

Capital Improvement Plan Unsewered Areas Sanitary Sewer Areas 2, 3, 4, 6, 9

Public Informational Meeting (PIM)
August 26, 2023



Welcome & Introductions

District Board/Staff

- Ken Bates, President
- Justin Ellis, Secretary
- Nick Vandervelde, Treasurer
- Lisa Reas, Administrator
- Paulette Janssen, Assistant to the Administrator

District Engineer – Cedar Corporation

- Thad Majkowski, P.E., Director/Project Manager
- Matt Dorow, E.I.T., Project Engineer

Legal Counsel

- Rick Manthe, Stafford Rosenbaum LLP



Public Information Meeting (PIM) Process

- Brief Presentation of Study Overview (45 minutes)
 - In-person and Zoom Meeting
- Question & Answers (45–60 minutes)
 - Limited to 3 minutes each
 - Questions submitted thru “Chat” will be limited, but answered in the Summary
- Sign-in Sheet



Purpose of Meeting – Future Sewering

- Green Lake Sanitary District Purpose
- Reason for the Project
- District Actions to Date
- Provide Information on Design Considerations – General and Each Area
- Ranking Matrix
- Review Preliminary Costs/ Assessment Process
- Review Proposed Timeline
- Review Next Steps District is considering



Sanitary District Formation

- District Formation (Pursuant to Wis. Stat. s. 60.71)
 - Created by order of the Town of Brooklyn in 1964.
- General Powers of the Commission (Pursuant to Wis. Stat. s. 60.77(4))
 - “Plan, construct and maintain a ... sewerage system ... for the promotion of the public health, comfort, convenience or welfare of the district.”
- Specific Powers of the Board of Commission
 - Install a Collection System on a Town Road Right-of-Way and/or Sewer Easement.
 - Secure rights by condemnation.
 - Levy special assessments.



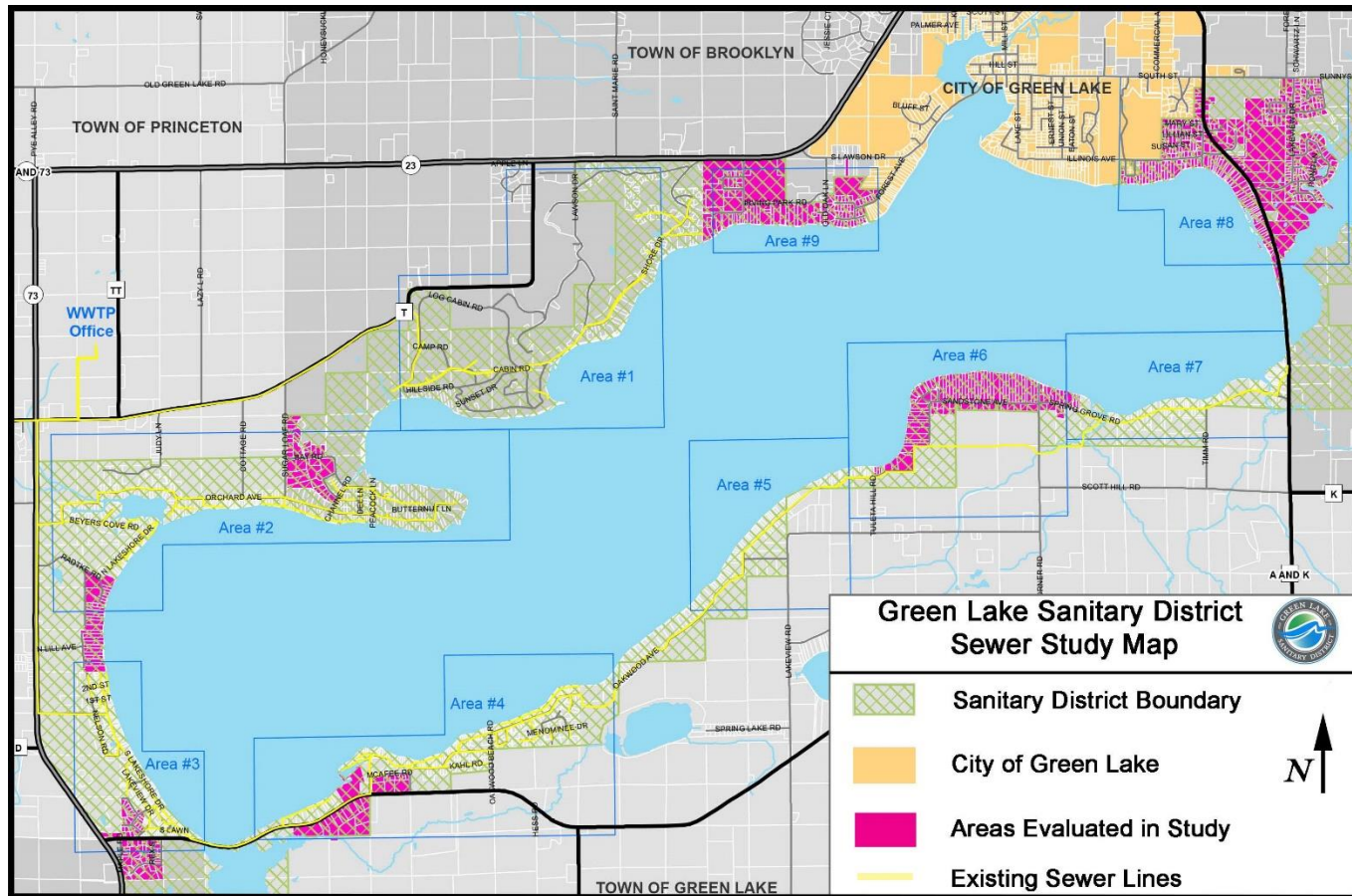
History of Sewering by GLSD

- Terrace, N. Lakeshore, Orchard Ave – **1994/1995**
- Spring Grove Rd, Tuleta Hill, & Oakwood Ave – **2001/2002**
- Lindenwood (eastern GL Conference Center) – **2008**
- Shore Dr/Carpenter Ln – **2020/2021**
- Sugar Loaf Area – **2022/2023**



Reasons for Project – Lake Protection Capital Improvement Plan (CIP)

Green Lake Sewer Service Area Map – Developed Areas Unsewered



Reasons for Project

- Part of Sewering Plan by GLSD
 - GLSD **operates at approximately 35% of available capacity.**
 - GLSD was created to provide sewer service to residents of the District.
 - **Only 65% of the lake shore is sewerred.**
- Lake Protection
 - GLSD funds agricultural Best Management Practices (BMPs) to protect lake water quality.
 - On-site systems add nutrients to the lake. Study has a Private System Summary.

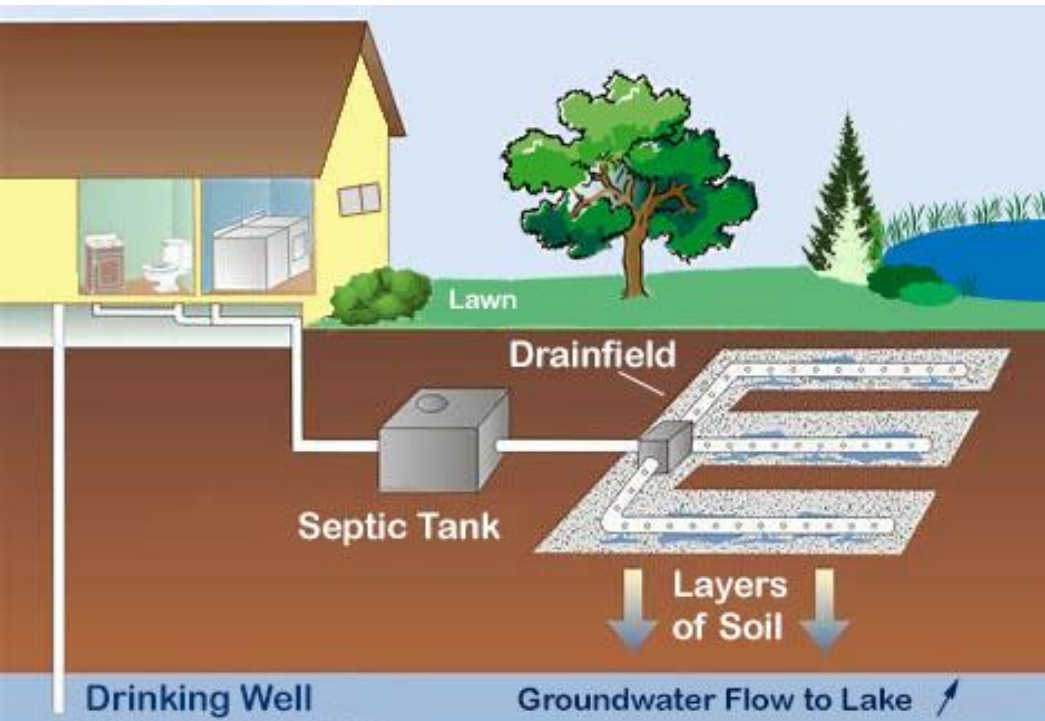


Land Use and Zoning

- Homes built on Green Lake had an array of systems:
 - Conventional Septic Systems:
 - Systems range from 0 to 80 years in age
 - Many systems around the lake are >50 years old
 - Mound Systems
 - Holding Tanks
 - Cesspools
- Impact of Use Changes (AirBnB/VRBO) – On-site Systems
- Replacement Systems – Types/Impacts:
 - Safety – Pumping Trucks on Driveways – Steep Slopes
 - Rock Elevations – Less Treatment/Rock Fissures
 - Slopes may not meet requirements for replacement system
 - Extensive Tree Removal
 - Separation Distances
- County Enforcement – Zoning

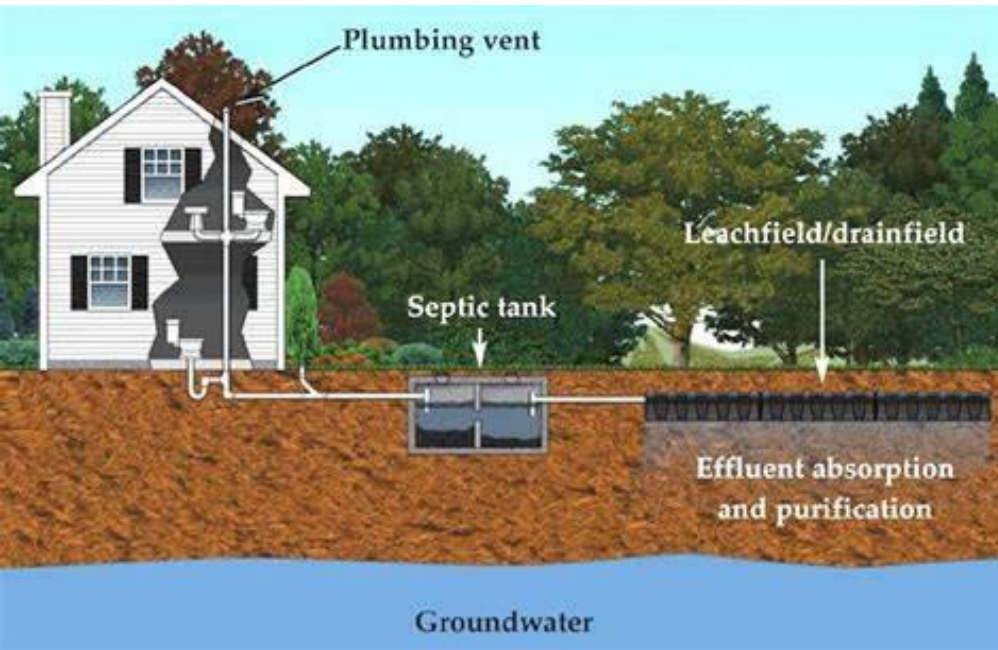


Septic Effluent



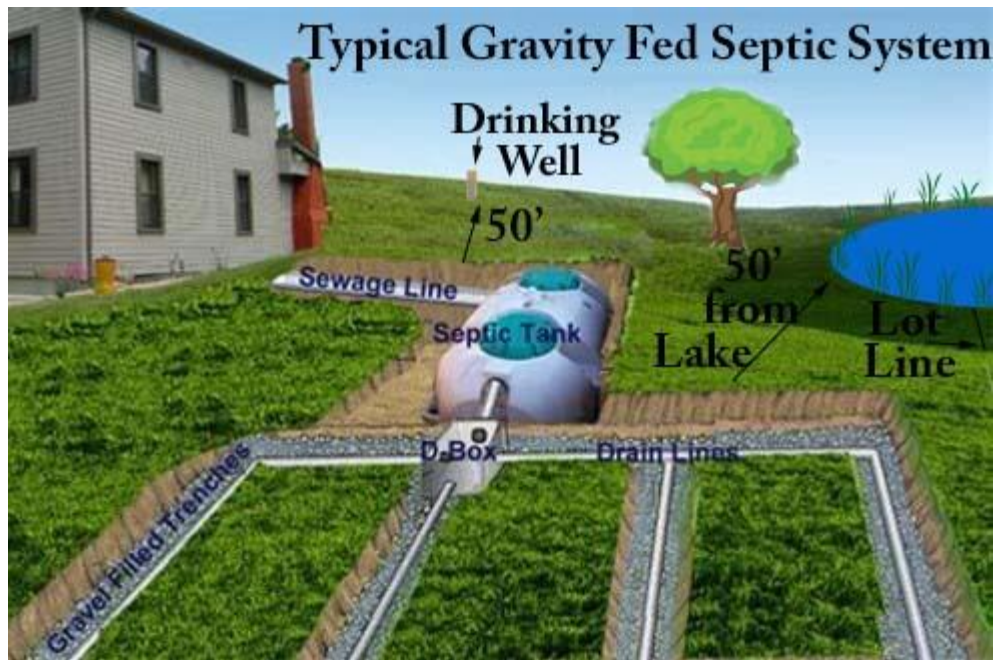
- Septic systems are designed to **discharge to the sub-soil and permeate downward.**
- Adjacent to our lakes, the soil is **saturated closer to the ground surface.** There is reduced depth of soil before saturation occurs.
- **Rock is shallow in some areas** which provides less soil for filtration of wastewater. Rock formations include fissures (cracks) in the rock. The **wastewater flows unimpeded to the lake/groundwater through these cracks.**

Private On-Site System Overview



- Septic systems in our area last approximately 30 years.
- Replacement of septic systems around the GLSD cost roughly \$35,000–\$65,000. Cost depend on:
 - **number of bedrooms in the home**
 - **landscape repairs**
 - **site conditions (slope, rock, trees, etc.)**
- A mound system may cost \$40,000+
- Setbacks are required from:
 - Lake - 50 Ft
 - Drinking wells - 50 Ft
 - Lot lines - 5 Ft
- **Land available is reduced by steep slopes** – access, soils and drain fields

Private On-Site Systems Overview, cont.



*Note the setbacks shown.

- A new septic system requires a new drain field location and cannot be placed where an old drain field has been abandoned.
- Replacement Systems may not be located lakeside.
- The larger the home, the larger the septic tank and drain field. It could take up a large portion of a yard.
- **Large trees on private property may be lost in the replacement of private septic systems/drain field.**
- Soils not acceptable for drain field require other system types: Mound System or Holding Tank.

Changing Property Use Around Green Lake

- **COVID-19 Related**
 - Off season use (as shown by sewer flows) was up dramatically in spring 2020 (with May showing a nearly 20% increase over the same period in 2019).
 - Unprecedented use of our lake homes by 'part time residents' during the off season with technology.
- **Societal Changes**
 - Advent of VRBOs and AirBnBs are also changing the way 'summer homes' are used.
 - Last 4 Months – 32 new rentals were registered.
 - Home sizes (bedrooms) continue to increase.
 - Homes with 3 bedroom-sized septic systems being used by 10+ people frequently.
- **Turnover of Green Lake Properties has been High.**



AirBnBs/VRBOs are changing second home ownership on lakes all over WI.



Sanitary District Actions To Date

- The GLSD has received numerous requests from landowners to provide sewer service to various areas within the District that are unsewered.
- GLSD Board of Commissioners discussed the need to evaluate the cost effectiveness to provide sanitary sewer service to all unsewered areas within the District boundaries.
- Authorized Cedar Corporation to complete the Study – September 2021.
- Reviewed the findings with Cedar Corporation – January 2023, and ongoing ordinance updates.
- Scheduled the PIM for the residents to understand the need, design considerations and estimated costs – July 2023.
- **Public Informational Meeting – Saturday August 26, 2023.**



Design Considerations – General

- Conveyance System Types – Depends on Area
 - Gravity Sewer
 - Gravity Sewer/Lift Station w Force Main
 - Gravity Sewer/Grinder Pump w Force Main – Combination
 - Low Pressure System – All Individual Grinder Pumping Systems
- Expandable Sewer Service – Limited Expansion
 - Design for the Areas within the District
 - Design for the Lots platted – No Expansion, may not be needed
 - Location of Sewers and Service Connections – Right of Ways/Easements/Roads/Utilities
- Depth of Sewer – Basement Drainage if above the sewer
 - Basement Survey – Part of Design Phase
 - Provide Gravity Service vs Grinder Pump – Rock (Partial Areas)
 - Additional Rock Borings will be completed in the Design Phase



Design Considerations - General, cont.

- Lateral location impact costs due to restoration
 - Driveways/Existing On-Site Systems
 - Reroute to front to avoid additional costs

- Constructability
 - Grade of pipe
 - Rock/Soil w boulders – Impacts cost
 - Narrow Road Right of Way/Easements
 - Utility Conflicts – Above Below Ground - Cable/Telephone/Electric/Gas
 - Minimize Tree Removal
 - Pavement Condition – Replacement (Public vs Private)
 - Environmentally Sensitive Areas (ESA)
 - Land Slopes to Structures



Design Considerations - General, cont.

- Location of Sewer – Impacts
 - Terrace or Easement – Tree Removal Required
 - Road – Pavement Restoration Costs
- Construction Methods
 - Open Cut vs. Directional Drilling
 - Subsurface Soil Conditions
 - Pipe Slopes
- Rock Removal
- Access for District Staff - Future Maintenance
- Construction Schedule – Outside Lake Season



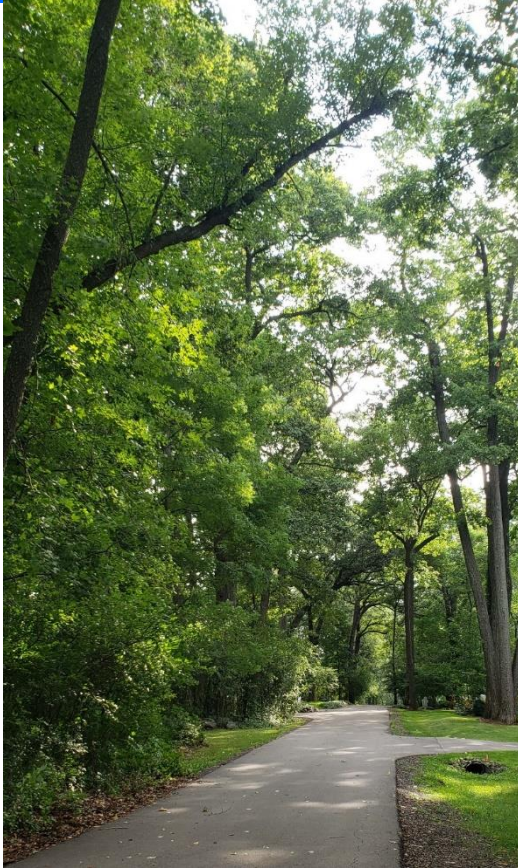
Design Considerations - General, cont.

- Frost Depth for the Area – Projected 6 feet deep, less if insulated
- Comm 82.30.11(c)(2) – Protection from Frost
 - Zone B - Silty Clay – 48" – Snow will be cleared

Figure 82.30-1. Frost protection zones.



Carpenter Lane: Preconstruction/Post Construction



Before

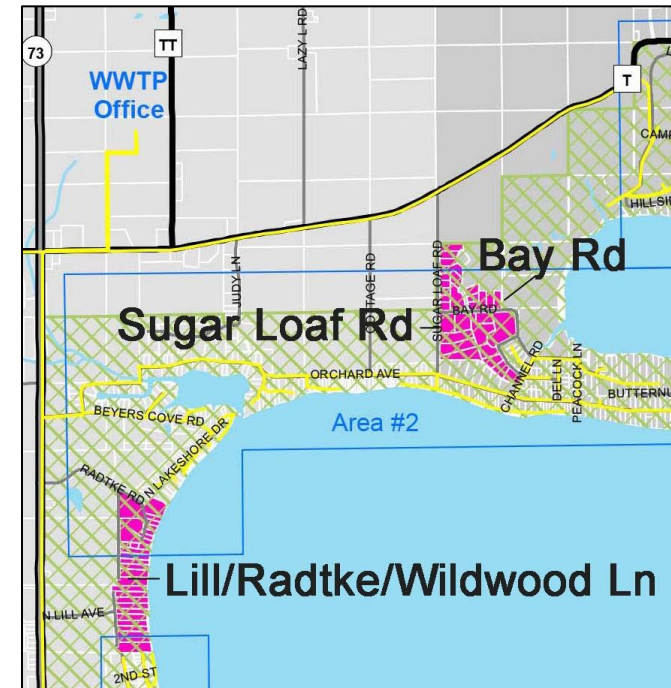


After

Design Considerations – Area #2

Sugar Loaf/ Bay Rd/ Lill/ Radtke/ Wildwood Areas

- Gravity/Low Pressure System
 - Two separate Areas and Systems
- Ground Slopes – Frequently – Slopes follow grade
- Pavement Condition
 - Public (Good), and
 - Private (Lill/Radtke/Wildwood - variable)
- Future Development – Vacant Land
- Rock depth – Minimal concern
- Flows – Minor impact on downstream facilities



Design Considerations – Area #3

The Terrace Area

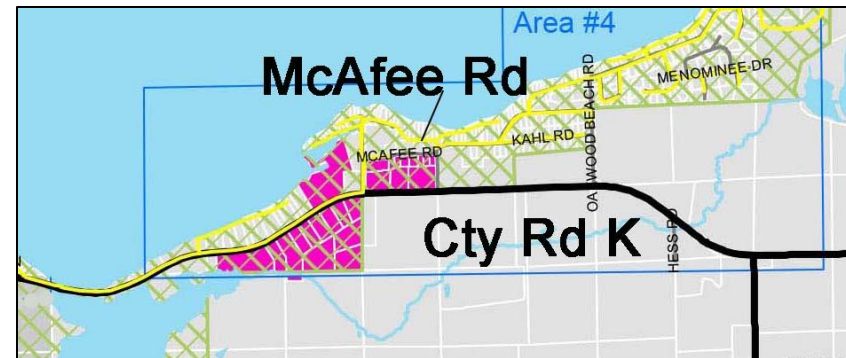
- Gravity System
 - Shallow Sewer Crossing
- Ground Slopes
- Pavement Condition
 - Public (2, 5, 9 - variable material)
- Platted Lots – Vacant
- Rock depth – Variable
- Easements – Required for crossing
- Flows – Minor impact on downstream facilities



Design Considerations – Area #4

CTH K/McAfee Area

- Gravity System
 - Selected Lift Station to discharge to due to capacity
- Ground Slopes – Gradual – Slopes follow grade
- Pavement Condition
 - Public (3-5, some paved in 2023, CTH K not included)
- Platted Lots – Vacant
- Rock depth – Minimal Concern
- Large Lots along CTH K
- Flows - Minor impact on downstream facilities



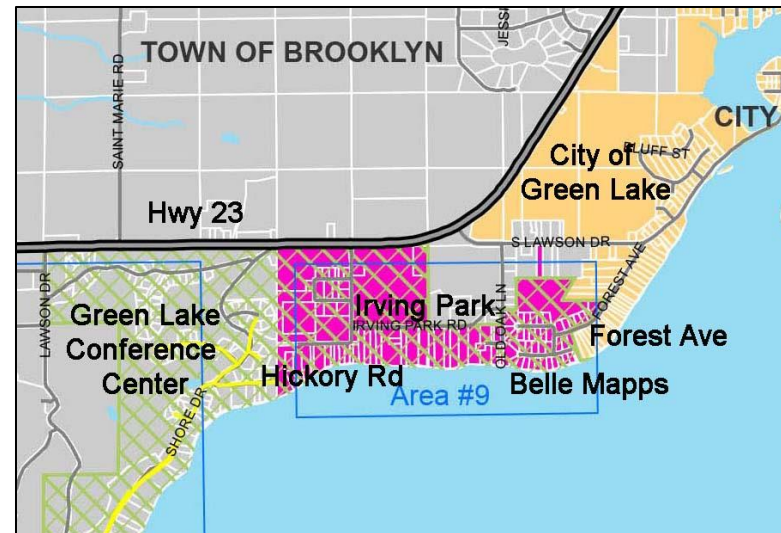
Design Considerations – Area #6 Sandstone Area

- Gravity/Low Pressure System
- Ground Slopes – Frequently – Slopes follow grade
- Pavement Condition
 - Public (4–7), and
 - Private (Poor)
- Future Development – Vacant Land
- Rock depth – Variable
- Flows – Minor impact on downstream facilities



Design Considerations by Area #9 – The Hickories Area

- Gravity vs Low Pressure System – Combination/Location
 - Tree Removal
 - Easement to Woodland Ct
- Lateral lengths along Lake
- Pavement Condition
 - Public (10 some recently paved), and
 - Private (poor)
- Rock depth – Variable
- Eastern Portion – Consider treating at the City of Green Lake
 - Limited depth – Combination
- Flows – Minimal impact on downstream facilities



Property Owner – Responsibility for Grinder Pumps/Lateral to Main

- Lateral connection – Pipe from home to the connection at the property line.
- Property Owner responsible for installation, ownership, and maintenance.
- Property Owner controls the route and location.
- Lateral costs/options are the Property Owners responsibility. Check with local Contractors.
- Grinder Pumps: not everyone will need them.



Ranking Matrix

GLSD Future Sewering Prioritization - August 15, 2023									
	Highest Score = Highest Priority	Area 2 (Bay/Sugar Loaf)	Area 2 (Lil/Radtke/Wildwood)	Area 3 (Terrace & Cty K)	Area 4 Cty K	Area 4 McAfee	Area 6 (Sandstone Area)	Area 8 (Sunnyside/Cty A/Ill. Ave)	Area 9 (Hickories)
Average Age of Current POWTS	0-10 years = 1 11-20 years = 2 21-30 years = 3 31 - 40 years = 4 41+ = 5	2	3	3	4	4	3	4	4
Least Depth to Groundwater	>25' = 0 21' to 25' = 1 16' to 20' = 2 11' to 15' = 3 6' to 10' = 4 0 to 5' = 5	0	1	4	4	2	0	4	5
Least Depth to Bedrock	>25' = 0 21' to 25' = 1 16' to 20' = 2 11' to 15' = 3 6' to 10' = 4 0 to 5' = 5	0	0	0	0	0	3	2	2
Soil Type (permeability)	Gravel = 3 Sand = 2 Silt = 1 Clay = 0	0	2	2	2	1	1	2	0
System on Property	All septic or mound = 0 Some Holding Tank = 2	0	0	2	0	0	2	2	2
Parcels with Limited POWTS Replacement Area (based on % over 2 ac in size)	Parcels = 0 30% to 50% Parcels that are Small/Limited Replacement Area = 3	3	3	5	0	5	3	5	5
Current Condition of Blacktop	Data New blacktop = 0 Needs	0	0	3	1	4	5	1	1
Size of Project	1-50 parcels = 0 51-150 parcels = 1 >151 parcels = 3	0	0	1	0	0	1	3	1
Total Score		5	9	20	11	16	22	28	25



Past Project Cost Comparison

- Shore Drive - **\$28,257.89/Lot**
 - Gravity/Low Pressure Sewer – Combination
- Carpenter Lane - **\$22,336.61/Lot**
 - Gravity/Low Pressure Sewer – Combination
- Sugar Loaf Area - **\$26,332.08/Lot**
 - Gravity/Low Pressure Sewer – Combination



Preliminary Cost Comparison

- *Area #2: Lill/Radtke/Wildwood/Sugar Loaf/Bay*
 - *Gravity/Low Pressure Sewer – Combination*
Per Study **\$1,818,880**
 - Per Lot \$28,900
 - Does not include the Grinder Pump

- *Area #3: The Terrace*
 - *Gravity Sewer*
Per Study **\$2,630,600**
 - Per Lot \$36,000



Preliminary Cost Comparison

- *Area #4: CTH K/McAfee Area*

- *Gravity Sewer*

Per Study

\$1,128,610

- Per Lot

\$53,700

- *Area #6: Sandstone Area*

- *Gravity/Low Pressure Sewer – Combination*

Per Study

\$2,977,520

- Per Lot

\$29,500

- Does not include the Grinder Pump



Preliminary Cost Comparison

- *Area #9: The Hickories Area*
 - *Gravity Sewer/Low Pressure Sewer - Combination*

Per Study	\$3,497,550
■ Per Lot	\$36,100
■ Does not include the Grinder Pump	



Sandstone Area –

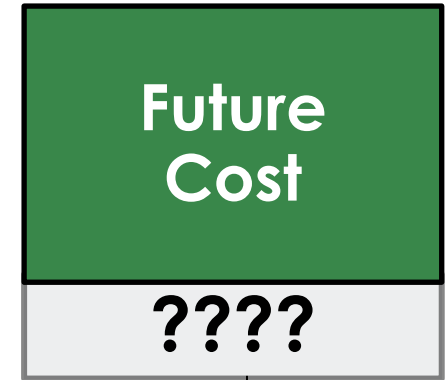
Per Parcel Sewering Cost Increase Over Time



2002



2023



2043



Special Assessment Procedure

- State Statutes:
 - Wis. Stat. s. 60.77(4): giving the GLSD Commission the authority to “project, plan, construct and maintain” a sewerage system.
 - Wis. Stat. s. 60.77(5)(f): giving the GLSD Commission the authority to levy special assessments.
 - Wis. Stat. s. 66.0703: outlining the procedure for collecting special assessments;
 - Wis. Stat. s. 281.45: authorizing the GLSD to require connection to the sanitary sewer system

- Ordinances:
 - Order 95-01: Sewer Service Extensions
 - Order 93-09: Sewer Assessments
 - NOTE: Ordinances are in the process of being updated



Special Assessment Procedure

- Levying a Special Assessment
 - Preliminary resolution of intent to exercise assessment powers. Includes:
 - Purpose of the work and assessments;
 - Limits of the proposed assessment district;
 - Number of installments for payment of assessments (or that this will be determined at a later hearing);
 - Direction to the District Engineer to prepare a report on the proposal
 - Engineer's Report includes:
 - Preliminary or final plans and specs
 - An estimate of the entire cost of the proposed work or improvement;
 - A statement that the property is benefited and a schedule of proposed assessments

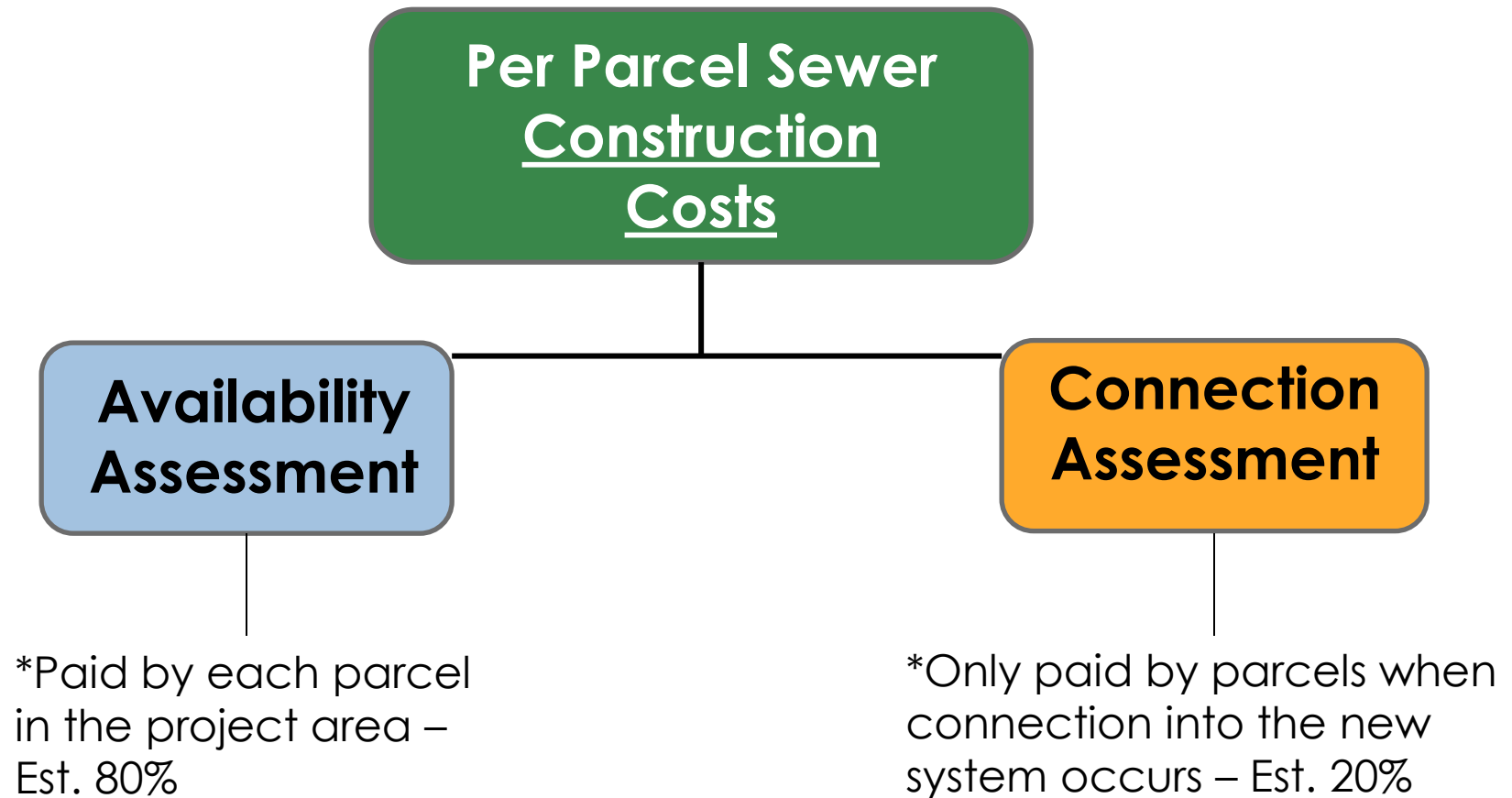


Special Assessment Procedure

- Levying a Special Assessment
 - Public hearing on special assessment
 - Notice published and send to interested persons. The notice includes:
 - Statement of the proposed work;
 - General boundary lines for the proposed assessment district;
 - The place and time that the Engineer's Report may be inspected;
 - The place and time for the hearing.
 - The Board of Commissioners may approve, disapprove, or modify the Engineer's Report
 - If proceeding with the work, the Board adopts a resolution approving the plans and specifications and directing that the work be carried out and paid for in accordance with the Engineer's Report (Final Resolution)



GLSD Special Assessment Breakdown for Sewering



Assessment Financing

- Terms of Payment:
 - *Method #1* – Full payment can be by November 1st of year assessed with no interest.
 - *Method #2* – Pay assessment over the term of the loan plus administrative fee.*
 - Financing details are yet to be finalized.
(Recent Project: 6.25% – 10 Years)
 - Depending on Assessment District may extend to 20 years.



Timeline

- Study – PIM Summary – Fall 2023
 - PIM Meeting Information on Website
- Finalize the Study – Spring 2024
- District to review Next Steps
 - Continue with the Recommendations of the Study
 - Select Areas to be considered
 - Notify Property Owners in those areas
 - Schedule for Sewer Extension Projects



General Project Schedule



Green Lake Sanitary District General Project Schedule For Sewer Extension Projects

<u>Description of Project Task</u>	<u>Task Timeline</u>
*Tasks with asterisk are not required legally but often undertaken voluntarily by GLSD **Many tasks happen concurrently	
1. Receive Property Owner Sewer Service Request*	
2. Perform Preliminary Engineering Feasibility Study	2 to 3 Months
3. Send/Receive landowner survey of residents in affected area*	2 Months
4. Conduct Preliminary Informational Meeting (PIM)* (1 st PIM)	2 Months to Coordinate
5. District reviews survey and comments from PIM	1 to 2 Months
6. If approved to proceed, review and approve Engineering Contract	1 Month
7. Begin Preliminary Design & Route Selection	2 to 4 Months
8. Meet with Property Owners* (2 nd PIM)	2 Months to Coordinate
9. Complete the geotechnical subsurface exploration (rock)	1 to 2 Months
10. Begin Final Design	1 to 2 Months
11. Prepare Easements and begin acquisition/negotiation	1 to 2 Months
a. Hire Appraiser/ Initiate Condemnation, if necessary	Potentially Unnecessary
12. Submission of Design to East Central Regional Planning Commission	1 Month
13. Complete Final Design	1 Month
14. Plan/Spec Submittal to DNR – 90 day review period	2 to 3 Month
15. Authorize police powers to assess for project – Preliminary Resolution (formal project approval by board)	1 Month
16. Development of Assessment Role and Engineers Report	1 to 2 Months
17. Securement of All Easements	1 to 2 Months
18. Advertise for Bids – Type II Notice	1 Month
19. Notice of Public Hearing on Assessment Report	14 Days Prior to Public Hearing
20. Bid Open Date – Review Bids	< 1 Month
21. Informal Informational Meeting for Public* (3 rd PIM)	2 Months to Coordinate
22. Special Assessment Public Hearing/Accept Special Assessment Report	14 Days After Notice Publication
23. Approval of Plan/Spec and Directive to Carry Out Work (Final Resolution – Class I Notice)	Must be After Public Hearing
24. Award Construction Contract – Time to Hold Bids (Typ. 60 days)	2 Months
25. DNR Approval of all Plan/Spec	See Above note
26. End of Assessment Appeal	90 Day Period if Necessary
27. Start Project Construction	Within Time Period from Award
28. Substantial Completion	Variable Construction Period
29. Final Completion	Specified Time Period
30. Finalize Assessment Role (Exact assessment cost known)	After Final Construction is Accepted
31. Begin Lateral Connections – starts upon Project acceptance	Up to 12 Mo. (to Connect to GLSD Sewer Line)
32. Assessment Payment Schedule – Depends on Size of Assessment	



District Costs

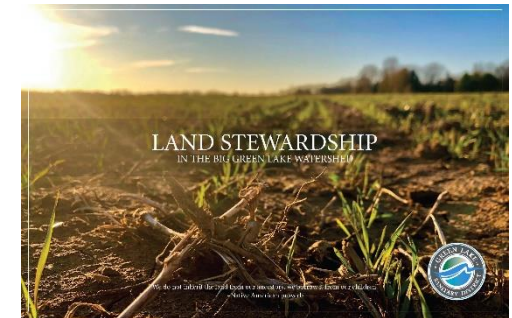
- Quarterly Sewer O&M Fee – \$159
- Special Assessment (Annual Installment) – \$TBD
 - If not paid in full by November 1st of the year completed.
 - Payback period to be determined
- Property Tax Bill – Mill Rate – Lake District
 - Solid Waste Management
 - AQWEED – Aquatic Plant Harvesting
 - Conservancy Lands Purchase and Maintenance
 - Best Management Practices (BMP's) Cost Sharing
 - RSVP – Shoreline Restoration Program
 - Carp Removal
 - Fish Rearing
 - Green Lake Sanitary District Administration



GLSD Protecting Green Lake

Because the District boundaries encompass >60% of the lake, the GLSD has the powers of an Inland Lake District

- Since 2012, the GLSD has helped fund 145+ BMPs in the watershed with total costs over \$2 million
- Currently the GLSD has several open grants for farm practices and land management
 - \$800,000 in Lake Protection Grants
- Major Outreach with new Watershed Soil Health and Buffer Programs
- Conservancy Lands Management/Protection



What's Next

- Load the Study and PIM Summary to the Website.
- Board of Commissioners will review comments from the PIM and individual comments submitted from property owners.
- Board of Commissioners will approve/deny to have Cedar Corporation move forward with the Design/ Bidding/ Construction of the Project Areas per recommendations.
- Easements may be required for the Construction.
- Future Design/Construction PIMs will be held.
- Construction Phase.
- Assessments.
- Areas selected: Process may take a total of 2–3 years.



Contacts/Project Questions

- All comments/Project questions to District:
Lisa Reas, Administrator Sanitary District
920-291-7787
ljreas@glakesd.com



Capital Improvement Plan – PIM Unsewered Areas Sanitary Sewer

Questions?

