(126 Sewer Approval

NELSON MANDELA METROPOLITAN MUNICIPALITY

Office of the Infrastructure & Engineering
Business Unit

✉ 7, Port Elizabeth 6000
☎ (041) 506 2911
fax: (041) 506 2180

Your Reference: F:\420-429\426\Cor\letter7.doc

Deals with this matter: MR E J JULYAN / CCK

Our Reference: 182/01/01/19

Date: 2 February 2006

Letter ID:

Engineering Advice and Services
P.O. Box 13867
Humewood
PORT ELIZABETH
6013

Dear Sirs

ERF 982 PARSONSVLEI – SEWER CAPACITY AND CONNECTION POINTS

Your letters dated 8 December 2005 and 31 January 2006 refer.

The connection tie in points A, F, B and D as shown on your drawings 426-FIG 2 and 3 may be utilized.

The additional sewage flows, as calculated in your spreadsheet, are acceptable and may drain into the existing sewerage network as indicated on your above mentioned drawings.

Yours faithfully

A. A. SAID Pr. Eng.
BUSINESS UNIT MANAGER:
INFRASTRUCTURE & ENGINEERING BUSINESS UNIT

426/SAFE

Nelson Mandela Metropolitan Municipality

INFRASTRUCTURE AND ENGINEERING BUSINESS UNIT

FAX COVER SHEET

Our File Ref. : 182/01/01/19
Your File Ref. :
Your Fax : 0866839899 / 041 5812421

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P.O. Box 7
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To : **ENGINEERING ADVICE AND SERVICES cc**
Attention : Mr A. Westerburg
From : Waste Water conveyance – Mr M. Mpondo
Date : 23 May 2006

DEVELOPMENT OF ERF 3 & 4 – BULK SEWER RETICULATION MASTER PLAN

The sewer preliminary design is hereby approved on principle; the final approval will be done as discussed.

An approved copy of the design can be collected from the Waste Water Conveyance Sub-Silo subject to prior arrangements being made.

The connection into the existing sewer must be made by your contractor under your supervision, but shall be subject to my inspection and final approval before backfilling commences. I will require at least three days notification to inspect the connection.

A standard fee of R362.52 (including VAT) will be charged per inspection and must be paid before the inspection will be conducted. Cheques must be made payable to the Nelson Mandela Metropolitan Municipality and documentation for payment must be collected at the Enquiry Counter of the Waste Water Conveyance Sub-Silo, on the 6th floor of the Eric Tindale Building, Govan Mbeki Avenue.

.....
Sender

Transmission Problems? Telephone Direct (041) 506 - 2418

Copies 1. Waste Water Conveyance – Mr M. Mpondo
2. Project Management - Mr J. Bessinger

.....
Assistant Manager

Page 2 Follows

You and your client shall be responsible for the following:

1. Compliance with the requirements of the Occupational Health and Safety Act of 1993;
2. Protection of the site and public safety;
3. A detailed service investigation;
4. The protection or relocation of any affected service that may be imposed by the responsible service provider at the client's expense;
5. Proper reinstatement of the site to my satisfaction.

On completion, I shall require the following:

1. Written notification that the works have been carried out in accordance with the agreed specification;
2. Written notification that you have witnessed the successful testing of the sewers;
3. "As-built" information on sepia and three copies of erf connection diagrams on paper print.
4. An electronic copy in DXF format of as-built information

Please note that the building plans will only be approved once the as-built information has been submitted and approved by the Waste Water Conveyance Division.

I trust that you shall find the above in order.

.....
Sender

Spare Capacity of Existing Sewer Lines

Connection Point	Section	Pipe Size (mm)	Current Flow (l/s)(PWWF)	Maximum Flow (l/s)	Current Spare Capacity (l/s)	Maximum Additional Flow (l/s)	Future Spare Capacity (l/s)
A	A1 - A6	150	0.49	15.27	14.78	14.78	0
	A6 - A13	225	1.97	37.37	35.4	14.78	20.62
	A13 - A21	225	1.97	40.53	38.56	0	38.56
	A21 - A32	225	11.63	37.73	26.1	11.12	14.98
	A32 - A41	225	20.4	54.83	34.43	24.6	9.83
B	B1 - A21	150	7.41	18.53	11.12	11.12	0
D	D1 - A40	150	6.91	20.39	13.48	13.48	0
	E1 - E8	200	37.5	32.43	-5.07	0	-5.07
	E8 - E15	250	37.5	51.86	14.36	0	14.36
	E15 - E31	300	40.92	73.89	32.97	27.12	5.85
	E31 - E40	350	40.92	145.23	104.31	27.12	77.19
	E40 - E49	400	50.4	189.41	139.01	51.72	87.29
F	F1 - A13	150	1.97	14.31	12.34	12.34	0

Sewer Line	MH No.	Current No of Erven	Current Pipe Size	Current Grade of Sewer	Maximum Flow of Pipe (l/s)	Current Flow in Pipe (l/s)	Extra Capacity (l/s)
[illegible]							
A	2	10	0.15	0.76	15.47	0.49	14.98
A	3	12	0.15	0.82	16.07	0.49	15.58
A	4	12	0.15	9.1	53.54	0.49	53.04
A	5	19	0.225	1	52.32	0.99	51.34
A	6	22	0.225	1	52.32	0.99	51.34
A	7	25	0.225	0.59	40.19	1.48	38.71
A	8	28	0.225	0.58	39.85	1.48	38.37
A	9	32	0.225	2.17	77.08	1.48	75.60
A	10	35	0.225	2.17	77.08	1.97	75.10
A	11	39	0.225	2.17	77.08	1.97	75.10
[illegible]							
A	14	44	0.225	0.63	41.53	1.97	39.56
A	15	47	0.225	0.85	48.24	2.47	45.77
A	16	47	0.225	0.85	48.24	2.47	45.77
A	17	48	0.225	3.03	91.08	2.47	88.61
A	18	52	0.225	1.56	65.35	2.47	62.88
A	19	55	0.225	1.52	64.51	2.96	61.55
A	20	77	0.225	1.54	64.93	3.95	60.98
A	21	251	0.225	0.58	39.85	9.78	30.07
A	22	275	0.225	0.56	39.16	10.00	29.16
A	23	301	0.225	0.8	46.80	11.39	35.41
A	24	301	0.225	0.6	40.53	11.39	29.14
[illegible]							
A	26	313	0.225	0.58	39.85	11.63	28.22
A	27	313	0.225	0.54	38.45	11.63	26.82
A	28	313	0.225	0.6	40.53	11.63	28.90
A	29	313	0.225	0.63	41.53	11.63	29.90
A	30	313	0.225	0.52	37.73	11.63	26.10
A	31	313	0.225	0.6	40.53	11.63	28.90
A	32	494	0.225	2.56	83.72	15.84	67.88
A	33	494	0.225	2.38	80.72	15.84	64.88
A	34	494	0.225	2.56	83.72	15.84	67.88
A	35	494	0.225	1.69	68.02	15.84	52.18
A	36	494	0.225	1.61	66.39	15.84	50.55
A	37	494	0.225	1.96	73.25	15.84	57.41
A	38	494	0.225	1.15	56.11	15.84	40.27
A	39	494	0.225	1.22	57.79	15.84	41.95
A	40	659	0.225	1.27	58.97	20.40	38.56
[illegible]							

Sewer Line	MH No.	Current No of Erven	Current Pipe Size	Current Grade of Sewer	Maximum Flow of Pipe (l/s)	Current Flow in Pipe (l/s)	Extra Capacity (l/s)
E	1	1318	0.2	0.79	33.97	37.50	-3.53
E	2	1318	0.2	1.12	40.45	37.50	2.95
E	3	1318	0.2	0.74	32.78	37.50	-4.72
E	4	1318	0.2	1.69	49.69	37.50	12.19
E	5	1318	0.2	2.44	59.70	37.50	22.21
E	6	1318	0.2	1.54	47.43	37.50	9.93
E	7	1318	0.2	2.04	54.59	37.50	17.09
E	8	1318	0.25	0.56	53.50	37.50	16.00
E	9	1318	0.25	0.99	68.95	37.50	31.45
E	10	1318	0.25	0.76	60.41	37.50	22.92
E	11	1318	0.25	0.7	57.98	37.50	20.48
E	12	1318	0.25	3.45	128.72	37.50	91.22
E	13	1470	0.25	1.45	83.45	40.92	42.53
E	14	1470	0.25	1.45	83.45	40.92	42.53
E	15	1470	0.3	0.56	84.33	40.92	43.41
E	16	1470	0.3	2.78	187.89	40.92	146.97
E	17	1470	0.3	0.96	110.41	40.92	69.49
E	18	1470	0.3	0.93	108.67	40.92	67.75
E	19	1470	0.3	0.88	105.71	40.92	64.79
E	20	1470	0.3	1.05	115.47	40.92	74.55
E	21	1470	0.3	0.46	76.43	40.92	35.51
E	22	1470	0.3	0.44	74.75	40.92	33.83
E	23	1470	0.3	0.53	82.04	40.92	41.12
E	24	1470	0.3	0.46	76.43	40.92	35.51
E	25	1470	0.3	0.56	84.33	40.92	43.41
E	26	1470	0.3	0.82	102.04	40.92	61.12
E	27	1470	0.3	1.07	116.56	40.92	75.64
E	28	1470	0.3	1.28	127.49	40.92	86.57
E	29	1470	0.3	0.73	96.28	40.92	55.36
E	30	1470	0.3	0.76	98.24	40.92	57.32
E	31	1470	0.3	0.78	99.52	40.92	58.60
E	32	1470	0.35	0.8	152.04	40.92	111.11
E	33	1470	0.35	0.73	145.23	40.92	104.31
E	34	1470	0.35	0.83	154.86	40.92	113.94
E	35	1470	0.35	0.82	153.92	40.92	113.00
E	36	1470	0.35	0.85	156.71	40.92	115.79
E	37	1470	0.35	0.74	146.22	40.92	105.30
E	38	1470	0.35	0.83	154.86	40.92	113.94
E	39	1470	0.35	0.73	145.23	40.92	104.31
E	40	1470	0.35	0.98	168.27	40.92	127.35
E	41	1832	0.45	0.41	212.74	50.04	162.70
E	42	1832	0.45	0.48	230.18	50.04	180.14
E	43	1832	0.45	0.4	210.13	50.04	160.09
E	44	1832	0.45	0.45	222.87	50.04	172.83
E	45	1832	0.45	0.48	230.18	50.04	180.14
E	46	1832	0.45	0.48	230.18	50.04	180.14
E	47	1832	0.45	0.58	253.03	50.04	202.99
E	48	1832	0.45	0.74	285.80	50.04	235.76
E	49	1832	0.45	0.49	232.57	50.04	182.53
E	50	1832	0.45	0.49	232.57	50.04	182.53
E	51	1832	0.45	1.19	362.43	50.04	312.39

SEWER FLOWS CALCULATIONS

Design requirements

1. Development category No.4
2. Income group is Town house & Group housing
3. Ave erf size 350m²
4. ADWF = 400 l/e/d
5. Design procedures is in accordance to the BLUE BOOK
6. Infiltration = 75%

TIE IN POINT NO 1 (Existing spare capacity of 11.12 l/s)

ERF NO	NO UNITS	FLOW	PF
31	30	0.790	3.25
27	222	5.575	3.1
19	105	2.765	3.25
24	161	4.298	3.25
18	135	3.555	3.25

Total number of units draining to Tie in point No 1 is 653
Peak factor of 2.037
Required capacity is 10.805 l/s

TIE IN POINT NO 2 (Existing spare capacity of 12.34 l/s)

ERF NO	NO UNITS	FLOW	PF
17	107	2.868	3.25
23	240	5.736	2.95
24	79	2.106	3.25
26	224	5.581	3.063
30	30	0.790	3.25

Total number of units draining to Tie in point No 2 is 680
Peak factor of 2.030
Required capacity is 11.184 l/s

TIE IN POINT NO 3 (Existing spare capacity of 14.78 l/s)

ERF NO	NO UNITS	FLOW	PF
6	38	1.043	3.25
22	237	5.710	2.97
16	116	3.035	3.25
29	30	0.790	3.25
25	224	5.581	3.063
20	159	4.213	3.25

Total number of units draining to Tie in point No 3 is 804
Peak factor of 1.999
Required capacity is 13.036 l/s

TIE IN POINT NO 4

ERF NO	NO UNITS	FLOW	PF
1	110	2.896	3.25
2	122	3.200	3.25
3	92	2.450	3.25
4	103	2.750	3.25
5	94	2.502	3.25
6	122	3.200	3.25
7	90	2.370	3.25
8	153	4.080	3.25
9	93	2.498	3.25
10	153	4.080	3.25
11	100	2.633	3.25
12	175	4.608	3.25
13	106	2.770	3.25
14	175	4.608	3.25

Total number of units draining to Tie in point No 4 is 1688
Peak factor of 1.779
Total capacity to future bulk sewer is 24.311 l/s

TIE IN POINT NO 5 (Spare capacity of 24.5 l/s once the existing 200mm dia pipe line from E1 to E8 is upgraded to a 250mm dia pipe line)

ERF NO	NO UNITS	FLOW	PF
2	113	2.950	3.25
4	57	1.501	3.25
15	112	2.945	3.25
21	237	5.710	2.97

Total number of units draining to Tie in point No is 519
Peak factor of 2.106
Total additional capacity is 8.873 l/s

Engineering Advice and Services cc

Associated with ULWAZI

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07 June 2006

Nelson Mandela Metropolitan Municipality
Business Unit Manager: Mr A Said
Infrastructure and Engineering
PO Box 7
Port Elizabeth
6000

Attention : Mr J Tsatsiri

Dear Sir

ERF 3 & 4 PARSONS VLEI, PORT ELIZABETH : WATER CONNECTION

At your request we have received the design residual pressures at node 1 and 2 from Mr Dup van Reenen. We have re analysed our bulk water reticulation network using the new information.

Included please find a copy of the following amended design drawings for your approval:

Drawing no	**Description**
426-A-02	Bulk Water Reticulation Master Plan
426-A-03	Bulk Water Reticulation (Aquanet Analysis)

We trust the above is in order.

Yours faithfully

Mark Stemmett B.Eng Pr.Eng Pr. CPM
for ENGINEERING ADVICE & SERVICES cc

NELSON MANDELA METROPOLITAN MUNICIPALITY

Office of the Infrastructure & Engineering
Business Unit

✉ 7, Port Elizabeth 6000
☎ (041) 506 2911
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Your Reference:

Deals with this matter: Mr S. Groenewald/AB

Our Reference: 203/02/01/19; 178/01/16-00/19

Date: 13 June 2006

Letter ID:

Engineering Advice and Services CC
P O Box 13867
Humewood
PORT ELIZABETH
6013

Dear Sirs

WATER SUPPLY TO ERF 3 & 4 PARSONS VLEI, PORT ELIZABETH

Your letters dated 9 May and 7 June 2006 as well as the meeting held on 9 May 2006 with yourself and officials of my Water Distribution silo, refer.

As you are aware an analyses of the Greenbushes reservoir supply zone undertaken by Afri-Coast Engineers SA indicated that the present water supply system to Parson's Vlei has limited capacity and can only sustain the development of a further 750 erven. Additional development will require upgrading of the water infrastructure.

The 750 erven include the following developments, some of which are presently under construction:

Erf 982 Phase 1 – 91 erven
Erf 982 Phase 2 – 137 erven
Erf 352 – 100 erven
Subdivided erf 331 (GP 8759) – 141 erven

The above developments amounts to a total of 469 erven which leaves a remainder of 281 erven to be develop before infrastructure upgrading is required.

I am of the opinion that the water demand figures used in the analysis are on the conservative side and consequently will allow an additional 350 erven to be developed from supply point number 20 as indicated on your drawing number 426-A-03. No further connections will be considered off the 375mm diameter main in Old Cape Road until the water infrastructure has been upgraded.

Yours faithfully

A A SAID Pr. Eng.
BUSINESS UNIT MANAGER
INFRASTRUCTURE & ENGINEERING BUSINESS UNIT

9 May 2006

Nelson Mandela Metropolitan Municipality
Business Unit Manager: Mr A Said
Infrastructure and Engineering
PO Box 7
Port Elizabeth
6000

Attention : Mr S Groenewald

Dear Sir

ERF 3 & 4 PARSONS VLEI, PORT ELIZABETH : WATER CONNECTION

As you are aware our Client has purchased the land in question for development and awaits the outcome from DEAET regarding the EIA, and from the NMMM regarding the rezoning and subdivision of the land.

We have advised our Client that holistic development is the wise route to follow and to this end we include the master planning done to ensure water service to all erven. Please find for you attention the following design drawings for approval:

Drawing no	Description
426-A-02	Bulk Water Reticulation Master Plan
426-A-03	Bulk Water Reticulation (Aquanet Analysis)
426-A-04	Water Trench And Water Related Details
426-A-05	Water Node Schedule

In the interim our Client has requested permission that the connection at Node 2 be installed by either yourselves or Messrs Scribante Construction to allow the development to proceed.

Please confirm which would be the acceptable alternative.

Yours faithfully

Mark Stemmett B.Eng Pr.Eng Pr. CPM
for ENGINEERING ADVICE & SERVICES cc

cc New Horizon Development Trust

9 May 2006

Nelson Mandela Metropolitan Municipality
Business Unit Manager: Mr A Said
Infrastructure and Engineering
PO Box 7
Port Elizabeth
6000

Attention : Ms A Muthayan

Dear Madam

ERF 3 & 4 PARSONS VLEI, PORT ELIZABETH : SEWER CONNECTION

As you are aware our Client has purchased the land in question for development and awaits the outcome from DEAET regarding the EIA, and from the NMMM regarding the rezoning and subdivision of the land.

We have advised our Client that holistic development is the wise route to follow and to this end we include the master planning done to ensure a sewer service to all erven. Please find for you attention the following design drawings for approval:

Drawing no	Description
426-A-06	Bulk Sewer Reticulation Master Plan
426-A-07	Sewer Trench And Manhole Details
426-A-08	Sewer Long Sections

At this juncture our Client has requested permission to install the sewer connections to points TP1, TP2 and TP3.

Please confirm your acceptance of our designs and permission to use Messrs Scribante Construction to do the relevant connections.

We also attach for your convenience the spreadsheet, drawings and approval letter from the NMMM giving us the go ahead to do the detailed design how submitted for approval.

Yours faithfully

Mark Stemmett B.Eng Pr.Eng Pr. CPM
for ENGINEERING ADVICE & SERVICES cc

cc New Horizon Development Trust