

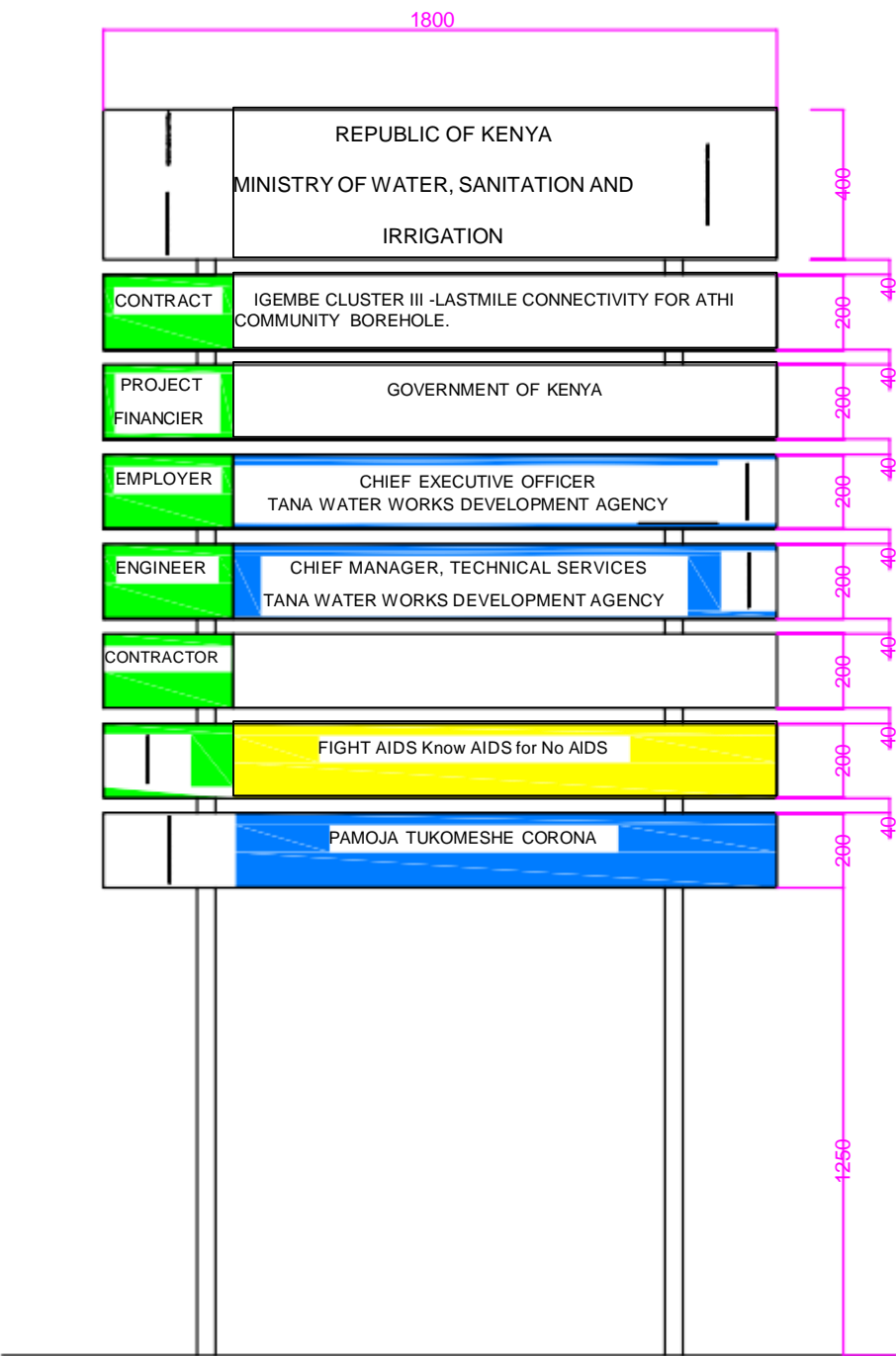


**IGEMBE CLUSTER WATER PROJECT- LOT III
ATHI COMMUNITY BOREHOLE LASTMILE
CONNECTIVITY**

Book of Drawings

ATHI COMMUNITY BOREHOLE LASTMILE CONNECTIVITY MAP





NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

2. THE BOARD TO BE HIGH QUALITY BLOCKBOARD WITH HARDWOOD LIPPING ALL ROUND

TANA WATER WORKS
DEVELOPMENT AGENCY

CHIEF EXECUTIVE OFFICER	CHIEF MANGER, TECHNICAL SERVICES
Date.....Sign.....	Date.....Sign.....

PROJECT

TWWDA STANDARD DRAWING -SIGNBOARD

Drawing Title

PROJECT SIGN BOARD

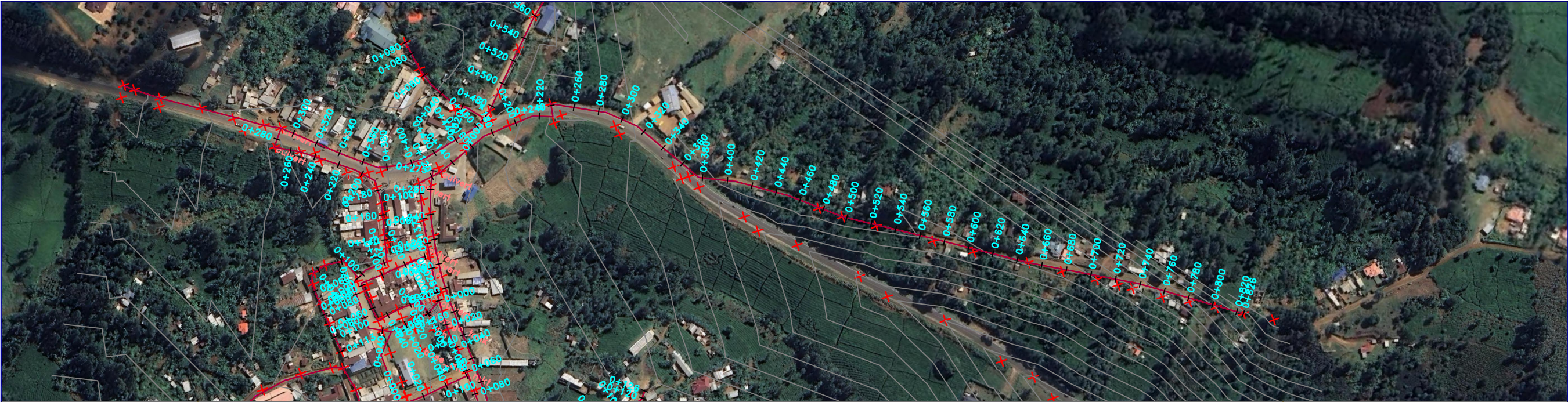
Designed by: NWW	Drawn by:
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Checked by: EWW	Approved:
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Scale: As Shown

Date:

Drawing No.



- NOTES**
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 2. COORDINATES ARE BASED ON UTM.
 3. LOCATION OF WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
 4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
 5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
 6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
 7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

- LEGEND:**
- PROPOSED PIPELINE
 - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD

- FOR TENDER**
- signed CMTS
- WASHOUT
 - WO1 — WASHOUT TYPE 1
 - WO2 — WASHOUT TYPE 2
 - OD — NOMINAL DIAMETER
 - PN — NOMINAL PRESSURE
 - VB — VERTICAL BEND
 - HB — HORIZONTAL BEND
 - EXISTING STRUCTURE
 - ER — EARTH ROAD
 - GR — GRAVEL ROAD
 - CUT

FOR TENDER				
signed CMTS				
REV	REVISIONS		SIGN	DATE
	BY	CHECKED		
	BY	CHECKED		
	BY	CHECKED		
	BY	CHECKED		
CO	ISSUED FOR CONSTRUCTION		BY	CHECKED


CLIENT

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

PROJECT

**DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE**

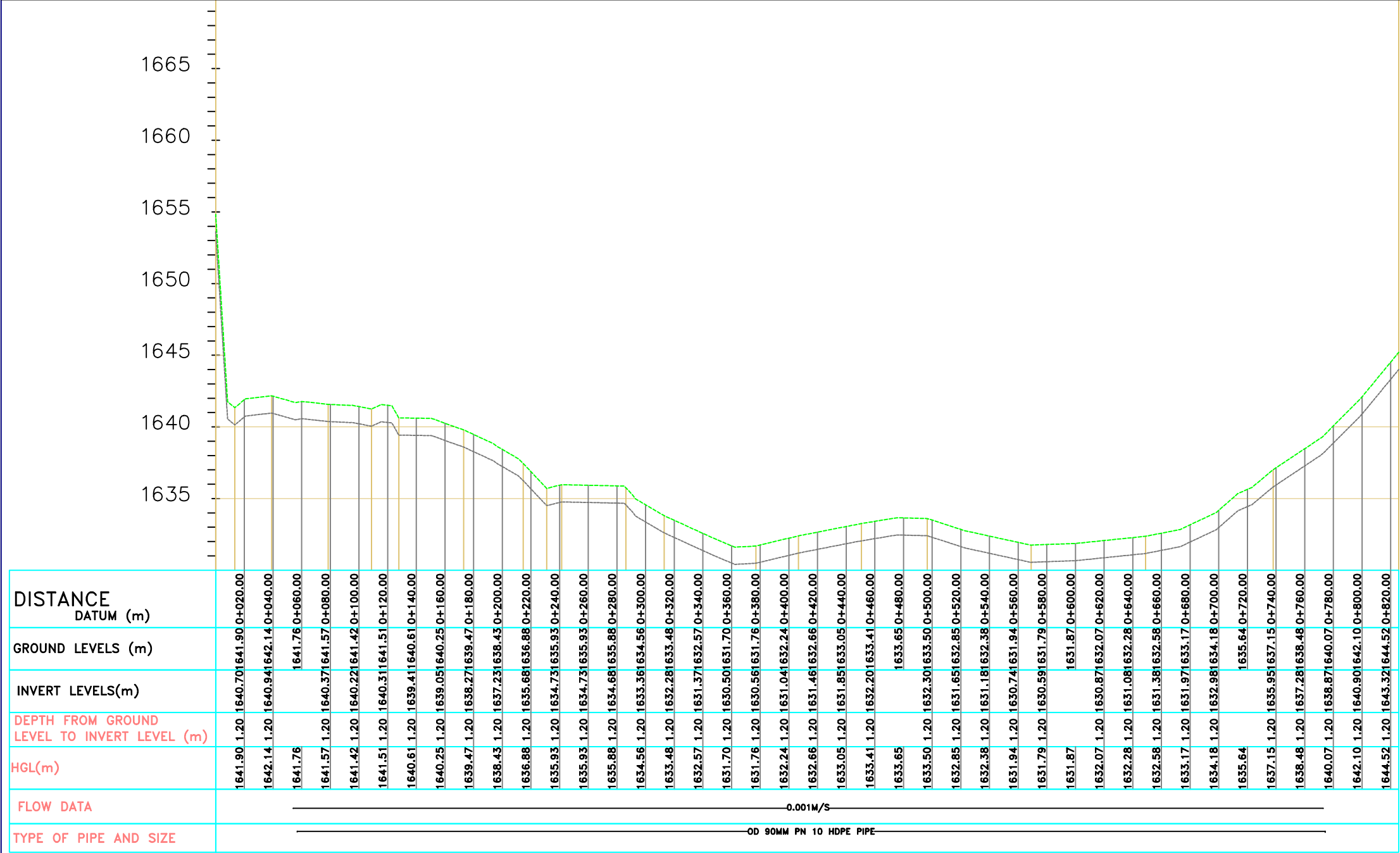
Civil/Structural Engineers

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

Drawing Title

**BOREHOLE TO KIALE
PLAN AND PROFILE (SHEET 5 OF 18)**

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



Borehole to Kiale
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON LOCATION OF AIR VALVES, WASHOUTS, BENDS, AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
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LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



— WASHOUT

WO1

— WASHOUT TYPE 1

WO2

— WASHOUT TYPE 2

OD

— NOMINAL DIAMETER

PN

— NOMINAL PRESSURE

VB

— VERTICAL BEND

HB

— HORIZONTAL BEND

ER

— EXISTING STRUCTURE

GR

— EARTH ROAD

GR

— GRAVEL ROAD

CUT

— CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

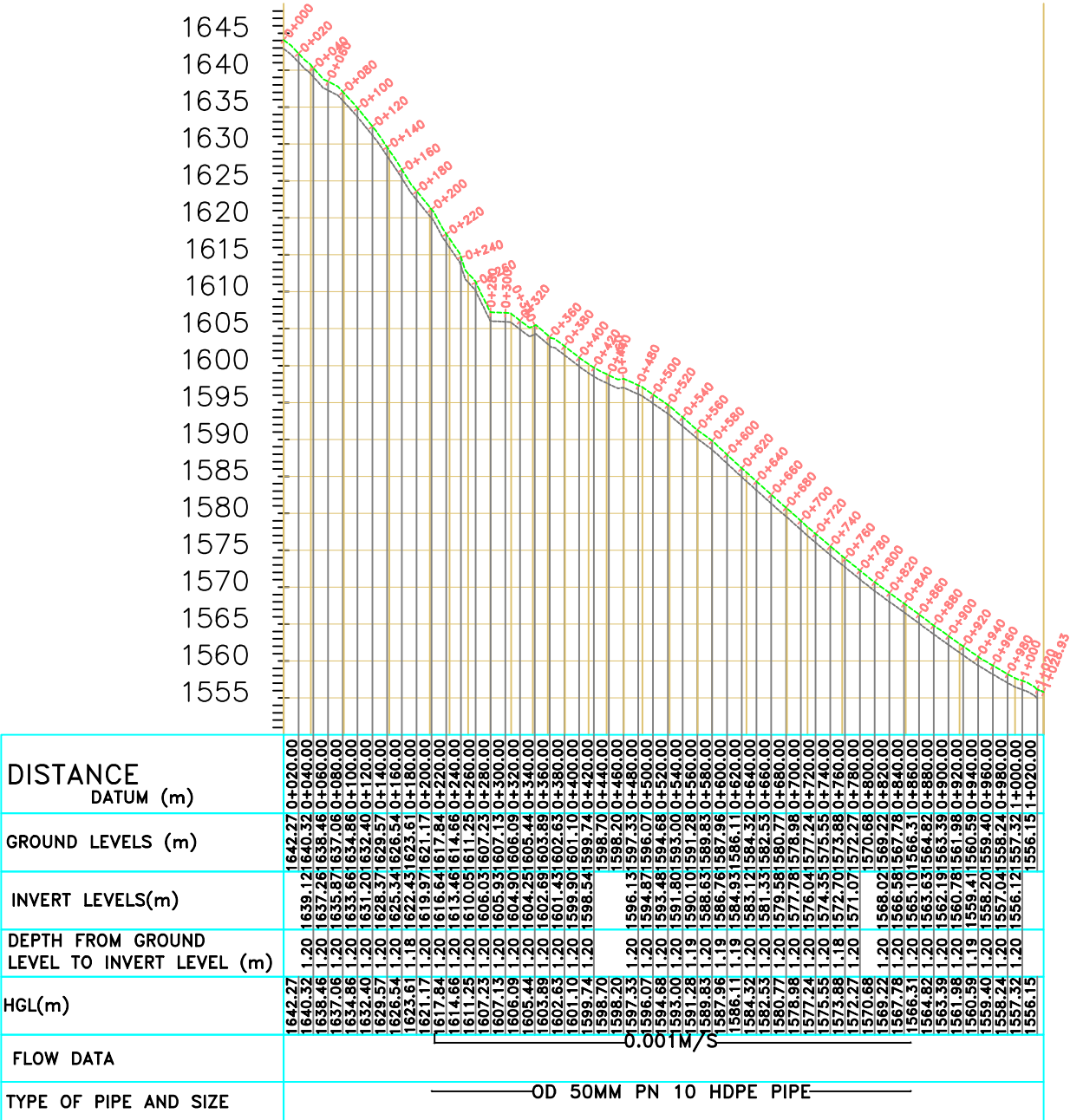
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MUTOKIAMA A
PLAN AND PROFILE (SHEET 13 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	

PD STATUS	DRAWING No.	TWWD/KWP/DL3-1	CO REV	
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Mutiokiamaa-A
SCALE: HOR 1:2000 VERT 1:1000



- NOTES
1.

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2.

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- LEGEND:
- PROPOSED PIPELINE

EXISTING GROUND PROFILE

PIPE INVERT PROFILE

EXISTING ROAD

- WASHOUT

WO1

WASHOUT TYPE 1

WO2

WASHOUT TYPE 2

OD

NOMINAL DIAMETER

PN

NOMINAL PRESSURE

VB

VERTICAL BEND

HB

HORIZONTAL BEND

EXISTING STRUCTURE

ER

EARTH ROAD

GR

GRAVEL ROAD


CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
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CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT




TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

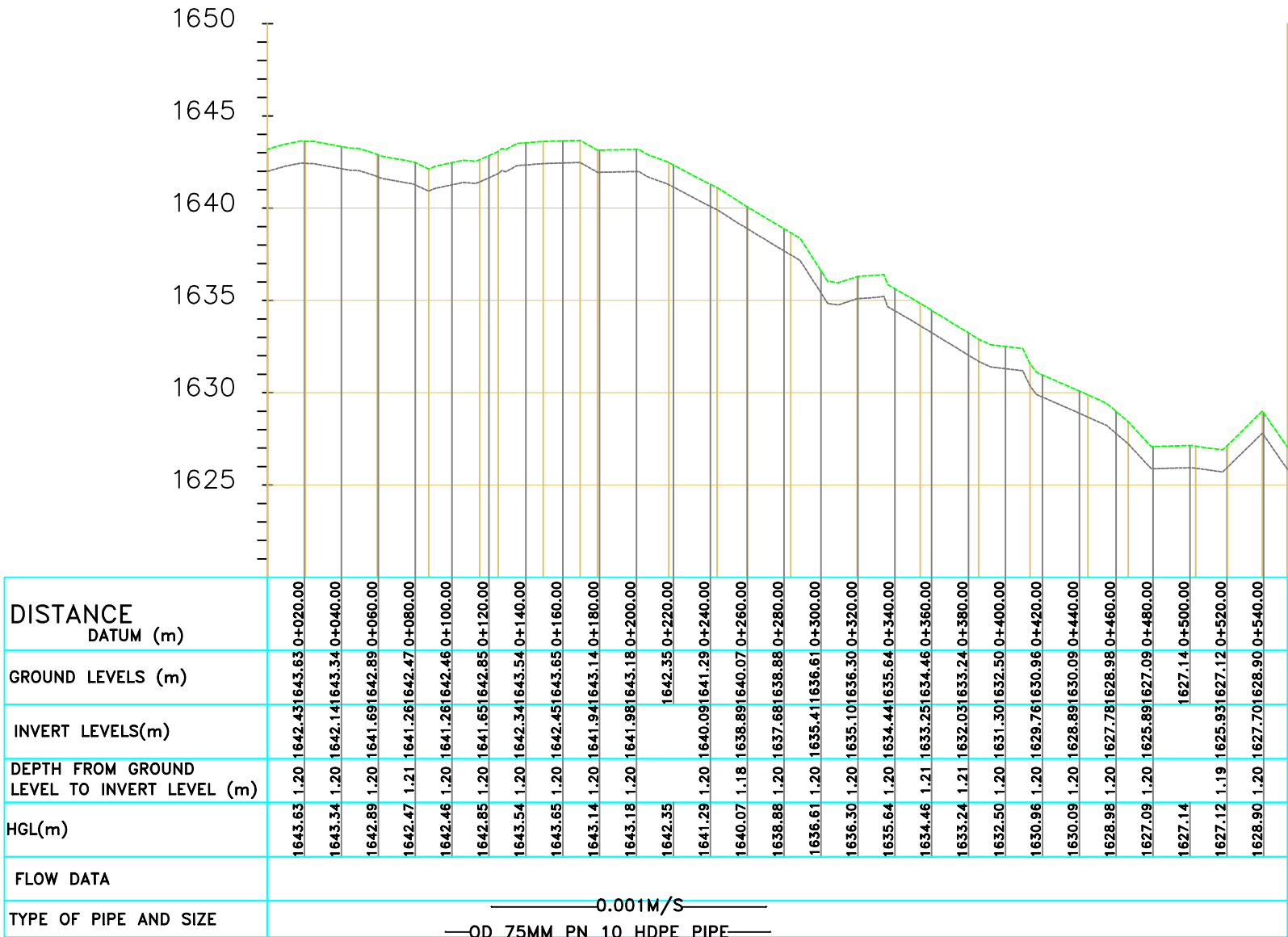


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

ANKURANI 1
PLAN AND PROFILE (SHEET 1 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



Ankurani-1
SCALE: HOR 1:2000 VERT 1:1000



NOTES

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- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



— WASHOUT

WO1

— WASHOUT TYPE 1

WO2

— WASHOUT TYPE 2

OD

— NOMINAL DIAMETER

PN

— NOMINAL PRESSURE

VB

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HB

— HORIZONTAL BEND

ER

— EARTH ROAD

GR

— GRAVEL ROAD

CUT

— CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
	CHECKED			

CLIENT



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

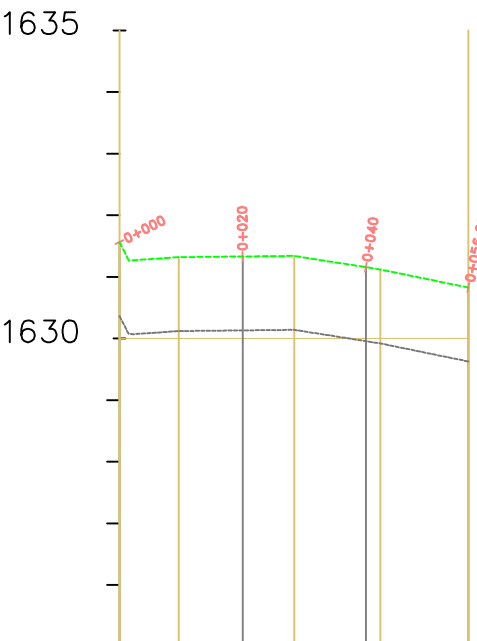


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

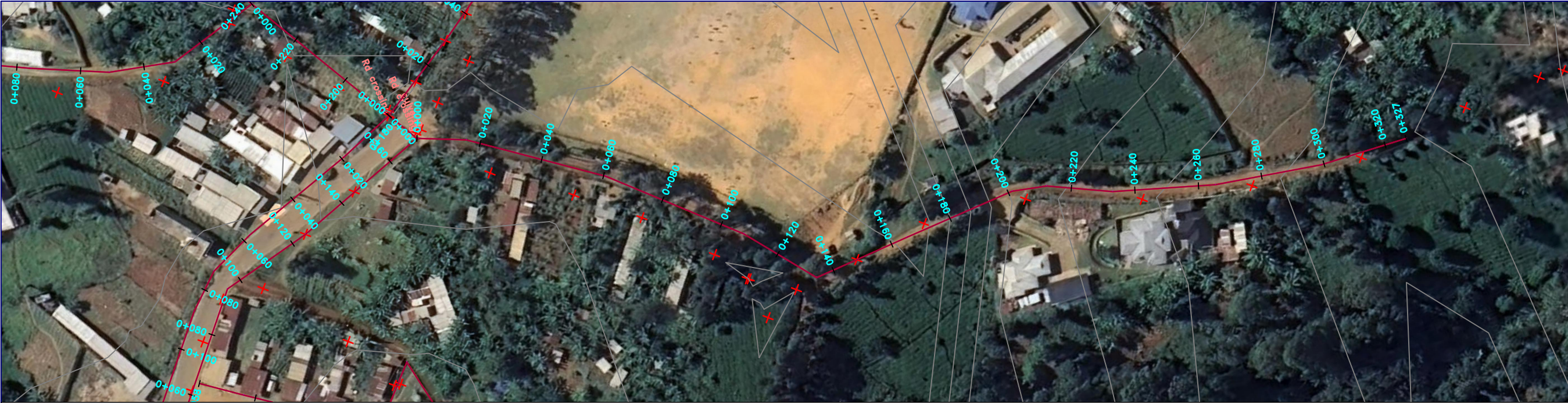
ANKURANI 1 b
PLAN AND PROFILE (SHEET 2 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KWP/DL3-1	CO REV



DISTANCE DATUM (m)	0+000	0+020	0+040	0+056.66
GROUND LEVELS (m)	1631.33	1630.13	1629.96	1631.16
INVERT LEVELS(m)	1631.33	1630.13	1629.96	1631.16
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20	1.20	1.20	1.20
HGL(m)	1631.33	1631.16	1631.16	1631.16
FLOW DATA	0.001M/S			
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE			

Ankurani-1b
SCALE: HOR 1:2000 VERT 1:1000



NOTES

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LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



— WASHOUT

WO1

— WASHOUT TYPE 1

WO2

— WASHOUT TYPE 2

OD

— NOMINAL DIAMETER

PN

— NOMINAL PRESSURE

VB

— VERTICAL BEND

HB

— HORIZONTAL BEND

ER

— EARTH ROAD

GR

— GRAVEL ROAD

CUT

— CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

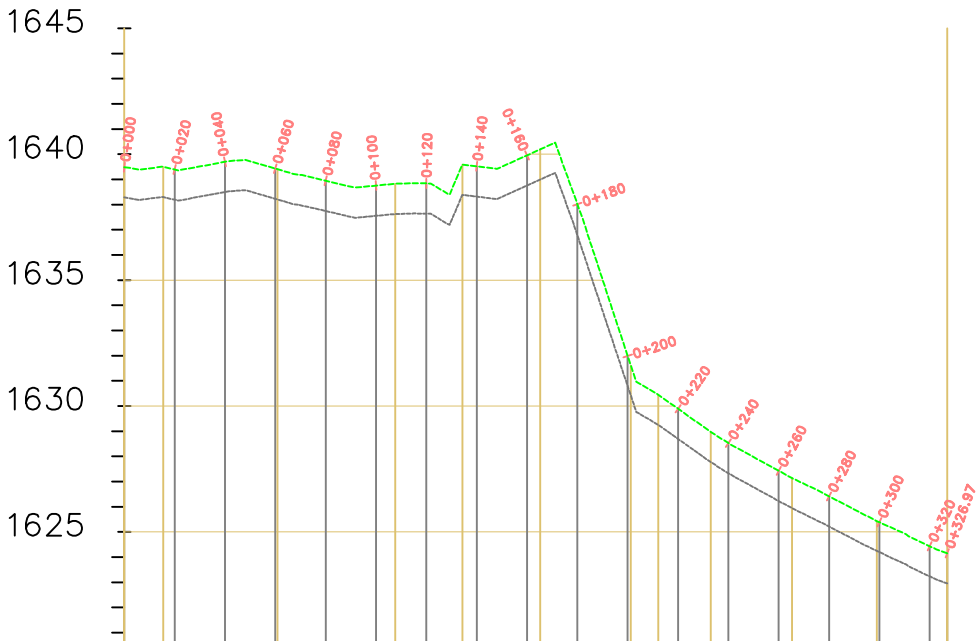


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

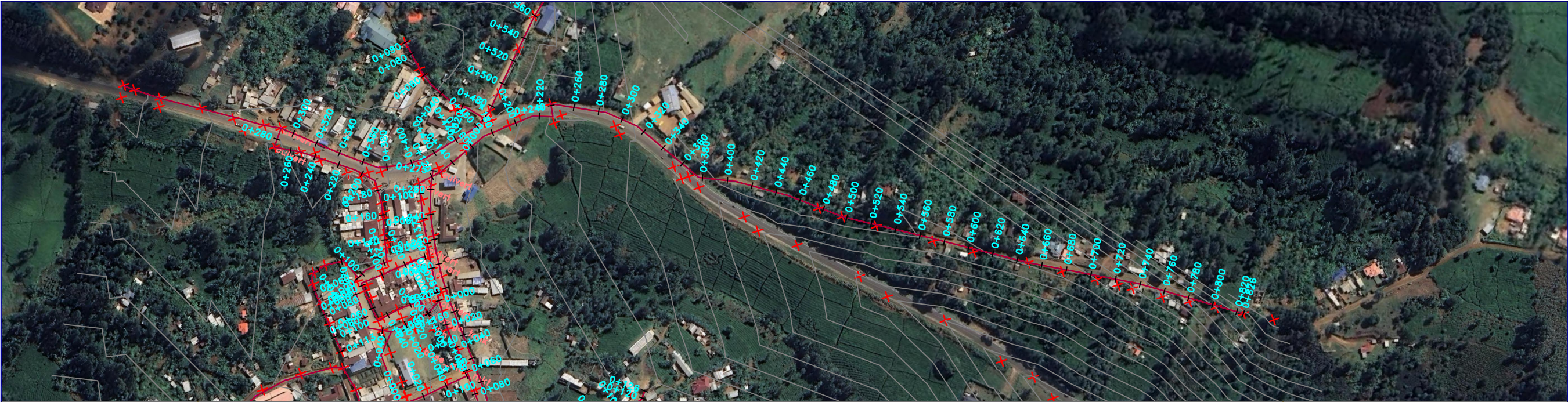
BODAA JUNCTION
PLAN AND PROFILE (SHEET 3 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



DISTANCE DATUM (m)	0+000.00	0+020.00	0+040.00	0+060.00	0+080.00	0+100.00	0+120.00	0+140.00	0+160.00	0+180.00	0+200.00	0+220.00	0+240.00	0+260.00	0+280.00	0+300.00	0+320.00
GROUND LEVELS (m)	1639.39	1639.39	1639.70	1639.43	1638.95	1638.75	1638.84	1639.52	1639.96	1638.02	1630.79	1628.69	1628.53	1627.43	1626.41	1624.20	1624.43
INVERT LEVELS(m)	1638.19	1638.19	1638.50	1638.23	1637.75	1637.55	1638.84	1638.32	1638.76	1636.78	1630.79	1628.69	1628.53	1627.43	1626.41	1624.20	1623.23
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.23	1.20	1.20	1.20	1.20	1.20	1.18	1.20
HGL(m)	1639.39	1639.39	1639.70	1639.43	1638.95	1638.75	1638.84	1639.52	1639.96	1638.02	1630.79	1628.69	1628.53	1627.43	1626.41	1624.20	1624.43
FLOW DATA	0.001M/s																
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE																

Ankurani-2
SCALE: HOR 1:2000 VERT 1:1000



- NOTES**
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- LEGEND:**
- PROPOSED PIPELINE
 - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD

- FOR TENDER**
- signed CMTS
- ↓
- WASHOUT
 - WO1 — WASHOUT TYPE 1
 - WO2 — WASHOUT TYPE 2
 - OD — NOMINAL DIAMETER
 - PN — NOMINAL PRESSURE
 - VB — VERTICAL BEND
 - HB — HORIZONTAL BEND
 - EXISTING STRUCTURE
 - ER — EARTH ROAD
 - GR — GRAVEL ROAD
 - CUT

FOR TENDER				
signed CMTS				
REV	REVISIONS		SIGN	DATE
	BY	CHECKED		
	BY	CHECKED		
	BY	CHECKED		
	BY	CHECKED		
CO	ISSUED FOR CONSTRUCTION		BY	CHECKED


CLIENT

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

PROJECT

**DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE**

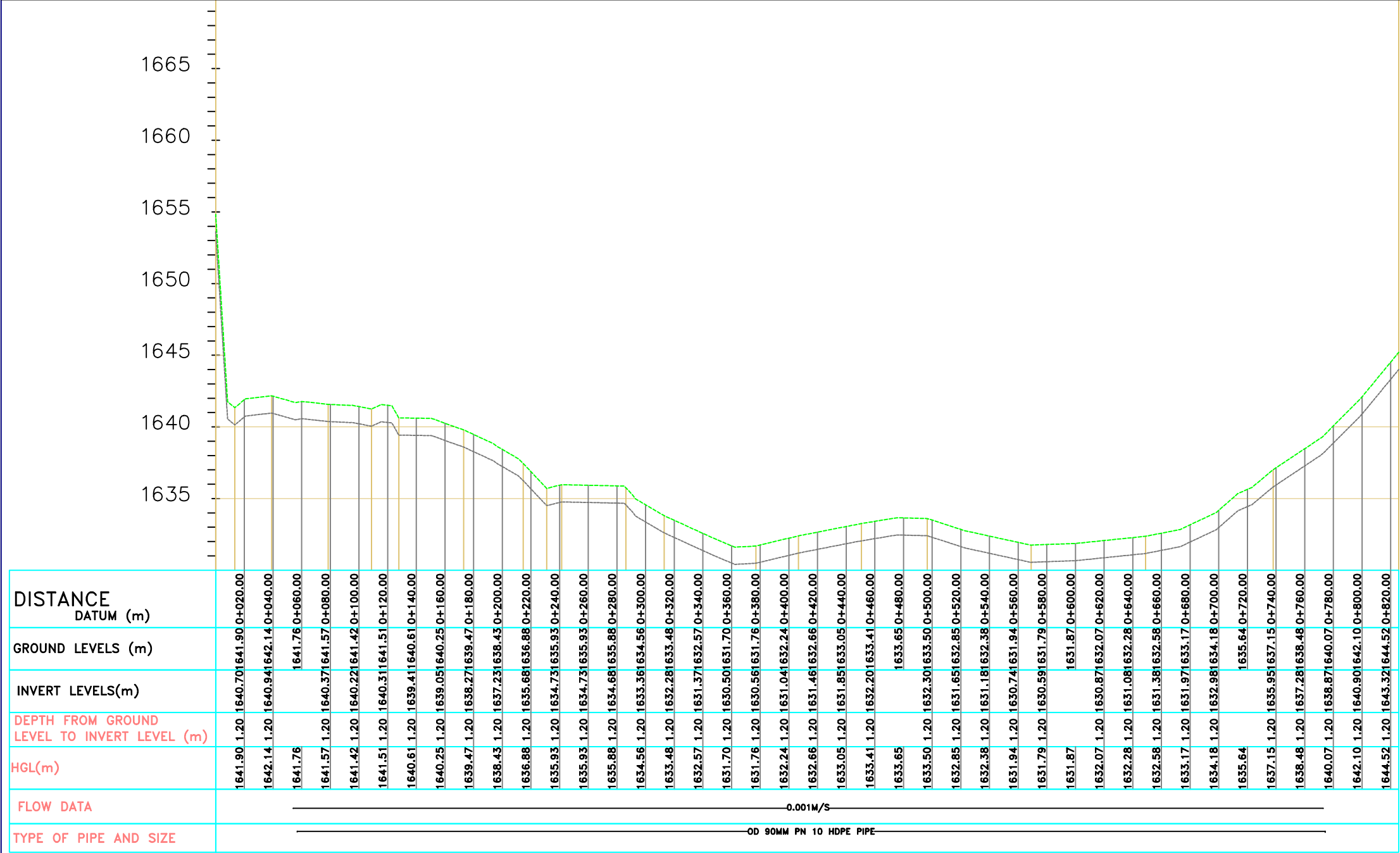
Civil/Structural Engineers

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

Drawing Title

**BOREHOLE TO KIALE
PLAN AND PROFILE (SHEET 5 OF 18)**

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



Borehole to Kiale
SCALE: HOR 1:2000 VERT 1:1000



NOTES

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- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



- WASHOUT

WO1

- WASHOUT TYPE 1

WO2

- WASHOUT TYPE 2

OD

- NOMINAL DIAMETER

PN

- NOMINAL PRESSURE

VB

- VERTICAL BEND

HB

- HORIZONTAL BEND

ER

- EXISTING STRUCTURE

GR

- EARTH ROAD

CR

- GRAVEL ROAD

CUT

- CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MARKET CENTRE B
PLAN AND PROFILE (SHEET 8 OF 18)

Designed by	DWN	Drawn by	EWN
Checked by	JMM	Approved by	DMN
Scale	AS SHOWN (A1)	Date	AUG 2022
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KWP/DL3-1	CO REV

1655

1650

1645

1640

DISTANCE DATUM (m)	1639.73 0+020.00	1640.08 0+040.00	1640.11 0+060.00	1640.25 0+080.00	1640.32 0+100.00	1640.52 0+120.00	1640.84 0+140.00	1641.19 0+160.00	1641.50 0+180.00	1641.63 0+200.00	1641.61 0+220.00	1641.56 0+240.00	1641.57 0+260.00
GROUND LEVELS (m)	1639.73	1638.88	1638.91	1639.05	1639.12	1639.32	1639.64	1639.99	1640.30	1640.43	1640.41	1640.36	1641.57
INVERT LEVELS(m)													
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
HGL(m)	1639.73	1640.08	1640.11	1640.25	1640.32	1640.52	1640.84	1641.19	1641.50	1641.63	1641.61	1641.56	1641.57
FLOW DATA	0.001M/S												
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE												

Market Center B
SCALE: HOR 1:2000 VERT 1:1000



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FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		


CLIENT

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGMEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

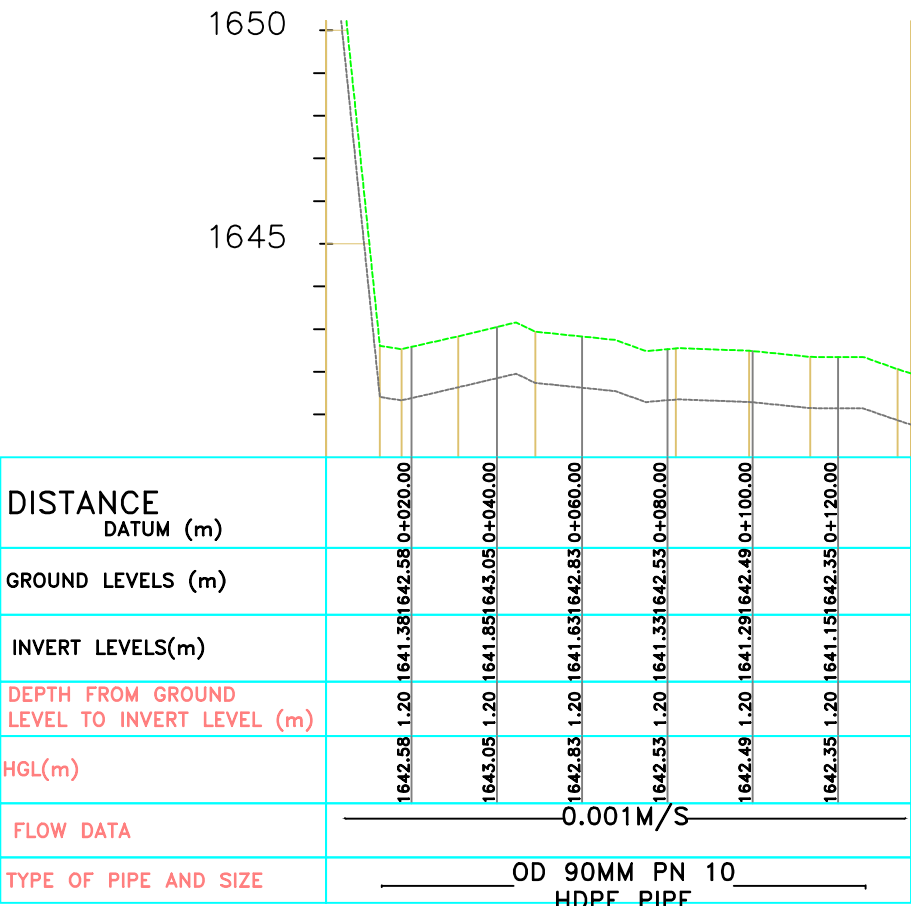
Civil/Structural Engineers

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

Drawing Title

MARKER CENTRE C
PLAN AND PROFILE (SHEET 9 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN 2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KIWP/DL3-1	CO REV



DISTANCE DATUM (m)	0+020.00	0+040.00	0+060.00	0+080.00	0+100.00	0+120.00
GROUND LEVELS (m)	1642.58	1643.05	1642.83	1642.53	1642.49	1642.35
INVERT LEVELS(m)	1641.38	1641.85	1641.63	1641.33	1641.29	1641.15
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20	1.20	1.20	1.20	1.20	1.20
HGL(m)	1642.58	1643.05	1642.83	1642.53	1642.49	1642.35
FLOW DATA	0.001M/S					
TYPE OF PIPE AND SIZE	OD 90MM PN 10 HDPE PIPE					

Market Center C
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



- WASHOUT

WO1

- WASHOUT TYPE 1

WO2

- WASHOUT TYPE 2

OD

- NOMINAL DIAMETER

PN

- NOMINAL PRESSURE

VB

- VERTICAL BEND

HB

- HORIZONTAL BEND

ER

- EARTH ROAD

GR

- GRAVEL ROAD

CUT

- CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers



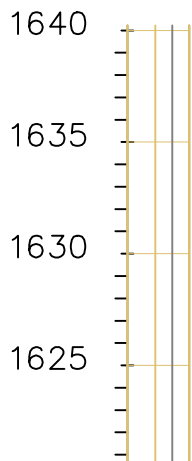
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MARKET CENTRE C -b
PLAN AND PROFILE (SHEET 10 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	

PD STATUS	DRAWING No.	TWWDA/KIWP/DL3-1	CO REV
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DISTANCE DATUM (m)	0+020.00
GROUND LEVELS (m)	1641.121642.33
INVERT LEVELS(m)	1641.121642.33
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20
HGL(m)	1642.33
FLOW DATA	-0.001M/S-
TYPE OF PIPE AND SIZE	OD-40MM PN 10 HDPE PIPE

Market Center C-b
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



- WASHOUT

WO1

- WASHOUT TYPE 1

WO2

- WASHOUT TYPE 2

OD

- NOMINAL DIAMETER

PN

- NOMINAL PRESSURE

VB

- VERTICAL BEND

HB

- HORIZONTAL BEND

ER

- EARTH ROAD

GR

- GRAVEL ROAD

CUT

- CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

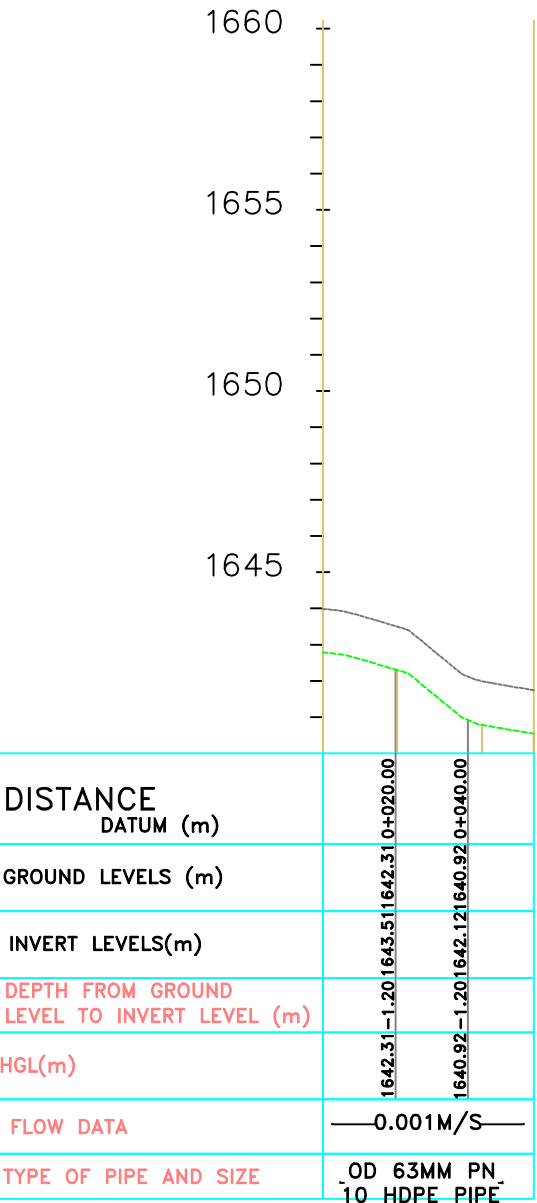


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MARKET CENTRE D
PLAN AND PROFILE (SHEET 11 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KWP/DL3-1	CO REV



DISTANCE DATUM (m)	0+020.00	0+040.00
GROUND LEVELS (m)	1642.31	1640.92
INVERT LEVELS(m)	1643.51	1642.12
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20	1.20
HGL(m)	1642.31	1640.92
FLOW DATA	-0.001M/S-	
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE	

Market Center D
SCALE: HOR 1:2000 VERT 1:1000



- NOTES**
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 2. COORDINATES ARE BASED ON UTM.
 3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
 4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
 5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
 6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
 7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

- LEGEND:**
- PROPOSED PIPELINE
 - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD

- WASHOUT**
- WASHOUT
 - WO1 - WASHOUT TYPE 1
 - WO2 - WASHOUT TYPE 2
 - OD - NOMINAL DIAMETER
 - PN - NOMINAL PRESSURE
 - VB - VERTICAL BEND
 - HB - HORIZONTAL BEND
 - EXISTING STRUCTURE
 - ER - EARTH ROAD
 - GR - GRAVEL ROAD
 - CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
	CHECKED			

CLIENT

TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

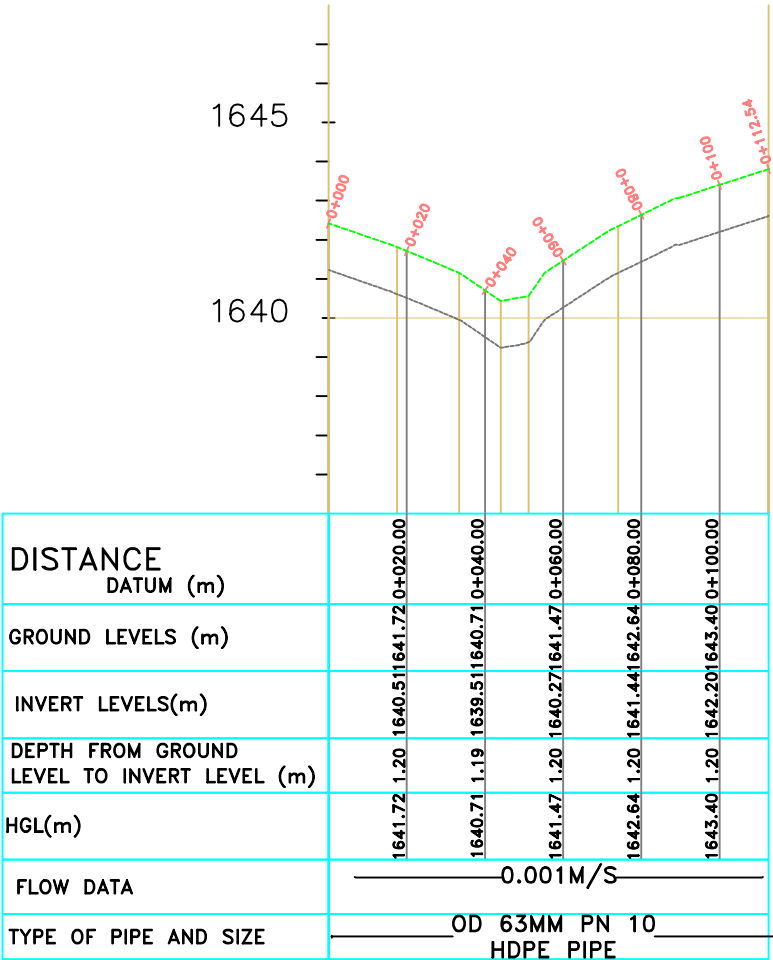
Civil/Structural Engineers

TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

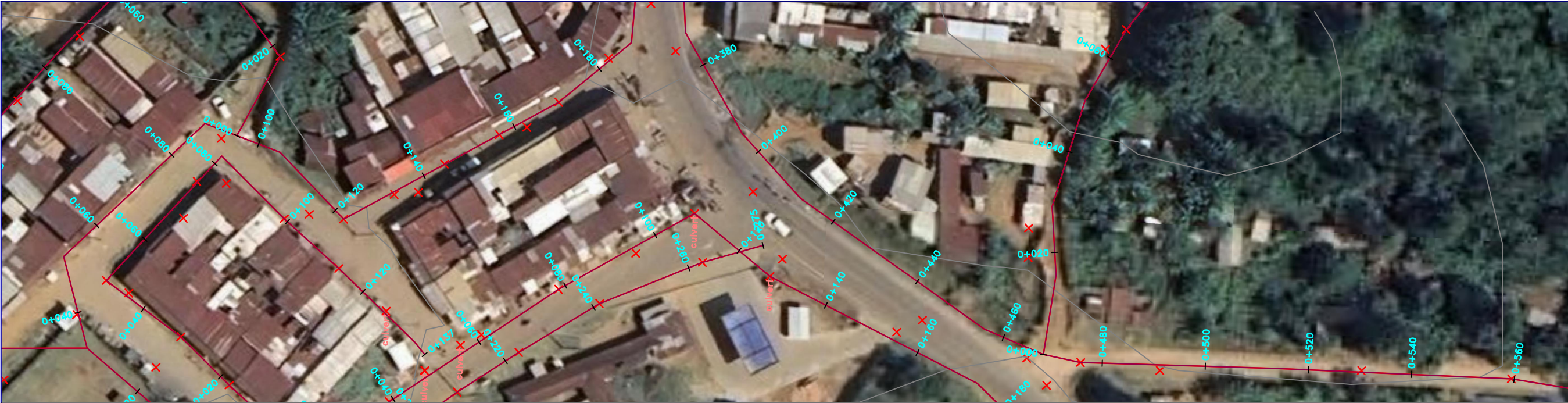
Drawing Title

MARKET CENTRE E
PLAN AND PROFILE (SHEET 12 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KIWP/DL3-1	CO REV



Market Center E
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



- WASHOUT

WO1

- WASHOUT TYPE 1

WO2

- WASHOUT TYPE 2

OD

- NOMINAL DIAMETER

PN

- NOMINAL PRESSURE

VB

- VERTICAL BEND

HB

- HORIZONTAL BEND

ER

- EARTH ROAD

GR

- GRAVEL ROAD

CUT

- CUT

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
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CO	ISSUED FOR CONSTRUCTION	BY		
		CHECKED		

CLIENT

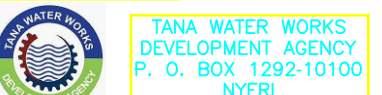


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

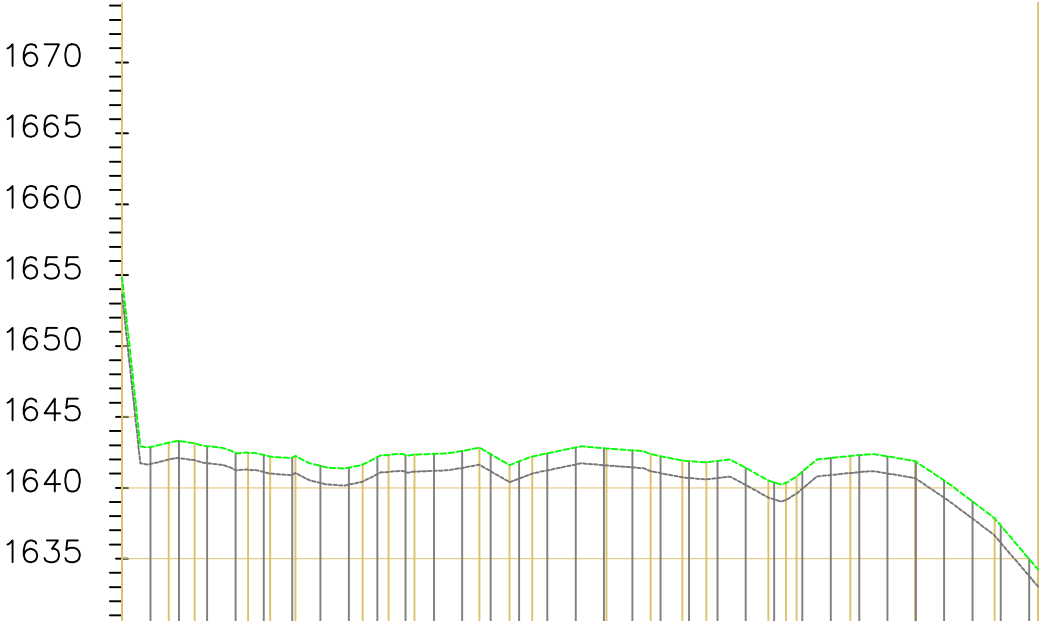


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MARKET CENTRE A TO RIAKI
PLAN AND PROFILE (SHEET 7 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



DISTANCE DATUM (m)		1642.88	1.20	1641.68	1642.88	0+020.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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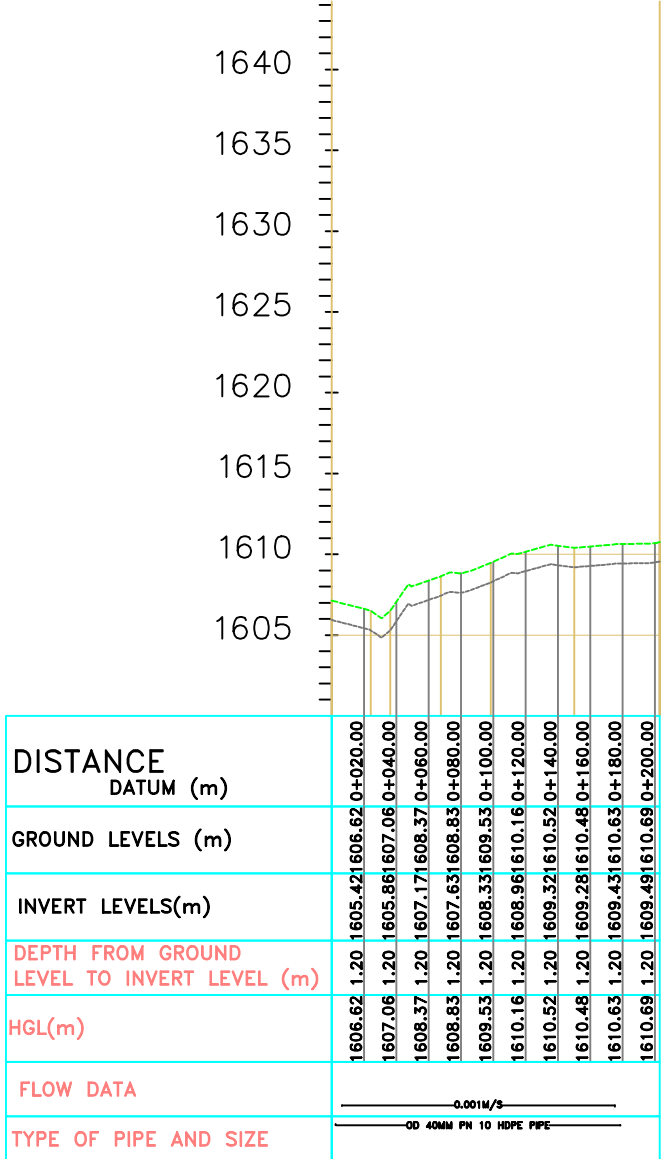
Market Center A to Riaki
SCALE: HOR 1:2000 VERT 1:1000



- NOTES**
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 2. COORDINATES ARE BASED ON UTM.
 3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
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- LEGEND:**
- PROPOSED PIPELINE
 - - - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD

- FOR TENDER**
- signed CMTS
- WASHOUT
 - WO1 — WASHOUT TYPE 1
 - WO2 — WASHOUT TYPE 2
 - OD — NOMINAL DIAMETER
 - PN — NOMINAL PRESSURE
 - VB — VERTICAL BEND
 - HB — HORIZONTAL BEND
 - EXISTING STRUCTURE
 - ER — EARTH ROAD
 - GR — GRAVEL ROAD
 - CUT



Mutiokiamia-B
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER

signed CMTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		
	CHECKED			

CLIENT

TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

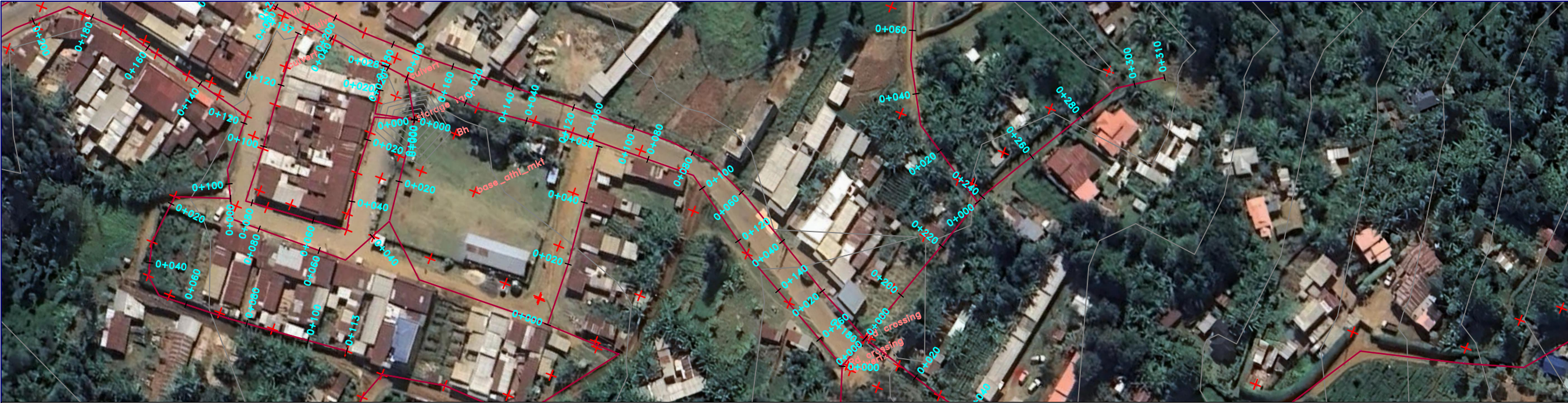
Civil/Structural Engineers

TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

MUTOKIAMA B
PLAN AND PROFILE (SHEET 14 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KIWP/DL3-1	CO REV



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



— WASHOUT

WO1

— WASHOUT TYPE 1

WO2

— WASHOUT TYPE 2

OD

— NOMINAL DIAMETER

PN

— NOMINAL PRESSURE

VB

— VERTICAL BEND

HB

— HORIZONTAL BEND

ER

— EXISTING STRUCTURE

GR

— EARTH ROAD

CR

— GRAVEL ROAD

CUT

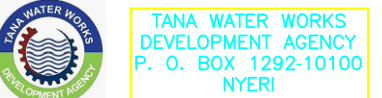
— CUT

FOR TENDER

signed CMTS

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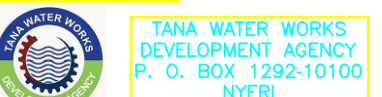


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

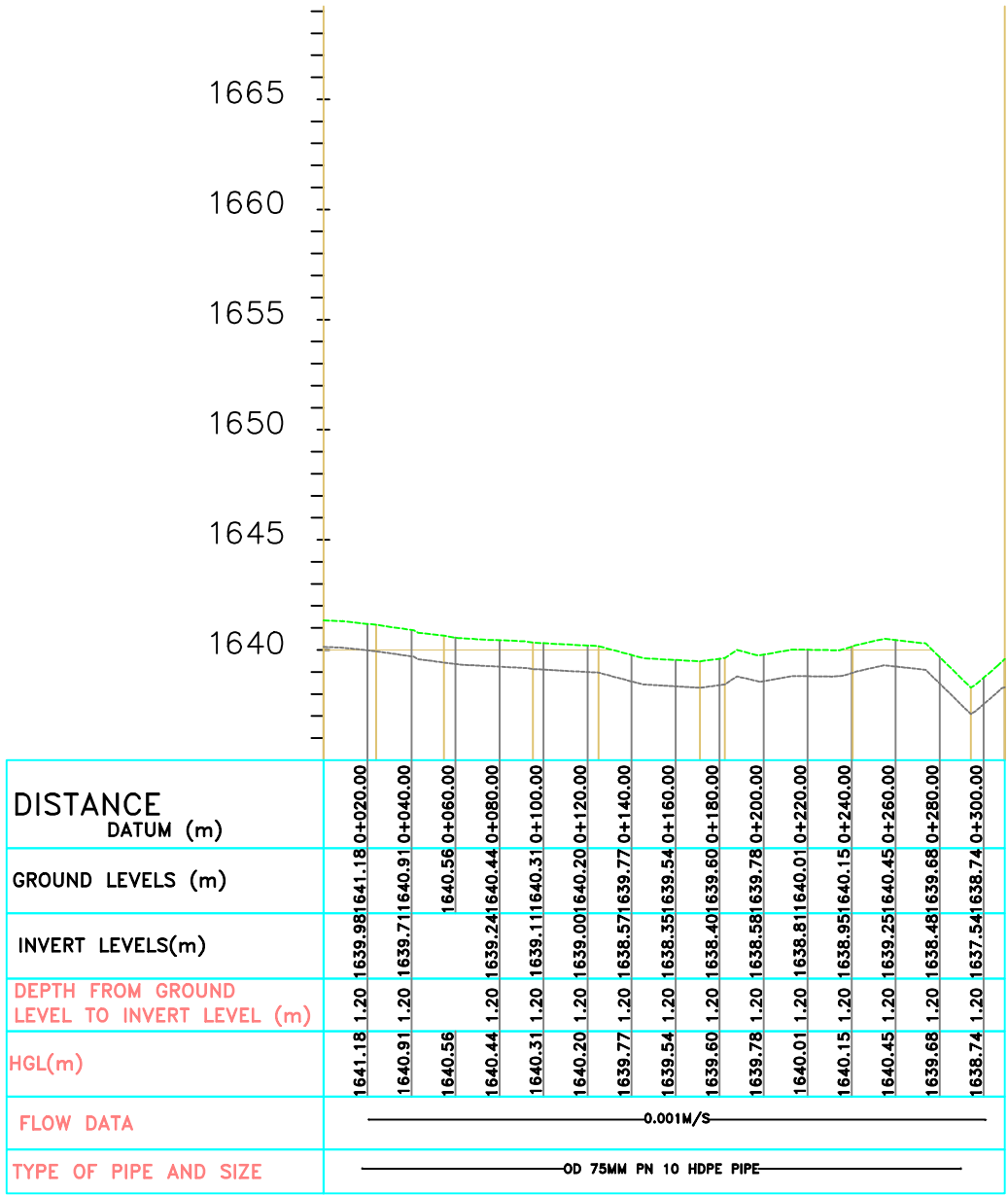


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title

NDURU B
PLAN AND PROFILE (SHEET 16 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KWP/DL3-1	CO REV



Nduru-B
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
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LEGEND:

- PROPOSED PIPELINE
- - - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



— WASHOUT

WO1

— WASHOUT TYPE 1

WO2

— WASHOUT TYPE 2

OD

— NOMINAL DIAMETER

PN

— NOMINAL PRESSURE

VB

— VERTICAL BEND

HB

— HORIZONTAL BEND

ER

— EARTH ROAD

GR

— GRAVEL ROAD

CUT

— CUT

FOR TENDER

signed CMTS

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PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

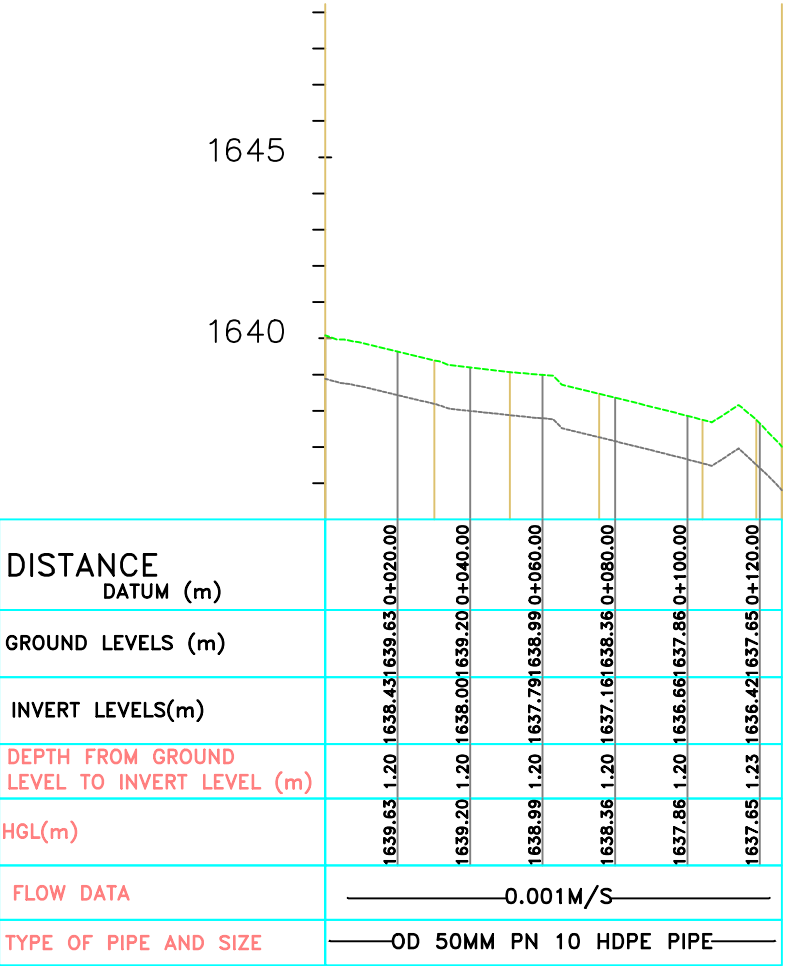


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Drawing Title

POLICE POST
PLAN AND PROFILE (SHEET 17 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWDA/KIWP/DL3-1	CO REV

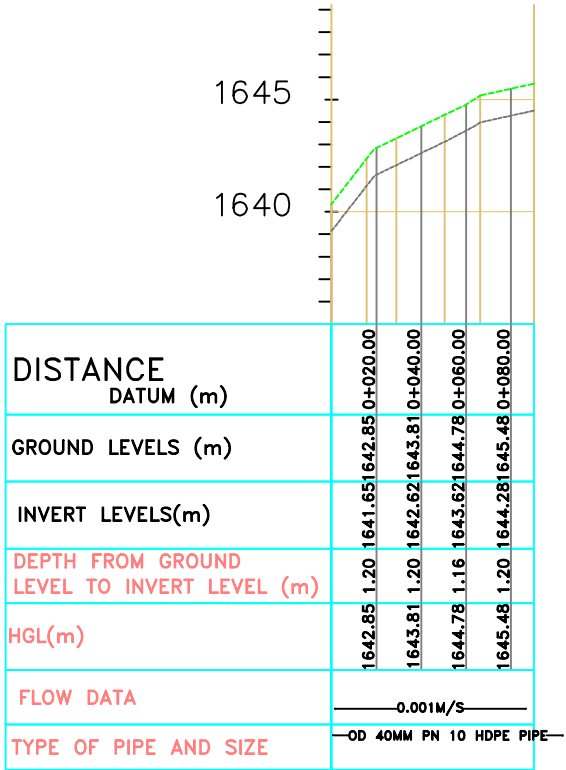


Police Post
SCALE: HOR 1:2000 VERT 1:1000



- NOTES**
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 2. COORDINATES ARE BASED ON UTM.
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- LEGEND:**
- PROPOSED PIPELINE
 - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD
 - WASHOUT
 - WASHOUT TYPE 1
 - WASHOUT TYPE 2
 - NOMINAL DIAMETER
 - NOMINAL PRESSURE
 - VERTICAL BEND
 - HORIZONTAL BEND
 - EXISTING STRUCTURE
 - EARTH ROAD
 - GRAVEL ROAD
 - CUT



Riaki-A
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER

signed CMTS

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PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers

TANA WATER WORKS DEVELOPMENT AGENCY
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Drawing Title

RIAKI A
PLAN AND PROFILE (SHEET 18 OF 18)

Designed by NWW Drawn by NWW
Checked by EWW Approved by DMN
Scale AS SHOWN (A1) Date JAN2026
Job No. 1 ACAD File:
PD STATUS DRAWING No. TWWDA/KIWP/DL3-1 CO REV



- NOTES**
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- LEGEND:**
- PROPOSED PIPELINE
 - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - EXISTING ROAD

- ↓
▽
- WASHOUT
 - WO1 — WASHOUT TYPE 1
 - WO2 — WASHOUT TYPE 2
 - OD — NOMINAL DIAMETER
 - PN — NOMINAL PRESSURE
 - VB — VERTICAL BEND
 - HB — HORIZONTAL BEND
 - EXISTING STRUCTURE
 - ER — EARTH ROAD
 - GR — GRAVEL ROAD
 - CUT

FOR TENDER
aligned CMTS

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 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

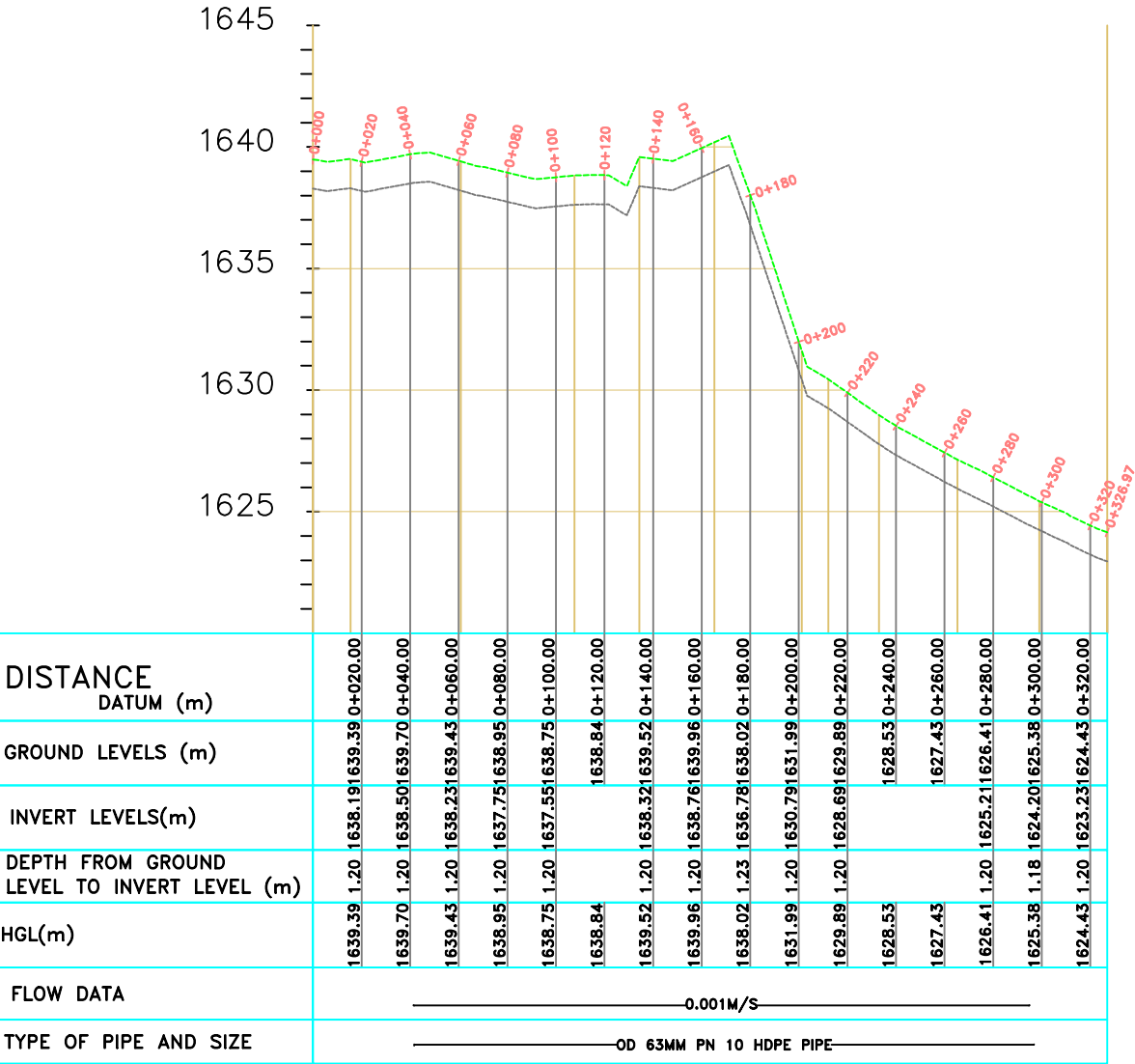
Civil/Structural Engineers

 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

Drawing Title

ANKURANI 2
PLAN AND PROFILE (SHEET 3 OF 18)

Designed by	NWW	Drawn by	NWW
Checked by	EWV	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN2026
Job No.	1	ACAD File:	
PD STATUS	DRAWING No.	TWWD/KIWP/DL3-1	CO REV



Ankurani-2
SCALE: HOR 1:2000 VERT 1:1000