public Sanitary Sewer Service Options	
2	Identification of Additional Areas Served	
3	Master Trunk Plan	
4	Cost Estimate	
5	Funding Mechanisms	
TOTAL		

Conceptual Industrial Study Area Map





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PUBLIC WORKS DEPARTMENT

MEMORANDUM

TO: Economic Development Board

FROM: Kristen Lundeen, Director of Public Works/City Engineer

DATE: June 19, 2023

SUBJECT: Public Utility Service to Southwest Mequon

The attached technical memos provide an overview of the requirements to serve the southwest corner of the City with public utilities. A summary of the connection location and constraints on serving the area is detailed below. In addition to the technical requirements for service, public utility infrastructure requires several policy discussions as well.

From a public utility perspective, the density and specific use of the buildings will have a large impact on the technical requirements for service. As noted in the memos, industrial uses create a wide-ranging demand on public utilities. Warehousing, as an example, generates minimal waste and therefore minimal impact on the sewer system. Likewise, it has a minimal draw on the water system, but may require more capacity to ensure proper fire protection. A bottling plant places a higher demand on both sewer and water, and therefore may restrict the allowable development or increase the size and cost of public infrastructure.

SEWER

Properties within the southwest corner of the City would be served by connecting and extending public sewer infrastructure from the existing location at the County Line Road and Granville Road intersection.

Limiting factors for serving the area with public sewer infrastructure relate to topography and discharge limits. Serving properties via gravity is the standard for new development. A portion of the area could be served by an extension of the existing sewer infrastructure, but gravity service is limited and other properties would require installation of a lift station.

All City of Mequon sewers ultimately discharge into the Milwaukee Metropolitan Sewerage District (MMSD) system. MMSD imposes limits on discharge into the system. As noted, the varying levels of discharge based upon the specific industrial uses may limit the type or density of development within the area.

WATER

Properties within the southwest corner of the City would be served by public water infrastructure in one of two ways:

1. Extending the existing infrastructure from the intersection of County Line Road and Swan Road, after a second connection and meter pit is installed as a condition of the Swan Ridge Farms subdivision.
2. Petition Milwaukee Water Works for a contract amendment to allow for a third connection to the system.

The design for the public water infrastructure depends upon both the size of the facilities to achieve compliant fire protection and the type of use, as noted above. As public water infrastructure is pressurized, topography is not the limiting factor for extension.

POLICY

The southwest corner of the City is not currently included within the Sewer Service Area (SSA) nor the Mequon Water Utility Service Area (MWUSA). In accordance with the Water Connection Policy, if a SSA boundary amendment were completed to include the lands, it would automatically be included in the MWUSA. However, if the City determined that the area would remain outside of the SSA, the City could separately consider amending the MWUSA to include the area and serve with public water infrastructure. That is the policy decision that was made for the Ulao Creek Neighborhood, due to prohibitive sewer costs. Therefore the City must determine whether boundary amendments will be requested for the SSA, the MWUSA or both.

New development in the SSA and/or MWUSA is required to build and contribute public infrastructure at the time of construction. Fundamentally, this results in higher construction costs for properties located further from the existing infrastructure. This can impact the marketability and/or property value of the lands within the area. In 2015, the City addressed this concern for the Central Growth Area by assessing for the sanitary sewer costs, whereby all benefitting properties paid an equitable portion of the sewer costs. Please note that the Mequon Water Utility cannot build public infrastructure on prospect at the cost of existing rate payers, nor by referendum can the City of Mequon pay for public water infrastructure costs.

City staff can facilitate a policy discussion on public utility financing outlining the various options for consideration.

TIMELINE

One critical path item for public infrastructure is the sewer service area boundary amendment. The boundary amendment first requires Sewer Utility District Commission recommendation and Common Council approval, which can typically be accomplished in one meeting night. The boundary amendment includes a list of all impacted properties, which must be contiguous to the existing sewer service area. The process also requires a public hearing.

Once approved at the City level, the request is forwarded to SEWRPC, WDNR and MMSD for approval and that process is typically six to nine months. Both SEWRPC and MMSD include all of the City of Mequon within the planning boundary, therefore expansion should not be a policy debate and is more administrative to ensure compliance.

Please note that the sewer service area boundary amendment has an immediate fiscal impact on property owners. MMSD capital charges are levied as a sewer tax. Therefore all properties within the sewer service area pay the sewer tax, regardless of access to public sewer. Staff generally recommends that the request be initiated concurrent to a development application so that property owners do not pay additional taxes while the market determines the demand for construction.

Once the sewer service area boundary amendment is approved, properties within the boundary may connect to public sewer. Staff recommends that a sewer study be completed to define critical elevations and/or lift

station citing and design parameters to prepare for development. This study could be completed concurrently with the request for the sewer service area boundary amendment.

Further, the study could be completed prior to the sewer service area boundary amendment, to both determine the serviceability to the area (gravity service versus lift stations, etc). Please note that this would require an additional policy discussion. Typically, the City requires that new development be self-funding, and not impact existing taxpayers or rate payers. If the design is completed on prospect, the City would need to determine whether the taxpayers fund the design, the sewer rate payers fund the design, or whether the design costs are assessed against the properties in combination with a future construction project.

The policy discussions regarding both design and infrastructure financing and ownership could also be concurrent to the sewer service area boundary amendment. Fundamentally the capacity and design of the system will be the driving factor for either the traditional build and contribute model, or utilized for a public infrastructure construction project. The pipe depth and sizing will be the same regardless of the financing mechanism.

For public water infrastructure, if the properties are included within the sewer service area, it is required to be served by public water infrastructure. As noted, if the area is ultimately not included within the sewer service area, the Water Utility Commission could consider a Mequon Water User Service Area boundary amendment to include the section, similar to the process completed for the Ulao Creek Neighborhood. The amendment can take place at a regularly scheduled meeting and is not subject to public hearing requirements.

Similar to the recommendation for public sewer infrastructure, a master utility plan for water infrastructure is recommended. Please note that the Mequon Water Utility cannot finance, design or construct public water infrastructure on prospect. The City could finance the project, but Water Utility funds are regulated such that existing water rate payers cannot fund future development.

Staff recommends against constructing public utility infrastructure on prospect. Unused and underutilized infrastructure cause maintenance issues and drive up the cost to all utility rate payers. If the City proactively generates a master utility plan for the area, defining the required capacity, sizing and general layout for the infrastructure, it can leverage the initial development for construction. Regulatory approvals are a typical part of the review process and can be incorporated into standard approvals.

For both sewer and water, the City could construct the public infrastructure and special assess for the cost. Special assessments are statutorily regulated, and will add three to six months to the construction process. Please note that the build and contribute model can be structured to allow for a refund clause in lieu of a special assessment, reducing the timeline and financial obligation of the City.

As it relates to regulatory approvals for the public water infrastructure, the Public Service Commission includes all of the City of Mequon in the Water User Service Area, therefore any expansion is required at the Water Utility Commission level only. In addition to Mequon Water Utility approvals, construction plans must be approved by the WDNR. Plans for individual developments and larger trunk projects are reviewed in generally the same timeframe, so there is no impact on the timeline for leveraging the development process to install the mainline public water infrastructure.



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Public Works/Engineering

Date: June 16, 2023
To: Economic Development Board
From: Kevin Driscoll, Deputy Director of Utilities
Subject: SW Industrial Area, Sanitary Sewer Service Concept

A Sewer Utility service extension to the Southwest Industrial Area in the City of Mequon requires engineering and regulatory government processes to be addressed, and these anticipated requirements are summarized and outlined below to identify factors for further consideration on how to move forward with an additional evaluation.

Engineering

Sanitary sewer systems are generally designed with in one of three ways: gravity systems, lift stations, or privately owned wastewater treatment systems. Gravity systems are preferred due to cost and maintenance of passive conveyance systems that only need routine cleaning and inspection on an infrequent basis. Lift Stations are required when gravity sewers cannot be designed due to topographical considerations such as hills and valleys often due to rivers and creeks and tributaries, where lift stations require a high level of maintenance and attention by dedicated staff for reliable operation. Privately Owned Wastewater Treatment Systems, commonly referred to as POWTS, are sanitary systems such as mound systems, septic systems or holding tanks. These POWTS are typically constructed when sanitary sewer is not available, often due to gravity sewer not being feasible due to topography or due to lift stations with force mains being cost prohibitive.

Allowable Discharge and Capacity

The Sewer Utility would need to confirm design parameters and can model a conceptual sanitary collection system. This system would be designed based on the allowable discharge capacity into the existing municipal intercepting sewer at Granville and County Line Road. Based on the 2050 Facilities Plan for the Milwaukee Metropolitan Sewerage District (MMSD), the City of Mequon Sewer Utility is limited to approximately 3.5 million gallons per day (MGD). Existing allocated flow within the system is less than 3.5 MGD, therefore there is available flow to assign to future growth. The critical elevation, understood as the lowest point of connection to mitigate risk, is 138.80 feet (local datum). Please see the information below regarding how the capacity and critical elevation impacts sanitary sewer service to the area.

With a restriction on the volume of available capacity, an evaluation to size the sewer to allow for ultimate build-out plan and conditions is next. Questions to address: Will the sewer serve only the area bounded by County Line Road to the south, Granville Road to the east, Donges Bay Road to the north and Wausaukee Road to the west? Or should the sewer be sized for an ultimate build out

extending north of Donges Bay Road? If the system is not sized appropriately to accommodate future development, the sanitary sewer system would restrict the area and use of the properties allowed to connect.

Capacity is a factor to further evaluate. MMSD further details capacity limits based upon geographic area. These geographic areas are designated as basins and named for the municipality (Mequon is ME) and the basin number. The southwest corner of the City would potentially impact multiple basins. Based on the MMSD 2050 facility plan, the Huntington Park and Swan Ridge area is allowed 170,000 gallons per day from basin ME3009, and basin ME3013 is allocated 3,497,000 gallons per day (3.5 mgd). ME3013 includes Section 31, 30, 29, 20, & 19 as previously introduced above.

The existing topography of the southwest corner of the City includes hills and valleys formed by the Little Menomonee River, the Little Menomonee Creek and unnamed tributaries. The topography in the area north of West County Line Road and west of North Granville Road is limited due to depth of cover, and that topography limits the feasibility of extending sanitary system to the north. If designed, for sanitary sewer service extension along Granville, that area could consider a lift station and a force main. Ownership of the lift station would be included in future policy discussions. Other areas in Mequon with industrial zoning are served by private lift stations and have private force mains. Those property owners incur additional upfront (construction) and ongoing (maintenance) costs.

In lieu of a gravity trunk sewer along North Granville Road, the topography along West County Line Road may allow for gravity sewer service to areas with higher elevations. In addition, the topography along North Wausaukee Road that extend to the north of West County Line Road is approximately 40 feet above the critical elevation and could be considered further or model with funding an additional study to determine if it could be served via gravity sewer.

Area

The area for potential rezoning was identified by Community Development staff ranging from 4,000,000 square feet to 9,500,000 square feet. That equates to 91.83 acres and 206.61 acres respectively. For industrial zoning, water use and domestic or industrial wastewater production can widely vary. Uses may range from a warehouse with little domestic wastewater to a metal fabrication facility with batch dumps, to a beverage facility or rendering plant that creates a high yield wastewater. Typical industrial zoning may apply a 0.1 cubic feet per second per acre for heavy water use, where less water intensive industrial facilities may apply a design factor closer to 0.01 cubic feet per second/acre or less, similar to traditional residential zoning. A range of uses would need to be evaluated to avoid restricting service to properties that would exceed the allowable discharge limit. In addition, if industrial wastewater output is known at other facilities anticipated that would relocate to the area, then a projection could be made, and taken into account to adhere with allowable discharge limit.

The eastern portion of Section 32 consists of Huntington Park and the Swan Ridge Farms Subdivision, and these areas are in the Sanitary Sewer Service Area north of County Line Road, south of Donges Bay Road, and east of the Little Menomonee River. However, Section 31, located west of Granville Road is not in the sanitary sewer service area. In addition, Sections 30, 29, 20 & 19 to the north of Donges Bay Road are also outside of sanitary sewer service area. These areas are not currently allowed to be connected to sanitary sewer without a sewer service area amendment.

Sewer Service Area Amendment

For an area to be served by sanitary sewer, it needs to be included in the Sanitary Sewer Service Area. An amendment to the Sanitary Sewer Service Area requires approvals from the Sewer Utility District Commission, Common Council, the MMSD, the Southeastern Wisconsin Regional Planning Commission, and the Wisconsin Department of Natural Resources by statute. An amendment to the sanitary sewer service area typically takes 6 to 9 months and may follow a rezoning resolution recommended by the City of Mequon Planning Commission.

In addition, those parcels in the sanitary sewer service will incur an annual sanitary tax to pay for capital costs of wastewater treatment. Those connected to the sanitary sewer system will incur the annual sanitary tax plus a quarterly fee for collecting and treating their wastewater.

The most recent amendments to the City of Mequon Sanitary Sewer Service Area included the Swan Ridge Farms Subdivision in 2022, and in 2015 the Central Growth area was added where that now includes the Highlander Estates and Enclave subdivisions. Gravity sanitary sewer extensions were evaluated by consultants for their feasibility and based on the existing topography. Ultimately the City constructed the Wauwatosa Road sanitary sewer mainline, and assessed all benefitting properties for the cost of the sewer. Both subdivision gravity sewer extensions are based on the City's "Developer-Build-and-Contribute" policy.

Construction Costs

Gravity sanitary sewers are cheaper to construct, operate and maintain compared to lift stations. The cost of piping and excavation are somewhat similar for each, however lift stations require a pump house structure, control panels, SCADA integration for alarms, back-up generators and fuel, ongoing electrical costs, ongoing repairs and maintenance of pumps and valves and replacement of mechanical pumps and valves. Those are elements that create life cycle costs that gravity systems do not require.

Gravity sewers mains can be constructed along terrain to accommodate adequate depth of cover for connecting building sewer laterals. However, drainage features such as creeks or rivers, like the Little Menomonee River, may create topographical challenges to meet design criteria. Preliminary analysis of the topography along County Line Road is favorable to gravity sewer extension. However, the topography along Granville Road would likely require a lift station to cross the Little Menomonee River due to the limited depth of cover to meet the critical elevation at the connection to the sanitary manhole in County Line Road.

Developer Build and Contribute Policy

The City of Mequon has a Developer Build and Contribute policy where the owners of respective land construct infrastructure for the benefit of their privately owned site development, then contribute the infrastructure in the public right of way to the City. This is regulated by a Development Agreement at the time of application.

Assessment to Benefitting Properties

As noted above, the City has utilized special assessments as a mechanism to distribute the cost of public infrastructure among benefitting properties. In the Developer Build and Contribute model, the developer is funding the cost of the public infrastructure. For sanitary sewer, this increases the cost of construction for properties located further from existing infrastructure than other properties. In the past, the City has utilized special assessments to allow equal access to public utilities for all property

owners, while also equitably distributing the costs. This ensure that existing rate payers do not bear the cost of development. However, this also adds cost to all benefitting property owners, whether they intend or are ready to develop or not.

Public infrastructure funding will be a critical policy decision for serving the southwest corner of the City.