



**Attention      Bernadet Pawandiwa**

Dear Ms Pawandiwa

**Heritage Scoping Report**  
**Proposed Umgeni Water Desalination Plant and associated infrastructure at Tongaat**  
**eThekweni Municipality, KwaZulu-Natal**

**Project description**

Umgeni Water is proposing to construct and operate a seawater desalination plant at Desainagar/La Mercy near Tongaat, on the KwaZulu-Natal North Coast, using seawater reverse osmosis technology. The desalination plant will produce 150 Ml/day of freshwater when at final capacity and will aim to ensure the promotion of sustainable economic development by serving the interests of a growing population as well as other commercial and agricultural interests in the region. It is recognised that the future of the KZN region is greatly dependent on an alternative water source to augment supply.

The main objectives of the desalination plant is therefore to develop a long term, sustainable alternative water source for the east coast region that is rainfall/climate-independent and ensures long-term security of supply.

The plant facility will have a lifespan of approximately 25 years with the potential of a lifespan extension. Most of the infrastructure will be constructed in one phase with additional plant modules being provided at about five year intervals to match the growth in water demand. The combined footprint of the desalination plant will occupy an area of  $\pm 70\,000\text{ m}^2$  (7ha).

Linear Infrastructure includes –

- Seawater intake (source water) system with screening and sea-bed pipelines to the desalination plant location;
- Brine outfalls constructed in the sea and discharge sea-bed pipelines;
- Terrestrial pipelines transporting brine/permeate between the sea and the desalination plant, and existing bulk water infrastructure;
- A source water pump station located at the desalination plant operational site;
- Electrical power line and transformer yard infrastructure; and
- Bulk water supply reticulation into the eThekweni water supply system.

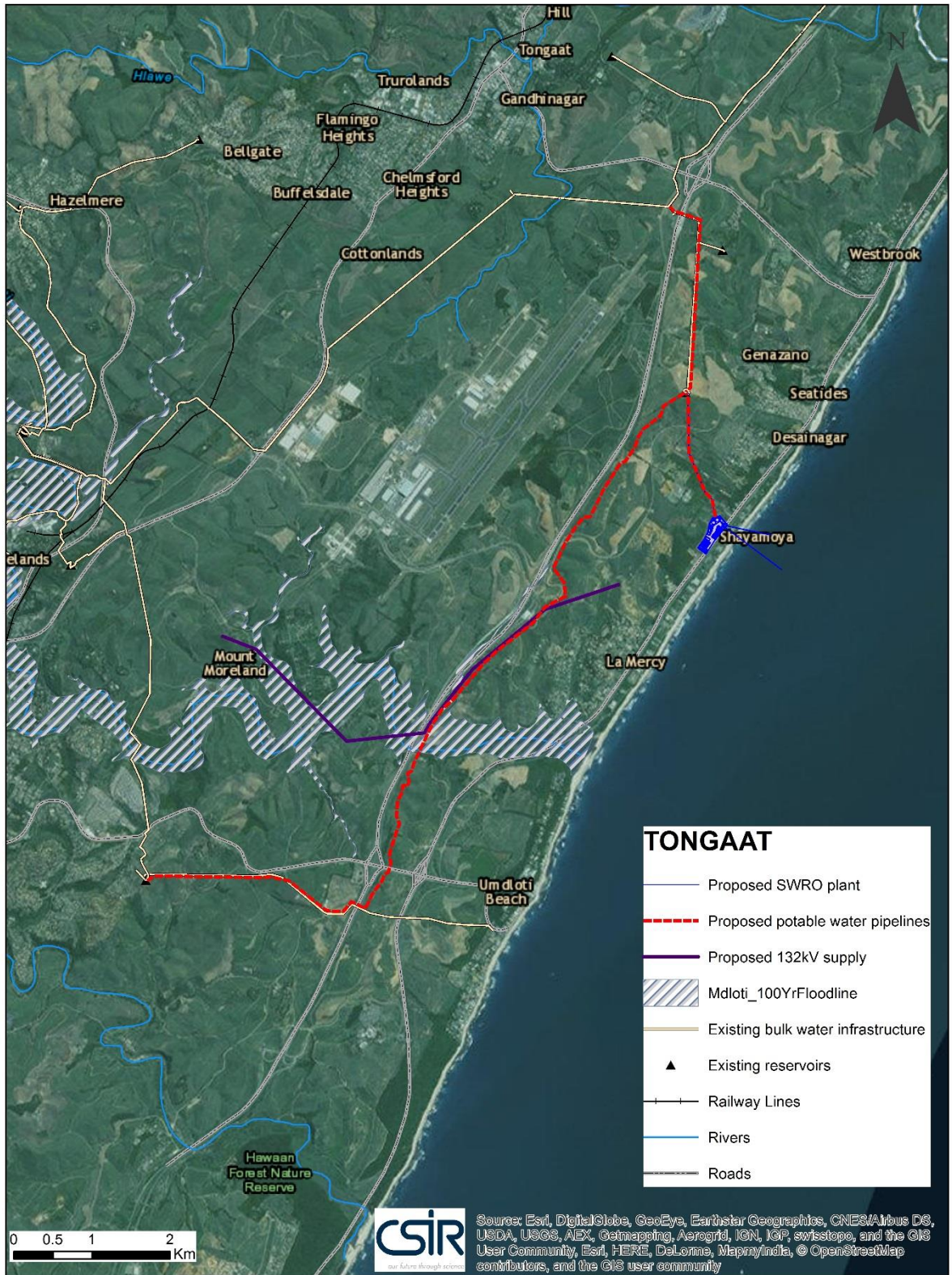


FIGURE 1 SATELLITE IMAGERY INDICATING PROJECT LOCATION AND EXTENT

## Site assessment and recommendations

eThembeni staff inspected the site on 23 February and again on 22 July 2015.

In terms of the National Heritage Resources Act, a Heritage Impact Assessment is required in terms of Section 38(1c): *Any development or other activity which will change the character of a site (i) exceeding 5 000m<sup>2</sup> in extent.*

The proposed Tongaat plant site is of low sensitivity from all aspects of archaeological heritage. The plant location within the slack of a primary paleo-dune that has been the subject of intensive market gardening since at least the early 1970's precludes the presence of any primary context archaeological sites. None were observed upslope of the plant site along the proposed bulk water supply pipeline servitude. This alignment should, however, be assessed during excavation and inception (see below).

The access servitudes for the intake/outlet pipelines under the coastal foreshore dunes and the immediate environs were "red-flagged" for the very probable presence of shell middens.

Site inspections revealed no immediate evidence of such although tertiary dune vegetation may well currently mask any middens present. The intertidal zone where the intake/outlet pipes are proposed is a contiguous rocky shoreline. Intertidal rocky outcrops occur from Westbrooke Beach in the north to 3km south of the abstraction point which argues strongly for the likely presence of shell middens at this *locale*. The KwaZulu-Natal Museum archaeological data base records four shell midden sites in close proximity to Westbrooke and Desainager beaches.

The SAHRIS Palaeosensitivity Map indicates that the area has high sensitivity.

However, the proposed intake/outlet pipelines are to be tunnelled 10–15m below sea-level from the desalination plant into the ocean. Consequently, impacts on the sensitive foreshore are minimised.

We would advocate however that an archaeological and palaeontological watching brief, in conjunction with the appointed Environmental Control Officer, be required at the time of drilling of the inlet and outlet pipes under the dune cordon. Albeit that the pipelines are proposed to be drilled 10-15m below sea level, any ancillary above surface activities in this highly sensitive zone would be detrimental to *in situ* archaeological and palaeontological deposits. Should middens, or subterranean archaeological and palaeontological material be exposed during these activities, a Phase Two assessment will have to determine their significance and appropriate mitigation.

The proposed 32kV powerline alignment between La Mercy and Mt. Moreland should be monitored by an archaeologist at tower positions and the establishment of transformer yard infrastructure, once these have been surveyed by Eskom.

The majority of the bulk water supply pipelines into the eThekweni water supply system are along existing servitudes that have been previously surveyed by eThembeni for Tongaat Hulett Developments and Dube Trade Port / ACSA (see SAHRIS Cases and Reports mapping). However, the proposed La Mercy-Waterloo Reservoir pipeline is a "greenfield" alignment to its junction with the existing Waterloo-Mhlothi Reservoirs' servitude. This too should be monitored by an archaeologist during inception.

Accordingly, we request that Amafa provide in-principle support for the proposed development to proceed, subject to the archaeological and palaeontological monitoring advocated.

Please can you notify ourselves on behalf of our client, the CSIR, as to the decision of Amafa in this regard.

Yours sincerely

A handwritten signature in black ink, appearing to read "Len van Schalkwyk". The signature is written in a cursive style with some loops and flourishes.

Len van Schalkwyk  
Principal Investigator.