

Bolinas Community Public Utility District
A Meeting Of The Operations Committee of the Board Of Directors
November 8, 2023 270 Elm Road, Bolinas

1. Call to Order.

2:03 p.m.

2. Roll.

Directors Alexander Green and McElroy present; staff members Blackman and Wood also present.

3. Discussion of Pending Sewer Projects.

Mark Wilson from Nute Engineering was present to answer questions from the Committee.

a. Wharf Road Lift Station Study.

Staff reminded the Committee that the district asked Nute Engineering to conduct a study of the Wharf Road Lift Station in order to understand why the new Vogelsang rotary lobe pumps installed there in 2015 both failed after only five years of service; the district also asked Nute Engineering to assess the condition of the wet well and the likely scope of work for its rehabilitation and re-coating. At Mark Wilson's recommendation, the study included an electrical equipment condition assessment, as well as an assessment of the dry well/pump room.

Overall, Nute Engineers recommends specific short-term and long-term "fixes" to address the issues identified in the study. In response to questions from staff and the Committee, Mark Wilson said the district eventually will need to replace the motor control center at the lift station as it is at the end of its useful life. He noted it can be upgraded to include a number of additional alarm features and communicate overall in a more informative way with the operations crew. Mark said the replacement of the motor control center can be implemented/phased independently of other upgrades recommended in the study, including but not limited to the conversion of the dry well into a submersible pump station. He noted the rehabilitation of the wet well, including the modification recommended to trap sand and rock to prevent those materials from entering the pumps (the study concludes that sand and grit/rock are the likely cause of the early pump failures), also can be done as an independent project. Mark emphasized there currently is no mechanism by which the district can prohibit the entry of sand and grit into the wet well and then into the pumps. Staff advised the Committee that the operations staff strongly supports Mark's recommendation to modify the wet well to trap sand and grit because it is not otherwise possible to completely prohibit the entry of these materials into the system given the beach nature of the town.

Discussion turned to the study's long-term recommendation to convert the current dry well/pump room into a submersible pump station with Flygt centrifugal pumps, which Mark described as very common (and very reliable) in sewer districts throughout Marin. Mark said that while the Vogelsang representatives have posited that rags were the source of damage to the existing rotary lobe pumps installed in 2015, Mark said his study did not corroborate this; he pointed to the photos of the damaged Vogelsang rotary lobes in the study, which appear to validate that the damage is from something abrasive. Director McElroy asked Mark if he believes that the Vogelsang pumps were not a good choice for the pump station; Mark said the high elevation needed for the pumps to push the wastewater (i.e., from sea level approximately $\frac{3}{4}$ of a mile to the treatment ponds at 200 feet of elevation) is unusual, which is why the pumps were chosen. That said, he believes the submersible Flygt pumps would be a good replacement choice given the sand and grit in the district's system; he acknowledged this would require the conversion of the dry well into a submersible pump station, and said he believes this would serve the district well and provide additional wastewater storage (in addition to the storage available in the wet well). In response to questions from director Alexander Green, Mark Wilson confirmed that he recommends the district (i) install the wet well modifications and protective coating outlined on page 13 of the study (budget level estimated cost of \$153,900); (ii) not install the XRipper rag control system discussed on page 13 of the study (budget level estimated cost of \$115,020); and (iii) convert the pump room dry well into a submersible pump station (including motor control center replacement) as detailed on page 14 of the study (budget level estimated cost of \$760,050), the latter of which can be done in phases. Mark emphasized these are construction-level budget estimates which do not include engineering and design costs. In response to questions from staff, Mark said for budget planning purposes, he believes engineering and design costs typically are about 10% of estimated construction costs, although that percentage has been increasing in recent years.

Director McElroy inquired whether the district should install an intermediate pump station along the force main, somewhere in between the lift station and the ponds, to take some of the load off of the pumps at the lift station. Mark Wilson said that could be done -- effectively this would be the installation of a booster pump station -- but noted this then would be another facility for the district to monitor and maintain. He noted the district is required as a regulatory matter to have sufficient "pump capacity" to

operate reliably, which is why the existing lift station has two pumps – one is redundant. (Staff noted the district also has a spare third pump on hand for emergency purposes.) Mark said the current pumps, or the Flygt pumps if those eventually are installed, are more than adequate for the purpose they serve.

b. Canyon Road Lateral Connections.

Director Alexander Green referenced Nute Engineer's proposal for the Canyon Road lateral connections and noted the project is complicated by the requirement to obtain multiple easements given the private ownership of Canyon Road. He asked: if money was no object, would the design presented in the proposal (individual booster pumps with lateral connections to the existing sewer main on Terrace Avenue) be preferable to the installation of a new sewer main in Canyon Road? Mark said a new sewer main likely would be much more expensive and all of the easements would still need to be obtained as this is not a public right-of-way; he noted the individual booster pumps (1 HP) he is proposing for the residences generally are very reliable, economical, and work well for this application. Director Alexander Green asked if there would be access difficulties posed by installing six individual laterals in a single trench. Mark Wilson said each line will have a clean-out box inside the property line, all of which can be clearly marked; in addition, clean-out boxes will be installed outside the manhole on Terrace Avenue. In response to questions from staff, Mark said the concrete barrel of the manhole may need to be replaced as part of the project, depending on its condition.

Staff said the location of the water line in Canyon Road needs to be field-verified, but staff believes it is on the far side of the road, closer to the creek ravine. As such, it is likely the sewer laterals will need to be installed in the section of the road closest to the residences, thereby necessitating the largest number of easements (because there are six property owners on this side of the road vs. two property owners on the other side of the road). Staff said a significant component of the estimated cost of the engineering and design work is the boundary survey work needed to prepare the easement descriptions, which will be required no matter how the project is installed. Director McElroy asked if Mark Wilson has an estimate for how much the overall project might cost, given that this will be of strong interest to the residents, who will be paying for the lateral installations. Mark said he does not do residential pump stations on a regular basis, so he hesitates to provide an estimate off the top of his head, but he has a similar project underway in San Rafael right now and the bids are due for that project in January, so he should be able to provide a better idea of the likely costs to the homeowners at that time. Mark said each homeowner probably is looking at approximately \$60,000 worth of work, which he noted is much less costly than a new septic system.

Staff said the district has expended considerable time and resources to obtain permission from the Regional Board to connect these residences to the sewer system; the district has done so to be helpful because at least two of the homeowners have no other option as the County has advised that they cannot install replacement septic systems. Staff noted if Nute Engineering designs and engineers the project on behalf of the district, and the district puts it out to bid and supervises the installation, it will be a turnkey project for the homeowners – they will only need to pay the applicable costs. Staff asked Mark Wilson whether there is an alternative option whereby the homeowners can solicit proposals from contractors qualified to install the laterals and the district can then review and approve the proposals, with the installation then the responsibility of the homeowner. Would that result in significant cost-savings for the homeowners? Mark said the homeowners would still be required to have an engineered plan, which can be costly; he noted that his proposal has the benefit of economies of scale since he would be designing all six connections. Staff said the fee proposed is \$77,680, which is approximately \$13,000 per homeowner and includes all of the engineering, design, survey and topographic mapping work – this seems to be a very good deal for the homeowners, staff said; the Committee members concurred.

Mark warned the Committee that the electrical service at one or more of the homes on Canyon Road, given the age of the homes, may not be up-to-code and therefore may need to be updated as part of the project, which would add costs for the affected homeowners. Director McElroy asked if the homeowners will be able to live in their homes during the installation of the project; Mark said all of the infrastructure can be installed and the final connection over from old to new would be less than a day. Discussion ensued about some of the details of the site investigation work described in the proposal, including locating the existing septic tanks and determining whether they can be re-used. Mark said redwood tanks cannot be reused; concrete or fiberglass tanks will need to be pumped down and inspected to determine whether they can be reused. Staff said the district will ask the homeowners at an upcoming meeting for details about their existing septic tanks, including their location and materials. In response to questions from the Committee about back-up power for the booster pump stations, Mark said that a small on-site generator would be more than adequate and is not difficult to hook-up; as for the trench needed for the six laterals, Mark said a 30-inch wide trench will be needed. Director Alexander Green asked if Nute Engineering would be willing to take on the management of this project as he is concerned about the impact of doing so on staff time. Mark Wilson said project management is not included in his budget; he noted it can be very time-consuming and therefore expensive to try and manage multiple residential customers. Staff said the project management can be done by staff so as not to incur those additional costs.

Mark Wilson departed the meeting at 3:27 p.m.

In response to questions from the Committee about the Wharf Road Lift Station Study, staff recommended the district prioritize the rehabilitation and recoating of the wet well, including the modifications recommended to trap sand and grit. Staff said the district has the funds collected and on deposit in reserves for this project as it has been planned for some time. Staff said the replacement of the motor control center likely would be the next project to install in order of priority, as well as the various short-term electrical recommendations (which the district can commence immediately, independent of the wet well project). Staff cautioned that the Wharf Road Lift Station project estimates are budget-level estimates and not the more precise engineers estimates; also, staff recommended the Board plan on engineering costs closer to 20% of the budget level project estimates (rather than 10%).

In response to questions from the Committee, staff explained that Nute Engineering is a highly respected local wastewater engineering firm and is particularly effective at working efficiently with small districts like the BCPUD. As a small firm, Nute Engineering has less overhead than a larger firm and its billing rates are more affordable as a result. In addition, Mark Wilson previously worked at the Regional Water Quality Control Board and has established relationships with regulators in the San Francisco Bay Area office. Director McElroy asked if it would be better practice for the district to solicit proposals from several engineering firms for all of its projects. Staff said that while this could be done, it would be exceedingly time-consuming from a staff perspective and also potentially might undermine or impair the relationships the district has established with its consulting engineers, which are very valuable and beneficial to the district, particularly during emergencies. Staff underscored the fee Nute Engineering is proposing for the Canyon Road lateral connections is extremely cost-effective on a per homeowner basis. Director Alexander Green said he is very concerned about impacts on staff time given how many hours staff already is working. Director Alexander Green said he does not want the district to implement any procedures it is not mandated to implement that would require more staff time than is necessary on any of these projects, particularly the Canyon Road lateral connections, which already has consumed a tremendous amount of staff time. He noted the homeowner's properties will escalate in value by virtue of being connected to the BCPUD's sewer system, which will be very beneficial to them all. With regard to soliciting additional engineering proposals, director Alexander Green said that he is sensitive to staff's priority on maintaining the district's relationships with its existing engineers; he pointed out that the construction phase of the project will go out to bid and that will ensure competitive pricing for the installation of the lateral connections. After a brief additional discussion, the Committee agreed to present the Nute Engineering proposal to the Canyon Road homeowners at a meeting to be scheduled in the near future. The Committee asked staff to prepare an outline for this meeting, including discussion items about likely project cost, schedule for implementation, easements, limited water use permit requirements, and all other details of the project that are foreseeable at this time.

4. Community Expression.

None.

5. Adjournment.

3:53 p.m.