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Johannesburg Water (Pty) Ltd
PO Box 61542
Marshalltown
2107

Our ref. : CC0439-G19
Your Ref. :
Date : 15/02/2008

ATTENTION: Mr Duncan Hulley

RE: ERAND GARDENS EXTENSION 33 – SCOPING REPORT

Please find included a copy of the Scoping Report for Erand Gardens Extension 33 for the town planning application Ref No 07-9770. I trust that you will find the above to your approval. Should you have any queries, please feel free to contact me on 083 255 6109.

Yours sincerely,

Wilkie Louw Pr Eng

Directors:
WH Louw (Pr Eng) R Louw (Pr Eng)

CivilCraft Consulting Engineers (Pty) Ltd
Reg No 2004/027992/07



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City of Johannesburg: Region 1&2
Private Bag X 70
Braamfontein

Our ref. : CC0439-G10
Your Ref. :
Date : 08/06/2007

**RE: ERAND GARDENS EXTENSION 33: PORTION 784 OF THE FARM
RANDJIESFONTEIN 405-JR (holding 222) AND HOLDING 223 – SCOPING REPORT**

Please find included the following:

- Locality Plan: Position of Holding 222 & 223 (Figure 1)
- Water Layout. (Figure 2)
- Sewer Layout. (Figure 3)
- Roads & Stormwater Layout. (Figure 4)

The proposed rights for the above two holdings are as follows:

- Coverage = 40%.
- FSR = 0,4.
- Height = 5 Storeys.
- Special for offices, hotels, training centres, conference centres, institutions as well as residential buildings at no density.

The above layout drawings indicate the available services as provided by Johannesburg Water (Sewer and Water). Johannesburg Roads and Stormwater do not make bulk services information available and the information shown were physically measured from site.

The requirements and availability of each of the services, within the proposed rights applied for, are as follows:

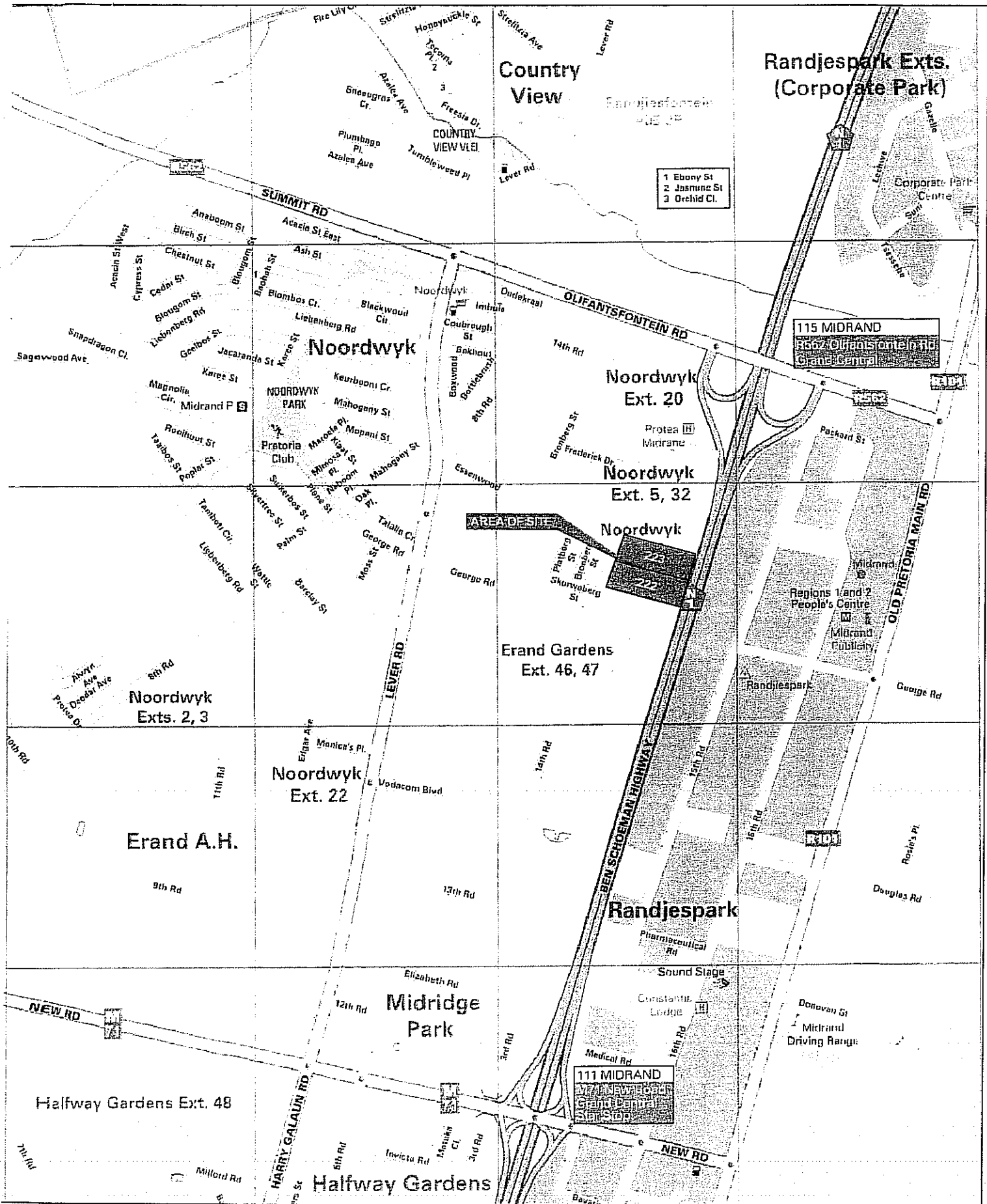
Roads:

Refer to Roads & Stormwater Layout (Figure 4).

Main access is provided via 14th road, which in turn link up with Lever road and Olifantsfontein road. Olifantsfontein road intersect with the M1. Fourteenth road has a road reserve of 20m with a road width of 7,4m.

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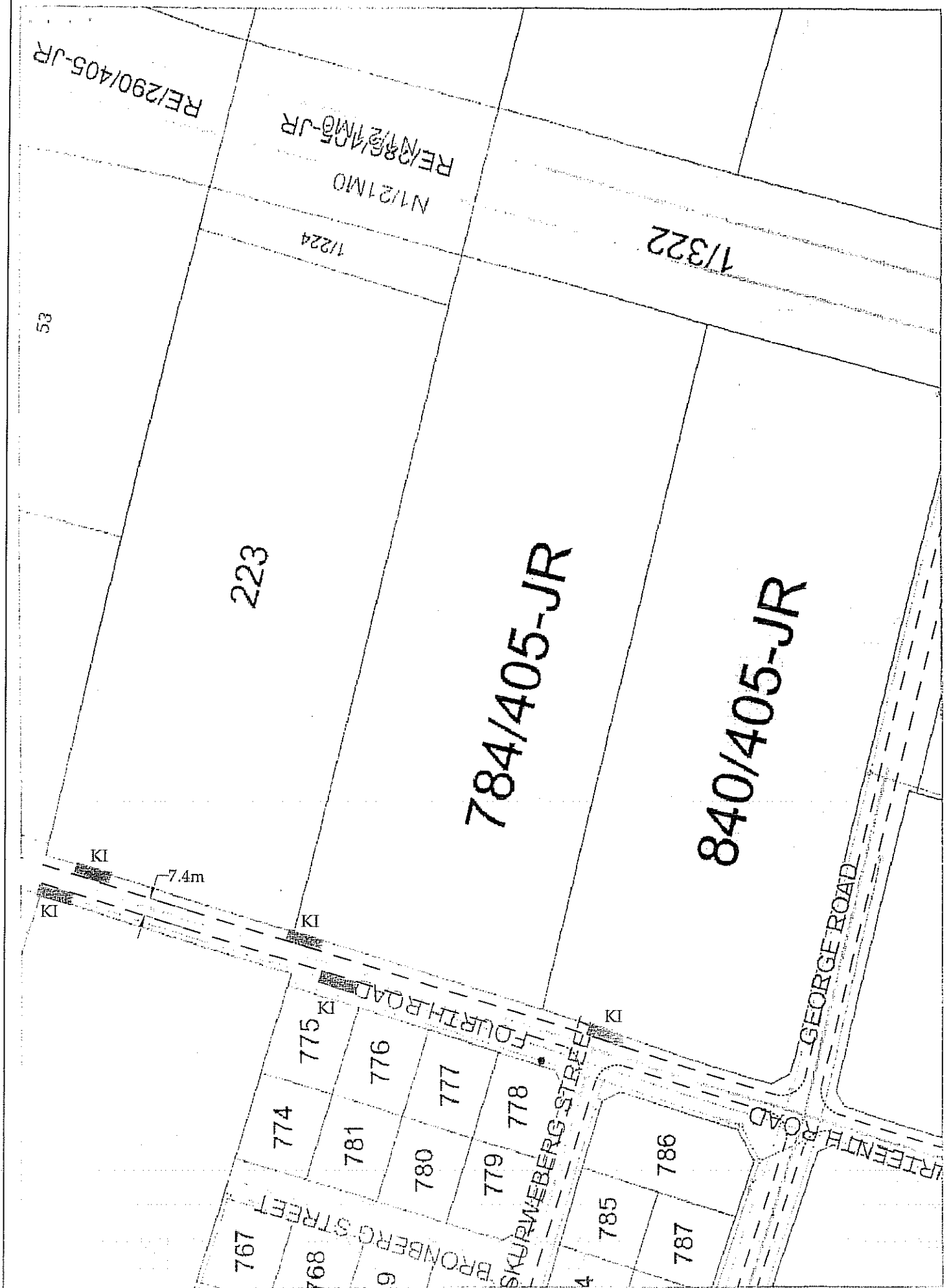
ERAND ERF 222 AND 223

FIGURE

LOCALITY PLAN

1





RE/290/405-JR

RE/286/405-JR
N1/21M0

1/224

1/322

53

223

784/405-JR

840/405-JR

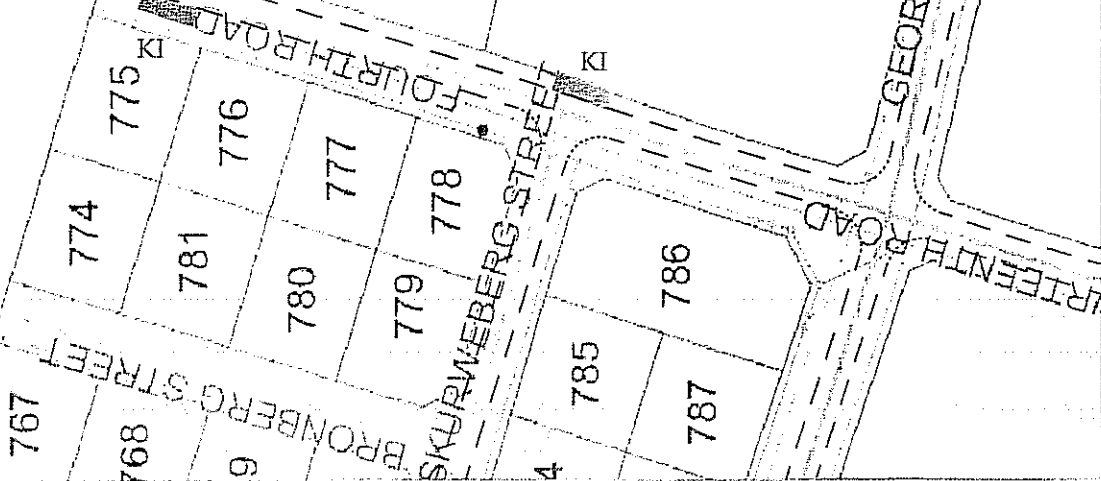
KI

7.4m

KI

KI

KI



This would classify the road as a distributor with bus route capability. Easy access can thus be found either through public transport or private transport without any proposed upgrading of Fourteenth road. Controlled intersections exist at Vodacom Boulevard and Canbrough road (Extension of 14th) with Lever road.

Stormwater:

Kerb inlets exist in 14th road adjacent to holdings 222 and 223. The two holdings drain from east to west (from the N1 to 14th) at an approximate slope of 2%. On site drainage can be provided with a proposed network joining up to the kerb inlets in 14th road. This will provide for the 1:5 year drainage pattern. Contour design for surface drainage will be done in such a way that surface run off drain directly towards 14th road to accommodate 1:25 year drainage patterns.

The pre and post development run-off for the two holdings are as follows:

<u>Pre-Development:</u>		<u>Post Development:</u>	
C	= 0,25	C	= 0,65
D	= 16mm	D	= 5mm
Tc	= 20,86mm	Tc	= 9,86mm
I5	= 100mm/hour	I5	= 135mm/hour
I25	= 158mm/hour	I25	= 198mm/hour
A	= 5.5660 ha		
Q	= C.I.A		
Q5	= 139m ³ /hour (38,6 l/s)	Q5	= 488,41m ³ /hour (135,5 l/s)
Q25	= 219m ³ /hour (60,8 l/s)	Q25	= 715,57m ³ /hour (198,8 l/s)
Pipe required @ 1% gradient:			
Q5	= 250mmØ	Q5	= 450mmØ

Water:

Refer to Water Layout (Figure 2)

Water demand for the two holdings based on the applied rights are as follows:

Holding 222:

• Size	=	2,8ha
• FSR	=	0,4
• Floor Coverage	=	11200m ²
• Business Developments:		
- 0,8 kℓ/100m ²		
- AADD	=	89,6kℓ/day
- Peak Factor	=	1,70
- Peak Daily Demand	=	152,32 kℓ/day
	=	1,76 l/s
• Pipe size	=	33mmØ → 40mmØ
• Fire flow @ peak demand conditions	=	25l/s
• Pipe size @ 2,0m/s flow rate	=	125mmØ

Holding 223:

- Size = 2,766ha
- All of the above will apply to holding 223.

From the water layout drawing it can be seen that a 100Ø line is available in Fourteenth road and a 350Ø in George road. Should the fire flow demand be enforced a connection will have to be done from the 350mmØ in George road to provide for both fire and business demand. Available water pressures are unknown at this stage.

Sewer:

Refer to Sewer Layout (Figure 3).

A Sewer outfall connection can be made at the intersection of George road and Fourteenth road. The sewer outflow demand for both holdings 222 and 223 combined will be as follows:

- Area = 5,5660ha
- Sewer outflow = 0,8 kℓ/day/100²
= 179,2 kℓ/day
- Peak factor = 2,5
- Sewer outflow = 448 kℓ/day
- Infiltration = 0,86 ℓ/s (400m of pipe)
- Total Sewer outflow = 6,045 ℓ/s
- Pipe size required = 140mmØ → 160Ø @ 1% fall

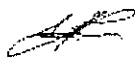
Waste Management:

An internal waste collection service will be implemented. This is to ensure that an environmentally acceptable standard is achieved. This falls within the guidelines of the legislation regarding waste management. With special reference to "Guidelines for Human Settlement Planning and Design, Chapter 11, Table 11:1: Current South African legislation."

The waste category will be Business and Commercial Waste. On site storage will be done in 120 ℓ mobile refuse bins in a designated refuse area. The local authority will be responsible for waste collection. In all probability a "Rear End Loader" will be used in the process of waste collection. The level of service will be "Level 5", which is considered the optimum means of collection in the majority of developed communities. The waste is collected from the refuse area and transported to a point of final disposal.

I trust that you find the above information to your approval.

Yours sincerely,



Wilkie Louw Pr Eng