### **Grandson Marina, Switzerland**

Situated at the South-West end of Lake Neuchatel in Switzerland is the small town of Grandson. Dominated by its 13th-century castle, the town is popular with visitors who arrive by both land and water. Lake Neuchatel covers an area of 218 sq km and is 38 km long by about 8 km across at its widest point. It is the largest lake entirely located in Switzerland (with no shores bordered by other countries). It also has access via the Canal de la Sauge to the considerably smaller Lake Biel-Bienne in the North and by Thielle Canal to the even smaller Lake Morat in the East. Between them, the three lakes support a population of about 6,000 boats.

In the shadow of the castle and set on the curve of the promenade is Grandson Marina, which is owned and operated by the Grandson Town Council. The original marina, which was constructed in 1971, provided moorings for over 100 resident boats. In early 2007, work began on expanding Grandson Marina, adding extra space to provide about 100 additional berths, all of which have finger piers, including 50 for 'larger' craft. The new section was opened on 30 August, 2007.

As part of this expansion, the architect's office of Dolci in Yverdon contacted the local representative of Lee Sanitation Ltd (LeeSan), Bob Van Meel, and asked him for help designing, specifying, supplying, installing and commissioning a new pump-out facility. Until now, the marina has not offered this service and the operators felt that in addition

to providing a necessary service for berth holders, the new pumpout would attract visitors requiring this facility to the town and its local businesses.

LeeSan already has several pumpout installations around the country, including one at Boatyard Rohn in Twann on Lake Morat, which was the company's first unit in Switzerland and has now been operating for over four years.

For a number of reasons, including limited space and after-hours service, LeeSan was asked if it could provide a compact pump-out station and facility for emptying portable toilets. Previously, the latter function was either carried out in the public toilets or forced owners to go to an alternative marina offering this service. This type of facility is essential to ensure that nobody is tempted to dump black waste overboard into the lake, which is a designated Nature Reserve.

Since the marina operators wanted the unit working for the start of the July holiday season, there was also a very short time scale. This meant just eight weeks to quote, agree, design and deliver a fully commissioned unit.

Working closely with his associate Didier Steimer, Bob Van Meel already had an excellent reputation for providing high specification, high quality and reliable pumpout equipment in Switzerland and Grandson and Yvon Steininger of project engineers Intra Sub were impressed with the testimonials from other satisfied customers who

had LeeSan equipment installed.

A site survey involving the architect for the marina extension, the LeeSan team and the Grandson Council was carried out and at this meeting LeeSan suggested that it could build and supply a 'Combi' unit incorporating the pump-out and the portable toilet emptying facility in a single cabinet. This unit would be extremely cost-effective and would fit on a very small footprint, thus saving valuable space.

LeeSan put forward a set of proposals, which included designing and building the new 'Combi' unit and these were accepted by Grandson. Site preparation, water, waste and electricity connections was carried out to LeeSan's drawings and specifications by the company constructing the marina while the new unit was being built at LeeSan's factory in England.

Just five weeks later, the LeeStrom LS 200 Combi was delivered to site to be installed, connected and commissioned by Fredy Marine and the new pumpout and portable toilet disposal unit was fully functioning in just one day.

The unit, which is 'token' operated, features a powerful and well proven, ultra reliable peristaltic pump. This pump can be serviced or repaired extremely quickly and is similar to other LeeSan installations already operational in Switzerland. It is capable of pumping up to 200m horizontally or 15m vertically.

The 'Porta' (portable toilet) empty system consists of a stainless sluice facility, which has a flush rinse incorporated into it via the built-in water system. This is activated by a button on the inner fascia of the unit. The waste is transferred to the mains sewer via a 'P' trap to avoid any contamination or bad odour.

The unit also features LeeSan's hands-free ISO standard pump-out probe connection which, used with a standard ISO deck fitting, will ensure a fast and clean pump-out. Double 'O' ring seals ensure an excellent suction vacuum and help to make the operation faster and cleaner than filling with fuel.

Unfortunately, not all boat builders adhere to the ISO standards (despite the best efforts of LeeSan, the industry and of this magazine) and some users are still faced with having to add rubber cones, screwin adapters, etc, and stand holding the nozzle for the entire pump-out service. So yet another request to boat builders all over the world –









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Bob Van Meel, with his engineer Diddier Steimer (who made all of the power and hose section calculations), provide an 'on call' service and maintenance contract to Grandson Marina.

It is estimated that the new unit will pump-out about 300 boats each year and that the portable toilet emptying facility will service many users, thus keeping the lakes dean and bringing considerable additional business to Grandson and the surrounding area.

#### Lee Sanitation Ltd,

Wharf Road, Fenny Compton, Warwickshire CV47 2FE, United

Tel: +44 (0)1295 770000 Fax: +44 (0)1295 770022 E-mail: sales@leesan.com Website: www.leesan.com

#### Rheinstrom Pumpenfabrik GmbH,

Wallersheimer Weg 13-19, D-56070,

Koblenz, Germany Tel: +49 261 82027 Fax: +49 261 82029

E-mail: info@rheinstrom-pumpen.com Website: www.rheinstrom-pumpen.com

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