

Specifications for Production Facilities for NC Bioprospecting hub project (Eiland)

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1 Scope of work

The ARC has erected a flat roof shade net structure and minitunnels, to be used as a medicinal plant cultivation at Die Eiland experimental farm (Upington). The infrastructure have a drip irrigation system installed, but needs a state-of-the-art control system (similar to the Hortisensor) to manage, schedule and monitor the irrigation process.

The scope of the work includes **supply, delivery and installation of a state-of-the-art irrigation control system with all the accessories**. The site is Die Eiland Experimental farm in Upington, Northern Cape.

2 Location of site where the structure will be erected

Coordinates:

Die Eiland Experimenta farm, Upington, Northern Cape

3 Automated irrigation systems

- Supply and install 2 systems (1 for the shadenet structure and 1 for the minitunnels).
- The automated system controller should be **Hortisensor** or similar, which will allow monitoring of the irrigation system remotely (Fig 1A)
- The system is to be provided with all accessories including a 8 station irrigation controller, soil moisture sensors (8), software, wifi connections, etc.
- Supply and install 9 climate sensors (**Sixth sense – Hortisensor**). Six in the shadenet structure, 3 in the minitunnels (Fig 1B)



Fig 1: An automated irrigation system and a pump covered/protected in a black plastic frame (A), with the climate sensor in the minitunnel (B) and a water tank (C).

- Supply and connect one 20 000L water tank as an addition to the existing tank (Fig 1C)
- One tank to supply the shadenet structure and one to supply the minitunnels
- Supply 2 pressure pumps (2.2kw) to deliver water to the shadenet structure and to the minitunnels, each separately
- Supply and install 8 solinoid valves, 6 of which will be connected to the existing drip irrigation and the remaining 2 will be closed with stoppers for future use.
- Water meters to installed for each solenoid valve

NB: Pipe sizes for connecting the systems shall be discussed during a compulsory site briefing.

Kindly provide an itemized quotation as follows:

Items	Quantities	Price/item	Total
Automated control system	2	R	R
8 Station irrigation controller	1	R	R
Solinoid valves with gate valves	8	R	R
Soil moisture sensors	8	R	R
Pressure pumps (2.2 kw)	2	R	R
Electronic water meters	8	R	R
Software with wifi connection	2	R	R
Climate sensors	9	R	R
20 000 L water tank and connecting pipes	1	R	R
Delivery and installation	1	R	R
Total			R