

# Proposed Square Kilometre Array (SKA) fibre optic cable between Beaufort West and Carnarvon, Northern and Western Cape

Our Ref: 15577



an agency of the  
Department of Arts and Culture

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CaseID: 15577

Date: Friday October 23, 2020  
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## Interim Comment

In terms of Section 38(3), 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention: CSIR

The South African Radio Astronomy Observatory (SARAO) spearheads South Africa's activities in the SKA Radio Telescope through engineering, science and construction. SARAO is a National Facility, managed by the National Research Foundation, which incorporates radio astronomy instruments and programmes such as the MeerKAT and KAT-7 telescopes in the Karoo, the Hartebeesthoek Radio Astronomy Observatory (HartRAO) in Gauteng, the African Very Long Baseline Interferometry (AVN) programme in nine African countries, as well as the associated human capital development and commercialisation endeavours. Connectivity is required between the SKA core site in the Northern Cape and a data processing facility in Cape Town to transport the science data for the SKA project and its precursor, MeerKAT. Access to dark fibre is required to transport this data due to the expected data throughputs for the SKA project. SARAO has built an overhead fibre route between Carnarvon and the SKA core site. Additionally, the South African National Research Network (SANReN) has procured access to fibre between Beaufort West area and Cape Town. A fibre optic cable connection must, therefore, be built between Carnarvon and Beaufort West. The details of the preferred and selected SKA fibre route (Route A) is as follows: The fibre route starts from Beaufort West Transnet building, to a 3 m x 6 m signal repeater station at Loxton, and then on to the Carnarvon SKA Point of Presence (PoP) site (location where networking equipment may be accessed). The fibre duct and cable will be laid in a 1 m deep and 300 mm wide trench and be buried by backfilling and compacting the trench. The full fibre route will be installed within the road reserves of roads R381 and R63, and 1 m from the fence of the private land. 155 km will be underground and 25 km will be overhead due to it not being technically or financially feasible to trench on the Molteno Pass section. The total pole length is 9 m, buried 1.5 m deep, with a resultant above-ground height of 7.5 m. There are several streams / rivers and associated wetlands to cross. Rivers will be crossed using directional drilling 2 m below the riverbed starting 32 m away from river banks. There is only one river with solid bedrock (the Brak River near Loxton) where directional drilling is not technically or financially feasible. Here the fibre cable will be attached to the existing road bridge.

Thank you for notifying SAHRA of the Proposed Square Kilometre Array (SKA) fibre optic cable between Beaufort West and Carnarvon, Northern and Western Cape. It must be noted that SAHRA is only providing comments for the Northern Cape portion of the proposed development.

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If the proposed development is undergoing an Environmental Authorisation (EA) Application process in terms of the National Environmental Management Act, 107 of 1998 (NEMA), NEMA Environmental Impact Assessment (EIA) Regulations as amended, it is incumbent on the developer to ensure that a **Heritage Impact Assessment (HIA)** is done as per section 38(3) and 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA) as required by section 24(4)b(iii) of NEMA. This must include an archaeological component, palaeontological component and any other applicable heritage components. The HIA must be conducted **as part of the** EA Application in terms of NEMA and the NEMA EIA Regulations.

If the proposed development is not undergoing an EA application, section 38(1) of the NHRA will apply, and an assessment of heritage resources is required to be conducted as a stand-alone assessment.

The assessment must include an assessment of the impact to archaeological and palaeontological resources. The assessment of archaeological resources (inclusive of a field assessment) must be conducted by a qualified archaeologist and the report comply with the SAHRA 2007 Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment Reports (see [www.asapa.co.za](http://www.asapa.co.za) or [www.aphp.org.za](http://www.aphp.org.za) for a list of qualified archaeologists).

The proposed development is located within an area of very high and moderate palaeontological sensitivity as per the SAHRIS PalaeoSensitivity map. As such, a field-based Palaeontological Impact Assessment (PIA) must be undertaken by a qualified palaeontologist. (See <https://www.palaeosa.org/heritage-practitioners.html> for a list of qualified palaeontologists). The report must comply with the 2012 Minimum Standards: Palaeontological Components of Heritage Impact Assessments.

Any other heritage resources as defined in section 3 of the NHRA that may be impacted, such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.

Further comments will be issued upon receipt of the draft EIA documents inclusive of appendices.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

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**ADMIN:**  
Direct URL to case: <http://www.sahra.org.za/node/541368>