

**ERF 20165
(PROPOSED
EXTENSION 9)**

GEOTECHNICAL REPORT
Compiled by : GEOSSET cc
Consulting Environmental and Engineering Geologists
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Date : November 2017

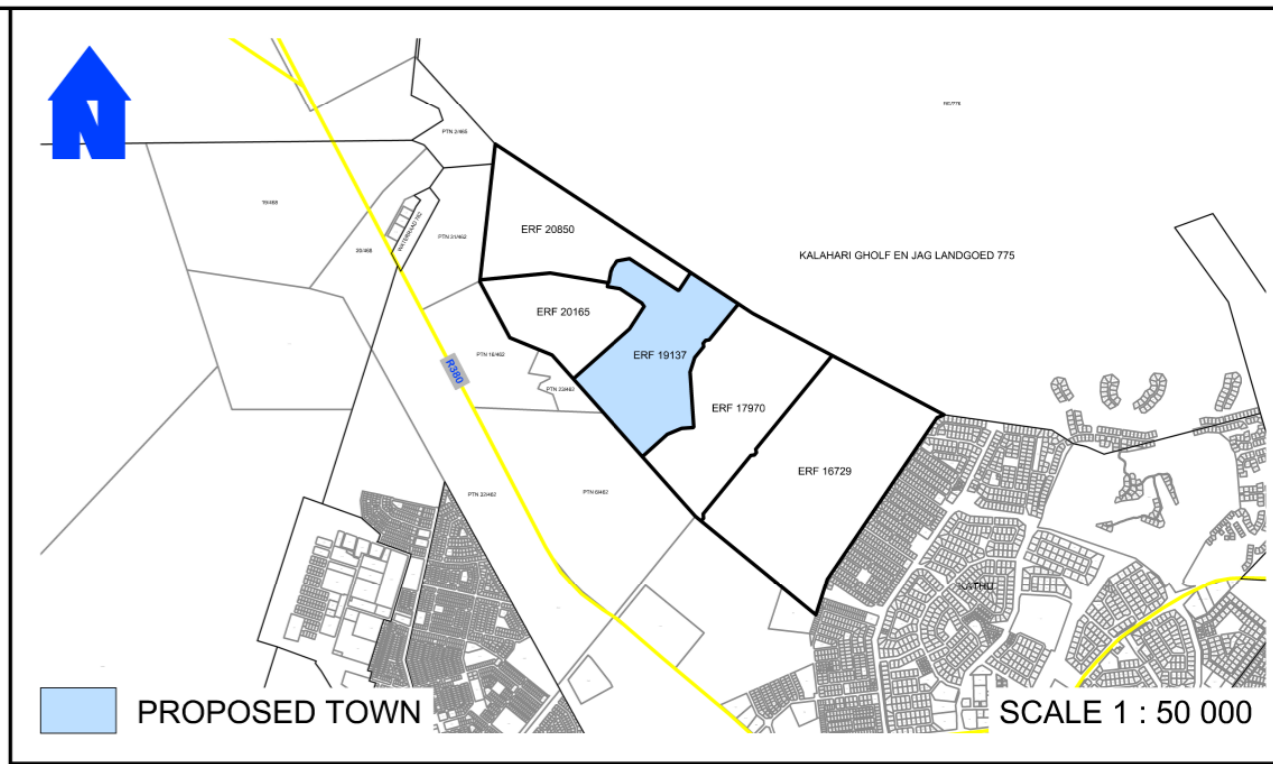
Engineering Geological Zonation

Special Development with Risk:
Site Class CR to C1R/1A2F: This zone is characterized by very loose collapsible aeolian sand (C to C1) exhibiting an open texture, with thickness less than 0,75m, with less than 10mm movement measured at surface. The risk of hard pan calcrete, calcrete gravel and shallow rock and scattered rock calcrete boulders or rock outcrop (R) will restrict the placing of services. Pneumatic tools, a competent TLB or excavator or even blasting will be required during the placing of services. Foundations will require special foundation techniques with proper compaction and site specific drainage. It is classified as CR to C1R according to the NHBRC guidelines (1995) & SAICE Code of practice (1995) and 1A2F according to the classification for urban development (Partridge, Wood & Brink).

Development with expected problems or increased cost
Site Class PQ: Quarried areas or borrow pits must be rehabilitated including backfilling with a controlled fill to engineer's specification before any development can take place.

Undevelopable:
Site Class PD: Perennial drainage features where the 1:100 year flood line will determine or specify the allowable distance of development from rivers, usually 32m from the center of the river.

— Inferred Zone Boundary
PQ Site Class Designation
x K01 Test Position and Number



LEGEND

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential zone III	Flats, Residential building	2	19361; 19368	1.5868ha	2.3%
Residential zone IV	Residential house (low cost housing excluded) (Minimum 350m²)	974	19138-19254; 19356-19359; 19383-19435; 19437-19657; 19659-19662; 19658-20002; 20007-20129	36.4733ha	52.9%
Business zone I	Business premises including, Institution, Authority use, Flats, Residential building	6	19362-19367	3.4564ha	5.0%
Business zone II	Shop	15	19369-19382; 19436	1.2388ha	1.8%
Institutional zone I	Place of instruction (Primary School)	1	19857	2.9624ha	4.3%
	Place of instruction (Creche)	2	19255; 20006	0.3664ha	0.5%
Institutional zone II	Public place of worship (Church)	1	19658	0.2044ha	0.3%
Open space zone I	Public open space	2	20140; 20141	4.4457ha	6.5%
Transport zone I	Transport use (Taxi rank)	1	19360	0.5357ha	0.8%
Transport zone II	Public street	23	20142-20164	17.6137ha	25.6%
TOTAL		1027	19138-20164	68.8836ha	100%

STREETS

Reserve Width	Length in Metre	% of Street Length
12m	8334m	61.8%
13m	815m	6.0%
16m	2502m	18.5%
20m	700m	5.2%
25m	1144m	8.5%
TOTAL	13495m	100%

EXISTING SERVICES:

- GLM Water network
- GLM Sewer network
- GLM Electricity network

Average Residential Erven Size : 374.5m²
Erf sizes and dimensions subject to final survey.

1 : 100 YEAR FLOODLINE
It is hereby certified in terms of the provisions of Section 144 of the National Water Act 1998 (Act No.36 of 1998) that the lines shown on this drawing indicate the maximum extent of inundation likely on an average every hundred years by the flood waters from the natural catchment (as determined using present topography).

STREETS:
Maximum slope 1 : 6
Minimum slope 1 : 294

DESIGN OF TOWN LAYOUT
Maxim Planning Solutions (Pty) Ltd
K. Raubenheimer Pr. Pln A/924/1996
Tel. (018) 468 6366

CONTOURS
The contour survey is in accordance with the standards laid down by the Regulations relating to Township Establishment and Land Use.

Digital Orthophoto by: *Azura*
Tel: (012) 8030346
Date of Photography : December 2017
System : WGS84 Central Meridian : Lo23

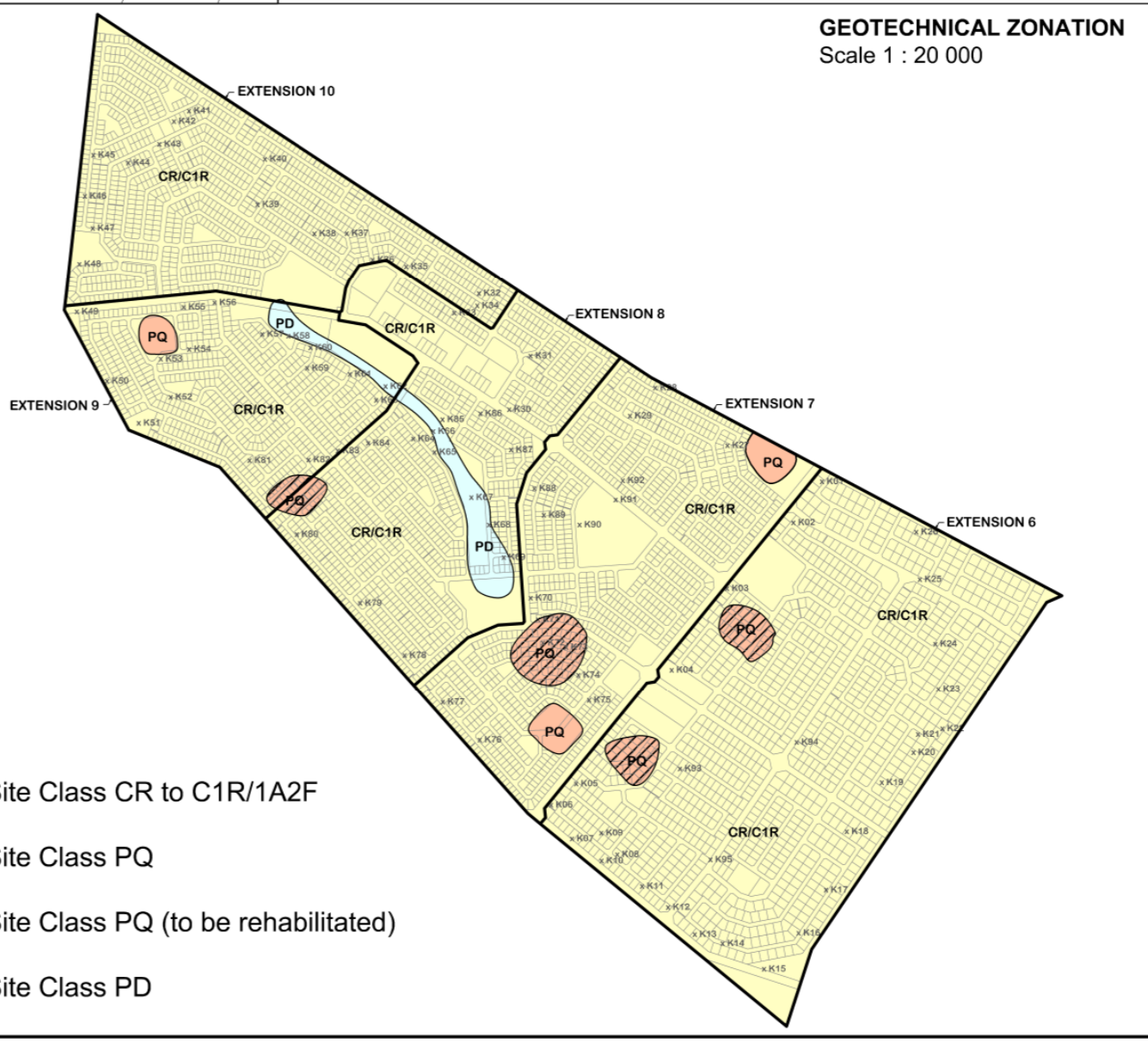
**DETAIL LAYOUT MAP
PROPOSED TOWNSHIP
KATHU EXTENSION 8**

0m 25m 50m 75m 100m 150m 200m 250m
1cm = 25m

SCALE 1 : 2 500

THE PROPOSED TOWN IS SITUATED ON A PORTION OF PORTION 2 OF THE FARM KALAHARI GHOLF EN JAG LANDGOED No. 775, DIVISION KURUMAN.

GAMAGARA LOCAL MUNICIPALITY NORTHERN CAPE PROVINCE



- Site Class CR to C1R/1A2F
- Site Class PQ
- Site Class PQ (to be rehabilitated)
- Site Class PD

NOTES:

The figure A-B-C-D-E-F-G-H-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z-A'-B'-C'-A represents the proposed town Kathu Extension 8.

No ingress to or egress from Govan Mbeki Avenue along the line(s) lettered V-W; a-b-c; d-D; e-f-g and h-j-k-l as indicated on the layout plan.

No ingress to or egress from Raymond Mphahamisi Mhlaba Avenue along the line(s) lettered P-m; n-o; p-q; r-Q-s; l-t; u-v; w-x-y; z-a'; b'-c'; d'-e'-f'; g'-h'-j' and k'-l' as indicated on the layout plan.

No ingress to or egress from Jeffrey Witbooi Avenue along the line(s) lettered B-m'; n'-C-D; o'-G-p'; q'-H-r'-s' and t'-u'-j'-k as indicated on the layout plan.

No ingress to or egress from Seemeeu Street along the line(s) lettered K-L-M-v' and w'-N as indicated on the layout plan.