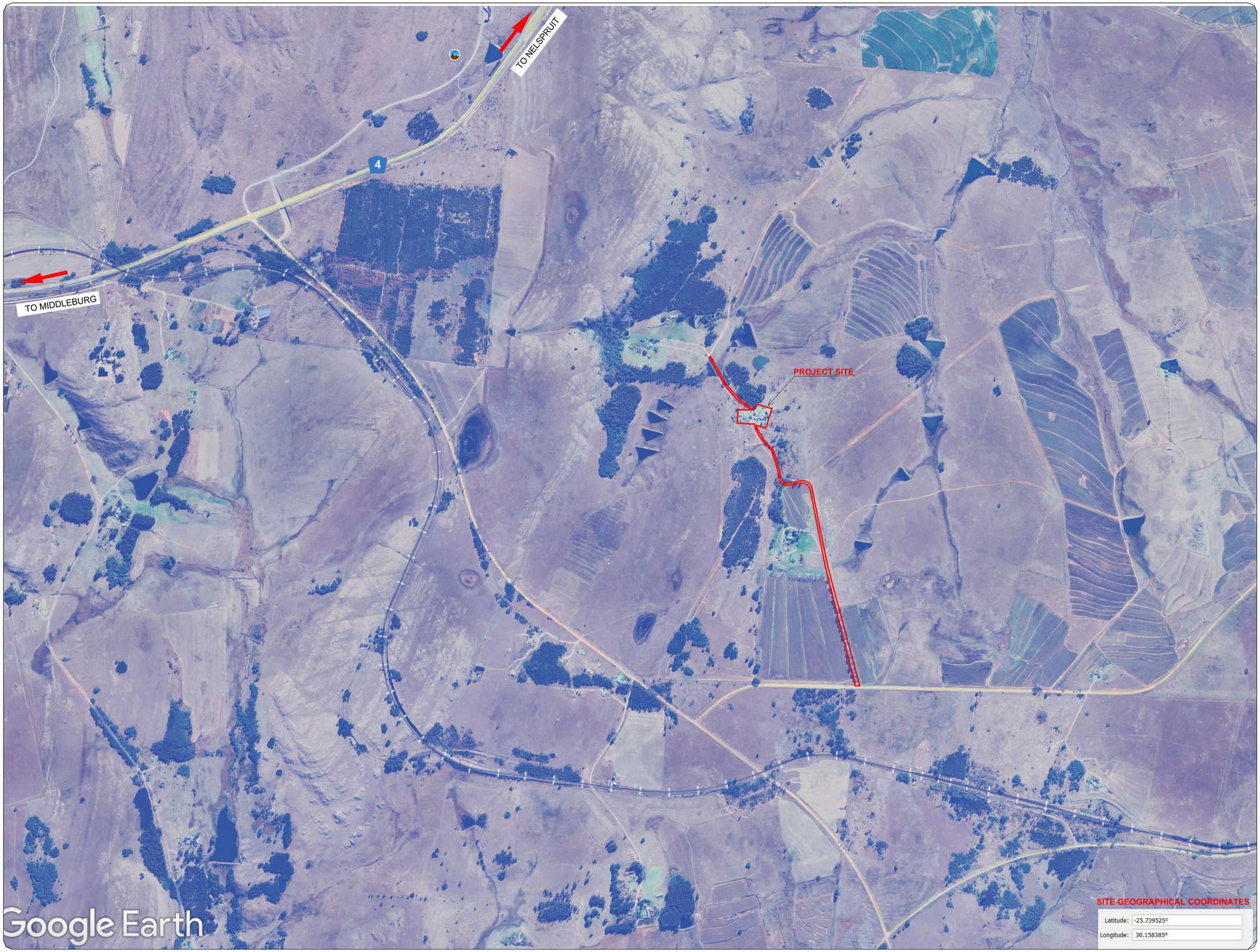


## NOTES

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ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| ○ | ● | ○ | ○ |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| | | |
| | | |
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: LOCALITY

DRAWING DESCRIPTION: LOCALITY MAP 1

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

CONSULTANT:

Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-LM-01 | | TD |

## SITE GEOGRAPHICAL COORDINATES

| | |
|---|---|
| Latitude: | -25.739525° |
| Longitude: | 30.158385° |

### NOTES

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### PROJECT STATUS

○ DETAILED STAGE ● TENDER DRAWING ○ APPROVED CONSTRUCTION DRAWING ○ AS BUILT DRAWING

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|---|---|---|
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REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: LOCALITY

DRAWING DESCRIPTION: LOCALITY MAP 2

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

CONSULTANT:

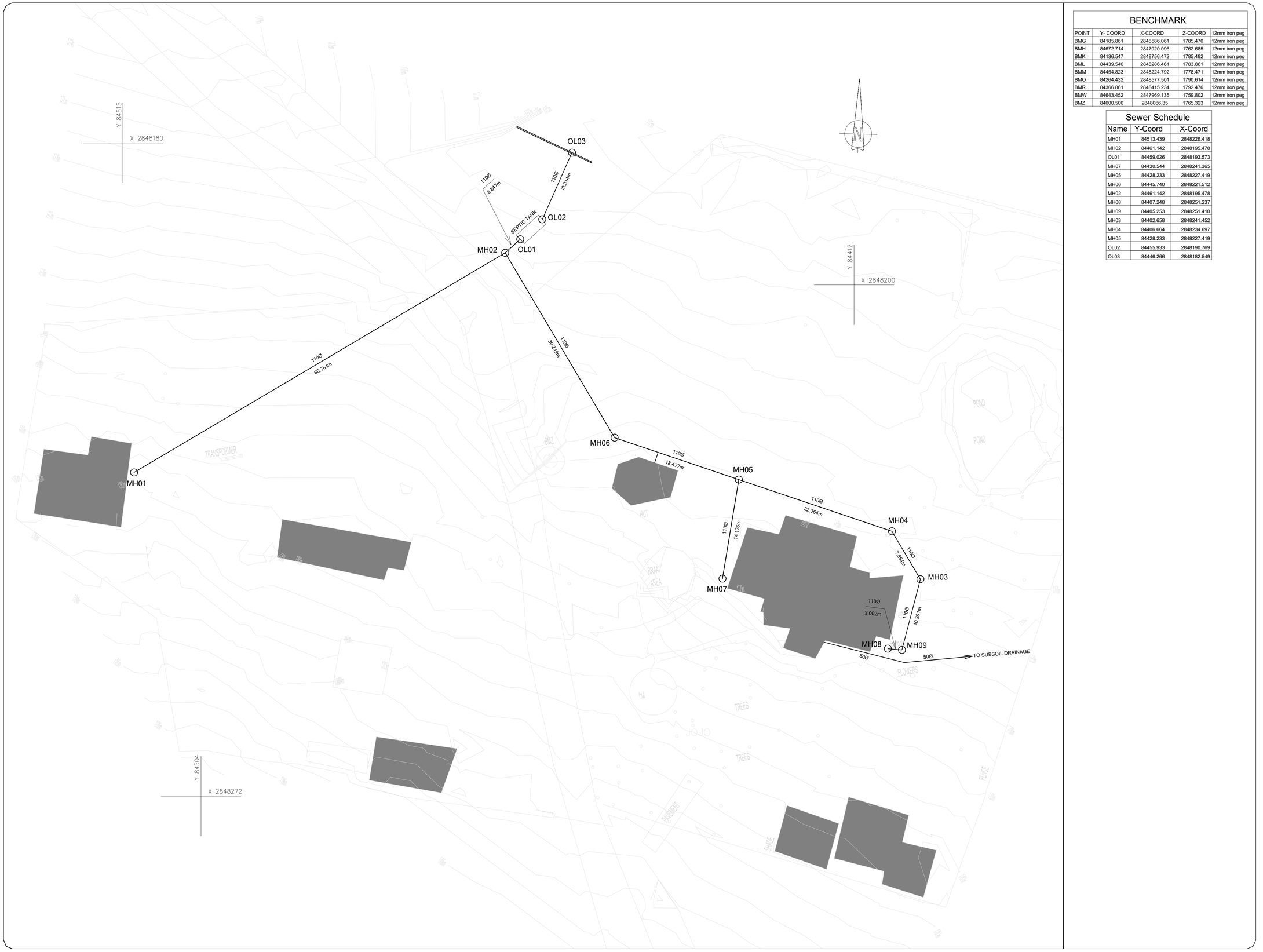
Hlakhen Consulting

11 Hofsanger Road, Rooihuiskraal , Centurion, 0157,

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-LM-02 | | TD |




## BENCHMARK

| POINT | Y- COORD | X-COORD | Z-COORD | 12mm iron peg |
|---|---|---|---|---|
| BMG | 84185.861 | 2848586.061 | 1785.470 | 12mm iron peg |
| BMH | 84672.714 | 2847920.096 | 1762.685 | 12mm iron peg |
| BMK | 84136.547 | 2848756.472 | 1785.492 | 12mm iron peg |
| BML | 84439.540 | 2848286.461 | 1783.861 | 12mm iron peg |
| BMM | 84454.823 | 2848224.792 | 1778.471 | 12mm iron peg |
| BMO | 84264.432 | 2848577.501 | 1790.614 | 12mm iron peg |
| BMR | 84366.861 | 2848415.234 | 1792.476 | 12mm iron peg |
| BMW | 84643.452 | 2847969.135 | 1759.802 | 12mm iron peg |
| BMZ | 84600.500 | 2848066.35 | 1765.323 | 12mm iron peg |

## Sewer Schedule

| Name | Y-Coord | X-Coord |
|---|---|---|
| MH01 | 84513.439 | 2848226.418 |
| MH02 | 84461.142 | 2848195.478 |
| OL01 | 84459.026 | 2848193.573 |
| MH07 | 84430.544 | 2848241.365 |
| MH05 | 84428.233 | 2848227.419 |
| MH06 | 84445.740 | 2848221.512 |
| MH02 | 84461.142 | 2848195.478 |
| MH08 | 84407.248 | 2848251.237 |
| MH09 | 84405.253 | 2848251.410 |
| MH03 | 84402.658 | 2848241.452 |
| MH04 | 84406.664 | 2848234.697 |
| MH05 | 84428.233 | 2848227.419 |
| OL02 | 84455.933 | 2848190.769 |
| OL03 | 84446.266 | 2848182.549 |

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**LEGEND**

PROPOSED SEWER LINE

PROPOSED MANHOLE

SOAKAWAY

DISCHARGED WATER TO SUBSOIL

ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING

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REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: SEWER

DRAWING DESCRIPTION: SEWER LAYOUT PLAN

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:250 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

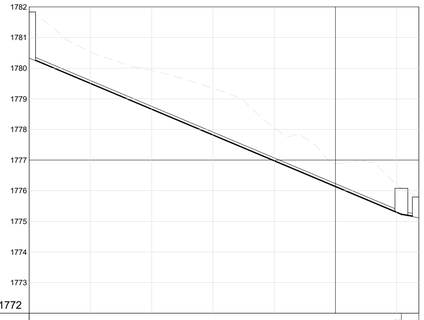
CONSULTANT:

Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-SEW-01 | | TD |




LEGEND
N.G.L
PIPE
HGL

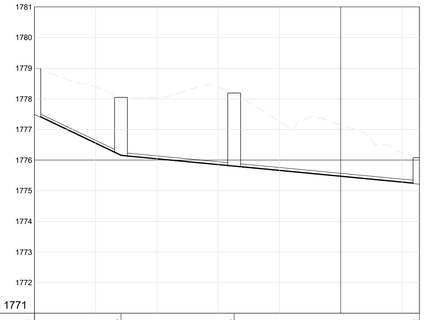
PIPE CROSSING

SCALE
HORIZONTAL 1:500
VERTICAL 1:100

Datum 1772

| MANHOLE | MH01 | | MH02 | OL01 |
|---|---|---|---|---|
| CHAINAGE | 0 | 61 | 64 | |
| GROUND LEVEL | 1781.836 | | 1776.077 | 1775.792 |
| INVERT LEVEL | 1780.328 | | 1775.215<br>1775.117 | 1775.117<br>1775.017 |
| DEPTH | 1.508 | 0.862 | 0.875 | 0.675 |
| GRADES | 1:12 | | 1:29 | |
| LENGTH(m) | 61.0 m | | 2.8 m | |
| PIPE DIAMETER | 110 mm | | 110 mm | |
| BEDDING CLASS | Flexible | | Flexible | |
| DESIGN FLOW (l/s)<br>Q80 CAPACITY(l/s) | 0.030 l/s<br>20 l/s | | 0.180 l/s<br>13 l/s | |
| DESIGN VELOCITY(m/s)<br>V80 VELOCITY(m/s) | 0.602 m/s<br>2.344 m/s | | 0.553 m/s<br>1.499 m/s | |
| HYDRAULIC GRADE LEVEL | 1780.348 | | 1775.238 | 1775.140 |

Manhole MH01 to OL01




LEGEND
N.G.L
PIPE
HGL

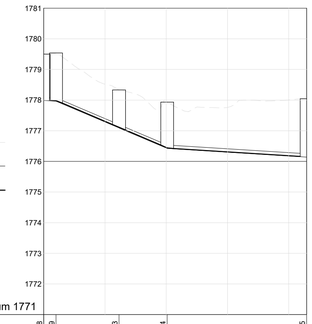
PIPE CROSSING

SCALE
HORIZONTAL 1:500
VERTICAL 1:100

Datum 1771

| MANHOLE | MH07 | | MH05 | MH06 | MH02 |
|---|---|---|---|---|---|
| CHAINAGE | 0 | 14 | | 33 | 63 |
| GROUND LEVEL | 1779.000 | | 1778.647 | 1778.189 | 1776.077 |
| INVERT LEVEL | 1777.492 | | 1776.140<br>1776.040 | 1775.790<br>1775.690 | 1775.215<br>1775.215 |
| DEPTH | 1.508 | 1.906 | | 2.399 | 0.862 |
| GRADES | 1:10 | | 1:53 | 1:53 | |
| LENGTH(m) | 14.2 m | | 18.5 m | 30.3 m | |
| PIPE DIAMETER | 110 mm | | 110 mm | 110 mm | |
| BEDDING CLASS | Flexible | | Flexible | Flexible | |
| DESIGN FLOW (l/s)<br>Q80 CAPACITY(l/s) | 0.060 l/s<br>22 l/s | | 0.120 l/s<br>10 l/s | 0.150 l/s<br>10 l/s | |
| DESIGN VELOCITY(m/s)<br>V80 VELOCITY(m/s) | 0.641 m/s<br>2.499 m/s | | 0.400 m/s<br>1.114 m/s | 0.421 m/s<br>1.114 m/s | |
| HYDRAULIC GRADE LEVEL | 1777.515 | | 1776.156 | 1775.807 | 1775.293 |

Manhole MH07 to MH02




LEGEND
N.G.L
PIPE
HGL

PIPE CROSSING

SCALE
HORIZONTAL 1:500
VERTICAL 1:100

Datum 1771

| MANHOLE | MH08 | MH09 | MH03 | MH04 | MH05 |
|---|---|---|---|---|---|
| CHAINAGE | 0 | 2 | 12 | 20 | 43 |
| GROUND LEVEL | 1779.500 | 1779.338 | 1778.334 | 1777.933 | 1776.047 |
| INVERT LEVEL | 1777.992<br>1777.892 | 1777.667<br>1777.567 | 1777.092<br>1777.092 | 1776.425<br>1776.425 | 1776.140<br>1776.140 |
| DEPTH | 1.508 | 1.672 | 1.242 | 1.508 | 1.906 |
| GRADES | 1:80 | 1:12 | 1:12 | 1:80 | |
| LENGTH(m) | 2.0 m | 10.3 m | 7.9 m | 22.8 m | |
| PIPE DIAMETER | 110 mm | 110 mm | 110 mm | 110 mm | |
| BEDDING CLASS | Flexible | Flexible | Flexible | Flexible | |
| DESIGN FLOW (l/s)<br>Q80 CAPACITY(l/s) | 0.060 l/s<br>8 l/s | 0.060 l/s<br>20 l/s | 0.060 l/s<br>20 l/s | 0.060 l/s<br>8 l/s | |
| DESIGN VELOCITY(m/s)<br>V80 VELOCITY(m/s) | 0.279 m/s<br>0.903 m/s | 0.605 m/s<br>2.356 m/s | 0.605 m/s<br>2.356 m/s | 0.279 m/s<br>0.903 m/s | |
| HYDRAULIC GRADE LEVEL | 1778.601 | 1777.986 | 1777.114 | 1776.434 | 1776.160 |

Manhole MH08 to MH05

LEGEND
N.G.L
PIPE
HGL

PIPE CROSSING

SCALE
HORIZONTAL 1:500
VERTICAL 1:100

Datum 1768

| MANHOLE | OL02 | | OL03 |
|---|---|---|---|
| CHAINAGE | 0 | | 10 |
| GROUND LEVEL | 1775.316 | | 1774.672 |
| INVERT LEVEL | 1775.057 | | 1774.309<br>1774.370 |
| DEPTH | 0.259 | 0.803 | |
| GRADES | 1:10 | | |
| LENGTH(m) | 10.3 m | | |
| PIPE DIAMETER | 110 mm | | |
| BEDDING CLASS | Flexible | | |
| DESIGN FLOW (l/s)<br>Q80 CAPACITY(l/s) | 0.180 l/s<br>10 l/s | | |
| DESIGN VELOCITY(m/s)<br>V80 VELOCITY(m/s) | 0.446 m/s<br>1.143 m/s | | |
| HYDRAULIC GRADE LEVEL | 1775.077 | | 1773.889 |

Manhole OL02 to OL03

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SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE
CIVIL

CONTRACT - SECTION
-

DISCIPLINE
Civil Engineering

WORK DESCRIPTION - SUB DIVISION
SEWER

DRAWING DESCRIPTION
SEWER LONG SECTION

| FILE No. | | | ITEM No. |
|---|---|---|---|
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:250 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

CONSULTANT:
Hlakhen Consulting
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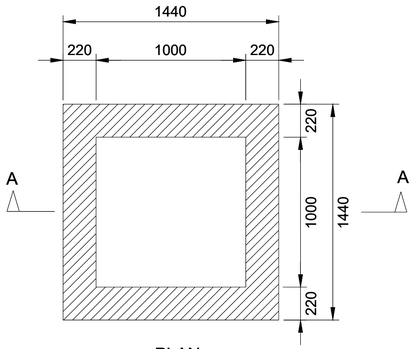
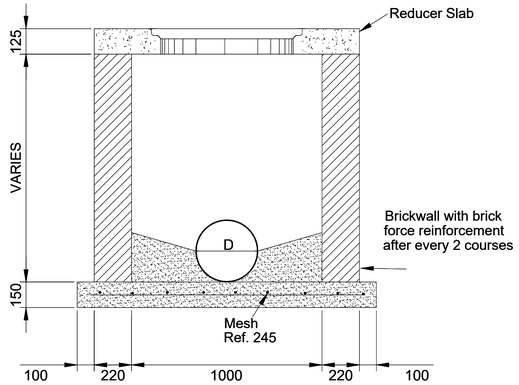
CONTRACTOR:
N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-SEL-01 | | TD |

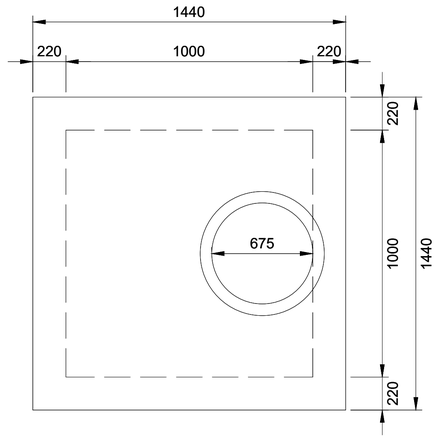
# MANHOLE DETAILS




PLAN
MANHOLE
N.T.S.

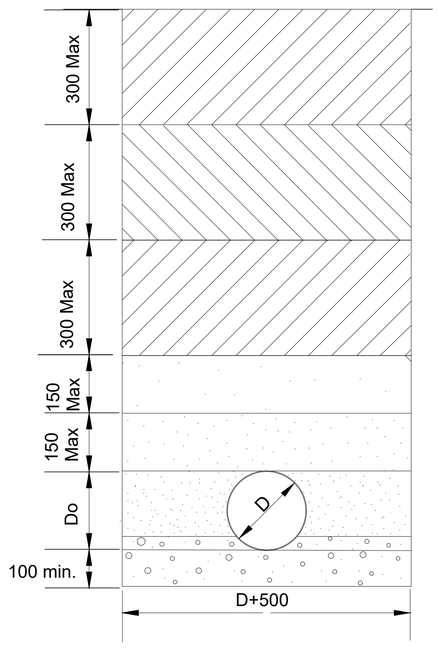



SECTION A - A
N.T.S.




COVER SLAB
N.T.S.

## MANHOLE BACKFILLING

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|---|---|---|---|
| ○ | ● | ○ | ○ |

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SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE,
LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE
CIVIL

CONTRACT - SECTION
-

DISCIPLINE
Civil Engineering

WORK DESCRIPTION - SUB DIVISION
SEWER

DRAWING DESCRIPTION
SEWER DETAIL

| FILE No. | | | ITEM No. |
|---|---|---|---|
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:250 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

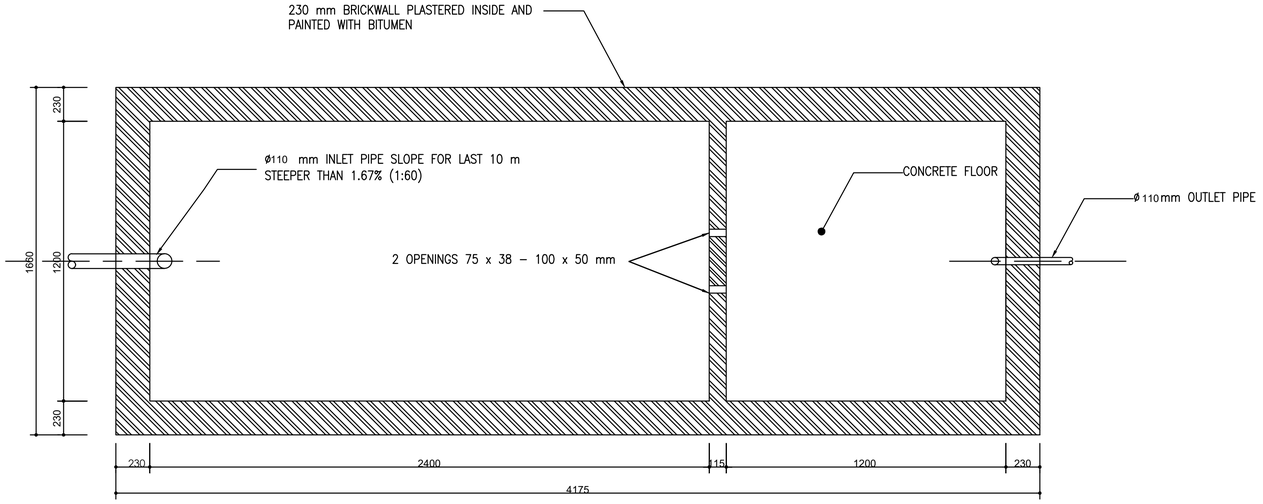
| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

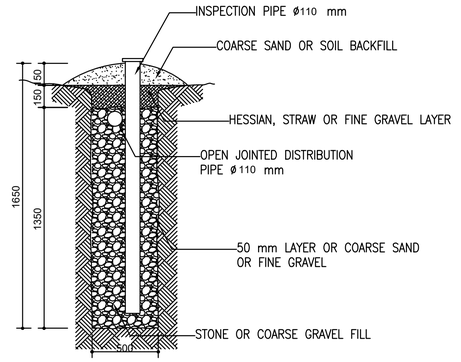
CONSULTANT:
Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:
N/A

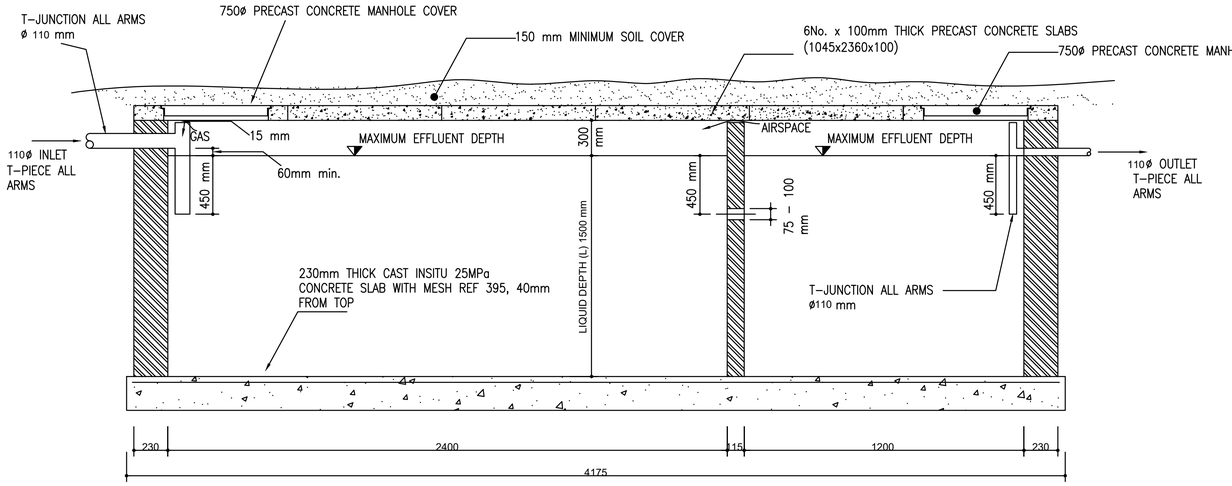
| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-SED-01 | | TD |



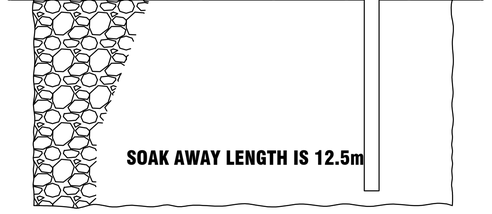

**PLAN OF SEPTIC TANK**
**Scale 1:20**



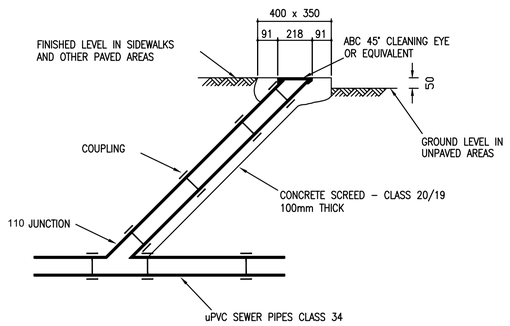

**SOAK AWAY CROSS SECTION**
**Scale 1:20**



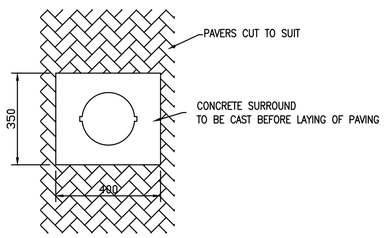

**LONGITUDINAL SECTION THROUGH SEPTIC TANK**
**Scale 1:20**



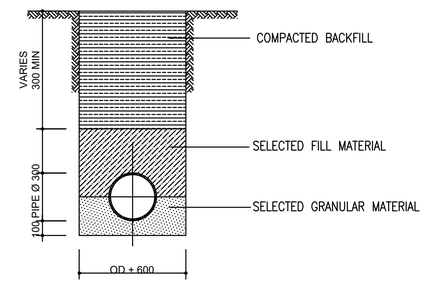

**SOAK AWAY LONGITUDINAL PART SECTION**
**Scale 1:20**




**SECTION THROUGH RODDING WAY / EYE**
**Scale 1:20**




**PLAN OF RODDING WAY / EYE**
**Scale 1:20**




**CLASS 'B' BEDDING**

SELECTED BACKFILL BEDDING FOR uPVC AND HDPE PIPES

NOTES:

1. SEPTIC TANKS AND SOAKAWAYS

1.1 SEPTIC TANK TO BE NO CLOSER THAN TWICE ITS DEPTH TO THE BUILDING FOUNDATION.

1.2 AFTER EXCAVATION, TRENCHES SURFACES FOR SOAKAWAY SHOULD BE ROUGHENED TO RESTORE A NATURAL INFILTRATION SURFACE.

1.3 FILLING MATERIAL FOR SOAKAWAY SHOULD BE UNIFORMLY GRADED CLEAN AND FROM 20mm TO 100mm IN DIAMETER, BUILDER'S RUBBLE IS NOT ACCEPTABLE.

1.4 EFFLUENT SHOULD BE DISTRIBUTED IN THE SOAKAWAY BY MEANS OF A SUITABLE PIPE LAID NEAR THE TOP OF GRAVEL FILL. PRIOR TO BACKFILLING. A LAYER OF POLYESTER FILTER FABRIC SHOULD BE PLACED ON TOP OF THE BED TO PREVENT SOIL FROM ENTERING THE TRENCH. A TOPSOIL COVER OF BETWEEN 100mm AND 150mm SHOULD BE PLACED ON TOP OF THE BED.

1.5 THE SIDES OF THE TRENCHES OF THE SOAKAWAY SHOULD BE LINED WITH A SUITABLE POLYESTER FILTER OR ALTERNATIVELY HAVE A LAYER OF FINE GRAVEL OR COARSE SAND AGAINST THE INFILTRATIVE SURFACE TO PROTECT IT.

1.6 WHERE TWO OR MORE SOAKAWAY TRENCHES ARE CONSTRUCTED ADJACENT TO ONE ANOTHER THEY SHOULD BE LOCATED AT A DISTANCE OF NOT LESS THAN TWICE THEIR DEPTH FROM ONE FROM ANOTHER.

2. BEDDING PIPES

2.1 SELECTED GRANULAR MATERIAL SHALL BE OF A NON–COHESIVE NATURE THAT IS SINGULARLY GRADED BETWEEN 0.6mm AND 19mm, FREE DRAINING AND HAS A COMPACTIBILITY FACTOR NOT EXCEEDING 0,4.

2.2 SELECTED FILL MATERIAL SHALL HAVE A P.I NOT EXCEEDING 6, BE FREE FROM VEGETATION, LUMPS AND STONES EXCEEDING 30mm IN DIAMETER.

ISSUED FOR TENDER PURPOSES ONLY

PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| | ● | | |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS
SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT
SERVICE: CIVIL
CONTRACT - SECTION: -
DISCIPLINE: Civil Engineering
WORK DESCRIPTION - SUB DIVISION: SEWER
DRAWING DESCRIPTION: SEPTIC TANK

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | AS SHOWN | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
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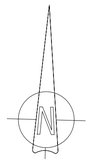
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

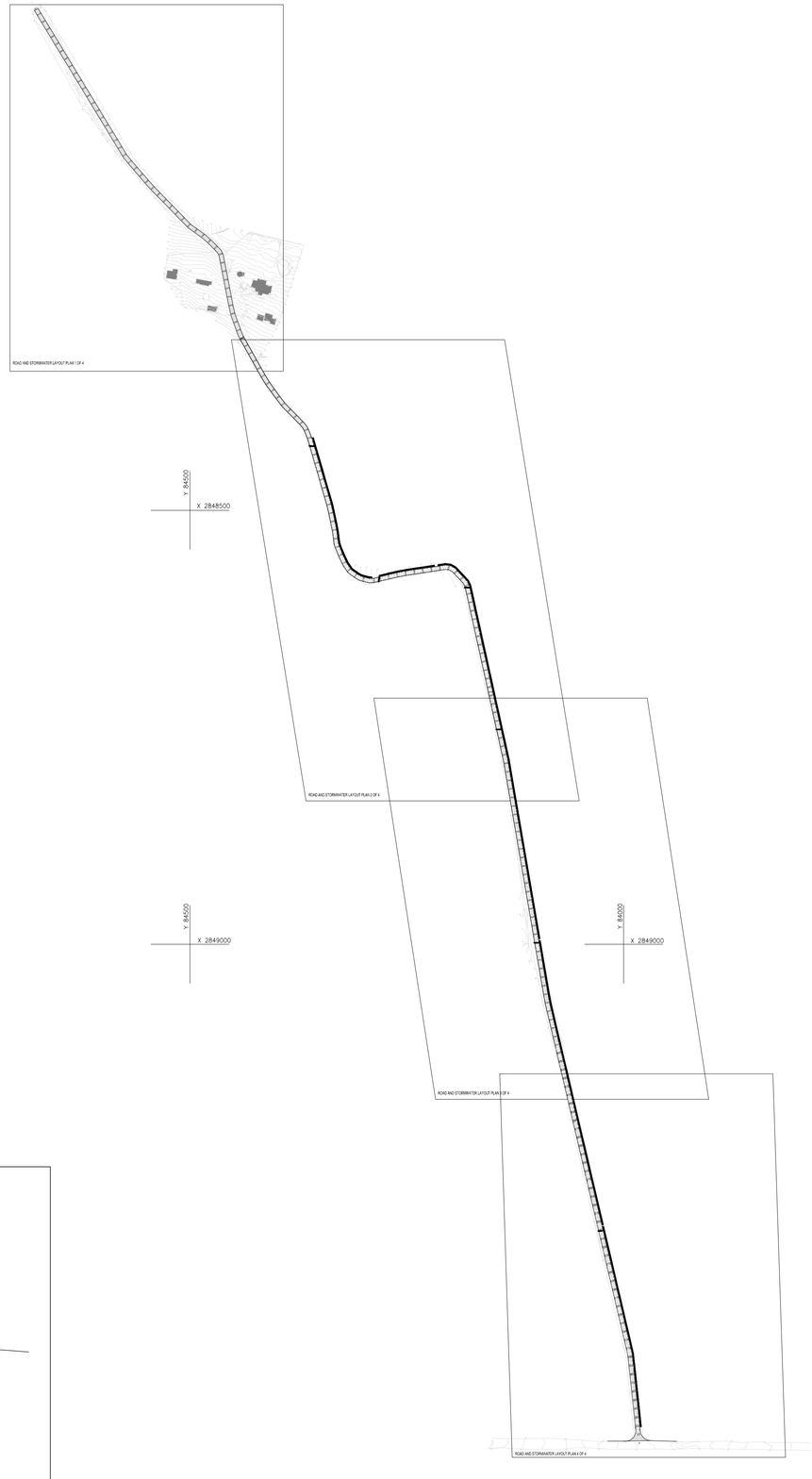
DRAWING CO-ORDINATED

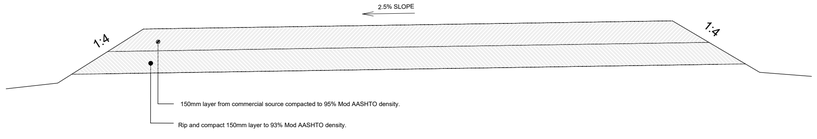
CONSULTANT:
Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:
N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-SEPIC-01 | | TD |




TYPICAL ROAD CROSS SECTION
N.T.S

## NOTES

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ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| ○ | ● | ○ | ○ |

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REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: ROAD KEY PLAN

DRAWING DESCRIPTION: KEY PLAN

| FILE No. | | | ITEM No. |
|---|---|---|---|
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

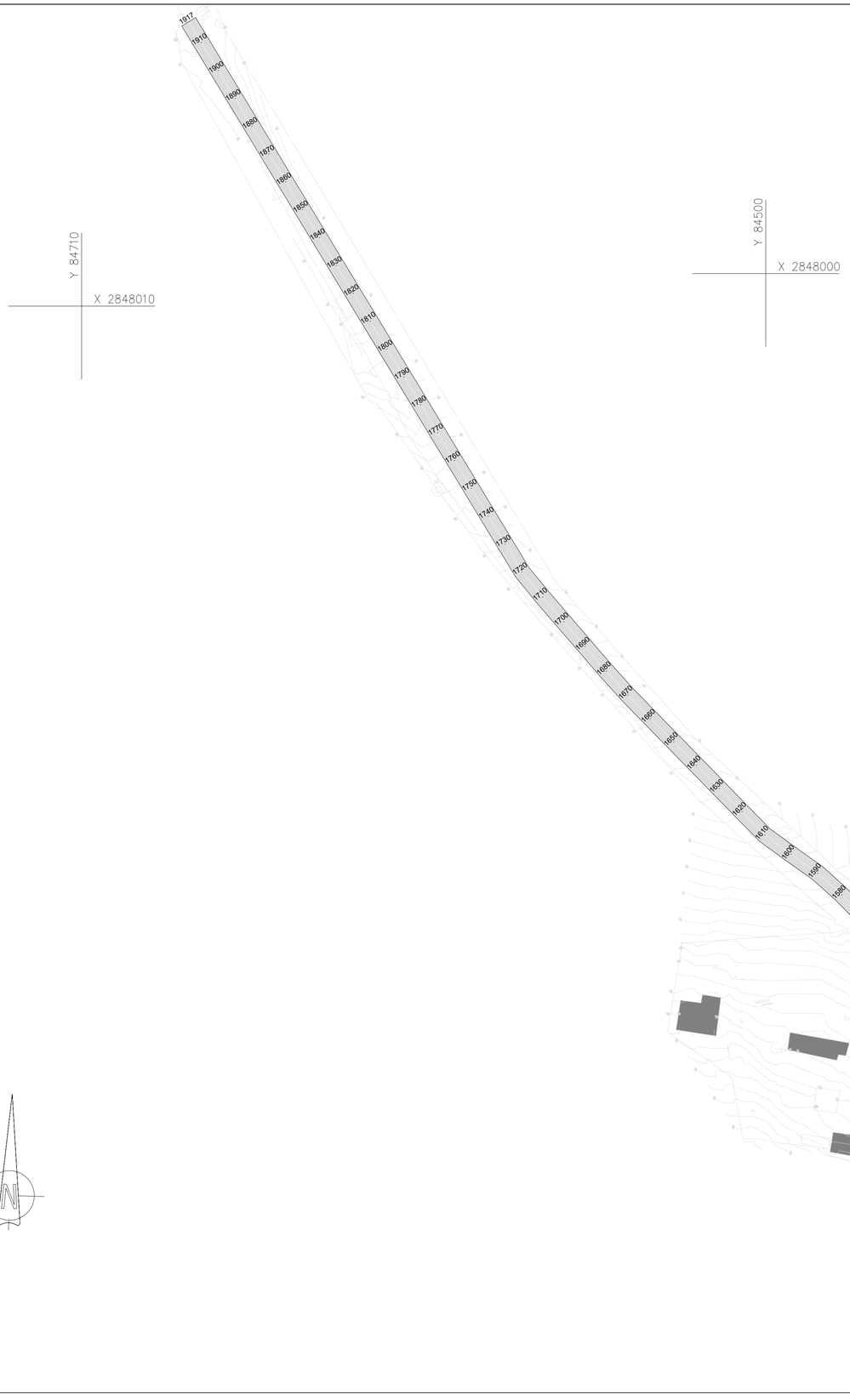
CONSULTANT:

Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-KEY-01 | | TD |




TO DWG NO. VUSI-RD-01

## BENCHMARK

| POINT | Y- COORD | X-COORD | Z-COORD | 12mm iron peg |
|---|---|---|---|---|
| BMG | 84185.861 | 2848586.061 | 1785.470 | 12mm iron peg |
| BMH | 84672.714 | 2847920.096 | 1762.685 | 12mm iron peg |
| BMK | 84136.547 | 2848756.472 | 1785.492 | 12mm iron peg |
| BML | 84439.540 | 2848286.461 | 1783.861 | 12mm iron peg |
| BMM | 84454.823 | 2848224.792 | 1778.471 | 12mm iron peg |
| BMO | 84264.432 | 2848577.501 | 1790.614 | 12mm iron peg |
| BMR | 84366.861 | 2848415.234 | 1792.476 | 12mm iron peg |
| BMW | 84643.452 | 2847969.135 | 1759.802 | 12mm iron peg |
| BMZ | 84600.500 | 2848066.35 | 1765.323 | 12mm iron peg |

## Road List

### Road1

| Position | SV | Y-Coord | X-Coord |
|---|---|---|---|
| BCC18 | 1403.388 | 84411.689 | 2848351.832 |
| PI18 | 1404.118 | 84412.121 | 2848351.242 |
| ECC18 | 1404.848 | 84412.478 | 2848350.604 |
| BCC19 | 1463.352 | 84441.054 | 2848299.554 |
| PI19 | 1464.313 | 84441.524 | 2848298.714 |
| ECC19 | 1465.273 | 84441.855 | 2848297.810 |
| BCC20 | 1491.253 | 84450.768 | 2848273.406 |
| PI20 | 1492.206 | 84451.095 | 2848272.510 |
| ECC20 | 1493.158 | 84451.277 | 2848271.573 |
| BCC21 | 1559.348 | 84463.873 | 2848206.592 |
| PI21 | 1562.871 | 84464.563 | 2848203.031 |
| ECC21 | 1566.394 | 84467.111 | 2848200.448 |
| BCC22 | 1585.586 | 84480.589 | 2848186.786 |
| PI22 | 1586.630 | 84481.325 | 2848186.040 |
| ECC22 | 1587.675 | 84482.178 | 2848185.434 |
| BCC23 | 1608.392 | 84499.062 | 2848173.428 |
| PI23 | 1609.467 | 84499.940 | 2848172.803 |
| ECC23 | 1610.542 | 84500.693 | 2848172.032 |
| BCC24 | 1673.550 | 84544.713 | 2848126.951 |
| PI24 | 1673.927 | 84544.976 | 2848126.682 |
| ECC24 | 1674.303 | 84545.222 | 2848126.396 |
| BCC25 | 1717.342 | 84573.301 | 2848093.779 |
| PI25 | 1718.338 | 84573.952 | 2848093.022 |
| ECC25 | 1719.334 | 84574.470 | 2848092.168 |
| PI26 | 1917.483 | 84677.157 | 2847922.704 |

## NOTES

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## PROJECT STATUS

DETAILED STAGE ○ | TENDER DRAWING ● | APPROVED CONSTRUCTION DRAWING ○ | AS BUILT DRAWING ○

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| | | |
| | | |
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REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: ROAD AND STORMWATER

DRAWING DESCRIPTION: ROAD AND STORMWATER LAYOUT PLAN 1 OF 4

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

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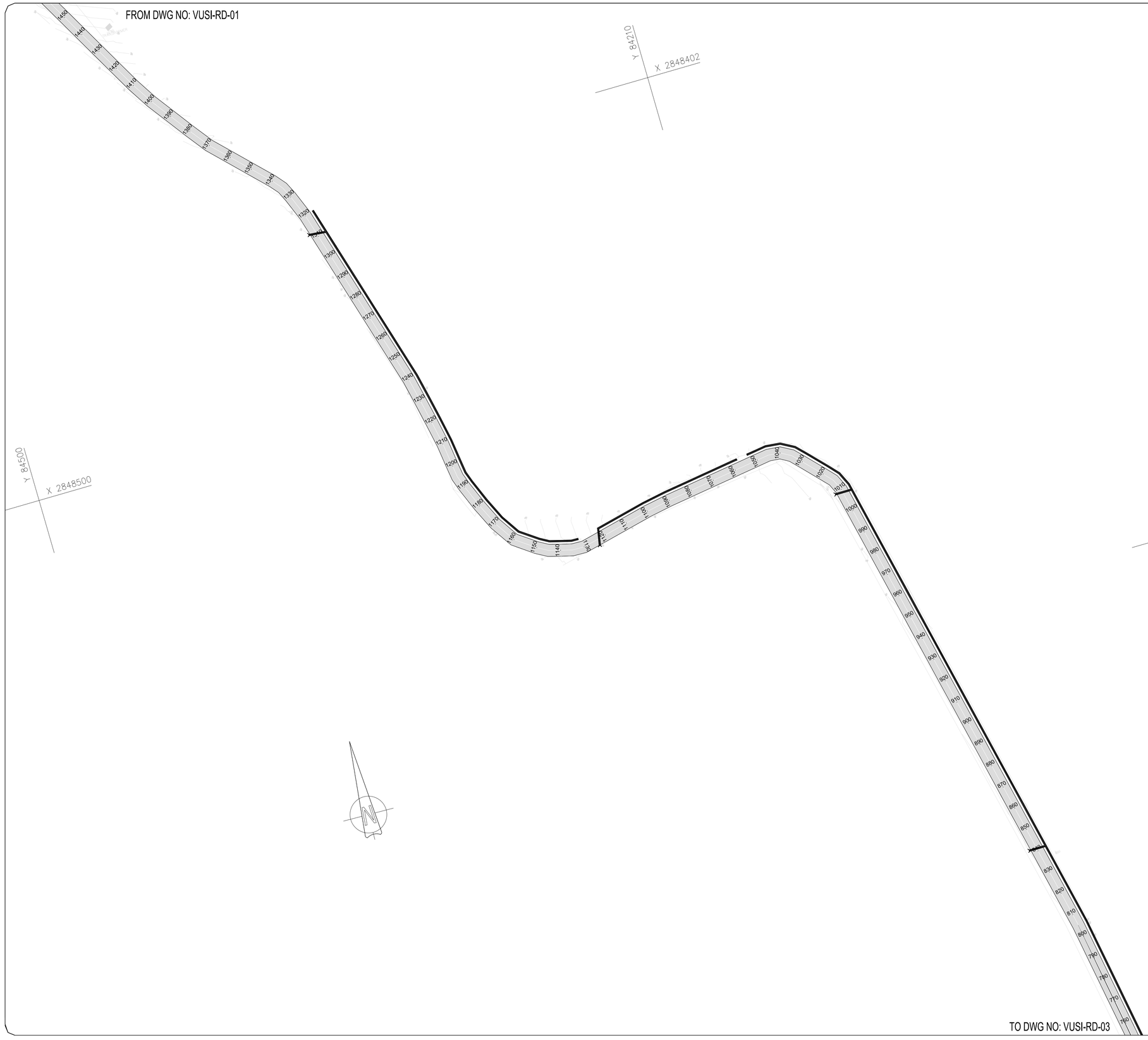


## BENCHMARK

| POINT | Y- COORD | X-COORD | Z-COORD | 12mm iron peg |
|---|---|---|---|---|
| BMG | 84185.861 | 2848586.061 | 1785.470 | 12mm iron peg |
| BMH | 84672.714 | 2847920.096 | 1762.685 | 12mm iron peg |
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| BML | 84439.540 | 2848286.461 | 1783.861 | 12mm iron peg |
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| BMO | 84264.432 | 2848577.501 | 1790.614 | 12mm iron peg |
| BMR | 84366.861 | 2848415.234 | 1792.476 | 12mm iron peg |
| BMW | 84643.452 | 2847969.135 | 1759.802 | 12mm iron peg |
| BMZ | 84600.500 | 2848066.35 | 1765.323 | 12mm iron peg |

Road List

| Road1 | | | |
|---|---|---|---|
| Position | SV | Y-Coord | X-Coord |
| BCC3 | 804.821 | 84136.083 | 2848787.906 |
| PI3 | 805.107 | 84136.132 | 2848787.624 |
| ECC3 | 805.392 | 84136.193 | 2848787.345 |
| BCC4 | 1009.895 | 84180.306 | 2848587.657 |
| PI4 | 1013.129 | 84181.021 | 2848584.421 |
| ECC4 | 1016.362 | 84183.295 | 2848582.010 |
| BCC5 | 1033.869 | 84195.310 | 2848569.276 |
| PI5 | 1039.639 | 84199.606 | 2848564.722 |
| ECC5 | 1045.410 | 84205.799 | 2848565.641 |
| BCC6 | 1095.303 | 84255.152 | 2848572.965 |
| PI6 | 1095.812 | 84255.655 | 2848573.039 |
| ECC6 | 1096.320 | 84256.151 | 2848573.157 |
| BCC7 | 1129.433 | 84288.376 | 2848580.773 |
| PI7 | 1132.344 | 84291.266 | 2848581.456 |
| ECC7 | 1135.255 | 84294.141 | 2848580.712 |
| BCC8 | 1143.730 | 84302.346 | 2848578.590 |
| PI8 | 1145.589 | 84304.161 | 2848578.121 |
| ECC8 | 1147.448 | 84305.746 | 2848577.121 |
| BCC9 | 1156.238 | 84313.179 | 2848572.430 |
| PI9 | 1158.448 | 84315.070 | 2848571.237 |
| ECC9 | 1160.658 | 84316.404 | 2848569.444 |
| BCC10 | 1165.937 | 84319.555 | 2848565.208 |
| PI10 | 1167.120 | 84320.263 | 2848564.255 |
| ECC10 | 1168.303 | 84320.771 | 2848563.183 |
| BCC11 | 1183.182 | 84327.140 | 2848549.736 |
| PI11 | 1183.676 | 84327.351 | 2848549.290 |
| ECC11 | 1184.169 | 84327.526 | 2848548.827 |
| BCC12 | 1193.406 | 84330.780 | 2848540.183 |
| PI12 | 1194.773 | 84331.264 | 2848538.898 |
| ECC12 | 1196.140 | 84331.445 | 2848537.537 |
| BCC13 | 1211.242 | 84333.436 | 2848522.567 |
| PI13 | 1211.688 | 84333.495 | 2848522.125 |
| ECC13 | 1212.135 | 84333.587 | 2848521.688 |
| BCC14 | 1238.332 | 84338.961 | 2848496.048 |
| PI14 | 1238.787 | 84339.055 | 2848495.603 |
| ECC14 | 1239.242 | 84339.182 | 2848495.166 |
| BCC15 | 1323.040 | 84362.538 | 2848414.688 |
| PI15 | 1324.009 | 84362.809 | 2848413.756 |
| ECC15 | 1324.978 | 84363.226 | 2848412.879 |
| BCC16 | 1334.050 | 84367.123 | 2848404.686 |
| PI16 | 1336.048 | 84367.990 | 2848402.865 |
| ECC16 | 1338.046 | 84369.404 | 2848401.427 |
| BCC17 | 1370.525 | 84392.177 | 2848378.269 |
| PI17 | 1371.395 | 84392.788 | 2848377.647 |
| ECC17 | 1372.265 | 84393.303 | 2848376.944 |
| BCC18 | 1403.388 | 84411.689 | 2848351.832 |
| PI18 | 1404.118 | 84412.121 | 2848351.242 |
| ECC18 | 1404.848 | 84412.478 | 2848350.604 |

## NOTES

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**LEGEND**

PROPOSED STORMWATER

ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

DETAILED STAGE ○ | TENDER DRAWING ● | APPROVED CONSTRUCTION DRAWING ○ | AS BUILT DRAWING ○

| REV No | DATE : | DESCRIPTION : |
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| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: ROAD AND STORMWATER

DRAWING DESCRIPTION: ROAD AND STORMWATER LAYOUT PLAN 2 OF 4

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

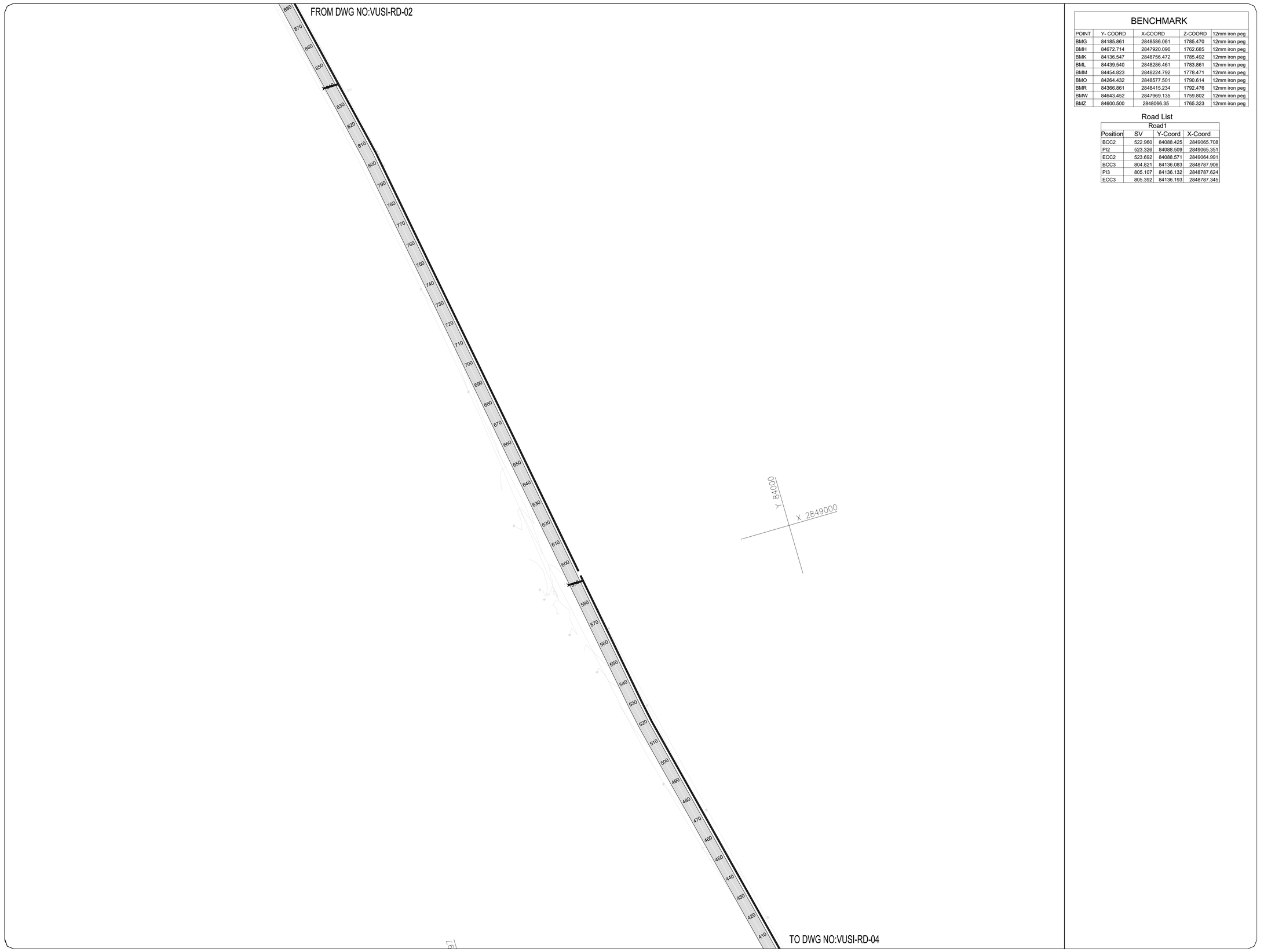
CONSULTANT:

Hlakhen Consulting

11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR: N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-RD-02 | | TD |




## BENCHMARK

| POINT | Y- COORD | X-COORD | Z-COORD | 12mm iron peg |
|---|---|---|---|---|
| BMG | 84185.861 | 2848586.061 | 1785.470 | 12mm iron peg |
| BMH | 84672.714 | 2847920.096 | 1762.685 | 12mm iron peg |
| BMK | 84136.547 | 2848756.472 | 1785.492 | 12mm iron peg |
| BML | 84439.540 | 2848286.461 | 1783.861 | 12mm iron peg |
| BMM | 84454.823 | 2848224.792 | 1778.471 | 12mm iron peg |
| BMO | 84264.432 | 2848577.501 | 1790.614 | 12mm iron peg |
| BMR | 84366.861 | 2848415.234 | 1792.476 | 12mm iron peg |
| BMW | 84643.452 | 2847969.135 | 1759.802 | 12mm iron peg |
| BMZ | 84600.500 | 2848066.35 | 1765.323 | 12mm iron peg |

## Road List

| Road1 | | | |
|---|---|---|---|
| Position | SV | Y-Coord | X-Coord |
| BCC2 | 522.960 | 84088.425 | 2849065.708 |
| PI2 | 523.326 | 84088.509 | 2849065.351 |
| ECC2 | 523.692 | 84088.571 | 2849064.991 |
| BCC3 | 804.821 | 84136.083 | 2848787.906 |
| PI3 | 805.107 | 84136.132 | 2848787.624 |
| ECC3 | 805.392 | 84136.193 | 2848787.345 |

## NOTES

1. ALL MATERIAL AND WORKMANSHIP COMPLIED WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
2. ALL DIMENSIONS ARE IN METERS.
3. DO NOT SCALE FROM THESE DRAWINGS.
4. ALL DIMENSIONS WERE CHECKED AND APPROVED ON SITE.
5. ALL CONSTRUCTION IS DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS.
6. THESE DRAWINGS WERE READ IN CONJUNCTION WITH THE STANDARD DRAWINGS.(IF APPLICABLE).
7. THIS DRAWING WAS READ IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, SERIES 4.
8. THE SIGNATURE OR INITIALS ON THIS DRAWING, OF ANY DIRECTOR OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT, IN NO WAY REMOVES ANY RESPONSIBILITY WHATSOEVER FROM THE CONSULTANT.
9. THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
10. FINAL POSITION OF SERVICES WERE DETERMINED ON SITE.

**LEGEND**

PROPOSED STORMWATER

ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

DETAILED STAGE ○ | TENDER DRAWING ● | APPROVED CONSTRUCTION DRAWING ○ | AS BUILT DRAWING ○

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: ROAD AND STORMWATER

DRAWING DESCRIPTION: ROAD AND STORMWATER LAYOUT PLAN 3 OF 4

| FILE No. | | | ITEM No. |
|---|---|---|---|
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

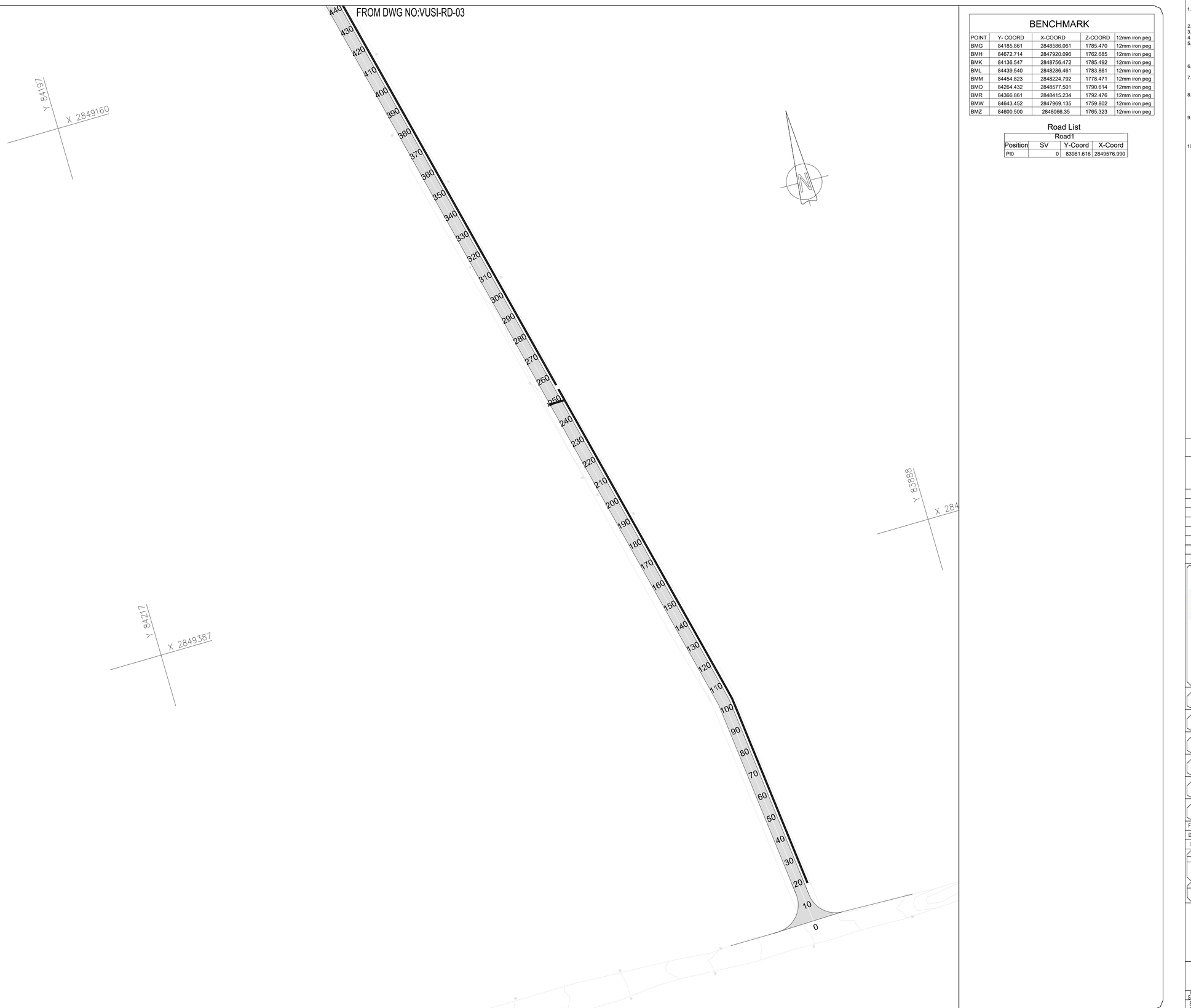
CONSULTANT:

Htakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-RD-03 | | TD |




## BENCHMARK

| POINT | Y- COORD | X-COORD | Z-COORD | 12mm iron peg |
|---|---|---|---|---|
| BMG | 84185.861 | 2848586.061 | 1785.470 | 12mm iron peg |
| BMH | 84672.714 | 2847920.096 | 1762.685 | 12mm iron peg |
| BMK | 84136.547 | 2848756.472 | 1785.492 | 12mm iron peg |
| BML | 84439.540 | 2848286.461 | 1783.861 | 12mm iron peg |
| BMM | 84454.823 | 2848224.792 | 1778.471 | 12mm iron peg |
| BMO | 84264.432 | 2848577.501 | 1790.614 | 12mm iron peg |
| BMR | 84366.861 | 2848415.234 | 1792.476 | 12mm iron peg |
| BMW | 84643.452 | 2847969.135 | 1759.802 | 12mm iron peg |
| BMZ | 84600.500 | 2848066.35 | 1765.323 | 12mm iron peg |

## Road List

| Road1 | | | |
|---|---|---|---|
| Position | SV | Y-Coord | X-Coord |
| PI0 | 0 | 83981.616 | 2849576.990 |

## NOTES

1. ALL MATERIAL AND WORKMANSHIP COMPLIED WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
2. ALL DIMENSIONS ARE IN METERS.
3. DO NOT SCALE FROM THESE DRAWINGS.
4. ALL DIMENSIONS WERE CHECKED AND APPROVED ON SITE.
5. ALL CONSTRUCTION IS DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS.
6. THESE DRAWINGS WERE READ IN CONJUNCTION WITH THE STANDARD DRAWINGS.(IF APPLICABLE).
7. THIS DRAWING WAS READ IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, SERIES 4.
8. THE SIGNATURE OR INITIALS ON THIS DRAWING, OF ANY DIRECTOR OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT, IN NO WAY REMOVES ANY RESPONSIBILITY WHATSOEVER FROM THE CONSULTANT.
9. THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
10. FINAL POSITION OF SERVICES WERE DETERMINED ON SITE.

**LEGEND**

PROPOSED STORMWATER

ISSUED FOR TENDER PURPOSES ONLY

## PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| | ● | | |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| | | |
| | | |
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: ROAD AND STORMWATER

DRAWING DESCRIPTION: ROAD AND STORMWATER LAYOUT PLAN 4 OF 4

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

CONSULTANT:

Hlakhen Consulting

11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

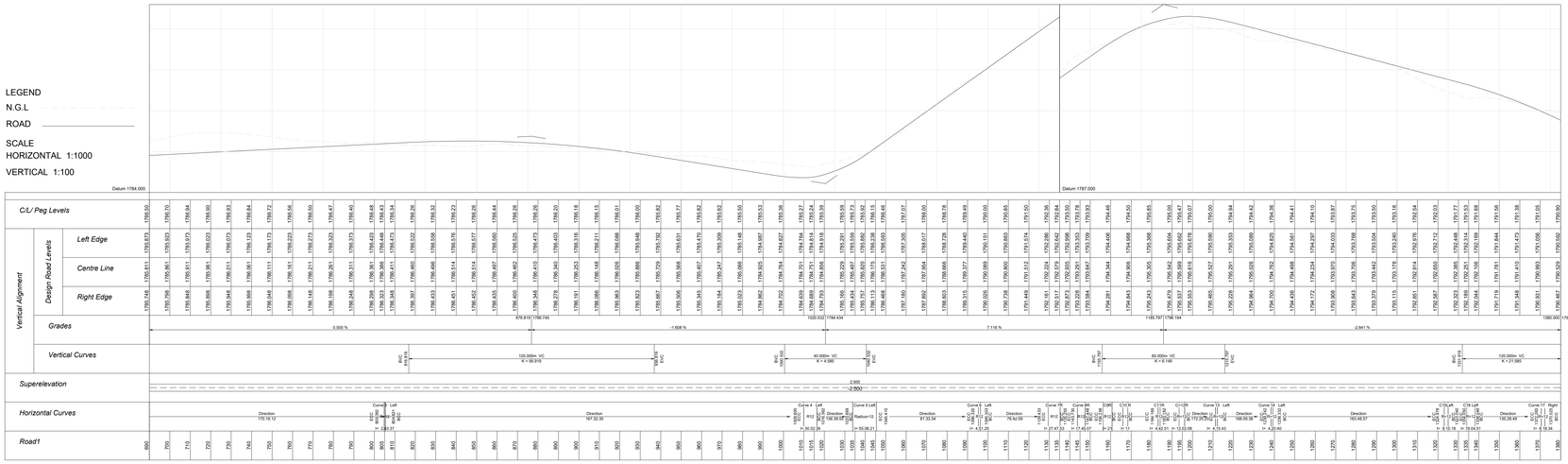
CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-RD-04 | | TD |

LEGEND
N.G.L
ROAD

SCALE
HORIZONTAL 1:1000
VERTICAL 1:100




Road1 Longsection for 690 to 1380




Road1 Longsection for 0 to 690

## NOTES

1. ALL MATERIAL AND WORKMANSHIP COMPLIED WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
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ISSUED FOR TENDER PURPOSES ONLY

# PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| ○ | ● | ○ | ○ |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS
SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE
CIVIL

CONTRACT - SECTION
-

DISCIPLINE
Civil Engineering

WORK DESCRIPTION - SUB DIVISION
ROAD

DRAWING DESCRIPTION
ROAD LONG SECTION 1 OF 2

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:250 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

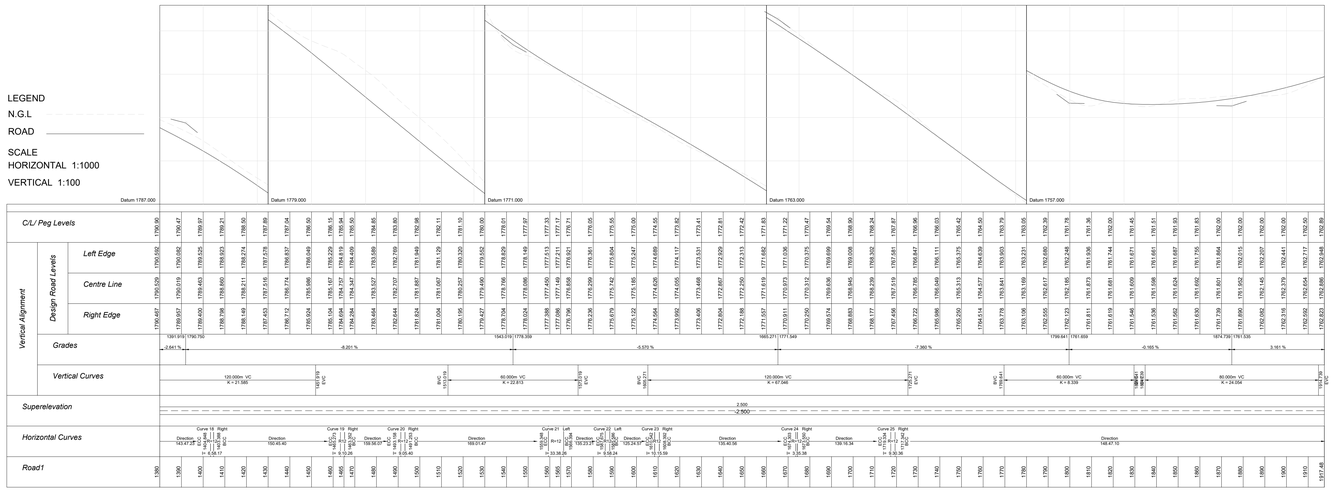
| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 2023301503 |

DRAWING CO-ORDINATED

CONSULTANT:
Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:
N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-STML-01 | | TD |




*Road1 Longsection for 1380 to 1917*

## NOTES

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## PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| ○ | ● | ○ | ○ |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE
CIVIL

CONTRACT - SECTION
-

DISCIPLINE
Civil Engineering

WORK DESCRIPTION - SUB DIVISION
ROAD

DRAWING DESCRIPTION
ROAD LONG SECTION 2 OF 2

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:250 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 202301503 |

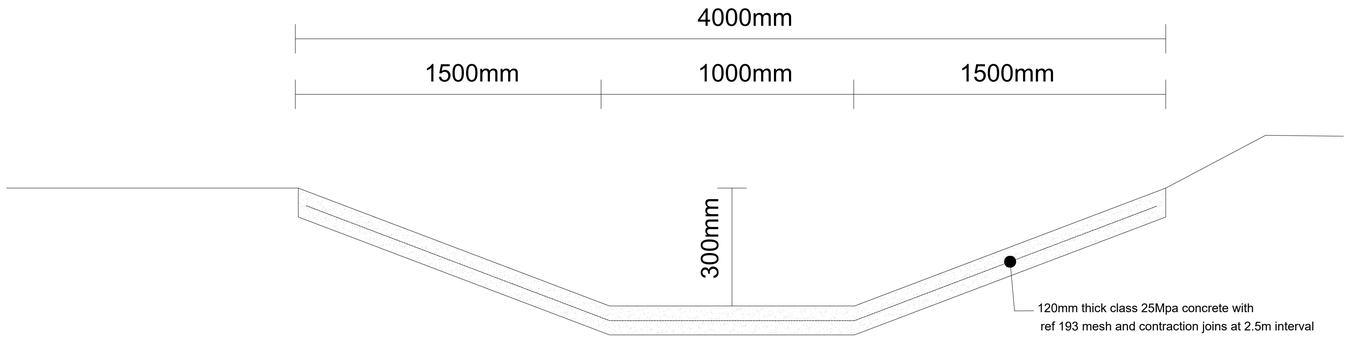
DRAWING CO-ORDINATED

CONSULTANT:

Hlakhen Consulting
11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

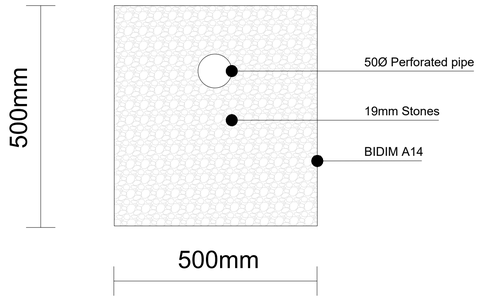
CONTRACTOR:
N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-STML-02 | | TD |




TYPICAL DRAINAGE CROSSING THE ROAD

N.T.S




Discharge point for the machine 10m long

N.T.S

## NOTES

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## PROJECT STATUS

| DETAILED STAGE | TENDER DRAWING | APPROVED CONSTRUCTION DRAWING | AS BUILT DRAWING |
|---|---|---|---|
| ○ | ● | ○ | ○ |

| REV No | DATE : | DESCRIPTION : |
|---|---|---|
| TD | 2025-03-26 | ISSUED FOR TENDER PURPOSES ONLY |
| B | 2024-12-03 | ISSUED FOR STAGE 3 APPROVAL |
| A | 2024-11-28 | ISSUED FOR APPROVAL |

REVISIONS

SIZE ON ORIGINAL DRAWING 100 mm

agriculture, land reform & rural development
Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

INSTITUTION: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

SERVICE: CIVIL

CONTRACT - SECTION: -

DISCIPLINE: Civil Engineering

WORK DESCRIPTION - SUB DIVISION: STORMWATER

DRAWING DESCRIPTION: STORM WATER DETAILS

| | | | |
|---|---|---|---|
| FILE No. | | | ITEM No. |
| DESIGN | S. DUBE | F. MASWANGANYI | DRAWN |
| SCALE | 1:400 | S.DUBE | CHECKED |

RESPONSIBLE PROFESSIONAL

| DATE | NAME | SIGNATURE | PR NUMBER |
|---|---|---|---|
| 28/11/2024 | LJ. Boshomane | | 202330150 3 |

DRAWING CO-ORDINATED

CONSULTANT:

Hlakhen Consulting

11 Hofsanger Road, Rooihuiskraal , Centurion, 0157.

CONTRACTOR:

N/A

| CADD SYSTEM | AUTO CAD | | FILE NAME |
|---|---|---|---|
| SIZE | DRAWING NUMBER | | REV |
| A1 | VUSI-STMD-04 | | TD |