PepsiCo Kashira – Moscow, Russia

EPC of brown-field WWTP

NAIAD Water Solutions was awarded the contract for the refurbishment and extension of the existing WWTP, within the snack production facility of PEPSICo. International, located in Kashira (Moscow), Russia.

Since 2002 PEPSICo. International has been producing potato chips snacks at the Kashira factory, it being the first snack-production facility of the company in Russia. After roughly 15 years of operation, in line with the increase in capacity of production, the existing wastewater treatment plant also required modernization and extension.
The scope of the modernization includes the upgrade of the electro-mechanical equipment from the pre-treatment, anaerobic treatment, activated sludge system and sludge treatment.

The capacity of the WWTP initially was 45m^3/h and has been increased to 60m^3/h after the modernization works. The contract included design, equipment supply, installation, commissioning and start-up.

Features:

- Modernisation and extension of industrial effluent treatment plant
- Capacity: 1.460 m^3/d (average)
- Turn-key completion

Client
PEPSICo. International

Type of Contract
EPC - Turn-key Execution

Award of Contract
January 2017

Commissioning
2018

Capacity
Average: 1.460 m^3/d
Maximum: 1.800 m^3/d

Extension from 45 m^3/h to 60 m^3/h (peak 105 m^3/h)

Wastewater
Effluents from Snack Production

Technology
UASB, CAS

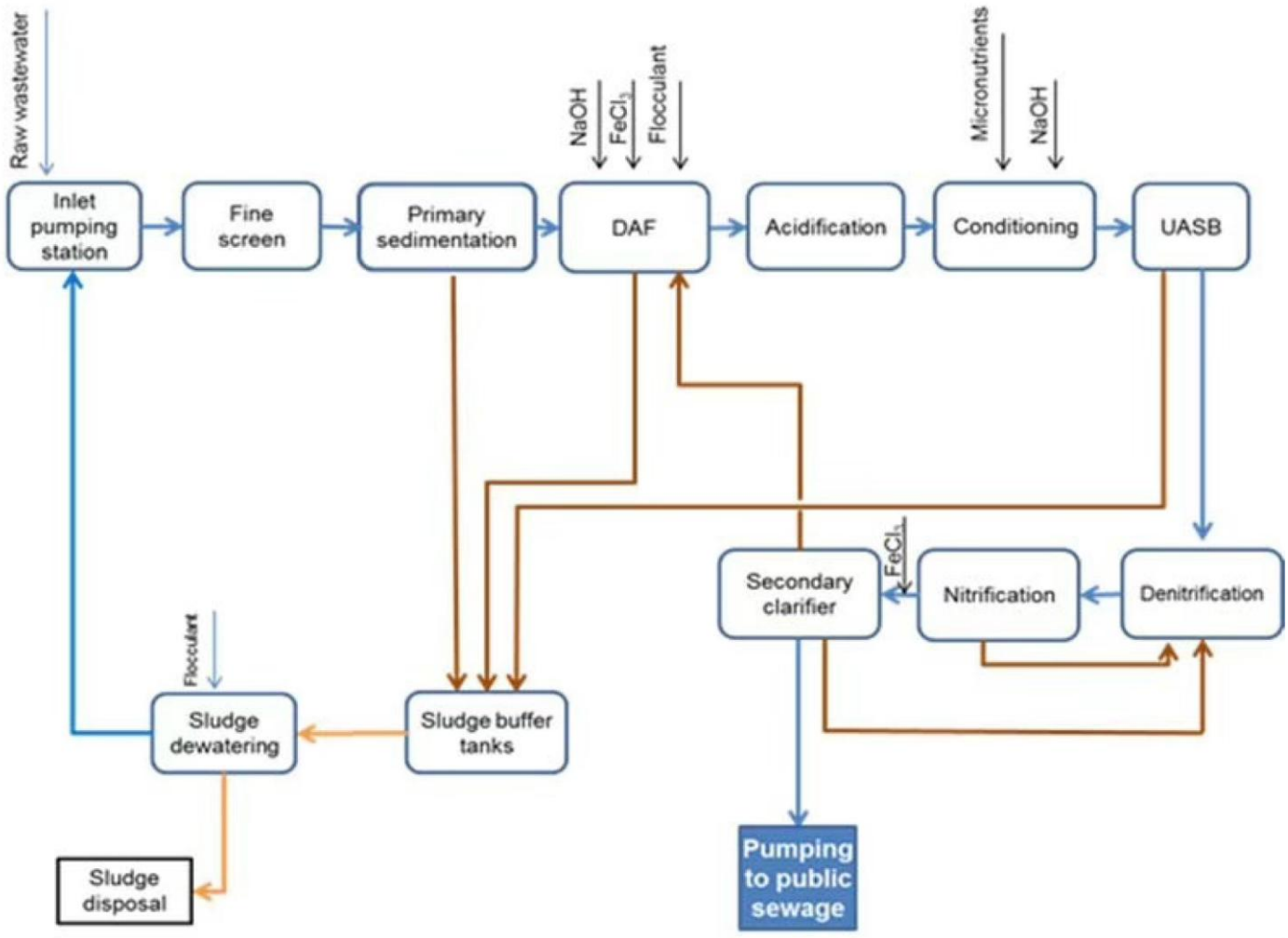
Scope
Design, equipment supply, installation, commissioning and start-up

Main Components Process Steps:

- Inlet pumping station
- Parabolic screen
- Calamity tank (new)
- Primary clarifiers
- DAF unit
- Acidification tanks
- Conditioning tank
- Anaerobic treatment (UASB)
- Gas treatment
- Activated sludge tanks for nitrification-denitrification
- Secondary clarification
- Chemicals preparation and dosing stations
- Sludge dewatering

Scope:

- Increase of capacity from 45 m^3/h to 60 m^3/h (peak 105 m^3/h)
- Upgrade of the electro-mechanical equipment



Parameter Wastewater	Units	Effluent Limits
pH	mg/l	6-9
COD	mg/l	305
BOD_5	mg/l	140
TKN	mg/l	48
Ammonium-N	mg/l	26
Nitrites (NO_2) ion	mg/l	0,4