

Replacement Wastewater Lift Station

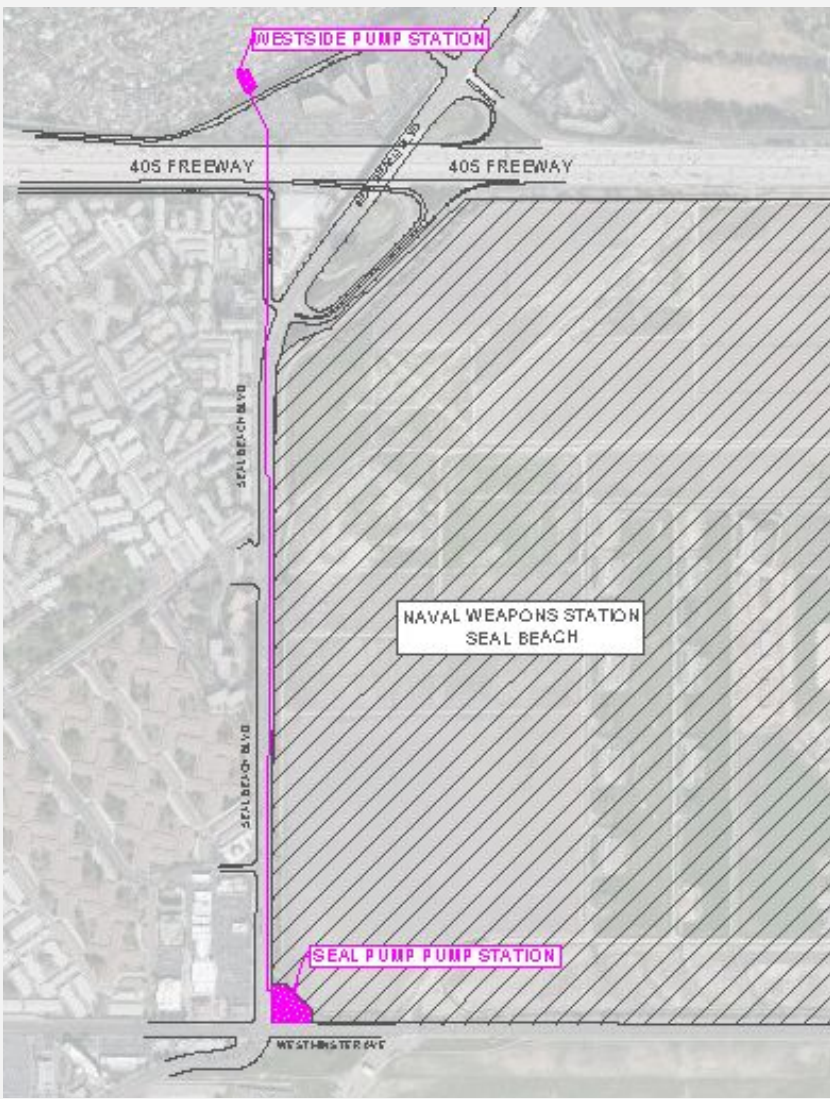


Pipe Masters Inc. | Design Group W-2
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Project Manager: Jason Tran
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Project Description:

The new pump station will be placed adjacent to the existing Seal Beach PS and will accommodate current and future projected flows. The configuration of the proposed pump station will act as a dual wet well system with parallel pumps at different elevations.

In addition to the pump station design, the reconfiguration of the upstream sanitary sewer (gravity pipe system) feeding the pump station is to be addressed.



Project Constraints:

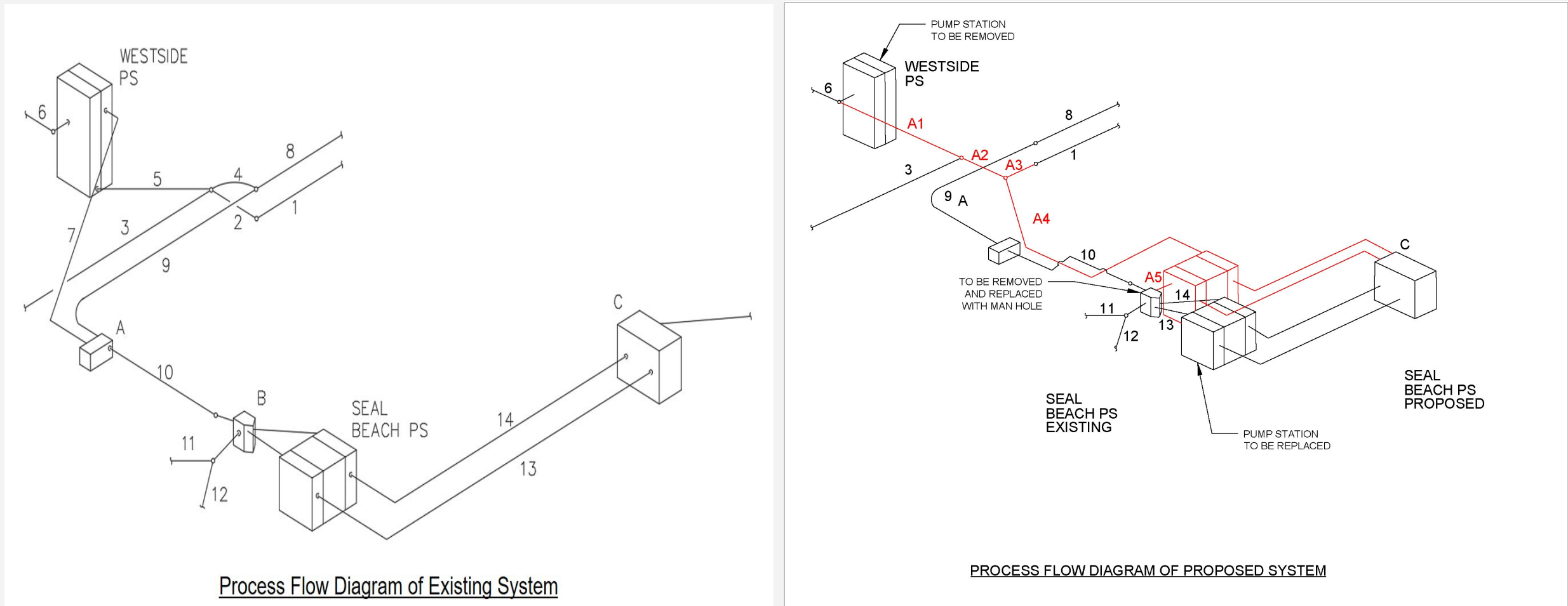
- Existing utilities will need to be considered to avoid any possible damage.
- Adequate spacing between sewer lines and potable water.
- Encroachment on the California State Highway and the adjacent Navy Base.
- Meet design requirements of wastewater velocity of 2 ft/s to 4 ft/s.

Project Scope

- Tasks Completed: Review and analyze existing pump station, Design alternative pipe route, Design pump station, Prepare cost estimates, Draft process flow diagrams
- Tasks In-Progress: Draft civil plan sheets, Draft design report

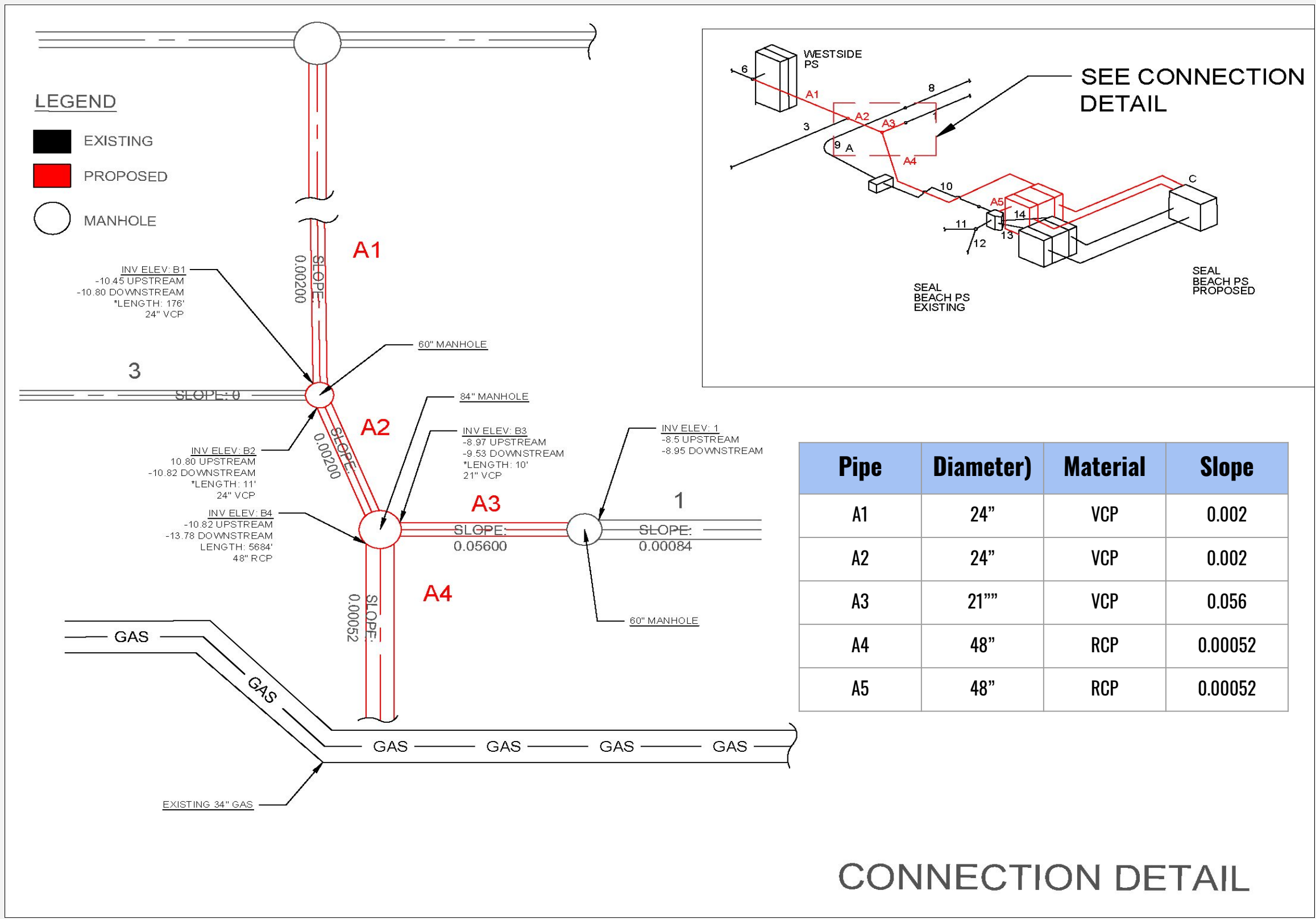
Pipeline Design

The proposed pipe layout will be to replace existing pipes that do not meet the design criterias, reduce the cost of construction, and properly distributes sewage to the proposed pump station.



Upstream Gravity Sewer Connection

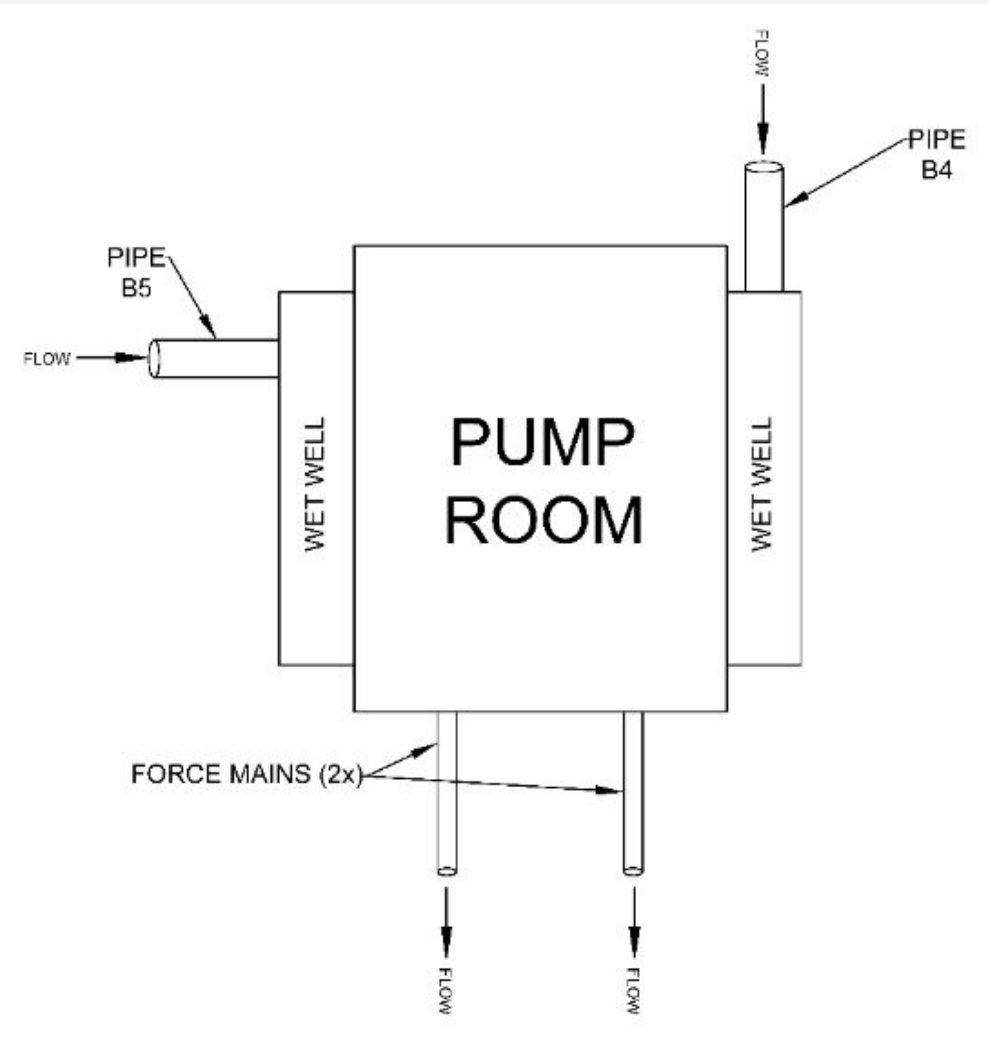
- The minimum and maximum flow rates were calculated for each pipe in the new system.
- The slopes of the new pipes were designed to have similar slopes to the existing pipe.



Pump Station Design

The pump station will be designed to have 2 Floors. A bottom floor for the pumps and piping and a top floor for the pump motors and electrical boxes.

There will be 8 pumps in total where each Wet Well will be connected to 4 each.



Cost Estimation

Item	Cost
Gravity Sewer System	\$31 Million
Pump Station	\$29 Million

Project Schedule

Task	Start	End
Analysis of Existing Conditions	1/6/2020	1/24/2020
Pipe Layout Design	1/24/2020	2/7/2020
Pump Selection Calculations	2/7/2020	2/28/2020
Pump Station Design	2/28/2020	3/24/2020