

**West Genesee Sewer District
NYS Route 370 Service Area Improvements**

Town of Lysander, Onondaga County, New York

Map and Plan

May 2011



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Prepared For:

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1.0 Background and Authorization

The West Genesee Sewer District (District) was formed in 1993 and encompasses residential and commercial development west of the Village of Baldwinsville. A public sewage collection system presently serves portions of the District, while remaining parcels are served by private, on-site subsurface wastewater treatment systems.

The Town of Lysander is in the process of extending public sanitary sewers to the Whispering Oaks Sewer District to phase out a failed subsurface community wastewater treatment system. The proposed project generally involves construction of a new duplex submersible pump station and approximately 9,700 linear feet of 6-inch HDPE force main along NYS Route 370 and connection to the existing 18-inch gravity interceptor sewer near Dexter Parkway.

In response to requests and interest from property owners, the Town is proposing to expand this infrastructure to provide sewage collection facilities to properties along the proposed force main that currently utilize private, onsite wastewater treatment facilities. A map of this portion of the existing District, herein referred to as the “NYS Route 370 Service Area”, is included as figure 1. The Town Board of the Town of Lysander has authorized Barton & Loguidice, P.C. (B&L) to prepare a Map and Plan for extending public sewer service to this area within the existing West Genesee Sewer District in accordance with Section 202-b of New York State Town Law.

The Town is also in the process of forming the proposed West Genesee Sewer District Extension No. 1, located immediately to the west of the existing West Genesee Sewer District and east of the Whispering Oaks Sewer District. Collectively, the project will serve forty-two (42) occupied and vacant parcels along NYS Route 370 via individual grinder pump connections to the planned Whispering Oaks force main.

It is envisioned that the proposed sanitary sewer system facilities will be constructed concurrently with the Whispering Oaks improvements and the costs will be mutually shared between those benefitting from the system, as further detailed below.

2.0 Projected Wastewater Flows

The projected average daily wastewater flow for the proposed West Genesee Sewer District Route 370 Service Area is 5,600 gallons per day (four (4) gallons per minute), based on an average daily flow of 350 gallons per day per single-family household. With a peaking factor of 4.2, the anticipated peak flow from this service area is 16 gallons per minute (note this will vary due to use of individual grinder pumps). Wastewater flows will ultimately be conveyed to Onondaga County's Seneca Knolls Wastewater Treatment Plant, located in the Village of Baldwinsville.

3.0 Proposed Public Sewer Facilities

Each developed parcel in the proposed Route 370 Service Area will be required to connect to the proposed Whispering Oaks force main via an individual grinder pump system and 1.25-inch HDPE low-pressure sewer lateral, unless otherwise authorized by the Town of Lysander and Onondaga County Health Department per Article 6.0 of this report. A total of sixteen (16) individual simplex grinder pumps are anticipated to serve the area west of Dexter Parkway and east of NYS Route 690, as shown on figure 1. The following scenario is proposed for grinder pump purchase, installation, operation, and maintenance, based on similar low-pressure systems currently operating within the County's sanitary district:

- As part of the Whispering Oaks Sewer District Improvements project, the Town would install a saddle tee connection, corporation stop, and 1.25-inch sewer lateral piping from the new force main to the property boundary (i.e., within the public highway right-of-way). A lateral kit, consisting of a buried shut-off and check valve assembly, and pipe stub would be installed at the property boundary to facilitate future connection by the property owner. The Town would be responsible for maintaining the force main, tee, corporation stop, lateral kit, and lateral piping on public property.
- The Town would publically bid and purchase the individual grinder pump stations, controls, and 1.25-inch sewer lateral piping on behalf of the District. The Town would supply a maximum of 100-linear feet of 1.25-inch HDPE pipe and tracer wire per grinder pump connection. Additional lengths would be purchased by the property owner if the house sits further back from the highway boundary line.
- Each property owner would hire a licensed plumber to install the grinder pump, controls, electrical feed from the served building's electrical service, and 1.25-inch lateral piping and tracer wire from the Town's stub to the

grinder pump discharge (all on private property). This installation shall be in accordance with figure 2, "Typical Grinder Pump Installation Detail". Each property owner would also be responsible for any necessary electrical modifications, plumbing modifications, and building sewer lateral installation as necessary for connection of their building to the grinder pump station. All work shall be done in strict accordance with all applicable standards, manufacturer's recommendations, and local/state laws and codes.

- After each lateral connection is made and accepted by the Town and Onondaga County Plumbing Control, the property owner would be responsible for decommissioning their on-site (private) treatment facilities in accordance with Department of Health, County WEP/DOH, and NYS Department of Environmental Conservation requirements.
- The Town would maintain all grinder pumps, control panels, and 1.25-inch lateral piping on behalf of the District. A written agreement would be executed between the Town and each public sewer user, granting access to Town contracted personnel for future maintenance activities. It is envisioned that the Town will contract with a qualified local plumbing contractor to respond to grinder pump alarms.

4.0 Estimated Probable Project Cost and Maximum Amount to be Expended

The estimated probable project cost for the proposed NYS Route 370 Service Area infrastructure, and maximum amount to be expended for the West Genesee Sewer District, is \$200,000, inclusive of construction contingency, engineering, legal, bonding, administrative and miscellaneous costs. An itemized estimate of probable project cost for these improvements is included in appendix A.

5.0 Project Financing and User Charges

All developable parcels in the proposed service area will receive a lateral kit to facilitate future connection to the force main. Therefore, it is proposed that each parcel having sewer access within the Route 370 Service Area would share in the financing of the proposed sewer district facilities on public property. All parcels with sewer access would also pay an annual charge to offset capital debt service incurred by the Whispering Oaks Sewer District for construction of the force main, as well as an annual charge to reimburse the Town for “excess capacity” provisions associated with increasing the force main size (4-inch to 6-inch) and installation of lateral kits along NYS Route 370. (These provisions are further described in the “Whispering Oaks Sewer District Map and Plan”, dated January 2011.) Those parcels fronting the proposed force main that choose to connect to the public sewer would also incur various user charges, summarized below.

All parcels would be assessed on an equivalent dwelling unit (EDU) basis, where a single-family household would be defined as one (1) EDU. There are approximately 16 EDUs in the proposed West Genesee Sewer District Route 370 Service Area. Charges that will be assessed to these parcels/users within the proposed service area are detailed in appendix B and C, and are further described below:

5.1 Annual Route 370 Service Area Debt Service Charge

Each parcel in the proposed service area (whether connected to the proposed sewer or not) would contribute to the capital costs of the Route 370 service area improvements, including installation of the lateral kits and 1.25-inch lateral piping on public property. Connected users would also contribute to the Town’s bulk purchase of 16 individual grinder pumps, control panels, and approximately 1,500 LF of 1.25-inch HDPE lateral piping.

The NYSDEC has awarded the Whispering Oaks Sewer District with a Water Quality Improvement Project (WQIP) grant, providing funding for eighty-five percent (85%) of construction costs, with a maximum grant amount of \$1,240,150. Approximately \$864,450 of this grant will be applied toward the Whispering Oaks Sewer District Improvements. The NYSDEC has advised the Town that the remaining \$375,700 grant balance may be used to finance the proposed grinder pump services along NYS Route 370, as these improvements would further benefit the water quality of the Seneca River. The West Genesee Sewer District Route 370 Service Area (16 EDUs) and proposed West Genesee Sewer District Extension No. 1 (28 EDUs) will share the remaining grant amount in proportion to EDUs within each district. The West Genesee Sewer District NYS Route 370 Service Area contains 16 EDUs of the total 44 EDUs; it would therefore receive approximately 36% (\$135,252) of the remaining estimated grant amount. The Town will finance the remaining 15% of eligible construction costs and all “soft” costs (i.e., engineering, legal, administrative, etc.) on behalf of the West Genesee Sewer District NYS Route 370 Service Area. (For estimating purposes, a loan term of 30 years and interest rate of 4.5% was assumed under “conventional” financing).

The estimated project capital cost associated with installation of the 1.25-inch laterals on public property (not including the force main itself and lateral kits included in the “Excess Capacity” provisions described elsewhere) is \$20,400. All 16 EDUs will contribute to this cost. The resulting charge to all parcels within the service area is \$11.74 per EDU.

Properties that connect to the public sewer will also reimburse the Town for purchase of their grinder pump station, control panel, and 1.25-inch lateral piping for installation by the property owner's contractor on private property. The estimated user cost associated with this equipment and materials, after applying the WQIP grant share, is \$243.19 per EDU.

5.2 Annual Contribution to Whispering Oaks Sewer District Capital Costs

All properties within the proposed service area will contribute to the capital costs associated with the proposed Whispering Oaks force main. Per the "Whispering Oaks Sewer District Improvements Map and Plan", dated January 2011, the estimated total capital cost of the force main along NYS Route 370 (not including "excess capacity" provisions) is \$274,400. The cost will be divided proportionally among all 90 EDUs benefitting from this portion of the force main, including 46 EDUs in the existing Whispering Oaks Sewer District, 16 EDUs within the proposed West Genesee Sewer District NYS Route 370 Service Area, and 28 EDUs within the proposed West Genesee Sewer District Extension No. 1. Based on the financing terms presented in the above-referenced "Map and Plan", each EDU within the proposed West Genesee Sewer District NYS Route 370 Service Area will contribute approximately \$20.70 per year toward the Whispering Oaks Sewer District debt service (i.e., financed through NYSEFC CWSRF subsidized interest rate loan). Over time, the Town may reduce the Whispering Oaks Sewer District User Charge accordingly should additional benefitting units connect to the force main.

5.3 Annual Charge of Excess Capacity Provisions

As previously stated, the proposed Whispering Oaks Sewer District project includes provisions for future connection by residential development outside the existing Whispering Oaks Sewer District. In accordance with the excess capacity provisions of New York State Town Law (Article 12 subsection 192-a), the additional cost related to constructing a 6-inch force main in lieu of a 4-inch force main and installing lateral kits along the proposed force main will be initially paid for by the Town of Lysander out of the General Fund budget. The portion of the Whispering Oaks Sewer District project cost related to excess capacity provisions is approximately \$190,000. All parcels within the proposed West Genesee Sewer District NYS Route 370 Service Area will reimburse the Town for these costs on an EDU basis. The estimated first year “excess capacity” charges for the force main size increase and lateral kit installation would be \$3.53 per EDU and \$4.50, respectively, for a total “excess capacity” charge of \$8.03.

5.4 Annual Operation and Maintenance Costs

Once connected to the county’s public sewer system, each user would pay Onondaga County’s Sanitary District charge to cover transportation and treatment of their wastewater. This charge would be assessed annually on the individual’s County tax bill. The estimated first year (2011) charge is \$338.33.

In addition to the County’s charge, district users would pay an annual Town operation and maintenance charge to cover the cost of maintaining the force main, 1.25-inch laterals, grinder pumps, and control panels. The estimated first year Town O&M charge is \$50 per residential/light commercial user.

5.5 Estimated Total Non-User Charge

All developable (currently vacant) parcels within the Route 370 service area of the existing sewer district will receive a lateral kit and service to the fronting vacant property boundary. If the property owner does not connect to the sewer, they will be charged based on the accessibility (benefit) to public sewer. The estimated total annual charge for a vacant, non-user within the service is \$40.47 per EDU.

5.6 Estimated Total User Charge

Based on the proposed methods of benefit assessment described above, the estimated first year user costs for one (1) EDU (single-family home) within the proposed West Genesee Sewer District NYS Route 370 Service Area is \$660.25.

5.7 Private Installation Costs

Prior to connecting to the public sewer, each property owner must hire a licensed plumber to install the grinder pump, controls, electrical feed, and 1.25-inch lateral piping on private property, and to decommission the existing onsite wastewater treatment system. This one-time installation cost is estimated to be approximately \$2,000, but will vary significantly between properties depending on the length of the lateral, complexity of the installation, and need for any additional plumbing and electrical modifications.

5.8 Grinder Pump Electrical Cost

Connected users will be responsible for paying the annual electrical bill for their grinder pump, powered from their respective household power feeds. The estimated average annual cost for a simplex grinder pump is approximately \$30 per year.

6.0 Public Sewer Connection Waivers

Per Article 5 of the Onondaga County Sanitary Code, property owners within the proposed service area would be required to connect to the public sewer system immediately after service becomes available, unless otherwise permitted by the County Health Department. The County Health Department has indicated a willingness to waive this requirement for homeowners that can demonstrate that their existing onsite wastewater treatment systems are functioning properly. The Town will assist these owners in applying for waivers; however, the waiver process will ultimately be the responsibility of each individual property owner.

The Town's purchase contract for grinder pumps and related materials will be in place for period of approximately one (1) year. In accordance with the WQIP funding program requirements, property owners must install these grinder pumps by October 1, 2012 in order for the Town to receive reimbursement. The funding program will not permit the Town to purchase "spare" grinder pumps for future use by homeowners seeking waivers from the County Health Department. Therefore, these property owners will be responsible for all costs associated with future connection to the public sewer system in accordance with the applicable regulations and standards. It is anticipated that these homeowners will be relieved of the "Equipment Purchase Project Debt Service" portion of the annual user cost, or approximately \$243.19 per EDU, as described in Article 5.1.

7.0 Recommended Steps to Proceed

It is recommended that the Town Board, following review and approval of this Map and Plan, hold a Public Hearing in accordance with Section 202-b of Town Law to present the project to service area residents and to move forward with project implementation. Under Town Law, the Board's decision does not require approval of the State Comptroller.

The following schedule is proposed for project implementation:

- Town Board Accepts Map & Plan May 2011
- Submit Reports to NYSDEC,
OCDWEP & OCDOH for Approval May 2011
- Public Hearing under 202-b of Town Law June 2011
- Complete SEQR (Short Form EAF) June 2011
- Regulatory Approval of M&P July 2011
- Town Board Authorizes Improvements July 2011
- Bond Resolution; Referendum Period August 2011
- Prepare Purchase Specification August 2011
- Regulatory Review/Approval of Purchase Specification September 2011
- Solicit Bids September 2011
- Award Contracts October 2011
- Notice to Proceed October 2011
- Equipment Installation Deadline October 1, 2012

Figures

Figure 1
NYS Route 370 Service Area
and
Proposed Facilities Map



Legend

- Proposed Grinder Pump Lateral
- Proposed 6-inch Force Main
- Proposed NYS Route 370 Service Area
- West Genesee Sewer District

Existing West Genesee Sewer District Boundary

Proposed 6-inch Force Main

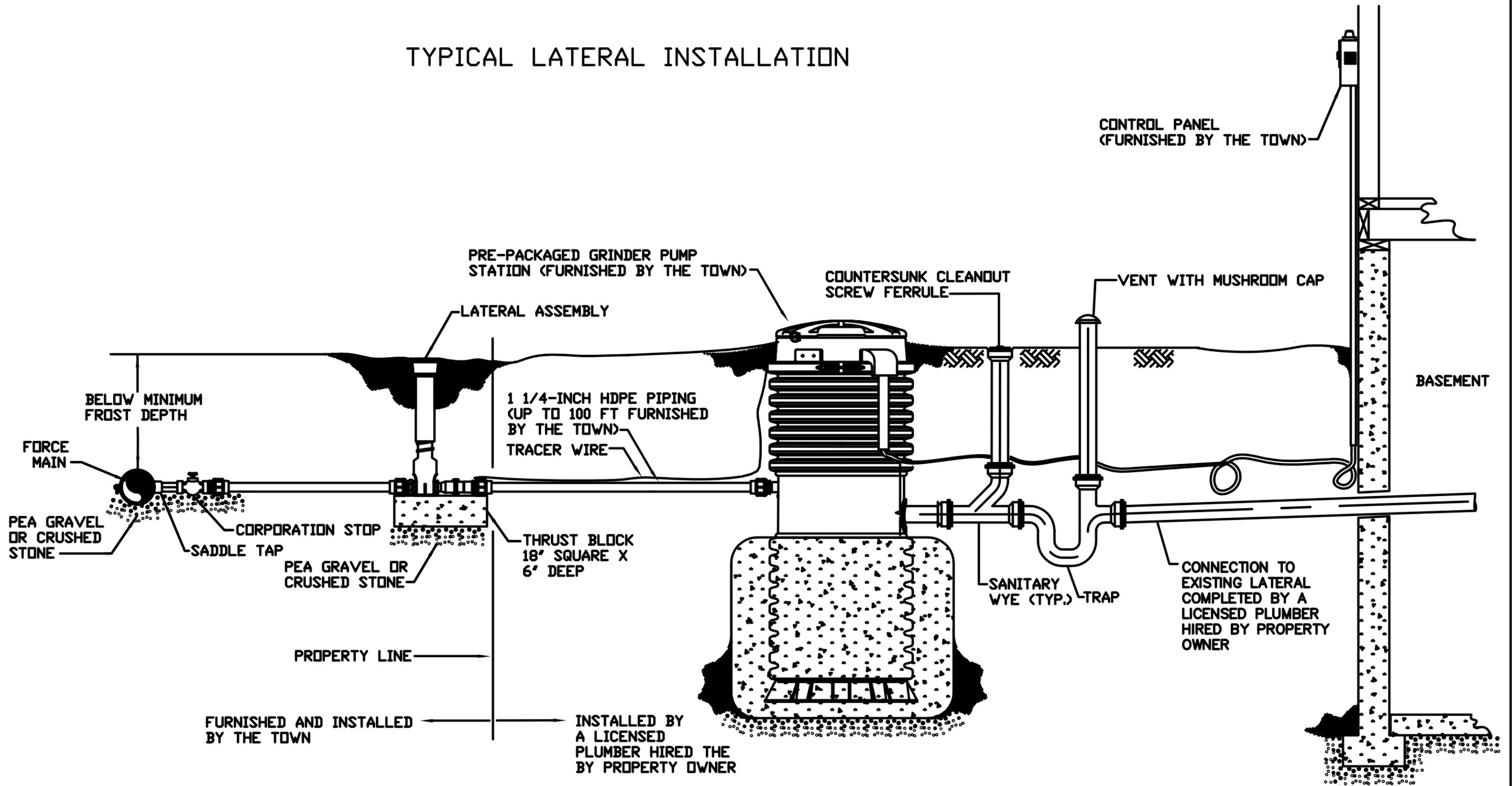
Connection To Existing Sewer



K:\Projects\2010\2010-28278\Project\WEST GENESSEE SEWER DISTRICT AND EXT. NO. 11w gen sdr code 370 service area PHH.mxd

Figure 2
Typical Grinder Pump Installation Detail

TYPICAL LATERAL INSTALLATION



Appendices

Appendix A
West Genesee Sewer District NYS Route 370 Service Area
Proposed Facilities Cost Estimate

Appendix A

**Town of Lysander - West Genesee Sewer District
Estimate of Probable Project Cost (2011\$)**

JMT
236.228
4/20/2011

| Description | Quantity | Unit | Unit Cost | Total |
|--|-----------------|-------------|------------------|------------------|
| Furnish and Install 1.25-inch Sewer Short Side Lateral (35 LF) | 8 | EA | \$750.00 | \$6,000 |
| Furnish and Install 1.25-inch Sewer Long Side Lateral (85 LF) | 8 | EA | \$1,800.00 | \$14,400 |
| Furnish 1.25-inch Sewer Lateral | 1,500 | LF | \$16.00 | \$24,000 |
| Furnish Simplex Grinder Pump & Electrical | 16 | EA | \$6,300.00 | \$100,800 |
| Construction Subtotal | | | | \$145,200 |
| Contingency (~10%) | | | | \$14,800 |
| Construction Total | | | | \$160,000 |
| Engineering, Legal, and Administrative (~25%) | | | | \$40,000 |
| ESTIMATE OF TOTAL PROBABLE PROJECT COST (2011\$) | | | | \$200,000 |

Appendix B
West Genesee Sewer District
NYS Route 370 Service Area User Cost and Financing Calculations

Appendix B
West Genesee Sewer District - Route 370 Service Area
User Cost and Financing Calculations

JMT
236.228
5/20/2011

Route 370 Service Area Project Debt Service (User Contribution)

| | |
|---|-----------------------|
| Estimated Route 370 Service Area Construction Costs | \$160,000.00 |
| Remaining NYSDEC WQIP Grant Amount (36.36% of \$375,700) | - <u>\$136,618.18</u> |
| Estimated Construction Cost Less WQIP Grant Amount | \$23,381.82 |
| Estimated Soft Costs (25% of Construction Cost) | + <u>\$40,000</u> |
| Estimated Route 370 Service Area Project Costs | \$63,382 |
| Estimated Route 370 Service Area Debt Service (30 years @ 4.5%) | \$3,891.11 |
| Route 370 Service Area- Total EDUs | 16 |
| Estimated Route 370 Service Area Debt Service Per EDU (\$3,891.11 ÷ 16 EDUs) | \$243.19 |

Route 370 Service Area Lateral Cost (Non-User Contribution)

| | |
|--|----------------------|
| Estimated Route 370 Service Area Construction Costs (16 laterals @ avg. cost of \$1,275) | \$20,400.00 |
| NYSDEC WQIP Grant Amount (85%) | - <u>\$17,340.00</u> |
| Estimated Construction Cost Less WQIP Grant Amount | \$3,060.00 |
| Estimated Annual WOSD Route 370 Lateral Cost Debt Service (30 years @ 4.5%) | \$187.86 |
| Route 370 Service Area- Total Laterals | 16 |
| Estimated Route 370 Service Contribution to Lateral Connection (\$187.86 ÷ 16 EDUs) | \$11.74 |

Route 370 Service Area Contribution to Whispering Oaks Sewer District (WOSD) Capital Cost

| | |
|--|-----------------------|
| Estimated WOSD Route 370 Force Main Construction Costs | \$274,400.00 |
| NYSDEC WQIP Grant Amount (85%) | - <u>\$233,240.00</u> |
| Estimated Construction Cost Less WQIP Grant Amount | \$41,160.00 |
| Estimated Annual WOSD Route 370 Force Main Debt Service (30 years @ 2.1%) | \$1,863.16 |
| WOSD, WGSD & WGSD Ext No. 1 - Total EDUs | 90 |
| Estimated Annual Contribution to WOSD Capital Cost Per EDU (\$1,863.16 ÷ 90 EDUs) | \$20.70 |

Appendix B
West Genesee Sewer District - Route 370 Service Area
User and Non-User Cost Calculations

JMT
236.228
5/20/2011

Annual Excess Capacity - Increase Force Main Diameter Charge

| | |
|---|----------------------|
| Estimated Excess Capacity Increased Force Main Diameter Construction Cost | \$113,200.00 |
| NYSDEC WQIP Grant Amount (85%) | <u>- \$96,220.00</u> |
| Estimated Construction Cost Less WQIP Grant Amount | \$16,980.00 |
| Estimated Soft Costs (\$39,000) | <u>+ \$39,000.00</u> |
| Estimated Excess Capacity Increased Force Main Diameter Cost | \$55,980 |
| Estimated Excess Capacity Charge - Force Main Annual Cost | \$1,866.00 |
| Excess Capacity Total Flow (Gallons Per Day) | 184,900 |
| Typical Single Family Home One (1) EDU (Gallons Per Day) | 350 |
| % of Excess Capacity - Increase Force Main Diameter to be Assigned to One (1) EDU | 0.1893% |
| Estimated Annual Excess Capacity - Force Main Charge Per EDU (0.1893% x \$1,866) | \$3.53 |

Excess Capacity - Route 370 Service Area Lateral Kits

| | |
|---|----------------------|
| Route 370 Service Area Lateral Kit Construction Cost | \$14,400.00 |
| NYSDEC WQIP Grant Amount (85%) | <u>- \$12,240.00</u> |
| Estimated Construction Cost Less WQIP Grant Amount | \$2,160.00 |
| Estimated Excess Capacity Charge - Force Main Annual Cost | \$72.00 |
| Route 370 Service Area- Total EDUs | 16 |
| Estimated Excess Capacity Lateral Kits Cost Per Lateral Kit (\$72 ÷ 16 EDUs) | \$4.50 |

Appendix C

Estimated First Year User and Non-User Charge Summary

Appendix C

Town of Lysander - Whispering Oaks Sewer District, West Genesee Sewer District & West Genesee Sewer District Extension No. 1
 Estimated First Year User and Non-User Cost Summary

MAB/JMT
 236.228
 3/8/2011

| Annual Charge Description | Whispering Oaks Sewer District (WOSD) Users | West Genesee Sewer District (WGSD) Users | West Genesee Sewer District (WGSD) Ext. No. 1 Users | WGSD & WGSD Ext. No. 1 Non-Users | Future District(s) Users (Emerick Rd, Blue Ridge Cir.) |
|---|---|--|---|----------------------------------|--|
| WGSD and WGSD Ext. No. 1 Equipment Purchase Project Debt Service ¹ | - | \$231.45 | \$262.15 | - | - |
| WGSD and WGSD Ext. No. 1 Contribution to Lateral Installation Capital Cost ² | - | \$11.74 | \$11.74 | \$11.74 | - |
| Contribution to WOSD Capital Cost ³ | \$427.30 | \$20.70 | \$20.70 | \$20.70 | TBD |
| Excess Capacity - Route 370 Lateral Kits ⁴ | - | \$4.50 | \$4.50 | \$4.50 | - |
| Excess Capacity - Force Main ⁵ | - | \$3.53 | \$3.53 | \$3.53 | \$3.53 |
| Town Operating & Maintenance Charge | \$80.00 | \$50.00 | \$50.00 | - | TBD |
| Onondaga County Sewer Charge | \$338.33 | \$338.33 | \$338.33 | - | \$338.33 |
| Estimated First Year User Cost | \$845.63 | \$660.25 | \$690.95 | \$40.47 | \$341.86 |

Notes:

- 1.) Includes furnished & installed cost of 1.25-inch HDPE lateral piping within the public right-of-way, and purchase of an individual grinder pump, control panel, and 100 LF of 1.25-inch HDPE lateral piping to be installed by the property owner. Estimated project costs WGSD: \$200,000 & WGSD Ext. No. 1: \$364,000;
- 2.) Non-users within WGSD and WGSD Ext No. 1 that receive a lateral will contribute to the cost of their installed lateral. The average lateral cost is approximately \$1,275 with an average distance of 60 linear feet of 1.25-inch HDPE pipe. Cost will be financed for 30 years at 4.5%.
- 3.) For WGSD and WGSD Ext. No. 1, includes EDU-proportionate contribution to the WOSD force main construction cost on NYS Route 370 (\$426,600);
- 4.) Parcels that receive a lateral kit will be charged based on the furnish and installed cost of the lateral kit. The WGSD and WGSD Ext. No. 1 total cost is \$37,800, with 42 lateral kits;
- 5.) The excess capacity charge for the force main includes costs of increased force main diameter from a 4-inch to 6-inch pipe and associated soft costs (\$113,200);