

GREAT LAKES WATER AUTHORITY

Ypsilanti Pumping Station Improvements

Drinking Water Revolving Fund
Project Plan Public Hearing
June 23, 2021





Plan View of Existing Ypsilanti Pump Station

Summary of Project Need

Currently, much of the major equipment in the YPS is near or beyond its useful life and needs to be replaced/refurbished. Additionally, separate planning and needs assessment investigations conducted in the last five years have identified major elements requiring correction, including stand-by generator replacement, pumping unit replacement, and major electrical equipment replacement. In addition, the site septic system needs to be replaced with a connection to a local sewer system which is about ½ mile away. The purpose of the project is to provide improvements that enhance the reliability, maintainability, and operability of the facility for the long-term

Proposed Improvements

GLWA identified and evaluated alternatives that best suited replacing the existing Ypsilanti Pumping Station (YPS). The recommended alternative builds a new pump station in new location with the ability to be expanded at some future time. The major components of the project are:

- Construction of a new pumping station
- Construction of new connections to the existing transmission system
- Demolition of existing YPS facilities
- Provisions for future expansion and reservoirs

YPS Systems

The YPS system consists of:

- Transmission lines
- Booster Pumps
- Control Systems
- Pump Buildings
- Yard Piping and associated Vaults

Potential Alternatives

Three Alternatives were evaluated:

Alternative 1 – “No Action”: This alternative would not rehabilitate or improve the existing YPS or associated ancillary systems. This alternative is not carried forward.

Alternative 2 – Replace Existing YPS on current Site: This alternative would replace the existing YPS within the existing property. This alternative is not carried forward since the new PS would impact wetland and is not be expandable at a future time.

Alternative 3 – Replace YPS near Wick Road PS: This alternative would replace both the YPS and WICK PS with a new pump station. This alternative is not carried forward because it limits GLWA's ability to provide water for future customers and it limits the flow pressures to current customers.

Alternative 4 – Replace Existing YPS on a new site: This alternative would replace the YPS on a portion of Willow Run airport which is in process of being acquired. A new PS will be built with the ability for expandability and future reservoirs. This is the selected alternative

Estimate Project Costs

Based on the ability to meet the functional requirements for the project GLWA identified Alternative 4 as the selected alternative. A summary of the costs is presented below:

Cost Item	Alternative 4:
	Construct New YPS at D Street and Beck Road
Construction Cost*	\$35 Million
Estimate Range*	\$17.5 - \$70 Million
Design/Planning Cost	\$3,000,000
Construction Administration	\$700,000

*Based on a AACE Class 5 estimate with an accuracy range of -50% to +100%.

User Cost Impact for the YPS Improvements Project

Item	Improvements (\$)
Total Cost of Project	\$38,700,000.00
Annualized Cost of Project (Assuming DWRP Interest Rate of 2% Over 20 Years)	\$2,338,311.00
Service Area Households (Customers Served by GLWA as of the 2010 Census without including Genesee County)*	1,538,000
Estimated Household User Cost (per Year)	\$1.52

*Service Area Households is determined by the population serviced by GLWA (3.8M) divided by the average number of persons per household which is 2.47 per the US Census.

Environmental Evaluation

- Construction of the proposed project is not expected to have an adverse effect on historical, archaeological, geographic, or cultural areas.
- It is not anticipated that GLWA’s proposed improvements to the Ypsilanti Pumping Station alter the ongoing pattern of growth and development in the study area.
- The improvements resulting in the improved reliability and efficiency, both in the present and in the long-term future, of the YPS as it relates to the GLWA water supply system are the primary cumulative beneficial impacts anticipated from the implementation of the proposed project.

Implementation Schedule

The following schedule is anticipated for the YPS Improvements Project:

Year	2021								2022								2023								2024								2025																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Activity																																																		
Design	█																																																	
Bidding																		█																																
Construction																			█																															



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