

HOBAS® GRP Shafts Protect Municipality in Austria Against Flooding

The municipality of Kössen in Tyrol is situated in a basin between the Chiemgauer Alps to the north and the Kaiser Mountains to the south. In previous years, the people in this area have struggled with repeated floodings caused by three merging mountain streams. After catastrophic floodings in 1991 and 2002, a protection concept based on a hydraulic survey and a danger zone plan was developed. HOBAS Shafts play an important role in preventing future floodings in this region.

At the confluence of two rivers, a 4 hectare flood retention system including ecological restructuring measures, wetlands, and recreational areas was built. Several outlets and a pumping station for pumping the excess water into the new retention basin in case of floods complete the project.

In the course of the project development, different materials were analyzed and compared with one another – and HOBAS GRP Pipes won the competition. For the planning agency in charge, the outstanding qualities of GRP pipes were the decisive factor for choosing this material: long service life, high resistance, and low maintenance costs. Further criteria such as good experiences in past projects (already in 2006, HOBAS has been the preferred supplier for the flood prevention project "Reutte-Pflach"), approved high-quality products, and a short installation time positively affected the decision for HOBAS.

The final plan included four HOBAS Shafts as well as several pipes and fittings, which in combination act as a highly effective system solution:

- In the first shaft (intake shaft) suspended solids are filtered out of the sewage. The structure is 2.7 m high and has a diameter of 1600 mm (PN 1, SN 10000).
- Shaft number two hosts two pumps which transport the excess water into the retention system via an embankment. The shaft is 5.95 m high and has a diameter of 2500 mm (PN 1, SN 10000). It is equipped with a 6-m long intake (DN 800, PN 2, SN 10000) and a 13-m long drainage line (DN 700, PN 2, SN 10000).
- Shafts number three and four are valve shafts (6.7 m and 4.1 m high, DN 2500, PN 1, SN 10000) that regulate the flow rates. Both shafts are equipped with a 24-m long intake and drainage line (DN 1000 and DN 1400).

The construction works started in March 2014 and ended as scheduled in August 2014, with the delivery and installation of the shafts in June. Given an excellent cooperation between the building authority of Kufstein, the Tyrolean provincial government, and HOBAS, the construction process went smoothly with timely deliveries and a very well prepared construction site. Thanks to the good preparation, the tailor-made



and prefabricated shafts required a minimal installation time of 3 hours (for shaft number 3) to 1.5 days (for the remaining shafts). External contractors subsequently installed valves and pumps in cooperation with HOBAS.

The project turned out to be a success for all involved parties. HOBAS could meet the expectations of clients and planners regarding a durable and low-maintenance system and short installation times. The excellent coordination with the HOBAS Application Engineering department as well as quick response times on site significantly contributed to the customer's satisfaction. The engineering office Donauconsult from Vienna confirms: "Everything was very well organized and HOBAS has once again been a reliable partner."

Fmd: hobas.austria@hobas.com



Year of construction

2014

Total length of pipe

approx. 70 m

Diameter

DN 1600, DN 2500

Pressure class

PN 1, PN 2

Stiffness class

SN 10000

Application

Shafts for flood prevention

Installation method

Open trench

Client

Cooperative Grossache St. Johann i.T. (municipality Kössen, Oberndorf, St. Johann i.T. and Kirchdorf), financed by the Federal Ministry of Agriculture, Forestry, Environment and Water Management (50 %), Tyrolean provincial government (40 %) and the Cooperative Grossache (10 %)

Building contractor

Building authority of Kufstein, water management department

Advantages

High-quality products, short installation times, long service life, low-maintenance system