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Central Development (Pty) Ltd
P.O BOX 754
Auckland Park
2008

Enquiries : WH Louw
Our ref : CC0439-G42
Your Ref. :
Date : 27/05/2008

Attention: Ms Ilse Martin

RE: ERAND GARDENS EXT 33

In response to the meeting held on the 20th May 2008. The following were requested:

- Attenuation requirements
- Final Comments from Johannesburg Water

Please find included Layout drawing no 1 as well as an extract from JRA Policy Statement for Stormwater Management. The following applies:

- The sizing and levels are based on the contour information received from the town planners, Web Consulting.
- The position and cross section as shown on Layout 1 for the Attenuation pond are based on the contour layout and does not refer to a site development plan. A Final position of the attenuation pond, based on the access and design layout of roads and structures will ultimately be done.
- The size of the attenuation at this stage is based on the guidelines provided in the JRA policy statement. A Full mechanistic design will be done once a site development plan has been compiled.

Stormwater Attenuation:

- The MAP value is 750mm.
- A volume of 350m³/ha is used.
- A rectangular layout is shown.
- Total Storage Capacity:
350m³ x 5,471ha = 1915m³
- Dimensions:
- L x B x H = 31m x 31m x 2m

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

CivilCraft Consulting Engineers (Pty) Ltd
Reg No 2504/GZ7962/07

Comments from Johannesburg Water:

- The report has been accepted subject to final approval of design/construction drawings by Johannesburg Emergency Services Division and Johannesburg Water.

I trust you will find the above to your approval.

Yours sincerely



W.H. Louw Pr Eng

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Date: 27 May 2008

Our Ref.: ERAND GARDENS-33
Your Ref.: CC0439-G19

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ATTENTION: Mr. W. LOUW

Dear Sir

SCHEME REPORT
FARM RANDJESFONTEIN 405-JR PORTIONS 784 AND 223 (ERAND GARDENS EXTENSION 33)

Your letter dated 15 February 2008 and attached documentation refers.

Johannesburg Water acknowledges receipt of your scheme report. The report is acceptable to Johannesburg Water and construction drawings, once approved by the City of Johannesburg Emergency Services Division, may be submitted to Johannesburg Water for approval purposes. Please note that all construction drawings for water and sewer services that are to be taken over by Johannesburg Water require approval by the company prior to any construction activities being undertaken on site.

1. General Comments

- 1.1. The proposal to extend the sewerage reticulation from Erand Gardens extension 32 into the proposed development such that the proposed development has an individual sewer connection at the lowest point is approved and will ensure compliance with the requirements of Johannesburg Water.
- 1.2. All services to be taken over by Johannesburg Water must thus comply with the minimum requirements of Johannesburg Water in respect of materials used, design standards used in the design of the systems, construction drawing standards and construction methodology where these requirements supersede currently recognised guidelines and/or regulations.
- 1.3. Sewer mains which are to be taken over by Johannesburg Water are to be designed to be located in roadways which are to be handed over to the City of Johannesburg or which have right of way servitudes registered over the roadways in favour of the City of Johannesburg for the access to and maintenance of installed municipal services. Note that sewers in servitudes in private property are acceptable, however, this must be motivated to Johannesburg Water prior to the submission of construction drawings for approval.
- 1.4. Cross section of roadway must be designed such that distances between services is

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such that each service can be excavated safely without having other services suspended in mid air.

2. Engineering Drawings

The following are the requirements with respect to the content of construction drawings that are to be submitted for approval.

- 2.1. Prior to any construction being undertaken on site, an engineering drawing (or drawings) are to be submitted for approval;
- 2.2. All sewer project drawings shall be on Johannesburg Water's (the Company's) standard drawing title block;
- 2.3. Layout drawing(s) shall show the following:
 - 2.3.1. A north arrow;
 - 2.3.2. Sufficient cadastral information of existing surrounding development to allow the easy location of the proposed development;
 - 2.3.3. The standard notes of the Company together with any specific project notes by the engineer;
 - 2.3.4. A legend identifying the symbols used on the drawings;
 - 2.3.5. Contours appropriate to the scale of the drawing(s);
 - 2.3.6. New sewer mains are to be marked boldly with existing services being marked lightly;
 - 2.3.7. The boundaries of proposed and existing servitudes and dimension are to be clearly marked;
 - 2.3.8. The distances of water and sewer mains from boundaries;
 - 2.3.9. The proposed position of both water and sewer connection points are to be shown as well as dimensioned or described (for example 10 meters east of west meaning 10 meters east of the western boundary of the erf in question);
 - 2.3.10. The position and depth to invert of proposed sewer manholes to be marked on the drawings;
 - 2.3.11. The title is to contain a correct cadastral description of the location of the project as well as a description of what the drawing depicts;
- 2.4. The set of drawings is to include the following:
 - 2.4.1. Layout plan showing the layout of proposed new sewer mains;
 - 2.4.2. A long section of the proposed sewer mains;
 - 2.4.3. Copies of the Company's relevant standard drawing as prepared by the Company's engineers. (A copy of the latest standard drawings can be obtained from the writer).
- 2.5. Layout drawing(s) shall make reference to the Company's standard drawings even though these drawings are included in the set of drawings.

3. Materials

- 3.1. All materials that are to be used in the extension of the existing system are to comply

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Ms Mamba Jansen van Rensburg • Dr John Kiani • Mr Neel Macleod • Ms Rozalie Manning • Mr Jacob Mashizwa • Dr David Porteous

with this company's minimum materials specifications. (A copy of the latest material specifications and design guide document can be obtained from the writer).

- 3.2. The writer's recommendation is that the materials, which are used by the developer's contractor to undertake the works, are purchased from the Company's current approved suppliers.

4. Drawings Approval

- 4.1. The preparation of engineering drawings, supervision of the installation of the extension of this company's existing systems and preparation of as-built drawings are to be undertaken by an engineer competent to do so in terms of the National Building Regulation. This person will become the engineer for the project. (Please note, the engineer who prepared the construction drawings and who supervised the installation of the services is to sign the as-built drawing and certify them. The Company will not accept an as-built drawing from a second engineer unless the installed reticulation has been re-excavated, tested and approved in the presence of the second engineer and the Company's employees. Note, the Company will not be a party to copy right infringement and accept any drawing from an engineer which violates another engineer's copy rights.)
- 4.2. Any disputes between the developer and the engineer is to be resolved between the developer and the engineer. Johannesburg Water will not become involved in any dispute between the engineer and the developer. It is suggested the dispute resolution process of the South African Association of Consulting Engineers be followed in resolving disputes.
- 4.3. Johannesburg Water requires three paper prints of the engineering drawings for the project for approval purposes. However, the engineer is advised to submit a single set of paper prints to Johannesburg Water for perusal to ensure compliance with the requirements of the company prior to the submission of the final engineering drawings for the project.
- 4.4. Once the engineering drawings for the project had been approved by Johannesburg Water, one set of the approved drawings will be returned to the engineer, one will be retained by Johannesburg Water Development Control for record purposes and one set will be forwarded to the relevant Johannesburg Water regional office with a notification that the drawings have been approved.
- 4.5. Please note that the engineer is responsible for ensuring that the installed water and/or sewer main complies with the project specification and all legislative requirements, such as compliance with national building regulation, SABS 1200, municipal by-laws, etc. Thus the engineer must ensure that the developer has made adequate financial provision for inspections of the works as well as any tests such as compaction test on back filled material. The engineer will be held accountable for the completed works.

Note that all construction costs and costs associated with complying with the above requirements are for the developer's account.

Should any additional information be required please do not hesitate to contact the writer.

Yours faithfully



(S. Mokgathe)

DIRECTORS: Ms Monha Highla (Chairperson) • Mr Anthony Sill (Executive) • Ms Jocelyn Armstrong • Ms Vanida Gavender
Ms Marie Jansé van Rensburg • Dr John Kilani • Mr Neil Macleod • Ms Rosalia Manning • Mr Jacob Mashile • Dr David Porteous

For **MANAGER: DEVELOPMENT CONTROL**

DIRECTORS Ms Moniba Hlatshway (Chairperson) • Mr Anthony Sall (Executive) • Ms Jocelyn Armstrong • Ms Vanida Govender
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JOHANNESBURG WATER (PTY) LTD REG. NO. 2000/02927/107