Wastewater Treatment Plan (WWTP) Arroyo Culebro Cuenca Media Alta

MUNICIPALITY SERVED

Leganés, Fuenlabrada, Humanes and Parla

WORKING SINCE

2007

DESIGN DATA

- Authorized discharge: 129,600 m^3/day
- Population equivalent for designed years[(1)]: 1,224,720 equivalent inhabitants

WATER LINE DESCRIPTION

- Incoming installation with general spillway
- Coarse waste well with a grabbing bucket
- Preliminary screening with two grids
- Automatic coarse waste screening with (4+1 lines)
- Fine waste screening with four sieves
- Desanding and degreasing with four desanders
- Screw-type grit classifier (2 units)
- Grease concentrator (1 unit)
- First stage aeration in three lines
- First stage sludge recirculation
- Screening of sludge, recirculation of first stage with a settling sieve
- First stage with three settlers
- First stage aeration bypass
- Second stage biological treatment with nitrification-denitrification
- Biological phosphorous elimination (4 units)
- Bypass on the second stage
- External recirculation on the second stage (3+1 units)
- Internal recirculation on the second stage (4 units)
- Anaerobic internal recirculation (4 units)
- Secondary subsidence (4 units)

TERTIARY UNIT DESCRIPTION

- Mixing chamber
- Flocculation
- Filtering in three sand filters
- Disinfection with sodium hypochlorite
- Treated water tank

SLUDGE LINE DESCRIPTION

- Removal of sludge from the stage A settlers to the thickening-fermenting section
- Stage A gravity sludge thickening-fermenting (3 units)
- Mixture of thickened and floated sludge
- Anaerobic digestion in 3 digesters
- Sludge heating with 24 exchangers
- 3 boilers
- Agitation of the anaerobic digestion
- Buffer tank
- Gas line and storage with a membrane gas meter
- Mechanical dewatering (2 centrifuges)
- Storage of dewatered sludge in metallic hopper with 2 silos

CONTINUES

Canal de Isabel II

(1) Population equivalent for the dimensioning of the plants. Calculated as per EU Directive 271/91 and RD 509/96.

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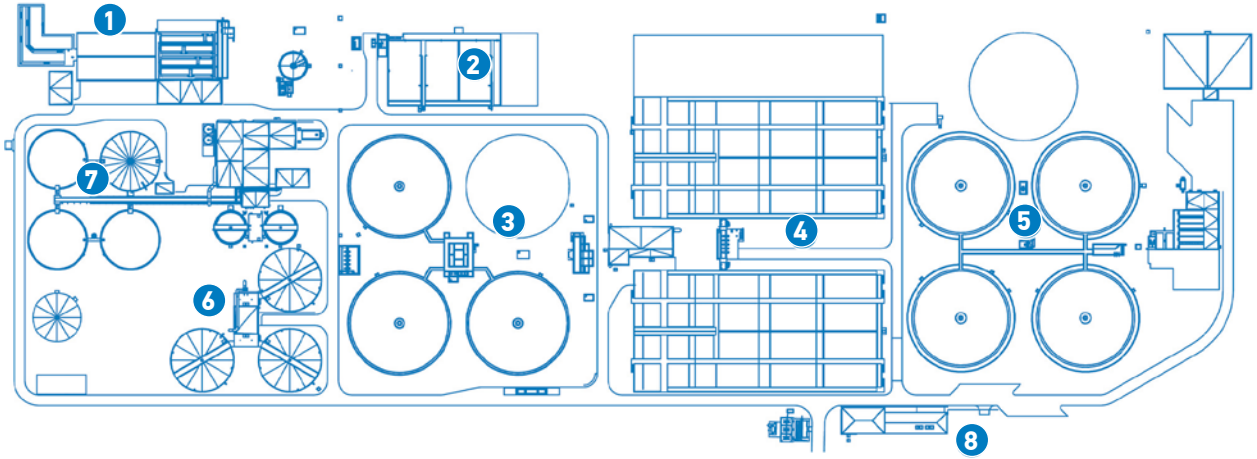
MAP OF THE PLANT



1. Pretreatment
2. Primary biological treatment
3. Primary subsidence
4. Secondary biological treatment
5. Secondary subsidence
6. Sludge thickening
7. Sludge digestion
8. Control building