



PHOKWANE LOCAL MUNICIPALITY

TENDER NR: PL11/PS/0123

NEW PUMP STATION AND RELATED BULK SEWER OUTFALL LINES IN MASAKENG (JAN KEMP DORP)

TENDER DRAWINGS

Issued by:

PHOKWANE Local Municipality
24 Hertzog Street
Hartswater
8570

Contact:

Name: Mr. L Jange
Telephone: 053 474 9700

Prepared by

Phethogo Consulting
122 Nelson Mandela Drive
Bloemfontein
9301

Contact:

Name: Mr. R Viljoen
Telephone: 051 448 6006



REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R. VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	



PHOKWANE
LOCAL
MUNICIPALITY



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Wentworth (Bx 930)
103 Jonh KDSB | Harareway 932

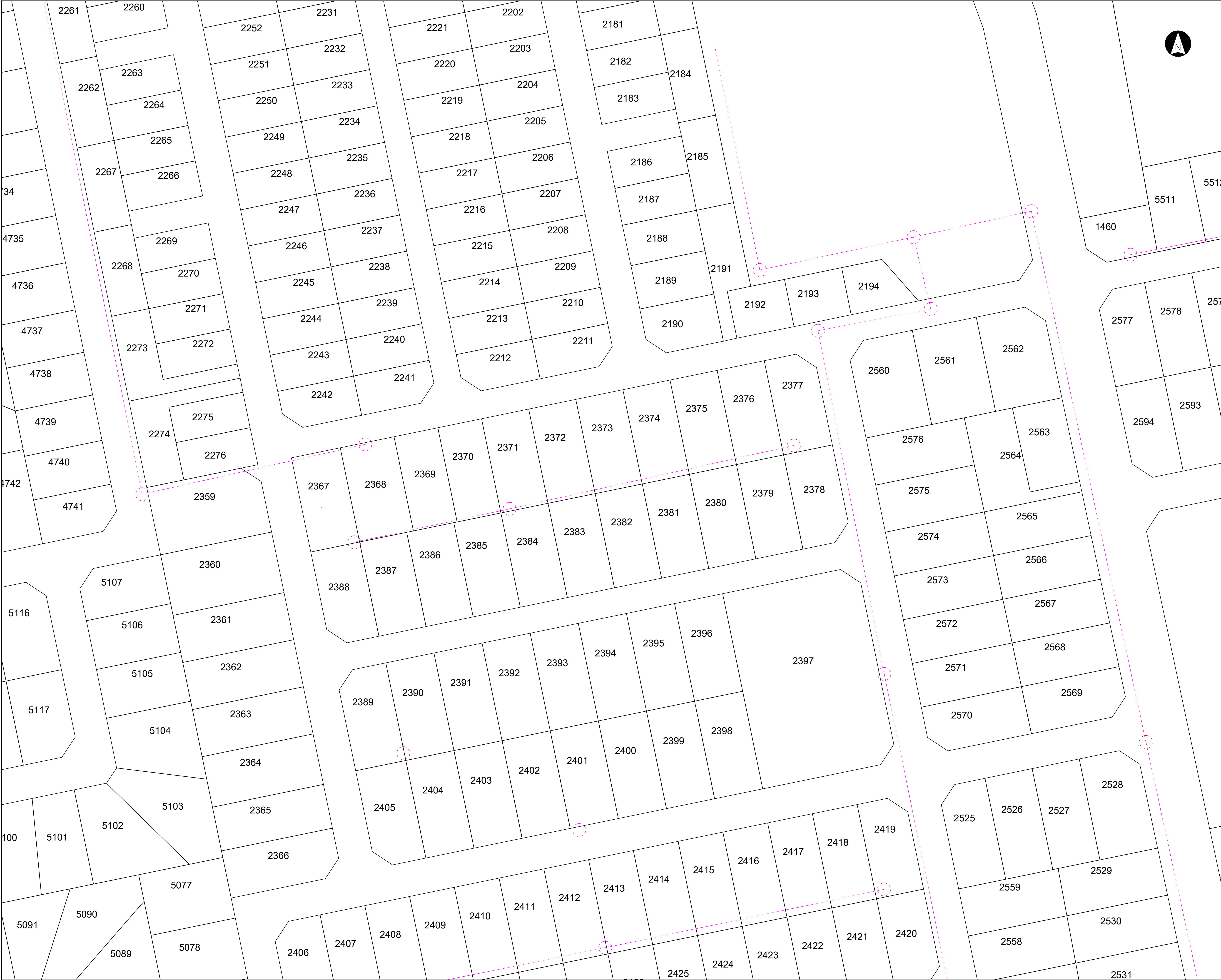
PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION

SEWER KEY PLAN

SCALE:	AS SHOWN	DESIGNED:	R. VILJOEN
DATE:	16 NOVEMBER 2022	DRAWN:	R. VILJOEN
DRW. SIZE:	A1	CHECKED:	R. VILJOEN
FILE REF:	Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022		
DRAWING NUMBER:	2203	REV:	00

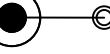


LEGEND



RCBM4
1434.275

Benchmark



Escrow / Telkom pole



Surveyed Valve



Surveyed Manhole



New Sewer Line



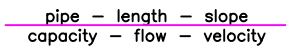
Existing Sewer Line



New Manhole



Existing Manhole



Link information



Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL

NAME: _____

PROF. REG. _____ SIGNATURE: _____

ENGINEER'S APPROVAL

NAME: R VILJOEN

PROF. REG. 200970081 SIGNATURE: _____

CLIENT



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1601 Jonh KDSB | Harareway 9322

PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION

SEWER LAYOUT 1

SCALE: 1:500

DESIGNED: R VILJOEN

DATE: 16 NOVEMBER 2022

DRAWN: R VILJOEN

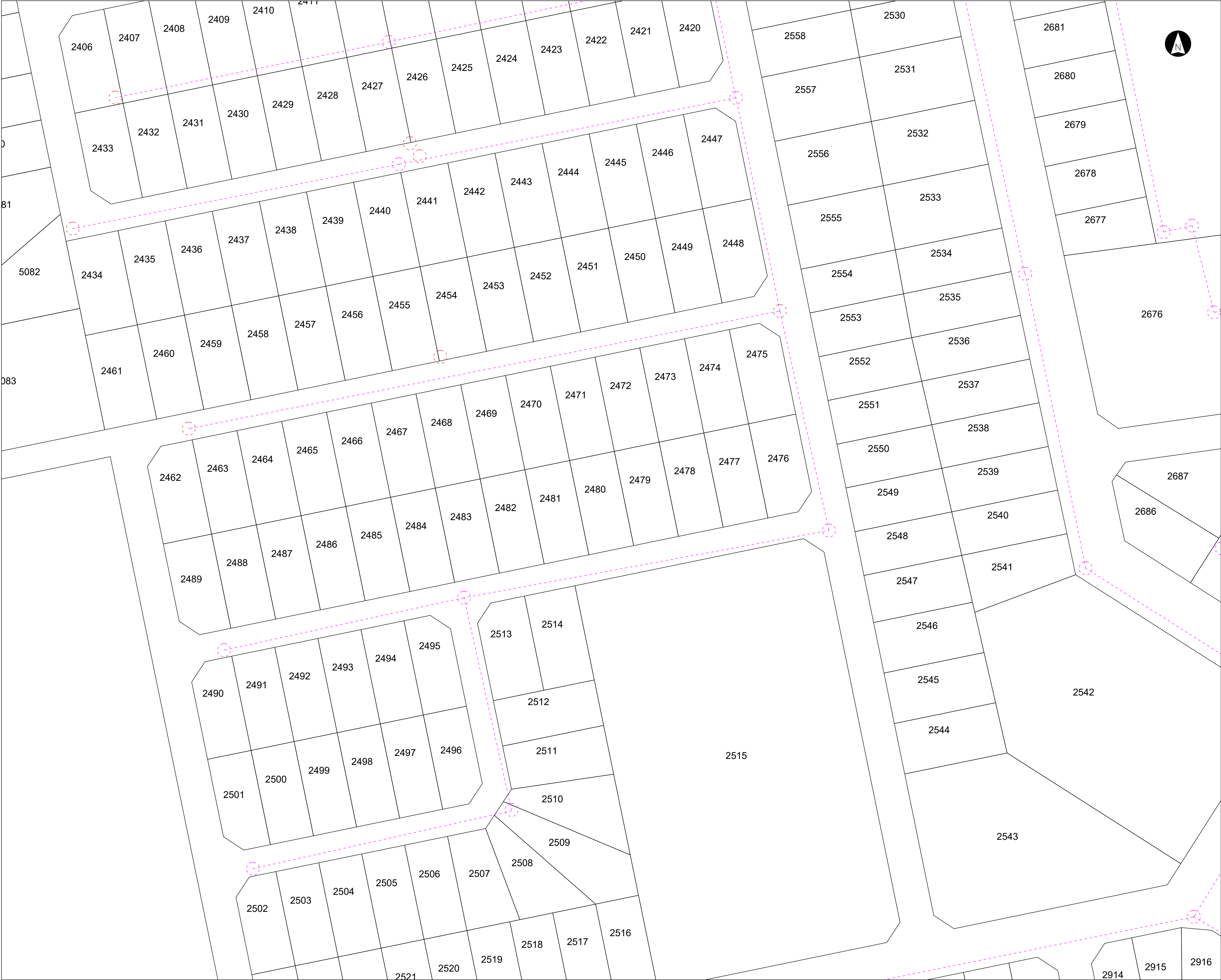
DRW SIZE: A1

CHECKED: R VILJOEN

FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02
Tender Drawings\RV Nov 2022

DRAWING NUMBER:
2203

REV:
00



LEGEND

Benchmark

Escrow / Telkom pole

Surveyed Valve

Surveyed Manhole

New Sewer Line

Existing Sewer Line

New Manhole

Existing Manhole

Link information

Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL

NAME: _____

PROF. REG. _____ SIGNATURE: _____

ENGINEER'S APPROVAL

NAME: R VILJOEN

PROF. REG. 200970081 SIGNATURE: _____

CLIENT



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Wentworth (Bx 930)
160 Box 43361 | Johannesburg 2022

PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION

SEWER LAYOUT 2

SCALE: 1:500

DESIGNED: R VILJOEN

DATE: 16 NOVEMBER 2022

DRAWN: R VILJOEN

DRW SIZE: A1

CHECKED: R VILJOEN

FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02
Tender Drawings\RV Nov 2022

DRAWING NUMBER:
2203

REV:
00



LEGEND

Benchmark

Escrow / Telkom pole

Surveyed Valve

Surveyed Manhole

New Sewer Line

Existing Sewer Line

New Manhole

Existing Manhole

Link information

Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL

NAME: _____

PROF. REG. _____ SIGNATURE: _____

ENGINEER'S APPROVAL

NAME: R. VILJOEN

PROF. REG. 200970081 SIGNATURE: _____

CLIENT

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100 Box 43384 | Johannesburg 2022

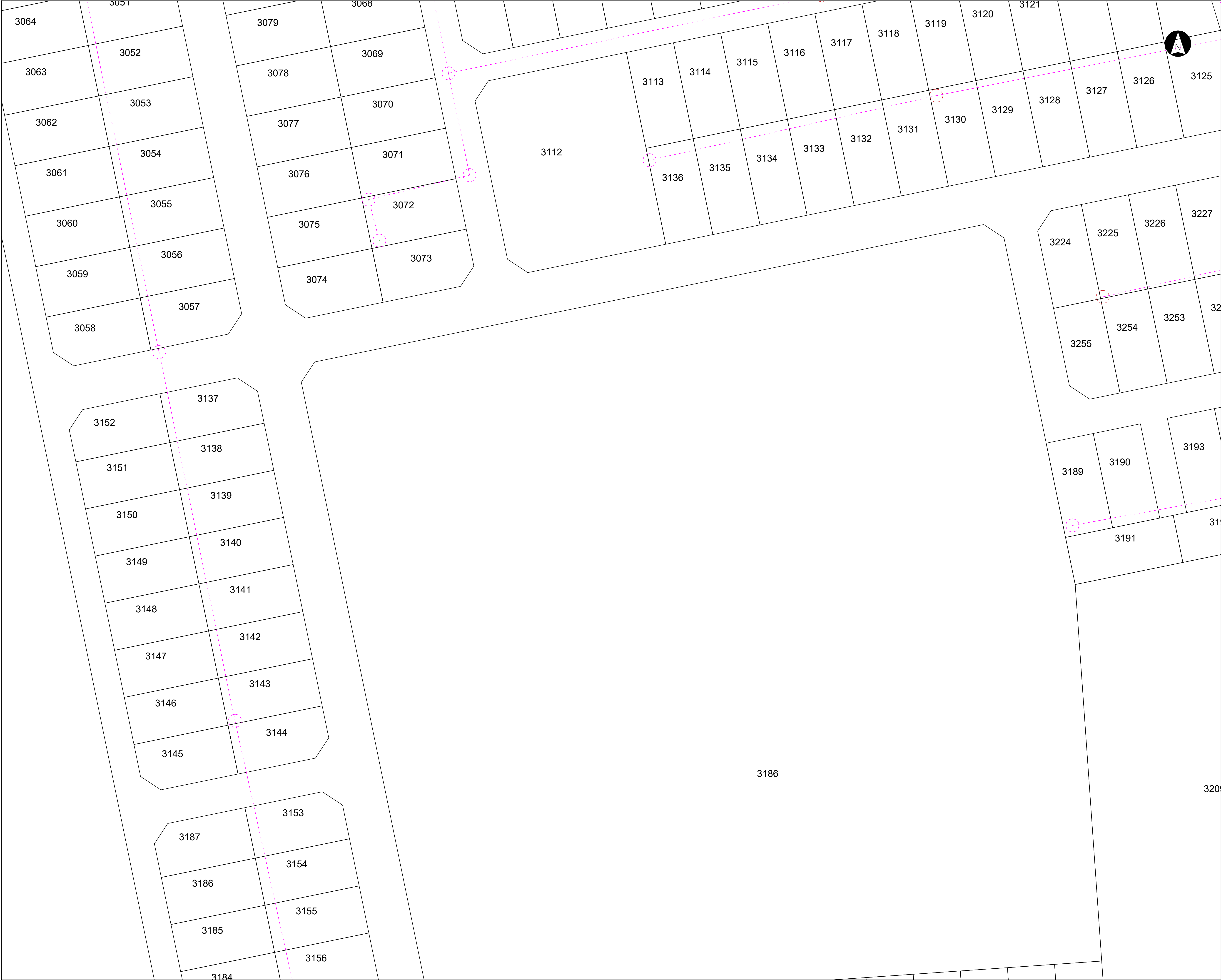
PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION

SEWER LAYOUT 3

SCALE: 1:500	DESIGNED: R. VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R. VILJOEN
DRW SIZE: A1	CHECKED: R. VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	REV: — S — 03 00

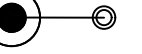


LEGEND



RCBM4
1434.275

Benchmark



Escrow / Telkom pole

Escrow / Telkom pole



Surveyed Valve

Surveyed Valve



Surveyed Manhole

Surveyed Manhole



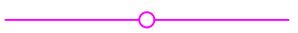
New Sewer Line

New Sewer Line



Existing Sewer Line

Existing Sewer Line



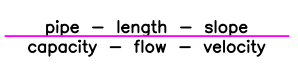
New Manhole

New Manhole



Existing Manhole

Existing Manhole



Link information

Link information



Erf Connection

Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL

NAME: _____

PROF. REG. _____

SIGNATURE: _____

ENGINEER'S APPROVAL

NAME: R. VILJOEN

PROF. REG. 200970081

SIGNATURE: _____



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1601 Jonh Kestel | Johannesburg 2022

PROJECT TITLE

NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG

DRAWING DESCRIPTION

SEWER LAYOUT 4

SCALE: 1:500

DESIGNED: R. VILJOEN

DATE: 16 NOVEMBER 2022

DRAWN: R. VILJOEN

DRW SIZE: A1

CHECKED: R. VILJOEN

FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022

DRAWING NUMBER: 2203

REV: 04



LEGEND

- RCBM4 1434.275 Benchmark
- Escrom / Telkom pole
- Surveyed Valve
- Surveyed Manhole
- New Sewer Line
- Existing Sewer Line
- New Manhole
- Existing Manhole
- Link information
- Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R. VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	

CLIENT



PHOKWANE LOCAL MUNICIPALITY



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(f) +27 51 448 6728 www.phethogo.co.za Windward Dr (Bx 930)
PO Box 4358 | Harare 9332

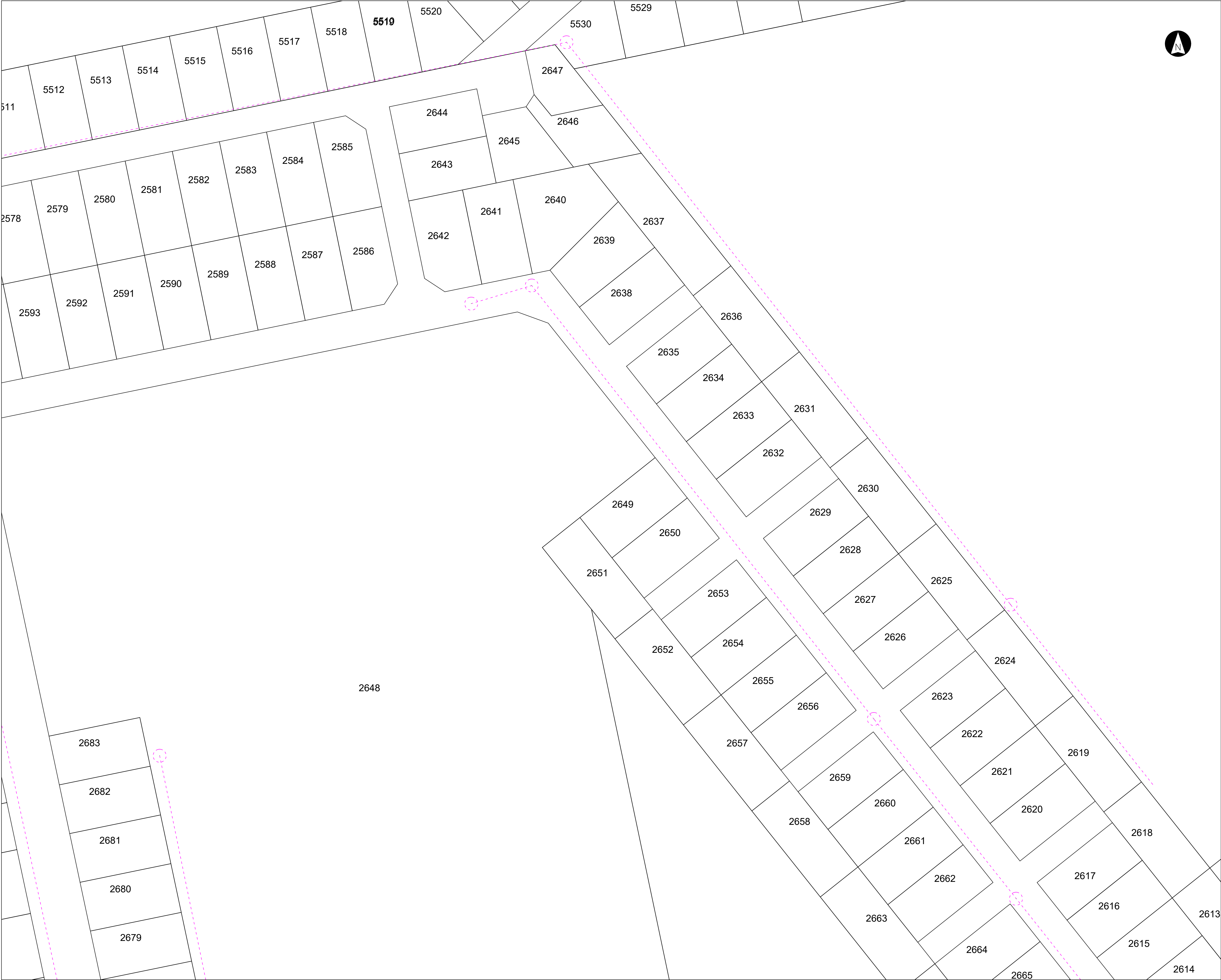
PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

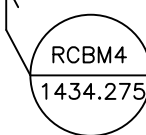
DRAWING DESCRIPTION

SEWER LAYOUT 5

SCALE: 1:500	DESIGNED: R. VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R. VILJOEN
DRW SIZE: A1	CHECKED: R. VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	REV: 05



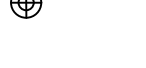
LEGEND

- 

RCBM4
1434.275

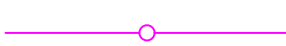
Benchmark
- 

Escom / Telkom pole
- 

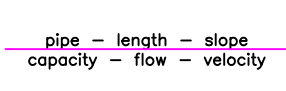
Surveyed Valve
- 

Surveyed Manhole
- 

New Sewer Line
- 

Existing Sewer Line
- 

New Manhole
- 

Existing Manhole
- 

slope — length — slope
capacity — flow — velocity

Link information
- 

Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	



PHOKWANE LOCAL MUNICIPALITY



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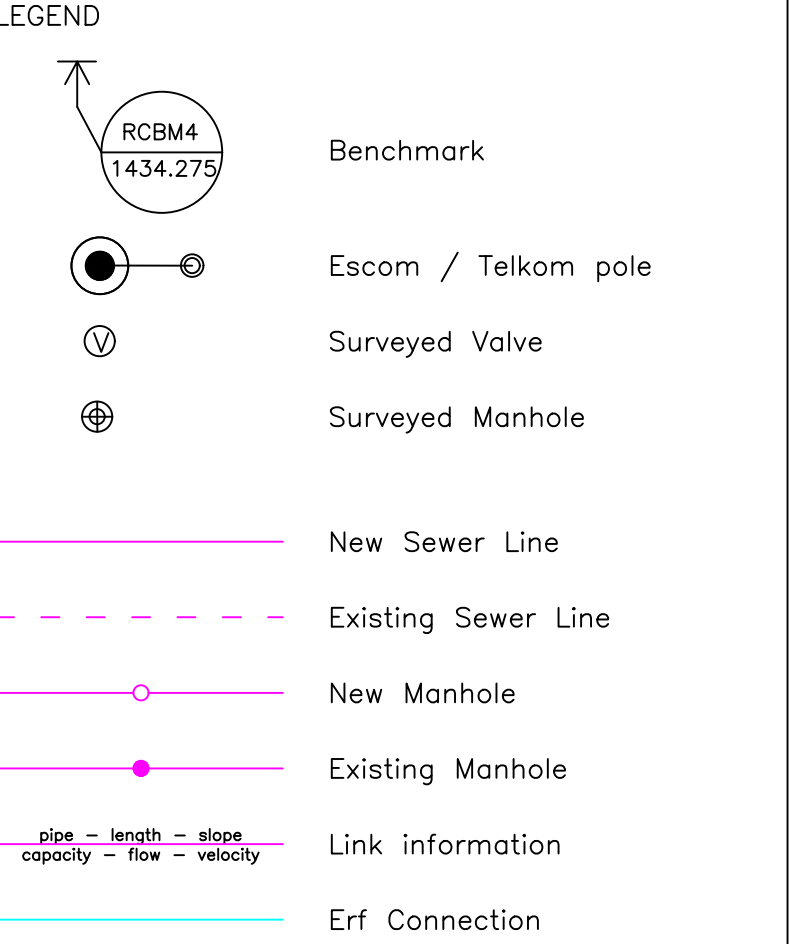
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PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
SEWER LAYOUT 6	
SCALE: 1:500	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	REV: 00



NOTES:

All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	
PROF. REG. _____	SIGNATURE: _____
ENGINEER'S APPROVAL	
NAME: R. VILJOEN	
PROF. REG. 200970081	SIGNATURE: _____

 PHOKWANE LOCAL MUNICIPALITY	CLIENT PHOKWANE LOCAL MUNICIPALITY
--	--

NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
SEWER LAYOUT 7	
SCALE: 1:500	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	— S — 07
	REV: 00



LEGEND

RCBM4
1434.275

Benchmark

Escrom / Telkom pole

Surveyed Valve

Surveyed Manhole

New Sewer Line

Existing Sewer Line

New Manhole

Existing Manhole

Link information

Erf Connection

NOTES:

All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	

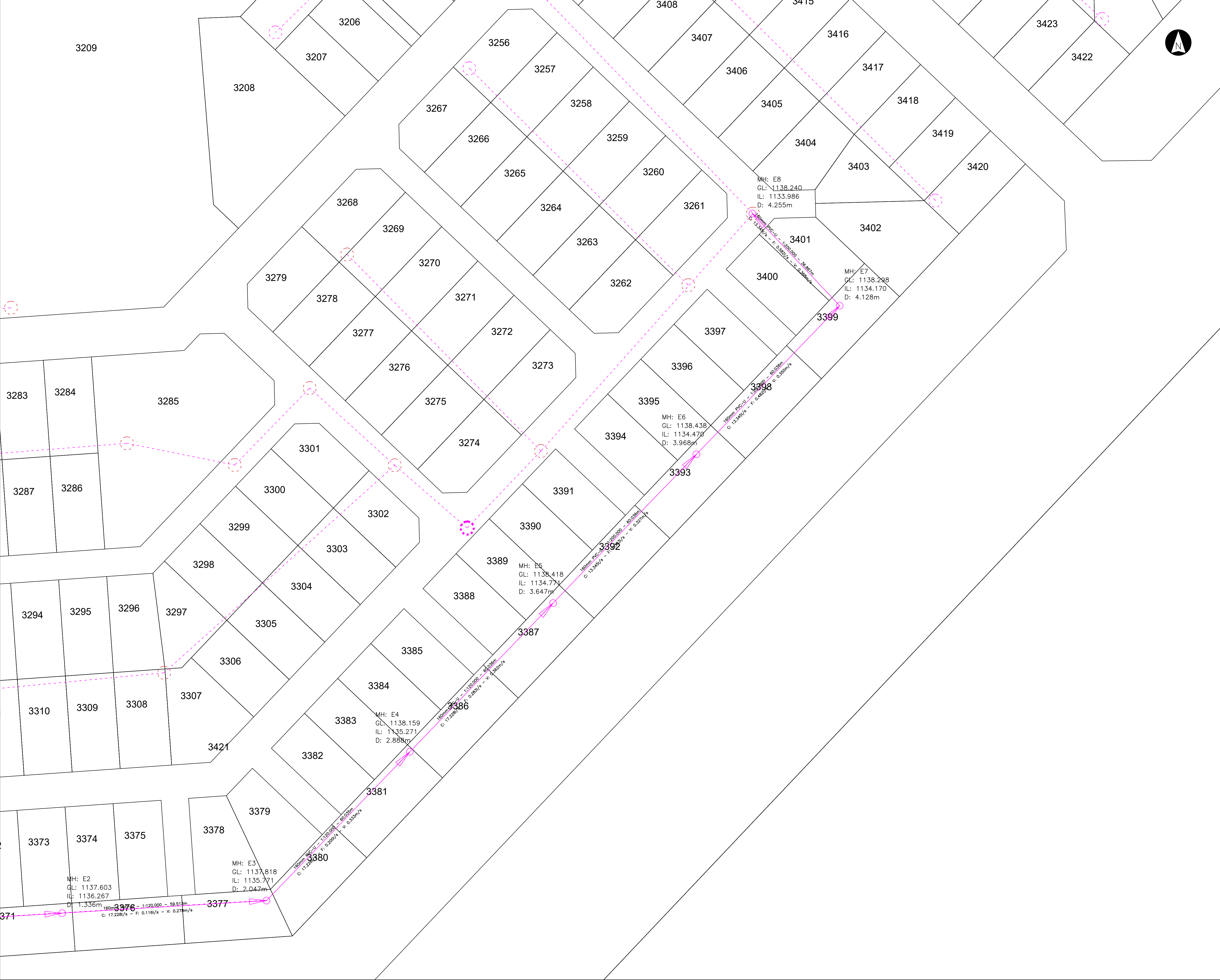
CLIENT	
	PHOKWANE LOCAL MUNICIPALITY

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	PHETHOGO CONSULTING (Pty) Ltd
ENGINEERING SERVICES PROJECT MANAGEMENT TOWN PLANNING & REGIONAL PLANNERS	
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122 Nelson Mandela Drive Wentworth (Bx 930) 100 Box 4358 Harareway 9322	

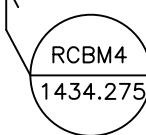
PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	

DRAWING DESCRIPTION	
SEWER LAYOUT 8	

SCALE:	1:500	DESIGNED:	R VILJOEN
DATE:	16 NOVEMBER 2022	DRAWN:	R VILJOEN
DRW SIZE:	A1	CHECKED:	R VILJOEN
FILE REF:	Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022		
DRAWING NUMBER:	2203	REV:	00



LEGEND



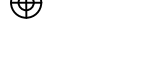
RCBM4
1434.275



Escrow / Telkom pole



Surveyed Valve



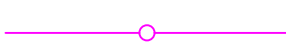
Surveyed Manhole



New Sewer Line



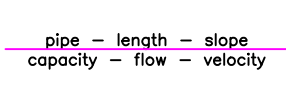
Existing Sewer Line



New Manhole



Existing Manhole



Link information
slope — length — slope
capacity — flow — velocity



Erf Connection

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	SIGNATURE: _____



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PO Box 43261 | Harareway 932

PROJECT TITLE
NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION
SEWER LAYOUT 10

SCALE: 1:500	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	REV:
DRAWING NUMBER: 2203 — S — 10	00



LEGEND

RCBM4
1434.275

Benchmark

Escrom / Telkom pole

Surveyed Valve

Surveyed Manhole

New Sewer Line

Existing Sewer Line

New Manhole

Existing Manhole

slope — length — slope
capacity — flow — velocity

Link information

Erf Connection

NOTES:

All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	

CLIENT

 PHOKWANE LOCAL MUNICIPALITY

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(f) +27 51 448 6728 www.phethogo.co.za Windhoek (Bx 930)
PO Box 43584 | Harareway 932

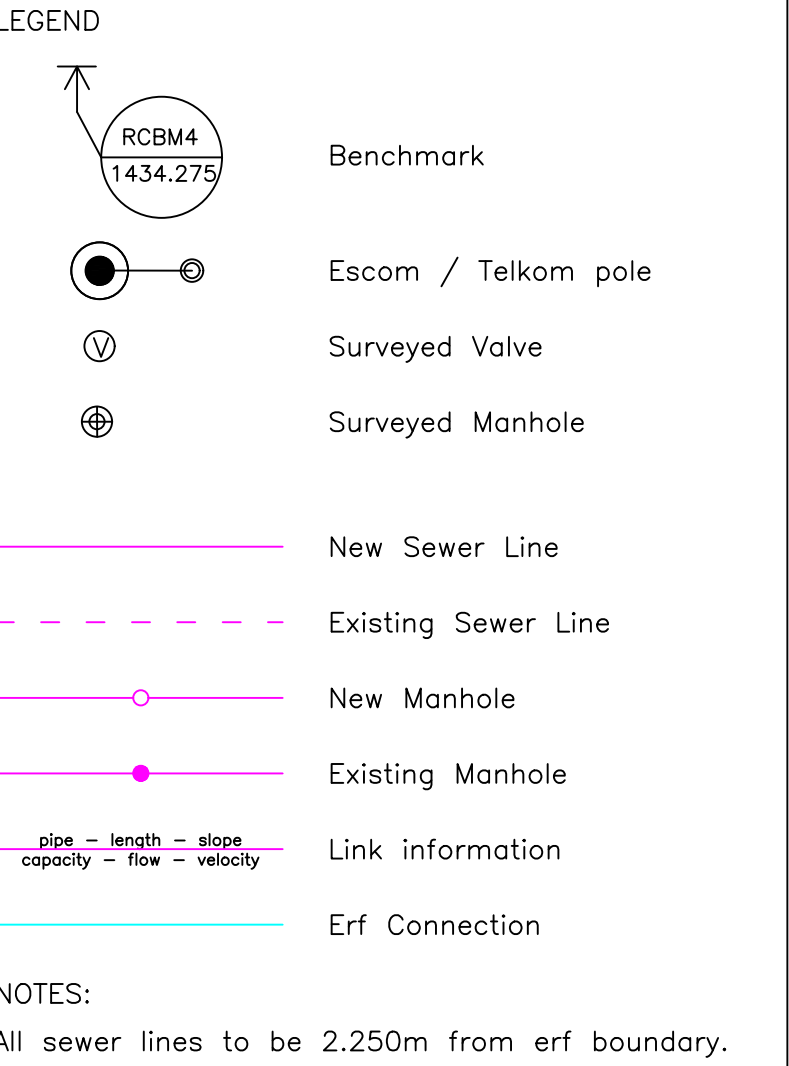
PROJECT TITLE

NEW PUMP STATION AND
RELATED BULK SEWER
OUTFALL IN LINES IN
MASAKENG

DRAWING DESCRIPTION

SEWER LAYOUT 11

SCALE: 1:500	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	REV: — S — 11 00



REVISIONS		
NO.	DESCRIPTION	DATE

NAME: _____		CLIENT'S APPROVAL	
PROF. REG. _____		SIGNATURE: _____	
NAME: R VIJJOEN		ENGINEER'S APPROVAL	
PROF. REG. 200970081		SIGNATURE: _____	



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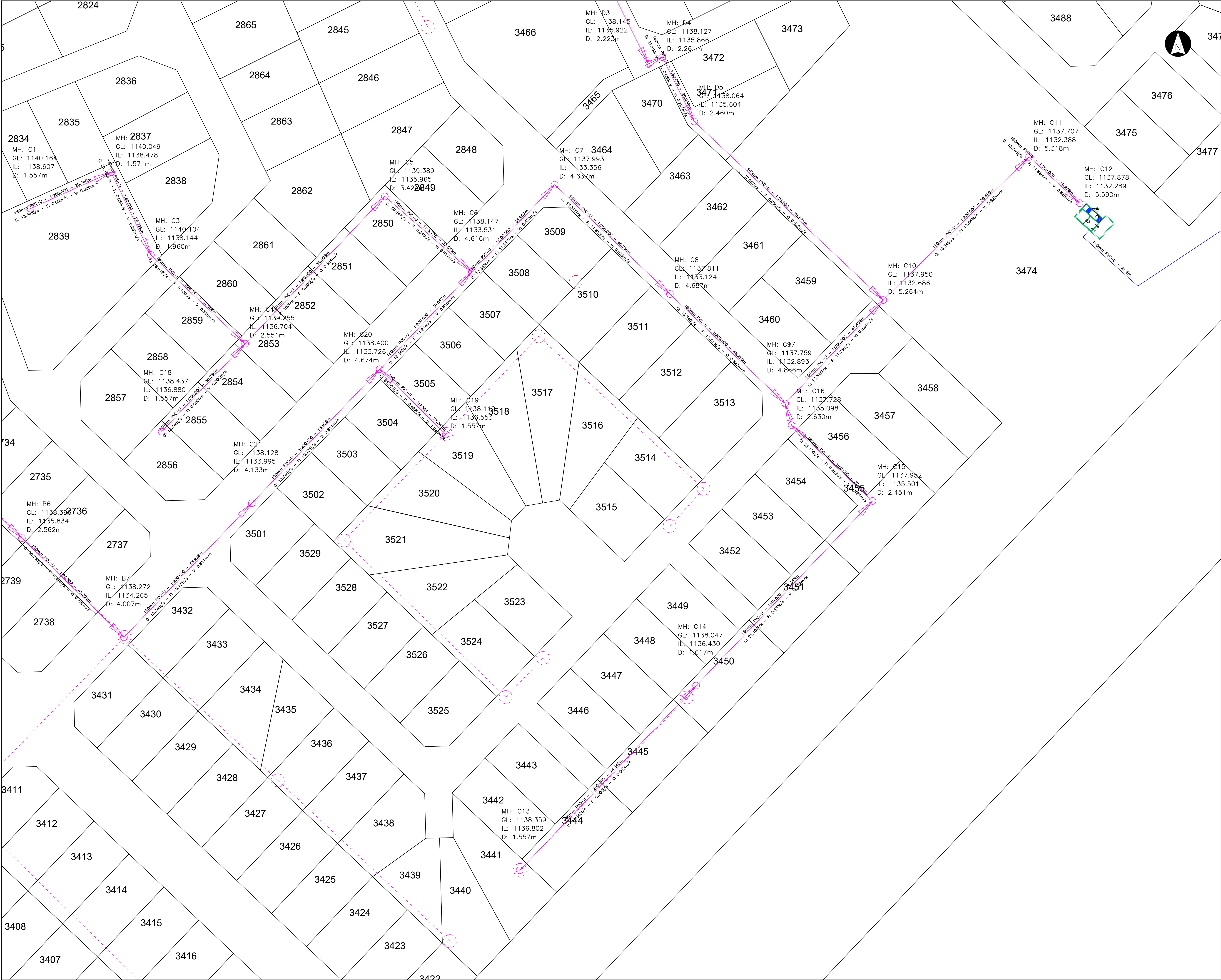


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www.phethogo.co.za



122 Nelson Mandela Drive
Midrand (Bk 190)
1606 Sand 42381 (Hemmelig 9322)

PROJECT TITLE			
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG			
DRAWING DESCRIPTION			
SEWER LAYOUT 12			
SCALE:	1:500	DESIGNED:	R. VILJOEN
DATE:	16 November 2022	DRAWN:	R. VILJOEN
DRW. SIZE:	A1	CHECKED:	R. VILJOEN
FILE REF: 22\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022			
DRAWING NUMBER:	2203 — S — 12		REV: 00



LEGEND

Benchmark

Escrom / Telkom pole

Surveyed Valve

Surveyed Manhole

New Sewer Line

Existing Sewer Line

New Manhole

Existing Manhole

Link information

Erf Connection

— slope — length — slope
— capacity — flow — velocity

NOTES:
All sewer lines to be 2.250m from erf boundary.

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	SIGNATURE: _____

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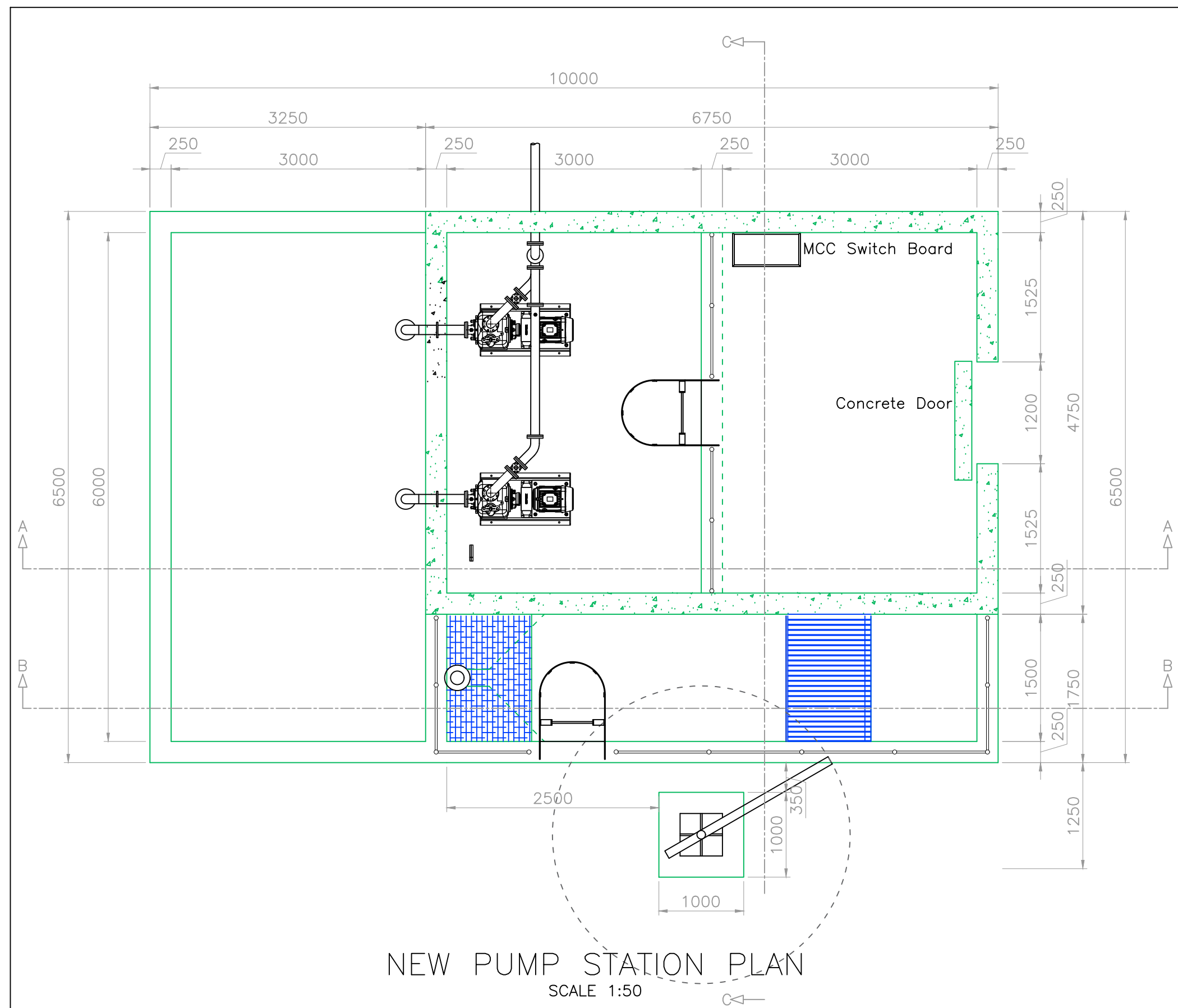
info@phethogo.co.za
www.phethogo.co.za

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Wentworth (Bx 930)
PO Box 42084 | Johannesburg 2022

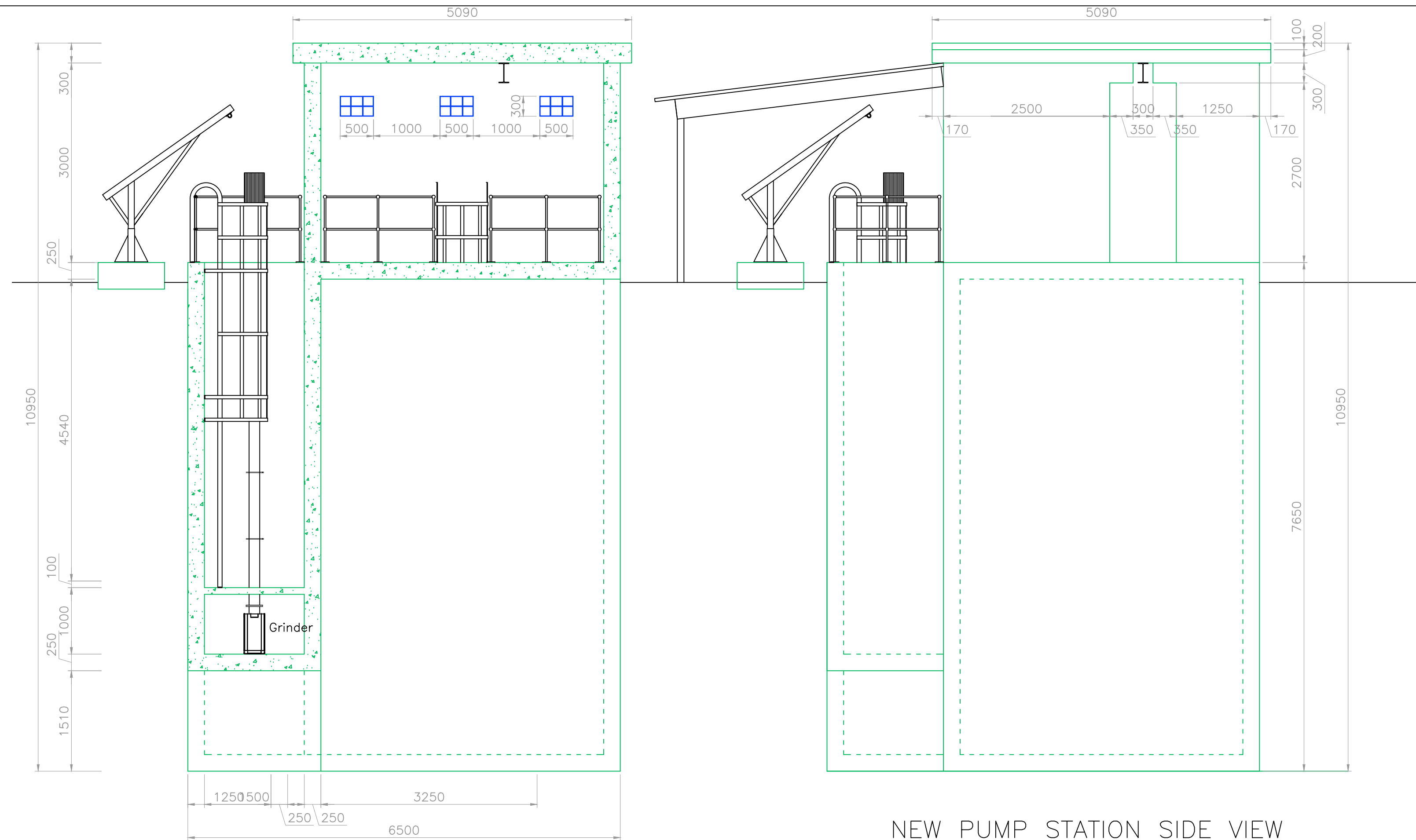
PROJECT TITLE
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG

DRAWING DESCRIPTION
SEWER LAYOUT 13

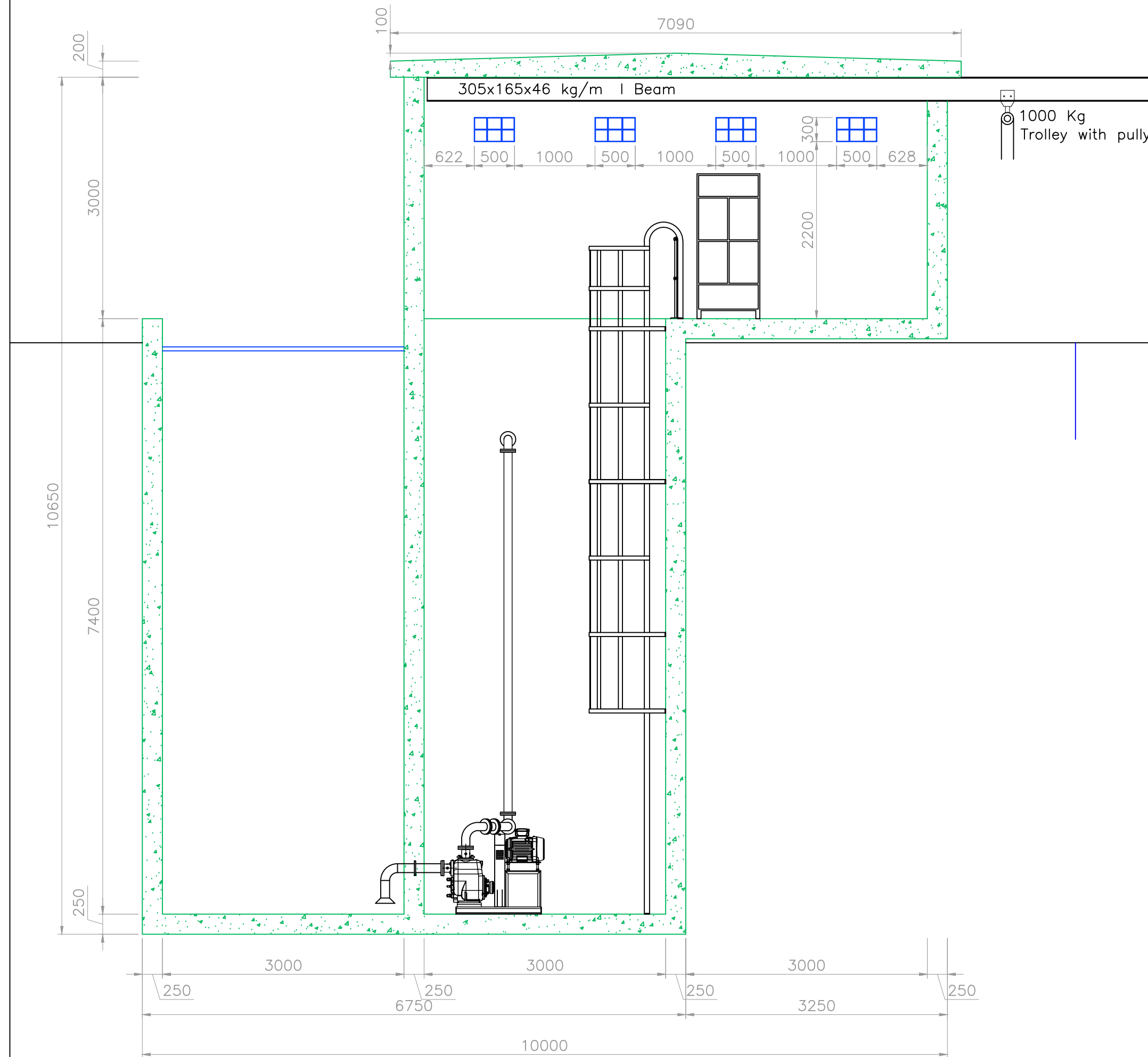
SCALE: 1:500	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203	REV: — S — 13 00



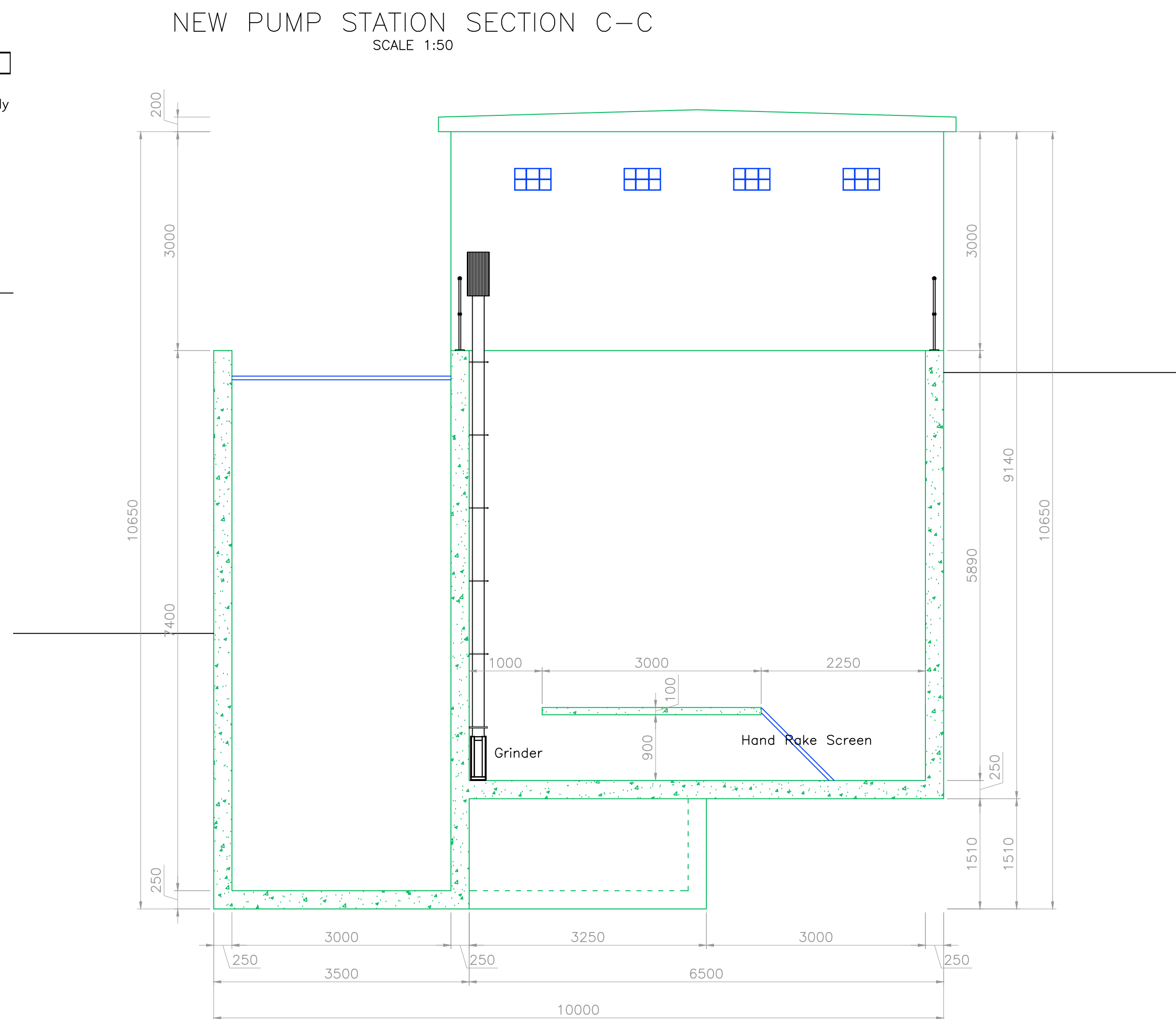
NEW PUMP STATION PLAN
SCALE 1:50



NEW PUMP STATION SIDE VIEW
SCALE 1:50



NEW PUMP STATION SECTION A-A
SCALE 1:50



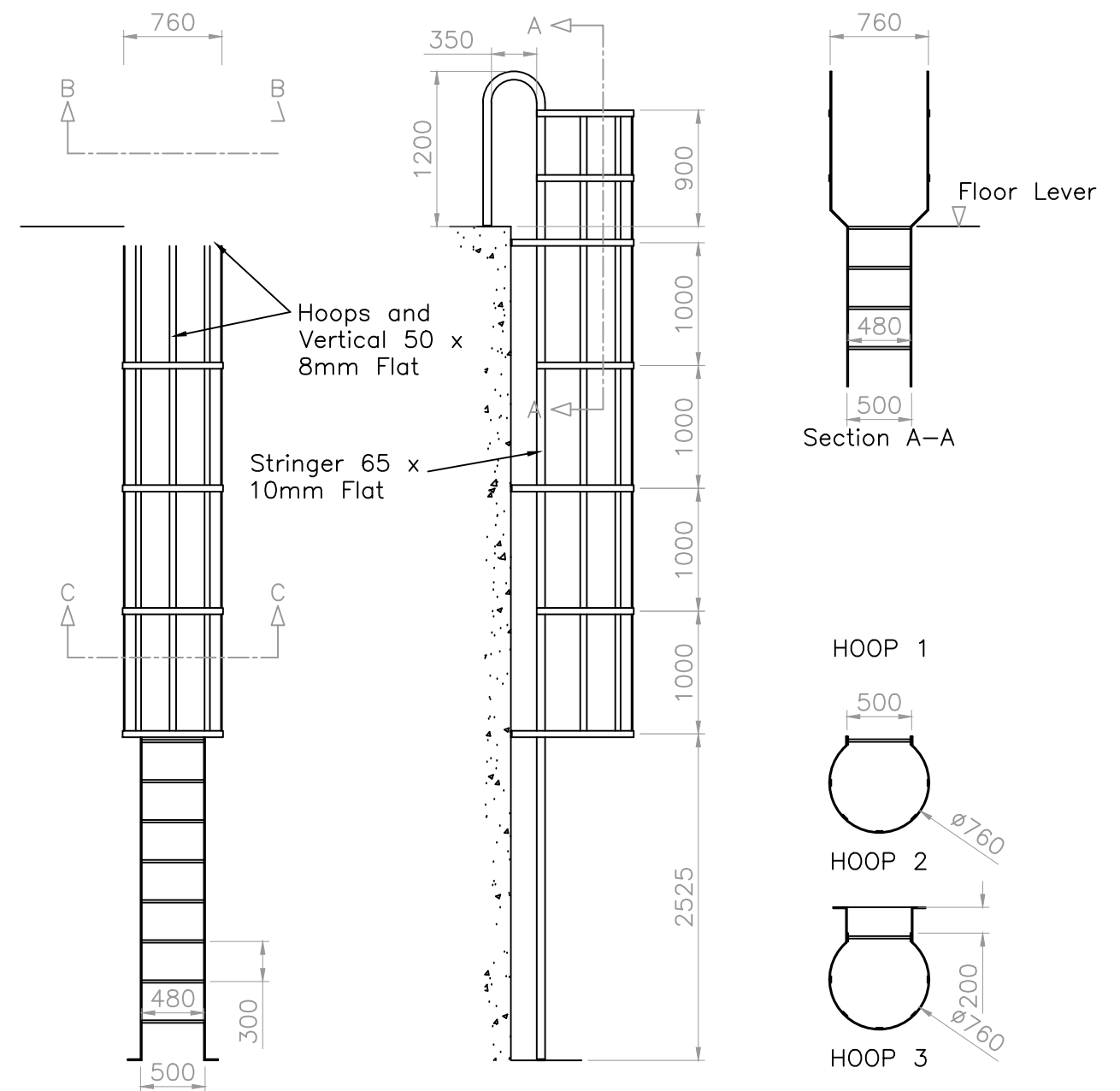
NEW PUMP STATION SECTION B-B
SCALE 1:50

REVISIONS		
NO.	DESCRIPTION	DATE

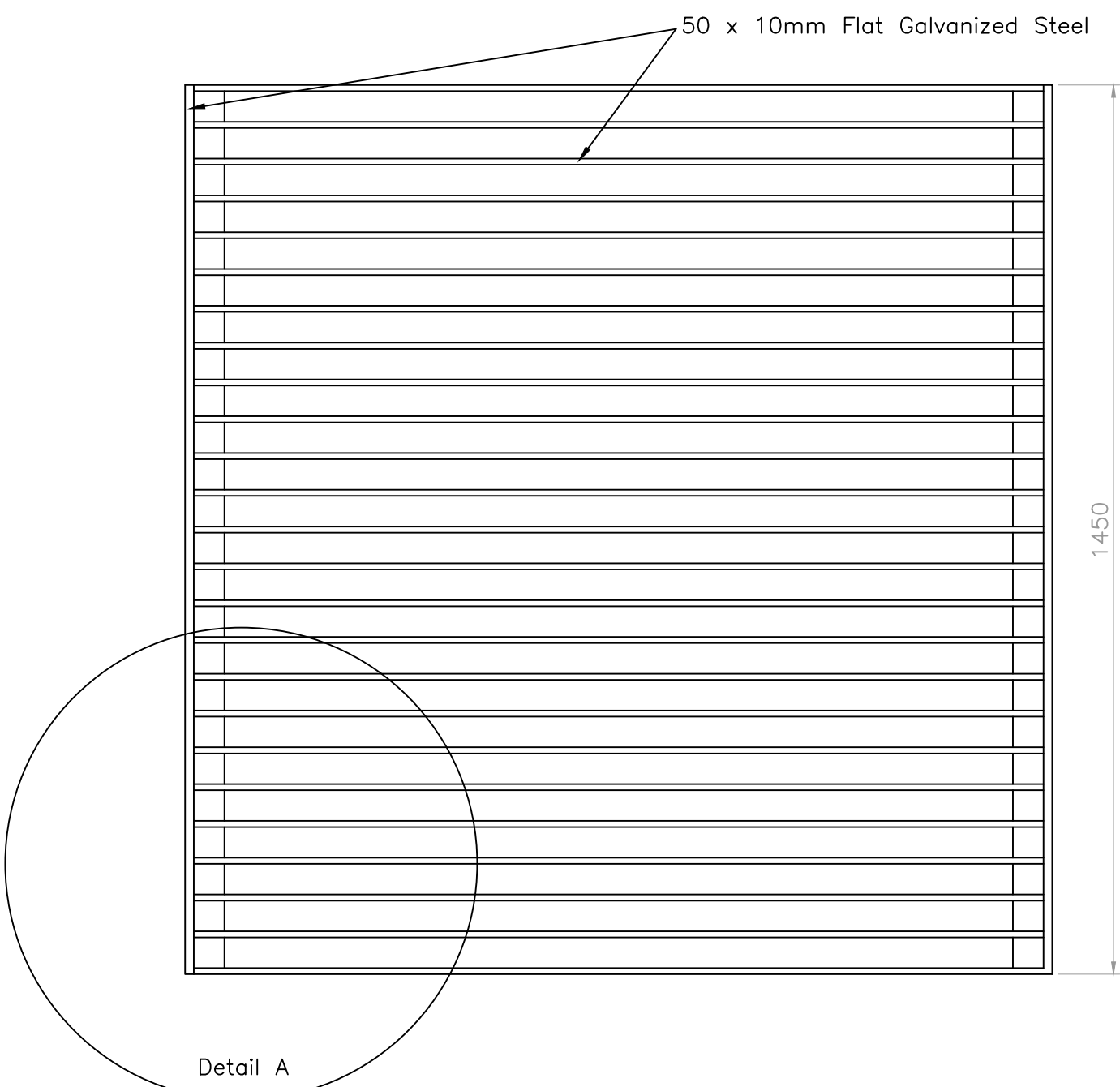
CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	



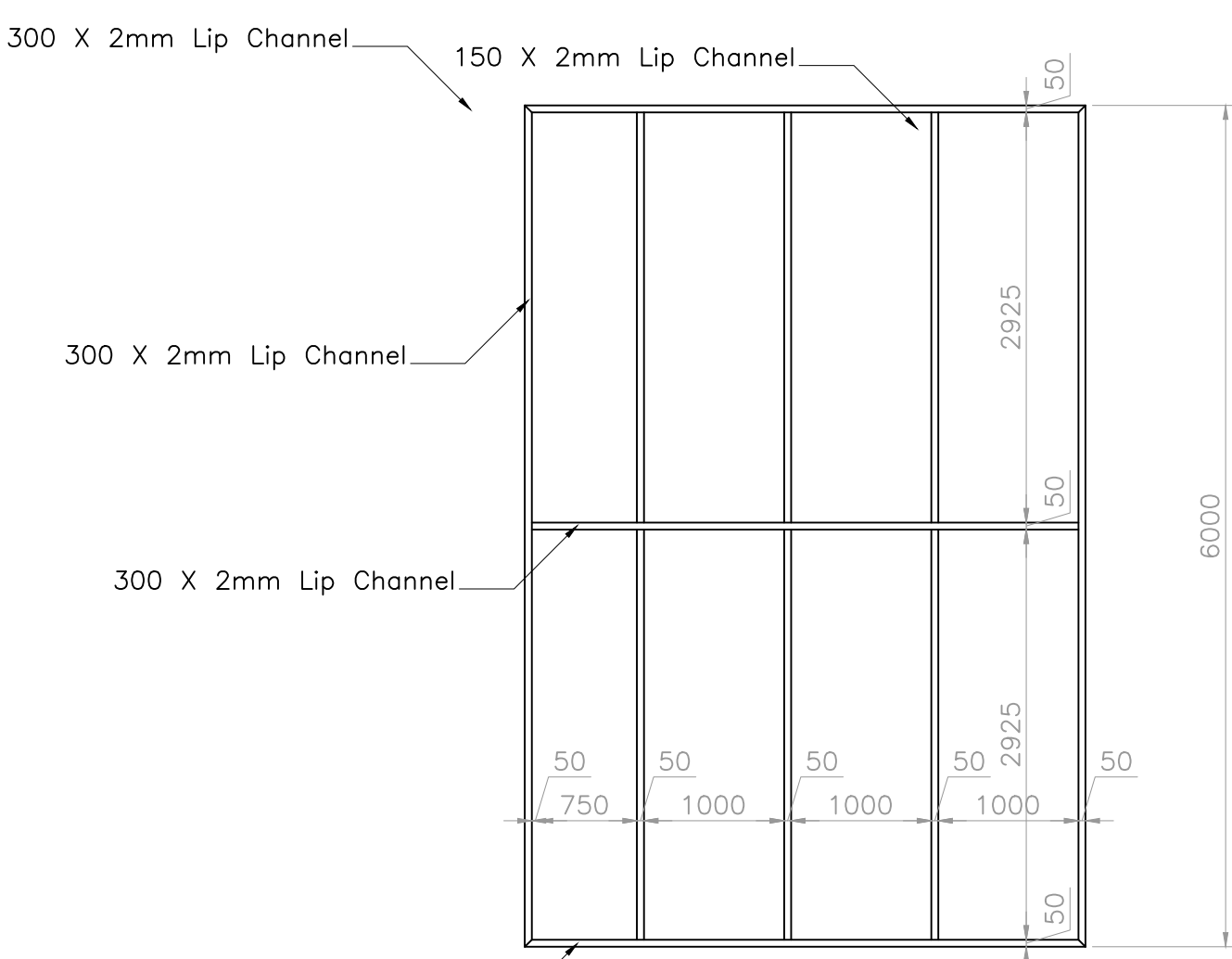
PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
NEW PUMP STATION	
SCALE: AS SHOWN	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203 - PSP - 01	REV: 00



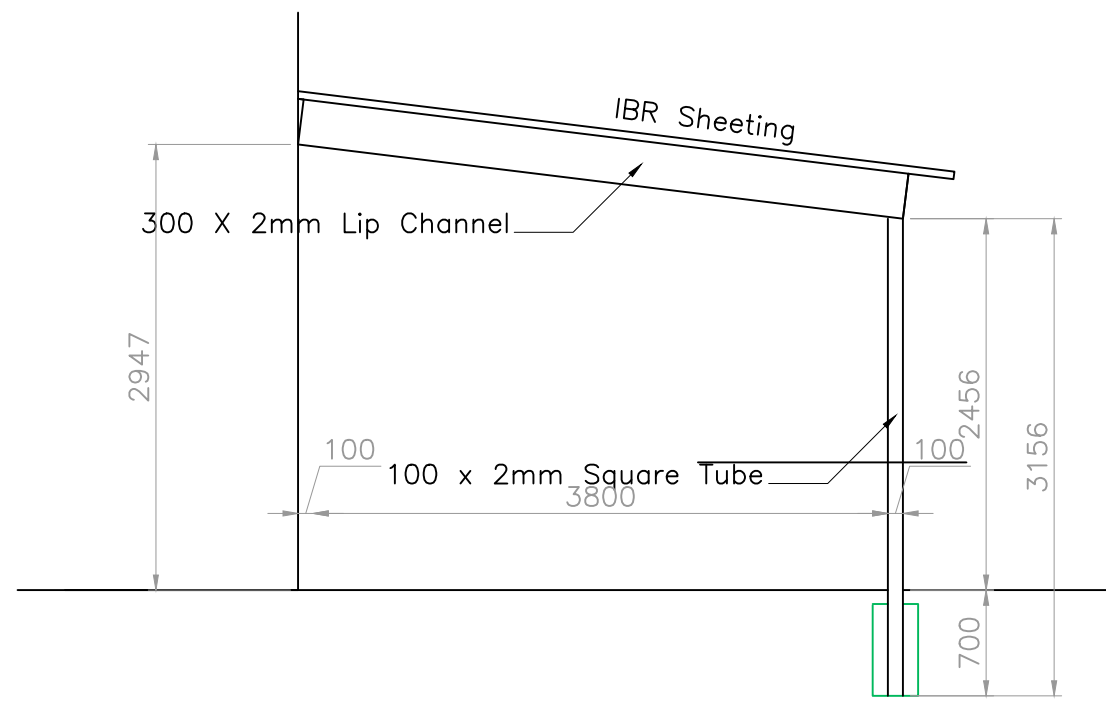
GALVANIZED VERTICAL LADDER
SCALE 1:50



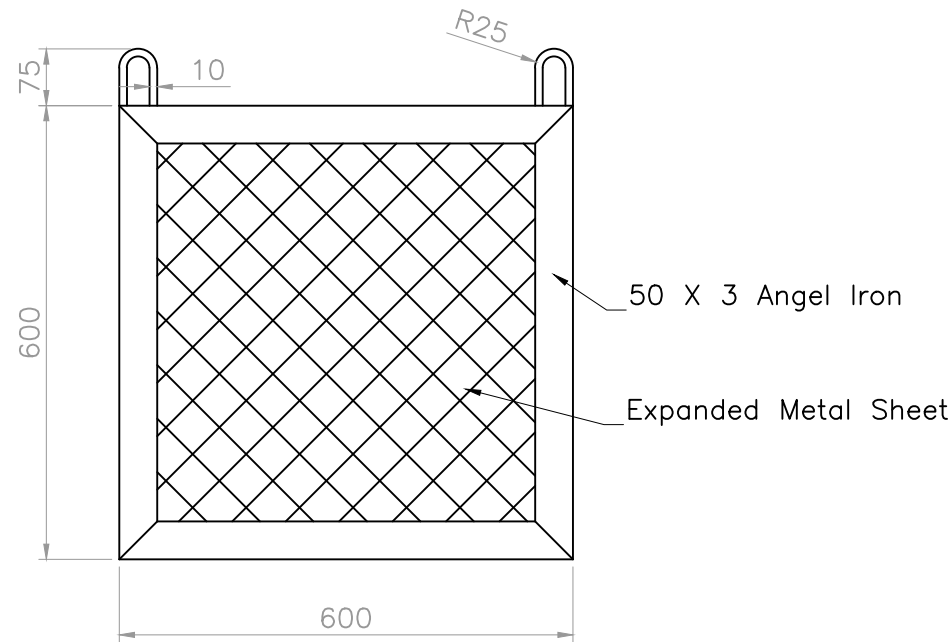
GALVANIZED RAKE SCREEN
SCALE 1:10



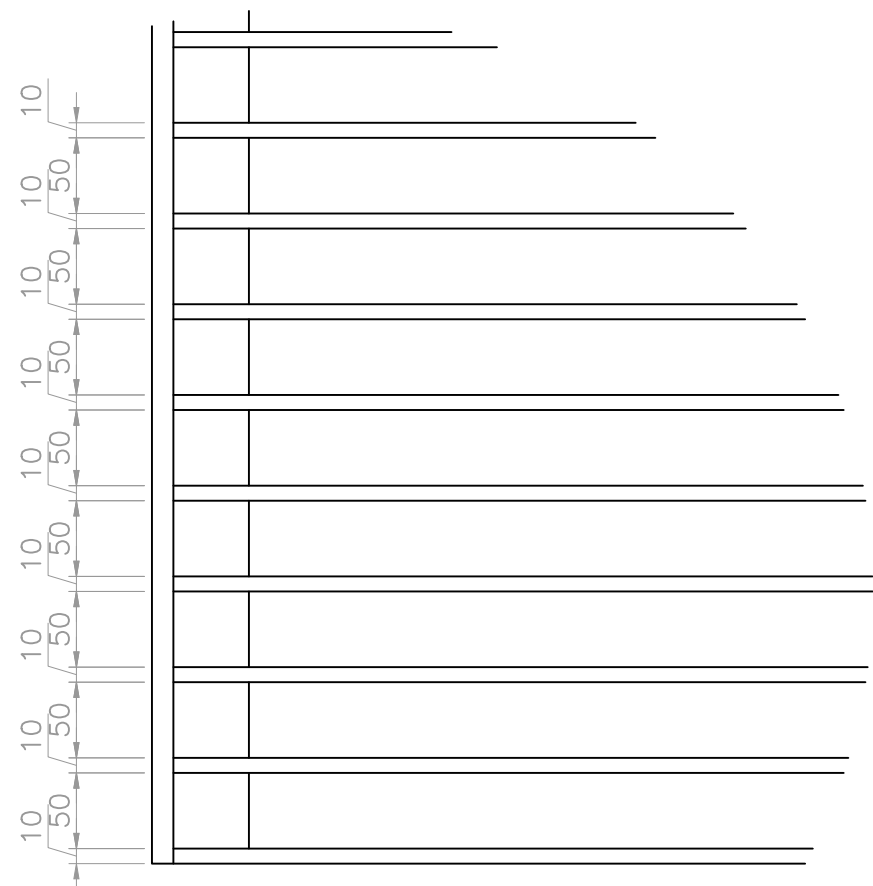
STEEL ROOF COVER
SCALE 1:50



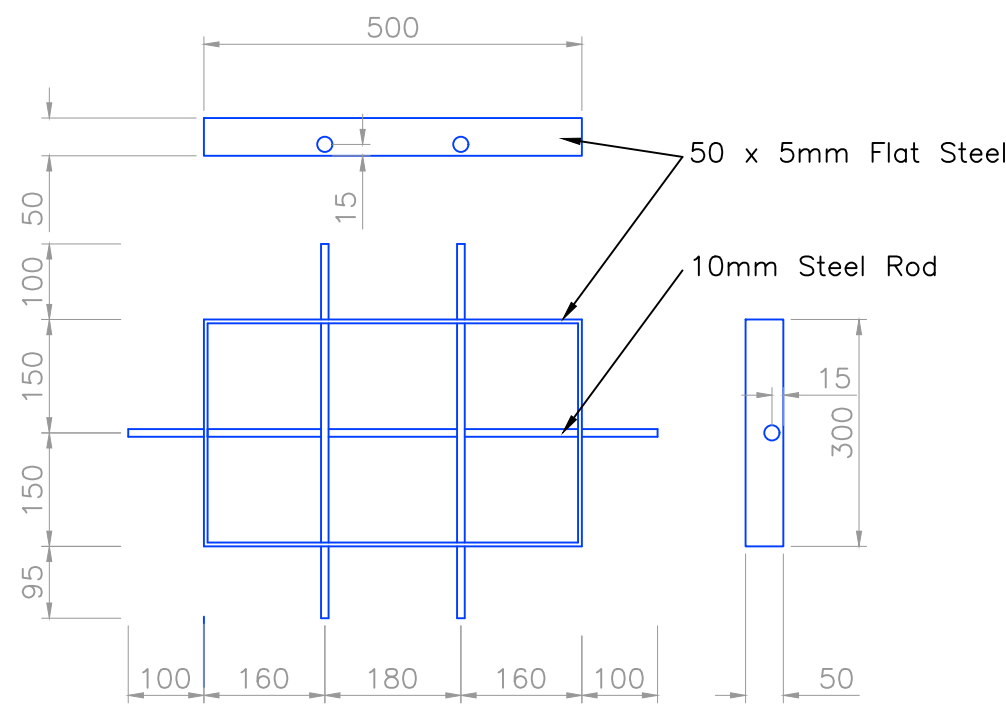
STEEL ROOF COVER
SCALE 1:50



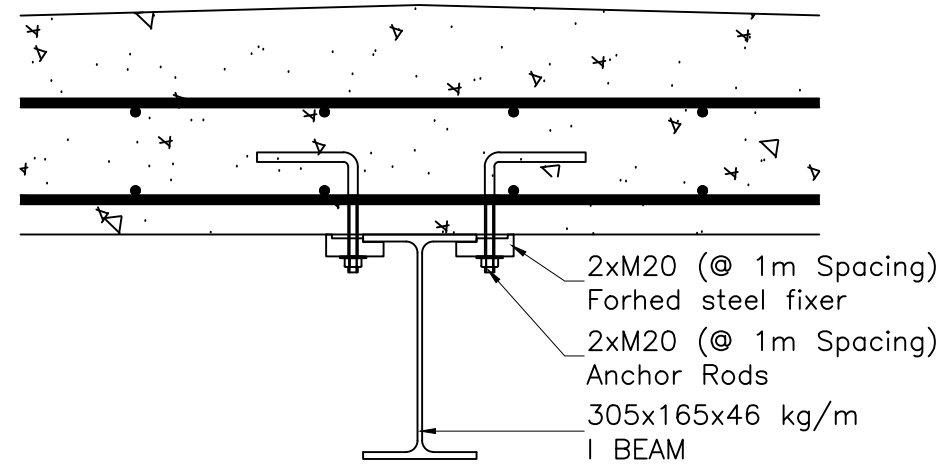
STEEL BUCKET
SCALE 1:10



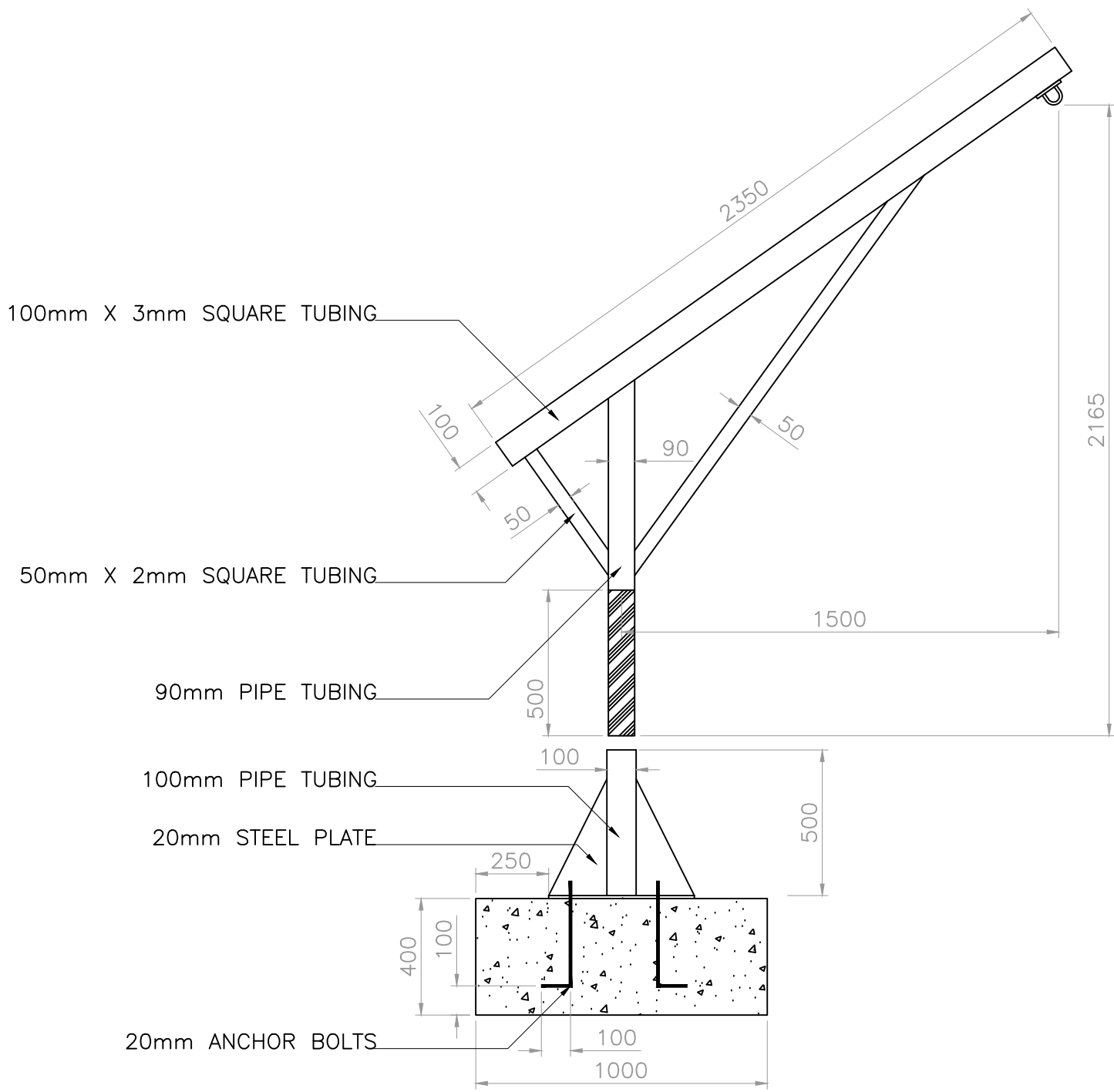
DETAIL A
SCALE 1:5



STEEL WINDOW GRID
SCALE 1:10

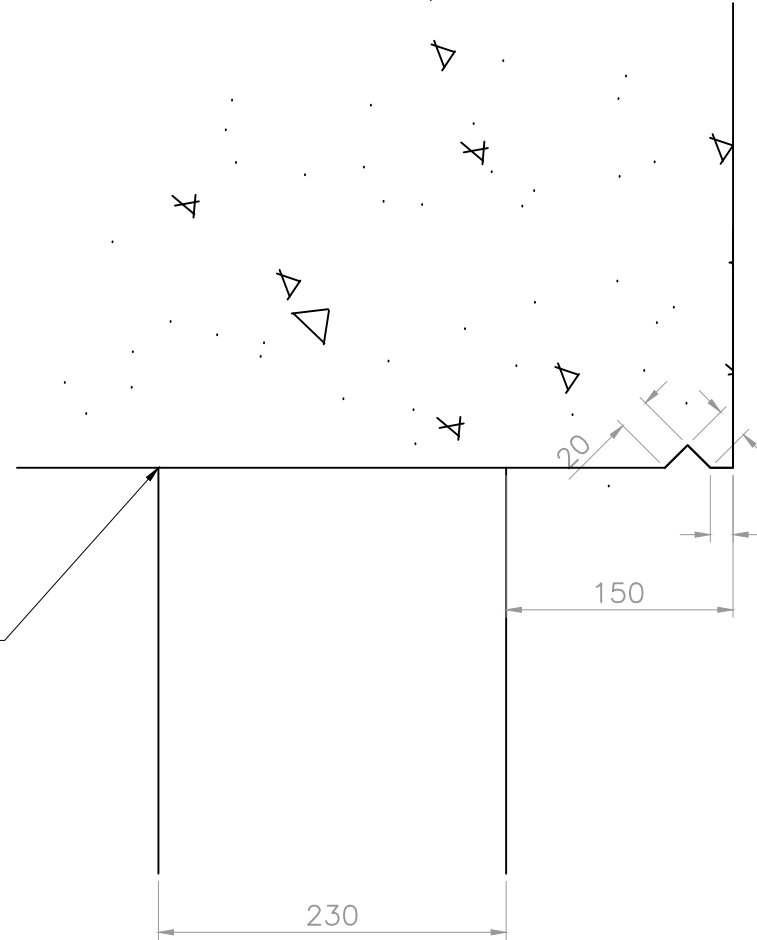


I BEAM FIXING DETAIL
SCALE 1:10



SWIVEL LIFTING DAVIT
SCALE 1:20

TOP SURFACE OF WALL SHALL BE RENDERED SMOOTH
WITH 1:2 CEMENT/SAND MORTAR NOT EXCEEDING 20mm PRIOR
TO PLACING 3 LAYERS OF DAMP RESISTANT "BRICK GRIP"
OR SIMILAR APPROVED OVER FULL WIDTH AND LENGTH OF WALL



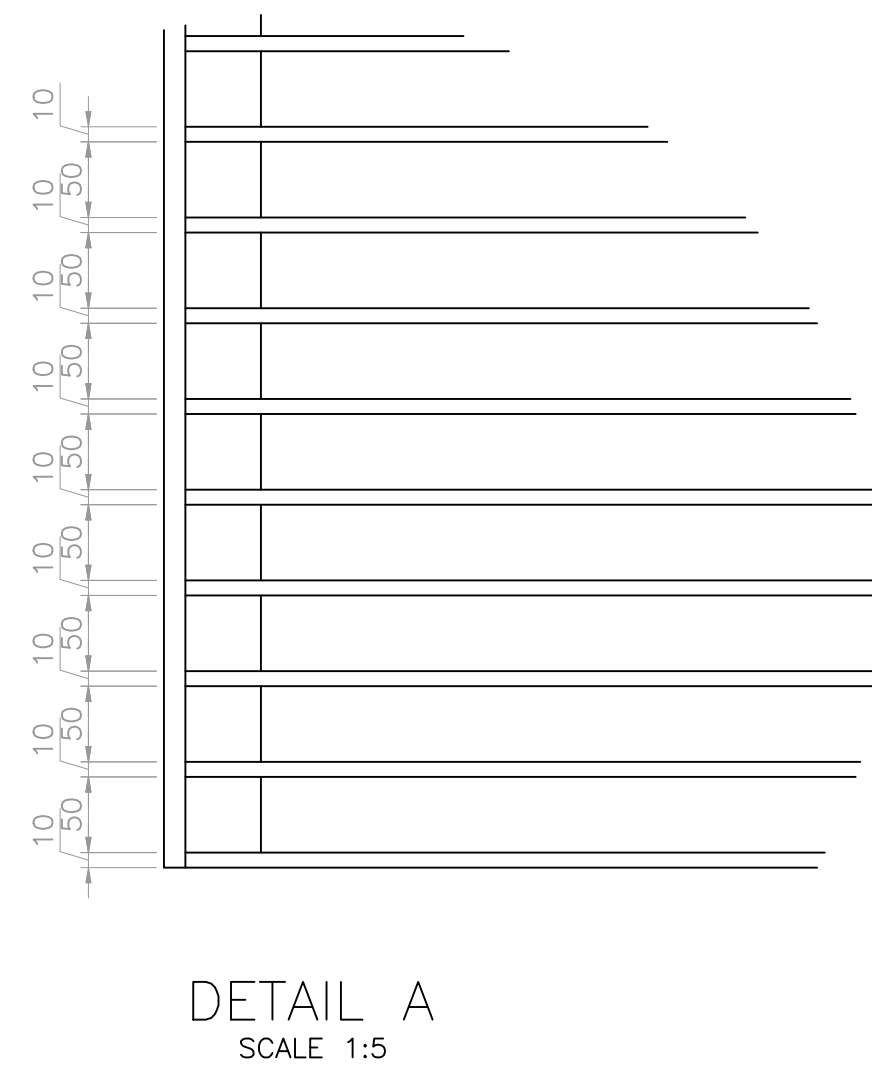
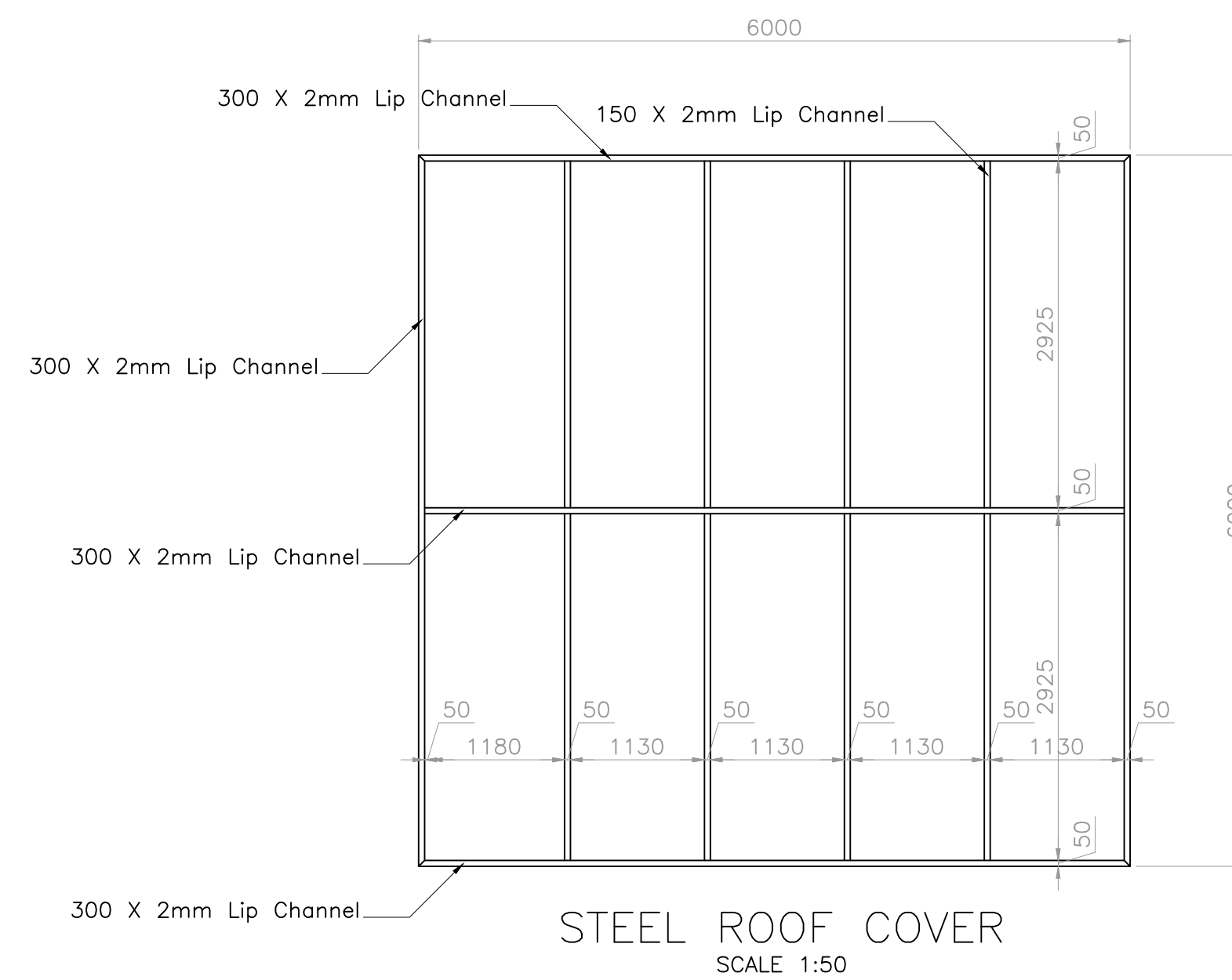
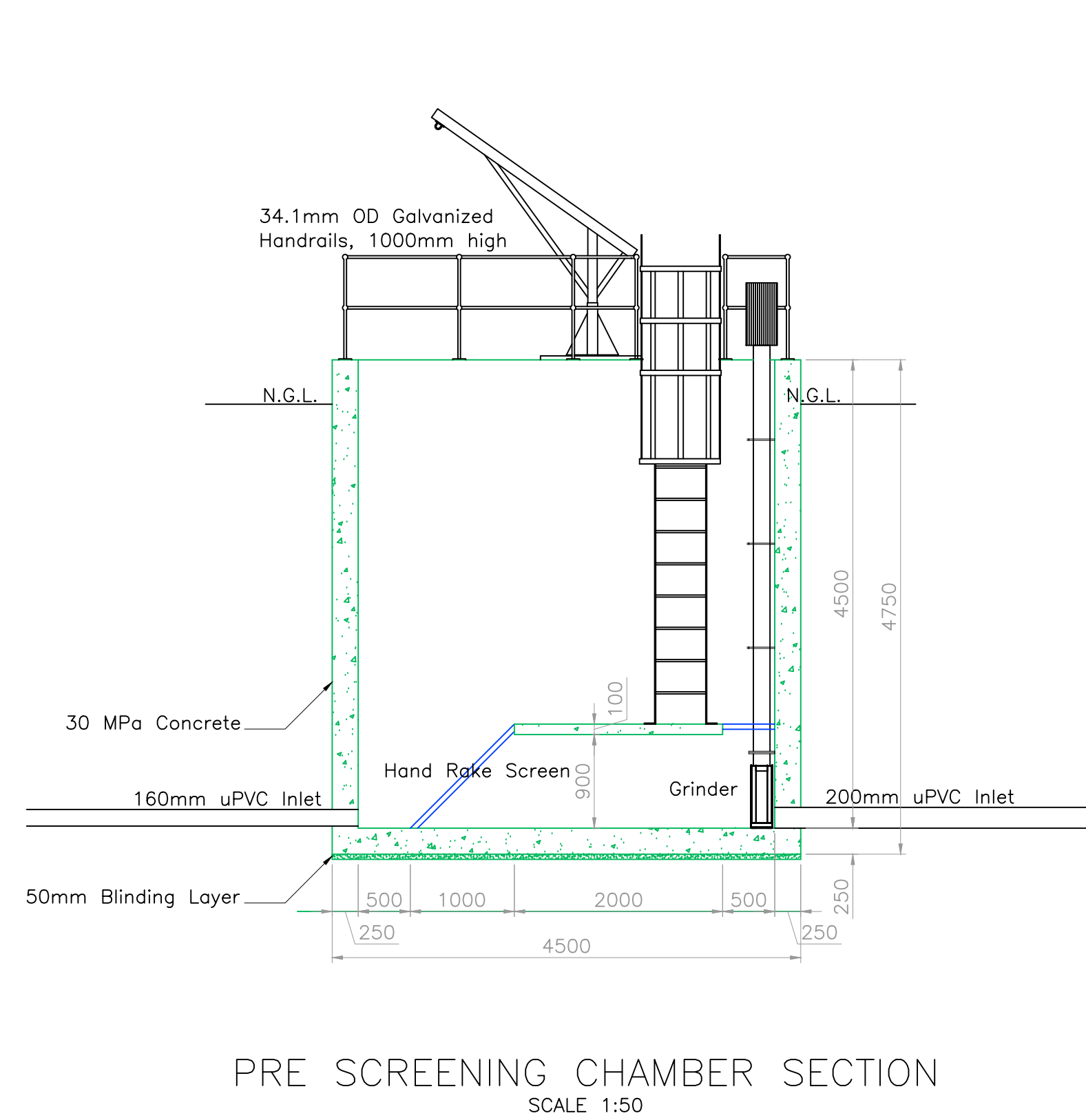
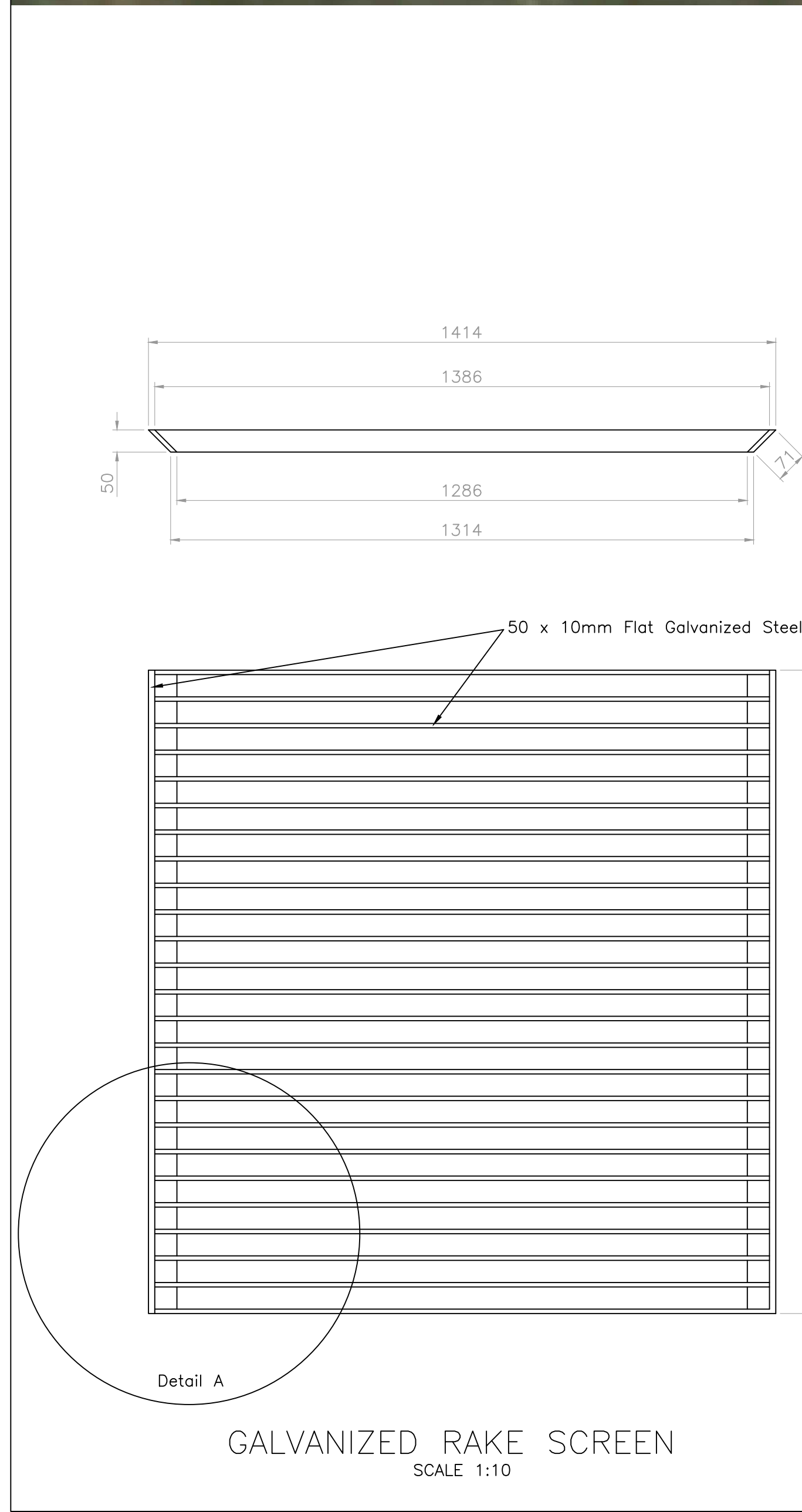
CONCRETE ROOF DETAIL
SCALE 1:5

REVISIONS		
NO.	DESCRIPTION	DATE

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	



PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
NEW PUMP STATION	
SCALE: AS SHOWN	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
DRW SIZE: A1	CHECKED: R VILJOEN
FILE REF: Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022	
DRAWING NUMBER: 2203 - PSP - 02	REV: 00

[illegible]

CLIENT'S APPROVAL	
NAME: _____	
PROF. REG. _____	SIGNATURE: _____
ENGINEER'S APPROVAL	
NAME: R VILJOEN	
PROF. REG. 200970081	SIGNATURE: _____



PHETHOGO
CONSULTING
(Pty) Ltd

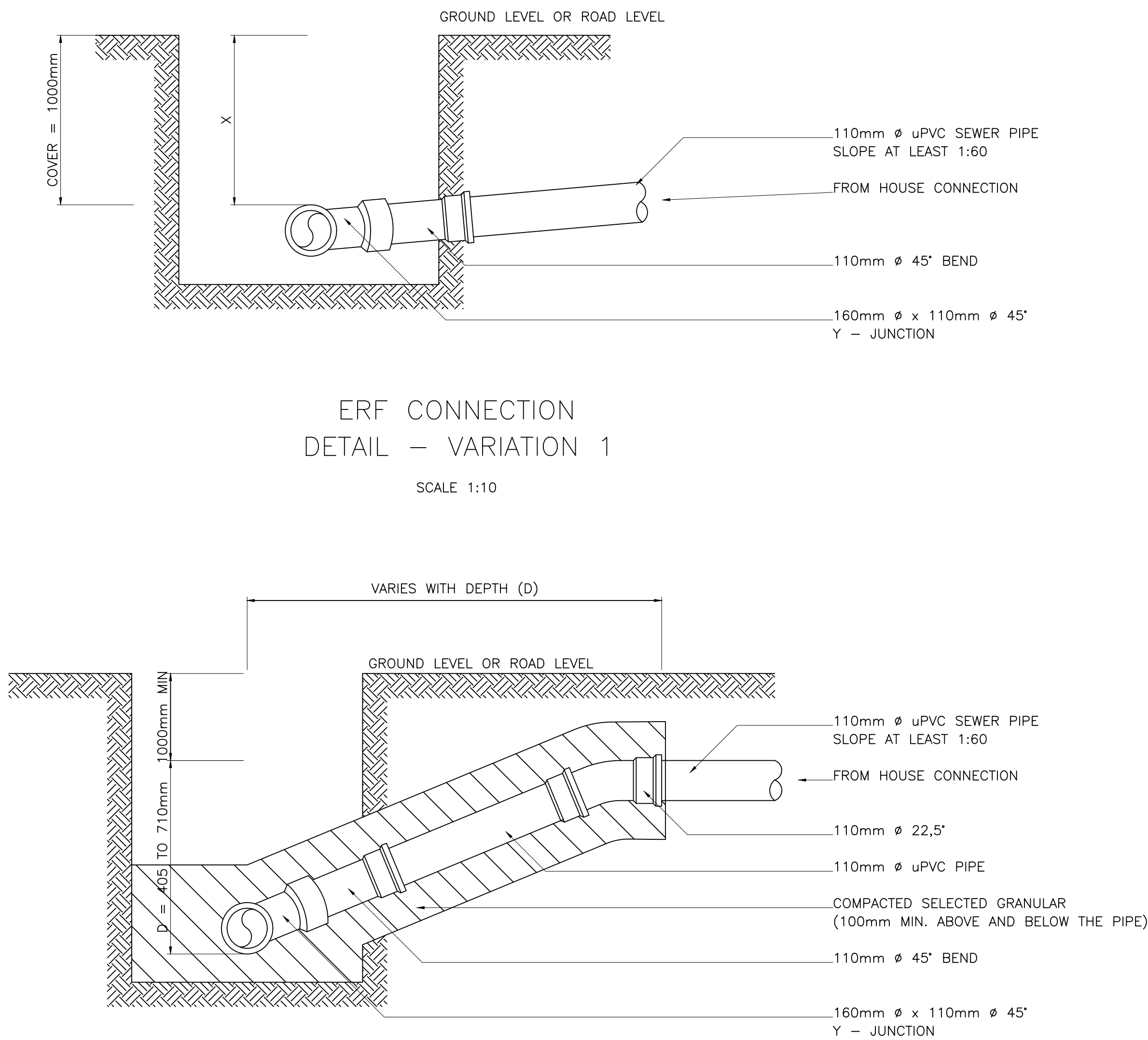
ENGINEERING SERVICES | PROJECT MANAGEMENT | TOWN PLANNING & REGIONAL PLANNERS

 (0) 27 51 448 606
(0) 27 51 448 6728

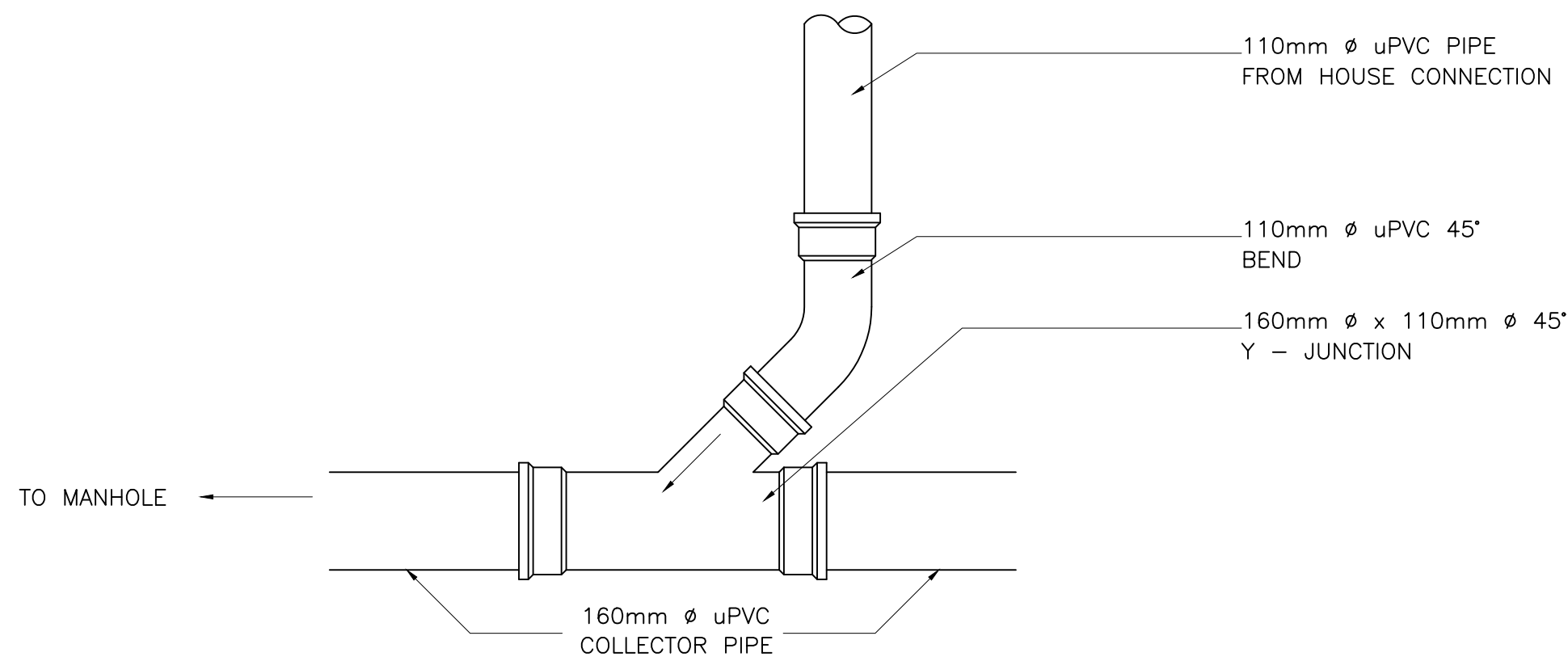
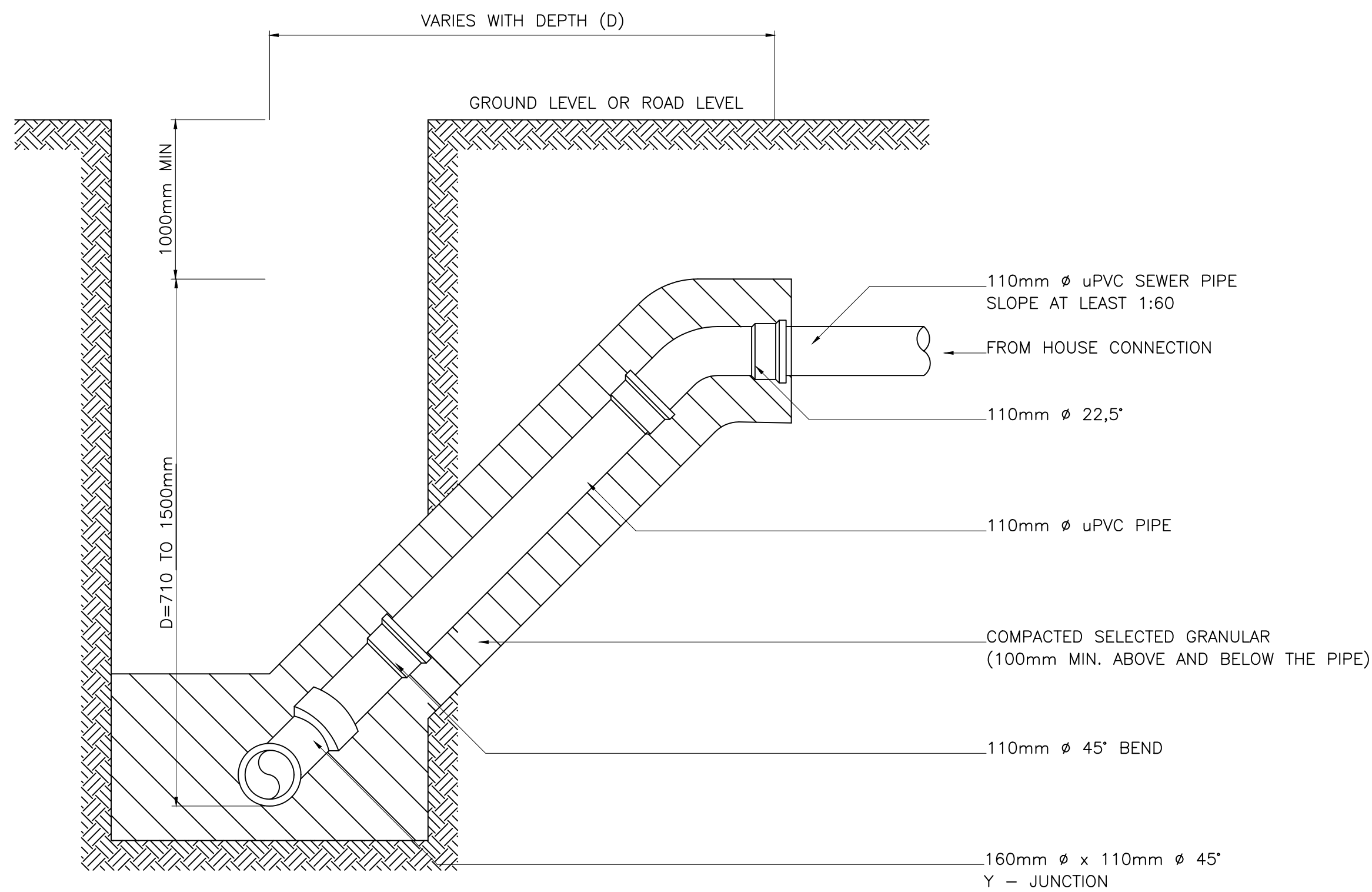
 info@phethogo.co.za
www.phethogo.co.za

 112 Melrose Harolds Drive
Westdene | Brix 935
PO Box 42684 | HENHLE 9122

PROJECT TITLE			
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG			
DRAWING DESCRIPTION			
PRE-SCREENING			
SCALE:	AS SHOWN	DESIGNED:	R VIJJOEN
DATE:	16 NOVEMBER 2022	DRAWN:	R VIJJOEN
DRW SIZE:	A1	CHECKED:	R VIJJOEN
FILE REF:	Z:\2022\2203 Masakeng Sewer Pump\08 Drawings\02 Tender Drawings\RV Nov 2022		
DRAWING NUMBER:	2203		REV.
	- PSP -		03



TRENCH EXCAVATION ERF CONNECTION	
X	WIDTH
0–1m	450mm
>1m	600mm



NOTES

THIS COMPLETE CONNECTION WILL BE MEASURED UNDER ITEM B.09.01 IN THE SCHEDULE OF QUANTITIES

REVISIONS		
NO.	DESCRIPTION	

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	

CLIENT

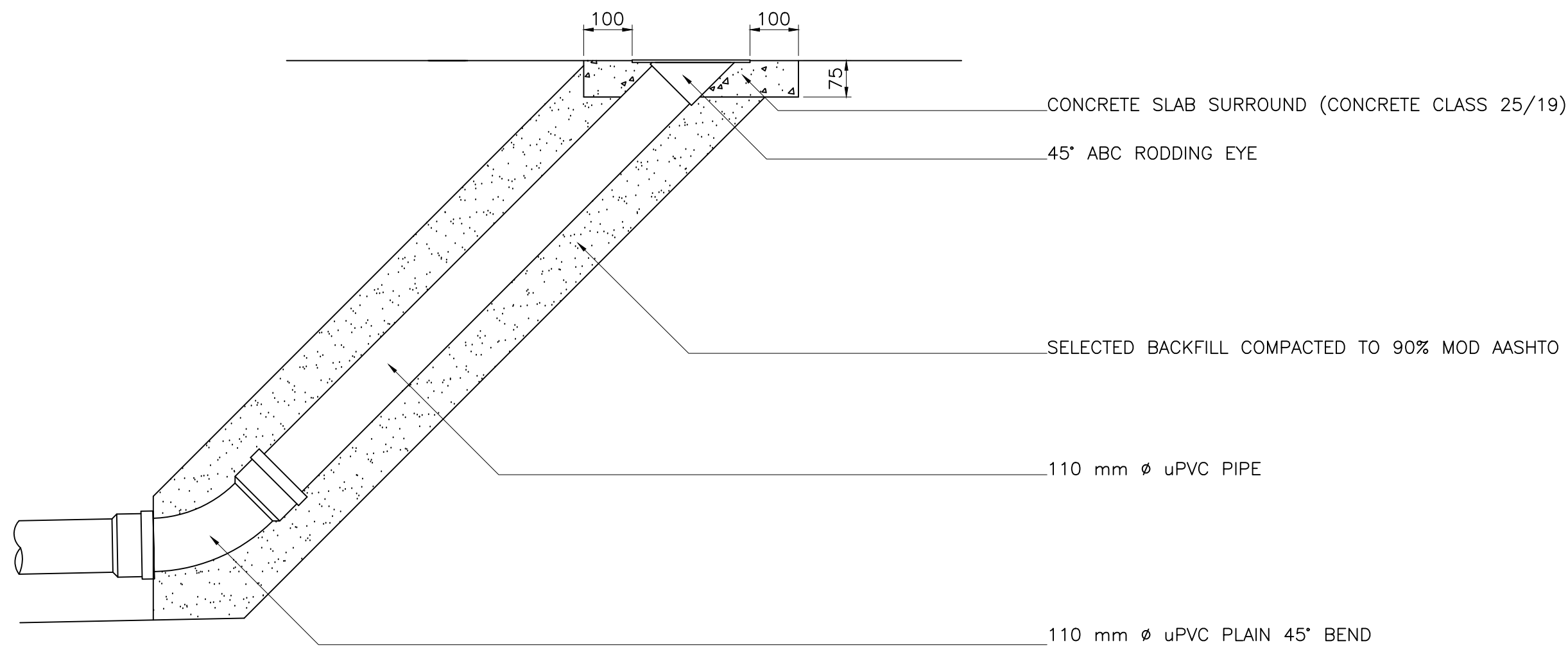
 PHOKWANE LOCAL MUNICIPALITY

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(Pty) Ltd

ENGINEERING SERVICES | PROJECT MANAGEMENT | TOWN PLANNING
& REGIONAL PLANNERS

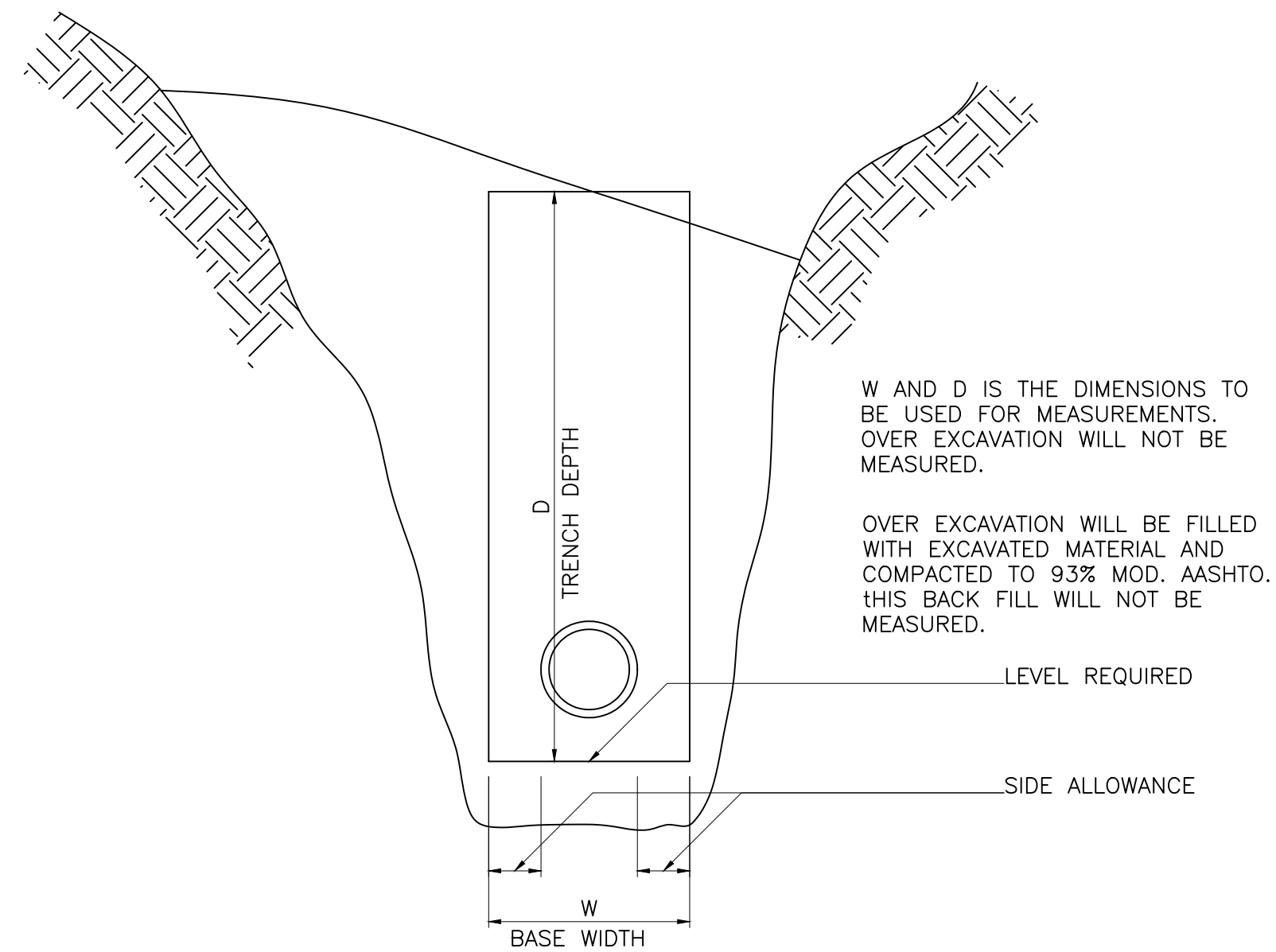
(t) +27 51 418 6006 info@phethogo.co.za 122 Nelson Mandela Drive
(f) +27 51 418 6738 www.phethogo.co.za Phokwane 18th F301
PO Box 42384 | Harare 9322

PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
SEWER ERF CONNECTIONS	
SCALE: AS SHOWN	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
CHECKED: R VILJOEN	REV:
DRAWING NUMBER: 2203-DD-01	00



TYPICAL DETAIL OF RODDING EYE
AT THE HEAD OF THE ERF SEWER LINE

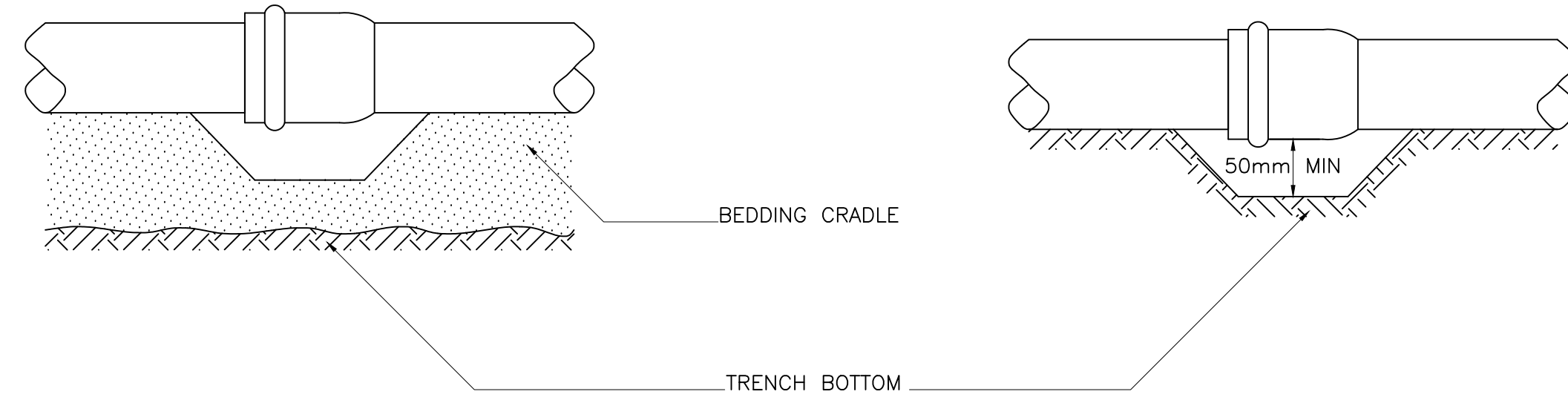
SCALE 1:10



MEASUREMENT OF BEDDING

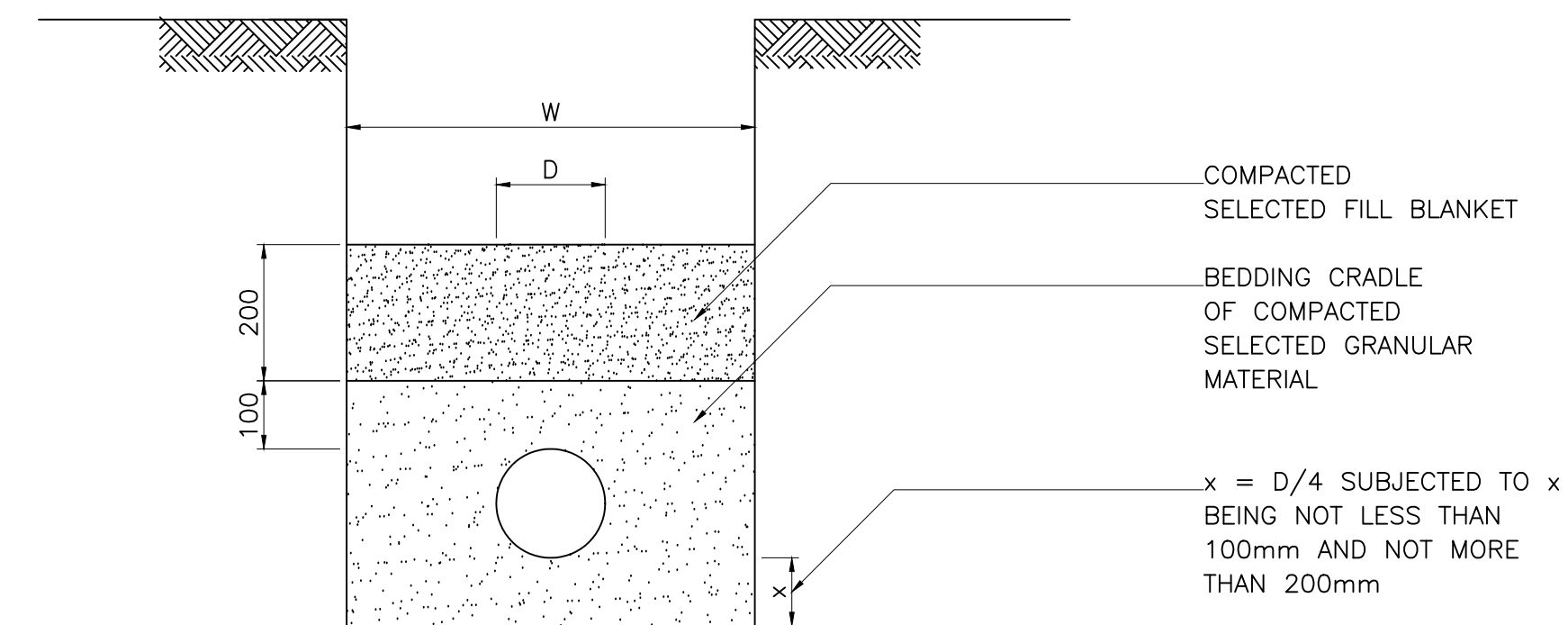
SCALE 1:10

PIPE DIAMETER (mm)	TRENCH BASE WIDTH, W(mm)
110mm $\varnothing$	600
160mm $\varnothing$	600
200mm $\varnothing$	700
250mm $\varnothing$	700
300mm $\varnothing$	800
400mm $\varnothing$	900



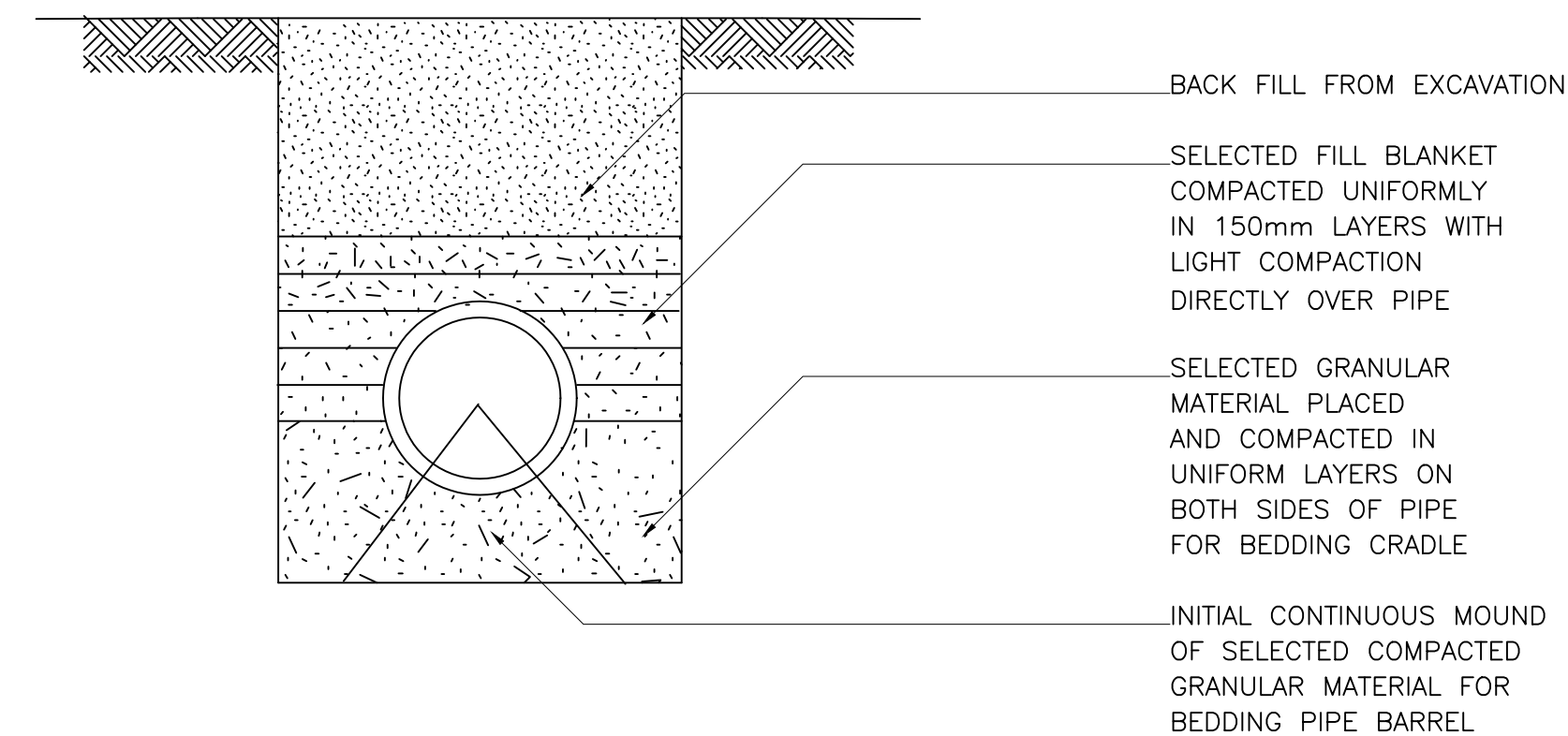
TYPICAL JOINT POCKETS
FOR FLEXIBLE PIPES

SCALE 1:10



BEDDING DETAIL
FOR FLEXIBLE PIPES

SCALE 1:10



FLEXIBLE PIPE SUPPORTED ON
SELECTED GRANULAR MATERIAL
CONSTRUCTION METHOD OF PIPE BEDDING

NOT TO SCALE

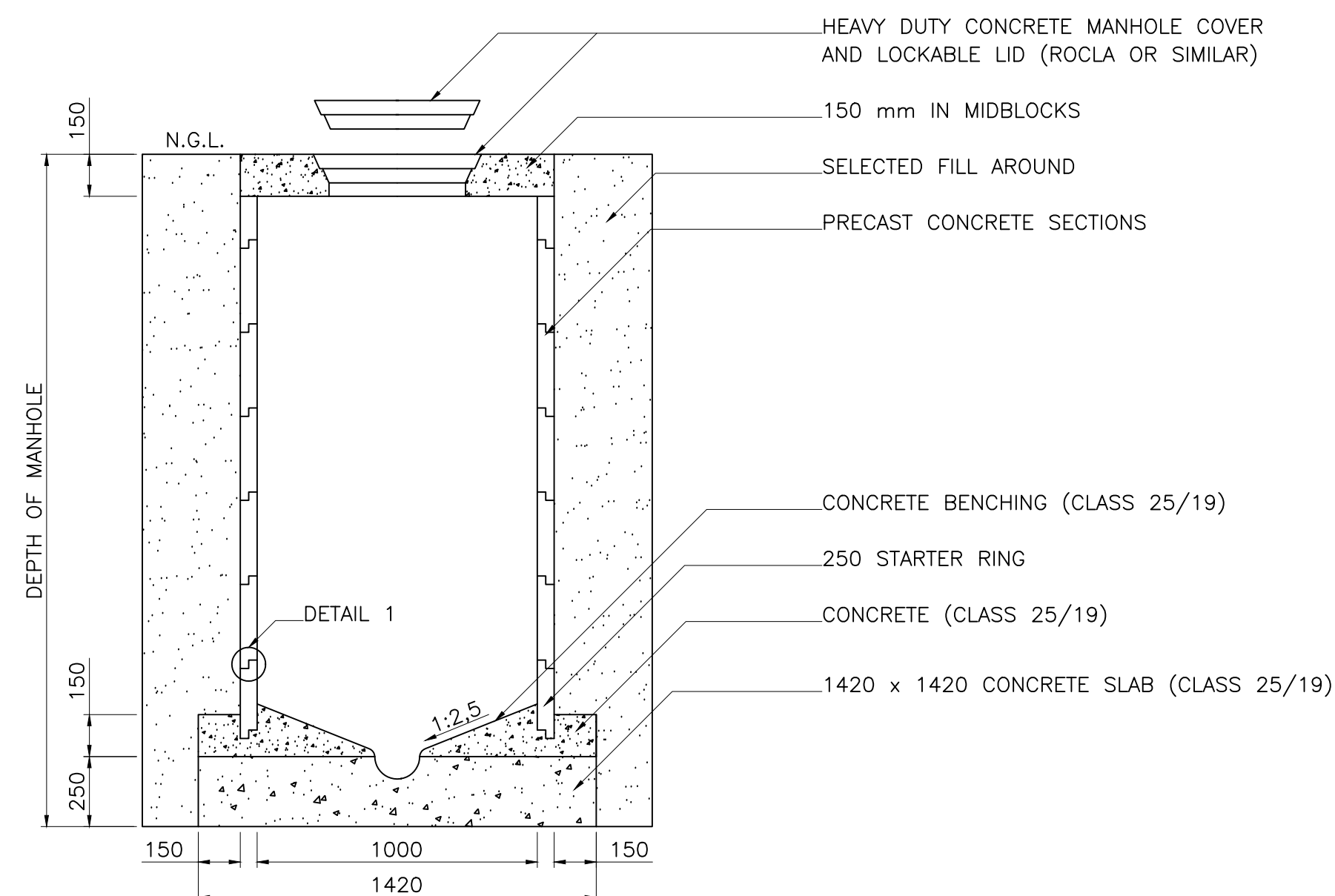
REVISIONS		
NO.	DESCRIPTION	

CLIENT'S APPROVAL	
NAME: _____	SIGNATURE: _____
PROF. REG. _____	ENGINEER'S APPROVAL
NAME: R VILJOEN	SIGNATURE: _____
PROF. REG. 200970081	SIGNATURE: _____

CLIENT	
	PHOKWANE LOCAL MUNICIPALITY

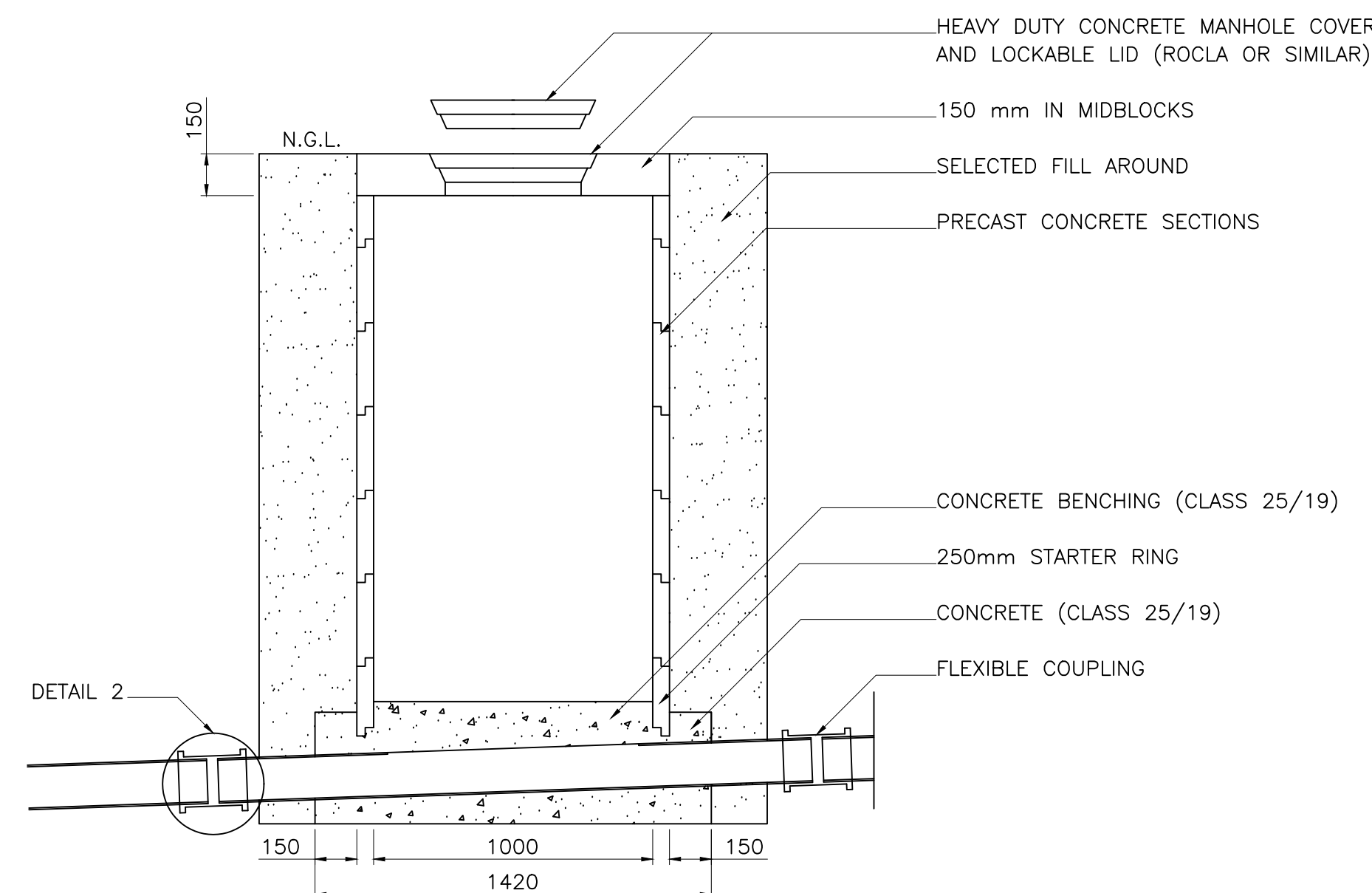
	PHETHOGO CONSULTING (Pty) Ltd
ENGINEERING SERVICES PROJECT MANAGEMENT TOWN PLANNING & REGIONAL PLANNERS	
(t) +27 51 418 6006 (f) +27 51 418 6728	info@phethogo.co.za www.phethogo.co.za
	122 Nelson Mandela Drive Phokwane 1861 9301 PO Box 43284 Harareway 9322

PROJECT TITLE	
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG	
DRAWING DESCRIPTION	
SEWER ERF CONNECTIONS BEDDING	
SCALE: AS SHOWN	DESIGNED: R VILJOEN
DATE: 16 NOVEMBER 2022	DRAWN: R VILJOEN
	CHECKED: R VILJOEN
DRAWING NUMBER:	REV:
2203-DD-02	00



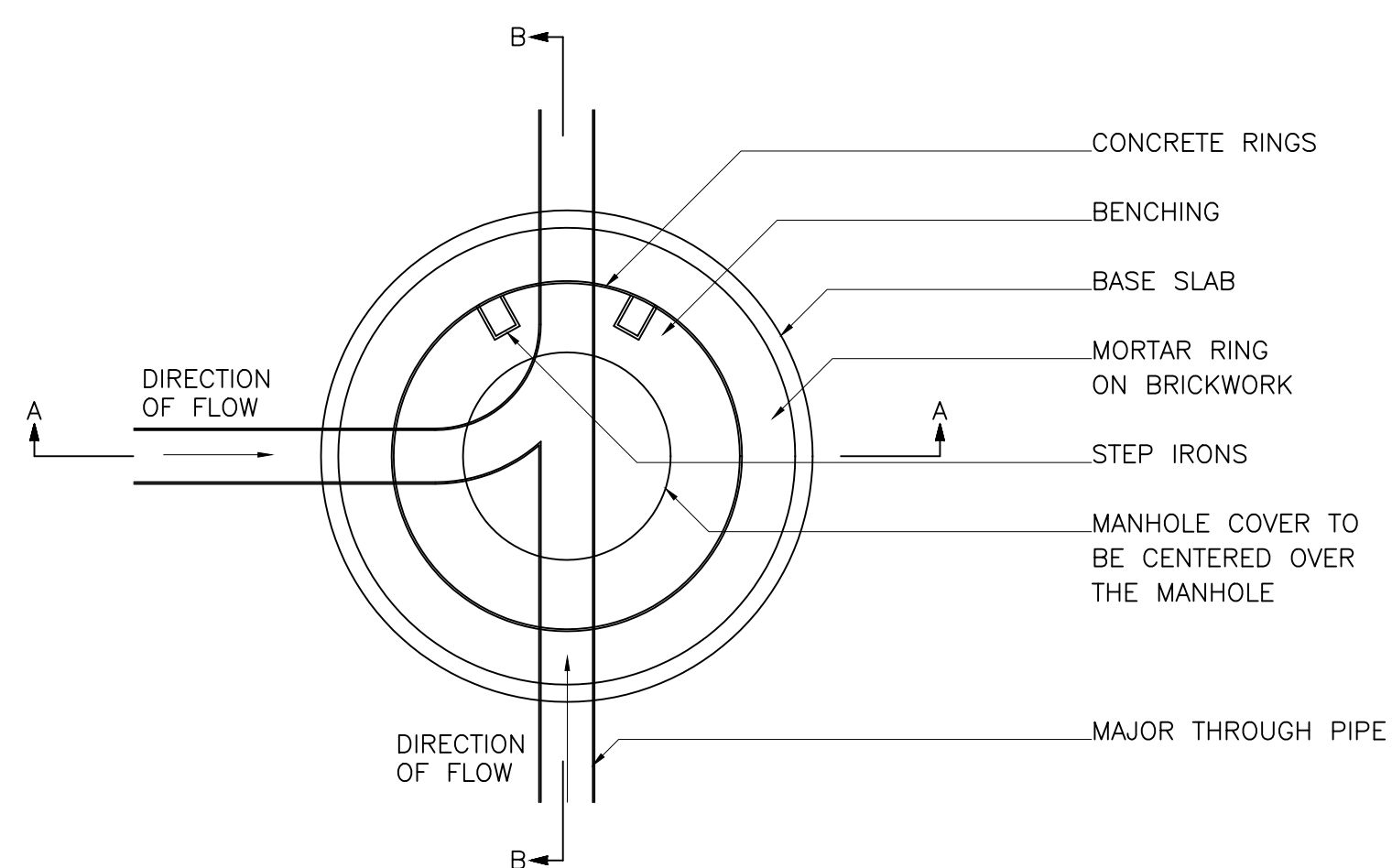
SECTION A-A

SCALE 1:20



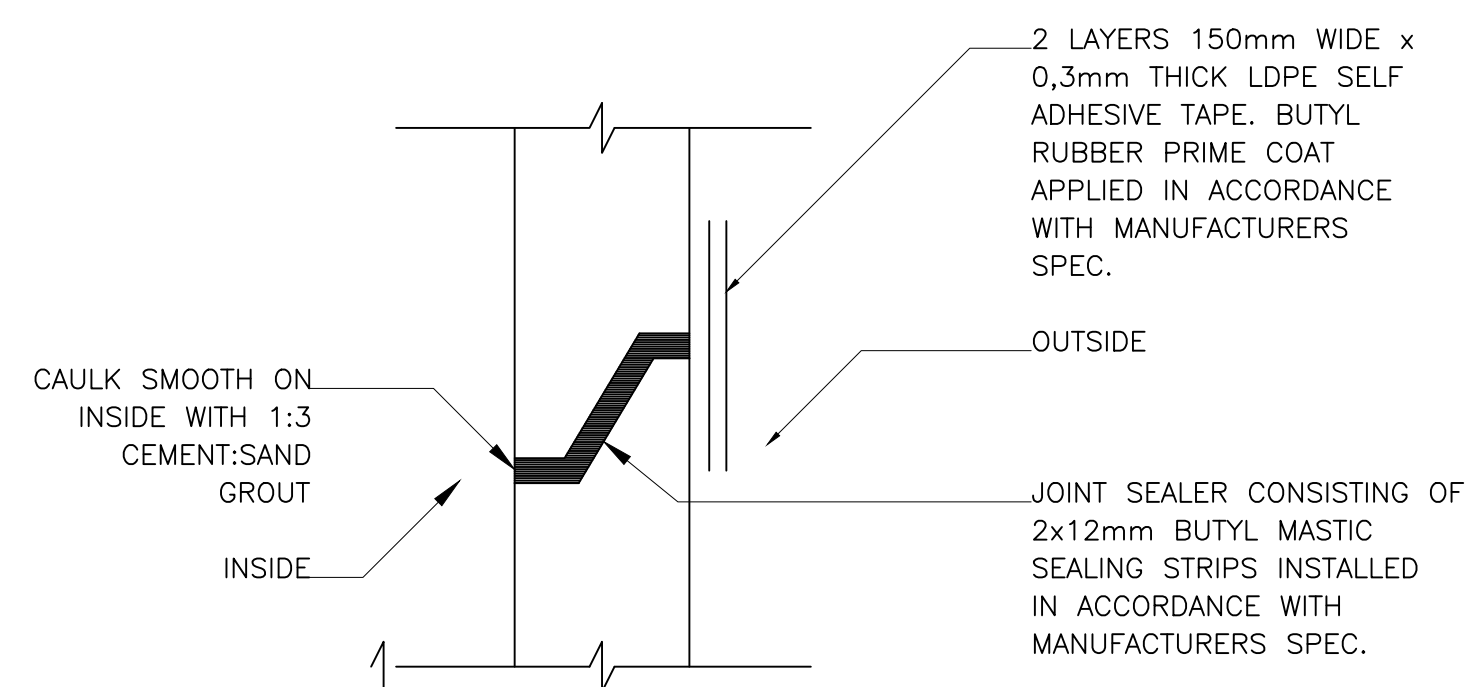
SECTION B-B

SCALE 1:20



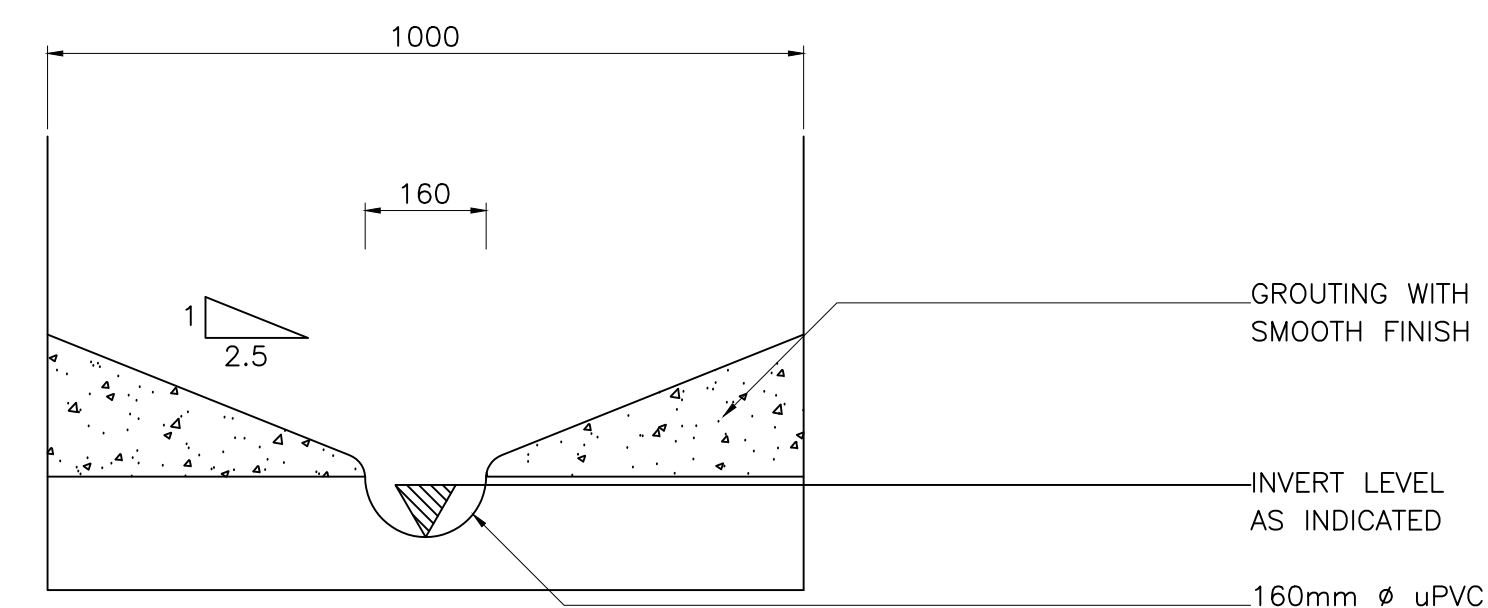
MANHOLE PLAN

SCALE 1:20



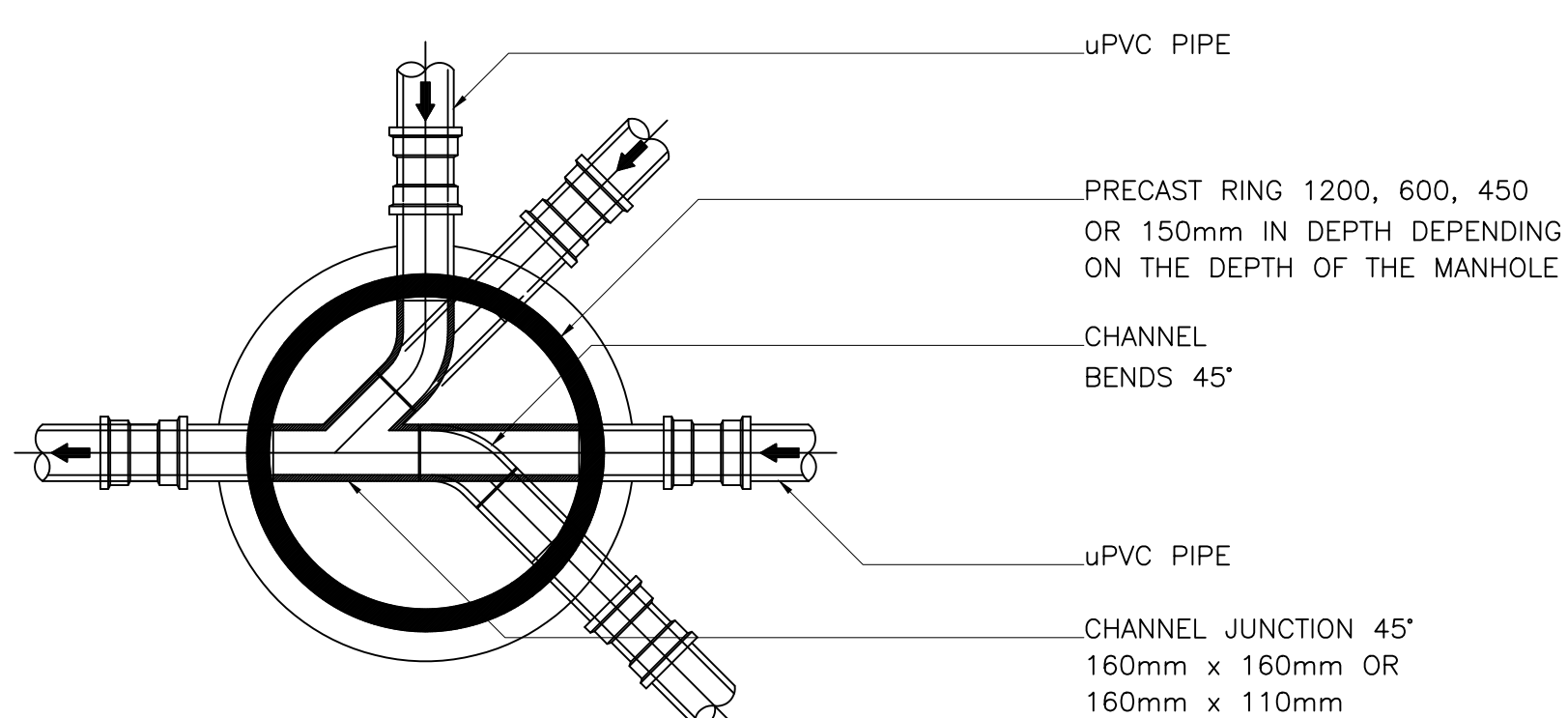
DETAIL 1

NOT TO SCALE



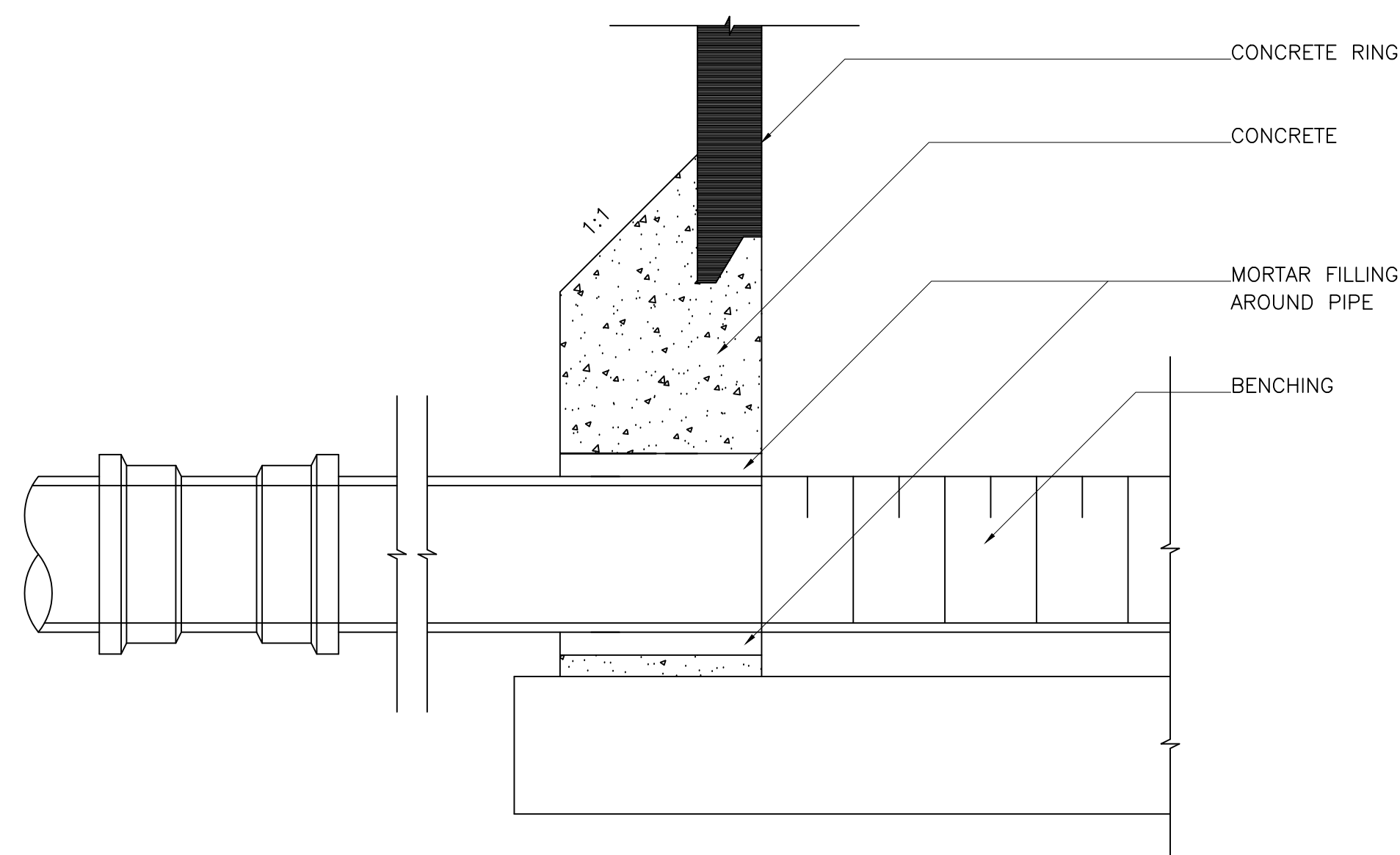
PROFILE IN MANHOLE

SCALE 1:10



MANHOLE DETAILS
90° AND 45° CONNECTIONS

SCALE 1:20



DETAIL 2

NOT TO SCALE

[illegible]

NAME: _____		CLIENT'S APPROVAL	
PROF. REG. _____	SIGNATURE: _____		
NAME: R VIJJOEN		ENGINEER'S APPROVAL	
PROF. REG. 200970081	SIGNATURE: _____		

 PHOKWANE LOCAL MUNICIPALITY	CLIENT
--	---------------

PROJECT TITLE			
NEW PUMP STATION AND RELATED BULK SEWER OUTFALL IN LINES IN MASAKENG			
DRAWING DESCRIPTION			
MANHOLE DETAILS			
SCALE:	AS SHOWN	DESIGNED:	R. VILJOEN
DATE:	16 NOVEMBER 2022	DRAWN:	R. VILJOEN
		CHECKED:	R. VILJOEN
DRAWING NUMBER:			REV:
2203-PD-Q3			00