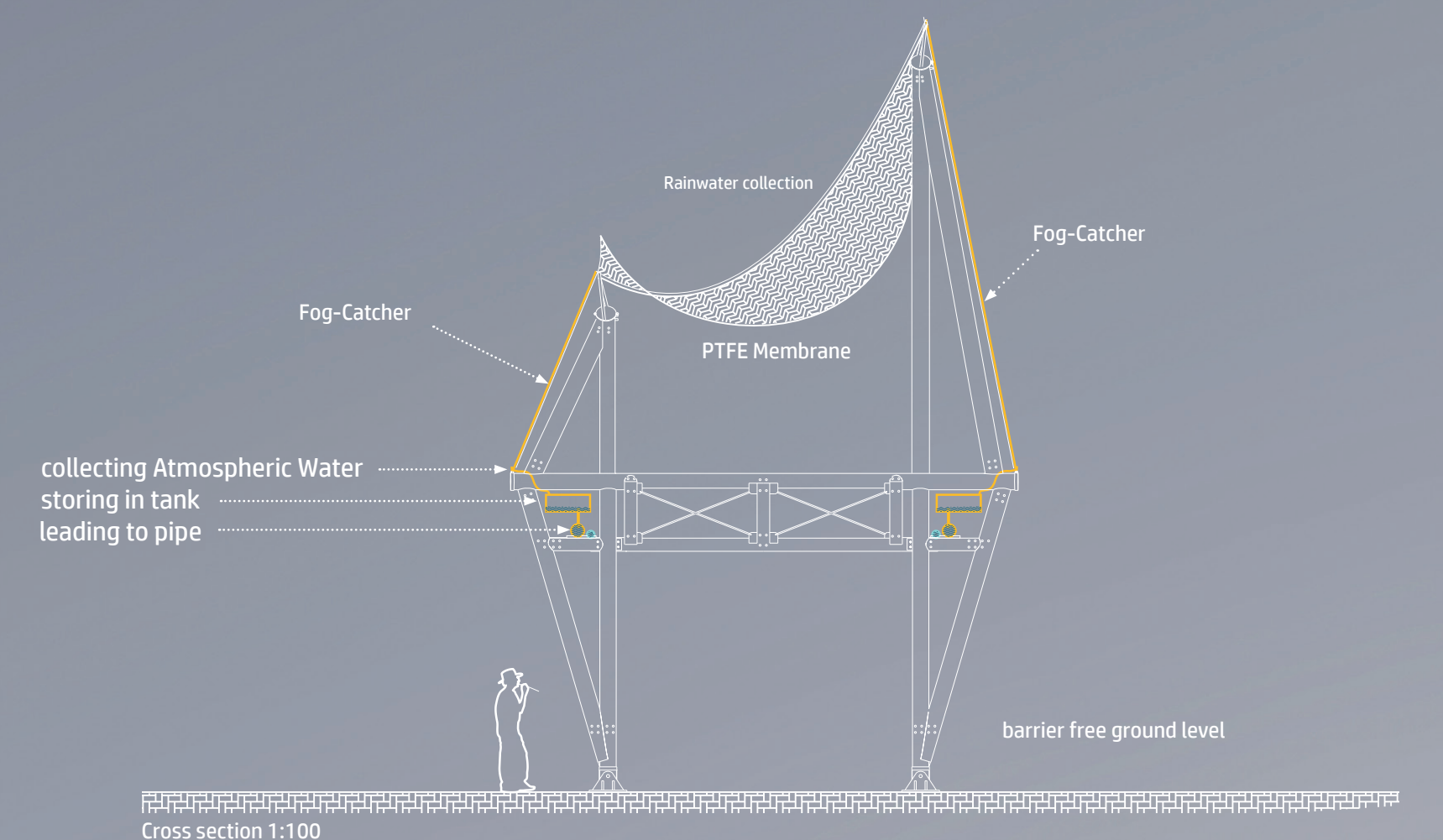


#### CYCLES

The aqueduct supports a close/tight cycle of water flow on site, but equally, it requires additional sources of electricity to run and work. The demand of water is strictly bounded with the size of the dorp. In the entire water flow the additional substances are produced and used in different areas: biogas and sediment (biomass) from the wastewater station are translated into the algal reactor input and take part in the power production, nitrate and phosphate become fertilizers while renewed water can be used once again in industrial cycle. Grey water from residential units is reused at the spot and managed by the users. Thoughtfully managed closed water loop is enhancing the dorps' life flow.

#### ENVIRONMENTAL IMPACT

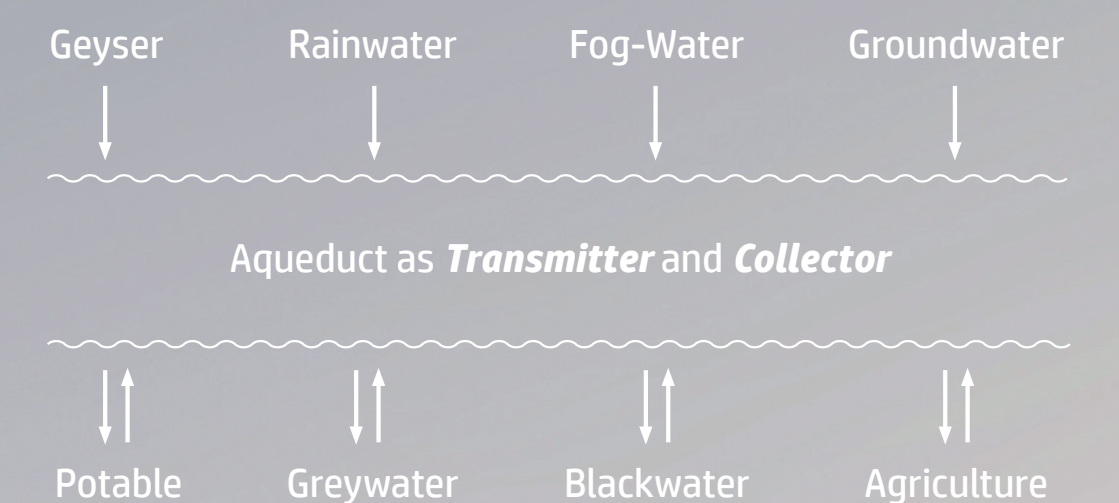
To minimize impact on the site and to protect its natural ecosystem was the starting point for the design of a modern aqueduct. The aqueduct is located at the primary site boundary and not only enables the transfer of water, but also saves capacity for passenger connections and freight transport (pedestrians, mutated vehicles or others). So it is a leading structure that also shows the way through the entire Fly Ranch and protects the nature around it from uncontrolled transfer. Integrated in the upper part of the Aqueduct the water collection is an alternative measure to drilling wells. Due to casting shadow the Aqueduct turns the microclimate milder equally as by absorbing humidity biodiversity in the area enriches.



#### TECHNOLOGY

The aqueduct uses various modern technologies dedicated to collection and purification. Lo-tech facilities for atmospheric and rainwater collection are an alternative, passive water source to drills. The upper part of the structure stretching across Fly Ranch is organized as system of membranes and meshes.

A hydrophobic PTFE membrane is used for rain collection and simultaneous weather protection. For the atmospheric water collection, a lightweight PE mesh is designed as fog catchers. Considering its further purification, collecting water overhead is highly profitable. The purification of such water can be done with a mere hardening (adding minerals). Before storing, the water is exposed to UV-C rays, in order to be sure, it is the most clean and healthy one.



Perspective of the Aqueduct - Pedestrian view

And whats to much goes to **The Oasis**