



**Unison Feasibility Study
Community Questions
January 22, 2024**

In February of 2023, Loudoun County and Loudoun Water staff provided a presentation on the final Water and Wastewater Feasibility Study (Study) to the community of Unison. Community members have since sent several questions to staff as the community continues to determine their potential interest in pursuing a water and/or wastewater community system. The questions received to date have been summarized below with staff responses. Please be advised that some questions may have been modified if personal information was included or it was a repetitive question.

It is important to note that the intent of the Water and Wastewater Program (Program) is to assist and work alongside communities experiencing issues with deficient or non-existent water or wastewater systems. Staff are invited into a community to discuss their water and wastewater concerns through the submittal of an application. The Program provides structure and a standardized process to gauge a community's interest, determine a community's need, and establish a measurable method to prioritize community requests.

However, participation in the program does not exclude any community residents from petitioning the Loudoun County Board of Supervisors (Board) for resolution through other public processes, nor does it limit the powers of the Board to take action to resolve identified public health issues.

Available Documents:

- The Unison Feasibility Study and the February 02, 2023 Community Presentation can be viewed at loudoun.gov/unisonwaterproject
- Additional Program Documents to include the Prioritization Manual and Funding Policy can be found at loudoun.gov/waterprojects

Important:

The following responses are being provided to Unison residents to assist the community with their ongoing conversations regarding communal water and wastewater services. Although some questions cannot be answered in the detail requested this early in a project, staff have made their best attempt to provide a response and will continue to provide more details as they become available.

The following responses are provided by General Services (DGS) and Loudoun Water (LW) project management staff and reflect the Program's current practices but does not reflect the ultimate recommendation of staff or executive leadership of either organization, or the final decision of their respective boards.

Water and wastewater infrastructure projects are lengthy and complex and include such activities as planning, outreach, community dialogue, Board of Supervisor approval, public hearings, legislative reviews and approvals, environmental and historical reviews, several levels of design, engineering, funding and financing strategies, multiple local, state and federal agency coordination and evaluations, land acquisition, construction, inspections, and ultimately a transition of long term and permanent operation and maintenance of the system to Loudoun Water, all with the goal to address the public health need of the residents efficiently, effectively, economically and with the least impact to the characteristic of a community.

The Question and Answer (QA) responses below have been provided at the following link loudoun.gov/unisonwaterproject and may be revised as a project progresses. A paper copy can be provided upon request. Responses are not applicable to other County projects.

Development or Boundary

1. Have any community water systems like the one proposed ever been expanded?

There are no known community water system expansions, following the approval of a Commission Permit ([CMPT](#)) and establishment of the water service area.

Loudoun Water expanded the Selma Estates Commission Permit (CMPT) to include the existing Raspberry Falls Water Service Area. Combining the two was advantageous to both communities and did not result in any new parcels being added to the service area.

2. Would this project make the area more attractive to large scale tract home development?

This question cannot be answered by DGS and LW staff. The project focus under the Program is public health and not the desirability of, or potential for, development. The CMPT process outlined later in this QA document defines the establishment of a service area boundary, which dictates the parcels allowed to make a connection. Any changes to the established service area would require an applicant to go back through the lengthy and public CMPT process. There have been several communities that have received community systems over the years with no “*large scale*” development impact, such as, Waterford (Wastewater 1978), St Louis (Wastewater 1982), and Aldie (Wastewater 1997).

3. Could one or more permanent deed restrictions be imposed/adopted to prevent future expansion?
4. Can landowners or developers join the program after the project is sized and underway or after it is built?
5. It has been suggested that a property currently not in the water sewer study area could opt into the project when it actually goes to “project” if the adjoining property became the location of either the community drain-field or the community well/pump station. Is that true?
6. Can the study area map be made larger to include more properties or can it be reduced to make the study area smaller?
7. What tools does the County have to prevent system expansion?
8. Would this community system allow for or promote additional development around Unison beyond the study area where these new homes could connect to the system?
9. Is there a law that excludes future developers from being included?

10. Can the study area be smaller to reduce the overall costs of the project?
11. Can we eject homeowners from the program?

Response for Questions 3-11

A water and wastewater service area boundary for a community system is established by a CMPT. Only parcels located within the defined CMPT boundary can be approved for connection, and any parcel in the boundary may connect to the system.

The Feasibility Study (Study) for Unison currently identifies a “Study” area, but this boundary may not be the final service area boundary established by the CMPT. The service area established during the CMPT process can be reduced or expanded and will be one of the first topics staff would want to explore more with residents. Study results, community input, staff input, zoning ordinance, 2019 General Plan, CMPT review process, public hearing, public health need, and other applicable information will all be used to determine the most appropriate service area.

The relevant reference to policies in the Loudoun County 2019 General Plan addressing a CMPT are in Chapter 6:

- Strategy 4.6.C. “Support construction of community systems for existing rural communities facing a potential public health risk. In such cases, the community system may be available to undeveloped lots within the existing community to support development that extends the viability of the community and is consistent with the scale, density, and character of the community.”
- Strategy 4.6.E “Require a Commission Permit establishing a defined service area, prior to the construction of any community water or wastewater system.”

A community drainfield or wells on, or adjacent to, a property bears no relevance to whether a property can connect or not. Only properties within the service area established through the CMPT process will be allowed to connect to the community system. The water or wastewater system size would be designed based on the existing zoning of properties within the established service area. Any changes in zoning or use that would increase wastewater flows or water demands and require modifications to the utility infrastructure would be the responsibility of the property owner pursuing the increase in flows/demands – i.e. they will be responsible for the costs to make the modifications. A reduction in service area has the potential to reduce costs, but this is something that cannot be determined until a service area is set and preliminary design work completed.

Application or Program Process

12. Is it typical or appropriate for a project of this type to be coordinated by people who are predominantly not residents of the locality and have not been designated (appointed, elected, requested) in any way to act on behalf of residents?
13. Is it possible to require the coordinating group to add more local residents?

Response for Questions 12-13

The volunteer coordinators act as a point of contact between the County and the community. Coordinators help to complete the community application, gather data, support community

meetings, distribute project information, and act as a project resource to residents. The Program requires a minimum of two coordinators, the application has spaces for three, but the community can have as many residents involved in the work group as they desire.

The Program does not require any election or approval process to determine the coordinators. Community coordinators do not have to reside in the community, as many communities may seek a coordinator or non-profit that has experience or expertise coordinating complex infrastructure projects. The coordinators are listed on the application which was signed by owners of 78% of eligible parcels within the proposed service area boundary identified in the application for the Unison community. At the time of the application of the three coordinators listed, two resided in the community and another coordinator was an active member of the Unison Preservation Society.

14. The pertinent portion of the application (written by the coordinators) is "A large majority of homeowners within the application boundary support the first phase of study on establishment of community water and sewer, an action we believe is warranted". That addresses the petitioners' desire only to proceed with a study. It does not express a majority being in favor of a community water project. Would you agree that the community needs the details of the project including costs, the choices, and the timelines before advocating for any one alternative?
15. Petitioners have stated they believe signing the application for assistance was only to initiate the study. Is that true or did signing the petition by 70% of community members trigger something more than a feasibility study, and if so, what?
16. You have confirmed many times on record that the community decides if it wants the project. Is that still true? Obviously, no decision has been made to proceed, has it?
17. Is it fair to say that it is your position as you have repeatedly stated that it is the community who will decide whether to choose a recommended alternative or to follow no alternative of the Feasibility study?
18. How does the community choose the options? A vote, a poll?
19. Does making a choice mean a commitment from which the community cannot withdraw? Is the agreement binding? At what point?
20. Can individuals take the water program, but not the sewer program and not have to pay for both if the community decides they need both? [See response to questions 40-43 for information regarding projects that require financing.](#)
21. Is it true that community could opt for just water and not septic if it wanted to or vice versa?
22. What is the next step after this one (the project study and community information phase)?
23. How much time do you estimate that phase entitled "Grant, Loan or Proffer" will take unclear in the timeline included in the study) and is the project at a standstill during that phase?

Response for Questions 14-23

The following statement is listed at the top of the application signature pages:

By signing this form, I attest that I am the owner (or one of the owners) of the property indicated, that the information I have provided is the best available to my knowledge, and that I support this request for Loudoun County assistance with water and/or wastewater issues in my community and pledge my cooperation and assistance with this process. For an application to be considered on behalf of a community, at least 60% of the total number of

property owners within the community must sign this application.

As addressed on the application the signatures represent “support” for County assistance, but no actual endorsement of a project has been approved by the Board. The Study stage is completed to obtain a better understanding of the existing conditions in the community, and potential solutions to address those concerns. The Study is used to determine, at a high-level, Unison’s water and wastewater needs.

The next step is to continue to work with Unison residents to discuss the Study results, gauge community interest in a project, and determine what recommendations staff will submit to the Board. Prior to a Board Item staff may initiate a property owner survey to better gauge community interest in a project, but Unison residents themselves should be discussing as a community and providing ongoing feedback to County staff. The Program does not require any voting measures, but the community can take whatever additional measures they feel appropriate in obtaining community feedback or support.

Following the steps addressed above, staff will begin to determine what options might be available, such as boundary adjustments, financial opportunities, alternative solutions (if applicable) or pursuit of a single service or both. In some cases, staff may only recommend a “next step” approach. For example, in Paeonian Springs staff obtained funds from the American Rescue Plan Act (ARPA) to progress forward only with design of the water and wastewater community system at no cost to residents. Those funds allowed the high-level conceptual layout in the Study to become a complete project design, in turn providing more refined costs for steps forward and affords staff a better opportunity to seek additional funding & grant opportunities.

The Flow Chart, shown in Attachment 1, outlines the general high-level framework of the Program. However, every community is unique, so the steps following the Study can vary, and until we receive further feedback from Unison residents it is premature to make any assumptions. In summary, the study results, community input, staff input, Board of Supervisors guidance and other pertinent information will be used to determine the appropriate steps (if any) forward, but determination of funding/financing is the primary step prior to actual design or construction.

24. It has been suggested that whatever property or properties become the location for the public drain-field or well infrastructure would be taken be eminent domain? Is there any truth to that assertion?
25. Would the County or an instrumentality consider the use of eminent domain to acquire property or easements for the project?

Response for Questions 24-25

Should a project progress, specific properties for placement of water and wastewater infrastructure would be identified and discussions with property owners would be initiated to obtain any necessary easements for the project. If a property owner does not wish to grant an easement on their property, it would be necessary for staff to look for alternative alignments. Eminent domain is not the preferred path for land acquisition.

All efforts would be made during the design process to accommodate the concerns of individual

property owners. Staff have no intention of acquiring easements from private property owners without willing consent.

The use of eminent domain is a Code of Virginia (COV) driven and detailed public process, that requires property purchase negotiations, public hearings, adoption of a resolution or ordinance, and condemnation proceedings. The process is governed by various parts of the Code of Virginia, including Title 25.1, Chapter 19 of Title 15.2.

26. Your projections reveal that it will cost between \$25,000 to \$40,000 for each property owner to hook up to the new water and wastewater systems and to disconnect and neutralize their existing septic and water systems. These costs are to be borne by each owner in the community. However, at the meeting we were told hooking up is not mandatory. Is that true?
27. While we were told that hooking up to the systems when built is optional, isn't it true that if the community gets designated as a Special Tax District, authorities have the power to then mandate connection to both systems, with the property owner having 10 days to appeal? (15.2-2403 para 5)
28. Will any households with fully functioning water and sewer systems be required to hook-up to the system?
29. Our septic system was just certified by Loudoun County and our well is fine. Would we be required to hook up to the new system?

Response for 26-29

Yes, the Code of Virginia under §15.2-2403. *Powers of service districts*, does allow for a mandatory connection in Special Tax Districts. This authority is only provided if the County were to finance the system through creation of a Service District. However, the statement made at the community meeting still stands and there is no intention to require connection of existing individual systems.

Although there is no intention to require connection, actual construction of any system is unlikely to move forward without a percentage (still to be identified) of property owners willing to commit to connecting. A minimum number may be necessary for the Board to support the project and a minimum number of connections may be necessary for the systems to properly operate.

While the Program does not require connection, a sewer connection could be required by the Loudoun County Health Department under the conditions outlined in Loudoun County Codified Ordinance (LCCO) [1066.09](#) below.

1066.09 INSTALLATION, REPLACEMENT OR REPAIR OF INDIVIDUAL SYSTEMS WITHIN 300 FEET OF A SANITARY SEWER.

(a) If an approved public sewer is within 300 feet of any new building or structure for which sewage disposal is required, the property owner shall connect to the sewer, provided that the owner of the sewer permits such a connection.

(b) Should an existing onsite sewage treatment system deteriorate to the extent that such system constitutes a present and continuing risk to public health unless substantial repairs to the system or replacement or enlargement of the soil absorption area are performed and the building or structure served by such system is within 300 feet of an approved public sewer,

the property owner shall connect to the sewer, provided that the owner of the sewer allows such a connection. Notwithstanding the preceding sentence, if a conventional or alternative onsite sewage system, fully meeting all applicable current requirements to serve as a repair for the existing use, can be constructed on the property, connection to public sewer shall not be required, provided such onsite sewage system is promptly constructed and placed into use.

Homeowners should note that 1066.09 (a) pertains to “any new building or structure” and 1066.09 (b) pertains to “existing onsite sewage treatment”, which would be the more applicable code for this community.

Costs and Funding/Financing Questions

The Water and Wastewater Fund is Regulated by the *Water and Wastewater Projects Funding Policy* (Funding Policy). The Funding Policy referenced throughout this section can be located at: www.loudoun.gov/waterprojects.

30. What is the cost of doing nothing?

There will be no repayment obligations for the Feasibility Study if the project ends prior to implementation of a solution.

Potential impacts of not creating a community system would be the same impact to individual parcel owners as currently exists. Community members who may not have the ability to correct their water and wastewater issues onsite (due to parcel size, setbacks, or resources) may face costly pump and hauls, purchase of water, or lack of building sanitary conditions. In addition, ongoing operation and maintenance of property owner’s individual systems would continue, such as well pump and drainfield maintenance, and a septic tank cleanout and inspection every 5 years required by LCCO 1066.07. In addition, for any homeowners utilizing alternative onsite sewage disposal system an annual system inspection by a Virginia Department of Professional and Occupational Regulation (DPOR) licensed Alternative Onsite Sewage System Operator is required by LCCO 1067.04 and the Virginia Department of Health [Regulations](#) for Alternative Onsite Sewage Systems.

Other non-financial impacts could be ground and surface water contamination from aging, inadequate, and failing wastewater systems in the community leading to additional public health concerns such as safe drinking water.

31. I would like more information about the exact timeframe for when homeowners would need to pay for the costs of abandonment of wells and septic systems, and plumbing expenses, etc. According to your plans, it appears that this would happen from 2027 - 2029. Is this correct?

The timeline in the Study estimated completion of a project from design to construction to be around 2029, however it is important to note the schedule located on Page 70 of the Study assumes steps forward started in 2023, which did not occur. The schedule noted in the study is based on typical timeframes for the phases of a typical project. As the report was a feasibility study only, there has been no selection of a water or wastewater treatment system, and there is no design of the infrastructure, so an exact timeframe (project duration or specific years of future work) cannot be provided at this stage.

32. What is your estimate of the cost of this project to Unison households. Please provide your best estimates as to the following:

a. Any capital costs incurred by homeowners to get ready to hook up to the new system. If these are different from property-to-property, please advise what creates the differences and provide estimates of cost for each.

Currently the Feasibility Study estimated water and sewer connection costs to be between \$8,000 and \$15,000 each. In addition, septic abandonment was estimated to be around \$6,250, and for homes where a gravity system could not be acquired an additional \$1500-\$2000 may be needed for a grinder pump electrical upgrade. Connection costs are outlined on pages 61 and 65-67 of the Study. Differences in individual household costs will vary based on factors such as; distance from the home to utility line connection point, property topography, soil depth (rock), historical features, and if a gravity lateral cannot be obtained, need for an ejector pump. In addition, contractors can vary in costs, and staff would suggest residents consider requesting proposals from multiple contractors and consider working together to seek a cost reduction from a contractor for multiple installations.

b. Connection costs to be paid to Loudoun Water.

A LW administration fee would be required to become a new customer, currently that cost is \$80. A LW availability fee would not be charged for the project, see question 33 for additional details.

c. Estimated annual billing from Loudoun Water based on domestic water usage.

See Slide 25 from the community [presentation](#) for an example of a quarterly bill. Estimate assumes 5,000 gallons a month which is typical estimate for a 4-person household.

d. Has Loudoun Water considered implementing a wastewater fee?

No wastewater availability fee will be charged. A usage fee is applied quarterly based on water and wastewater usage as described above.

e. Any additional potential operating and maintenance costs that could be borne by homeowners.

Homeowners would be responsible for operation and maintenance (OM), if needed, on their sewer lateral. The sewer lateral is the line from the home to the utility line connection point located on the homeowner's property, or if the home is served by a grinder pump the line between the grinder and the house. If a grinder pump is present, the homeowner is also responsible for maintaining the electrical panel and paying for electrical usage. A grinder pump typically uses between 9-20 kWh per month (similar to running a lightbulb at night). For water distribution lines the homeowners OM responsibility is from the line between the water meter to the house. See (Attachment 2) for a typical connection diagram. Note that each property connection will be unique.

Ultimately homeowner costs for construction and connection cannot be fully captured and presented to the community until a project progresses to a more detailed phase. The questions above specifically address estimates for site connection; for costs associated with project financing, see questions 41-43 and the Funding Policy.

33. Are there additional costs for individuals like hook up costs?

There will be no availability fee (also known as a hook up fee or tap fee) charged by Loudoun Water for any water or wastewater community system established for Unison.

However, the County may establish a connection fee to be charged to vacant (or unimproved) parcels if the system is constructed using County funding, as was recently done in the community of Howardsville. For clarity, the connection fee referred to here differs from terminology used by LW, in that their usage of the term often defines “availability fees.” The County’s term “connection fees” refers to a reimbursement mechanism where the County recovers costs incurred for wastewater system design and construction from lot owners within a service area, if County funds are provided to the project. Typically, county connection fees are limited to vacant properties within a service area because connection of “vacant” lots to the utility system does not constitute the mitigation of a public health concern and therefore, public funds are not supported to be used for that purpose. Consequently, an appropriate cost recovery proportionate to the benefit is required.

It is important to note that the County can establish and collect a county connection fee for any parcel, but this is not supported by staff or anticipated to be imposed. Also see question 32.

34. Why doesn’t the county pay for the program?

The County has already established a Capital Improvement Program (CIP) Water and Wastewater Fund (Fund) to support the construction of community water and wastewater systems in the County prioritized by the Program. However, the use of the Fund is regulated by the Funding Policy and is dependent and based on the percentage of low-moderate income households in the community.

It is important to note this policy does not limit the powers of the Board to take additional action outside the Funding Policy guidelines to use the Fund or other funds to support an identified public health issue or community need. The Fund supports system development and not household connection costs.

35. I also would like more information about financial assistance for people that are retired and on a fixed income.

The response to this question assumes that this question is referring to individual property connections to an established system.

The Water and Wastewater Funding Policy states:

Individual, private lateral lines and connection fees are the responsibility of each property owner within the Community.

The County cannot use taxpayer funds for system connections, as the sewer/water lateral connections are considered private property, which the individual property owners are responsible for.

However, General Services often works with the Loudoun County Department of Housing and Community Development (DHCD) to assist property owners with low to moderate household incomes. Every project is case by case, but DHCD “may” be able to provide some financial assistance (grants or loans) for housing needs, and also partners with nonprofits on a variety of community development projects.

In addition, staff are continuously evaluating programs and organizations that supply grants and low-interest loans to assist homeowners. Some additional assistance programs are listed at the following Virginia Department of Health (VDH) site:

<https://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/organizations/>

36. Does the Income Verification Form request "Signed Person Tax Returns (including all Schedules) for the last 2 years" among other things?

Yes, currently all items listed on Page 4 of the Funding Policy under Form A Income Verification are required to determine household income. The documents are only required when necessary to support the use of the Water and Wastewater Fund (See Funding Policy for details).

37. The timeline graphic provided in the YouTube presentation, the step following the dissemination of the study is the square Grant, Loan or Proffer. Would it be fair to say that after this phase is completed we will have a better picture of the price tag to the residents based upon your capital cost estimates?
38. Does Unison have to choose an option before we know the cost to the individual? (I think we know it will cost \$14-16 million, but we don't know if the community will have to pay that entire cost or how?)
39. When the community knows the costs they will have to pay back for the construction of the systems, would that be in your opinion an opportune time for the community to decide they want to move forward with the project?

Response for Questions 37-39

Although the general high-level program steps can be seen in (Attachment 1), study results, staff input, community input, and funding opportunities will all be used to determine the appropriate next steps forward for a specific project. Project costs will be updated and refined as a project progresses through each phase, and each advancement will depend on funding and/or financing availability.

At the current stage, staff are not asking Unison to commit to financing of a project but are gauging the interest and support to pursue a community system solution, before extending additional resources into developing recommendations and engaging the Board of Supervisors for further guidance. See also the response to questions 14-23 and 44-47.

40. What if we agree on the premise that grants will be available and then we are not given the grants?
41. Isn't it true that, absent grants, loans or proffer funds, the total cost of the project, estimated to be \$14.1 million dollars, is to be paid by the members of the community, assuming we are a Community type B?
42. Isn't it the case that if a property owner opts out of connecting to the water or wastewater system, the owner is NOT relieved of the obligation to pay his or her share of the capital costs of the project?
43. If the community decides to do both programs, but individual homeowners only want to opt for one of the two options do they still have to pay for both?

Response for Questions 40-43

Grants are typically awarded through a competitive process and have established criteria that

must be met, so eligibility and receiving of grants cannot be guaranteed.

Assuming “No” funds or only a portion of funds are received from the Water and Wastewater Fund, Grants, or County, then financing as described in the Funding Policy under Community Type B may be the only additional option available for a community to consider. If a project is financed using a funding mechanism such as a special assessment, or taxing district for both water and wastewater, then payment by all property owners within a water and/or wastewater service area can be required whether a connection is established or not, because the ability to connect exists.

The Funding Policy states:

Community Type B- Communities with less than 51% of low-to moderate income households will pay 100% of project costs. The County may assist these communities by establishing service districts and funding mechanisms such as special assessments, taxing districts, and tax incremental financing. Communities designated as Type B will be required to pay for feasibility studies as part of project repayment.

Again, it is important to note the Funding Policy does not limit the powers of the Board of Supervisors to take additional action outside the policy guidelines to use the Fund or other funds to support an identified public health issue or community need. All final financial decisions will be based on Board guidance and approval.

44. If the total cost of \$16 million is to be paid by 32 residents how is that financed and what would each resident pay each month over a 30 year period?
45. There is an assumption that the county doesn't do anything for "free" and that ultimately 32 residents will bear the cost of this program. How and when in the process will residents be able to know actual costs to them per month and per year? In other words residents do not want to have to "vote for something" in order to see the actual costs? How can residents make a decision if they don't know that information?
46. Does the community have to commit (sign documents and become liable for costs) before they know they know the actual cost to themselves of the program? For instance, before they know if grants will be available and what the hook up costs will be?
47. Based on program experience and because Unison is not like Howardsville or Willisville what percentage of the cost of the \$12 to \$16million price of this project should Unison residents expect to be covered by grants, or federal infrastructure dollars and what percentage would likely be financed by roughly 32 residents in the study area?

Responses for 44-47:

As addressed above the Funding Policy establishes the approach and procedures that the County will follow in providing funding and financial support to communities that have been prioritized for water and/or wastewater projects. Willisville and Howardsville were community projects that were initiated pre-Program, in which a Water and Wastewater Fund did not yet exist. A wastewater system sized to serve approximately 15 parcels in each community was constructed to properly address system failures and removal of active privies in the community and was funded under the Capital Improvement Program.

It is too early in the process to provide the definitive answers requested. Successful community water and wastewater projects of an existing and historic community like Unison are complex and take time, and the costs will be refined as a project develops. Staff, however, are acutely aware that a community the size of Unison could never financially support a project of this magnitude and cost, and such a burden would prohibit a project from advancing.

After further gauging community project interest, which will be determined from community correspondence, community meetings, or future surveys, staff will bring the Study results to the Board of Supervisors and provide an overall recommendation. Any recommendation would come with an explanation of funding needs or be dependent on future fund availability.

In cases where only portions of Funds become available, staff may only recommend a “next step” approach, as addressed in the response for questions 14-23. However, staff would not recommend the design work be completed if the ultimate objective of the community is not to construct a community system. Also, see the response for 37-39.

48. Why would county taxpayers for an income verification form be required to submit 2 years personal returns plus all schedules, 2 years business returns, copies of pay stubs for 30 days, W-2s Tax Forms for two years plus Social Security Eligibility simply to determine someone's ability to pay? Isn't that type of an "audit" an excessive intrusion into the personal data of county resident just for water and sewer services and what are the other examples where taxpayers, other than developers, have been required to provide that level of private personal financial information to a local government?

The Program's income verification requirements are based on typical processes used by the County's Department of Family Services and Department of Housing and Community Development and are similar processes used by many local, state, and federal agencies to assure tax dollars are being expended appropriately as allowed by local, state or federal policies. Unless the Funding Policy is changed by the Board of Supervisors, staff are required to request the documents outlined in FORM A of the Funding Policy.

If the community feels there is a potential for Unison to meet the eligibility requirements set forth in the Funding Policy for use of the Water and Wastewater Fund described above, staff will first take a more informal approach to evaluate household income in Unison. A letter would be mailed to each household requesting the household's annual income and number of household members. This less intrusive approach would quickly determine if eligibility was likely in the community, and whether the more detailed records request described in FORM A was needed. Any households that do not submit the information will automatically be considered as having a household income that does not meet low-to-moderate income standards outlined in the Funding Policy.

It is also important to note that all financial documents shared are kept private and only accessible to the General Services Water and Wastewater Project Manager (currently Scott Fincham) and Department Director. The documents are protected by internal policy GS-13 titled *Water and Wastewater Program: Records Retention / Disposition of Income Verification Records*. Household income information is generalized and provided in a summary that does not distinguish it with any individual household.

49. Are there other programs available to a community to help individual residents who need septic or well assistance? In other words is this program the only program available to provide the solutions needed for Unison or are there others?

Overall Community Assistance:

The Water and Wastewater Program is currently the only County program to provide structure and a standardized process to gauge a community's interest, determine a community's need, and establish a measurable method to prioritize community requests for community water and wastewater projects.

However, participation in the program does not exclude community residents from petitioning the Loudoun County Board of Supervisors for resolution through other public processes, nor does it limit the powers of the Board of Supervisors to take action to resolve identified public health issues.

Individual Onsite Projects:

The Feasibility Study did not support individual system upgrades as a long-term sustainable solution. The recommendation was due to many existing parcels within the Unison Study boundary not having sufficient or adequate area to support the installation of new, individual private water and wastewater systems that would meet the Virginia Department of Health regulations. For more details on this refer to Table 3-4 and Table 4-4 Matrix in the Study.

The Water and Wastewater Program is not established to provide grants or subsidies for individual "Private" Well and Onsite Sewage Disposal Systems. For individual system installation or repairs, the property owners would need to seek guidance from the Loudoun County Health Department and apply for a Repair or Construction Permit; current regulations, parcels size, setbacks, site conditions, and other challenges may prevent an opportunity for an onsite solution. Costs for the permits, private sector onsite and design work, and system installation or repairs would fall to the individual property owners. Some assistance programs are listed at the following Virginia Department of Health site but be advised most are income based and some like SWAP are no longer available:

<https://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/organizations/>

50. Is the project construction cost "not to exceed" or is it "cost plus" and how can the costs be contained to remain within the preliminary reports suggested program costs?

The feasibility study outlines only order of magnitude costs. As stated in the presentation (slides 8, 19 & 20), there currently is no design of a project through which more accurate costs could be developed. Should a project move forward into a design phase then a 'project construction cost' could be developed. At this stage, there are no project costs to contain, as they are subject to change.

It is also important to note the costs are in terms of 2023 dollars, and future costs will rise as the years progress. As a project progresses and becomes more detailed, cost estimates will be continuously updated and further defined.

51. What systems for drinking water treatment would improve the quality of Unison drinking water

(e.g. filtration, softening, etc). Please provide any cost information, including the availability of grants or subsidies, that you may have.

Water quality was not the primary concern addressed by the Unison community. Low producing wells were more prevalent and water quantity solutions are not as easily addressed on an individual basis.

If there are individual household concerns for water quality issues that can be addressed by private filtration, property owners should seek the advice of the Loudoun County Health Department (LCHD). Onsite water well systems are permitted and regulated by the Virginia Department of Health and locally administered by the LCHD through the Private Well Regulations and by LCCO Chapter [1040](#). Staff would suggest contacting the LCHD – Environmental Health Division at 703-0777-0234 to obtain information on Private Wells and individual household filtration or water treatment devices. Additional information can be found at:

<https://www.loudoun.gov/5744/Wells-Onsite-Septic-Systems>

<https://www.vdh.virginia.gov/environmental-health/private-well-program/>

The Water and Wastewater Program is not established to provide grants or subsidies for individual and onsite Private Well Systems.

52. What strategies are there to extend the life of septic fields and alternative systems (e.g. low flow toilets and showers, beneficial microbes, etc)? Please provide any cost information, including the availability of grants or subsidies, that you may have.

Onsite sewage disposal systems are permitted and regulated by the Virginia Department of Health through the Onsite Sewage Disposal [Regulations](#), Alternative Onsite Sewage System [Regulations](#) and by LCCO [1066](#) and [1067](#). Staff would suggest contacting the Loudoun County Health Department – Environmental Health Division at 703-0777-0234 to obtain further information on Private Onsite Sewage Disposal Systems. Additional information can be found at:

<https://www.loudoun.gov/5744/Wells-Onsite-Septic-Systems> or visiting the Environmental Protection Agency septic smart page: [SepticSmart | US EPA](#).

The Water and Wastewater Program was not established to provide grants or subsidies for Private Onsite Sewage Disposal Systems.

Study or Overall Problem

53. You referenced in the study (3.1.1.) that the "application for assistance" claimed that the majority of the community desires a community water system. You reiterate that claim for the community wastewater system. (4.1.1.). Is that true?

The narrative description in the 'Application for Consideration of Community Water and/or Wastewater Solutions' submitted to Loudoun County states: "A large majority of homeowners within the application boundary support the first phase of study on establishment of community water and sewer, an action we believe is warranted."

The study simply refers to this statement. Staff cannot comment on the community's desire for a community water system other than to reference information that was provided on the application. Community discussions with coordinators may help clarify this statement.

54. Out of the 32 properties in the study area how many actually have water, sewer, and or both as issues? Aren't there more than 11 properties in the study area that have had problems with water and sewer? And how could that information be developed so that the problem and actual impacts to residents could maybe be better illustrated? Or is that possible?
55. Did the study show the problems in Unison were worse than the poll of homeowners showed or better? Are there more problems or less?
56. Did the study of homeowners adequately reflect the findings of the county's study?
57. Our house and all the houses that are oldest, and in several cases, original to Unison, have the biggest "issues" with water and drain fields. Ours "town", I'm sure, was chosen for its standing water, results of a shale shelf I've been told, which was great for the extraordinary hand dug wells that most original houses have. But the land doesn't "perk", which didn't bother the original settlers. So many of us hope to keep our antiquated systems going and not put in what we've seen over many years: complicated problematic alternative systems. Will we be able to have septic tanks pumped during excessive rains and maintain our old systems until we hope the wastewater project becomes a reality? We get 3/4 of a gallon of water per minute from our 450 ft deep well, having another resource for water would be a dream.

Response for 54-57:

Unison was identified in the 2011 *Loudoun County Water and Wastewater Needs Assessment* as a community with concerns or are at risk of having concerns with their water and/or wastewater systems. The Feasibility Study provided details of existing conditions in the community, but the data is only as good as the records available and information the community is willing to provide. Information on existing conditions can be found on pages 24-27, 40-42 and Appendix C in the Study.

The February 2023 [presentation](#) provided the results of the household survey, which indicated 10 properties (out of 21 responses) had water quality concerns, 7 properties had water quantity concerns, and 4 properties had wastewater concerns. It is important to note that this information was self-reported anonymously and may not accurately reflect the true extent of water and/or wastewater issues within the community. Overall survey results can be found in Appendix D of the Study.

Factors that are considered when determining whether a water issue is being experienced, or will potentially be experienced include:

- Well location (easements or boundary line setback requirements)
- Well yield (current or historical)
- Water supplementation (water acquired from a source other than a well)
- Water quality (current or historical)
- Well modifications (alterations to original well)

Factors that are considered when determining whether a wastewater issue is being experienced, or will potentially be experienced, include:

- Drainfield location (easements or setback requirements)

- Drainfield reserve area (adequacy)
- System type
- System history (previous failures and age)
- Soil type, topography, wetlands

Reported data from the health department indicates a larger number of properties within the Unison community are currently, or had been, experiencing water and/or wastewater issues, than the household survey results revealed. Considering all the factors mentioned above, an individual system concern related to water could affect 18 properties (out of 32) and an individual system concern related to wastewater could affect 19 properties.

A table based on existing data was created by the Study consultant to assist with this question, see (Attachment 3) which helps to summarize the nature of issues found within the community. In (Attachment 4) you will also find a diagram showing a 50' setback radius around existing wells and drainfields in the community. The diagram illustrates the proximity of wells and drainfields and the inability of residents with smaller parcels to have the space to repair or replace individual onsite systems. It is important to note, the 50' radius shown is for reference only, depending on the class of well, many older wells in Unison would be required to have an expanded setback radius of 100'. Setbacks per well class can be found in LCCO 1040 in [Appendix II – Tables](#).

58. Does the current situation in Unison regarding water and sewer represent a public health threat for neighbors within the study area?
59. It seems like this the two parts of this project (water and sewer) each benefit a small number of people in the community at a cost to all of the people in the study area. Is there a way to show that the benefit will be to all in the long run?

Response for 58-59:

Protection of groundwater and surface water, proper water quality and quantity, and adequate means of sewage disposal are vital components of public health and quality of life for any community. Impacts to groundwater (either quantity or quality) are not bound by property lines and therefore could affect neighboring property owners.

The expected life cycle of a drainfield is estimated to be between 20-30 years as stated on page 41 of the Study, additional information on drainfield lifespan can be found at the following EPA website <https://www.epa.gov/septic/frequent-questions-septic-systems#failing>. Failing onsite wastewater treatment systems have potential to be a public health threat for residents if sewage is not properly treated and disposed of, leading to potential contamination of groundwater wells or surface waters.

Homeowners may need to consider if they have sufficient area for a new primary and reserve drainfield under today's regulatory standards. In summary, currently functioning systems have potential to pose a public health threat in the future depending on a homeowner's ability to properly address their onsite issues or failures and plan for the end of life of an aging drainfield. Also see response for 54-57 and (Attachment 3).

By ensuring that all members of the community have their water and wastewater needs met,

this also allows for the continued use of the buildings within Unison and preserves the historical nature of the community.

Geological / Soils

60. Have there been any geological surveys done of the Unison area over the past 100 years that would point to a worsening of the geological conditions under Unison that would impact its water supply? Or is that informational insight not really obtainable?
61. Do we know if the geology under Unison is the same as it was 150 years ago or have ground conditions as it relates to water yield and perc worsened causing more issues for modern residents?
62. A neighbor contends that there are really no water or sewer problems in Unison except for a couple of "unfortunate" neighbors with bad wells or bad drainfields. This is despite a long history in the village of poor soil and low yield wells. Does the soil within the study area meet standards for Loudoun Health Department for effective and approved drainfields? Does the geology within the study area allow for adequate water flow for wells?

Response for 60-62:

There are no known local or other geological reports that we could locate that provide the historical conditions data over time being requested.

For current conditions on soils/hydrogeology see Appendix E in the Feasibility Study. An additional helpful soils link can be found at the National Resources Conservation Service site:

<https://www.nrcs.usda.gov/resources/data-and-reports/web-soil-survey>.

For historical health department data of various properties regarding soil evaluations for siting of a septic system, visit www.onlinerme.com.

System Design or Construction

63. What is the likely physical appearance and footprint of both water and wastewater systems that would be adequate to support the needs of likely users? Please provide photographic images or renderings of similar existing systems.
64. Please provide a fairly detailed description of the installation process and period of time that roads will be under construction to support the project.
65. How long would Foxcroft Rd be under construction?
66. What land would need to be procured for this to happen?
67. If private land is torn up, will landscaping be paid back by the county?
68. Would Bloomfield Road, which is currently a gravel road, have to be paved after the installation of the system?

Response for 63-68:

The physical appearance and footprint would be dependent on the water and wastewater system/alternative selected. For water, if a community well is put in place, a well house and water treatment plant would be required and could be designed to conform to the historical nature of the community. For wastewater, a wastewater treatment plant (and potentially a pump station) will be required depending on the alternative selected. Again, the appearance can be designed to conform to the historic nature of the community.

Installation of piping with the roadways would include trenching and laying of pipe and could be limited to a single lane during installation. Loudoun Water and Loudoun County would work with homeowners to return land to existing conditions. No long-term closures of roadways would be anticipated, but short-term delays and traffic control may be required.

Additional detail regarding installation and overall impact on the community could be provided as the project is further defined and the system(s) to be installed are determined. In other words, there is potential that only a water system be installed, or only a wastewater system or both. In general, pipes will be laid in the road or the right-of-way and disruption to the community would be limited to the extent practicable. Any above ground infrastructure will generally be designed to conform to and blend in with the historic nature of the existing community and surrounding architecture.

Miscellaneous

69. Would property values generally increase if the community worked to develop a community water and sewer system?

Generally, we hear that public water and wastewater systems are valued positively, but our staff would not be able to answer a property value question of this nature. However, the community could discuss this with a local realtor familiar with Loudoun County and Unison Real Estate.

If this question is more directed to fair market value assessment of properties for tax assessments, we provide the following comments. After speaking with the County's Commissioner of Revenue office, property assessments can be influenced by a variety of factors, including the installation of water and wastewater projects in a community. However, the specific impact on property assessments can vary depending on several factors, including the size and scope of the project, the local real estate market, and the overall economic conditions of the area. In some cases, the installation of water and wastewater infrastructure can lead to an increase in property assessments, especially for parcels assessed at a nominal rate due to soil conditions that could not support a private system, but now have the availability to obtain water or sewer services. Site adjustments are applied on a case-by-case basis, but ultimately the real estate market will dictate any increase or decrease, and it could take several years of market analysis to adequately measure the impact on values from the addition of a community system.

70. Back around 2011 there was an earthquake in Virginia. Its epicenter was down around Beaverdam Virginia not far from Montpelier. It was noticeable in Unison as the houses and land shook. Though there was no noticeable damage above ground, could such an event cause geological situations underground that could impact well yields and septic systems?

Unison residents would need to reach out to the LCHD at 703-0777-0234 for assistance with this question. The following VDH site addresses well/septic systems and the 2015 Earthquake:

<https://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/organizations/earthquakes/>

71. Is it "freedom of information" to know how many well and septic permits have been applied for in any given year over the last 10 or 20?

If the information is available, yes, a FOIA request can be submitted to the LCHD by

calling the number listed above or at:

<https://www.loudoun.gov/923/Virginia-Freedom-of-Information-Act-FOIA>

72. If agricultural uses are not required to hook-up, how will the County/Loudoun Water treat the combined systems? For example, will properties with domestic and agricultural uses be required to separate the uses?
73. Will property owners with agricultural operations be required to hook up to the system?

Response for 72-73:

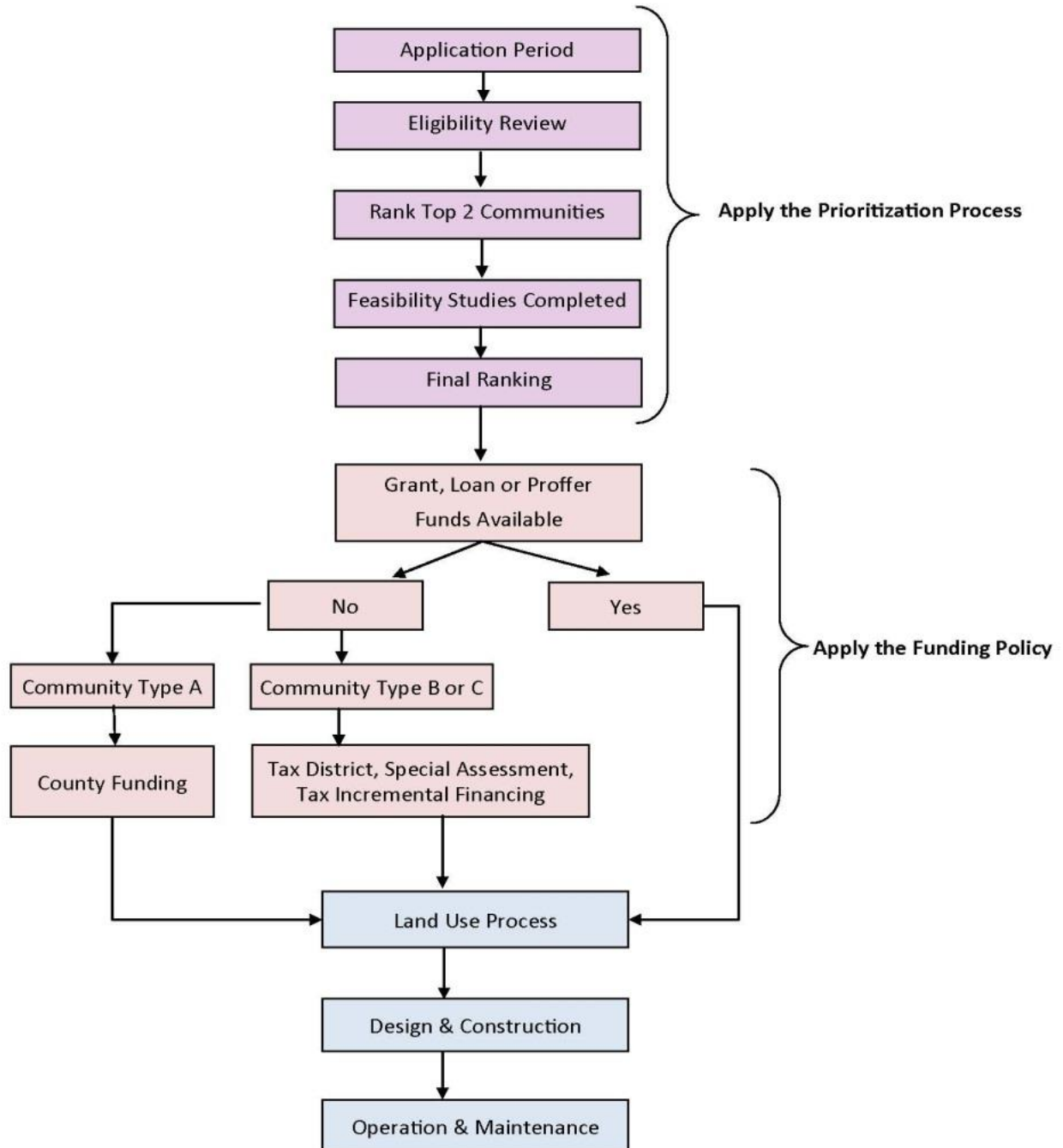
It is unclear what question exactly is being asked. However, water necessary for agricultural needs like watering of livestock can be handled by an agricultural well (non-potable) if obtainable on the parcel, and such a well could be applied for at the LCHD whether a community water system existed or not. Any future community water system would be designed to, and only provide for, domestic demands and not agricultural needs.

74. If the County/Loudoun Water require property owners to abandon their current systems (which were installed at very high cost), how will residents be compensated for the loss of value of their investments in their onsite systems? Is there controlling case law in Virginia that finds this is, or is not, a taking that requires compensation.

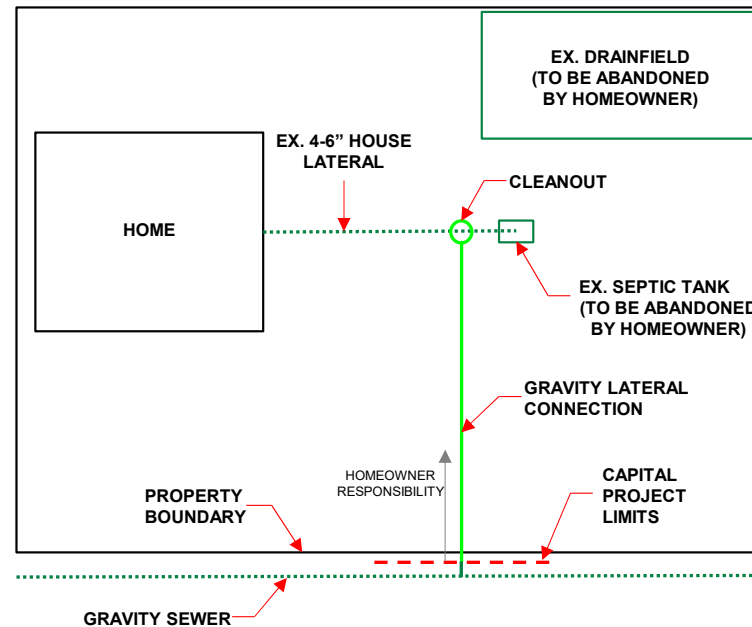
It is a homeowner's responsibility to maintain their private well and onsite sewage disposal systems. Assuming an abandonment was necessary (see response to questions 26-29 regarding requirements to connect) owners would apply for a permit at the LCHD, and follow procedures outlined in the LCCO Chapter [1066](#) and the Virginia Department of Health Onsite Sewage Disposal [Regulations](#) or Alternative Onsite Sewage System [Regulations](#). Although confirmation with the LCHD is needed, the LCHD typically only requires the septic tank and/or pretreatment components to be abandoned, not the actual subsurface drainfield.

Staff cannot answer the question regarding "controlling case law" or a potential "taking", without requesting a legal opinion from the County Attorney's Office.

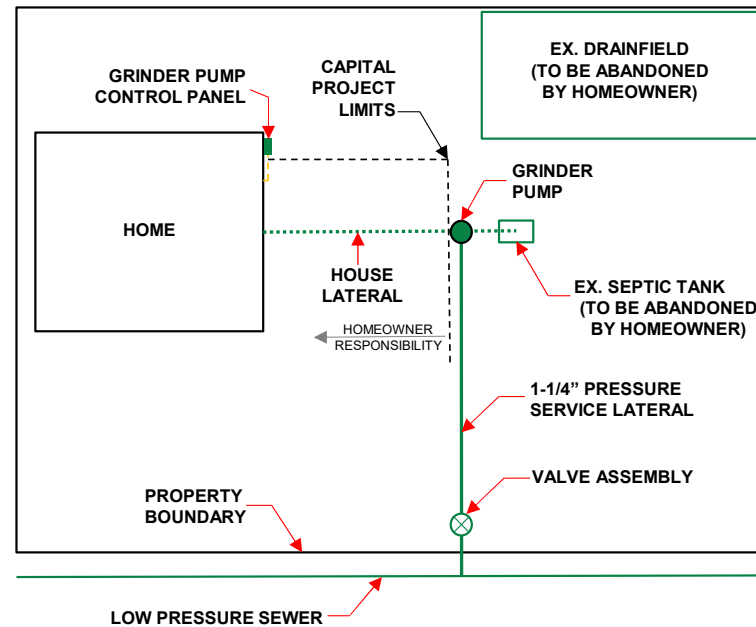
Proposed Work Plan Process



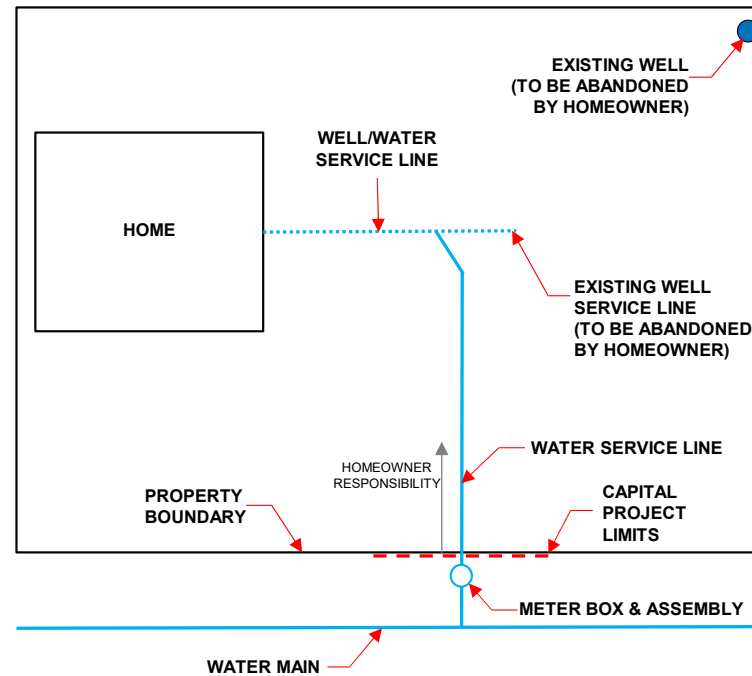
GRAVITY SEWER



LOW PRESSURE SEWER



WATER SYSTEM



Unison Water System Criteria

Parcel No.	Well Easement (Well Located on Adjacent Parcel)	Setback Requirements Not Met	Low Yield (≤1 gpm)	Low Yield (< 3 gpm**)	History of Supplementing Water (Trucked In or Other)	Water Quality Concerns - Bacteriological or Chemical (Historic or Current)	Well Modifications (Hydrofracked Well, Deepened, Other)	Individual System Concern? (yes/no)
1	O	O	O	O	O	O	O	No
2	X	O	O	O	O	O	O	Yes
3	O	X	O	O	X	O	O	Yes
4	O	X	X	X	O	X	O	Yes
5	O	O	X	X	O	X	O	Yes
6	O	X	O	X	O	X	X	Yes
7	O	O	O	X	O	X	X	Yes
8	O	X	X	X	X	O	X	Yes
9	O	O	O	O	O	O	O	No
10	O	X	O	X	O	O	X	Yes
11	O	O	X	X	O	O	X	Yes
12	O	O	O	O	O	O	O	No
13	O	O	X	X	O	X	O	Yes
14	O	X	X	X	X	O	O	Yes
15	O	O	O	O	O	O	O	No
16	O	O	O	O	O	O	O	No
17	O	O	O	O	O	O	O	No
18	O	O	X	X	O	O	O	Yes
19	O	O	X	X	O	O	X	Yes
20	O	X	X	X	O	O	O	Yes
21	O	O	O	O	O	O	O	No
22	O	O	O	O	O	O	X	No
23	O	O	O	O	O	O	O	No
24	O	O	O	O	O	O	X	No
25	O	O	X	X	O	O	O	Yes
26	O	X	X	X	O	O	O	Yes
27	O	O	O	O	O	O	O	No
28	O	O	O	O	O	O	O	No
29	O	O	O	O	O	O	O	No
30	O	O	O	X	O	O	X	Yes
31	O	O	O	X	O	O	X	Yes
32	O	O	O	O	O	O	X	No
33	O	O	O	X	O	O	O	-
34	-	-	-	-	-	-	-	-
Total No. of Instances	1	8	11	17	3	5	11	18

**12VAC5-630-460 REQUIRES RESIDENTIAL WELLS WITH CAPACITY UNDER THREE (3) GPM HAVE STORAGE

LEGEND

X: INDICATES INSTANCE(S) OF DEFICIENCY

O: INDICATES NO RECORD OF SUCH DEFICIENCY

Unison Wastewater System Criteria

Parcel No.	Drainfield Easement (Drainfield or Reserve Drainfield Located on Adjacent Property)	Insufficient Reserve Drainfield Area (< 4100 SF)*	Inadequate System (Bed, etc.)	History of Failure	System Age >30 years	Other Considerations (Poor Soils, Wetlands Present , Setbacks Not Met, Topo)	Individual System Concern? (yes/no)
1	O	O	O	O	X	X	No
2	X	X	O	O	X	X	Yes
3	O	X	O	O	X	X	Yes
4	O	X	X	X	O	X	Yes
5	O	O	O	O	X	X	No
6	O	X	O	X	X	X	Yes
7	X	X	O	O	O	O	Yes
8	O	O	O	O	X	X	No
9	O	O	O	O	X	O	No
10	O	X	O	X	O	X	Yes
11	X	X	O	O	O	X	Yes
12	O	X	O	O	X	X	Yes
13	O	X	X	O	X	O	Yes
14	O	O	O	O	X	X	Yes
15	X	X	O	O	X	X	Yes
16	O	O	O	O	X	O	No
17	O	X	O	O	X	O	Yes
18	O	X	O	O	X	O	Yes
19	X	X	O	O	O	O	Yes
20	O	O	O	O	O	O	No
21	O	O	O	O	X	X	No
22	O	O	O	O	X	X	No
23	X	X	O	X	X	O	Yes
24	O	X	O	O	X	O	Yes
25	O	O	O	O	X	O	No
26	O	X	O	O	X	O	Yes
27	O	O	O	O	X	X	No
28	O	X	O	X	X	O	Yes
29	O	X	O	O	O	O	Yes
30	O	O	O	O	X	O	No
31	O	O	O	O	X	O	No
32	O	O	O	O	X	X	No
33	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-
Total No. of Instances	6	18	2	5	25	16	19

*Required drainfield area conservatively assumed three-bedroom household and the slowest (most conservative) percolation rate based on 12VAC5-610-950

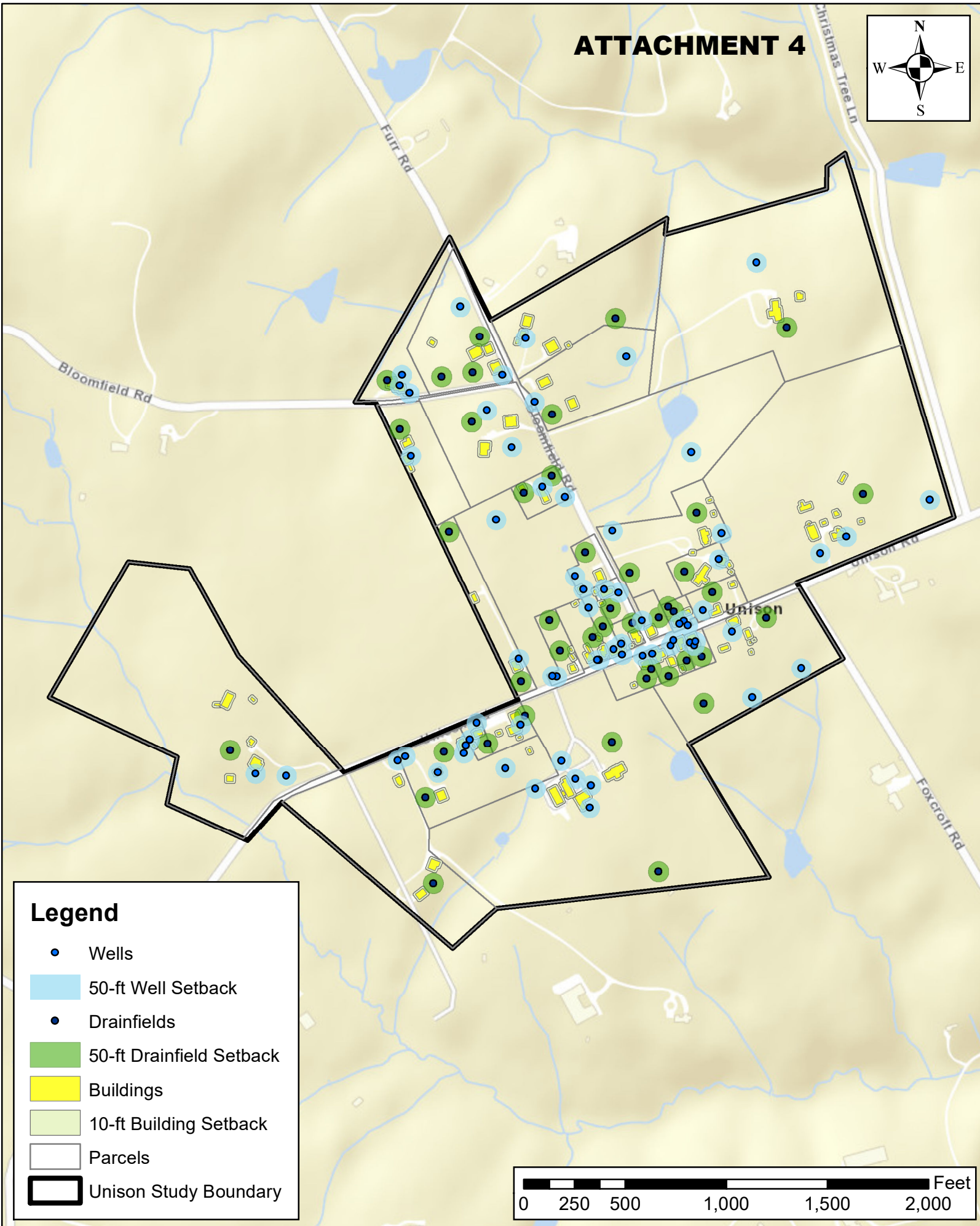
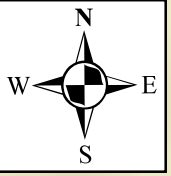
LEGEND

X: INDICATES INSTANCE(S) OF DEFICIENCY

O: INDICATES NO RECORD OF SUCH DEFICIENCY

Unison Water & Wastewater Setbacks

ATTACHMENT 4



Legend

- Wells
- 50-ft Well Setback
- Drainfields
- 50-ft Drainfield Setback
- Buildings
- 10-ft Building Setback
- Parcels
- Unison Study Boundary

0 250 500 1,000 1,500 2,000 Feet