Section	Comment	Response	Section Updated
6	The most compelling problem and omission in the draft Memorandum is the failure to estimate or consider what the City of Davis water rates will be in the next ten years and beyond. It is simply inadequate to assume that the current rate of $5.01/CCF will remain in place…and is completely misleading to use that rate as the basis for a conclusion that the City of Davis water project is financially more advantageous to a separate irrigation system. Previously, we looked at the historical water rates Davis has used. See chart of City of Davis Water Rates sent separately…. should be inserted here… We previously had developed a chart entitled Estimated Average Monthly Cost for Water and Sewer. Based on the above chart showing an average of 7% increase in City of Davis rates, we assumed that the City of Davis would have new rates in 2024, figured at an historically conservative 5% per year from 2020. We estimated that by 2029 the City of Davis water rate would be $8.14/CFF. (Please also note that this estimated rate increase would result in Davis with a 2026 rate equivalent to the Woodland 2026 rate) This ever increasing Davis rate must be considered in evaluating what the comparative long term costs of the irrigation project This approach is also inconsistent with other costs estimates in the Memorandum which apply an inflation factor of between 3% and 8% (See Table 6). Surely the City of Davis water rates are subject to similar inflation calculations.	Per conversation with the City of Davis, the City confirmed that rates are the same from 2019 and that no rate study is planned in the near future. Future water rates will primarily be dependent on a rate study that looks at revenue needs in the future over the rate study period to cover costs for Capital Improvement Plan (CIP) projects, Operations and Maintenance, and existing debt obligations, among other costs incurred by the City. LSCE analyzed several rate scenarios for purchasing City of Davis water. First, the current rate of $5.01/CCF was projected over the 10-year planning horizon. LSCE also included 3% and 7% increases to the water rate. A 3% rate was used to generally match inflation and to align with the City of Woodland rate increase that has occurred over the last few years. A 7% rate increase was used as the average annual rate increase that has been observed for City of Davis water from 2016-2024. These City of Davis water rates were applied to the minimum, average, and maximum water demand scenarios to compare to the cost of the proposed irrigation system. The City of Davis rate scenarios also include the same increase to the base rate charge for Davis ($19.86). Refer to Section 6 of the updated Technical Memorandum.	6
2	Do we need to continue to have 2 wells?	It is advantageous to have two wells because: 1) Per Table 5, the estimated instantaneous flowrate required in May-August will likely not be met by one well. The estimated required flowrate ranges from 419-589 gpm during this time. Well 1 is assumed to have a capacity of 300 gpm, and Well 2 is assumed to have a capacity of 450 gpm. Neither well alone is estimated to meet the irrigation demand in all scenarios presented in Table 5. However, there is potential that a future well replacement could yield a higher pumping capacity to meet the total irrigation water demands. This would need to be reviewed when the well replacement occurs. 2) If the well is taken offline for maintenance or experiences any issues, there is not a redundant source of supply for the system.	NA
2	Is there any way to determine what the useful lives of the two wells and the tank are?	A condition assessment would need to be completed to inform any recommendations. There are a significant number of unknowns in determining useful service life. The estimated remaining service life is based on experience for similar infrastructure and equipment age.	2
2	Does the tank really need to be relined and coated? What difference does it make that the operating standards are far less if the system is being used for irrigation instead of domestic supply?	Relining and coating the tank is part of the recommended maintenance to extend the service life of the tank. If the tank is not regularly maintained, the service life will be reduced. The costs to regularly maintain a storage tank, including relining and coating, typically far outweigh the capital costs to replace the tank over an extended period of time. There are differences between municipal and agricultural grade components, service lives, and O&M. Costs are commensurate with agricultural grade components.	NA
3	no discussion reference to pool usage and evaporation	We assume drinking water will be used for pools. The TM did not consider the demands associated with filling pools and associated evaporation.	3
3	other thoughts to be discussed later re usage calculations	OK	NA
4	reference to Attachment A… No copy provided, unless that's just the map??	Attachment A is correct. Attachment A shows the proposed irrigation system pipelines, service connections, and existing pump stations that would supply the irrigation system.	NA
5	Editorial note…would be much clearer if Tables 6, 7 and 8 were presented in numerical order.	Understood. Updated accordingly	5

5	Dividing this into categories, total construction cost is estimated at $3.5 million -$5000 for a meter seems high compared to the cost of the meters for the City water system,	$5,000 includes the meter, meter box, and hardscape and softscape improvements in the vicinity of the meters. The water system was $5,700 per service connection with meter for comparison.	NA
5	Service connection (meter to home irrigation system) costs are not included. West Yost previously did extensive engineering for the design of the individual connections. What is the status of that? And, what is the estimated average cost any homeowner would have to pay to connect to the irrigation system??	Costs for plumbing downstream of the meter are the responsibility of the owner and can vary widely depending on the configuration of the parcel and irrigation system, the complexity of the connection(s), and materials used by the homeowner.	Table 7
5	what is estimated cost per homeowner for the $3.5 million loan. Is it $256,940 divided by 96 i.e., $2676?	The estimated **annual** cost is $2,866 per homeowner for the loan for the assumed loan amount of $3,786,733, 96 residences, and the 30 year term of the loan. This assumes a 6% interest for the loan. This was updated to include engineering.	5
5	See earlier questions about necessity of replacing various elements at certain times.	OK	
5	But more importantly, this section seems to assume that all of these costs should be lumped together at the front end.	Costs for installation of the new irrigation system will need to be on the front end to make the system operational. All components listed, with the exception of the production flowmeters, are necessary on the front end. The front end capital costs are amortized over the course of a 30 year loan. All other CIP costs are spread over a 10-year planning period.	NA
5	Table 8 is particularly problematic as some big ticket items aren't even estimated to be needed for 8-10 years. Additionally, it is very unclear as to how the financing is intended to occur. Certainly, these way-in-the future costs are not eligible to be included in a bond now. Rather, costs would have to be covered via a Prop 218 proceeding in years to come. While it is helpful to outline what future costs may be necessary and appropriate, it doesn't make sense to consider them as current expenses to homeowners.	CIP costs for maintenance/replacement of existing infrastructure are expected to occur in future years. The costs to complete major infrastructure repair/replacement projects must be accounted for in current, established rates so there are sufficient funds available to complete anticipated major projects when the time comes. As far as how financing will occur for the initial system installation - we assume that is up to the community to decide. We have assumed a 30 year loan with a specific interest rate in the absence of any finance options presented by the NDM community or County. We agree that a 218 makes sense to establish current and future rates within a study period.	NA
5	Table 6 It is particularly confusing to have different time frames for different costs. Please list by costs/month or costs/year. It appears to be about $120,000 estimated O&M cost per year… or about $1200/house per year. (We previously had figured $800/year with a 5% increase per year). This also would have to be covered by a separate Prop 218, to be conducted at the same time as a Prop 218 proceeding to commit to bond funding for the initial construction cost of the system	Understood - updated all costs to be annual. O&M costs are estimated to be around $165,000 per year on year 1 with annual inflation that brings the O&M to $237,000 by year 10. It is anticipated that the Prop 218 proceeding would be conducted following a formal rate study for the proposed irrigation system only.	Table 9
5	More re Table 6. Costs for an Operator appear to be very high.	Reduced operator cost per conversation with the County.	Table 9
6	As discussed above, this section appears to clump together current, near future and far future costs. I am very leery of the idea we can impose such significant costs for estimated future construction. (See discussion above, particular as to Table 8)	Including costs for future needs allows a reserve to be built for any unexpected repairs, replacements, etc. that may be needed.	NA
6	Table 9 suddenly has a total Annual O&M cost of $242,230 which isn't outlined earlier. Indeed, Table 6 seems to be more like $120,000	This has been updated. Table 9 includes a breakdown of the O&M costs on Year 1. Table 10 includes the Year 1 O&M with appropriate inflation factors applied over the 10-year period.	Table 9, Table 10
6	Table 9 also includes the very problematic future capital improvement project costs, well into the future, with apparent assumption that we start funding these now, and tuck the money away in some County account??	Correct. We assume this allows a reserve to be built to cover the cost for any unexpected repairs, replacements, etc. and to help fund future CIP projects without the need for additional loans.	NA
6	Table 10 is founded on the concept that we need to fund everything now. Certainly we need to cover the costs of a construction bond, and the initial O&M to get things rolling. I really question the wisdom (and perhaps the legality) of funding major way in the future projects now. Adjusting this table to more accurate City of Davis water rates, and deleting the immediate funding of future costs ("the Average Annual CIP Cost/Service Connection) will go a long way towards an apples-to-apples comparison of like costs.	The irrigation system is assumed to be funded now to make the system operational. O&M costs were averaged over the 10 year planning period which allows a reserve fund to be built to cover future maintenance/replacement costs. This ensures money will be available for any unexpected replacements or repairs and will allow future costs to be covered by the reserves without the need for a loan. The estimated reserves are included in the updated cost estimate.	NA

Other	We need to be aware that there are at least 2 private wells in place, serving probably 3-5 homes. While all homeowners should be subject to bearing the costs of the new irrigation system (just as all homeowners have had to pay for the portion of the sewer system in the street), it is certain that homeowners using their own wells will not be charged for meters or annual usage of irrigation water. This question undoubtedly will come up, and we need to have a good faith response. In some cases, we will not be able to divide by 96….	Understood, please inform LSCE if there is a more specific estimate that should be used.	NA
Other	We had originally requested an Engineering Report that could be used as the necessary basis of a Prop 218 proceeding. Is this Technical Memorandum (hopefully modified per comments above) able to be used for that purpose?	This is a feasibility study that could be used to support a Prop 218 proceeding. We assume a rate study needs to be completed to be used as the basis for a Prop 218 proceeding.	NA
Other	Last night it was mentioned by members of the community that using the groundwater from our wells for landscape irrigation purposes was the same thing as using non-potable water for irrigation. I believe that's incorrect. Technically, all groundwater in the state (with some exceptions) has four assigned beneficial uses. One of those is the municipal and domestic drinking water supply (MUN) beneficial use. Unless the de-designation process has been completed and the groundwater basin no longer has a MUN beneficial use, the MUN beneficial use exists. Like the NDM water, contaminated groundwater may take a considerable amount of treatment, but the water is considered drinkable. There are many examples in the Central Valley of surface (e.g., the San Joaquin River) and groundwater that is contaminated but still carries the MUN beneficial use. Irrigation with non-potable water is possible but non-potable water is generally treated waste water. The City of Sacramento's WWTP is building a pipeline to the south side of the county to provide treated waste water to farmers to use as irrigation supply water. Other cities use treated waste water to irrigate their landscaping, and the most famous example is Las Vegas where the casinos like the Bellagio use treated waste water to water their grounds and form the lake with the water show. My question is whether a project that uses groundwater with a MUN beneficial use, such as the one being considered by the community, will run afoul of a ruling that says we cannot use water with a MUN designation to water our lawns and flowers. Despite what everyone thinks, the water is considered potable by the State.	Refer to Section 4 of the document which address this comment.	4
Other	My main question pertains to the break-even point for a dual system. Of course, that depends on inputs (cost to build the system) against costs for water. The future cost of water is largely unknown - other than that it will soon increase - by how much we don't know, but it could be a great deal. So, my question is can the engineers plug into their estimate three inputs 1) current water costs, 2) a moderate cost increase, and 3) a significant cost increase? Can they carry their estimates out a full 10 years? This will help the community decide if this is a cost effective approach over the near and longer term.	The TM has been updated to include 3 figures with the estimated annual cost for irrigation water per household using the minimum, average, and maximum water demand scenarios. Each figure shows the estimated annual cost per household for: 1) City of Davis water at the current rate of $5.01/CCF, 2) City of Davis water assuming an average annual rate increase of 3% per year, 3) City of Davis water assuming an average annual rate increase of 7% per year, and 4) the proposed irrigation system.	6
Other	Also, the engineers are estimating that the cost to build the system involves digging up roads (expensive). One of our scholarly neighbors suggested that we consider laying the infrastructure in the current irrigation ditches, which will require much less cost. Can the engineers consider this?	An image showing the irrigation ditch locations was provided to LSCE. Per this image and conversations with NDM, the irrigation ditches are located on the exterior perimeter of NDM Phase 2 and approximately 5-feet in size. LSCE assumes the irrigation ditches are not feasible and would be more costly than installation of pipelines in the roadways for the following reasons: 1) irrigation ditches are not present in the NDM 1 portion of the system 2) the existing condition of the ditches such as settlement, presence of existing infrastructure or lining, etc. is unknown 3) the drainage ditches present on the NDM 2 portion of the system are not ideally located, requiring long service runs and meters on the back of the lots which is not ideal for O&M 4) environmental impacts are unknown 5) there is a risk of damaging infrastructure with any regular canal maintenance activities 6) construction logistics are impractical for access and staging equipment, and extensive earthwork would be required to install pipeline in the flowline of the ditch 7) operator access is not ideal	NA