



CORNELL PUMP COMPANY

APPLICATIONS

MUNICIPAL



CORNELL'S 20NHF-VC20 PUMP OPERATING IN CENTRAL MICHIGAN



MICHIGAN COUNTY SELECTS A CORNELL PUMP TO REPLACE FAILING SYSTEM IN PUMP STATION

The Site

Pre-existing pump station in central Michigan.

The Problem

Previous installation of vertical line shaft and dry pit pump design. The station was becoming increasingly expensive to maintain and operate. The station's age and location added to maintenance issues. The station was flooding several times a year, requiring costly repairs and loss of use.

The Solution

In 2010 the county commissioner approved a replacement project for the old station. Design specifications called for the new pump station to handle a peak flow capacity of 60 MGD; to reduce or eliminate station flooding, improve efficiency, and assure reliable operation.

To meet those objectives, design architects determined the need for a minimum of 30" suction and 24" discharge, that motor horsepower could not exceed 350HP, that the station be equipped with a variable frequency drive system, and that the

system can function should the new station flood. The pump selected needed a capacity of 20 MGD at approximately 75 feet Total Dynamic Head (TDH).

Submersible-type, non-clog sewage pumps were evaluated versus vertical non-clog sewage pumps with immersible motors. The Cornell immersible design of four (4) Cornell Immersible Pumps, model 20NHF-VC20, operating at 720 RPM, 350 Hp, with Continental Immersible Motors, offered superior efficiency compared to other manufacturers' pump systems.

End Results

The four (4) Cornell 20NHF-VC20 pumps with Continental Immersible Motors have been operating since late 2010. The station was put to the test in the first couple of months of operation—heavy spring rains forced the station to maximum capacity. It performed above design standards, reaching and maintaining 76 MGD—26 percent above design requirements.