Phase 3 – Evaluation of Alternatives

ALTERNATIVES	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
	Expansion of the Existing Pumping Station and Utilizing the Existing Reservoir	**Expansion of the Existing Pumping Station and New Reservoir**	**New Pumping Station and New Reservoir**
Description	→ Refurbishing the existing Well FDL01 including well cap, pump and discharge pipe → Replacing all Process, Mechanical, Electrical and Instrumentation and Automation equipment, including chlorination system, pumps and generator → Expanding the existing Pumping Station building to house the new and future treatment equipment → Refurbishing the existing reservoir → Adding new treatment system (H_2S removal) → Connecting Well FDL03 to the existing Pumping Station → Decommissioning of the existing Air Stripping system → Providing Waste Management	→ Refurbishing the existing Well FDL01 including well cap, pump and discharge pipe → Replacing all Process, Mechanical, Electrical and Instrumentation and Automation equipment, including chlorination system, pumps and generator → Expanding the existing Pumping Station building to house the new and future treatment equipment → Constructing a new reservoir near the existing Pumping Station and connecting it to the existing system → Adding New treatment system (H_2S removal) → Connecting Well FDL03 to the existing Pumping Station → Decommissioning of the existing Aeration tank and reservoir → Providing Waste Management	→ Refurbishing the existing Well FDL01 including well cap, pump and discharge pipe → Constructing a New Pumping Station on the Same Property → Providing Space for a Future Treatment System → Adding New Chlorination System → Adding New Treatment System (H_2S Removal) → Constructing a New Reservoir → Decommissioning Pumping Station, Aeration Tank and Reservoir → Connecting Well FDL03 to the existing Pumping Station → Providing Waste Management
Economic Impact	Estimated capital cost - $3.0 M O&M Costs - $120,000	Estimated capital cost - $3.3 M O&M Costs - $120 K	Estimated capital cost - $3.8 M O&M Costs - $120 K
Rating	**Less Preferred**	**Less Preferred**	**Least Preferred**
Environmental Impact	Potential negative impacts associated with chemical supplies Process wastewater production Minor impact on the environment during construction No negative impact on the aquifer Negative impact on storm water drains	Potential negative impacts associated with chemical supplies Process wastewater production Minor impact on the environment during construction No negative impact on the aquifer Potential negative impact on storm water drains	Potential negative impacts associated with chemical supplies Process wastewater production Minor impact on the environment during construction No negative impact on the aquifer Minor impact on storm water drains
Rating	**Less Preferred**	**Less Preferred**	**Most Preferred**
Technical Impact	Effectiveness – Removal of H_2S, lower treated water turbidity, potential reduction in lead concentration due to reservoir cleaning and removal of sediments. Existing concerns regarding water quality in the reservoir may remain. Sufficient building space to house the potential future treatment processes Water Storage – Sufficient	Effectiveness – Removal of H_2S, lower treated water turbidity, potential reduction in lead concentration due to using a new reservoir. Sufficient building space to house the potential future treatment processes Water Storage – Sufficient	Effectiveness – Removal of H_2S, lower treated water turbidity, potential reduction in lead concentration due to reservoir cleaning and removal of sediments. Sufficient building space to house the potential future treatment processes Water Storage – Sufficient

	Ease of operation – Filter media backwash; however, easy to operate	Ease of operation – Filter media backwash; however, easy to operate	Ease of operation – Filter media backwash; however, easy to operate
	No available data/report on the possibility of the expansion of the existing building in terms of its condition and DSS report. Existing building is old.	No available data/report on the possibility of the expansion of the existing building in terms of its condition and DSS report. Existing building is old.	New Building
	Constructability: Requires shutdown and possibly temporary water supply to the customers. Potential impact on the security of water supply. Potential impact on the water quality during construction period. Risk: High Timeline: Moderate	Constructability: Requires shutdown during the operation of the active PS, might disturb water supply to the customers. Potential impact on the security of water supply Potential impact on the water quality during construction period. Risk: Moderate Timeline: Moderate	Constructability: Requires minor shutdowns No impact on the operation of the existing PS and reservoir Secure water supply to the customers Risk: Low Timeline: Low-Moderate
	Redundancy – Provided through the Backup Well		
Rating	**Least Preferred**	**Less Preferred**	**Most Preferred**
Social Impact	OH&S exposure risks due to chemical usage Maintain the same reservoir which has historically had issues Growth is allowed No impact on private wells	OH&S exposure risks due to chemical usage Growth is allowed No impact on private wells	OH&S exposure risks due to chemical usage Growth is allowed No impact on private wells
Rating	**Least Preferred**	**Most Preferred**	**Most Preferred**
Overall Alternative Rating	**Less Preferred**	**Less Preferred**	**Most Preferred**