INSIGHT

7 stages of a wastewater infrastructure project

Every wastewater system project has its own unique set of requirements, however when it comes to planning a project, there are some basic steps to follow to help ensure the project is successful.

This list is a general overview of the process. For a more comprehensive explanation, or for questions about a specific project, please fill out the form at the bottom of the page and one of our wastewater experts will get in touch with you.

1. Hire an Engineering Firm with Wastewater Infrastructure Experience.
The reports, plans and specifications that are completed in the first steps of a project need to be signed, sealed and dated by a professional engineer in the state where the project is located. The recommended process for selecting an engineering firm is through a qualifications-based selection (QBS). This process will help with choosing the best firm to meet the needs of the community and is a requirement to secure funding from most government agencies.

Best Practice
If a community is planning to seek funding assistance from state and/or federal resources, it is important to apply for funding early to make sure any requirements are met.

2. Evaluate Existing Infrastructure to Determine Necessary Improvements.
The selected engineering firm will evaluate the current infrastructure and create a report with a prioritized list of needed improvements and the estimated cost for the project(s).

The report, also known as a Facility Plan, should also include an evaluation of the community's financial capabilities and rate structure to determine the best alternatives for paying for the priority project(s) and consider any anticipated future wastewater-related regulations and changes that could affect the capacity of the facility.

Best Practice
Contact the permitting agency to learn about any anticipated regulatory changes that could affect the Facility Plan.

3. Analyze and Select the Best Project Options(s).
Considerations when evaluating the alternatives presented in the Facility Plan include:

- What needs to be done to be able to meet the final effluent limits within the existing permit as well as the anticipated regulatory changes?
- Can the community financially afford the most appropriate treatment option(s)? If the best option(s) will require the user rates to increase substantially, and will create potential hardships, it may be necessary to work with the permitting agency to request additional time to meet the compliance schedule or apply for grants to help soften the impact of the necessary improvement costs.

Best Practice
Bring internal stakeholders together to discuss the construction alternatives, funding options and regulatory compliance schedules, as well as any other considerations included in the Facility Plan that could affect how and when the project moves forward.

4. Secure Funding for the Project(s).
When seeking funding sources, the permitting agency can be a good resource for state and local programs. Another potential resource is the engineering firm that created the Facility Plan. Some firms, like Bartlett & West, have a lot of experience with helping communities find funding that best fits the needs for projects, including both public and private sources.

Some of the more common federal funding programs and links are listed here.

American Rescue Plan Act (ARPA)
In 2021 eligible government entities received funding from the ARPA State and Local Fiscal Recovery Funds (SLFRF) to help communities recover from the effects of Coronavirus. One of

the main areas these funds can be used is investments in water and wastewater infrastructure.

Clean Water State Revolving Fund (SRF) Program

The SRF is an Environmental Protection Agency (EPA) federal-state partnership program that provides communities low-cost financing for a wide range of water quality infrastructure projects. It is primarily a subsidized loan program, but grants may be available depending on annual appropriations by Congress.

EDA Public Works Economic Adjustment Assistance (PWEAA) Program

Grants and cooperative agreements through the Economic Development Agency (EDA) PWEAA program assist distressed communities to build, design, or engineer critical infrastructure that will help enable them to become more economically competitive. Funds can also be used to help communities experiencing severe economic disruptions that may occur suddenly or over time.

USDA Rural Communities Programs

The United States Department of Agriculture (USDA) offers several loan and grant programs for rural communities.

Private Funding Versus Federal Programs

Under certain circumstances, private funding can offer advantages over federal programs.

- *At current interest rates, loan payments are comparable to federal programs.*
  In recent years private funding interest rates have been similar to federal programs, but when interest rates rise, this will no longer be the case.
- *The process of securing private funding is easier and the timeline is much shorter.*
  Federal loan programs can take 12-18 months for approval. Private funding can be secured in as little as 30 days.
- *Private funds can supplement when a project is partially funded by a grant.*
  When grant funding does not cover the full amount to complete a project, private funding can help bridge the gap.
- *Private funds offer flexible options in how they are utilized.*
  If the amount borrowed exceeds the amount needed for a project, private funds can be used for something else the city might need, e.g., a police car. Federal programs do not allow for this flexibility.

Best Practice

If a community is planning to seek state or federal financial assistance it is important to review eligibility requirements early in the Facility Plan development process. For instance, depending

on the program, there may be a requirement that the community pass a bond election to be eligible for the program.

6. Submit Facility Plan and Design to Agency

This part of the process varies by location. Check the agency website for guidance.

Typical next steps in the process plan include the following items.

- Submit the Facility Plan to the permitting agency for approval.
- Upon approval, submit the Facility Plan to funding agencies.
- After funding is granted, complete the facility design, making sure all requirements of the funding agency are adhered to, i.e., environmental requirements and easements.
- Submit completed facility design to the permitting agency.
- Permitting agency approves and issues construction permits.

Best Practice

Before submitting a Facility Plan and applications to the permitting agency, ensure the facility is up to date on annual permit fees to help prevent a delay in the agency reviewing the documents.

7. Project Construction and Completion.

Once the permit is issued, the project can begin construction.

- During construction, permitting agencies require the project engineer to provide inspection services to ensure the project is constructed according to the plans. This is an important step in the construction sequence and must be documented along the way to receive approval for payments by the funding agencies.
- When construction is completed, a statement of work, along with any other required documentation, is submitted by the engineer to the permitting agency.

Best Practice

Monitor the construction progress. If it is determined that the project construction time will extend beyond the time allowed on the construction permit, the permittee will need to file for an extension with the permitting agency.

Getting Started

For questions or more information about wastewater project planning, engineering, funding or plant operations and maintenance, fill out the form below to speak with one of the experts on

the Bartlett & West Wastewater team.