


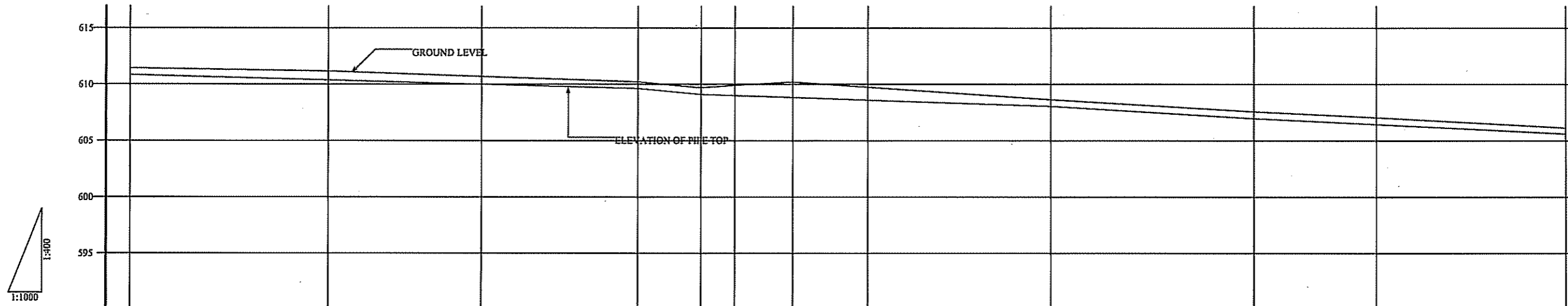
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

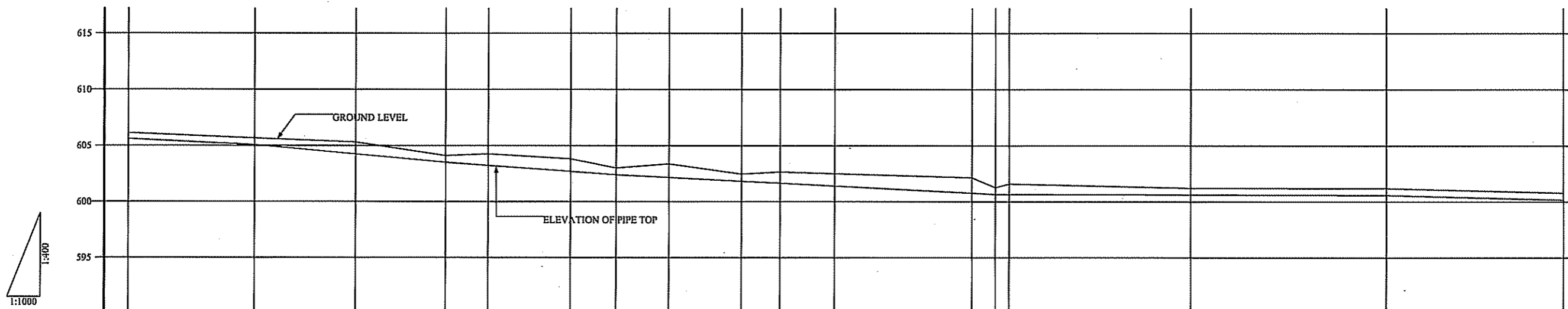
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(19/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-032
----------------------------------	------------------	------------------------



Ground Level (m)	611.45	611.17	610.22	609.70	609.92	610.21	607.76	606.65	607.38	607.05	606.14
Earth Covering Depth (m)	0.80	0.79	0.80	0.80	0.91	1.38	1.16	0.89	0.69	0.62	0.51
Elevation of Pipe Bottom (m)	610.79	610.31	609.56	609.94	609.94	608.77	606.54	607.99	606.92	606.39	605.56
Cumulative Distance (m)	592.61	642.5	713.87	728.15	735.76	748.79	765.69	806.85	852.50	890.27	928.96



Ground Level (m)	606.14	605.68	605.31	604.12	604.26	603.82	603.01	603.39	602.47	602.85	602.51	602.14	601.26	601.59	601.72	601.19	600.80
Earth Covering Depth (m)	0.51	0.60	0.66	0.60	0.62	0.62	0.69	0.23	0.64	0.00	0.11	0.37	0.60	0.63	0.59	0.60	0.63
Elevation of Pipe Bottom (m)	605.56	605.01	604.19	603.46	603.16	602.94	602.35	602.10	601.77	601.59	601.34	602.11	601.60	601.60	601.57	600.53	601.11
Cumulative Distance (m)	922.96	951.47	974.12	994.51	1004.12	1022.50	1032.73	1044.67	1062.94	1069.56	1081.83	1122.56	1117.50	1120.99	1161.82	1205.81	1245.72

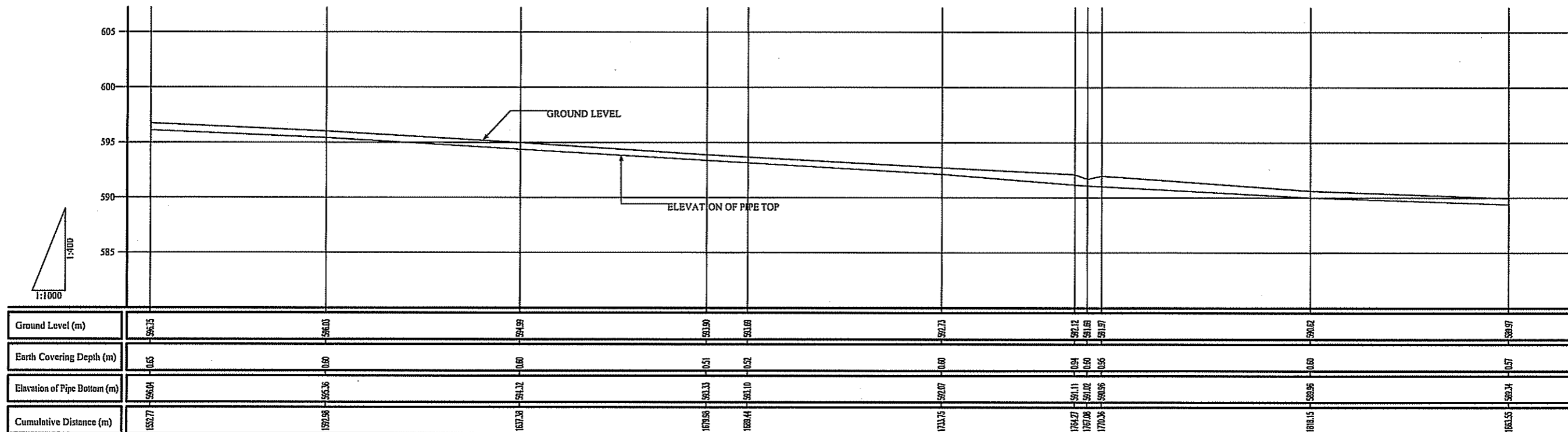
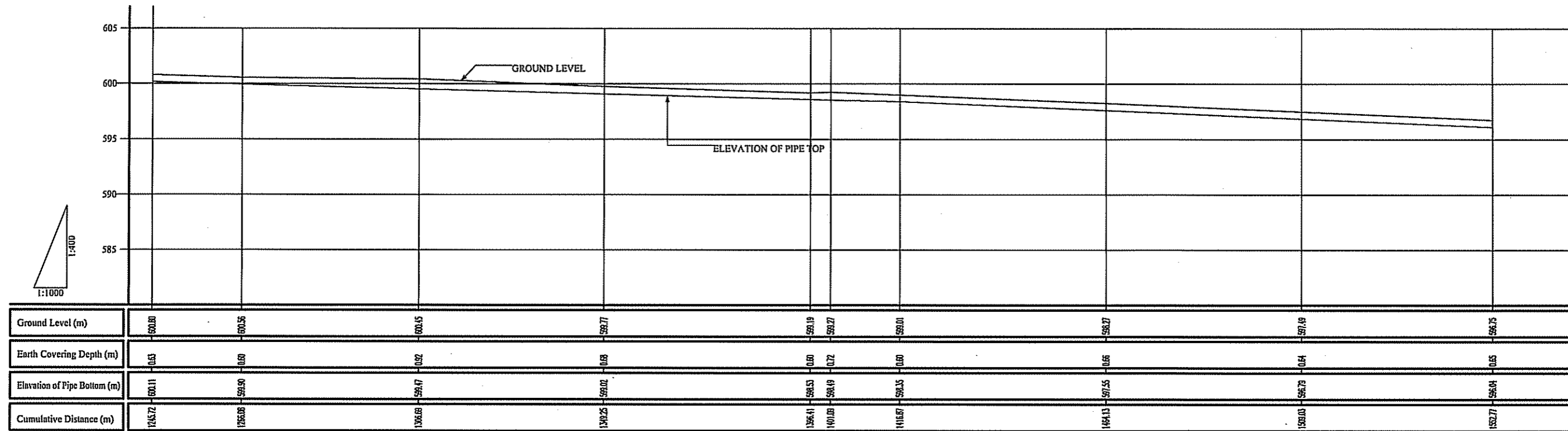
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.


TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(20/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-033
----------------------------------	------------------	------------------------



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

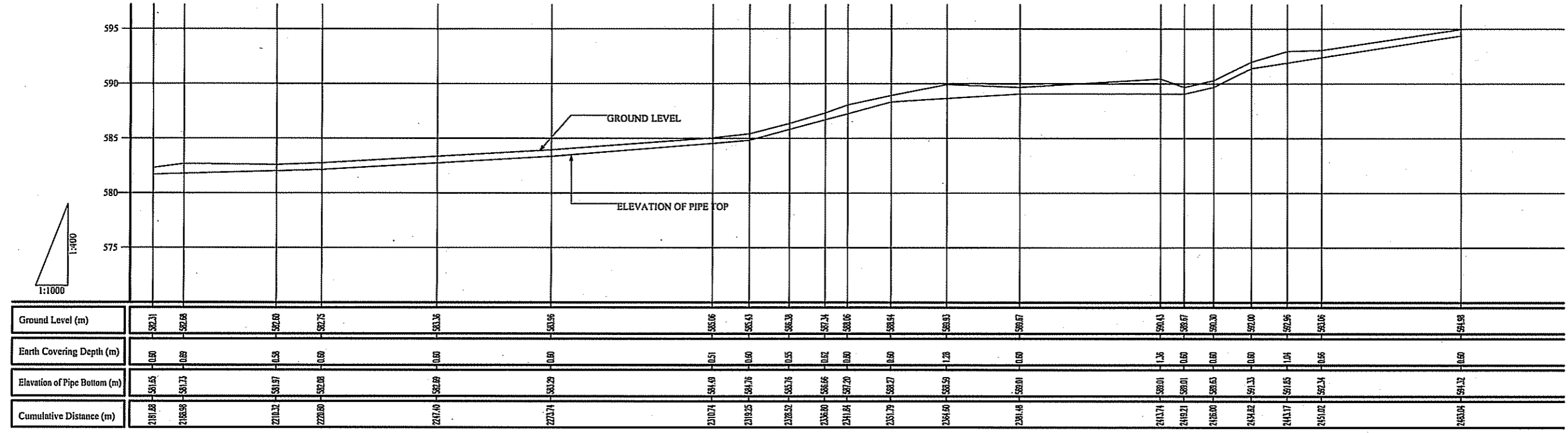
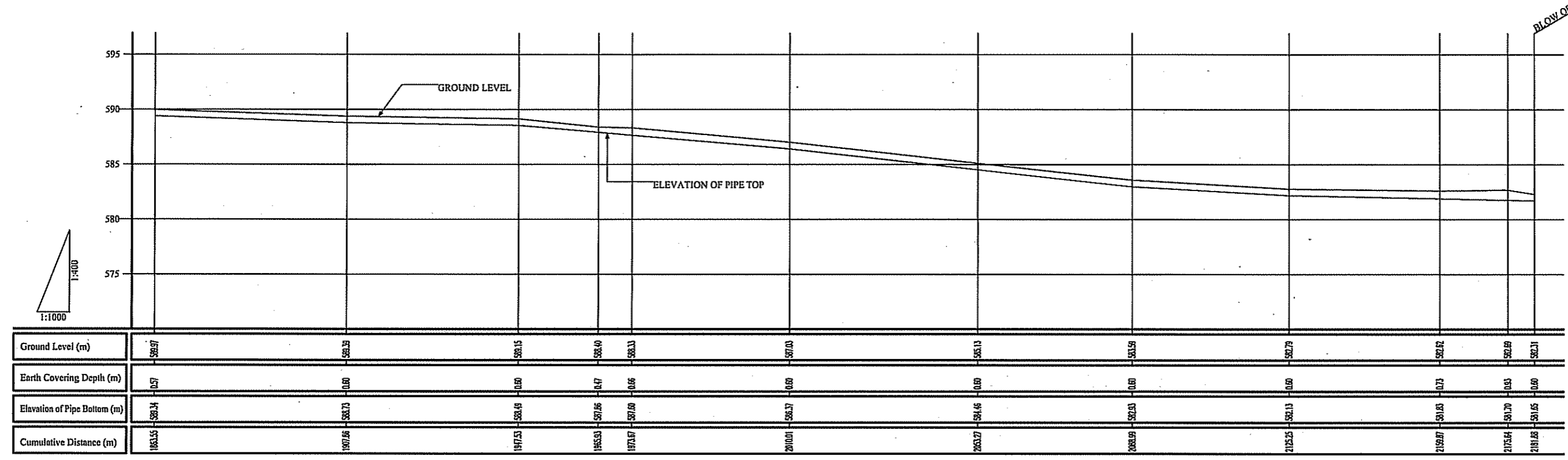
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(21/40)


SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-034
----------------------------------	------------------	------------------------

STORAGE TANK - KATHANZE (4/20)



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

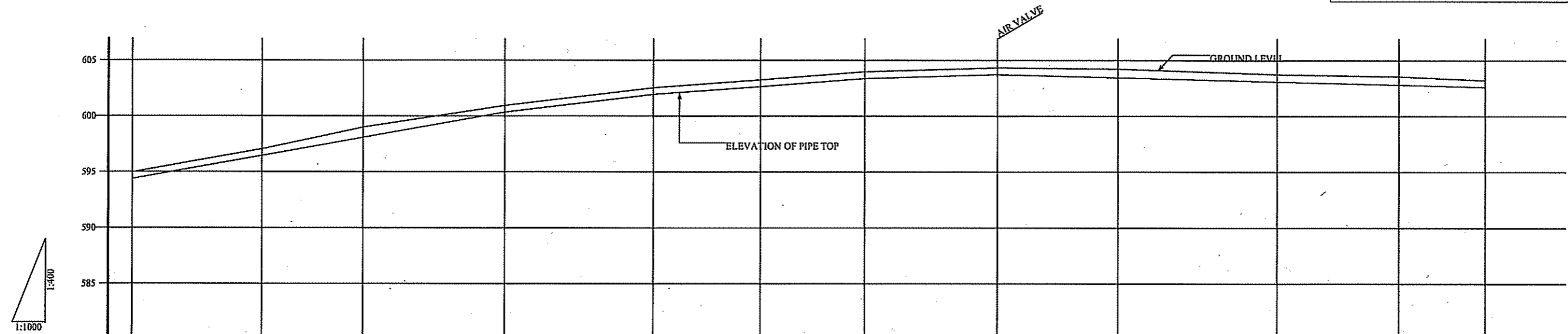
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

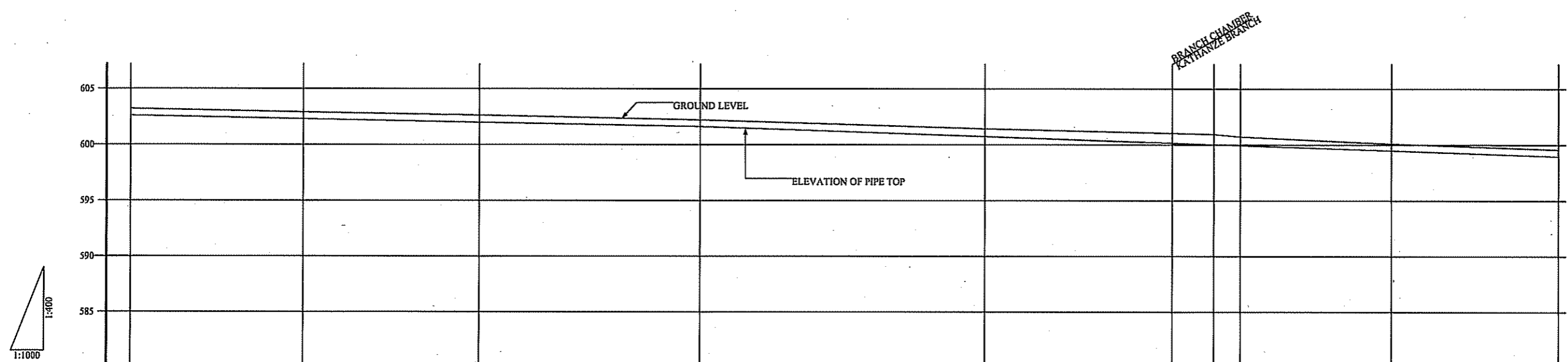
TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(22/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-035
----------------------------------	------------------	------------------------

STORAGE TANK - KATHANZE (5/20)



Ground Level (m)	594.98	597.56	599.01	600.95	602.55	603.25	603.98	604.53	604.24	603.74	603.55	603.21
Earth Covering Depth (m)	0.60	0.60	0.53	0.60	0.60	0.60	0.60	0.60	0.79	0.65	0.74	0.60
Elevation of Pipe Bottom (m)	594.32	596.90	598.02	600.29	601.89	602.55	603.31	603.67	603.39	603.03	602.53	602.53
Cumulative Distance (m)	2483.04	2512.41	2533.39	2567.55	2601.14	2635.40	2669.01	2679.09	2705.51	2742.46	2770.11	2788.56



Ground Level (m)	603.21	602.92	602.65	602.22	601.44	601.65	600.95	600.74	600.11	599.38
Earth Covering Depth (m)	0.60	0.60	0.64	0.60	0.69	0.66	0.92	0.78	0.62	0.60
Elevation of Pipe Bottom (m)	602.55	602.25	601.94	601.55	600.88	600.95	599.95	599.90	599.43	598.91
Cumulative Distance (m)	2788.66	2808.75	2832.39	2858.70	2891.09	2925.48	2954.04	3000.04	3035.17	3113.11

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

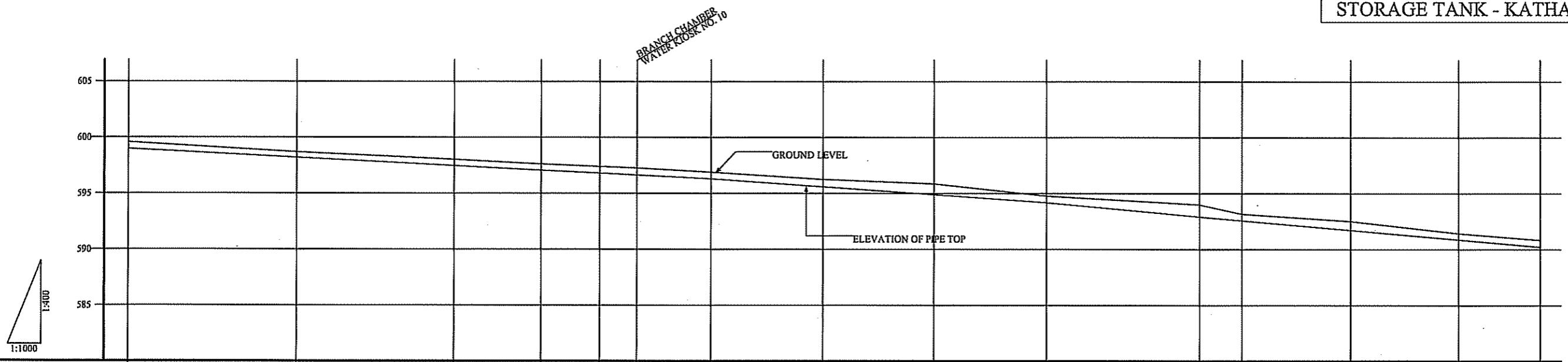
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

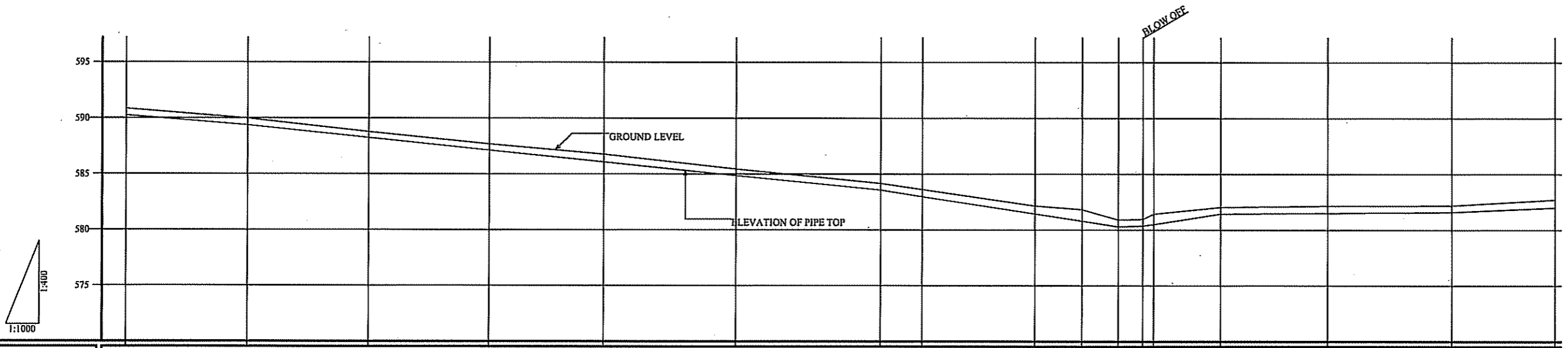
TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(23/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-036
----------------------------------	------------------	------------------------

STORAGE TANK - KATHANZE (6/20)



Ground Level (m)	599.98	598.79	598.04	597.84	597.41	597.27	596.80	596.25	595.87	594.79	594.00	593.18	592.53	591.45	590.85
Earth Covering Depth (m)	0.80	0.50	0.56	0.56	0.60	0.63	0.80	0.85	0.87	0.80	1.07	0.80	0.79	0.55	0.60
Elevation of Pipe Bottom (m)	599.18	598.11	597.41	597.20	596.74	596.59	596.24	595.54	594.83	594.13	592.87	592.51	591.67	590.83	590.19
Cumulative Distance (m)	310.11	315.33	317.06	318.74	319.95	320.37	324.50	327.82	328.76	331.25	335.99	336.65	338.17	344.84	343.38



Ground Level (m)	590.05	589.48	588.78	587.70	586.78	585.17	584.18	583.63	582.18	581.84	580.91	580.05	581.43	580.24	582.18	582.20	582.71
Earth Covering Depth (m)	0.80	0.80	0.51	0.56	0.69	0.80	0.60	0.63	0.71	1.00	0.80	0.80	0.83	0.80	0.54	0.60	0.71
Elevation of Pipe Bottom (m)	589.19	588.32	588.20	587.08	586.03	584.80	583.51	582.84	581.29	580.74	580.24	580.30	580.44	581.38	581.45	581.54	581.94
Cumulative Distance (m)	343.38	349.95	349.32	355.78	354.54	357.51	359.15	361.65	365.17	368.72	367.92	366.47	365.89	368.20	370.38	373.41	375.00

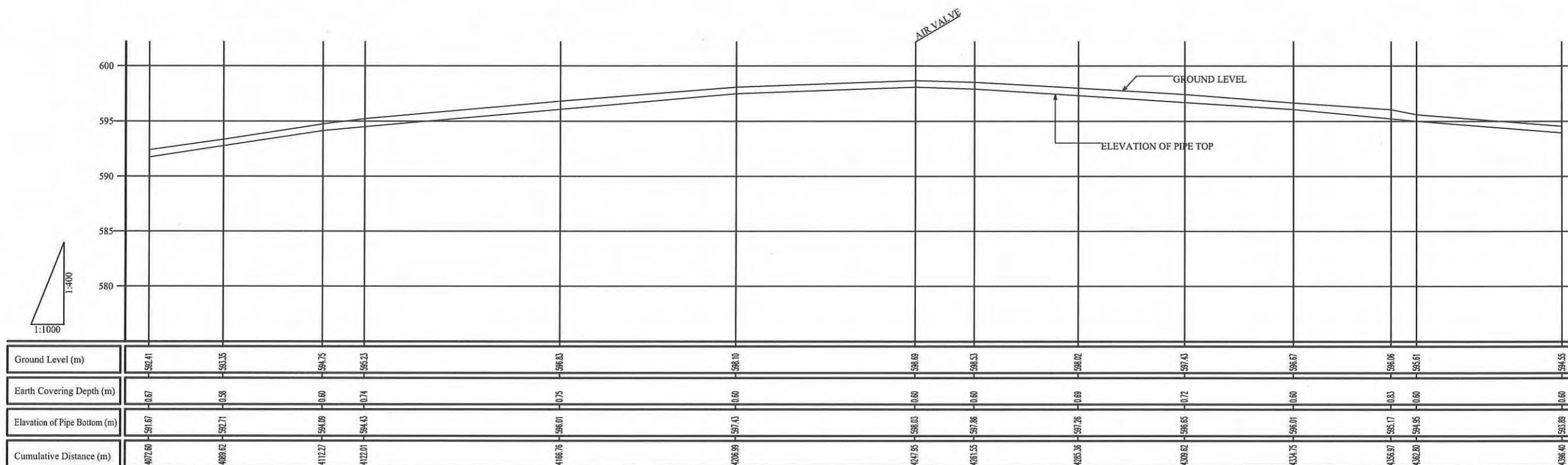
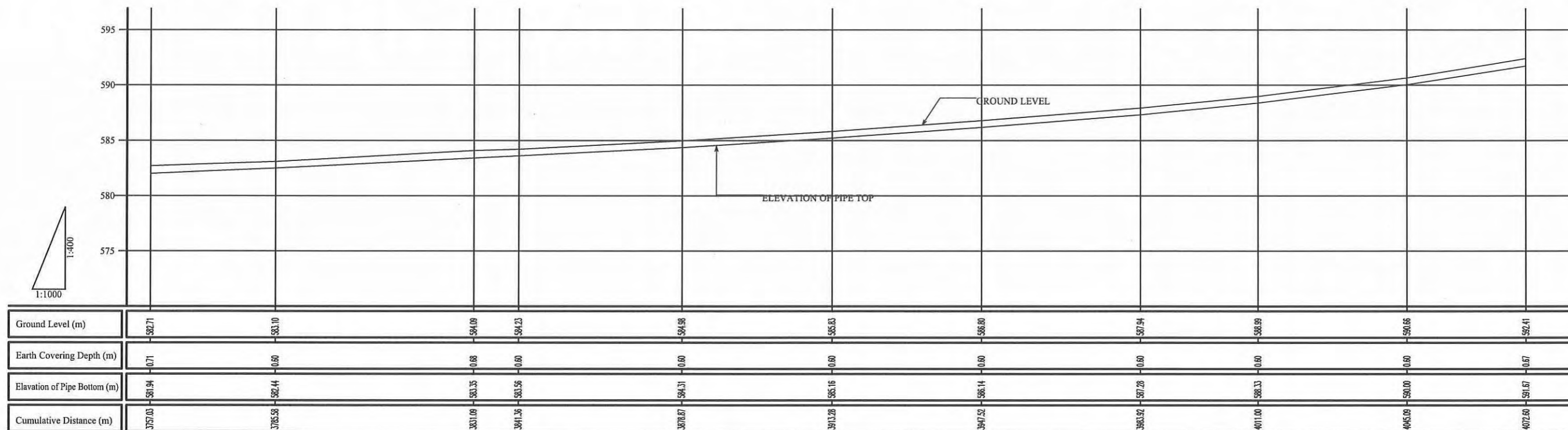
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(24/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-037
----------------------------------	------------------	------------------------



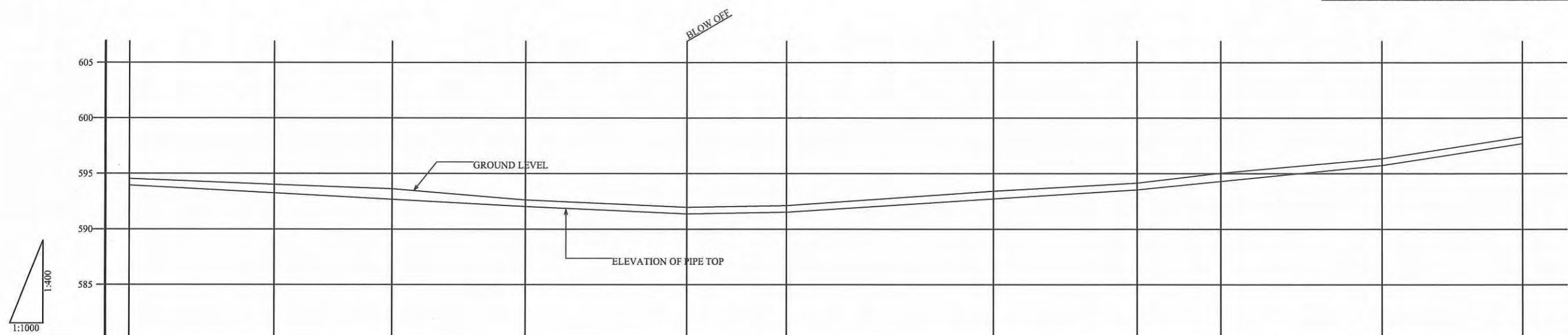
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

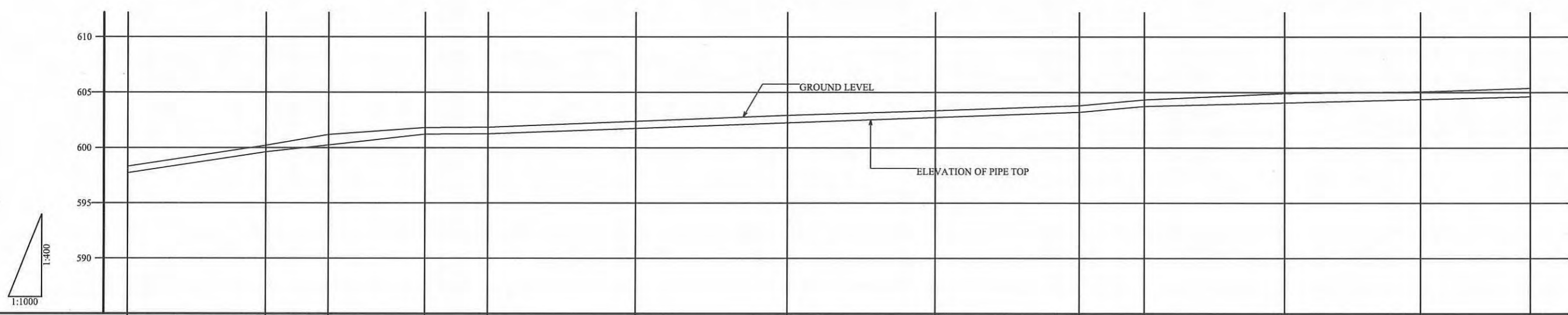
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(25/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-038
----------------------------------	------------------	------------------------



Ground Level (m)	594.55	594.03	593.64	592.64	591.98	592.13	593.42	594.18	596.05	596.36	596.32
Earth Covering Depth (m)	0.60	0.77	0.95	0.60	0.60	0.60	0.69	0.60	0.74	0.60	0.60
Elevation of Pipe Bottom (m)	593.95	593.19	592.62	591.98	591.32	591.47	592.67	593.50	594.25	595.69	597.66
Cumulative Distance (m)	438.40	442.43	446.34	448.74	4621.80	4646.23	4693.48	4626.18	4645.38	4622.08	4714.20



Ground Level (m)	598.32	600.21	601.19	601.83	601.86	602.39	602.94	603.37	603.82	604.35	604.91	605.07	605.40
Earth Covering Depth (m)	0.60	0.60	0.95	0.60	0.60	0.64	0.68	0.62	0.60	0.60	0.64	0.69	0.77
Elevation of Pipe Bottom (m)	597.66	599.55	600.18	601.16	601.20	601.69	602.19	602.68	603.16	603.69	604.01	604.32	604.57
Cumulative Distance (m)	471.20	476.16	4760.00	4782.12	4796.43	4829.92	4864.54	4889.16	4903.95	4945.73	4977.76	5006.62	5033.80

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

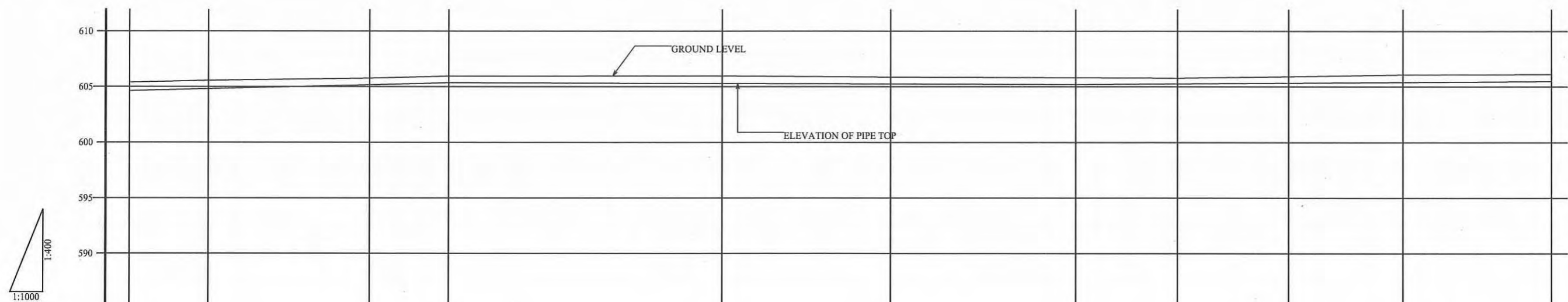
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

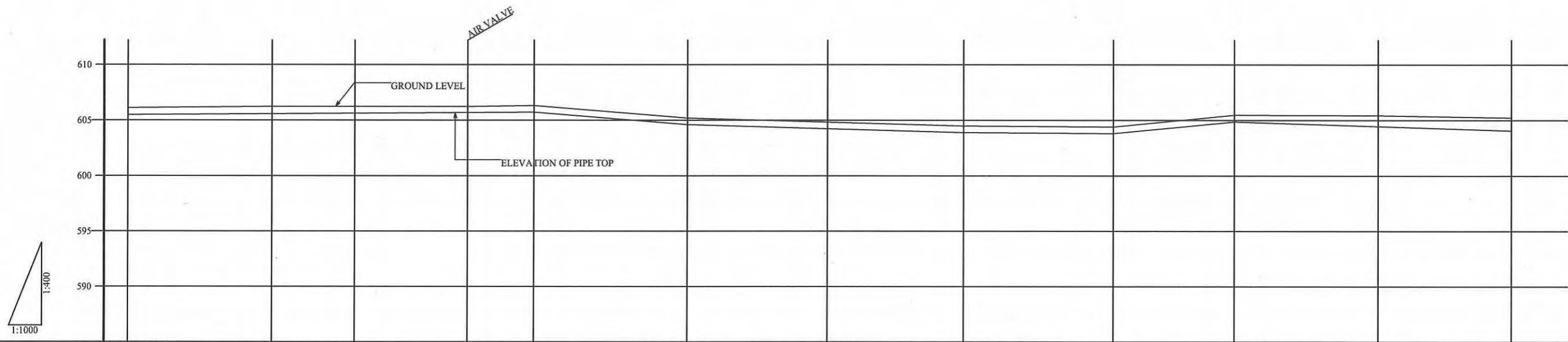
TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(26/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-039
----------------------------------	------------------	------------------------





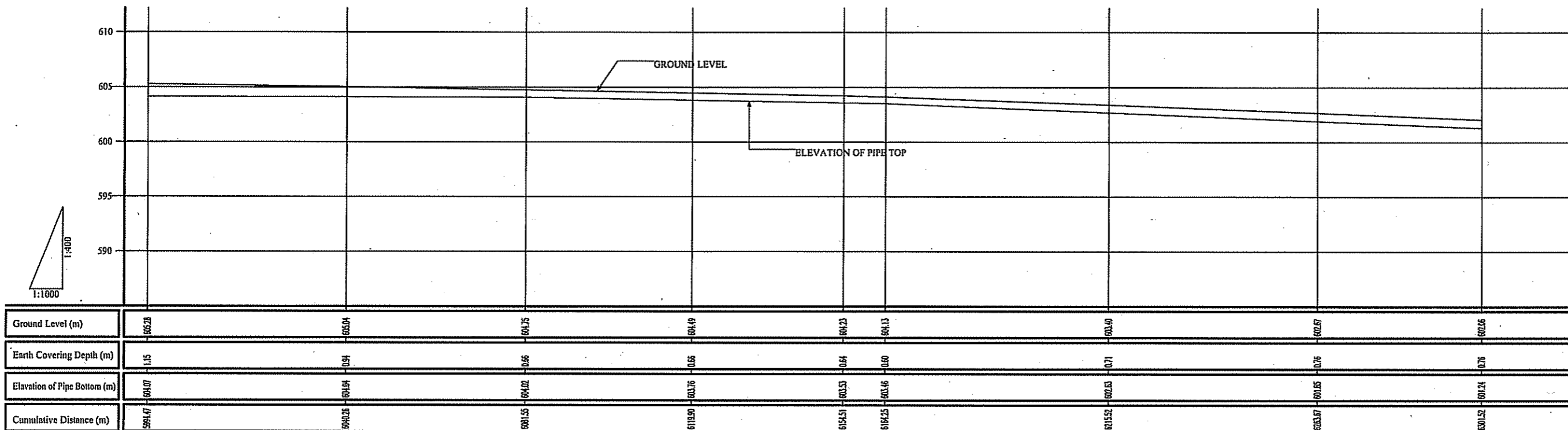
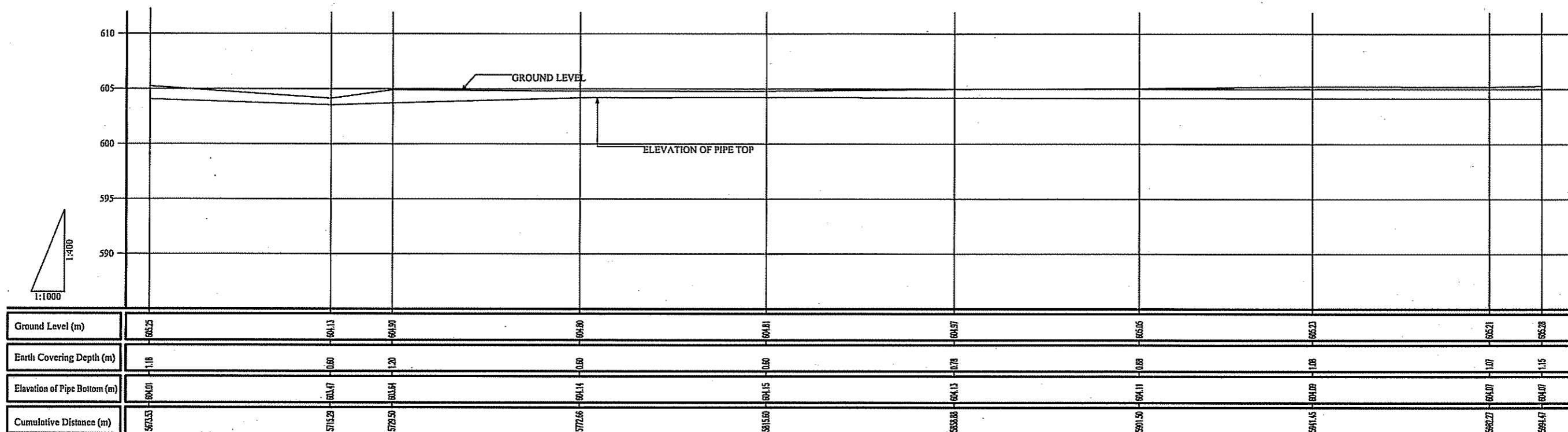
Ground Level (m)	605.90	605.56	605.77	605.96	605.97	605.86	605.81	605.78	605.91	606.10	606.13
Earth Covering Depth (m)	0.77	0.75	0.59	0.60	0.67	0.60	0.60	0.51	0.57	0.69	0.63
Elevation of Pipe Bottom (m)	604.57	604.75	605.12	605.30	605.24	605.20	605.15	605.21	605.27	605.34	605.43
Cumulative Distance (m)	5303.80	5361.79	5366.62	5106.66	5168.97	5207.31	5246.49	5272.72	5294.18	5324.10	5398.29



Ground Level (m)	606.13	606.25	606.25	606.25	606.33	606.21	604.84	604.51	604.42	605.48	605.44	605.25
Earth Covering Depth (m)	0.63	0.67	0.62	0.56	0.60	0.60	0.58	0.60	0.60	0.60	0.58	1.18
Elevation of Pipe Bottom (m)	605.43	605.52	605.58	605.63	605.67	604.55	604.19	603.84	603.75	604.81	604.40	604.01
Cumulative Distance (m)	5398.29	5391.08	5410.00	5435.75	5450.89	5485.82	5517.70	5546.63	5592.73	5610.35	5642.96	5673.53

OWNER:  THE MINISTRY OF WATER AND IRRIGATION THE REPUBLIC OF KENYA	PROJECT NAME:  THE PROJECT FOR RURAL WATER SUPPLY	CONSULTING ENGINEERS:  <b>NIPPON KOEI CO.,LTD.</b>	TITLE: REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(27/40)
		SCALE H = 1:1000 V = 1:400	DATE FEB.2006
		DRAWING NO. WSF-040	

STORAGE TANK - KATHANZE (10/20)



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

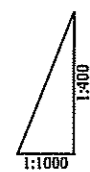
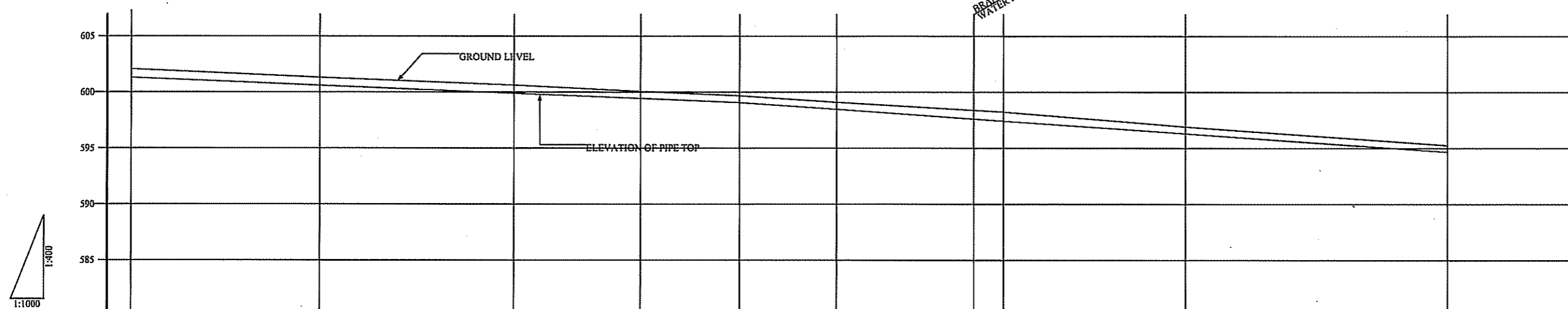
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

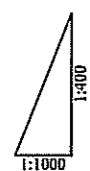
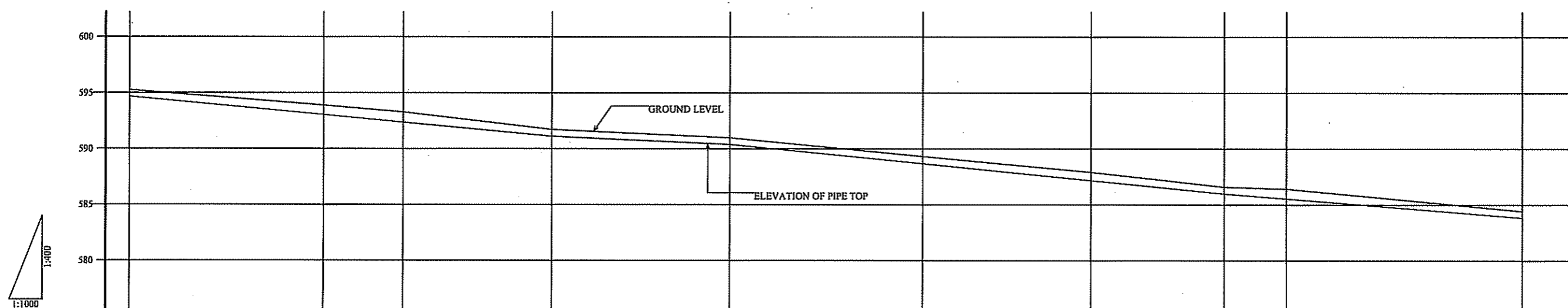
TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(28/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-041
----------------------------------	------------------	------------------------

BRANCH CHAMBER  
WATER TOWER NO. 11



Ground Level (m)	602.06	601.32	600.62	600.06	599.67	599.10	598.38	598.23	596.92	595.27
Earth Covering Depth (m)	0.76	0.71	0.72	0.63	0.60	0.63	0.77	0.80	0.62	0.60
Elevation of Pipe Bottom (m)	601.24	600.54	599.83	599.37	599.00	598.40	597.55	597.37	596.24	594.61
Cumulative Distance (m)	630.52	634.19	638.02	641.62	645.04	648.97	649.22	649.67	652.00	659.06



Ground Level (m)	595.27	593.29	593.29	591.73	590.99	589.33	587.92	586.59	585.44	584.43
Earth Covering Depth (m)	0.60	0.65	0.62	0.60	0.60	0.65	0.74	0.60	0.60	0.60
Elevation of Pipe Bottom (m)	594.61	592.59	592.31	591.06	590.33	588.62	587.12	585.93	584.88	583.77
Cumulative Distance (m)	659.06	662.91	666.92	669.44	671.69	673.09	681.63	684.24	686.28	691.67

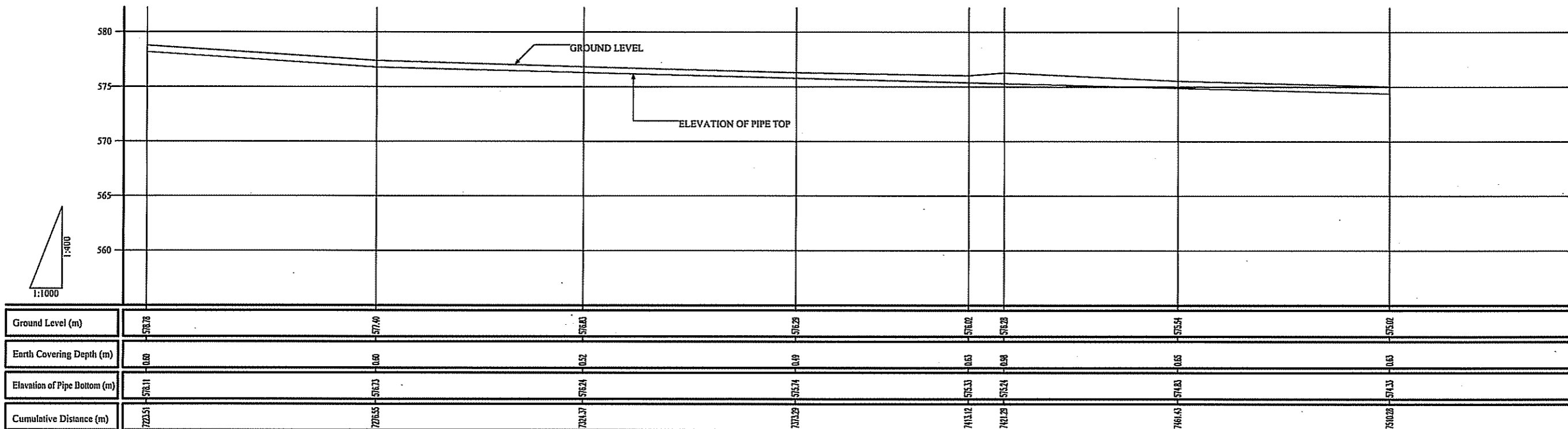
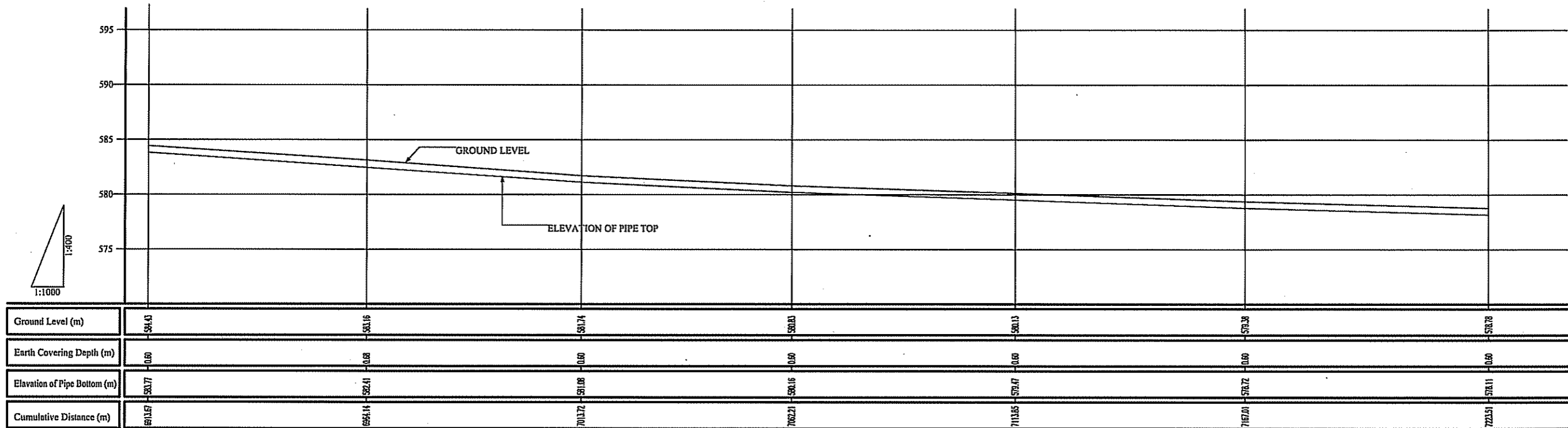
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(29/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-042
----------------------------------	------------------	------------------------



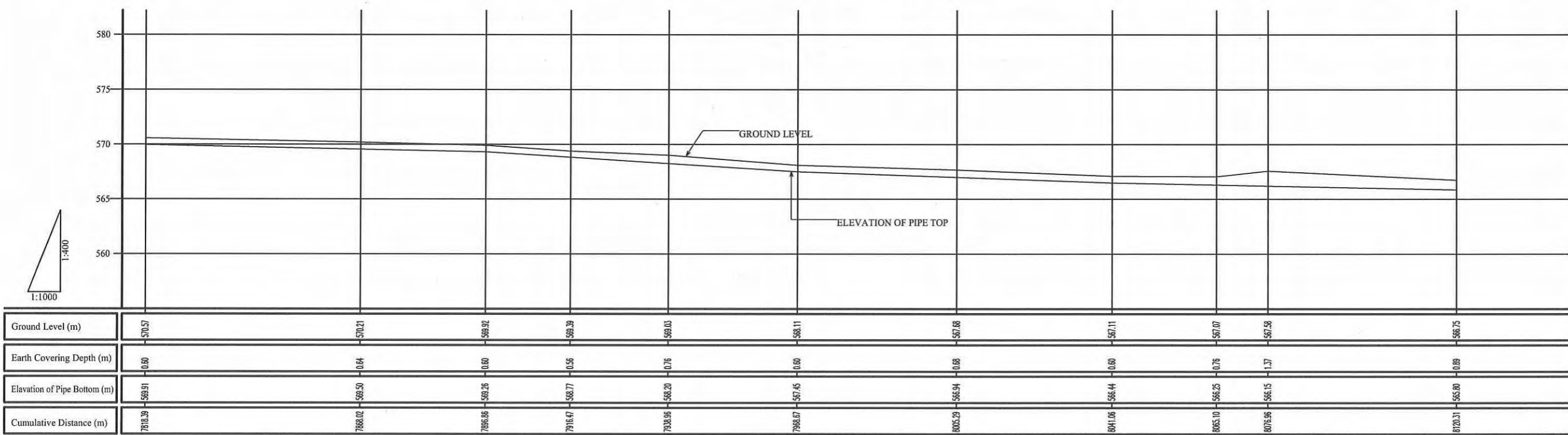
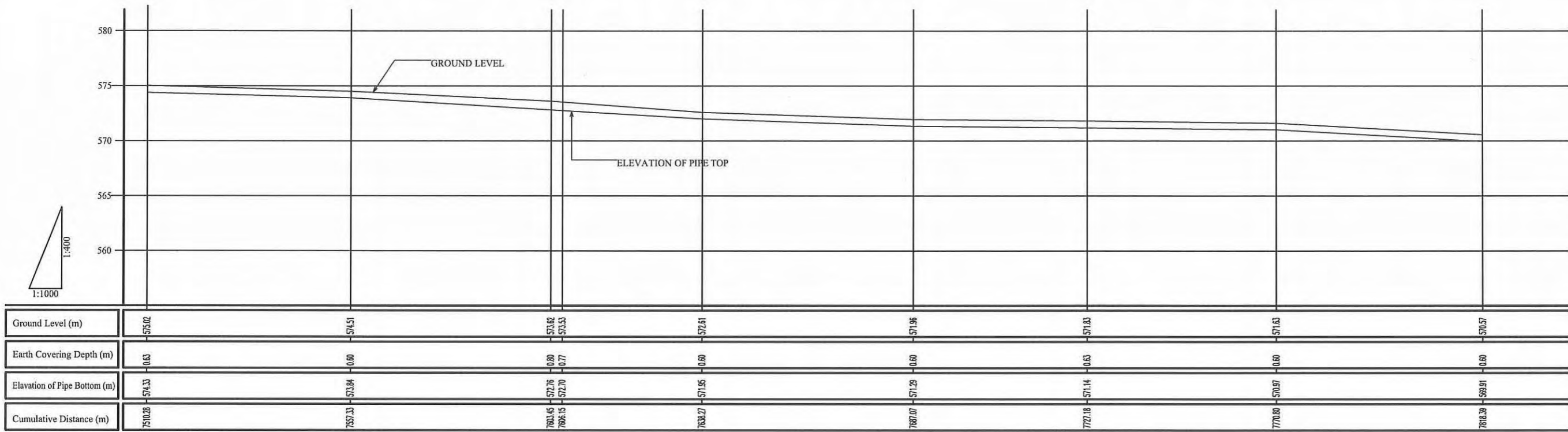
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(30/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-043
----------------------------------	------------------	------------------------



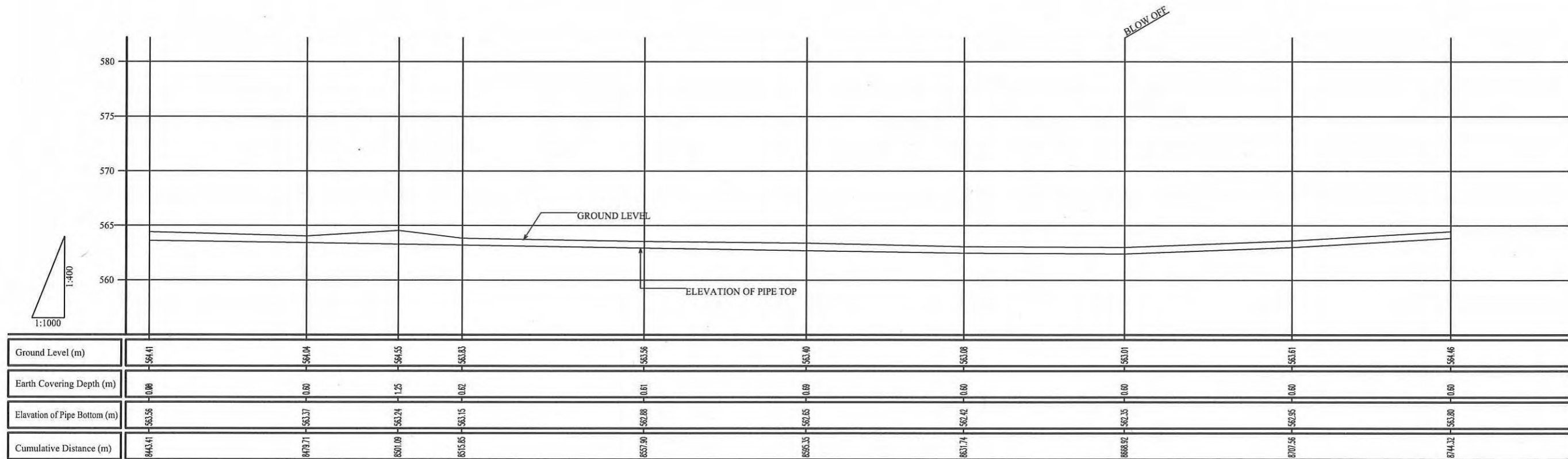
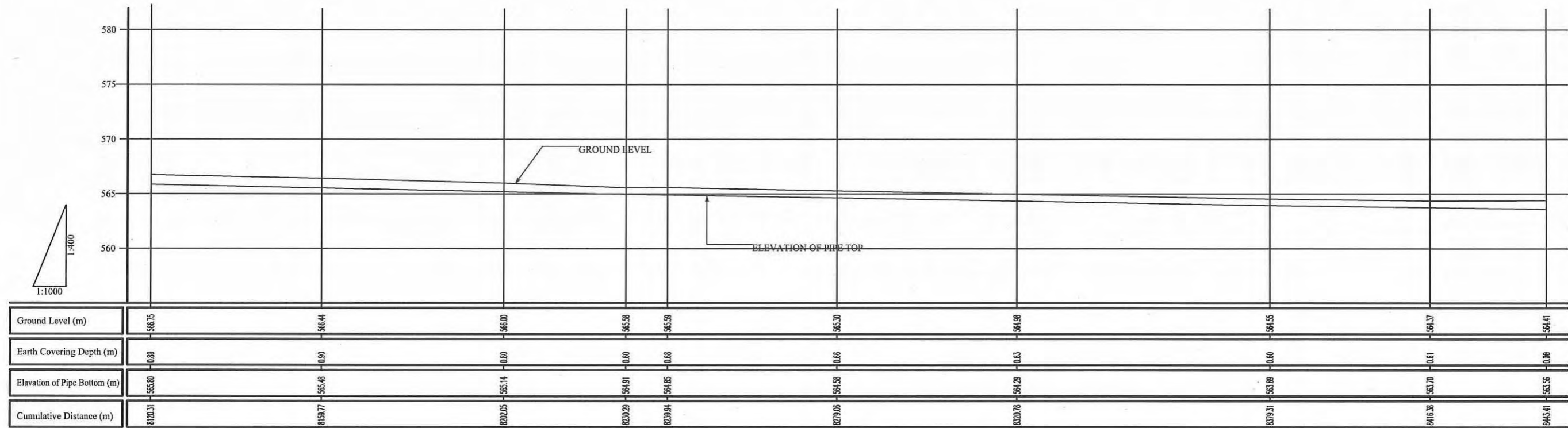
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(31/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-044
----------------------------------	------------------	------------------------



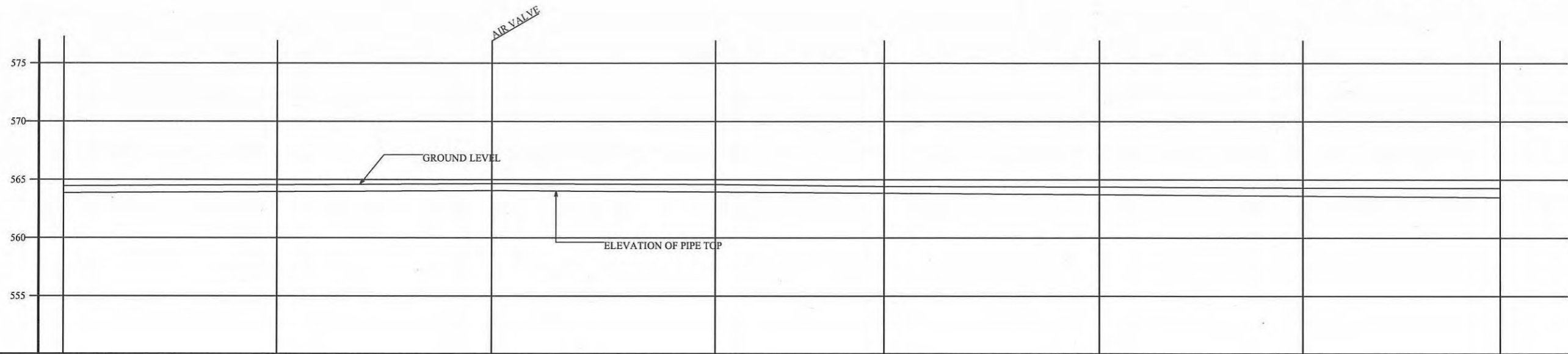
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

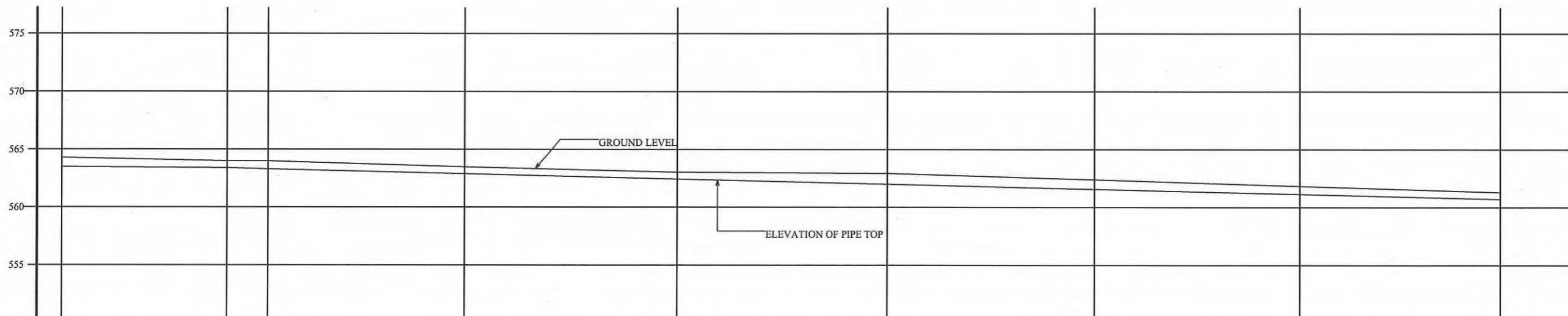
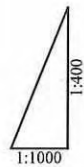
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(32/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-045
----------------------------------	------------------	------------------------



Ground Level (m)	584.46	584.56	584.67	584.59	584.43	584.39	584.30	584.29
Earth Covering Depth (m)	0.80	0.80	0.80	0.65	0.58	0.66	0.69	0.80
Elevation of Pipe Bottom (m)	583.88	583.90	584.01	583.88	583.78	583.66	583.55	583.43
Cumulative Distance (m)	874.32	8790.73	8837.57	8886.29	8933.15	8979.19	9011.58	9057.72



Ground Level (m)	584.29	584.00	584.01	583.49	583.04	582.94	582.39	581.94	581.31
Earth Covering Depth (m)	0.80	0.80	0.69	0.59	0.59	0.93	0.82	0.70	0.80
Elevation of Pipe Bottom (m)	583.43	583.34	583.25	582.84	582.39	581.95	581.51	581.07	580.65
Cumulative Distance (m)	9057.72	9093.63	9129.58	9165.43	9191.70	9217.45	9242.61	9267.34	9291.88

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

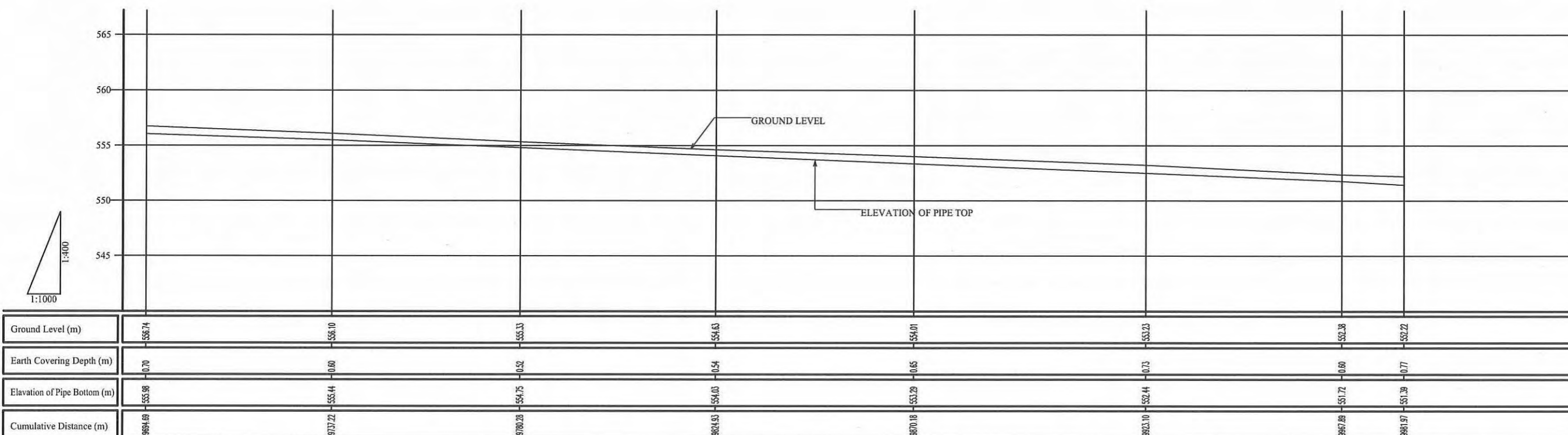
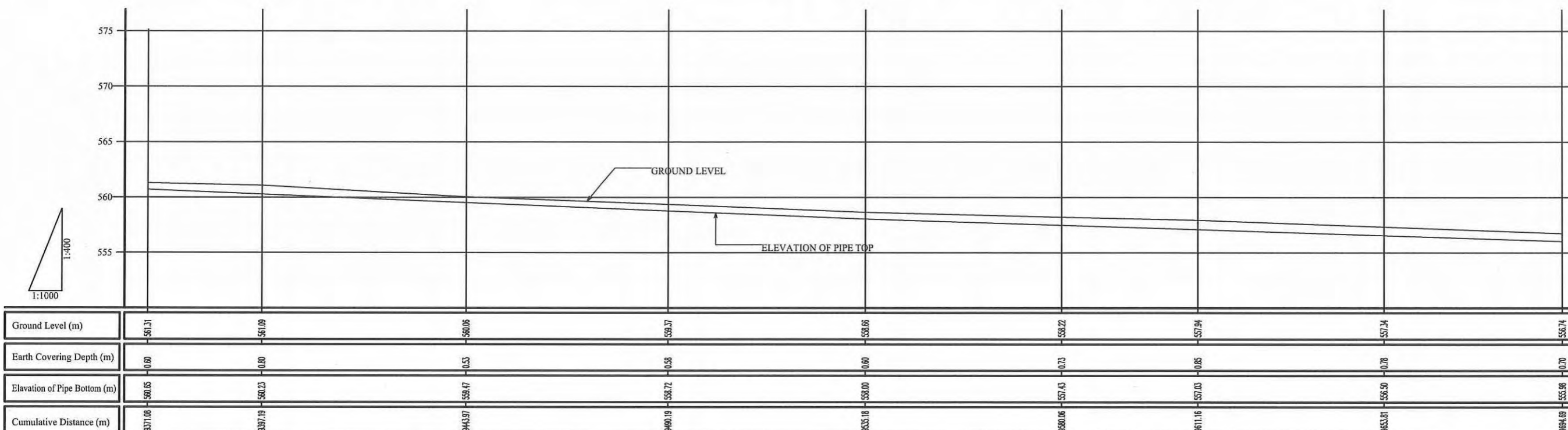
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(33/40)

SCALE  
H = 1:1000  
V = 1:400

DATE  
FEB.2006

DRAWING NO.  
WSF-046



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

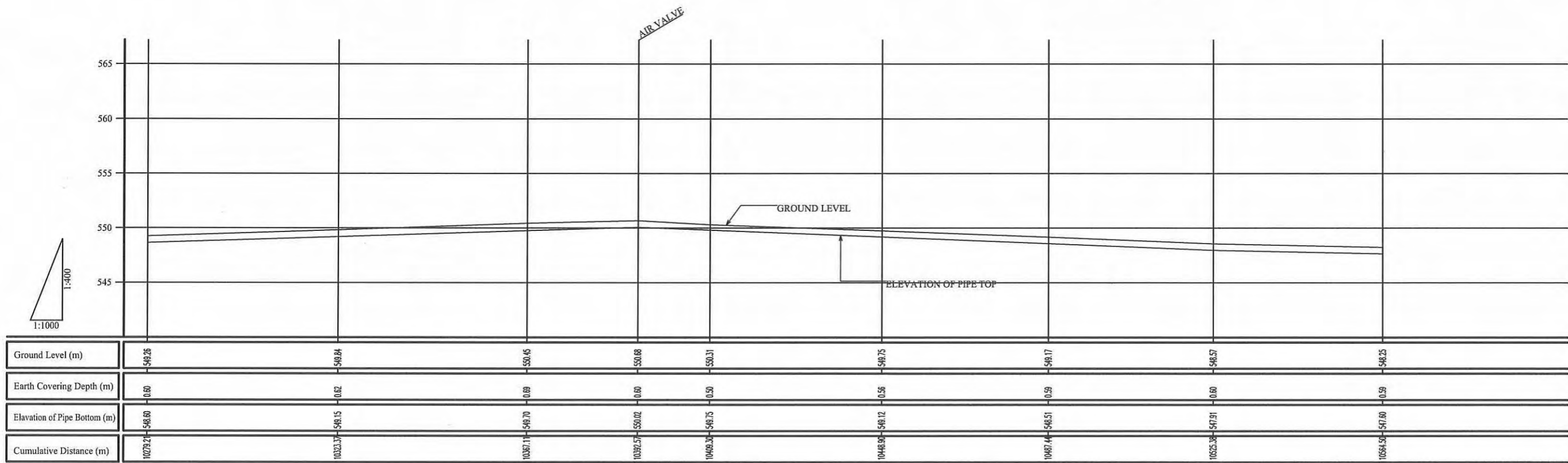
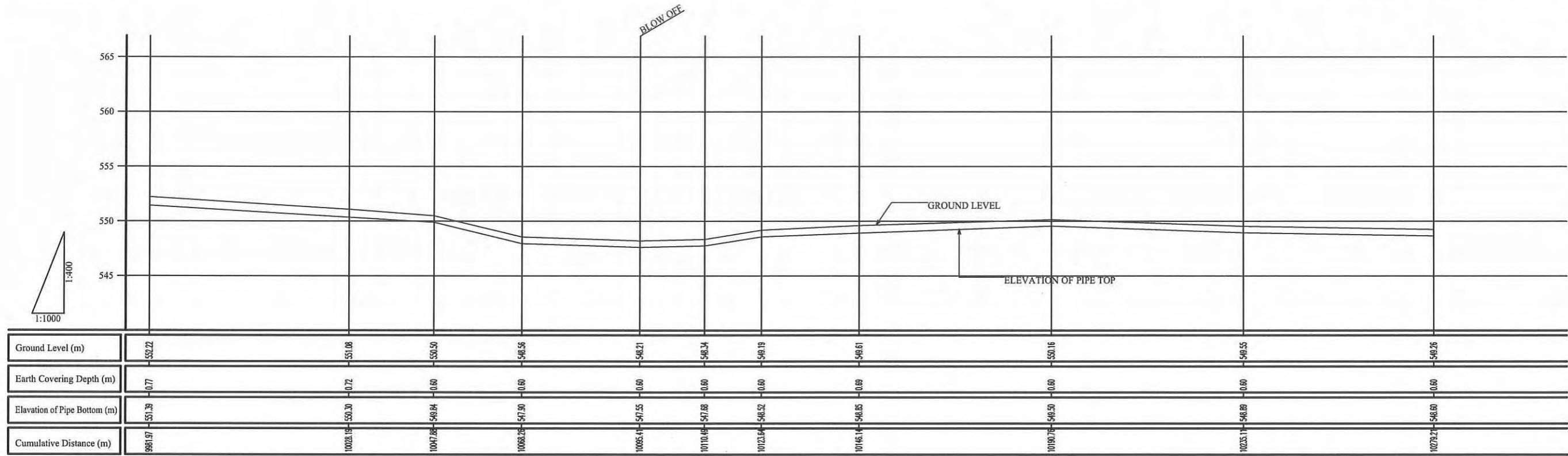
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(34/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-047
----------------------------------	------------------	------------------------





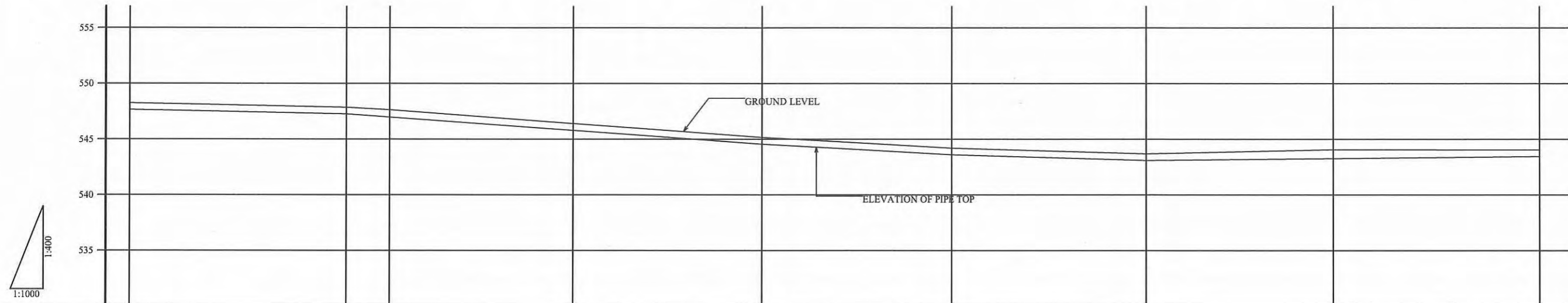
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

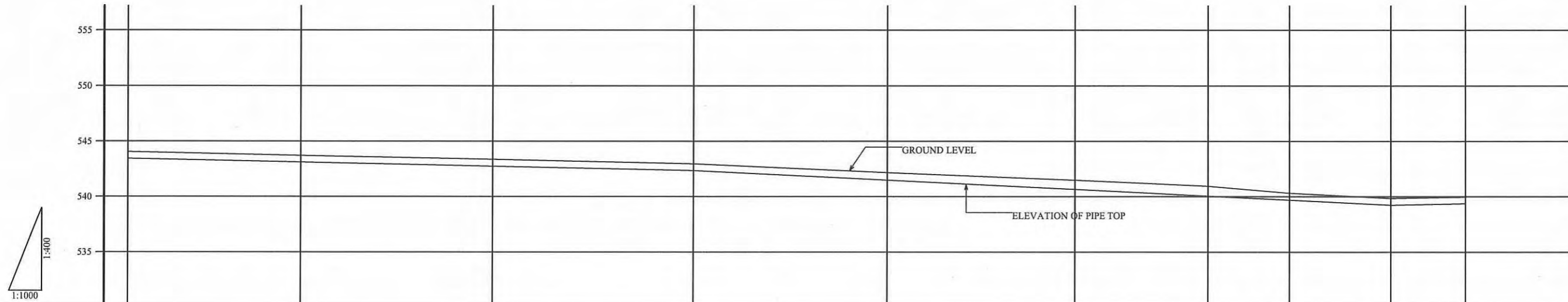
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(35/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-048
----------------------------------	------------------	------------------------



Ground Level (m)	548.25	547.86	547.65	546.40	545.16	544.20	543.70	544.05
Earth Covering Depth (m)	0.59	0.60	0.67	0.61	0.60	0.60	0.60	0.60
Elevation of Pipe Bottom (m)	547.66	547.20	546.92	545.72	544.50	543.54	543.04	543.20
Cumulative Distance (m)	10684.54	10613.81	10623.88	10663.48	10708.48	10751.64	10795.88	10838.44



Ground Level (m)	544.05	543.71	543.37	542.95	542.71	541.50	540.95	540.32	539.85	539.96
Earth Covering Depth (m)	0.60	0.59	0.62	0.60	0.67	0.64	0.69	0.62	0.60	0.60
Elevation of Pipe Bottom (m)	543.39	543.06	542.69	542.30	541.44	540.80	540.00	539.64	539.19	539.32
Cumulative Distance (m)	10885.71	10925.01	10968.75	11014.28	11058.27	11100.97	11137.28	11149.75	11172.71	11189.67

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

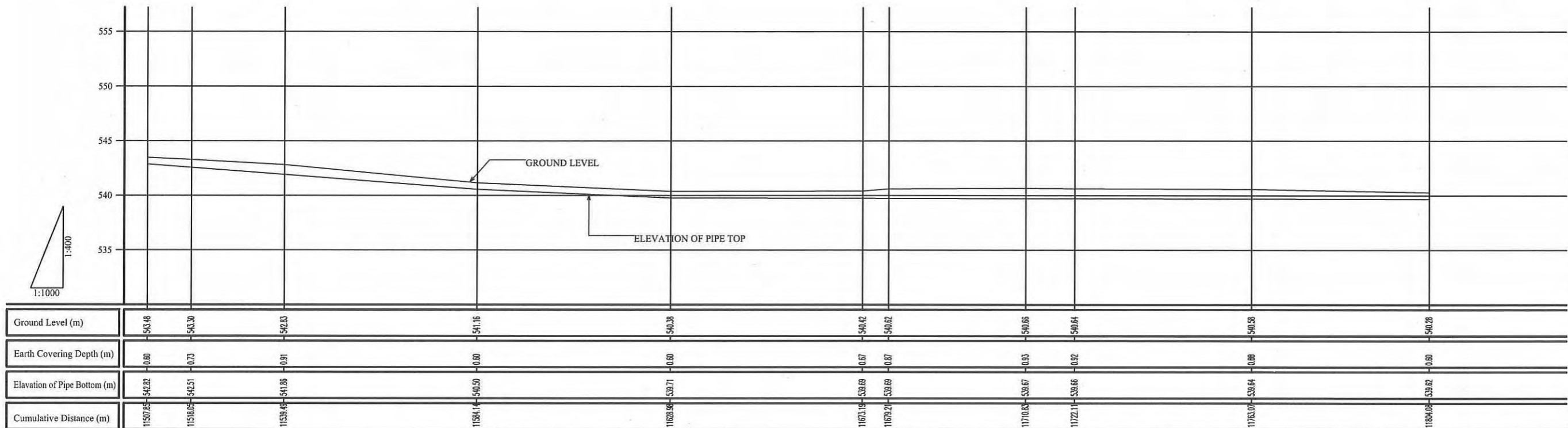
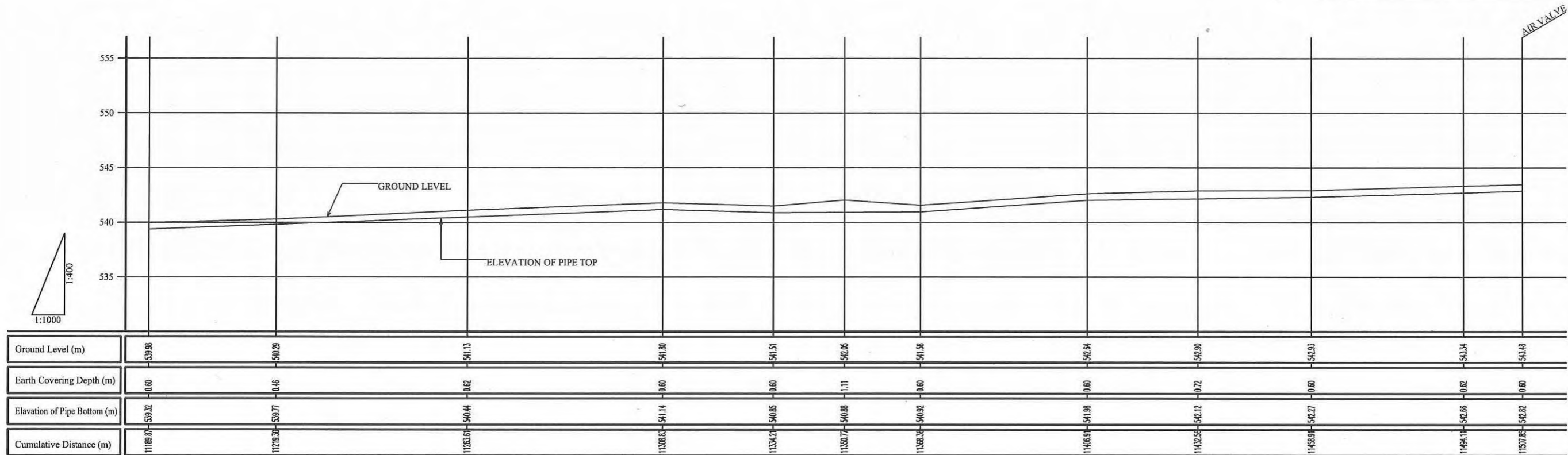
TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(36/40)

SCALE  
H = 1:1000  
V = 1:400

DATE  
FEB.2006

DRAWING NO.  
WSF-049

STORAGE TANK - KATHANZE (19/20)



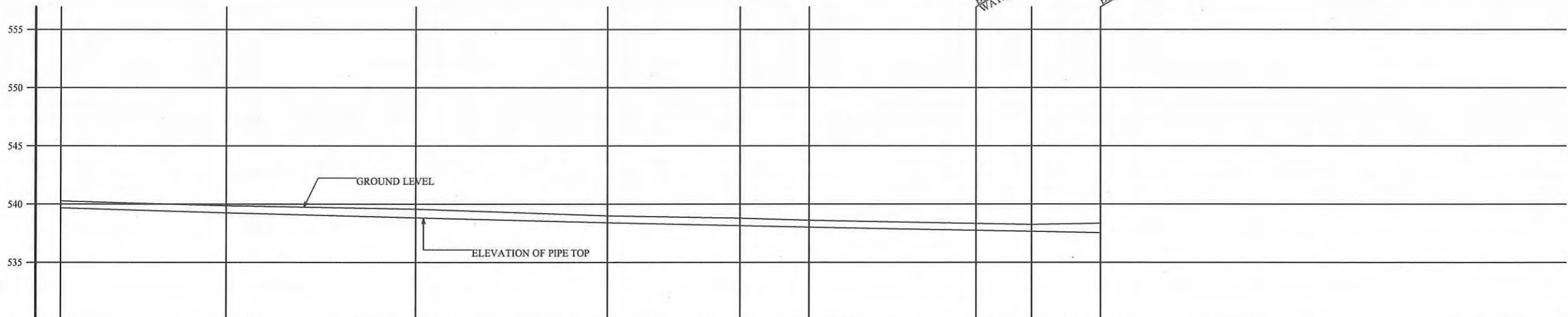
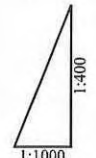
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(37/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-050
----------------------------------	------------------	------------------------



Ground Level (m)	540.28	539.06	538.59	538.02	538.00	538.62	538.35	538.26	538.37
Earth Covering Depth (m)	0.60	0.60	0.75	0.60	0.65	0.60	0.60	0.60	0.61
Elevation of Pipe Bottom (m)	539.62	539.20	538.78	538.35	538.09	537.96	537.69	537.60	537.49
Cumulative Distance (m)	11801.08	11840.25	11881.54	11922.23	11952.10	11967.05	12003.52	12015.54	12030.52

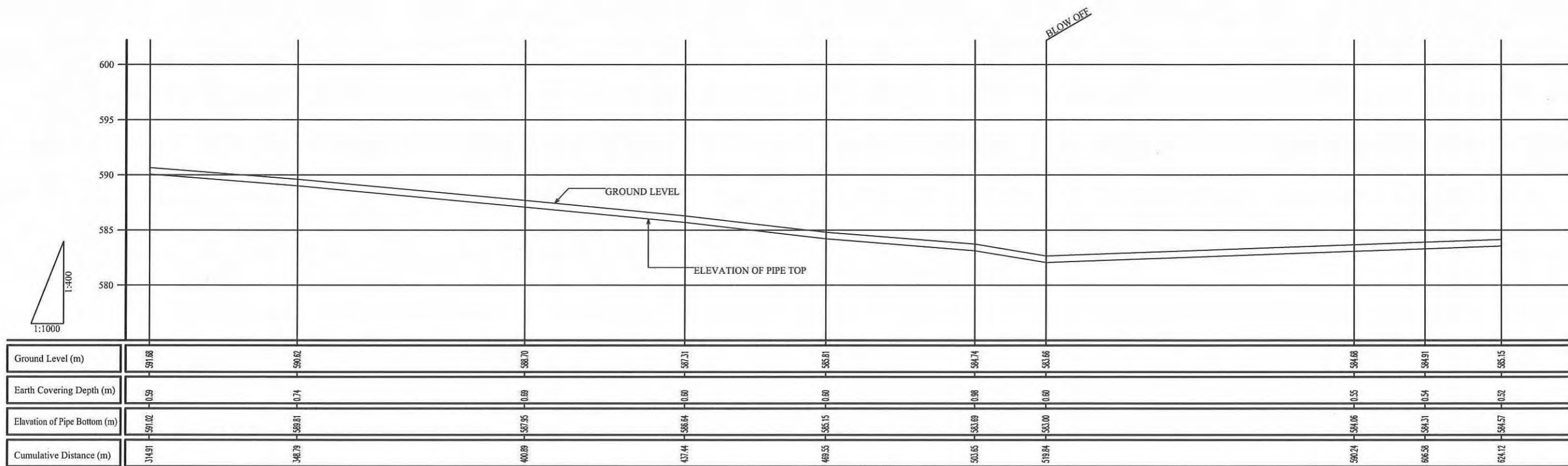
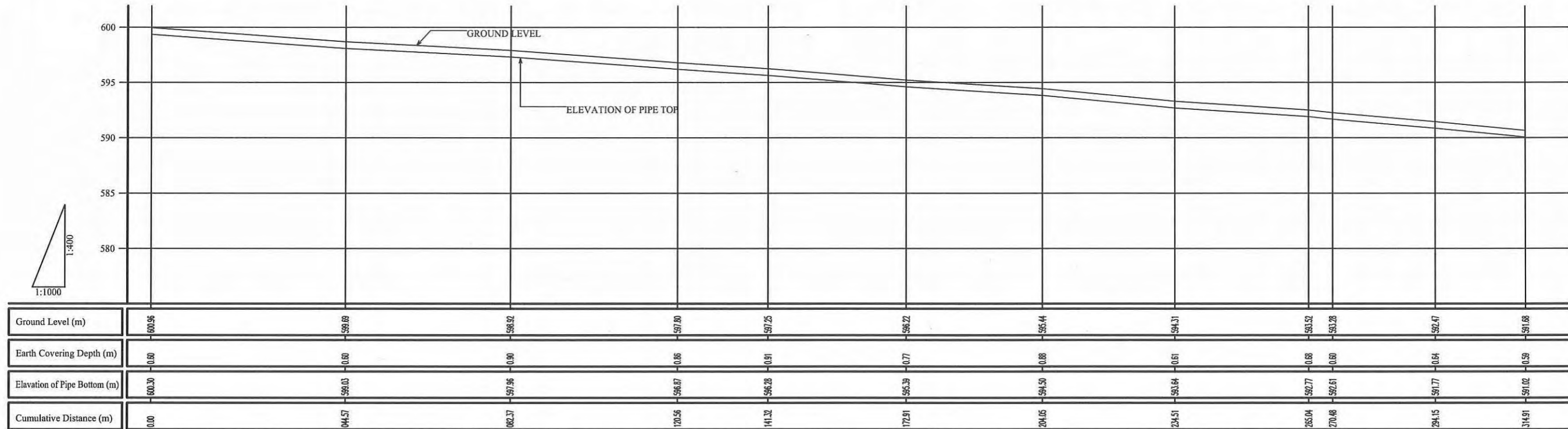
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(38/40)

SCALE H = 1:1000 V = 1:400	DATE FEB.2006	DRAWING NO. WSF-051
----------------------------------	------------------	------------------------



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

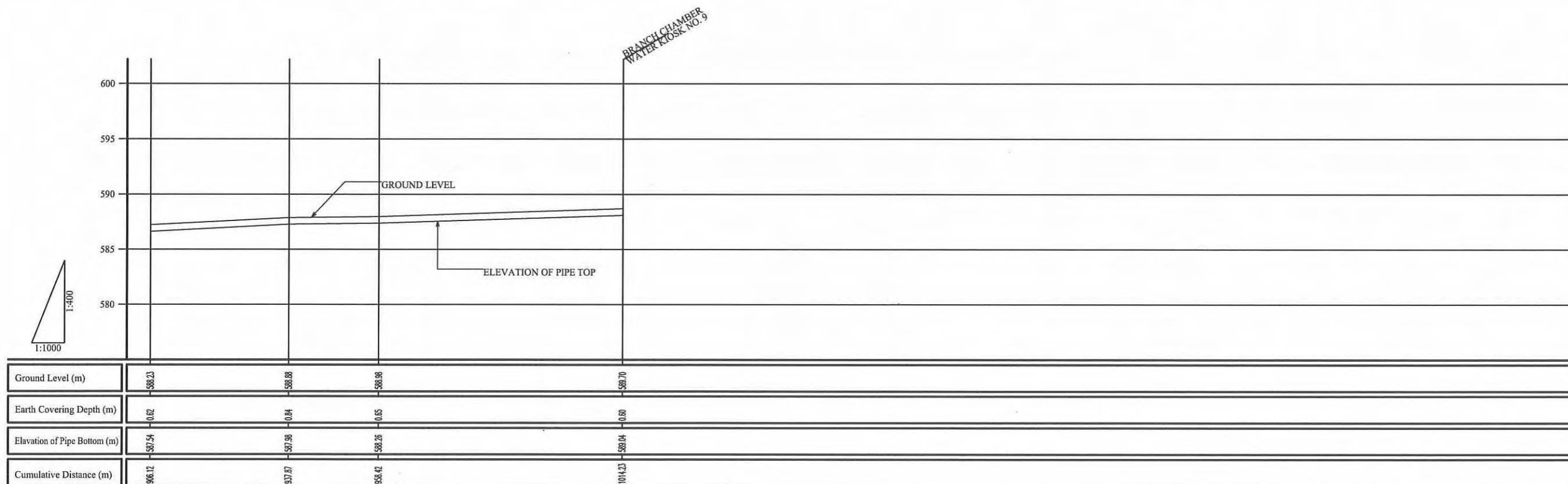
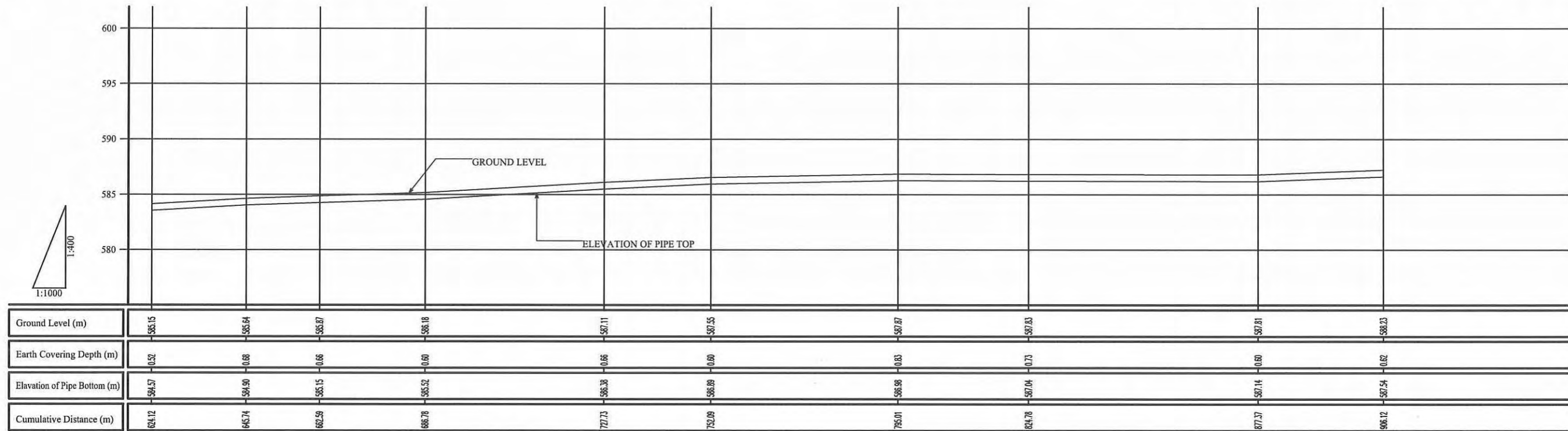
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(39/40)

SCALE  
H = 1:1000  
V = 1:400

DATE  
FEB.2006

DRAWING NO.  
WSF-052



OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

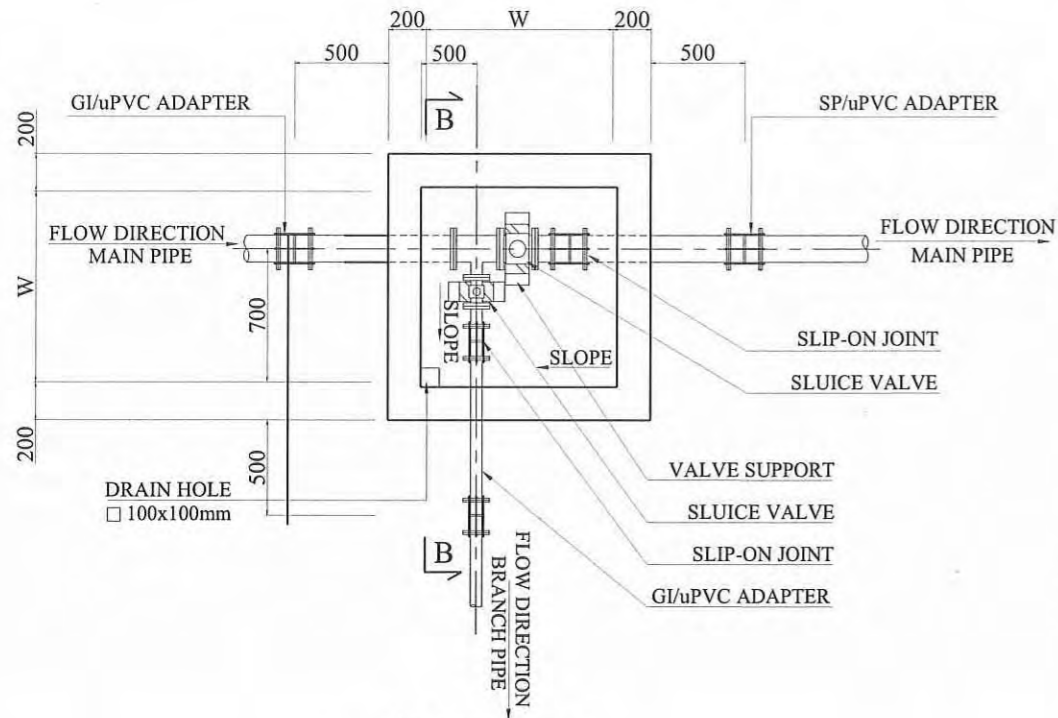
CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
PROFILE OF TRANSMISSION AND DISTRIBUTION PIPELINE(40/40)

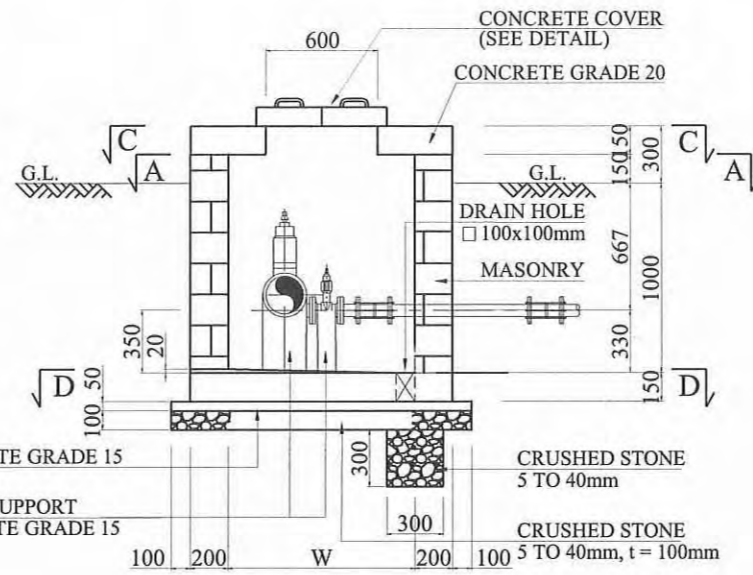
SCALE  
H = 1:1000  
V = 1:400

DATE  
FEB.2006

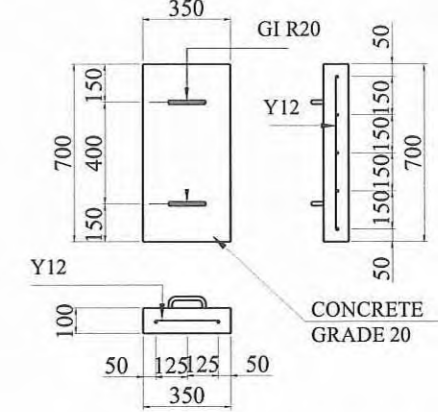
DRAWING NO.  
WSF-053



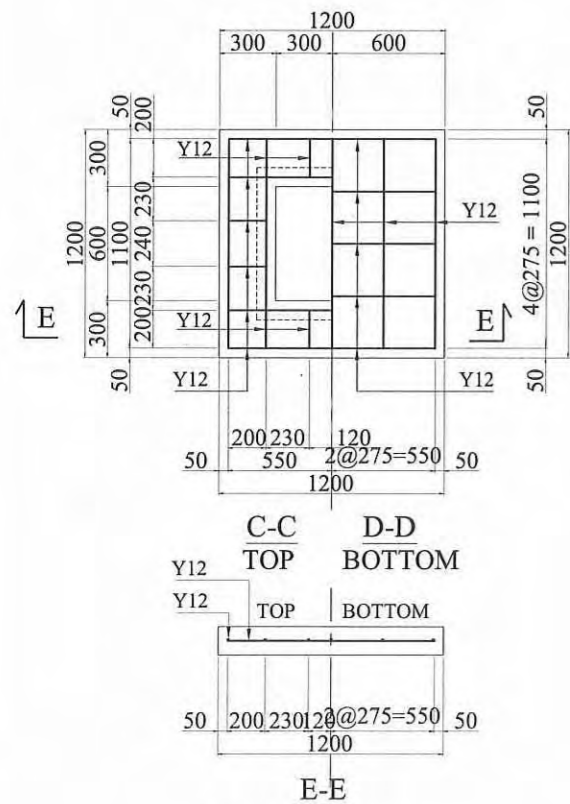
**SECTION A-A**  
SCALE 1:40



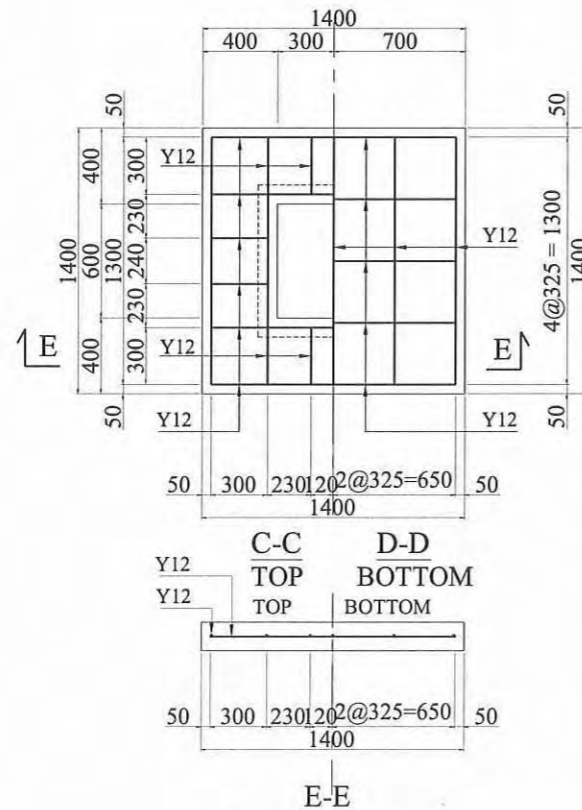
**SECTION B-B**  
SCALE 1:40



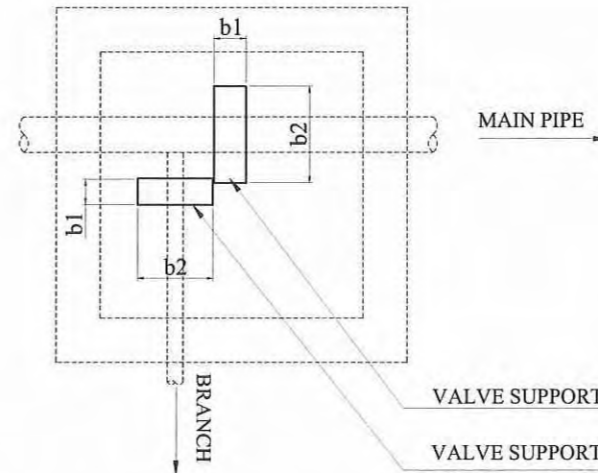
**CONCRETE COVER DETAIL**  
SCALE 1:30



**TYPE A** SCALE 1:40  
(W = 800)



**TYPE B** SCALE 1:40  
(W = 1000)



Pipe Diameter (mm)	b1 (mm)	b2 (mm)	Height (mm)
32	100	400	200
50	140	400	350
80	160	500	350
100	180	500	350

**VALVE SUPPORT**  
SCALE 1:30

	Pipe Diameter (mm)				W (mm)	No. (Nos.)	
	Main Pipe	Main Pipe in Chamber	Branch Pipe	Branch Pipe in Chamber		Blow off	Branch
Type A	uPVC 63	GI 50	uPVC 50	GI 50	800	-	8
	uPVC 63	GI 50	uPVC 63	GI 50		13	1
Type B	uPVC 90	GI 80	uPVC 50	GI 50	1000	-	3
	uPVC 90	GI 80	uPVC 63	GI 50		2	1
	GI 100	GI 100	GI 80	GI 80		-	1

Note : Surface of stone block shall be plastered with 25mm thickness.  
: Dimension at valve support shall change based on the valve length

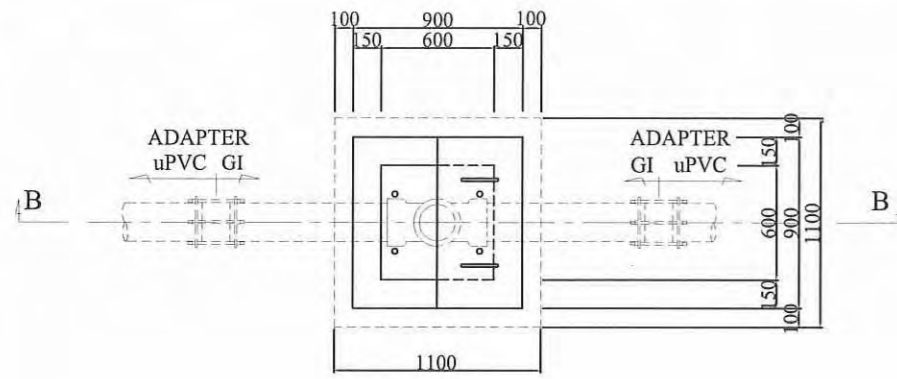
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

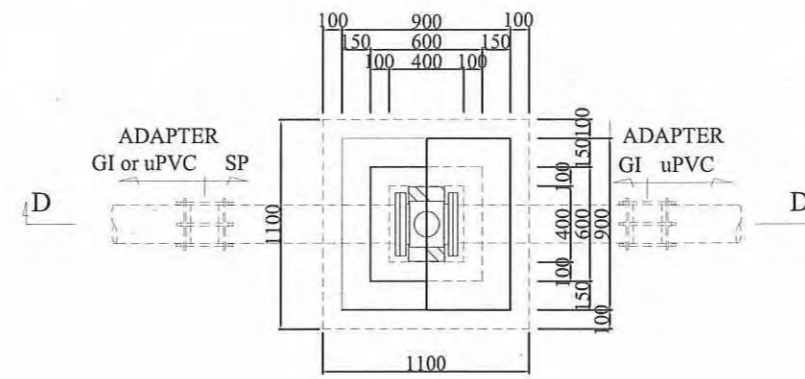
CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITIES  
BRANCH VALVE CHAMBER

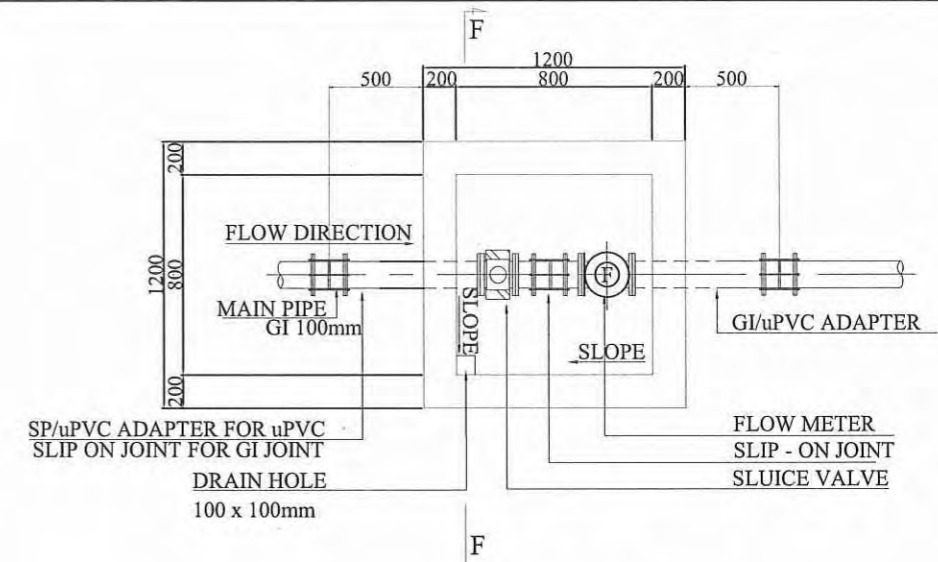
SCALE	DATE	DRAWING NO.
1:40 1:30	FEB.2006	WSF-054



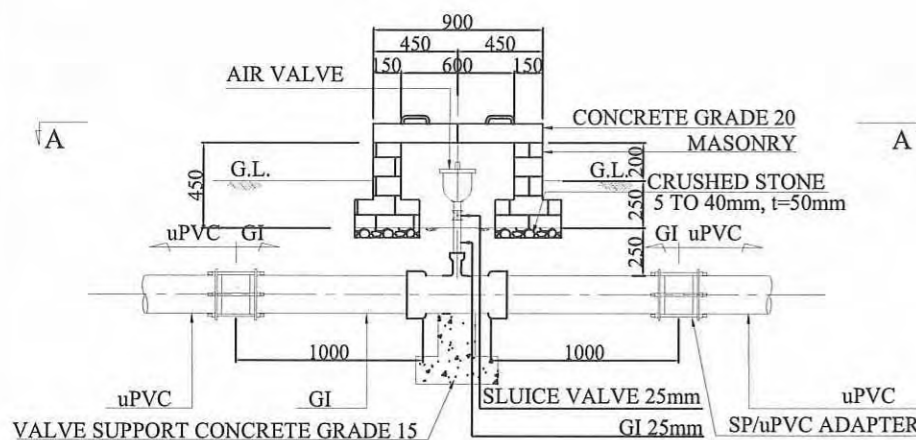
SECTION A-A  
Scale 1:40



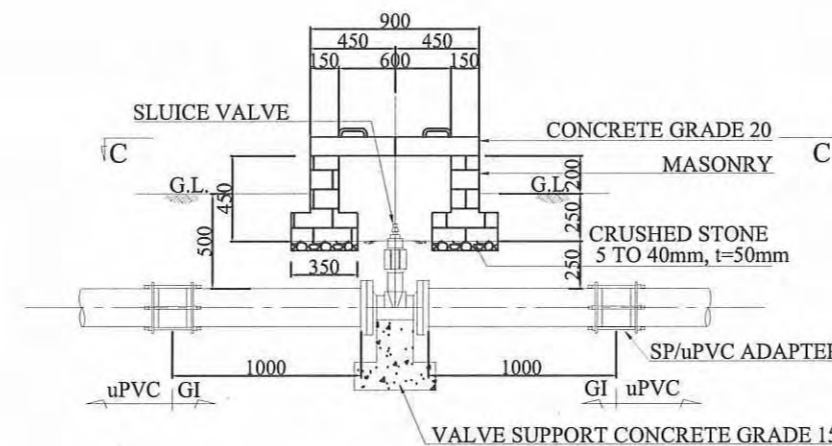
SECTION C-C  
Scale 1:40



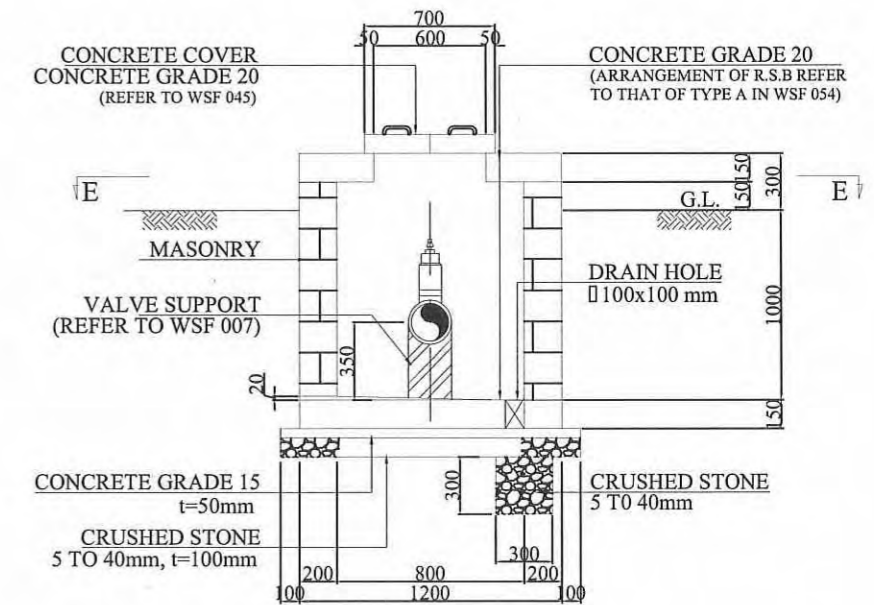
SECTION E - E  
Scale 1:40



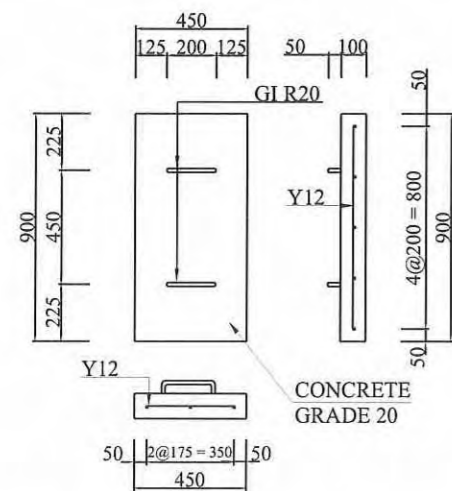
SECTION B-B  
AIR VALVE CHAMBER  
Scale 1:40



SECTION D-D  
SLUICE VALVE CHAMBER  
Scale 1:40



SECTION F-F  
FLOW METER CHAMBER  
Scale 1:40



CONCRETE COVER  
(AIR & SLUICE VALVE CHAMBER)  
Scale 1:30

ITEM	TYPE	No.(Nos.)
AIR VALVE CHAMBER	GI TEE 50x25	11
SLUICE VALVE CHAMBER	GI 80	1
SLUICE VALVE CHAMBER	GI 100	1
FLOW METER CHAMBER	GI 100	3

Note : Surface of stone block shall be plastered with 25mm thickness.  
: Dimension of valve support shall be varied based on the valve length.

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

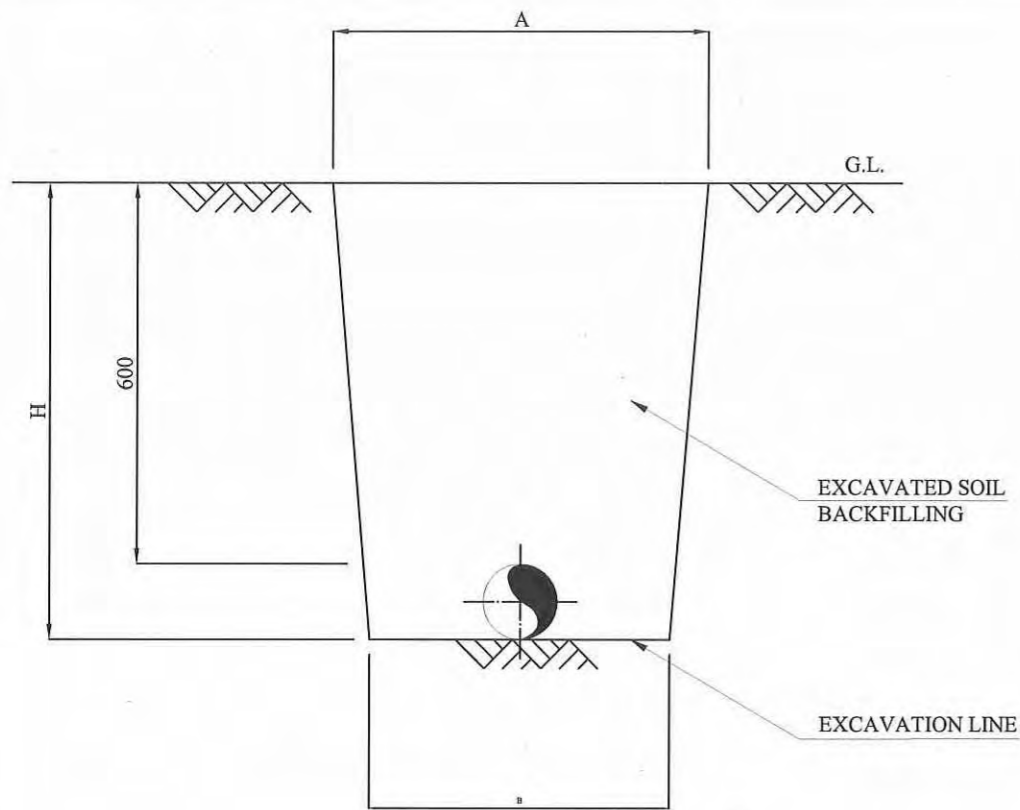
PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
AIR VALVE, SLUICE VALVE & FLOW METER CHAMBERS

SCALE 1:30 1:40	DATE FEB.2006	DRAWING NO. WSF-055
-----------------------	------------------	------------------------



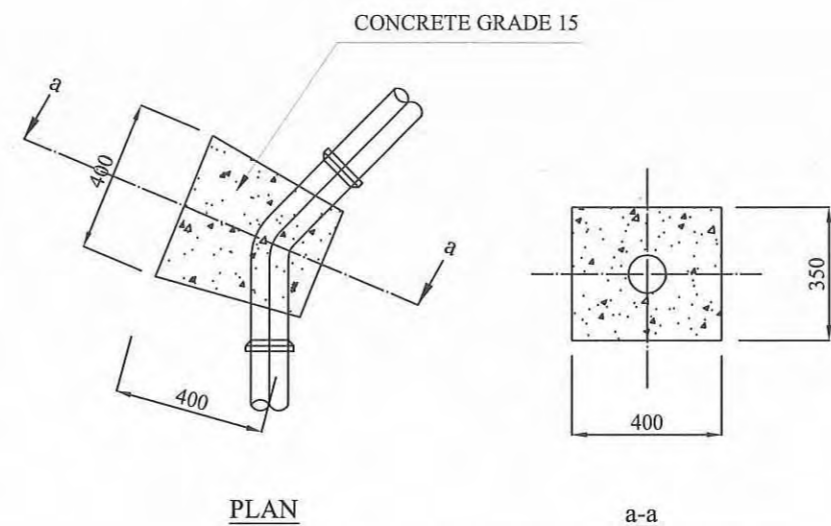


**EXCAVATION**

**Dimension of Manual Excavation**

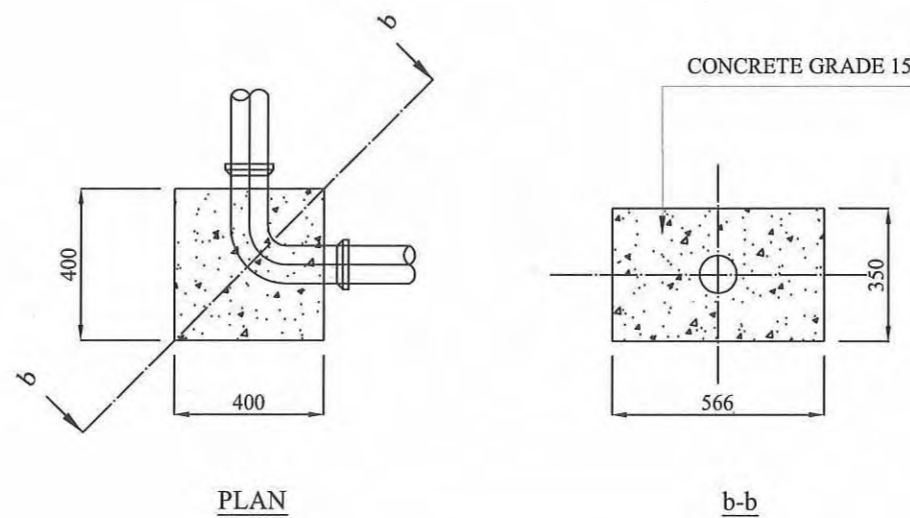
Pipe Diameter (mm)	Excavation	Width (m)		Excavation Depth: H (m)
		A	B	
50 or Less	Manual	0.60	0.50	0.65
	Machine	0.50	0.50	
63	Manual	0.60	0.50	0.70
	Machine	0.60	0.60	
90	Manual	0.60	0.50	0.70
	Machine	0.65	0.65	
100	Manual	0.60	0.50	0.70
	Machine	0.70	0.70	

Note: Excavated soil shall be used for backfilling  
 : Surplus soil shall be spoiled.  
 : Sand with 100mm in thickness shall be bedded below the pipe incase of hard ground formation such as rock, stone and etc.  
 : Line marker shall be installed at valve chambers and at all changes of horizontal alignment and of transmission and distribution pipeline at 200m intervals  
 : Thrust block shall be installed at all changes of horizontal alignment of transmission and distribution pipeline



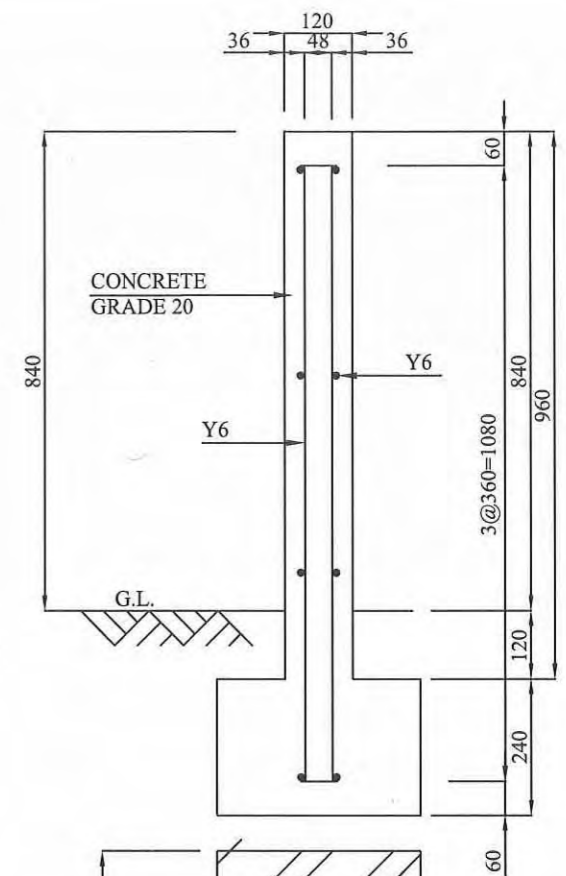
**THRUST BLOCK FOR DEGREE OF BEND (LESS 45°)**

SCALE 1:20



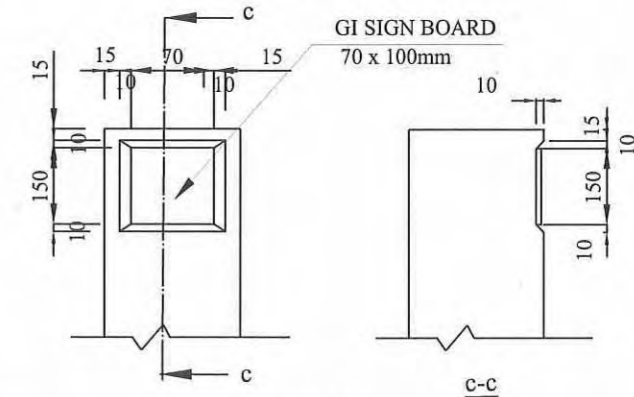
**THRUST BLOCK FOR DEGREE OF BEND (45° - 90°)**

SCALE 1:20



**LINE MARKER**

SCALE 1:20



**SIGN BOARD**

SCALE 1:15

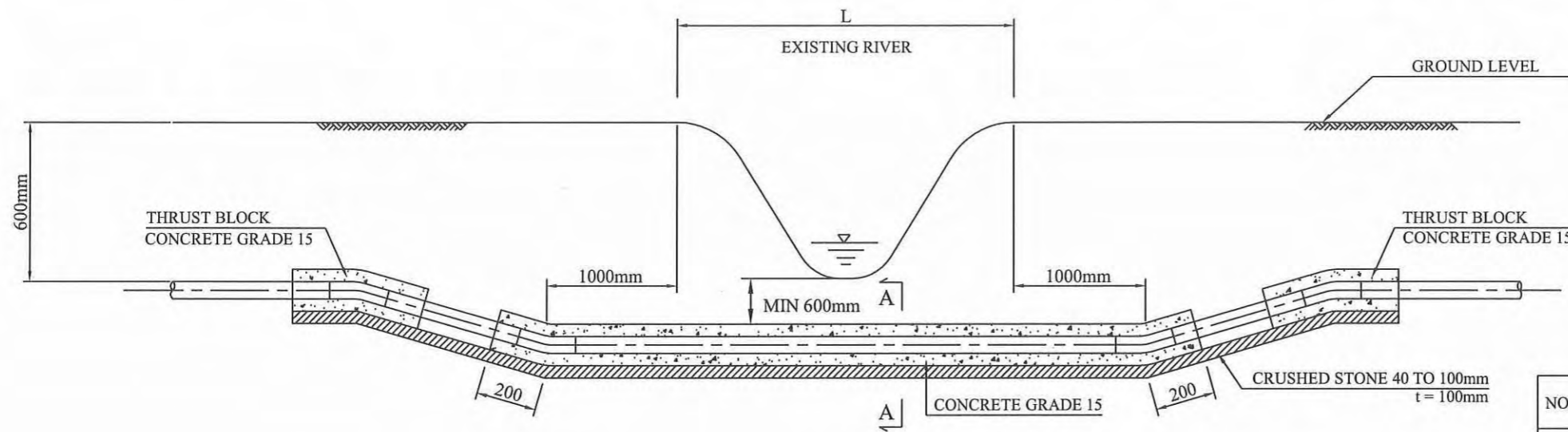
OWNER:  
 THE MINISTRY OF WATER AND IRRIGATION  
 THE REPUBLIC OF KENYA

PROJECT NAME:  
 THE PROJECT FOR  
 RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 **NIPPON KOEI CO.,LTD.**

TITLE:  
 REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
 PIPE INSTALLATION, LINE MARKER AND THRUST BLOCK

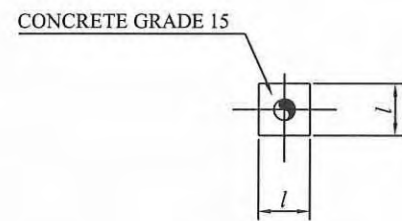
SCALE 1:15 1:20 NONE	DATE FEB.2006	DRAWING NO. WSF-056
-------------------------------	------------------	------------------------



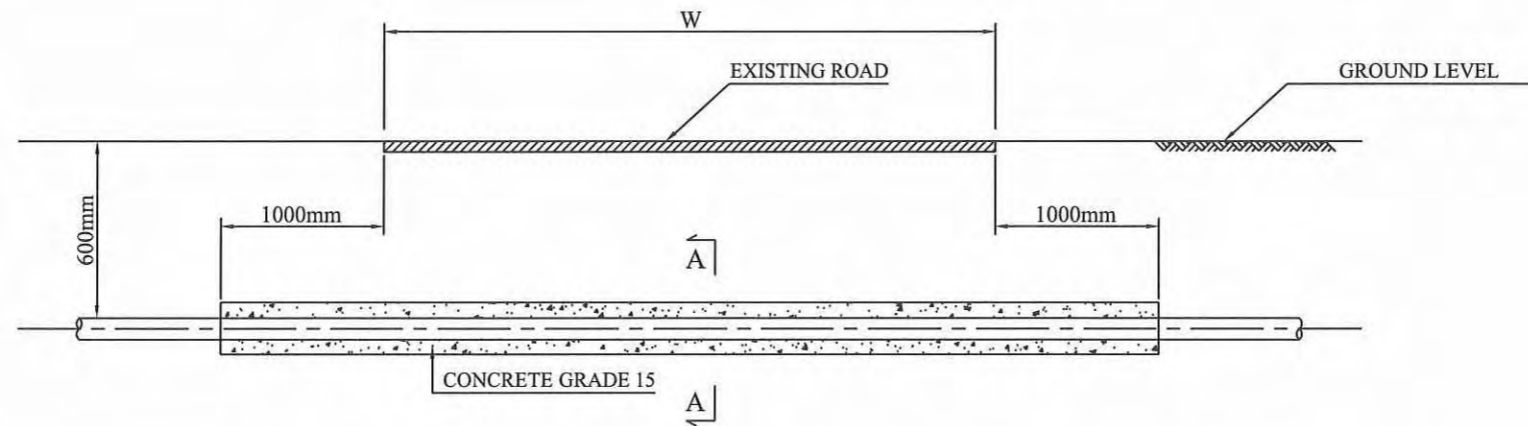
RIVER CROSSING

NO.	LOCATION	L (m)	PIPE (mm)
1	KAAI - MUTYANGOMBE 0425.71m	55.8	63
2	KAAI - MUTYANGOMBE 0666.75m	30.0	63
3	KAAI - MUTYANGOMBE 1079.65m	5.8	63
4	KAAI - MUTYANGOMBE 1192.32m	7.0	63
5	KAAI - MUTYANGOMBE 2867.17m	11.3	63

PIPE DIAMETER (mm)	l (mm)
63	270



A-A



ROAD CROSSING

NO.	LOCATION	W (m)	PIPE (mm)
1	KAAI - STORAGE TANK 0.00m	10.0	63

OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO.,LTD.

TITLE:  
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY  
RIVER AND ROAD CROSSING OF PIPE

SCALE	DATE	DRAWING NO.
NONE	FEB.2006	WSF-057