

Wastewater Treatment Plant in Navalcarnero - Madrid

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The purpose of this plant is to treat the municipal wastewater from Navalcarnero, El Álamo and housing developments in the Guadarrama River basin. Of particular interest are the system to eliminate odors and the process of phosphorous elimination using a biological process without adding chemical products.

Location	Navalcarnero (Madrid)
Customer	Canal de Isabel II
Capacity	12,125 m ³ /day expandable to 26,250 m ³ /day
Population	70,000 a 125,000 e.i.

Project criteria established a population of 70,000 e.i., expandable to 105,000 in the future, with treatment flows of 12,000 m³/day and 26,250 m³/day respectively.

The preliminary treatment is characterized by four submersible pumps with pre-rotation system instead of the conventional worm screw conveyance system.

This allows the incoming pump flow to be adjusted automatically without having to change the system, thereby, avoiding the problems of odours. It also improves the visual aspect since with the pumps there are no floating elements in the solids pit. Both the sand and FOG elimination equipment are classical.

Another singularity of this plant is the underground connection through a 178 meter long concrete gallery containing the sludge lines, industrial water, services and electrical ducts. It connects the recirculation zone with digestion and sludge dehydration.

This is completed with a primary settlement tank, 2 secondary ones, sludge thickening and spinning units for dehydration.