



Lancaster Area Sewer Authority

**RAINTREE ROAD LOW PRESSURE
SANITARY SEWER SYSTEM PROJECT**

West Hempfield Township
Lancaster County

AGENDA FOR TONIGHT

- **Introductions**
- **Background**
- **Project Description**
 - Property Survey
 - Easement Recordation
 - Construction
 - Customer Connections
- **What to expect**
 - Inconveniences During Construction
 - LASA and Homeowner Responsibilities
 - Costs
 - Project Schedule
- **Grinder Pump Operation & Maintenance**
- **Questions**

SECTION 1 – INTRODUCTIONS

WHO IS HERE?

- Township Representatives
- LASA Staff
- Design Engineer – Entech Engineering
- Grinder Pump Representative – E/One
- New Customers

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ROLES & RESPONSIBILITIES

- West Hempfield Township is obligated to provide sewer in accordance with its Act 537 Plan. So the Township is required to provide sewer to the Raintree Road area.
- West Hempfield Township is a member municipality of LASA.
- LASA is the provider of public sewer to this area of West Hempfield Township.
- LASA will design, fund, and oversee the construction of the public sewer extension to the Raintree Road area.

ABOUT LASA

- LASA is an extension of municipal government, specifically to provide public sewer.
- Serves eight municipalities.
- Seven member board with each member representing one of the municipalities (except Columbia Borough).
- West Hempfield Township representative is Mr. Ed Fisher.

LASA HISTORY

- Authority formed in late 1960's.
- Began operations in early 1970's.
- Serve 37,000 customers representing a population of over 110,000.
- 43 Full-time employees.
 - Respond to problems 24 hours per day 7 days per week 365 days per year.

PROJECT ENGINEERING

- For sewer extension projects, a consulting engineering firm is often selected by LASA to assist with design, permitting, and bidding.
- For Raintree Road, Entech Engineering of Lititz, PA was selected to provide engineering design, permitting, and bidding services.
- Entech will be responsible for any required field surveying and the home surveys/inspections.

SECTION 2 – BACKGROUND

ACT 537 SEWAGE FACILITIES PLANNING

Act 537 Official Sewage Facilities Plan for West Hempfield Township.

- Approved by PA Department of Environmental Protection (PA DEP) on June 13, 2007.
- Comprehensive review of:
 - Existing and Future Sewage Disposal Systems
 - Current and Projected Populations
 - Potable Water Supply
 - Waterways, Soils, and Geologic Formations
 - Zoning and Land Use Designations
 - Sewage Disposal Alternatives

NEEDS SURVEY

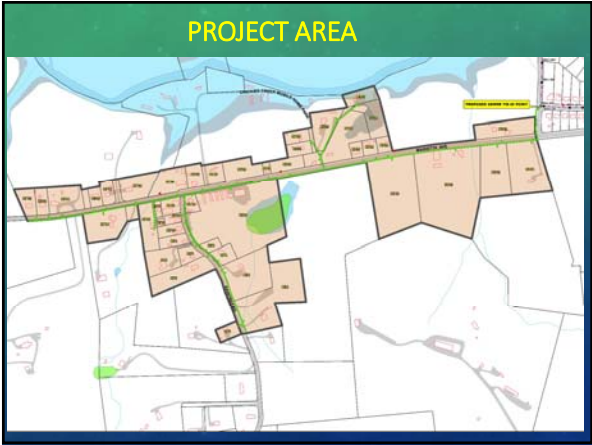
Sewage Disposal System Needs Survey

- Completed in 2001 as part of the Act 537 process.
- Documented public health hazards and water pollution from discharges of untreated wastewater to the surface.
- Reviewed the performance of existing on-lot systems (OLDS) within the Township .
 - Examples of systems include: conventional, sand mound, cesspools and holding tanks.
- Raintree Road Area Results:
 - 88% of surveyed systems were malfunctioning or inadequately designed.
 - 4 wells sampled – 100% had bacteriological contamination.

RAINTREE ROAD NEEDS AREA

- As a result of the Needs Survey, the Act 537 plan identified several "Sewage Needs Areas" throughout the Township. The Raintree Road Area was one of them.
- The original selected alternative in the 2007 Plan for Raintree was public sewer with gravity collection and a new community pumping station. After preliminary engineering, this was deemed too expensive.
- The Township and LASA continued to explore alternatives and develop a more cost effective alternative. The new selected alternative is a low pressure sewer system.
- The Act 537 Plan was revised earlier this year to reflect the new alternative. It was approved by PA DEP on June 1, 2016 after the public comment and county review period.

SECTION 3 – PROJECT DESCRIPTION



SELECTED ALTERNATIVE

- Installation of a low pressure sanitary sewer (LPSS) system to collect the sewage throughout the project area.
 - Approximately 6,700-feet of small diameter main (1.5" – 2").
 - Approximately 42 Grinder Pumps – Every Improved Property.
 - Project will serve approximately 52 Equivalent Dwelling Units.
- Sewage will then be conveyed to a gravity manhole at the intersection of Heather Lane and Bridge Valley Road.
- This gravity collection system discharges to the Farmdale Pumping Station. All sewage in the LASA system eventually is conveyed to LASA's Susquehanna Water Pollution Control Facility in Washington Boro.
- LASA's treatment facility is rated at 15-mgd, which meets the current and future projected public sewer needs of the LASA member municipalities.



LOW PRESSURE SANITARY SEWER SYSTEMS




E/One Sewer Systems

- Benefits:
 - Overcome issues of traditional gravity systems:
 - Deep excavations & stream crossings.
 - Rock drilling, hammering, and blasting.
 - Larger footprint & construction impacts/disturbances – lines, manholes.
 - Subject to leaking (I&I).
 - For difficult terrain and a small service area like Raintree Road area:

Reduce Installation and Homeowner Costs

GRINDER PUMP INSTALLATION

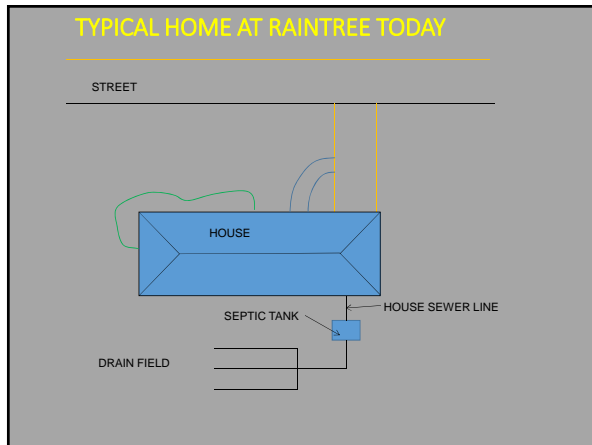
- Redirect house sewer line (prior to your existing septic system) to the proposed grinder pump.
- Grinder pump unit installed on your property to convey wastewater to the sewer system.
- All pumps in the system are pumping into pressurized mains (similar to water lines)



KEY PROJECT STEPS

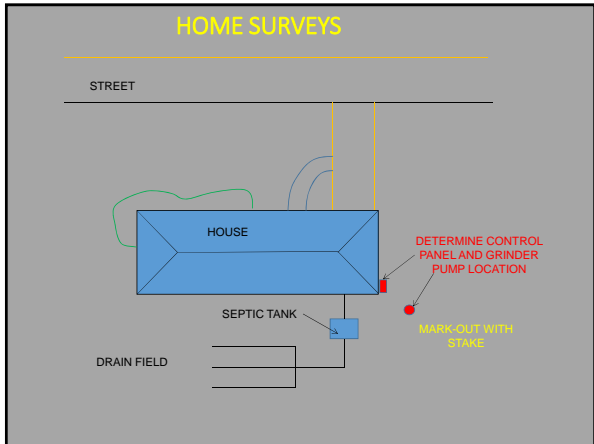
1. Home Surveys – grinder pump location
2. Field Survey – for easements & design
3. Design, Permitting, & Bidding
4. Easement Recordation
5. LPSS Main Installation
6. Grinder Pump & Discharge Line Installation
7. Homeowner Connections & Start-Up
8. Septic Tank Abandonment
9. Restoration

TYPICAL HOME AT RAINTREE TODAY



STEP 1: HOME SURVEYS

- Surveys this Summer
 - Survey authorization form.
 - Homeowner schedules a time with LASA representatives from Entech Engineering to come on your property.
 - Locate utilities, existing septic tank, other design information.
 - Wooden stakes to identify approximate location of Grinder Pump Basin.
 - Please Do Not Move stake. Remove and replace for mowing.
 - Collect photos and GPS data to aid with design.
 - All representatives from Entech Engineering will have identification.
 - An adult must be present for the survey/inspection.



- ### GRINDER PUMP LOCATION CONSIDERATIONS
- How deep is the house sewer?
 - What will cause the least disturbance to yard?
 - Does the sidewalk or driveway need to be crossed?
 - Are there bushes or trees to be avoided?
 - Are there other underground utilities?
 - Where is electrical panel in the house?

- ### STEP 2: FIELD SURVEYS
- Field Survey later this Summer..
 - Residents will be notified if we are coming on your property.
 - Needed for design and permitting.
 - May see some utility markings as part of that process.

UTILITY MARKINGS



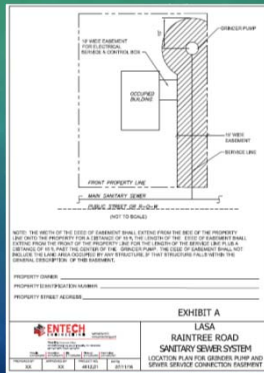


STEP 3: DESIGN, PERMITTING, AND BIDDING

- Will happen this Fall into Winter.
- Secure required permits through DEP, PennDOT, and Township as required:
 - DEP Construction Permit.
 - DEP Stream Crossing Permit(s).
 - PennDOT HOP Permit.
 - Erosion & Sedimentation Control.
 - Township Road Permit.
- Bidding will happen in early Spring of 2017.

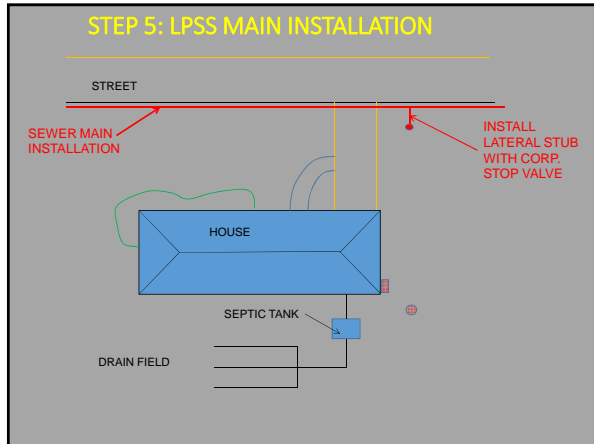
STEP 4 : EASEMENT RECORDATION

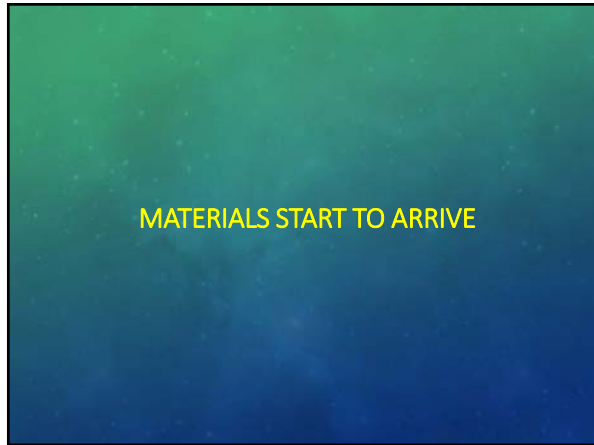
- Grinder Pump Easement & Maintenance Agreement between Homeowner and LASA .
 - Required for every property.
- LASA to provide service and repairs.
 - Easement provides for future access of grinder pump and panel by LASA.
- Agreement spells out LASA and Homeowner responsibilities.
- Signed by Homeowner(s) and LASA.
- Costs of recordation are included in LASA's connection fee.



STEP 5: LPSS MAIN INSTALLATION

- Starting in spring 2017.
- Utilize directional drilling as much as possible.
 - Minimize disturbance.
 - Minimize restoration.
- Some excavation and open cutting.
 - Boring Pits.
 - Vault installation.
 - Stream Crossing pits.
- HDPE (Plastic) mains installed.
 - Small (1-1/2" to 2").
 - Corporation stops (valves) at each future customer location.





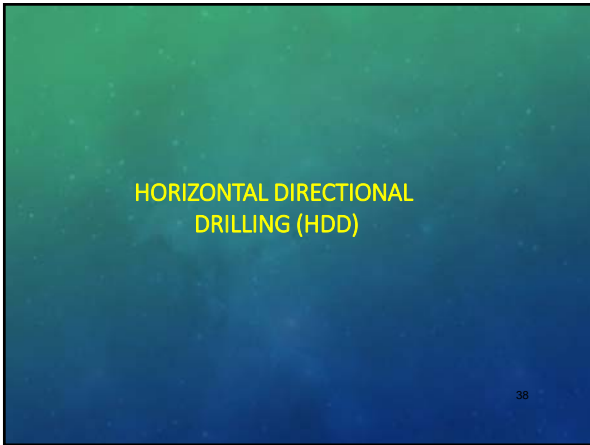


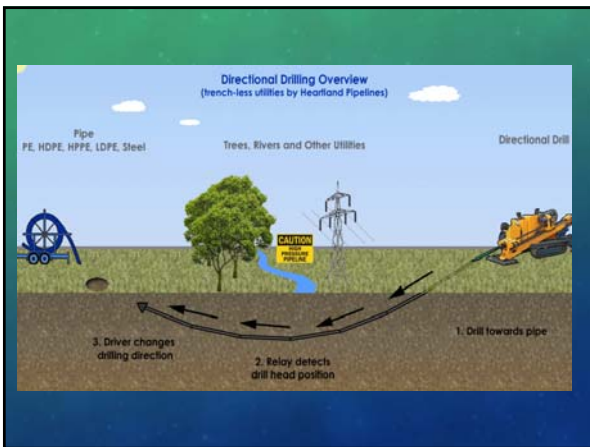












DRILLING RIG

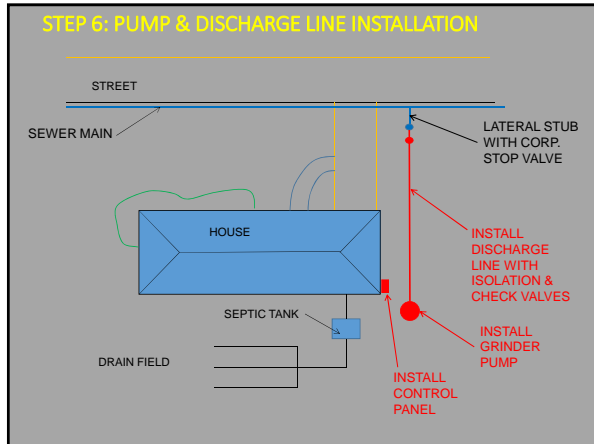


LAUNCH PIT & FORWARD DRILLING

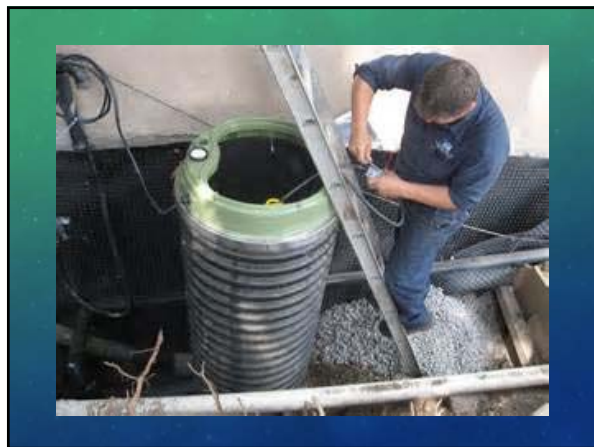


PULLING BACK THE PIPE





GRINDER PUMP AND DISCHARGE LINE INSTALLATION





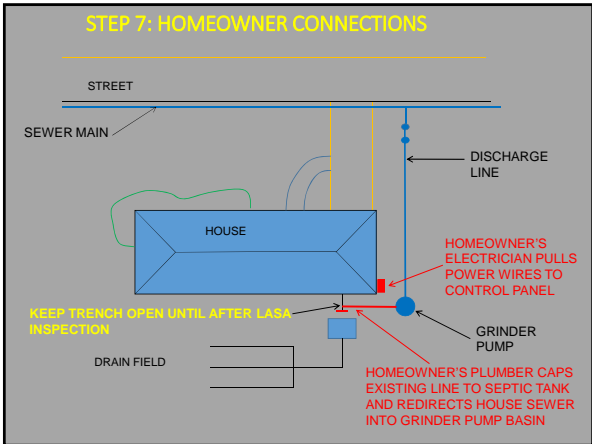


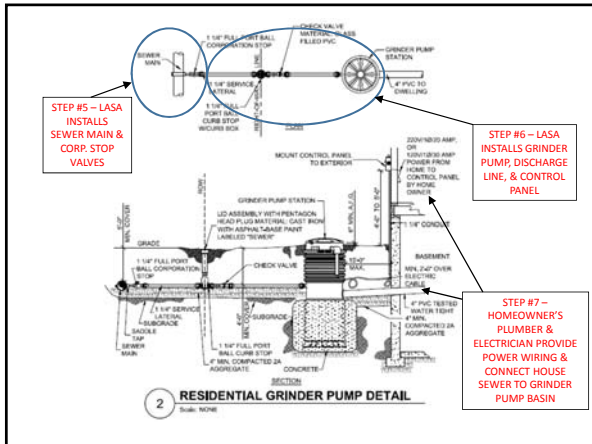




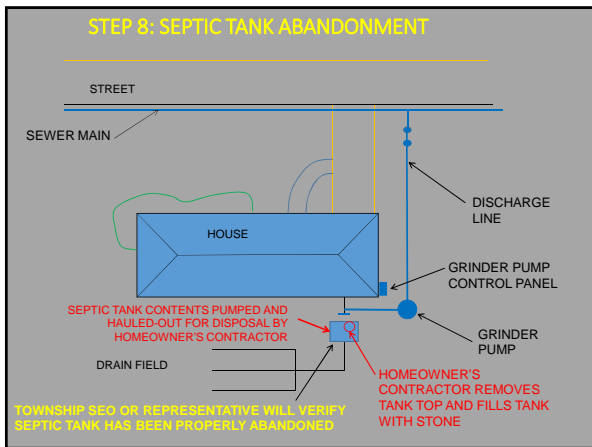
STEP 7 : HOMEOWNER CONNECTIONS

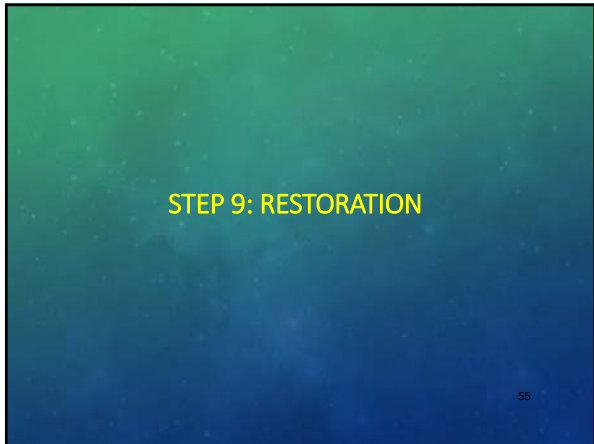
- Beginning in the fall of 2017.
- Within 90 days once notice is given.
- Required Inspections:
 - LASA will inspect the work by your plumber to connect existing house sewer to grinder pump.
 - The Township code enforcement staff will inspect work by your electrician to provide the required electrical service and power wiring into the E/One control panel.
 - Township SEO representative will inspect septic tank after abandonment.





- ### Environment One Grinder Pump Feature Identification
- 1. GRINDER PUMP BASIN - High density polyethylene (HDPE).
 - 2. ACCESSARY COVER - HDPE
 - 3. ELECTRICAL QUICK DISCONNECT (EQD) - Cable from pump line terminates here.
 - 4. POWER AND ALARM CABLE - Cable to be installed in accordance with local codes.
 - 5. ALARM PANEL - NEMA 4X enclosure. Equipped with circuit breaker. Locate according to local codes.
 - 6. ALARM DEVICE - Every installation is to have an alarm device to alert the homeowner of a potential malfunction. Visual device should be placed in very conspicuous locations.
 - 7. INLET - EPDM grommet (4 3/4" O.D.) Per 4 3/4" O.D. DWV pipe.
 - 8. WET WELL VENT - 3/4" male vent supplied by factory or sold with accessories.
 - 9. GRAVITY SERVICE LINE - 4" DWV (4 3/4" O.D.). Supplied by others.
 - 10. SWIM-OUT - 12" x 8" Long, wide-angle float-valve to be installed at line of burial unless the gravity service line is connected during installation. Supplied by others.
 - 11. DISCHARGE VALVE - 1 1/4" Female pipe thread.
 - 12. DISCHARGE LINE - 1 1/4" Nominal pipe size. Supplied by others.
 - 13. CONCRETE ANCHOR - See Ballast Calculations for specific weight for station height. Supplied by others.
 - 14. BEDDING MATERIAL - 4" minimum depth, round aggregate, (green). Supplied by others.
 - 15. FINISHED GRADE - Grade line to be 1" to 4" below removable lid and slope away from the station.
 - 16. VENT - Indoor installation. See section 6, Venting, on page 6.
 - 17. VALVE - Full ported ball valve. Recommended option, for use during service operations. Supplied by others.
 - 18. CONDUIT - 1" or 1 1/4" material and burial depth as required per national and local codes. Conduit must enter panel from bottom and be sealed per NEC section 503.5 & 503.7. Supplied by others.
 - 19. UNION - 1 1/4" or compression type coupling. Supplied by others. (Do not use rubber sleeve and hose clamp type coupling.)
 - 20. VALVE - Ball valve, must provide a full ported 1 1/4" round passage when open. Supplied by others.
 - 21. REBAR - Required to lift tank after ballast (concrete anchor) has been attached. 4 pieces, evenly spaced around tank.









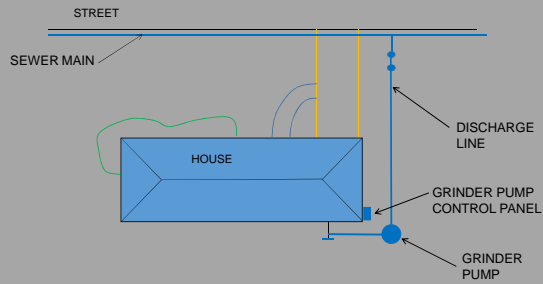
RESTORATION

- The area will be restored as-good-as or better than original.

WE PROMISE.

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HOME AT RAINTREE AFTER PROJECT COMPLETION



WHAT DOES IT LOOK LIKE AFTER INSTALLATION?



SECTION 4 – WHAT TO EXPECT

- ### INCONVENIENCES DURING CONSTRUCTION
- Flags, stakes, and paint marks in your yard and in front of your house.
 - Trenching and excavation.
 - Temporary inconveniences:
 - Streets blocked for short period of times.
 - Construction equipment in your way.
 - Noise.
 - Dust.
 - School Bus Stop locations may be temporary shifted.
 - Short delays.
 - Yards and roadways will be disturbed but will be restored.

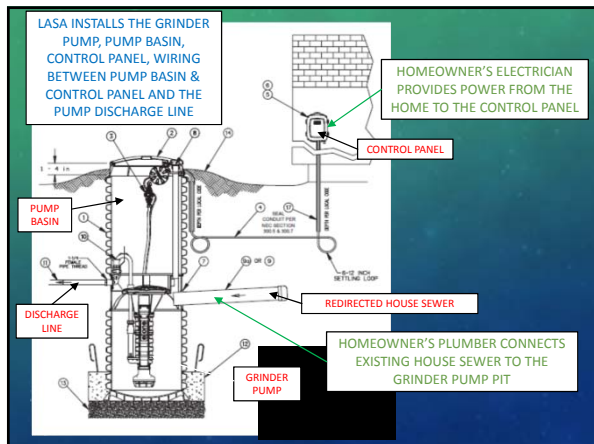
- ### GOING FORWARD
- During construction”
 - Call LASA with your concerns or complaints.
 - Complaints will be logged and immediately emailed to the appropriate person to respond.
 - Restoration will occur after installation is complete.
 - We ask for your patience.

LASA ROLES & RESPONSIBILITIES

- Obtain permits and approvals for project.
- Execute Grinder Pump Easement & Maintenance Agreement with Homeowner.
- Hire contractor and oversee installation of the following:
 - Sewer Main & Appurtenances.
 - Grinder Pump & Service Line.
 - Control Panel.
- Inspect Homeowner's house sewer connection to grinder pump
- Grinder pump system start-ups.
- After start-up - Provide service and repairs to grinder pump unit.

HOMEOWNER RESPONSIBILITIES

- Sign-off on easement.
- Apply for Connection Permit with LASA.
- Pay Required Fees.
- Hire electrician to provide power to control panel.
- Hire plumber to redirect House Sewer to Grinder Pump.
- Hire contractor or have plumber pump-out and decommission existing septic tank.
- Coordinate & ensure that all required inspections are completed:
 - House Sewer redirection to grinder pump basin (LASA).
 - Electrical power to control panel (Township Codes Enforcement).
 - Septic Tank abandonment (Township SEO).
- Provide proper care of grinder pump.



HOMEOWNER CONTRACTORS

- Homeowner may choose any licensed contractors they wish. The Township can provide the names of Contractors in the area that do this work:
 - Electrical.
 - Plumbing.
 - Septic Abandonment (often the plumbing contractor can do this).
- Homeowner is responsible for soliciting and contracting for these services on their own.
- Plumbing contractor MUST follow LASA specifications for the house sewer redirection (clean-outs, fittings, bedding, etc.).
- Electrical contractor must follow the Township Electrical Code and wiring instructions from E/One for the power wiring .

WHAT ARE THE FEES?

- Tapping Fee.
- Connection Fee.
- Inspection Fee

FEES OWED TO LASA

Tapping Fee	\$2,380
Connection Fee	\$750
Inspection Fee*	\$35
Total Owed To LASA	\$3,165

*Inspection fee must be paid when Connection Permit is issued. Connection Fee and Tapping Fee are eligible for payment plan.

FINANCING FEES

	10-Years	15-Years
Tapping Fee	\$2,380	\$2,380
Connection Fee	\$750	\$750
Administration Fee*	\$175	\$175
Processing Fee*	\$240	\$360
Total	\$3,545	\$3,665
Monthly Payment	\$29.54	\$20.36

*Not Applicable with up front payment of fees.

PROJECTED FEES

Fees with Financing	\$29.54/month
Sewer Service Charge* (effective 01/01/17)	\$30.62/month
TOTAL MONTHLY (10 Years)	\$60.16/month

Fees with Financing	\$20.36/month
Sewer Service Charge* (effective 01/01/17)	\$30.62/month
TOTAL MONTHLY (15 Years)	\$50.98/month

*LASA bills sewer service quarterly and financing fees monthly. Monthly fee total provided for budgeting purposes..

LIENS

- If you select a financing option, a lien will be executed.
- Liens guarantee that outstanding balance will be paid to LASA if your property is sold or refinanced.

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WHAT ARE OTHER THE COSTS?

- Electrical service and inspection for grinder pump.
- Connection of existing house sewer line to new grinder pump unit (including associated restoration).
- Pump-out your septic tank
- Demolition of tank top and filling the septic tank with gravel/fill.

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WHAT IS IT GOING TO COST?

- Electrical Requirements: Cost Varies (*estimated at \$800*)
 - Dedicated Breaker (30 amp for 120V or 20 amp for 240V Service)
 - Wiring & Conduit
- Reroute House Sewer: Cost Varies (*estimated at \$1,600*)
 - Grinder Pump usually located 5-15 feet from House Sewer
- Decommissioning Septic: Cost Varies (*estimated at \$600*)
 - Type, Location, and Size
 - Tank size - pump-out, hauling, disposal
 - Tank size - top cave-in/removal and fill with stone

PROJECT REVIEW – SCHEDULE

Task	Dates
Public Information Session	July 13, 2016
Mapping & House Surveys	July to October 2016
Design & Permitting	September 2016 to February 2017
Advertise, Bid, Award Contracts	February to April 2017
Construction	May 2017 to December 2017
Connections	September 2017 to January 2018

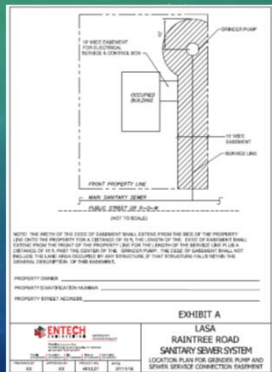
CUSTOMER CHECKLIST

- Checklist provided by LASA to assist homeowner with tracking their requirements.
- See www.LASA.org for updates to the project schedule.
- The Township will provide a 90-day written notice regarding the connection requirements.

SECTION 5 – GRINDER PUMP OPERATION & MAINTENANCE

OPERATION AND MAINTENANCE

- Grinder Pump Easement & Maintenance Agreement between Homeowner and LASA .
 - Required for every property.
- Homeowner to provide proper care of grinder pump.
- LASA to provide service and repairs.
- LASA owns the grinder pump and panel. Locks are provided on the electrical disconnect and control panel.



CARE AND USE OF YOUR GRINDER PUMP

The Environment One grinder pump is capable of accepting and pumping a wide range of materials, and an extensive grind test is required in order to obtain NSF approval. However, regulatory agencies advise that the following items should not be introduced into any sewer, either directly or through a kitchen waste disposal unit.

Glass	Seafood shells	Diapers, socks, rags or cloth	Syringes
Cotton swabs	Personal/cleaning wipes & sponges	Disposable toothbrushes	Latex/vinyl items
Metal	Plastic objects (toys, utensils, etc.)	Kitty litter	Dental floss
Aquarium gravel	Sanitary napkins or tampons	Cigarette butts	

Caution: Kitchen garbage disposals do not keep grease/oil out of the plumbing system

In addition, you must never introduce into any sewer:

Explosives	Strong chemicals	Lubricating oil and/or grease
Flammable material	Gasoline	

Items introduced into the sewer system from your home can potentially impact the water environment. Proper disposal of household wastes such as window cleaners, unused/expired pharmaceuticals, paint thinners, fats, fruit labels, etc. is important. For more information, visit <http://www.wef.org>.

- See Exhibit A of the Grinder Pump Agreement
- See The LASA Website for all Rules & Regulations

FREQUENTLY ASKED QUESTIONS

What is the average yearly electrical cost to operate a grinder pump?

- A typical single family home will use 250 gallons of water per day. A grinder pump for this home will consume about 200 KWh of electricity per year.
- Check your utility bill for the cost per kilowatt hour in your area. For example, if you pay 10 cents per kilowatt hour: \$0.10 KWh x 200 KWh = \$20.00 per year cost or \$1.67 per month

FREQUENTLY ASKED QUESTIONS

What is the duration of operation per day?

- Typical operation is between 10 and 20 minutes per day for typical residential houses.

How noisy is the pump?

- With an outdoor unit buried in the ground, you will not hear it at all if you're 10 or 15 feet away. If you're standing on top of it, it sounds like your washing machine when it's running — just a hum.

SECTION 6 – QUESTIONS

HAVE QUESTIONS/NEED HELP?

- Mike Kyle, Executive Director
 - (717) 344-5832
- Scot Fertich, Engineering Director
 - (717) 344-5830
- Albert Knepp, Maintenance Director
 - (717) 344-5831
- Mike Lehman, Finance Director
 - (717) 344-5823
- LASA Website at www.LASA.org

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THANK YOU FOR YOUR COOPERATION

Questions?

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