Ordinance No. 29, 2022
Phase II Construction of Water Production Wells

Introduction

A number of treatment process units and conveyance systems within the City of Valparaiso's (City) water and wastewater infrastructure are between 35 to 50 years of age and are nearing the end of operational effectiveness. As a part of strategic planning and master plan studies, the Valparaiso City Utilities (VCU) Board of Directors have recently initiated engineering designs with their consultants (Arcadis US, Inc., DLZ and Stantec, Inc.) in order to finalize construction plans for major improvements at the City's water and wastewater utilities. These efforts are to ensure the ongoing modernization of utility facilities and conveyance systems, environmental sustainability and regulatory compliance as referenced in **Exhibit A**.

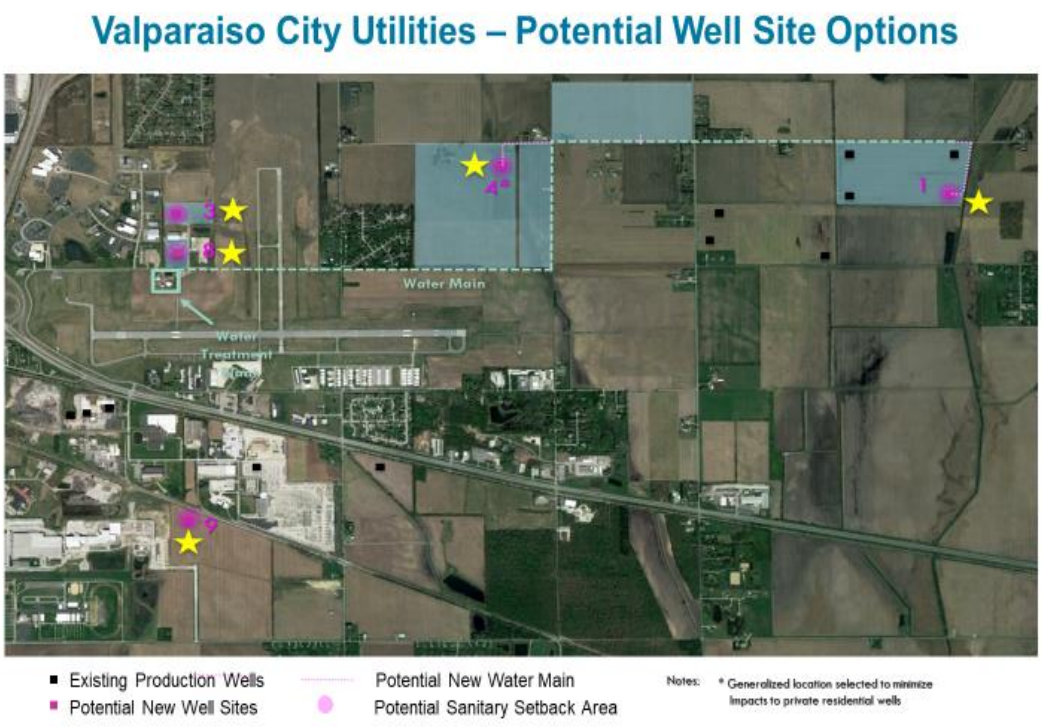
As we move forward in finalizing and prioritizing these important capital projects, the Valparaiso City Services (VCS) will be assembling an advisory team to discuss and determine the long-term infrastructure needs of the City's water and wastewater systems. The goal is to continue to provide safe, reliable and uninterrupted services at a competitive cost to our community while supporting responsible growth and maintaining compliance with environmental requirements.

VCS Planning

Due to an aging water system, the City's *2013 Bond Issue & Phase I Water Project* finalized the construction of eight (8) new water production wells in 2015 and other treatment components. These new water wells were to eventually replace the wells at the Airport Well Field so as to sustain and enhance water capacity and quality within the City. As identified in VCU's *Strategic Plan (Second Edition, 2018-2022)*, it was understood at that time an additional four (4) water wells would also be required as the second oldest well field at the Flint Lake Campus would need to be replaced due to the on-going decline in water production and efficiency.

VCS has studied and explored many potential water well sites since 2015. Some of the identified well sites are within City Park property along 500 North for the North Water Zone, at the current Flint Lake Water Campus and in existing easements, VCU property, Valparaiso Redevelopment Commission property, private property and Pratt Industries property for the South Water Zone. These sites are shown on the maps below:

POTENTIAL SITES FOR NEW WELLS
CITY PARK PROPERTY & FLINT LAKE PROPERTY



Water System Project Financing

The VCU Board of Directors has engaged into a water infrastructure design contract with Arcadis US, Inc. out of Indianapolis, Indiana in order to design the water system improvements for the VCU's Department of Water Works as identified in **Exhibit A**. VCU's consulting engineers have provided high level construction estimates for the water projects as shown within the exhibit. At this time, these water system improvements are estimated not to exceed $23 million which includes engineering, construction costs, municipal advisory and legal fees.

Due to continued supply chain issues and prolonged lead times for major pieces of water treatment/conveyance related equipment, the VCU desires to expedite the water system upgrades by constructing four (4) new water production wells in the near term as Phase II and then determine the final placement of water production wells and/or alternative water sources as part of Phase III.

The VCU Board of Directors wants to finalize the Phase II design and construction of the new water production wells by the summer of 2023. Proposed funding for these new wells is through a draw down on issued *Bond Anticipation Notes (BAN)* at their discretion in the principal amount not to exceed $6.0 million. This amount is underneath the $10 million aggregate principal limit in debt issuance by the City for the expressed purpose of paying the costs of proposed major infrastructure improvements at VCU's Department of Water Works as specified in the approved City Common Council Resolution No. 13, 2022.

The requested BAN funding will assist in the cost of Arcadis's engineering design work for both Phase II and Phase III at $2.3 million and for construction costs of the new water production wells at approximately $5.0 million in order to complete Phase II. The total estimated cost is $7.3 million at this time.

BANs are typically issued in anticipation of a larger bond issue and provide the following flexibility:

- ✓ Short-term borrowing allowable up to five (5) years.
- ✓ Can be negotiated with a local bank.
- ✓ A typical lower interest rate because a BAN is short-term rather than a long-term bond.
- ✓ Can take proposals as a draw bond (similar to a line of credit). Thus, only paying interest on the draw or a lump sum.
- ✓ Can put in provisions for early repayment with no penalty.
- ✓ Often used for engineering or preliminary costs prior to a larger project to avoid having two (2) bonds.
- ✓ The pledge to repay the BAN is via a long-term bond to be issued in the future so that there will be no need to raise customer rates at this time.
- ✓ It is a common financing tool employed by many utilities across the country for needed capital improvement projects.

Recommendation

The VCU Board of Directors has been presented a bond ordinance authorizing the issuance of Bonds and Bond Anticipation Notes in accordance with the City's Common Council Resolution No. 13, 2022 for major infrastructure improvements at the VCU's Department of Water Works. The VCU Board of Directors deems it advisable to approve of the bond ordinance and therefore recommends adoption of said ordinance by the City's Common Council.

The proposed BAN will be drawn as a short-term loan to cover the following water system improvements:

1. Engineering costs associated with project design.
2. Phase II water well exploration and testing.
3. Construction of four (4) new water production wells by 2023.

The actual pledge of repayment of the BAN is the future bond issue. Consequently, a customer rate increase will not be necessary at this time. Customer rates will be addressed over the next 12 months.

END OF DOCUMENT

EXHIBIT A (PROPOSED UPGRADES)

WATER

- Construction of up to 8 new wells in various locations to enhance and maintain capacity.
- Transmission mains for associated wells.
- Backwash recycling system at the Flint Lake Water Treatment plant (ground storage tank, decant system with pump station. Associated yard piping and electrical system.
- Pressure Filters – Replacement of up to 4 pressure filters at the Airport Water Treatment Plant. Structural and electrical modifications. Includes instrumentation and controls.

WASTEWATER

- Installation of a new high strength receiving station to allow for EKPCF to accept waste hauled in from local industries. The high organic strength waste could aid in co-digestion and enhance biogas generation.
- Improving aeration with new blowers, diffusers, and mechanical mixing for both the north and south aeration tanks. The existing system is over 35 years old and is oversized and not efficient. The new system will reduce energy cost for the utility by reducing the blower electrical use. Updating the system can also provide additional treatment enhancements that will be evaluated in the early stages of design.
- Tertiary Filters – Replace the existing deep bed sand filters with a cloth media system. The existing filters are failing and have a limited capacity of 8 MGD. The new filters system will provide increased capacity, reduce recycle flow volume, reduce head loss across the process, reduce O&M cost and meet NPDES permit compliance.
- Upgrades to the waste activated sludge (WAS) thickening system. The existing DAF system is at the end of its useful life and will be replaced by a new system. The specific system will be determined during the 30% design state of the project.
- Replacement of the anaerobic digesters covers and mixing systems.
- Upgrade the SCADA System. The existing SCADA System is no longer supported by the vendor and provides minimal remote control. Most of the plant is controlled manually on a local level. The upgraded system would allow operators to perform more monitoring, data gathering, and control.
- Improvements to the electrical system including the main electrical service replacement, MCC upgrades, and automatic transfer switch replacement.
- Refurbishment/replacement of the pipe gallery roof. This will extend the useful file of the system and address any potential safety hazards.
- Regional Lift Station – Construction of new regional pump station and associated forcmain.