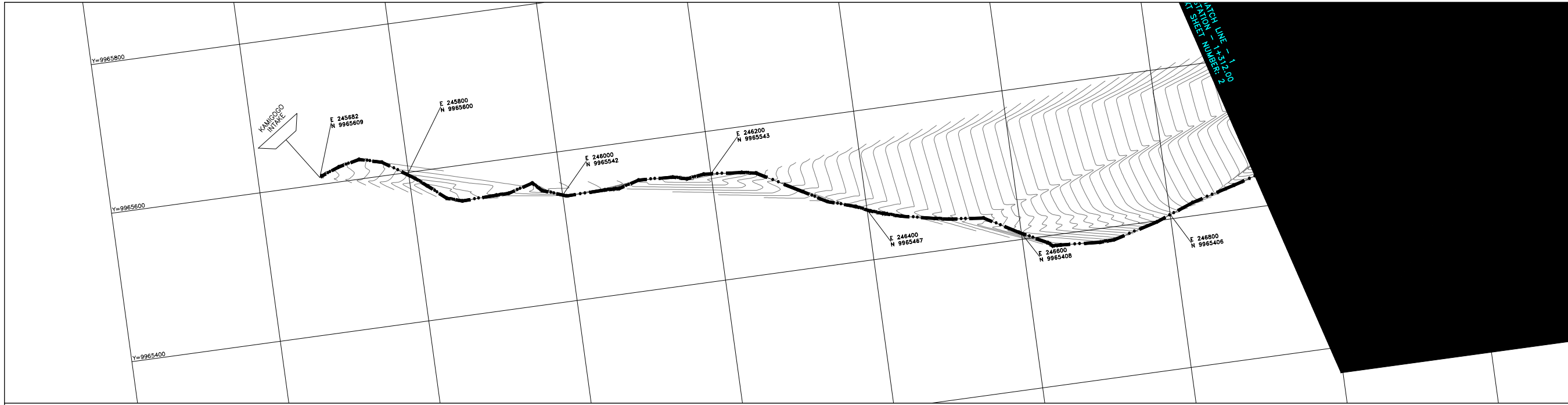
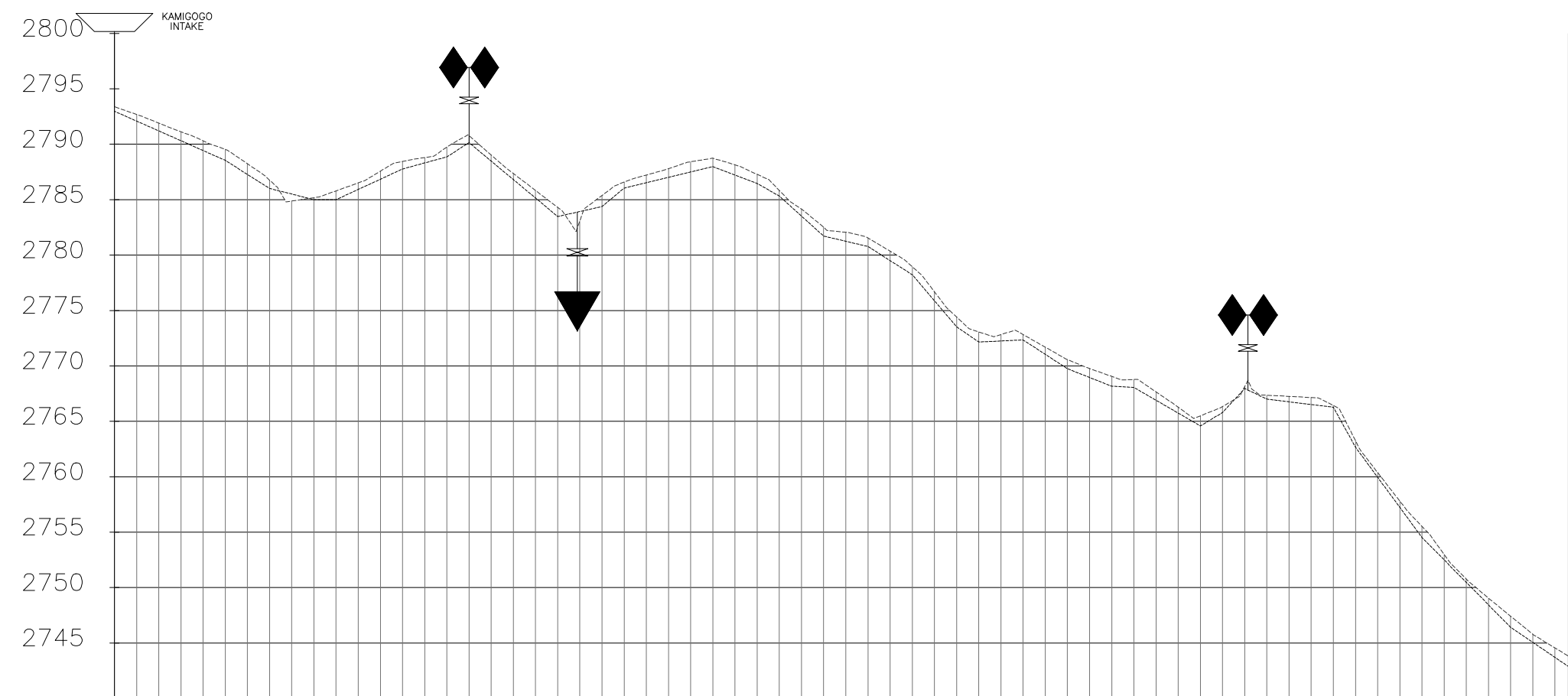


KAMIGOGO INTAKE TO MANORO TANK



- 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:**
- - - - - EXISTING GROUND PROFILE
 - PIPE INVERT PROFILE
 - ◆ ◆ NEW AIR VALVE
 - ▼ NEW WASHOUT
 - TANK
 - ∩ INTAKE



| DISTANCE | DATUM (m) | GROUND LEVELS (m) | INVERT LEVELS(m) | DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | TYPE OF FITTING |
|----------|-----------|-------------------|------------------|---|-----------------|
| | | 2793.38 | 2792.97 | 0.41 | |
| | 0+020.00 | 2792.68 | 2792.09 | 0.59 | |
| | 0+040.00 | 2791.91 | 2791.20 | 0.70 | |
| | 0+060.00 | 2791.12 | 2790.32 | 0.81 | |
| | 0+080.00 | 2790.30 | 2789.43 | 0.87 | |
| | 0+100.00 | 2789.54 | 2788.54 | 1.00 | |
| | 0+120.00 | 2788.24 | 2787.28 | 0.96 | |
| | 0+140.00 | 2786.76 | 2786.01 | 0.75 | |
| | 0+160.00 | 2784.88 | 2785.50 | -0.63 | |
| | 0+180.00 | 2785.17 | 2785.00 | 0.17 | |
| | 0+200.00 | 2785.79 | 2785.00 | 0.79 | |
| | 0+220.00 | 2786.51 | 2785.92 | 0.59 | |
| | 0+240.00 | 2787.57 | 2786.84 | 0.72 | |
| | 0+260.00 | 2788.45 | 2787.76 | 0.68 | |
| | 0+280.00 | 2788.80 | 2788.31 | 0.49 | |
| | 0+300.00 | 2789.74 | 2788.86 | 0.88 | |
| | 0+320.00 | 2790.77 | 2790.14 | 0.63 | |
| | 0+340.00 | 2789.02 | 2788.48 | 0.55 | |
| | 0+360.00 | 2787.36 | 2786.81 | 0.55 | |
| | 0+380.00 | 2785.83 | 2785.15 | 0.68 | |
| | 0+400.00 | 2784.30 | 2783.48 | 0.82 | |
| | 0+420.00 | 2783.07 | 2783.93 | -0.85 | |
| | 0+440.00 | 2785.38 | 2784.38 | 1.00 | |
| | 0+460.00 | 2786.59 | 2786.04 | 0.54 | |
| | 0+480.00 | 2787.22 | 2786.53 | 0.69 | |
| | 0+500.00 | 2787.79 | 2787.91 | 0.78 | |
| | 0+520.00 | 2788.42 | 2787.49 | 0.92 | |
| | 0+540.00 | 2788.74 | 2787.98 | 0.76 | |
| | 0+560.00 | 2788.14 | 2787.22 | 0.92 | |
| | 0+580.00 | 2787.28 | 2786.46 | 0.82 | |
| | 0+600.00 | 2785.83 | 2785.33 | 0.51 | |
| | 0+620.00 | 2784.16 | 2783.52 | 0.64 | |
| | 0+640.00 | 2782.52 | 2781.71 | 0.81 | |
| | 0+660.00 | 2782.05 | 2781.24 | 0.81 | |
| | 0+680.00 | 2781.54 | 2780.77 | 0.77 | |
| | 0+700.00 | 2780.36 | 2779.50 | 0.86 | |
| | 0+720.00 | 2778.95 | 2778.23 | 0.72 | |
| | 0+740.00 | 2776.69 | 2775.88 | 0.81 | |
| | 0+760.00 | 2774.41 | 2773.53 | 0.88 | |
| | 0+780.00 | 2773.07 | 2772.83 | 0.92 | |
| | 0+800.00 | 2772.83 | 2772.25 | 0.58 | |
| | 0+820.00 | 2772.83 | 2772.35 | 0.48 | |
| | 0+840.00 | 2771.69 | 2771.05 | 0.65 | |
| | 0+860.00 | 2770.58 | 2769.75 | 0.83 | |
| | 0+880.00 | 2769.76 | 2768.96 | 0.80 | |
| | 0+900.00 | 2769.05 | 2768.17 | 0.88 | |
| | 0+920.00 | 2768.78 | 2768.06 | 0.72 | |
| | 0+940.00 | 2767.66 | 2766.90 | 0.76 | |
| | 0+960.00 | 2766.28 | 2765.74 | 0.53 | |
| | 0+980.00 | 2765.50 | 2764.59 | 0.91 | |
| | 1+000.00 | 2766.34 | 2765.80 | 0.54 | |
| | 1+020.00 | 2768.13 | 2767.96 | 0.17 | |
| | 1+040.00 | 2767.35 | 2767.01 | 0.35 | |
| | 1+060.00 | 2767.25 | 2766.76 | 0.49 | |
| | 1+080.00 | 2767.15 | 2766.52 | 0.63 | |
| | 1+100.00 | 2766.43 | 2766.27 | 0.16 | |
| | 1+120.00 | 2763.25 | 2762.66 | 0.59 | |
| | 1+140.00 | 2760.38 | 2759.95 | 0.43 | |
| | 1+160.00 | 2757.80 | 2757.24 | 0.56 | |
| | 1+180.00 | 2755.52 | 2754.52 | 1.00 | |
| | 1+200.00 | 2753.00 | 2752.50 | 0.50 | |
| | 1+220.00 | 2750.77 | 2750.47 | 0.30 | |
| | 1+240.00 | 2749.05 | 2748.45 | 0.60 | |
| | 1+260.00 | 2747.42 | 2746.42 | 1.00 | |
| | 1+280.00 | 2745.79 | 2745.06 | 0.73 | |
| | 1+300.00 | 2744.56 | 2743.71 | 0.85 | |
| | 1+312.00 | 2743.83 | 2742.89 | 0.94 | |

FOR CONSTRUCTION
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

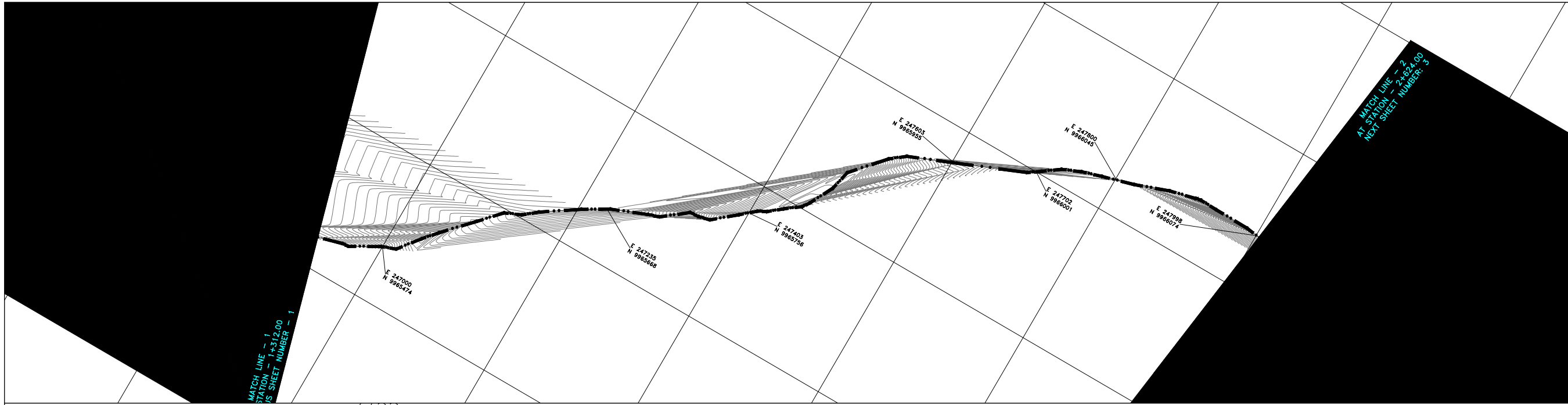
DESIGN FOR ENDARASHA 8-INCH
LINE FITTING WORKS

Civil/Structural Engineers

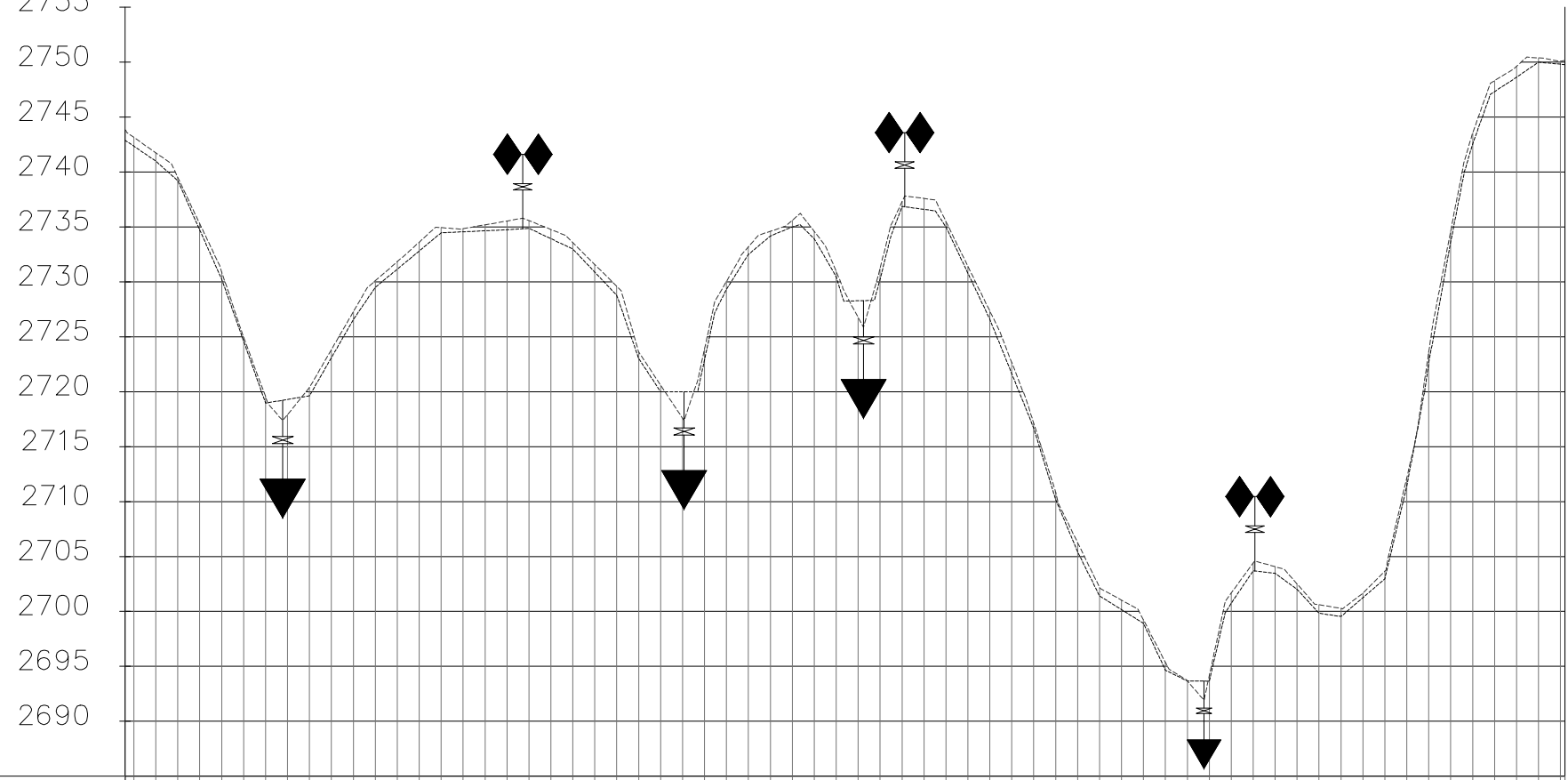
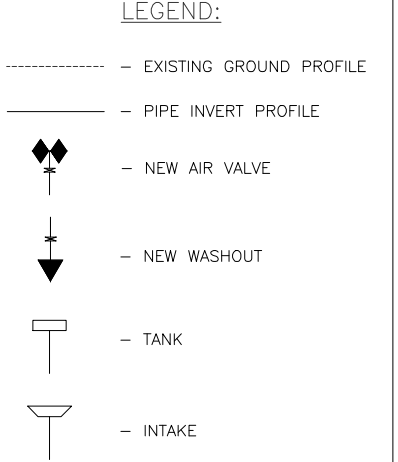
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title
ENDARASHA S.H. WATER PROJECT
KAMIGOGO 8-INCH LINE
PLAN AND PROFILE (SHEET 1 OF 3)

| | |
|---------------------|-----------------------------|
| Designed by DWN | Drawn by MK |
| Checked by JMM | Approved by |
| Scale AS SHOWN (A1) | Date OCT 2022 |
| Job No. 1 | ACAD File: |
| PD STATUS | DRAWING No. TWWDA/ENDA/KMG1 |



- 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 4.30.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.



| DISTANCE | DATUM (m) | GROUND LEVELS (m) | INVERT LEVELS(m) | DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | TYPE OF FITTING |
|----------|-----------|-------------------|------------------|---|-----------------|
| 1+312.00 | 2743.83 | 2742.89 | 0.84 | W.O | CH 1+457 M |
| 1+340.00 | 2741.75 | 2740.99 | 0.76 | W.O | |
| 1+360.00 | 2739.21 | 2739.21 | 0.30 | W.O | |
| 1+380.00 | 2735.30 | 2734.73 | 0.57 | W.O | |
| 1+400.00 | 2730.92 | 2730.24 | 0.67 | W.O | |
| 1+420.00 | 2724.96 | 2724.60 | 0.35 | W.O | |
| 1+440.00 | 2719.54 | 2718.96 | 0.58 | W.O | |
| 1+460.00 | 2717.92 | 2719.30 | -1.38 | W.O | |
| 1+480.00 | 2720.38 | 2719.63 | 0.75 | W.O | |
| 1+500.00 | 2723.83 | 2723.10 | 0.73 | W.O | |
| 1+520.00 | 2727.29 | 2726.57 | 0.72 | W.O | |
| 1+540.00 | 2730.10 | 2729.50 | 0.60 | W.O | |
| 1+560.00 | 2731.84 | 2731.16 | 0.68 | W.O | |
| 1+580.00 | 2733.61 | 2732.81 | 0.80 | W.O | |
| 1+600.00 | 2734.94 | 2734.47 | 0.47 | W.O | |
| 1+620.00 | 2734.84 | 2734.56 | 0.28 | W.O | |
| 1+640.00 | 2735.19 | 2734.65 | 0.54 | W.O | |
| 1+660.00 | 2735.55 | 2734.74 | 0.80 | W.O | |
| 1+680.00 | 2735.58 | 2734.88 | 0.70 | W.O | |
| 1+700.00 | 2734.77 | 2733.93 | 0.84 | W.O | |
| 1+720.00 | 2733.57 | 2732.99 | 0.57 | W.O | |
| 1+740.00 | 2731.58 | 2730.89 | 0.69 | W.O | |
| 1+760.00 | 2729.59 | 2728.78 | 0.81 | W.O | |
| 1+780.00 | 2723.63 | 2723.03 | 0.60 | W.O | |
| 1+800.00 | 2720.60 | 2720.00 | 0.60 | W.O | |
| 1+820.00 | 2717.58 | 2720.00 | -2.42 | W.O | |
| 1+840.00 | 2723.89 | 2722.89 | 1.00 | W.O | |
| 1+860.00 | 2730.04 | 2729.32 | 0.72 | W.O | |
| 1+880.00 | 2733.20 | 2732.49 | 0.70 | W.O | |
| 1+900.00 | 2734.60 | 2734.18 | 0.42 | W.O | |
| 1+920.00 | 2735.60 | 2735.00 | 0.60 | W.O | |
| 1+940.00 | 2734.59 | 2733.92 | 0.67 | W.O | |
| 1+960.00 | 2730.95 | 2730.47 | 0.48 | W.O | |
| 1+980.00 | 2726.77 | 2728.28 | -1.51 | W.O | |
| 2+000.00 | 2731.22 | 2730.22 | 1.00 | W.O | |
| 2+020.00 | 2737.31 | 2736.87 | 0.44 | W.O | |
| 2+040.00 | 2737.59 | 2736.60 | 1.00 | W.O | |
| 2+060.00 | 2735.49 | 2735.00 | 0.49 | W.O | |
| 2+080.00 | 2731.42 | 2730.80 | 0.62 | W.O | |
| 2+100.00 | 2727.34 | 2726.59 | 0.75 | W.O | |
| 2+120.00 | 2722.66 | 2721.65 | 1.01 | W.O | |
| 2+140.00 | 2717.13 | 2716.70 | 0.43 | W.O | |
| 2+160.00 | 2710.86 | 2710.18 | 0.68 | W.O | |
| 2+180.00 | 2706.26 | 2705.43 | 0.83 | W.O | |
| 2+200.00 | 2702.18 | 2701.40 | 0.78 | W.O | |
| 2+220.00 | 2701.03 | 2700.16 | 0.87 | W.O | |
| 2+240.00 | 2699.23 | 2698.92 | 0.31 | W.O | |
| 2+260.00 | 2695.36 | 2694.65 | 0.71 | W.O | |
| 2+280.00 | 2693.66 | 2693.66 | 0.00 | W.O | |
| 2+300.00 | 2694.15 | 2693.65 | 0.50 | W.O | |
| 2+320.00 | 2701.66 | 2700.75 | 0.91 | W.O | |
| 2+340.00 | 2704.40 | 2703.69 | 0.71 | W.O | |
| 2+360.00 | 2704.07 | 2703.46 | 0.61 | W.O | |
| 2+380.00 | 2702.50 | 2702.01 | 0.49 | W.O | |
| 2+400.00 | 2700.60 | 2699.83 | 0.77 | W.O | |
| 2+420.00 | 2700.27 | 2699.53 | 0.74 | W.O | |
| 2+440.00 | 2701.66 | 2701.25 | 0.41 | W.O | |
| 2+460.00 | 2703.66 | 2702.97 | 0.69 | W.O | |
| 2+480.00 | 2712.19 | 2711.42 | 0.77 | W.O | |
| 2+500.00 | 2723.62 | 2722.62 | 1.00 | W.O | |
| 2+520.00 | 2734.63 | 2733.63 | 1.00 | W.O | |
| 2+540.00 | 2743.56 | 2742.56 | 1.00 | W.O | |
| 2+560.00 | 2748.33 | 2747.33 | 1.00 | W.O | |
| 2+580.00 | 2749.63 | 2748.63 | 1.00 | W.O | |
| 2+600.00 | 2750.39 | 2750.00 | 0.39 | W.O | |
| 2+600.00 | 2750.98 | 2749.98 | 0.97 | W.O | |

| REV | REVISIONS | SIGN | DATE | APPROVED |
|-----|-----------|------|------|----------|
| | BY | | | |
| | CHECKED | | | |
| | BY | | | |
| | CHECKED | | | |
| | BY | | | |
| | CHECKED | | | |
| CO | BY | | | |
| | CHECKED | | | |

CLIENT

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

PROJECT

DESIGN FOR ENDARASHA 8-INCH LINE FITTING WORKS

Civil/Structural Engineers

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

Drawing Title





ENDARASHA S.H. WATER PROJECT
KAMIGOGO 8-INCH LINE
PLAN AND PROFILE (SHEET 2 OF 3)

| | |
|---------------------|-----------------------------|
| Designed by DWN | Drawn by MK |
| Checked by JMM | Approved by |
| Scale AS SHOWN (A1) | Date OCT 2022 |
| Job No. 1 | ACAD File: |
| PD STATUS | DRAWING No. TWWDA/ENDA/KMG2 |
| | 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:

- - EXISTING GROUND PROFILE
- - PIPE INVERT PROFILE
-  - NEW AIR VALVE
-  - NEW WASHOUT
-  - TANK
-  - INTAKE

| REV | REVISIONS | SIGN | DATE | APPROVED |
|-----|-----------|------|------|----------|
| | BY | | | |
| | CHECKED | | | |
| | BY | | | |
| | CHECKED | | | |
| | BY | | | |
| | CHECKED | | | |
| CO | BY | | | |
| | CHECKED | | | |

CLIENT




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

PROJECT

DESIGN FOR ENDARASHA 8-INCH LINE FITTING WORKS

Civil/Structural Engineers



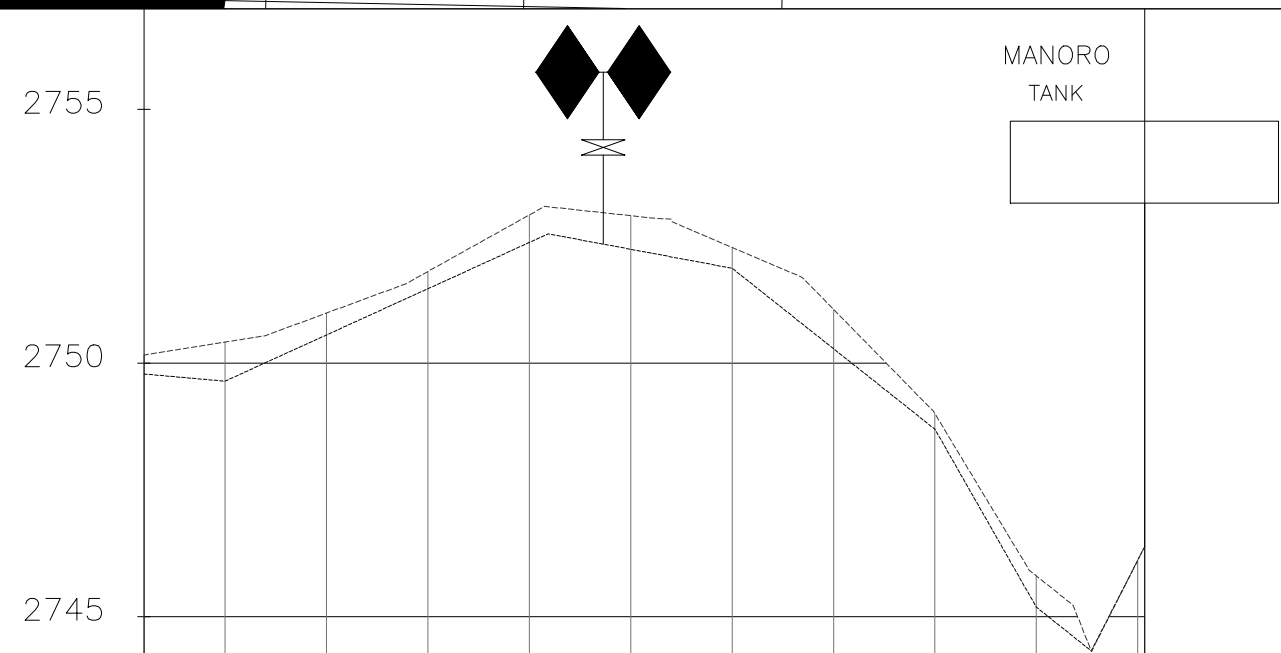
TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI



Drawing Title

ENDARASHA S.H. WATER PROJECT
KAMIGOGO 8-INCH LINE
PLAN AND PROFILE (SHEET 3 OF 3)

| | |
|---------------------|-----------------------------|
| Designed by DWN | Drawn by MK |
| Checked by JMM | Approved by |
| Scale AS SHOWN (A1) | Date OCT 2022 |
| Job No. 1 | ACAD File: |
| PD STATUS | DRAWING No. TWWDA/ENDA/KMG3 |

MATCH LINE - 2
AT STATION 2+624.00
PREVIOUS SHEET NUMBER - 2



| DISTANCE | DATUM (m) | GROUND LEVELS (m) | INVERT LEVELS(m) | DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | TYPE OF FITTING |
|----------|-----------|-------------------|------------------|---|--|
| | 2+624.00 | 2750.16 | 2749.79 | 0.37 |  A.V CH 2+715 M EXISTING PIPELINE  |
| | 2+640.00 | 2750.41 | 2749.64 | 0.77 | |
| | 2+660.00 | 2750.98 | 2750.55 | 0.43 | |
| | 2+680.00 | 2751.80 | 2751.46 | 0.34 | |
| | 2+700.00 | 2752.92 | 2752.38 | 0.54 | |
| | 2+720.00 | 2752.90 | 2752.24 | 0.66 | |
| | 2+740.00 | 2752.28 | 2751.87 | 0.41 | |
| | 2+760.00 | 2751.06 | 2750.28 | 0.78 | |
| | 2+780.00 | 2749.00 | 2748.70 | 0.30 | |
| | 2+800.00 | 2745.80 | 2745.19 | 0.62 | |
| | 2+820.98 | 2746.38 | 2746.38 | 0.00 | |