

Village of Ludlow Falls Sewer Feasibility Study

IBI Group Page 70

Unsewered Communities Projec

Background

The Unsewered Communities project sponsored by The Miami Valley Regional Planning Commission (MVRPC) is a formal Feasibility Study looking at five small communities in the Miami Valley that are served by septic systems that no longer provide adequate wastewater treatment. Environmental and health agencies are concerned about potential for pollution from these systems to harm the environment and human health. MVRPC is partnering with Ohio EPA and Public Health Districts in the Miami Valley to conduct a feasibility Study for each of these 5 high priority communities experiencing environmental and public health concerns due to large concentrations of failing or underperforming home sewage treatment systems. This public involvement summary reflects the public activity, Steering Committee input and responses from the Village of Ludlow Falls.

Public Involvement Summary

Steering Committee Meeting #1

The project was spearheaded with a Kick-off meeting held Dec. 4, 2014 – 99 Vine St. Ludlow Falls, to explain the goals of the project to a group of Steering Committee Members. Those in attendance can be found on the sign-in sheet attached to this summary. Discussion topics included: What the committee members wanted to see in the study; where there any other previous studies to provide sanitary sewer systems; areas of future growth identified; isolated areas of concern; and how often the committee would prefer to meet and next steps in the process. The general format and information to be expected in the study document was also discussed.

Steering Committee Meeting #2

The next Steering Committee Meeting was held on Feb. 5, 2015 – 99 Vine St. Ludlow Falls. That meeting provided a review of what The IBI Group developed for the General Plan which had generated some questions for the committee. These questions were answered with details provided in the attached Steering Committee Meeting minutes. The next meeting date was established and a date for the Ludlow Falls Public meeting was determined. Information on the types of sewer systems and sewer treatment systems considered in the Study were discussed as well as a discussion with a question and answer session on the possible financing options available for the community and individual residents.

Steering Committee Meeting #3

The final Steering Committee Meeting was held on April 16, 2015 – 99 Vine St. Ludlow Falls. Steering Committee members in attendance can be found on the attached sign-in sheet. A draft report and a recommendation was provided as well as some details on the estimated numbers of sewer connections, the planning wastewater volume, and a review of the sewer types and treatment types that were considered in the study. Approximate costs of the recommended system was discussed with a focus on the amount and location of bedrock that exist in the Village. Questions and answers are listed in the meeting minutes attached to this summary.

The recommendation as stated in the Study is:

'Based on the cost analysis, the best option for the village of Ludlow Falls is to construct a gravity collection system and contract with the Village of West Milton for treatment services assuming West Milton will cover the cost of construction of a pumping station and forcemain from Ludlow Falls to West Milton.

The initial capital cost of a gravity collection system is higher than other collection systems, but the annual Operation, Maintenance, and Replacement costs are significantly lower and when a Present Worth Analysis is run, these differences become apparent.

Construction of a gravity sewer will also require sewers to be deeper than the other collection systems requiring rock excavation. Rock excavation has been accounted for in the construction estimate. Construction will be slower and cause more disruption, but is temporary and with a responsible contractor, the residents should be able to manage through the construction process, especially considering that a good majority of the sewer lines could be located in alleys and away from the streets.'

Public Meeting - May 5, 2015

The Public meeting for the Village of Ludlow Falls – Unsewered Communities project was held on May 5, 2015 at the Ludlow Falls Fire Station – 10 Greenville Ave. An overview of the project was given with a call for public comments that could have been written and provided to the project team at the meeting or mailed at their convenience to the IBI Group. The attendees were reminded that there currently was no active sewer project and that the Feasibility Study had been completed to explore options available for constructing a sewer system in the Village and the possible funding available for a sewer system project. The Village of Ludlow Falls is in a good position to qualify for available grants and loans based on its average household income levels. The recommended system is expected to cost approximately \$1.4-\$1.5 mil. Many of the Village septic systems are presently being repaired with a band-aid approach and because of evolving EPA regulations, cannot be permanently repaired/replaced.

Six copies of the Study were provided for the public to review, financing possibilities were discussed in depth and the questions from the attendees were answered. Announcements and public notices for the May 5 public meeting are attached. Meeting attendees with questions and answers are included in the attached meeting minutes.

Next Steps

The next steps should the Village of Ludlow Falls decide to pursue a sewer project are:

- 1) Hire an Engineering firm to coordinate with Funding Agencies, survey the area, design the project, work with West Milton on the pump station parameters, and secure EPA permits.
- 2) Continue working with West Milton to reach a final agreement of terms.
- 3) Continue to keep the public informed.
- 4) A new system could be in place and operational by the end of 2019.

Unsewered Communities Project Kick-Off Meeting Agenda

Village of Ludlow Falls, Miami County, Ohio December 4, 2014 7:00 pm



Thank you for allowing us the opportunity to meet with you and discuss the development of a report for wastewater collection and treatment planning for your community.

As you may know, the Village of Ludlow Falls has been identified as a Localized Area of Concern through the Miami County Health District, Miami County Soil and Water Conservation District and Ohio EPA and is noted in the MVRCP *Areawide Water Quality Management Plan* as such.

The Miami Valley Regional Planning Commission (MVRPC) is partnering with OEPA and public health districts in the Miami Valley to conduct feasibility studies for high priority communities experiencing environmental and public health concerns due to large concentrations of failing or underperforming home sewage treatment systems.

The "Unsewered Communities Project," will provide the results of these vital wastewater treatment feasibility studies to participating communities that choose to take part in the study process. MVRPC has contracted with IBI Group in the development of a General Plan for your community. IBI Group (formerly M•E/IBI Group) has worked closely with numerous communities like yours guiding them through the rigors of developing a cost-effective plan and implementing the plan through construction and start-up. The development of a General Plan does not commit you to installing with a public sewer system. It does, however, provide you with potential alternatives, cost estimates, a funding plan, and schedule should you decide as a community that a sewer system is in its best interest and want to proceed further with engineering design and funding applications.

Introductions/Steering Committee Members:

IBI Group / Burton Planning Services:

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Keith Doll, P.E., Project Manager	Nicole Clune, P.E., Planning Director
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mlindsay@mvrpc.org	

Ludlow Falls:

Eddlow Fallo.		
Robert Smith, Mayor	Council Members	Council Clerk
99 Walnut Street	Mark Farmer	Robin Smith
Ludlow Falls, OH 45339	Joyce Keiser	
	Barbara Maguire	
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Regulatory Agencies:		
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Gerry Tipton		
Miami County Public Health		
510 West Water Street, Suite 130		
Troy, OH 45373		

Questions to assist us:

The following is a list of general questions to help us get started with the study:

- What would you want to see as an outcome to this study / what is important to you? How do you feel about a public sewer system in the Ludlow Falls area?
- Have there been any previous projects in the area where mapping or plans are available for review? Waterline projects / Roadway projects?
- Have there been any previous studies for providing sanitary sewers? Are these available for review?
- Does the Village currently have public water? If so, who is the provider?
- Does the Village currently have a billing system for its customers? i.e. water & storm sewer.
- Are there any future growth areas identified within the area? i.e. future residential community or commercial project.
- Are there any isolated problem areas or pockets of concern that you can discuss? i.e. sewage smell on a particular street.
- Contact person for the church camp on the east side of SR 48?
- How often would the Steering Committee prefer to meet? Dates & Times?

Next Steps?

- We will be coordinating with Ohio EPA, Miami County Health District, Miami County Sanitary Engineer, Miami County Soil & Water, and MVRPC, to collect as much data as we can.
- We will make several field visits to take notes and gather information
- Monthly (or as necessary) Steering Committee meetings to update progress
- A draft General Plan will be provided for review and comment
- Public meeting (at your discretion) to present to residents
- Final General Plan Developed
- Submit final plan to EPA

What does a General Plan Consist of?

The following is a draft outline of what may be included in your General Plan:

1. Executive Summary	4. Future Conditions
Alternatives Considered	Land Use / Development
Conclusions	Population Projections
Implementation	Projected Wastewater Flow and Loadings
2. Introduction	5. Wastewater System Alternatives
Background/Objective	Alternative 1: Cost / Layout
Scope/Planning Area	Alternative 2 (if necessary): Cost / Layout
Methodology	Alternative 3 (if necessary): Cost / Layout
3. Existing Conditions	6. Selected Plan
Planning Area	Cost Summary
Existing Wastewater/Water Systems	7. Implementation
Environmental: Geology & Hydrology, Soils,	Funding
Topo, Water Quality, Wetlands, Flood	Schedule
Hazard Area	
Land Use & Zoning	
Populations	

Unsewered Communities Project Kick-Off Meeting Agenda



Ludlow Falls, Miami County, Ohio December 4, 2014 @ 7:00pm

Mayor: Patricia Neisley Village Address: PO Box 159, Ludlow Falls, Ohio 208 people in Ludlow Falls

Attending: See attached sign-in sheet.

Meeting Minutes:

Opening by Mr. Matthew Lindsay, with MVRPC. Mr. Lindsay explained that MVRPC has a contract with Ohio EPA (OEPA) to do a special project - sewer planning in five communities around Dayton. Ludlow Falls is the 4th of 5 communities. MVRPC is happy to have the Village signed on.

<u>Round-table introductions were conducted</u>. Matt Kline, West Milton Municipal Manager, was unable to attend and sent Tim Swartztrauber in his place.

Mr. Keith Doll began. The purpose of this meeting is to introduce the MVRPC – IBI- Burton Planning team and talk about items to prepare for this study. This study is at no cost to the village. This study also does not force the village into providing a sewer collection system. This study is a means to provide Ludlow Falls with planning alternatives, costs and other information.

Mr. Doll has been out once to consider different collection alternatives and learn what the service area might be.

He noted a large church camp. Keith would like to talk more with the church camp. Gentlemen representing the Ludlow Falls Church Camp were present and explained that they were previously forced to install a septic system.

Q. Mr. Doll asked what the Village would want to get out of this study. He would like to address their concerns. He asked, has the village considered something like this before? **A:** They did have someone in 3 years ago – headed by Miami County, back when Casstown started theirs. They wanted to head up the idea of doing something, try to get grant money (quite a bit of it at the time). An open house meeting did not turn out well and resulted in a lot of fighting. No cost and no information were provided, essentially blindsiding people, "not knowing if it could cost \$1000 or \$10." The committee suggested asking Gerry Tipton (Miami County Public Health) for more information.

Mr. Doll: Cost is the biggest question on everyone's mind. IBI wants to determine what it could cost, providing best case and worst case scenarios. They will try to identify grant funding and a cost per typical residential bill. The plan will provide options, such as regionalizing with West Milton, Pleasant Hill, Laura, etc. They will do due diligence and look at all options for the Village. IBI will also consider a treatment system, owner operated.

The Village: The benefit of this study is that it's at no cost. They think this is a better route.

Q. Mr. Doll asked if Ludlow Falls has a history of failing septic systems. **A:** Ludlow has 50' x 150' lots. Excavation is unforgiving - pit run and clay then rock. Southwest corner of the Village is all rock. And at some houses, their whole yard is a leach bed. There is no future for these properties. 65% of the septic systems in the village have been fixed or repaired. There's not enough room left. Some are systems are to the point that they're just pumping it all the time. Smaller household size has extended the life of some systems, due to lower flows. For the campground: most of it is solid rock. They pitched their septic system down to over the hill.

Mr. Doll: no one wants to hear a monthly cost, but at the same time if their system fails, they are left in a precarious situation. Gravity sewers may be a real problem with the rock. **Q.** Are there a lot of basements in the

community? A: Yes, but rock laid cold cellars, shallow. The depth to bedrock gets deeper in the west/northwest corner, but still a shelf of rock when you get so far.

Mr. Lindsay: Q. How many vacant lots in the town? A: A handful at best

Mr. Doll: **Q.** Is there a possibility for expansion to the west? The roads are constructed as if they will be expanded to the west. **A:** There's 10 acres there. There's one farmer that pretty much owns the whole country block around town.

Mr. Doll: He would consider a septic tank effluent pump sewer system, which does not go deep like a gravity sewer. Small-diameter pipe. A lower point to this type of system is that everyone will need to have a new septic system installed and abandon their tank. Another system to consider is a vacuum system. There are also grinder pump sewer systems. IBI would like to look at these different alternatives for the Village, evaluating how deep the will be and come up with construction costs.

As far as treatment, consider connecting into some communities. **Q.** Has West Milton ever been considered before? **A:** Not officially.

Q. Mr. Doll: Would West Milton be willing to consider connecting Ludlow Falls into their system? **A:** Tim Swartztrauber: WM's city manager is looking to go further north, but their sewer system currently stops at the north corp. limit. West Milton is having trouble with inflow & infiltration (I&I) in their system. They are starting to line all sewer lines in town.

Q. Mr. Doll: Is there a possibility of combining with West Milton and the campground? **A:** Tim Swartztrauber: West Milton is going to take some of the campground's overflow if their leach field cannot handle it. (They occasionally max out).

Q. Village: If they bring the lines down from West Milton, does everyone on State Route 48 have to tap into it? **A:** Mr. Doll: No, not necessarily, but it could be made available. It depends on whether the line is gravity vs force main (force main more difficult to tie into). What IBI will concentrate on is addressing the village Ludlow Falls itself. A connection with West Milton is more reasonable, as Laura is more difficult of a route to – over 4 miles, vs 2 miles to West Milton. Mr. Doll would like to make contact with both Laura and West Milton. **Info:** Laura is a step system. Their sludge is hauled to Fairborn.

Q. Mr. Lindsay: Is the camp within the village? **A:** The south half is in the village, but the north side isn't. Campground owns ground up to the firehouse.

An Advantage – there is good ground fall in Ludlow, toward the river.

Campground: they have to run electric motors on their system all the time (drip system).

Ludlow Falls is on a public water system – West Milton takes care of it. The campground is also on it. The water system was installed in 1966-69. West Milton handles the billing as well. They had two water main breaks in the northwest corner of the town, but in general the system is in pretty good condition. Mr. Doll would like to go to West Milton and look at some schematics of the Ludlow Falls water system.

There are underground facilities that are not mapped in Ludlow Falls. For example there's an open tile from the field that comes through town.

Q. If Milton runs the system, who controls who hooks into it? If West Milton takes ownership of it, will they maintain it? **A.** Mr. Doll: Ludlow falls could keep their own maintenance if they choose. IBI will look at a handful of some of the most common scenarios of management distribution of a potential system. West Milton could have out-of-town rates, tapping fees, etc.

Comment: Count on that rock being an issue. Rock continues to West Milton.

Comment: Would rather pay up front and have less to maintain.

Comment: If there is a sanitary sewer system out on the road, they are typically required to tap in. **Q.** What if the sewer system is uphill from the residence? The village expects 10-15 properties lower than the sewer main. **A:** Mr. Doll: There are case-by case situations on whether a property must hook in.

OEPA: In the new OEPA rules effective Jan 1 2015, there is no distance factor. The old 200' rule is gone.

Mr. Doll: Where we'd like to take it from here:

- 1. Come out again, have the locals take him around.
- 2. Meet to get a better feel for the community and go through some alternatives, meet with adjacent communities,
- 3. Put together a draft study.
- 4. Hold the next steering committee meeting –have exhibits and some draft/rough costs, run through options they've come up with and see if there's something the village is interest in. IF no, they can eliminate it and perhaps replace with something else.

Meet again in February? The next committee meeting was set for Thursday, Feb 5th at 7:00.

The Agenda provides a draft outline of what their general plan will include (see below). IBI would want to build some reserve future capacity into the system.

Tim Swartztrauber will get IBI the water usage info for West Milton

Q: When do we involve the residents in this? **A**. Not the next meeting, but the meeting after that. At the next meeting, the Village will be given a lot of drafts and possibilities. Hoping the steering committee will eliminate some and prioritize some. Then a public meeting will be held after that, when materials will be ready for the public.

Public meeting will probably at the fire house – will take the trucks out.

Time line for these studies: All 5 communities have to be wrapped up by the end of July 2015.

On MVRPC's website, see the link for the Unsewered Communities website, under Environmental. Mr. Lindsay will provide the Village the link, which is: <u>http://www.mvrpcunseweredcommunities.com/</u>. This website will provide a copy of tonight's agenda, meeting minutes, and future information will be made available. Anyone can go in and look at it.

Q. Long term timeframe for getting a system installed? If planning is done by July, what is the timeframe? **A:** Mr. Doll: From that point, MVRPC is finished. It will be up to the village to take it from there. The village will want to apply for grants or at the least low interest loans. Will also need to have detailed design and go through permitting and funding process. After bidding and construction... probably at least a 3 year schedule, and that would be aggressive. For other clients, IBI's experience is that it depends on whether it's worth the extra cost to try and get funding while knowing that the construction cost will be more and more every year.

Tim Swartztrauber: The West Milton Manager has a lot of great ideas (Mr. Doll will get with him).

Q. What are some of the other adjacent village and city's approximate costs? **A.** It is hard to draw comparisons. West Milton did some preliminary studies to figure out what it would take to get a sewer line to the church camp. \$800,000 was the quick engineer's estimate, developed for budgetary reasons.

Mr. Doll: The more people connect into the sewer, the cost is more spread out. This is part of why it is generally mandatory for properties to tap in. There are several benefits to being on public sewer: Properties will have more yard, property values will increase, and home additions are more feasible.

There are a lot of different ways to have locals pay for the system. They can set numbers for a tap fee, monthly fee, capacity fee, etc. Costs can be assessed on taxes. Grand Lake St. Marys' was tied into the city – could pay up

front or pay through taxes... in that case it was the county commissioners' mandate that the sewers go in. These are options that Ludlow Falls will make. IBI will help with developing a range of scenarios.

Mr. Doll provided business cards. If any questions, please give him a call.

Mr. Lindsay: This was a terrific meeting. We got a lot of great information. It was a great start.

Comment: Be prepared to lose trees when systems are installed. The church campground lost them at the tap-

in.

Comment: There is natural gas in the alleys and water in the street.

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Land Use & Zoning	
Populations	

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	MVRPC Unsewered Communities Project	Village of Ludiow Falls, Miarril County Village Council Chambers, 99 Walnut Street, Ludlow Falls	4	TITLE / ORGANIZATION	Manager of Environmental Planning, MVRPC	Regional Planner II, MVRPC	Project Manager, IBI Group	Planning Director, Burton Planning Services	OEPA Surface Water	OEPA Surface Water	Miami County Public Health	Mayor, Ludlow Falls	Village Council, Ludlow Falls			
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Steering Committee #1

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Unsewered Communities Project Steering Committee Meeting Agenda #2





Village of Ludlow Falls, Miami County, Ohio February 5, 2015 7:00 pm Introductions/Steering Committee Members:

IBI Group / Burton Planning Services:

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Patricia Neisley, Mayor	Mark Farmer - Council
99 Walnut Street	Tina Weber - Council
Ludlow Falls, OH 45339	Don Smith – Council
Patricians1@AOL.com	Robert Smith – Council
	Trudy Fugate – Council
	Debbie Hill – Council
	Joyce Keiser – Council
	Kelly Quillen - Council
	Josh Smith – Street Commissioner
	Robin Smith – Clerk-Treasurer

Regulatory Agencies:

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Ohio EPA	Ohio EPA
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Gerry Tipton	
Miami County Public Health	
510 West Water Street, Suite 130	
Troy, OH 45373	

Project Updates:

We are continuing to evaluate collection and treatment alternatives for the Area. At this time, we do not have final cost estimates to present or a recommended plan.

We have made contact with Matthew Kline, Municipal Manager of West Milton. West Milton is interested in accepting wastewater flows from Ludlow Falls.

We are investigating three different collection alternatives (Gravity Sewers, STEP Sewers, and Grinder Sewers) and two different treatment alternatives (New WWTP and Transport to West Milton WWTP)

There are a few different options when selecting the collection and treatment alternatives. We intend to present overall project costs, operational & maintenance costs, and present worth evaluations on multiple scenarios for the purpose of selecting a recommended plan.

We would like to go through the attached Decision Matrix exercise to help us understand Ludlow Falls' priorities beyond cost. This includes concerns regarding operation & maintenance, regulatory compliance, control of the system, and schedule.

As mentioned, we do not have hard numbers (estimates) for alternatives. We have, however, prepared a PRELIMINARY funding scenario for a couple alternatives – New WWTP and Transport to West Milton. We show worst case and best case based on an approximate construction cost and operational cost for different funding scenarios. This is very rough at this time but may give you an idea of what you might expect as the study proceeds.

Other Discussion Items:

Potential treatment facility discharge locations – we are looking at Ludlow Creek, near the southern part of Ludlow Falls.

Potential property identification for potential treatment facility – At this time, we are looking at village owned property near the fire station.

Any further developments or potential?

Next Steps:

We would like to have a final draft plan with estimates and recommendations for the next Steering Committee meeting and then follow up with a public meeting at your discretion.

Date for next Steering Committee meeting?

Unsewered Communities Project Steering Committee #2



IBI

Ludlow Falls, Miami County, Ohio February 5, 2015 @ 7:00pm

Attending: See attached sign-in sheet.

Meeting Minutes:

Opening by Mr. Matthew Lindsay, with MVRPC. Mr. Lindsay explained that this is our second steering committee meeting. The goals of tonight's meeting are to:

- Review what the IBI group has developed to this point, which has generated some questions for the committee
- Address any questions that the committee may have
- Conduct an exercise using the Collection & Treatment System Decision Matrix (provided with the agenda)
- Set the next (Meeting #3) steering committee meeting
- Set the public involvement meeting

- Introductions were made around the room-

Mr. Lindsay turned the meeting to Mr. Keith Doll with IBI Group.

Mr. Doll: This meeting will be informal. IBI Group doesn't have all the answers tonight, but Mr. Doll has several collection and treatment system options for the Village to consider. Since the last meeting:

- Mr. Doll has have made contact with the city of West Milton. West Milton had expressed interest in taking the Ludlow Falls sewer water and treating it.
- Collection systems: IBI Group is considering gravity sewers and some pressurized (STEP) sewers as well as some grinder systems.
- Treatment systems: IBI Group is considering a new wastewater treatment plant in the village and also considering regionalizing with West Milton.

For Collection Systems: Two gravity sewer options:

- 1. Run gravity sewer down the main street.
- 2. Run gravity sewer down the back alley.

As of now, exhibits show sewers going down the middle of the street. When actually placing the sewer, other considerations will come into play such as other utilities, driveway concerns, etc.

The area lends itself well to the gravity sewer, aside from the bedrock. Generally topography flows to the east, with an average depth of 12' deep sewers. There aren't a lot of full basements in the town, but IBI will need to design for potential basement elevations. That's why they are running about 12' deep on average, but bedrock is still a significant concern. The estimates that have been evaluated for rock excavation are high, which make a gravity sewer expensive.

Currently, the gravity system design would only miss houses on the south side of 55 (two properties). One option is having a sewer line in the street, but those homes would probably need a grinder pump OR a sewer line further down and have a pump station in the area.

Mr. Lindsay asked about the structure on the other side of the Stillwater River. This is a house that is within the Village-another home that would be difficult to serve. This location would need further investigation to find out how their system is currently functioning. The bedrock is 2' deep at this house.

Committee member: It would probably be more cost effective to run sewer down the alley. Currently, storm and water are located in the front and the gas line is located in the alley. They expect the gas lines to be replaced in the near future, as they are "coming to that age". Mr. Doll stated that an alley vs. a street is not an important consideration at this level of estimating.

Mr. Doll introduced the option of a gravity sewer with a treatment plant in the village. IBI Group is considering the Village firehouse property, located at the southern end of the Village, as a possible location for the treatment plant. They are considering a compact "pod" system with minimal odor and very discreet. This would be a packed bed media filter system. There is a similar system going into Christiansburg, a community nearby. This is a system that could be visited in the future.

Mr. Doll introduced the option of a sewer main south to West Milton. This is not a long distance, roughly 2 miles. West Milton has indicated they may consider absorbing the cost of the force main, which is certainly an advantage in terms of project and residential costs.

- With the West Milton option, looking at a pump station to replace the church camp's treatment facility. This would then become the main pump station to a force main that would carry the effluent to West Milton.
- For the church camp (with a treatment plant in the Village) a pump station would be required on the hill and tie into the gravity sewer.

Mr. Doll introduced a Pressure Sewer Option: In this case, every home would have a grinder pump that pumps into a low pressure force main. Sewer is considerably shallower and smaller diameter than a gravity sewer pipe. There are pros and cons: more operation and maintenance on the pumps. There is a small reservoir under the grinder system, so when the pump goes bad it has to be replaced quickly. The maintenance may be through the County Sewer District.

Mr. Doll inquired on the intended project limits. How far out 48? Further west is a possible expanded service area. The committee can decide whether to include them in the study or not. Meyers Trailer Court has been having issues with OEPA, which is further west. There may be roughly 20 trailer lots (about 1.5 miles out there).

Pressure lines have a lower construction costs (shallower) but the Operation & Maintenance (O&M) is higher than a gravity sewer.

• With pumps there is a reliance on electric

The campground has a lot of tanks, but they would still need a pump that would be larger than a residential pump (to accommodate their high capacity)

Depth: For pressure line, still a minimum of 4' depth to be beneath the freeze line.

The OEPA wants sewers that are deep enough to serve basements. IBI tries to adhere to this as much as they possibly can.

A committee member asked for more detail about the STEP (Septic Tank Effluent Pump) system. Mr. Doll: The STEP is a septic tank with a pump that is installed at each residence. There is adequate capacity to provide time if the pump would go bad and need to be replaced. Overall, this footprint is larger than grinder (about the size of a sheet of plywood).

- The existing septic tanks would need to be pumped, crushed, and filled in.
- Mr. Doll also recommends replacing the lateral all the way up to the home, because the condition of the existing lateral is perforated and permitting other infiltration.
- Grinder: when it goes bad, you have limited time (1 hour) of storage.
- Shallower is a benefit because it misses the bedrock.

Mr. Doll provided a matrix that illustrates how IBI group develops different project costs. It considers collection system, project costs, O&M, and present worth (pressured sewer systems).

Collection & Treatment System Decision Matrix: Mr. Doll would like the committee to rank these as priorities from 1 (being most important) to 6 (being the least important) criteria:

- 1. Low cost to customers: Ranked #1
- Future Operation, Maintenance Cost and Staff Involvement: It may depend on who is doing the O&M. If a pump station to West Milton, it would make sense for West Milton to provide the service as part of the monthly rate structure. However, if a treatment system were installed in Ludlow Falls, there would be higher O&M considerations. #1 and #2 can both be considered the same. Ranked #1
- 3. Local control of System: West Milton has expressed an interest in taking and treating the wastewater and will have a cost for that service. Is it important to Ludlow Falls that they control 100% of the system?
 - Committee comment: The town should still have some say-so, no matter what. Unless it's worthwhile. The water system is currently owned and operated by West Milton. Is there enough revenue for Ludlow Falls to afford to maintain control? Will the Pod system need full time maintenance?
 - Mr. Doll: For the most part it is operating itself, but someone still needs to go out and check it periodically. A certified operator would need to regularly run tests. Ranked #5 because West Milton and Ludlow Falls work closely together.
- 4. Future Growth of Service Area: It's important that the system be expandable to be able to serve other areas, including those that can't be foreseen as of now. Ranked #2
- 5. Timeframe for Completing the Project: The camp is already maxed out with their system, so for the church camp, the time frame is very important. The campground is willing to help out; there are also other residents that are on limited timeframes. Ranked #4
- 6. Minimal Disruption to Customers During Construction: Ranked #3

An OPWC grant submitted this summer would be providing funds three years ahead (This district is on 3 years). West Milton feels that they can submit for this grant without detailed design. Miami County gets only \$1.3 million per year. The Village would develop the grant application (West Milton and IBI offered to help).

There is a 2' wide ditch ground into the top of the falls that is open for carrying items across the falls.

Mr. Doll feels the Village can be fortunate on grants for this project, having the percentage of lower income (OWDA, OPWC, and OEPA).

West Milton is going after a Critical Infrastructure (former CDBG water and sewer) grant on another matter. Thinking that this type of grant would be feasible for the village (\$480,000 in eligible grants there).

For the STEP system, the tanks would need to be pumped, generally every 10 years. It is generally shown as a homeowner cost, but it could be better to include that in the system maintenance. A committee member stated that the town of Laura is on a maintenance schedule to pump every 4 years. In West Milton some people are pumping their tanks every 3-4 years. In Miami County, many people don't pump more than every 10 years.

Moving onto the preliminary funding scenarios, Mr. Doll introduced some preliminary estimates. Four different scenarios: two different types of collection systems - STEP /Grinder (lumped as one type for this estimate) and gravity sewers; and two types of treatment - Pump to West Milton or a new WWTP. About 100 EDU's (Equivalent Domestic Units) are estimated. Some residents will represent a higher number of customers (church camp is equivalent to 10 residential homes).

* This is only conceptual. There will also need to be decisions made on fee structures.*

- Pressure Sewer to West Milton: \$1.3 million (does not include pump station or force main costs because West Milton may take it on themselves)
 - Total payment per EDU per month: \$43
- Gravity Sewer to West Milton: \$1.6 million
 - o O & M: Will need to be discussed to determine who will control this.
 - Total payment per EDU per month: \$43
- Pressure Sewer with new WWTP: \$2 million
 - Total payment per EDU per month: \$49.44
 - Gravity Sewer with new WWTP: \$2.3 million
 - o Total payment per EDU per month: \$52.78

These estimates assume and list the grants that could be attained with the various options (CDBG, OWDA grant, etc.).

IBI will also be calculating a Present Worth Analysis, which will consider the long-term use of the pumps. In the long run, the gravity sewer is less maintenance.

For a gravity sewer, there were discussions on placing the pump station on the church camp property. There would need to be an easement (both Ludlow Falls and West Milton). West Milton would own, operate, and maintain the pump station.

Pipe Sizes: From the house to the main, a 6" pipe. What would be an average cost for the homeowner to install this? Public Infrastructure grant has \$100,000 set-aside for individuals that meet the conditions necessary to be eligible to have their share of this \$100,000. The lateral is installed up to the right-of-way line, typically. Homeowners would need to contract individually.

For a STEP system, the project would cover the cost up to the tank. The owner pays for the cost of a pipe from the tank to the home.

The committee would like to have an estimated cost for residents on their cost for installing pipe from home to lateral, but there are too many variations – length of pipe, permits, etc. There is also the cost for removing the existing septic tank.

For the gravity system at the church camp, would they need to trench through the camp? Mr. Doll explained that the sewer would be at the minimal depth. The Camp's collection system would remain unchanged and their treatment plant would be replaced with a pump station.

Capacity fees, tap fees, etc., will be set during detailed design.

West Milton bills their community based on water usage. If the village chooses the sewer to West Milton option, the camp ground's bill will be high during summer when they have many rentals, vs. in the winter when hardly have any (bill will be low).

Mr. Doll: The average home uses 4,500 gallons of water per month (what the estimated rate is based on). For example, an elderly couple, they will use much less than 4,500 gallons per month, so their rate will be lower, while a large family would have much higher rates.

• The committee suggested that this is made clear during the public involvement meeting. For service to West Milton, they can provide the property's current water usage, which will help them estimate what the customer's sewer bill will look like. IBI Group has as funding coordinator in their office that can be utilized when discussing funding details.

IBI Group will continue evaluating and will recommend the most cost-effective option.

Committee question: If there is a gravity sewer, will a tank be needed at the pump station in case the pump station goes out? Mr. Doll stated that this is not typically need. The Campground board member

stated that the campground has 25,000-gallon tanks that can be used as a back-up (it could be an asset). Mr. Doll suggested that this should be kept in mind as detailed design proceeds.

Date for the next steering committee meeting: Thursday April 16th at 6:30 PM

• A final draft document will have been provided for their review prior to this meeting.

Public Involvement meeting: Tuesday May 5th, 6:30-8:30pm at the firehouse.

- Best way to share this info to the residents?
 - West Milton will put this in the April water bill as a "community message".
- Post office can post a notice.
 - Everyone in town has a PO box.

IBI





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Project Name:	MVRPC Unsewered Communities Project	Meeting Date:	February 5, 2015, Steering Committee #2	
Project Number:	Village of Ludlow Falls, Miami County	Meeting Time:	7:00 PM, after council meeting	
Meeting Location:	Village Council Chambers, 99 Walnut Street, Lu			

PLEASE SIGN IN

NAME TITLE /ORGANIZATION		E-MAIL / PHONE	INITIAL
1. Matthew Lindsay	Manager of Environmental Planning, MVRPC	mlindsay@mvrpc.org / (937) 531-6548	M
2. Keith Doll, P.E.	Project Manager, IBI Group	Keith.doll@ibigroup.com / (614) 818-4900	KP
3. Maria Borchers	Project Engineer, IBI Group	Maria.Borchers@ibigroup.com / (614)818-4900	MB
4. Nicole Clune, P.E.	Planning Director, Burton Planning Services	nclune@burtonplanning.com / (419)305-0144	
5. Geoff Holmes	OEPA Surface Water	Geoffrey.holmes@epa.ohio.gov / (937) 285 6464	6-H
6. Glen Vonderembse	OEPA Surface Water	glen.vonderembse@epa.ohio.gov / (937) 285 6033	
7. Gerry Tipton	Miami County Public Health	gtipton@miamicountyhealth.net / (937)573-3538	
8. Patricia Neisley	Mayor, Ludlow Falls	Patricians1@aol.com / (937) 698-9447 or (937) 414-1070 (cell)	PN
9. Tina Weber	Ludlow Falls Council	kinnisti@gmail.com /(937) 698-9187 or (937) 694-7934 (cell)	Iw
10. Trudy Fugate	Village Council, Ludlow Falls	/ (937) 698-1046 694-7934 (cell)	
11. Debbie Hill	Village Council, Ludlow Falls	/ (937) 698-2138	
12. Joyce Keiser	Village Council, Ludlow Falls	/ (937) 698-3054	







NAME	TITLE /ORGANIZATION	E-MAIL / PHONE	INITIAL
13. Kelly Quillen	Village Council, Ludlow Falls	(937) 545-4947	
14. Robin Smith	Council Clerk, Ludlow Falls	<u>rsmith@hhoh.org</u> / (937) 698-6049 or 477-5880 (cell)	RS
15. Rob Harrelson	Village Solicitor, Ludlow Falls	(937) 335-8324	
16. Tim Swartztrauber	West Milton	swartztrauber@ci.west-milton.oh.us	T.S.
17. Josh Smith	Street Commissioner	(937) 760-6049	JS
18. Jerry Heffner	Ludlow Falls Christian Church, Trustee	Jerry.heffner@yahoo.com	ATE
19. Keith Artz	Ludlow Falls Church Camp, Chairman of Board	JKArtz@netzero.com	00
20. Don Smith	Ludlow Falls		DGS
21. Greg Bridenbaugh	Fire Chief, Village of Ludlow Falls	gubjb@aol.com	
22. Chuck Lynn	Ludlow Falls Camp, Board Member	<u>Chucklynn43@gmail.com</u> / (419) 202 9421	
23. JEFF WARNER	LUDICW FALLS CAMP MANAGER	JEFFW@WOH.RR. COM	Jew
24. MARC FARMER	home owner		MSF
25. Mott Kline	Village of West M. Han	Kline a ci, west-milton, oh. us	WK
26. STEVE PUTERBAUS	A LUDIOUS FALLS CHRISTIAN CUL POST	SDiterburgeroutier.com	SPP

Unsewered Communities Project Steering Committee Meeting Agenda #3

Village of Ludlow Falls, Miami County, Ohio April 16, 2015 6:30 pm Introductions/Steering Committee Members:





IBI Group / Burton Planning Services:

Bi Gloup / Buiton Flamming Services.	
Keith Doll, P.E., Project Manager	Elvin Pinckney
635 Brooksedge Blvd.	Burton Planning Services
Westerville, OH 43081	252 Electric Avenue
(614) 818-4900	Westerville, OH 43081
keith.doll@ibigroup.com	nclune@burtonplanning.com

MVRPC:

Matthew Lindsay, Manager of Environmental Planning	Kjirsten Frank Hoppe, Regional Planner II
One South Main Street, Suite 260	One South Main Street, Suite 260
Dayton, OH 45402	Dayton, OH 45402
(937) 531-6548	(937) 531-6548
mlindsay@mvrpc.org	

Ludlow Falls:	
Patricia Neisley, Mayor	Mark Farmer - Council
99 Walnut Street	Tina Weber - Council
Ludlow Falls, OH 45339	Don Smith – Council
Patricians1@AOL.com	Trudy Fugate – Council
	Debbie Hill – Council
	Joyce Keiser – Council
	Kelly Quillen - Council
	Josh Smith – Street Commissioner
	Robin Smith – Clerk-Treasurer

Regulatory Agencies:

Glen Vonderembse	Geoff Holmes	
Ohio EPA	Ohio EPA	
401 E. Fifth Street	401 E. Fifth Street	
Dayton, OH 45402	Dayton, OH 45402	
(937) 285-6035	(937) 285-6464	
Glen.vonderembse@epa.ohio.gov	Geoffrey.holmes@epa.ohio.gov	
Gerry Tipton		
Miami County Public Health		
510 West Water Street, Suite 130		
Troy, OH 45373		

Project Updates:

- We posted a copy of the Final Draft Sewer Feasibility Study online on April 9, 2015 and have brought several copies to tonight's meeting as well. The document can be found online at http://mvrpc.org/environment/water/unsewered.
- Hopefully, everyone has had an opportunity to review and develop a list of questions for discussion tonight.
- If revisions are necessary after tonight's meeting, we will address them quickly in preparation of holding a public meeting for presenting to residents.

General Summary of Report and Findings:

- We had evaluated several collection system alternatives including:
 - o Gravity Sewers
 - o STEP Sewers
 - o Grinder Pump Sewers
 - o Vacuum Sewers
- We had also evaluated several treatment system alternatives including:
 - o Extended Aeration Treatment Plant
 - Lagoon Treatment System
 - Packed Bed Media Treatment System
 - o Transporting wastewater to West Milton for treatment
- Construction costs and Operation and Maintenance (O&M) costs were developed for each collection and treatment alternative. We then developed a 20-year present value for each possible scenario. Present values are widely used in engineering economics to provide a way to compare costs at different times on a "like to like" basis. It is a present value for a future series of payments which are the O&M costs.
- The alternative with the lowest present value is the construction of a gravity sewer system and to transport the wastewater to West Milton for treatment.

Next Steps:

- Public Meeting
- Upon holding a public meeting and presenting a final report to Ludlow Falls, MVRPC, and Ohio EPA, our portion of the project will be complete. It will then be up to the Village of Ludlow Falls to decide whether or not to pursue funding opportunities and begin engineering design work.
- IBI Group can certainly assist Ludlow Falls in these services should you decide to continue moving forward

The table below shows a realistic funding plan for the construction of a gravity and a grinder sewer collection sewer system. Under these scenarios, the majority of the project cost would be covered under grant programs with a much smaller portion through loan.

			WE	VITY SEWER ST MILTON EATMENT	SE	GRINDER WER WEST MILTON REATMENT
CUSTOMERS/EDUs				100		100
PROJECT COST- Collection System			\$	1,472,510	\$	1,342,413
ANNUAL O,M&R			\$	-	\$	11,500
FINANCING			_			
CDBG Formula Grant			\$	30,000	\$	30,000
Residential Public Infrastructure Grant			\$	480,000	\$	480,000
OPWC Grant			\$	400,000	\$	400,000
Unsewered Area Assistance Program			\$	250,000	\$	250,000
Local Funds - Capacity Fee \$1,500/EDU			\$	150,000	\$	150,000
OPWC Loan	30	0.00%	\$	162,510	\$	32,413
OWDA Loan	30	2.00%	\$	-	\$	-
OEPA WPCLF Loan	30	0.00%	\$	-	\$	-
Total Financing			\$	1,472,510	\$	1,342,413
ANNUAL DEBT						
Annual OPWC Payment			\$	5,417	\$	1,080
Annual OWDA Payment			\$	-	\$	-
Annual OEPA WPCLF Payment		\$	-	\$	-	
ANNUAL DEBT PAYMENT			\$	5,417	\$	1,080
DEBT PAYMENT PER MONTH PER EDU			\$	4.51	\$	0.90
O,M&R PAYMENT PER MONTH PER EDU			\$	_	\$	9.58
TOTAL PER MONTH PER EDU (not includin	ng trea	atment charges)	\$	4.51	\$	10.48

The table below shows a realistic funding plan for the construction of a gravity and a grinder collection sewer system without the \$1,500/EDU capacity fee. Under these scenarios, the majority of the project cost would be covered under grant programs with a much smaller portion through loan.

			WE	VITY SEWER ST MILTON EATMENT	SE	GRINDER WER WEST MILTON REATMENT
CUSTOMERS/EDUs				100	-	100
PROJECT COST- Collection System			\$	1,472,510	\$	1,342,413
ANNUAL O,M&R			\$	-	\$	11,500
FINANCING						
CDBG Formula Grant			\$	30,000	\$	30,000
Residential Public Infrastructure Grant			\$	480,000	\$	480,000
OPWC Grant			\$	400,000	\$	400,000
Unsewered Area Assistance Program			\$	250,000	\$	250,000
Local Funds - Capacity Fee \$1,500/EDU						
OPWC Loan	30	0.00%	\$	312,510	\$	182,413
OWDA Loan	30	2.00%	\$	-	\$	-
OEPA WPCLF Loan	30	0.00%	\$	-	\$	-
Total Financing			\$	1,472,510	\$	1,342,413
ANNUAL DEBT						
Annual OPWC Payment			\$	10,417	\$	6,080
Annual OWDA Payment			\$	-	\$	-
Annual OEPA WPCLF Payment			\$	-	\$	-
ANNUAL DEBT PAYMENT			\$	10,417	\$	6,080
DEBT PAYMENT PER MONTH PER EDU			\$	8.68	\$	5.07
O,M&R PAYMENT PER MONTH PER EDU			\$		\$	9.58
TOTAL PER MONTH PER EDU (not includin	ig trea	tment charges)	\$	8.68	\$	14.65

Unsewered Communities Project Steering Committee #3





Village of Ludlow Falls, Miami County, Ohio April 16, 2015 @ 6:30 pm

Attending: See attached sign-in sheet.

Meeting Minutes:

Matt Lindsay opened the meeting with a few remarks and goals of the meeting.

- To review the Draft Report and recommendations listed.
- To get comments and feedback from the Steering Committee about any changes needed to the report before the public meeting.
- To discuss any final logistics for the public meeting on May 5, 2015.

Matt turned the meeting over to Keith Doll- IBI,

Keith presented the Draft Report and stated that the service area used for the planning process included the whole Village of Ludlow Falls, the church camp and the residences just north of the Village along SR48.

- The total estimated connections is 90, The total estimated EDU's (Equivalent dwelling Units) is 100 because of the projected volumes at the church camp.
- The planning wastewater volume , including potential future growth is 60,000 gal/day. This is significantly higher than the 14,000 gal/day in current metered water usage but accounts for future growth and large variations in flow from the Church camp.
- Three types of sewers were investigated (STEP, Grinder, and Gravity) and construction, operation, maintenance, and repair costs were calculated. All planning drawings show the sewer lines using the alleys rather than the streets, but detailed locations were not determined for this analysis.
- The STEP system was found to have the lowest construction cost but with all costs factored in, the gravity sewer had the lowest cost in the long run (Present worth analysis).
- Four treatment system alternatives were reviewed (Lagoon, Extended aeration, packed bed media and contracting with the Village of West Milton. Factoring in all costs, the clear low cost alternative is to contract with the Village of West Milton for treatment at their facility. The cost advantage is driven by the Village of West Milton's offer to construct the force main along SR48 at no cost to the Village of Ludlow Falls.

The cost of the extended aeration treatment alternative would cost approx. \$950,000. Cost of treatment by the West Milton facility would be \$0. A lagoon system would cost approx. \$1,000,000, and the packed bed media system approx. \$1.5 mil. Operation and maintenance costs were discussed. A gravity collection system to West Milton was found to be the least expensive.

Shallow rock in the Village is a concern. Shallow rock excavation was considered in the report estimate. Constructing a gravity sewer is more construction intensive up front, but after construction, operation and maintenance costs are minimal compared to a pressurized system. There is a similar comparison with the treatment systems.

Reference was made to the table in the agenda for funding scenarios, state and Federal grants and loans.

Keith Doll reviewed the financing scenarios developed for the draft report. The Village of Ludlow Falls would qualify for all of the grants and loan programs listed in the scenarios based on census data regarding low and median income residents. The scenarios compare Gravity vs. Grinder sewers and also compare a \$1,500.00 per residence capacity fee vs. a \$0.00 per residence capacity fee. The specifics of any future construction project would be a decision made by the Village Council, but these scenarios give an idea of the relative costs of different options. Overall, the cost per residence for debt servicing could be very low for this project.

After presenting the funding scenarios and system cost comparisons with recommendations, Keith presented the next steps expected in the process.

- The Public meeting for public comment. Does the Village want to move forward? If so,
- A meeting with west Milton to discuss details would be conducted.
- The permit application process for funding would begin.
- An aggressive schedule is listed on pg. 66 of the Draft Report.

Matt Kline-City Manager-Village of West Milton explained the OPWC submission process in regard to the schedule listed in the draft report. It was determined that the Final report should be extended 1 yr. to account for OPWC funding.

Q. How much will it cost for a home to connect to the sewer in the alley? A. It will vary from home to home based on individual circumstances.

Q. How long does the connection process take at each home?

A. Typically the transfer of connections takes a few hours?. Once the main line system is ready to receive wastewater, the residents will be notified that its time to connect.

Q. Matt Kline thought that the Unsewered Area Assistance Program grant amount was a bit low.
A. Grant amounts are based on the number of customers and Median household incomes.
Number of customers was right on the cusp (based on 100 customers) of getting the amount projected. Upon further investigation after the meeting, it was determined that the grant award amount may in fact be higher – \$500,000 but will be a lower priority score as there are no Ohio EPA Findings and Orders against the community.

Q. Would new service line come from the back of house or tank?

A. Line would have to come from house. The main would be down the center of the alley. The stub would be located approx. at the property line. From there to the house would be the homeowner responsibility.

Q. How will large trees be handled?

A. Some trees will be removed. Individual circumstances will be considered.

Don Smith stated that the advantage of the system is getting usable property back, possibly for constructing an out building or garage.

Q. Can we use our property during construction?

A. Yes, No service during tap-in only which takes a matter of hours per home. Homeowner would have to hire a contractor to plumb in the sewer lateral.

Q. Matt. L. to the Steering Committee: How do you feel as a group about the report's recommendation to connect with West Milton? Response: Wouldn't we have to have a response from West Milton?

A. Keith D.: The communication process will be on-going.

Matt Kline stated that at least 6 months -1 yr. will be a discussion phase and that West Milton has a lot of tasks to complete in order to get the mainline constructed.

Matt L. pointed out the comparison of local tap-in fees in the agenda.

Q. Robin Smith-Council Clerk/Treasurer: What is the cost of the Grinder system for the 3 houses along the creek? Ref. to pg. 30 of report.

A. Cost has been included as a project cost. Some individual properties would warrant a system different from the norm based on topography or could be exempted.

Q. Could system be designed to go out to SR55?

A. In the detailed design phase that detail would be worked out.

Q. Is the plan to put the system pump near the Church camp?

A. The Church camp is the lowest spot in the area and would be the logical place for the system pump. If located elsewhere, the Church camp could have it's own pump to get wastewater to the system pump.

Q. How large is the pump footprint?

A. The pump would take up an area the size of this room.

Q. Is the project a proactive approach to prevent a bigger problem in the future?A. Matt Kline: It's a good idea to consider this now rather than being forced to do it in the future.

Q. The gas lines in the City are also in the alley and are probably aging and in need of replacement. Can this be coordinated with this project?

A. Yes but communication with Vectren at the earliest point is advised to be sure you can get on their schedule.

Robin Smith made a comparison to the last time the project was presented to the Village. The approach by the consultant did not sit well with the community. Proactivity was not discussed.

Matt L. brought up the upcoming Public Meeting: The purpose of the public meeting will be to gather comments about the recommendations in the report. The consultants and the Village Council are not offering a sewer system. An opportunity for a sewer system discussion is being offered.

The knowledge and support of the Council will be greatly appreciated.

MVRPC/IBI/Burton Planning will provide all sign-in sheets, comment cards, exhibits and copies of the report. Theatre style seating is requested.

Members of the steering committee are encouraged to attend but MVRPC/IBI/Burton Planning intend to run the meeting. The format to include an intro by Matt. L., a brief overview by Keith D., then an open house to allow the public to talk to the expert of their choice and fill out a comment card.

The Village of West Milton will provide a list of out-of-town property owners to whom a letter can be sent about the meeting, as a significant number of homes in the Village are rental properties at this time.

Matt Kline- A notice will accompany the next water bills to the residents of the Village.

Q. How long does a normal septic system last? A. 15 to 20 yrs.

Q .How old are Ludlow Falls septic systems? A. Built back in the 50s and 60s. Ludlow Falls systems operate at 95% capacity on a regular basis. Leach beds are small. Tina Weber-Council member: Stated that the public should know that the EPA regulations governing sewer management have changed and some forms of septic system maintenance/repair or no longer allowed by law.

Matt Kline: We have a Council that is in support of the project and support connecting with Ludlow Falls.

Meeting adjourned – 7:40p.m.

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出 E	Project Meeting Date:	ty Meeting Time
	MVRPC Unsewered Communities Project	Village of Ludlow Falls, Miami County

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MVRPC Unsewered Communities Project	Village of Ludlow Falls, Miami County	99 Vine St. Ludlow Falls, Ohio
oject Name:	oject Number:	eeting Location:

April 16, 2015 7:00 p.m.

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NAME	TITLE /ORGANIZATION	E-MAIL / PHONE	INITIAL
1. Patricia Neveli	Mayer	937-698. 9447	
2. RORIN Smith	Clerk Treasurer	RSmith Chhohors 1995-6048	Z
3. TINA WEREL	Couner I Member	Kinnisti Qarail.Com 194-3801	Jul 1
4. Geoff Holmes	Ohio EPA	geoffrey, holmes @ epa, dhiv, gov 285-6464	6H
5. Juny J. Helher	LUDION FALLS CHLISTIAN CHURCH	JERRY. HEFFLEN @ YKHOO.CON	Ho H
of osh Srift	street counissioner	627-760-6049	B
7. Dear South	Hors Owner		Des.
8. MARCFARMER	Home Owner	M. FARMER 3196 201. W.	-Im
9. Tim Swartztrauber	West wilded	1 9627-026-169	1.5
10. Matt Lindam	MURPC		
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12. Maria Bovehers	IRI Areas	0067 - 818 - (110))	MR

Page 1

		INITIAL	AN RD	'tw													Steering Committee #1
		E-MAIL / PHONE	(1014) 818 - 4000	(937) 698-432)													
	murpc	TITLE /ORGANIZATION	TBI Group	LUDIAN FALLS SANP													MVRPC Unsewered Communities, Village of Bowersville
a de la companya de		NAME	13. Keith Doll 1	14. JEFF WARNER	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25,		Page 2
a la														1	5		Pa



LUDLOW FALLS, OHIO

GENERAL PLAN / SANITARY SEWER FEASIBILITY STUDY

OPEN HOUSE MEETING

MAY 5TH, 2015 6:30pm – 8:30pm

WELCOME!!!

Thank you for attending tonight's public meeting. This meeting is being held to review the draft General Plan Report for the "Unsewered Communities Project" for Ludlow Falls, Ohio. In locations where on-lot treatment systems (septic systems) no longer provide adequate wastewater treatment, environmental and health agencies are concerned about the potential for pollution from these systems to harm the environment and human health. The Miami Valley Regional Planning Commission (MVRPC) realizes these communities face real challenges in planning solutions for future wastewater treatment. As such, MVRPC has funded a study through an Ohio EPA grant to examine and report on options for Ludlow Falls. IBI Group was hired to complete the study. Ludlow Falls is NOT required to act on this report or install a public sewer system at this time as there are NO mandates from the Ohio EPA currently. Moving forward would be voluntary and proactive on the community's part as septic systems in the community are past their life expectancy with replacement virtually impossible or extremely expensive with current design standards.

Study Summary:

IBI Group has completed an evaluation comparing four different sewer collection alternatives and four different wastewater treatment alternatives for Ludlow Falls. These systems include:

<u>Treatment Alternatives</u> Extended Aeration Treatment Lagoon Treatment Packed Bed Media Filter Treatment Connect to West Milton

We identified preliminary sewer routes to serve the Village and immediate surrounding area; developing construction estimates, Operation & Maintenance cost estimates, and comparing all scenario alternatives based on their Present Worth.

What we find and recommend is constructing a Gravity Sewer System and transporting wastewater to West Milton for treatment at their existing plant is the best alternative. West Milton will contribute to the project by funding the portion from their corporation limits to Ludlow Falls. This will include approximately 2 miles of sewer pipe and a pumping station on the Church Camp property. Ludlow falls would be responsible for constructing sewers within the Village and getting wastewater to the Church Camp location. West Milton's commitment to Ludlow Falls is unprecedented and may not be offered again.

The total project cost for constructing gravity sewers in Ludlow Falls is estimated at \$1,472,000. Sewer line placement would generally be in the back alleyways avoiding front yards.

What are the benefits to me?

- First and foremost, a public sewer system eliminates health risks caused by failing septic systems.
- Cleaning the environment streams and drainage ways free from pollution
- Eliminating your existing septic tank will provide more usable space in your yard for recreation or building purposes
- Odor elimination
- Cost of future repairs or replacement to your septic system pumping, blocked leach field tile
- Worry free operation
- Property values increase

If the Village constructs a sewer system, will my home have to connect? How much would it cost me?

Generally, if a public sewer is constructed with the ability to serve your property, yes, you would be required to connect. Each homeowner would be required to construct a new sewer lateral or pipe extending from your home to the connection point to the sewer line (typically at the property line) and abandon the existing septic system. This cost will vary from property to property depending on the distance, depth, restoration, and plumbing reconfiguration.

Based on the financial constraints of the Village and West Milton's offer to construct the sewer line up to the Village, we feel that Ludlow Falls is in a very good position to receive grants from State and Federal agencies to cover a majority of the construction cost. There may also be funding available on an individual basis to residents meeting income eligibility requirements to help cover the cost of connecting into the sewer. In some cases, this could mean zero dollars out of pocket for some residents.

After each resident makes their initial connection to the sewer system, they would then pay a monthly fee to the Village of West Milton for sewer treatment service much like the current water service bill received. This bill would be based on the amount of water your family uses. Below is a table that shows what your sewer bill would be based on your current water usage. You should be able to check your current water bill to see how much water is used. With the typical homeowner using 4,000 gallons per month, the sewer bill would be \$49.86

Water Usage	Operation	Consumption	Debt	Total Monthly Bill
(gal/month)	Charge	Charge	Payment	
2,000	\$8.79	\$18.28	\$4.51	\$31.58
3,000	\$8.79	\$27.42	\$4.51	\$40.72
4,000	\$8.79	\$36.56	\$4.51	\$49.86
5,000	\$8.79	\$45.70	\$4.51	\$59.00
6,000	\$8.79	\$54.84	\$4.51	\$68.14

What are the next steps?

If the community decides to move forward, there are many items that would need to be addressed, including:

- Hire engineering firm to coordinate with funding agencies, survey the area, design the project, work with West Milton on the pump station parameters, and secure EPA permits.
- Continue to meet with West Milton working toward a final agreement of terms.
- Continue to keep the public informed
- It may be possible to have the entire system in place and operational by the end of 2019

Unsewered Communities Project Public Meeting



Village of Ludlow Falls - Miami County, Ohio May 5, 2015 @ 6:00 pm

Attending: See attached sign-in sheet.

Meeting Minutes:

Matt Lindsay-MVRPC opened the meeting with introductions and a brief history of the project. He thanked all members of the Steering Committee for their participation in the four meetings prior to tonight's meeting.

An overview of the public meeting agenda and a call for comments to be placed on the comment form provided, Matt gave an overview of the project for the attendees.

Matt emphasized that there is no current project in the works to provide a sewer system for Ludlow Falls, but a Feasibility Study has been done to explore the options available for constructing a sewer system in the Village and the possible funding available for a sewer system project. The decision to proceed would be up to the Village of Ludlow Falls.

Q. Were the pictures in the meeting announcement flyer taken in Ludlow Falls? A. No. Pictures were provided by Ohio EPA

Q. Is this project part of the sewer expansion project for West Milton?

A. Keith D- IBI will discuss the recommendations that came from the Ludlow Falls Study.

Keith D. then gave a brief overview of the Feasibility Study and the recommendations. From the study the recommendation is:

"Based on the cost analysis, the best option for the Village of Ludlow Falls is to construct a gravity collection system and contract with the Village of West Milton for treatment services assuming West Milton will cover the cost of the construction of a pumping station and a forcemain from Ludlow Falls to West Milton.

The initial capital cost of a gravity collection system is higher than the other collection systems, but the annual Operation, Maintenance, and Replacement costs are significantly lower and when a Present Worth analysis is run, these differences become apparent.

Construction of a gravity sewer will also require sewers to be deeper than the other collection systems requiring rock excavation. Rock excavation has been accounted for in the construction estimate. Construction will be slower and cause more disruption, but is temporary and with a responsible contractor, the residents should be able to manage through the construction process, especially considering that a good majority of the sewer lines have been located in alleyways and away from the streets."

The Village of Ludlow Falls is in a good position to qualify for available grants and loans based on its average household income levels. The recommended system is expected to cost approximately \$1.4-\$1.5 mil. (expected costs were explained on pg. 2 of the meeting handout).

Six copies of the study were provided for attendee review.

Keith D. stated that a \$100,000 fund is available through the Public Infrastructure Grant system for individual residents that apply and qualify for a portion of those funds.

Q. How deep will the new sewer lines be?

A. Typically between 8' and 12' deep. The fact that Ludlow Falls has a lot of shallow bedrock came up in the Steering Committee meetings, so the report does include a rock excavation component.

Q. Will a generator be included with the system?

A. Typically there will be a stand-by generator or a portable generator for the pumps.

Q. Was there a Tap-in fee included in the analysis?

A. The report did not consider a Tap-in fee. Should the project move forward, typically the Village would have to design rules and regulations for the system. A Tap-in fee schedule would typically be established then.

Q. What is the next step?

A. Ref. to the bottom of Pg. 2 of the meeting handout. The next steps are:

- Hire an engineering firm to coordinate with Funding Agencies, survey the area, design the project, work with West Milton on the pump station parameters, and secure EPA permits.
- Continue working with West Milton to reach a final agreement of terms.
- Continue to keep the public informed.
- It may be possible to have the entire system in place and operational by the end of 2019.

Many of the Village septic systems are presently being repaired with a band-aid approach and because of EPA regulations cannot be permanently repaired/replaced.

Funding programs were touched on again by Keith D. and the finance process for the next steps were explained by Kevin Wood – IBI Group.

Attendees broke into groups at approx. 7:40p to speak with either Keith D. Maria Borchers- IBI, or Kevin Wood – IBI about their individual properties

Session ended at 8:30p

MIAMI VALLEY Regional Planning Commission			[<u>m</u>]	
Project Name:	 General Plan/Sani Study 	General Plan/Sanitary Sewer Feasibility Study	Meeting Date:	May 5, 2015
Project Number:	[pppo]		Meeting Time:	6:30 – 8:30 p.m.
Meeting Location:	Ludlow Falls Fire I	Fire Dept. 10 Greenville St. Ludlow Falls, Ohio	Ils, Ohio	
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MIAMI VALLEY Regional Planning Commission		
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Г VILLAGE OF LUDLOW FALLS, OHIO **MIAMI VALLEY GENERAL PLAN / SANITARY SEWER FEASIBLITY** STUDY Name: (optional) Name Robinson Address: (optional) 14 Friend St. Ludlow Falls Email: (optional) nobinson 0305 @ grail.com PLEASE PROVIDE US WITH YOUR QUESTIONS OR COMMENTS BELOW: I am in tavor of installing a sever system. It would improve our property value and our old system is tailing and can't be replaced. proceeding to the next step THANK YOU FOR YOUR PARTICIPATION IN THE PUBLIC INVOLVEMENT PROCESS! SHEET CAN BE TURNED IN AT TONIGHT'S MEETING OR FOLDED IN THIRDS IN ORDER TO MAIL TO IBI GROUP AT THE ADDRESS ON THE OTHER SIDE OF THE COMMENT SHEET. PLEASE MAIL PRIOR TO MAY 14, 2015

James A. Luken, MPH, RS Health Commissioner

James S. Burkhardt, DO Medical Director



510 West Water Street, Suite 130, Troy, Ohio 45373-2985 Phone (937) 440-5450 FAX (937) 440-5466

August 23, 2010

Patrick Turnbull Miami County Sanitary Engineer 2200 N Co. Rd. 25A Troy, Ohio 45373-1342

RE: Ludlow Falls Sewer Project

Dear Mr. Turnbull,

The Miami County Health District is in complete support of the proposed installation of public sewer for the Village of Ludlow Falls. Anytime public sewer becomes available to an area the health district is in support of abandoning the private sewage treatment systems and connecting to the sanitary sewer. There are approximately 80 total homes and businesses in this proposed sewer project. The median age of the private sewage systems is 43 years which exceeds the expected life expectancy for these types of systems. It is estimated that 42% of the properties in this project area have no installation permits which makes these systems suspect when considering the age of the houses. Also about 13% of these private sewage disposal systems discharge to a buried tile or ditch and another 20% are suspected of doing the same. The soils in this project area have a relatively flat topography and are shallow to bedrock; these soils are suited to farming but have severe limitations for non-farm uses. The relatively shallow fractured bedrock in much of this project area severely restricts the ability of the soils to treat the sewage before it comes into contact with the water table.

If you have any questions concerning this letter feel free to contact me at (937) 440-5460 any weekday between the hours of 8 a.m. and 4 p.m.

Sincerely,

Jeff Koehl R.S. Director of Environmental Health

Ludlow Falls Area – Data Compiled by Miami County Health District 2010

Summary 80 Total Septic Systems Affected 46 With Permits (58%) 34 Without Permits (42%) 46 Substandard Tank Size (58%) 10 Known Dischargers (13%) 16 Suspected Dischargers (20%) 26 Total Dischargers Suspected/Confirmed (32%) Average Age of Systems W/ Permits 35 Years Estimated Average Age of Systems W/O Permits 50 Years Total Median Age of All Systems 43 Years

Greenville Ave 19 Total Septic Systems 12 With Permits (63%) 7 Without Permits (36%) 10 Substandard Tank Capacity (52%) 2 Known Dischargers <u>4 Suspected Dischargers (40% of systems without permits we can assume discharge)=</u> 31% Discharging Systems 1980 Median age of systems with permits: 30 years 1960 Estimated average age of systems without permits: 50 years Total median age of all systems: 1974 (36 Years)

Vine St 26 Total Septic Systems

10 With Permits (38%)
16 Without Permits (61%)
3 Substandard Tank Capacity (50%)
0 Known Dischargers
<u>8 Suspected Dischargers (40% of systems without permits we can assume discharge)=</u>
30% Discharging Systems
1982 Median age of systems with permits: 28 years
1960 Estimated average age of systems without permits: 50 years
Total median age of all systems: 1960 (50 Years)

Oak St

Total Septic Systems
 With Permits (100%)
 Without Permits (0%)
 Substandard Tank Capacity (83%)
 Known Dischargers
 Suspected Dischargers (40% of systems without permits we can assume discharge)=
 Discharging Systems
 Median age of systems with permits: 32 years
 Total median age of all systems: 1978 (32 Years)

St Rt 48 South **3 Total Septic Systems** 2 With Permits (75%) 1 Without Permits (25%) 2 Substandard Tank Capacity (75%) 2 Known Dischargers 0 Suspected Dischargers (40% of systems without permits we can assume discharge)= 75% Discharging Systems 1994 Median age of systems with permits: 32 years 1960 Estimated average age of systems without permits: 50 years Total median age of all systems: 1992 (8 Years) Covington Ave 2 Total Septic Systems 1 With Permits (50%) 1 Without Permits (50%) 0 Substandard Tank Capacity (52%) 2 Known Dischargers 0 Suspected Dischargers (40% of systems without permits we can assume discharge)= 100% Discharging Systems 1972 Median age of systems with permits: 38 years 1960 Estimated average age of systems without permits: 50 years Total median age of all systems: 1966 (44 Years) Friend St 24 Total Septic Systems 18 With Permits (75%) 6 Without Permits (25%) 20 Substandard Tank Capacity (83%) **4 Known Dischargers** 2 Suspected Dischargers (40% of systems without permits we can assume discharge)= 25% Discharging Systems 1970 Median age of systems with permits: 40 years 1960 Estimated average age of systems without permits: 50 years Total median age of all systems: 1968 (42 Years) Walnut St **5 Total Septic Systems** 2 With Permits (40%) 3 Without Permits (60%) 2 Substandard Tank Capacity (40%) 0 Known Dischargers 2 Suspected Dischargers (40% of systems without permits we can assume discharge)= 40% Discharging Systems 1960 Median age of systems with permits: 50 years 1960 Estimated average age of systems without permits: 50 years Total median age of all systems: 1960 (50 Years)

MIAMI VALLEY Regional Planning Commission PRESS RELEASE

For Immediate Release

Date: April 14, 2015 Contact: Laura A. Loges Miami Valley Regional Planning Commission 937.223.6323, Extension 6535 lloges@mvrpc.org

Subject:Public Participation Meeting to be Held to review the General Plan Report for UnseweredCommunities Project for Ludlow Falls, Ohio

Dayton OH – The Miami Valley is dotted with small communities with pockets of areas served by septic systems. In locations where these systems no longer provide adequate wastewater treatment, environmental and health agencies are concerned about the potential for pollution from these systems to harm the environment and human health.

The Miami Valley Regional Planning Commission (MVRPC) realizes these communities face real challenges in planning solutions for future wastewater treatment. Therefore, MVRPC is spearheading the "Unsewered Communities Project" to examine and report on the options for these communities to improve wastewater systems and protect the environment. The General Plan report will identify actionable solutions and lay the groundwork for future projects.

A public meeting will provide the residents and property owners in Ludlow Falls an opportunity to review the General Plan report.

The meeting will be held as follows:

Tuesday May 5, 2015 Ludlow Falls Fire Department 10 Greenville Avenue Ludlow Falls, Ohio 45339 6:30 p.m. – 8:30 p.m. "The "Unsewered Communities Project" will evaluate the specific problems and needs of each participating community to develop customized wastewater treatment options in the form of a General Plan," said MVRPC's Executive Director, Brian O. Martin, AICP.

If you are unable to attend the meeting, the General Plan report will also be available for public review on MVRPC's web site at www.mvrpc.org/environment/WaterQualityManagement/ on or before April 14, 2015. You can also review the list at the MVRPC offices, 10 N. Ludlow Street, Suite 700, Dayton, OH, 45402, during regular business hours (8:00 a.m. – 5:00 p.m., Monday through Friday). Written comments will be accepted through May 14, 2015, at the above address or via e-mail to Matt Lindsay, Manager of Environmental Planning, at mlindsay@mvrpc.org.

At all MVRPC public participation meetings, interpreters for hearing impaired individuals or bi-lingual interpreters are available upon request. Requests should be made at least one week prior to the meeting date. Contact MVRPC at (937) 223-6323 or 1-800-750-0750 TTY/TDD to request an interpreter.

Established in 1964, the Miami Valley Regional Planning Commission promotes collaboration among communities, stakeholders, and residents to advance regional priorities. MVRPC is a forum and resource where the Board of Directors identifies priorities, develops public policy and collaborative strategies to improve quality of life throughout the Miami Valley Region. MVRPC performs various regional planning activities, including air quality, water quality, transportation, land use, research and GIS. As the designated Metropolitan Planning Organization (MPO), MVRPC is responsible for transportation planning in Greene, Miami and Montgomery Counties and parts of northern Warren County. MVRPC's area wide water quality planning designation encompasses five (5) counties: Darke, Preble plus the three MPO counties.

For additional information, contact Matt Lindsay, Manager of Environmental Planning, at (937) 223-6323 or via the e-mail address listed above.

MIAMIVALLEY Regional Planning Commission PUBLIC PARTICIPATION MEETING

TO REVIEW THE *GENERAL PLAN REPORT* FOR "UNSEWERED COMMUNITIES PROJECT" FOR LUDLOW FALLS, OHIO

WHEN:

Tuesday, May 5, 2015

WHERE:

Ludlow Falls Fire Dept. 10 Greenville Avenue Ludlow Falls, Ohio 45339

TIME: 6:30 p.m. - 8:30 p.m. The meeting will be held to review the *General Plan Report* for the "Unsewered Communities Project" for Ludlow Falls, Ohio. In locations where these systems no longer provide adequate wastewater treatment, environmental and health agencies are concerned about the potential for pollution from these systems to harm the environment and human health.

The Miami Valley Regional Planning Commission (MVRPC) realizes these communities face real challenges in planning solutions for future wastewater treatment. Therefore, MVRPC is spearheading the "Unsewered Communities Project" to examine and report on the options for these communities to improve wastewater systems and protect the environment. A public meeting will provide the residents and property owners in Ludlow Falls an opportunity to review the *General Plan Report*.



For additional information, contact Matt Lindsay, Manager of Environmental Planning, at (937) 223-6323 or mlindsay@mvrpc.org or log on to www.mvrpc.org.





MIAMI VALLEY Regional Planning Commission sesión de participación pública

PARA ANALIZAR EL INFORME DEL PLAN GENERAL DEL PROYECTO PARA COMUNIDADES SIN ALCANTARILLADO (UNSEWERED COMMUNITIES PROJECT) EN LUDLOW FALLS, OHIO

CUANDO: Martes, 5 de Mayo, 2015

DONDE:

Ludlow Falls Fire Dept. 10 Greenville Avenue Ludlow Falls, Ohio 45339

HORA: 6:30 p.m. - 8:30 p.m. Se realizará una reunión para revisar el informe del plan general para el "proyecto de las comunidades sin alcantarillado" para Ludlow Falls, Ohio. Hay lugares donde estos sistemas ya no le proporcionan el tratamiento adecuado a las aguas residuales y las autoridades de salud y del medio ambiente temen que la polución de estos sistemas pueda perjudicar el medio ambiente o la salud pública.

Miami Valley Regional Planning Commission sabe y entiende que estas comunidades enfrentan verdaderos retos preparando soluciones para el tratamiento de aguas residuales en el futuro. Por lo tanto, MVRPC está en la vanguardia al dirigir el "Proyecto para Comunidades Sin Alcantarillado" para examinar y presentar un informe sobre las opciones que estas comunidades tienen para mejorar los sistemas de tratamiento de aguas residuales y proteger el medio ambiente. El informe del Plan General identificará soluciones factibles y se usará para empezar a identificar y facilitar los proyectos del futuro.



Para más información, contacte a Matt Lindsay, Manager of Environmental Planning, mlindsay@mvrpc.org o llame al (937) 223-6323





AFFP PO 215333

Affidavit of Publication



STATE OF OHIO } COUNTY OF MIAMI }

SS

Karen Brown, being duly sworn, says:

That she is Business Development Manager of the Troy Daily News, a daily newspaper of general circulation, printed and published in Troy, Miami County, Ohio; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

April 20, 2015

That said newspaper was regularly issued and circulated on those dates. SIGNED:

Business Development Manager

Subscribed to and sworn to me this 20th day of April 2015.

Marilyn A. S. Kaiser, Notary Public, Miami County, Ohio

My commission expires: March 06, 2019

\$ 352.90

40000705 40722828 9372239750

Laura Loges MIAMI VALLEY REGIONAL PLAN COM 10 NORTH LUDLOW ST SUITE 700 DAYTON , OH 45402

PUBLIC NOTICE

Public Participation Meeting to be Held to review the General Plan Report for Unsewered Communities Project for Ludlow Falls, Ohio

The Miami Valley is dotted with small communities with pockets of areas served by septic systems. In locations where these systems no longer provide adequate wastewater treatment, environmental and health agencies are concerned about the potential for pollution from these systems to harm the environment and human health.

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"The "Unsewered Communities Project" will evaluate the specific problems and needs of each participating community to develop customized wastewater treatment options in the form of a General Plan," said MVRPC's Executive Director, Brian O. Martin, AICP.

If you are unable to attend the meeting, the General Plan report will also be available for public review on MVRPC's web site at

www.mvrpc.org/environment/WaterQuaiityManagement/ on or before April 14, 2015. You can also review the list at the MVRPC offices, 10 N. Ludlow Street, Suite 700, Dayton, OH, 45402, during regular business hours (8:00 a.m. – 5:00 p.m., Monday through Friday). Written comments will be accepted through May 14, 2015, at the above address or via e-mail to Matt Lindsay, Manager of Environmental Planning, at mlindsay@mvrpc.org.

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For additional information, contact Matt Lindsay, Manager of Environmental Planning, at (937) 223-6323 or via the e-mail address listed above. April 20



MARILYN A S KAISER Notary Public, State of Ohio My Commission Explores March 6, 2819



Hanning, at (201) commune or money	A JORNAA LATINA I JARRA 10 – 23, 2015 ATSO PÚBLICO Se realizar i uan Remulsia de Participación Pública para analizar el Informe del Pian Geneeral del Proyecto Marni Valley Irene muchas comunidades anti-adam pequeñas que tieren frasa guara testiduales en el fatturo. Per lo unito sistemas y no le proporcionan el tratamiento de aguas comunidades enfertan venda-area medio ambiente anne o la salad pública. Comunidades enfertan venda-area ranzi perparando soluciones para el tratamiento de aguas comunidades enfertan venda-area ranzi perparando soluciones que testa de aguas comunidades enfertan venda-area pueda perparanto soluciones que aguas comunidades enfertan venda-area per la vanguencia al difigir el "Proyecto para midera. El informe del Pian General identificar soluciones de tratamiento de aguas miderat. El informe del Pian General identificar y lacitura la soluciones de la soluci y proteger el medio comunidades tenen para mejore los sistemas y nor personan a el maannento de aguas miderat. El informe del Pian General identificar soluciones de tratamiento de aguas miderat. El informe del Pian General identificar y lacitura la soluciones de la comunidad de ver y revisar el informe del Pian general miderata a los comunidad prevente el Martes 5 de Mayo, 2015 La reunión publica le brindarés sin Aleantamilado "sealar and comunidad de ver y revisar el informe del Pian General informe del Pian general miderate el para comunidad es proveres esta disponite so proveres de tratamiento de aguas residuales en la camunidad se soluci y antices 5 de Mayo, 2015 La reunión publica le brinders sin Aleantamilado "seala se portunidad de ver y revisar el informe del Pian General ambien esta disponite en para miderate el para comunidad se soluci y notes esta disponite en proveres esta disponite el provere el medio comunidades tenen para desarrollar opciones de tratamiento de aguas residuales en la reunión, el informe del Pian General ambien esta disponite en provere y revisar el informe del Pian General ambien esta disponite en preus se	
	Properation PUBLIC NOTICE Communities Project for Fueld to review the General Plan Report for Unsevered Communities Project for Fueld adequate with scale communities with pockets of areas served by septic systems and the aduation wither these systems to longer provide adequate measurement reatment. The review the second about the potential for pollution from these systems to hand in the aduation of the Mami Valley is doted with small communities multiple provide adequate measurement measurement and health agencies are concerned about the potential for pollution from these systems to hand the aduate systems and project to examine and report on the options for these communities face real dialenges in planning solutions for future vasueweater treatment. Therefore, MVRPC realizes the communities face real dialenges in planning solutions and lay the environment. The General Plan revolutions in mprove wasterdecommunities Project for ceannine and report on the options for these communities provide the residue solutions and property owners in Ludow Falls an opportunity on multiple meeting will provide the residue May 5,2015 Interpreter will evaluate the specific problems and needs of each provide the meeting. In the options for the solutions in the form of a micropating community to develop customized wastewater treatment options in the form of a more and the meeting, the General Plan, report will also be available for public memory. Written comments will be accepted the meeting the solution and an every will also be available for public measurement will also be available upon report. Stop p.m., Monday through the solution and the meeting, the General Planning, at maliades/generation or micropate in the meeting due. Contact MVRPC of (50, 20, 750, 0750, 0717/01D) to request an integret with also be available upon request. The supress should be made asin eas one weeke	

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SELECT WHO YOU ARE:

Landsmoot Bridget 1 Spanish

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Project Management

- TAC liketing Apr 2015 Miami Valley - Web TELUS Transp
 - Brigmany Going Places Indiation

PUBLIC

VISITORS

+ MARPE Leman Report

Online Wapping Applications

MEDIA

TRANSPORTATION LAND USE ENVIRONMENT. DATA & MAPPING PROJECTS SERVICES OUR RECIDN OUR VISION



BOARD

2243

MEMBERS

Board Meeting Apr.

· East Committee Mg

Board Roster List.

Apr 2015 - CANCELED

NEWS RELEASES

Public Participation Meeting to be Held to review the General Plan Report for Unsewered Communities Project for Ludlow Falls, Ohio

April 23, 2023

Dayton OH -- The Marri Valey is dotted with small communities with pockets of areas served by septic systems. In locations where these systems to longer provide adequate westewater treatment, environmental and health opencies are concerned about the potential for pollution from these systems to harm the environment and human heath.

The Mami Valley Regional Planning Commission (WVRPC) realizes these communities face real challenges in planning solutions for future wastewater treatment. Therefore, MVRPC is spearheading the "Unserviened Communities Project" to examine and report on the options for these communities to improve wastewater systems and protect the environment. The General Plan report will dentify actionable solutions and lay the groundwork for future projects.

A public meeting will provide the residents and property owners in Ludiow Falls an opportunity to review the General Plan report.

The meeting will be held as follows:

Tuesday May 5, 2015

ABOUTIUS

the Milani Vallay Regional Planisting Colminiasion M/RPC) is a voluntary essociation of numerous local povernments and non-governm organizations, surrisonding Daylor Ohio. These organizations use MVRPC as a forum and resonance othern regional partners identify priorities, develop public publicy a implament suitaborative strategies improve the quality of life and anishestics whally Bermughout the Marri Valley

-	-	-	April 1	-	-
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4	5	6	7	8	9
10	11	12	13	14	15
16	17	18	19	20	21
22	23	24	25	26	27
28	29	30			

UPCOMING EVENTS

400-12-14, 3875

INC Meeting Apr 2015

April 24, 2475

Adde Participation Bastin Copyriging Region & FIRE NOFT Intemportation reprovement Program (TP)

May #1, 28/3

Meret and

TRANSPORTATION LAND USE ENVIRONMENT DATA & MAPPING PROJECTS SERVICES OUR REGION OUR VISION



Home < Environment < Water Quality Management < Unservered Communities

Unsewered Communities

The Miami Valley is dotted with small communities with pockets of residences and businesses served by septic systems. In locations where these systems no longer provide adequate wastewater treatment, water surveys and samples collected by OEPA have documented the presence of *E coll* bacteria, which is the principal organism used to detect the presence of fecal pollution (human, solid waste) in drainage ditches and tributaries to our creeks and rivers.

In some places, there may not be enough physical space to build septic systems to modern specifications. In other places, there may not be the resources to construct adequate community-scale treatment works, nor the projected future customer base to keep such treatment works viable. The purpose of the "Unsewered Communities Project" is to examine and report on the options for these communities where on-site treatment is failing to protect human health and the environment. The reports will identify actionable solutions and lay the groundwork for future projects.

Ludlow Falls Draft Sewer Study

The Miami Valley Regional Planning Commission has contracted with IBI Group to complete a feasibility study for wastewater collection and treatment alternatives for the Village of Ludlow Falls in Miami County. The DRAFT sewer feasibility study is now available for public review and comment.

The study provides a preliminary engineering review of multiple options for replacement of on-site septic systems with in the Village. The study examines gravity sewers, septic tank effluent pump (STEP) systems, grinder pump sewage systems and vacuum sewer systems for potential collection options. The draft report also looks at four options for wastewater treatment including three different designs for a new treatment facility for the village: extended aeration, lagoons and packed-bed media. In addition, the draft report studies the possibility of contracting with the Village of West Milton for wastewater treatment. The draft study recommends a specific collection and treatment alternative: gravity sewers and connection to West Milton for treatment.

The draft report also covers other critical topics:

- · Environmental conditions surrounding the Village of Ludlow Falls
- Future development potential and population projections
- · Potential project costs
- Local, regional, state and federal funding options
- Implementation considerations

The draft study report was developed with the guidance of a local steering committee made up from elected officials, and business and property owners from the Village of Ludiow Falls. The steering committee met three times and the minutes of these meetings are available on the project web site: http://www.mvrpcunseweredcommunities.com/ludiow/.

Your voice is important in this planning process! Your interest and comments in the draft Ludlow Falls Sewer Feasibility Study is greatly appreciated. Comments will be accepted through May 14, 2015, and will help shape the final document to be prepared for the Village of Ludlow Falls.

Ludlow Falls Sewer Study Comments

UNSEWERED COMMUNITIES

Search

The Mami Valley is dotted with small communities with pockets of residences and businesses served by septic systems. In locations where these systems no longer provide adequate wastewater treatment, water surveys and samples collected by OEPA have documented the presence of E-coll bacteria, which is the principal organism used to detect the presence of fecal pollution (human, solid waste) in drainage ditches and tributaries to our creeks and rivers.

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10	11	12	13	14	15	
16	17	18	19	20	21	
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28	29	30				

UPCOMING EVENTS

April 16, 2015

TAC Meeting Apr 2016

April 16, 2015

Public Participation Meeting Regarding Region's FINAL DRAFT Transportation Improvement Program

May 05, 2015

Public Participation Meeting to review the General Plan Report for Unsewered Communities Project for Ludiow Falls, Ohio

May 07, 2015

MVRPC Executive Committee Meeting May 2016

May 07, 2015 MVRPC Board Meeting May 2016

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MVRPC Unsewered Communities Study

Environmental Overview: Ludlow Falls

Summary:

This environmental overview was conducted as part of the Miami Valley Regional Planning Commission's Unsewered Communities Project, which examines options for communities where on-site treatment is failing to protect human health and the environment. This overview provides a high level examination of the environmental conditions present within the project study area of each of the identified participating communities.

Air Quality:

Miami County, Ohio is in attainment for all National Ambient Air Quality Standards. No air quality concerns are anticipated as a result of the proposed project.

Noise Impacts:

Temporary noise impacts may occur during construction, however, no permanent noise impacts are anticipated as a result of the proposed project.

Hazardous Materials:

An environmental site assessment was not conducted as part of this study.

Cultural Resources:

No cultural resources were identified within the project study area. A single historical structure is located on the southeast side of Ludlow Falls outside the project study area but is not anticipated to be impact as part of the proposed project.

Ecological Resources:

The project study area contains a single wetland located along the southern perimeter of the project study area. The discharge of any dredged or fill material below the ordinary high water mark in lakes and ponds, or below the upland wetland boundary in wetlands may require a waterway permit through the United States Army Corps of Engineers (USACE) or the Ohio Environmental Protection Agency (OEPA). Coordination should be conducted with these two resource agencies prior to conducting any work below the ordinary high water mark or below the wetland upland boundary.



The project study area appears to be within the Greater Miami Buried Aquifer. Projects located within a Sole Source Aquifer should conduct coordination with the Ohio EPA to assist the Ohio EPA in understanding local hydrogeologic conditions and specific project design concerns. This coordination will also help to ensure that Sole Source Aquifer protection measures support or enhance existing groundwater protection efforts rather than duplicate them.





REFLECTS IN THOUSANDS OF GALS

LEFT SIDE IS BILLED

RIGHT SIDE IS NOT BILLED

					FINALS										
	Water	Sewer	Water	Sewer	Water	Water		Boy Scout	Street	Street		City			
	In-Town	In-Town	Out of Town	Out of Town	In-Town	Out of Town	TOTAL	Cabin	Barn	Hyd Mt	Park	Hall	SE #1	SE #2	TOTAL
January	9,207	9,013	419	S	25	0	18,669	0	5	2	0	5	7	0	23
February	9,506	9,427	329	с	30	0	19,295	0	4	с	0	5	9	0	18
March	6,347	6,282	273	19	25	2	12,948	0	4	4	0	4	4	0	16
April	3,925	3,718	596	217	6	0	8,465	0	e	1	4	2	8	0	28
May	14,806	14,630	408	11	18	1	29,874	0	e	17	5	4	5	0	34
June	7,762	7,356	362	13	11	0	15,504	0	~	18	2	e	9	5	32
yluC	8,630	8,327	370	12			17,339	0	2	24	10	e	e	თ	51
August	6,688	6,571	296	11			13,566	0	2	13	7	e	80	5	38
Sentember	7,461	7,207	342	18			15,028	0	ю	~	7	4	ω	ი	27
October							0	0	ю	~	ю	ო	9	10	26
November							0	0							0
December							0	0							0
TOTAL	74,332	72,531	3,395	309	118	3 S	150,688	0	30	94	33	36	65	35	293
GRAND TOTAL	TAL	150,981													

First year with new Sensus meters

KEEP THIS REPORT ON COMPUTER AND START NEW YEAR 2015

Bulk water sales Billed thru water department

This amount is included in the totals for Street Dept Hydrant Meter

Estimated bills Lawn watering program runs fro m April 1st thru August 31st 2014

recorded on page 2 Leaks

Fire Dept

REFLECTS IN THOUSANDS OF GALS

LEFT SIDE IS BILLED

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PICHT SIDE IS NOT

					FINALS										
	- Water	Sewer	Water	Sewer	Water	Water		Boy Scout Street Street	Street	Street		₹ G			
	In-Town	In-Town	Out of Town Out of Tow	Out of Town	In-Town	Out of Town	TOTAL	Cabin	Barn	Hyd Mt	Park	Hall	SE #1	SE #2	TOTAL
January	13,594	13,362	523	0	50	1	27,530	0	0	0	0	0	0	0	0
February	6,209	6,080	261	, 2	118	0	12,670	0	5	0	0	21	6	0	35
March	6,847	6,728	277	2	47	4	13,905	0	4	4	0	99	5	0	79
April	6,775	6,666	320	. 9	54	0	13,821	0	4	0	0	-35	10	0	-21
May	7,657	7,318	661	289	23	5	15,983	0	4	47	-	32	-	0	85
June	7,385	7,050	554	217	74	0	15,280	0	в	5	e	24	0	0	35
July	7,515	7,164	537	135	74	4	15,429	0	2	15	8	4	-	0	30
August	8,272	7,714	398	33	112	0	16,529	0	2	9	2	2	4	-	17
September	7,615	7,150	313	24	83	0	15,185	0	2	43	2	4	7	-	59
October	8,271	8,136	327	9	101	0	16,841	0	2	10	٣	ю	-	0	17
November	7,688	7,583	346	Ŋ	57	10	15,689	0	e	-	0	° C	0	0	7
December	8,164	7,954	349	9	41	0	16,514	0	e	-	0	2	12	2	20
TOTAL	95,992	92,905	4,866	725	864	24	195,376	0	34	132	17	126	50	4	363
GRAND TOTAL	TAL	195,739													

 Bulk
 water sales
 Usage:48K Est:

 Billed thru water department
 Paid thru finance department

 This amount is included in the totals for Street Dept Hydrant Meter

 Estimated
 bills
 January only
 Weather/snow

 Lawn watering
 program runs from June 1st thru October 31st

Leaks recorded on page 2

Fire Dept nothing reported this year

RIGHT SIDE IS NOT BILLED

REFLECTS IN THOUSANDS OF GALS

LEFT SIDE IS BILLED

RIGHT SIDE IS NOT BILLED

					FINALS		「日本の								
	* Water	Sewer	i Water	Sewer	Water	Water		Boy Scout	Street	Street		đ			
	In-Town	In-Town	Out of Town	Out of Town	In-Town	Out of Town	TOTAL	Cabin	Barn	Hyd Mt	Park	Hall	SE #1	SE #2	TOTAL
January	6,799	6,593	286	2	37	2	13,719	0	3	œ	out	-		out	27
February	2,009	6,878	311	2 `	27	0	14,227	0	3	9	out	10	e	out	22
March	7,594	7,441	312	2	27	0	15,376	0	3 . 3	4	out	13	ი	out	29
April	7,016	6,855	575	294	28	0	14,768	0	3	4	out	13	თ	out	29
May	9,425	8,738	414	32	56	7	18,672	0	2	32	ю	1	e	out	51
June	8,673	7,886	774	383	62	£	17,781	0	ю	3	9	11	7	15	45
July	8,738	8,018	498	105	331	0	17,690	0	2	21	22	15	5	13	78
August	8,775	8,318	343	49	100	1	17,586	0	2	12	+	11	4	13	43
September	7,057	6,798	317	16	37	5	14,230	0	с	14	-	14	5	13	50
October	6,589	6,461	265	0	55	1	13,371	0	٢	٢	out	10	З	8	23
November	7,815	7,347	292	1	33	9	15,494	* [:] 0	4	۲	out	15	19	out	39
December	7,662	7,252	295	Ţ	32	0	15,242	0	est	est	out	est	est	out	0
TOTAL	93,152	88,585	4,682	887	825	25	188,156	0	29	106	33	136	70	62	436
GRAND IOIAL	IAL	188,292													

<u>FERGUSON CONSTRUCTION</u> <u>M-U SCHOOL PROJECT</u> WATER ONLY BULK WATER SALES BILLED THRU WATER DEPT PAID THRU FINANCE DEPT

NOT INCLUDED IN USAGE LISTED ABOVE

\$5,199.30 COST

READ DATE 02012

USAGE 954 K

OLD SCHOOL METERS PULLED 9-25-2012 HIGH SCHOOL METER PULLED 12-26-2012 NEW HIGH SCHOOL METER SET: 6-6-2012 NEW LAWN WATERING METER SET: 9-28-2012

ESTIMATED BIL LS: LESS THEN 10 RESIDENTIAL METERS

LAWN WATER PROGRAM JUNE 1ST THRU SEPT 30TH

LEAKS RECORDED ON PAGE 2

FIRE DEPT USAGE ON PAGE 3

REFLECTS IN THOUSANDS OF GALS

LEFT SIDE IS BILLED

RIGHT SIDE IS NOT BILLED

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206,658 USAGE READ DATE: FERGUSON CONSTRUCTION 4K 21/2011 JAN USAGE M-U SCHOOL PROJECT 21K 31/2011 FEB USAGE M-U SCHOOL PROJECT 21K 31/2011 FEB USAGE 15K 41/2011 ARRCH USAGE 4K 51/2011 ARRULISAGE	TOTAL	101,052	96,961	6,990	710	572		206,299	0	38		20	143	40	102	350
FERGUSON CONSTRUCTION USAGE READ DATE: 4K 2/12011 M-U SCHOOL PROJECT 21K 3/12011 15K 4/1/2011 4K 5/12011	RAND TO		206,658											2		
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ESTIMATED BILLS: JAN 2011 LAWN WATER PROGRAM JUNE 1ST THRU SEPT 30TH

15K 4K METER PULLED NEW METER SET @ SCHOOL 5K 49K TOTAL

7/20/2011 ST FIRE MARSHALL TESTING THIS IS NOT ADDED INTO THE ABOVE FIGURES

LEAKS RECORDED ON PAGE 2

		GRAVITY		GRAVITY (GRAVITY	
		EXT AERAT		LAGOON		WEST MILTO	
		COST	PW	COST	PW	COST	PW
PROJECT COST	(collection)	\$ 1,472,510		\$ 1,472,510		\$ 1,472,510	
	(treatment)	\$ 959,640	_	\$ 1,012,440		<u>\$0</u>	
	(total)	\$2,432,150	\$2,432,150	\$2,484,950	\$2,484,950	\$1,472,510	\$1,472,510
ANNUAL O&M	(collection)	\$ 4,000		\$ 4,000		\$ 4,000	
	(treatment)	\$ 45,000	_	\$ 29,000		\$ 90,000	
	(total)	\$49,000	<u>\$562,025</u>	\$33,000	<u>\$378,507</u>	\$94,000	<u>\$1,078,171</u>
20 - YEAR PRESENT WORTH			\$2,994,175		\$2,863,457		\$2,550,681
		STEP COL	LECTION				
		PCKD BED I	MED TREAT				
		COST	PW				
PROJECT COST	(collection)	\$ 1,268,371					
	(treatment)	\$ 1,482,624					
	(total)	\$2,750,995	\$2,750,995				
ANNUAL O&M	(collection)	\$ 12,500					
	(treatment)	\$ 26,500					
	(total)	\$39,000	\$447,326				
20 - YEAR PRESENT WORTH			\$3,198,321				
		GRINDER	COLLECT	GRINDER (COLLECT	GRINDER O	COLLECT
		EXT AERAT	ION TREAT	LAGOON	TREAT	WEST MILTO	ON TREAT
		0007	D\4/	COST	PW	COST	DW
		COST	PW	COST		0001	PW
PROJECT COST	(collection)	\$ 1,342,413	PVV	\$ 1,342,413		\$ 1,342,413	Pvv
PROJECT COST	(collection) (treatment)		PW				PW
PROJECT COST	,	\$ 1,342,413	_	\$ 1,342,413	\$2,354,853	\$ 1,342,413	PW \$1,342,413
PROJECT COST ANNUAL O&M	(treatment)	\$ 1,342,413 \$ 959,640	_	\$ 1,342,413 \$ 1,012,440		\$ 1,342,413 <u>\$0</u>	
	(treatment) (total) (collection)	\$ 1,342,413 \$ 959,640 \$2,302,053	_	\$ 1,342,413 \$ 1,012,440 \$2,354,853		\$ 1,342,413 <u>\$0</u> \$1,342,413	
	(treatment) (total) (collection)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 	\$ \$2,302,053	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 		\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500	
	(treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 	\$ \$2,302,053	\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000	\$2,354,853	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000	\$1,342,413
ANNUAL O&M	(treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 	\$2,302,053 \$693,929 \$2,995,982	\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000	\$2,354,853 <u>\$510,411</u> \$2,865,264	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000	\$1,342,413 <u>\$1,210,074</u> \$2,552,487
ANNUAL O&M	(treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ \$60,500 	\$2,302,053 \$693,929 \$2,995,982 COLLECT	<pre>\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$ 44,500</pre>	\$2,354,853 \$510,411 \$2,865,264	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT
ANNUAL O&M	(treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ \$60,500 	\$2,302,053 \$693,929 \$2,995,982 COLLECT	\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500	\$2,354,853 \$510,411 \$2,865,264	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT
ANNUAL O&M	(treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 660,500 \$ VACUUM EXT AERAT COST 	\$2,302,053 \$693,929 \$2,995,982 COLLECT ION TREAT	\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500 VACUUM C LAGOON	\$2,354,853 \$510,411 \$2,865,264 COLLECT TREAT	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C WEST MILTO	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT CON TREAT
ANNUAL O&M 20 - YEAR PRESENT WORTH	(treatment) (total) (collection) (treatment) (total) (collection)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 660,500 \$ VACUUM EXT AERAT COST 	\$2,302,053 \$693,929 \$2,995,982 COLLECT ION TREAT	\$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500 VACUUM C LAGOON COST	\$2,354,853 \$510,411 \$2,865,264 COLLECT TREAT	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C WEST MILTO COST	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT CON TREAT
ANNUAL O&M 20 - YEAR PRESENT WORTH	(treatment) (total) (collection) (treatment) (total) (collection)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 60,500 \$ 60,500 VACUUM EXT AERAT COST \$ 1,542,643 \$ 959,640	\$2,302,053 \$693,929 \$2,995,982 COLLECT TON TREAT PW	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500 VACUUM CLAGOON COST \$ 1,542,643	\$2,354,853 \$510,411 \$2,865,264 COLLECT TREAT	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C WEST MILTO COST \$ 1,542,643	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT CON TREAT
ANNUAL O&M 20 - YEAR PRESENT WORTH	(treatment) (total) (collection) (treatment) (total) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 660,500 \$ 560,500 \$ 560,500 \$ 1,542,643 \$ 959,640 \$ 2,502,283 	\$2,302,053 \$693,929 \$2,995,982 COLLECT TON TREAT PW	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500 VACUUM C LAGOON COST \$ 1,542,643 \$ 1,012,440 	\$2,354,853 <u>\$510,411</u> \$2,865,264 COLLECT TREAT PW	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C VEST MILTO COST \$ 1,542,643 <u>\$0</u>	\$1,342,413 \$1,210,074 \$2,552,487 COLLECT ON TREAT PW
ANNUAL O&M 20 - YEAR PRESENT WORTH PROJECT COST	(treatment) (total) (collection) (treatment) (total) (collection) (treatment) (total)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 660,500 VACUUM VACUUM VACUM VACUUM VACUM VACUUM VACUUM	\$2,302,053 \$693,929 \$2,995,982 COLLECT TON TREAT PW	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$44,500 VACUUM C LAGOON COST \$ 1,542,643 \$ 1,012,440 \$2,555,083 	\$2,354,853 <u>\$510,411</u> \$2,865,264 COLLECT TREAT PW	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C VACUUM C VACUUM C VACUUM C S \$ 1,542,643 <u>\$0</u> \$1,542,643	\$1,342,413 \$1,210,074 \$2,552,487 COLLECT ON TREAT PW
ANNUAL O&M 20 - YEAR PRESENT WORTH PROJECT COST	(treatment) (total) (collection) (treatment) (total) (collection) (treatment) (collection) (treatment)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 60,500 \$ 60,500 \$ 500,500 \$ 500,500 \$ 500,500 \$ 500,500 \$ 500,500 \$ 15,500,800 \$ 1,542,643 \$ 959,640 \$ 2,502,283 \$ 11,000 \$ 45,000 	\$2,302,053 \$693,929 \$2,995,982 COLLECT TON TREAT PW \$2,502,283	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$ 44,500 VACUUM CLAGOON COST \$ 1,542,643 \$ 1,012,440 \$2,555,083 \$ 11,000	\$2,354,853 <u>\$510,411</u> \$2,865,264 COLLECT TREAT PW \$2,555,083	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C VEST MILTO COST \$ 1,542,643 <u>\$0</u> \$1,542,643 \$ 11,000	\$1,342,413 <u>\$1,210,074</u> \$2,552,487 COLLECT DN TREAT PW \$1,542,643
ANNUAL O&M 20 - YEAR PRESENT WORTH PROJECT COST	(treatment) (total) (collection) (treatment) (total) (collection) (total) (collection)	 \$ 1,342,413 \$ 959,640 \$2,302,053 \$ 15,500 \$ 45,000 \$ 660,500 \$ VACUUM VACUUM VACUUM VACUUM VACUUM \$ 1,542,643 \$ 959,640 \$ 2,502,283 \$ 11,000 	\$2,302,053 \$693,929 \$2,995,982 COLLECT TON TREAT PW \$2,502,283	 \$ 1,342,413 \$ 1,012,440 \$2,354,853 \$ 15,500 \$ 29,000 \$ 44,500 VACUUM C LAGOON COST \$ 1,542,643 \$ 1,012,440 \$2,555,083 \$ 11,000 \$ 29,000 	\$2,354,853 <u>\$510,411</u> \$2,865,264 COLLECT TREAT PW	\$ 1,342,413 <u>\$0</u> \$1,342,413 \$ 15,500 \$ 90,000 \$105,500 VACUUM C VEST MILTO COST \$ 1,542,643 <u>\$0</u> \$1,542,643 \$ 11,000 \$ 90,000	\$1,342,413 \$1,210,074 \$2,552,487 COLLECT ON TREAT PW