



During the installation, a visit to the project site was arranged by the city of Groningen together with HOBAS and the contractor BAM. Forty interested clients used the opportunity to experience at first hand how HOBAS NC Line Profiles are installed by relining. The day was a great success and left the visitors positively impressed. Beginning of December 2015, the installation of the 277 m long pipeline was successfully finished after three weeks only. The city of Groningen is very satisfied with the professional implementation of the project and the high quality of the new HOBAS NC Pipeline.

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Customized Profiles for Sewer Rehabilitation near Paris – HOBAS® supplies NC profiles in 12 varieties to Ville-d'Avray, FR

Year of Construction
2015

Construction time
8 months

Total Length of Pipe
1400 m

Diameter
**1366/736 mm,
1564/654 mm,
1662/922 mm**

Wall Thickness
17-19 mm

Application
Sewer rehabilitation

Installation method
Relining

Client

SIAVRM

Contractor

Parenge

Engineering office

Egis Eau

Advantages

Resistance to external loads, just-in-time deliveries, excellent hydraulic properties, full leak-tightness

Twelve kilometers west of the city center of Paris in the commune of Ville-d'Avray, HOBAS NC Profiles have helped bring the aged and damaged local sewer system sustainably back to life again: 1.4 km of combined waste- and stormwater pipes have been rehabilitated with pipe profiles in 12 different varieties that have been custom-tailored to the project requirements.

The Intercommunal Sewage Board of Vallée du Rû de Marivel (SIAVRM) is responsible for managing and maintaining the wastewater system of seven cities of the western suburb of Paris, among others Versailles, Vélizy-Villacoublay, and Ville-d'Avray. The local sewage and stormwater network had been built over the last century and extended in parallel with the increasing urbanization. Today, large parts of the sewage disposal system are at the end of their service life: Some of the over 50 years old sewers had simply not been built with the adequate strength to withstand nowadays' traffic loads and other mechanical stresses. Two parallel pipelines, both built around the 1960s, that are located along the highly frequented road RD407 were in particularly urgent need for renovation. The requirements of the renovation were to maintain the egg-shaped sewer's flow capacity, avoid any groundwater pollution caused by wastewater infiltration, and prevent ground subsidence.

The overall renovation project stretched over 3.3 km and was split into three phases – one that was to be realized definitely and immediately, and two future ones. The definite phase involved a total pipeline length of 1400 m in Ville d'Avray. The engineering office Egis Eau chose HOBAS NC Profiles for the realization of this project part. HOBAS produced NC profiles in three custom-tailored diameters (1366/736 mm, 1564/654 mm, 1662/922 mm) and four different lengths between 1 and 2.35 m, adding up to 12 different NC profiles. All elements were equipped with anti-slip mats for a safe accessibility and designed with an adequate wall thickness in order to optimally withstand the external traffic loads.

The fact that the two sewers run parallel was a major advantage with regard to the construction works: While the relining rehabilitation was carried out in one sewer, the wastewater flow could easily be redirected to the second one, limiting the pumping costs. As the construction works were to affect the densely populated area as little as possible, the locations of the construction pits were carefully chosen to keep disturbances to a minimum. Furthermore, the subsoil in this area is full of utility and other networks (electricity, gas, etc.) and the contractor Parenge had to adapt the works accordingly.

Since there was not enough space to store the 1.4 km of NC profiles on site, the logistics department of HOBAS France had to work together closely with the contractor Parenge and the factory to organize just-in-time deliveries at intervals of approximately two weeks between June and December 2015. At last, cement grouting was used to fill the annular space between the old and the new pipeline structure. This way, the old structure was stabilized and basically became a new sewer again – with excellent hydraulic properties, corrosion and abrasion resistance, full leak-tightness, and a long lifetime.

During the installation phase, the project team faced another quite unusual hurdle: The Tour de France passed through Ville-d'Avray in July 2015, forcing the workers to lay down their tools for the time of the event and also some time before in order to guarantee the cyclers a 100 % safe passage. Thanks to an excellent coordination of the city council, SIAVRM, and the contractor, the effective loss of project time was still only minimal and the installation was successfully finished after 8 months. The two remaining renovation phases of the local sewer network are planned to be implemented in 2016.

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