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South African Radio
Astronomy Observatory

South African Radio Astronomy Observatory (SARAO)

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Request for Information for the development of Employee Housing in Carnarvon, Northern Cape

The Square Kilometre Array (SKA) instrument will be one of world's most powerful cm-wavelength radio telescopes. The core of the SKA will be located in the Northern Cape Province.

SARAO requests potential service providers to submit proposals for employee housing in the town of Carnarvon. Proposals should include costs, finance models and assumptions.

For further information and detailed requirements, kindly visit our website www.ska.ac.za OR

Contact:

Ms Pontsho Maruping on: 021 514 1200 or at: pmaruping@ska.ac.za

Kindly submit your proposals not later than 14 December at 11:00am 2018 via email.

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The South African Radio Astronomy Observatory (SARAO)

The South African Radio Astronomy Observatory (SARAO) spearheads South Africa's activities in the Square Kilometre Array Radio Telescope, commonly known as the SKA, in engineering, science and construction. SARAO is a National Facility managed by the National Research Foundation and incorporates radio astronomy instruments and programmes such as the MeerKAT and KAT-7 telescopes in the Karoo, the Hartbeesthoek 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.



Requirements for the Employee Housing

1. Introduction

The Square Kilometre Array (SKA) will be one of world's most powerful cm-wavelength radio telescopes. Two of the three receiver technologies, including the dish and dense aperture arrays that cover a combined frequency range of 200MHz to 10GHz, will be built in Africa. The core of the SKA is located in the Northern Cape Province.

South Africa completed the construction of the 64-dish MeerKAT array in the first half of 2018. The South African Radio Astronomy Observatory (SARAO), which is a national facility operating under the National Research Foundation (NRF) manages the development and continued operation of the MeerKAT telescope. The design of the next phase, 133-dish SKA-1 is currently underway.

SARAO will also take responsibility for operational management of the SKA telescope in the Northern Cape.

2. Housing target

Housing units are required to meet the following needs:

- a. SKA operational staff based on site - the current and future SKA SA employees who will be based in Carnarvon on a fulltime basis to support telescope operations.
- b. Trainees attending courses at the training centre
- c. Staff deployed on site for extended periods

3. Identified potential sites

The following sites have been identified and are available for residential development:

Erf No	Zoning status	Extent (m ²)	Type
1174	Residential	4528	Infill
1197	Not zoned	25000	Greenfield
353/9	Mixed	10018	Infill
431	Residential	45154	Greenfield
341	Residential	4405	Greenfield
342	Residential	1913	Greenfield
343	Residential	3152	Greenfield



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4. Availability of bulk services

a. Water & Sanitation

Current Municipal Water infrastructure includes 8 boreholes currently being used with augmentation planned 1560kL Reservoir.

New Water and Sanitation requirements for SKA: 80-100 housing units

- Estimated Water usage: (600l/day/household) = 60,000l/day (100 units)
- Estimated Sanitation: (500l/day/household) = 50,000l/day (100 units)

A needs assessment is required to determine whether new demand can be catered for by existing infrastructure.

b. Bulk Power Supply

SARAO upgraded the Karoo substation from 5MVA to 10MVA (5MVA allocated by Eskom to Carnarvon & Vosburg). The status is that

- 3.8MVA currently used by Carnarvon
- 100+households = 6kVA x 100 = 600kVA

Total Carnarvon demand increased to 4.4MVA and hence there is sufficient capacity

5. Detailed requirements

The current and future SKA SA staff requires approximately 80-100 housing units. The short-term requirement will be approximately 50 housing units (2019-2020) and the remainder from 2022 onwards. The housing requirement is for a mixed development that includes 1,2 and 3 bedroom units, split as 30, 40 and 30 respectively.

6. Proposed model

The development has been envisaged as primarily a developer owned asset. This can be achieved provided SARAO commits to a certain occupancy level to minimize the risk for the developer. This will be determined by factors such as the overall cost of the development and how many employees choose to buy rather than lease the properties.

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Developer	SKA	Employees
Design, finance, build and operate	Cover professional services such as geotechnical assessment and upgrade of supporting infrastructure Leases units for requirements under 2b and 2c	Lease or purchase units directly from developer

7. Time frame

The envisaged timelines are as follows:

Milestone	Date
Closing Date	14 December 2018
Internal processing	14 December 2018 – 31 January 2019
Invitation for RFP stage	6 February 2019

SARAO reserves the right to amend the timetable. If SARAO decides to change any of the key dates prior to the closing date for submission of responses, a notice will be published

8. Proposal submission

The submission should include information on:

- Bulk Services agreement
- Bulk services engineering
- Services for individual erven and internal roads for the development.
- Proposed housing units, lay-out and individual costing for different types
- Architectural services
- Funding models
- Implementation plan
- Guarantees which include:
 - Financial capacity to deliver the requirements of the Development or ability to raise finance or self-fund a project of this nature

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- Previous experience in the sector, including evidence of experience working with Government, experience incorporating social housing in previous projects and experience delivering projects in rural areas
- Approach to delivering innovation and how this will contribute towards the realisation of benefits for the SARAO

9. Budget

Provide the estimated costs for the expected expenditure which should include (and any other major costs)

Cost category
Construction costs
Professional fees
Financing
Marketing
Developer's profit
Contingencies

10. Conclusion

- The requested information will be analysed to determine proposal solutions that have the capability to meet the requirements of SARAO.
- Following the analysis of proposal, an open tender will be advertised soliciting bids for the housing development.

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