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TECHNOLOGIES CORPORATION
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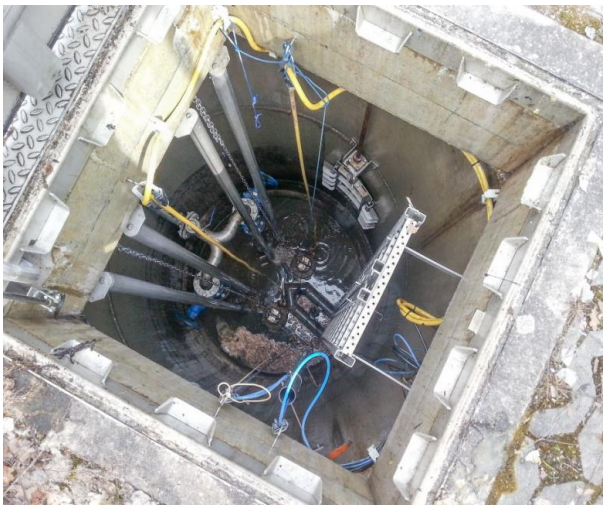
FOG Control in Two German Sewage Pump Stations

FOG Control in Municipal Pump Stations Using Microcat® - Bio-POPs – BSE 111

Station #1



Problem

This German pump station built in 2008 experienced excessive fat, oil and grease (FOG) build up. It is managed by the staff of the downstream municipal wastewater treatment plant. It measures 6.6 feet (2 m) in diameter. There are 3 pumping events per day of about 1,200 gallons (4.5 m^3) of waste water. The wastewater is strictly municipal and contains high levels of FOG.

Application Procedure

In mid-summer, a BioPOP-2 (2 pounds) is suspended by a rope in the pumping station so that the BioPOP is continuously submerged. The staff's objectives in installing the BioPOP are to reduce the work load for maintaining the pumping station, and to accomplish this in a biological and environmentally friendly manner. Because of the biological nature of the BioPOP, no chemicals enter the sewer network nor the wastewater treatment plant. Due to the minimal costs of BioPOPs, no formal bid process was deemed necessary to purchase the product.

Results and Conclusions

After 2 months, the first visual inspection is performed:

1) No fat deposits are attached to the walls of the pumping station well,
2) fat balls floating on the water surface are smaller than before the BioPOP was used, and
3) the floating balls are soft and do not pose a problem for the level controls and pumps.

The BioPOP – 2 subsequently lasted for 3.5 months and prevented significant FOG build-up over this full period. A new BioPOP was installed and the standard cleaning maintenance cycle for this pumping station was reduced from 2 times per year to a maximum of 1 time per year. Thus, all the objectives of the program were met.

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Station #2

Problem

A second sewage lift station in a different location in Germany is also managed by the staff of the downstream municipal wastewater treatment plant. It measures 6.5 feet (2 m) in diameter and rapidly accumulates significant FOG deposits on the water surface, walls and pumps of the station (see pre-product-application photo at left). The 2 submerged pumps deliver about 1,320 gallons (5 m^3) of wastewater per day. The wastewater is strictly municipal and contains high levels of FOG.

Application Procedure

In the fall, a BioPOP - 2 is installed in the pumping station. It is simply lowered into the pumping station well using a rope and tied off at the desired depth. The BioPOP should always be covered with water. Because of its biological makeup, no chemicals enter the station, sewer network or downstream wastewater treatment plant.

The wastewater treatment plant staff's primary goals for this program in order of priority were:

1) to reduce the rapid FOG accumulation in the pumping station, and
2) to avoid pump malfunctioning caused by FOG depositing on and in the pumps and clogging them.

Results and Conclusions

In early winter after 2 months in the station, the first visual inspection of the BioPOP's performance is performed. See photo taken after 2 months at right. The staff observed:

1) FOG deposits on the walls of the lift station are considerably reduced and what does deposit is easy removed.
2) Grease balls floating in the sewage are much smaller in size than previously observed, and
3) These small, soft balls no longer interfere with pump operation.

While not a specific objective of this BioPOP program, an additional benefit observed in this station is significantly reduced odor. This BioPOP-2 continued to perform effectively for about 3 months. Since all of the goals of the BioPOP installation program were met and odor reduction was deemed to be a very special additional benefit, the BioPOP program has been continued. A new BioPOP–2 unit is scheduled to be installed approximately every 3 months and the program is expanding to other problem lift stations in the sewer system.

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