Department for International Trade

Sub Sector: Waste Water – Sewage Treatment	**Company:** Premier Tech Water and Environment UK Limited
Country: UK	**Client**: DP World (Dubai Ports) – London Gateway

Summary and Background:

- To treat the sewage from 450 staff on site.
- This was a commercial site without access to mains drainage and the international port developer needed to treat the sewage and discharge locally.
- The discharge requirement
    - BOD <20 mg/l
    - SS <30 mg/l
    - NH3\4 <5 mg/l
- The solution to utilise one of our packaged biological treatment systems pre built at the factory including kiosk housing the blowers, controls and electricals.

Image:

Elevator Pitch

- ✓ We can offer treatment for any waste water application
- ✓ Core products are packaged systems that are pre built to a high specification that can be installed quickly on site. Mostly we manufacture systems for below ground installation but can offer above ground systems also.
- ✓ We build products with low maintenance in mind hence why for most of our systems we use an above ground kiosk housing the electro mechanical items, meaning most maintenance can be done here with out entering the below ground tank.

Contact details

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Background

- PTWE were appointed by the international port developer and builder – DP World's UK based franchise to design and build a waste water treatment plant for the a port expansion at London Gateway.
- Minimum installation time was needed and a system that was easy to install and also achieve the required discharge consent given by the UK environment agency.
- Also a below ground system was preferred to minimise space taken and so not to be visible.
- A single stream treatment solution utilizing a SAF300N5 modular treatment plant was selected. SAF stands for Submerged Aerated Filter; 300 corresponds to the maximum PE suitable of using the plant; N5 corresponds to the maximum allowable ammonia effluent (in mg/L).Draws out the benefits of the solution
- The customer also requested a log3 UV inactivation as a mean of ensuring minimal degree of inactivation of pathogens, we integrated Ultraviolet Disinfection in the system, using Teflon technology for UV that does not need a wiper system, this reduces maintenance.

After the installation samples were requested which were much better than the requirement. With Ammoniacal nitrogen being <1mg/l and BOD <2mg/l. Analysis available on request.

PTWE specialise in the design and manufacturing of innovative and durable solutions in the following areas:-

Waste water - Package sewage treatment systems, cesspools, septic tanks, (Domestic & Commercial)

Storm water - Separators, & attenuation storage systems

Storage tanks - Below & above ground water & chemical storage tanks.

Package pump stations - Waste & storm water (Domestic & Commercial)

Rainwater harvesting (Domestic & Commercial)

We have most technologies available allowing us to select the best solution to fit your needs.

Department for International Trade

Sub Sector: Storm Water – Hydrocarbon Separators	**Company:** Premier Tech Water and Environment UK Limited
Country: Dubai – Exo 2020 site	**Client**: DUTCO Tennant LLC

Summary and Background:

- New Expo 2020 site has a lot of hardstanding area with car parks and roads and the stormwater needed to treatment for hydrocarbons to protect the environment.
- Due to the high flow rates had to design large separators and ship to Dubai, storm flow could be up to a maximum of 16000 l/s covering an area of 438 km/.
- Premier Tech Water & Environment worked closely with our partners Genesis and DUTCO to ensure a smooth design, manufacture and delivery process.
- Hydrocarbons are removed to a guaranteed <5mg/l as per the European Standard EN-858-1, this is the level which must not be exceeded in order to protect aquatic life.

Image:

Elevator Pitch

- ✓ We can offer treatment for any waste water or stormwater application.
- ✓ We manufacture packaged systems that are pre built to a high specification that can be installed quickly on site. These can be for below ground installation or above ground.
- ✓ We build products with low maintenance in mind hence why for most of our systems we use an above ground kiosk housing the electro mechanical items, meaning most maintenance can be done here with out entering the below ground tank.

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Background

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- EXPO 2020 DUBAI is an the area is being developed to provide a place to showcase innovations to millions. This over $100m US project needed to have its storm water treated to prevent hydrocarbon pollution occurring as will consist of large hard standing areas.
- Protecting the environment was of upmost importance for such a high-profile site. Premier Tech Water and Environment separators provided the confidence needed to ensure a high level of treatment was carried out using innovative technology that requires no power to separate the pollutant. PTWE separators not only provide highly efficient treatment but also require minimum maintenance.
- Premier Tech Water & Environment were able to design, manufacture and deliver to ensure all time frames were met.
- 3 of our CNSB800S units were utilized on the site each can treat a flow of 800 l/s and bypass up to 8000 l/s. Each tank was 4mØ and 17m long with 1.8mØ inlet and outlet connections.
- The BSEN-858-1-2 is seen as the highest standard which is why separators in the Middle East must meet this standard which reduces hydrocarbons to <5mg/l. PTWE provide some of the largest separators in the world and pioneered the coalescing technology that allows hydrocarbons to be removed to <5mg/l. We have one of largest facilities in Europe for this design of plant, this combined with our commitment to innovation enables us to produce engineered tanks to such a high specification. PTWE tanks are known for their structural stability and guaranteed water tightness.
- Also included in the project were oil water probes that give an alarm condition when the hydrocarbons need to be removed.

Department for International Trade

Sub Sector: Waste Water Treatment	**Company:** Premier Tech Water and Environment UK Limited
Country: UK or state name of Country for project	**Client**: Range Developments – Contractor Hotels Caribbean

Summary and Background:

- Holiday Hotel Resort needed to treat effluent to protect local environment and keep the water clean for swimmers and aquatic life.
- Very high quality required including NH4-4 <2mg/l, Total coliforms <20 MPN/100 ml amongst others.
- We provided a DSAF system for a flow of 225m3/ day coming from the resort.

Elevator Pitch

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Background

The requirement was for a holiday resort with a average daily flow: 225m3 (225,000 liters)

Also a very high quality was needed for the discharge see to the right

To reduce site time and civil work on site a packaged plant was required. Prefabricated tanks gave a known build quality that would be water tight and structurally sound.

To maximise the shipping 5 tanks in to total were utilised each being 3mØ and under 11.6m long, this allowed them to be delivered by flat racks.

The system consisted Process Description:

DSAF – Denitrifying Submerged Aerated

Random Packed Filter System

Ultra Membrane Disk filter

Alkalinity Dosing

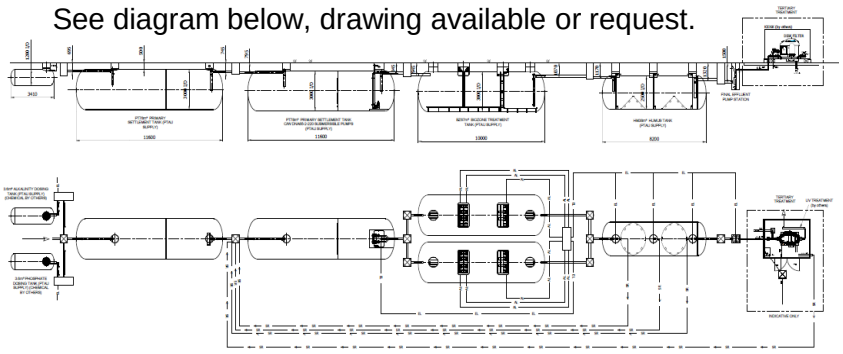
Phosphate dosing

Ultraviolet Disinfection

Discharge Consent

TCOD	=	50 mg/l
TSS	=	10 mg/l
Ph	=	6-8
PHOSPHATE	=	10 mg/l
NH4-N	=	2 mg/l
TN-MAX	=	<10mg/l
TBOD	=	10 mg/l
TOTAL COLIFORMS	=	<20 MPN/100 ml
E-COLI	=	<10 MPN/100 ml
SAMONELLA	=	<1MPN/100 ml
VIABLE HELMINTH EGGS	=	<1No/L.
ENTERIC VIRUSES	=	<1No/50L.
RESIDUAL CHLORINE	=	1.5 TO 2 mg/l
TDS	=	2000 mg/l

See diagram below, drawing available or request.



Department for International Trade

Sub Sector: Water Storage & Pumping

Company: Premier Tech Water and Environment UK Limited

Country: Netherlands

Client: Mercury Engineering, EPS Water, Digital Realty

Summary and Background:

- Data Centre – Needed heat sink using water for cooling units
- Several large tanks with Copper Silver Ion Disinfection System to stop bacteria build up that could clog the air con units. Also included was internal SS pipework, duty standby supply pumps and circulation pump.

Image:

Elevator Pitch

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Background

- Large Data Centres containing many servers need to maintain a cool environment to ensure efficient use and avoid damage. The building was supplied by many air conditioning units the heat transfer is to water instead of only air making it more efficient, several underground tanks act as a heat sink.
- A Copper Silver Ion Disinfection System is used to stop bacteria build up which can block up pipework. An internal recirculation systems is used to keep the water moving through the disinfection system.
- The project was in Hoofddorp Netherlands, we have also supplied for similar projects in Uppsala Sweden (Digiplex) and Frankfurt Germany (Global Switch)
- 6 x 100m3 tanks were supplied for the project each 3mØ x 14.7m long
- Included was stainless steel pipework, pump shroud, flanged fittings,
- The data centre was a 6363m2 facility with a utility power capacity of 36,000 kW