APPENDIX B2: CERTIFICATE OF SATISFACTORY EXECUTION –WORKS ONLY

<table>
<tr><td>ACTIVITY
(Title of Applicant Activity)</td><td colspan="3">Process, Civil, Mechanical & Electrical Contractor</td></tr>
<tr><td>SITE
Construction contract:
(Title & brief description)</td><td colspan="3">Letterfrack and Clonbur Wastewater Treatment Plants

Glan Agua Ltd. was awarded the Process, Civil, Mechanical and Electrical Design contract for Letterfrack and Clonbur WWTP’s Upgrade. The appointment consisted of the design, build and commissioning of 800PE WWTP in Letterfrack and a 700PE WWTP in Clonbur.
  </td></tr>
<tr><td>Site location:</td><td colspan="3">Letterfrack and Clonbur, Co. Galway.</td></tr>
<tr><td>Proportion of Project undertaken by the Applicant</td><td>100%</td><td>Tender entity (Sole trader/ Joint Venture):</td><td>Sole Trader</td></tr>
<tr><td>VALUE
Construction contract value at award stage including cost of services where applicable:</td><td>€1,577,481</td><td>Construction contract value at completion (including cost of services where applicable:</td><td>€1,577,481</td></tr>
<tr><td>GENERAL INFO
Role of Company in delivery of Service:</td><td colspan="3"><u>Scope of Works</u>

• Design and Build of 700 PE wastewater treatment plant to serve the village of Clonbur, Co. Galway.

• Design and Build of 800 PE wastewater treatment plant to serve the village of Letterfrack, Co. Galway.
 
• Installation and commissioning of Inlet Works comprising Screening, Grit Removal, Forward Feed Pumping, AS Biological WWTP, Sludge Reed Beds, Tertiary Screen and Phosphorous Removal, Outlet Flow Measurement

• Construction of treatment plant building, Stormwater Tanks, Sewer Lines, site development works and landscaping

• Installation and commissioning of all Mechanical and Electrical works including Instrumentation, Control and Automation Equipment.

• Acted as Works Contractor, PSCS, PSDP and Designer on all aspects of the project.

1- <u>Liquid Phase</u></td></tr>
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Primary Treatment

- Installation of Mechanical Inlet Works
- A mechanical bar screen is provided in the event of the mechanical screen maintenance or breakdown.
- The screenings and grit are washed and compacted prior to being discharged to skips for removal.
- The inlet screen and grit removal equipment are fabricated in SS
- Containment Chutes are provided between the screenings and grit conveyors and the removal skips.
- The inlet works area is provided with a drainage gulley and a service water washdown point.
- Forward Feed Pumping Station

Secondary Treatment

Primary Settlement/ Balancing Tank – where larger solids settle into the bottom of the primary tank and are removed periodically as sludge. This module has also the balancing compartment which allows equalising the incoming flows and therefore stabilised environment and improving control of biomass in the bioreactor module.

Secondary Treatment – Eco-SAF Module – the essential biological stage where bacterial microorganisms are cultivated and activity consumes the suspended organic material found in the decanted liquid from the primary process. The bottom of this module is furnished with the Fine-bubble Aeration System distributing oxygen required by heterotrophic bacteria to grow. Oxygen level is controlled by Dissolved Oxygen probe installed inside of the tank and the speed and frequency of Air blowers. The Eco-SAF module is divided into 4 no. compartments, each furnished with fully submerged blocs of plastic media which have a substantial area for microorganisms growth.

Final Settlement – Lamella Clarifier – where remaining solids (Humus) are settled out of the biological treated effluent and returned to the Primary Settlement/Balancing Tank. This Clarifier is furnished with Lamella pack of media increasing its active area and therefore improving settling ability.

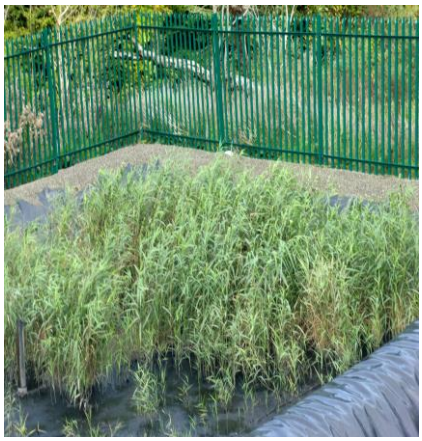
Teritary Treatment

Tertiary Microscreen was installed to ensure the effleunt quality. The tertiary treatment is carried out by means of micro-screening.

The unit operates using a gravity influent feed. The unique design of the drum filter maximizes the surface area of the filtration cloth to achieve high removal efficiency with minimal investment and operating costs. This

filter is self-containing, equipped with their own backwash pumps that use filtered water to clean the filtration media. The filtration is gravitational with headloss being 250 - 400mm.

2 - Sludge Treatment



The Waste Activated Sludge (WAS) sludge is drawn from the final clarifier and pumped to a sludge drying reed bed. The reed bed is designed to allow use for 8 to 10 years depending on loading. The bed will need to be emptied after this period. The construction of the bed was based on earth mountings with plastic lined for containment. The bed is made from graded gravel with sand dressing. Reeds are planted into the sand and feed on the sludge. The sludge will enter the beds at concentration of 0.5% to 1.5% and will be approx. 30% prior to emptying of the bed. The sludge should be fully mineralised after the design period of 8 to 10 years and hence ready for use in agricultural context i.e. spread on land.

3 – Civil

The project involved the installation of 12m deep driven piles on both sites due to the poor ground conditions found on site.

- The structures that were installed on site are as follows
- Inlet Works
- 4m Deep Pumping Chambers
- Storm Water Tanks
- Treatment Plant Plinth on 12m piles
- Control Building

Health & Safety Apects of the Contract

• Entry into Confined Space
• Excavations
• Structural Stability
• Lifting Operations / Cranes
• Road Works
• Traffic Management
• Scaffolding
• Underground Services
• Overhead Cables

	• Working at Heights • Piling • Vibration, Noise and Dust • Working with hazardous materials / live sewers		
Name & address of Contracting Authority responsible for the project:	Galway County Council, Prospect Hill, Galway		
Contracting Authority contact name:	Derek Pender	Phone no.:	00353 91 509000
OTHER INFORMATION Provider of Civil Design : Glan Agua Ltd. Provider of Civil and Building Construction: Glan Agua Ltd. Provider of Mechanical, Electrical & Process Design and Installation: Glan Agua Ltd. Project Supervisor (Design Stage): Glan Agua Ltd. Project Supervisor (Construction Stage): Glan Agua Ltd.			
CONTRACTORS NAME:	Glan Agua Ltd.		