

III. NEED FOR PROJECT

A. Environment Concern. Except for periods of heavy rainfall creating peak inflows to the plant well above the design hydraulic capacity, the plant is capable of producing an effluent with pollutant content well below the NPDES limits. During days of peak flow, the sequencing pattern of the plant must be stopped to prevent the loss of solids from the plant and into the receiving waterway. The aeration basins then become settling basins, and the wastewater does not receive full secondary level treatment. Also, flow through the UV disinfection system is at the maximum rate thus minimizing the time of exposure to the ultraviolet radiation, and thus lessening the level of deactivation of pathogenic organisms.

At the primary lift station, modifications are needed to modulate output capacity and thereby eliminate the discharge of untreated wastewater from surcharged manholes into the environment. Further, a system for removing trash from the wastewater flow stream is needed to minimize the clogging of pump and reducing the reliability of the pumps.

At the treatment plant, a means is needed for managing peak wastewater flow rates. Operating experience has shown the plant can process and confidently produce an effluent meeting the NPDES limits at flow rates not over 300,000 gpd. Replacement of the obsolete UV disinfection system is needed to assure uninterrupted disinfection of the treated effluent. A more effective means of thickening and aerobically digesting waste sludge is needed in order that the existing volume of sludge storage can continue to be of sufficient capacity.

B. Regulatory Concern. The scope of action required of the City as set out in the Compliance Plan has yet to be fully completed and requests by the City for an extension of time are being considered. There is need for a project that will permit satisfactory completion of the Compliance Plan.

Curtailing the sequencing pattern in the treatment plant to manage peak flows is viewed as a manual bypass by the regulatory agencies and is considered a violation of the discharge permit.

C. Age of Wastewater System. The collection system, primary lift station, and treatment plant have been in continuous operation for just over thirty years. While recent repairs and upgrades at the treatment plant and primary lift station have been carried out to satisfy the Compliance Plan, only the initial activities for collection system repairs and remediation have accomplished. It is considered most important that addressing the problem of extraneous inflow into the sewers be made a major element in any improvement project.

D. Capacity for Community Growth. The capacity of the existing pumping and treatment facilities was designed to serve a population equivalent of 2200, assuming a hydraulic contribution of 100 gallons per capita per day. The average dry weather flow is in the range of 144,000 to 150,000 gallons per day indicating capacity in reserve of some 70,000 gpd. On a design basis, this is capacity for an additional 700 population equivalent. Prudent management of the wastewater system dictates that activities to protect this reserve capacity be included in any improvement project.