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# Mastering the Master Plan with HOBAS Restrained Pressure Pipes

## Major Investments in Waste Water Treatment at the French Atlantic Coast

In 2004, the St Nazaire and estuary regional urban community (CARENE - Communauté d'Agglomération de la Région Nazairienne et de l'Estuaire) launched an extensive implementation program to reconfigure the community's waste water discharge and treatment system. The purpose of this master plan is to establish a consistent system with new and modernized equipment for the benefit of the ecosystems and the 116,000 inhabitants of this urban area at the French Atlantic coast.



Part of the plan is the erection of two new major waste water treatment plants that are envisaged to go into operation in 2012. Both facilities, one lying in the west in Ecosnières and another in the industrial area at the port in the east, as well as some extensions will increase the current structures' capacity to serve 190,000 inhabitants. The complete treatment system shall meet high environmental quality standards as it, for instance, reduces discharged organic matters by 40 % and nitrogen and phosphor by over 60 %. The 30 % less sludge will be recycled to compost and the biogas can be utilized for generating heating and electricity.

Not only are the construction works conducted in sensitive areas - as there is the Atlantic coast to the west of the territory, the small lakes of Bruyères in the north and the Loire estuary in the south – they are also considerably complex: The overall plan is to ensure a best possible transition from the current small to medium-sized treatment plants, constructed wetland and about 150 discharge units to the new, extended and eco-friendlier facilities. Major system overloads due to heavy rainfalls shall be furthermore prevented with the construction of retaining capacities such as in



Pornichet where a 1000 m<sup>3</sup> reservoir has already been set up. Neither bad weather spells nor the welcomed seasonal increase in Pornichet's population from 5,000 to 50,000 inhabitants during the summer months pose a capacity problem anymore.

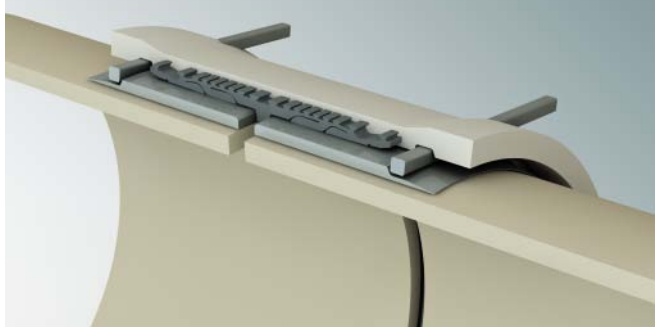


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installation times can be kept short and that is highly pH1 resistant ensuring structural longevity.

The restrained pipe system supplied by HOBAS France provided the optimal solution that met all requirements not least due to its intrinsic advantages such as light weight, simple jointing and sturdiness. "HOBAS CC-GRP Pipe Systems are perfect for this project as they are fit for all types of terrain and perfectly follow the winding route", reports Michel Sokolowski, Regional Sales Manager at HOBAS France.



The new network connecting to the future treatment plant in the west of St Nazaire involves more than 20 km of pipe and further 8.4 kilometers are utilized to meet the plant located in the east. Since 2007, 24.5 km HOBAS CC-GRP Pipes ranging from DN 200 to DN 500 have been laid in the ground by open trench. Two more years, and the master plan shall be finalized to everyone's content. Thanks to the well thought out transition from the old to the new system and with the utilization of HOBAS Pipe Systems, the population, tourism and the ecosystem are already benefiting from it.

An ample sewage network of the planned scale requires long pipelines for discharge. The design of the hydraulic system includes pipelines conveying the effluents from the old waste water treatment plants and discharge units over long distances to the two new facilities. This scheme demands a pressure line with mechanical strength and high resistance to chemical attack. A further point that had to be taken into consideration was the significant proportion of planned network laid through various problematic types of ground including marshlands and brackish environments. Casting thrust blocks in the middle of salty marshland and urban environment was out of the question. The CARENE therefore sought for a restrained PN 10 GRP pipe system with which the



<b>Year of Construction</b>	<b>2007 - ongoing</b>
<b>Project Length</b>	Until April 2010 24.5 km
<b>Pressure Class</b>	PN 10
<b>Diameter</b>	DN 200 - 500
<b>Stiffness Class</b>	SN 10000
<b>Installation Type</b>	Open trench
<b>Application</b>	SewerLine



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<b>Client</b>	CARENE (Communauté d'Agglomération de la Région Nazairienne et de l'Estuaire)
<b>Contractor</b>	EHTP, SBTP, DLE, S3A, SPAC, SARC
<b>Advantages</b>	Leak tightness, high corrosion and mechanical resistance, restrained jointing system