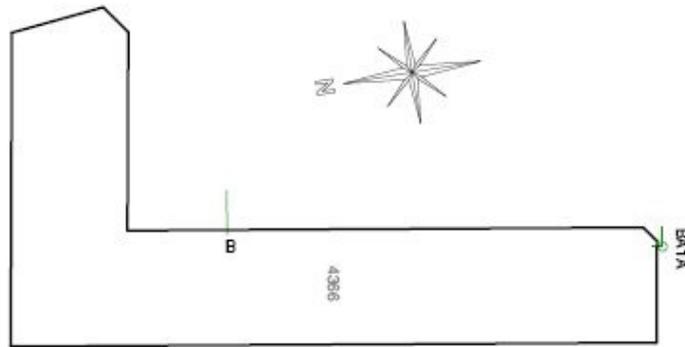


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

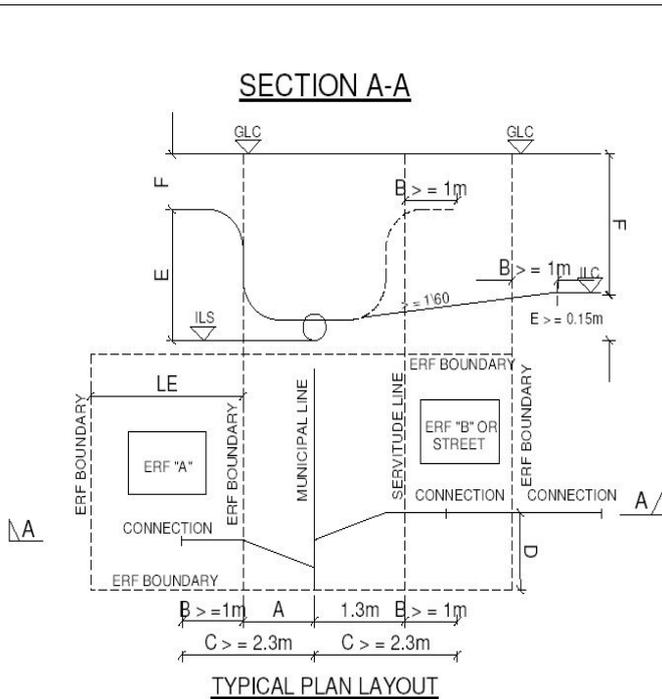
Township ERF 2661 PARSONS VLEI

Erf No. 4366

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.581 m</u>
GLC	=	<u>197.513 m</u>
ILC	=	<u>197.4 m</u>
ILS	=	<u>197.236 m</u>
E(ILC-ILS)	=	<u>0.164 m</u>
F(GLC-ILC)	=	<u>0.113 m</u>
MFL	=	<u>197.998 m</u>
LE	=	<u>67 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

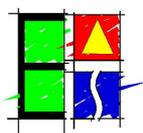
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

**ENGINEERING ADVICE  
AND SERVICES**

73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421

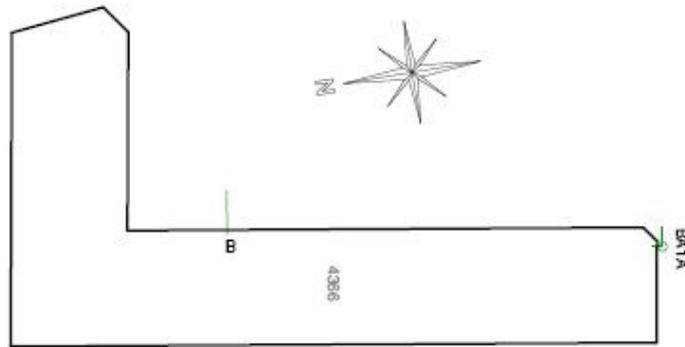


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

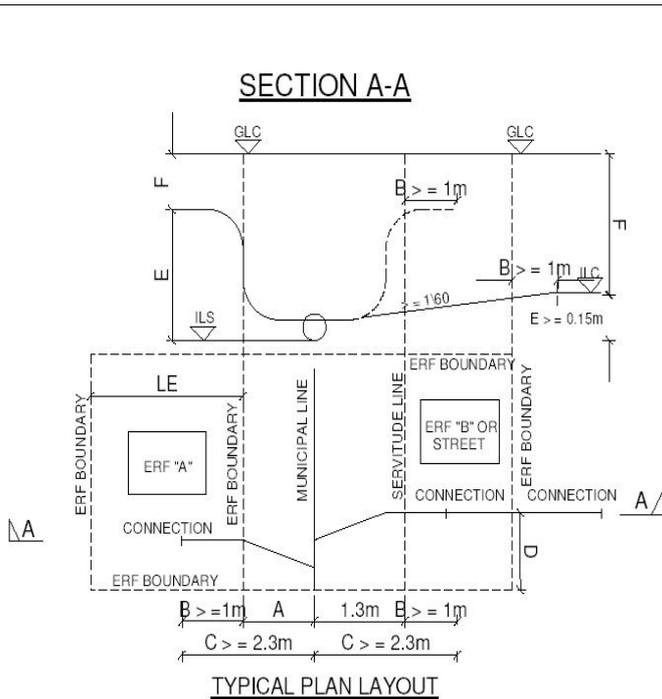
Township ERF 2661 PARSONS VLEI

Erf No. 4366

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>198.18 m</u>
GLC	=	<u>198.202 m</u>
ILC	=	<u>197.388 m</u>
ILS	=	<u>197.235 m</u>
E(ILC-ILS)	=	<u>0.153 m</u>
F(GLC-ILC)	=	<u>0.814 m</u>
MFL	=	<u>198.938 m</u>
LE	=	<u>67 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

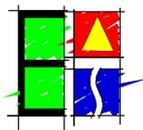
Date 23 May 2008

Signature of Prof. Eng. 

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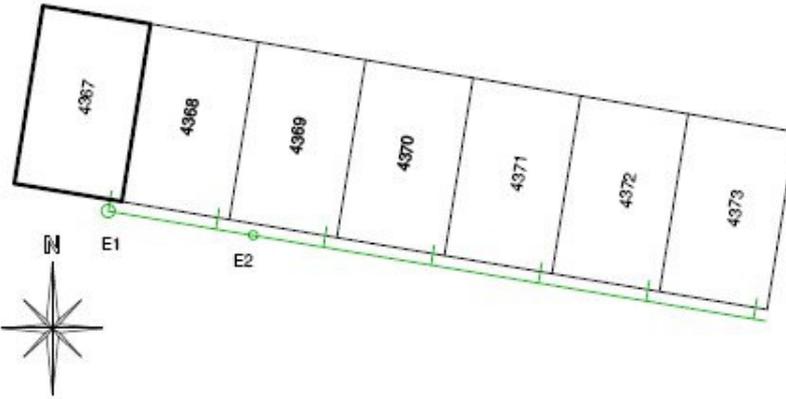


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

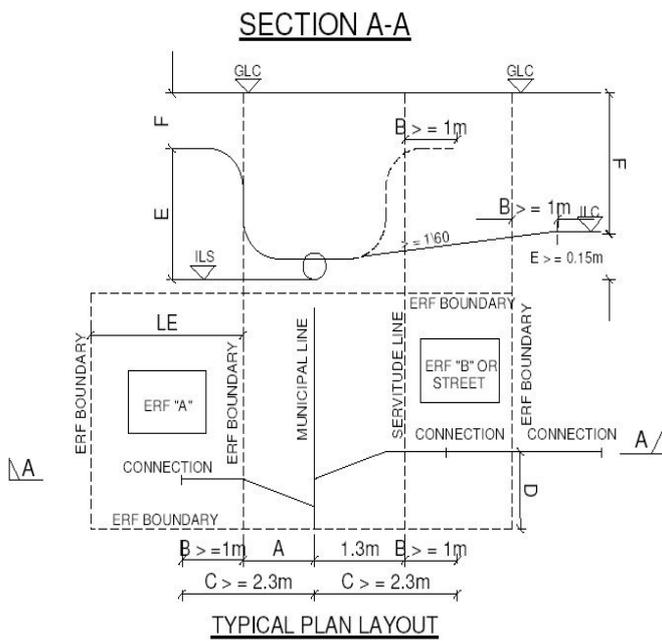
Township ERF 2661 PARSONS VLEI

Erf No. 4367

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.904 m</u>
GLC	=	<u>197.89 m</u>
ILC	=	<u>196.9 m</u>
ILS	=	<u>196.765 m</u>
E(ILC-ILS)	=	<u>0.135 m</u>
F(GLC-ILC)	=	<u>0.990 m</u>
MFL	=	<u>197.904 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

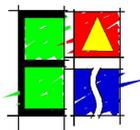
Date 23 May 2008

Signature of Prof. Eng. 

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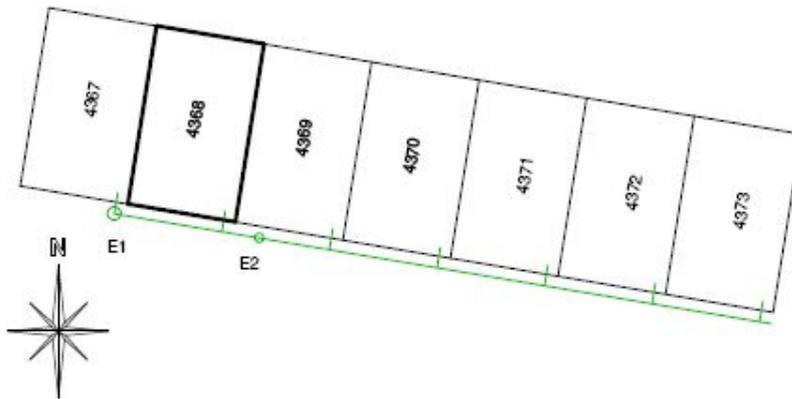


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

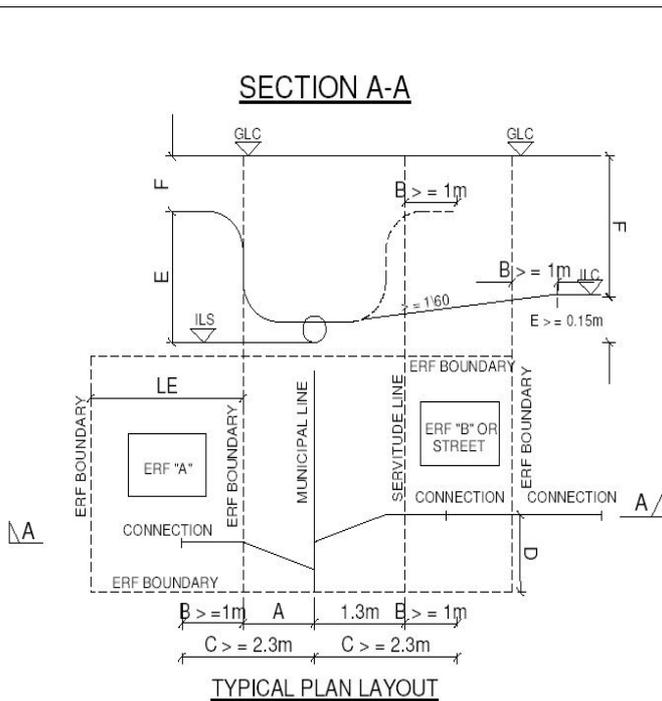
Township ERF 2661 PARSONS VLEI

Erf No. 4368

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.871 m
GLC	=	197.858 m
ILC	=	196.912 m
ILS	=	196.644 m
E(ILC-ILS)	=	0.268 m
F(GLC-ILC)	=	0.946 m
MFL	=	197.871 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

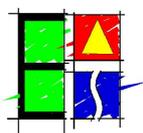
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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AND SERVICES**

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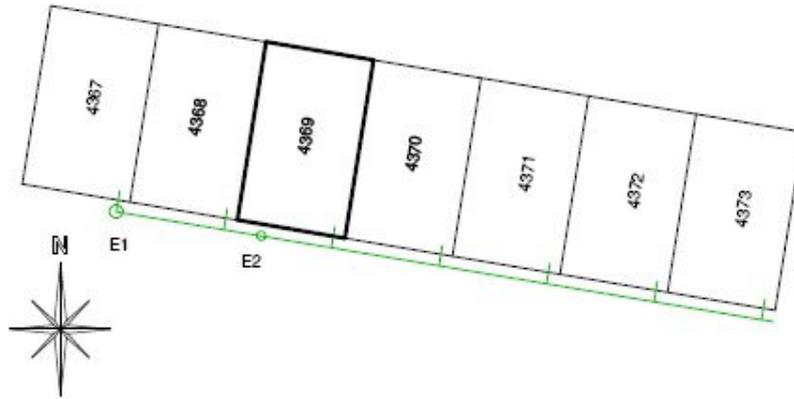


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

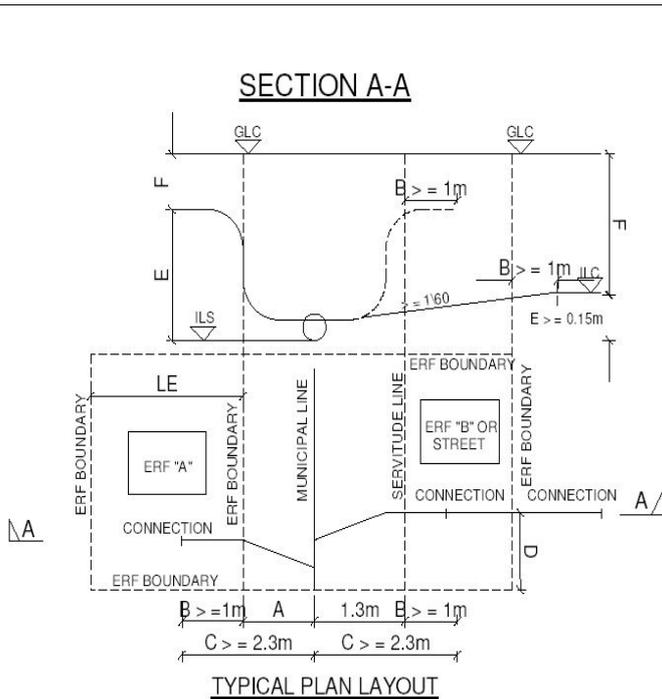
Township ERF 2661 PARSONS VLEI

Erf No. 4369

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.807 m</u>
GLC	=	<u>197.8 m</u>
ILC	=	<u>196.832 m</u>
ILS	=	<u>196.52 m</u>
E(ILC-ILS)	=	<u>0.312 m</u>
F(GLC-ILC)	=	<u>0.968 m</u>
MFL	=	<u>197.807 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

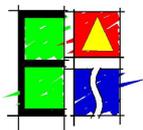
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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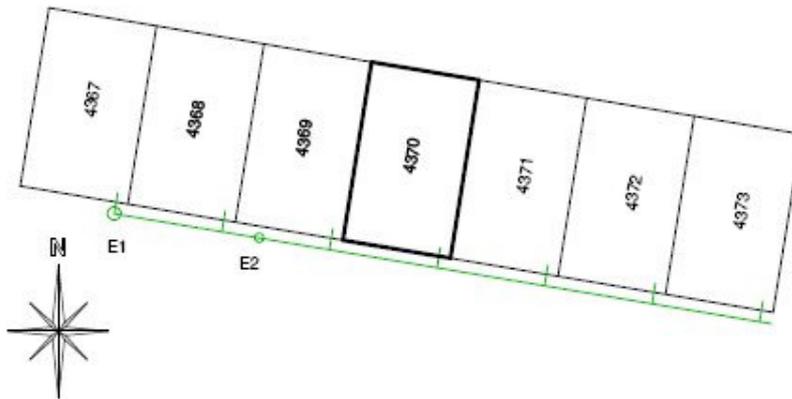


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

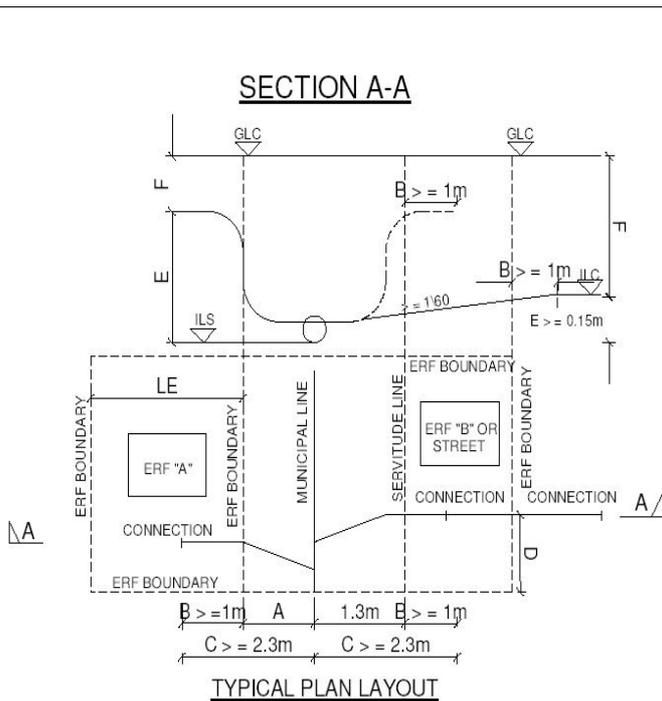
Township ERF 2661 PARSONS VLEI

Erf No. 4370

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.703 m
GLC	=	197.668 m
ILC	=	196.735 m
ILS	=	196.401 m
E(ILC-ILS)	=	0.334 m
F(GLC-ILC)	=	0.933 m
MFL	=	197.703 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

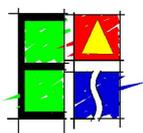
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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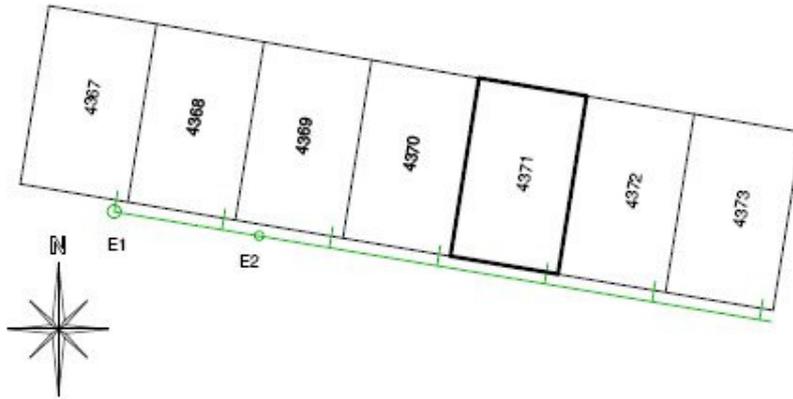


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

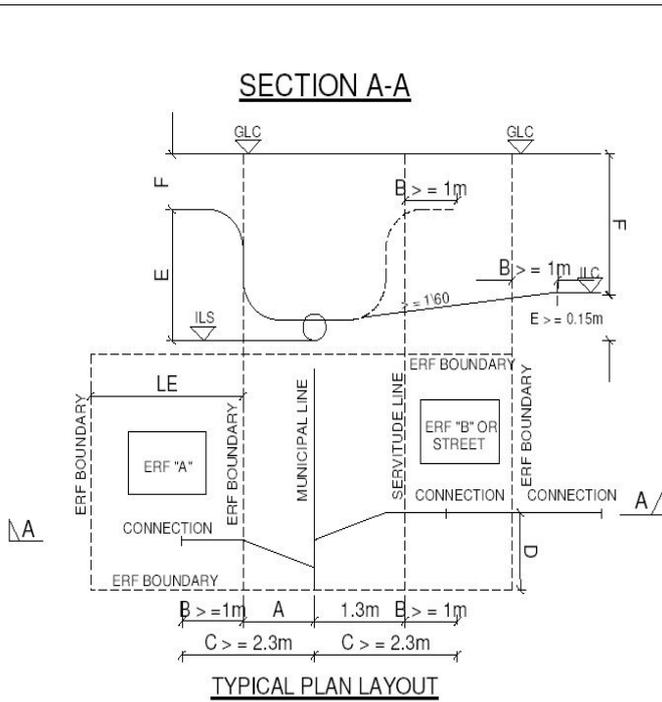
Township ERF 2661 PARSONS VLEI

Erf No. 4371

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.764 m</u>
GLC	=	<u>197.752 m</u>
ILC	=	<u>196.792 m</u>
ILS	=	<u>196.282 m</u>
E(ILC-ILS)	=	<u>0.510 m</u>
F(GLC-ILC)	=	<u>0.960 m</u>
MFL	=	<u>197.764 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

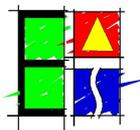
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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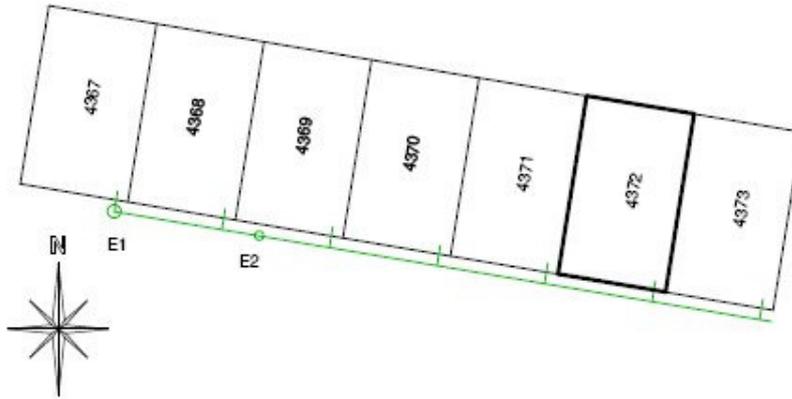


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

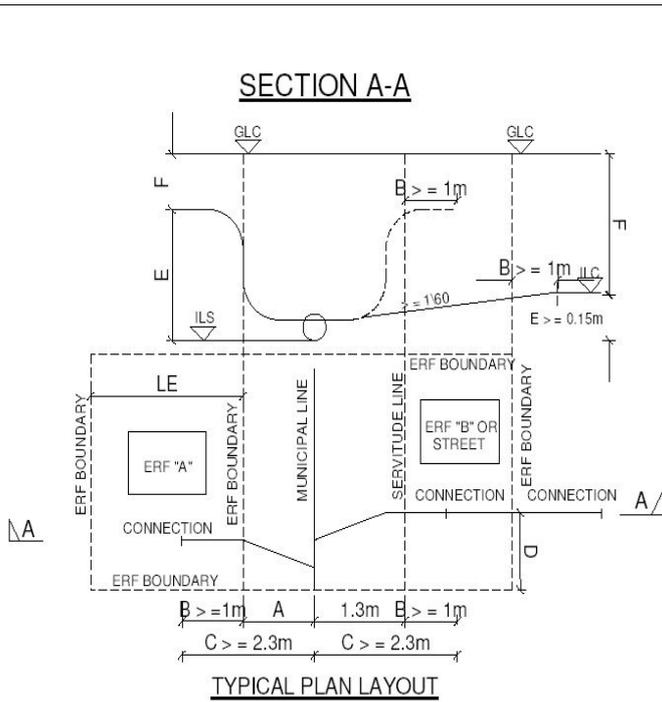
Township ERF 2661 PARSONS VLEI

Erf No. 4372

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.651 m</u>
GLC	=	<u>197.656 m</u>
ILC	=	<u>196.661 m</u>
ILS	=	<u>196.176 m</u>
E(ILC-ILS)	=	<u>0.485 m</u>
F(GLC-ILC)	=	<u>0.995 m</u>
MFL	=	<u>197.651 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

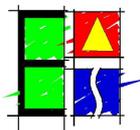
Date 23 May 2008

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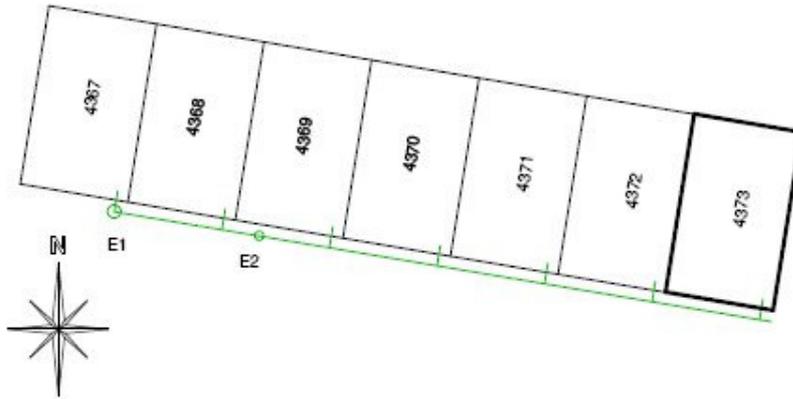


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

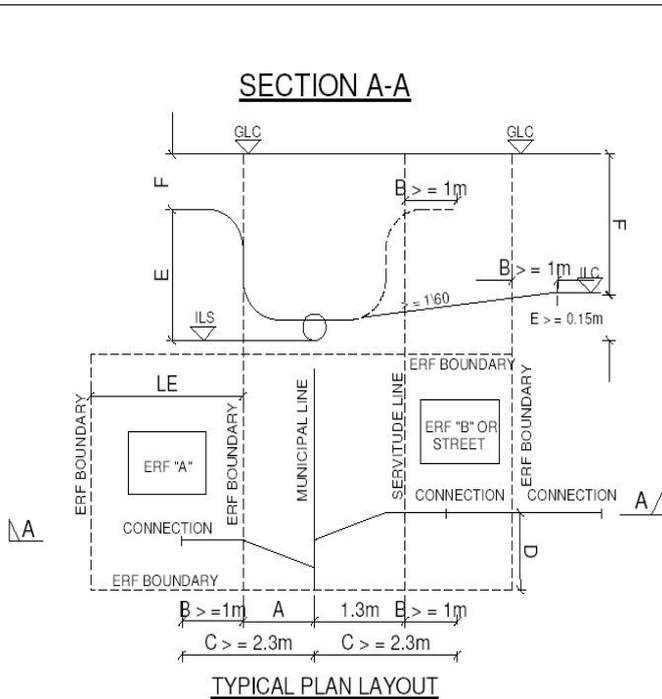
Township ERF 2661 PARSONS VLEI

Erf No. 4373

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.444 m
GLC	=	197.498 m
ILC	=	196.469 m
ILS	=	196.034 m
E(ILC-ILS)	=	0.435 m
F(GLC-ILC)	=	1.029 m
MFL	=	197.444 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

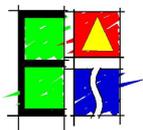
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

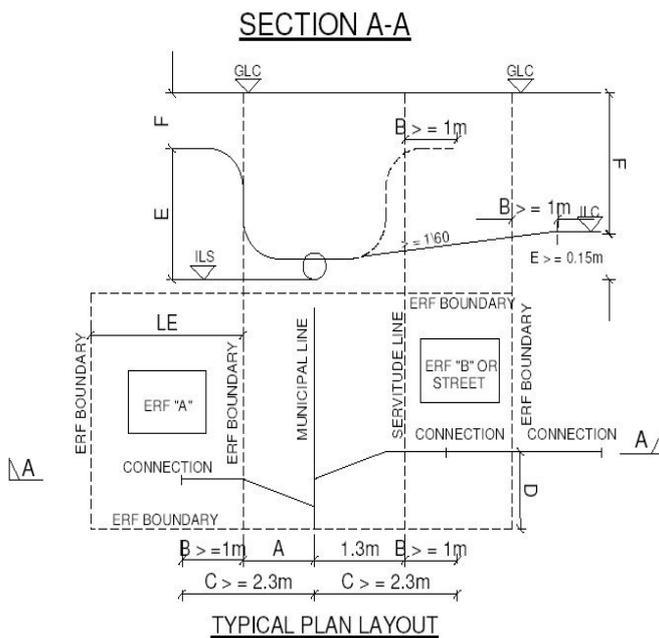
Township ERF 2661 PARSONS VLEI

Erf No. 4374

Date constructed 23 May 2008



LAYOUT PLAN OF ERF, SEWER AND CONNECTION



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.389 m</u>
GLC	=	<u>197.381 m</u>
ILC	=	<u>196.4 m</u>
ILS	=	<u>195.8 m</u>
E(ILC-ILS)	=	<u>0.600 m</u>
F(GLC-ILC)	=	<u>0.981 m</u>
MFL	=	<u>197.389 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

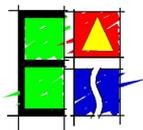
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

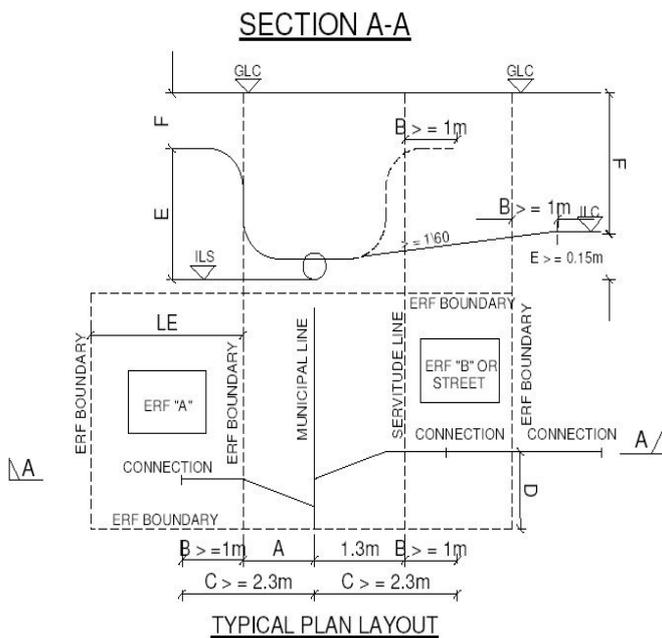
Township ERF 2661 PARSONS VLEI

Erf No. 4375

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.443 m</u>
GLC	=	<u>197.408 m</u>
ILC	=	<u>195.988 m</u>
ILS	=	<u>195.98 m</u>
E(ILC-ILS)	=	<u>0.008 m</u>
F(GLC-ILC)	=	<u>1.420 m</u>
MFL	=	<u>197.443 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

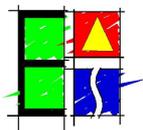
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

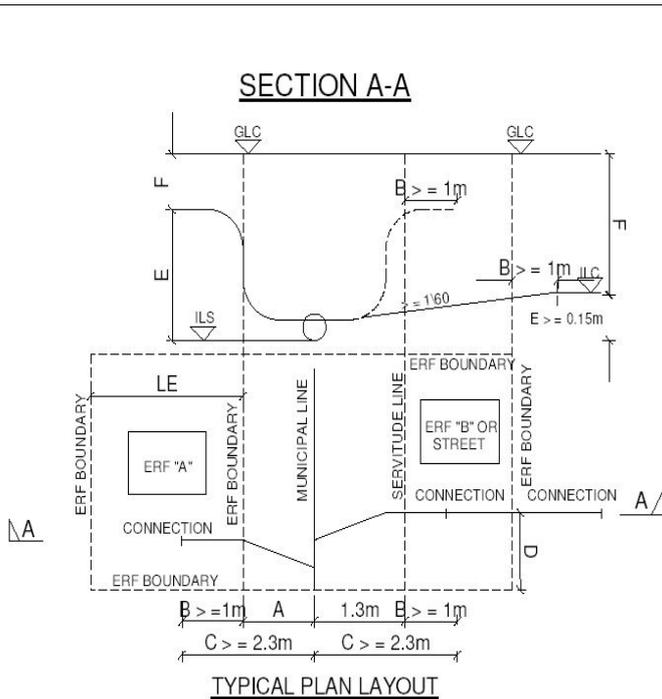
Township ERF 2661 PARSONS VLEI

Erf No. 4376

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.179 m
GLC	=	197.19 m
ILC	=	196.2 m
ILS	=	196.024 m
E(ILC-ILS)	=	0.176 m
F(GLC-ILC)	=	0.990 m
MFL	=	197.179 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

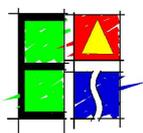
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

**ENGINEERING ADVICE  
AND SERVICES**

73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421



**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

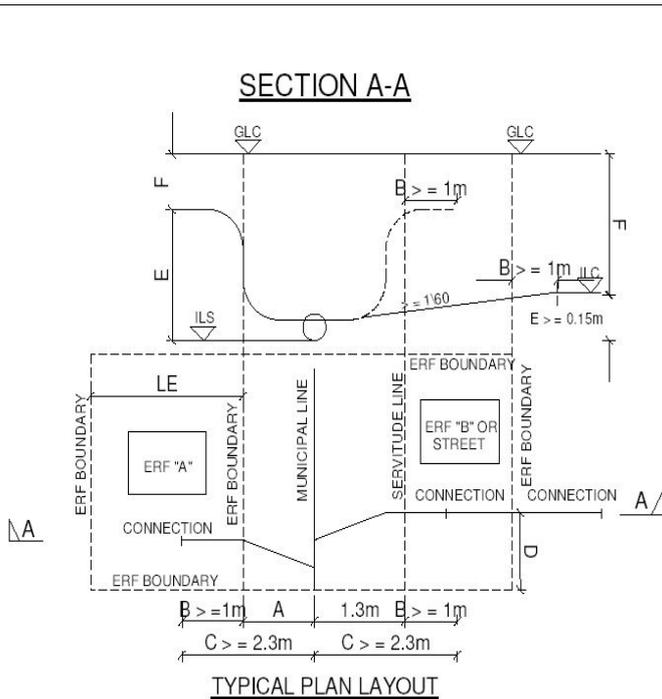
Township ERF 2661 PARSONS VLEI

Erf No. 4377

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.219 m
GLC	=	197.238 m
ILC	=	196.248 m
ILS	=	195.901 m
E(ILC-ILS)	=	0.347 m
F(GLC-ILC)	=	0.990 m
MFL	=	197.219 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

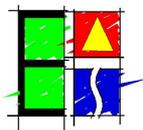
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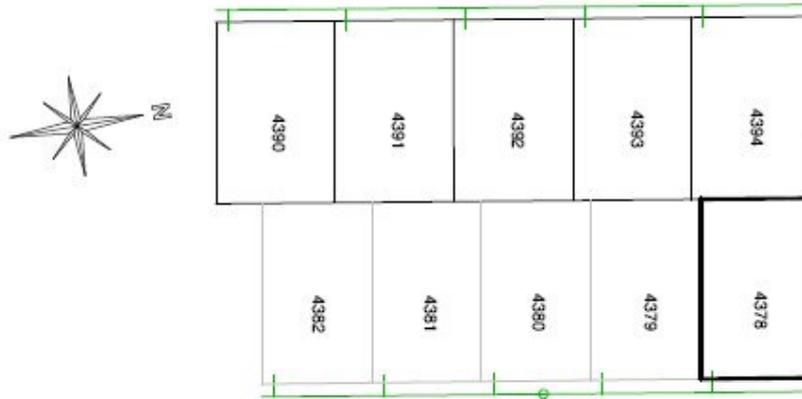


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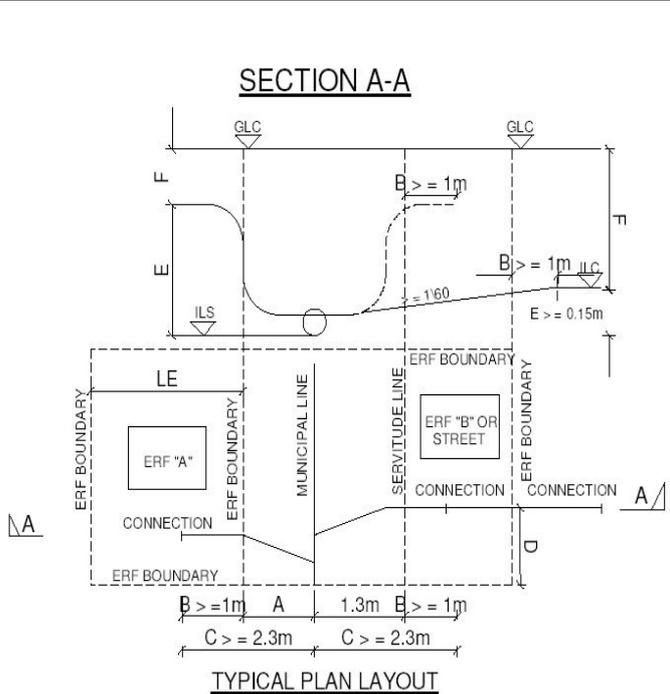
Township ERF 2661 PARSONS VLEI

Erf No. 4378

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.257 m
GLC	=	197.259 m
ILC	=	196.287 m
ILS	=	195.788 m
E(ILC-ILS)	=	0.499 m
F(GLC-ILC)	=	0.972 m
MFL	=	197.257 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

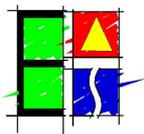
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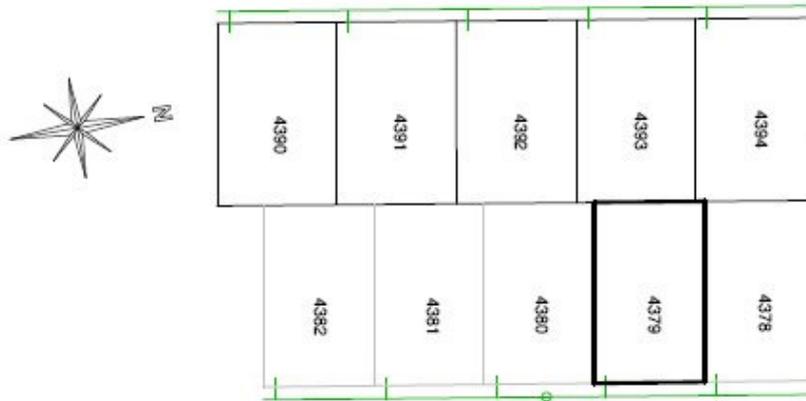


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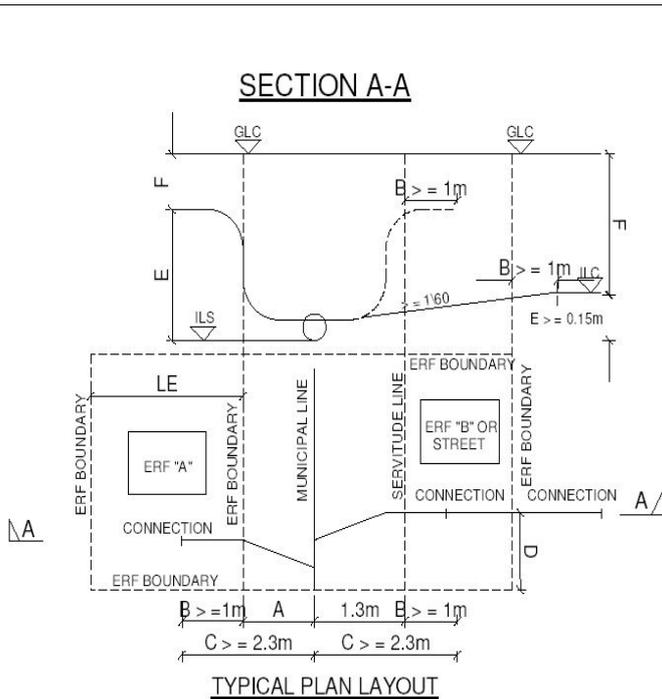
Township ERF 2661 PARSONS VLEI

Erf No. 4379

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.39 m
GLC	=	197.439 m
ILC	=	196.419 m
ILS	=	195.672 m
E(ILC-ILS)	=	0.747 m
F(GLC-ILC)	=	1.020 m
MFL	=	197.39 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

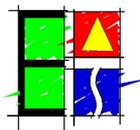
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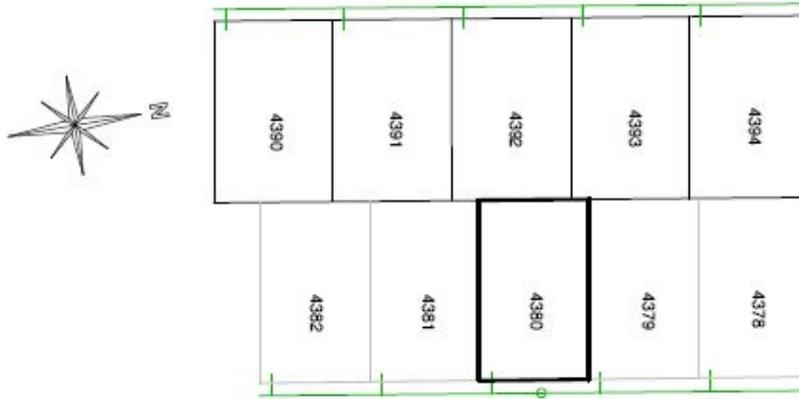


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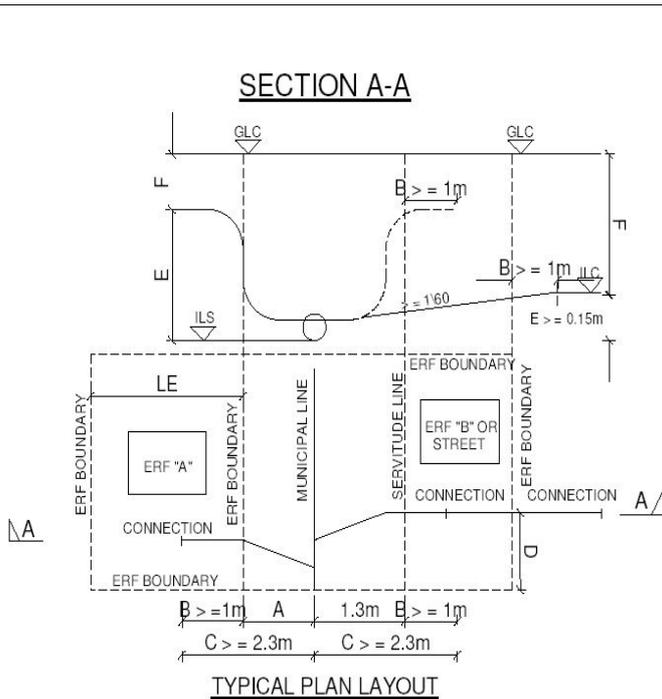
Township ERF 2661 PARSONS VLEI

Erf No. 4380

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.271 m</u>
GLC	=	<u>197.271 m</u>
ILC	=	<u>196.404 m</u>
ILS	=	<u>195.57 m</u>
E(ILC-ILS)	=	<u>0.834 m</u>
F(GLC-ILC)	=	<u>0.867 m</u>
MFL	=	<u>197.271 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

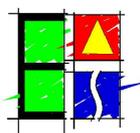
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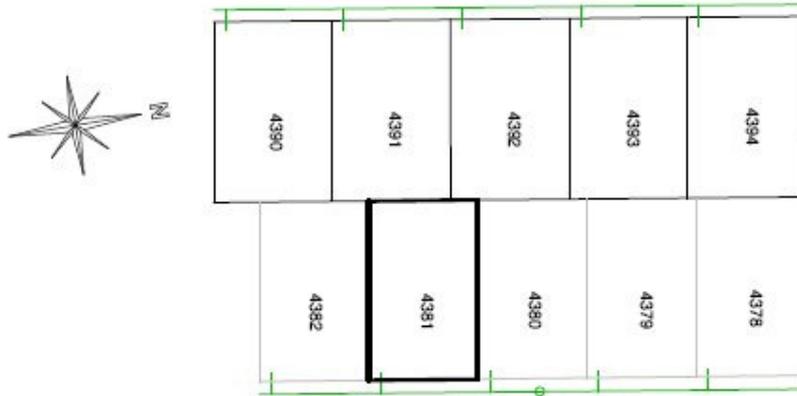


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

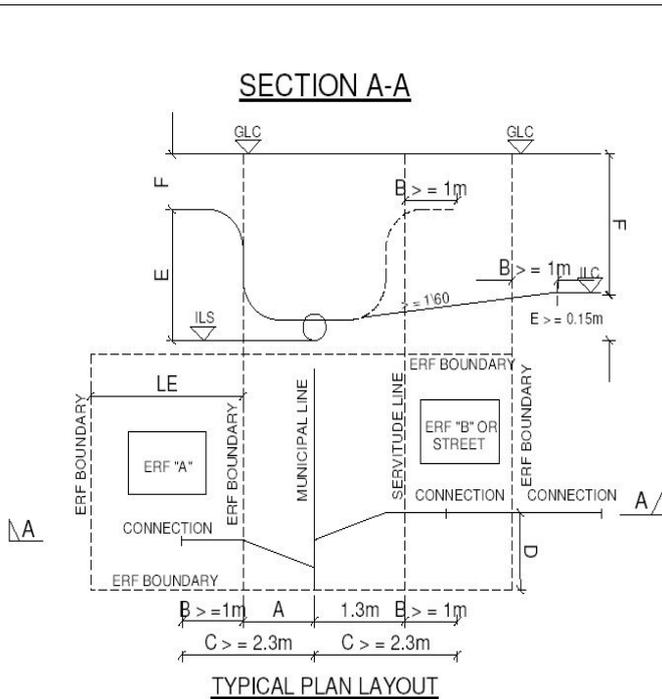
Township ERF 2661 PARSONS VLEI

Erf No. 4381

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.16 m</u>
GLC	=	<u>197.162 m</u>
ILC	=	<u>196.199 m</u>
ILS	=	<u>195.433 m</u>
E(ILC-ILS)	=	<u>0.766 m</u>
F(GLC-ILC)	=	<u>0.963 m</u>
MFL	=	<u>197.16 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

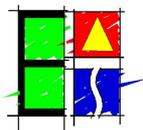
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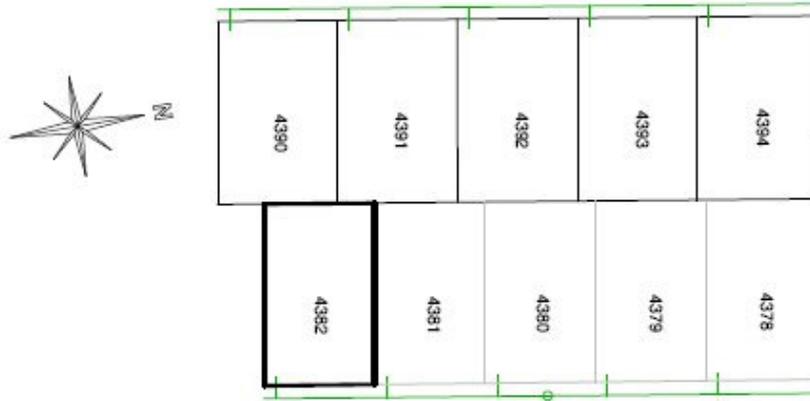


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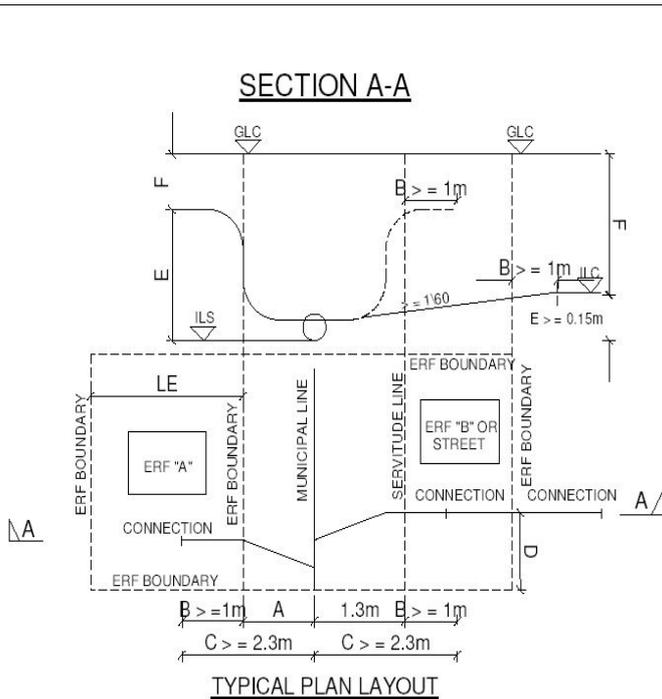
Township ERF 2661 PARSONS VLEI

Erf No. 4382

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.122 m</u>
GLC	=	<u>197.132 m</u>
ILC	=	<u>196.143 m</u>
ILS	=	<u>195.311 m</u>
E(ILC-ILS)	=	<u>0.832 m</u>
F(GLC-ILC)	=	<u>0.989 m</u>
MFL	=	<u>197.122 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

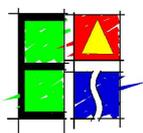
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**WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

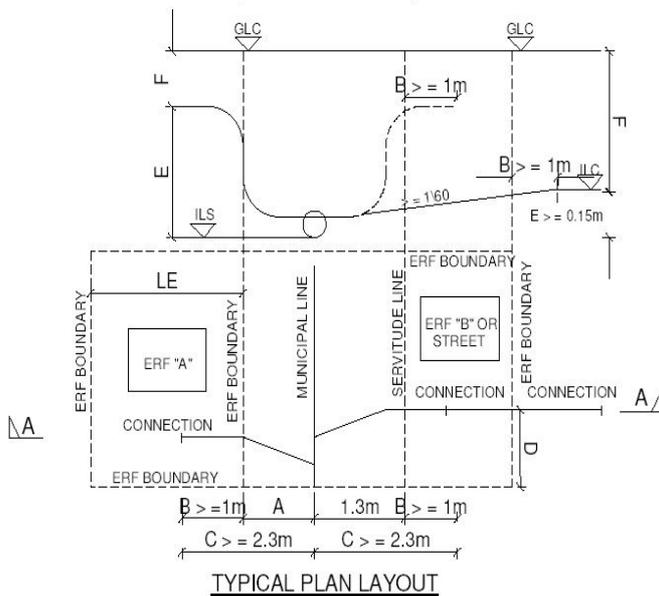
Erf No. 4383

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.043 m
GLC	=	197.06 m
ILC	=	196.04 m
ILS	=	195.195 m
E(ILC-ILS)	=	0.845 m
F(GLC-ILC)	=	1.020 m
MFL	=	197.043 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

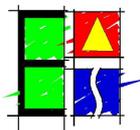
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Township ERF 2661 PARSONS VLEI

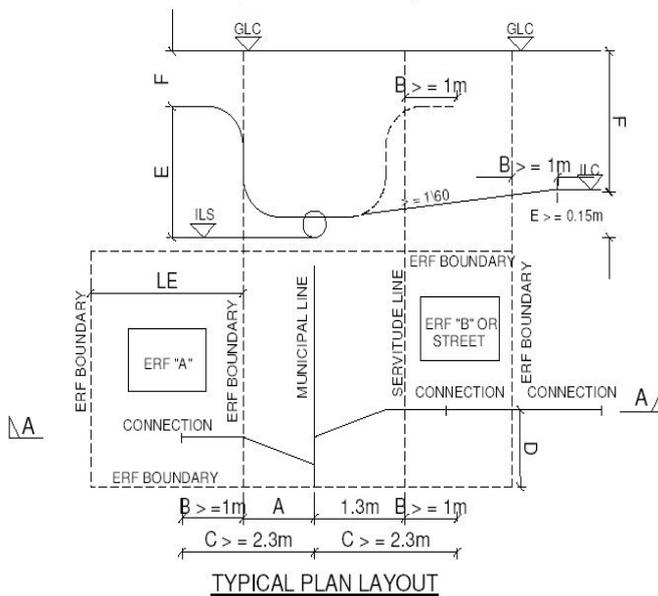
Erf No. 4384

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	196.943 m
GLC	=	196.942 m
ILC	=	195.977 m
ILS	=	195.031 m
E(ILC-ILS)	=	0.946 m
F(GLC-ILC)	=	0.965 m
MFL	=	196.943 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

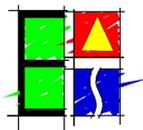
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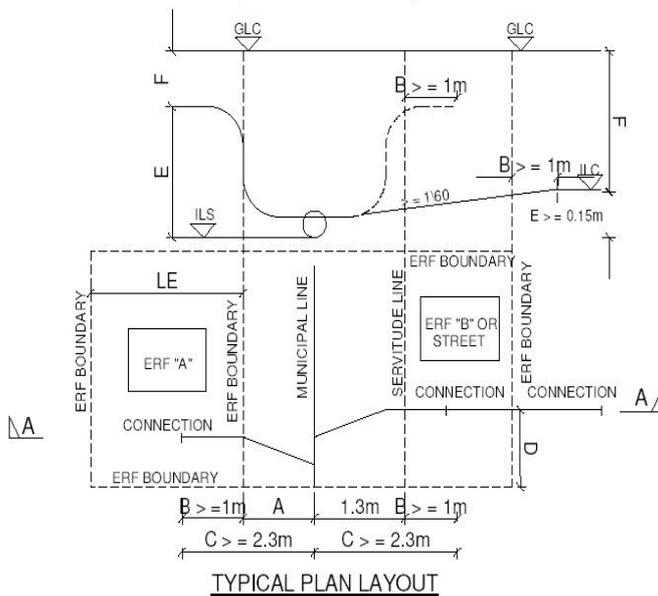
Erf No. 4385

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>196.784 m</u>
GLC	=	<u>196.809 m</u>
ILC	=	<u>195.819 m</u>
ILS	=	<u>194.31 m</u>
E(ILC-ILS)	=	<u>1.509 m</u>
F(GLC-ILC)	=	<u>0.990 m</u>
MFL	=	<u>196.784 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

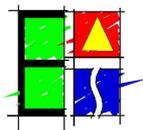
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Township ERF 2661 PARSONS VLEI

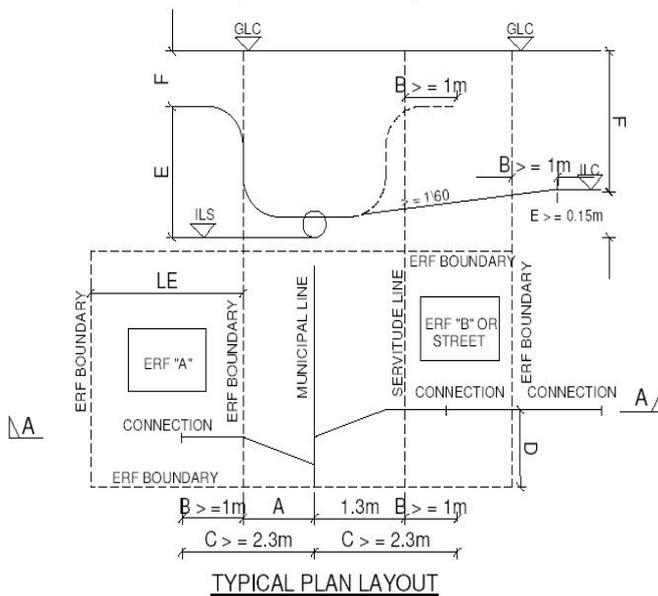
Erf No. 4386

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	196.855 m
GLC	=	196.892 m
ILC	=	195.772 m
ILS	=	194.359 m
E(ILC-ILS)	=	1.413 m
F(GLC-ILC)	=	1.120 m
MFL	=	196.855 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

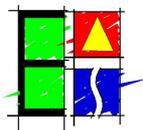
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Township ERF 2661 PARSONS VLEI

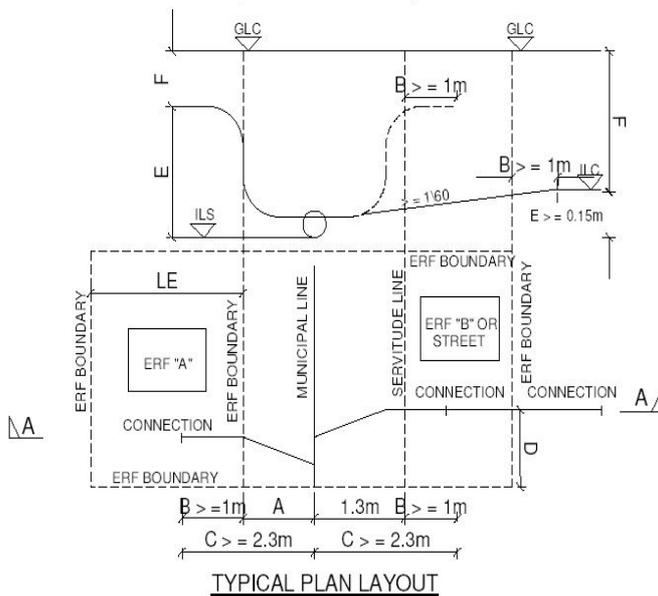
Erf No. 4387

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



**TYPICAL PLAN LAYOUT**

A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	196.895 m
GLC	=	196.909 m
ILC	=	195.713 m
ILS	=	194.445 m
E(ILC-ILS)	=	1.268 m
F(GLC-ILC)	=	1.196 m
MFL	=	196.895 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

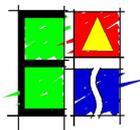
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**WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

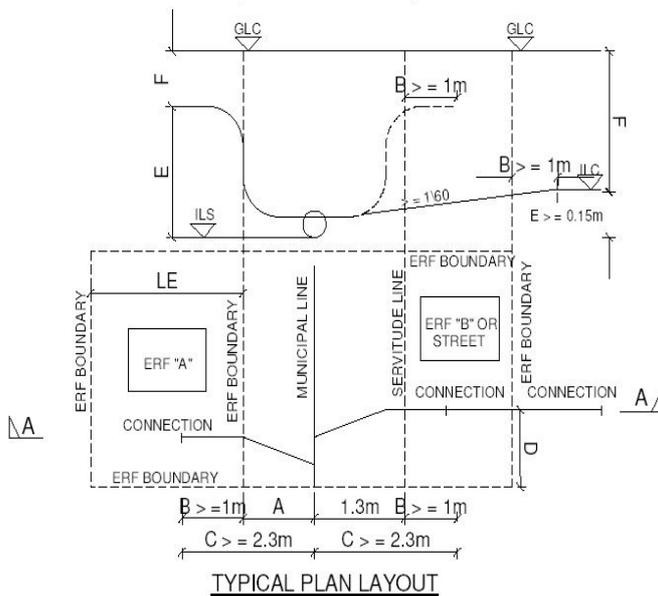
Erf No. 4388

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.011 m
GLC	=	197.021 m
ILC	=	195.956 m
ILS	=	194.904 m
E(ILC-ILS)	=	1.052 m
F(GLC-ILC)	=	1.065 m
MFL	=	197.011 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

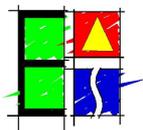
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Township ERF 2661 PARSONS VLEI

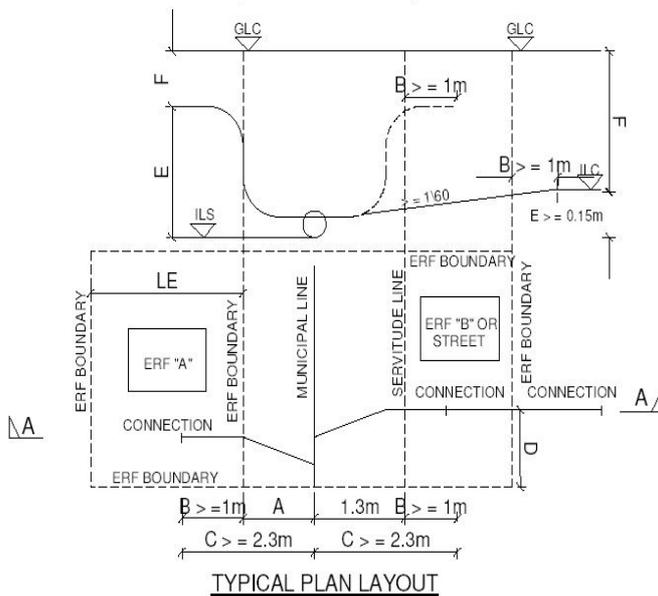
Erf No. 4389

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.182 m
GLC	=	197.156 m
ILC	=	196.125 m
ILS	=	195.051 m
E(ILC-ILS)	=	1.074 m
F(GLC-ILC)	=	1.031 m
MFL	=	197.182 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

**ENGINEERING ADVICE  
AND SERVICES**

73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421

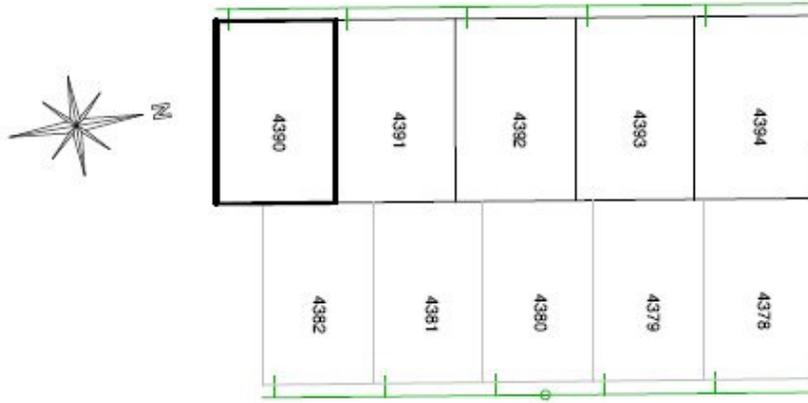


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

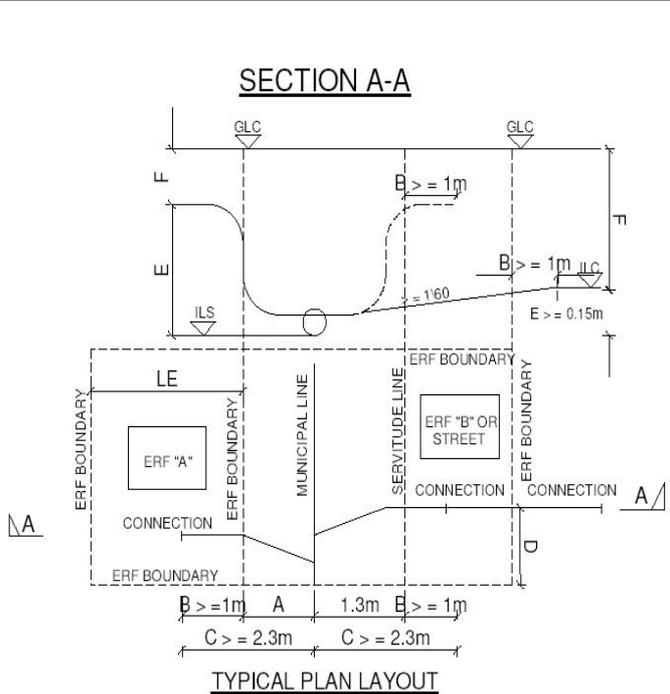
Township ERF 2661 PARSONS VLEI

Erf No. 4390

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.239 m
GLC	=	197.248 m
ILC	=	196.257 m
ILS	=	195.197 m
E(ILC-ILS)	=	1.060 m
F(GLC-ILC)	=	0.991 m
MFL	=	197.239 m
LE	=	32 m
∅ Mun.Sewer	=	160 mm
∅ Connect	=	110 mm

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

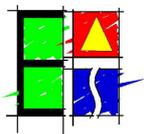
Signature of Prof. Eng. 

Prof. registration no 950143

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**AND SERVICES**

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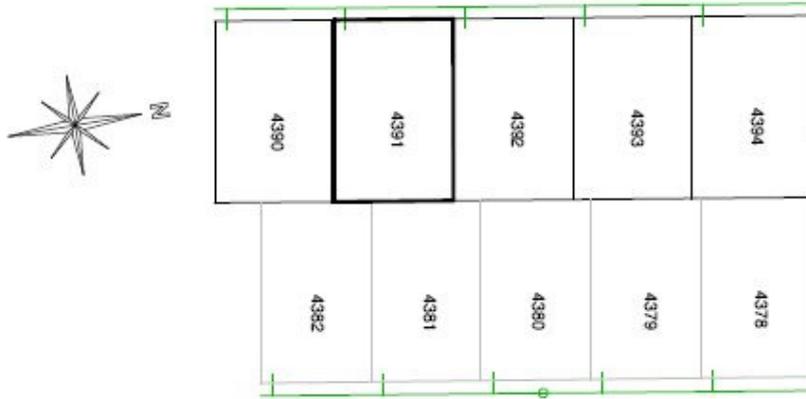


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

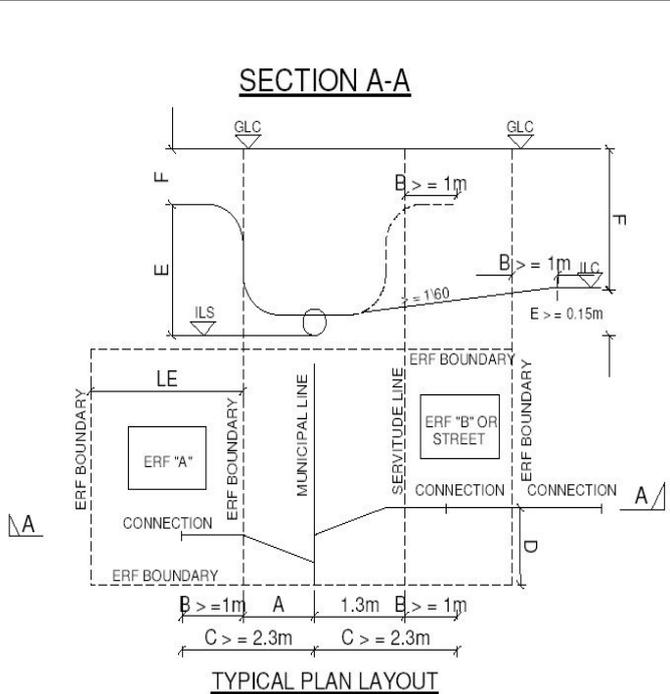
Township ERF 2661 PARSONS VLEI

Erf No. 4391

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.311 m</u>
GLC	=	<u>197.299 m</u>
ILC	=	<u>196.38 m</u>
ILS	=	<u>195.351 m</u>
E(ILC-ILS)	=	<u>1.029 m</u>
F(GLC-ILC)	=	<u>0.919 m</u>
MFL	=	<u>197.311 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

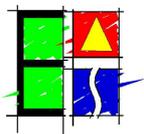
Signature of Prof. Eng. 

Prof. registration no 950143

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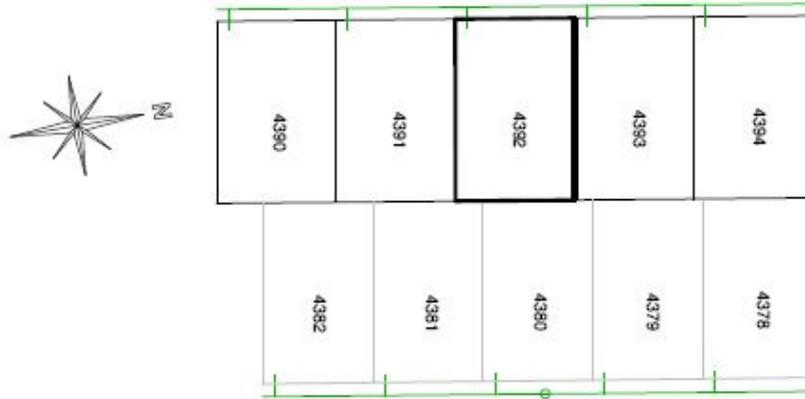


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

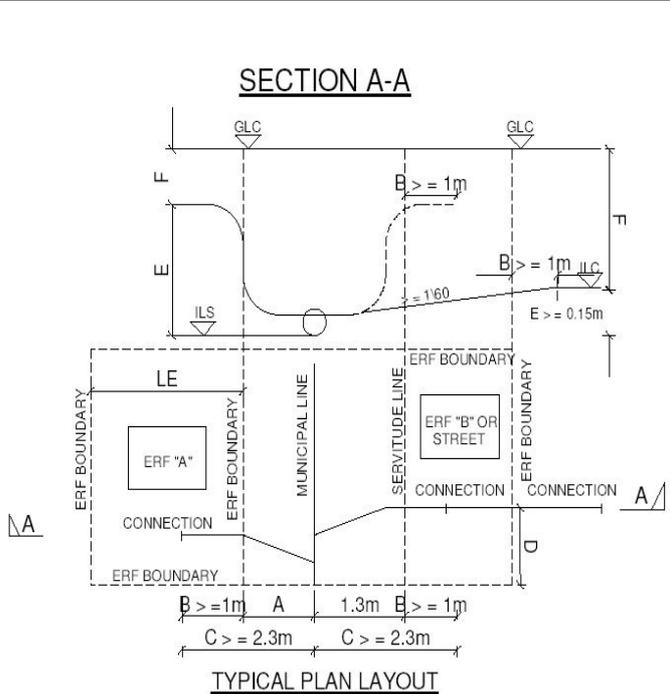
Township ERF 2661 PARSONS VLEI

Erf No. 4392

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.381 m</u>
GLC	=	<u>197.4 m</u>
ILC	=	<u>196.185 m</u>
ILS	=	<u>195.51 m</u>
E(ILC-ILS)	=	<u>0.675 m</u>
F(GLC-ILC)	=	<u>1.215 m</u>
MFL	=	<u>197.381 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

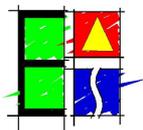
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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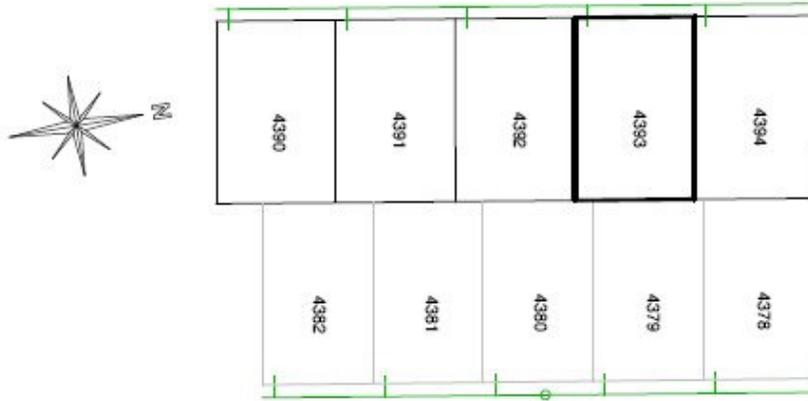


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

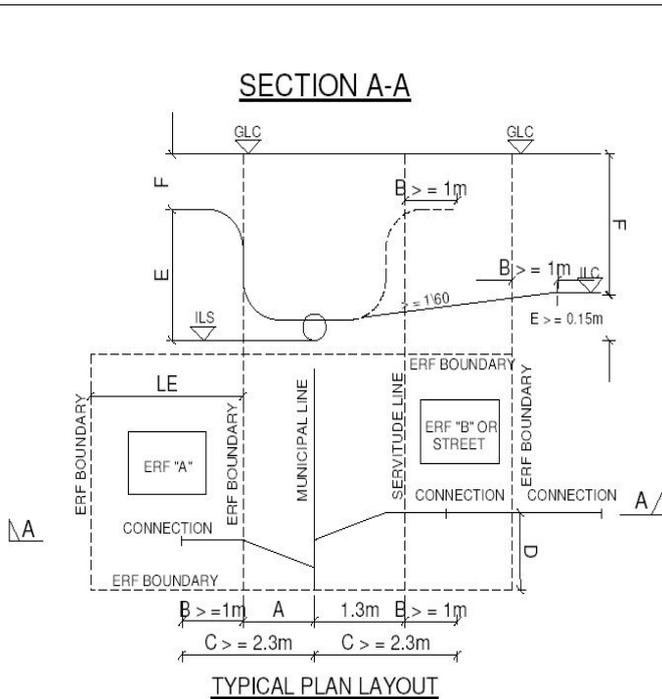
Township ERF 2661 PARSONS VLEI

Erf No. 4393

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.419 m
GLC	=	197.416 m
ILC	=	196.439 m
ILS	=	195.671 m
E(ILC-ILS)	=	0.768 m
F(GLC-ILC)	=	0.977 m
MFL	=	197.419 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

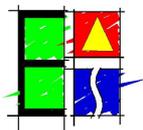
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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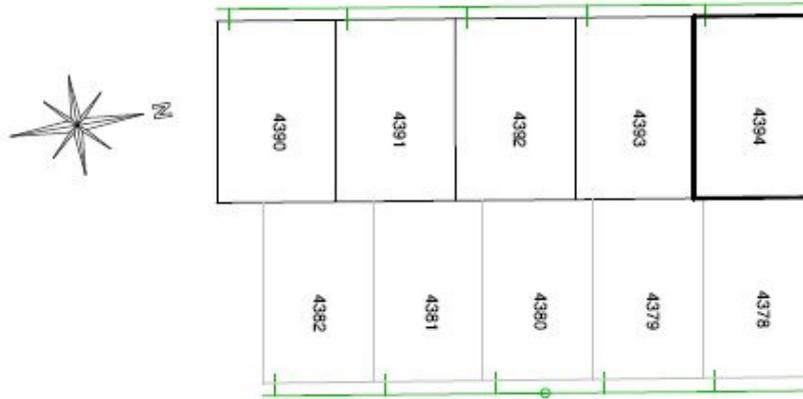


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

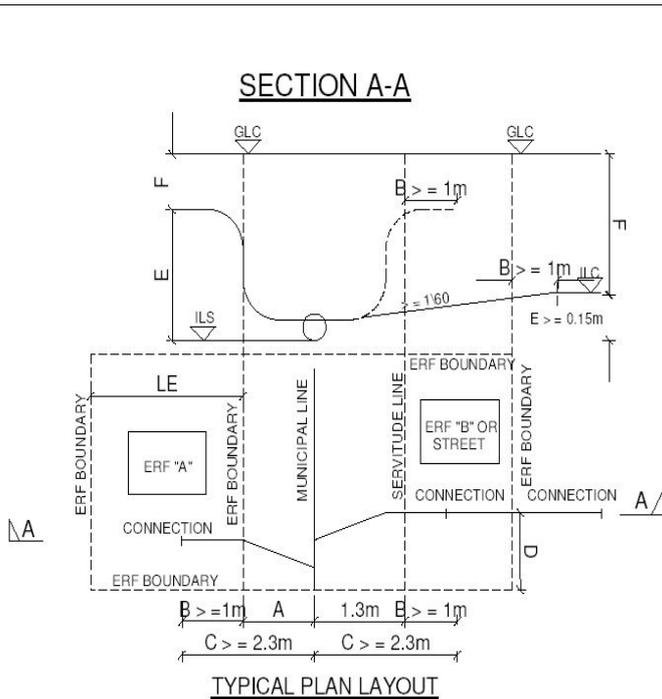
Township ERF 2661 PARSONS VLEI

Erf No. 4394

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.543 m</u>
GLC	=	<u>197.528 m</u>
ILC	=	<u>196.561 m</u>
ILS	=	<u>195.825 m</u>
E(ILC-ILS)	=	<u>0.736 m</u>
F(GLC-ILC)	=	<u>0.967 m</u>
MFL	=	<u>197.543 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

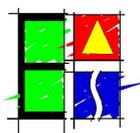
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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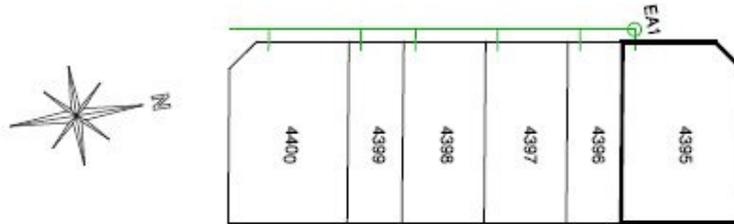


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

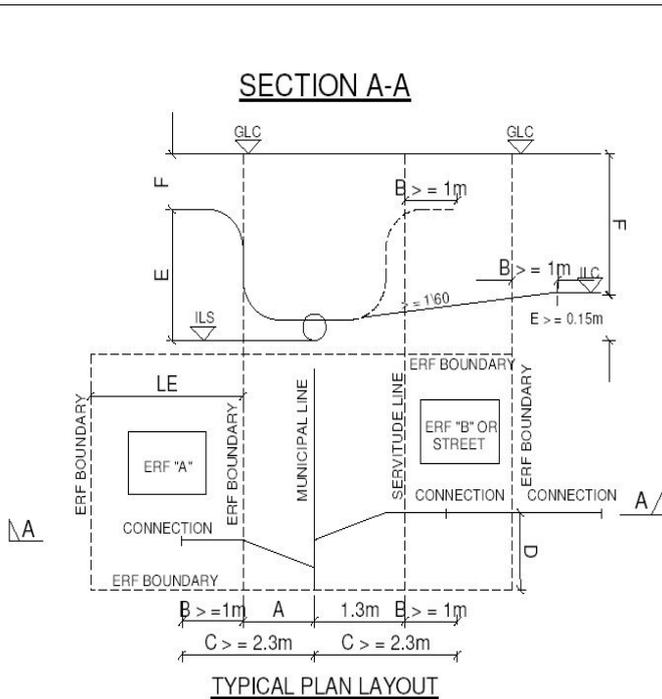
Township ERF 2661 PARSONS VLEI

Erf No. 4395

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	198.085 m
GLC	=	198.051 m
ILC	=	197.361 m
ILS	=	197.236 m
E(ILC-ILS)	=	0.125 m
F(GLC-ILC)	=	0.690 m
MFL	=	198.155 m
LE	=	20 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

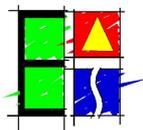
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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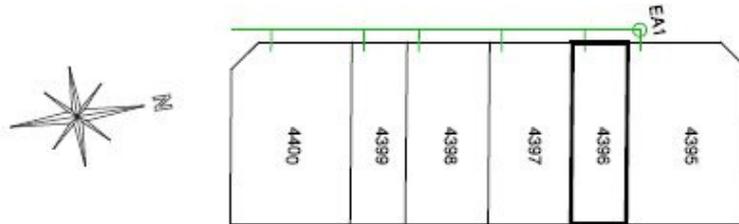


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

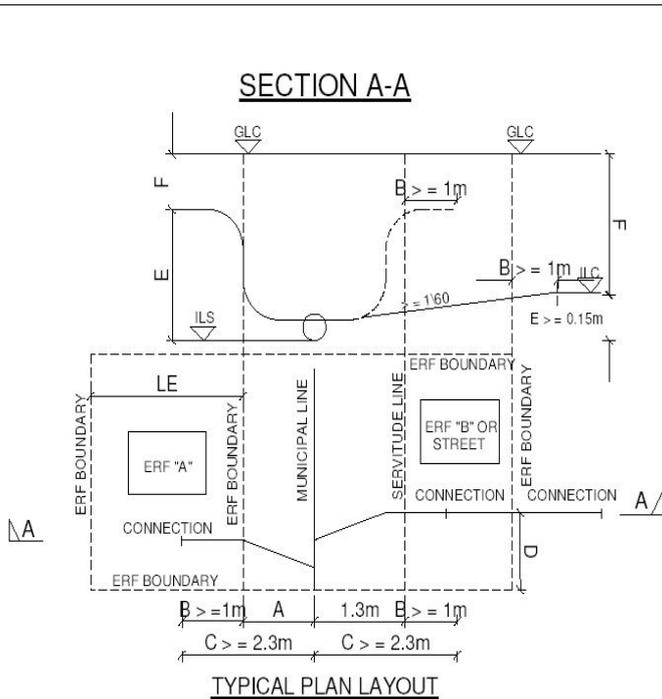
Township ERF 2661 PARSONS VLEI

Erf No. 4396

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	198.008 m
GLC	=	198.005 m
ILC	=	197.331 m
ILS	=	197.17 m
E(ILC-ILS)	=	0.161 m
F(GLC-ILC)	=	0.674 m
MFL	=	198.095 m
LE	=	20 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

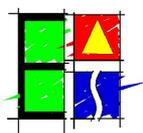
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

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AND SERVICES**

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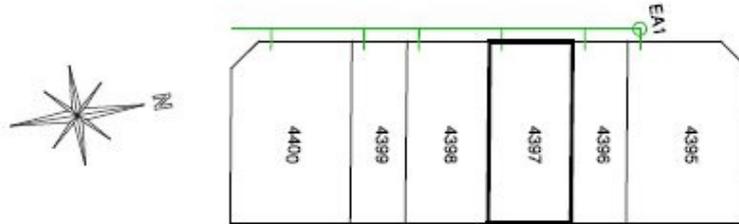


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

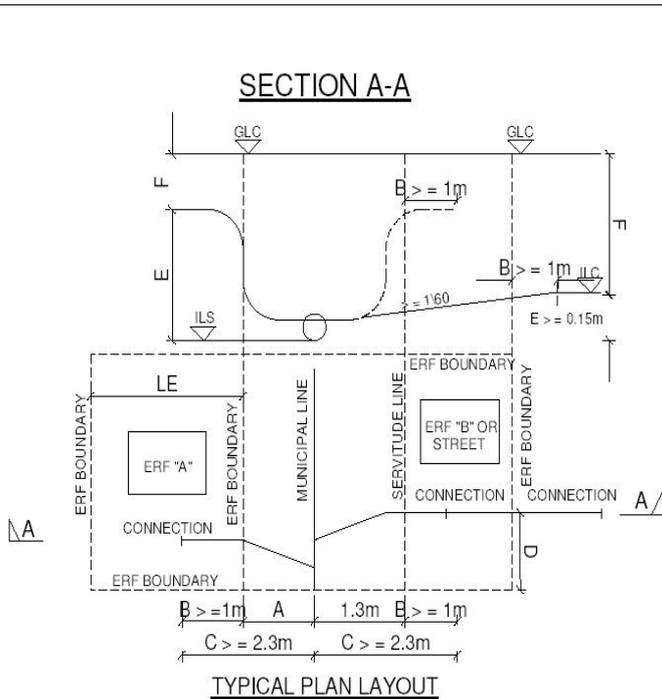
Township ERF 2661 PARSONS VLEI

Erf No. 4397

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.948 m</u>
GLC	=	<u>197.95 m</u>
ILC	=	<u>197.239 m</u>
ILS	=	<u>197.082 m</u>
E(ILC-ILS)	=	<u>0.157 m</u>
F(GLC-ILC)	=	<u>0.711 m</u>
MFL	=	<u>198.005 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

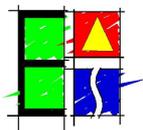
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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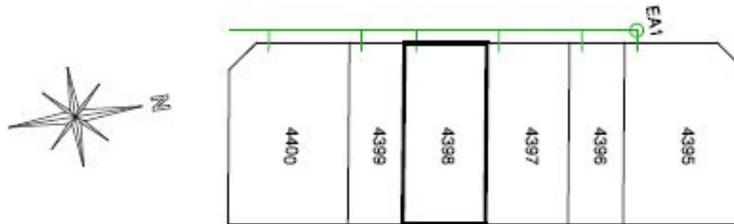


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

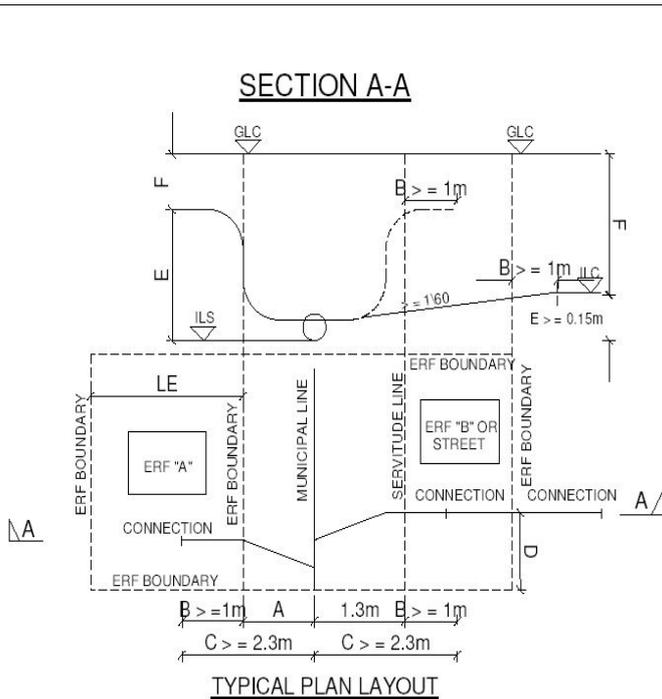
Township ERF 2661 PARSONS VLEI

Erf No. 4398

Date constructed 23 May 2008



LAYOUT PLAN OF ERF, SEWER AND CONNECTION



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.903 m
GLC	=	197.9 m
ILC	=	197.132 m
ILS	=	196.995 m
E(ILC-ILS)	=	0.137 m
F(GLC-ILC)	=	0.768 m
MFL	=	197.915 m
LE	=	20 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

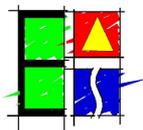
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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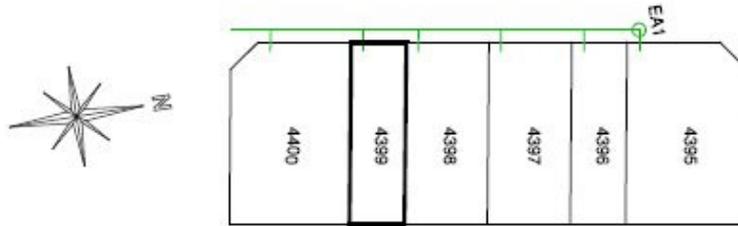


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

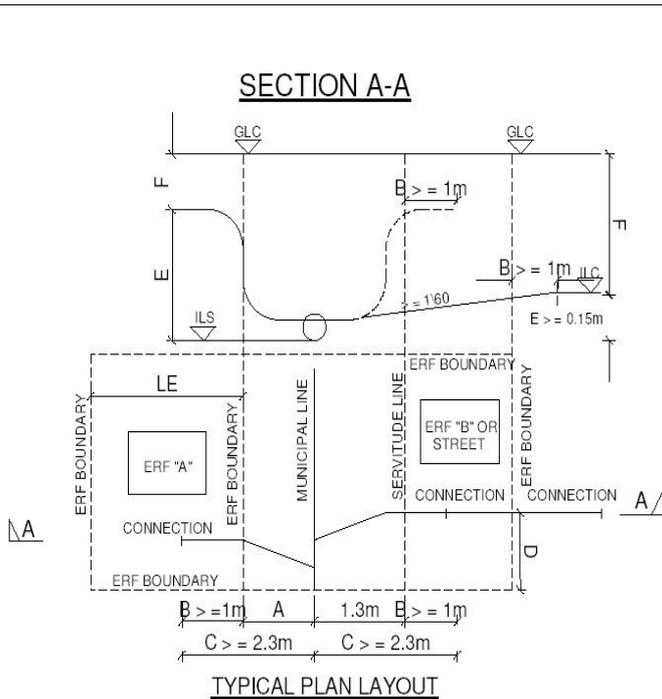
Township ERF 2661 PARSONS VLEI

Erf No. 4399

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.842 m</u>
GLC	=	<u>197.849 m</u>
ILC	=	<u>197.019 m</u>
ILS	=	<u>196.931 m</u>
E(ILC-ILS)	=	<u>0.088 m</u>
F(GLC-ILC)	=	<u>0.830 m</u>
MFL	=	<u>197.855 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

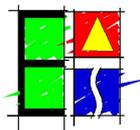
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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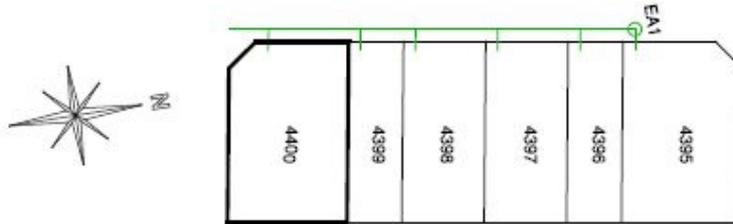


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

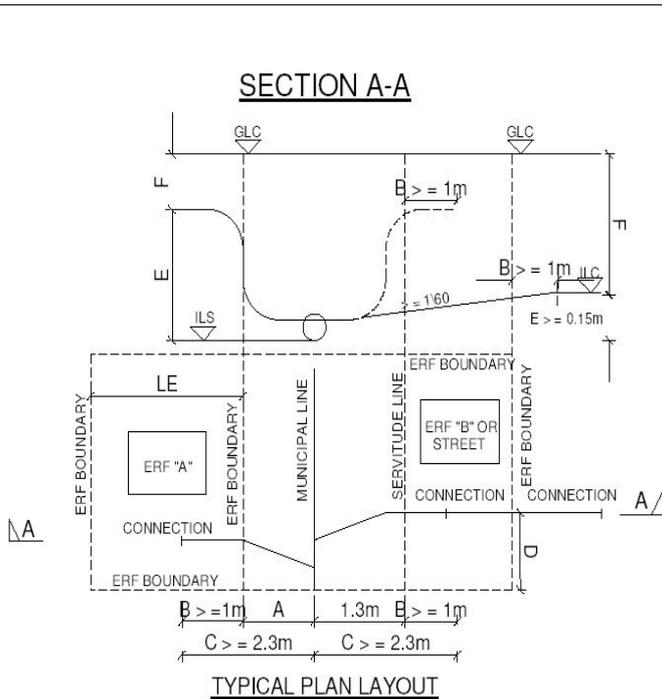
Township ERF 2661 PARSONS VLEI

Erf No. 4400

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.861 m
GLC	=	197.85 m
ILC	=	197.092 m
ILS	=	196.83 m
E(ILC-ILS)	=	0.262 m
F(GLC-ILC)	=	0.758 m
MFL	=	197.861 m
LE	=	20 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

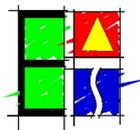
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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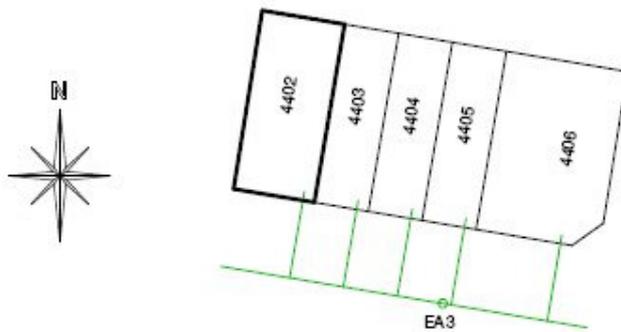


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

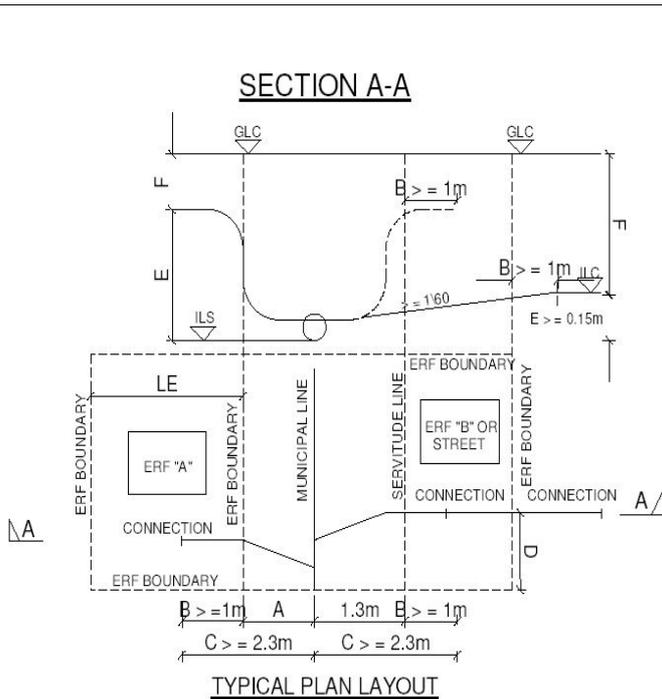
Township ERF 2661 PARSONS VLEI

Erf No. 4402

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.897 m</u>
GLC	=	<u>197.88 m</u>
ILC	=	<u>197.1 m</u>
ILS	=	<u>196.365 m</u>
E(ILC-ILS)	=	<u>0.735 m</u>
F(GLC-ILC)	=	<u>0.780 m</u>
MFL	=	<u>197.897 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

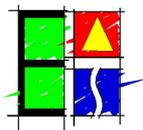
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

**ENGINEERING ADVICE  
AND SERVICES**

73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421

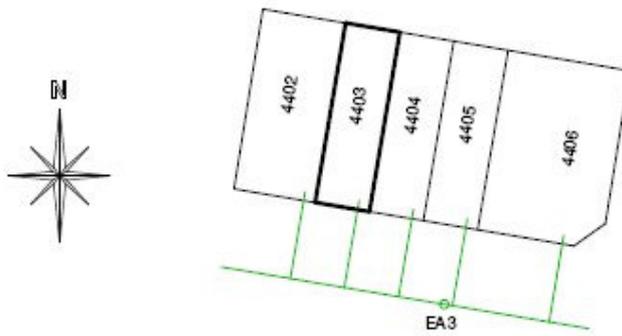


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

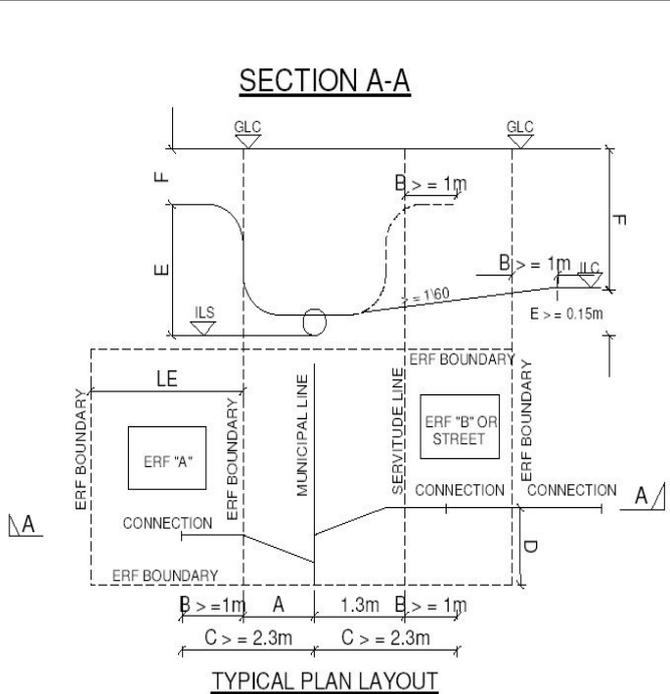
Township ERF 2661 PARSONS VLEI

Erf No. 4403

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.84 m</u>
GLC	=	<u>197.821 m</u>
ILC	=	<u>197.051 m</u>
ILS	=	<u>196.299 m</u>
E(ILC-ILS)	=	<u>0.752 m</u>
F(GLC-ILC)	=	<u>0.770 m</u>
MFL	=	<u>197.84 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

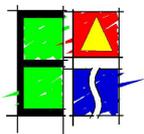
Signature of Prof. Eng. 

Prof. registration no 950143

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**AND SERVICES**

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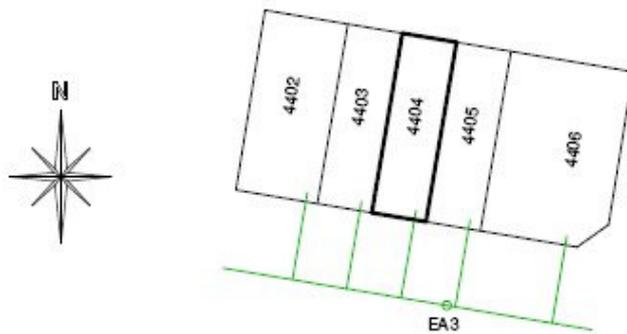


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

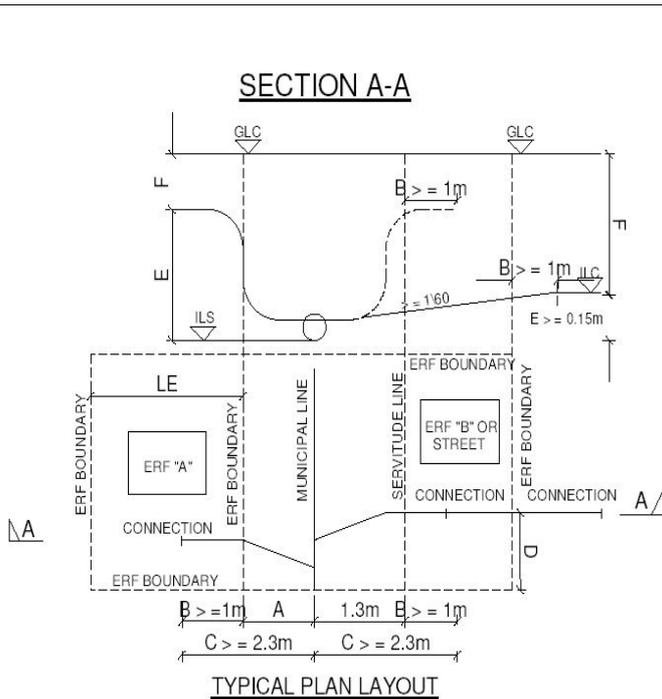
Township ERF 2661 PARSONS VLEI

Erf No. 4404

Date constructed 23 May 2008



LAYOUT PLAN OF ERF, SEWER AND CONNECTION



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.853 m</u>
GLC	=	<u>197.811 m</u>
ILC	=	<u>197.081 m</u>
ILS	=	<u>196.241 m</u>
E(ILC-ILS)	=	<u>0.840 m</u>
F(GLC-ILC)	=	<u>0.730 m</u>
MFL	=	<u>197.853 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

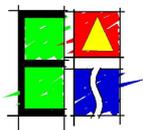
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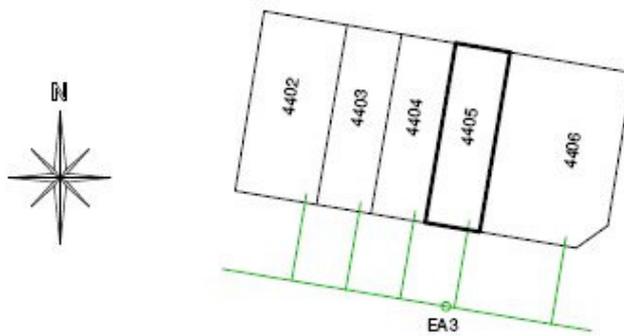


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

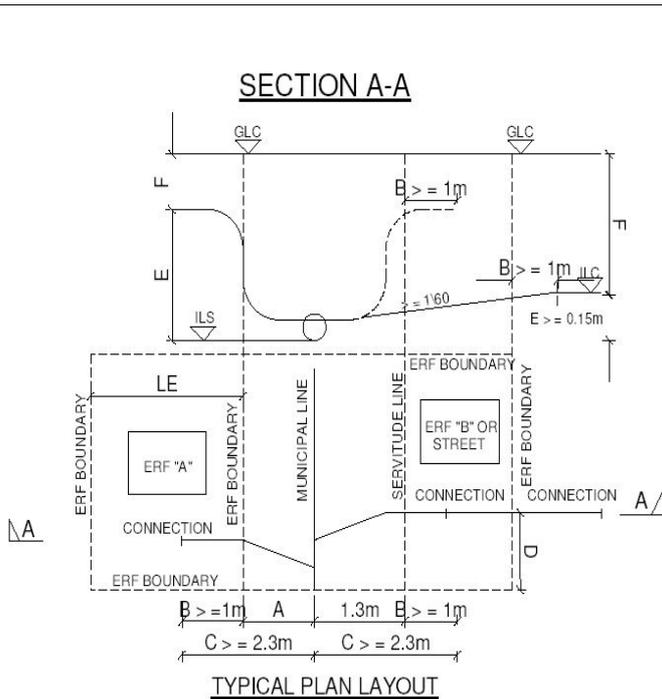
Township ERF 2661 PARSONS VLEI

Erf No. 4405

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.866 m</u>
GLC	=	<u>197.812 m</u>
ILC	=	<u>197.1 m</u>
ILS	=	<u>196.181 m</u>
E(ILC-ILS)	=	<u>0.919 m</u>
F(GLC-ILC)	=	<u>0.712 m</u>
MFL	=	<u>197.866 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

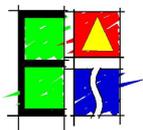
Date 23 May 2008

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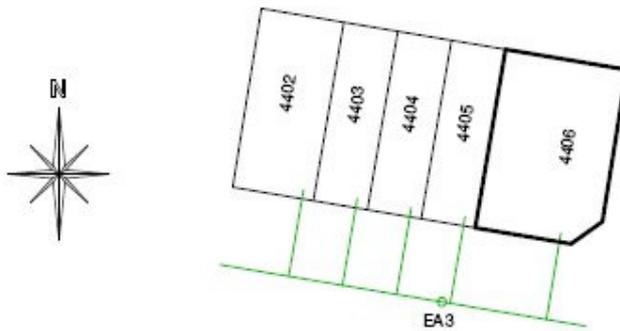


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

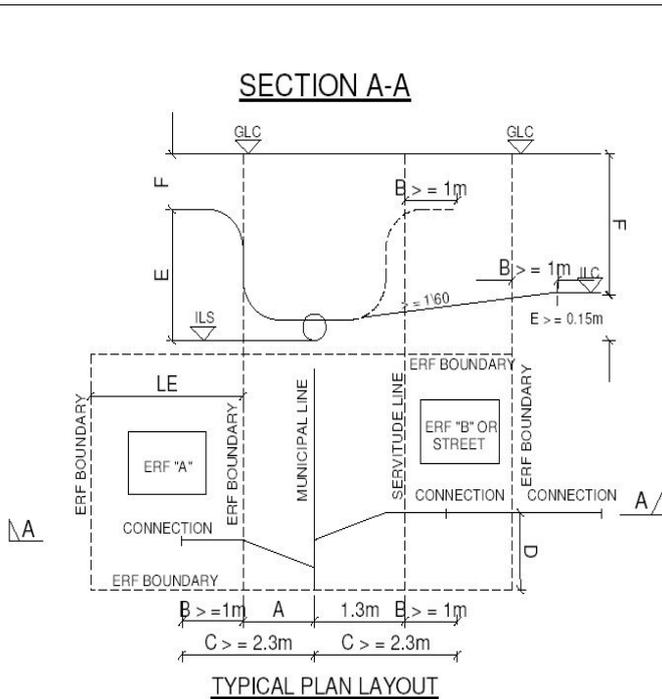
Township ERF 2661 PARSONS VLEI

Erf No. 4406

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.768 m</u>
GLC	=	<u>197.8 m</u>
ILC	=	<u>197.011 m</u>
ILS	=	<u>196.071 m</u>
E(ILC-ILS)	=	<u>0.940 m</u>
F(GLC-ILC)	=	<u>0.789 m</u>
MFL	=	<u>197.768 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

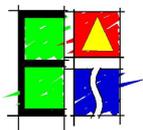
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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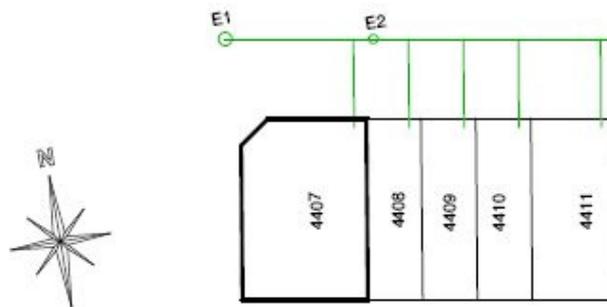


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

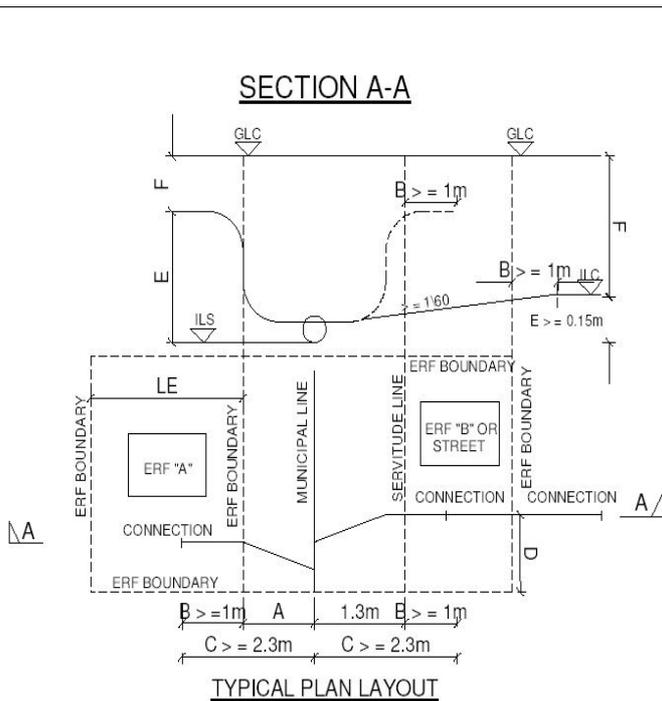
Township ERF 2661 PARSONS VLEI

Erf No. 4407

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.748 m</u>
GLC	=	<u>197.701 m</u>
ILC	=	<u>196.97 m</u>
ILS	=	<u>196.622 m</u>
E(ILC-ILS)	=	<u>0.348 m</u>
F(GLC-ILC)	=	<u>0.731 m</u>
MFL	=	<u>197.748 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

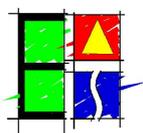
Date 23 May 2008

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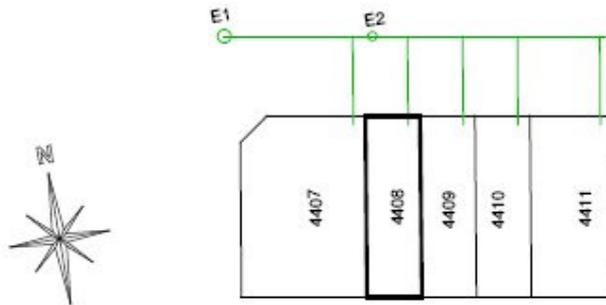


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

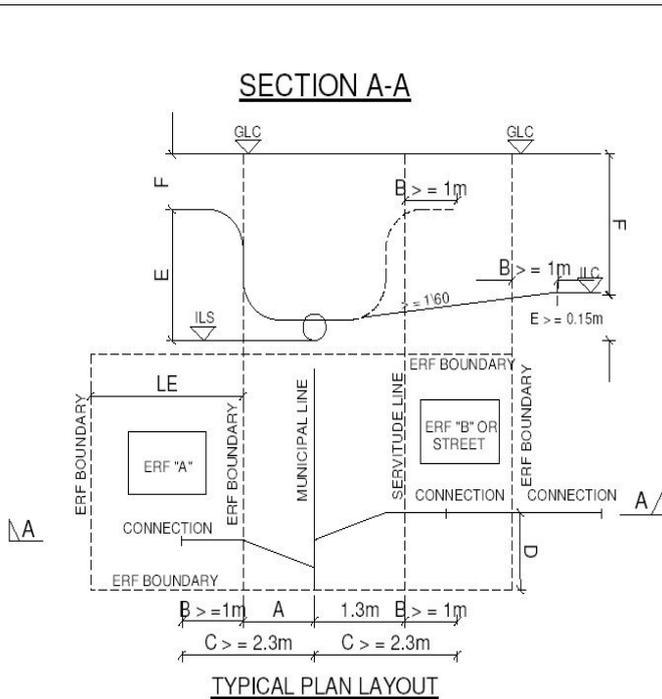
Township ERF 2661 PARSONS VLEI

Erf No. 4408

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.753 m</u>
GLC	=	<u>197.701 m</u>
ILC	=	<u>196.98 m</u>
ILS	=	<u>196.568 m</u>
E (ILC-ILS)	=	<u>0.412 m</u>
F (GLC-ILC)	=	<u>0.721 m</u>
MFL	=	<u>197.753 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

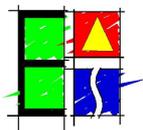
Date 23 May 2008

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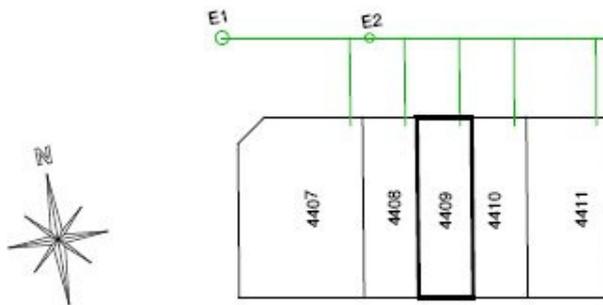


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

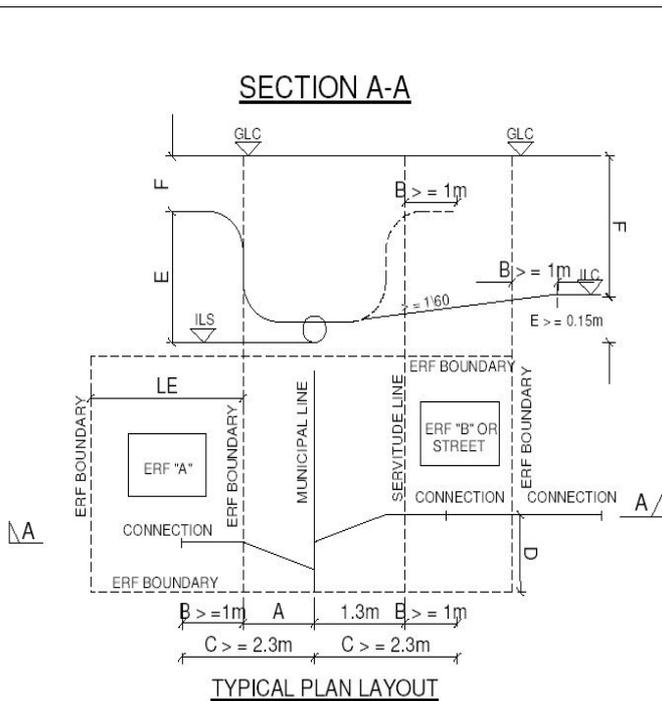
Township ERF 2661 PARSONS VLEI

Erf No. 4409

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.763 m</u>
GLC	=	<u>197.702 m</u>
ILC	=	<u>196.9 m</u>
ILS	=	<u>196.499 m</u>
E(ILC-ILS)	=	<u>0.401 m</u>
F(GLC-ILC)	=	<u>0.802 m</u>
MFL	=	<u>197.763 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

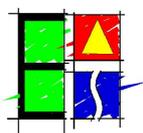
Date 23 May 2008

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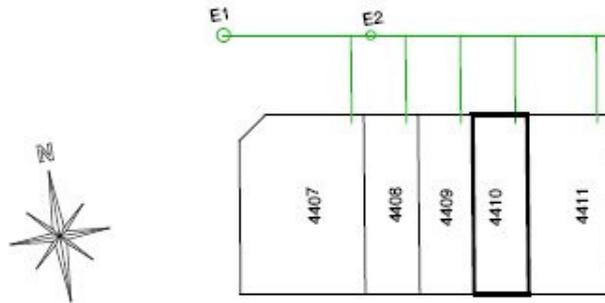


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

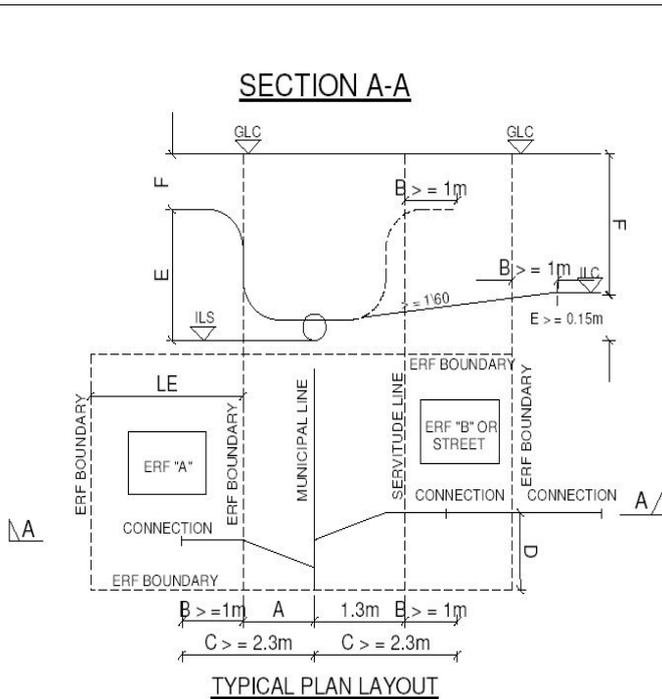
Township ERF 2661 PARSONS VLEI

Erf No. 4410

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	8.7 m
B	=	1 m
C	=	9.7 m
D	=	1.3 m
MGL	=	197.776 m
GLC	=	197.74 m
ILC	=	197 m
ILS	=	196.442 m
E(ILC-ILS)	=	0.558 m
F(GLC-ILC)	=	0.740 m
MFL	=	197.776 m
LE	=	20 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

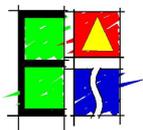
Date 23 May 2008

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Prof. registration no 950143

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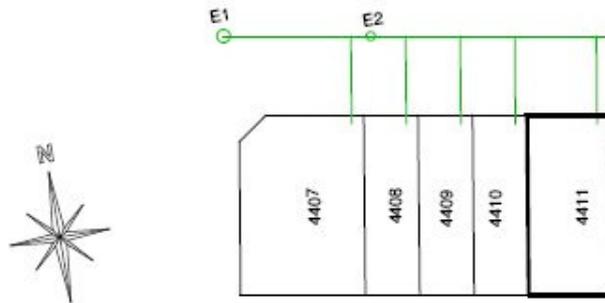


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

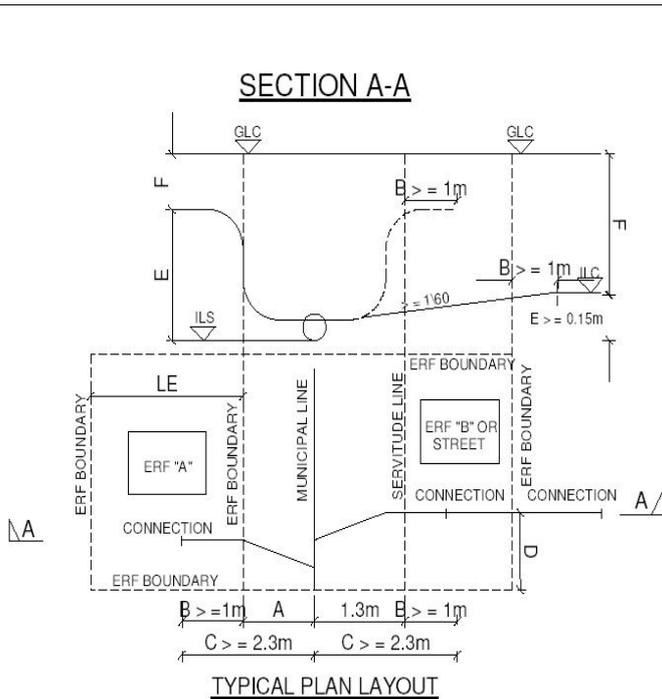
Township ERF 2661 PARSONS VLEI

Erf No. 4411

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.747 m</u>
GLC	=	<u>197.7 m</u>
ILC	=	<u>196.97 m</u>
ILS	=	<u>196.35 m</u>
E(ILC-ILS)	=	<u>0.620 m</u>
F(GLC-ILC)	=	<u>0.730 m</u>
MFL	=	<u>197.747 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

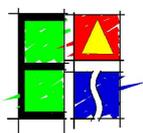
Date 23 May 2008

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

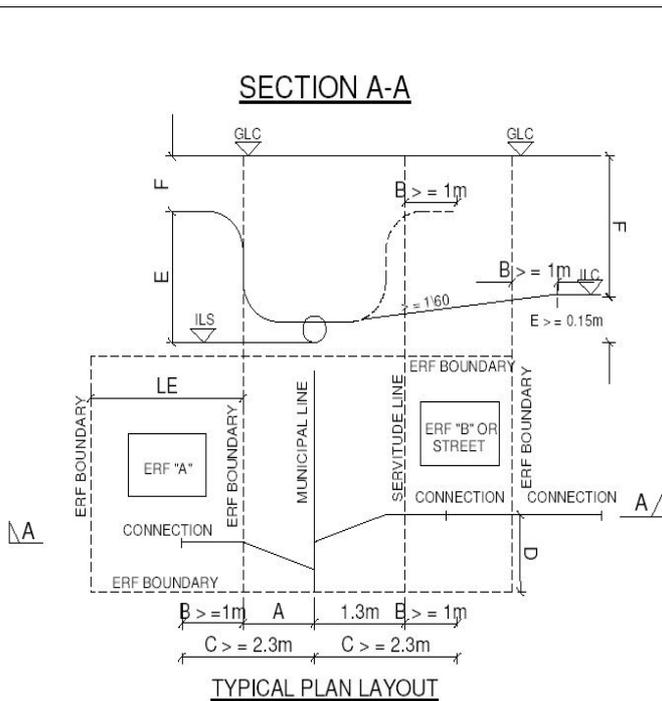
Township ERF 2661 PARSONS VLEI

Erf No. 4413

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.612 m</u>
GLC	=	<u>197.602 m</u>
ILC	=	<u>196.831 m</u>
ILS	=	<u>195.735 m</u>
E(ILC-ILS)	=	<u>1.096 m</u>
F(GLC-ILC)	=	<u>0.771 m</u>
MFL	=	<u>197.612 m</u>
LE	=	<u>20 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

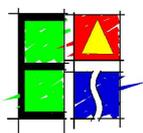
Date 23 May 2008

Signature of Prof. Eng. 

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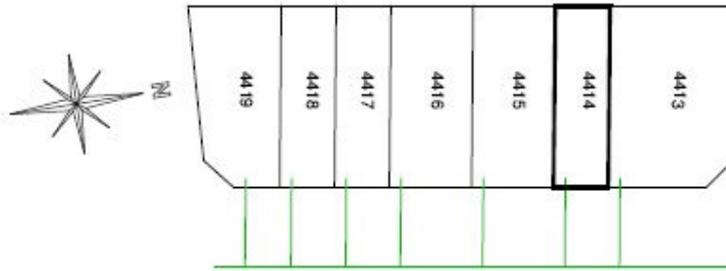


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

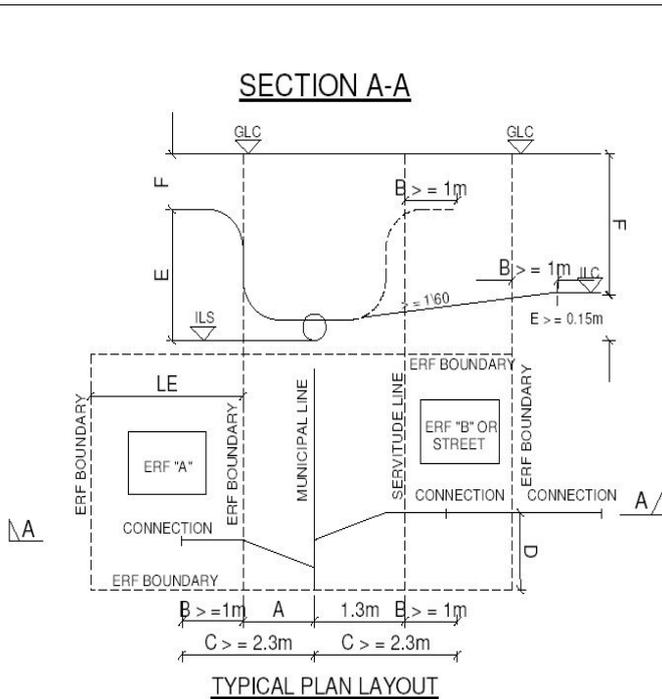
Township ERF 2661 PARSONS VLEI

Erf No. 4414

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.628 m</u>
GLC	=	<u>197.598 m</u>
ILC	=	<u>196.85 m</u>
ILS	=	<u>195.672 m</u>
E(ILC-ILS)	=	<u>1.178 m</u>
F(GLC-ILC)	=	<u>0.748 m</u>
MFL	=	<u>197.628 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

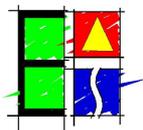
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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 Port Elizabeth, 6013  
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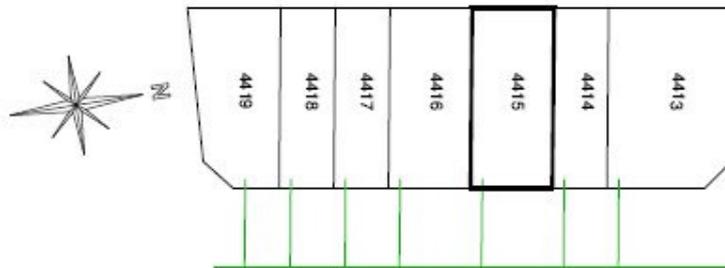


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

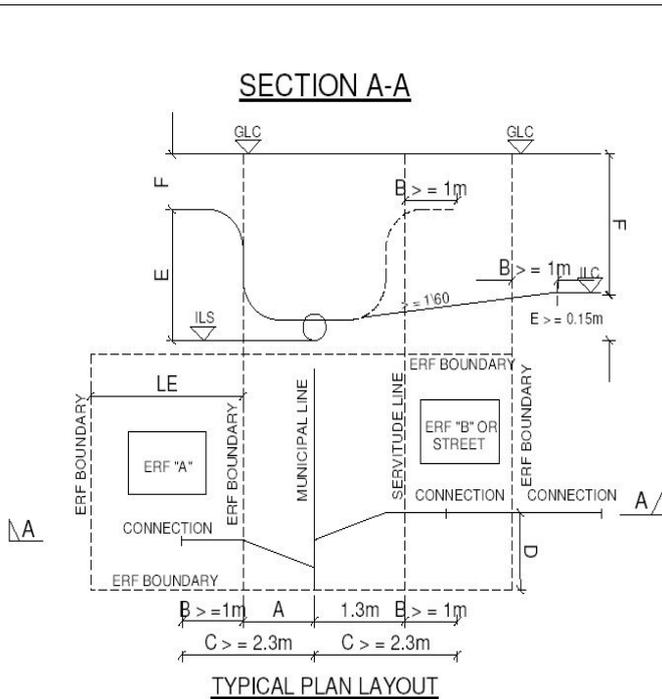
Township ERF 2661 PARSONS VLEI

Erf No. 4415

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.889 m</u>
GLC	=	<u>197.859 m</u>
ILC	=	<u>197.11 m</u>
ILS	=	<u>195.568 m</u>
E(ILC-ILS)	=	<u>1.542 m</u>
F(GLC-ILC)	=	<u>0.749 m</u>
MFL	=	<u>197.889 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

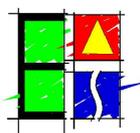
Date 23 May 2008

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Prof. registration no 950143

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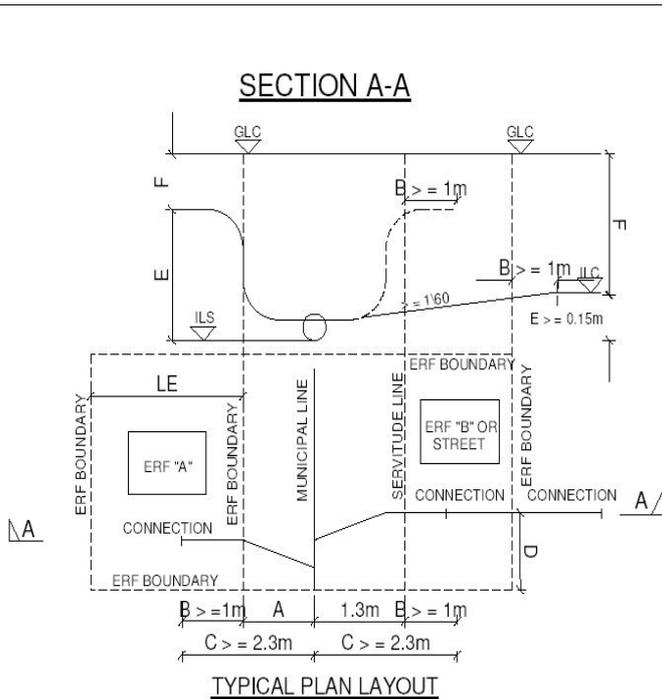
Township ERF 2661 PARSONS VLEI

Erf No. 4416

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.735 m</u>
GLC	=	<u>197.729 m</u>
ILC	=	<u>196.902 m</u>
ILS	=	<u>195.456 m</u>
E(ILC-ILS)	=	<u>1.446 m</u>
F(GLC-ILC)	=	<u>0.827 m</u>
MFL	=	<u>197.735 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

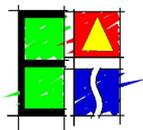
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Prof. registration no 950143

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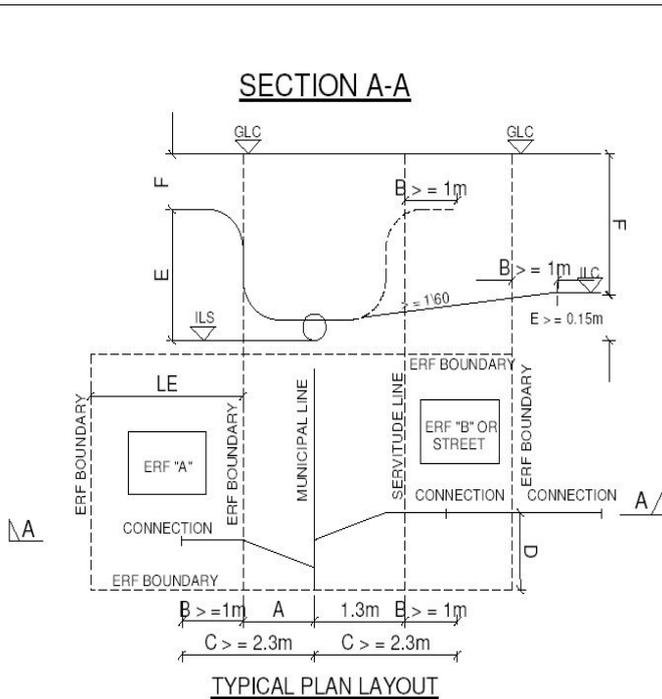
Township ERF 2661 PARSONS VLEI

Erf No. 4417

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	8.7 m
B	=	1 m
C	=	9.7 m
D	=	1.3 m
MGL	=	197.504 m
GLC	=	197.491 m
ILC	=	196.737 m
ILS	=	195.38 m
E(ILC-ILS)	=	1.357 m
F(GLC-ILC)	=	0.754 m
MFL	=	197.504 m
LE	=	20 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

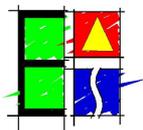
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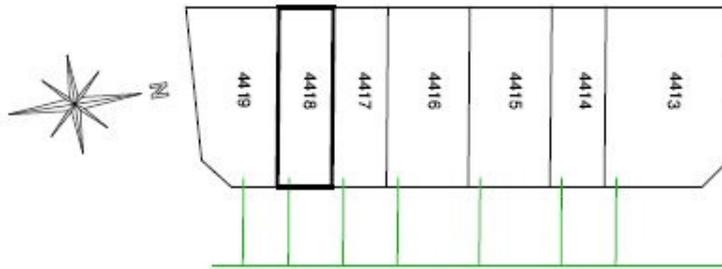


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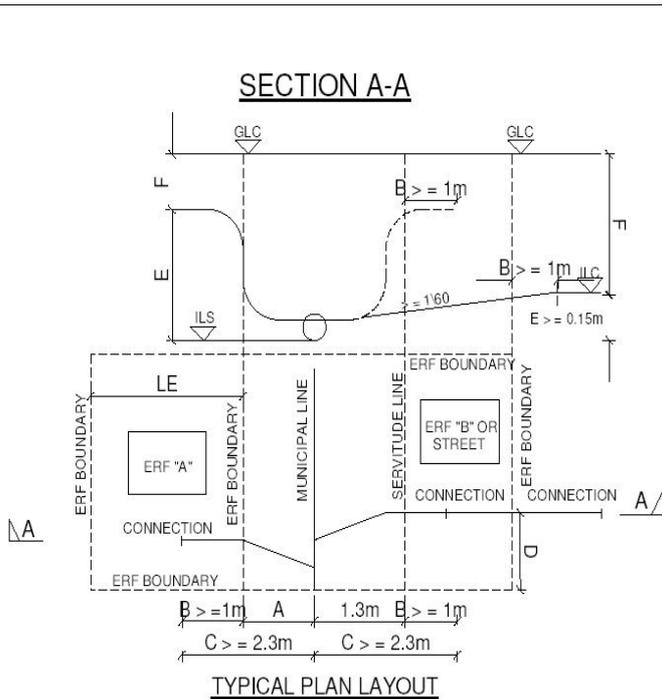
Township ERF 2661 PARSONS VLEI

Erf No. 4418

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.479 m</u>
GLC	=	<u>197.461 m</u>
ILC	=	<u>196.7 m</u>
ILS	=	<u>195.301 m</u>
E(ILC-ILS)	=	<u>1.399 m</u>
F(GLC-ILC)	=	<u>0.761 m</u>
MFL	=	<u>197.479 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

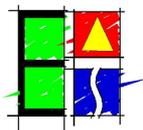
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Prof. registration no 950143

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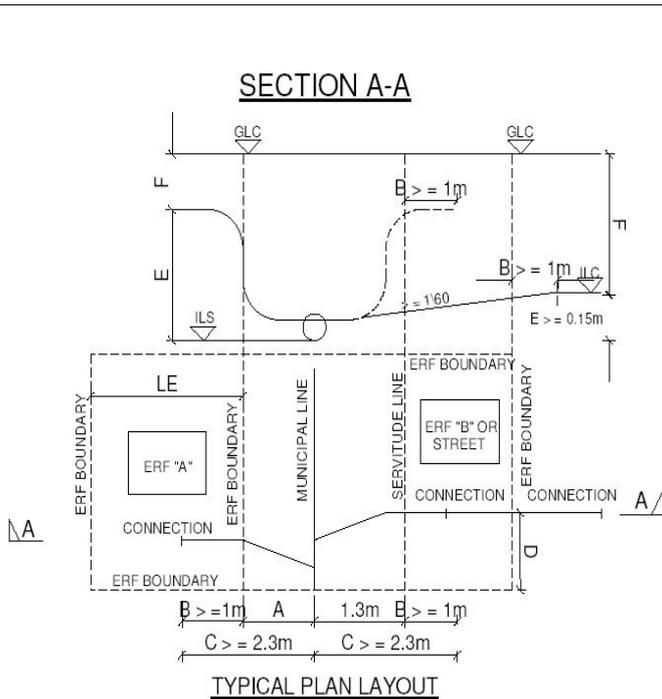
Township ERF 2661 PARSONS VLEI

Erf No. 4419

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>8.7 m</u>
B	=	<u>1 m</u>
C	=	<u>9.7 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.478 m</u>
GLC	=	<u>197.52 m</u>
ILC	=	<u>196.71 m</u>
ILS	=	<u>195.248 m</u>
E(ILC-ILS)	=	<u>1.462 m</u>
F(GLC-ILC)	=	<u>0.810 m</u>
MFL	=	<u>197.478 m</u>
LE	=	<u>20 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

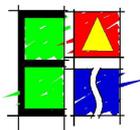
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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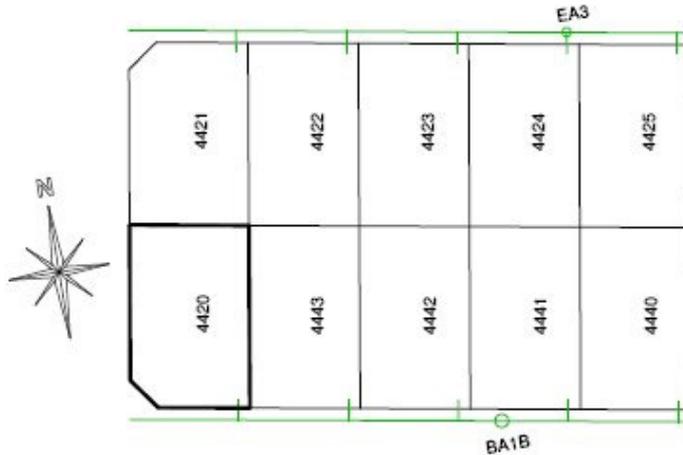


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**WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

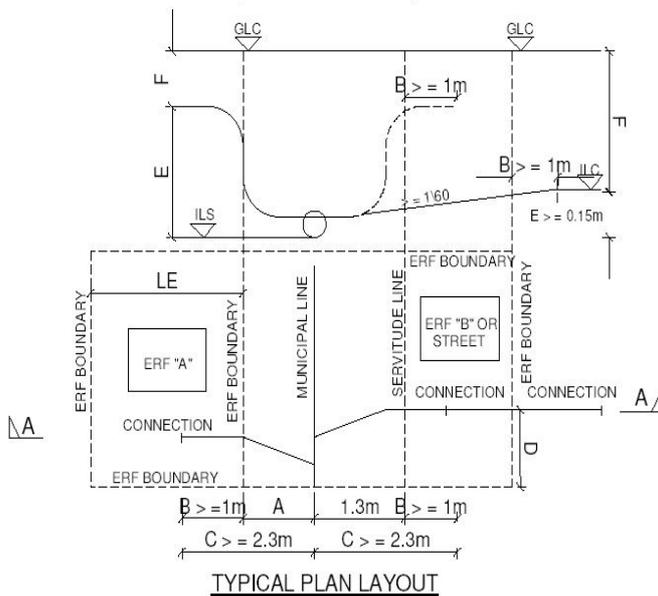
Erf No. 4420

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



**TYPICAL PLAN LAYOUT**

A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.335 m</u>
GLC	=	<u>197.391 m</u>
ILC	=	<u>196.361 m</u>
ILS	=	<u>196.014 m</u>
E(ILC-ILS)	=	<u>0.347 m</u>
F(GLC-ILC)	=	<u>1.030 m</u>
MFL	=	<u>197.335 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 mm</u>
ø Connect	=	<u>110 mm</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

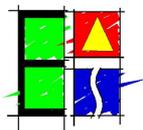
Date 23 May 2008

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Prof. registration no 950143

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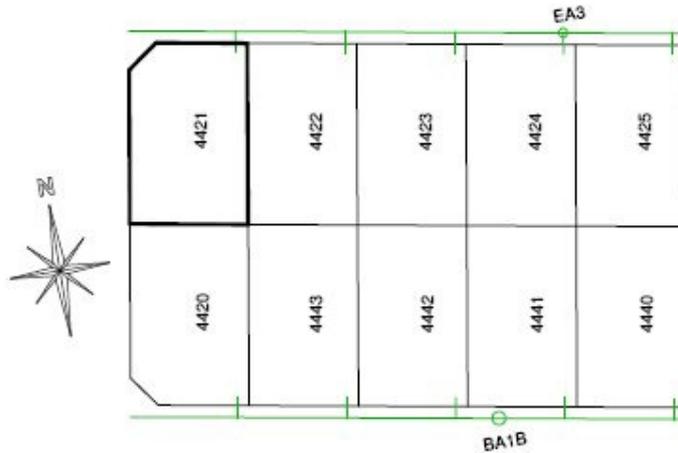


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WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

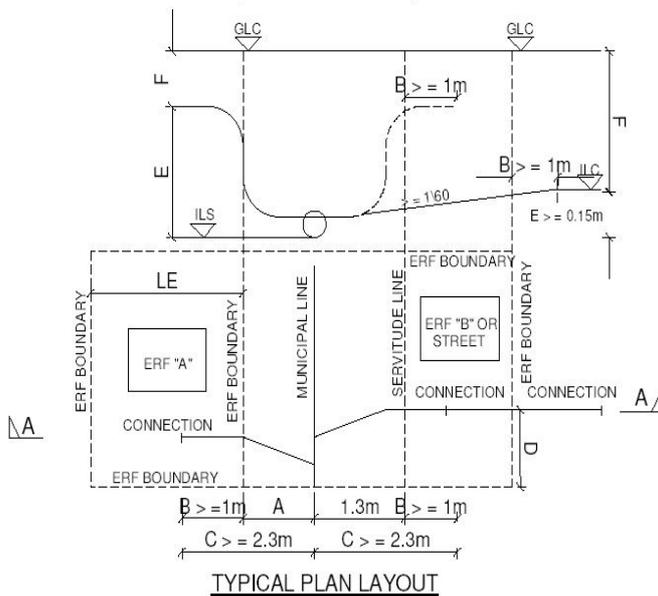
Erf No. 4421

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



**TYPICAL PLAN LAYOUT**

A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.639 m</u>
GLC	=	<u>197.62 m</u>
ILC	=	<u>196.699 m</u>
ILS	=	<u>196.548 m</u>
E(ILC-ILS)	=	<u>0.151 m</u>
F(GLC-ILC)	=	<u>0.921 m</u>
MFL	=	<u>197.675 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

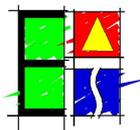
Date 23 May 2008

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Prof. registration no 950143

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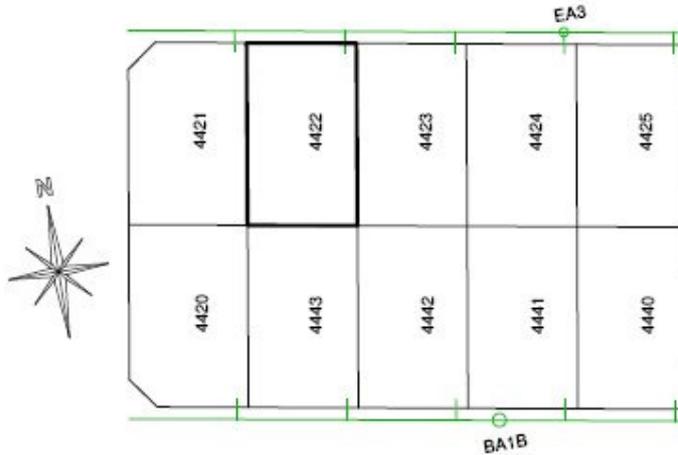


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

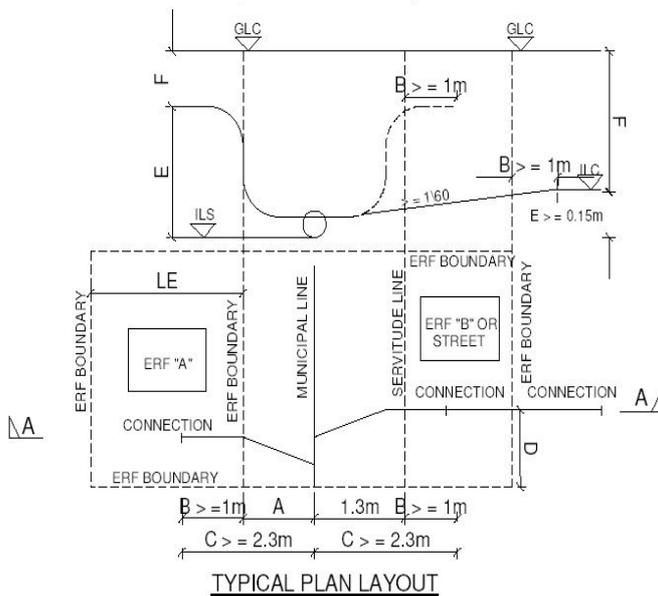
Erf No. 4422

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.717 m
GLC	=	197.58 m
ILC	=	196.762 m
ILS	=	196.431 m
E(ILC-ILS)	=	0.331 m
F(GLC-ILC)	=	0.818 m
MFL	=	197.717 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

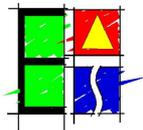
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Prof. registration no 950143

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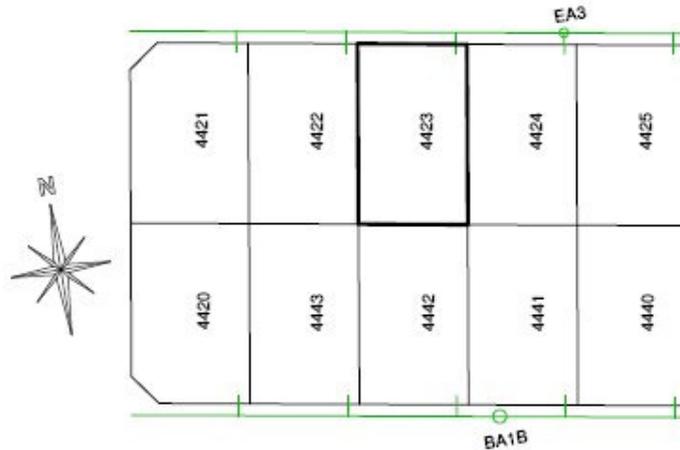


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

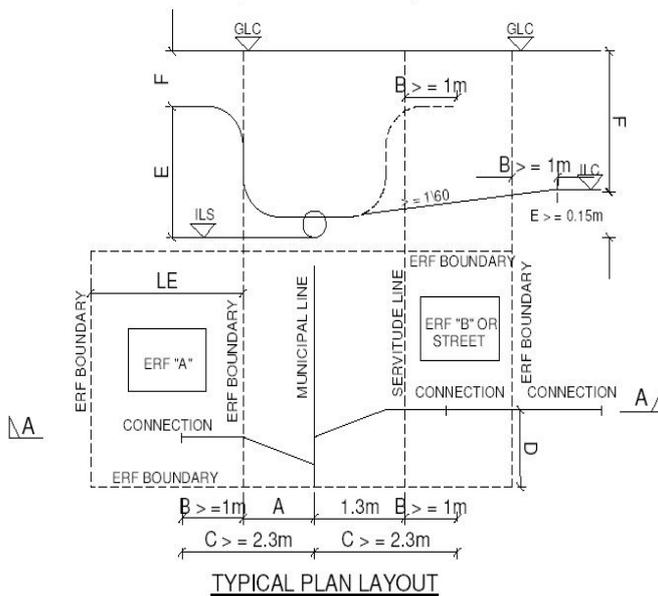
Erf No. 4423

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.655 m</u>
GLC	=	<u>197.599 m</u>
ILC	=	<u>196.671 m</u>
ILS	=	<u>196.311 m</u>
E(ILC-ILS)	=	<u>0.360 m</u>
F(GLC-ILC)	=	<u>0.928 m</u>
MFL	=	<u>197.655 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

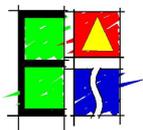
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Prof. registration no 950143

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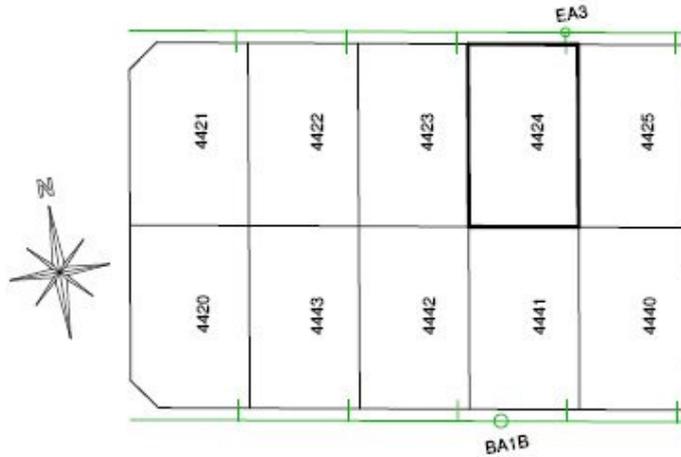


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

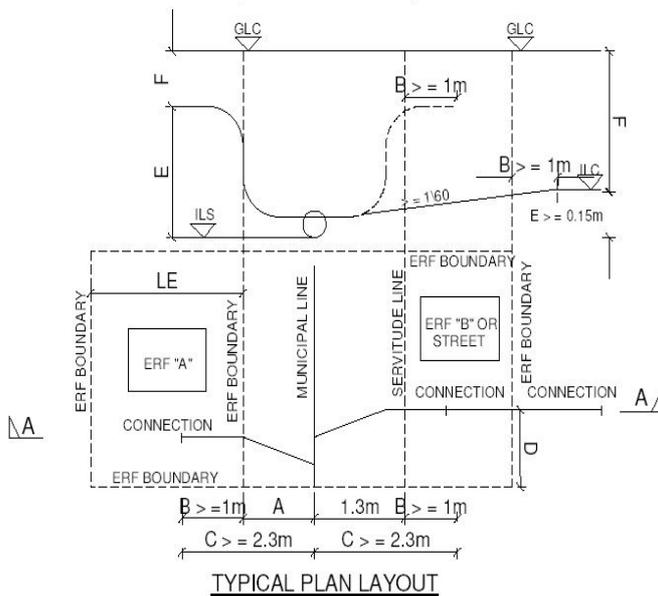
Erf No. 4424

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.568 m
GLC	=	197.65 m
ILC	=	196.591 m
ILS	=	196.196 m
E(ILC-ILS)	=	0.395 m
F(GLC-ILC)	=	1.059 m
MFL	=	197.568 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

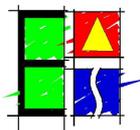
Date 23 May 2008

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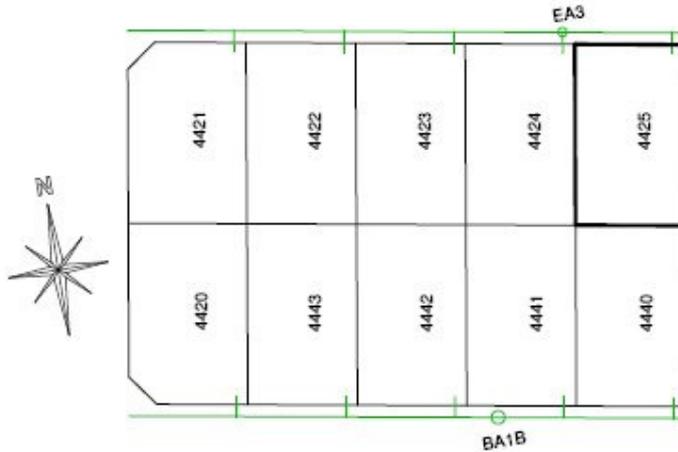


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**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

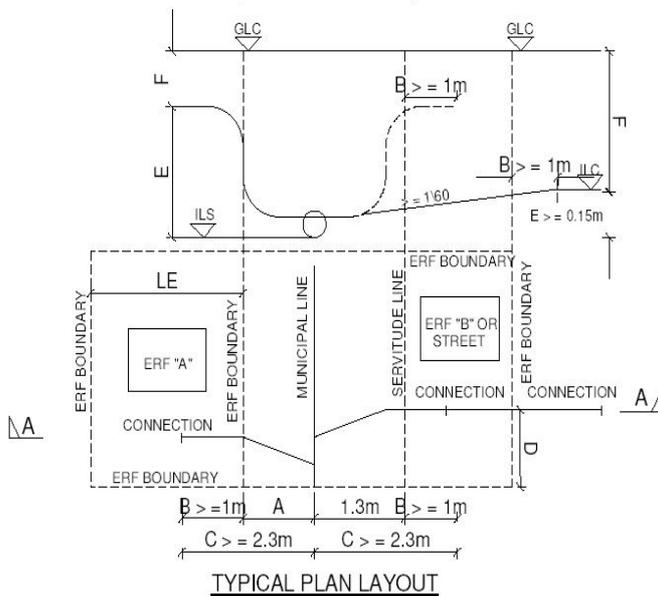
Erf No. 4425

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.456 m
GLC	=	197.559 m
ILC	=	196.537 m
ILS	=	196.073 m
E(ILC-ILS)	=	0.464 m
F(GLC-ILC)	=	1.022 m
MFL	=	197.456 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

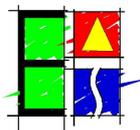
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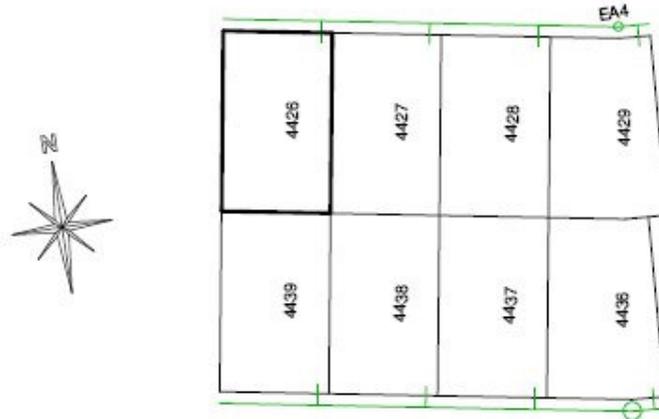


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

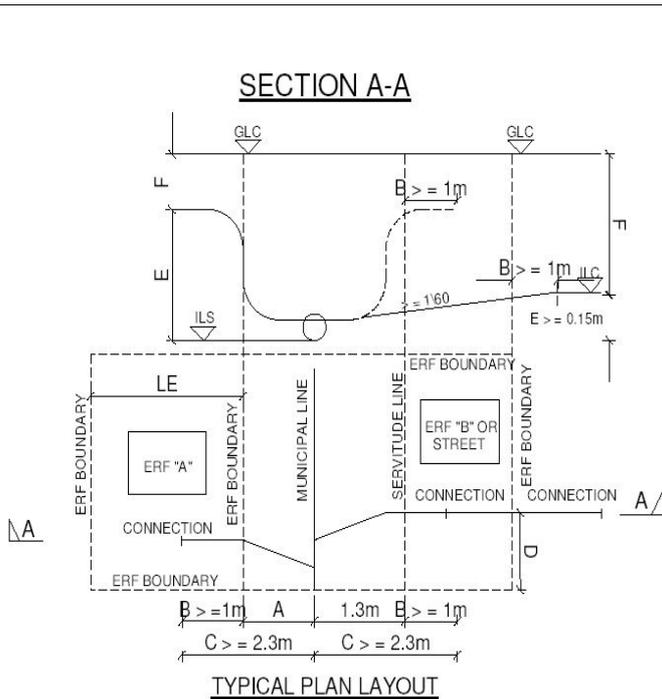
Township ERF 2661 PARSONS VLEI

Erf No. 4426

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.404 m</u>
GLC	=	<u>197.508 m</u>
ILC	=	<u>196.471 m</u>
ILS	=	<u>195.949 m</u>
E(ILC-ILS)	=	<u>0.522 m</u>
F(GLC-ILC)	=	<u>1.037 m</u>
MFL	=	<u>197.404 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

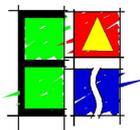
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421

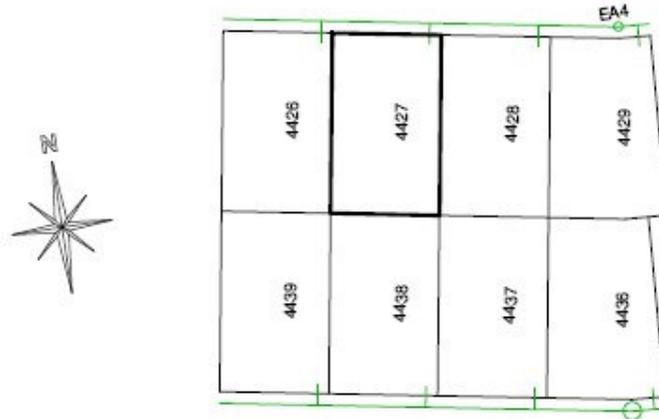


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**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

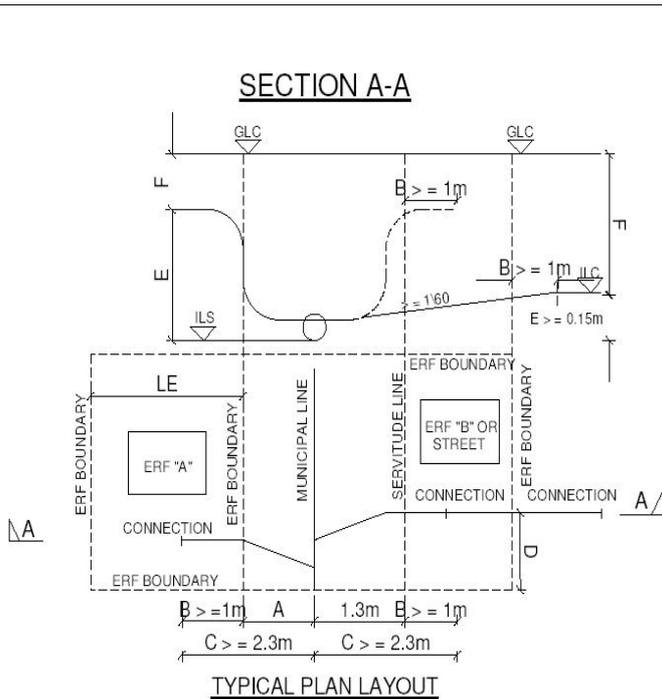
Township ERF 2661 PARSONS VLEI

Erf No. 4427

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.376 m
GLC	=	197.669 m
ILC	=	196.46 m
ILS	=	195.835 m
E(ILC-ILS)	=	0.625 m
F(GLC-ILC)	=	1.209 m
MFL	=	197.376 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

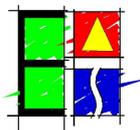
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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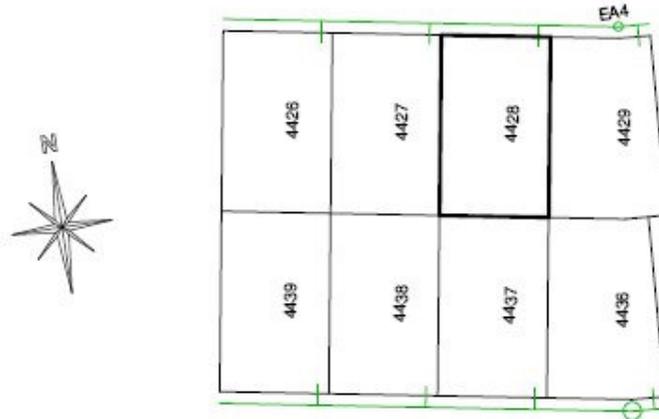


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
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**WASTEWATER CONVEYANCE SUB SILO**

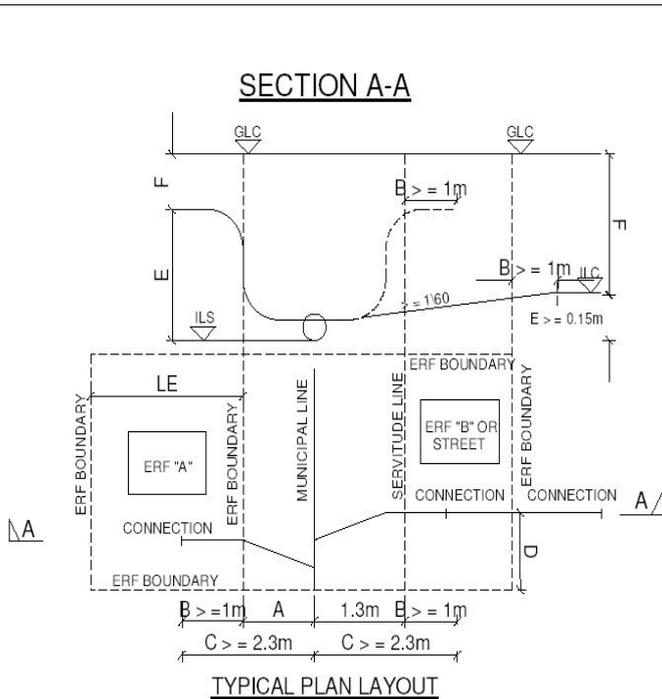
Township ERF 2661 PARSONS VLEI

Erf No. 4428

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.317 m</u>
GLC	=	<u>197.608 m</u>
ILC	=	<u>196.26 m</u>
ILS	=	<u>195.71 m</u>
E(ILC-ILS)	=	<u>0.550 m</u>
F(GLC-ILC)	=	<u>1.348 m</u>
MFL	=	<u>197.317 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

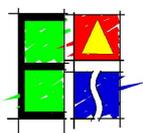
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

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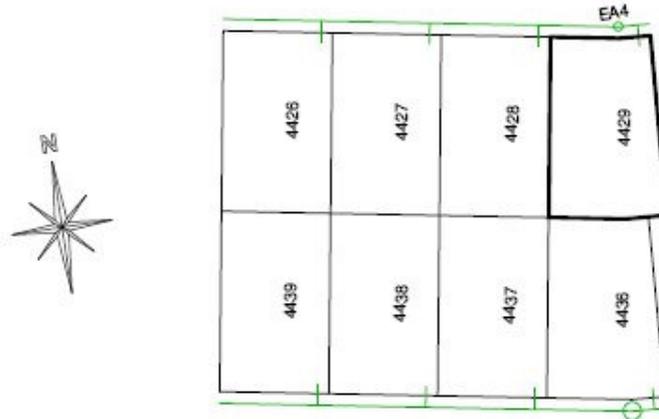


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

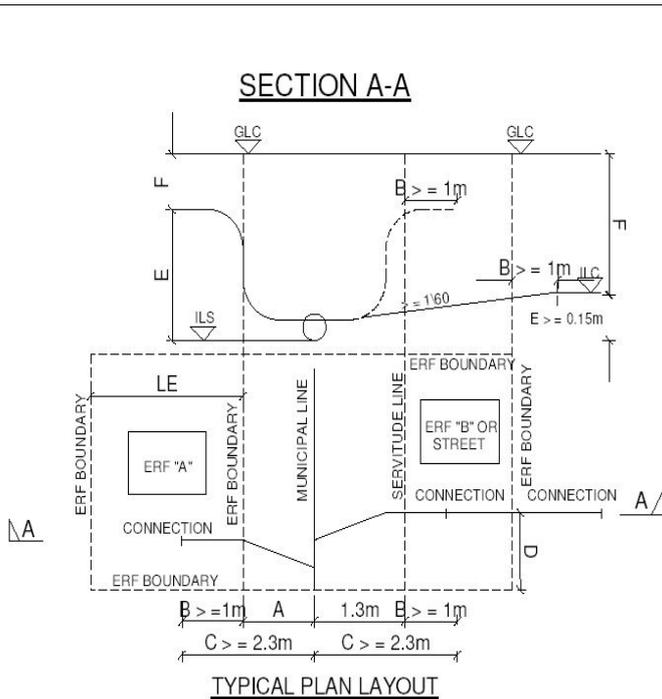
Township ERF 2661 PARSONS VLEI

Erf No. 4429

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.311 m</u>
GLC	=	<u>197.648 m</u>
ILC	=	<u>196.287 m</u>
ILS	=	<u>195.595 m</u>
E(ILC-ILS)	=	<u>0.692 m</u>
F(GLC-ILC)	=	<u>1.361 m</u>
MFL	=	<u>197.311 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 mm</u>
∅ Connect	=	<u>110 mm</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

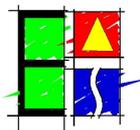
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

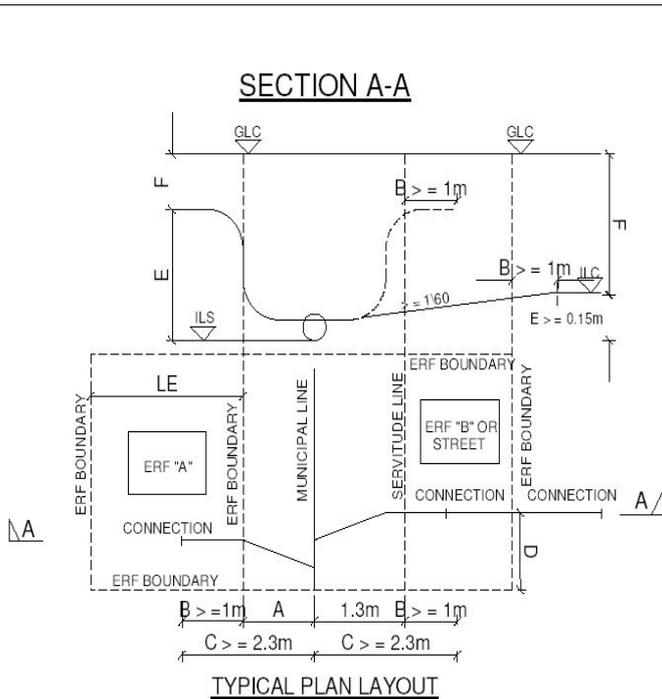
Township ERF 2661 PARSONS VLEI

Erf No. 4430

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.299 m
GLC	=	197.591 m
ILC	=	196.23 m
ILS	=	195.476 m
E(ILC-ILS)	=	0.754 m
F(GLC-ILC)	=	1.361 m
MFL	=	197.299 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

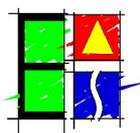
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

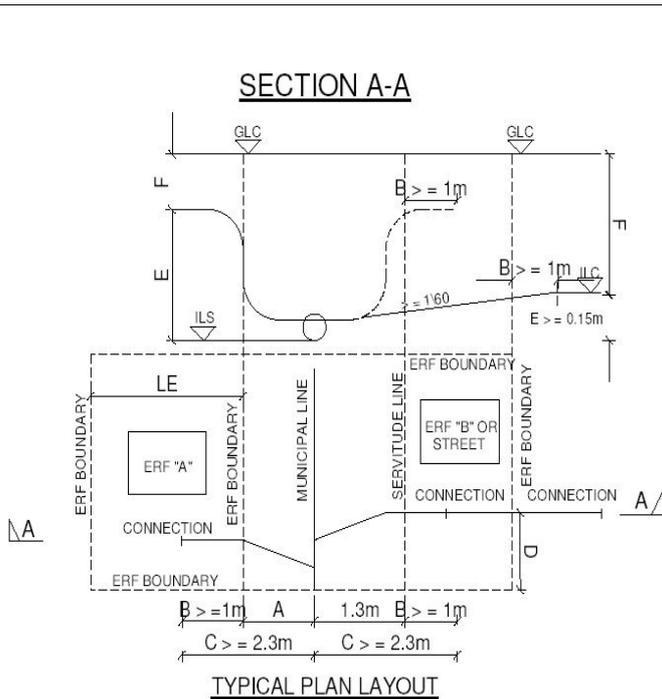
Township ERF 2661 PARSONS VLEI

Erf No. 4431

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.162 m
GLC	=	197.469 m
ILC	=	196.162 m
ILS	=	195.356 m
E(ILC-ILS)	=	0.806 m
F(GLC-ILC)	=	1.307 m
MFL	=	197.162 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

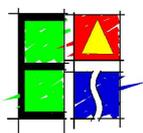
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

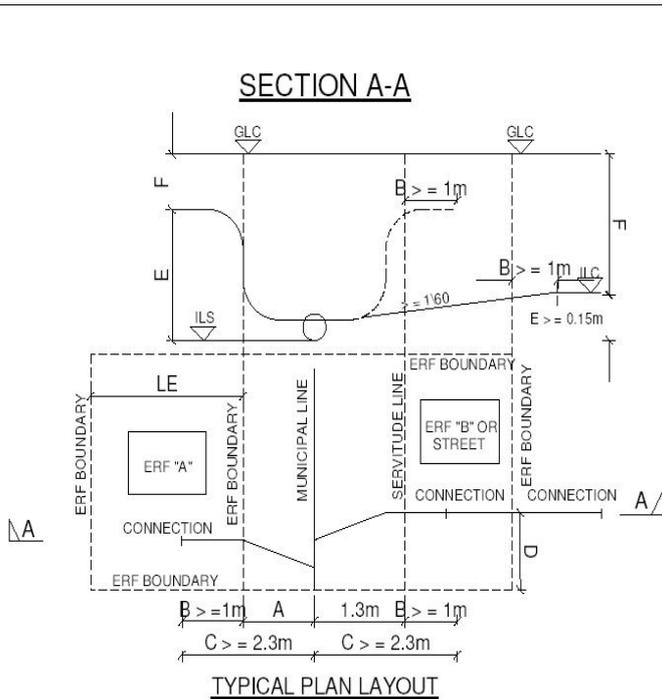
Township ERF 2661 PARSONS VLEI

Erf No. 4432

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>3.8 m</u>
B	=	<u>1 m</u>
C	=	<u>4.8 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.051 m</u>
GLC	=	<u>197.051 m</u>
ILC	=	<u>196.061 m</u>
ILS	=	<u>194.903 m</u>
E(ILC-ILS)	=	<u>1.158 m</u>
F(GLC-ILC)	=	<u>0.990 m</u>
MFL	=	<u>197.051 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

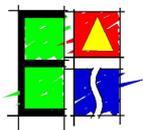
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

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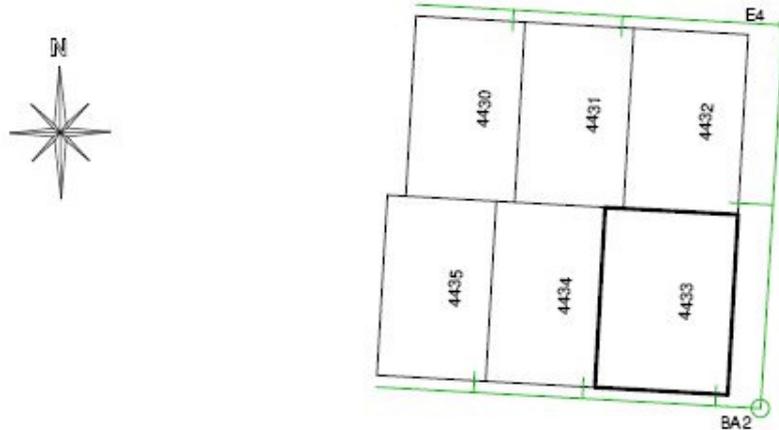


**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE ENGINEERING BUSINESS UNIT**  
**WASTEWATER CONVEYANCE SUB SILO**

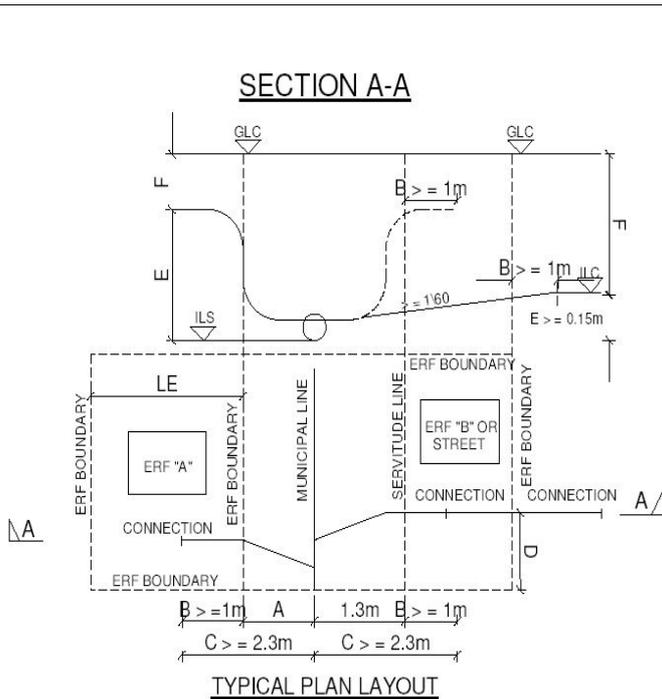
Township ERF 2661 PARSONS VLEI

Erf No. 4433

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>196.897 m</u>
GLC	=	<u>196.881 m</u>
ILC	=	<u>195.884 m</u>
ILS	=	<u>194.652 m</u>
E(ILC-ILS)	=	<u>1.232 m</u>
F(GLC-ILC)	=	<u>0.997 m</u>
MFL	=	<u>196.897 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

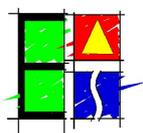
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

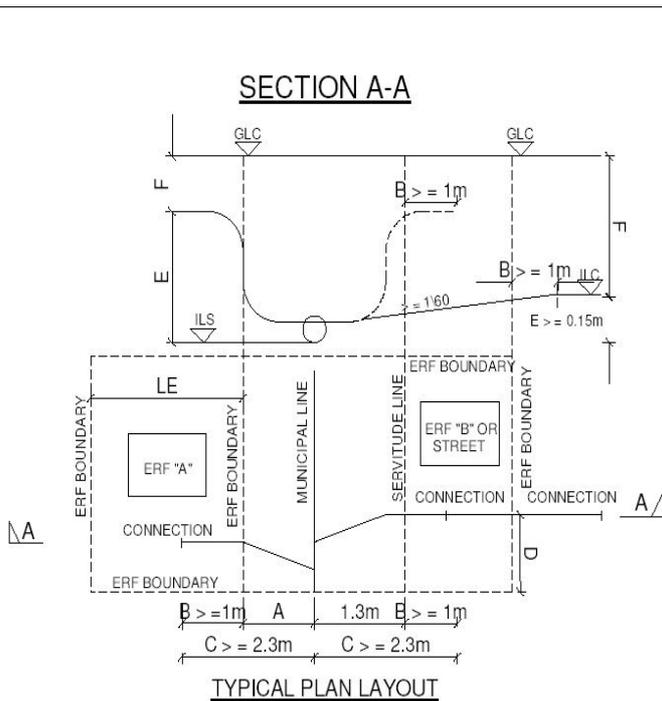
Township ERF 2661 PARSONS VLEI

Erf No. 4434

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	196.938 m
GLC	=	196.996 m
ILC	=	195.917 m
ILS	=	194.796 m
E(ILC-ILS)	=	1.121 m
F(GLC-ILC)	=	1.079 m
MFL	=	196.938 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

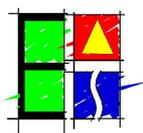
Date 23 May 2008

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**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
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**WASTEWATER CONVEYANCE SUB SILO**

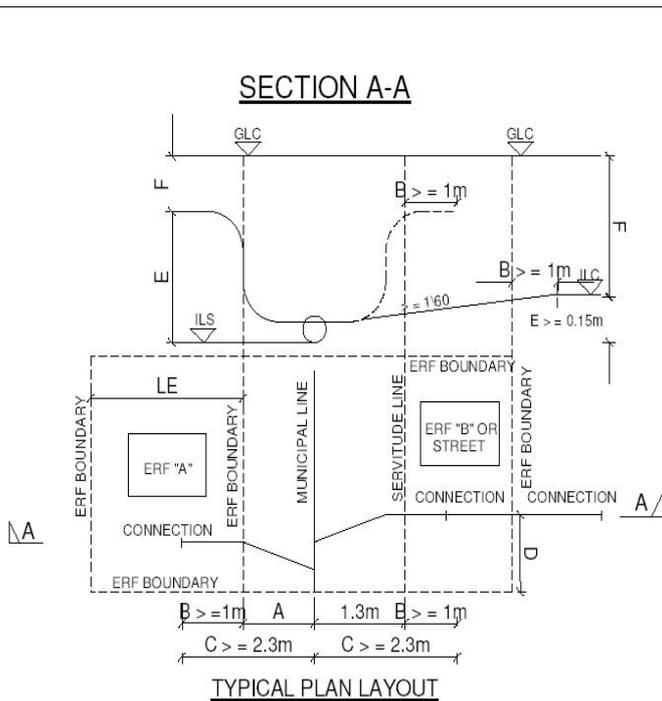
Township ERF 2661 PARSONS VLEI

Erf No. 4435

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.016 m
GLC	=	197.041 m
ILC	=	195.984 m
ILS	=	194.911 m
E(ILC-ILS)	=	1.073 m
F(GLC-ILC)	=	1.057 m
MFL	=	197.016 m
LE	=	32 m
∅ Mun.Sewer	=	160 m
∅ Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

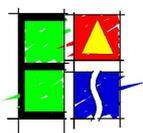
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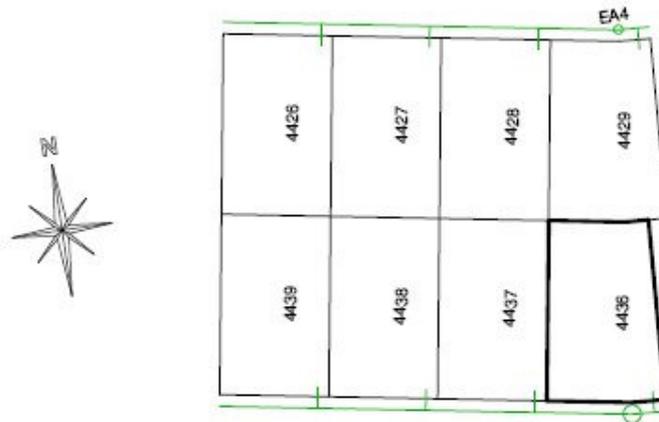


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

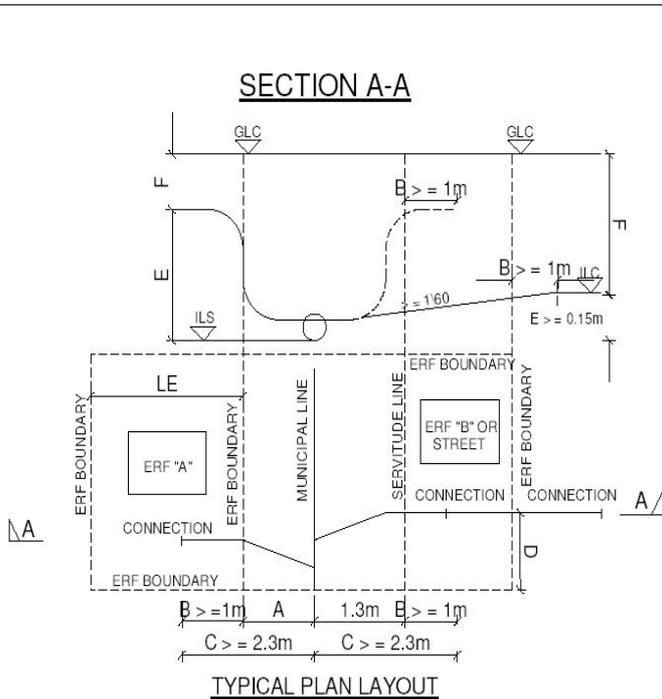
Township ERF 2661 PARSONS VLEI

Erf No. 4436

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.13 m</u>
GLC	=	<u>197.138 m</u>
ILC	=	<u>196.207 m</u>
ILS	=	<u>195.04 m</u>
E(ILC-ILS)	=	<u>1.167 m</u>
F(GLC-ILC)	=	<u>0.931 m</u>
MFL	=	<u>197.13 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

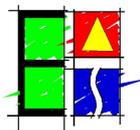
Date 23 May 2008

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Prof. registration no 950143

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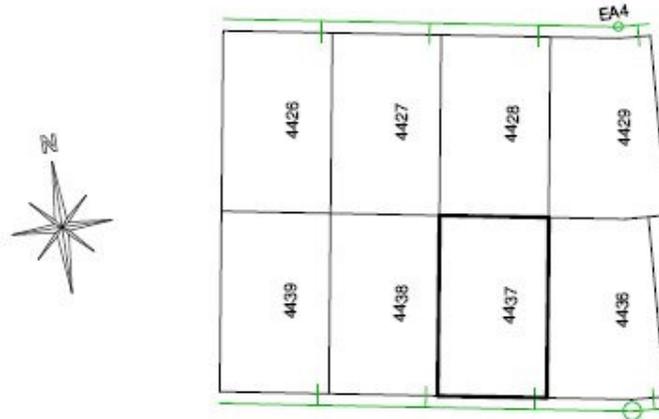


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

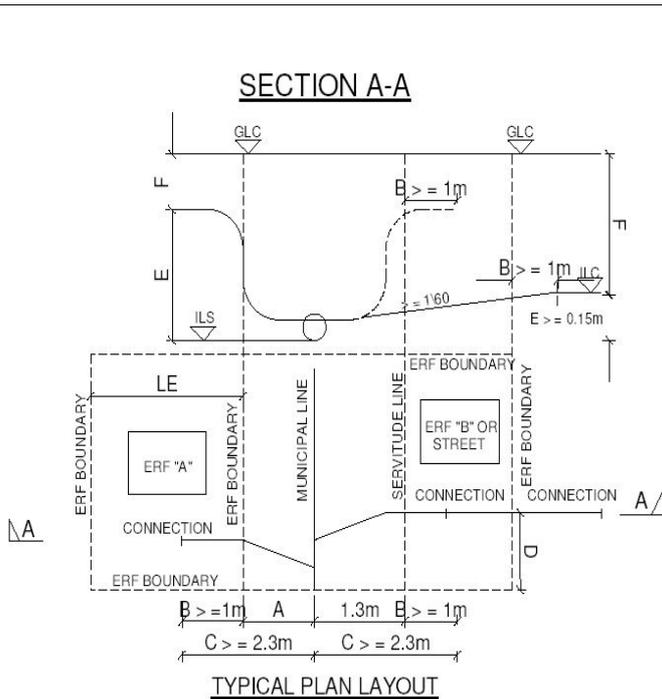
Township ERF 2661 PARSONS VLEI

Erf No. 4437

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.163 m</u>
GLC	=	<u>197.162 m</u>
ILC	=	<u>196.212 m</u>
ILS	=	<u>195.165 m</u>
E(ILC-ILS)	=	<u>1.047 m</u>
F(GLC-ILC)	=	<u>0.950 m</u>
MFL	=	<u>197.163 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

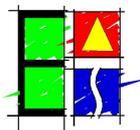
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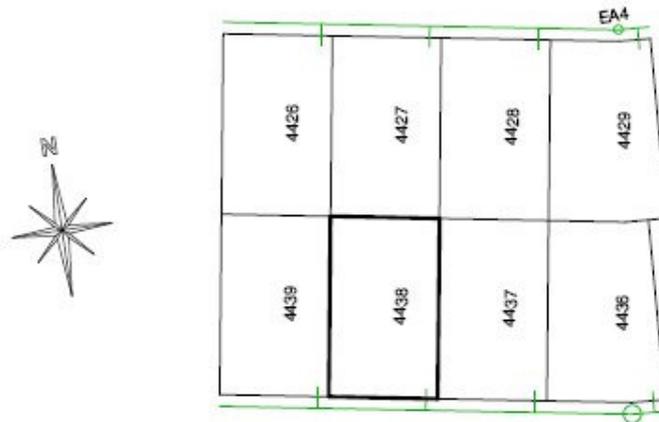


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INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

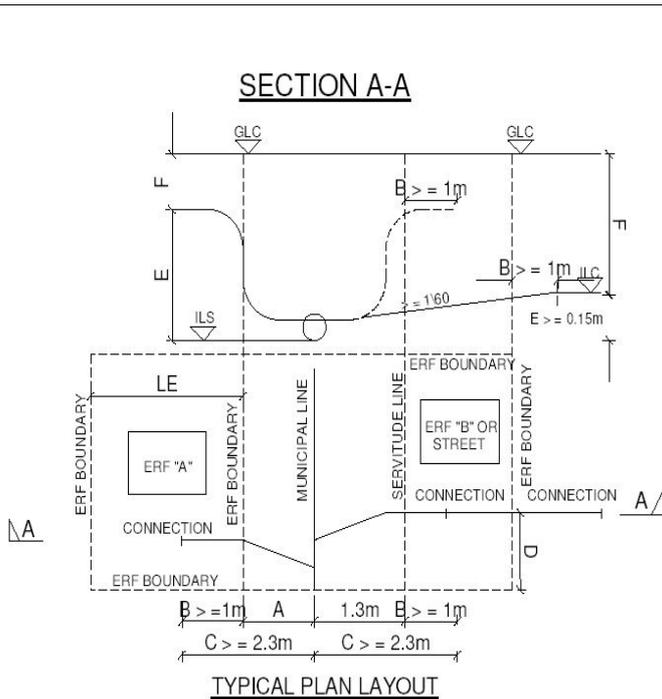
Township ERF 2661 PARSONS VLEI

Erf No. 4438

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.182 m</u>
GLC	=	<u>197.209 m</u>
ILC	=	<u>195.677 m</u>
ILS	=	<u>195.288 m</u>
E(ILC-ILS)	=	<u>0.389 m</u>
F(GLC-ILC)	=	<u>1.532 m</u>
MFL	=	<u>197.182 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

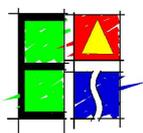
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

**ENGINEERING ADVICE  
AND SERVICES**

73 Heugh Road  
 PO Box 13867  
 Humewood  
 Port Elizabeth, 6013  
 Tel/Fax: (041) 5812421

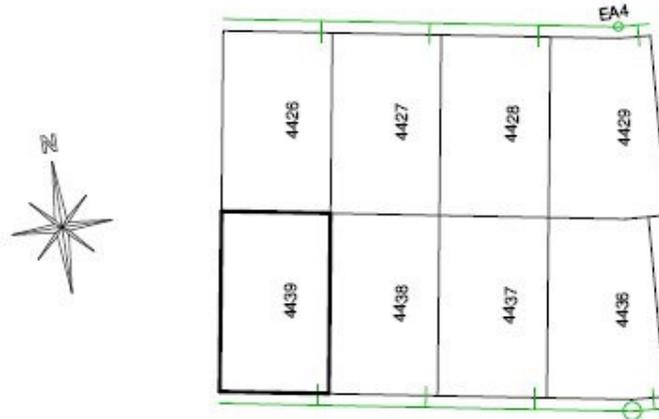


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

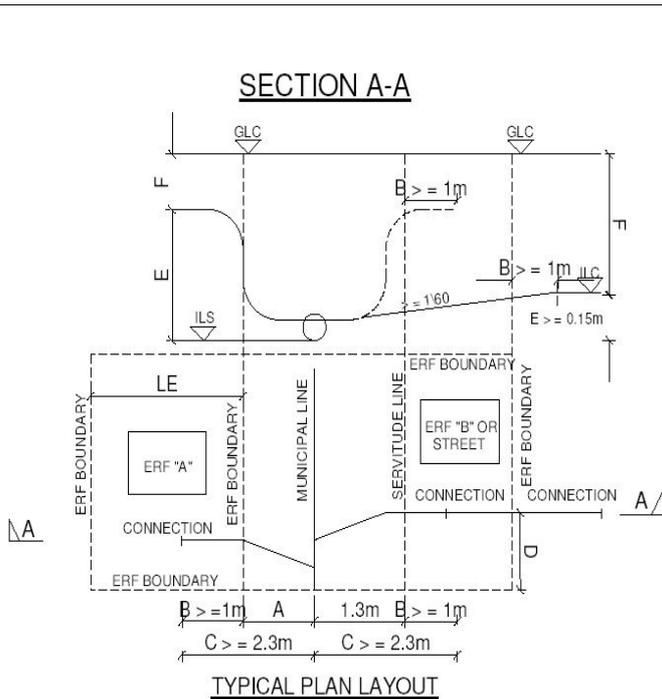
Township ERF 2661 PARSONS VLEI

Erf No. 4439

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.259 m</u>
GLC	=	<u>197.288 m</u>
ILC	=	<u>195.853 m</u>
ILS	=	<u>195.408 m</u>
E(ILC-ILS)	=	<u>0.445 m</u>
F(GLC-ILC)	=	<u>1.435 m</u>
MFL	=	<u>197.259 m</u>
LE	=	<u>32 m</u>
ø Mun.Sewer	=	<u>160 m</u>
ø Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

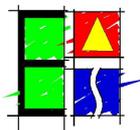
Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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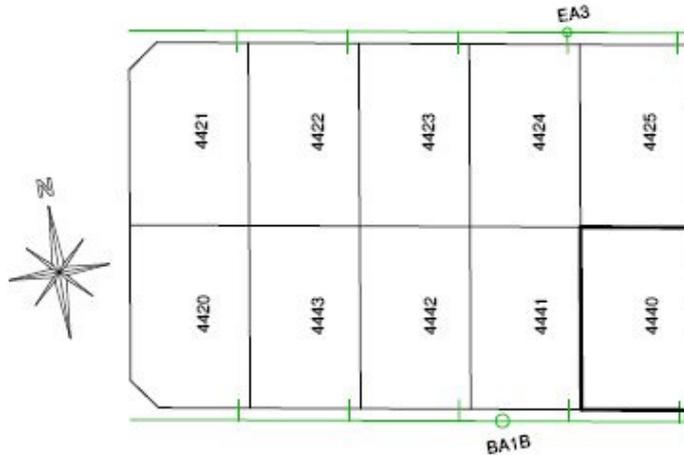


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

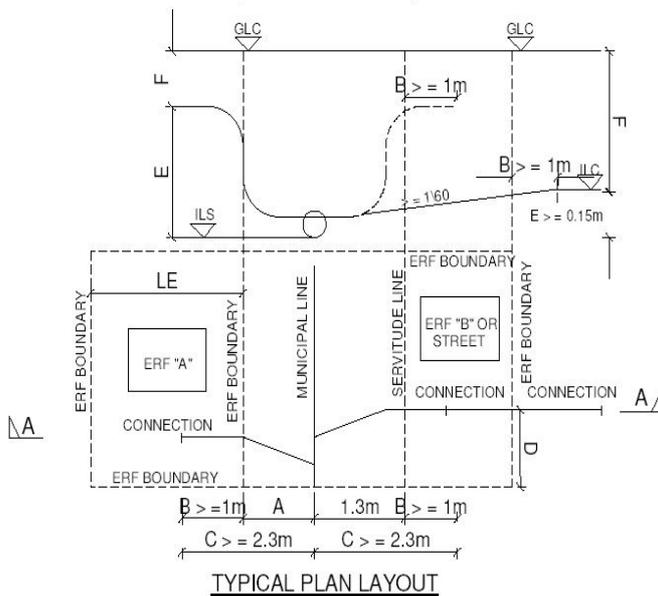
Erf No. 4440

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



**TYPICAL PLAN LAYOUT**

A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.235 m
GLC	=	197.262 m
ILC	=	196.025 m
ILS	=	195.527 m
E(ILC-ILS)	=	0.498 m
F(GLC-ILC)	=	1.237 m
MFL	=	197.235 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

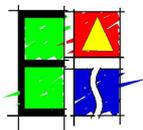
Date 23 May 2008

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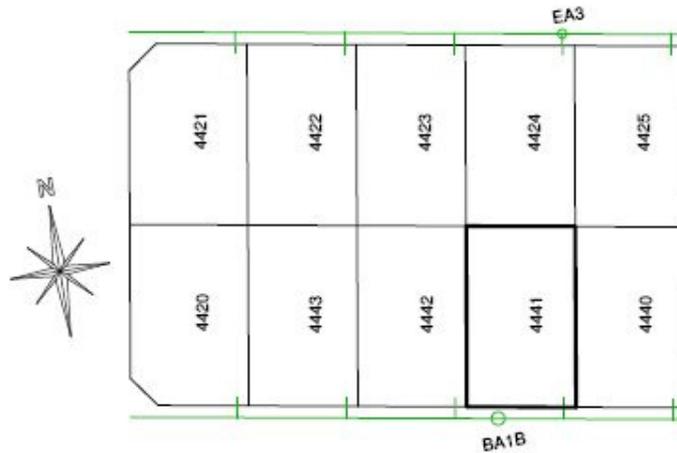


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

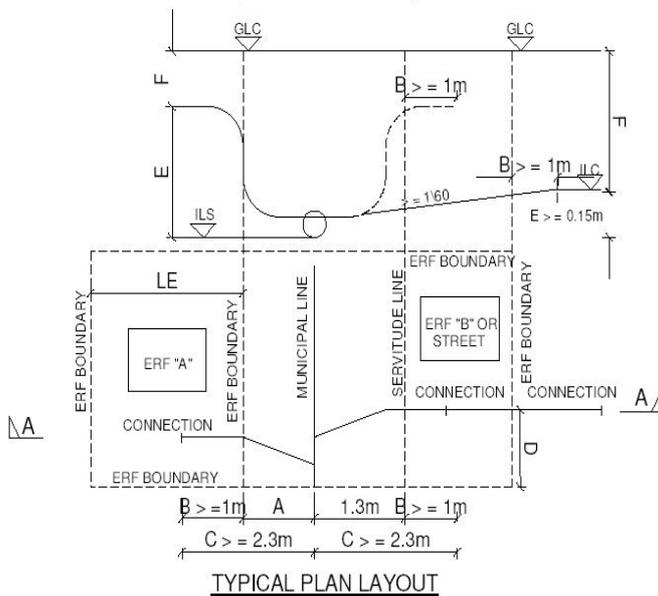
Erf No. 4441

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.195 m
GLC	=	197.239 m
ILC	=	196.378 m
ILS	=	195.65 m
E(ILC-ILS)	=	0.728 m
F(GLC-ILC)	=	0.861 m
MFL	=	197.195 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

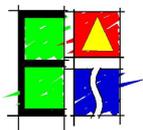
Date 23 May 2008

Signature of Prof. Eng.

Prof. registration no 950143

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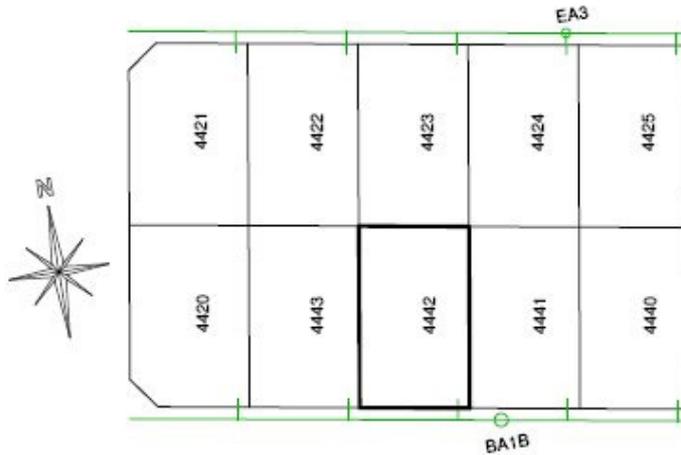


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

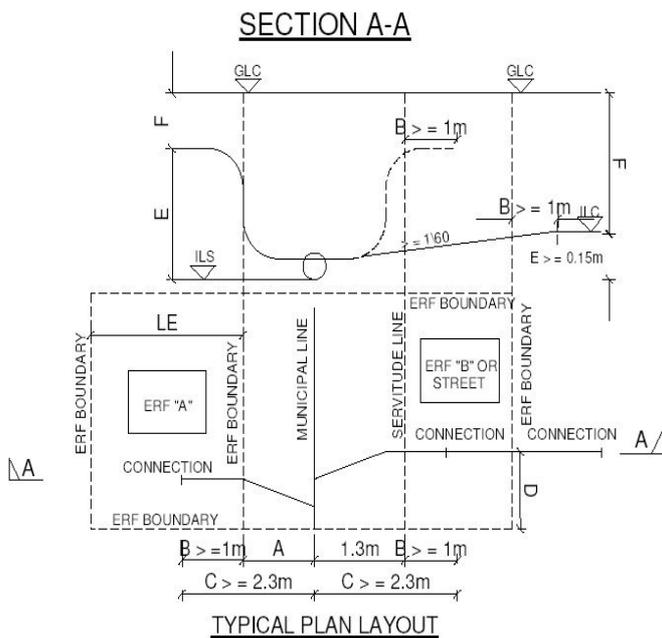
Township ERF 2661 PARSONS VLEI

Erf No. 4442

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**



A	=	1.3 m
B	=	1 m
C	=	2.3 m
D	=	1.3 m
MGL	=	197.227 m
GLC	=	197.286 m
ILC	=	196.249 m
ILS	=	195.77 m
E(ILC-ILS)	=	0.479 m
F(GLC-ILC)	=	1.037 m
MFL	=	197.227 m
LE	=	32 m
ø Mun.Sewer	=	160 m
ø Connect	=	110 m

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

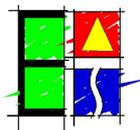
Date 23 May 2008

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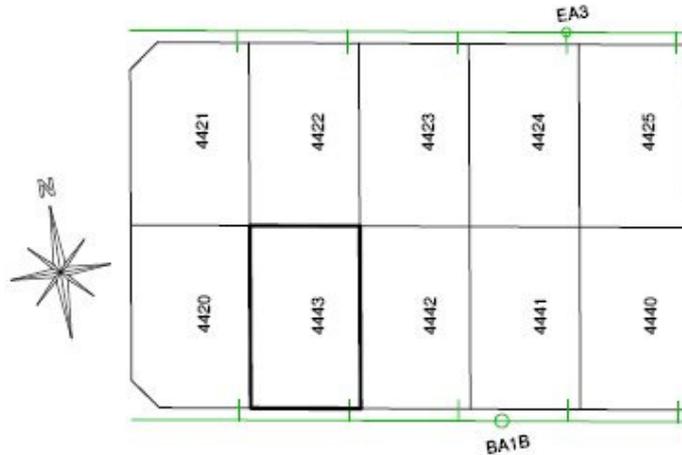


**NELSON MANDELA METROPOLITAN MUNICIPALITY  
INFRASTRUCTURE ENGINEERING BUSINESS UNIT  
WASTEWATER CONVEYANCE SUB SILO**

Township ERF 2661 PARSONS VLEI

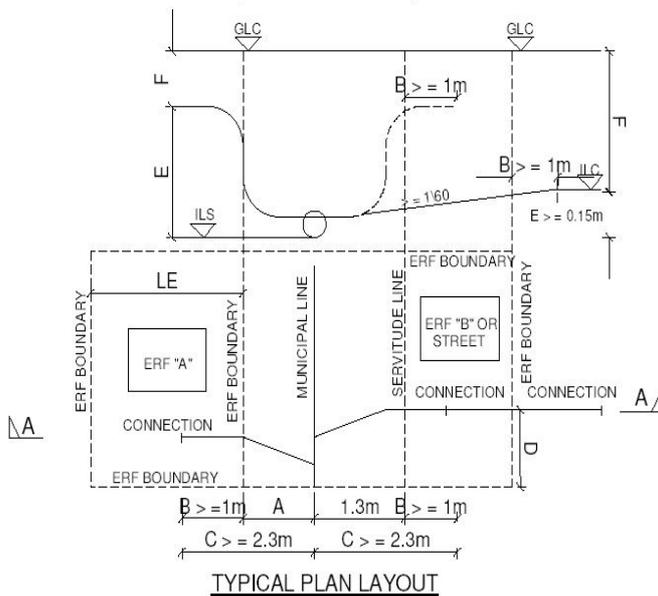
Erf No. 4443

Date constructed 23 May 2008



**LAYOUT PLAN OF ERF, SEWER AND CONNECTION**

**SECTION A-A**



**TYPICAL PLAN LAYOUT**

A	=	<u>1.3 m</u>
B	=	<u>1 m</u>
C	=	<u>2.3 m</u>
D	=	<u>1.3 m</u>
MGL	=	<u>197.271 m</u>
GLC	=	<u>197.326 m</u>
ILC	=	<u>196.291 m</u>
ILS	=	<u>195.888 m</u>
E(ILC-ILS)	=	<u>0.403 m</u>
F(GLC-ILC)	=	<u>1.035 m</u>
MFL	=	<u>197.271 m</u>
LE	=	<u>32 m</u>
∅ Mun.Sewer	=	<u>160 m</u>
∅ Connect	=	<u>110 m</u>

ILC = Invert level of connection  
 ILS = Invert level - municipal sewer  
 MGL = Minimum ground level on erf  
 GLC = Ground level of erf connection  
 MFL = Minimum floor level of buildings on erf

Consulting Engineer M. Stemmett

Date 23 May 2008

Signature of Prof. Eng. 

Prof. registration no 950143

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