



Make things happen. **HOBAS®**

3 Methods, 1 **HOBAS®** Pipe System (FR)

The Toulon authorities association for wastewater treatment and sea outlet (SIRTTEMEU) has one of its largest sewer construction sites with HOBAS Pipe Systems on the Mediterranean coast in France. Reason for this is a corroded cast concrete line that takes all wastewater from western

on the solutions proposed by the consortium which would ensure an uninterrupted service of the sewer, optimal completion dates, innovative technical solutions and efficient HOBAS GRP piping material in response to a range of required installation techniques.



Toulon to the new Cap Sicié wastewater treatment plant, best known as the Amphitria. The damages on the line were mainly caused by H₂S attacks and the pipe has collapsed several times in the past. The association therefore decided to assign the design and supervision of the reconstruction works that are expected to be completed in 2009 to the Cabinet Merlin Engineering Consultancy in partnership with Enveo with.



Trench sheathings were utilized for open trench installation since the line had to be assembled in major narrow depths, restricted by the existing collector and close structures. Another part of the line was microtunneled and a third part was solved with a HOBAS NC-Line® System installed in a gallery. The construction works were assigned to different parties of the consortium according to the required installation technique. The Melun special division of SADE is installing the NC-Line® whereas SOGEA Travaux Hydrauliques and SADE Marseille teams mainly deal with the open trench section. The line microtunneled below railway tracks was given to the specialized subcontractor SMCE. Thanks to the flexibility and easy handling of HOBAS CC-GRP and NC-Line® Systems all required installation techniques could be conducted with one material only. The products' optimal chemical resistance, their high mechanical and hydraulic properties and quasi self-cleaning effect convinced the consortium in all points.



All construction works were allocated to a SOGEA/SADE consortium. The site is divided into 3 sections of which the 3rd and biggest section is approx. 2 km long costing around 16 million Euros. Assisted by his consulting engineers and the water operator Veolia Eau, the client based his decision

HOBAS France provided a series of special components, manholes, non-circular pipes, connections and special fittings to suit the challenges of the project. A safe discharge of up to 2000 m³/h during the frequent storms at the Mediterranean coast, the uninterrupted service of the line and a temporary bypass of DN 600 running through the gallery were to be ensured. Customized fittings with leak-tight yet flexibly applicable sealing stoppers developed by the HOBAS France Technical Department solve the problem of transition from

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the old to the new pipeline with almost no service interruptions.

Apart from providing an ideal and environmentally sound system solution for the implementation of this rather demanding project, HOBAS also helped in keeping inconveniences caused by construction works in residential areas to a minimum: The combination of different installation methods and made-to-measure HOBAS Pipe Systems allowed a fast and safe installation without heavy site equipment. One can already say that this project is a complete success for everyone involved, directly as well as indirectly.



Overview	
Year of Construction	2004 - 2009
Length of Pipe	approx. 2400 m, plus fittings and shafts
Pressure Class	PN 1
Open cut:	
Length of Pipe	1470 m
Diameter	DN 1000, 1200, 1400, 1600
Stiffness Class	SN 5000, 10000
Jacking:	
Length of Pipe	180 m
Diameter	OD 1280, 1434, 1499
Stiffness Class	SN 40000, 50000
NC-Line:	
Length of Pipe	750 m
Diameter	2200/900
Installation Method	Open trench, microtunneling, relining
Application	SewerLine®, NC Line®
Client	SIRTTEMEU
Contractor	SADE Sud Est / STS, SOGEA Travaux Hydrauliques Sud Est, SMCE
Advantages	hydraulic properties, leak tight complete system, corrosion resistance (H ₂ S), long service life

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