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Mr. Tim West
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Attention: Lisa Manwill

Re: North Albuquerque Acres Water and Sewer Feasibility Study

On April 29 the referenced study was presented at a Public Information Meeting of residents of North Albuquerque Acres. The purpose of the study is to continue to fulfill the recommendations in the North Albuquerque Acres/Paseo del Norte Sector Development Plan.

I have reviewed the study report and attended the public Information meeting and do not agree that – contrary to the statement in the first sentence of the Recommendations section of the study – "*the installation of a water and sewer system for the North Albuquerque Acres area appears to be a worthwhile idea, ...*" (Emphasis added).

However, that sentence and the paragraph go on to say: *... there are many factors that come into play in this decision process. One of these is available funding. The study team believes that this is the primary decision criterion to be used in the installation of water and sewer service in the study area. Currently Bernalillo County has been working to install or upgrade sewer service in areas of the Valley where groundwater contamination is occurring due to the high groundwater table and the wide spread use of on-site septic systems. In comparison, the groundwater in the North Albuquerque Acres area is several hundred feet deep. Therefore, the primary recommendation of this study is that funding not be used for water and sewer systems in the North Albuquerque Acres area that instead could be used for which the threat of and actual groundwater contamination from on site septic systems is much higher or more imminent.* (Emphasis added)

I consider the primary recommendation of extreme importance. However, I would take it a little further. I believe the cost analysis in the study clearly demonstrates that the primary recommendation of the study should be that, due to the excessive amount of funds needed for installation of water and sewer systems in the North Albuquerque Acres area and the monetary impact such installation would have on the residents of the area, any further consideration of such installation should be abandoned.

It should be noted that, whereas the domestic wells and septic systems in the North Albuquerque Acres area are of relatively recent construction and that essentially all the installations comply with groundwater protection regulations, many of those in the Valley are very old installations in close proximity to one another without acceptable groundwater protection measures.

There are additional considerations that would cause installation of a widespread water and sewer system in North Albuquerque Acres to be a very bad idea and economically unsound.

Cost of Installation

Sewer System

The study indicates that the primary difficulties in providing sewer service to the area are system connection points, arroyo crossings, steep grades on east-west roads and low flows, and relatively flat grads on north-south roads. The study Recommendations indicate that the cost to overcome these difficulties and install a sewer system throughout the North Albuquerque Acres area would be $35.758 million. The study report indicates that there is currently no identified funding for the installation of a sewer system in the study area.

Water System

Due to the difficulty in verifying the water system study report (part of the Sector Development Plan requirement) prepared by a UNM graduate student as a graduate research project, it was the following alternative (Alternative 2) for the water feasibility portion of the study was selected and accomplished by contract:

> ***Develop a water model of a portion of the North Albuquerque Acres area using three different scenarios and then extrapolate the finding of that sample area to the remainder of North Albuquerque Acres***

The study report states:

> ***The sample model would not be able to account for all the variations in supply, transmission, and distribution that would be accounted for in Alternative 1 (a water model for the entire study area.) However, this alternative would be substantially cheaper than Alternative 1*. (Emphasis added)**

Some of the limitations of the selected alternative identified by the study team are:

- ***The model will assume a constant supply of water. Therefore, assessment of the areas that may not be able to be served due to new or existing storage tanks cannot be made.***
- ***The costs for the extrapolated water model will not include storage tank costs, transmission costs, well costs, or well collector line costs. Therefore, the study will provide costs for all the distribution system and not the supply system*. (Emphasis added)**
- ***The limited area model will approximate the amount of commercial development in the zone chosen. The costs for the system will need to be assessed for the entire feasibility area and cannot be assessed on a block by block level. Therefore, the costs for the system may be high for zones that may have a concentration of commercial development.* (Emphasis added)**
- ***Even though the limited area model can provide for a general cost and a general cost comparison between system scenarios, there is no guarantee that***

the ABWUA will accept the limited model because it is for a limited area only, was not modeled within the ABWUA water system model, and provides for scenarios that are more rural in nature.

- ***The limited area model reduces the line sizes and locations found in the 1982 Water Master Plan due to the reduced planned development in the North Albuquerque Acres area. These reductions would need to be approved by the ABWUA prior to actual design efforts.***
- ***The limited area model cannot provide information as to the engineering feasibility of providing service to the area.*** **(Emphasis added)**

In addition, the Study report states:

> ***Determination of the water system supply and transmission was not within the scope of this study and is not included in the cost for the different scenarios.*** **(Emphasis added)**

The preceding illustrates two significant shortcomings of the Study.

a. **Insufficient funds and insufficient competent resources were allocated to the Study.**

b. **The Study omits significant design elements during the study process resulting in a cost estimate that is probably inaccurate.**

Three scenarios – Rural/Domestic, Sub-urban, and Intermediate – were part of the water modeling in order to determine the incremental cost of providing increased levels of fire flows.

As can be seen from the data on the costs the cost to provide the area with water are:

Rural/Domestic	***$23.951 million***
Intermediate	***$25.336 million***
Suburban	***$30.076 million***

Total Cost for Sewer and Water

Sewer System Cost	**$35.758 million**
Water System Cost (Intermediate Scenario – inaccurate)	**$25.336 million**
Total Estimated Cost	**$61.094 million**

Conclusion – Cost of Installation

The Sector Development Plan provides for the overwhelming majority of the area to be zoned A-1 to be consistent with the existing large lot residential housing and most of the community consists of residential development on lots that are approximately 0.89 acres in size. Inasmuch the requirements of the Sector Development Plan are not conducive to large scale subdivision construction, because the individual lots are relatively expensive, and because drainage and arroyo location limit the number of easily buildable lots,

development on in the North Albuquerque Acres area has been relatively slow paced. Accordingly, total build-out of the area will not take place for many years.

The Study report states:

> ***The present population of the area is approximately 4,000 according to the 2000 census. The analysis done in this study is based upon full development of the area's property which would be a projected population of approximately 11,000."***

Further on the Study report states, in part:

> ***The flow and design requirements from the ABWUA were used in the development and analysis of the wastewater system. The dwelling unit occupancy used for the flow generation was three persons per dwelling unit. This is based on information from the City of Albuquerque Development Process Manual. The 2000 census shows approximately 2.88 persons per dwelling unit. ***"***

Performing a computation based on the preceding results in a present number of residential dwelling units of 1333 and a full development number of dwelling units of 3666. Based on the present number of dwelling units the cost of the sewer and water installation per dwelling unit would be $45,831 and based on the full development number of dwelling units would be $16665.

It does not appear to me – considering the preceding analysis – that installation of a sewer and water system in the North Albuquerque Acres area will ever be economically beneficial. It also does not appear – considering the preceding - that funding of the installation through any kind of assessment of existing residents would be acceptable or politically wise.

It is therefore a mystery to me how the Study report can state the installation "appears to be a worthwhile idea."

<u>Cost to Residents</u>

One of the items in the section of the Study report titled "Community Concerns" states:

> ***Concern related to spending additional money for routing and connection fees after already investing a large sum of money in a well system."***

The Study report response to this concern states:

> ***<u>Additional Investment</u> – There has also been the concern from community members about the additional investment in connection fees and routing of utilities for connections after significant investment in septic systems and groundwater well systems.***
>
> ***From the analysis of the study team, both the connection fees and routing of utilities for the connections at the property line would be required. Of these two, only the connection fee has the remote possibility of being waived. The work on private property cannot be paid for with public funds due to anti-donation laws. No other compensation is currently available to offset these costs."***

A subsection of the Study report titled "Resident Requirements to Connect to the Sewer System" states, in part:

> ***The requirements for connection to a public sewer system vary according to the Bernalillo County Wastewater Ordinance 2000-7. Section 42-498 of the ordinance states, in part:***
>
> ***
>
> ***A. If a public sewer system is available to a lot that has a structure that will be or is generating wastewater, or has a structure that has generated wastewater, that structure shall be connected to the sewer system within one year (365 calendar days) of the availability of sewer.***
>
> ***1. Exceptions***
>
> ***
>
> ***b. Within 30 days of the ownership of the property changing, the property shall be connected to sewer.***
>
> ***c. Wastewater systems that were installed prior to the sewer system becoming available and meet the requirements of Section 42-508, Performance Standards, without a variance, are not required to the sewer system."***

The Study report goes on to state:

> ***Property owners that would be required to connect to a public sewer system according to the ordinance would be required to pay the sewer connection fee (currently $1,234.00) and would be required to route their sewer lines on their property to the property line at the connection point at their own expense.***
>
> ***Estimated costs for routing would vary depending on efforts required for a particular lot and would need to be estimated on a lot by lot basis. However, some of the general cost ranges for elements of the routing are:***
>
> | | |
> |---|---|
> | ***4" diameter PVC pipe complete in place*** | ***$14 to $20*** |
> | ***Service line cleanout (non-pressure)*** | ***$300 to $500 each*** |
> | ***Grinder pump assembly*** | ***$4,000 - $6,500*** |
>
> ***The service line cleanouts would generally be needed in connection with service line angle points. The grinder point assemblies may be needed for some homes where the service line cannot connect to the system at proper grade. ****
>
> ***One of the more costly scenarios for routine the house sewer lines to the property line would be for those property owners whose current sewer connections to the rear of the house and away from the street. This scenario would require routing the sewer around the house and out to the street. This effort must be done carefully in order to maintain an adequate slope for the lines in addition to cleanouts that would be needed at any of the significant changes in direction that***

would be needed to route around the house. If a grinder pump assembly were needed, the scenario's cost would increase further.

Applying the preceding to possible sewer connection to my own home would result in the following costs:

Sewer connection fee		**$1234**
4" diameter PVC pipe installed – 150 ft. x $20	**$ 300**	
Service line cleanout – 2 x $500	**1000**	
Grinder pump assembly	**6500**	
(It is likely the sewer invert will be constructed above the grade of the house connection)		**7800**
Total sewer connection cost		**$9034**

The subsection "Effect of Installed Water System on Area Wells" states:

It is the understanding of the study team that the existing private wells in the area could continued to be used for outdoor irrigation and other uses not related to the domestic uses. There would need to be a physical separation between the domestic water provided by the installed water system and the well system.

It is also the understanding of the study team that, at present, there is no requirement that property owners need to connect to the need to connect to the new water system if installed. However, new development may be required to connect to the system. The study team believes that providing a water system in this area simply to provide fire flows without obtaining normal water user fees to offset the continued operation and maintenance expense for the system may not be a reasonable expectation.

Currently the water connection fee for the City of Albuquerque is $1,419 for a ¾" service. Additionally, the property owners would need to route the house water lines to the property line adjacent to the street. This would be made more expensive for routing from the back of the house."

A study report should not contain "understandings", it should contain facts. The study team should be in a position to be certain about the issues presented in the preceding. Be that as it may, I believe that if a water system is installed in the North Albuquerque Acres area the residents in the area will be forced to abandon their domestic wells; the residents will be forced to connect to the water system and pay the water connection fee; and the residents will be forced to pay all normal user fees required of any present resident of the City of Albuquerque (as suggested by the study team in the preceding.)

Applying the preceding to possible sewer connection to my own home would result in the following costs:

Water connection fee	**$1419**
3/4" diameter PVC pipe installed – 250 ft. x $17 (including fittings)	**4250**

Total water connection cost 5669

Total sewer and water connection cost $14703

In addition to connection costs, if sewer and water systems were installed in the North Albuquerque Acres area all area residents would be required to pay the excessive monthly sewer and water bills that residents of the City of Albuquerque presently to pay. Instead of the free wastewater disposal and the average $7.00 per month water pumping costs I presently pay, I would be exposed to a sewer and water bill of anywhere from $50.00 to $100.00 per month.

Hydrology

The Study report states:

> ***"Hydrology Report – This study primarily addresses storm water runoff and its disposition. The only element from this study that has any bearing on this Feasibility Study is the number of arroyos in the area."***

For the written report the statement is accurate. However, at the Public Information Meeting, Bernalillo County personnel raised the specter of possible groundwater contamination related to domestic wells and septic systems in the North Albuquerque Acres area. As indicated earlier in this response to the study report, the domestic wells and septic systems in the North Albuquerque Acres area are of relatively recent construction and essentially all the installations comply with groundwater protection regulations. In addition, in a paper provided to former County Commissioner Barbara Seward in 1994 titled *"Thoughts on the Limited Groundwater Contamination Hazard from Septic Tanks in North Albuquerque Acres"* written by the eminent hydrogeologist Frank B. Titus, PhD, Dr. Titus states:

> ***The plausible threat to ground water quality from septic systems in North Albuquerque Acres is minimal, even if homes and septic tanks were to reach the maximum permissible densities under the present land plat and regulations. Specifically, this is true for large-yield municipal wells that are west of the West Sandia Fault. The maximum probable nitrate concentration, based on worst-case assumptions, is shown to be less than one (1) ppm; the more likely concentration, based on realistic risk considerations, is judged to be a very small fraction of that.***

Community Concerns

The section of the report titled "Community Concerns" indicates that the community has several concerns related to the installation of the water and sewer services in the area. Some of these concerns have already been discussed in this response while others have been addressed - although not entirely satisfactorily - in the section. However, one concern has not been addressed because it arose at the Public Information Meeting.

Nowhere in the Study report is there any reference or mention of any attempt by the study team to determine if the residents of the North Albuquerque Acres community are in favor of the installation of sewer and water systems in the area.

It should be noted that when a show of hands of those opposed to any sewer and water system installation was requested at the Public Information Meeting, an overwhelming number of those present were opposed.

Conclusion

I have attempted to demonstrate in this response to the North Albuquerque Acres Water and Sewer Feasibility Study why installation of sewer and water systems in the North Albuquerque Acres area is not an economically sound, economically fair, beneficial, or otherwise worthwhile idea. I believe it will be opposed by an overwhelming majority of North Albuquerque Acres residents. Finally, I believe all further interest in this matter should cease.

Sincerely,

Robert N. Prendergast