

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	HGL DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
3+620.00	1775.04	1772.55	1.50	1772.55	END OF EXISTING LINES		-1:6.68
3+640.00	1772.40	1771.65	1.46	1771.65			-1:7.31
3+660.00	1771.99	1770.89	1.50	1770.89			-1:42.38
3+680.00	1764.99	1763.03	1.96	1763.03			-1:33.80
3+700.00	1762.02	1763.03	-1.00	1763.03			1:33.80
3+720.00	1762.99	1763.03	-0.14	1763.03			1:10.17
3+740.00	1765.26	1763.03	2.23	1763.03			1:14.52
3+760.00	1765.49	1763.03	2.46	1763.03			1:79.32
3+780.00	1765.49	1763.03	2.46	1763.03			1:33.82
3+800.00	1765.49	1763.03	2.46	1763.03			1:28.50
3+820.00	1765.49	1763.03	2.46	1763.03			1:24.88
3+840.00	1765.49	1763.03	2.46	1763.03			1:19.77
3+860.00	1765.49	1763.03	2.46	1763.03			1:21.07
3+880.00	1765.49	1763.03	2.46	1763.03			1:22.16
3+900.00	1765.49	1763.03	2.46	1763.03			1:22.39
3+920.00	1765.49	1763.03	2.46	1763.03			1:24.10
3+940.00	1765.49	1763.03	2.46	1763.03			1:14.74
3+960.00	1765.49	1763.03	2.46	1763.03			1:14.40
3+980.00	1765.49	1763.03	2.46	1763.03			1:20.81
4+000.00	1765.49	1763.03	2.46	1763.03			1:23.92
4+020.00	1765.49	1763.03	2.46	1763.03			1:56.25
4+040.00	1765.49	1763.03	2.46	1763.03			1:66.78
4+060.00	1765.49	1763.03	2.46	1763.03			1:78.42
4+080.00	1765.49	1763.03	2.46	1763.03			1:61.93
4+100.00	1765.49	1763.03	2.46	1763.03			1:68.68
4+120.00	1765.49	1763.03	2.46	1763.03			1:58.41
4+140.00	1765.49	1763.03	2.46	1763.03			1:38.23
4+160.00	1765.49	1763.03	2.46	1763.03			1:28.65
4+180.00	1765.49	1763.03	2.46	1763.03			1:23.98
4+200.00	1765.49	1763.03	2.46	1763.03			1:54.39
4+220.00	1765.49	1763.03	2.46	1763.03			1:35.94
4+240.00	1765.49	1763.03	2.46	1763.03			1:24.67
4+260.00	1765.49	1763.03	2.46	1763.03			1:28.36
4+280.00	1765.49	1763.03	2.46	1763.03			1:23.23
4+300.00	1765.49	1763.03	2.46	1763.03			1:27.05
4+320.00	1765.49	1763.03	2.46	1763.03			1:80.20
4+340.00	1765.49	1763.03	2.46	1763.03			1:76.42
4+360.00	1765.49	1763.03	2.46	1763.03			1:37.35
4+380.00	1765.49	1763.03	2.46	1763.03			-1:38.58

- NOTES:**
- CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 - GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 - GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 - MINIMUM PIPELINE SLOPES TO BE 1:500
 - DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - DAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - PROPOSED VALVE BOX
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
	BY		
	CHECKED		
	BY		
	CHECKED		
	BY		
	CHECKED		

CLIENT: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

ENGINEER: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

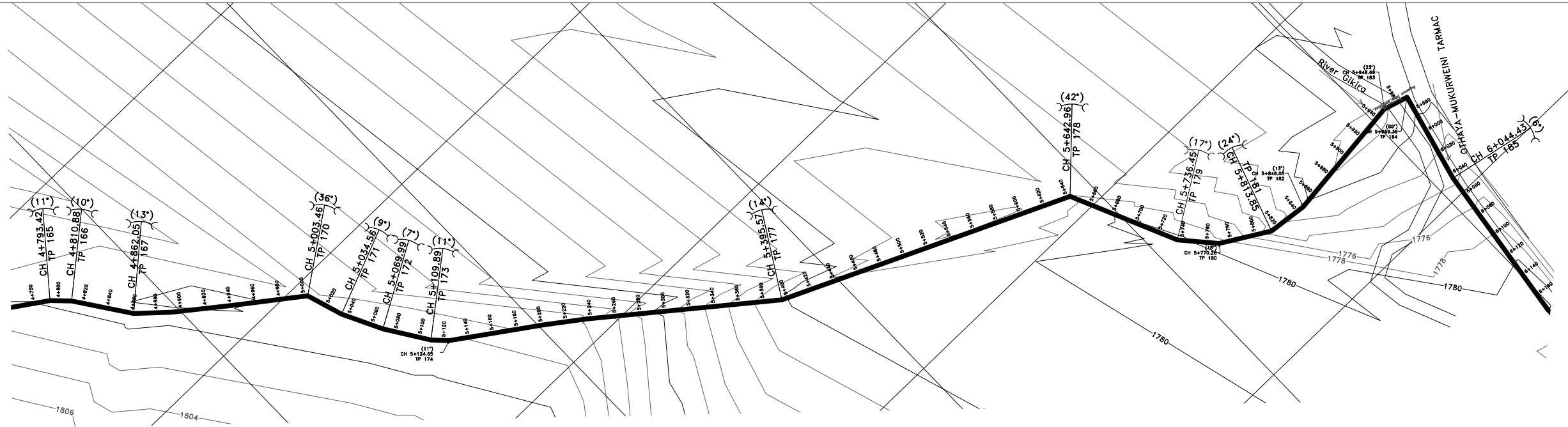
PROJECT TITLE:

**RELOCATION OF GITHAGARA-MAIRO
PIPELINE PROJECT**

DRAWING TITLE:

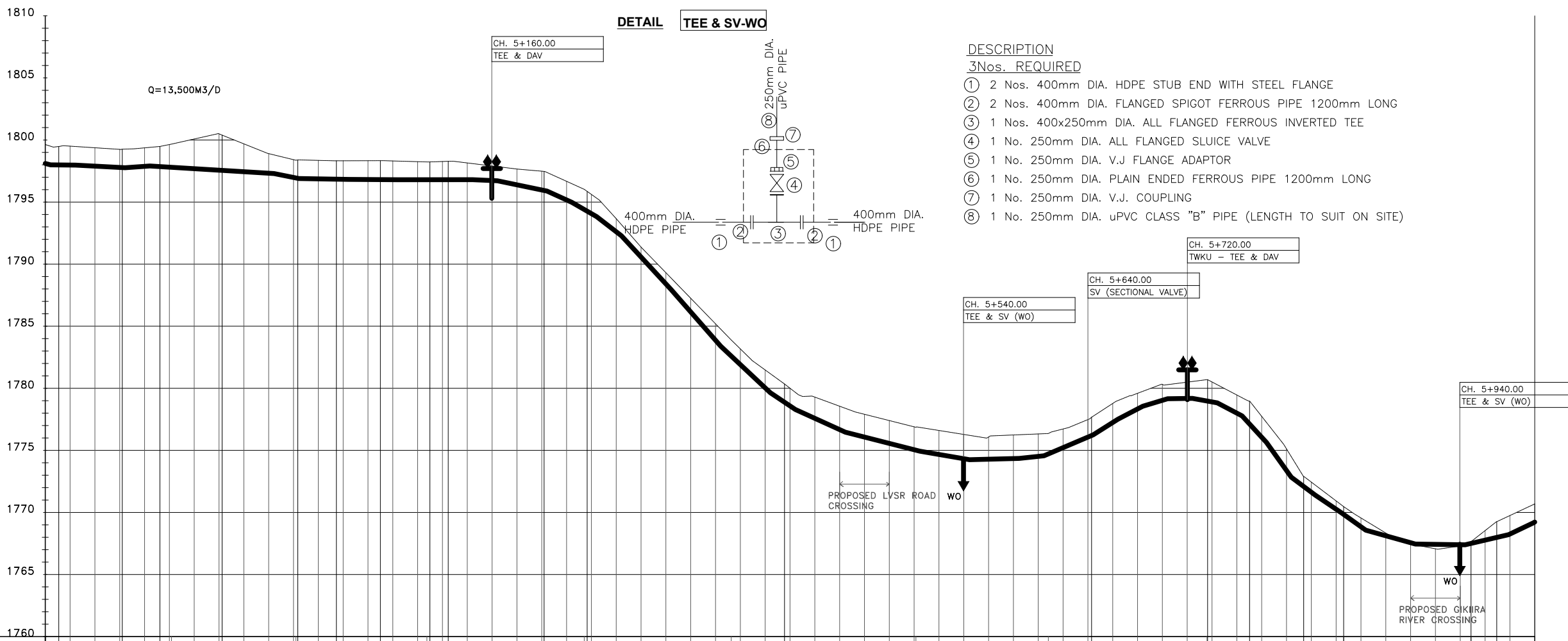
**PROPOSED
MAIRO-KIAMUYA-GITHAGARA
PIPELINE
CH. 3+600.00 - 4+800.00
SHEET 4 OF 8**

Designed by: A.M.M Drawn by: A.M.M
Checked by: K.N.G Approved by: D.N.M
Scale: H- 1:4000, V- 1:400 Date: DEC 2023
DRG No. REL-GITH/M-K-G/04



- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 4. MINIMUM PIPELINE SLOPES TO BE 1:500
 5. DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - DAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - PROPOSED VALVE BOX
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)



- DESCRIPTION**
3Nos. REQUIRED
- 1 2 Nos. 400mm DIA. HDPE STUB END WITH STEEL FLANGE
 - 2 2 Nos. 400mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - 3 1 Nos. 400x250mm DIA. ALL FLANGED FERROUS INVERTED TEE
 - 4 1 No. 250mm DIA. ALL FLANGED SLUICE VALVE
 - 5 1 No. 250mm DIA. V.J FLANGE ADAPTOR
 - 6 1 No. 250mm DIA. PLAIN ENDED FERROUS PIPE 1200mm LONG
 - 7 1 No. 250mm DIA. V.J. COUPLING
 - 8 1 No. 250mm DIA. uPVC CLASS "B" PIPE (LENGTH TO SUIT ON SITE)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			

CLIENT: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

ENGINEER: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

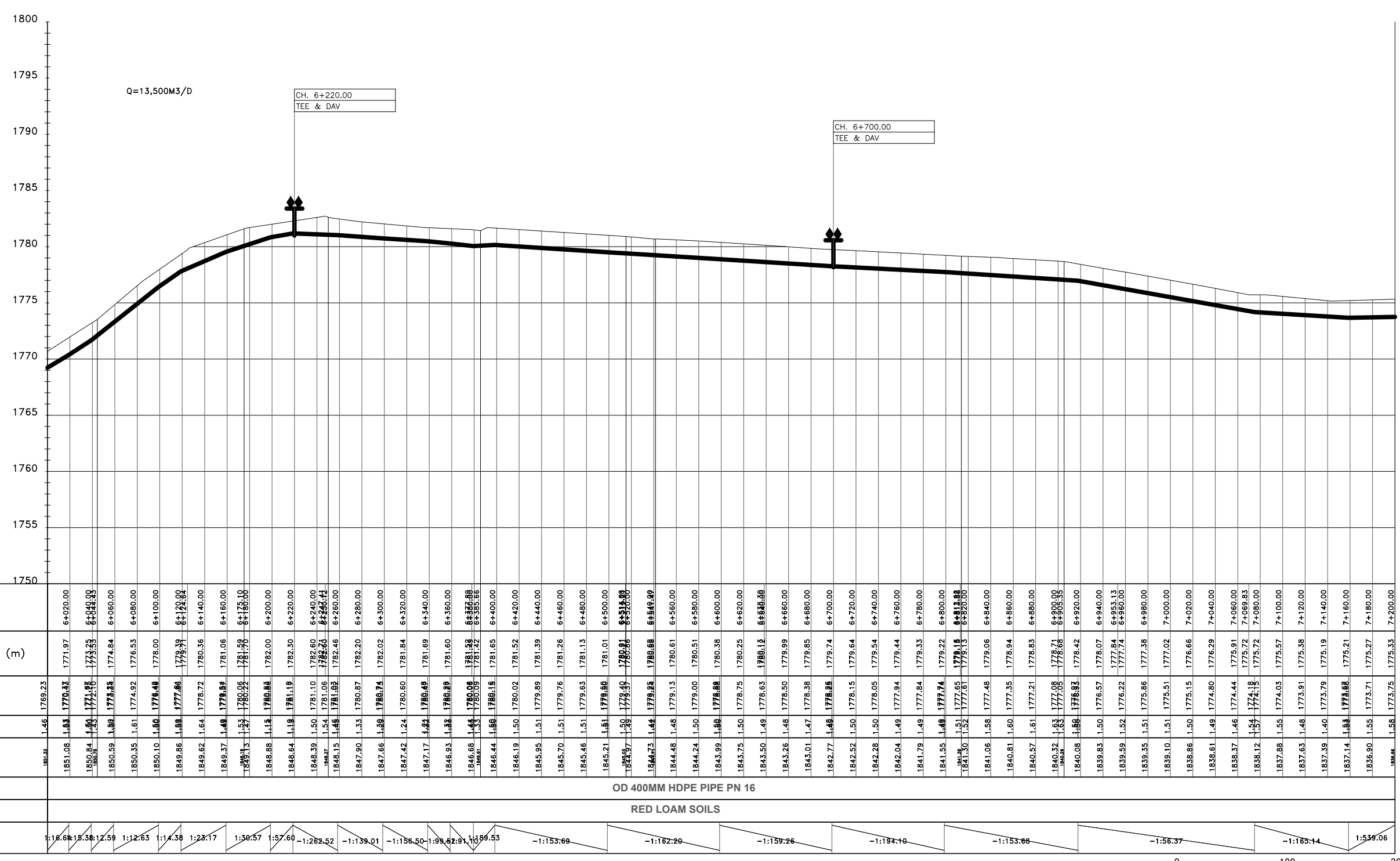
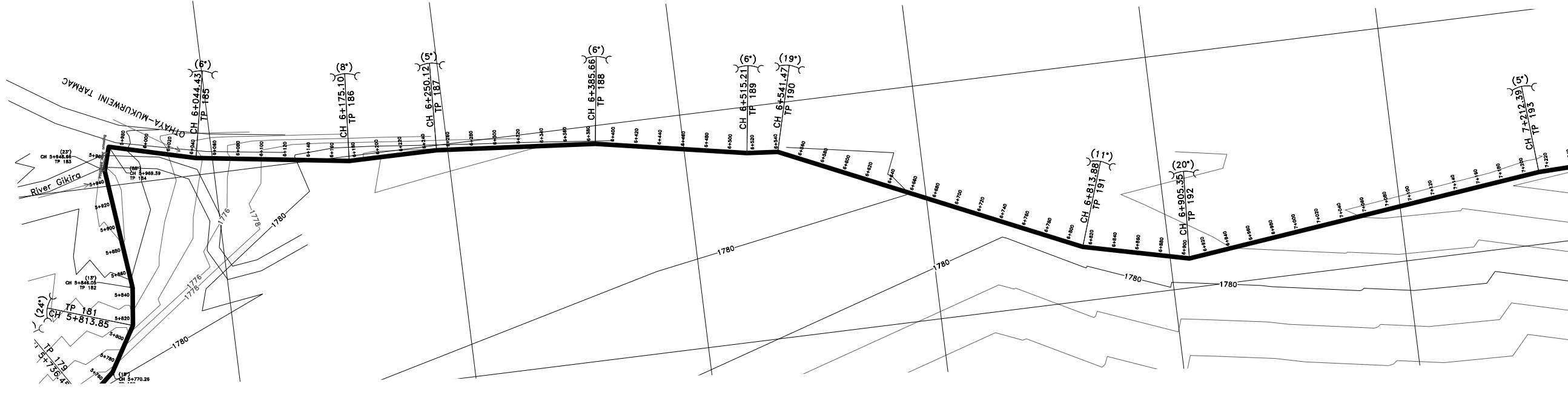
PROJECT TITLE:
**RELOCATION OF GITHAGARA-MAIRO
PIPELINE PROJECT**

DRAWING TITLE:
**PROPOSED
MAIRO-KIAMUYA-GITHAGARA
PIPELINE
CH. 4+800.00 - 6+000.00
SHEET 5 OF 8**

Designed by: A.M.M Drawn by: A.M.M
Checked by: K.N.G Approved by: D.N.M
Scale: H: 1:4000, V: 1:400 Date: DEC 2023
DRG No. REL-GITH/M-K-G/05

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	HGL DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
4+800.00	1799.47	1798.44	1.03	1798.44	OD 400MM HDPE PIPE PN 16	RED LOAM SOILS	-1:100.00
4+820.00	1799.50	1797.98	1.52	1797.98			-1:109.82
4+840.00	1799.37	1797.89	1.48	1797.89			-1:112.43
4+860.00	1799.34	1797.79	1.55	1797.79			-1:1154.41
4+880.00	1799.37	1797.89	1.48	1797.89			-1:149.69
4+900.00	1799.39	1797.86	1.53	1797.86			-1:1577.75
4+920.00	1799.69	1797.81	1.88	1797.81			-1:1515.26
4+940.00	1799.90	1797.53	2.37	1797.53			1:23590.98
4+960.00	1799.90	1797.32	2.58	1797.32			-1:225.22
4+980.00	1799.90	1797.32	2.58	1797.32			-1:148.21
5+000.00	1799.90	1797.32	2.58	1797.32			-1:22.89
5+020.00	1799.36	1796.87	2.49	1796.87			-1:36.12
5+040.00	1799.33	1796.81	2.52	1796.81			-1:9.23
5+060.00	1799.31	1796.80	2.51	1796.80			-1:8.76
5+080.00	1799.25	1796.80	2.45	1796.80			-1:10.67
5+100.00	1799.21	1796.80	2.41	1796.80			-1:14.96
5+120.00	1799.26	1796.80	2.46	1796.80			-1:22.03
5+140.00	1799.15	1796.80	2.35	1796.80			-1:39.24
5+160.00	1797.91	1796.71	1.20	1796.71			-1:58.65
5+180.00	1797.66	1796.39	1.27	1796.39			-1:116.33
5+200.00	1797.49	1796.03	1.46	1796.03			-1:177.58
5+220.00	1796.67	1795.96	0.71	1795.96			-1:177.58
5+240.00	1796.82	1795.82	1.00	1795.82			-1:177.58
5+260.00	1796.66	1795.61	1.05	1795.61			-1:177.58
5+280.00	1791.37	1790.57	0.80	1790.57			-1:177.58
5+300.00	1789.31	1789.43	0.88	1789.43			-1:177.58
5+320.00	1787.25	1786.15	1.10	1786.15			-1:177.58
5+340.00	1785.19	1783.87	1.32	1783.87			-1:177.58
5+360.00	1783.89	1783.59	0.30	1783.59			-1:177.58
5+380.00	1783.17	1781.91	1.26	1781.91			-1:177.58
5+400.00	1781.48	1779.83	1.65	1779.83			-1:177.58
5+420.00	1780.35	1778.58	1.77	1778.58			-1:177.58
5+440.00	1779.29	1777.58	1.71	1777.58			-1:177.58
5+460.00	1778.56	1776.67	1.89	1776.67			-1:177.58
5+480.00	1777.91	1776.07	1.84	1776.07			-1:177.58
5+500.00	1777.40	1775.56	1.84	1775.56			-1:177.58
5+520.00	1776.60	1775.05	1.55	1775.05			-1:177.58
5+540.00	1776.28	1774.53	1.75	1774.53			-1:177.58
5+560.00	1776.08	1774.29	1.79	1774.29			-1:177.58
5+580.00	1776.24	1774.34	1.90	1774.34			-1:177.58
5+600.00	1776.32	1774.57	1.75	1774.57			-1:177.58
5+620.00	1776.36	1774.57	1.79	1774.57			-1:177.58
5+640.00	1776.72	1775.22	1.50	1775.22			-1:177.58
5+660.00	1777.49	1776.07	1.42	1776.07			-1:177.58
5+680.00	1778.78	1777.51	1.27	1777.51			-1:177.58
5+700.00	1779.60	1778.33	1.27	1778.33			-1:177.58
5+720.00	1780.32	1779.03	1.29	1779.03			-1:177.58
5+740.00	1780.49	1779.18	1.31	1779.18			-1:177.58
5+760.00	1780.89	1778.87	2.02	1778.87			-1:177.58
5+780.00	1781.46	1778.98	2.48	1778.98			-1:177.58
5+800.00	1781.74	1779.12	2.62	1779.12			-1:177.58
5+820.00	1781.12	1778.85	2.27	1778.85			-1:177.58
5+840.00	1780.93	1778.66	2.27	1778.66			-1:177.58
5+860.00	1780.56	1778.47	2.09	1778.47			-1:177.58
5+880.00	1780.34	1778.55	1.79	1778.55			-1:177.58
5+900.00	1780.56	1778.25	2.31	1778.25			-1:177.58
5+920.00	1780.07	1777.43	2.64	1777.43			-1:177.58
5+940.00	1780.30	1777.40	2.90	1777.40			-1:177.58
5+960.00	1780.65	1777.35	3.30	1777.35			-1:177.58
5+980.00	1780.54	1777.77	2.77	1777.77			-1:177.58
5+995.99	1780.26	1777.99	2.27	1777.99			-1:177.58
5+995.99	1779.75	1777.68	2.07	1777.68			-1:177.58
5+995.99	1779.23	1777.09	2.14	1777.09			-1:177.58

LONGITUDINAL SECTION



CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	HGL DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
6+020.00	1771.97	1770.82	1.15	1851.08	OD 400MM HDPE PIPE PN 16	RED LOAM SOILS	1:15.66
6+040.00	1773.25	1772.10	1.15	1850.94			1:15.38
6+060.00	1774.84	1773.69	1.15	1850.59			1:12.59
6+080.00	1776.53	1775.38	1.15	1850.35			1:12.63
6+100.00	1778.00	1776.85	1.15	1850.10			1:14.38
6+120.00	1779.39	1778.24	1.15	1849.86			1:23.17
6+140.00	1780.36	1779.21	1.15	1849.62			1:30.57
6+160.00	1781.06	1780.00	1.06	1849.37			1:57.60
6+175.10	1781.59	1780.53	1.06	1849.06			-1:26.52
6+180.00	1781.70	1780.64	1.06	1848.85			-1:139.01
6+200.00	1782.00	1780.94	1.06	1848.68			-1:156.50
6+220.00	1782.30	1781.24	1.06	1848.64			-1:99.82
6+240.00	1782.60	1781.54	1.06	1848.39			-1:109.53
6+260.00	1782.46	1781.40	1.06	1848.27			-1:153.69
6+280.00	1782.20	1781.14	1.06	1848.15			-1:162.20
6+300.00	1782.02	1780.96	1.06	1848.03			-1:159.26
6+320.00	1781.84	1780.78	1.06	1847.91			-1:194.10
6+340.00	1781.69	1780.63	1.06	1847.76			-1:153.66
6+360.00	1781.60	1780.54	1.06	1847.67			-1:153.66
6+380.00	1781.52	1780.46	1.06	1847.59			-1:153.66
6+400.00	1781.65	1780.59	1.06	1847.52			-1:153.66
6+420.00	1781.52	1780.46	1.06	1847.44			-1:153.66
6+440.00	1781.39	1780.33	1.06	1847.36			-1:153.66
6+460.00	1781.26	1780.20	1.06	1847.28			-1:153.66
6+480.00	1781.13	1780.07	1.06	1847.19			-1:153.66
6+500.00	1781.01	1779.94	1.06	1847.11			-1:153.66
6+520.00	1780.88	1779.81	1.06	1847.03			-1:153.66
6+540.00	1780.75	1779.68	1.06	1846.95			-1:153.66
6+560.00	1780.61	1779.54	1.06	1846.87			-1:153.66
6+580.00	1780.51	1779.44	1.06	1846.79			-1:153.66
6+600.00	1780.38	1779.31	1.06	1846.71	-1:153.66		
6+620.00	1780.25	1779.18	1.06	1846.63	-1:153.66		
6+640.00	1780.12	1779.05	1.06	1846.55	-1:153.66		
6+660.00	1780.00	1778.92	1.06	1846.47	-1:153.66		
6+680.00	1779.85	1778.79	1.06	1846.39	-1:153.66		
6+700.00	1779.74	1778.68	1.06	1846.31	-1:153.66		
6+720.00	1779.64	1778.58	1.06	1846.23	-1:153.66		
6+740.00	1779.54	1778.48	1.06	1846.15	-1:153.66		
6+760.00	1779.44	1778.38	1.06	1846.07	-1:153.66		
6+780.00	1779.33	1778.27	1.06	1846.00	-1:153.66		
6+800.00	1779.22	1778.16	1.06	1845.92	-1:153.66		
6+820.00	1779.15	1778.09	1.06	1845.84	-1:153.66		
6+840.00	1779.06	1778.00	1.06	1845.77	-1:153.66		
6+860.00	1778.94	1777.88	1.06	1845.69	-1:153.66		
6+880.00	1778.83	1777.77	1.06	1845.61	-1:153.66		
6+900.00	1778.71	1777.65	1.06	1845.53	-1:153.66		
6+920.00	1778.63	1777.57	1.06	1845.45	-1:153.66		
6+940.00	1778.54	1777.48	1.06	1845.37	-1:153.66		
6+960.00	1778.44	1777.38	1.06	1845.29	-1:153.66		
6+980.00	1778.33	1777.27	1.06	1845.21	-1:153.66		
7+000.00	1778.22	1777.16	1.06	1845.13	-1:153.66		
7+020.00	1778.12	1777.06	1.06	1845.05	-1:153.66		
7+040.00	1778.00	1776.94	1.06	1844.97	-1:153.66		
7+060.00	1777.88	1776.82	1.06	1844.89	-1:153.66		
7+080.00	1777.74	1776.68	1.06	1844.81	-1:153.66		
7+100.00	1777.61	1776.55	1.06	1844.73	-1:153.66		
7+120.00	1777.48	1776.42	1.06	1844.65	-1:153.66		
7+140.00	1777.35	1776.29	1.06	1844.57	-1:153.66		
7+160.00	1777.21	1776.15	1.06	1844.48	-1:153.66		
7+180.00	1777.07	1776.01	1.06	1844.40	-1:153.66		
7+200.00	1776.88	1775.82	1.06	1844.31	-1:153.66		

- NOTES:**
- CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 - GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 - GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 - MINIMUM PIPELINE SLOPES TO BE 1:500
 - DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - DAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - PROPOSED VALVE BOX
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			

CLIENT: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

ENGINEER: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

PROJECT TITLE:

**RELOCATION OF GITHAGARA-MAIRO
PIPELINE PROJECT**

DRAWING TITLE:

**PROPOSED
MAIRO-KIAMUYA-GITHAGARA
PIPELINE
CH. 6+000.00 - 7+200.00
SHEET 6 OF 8**

Designed by: A.M.M Drawn by: A.M.M
Checked by: K.N.G Approved by: D.N.M
Scale: H- 1:4000, V- 1:400 Date: DEC 2023
DRG No. **REL-GITH/M-K-G/06**

- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 4. MINIMUM PIPELINE SLOPES TO BE 1:500
 5. DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - DAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - PROPOSED VALVE BOX
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			

CLIENT: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

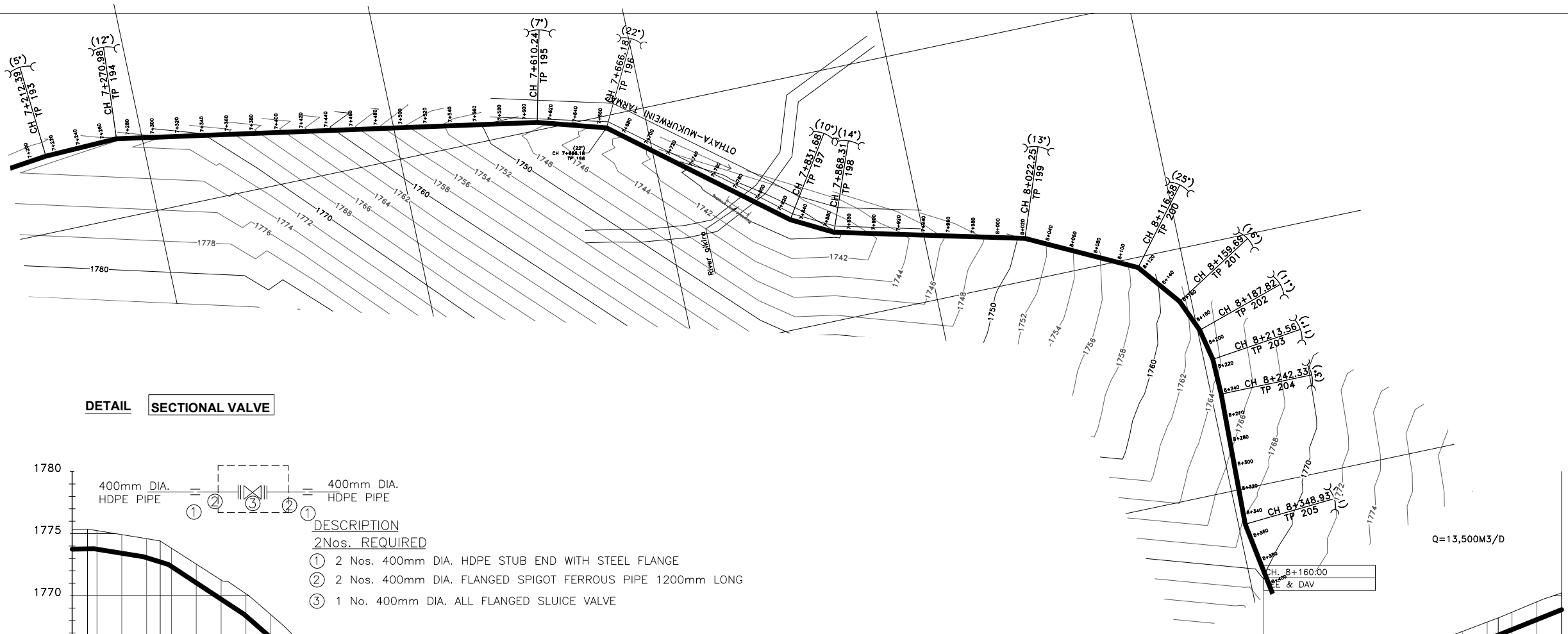
ENGINEER: THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

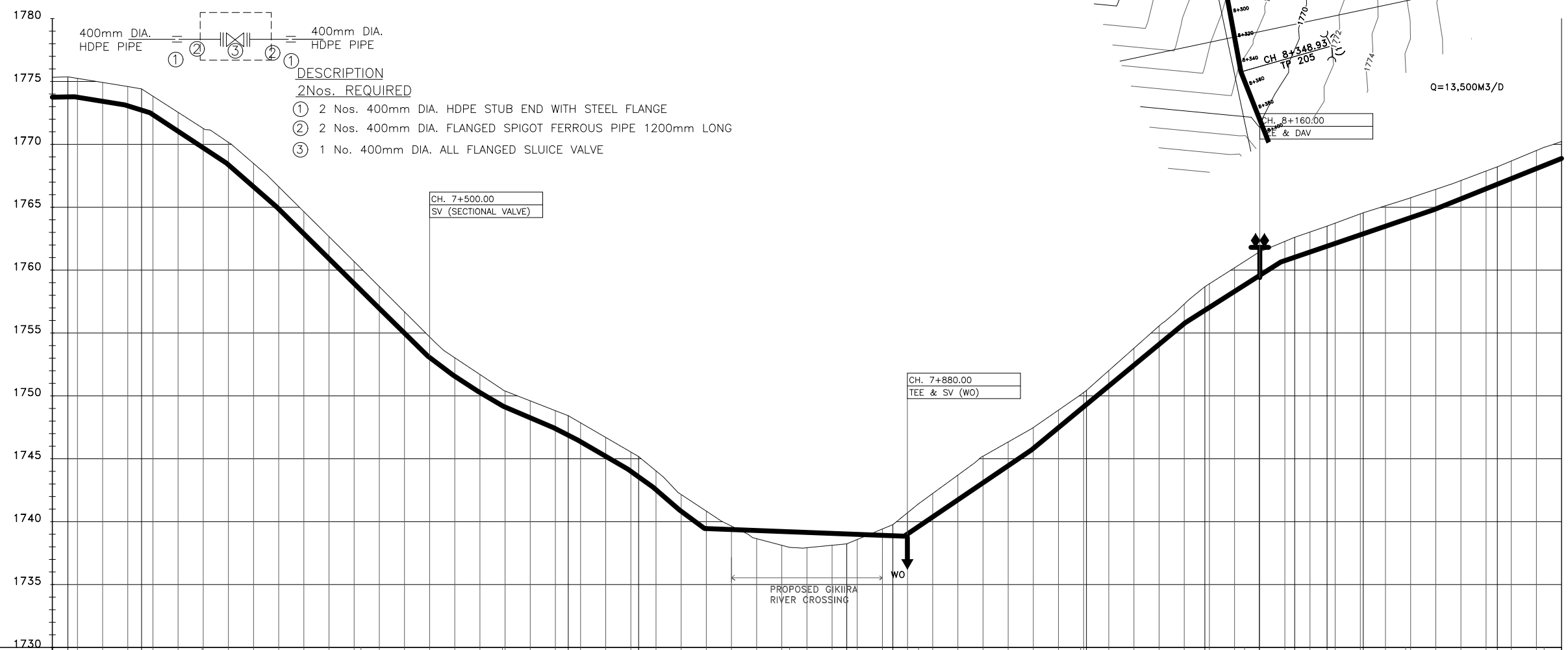
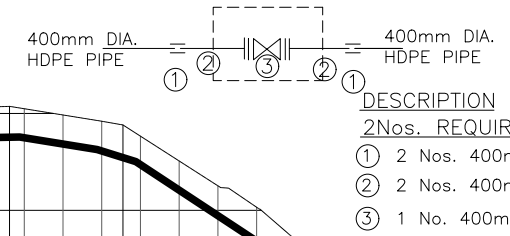
RELOCATION OF GITHAGARA-MAIRO PIPELINE PROJECT

DRAWING TITLE:
PROPOSED MAIRO-KIAMUYA-GITHAGARA PIPELINE
CH. 7+200.00 - 8+400.00
SHEET 7 OF 8

Designed by: A.M.M Drawn by: A.M.M
 Checked by: K.N.G Approved by: D.N.M
 Scale: H: 1:4000, V: 1:400 Date: DEC 2023
DRG No. REL-GITH/M-K-G/08

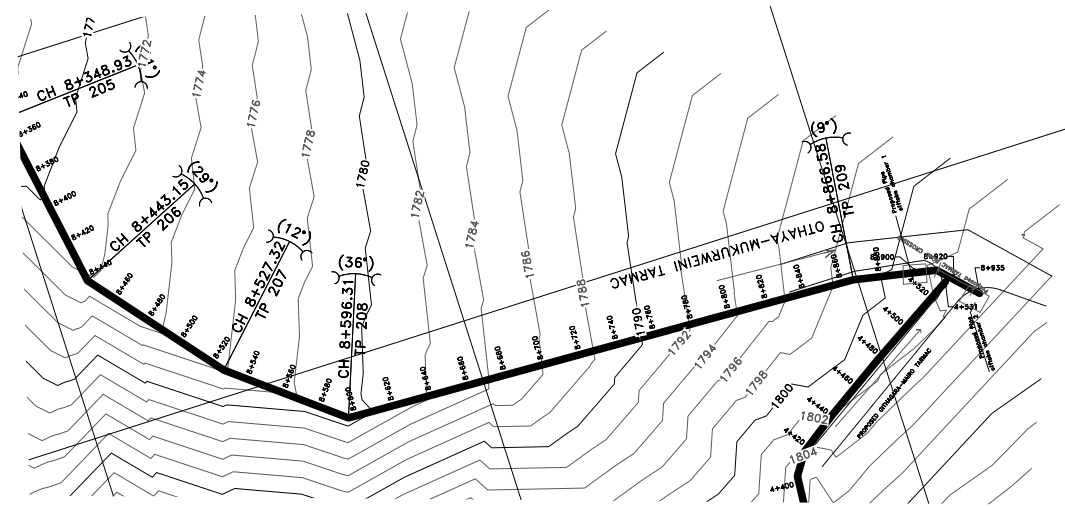


DETAIL SECTIONAL VALVE



CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	HGL DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
7+212.39	1775.37	1773.75	1.62	1773.75	OD 400MM HDPE PIPE PN 16	RED LOAM SOILS	1:539.06
7+220.00	1775.24	1773.77	1.47	1773.77			
7+240.00	1774.92	1773.42	1.50	1773.42			-1:61.86
7+250.00	1774.60	1773.06	1.54	1773.06			-1:31.99
7+270.98	1774.41	1772.72	1.69	1772.72			-1:15.19
7+280.00	1775.63	1773.36	1.27	1773.36			-1:11.45
7+300.00	1772.55	1771.04	1.51	1771.04			-1:10.11
7+319.00	1771.83	1769.72	1.54	1769.72			-1:10.11
7+340.00	1770.16	1768.38	1.78	1768.38			-1:10.11
7+360.00	1768.48	1766.63	1.85	1766.63			-1:10.11
7+380.00	1766.63	1765.87	1.77	1765.87			-1:10.11
7+400.00	1764.65	1762.89	1.76	1762.89			-1:10.11
7+420.00	1762.66	1760.91	1.75	1760.91			-1:10.11
7+440.00	1759.99	1758.53	1.46	1758.53			-1:10.11
7+460.00	1756.69	1755.11	1.58	1755.11			-1:10.11
7+480.00	1756.69	1754.99	1.70	1754.99			-1:10.11
7+500.00	1754.69	1753.06	1.63	1753.06			-1:10.11
7+520.00	1753.03	1751.86	1.17	1751.86			-1:10.11
7+540.00	1751.70	1750.55	1.15	1750.55			-1:10.11
7+560.00	1749.51	1748.17	1.34	1748.17			-1:10.11
7+580.00	1749.61	1748.38	1.23	1748.38			-1:10.11
7+600.00	1748.82	1747.40	1.42	1747.40			-1:10.11
7+610.24	1748.43	1746.87	1.56	1746.87			-1:10.11
7+620.00	1747.86	1746.38	1.48	1746.38			-1:10.11
7+640.00	1746.70	1745.34	1.36	1745.34			-1:10.11
7+660.00	1745.64	1744.38	1.26	1744.38			-1:10.11
7+680.00	1744.18	1743.35	0.83	1743.35			-1:10.11
7+700.00	1742.16	1742.32	0.16	1742.32			-1:10.11
7+720.00	1740.84	1739.46	1.38	1739.46			-1:10.11
7+740.00	1739.65	1739.37	0.28	1739.37			-1:10.11
7+760.00	1738.65	1739.30	-0.65	1739.30			-1:10.11
7+780.00	1738.12	1739.22	-1.10	1739.22			-1:10.11
7+800.00	1737.96	1737.96	0.00	1737.96			-1:10.11
7+820.00	1737.93	1737.93	0.00	1737.93			-1:10.11
7+840.00	1736.12	1736.12	0.00	1736.12			-1:10.11
7+860.00	1735.24	1735.24	0.00	1735.24			-1:10.11
7+880.00	1734.00	1733.99	0.01	1733.99			-1:10.11
7+900.00	1733.42	1733.42	0.00	1733.42			-1:10.11
7+920.00	1732.71	1732.71	0.00	1732.71			-1:10.11
7+940.00	1731.42	1731.42	0.00	1731.42			-1:10.11
7+960.00	1730.24	1730.24	0.00	1730.24			-1:10.11
7+980.00	1729.70	1729.70	0.00	1729.70			-1:10.11
8+000.00	1729.20	1729.20	0.00	1729.20			-1:10.11
8+040.00	1728.34	1728.34	0.00	1728.34			-1:10.11
8+060.00	1727.48	1727.48	0.00	1727.48			-1:10.11
8+080.00	1726.87	1726.87	0.00	1726.87			-1:10.11
8+100.00	1726.09	1726.09	0.00	1726.09			-1:10.11
8+120.00	1725.01	1725.01	0.00	1725.01			-1:10.11
8+140.00	1724.44	1724.44	0.00	1724.44			-1:10.11
8+160.00	1723.79	1723.79	0.00	1723.79			-1:10.11
8+180.00	1723.56	1723.56	0.00	1723.56			-1:10.11
8+200.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+220.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+240.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+260.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+280.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+300.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+320.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+340.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+360.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+380.00	1723.44	1723.44	0.00	1723.44			-1:10.11
8+400.00	1723.44	1723.44	0.00	1723.44			-1:10.11

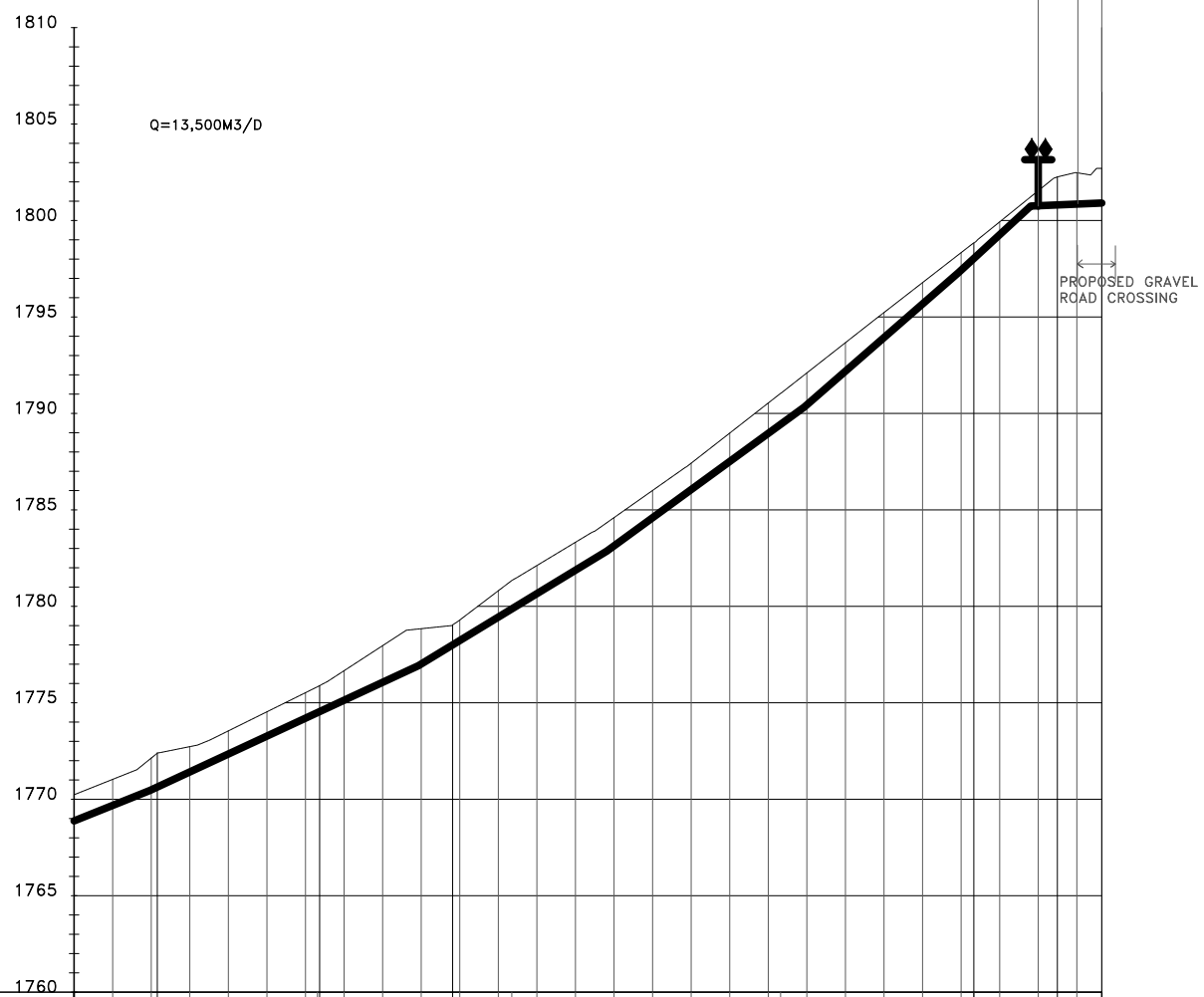
LONGITUDINAL SECTION



CH. 8+920.00
BEGINNING OF OFFTAKE WORKS
OFFTAKE CHAMBER 1. SEE TYPICAL
DRAWING NO. REL-GITH/OFF/01

CH. 8+940.00
OFFTAKE WORKS
OFFTAKE CHAMBER 2. SEE TYPICAL
DRAWING NO. REL-GITH/OFF/01

CH. 8+900.00
TWKU - TEE & DAV



CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	HGL DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
8+420.00	1771.03	1768.88	1.15	1821.74	OD 400MM HDPE PIPE PN 16	RED LOAM SOILS	1:24.93
8+440.00	1772.13	1770.48	1.65	1821.49			1:21.52
8+460.00	1772.73	1771.41	1.31	1821.25	1:16.45	1:13.72	
8+480.00	1773.54	1772.34	1.20	1821.01	OD 500MM EPOXY COATED CEMENT LINED STEEL PIPE PN 16	1:11.47	
8+500.00	1774.53	1773.27	1.26	1820.76	1:10.86	1:234.05	
8+520.00	1775.52	1774.20	1.32	1820.52			
8+540.00	1776.56	1775.13	1.43	1820.27			
8+560.00	1777.96	1776.06	1.90	1820.03			
8+580.00	1778.84	1776.94	1.90	1819.78			
8+600.00	1779.04	1777.04	1.95	1819.54			
8+620.00	1780.81	1779.44	1.37	1819.29			
8+640.00	1782.12	1781.34	1.46	1819.05			
8+660.00	1783.32	1781.87	1.45	1818.80			
8+680.00	1784.60	1782.95	1.65	1818.56			
8+700.00	1786.01	1784.59	1.41	1818.32			
8+720.00	1787.42	1786.05	1.37	1818.07			
8+740.00	1788.98	1787.51	1.47	1817.83			
8+760.00	1790.54	1788.97	1.57	1817.58			
8+780.00	1792.10	1791.04	1.81	1817.34			
8+800.00	1793.67	1792.19	1.48	1817.09			
8+820.00	1795.23	1793.93	1.30	1816.85			
8+840.00	1796.78	1795.88	1.11	1816.60			
8+860.00	1798.33	1797.48	1.85	1816.36			
8+880.00	1799.93	1799.04	1.81	1816.11			
8+900.00	1801.54	1800.75	0.79	1815.87			
8+920.00	1802.26	1800.85	1.41	1815.63			
8+940.00	1802.48	1800.91	1.57	1815.47			
8+960.00	1802.48	1800.91	1.57	1815.47			
8+980.00	1802.48	1800.91	1.57	1815.47			
8+1000.00	1802.48	1800.91	1.57	1815.47			

LONGITUDINAL SECTION

- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 4. MINIMUM PIPELINE SLOPES TO BE 1:500
 5. DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - DAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - PROPOSED VALVE BOX
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			

CLIENT: **THE CHIEF EXECUTIVE OFFICER**
TANA WATER WORKS DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

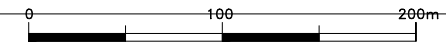
ENGINEER: **THE CHIEF EXECUTIVE OFFICER**
TANA WATER WORKS DEVELOPMENT AGENCY
P.O BOX 1292 - 10100,
NYERI, KENYA

PROJECT TITLE:
RELOCATION OF GITHAGARA-MAIRO PIPELINE PROJECT

DRAWING TITLE:
PROPOSED MAIRO-KIAMUYA-GITHAGARA PIPELINE
CH. 8+400.00 - 8+940.00
SHEET 8 OF 8

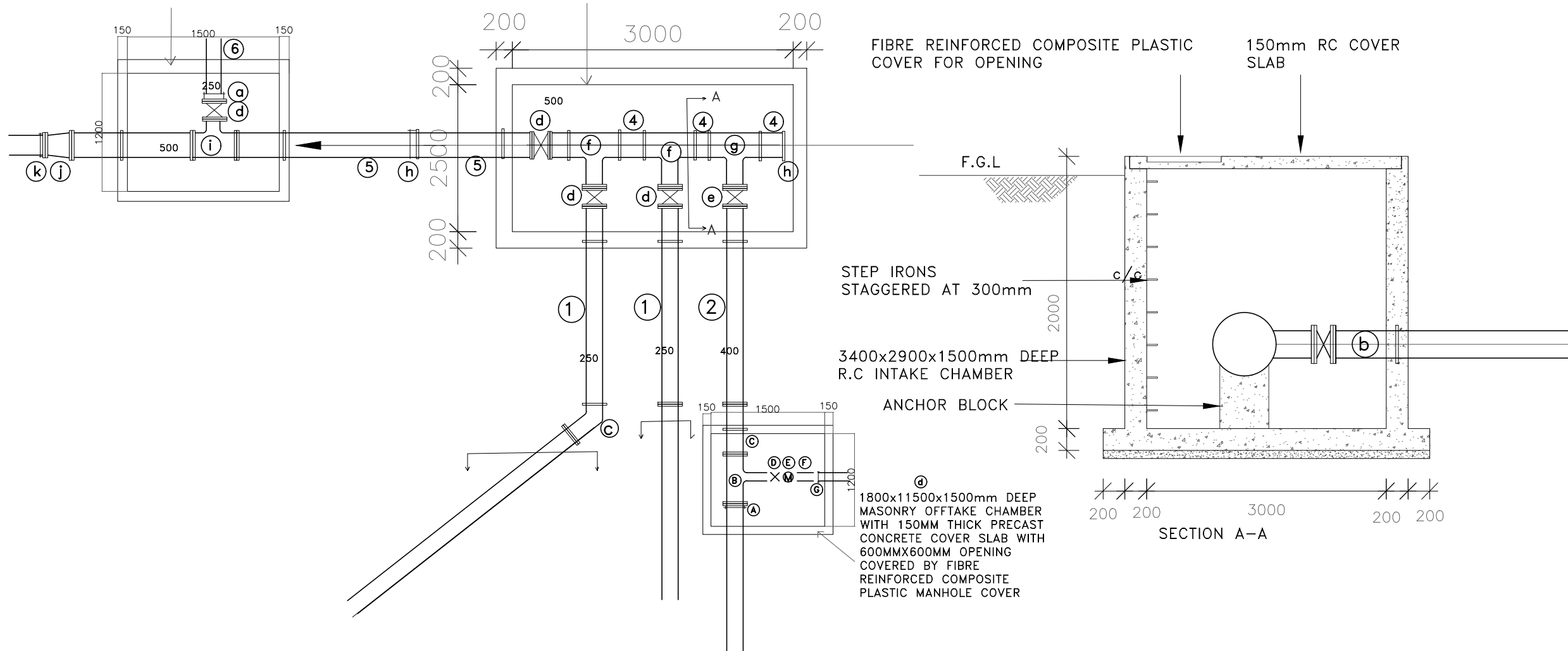
Designed by: A.M.M Drawn by: A.M.M
Checked by: K.N.G Approved by: D.N.M
Scale: H- 1:4000, V- 1:400 Date: DEC 2023

DRG No. **REL-GITH/M-K-G/08**



1800x11500x1500mm DEEP MASONRY WASHOUT CHAMBER WITH 150MM THICK PRECAST CONCRETE COVER SLAB WITH 600MMX600MM OPENING COVERED BY FIBRE REINFORCED COMPOSITE PLASTIC MANHOLE COVER

3400x2900x1500mm DEEP R.C CHAMBER WITH 150MM THICK RC COVER SLAB WITH 600MMX600MM OPENING COVERED BY FIBRE REINFORCED COMPOSITE PLASTIC MANHOLE COVER



- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 4. MINIMUM PIPELINE SLOPES TO BE 1:500
 5. DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - SV SLUICE VALVE
 - WO WASHOUT VALVE
 - DAV DOUBLE ORIFICE AIR VALVE
 - WM WATER METER
 - PROPOSED CHAMBER
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS		SIGN	DATE	APPROVED
D	INVERTS AT ROAD CROSSING	BY VJK	15/01	
		CHECKED		
		BY		
		CHECKED		
		BY		
		CHECKED		
		BY		
		CHECKED		

PIPE INTAKE AND WASHOUT CHAMBERS PIPEWORK SCHEDULE (APPROVED LINED FERROUS PIPES AND FITTINGS)

ITEM No.	DESCRIPTION	DIA. (mm)	LENGTH (mm)	QUANTITY (No.)
a	FLANGE ADAPTOR	250		1
b	FLANGE ADAPTOR	400		1
c	ALL FLANGED 45° BEND	250		1
d	FLANGED SLUICE VALVE	250 500		3 1
e	FLANGED SLUICE VALVE	400		1
f	ALL FLANGED REDUCED FERROUS TEE			2
g	ALL FLANGED REDUCED FERROUS TEE			1
h	FLANGE ADAPTOR	500		1
i	ALL FLANGED REDUCED FERROUS INVERT TEE			1
j	ALL FLANGED TAPERED REDUCER	500X400		1
k	HDPE STUB END WITH STEEL FLANGE	400		1

PIPE INTAKE AND WASHOUT CHAMBERS PIPEWORK SCHEDULE (APPROVED LINED FERROUS PIPES AND FITTINGS)

ITEM No.	DESCRIPTION	DIA. (mm)	LENGTH (mm)	QUANTITY (No.)
1	DOUBLE FLANGED PIPE WITH PUDDLE FLANGE AT 300MM FROM ONE END	250	3000	1
2	DOUBLE FLANGED PIPE WITH PUDDLE FLANGE AT 300MM FROM ONE END	250	3000	1
3	DOUBLE FLANGED PIPE WITH PUDDLE FLANGE AT 300MM FROM ONE END	400	3000	1
4	ALL FLANGED 300MM LONG PIPE	500	300	3
5	DOUBLE FLANGED PIPE WITH PUDDLE FLANGE AT 300MM FROM ONE END	500	3000	2
6	UPVC PIPE CLASS C TO RIVER	250	3000	1

GITHAGARA-MAIRO HDPE OFFTAKE CHAMBER PIPEWORK SCHEDULE (APPROVED LINED FERROUS PIPES AND FITTINGS)

ITEM No.	DESCRIPTION	DIA. (mm)	LENGTH (mm)	QUANTITY (No.)
A	FLANGE ADAPTOR	400		1
B	ALL FLANGED REDUCED TEE	400X150		1
C	DOUBLE FLANGED STEEL PIPE 1200MM LONG WITH PUDDLE FLANGE 300MM FROM ONE END	400	1200	1
D	ALL FLANGED SLUICE VALVE	150		1
E	FLANGED BULK WATER METER	150		1
F	DOUBLE FLANGED STEEL PIPE 300MM LONG	150		1
G	HDPE STUB END WITH STEEL FLANGE	160		1

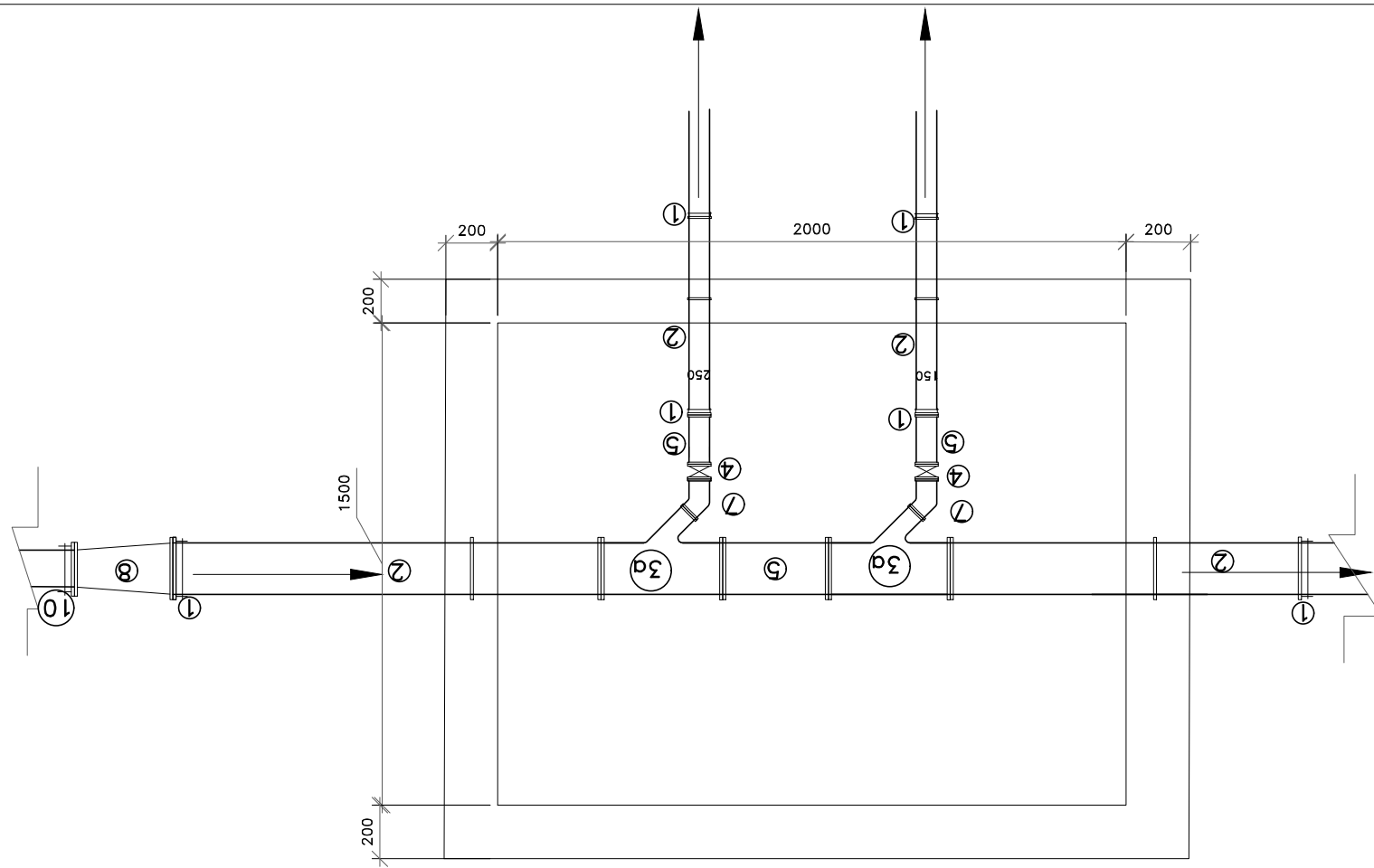
CLIENT: **THE CHIEF EXECUTIVE OFFICER TANA WATER WORKS DEVELOPMENT AGENCY**
P.O BOX 1292 - 10100, NYERI, KENYA

ENGINEER: **THE CHIEF EXECUTIVE OFFICER TANA WATER WORKS DEVELOPMENT AGENCY**
P.O BOX 1292 - 10100, NYERI, KENYA

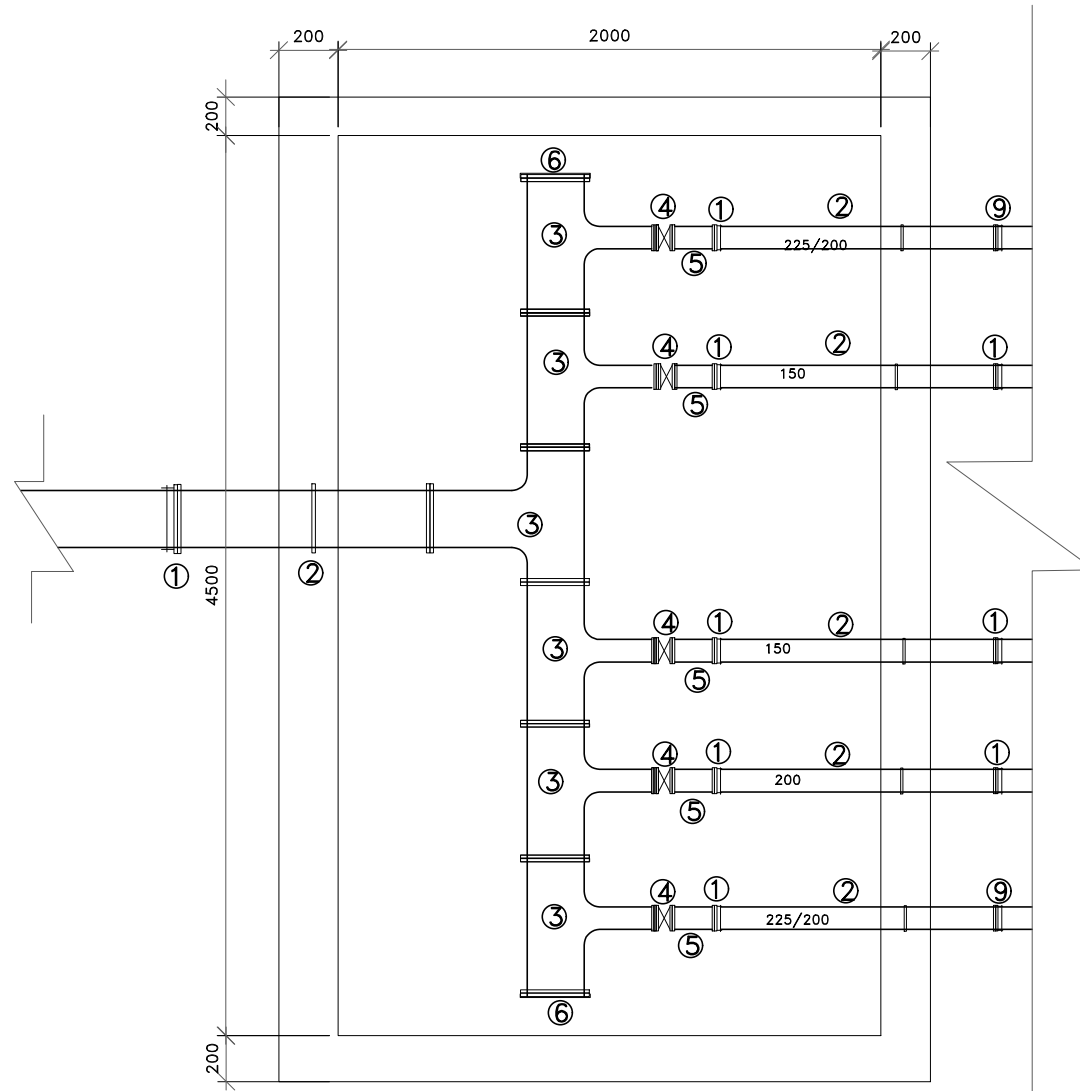
PROJECT TITLE: **RELOCATION OF GITHAGARA-MAIRO PIPELINE**

DRAWING TITLE: **TYPICAL DRAWING OF INTAKE CHAMBER, GITHAGARA OFFTAKE CHAMBER AND WASHOUT CHAMBER AT BEGINNING OF RELOCATION WORKS**

Designed by: A.M.M Drawn by: A.M.M
Checked by: K.N.G Approved by: D.N.M
Scale: NOT TO SCALE Date: DEC 2023
DRG No. REL-GITH/INT/01



OFFTAKE CHAMBER 1



OFFTAKE CHAMBER 2

**PIPE OFFTAKE CHAMBERS
PIPEWORK SCHEDULE
(APPROVED LINED FERROUS PIPES AND FITTINGS)**

ITEM No.	DESCRIPTION	DIA. (mm)	LENGTH (mm)	QUANTITY (No.)
①	FLANGE ADAPTOR	150		6
		200		4
		250		2
②	FLANGED SPIGOT PIPE	500		2
		150	1200	3
		200		3
		250		1
		500		3
③	ALL FLANGED REDUCED TEE	500X150		3
		500X200		3
		500X250		1
				1
③a	FLANGED REDUCER Y-JUNCTION TEE	500X150 500X250		1 1
④	ALL FLANGED SLUICE VALVE	150		3
		200		3
		250		1
⑤	DOUBLE FLANGED STEEL PIPE	150	300	3
		200		3
		250		1
⑥	BLANK FLANGE	500		2
⑦	ALL FLANGED 45° BEND	150		1
		250		1
⑧	ALL FLANGED TAPERED REDUCER	500X400		1
⑨	STEPPED FLANGE ADAPTOR	200X225		2
⑩	HDPE SUB END WITH STEEL FLANGE	400		1

- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY
 4. MINIMUM PIPELINE SLOPES TO BE 1:500
 5. DRAWING TO BE READ IN CONJUNCTION WITH STANDARD DRAWINGS

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - 1480 CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER GRAVITY MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV SLUICE VALVE
 - WO WASHOUT VALVE
 - DAV DOUBLE ORIFICE AIR VALVE
 - WM WATER METER
 - PROPOSED CHAMBER
 - PIPELINE GRADIENT WITH SLOPE DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			
BY			
CHECKED			

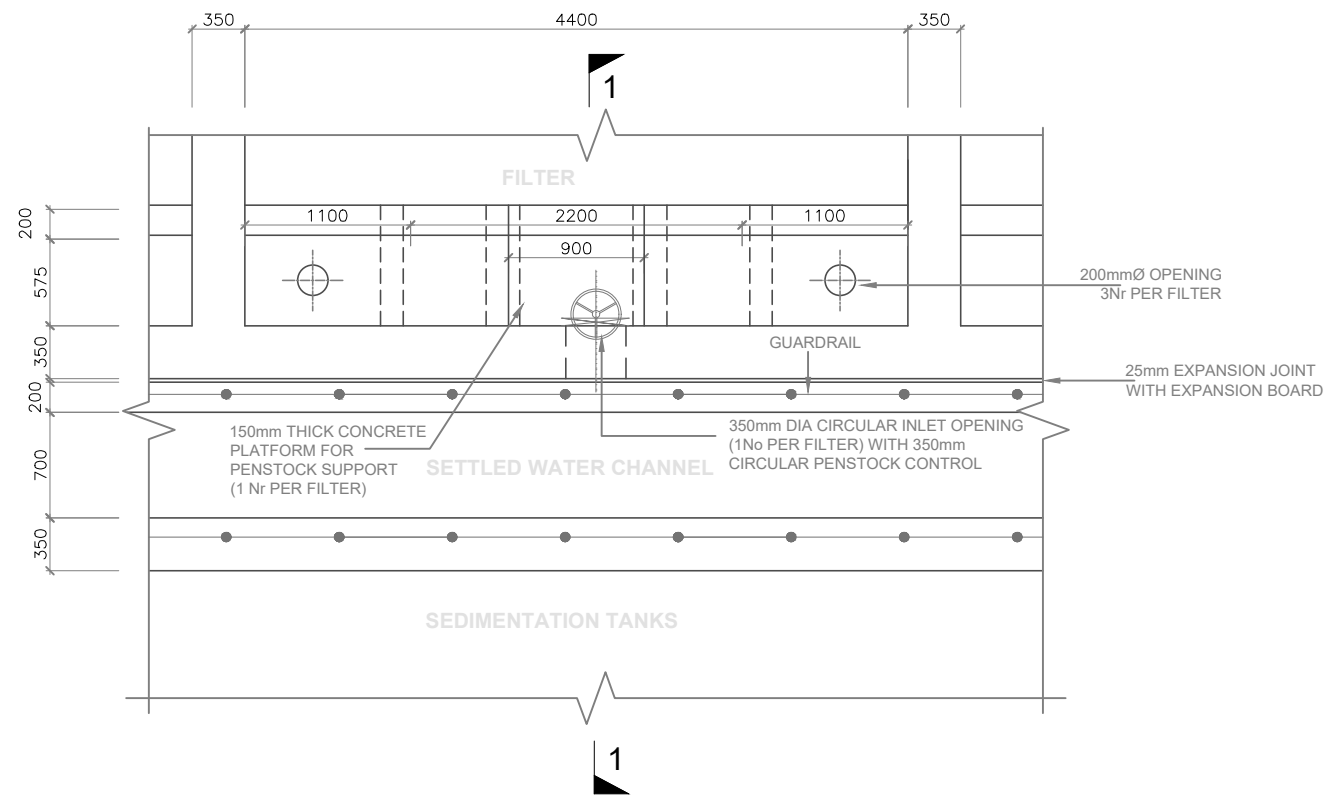
CLIENT: **THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY**
P.O BOX 1292 - 10100,
NYERI, KENYA

ENGINEER: **THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS
DEVELOPMENT AGENCY**
P.O BOX 1292 - 10100,
NYERI, KENYA

PROJECT TITLE:
**RELOCATION OF GITHAGARA-MAIRO
PIPELINE**

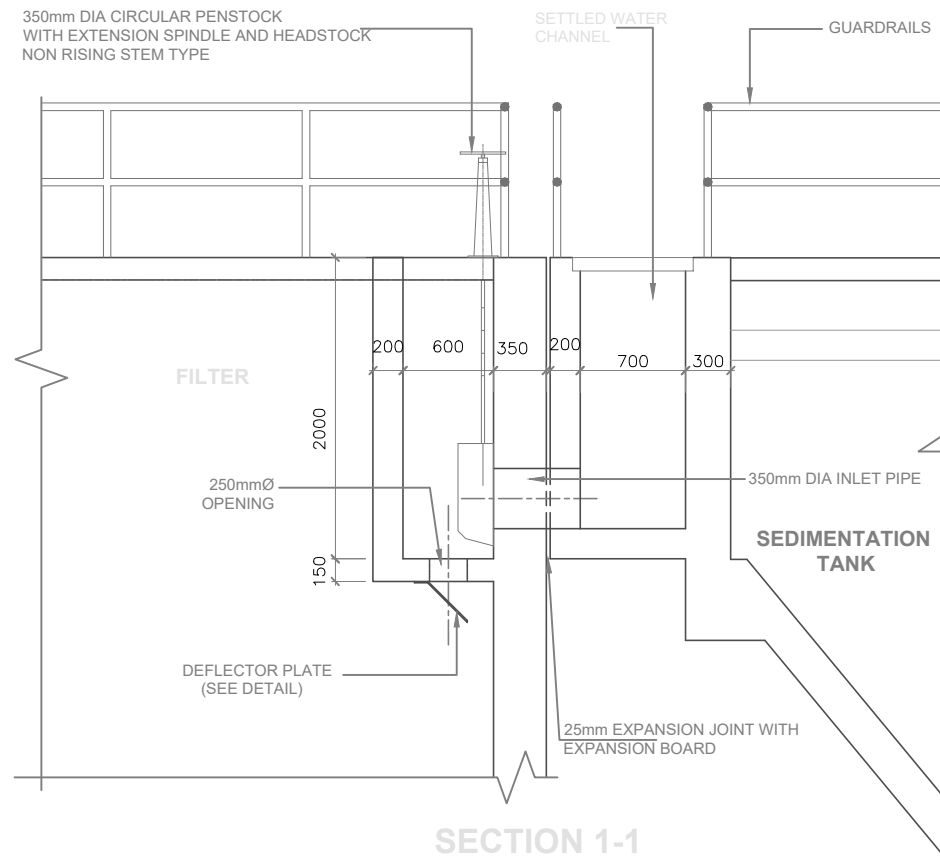
DRAWING TITLE:
**TYPICAL DRAWING OF OFFTAKE
CHAMBER 2 AT
OTHAYA-MUKURWEINI-GITHAGARA
JUNCTION**

Designed by: A.M.M	Drawn by: A.M.M
Checked by: K.N.G	Approved by: D.N.M
Scale: NOT TO SCALE	Date: DEC 2023
DRG No. REL-GITH/OFF/01	



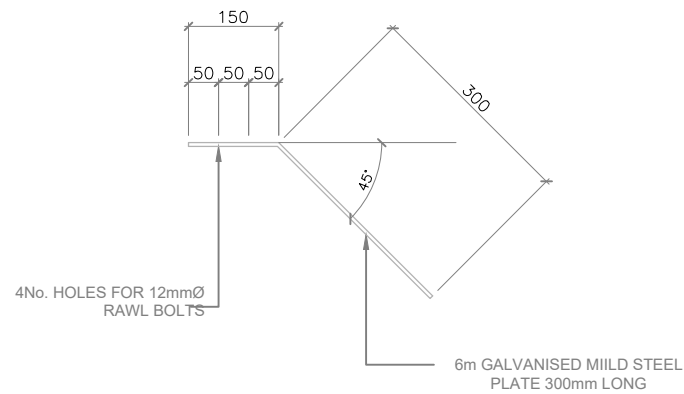
FILTER INLET CHANNEL DETAILS

SCALE: 1:50



SECTION 1-1

SCALE: 1:50



DEFLECTOR PLATE (2No. PER FILTER)

SCALE: 1:12.5



LAYER	1	2	3	4
DEPTH (mm)	300	100	100	100
PASSING SQUARE MESH	38mm (1 1/2")	20mm (3/4")	12mm (1/2")	5mm (3/16")
RETAINED	20mm (3/4")	12mm (1/2")	5mm (3/16")	2mm (3/32")

TOP SAND LAYER 750mm EFFECTIVE SIZE 0.7mm UNIFORMITY COEFFICIENT 1.5


DETAIL OF FILTER MEDIA

NTS

NOTES

1. ALL DIMENSIONS ARE IN mm.
2. FOR DETAILS OF GUARDRAILS SEE DRG. NO. M390/SD/15

AS BUILT DRAWING

CLIENT:
 THE CHIEF EXECUTIVE OFFICER
 TANA WATER SERVICES BOARD
 P.O. BOX 1292 - 10100
 NYERI, KENYA

PROJECT TITLE:
 KENYA SMALL TOWNS AND RURAL WATER SUPPLY AND SANITATION PROJECT

CONTRACT No. TWSB/ADF/001/2011-2012:
 CONSTRUCTION OF OTHAYA, MUKURWE-INI AND MAUA WATER SUPPLY AND WASTEWATER INFRASTRUCTURE

DESIGN/SUPERVISING CONSULTANTS:
 MANGAT I.B. PATEL & PARTNERS
 P.O. BOX 48674,
 00100 - GPO, NAIROBI, KENYA
 E-MAIL: mibp@africaonline.co.ke
 TEL : +254-2-2710500
 FAX : +254-2-2710549

LOT III: CONSTRUCTION OF MUKURWE-INI WATER SUPPLY PROJECT

DETAILS OF DRAWING:

WATER TREATMENT WORKS

DETAILS OF FILTER INLET CHANNEL AND FILTER MEDIA

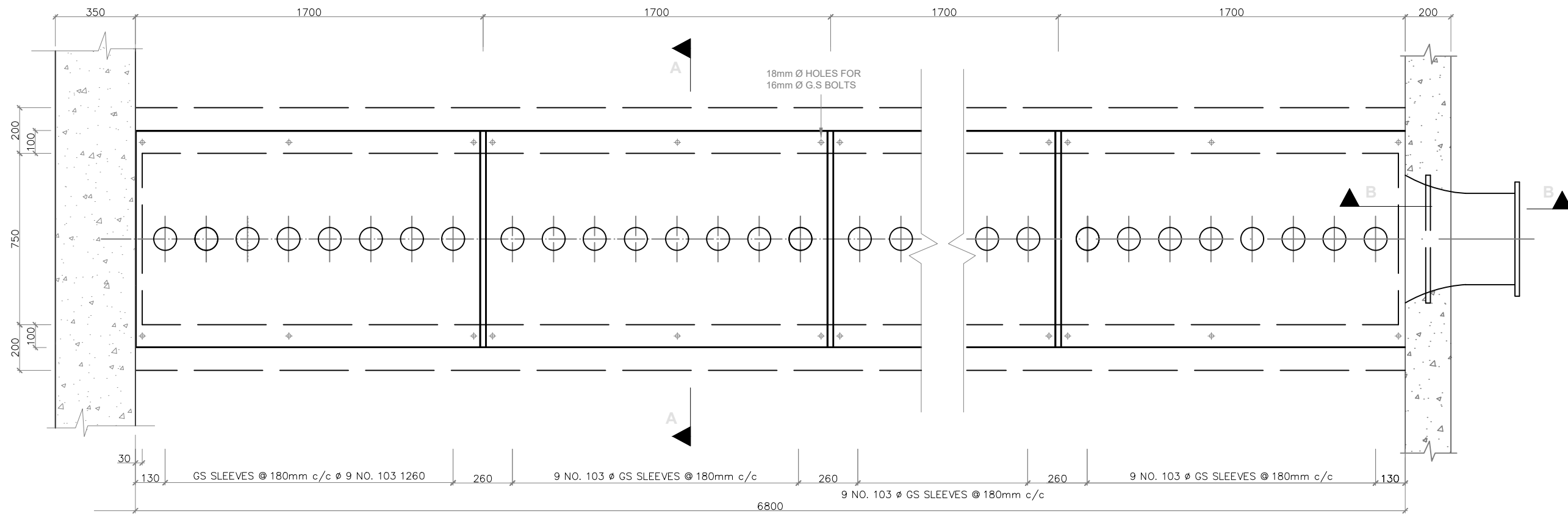
Designed by: P.N.N Drawn by: J.M.N

Checked by: N.M.M Approved by: N.J.N

Scale: AS SHOWN Date: NOV 2014

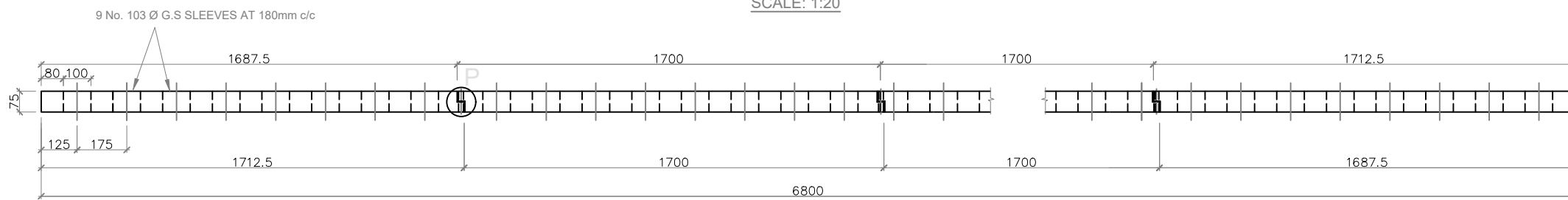
Job No.: M390 ACAD File:

DRG No. M390/MU/TW/FFG/03 REV



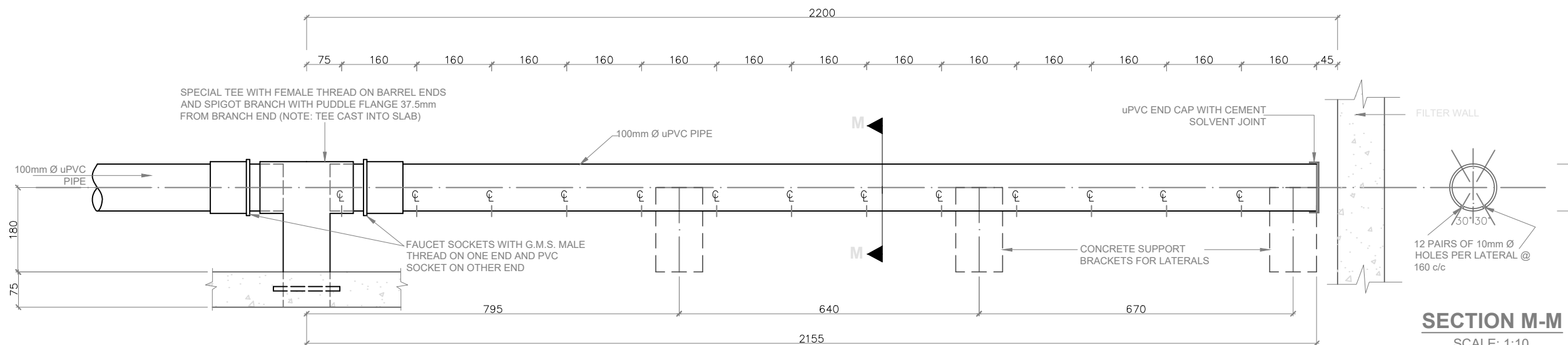
FILTERED WATER COLLECTING CHANNEL

SCALE: 1:20



ARRANGEMENT OF COVER SLABS OVER FILTER WATER COLLECTING CHANNEL

SCALE: 1:20



SECTION M-M

SCALE: 1:10


DETAIL OF uPVC LATERALS

SCALE: 1:10

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING NO. M390/MU/TW/FFG/08

AS BUILT DRAWING

CLIENT:
 THE CHIEF EXECUTIVE OFFICER
 TANA WATER SERVICES BOARD
 P.O. BOX 1292 - 10100
 NYERI, KENYA

PROJECT TITLE:
 KENYA SMALL TOWNS AND RURAL WATER SUPPLY AND SANITATION PROJECT
 CONTRACT No. TWSB/ADF/001/2011-2012: CONSTRUCTION OF OTHAYA, MUKURWE-INI AND MAUA WATER SUPPLY AND WASTEWATER INFRASTRUCTURE

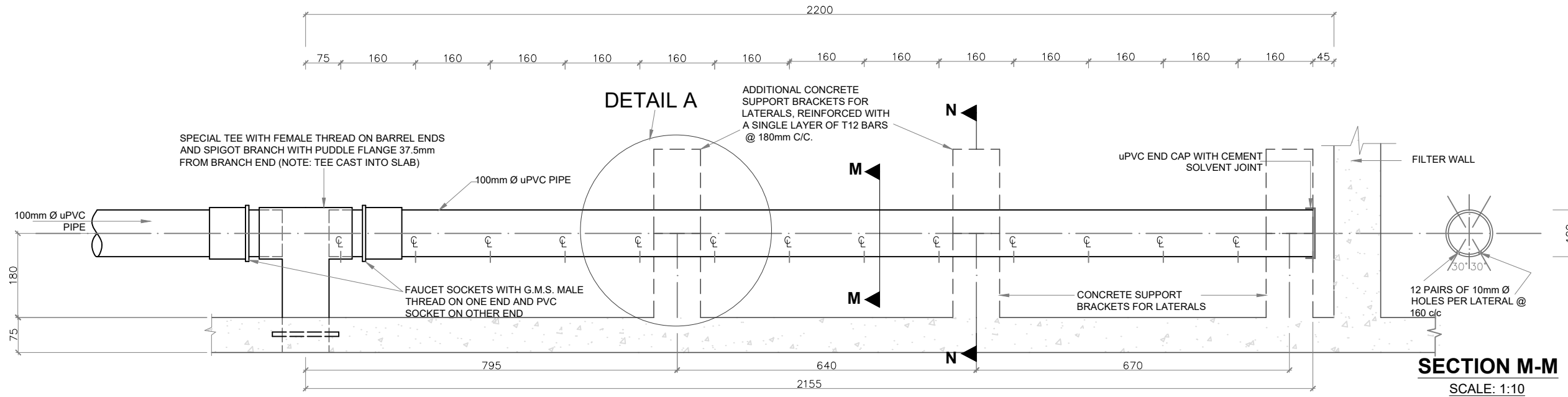
DESIGN/SUPERVISING CONSULTANTS:
 MANGAT I.B. PATEL & PARTNERS
 P.O. BOX 48674,
 00100 - GPO, NAIROBI, KENYA
 E-MAIL: mibp@africaonline.co.ke
 TEL : +254-2-2710500
 FAX : +254-2-2710549

LOT III: CONSTRUCTION OF MUKURWE-INI WATER SUPPLY PROJECT

DETAILS OF DRAWING:
WATER TREATMENT WORKS
DETAILS OF FILTER UNDER DRAINAGE SYSTEM
 SHEET 1 OF 3

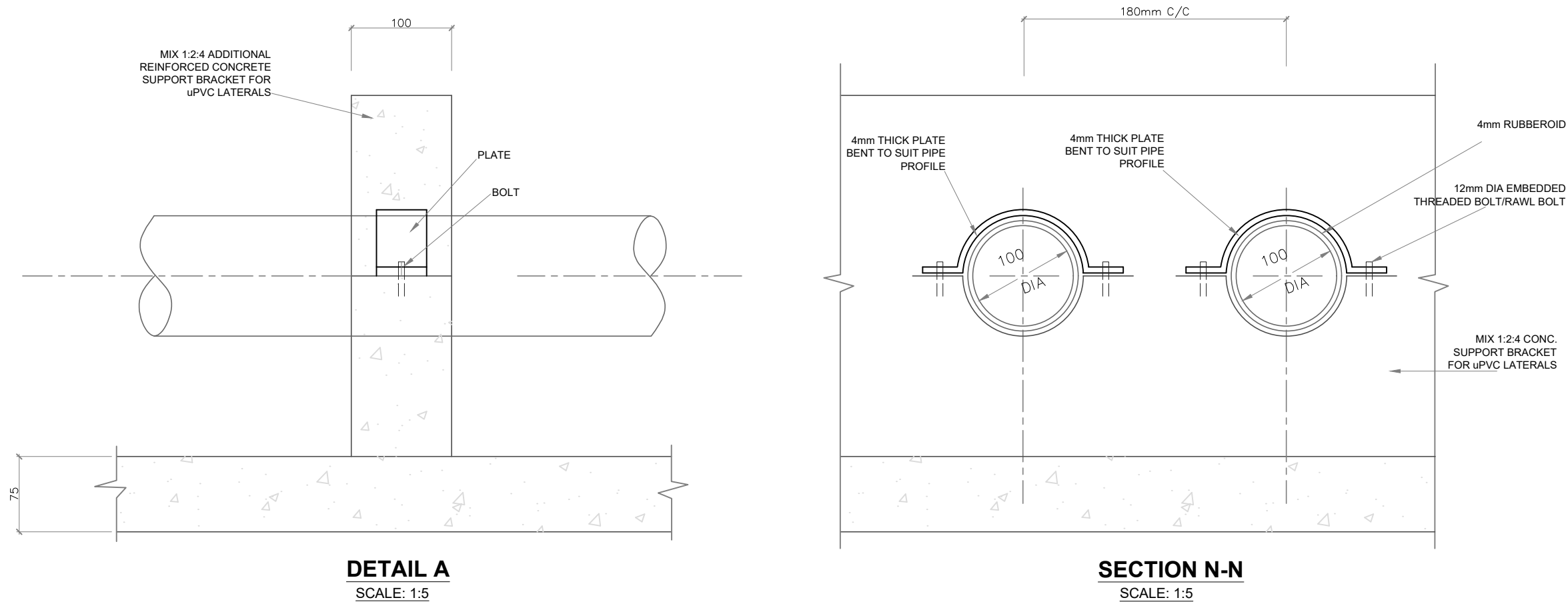
Designed by: P.N.N	Drawn by: J.M.N
Checked by: N.M.M	Approved by: N.J.N
Scale: AS SHOWN	Date: NOV 2014
Job No.: M390	ACAD File:
DRG No. M390/MU/TW/FFG/07	REV

DETAIL OF SUPPORT BRACKET FOR uPVC LATERALS



DETAIL OF uPVC LATERALS

SCALE: 1:10



NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED
2. ALL EXPOSED CONCRETE EDGES TO HAVE 25mm x 25mm CHAMFER
3. ONLY FIGURED DIMENSIONS TO BE TAKEN FROM THIS DRAWING
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING NO. M390/MU/TW/FFG/07

AS BUILT DRAWING

CLIENT:
 THE CHIEF EXECUTIVE OFFICER
 TANA WATER SERVICES BOARD
 P.O. BOX 1292 - 10100
 NYERI, KENYA

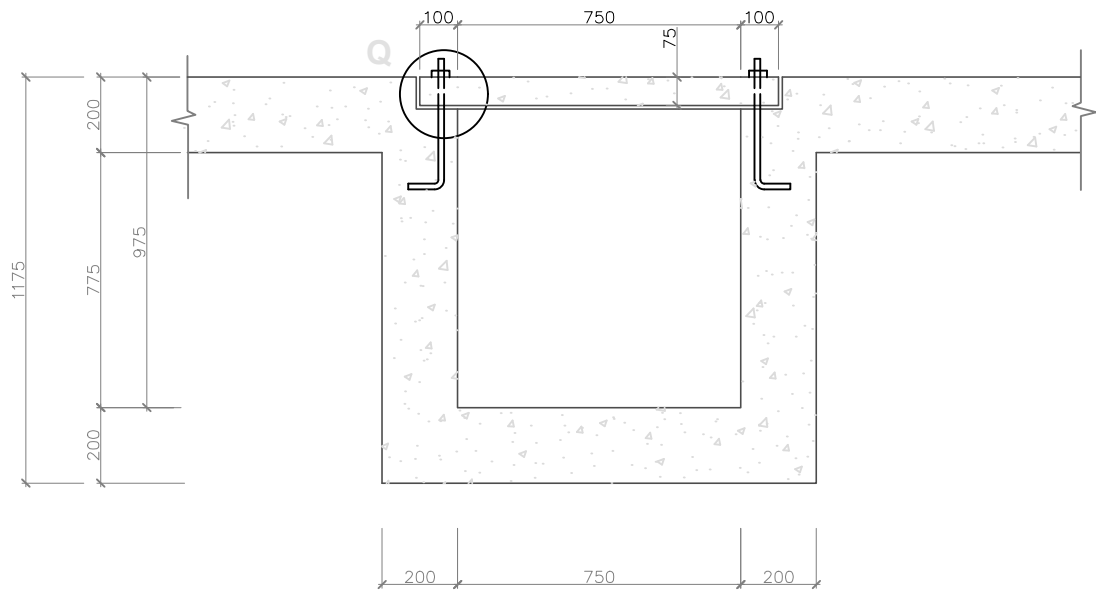
PROJECT TITLE:
 KENYA SMALL TOWNS AND RURAL WATER SUPPLY AND SANITATION PROJECT
 CONTRACT No. TWSB/ADF/001/2011-2012:
 CONSTRUCTION OF OTHAYA, MUKURWE-INI AND MAUA WATER SUPPLY AND WASTEWATER INFRASTRUCTURE

DESIGN/SUPERVISING CONSULTANTS:
 MANGAT I.B. PATEL & PARTNERS
 P.O. BOX 48674,
 00100 - GPO, NAIROBI, KENYA
 E-MAIL: mibp@africaonline.co.ke
 TEL : +254-2-2710500
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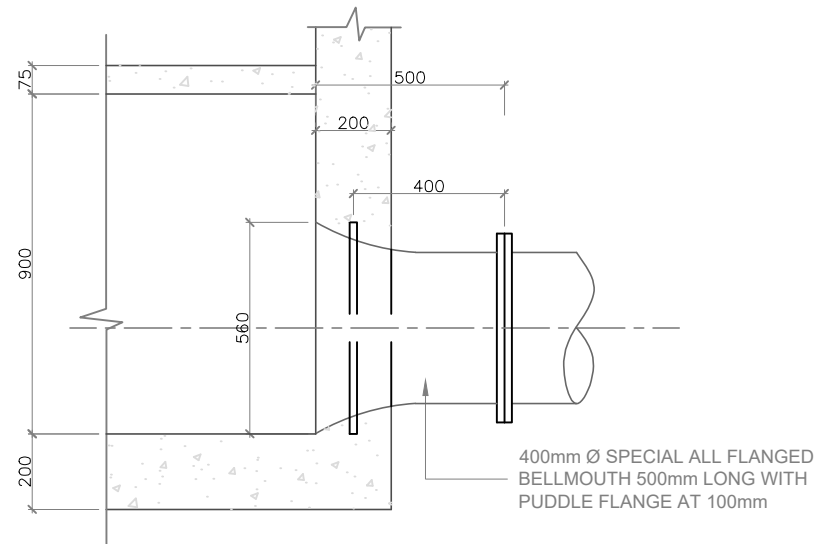
LOT III: CONSTRUCTION OF
 MUKURWE-INI
 WATER SUPPLY PROJECT

DETAILS OF DRAWING:
WATER TREATMENT WORKS
 DETAILS OF FILTER UNDER DRAINAGE SYSTEM
 SHEET 3 OF 3

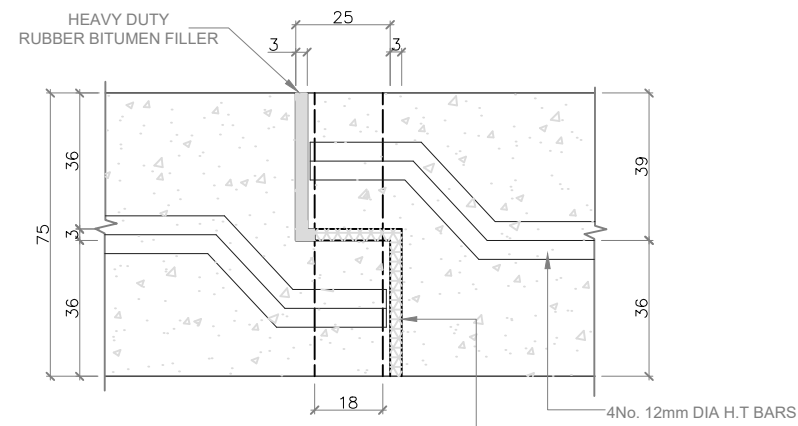
Designed by: M.M.N	Drawn by: J.M.N
Checked by: N.M.M	Approved by: N.J.N
Scale: AS SHOWN	Date: NOV 2014
Job No.: M390	ACAD File:
DRG No. M390/MU/TW/FFG/09	REV



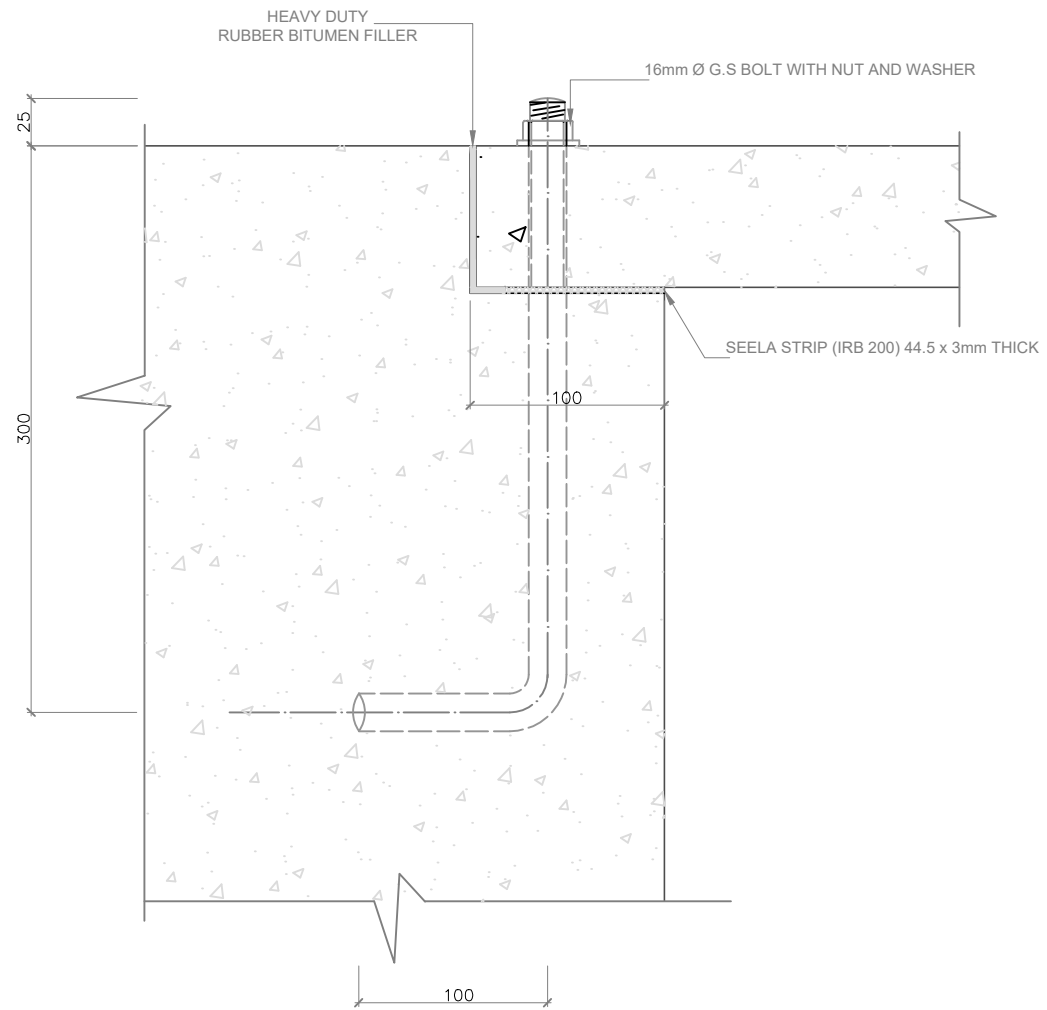
SECTION A-A
SCALE: 1:20



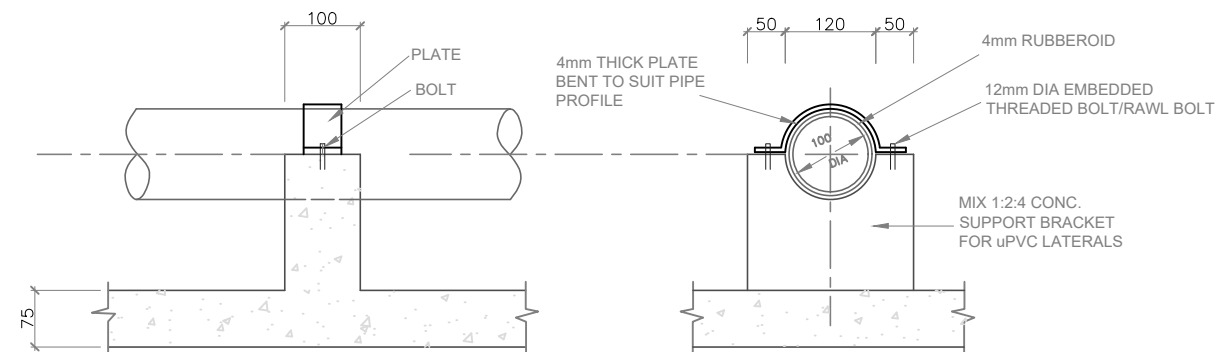
SECTION B-B
SCALE: 1:20



DETAIL 'P'



DETAIL AT 'Q'
SCALE: 1:4




DETAIL OF SUPPORT BRACKET FOR uPVC LATERALS
SCALE: 1:10

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING NO. M390/MU/TW/FFG/07

AS BUILT DRAWING

CLIENT:
 THE CHIEF EXECUTIVE OFFICER
 TANA WATER SERVICES BOARD
 P.O. BOX 1292 - 10100
 NYERI, KENYA

PROJECT TITLE:
 KENYA SMALL TOWNS AND RURAL WATER SUPPLY AND SANITATION PROJECT
 CONTRACT No. TWSB/ADF/001/2011-2012: CONSTRUCTION OF OTHAYA, MUKURWE-INI AND MAUA WATER SUPPLY AND WASTEWATER INFRASTRUCTURE

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LOT III: CONSTRUCTION OF MUKURWE-INI WATER SUPPLY PROJECT

DETAILS OF DRAWING:
WATER TREATMENT WORKS
 DETAILS OF FILTER UNDER DRAINAGE SYSTEM
 SHEET 2 OF 3

Designed by: P.N.N	Drawn by: J.M.N
Checked by: N.M.M	Approved by: N.J.N
Scale: AS SHOWN	Date: JULY 2014
Job No.: M390	ACAD File:
DRG No. M390/MU/TW/FFG/08	REV