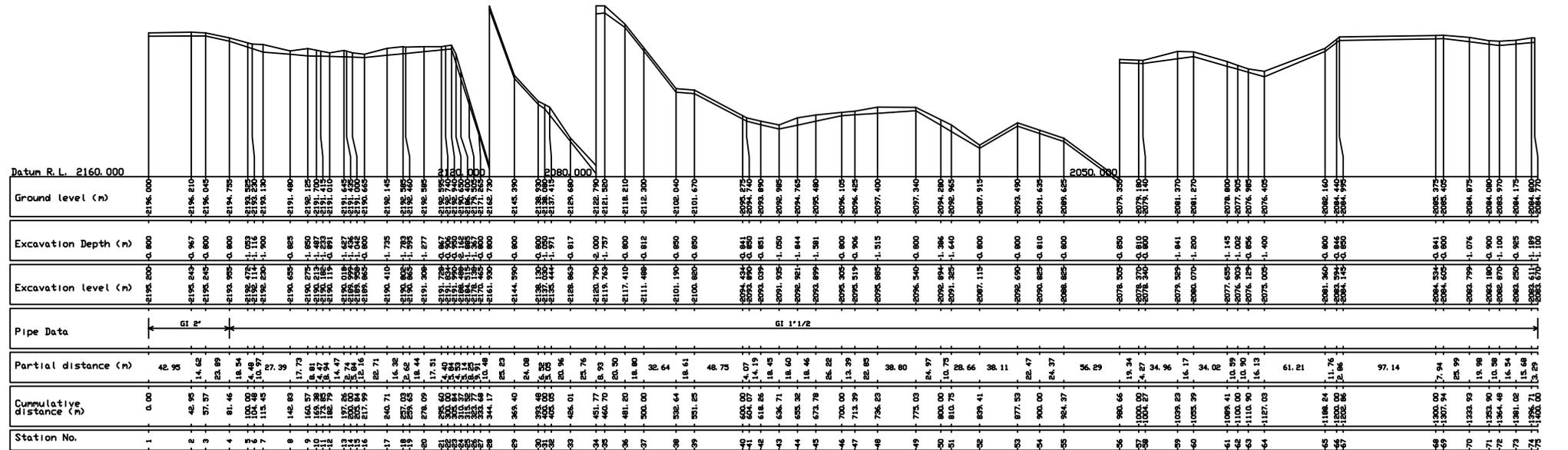


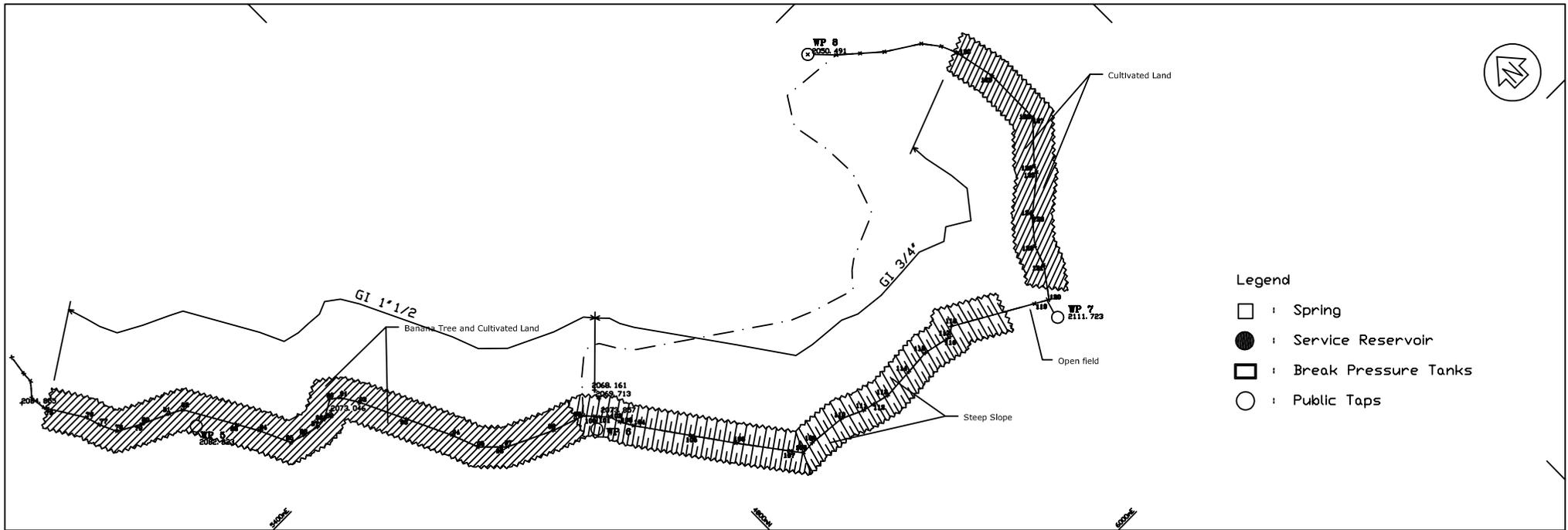
Legend

- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps

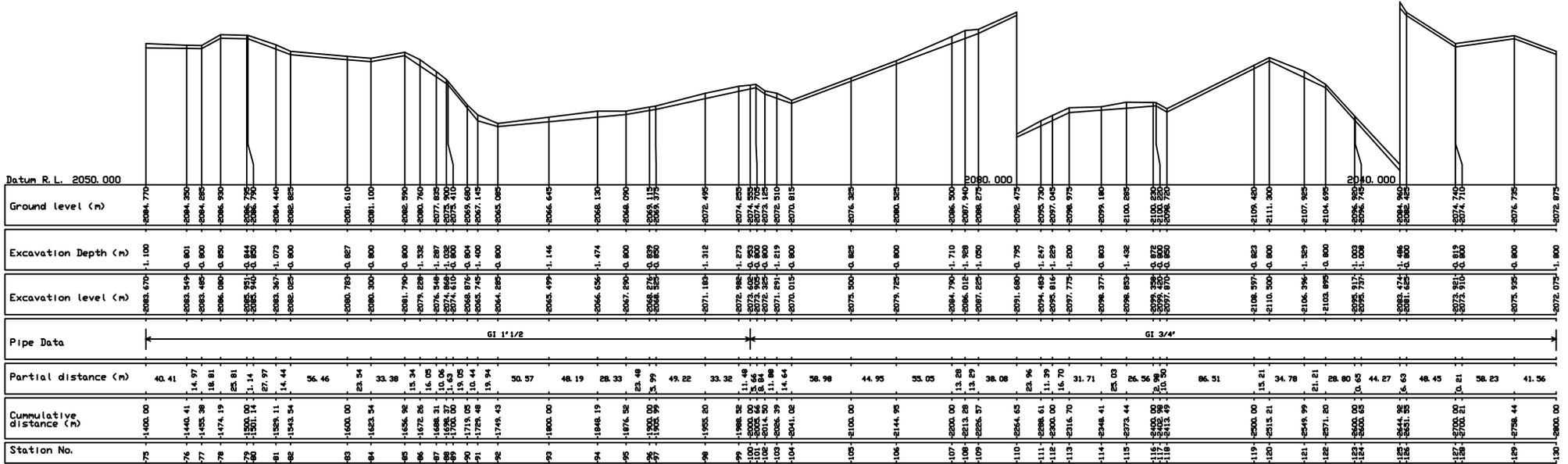


Longitudinal section between 0.00 and 1400.00 op1line1

OWNER: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME: THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO., LTD.	DRAWING TITLE: Ofa (Yoge) 1/4 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.15

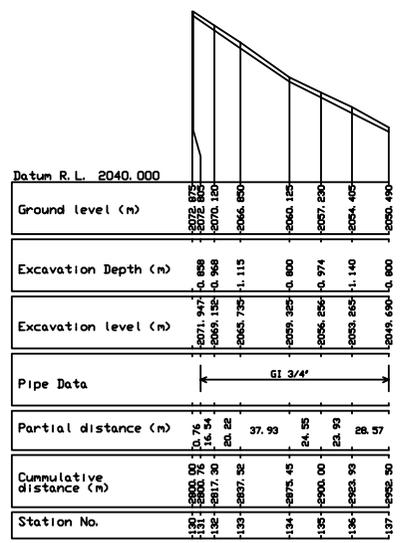
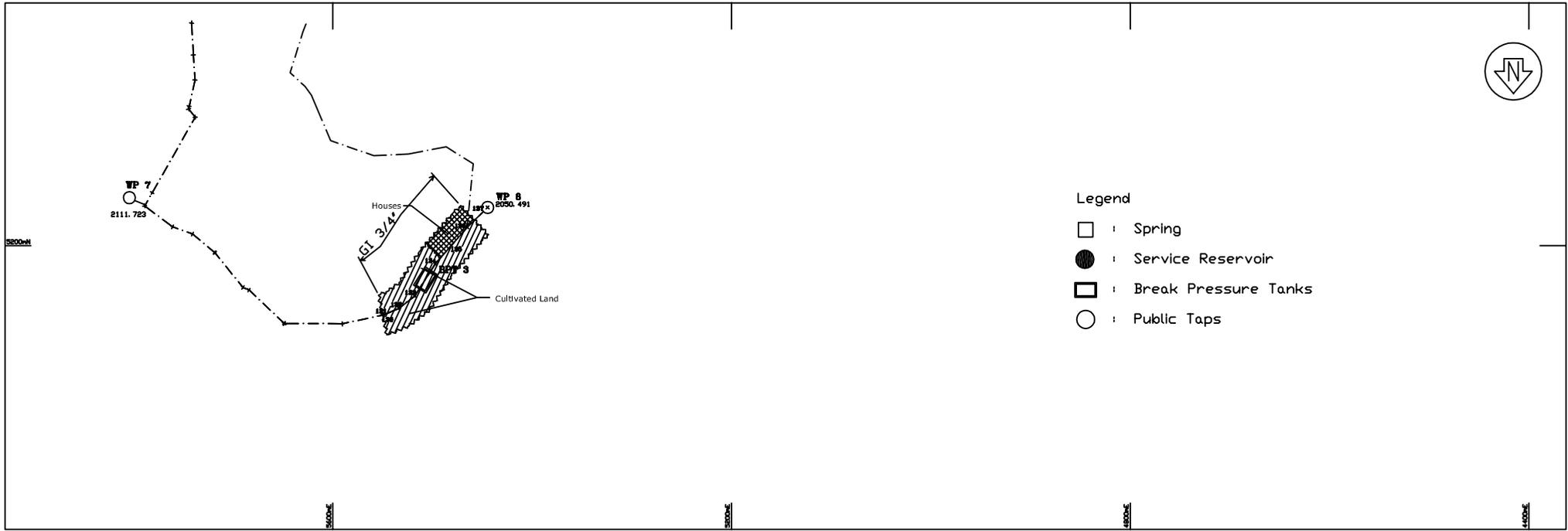


- Legend**
- : Spring
 - : Service Reservoir
 - ▣ : Break Pressure Tanks
 - : Public Taps



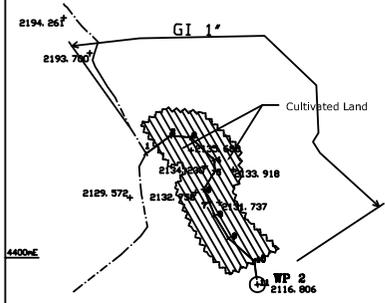
Longitudinal section between 1400.00 and 2800.00 op1line1

OWNER: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME: THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO., LTD.	DRAWING TITLE: Ofa (Yoge) 2/4 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.16



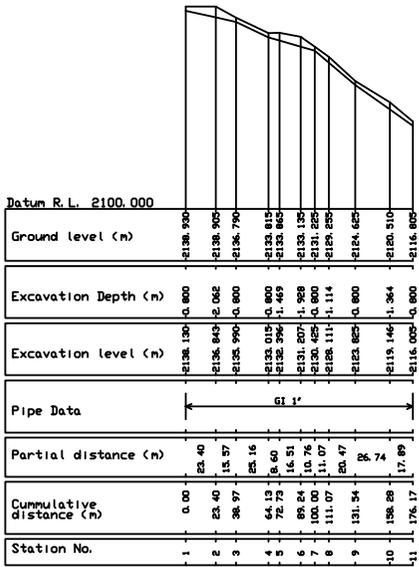
Longitudinal section between 2800.00 and 2952.50 opiline1

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO.,LTD.	DRAWING TITLE : Ofa (Yoge) 3/4 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.17



Legend

- : Spring
- : Service Reservoir
- ▭ : Break Pressure Tanks
- : Public Taps



Longitudinal section between 0.00 and 176.17 op1line2

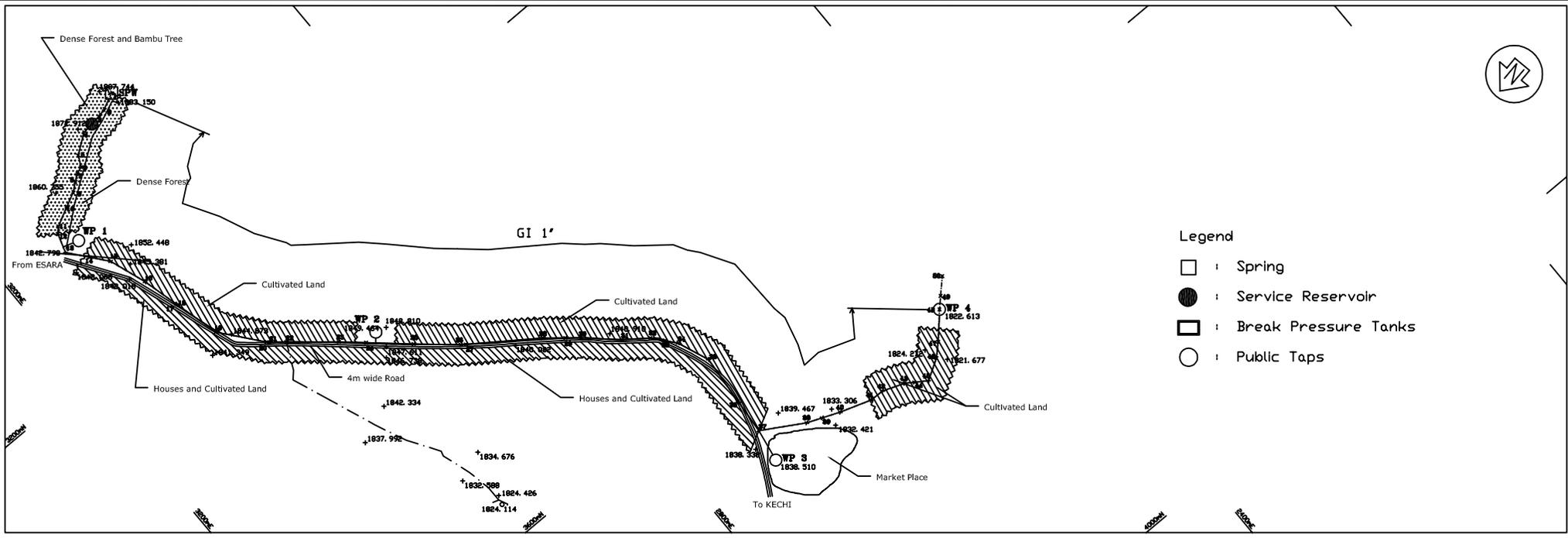
OWNER :
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PROJECT NAME :
THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

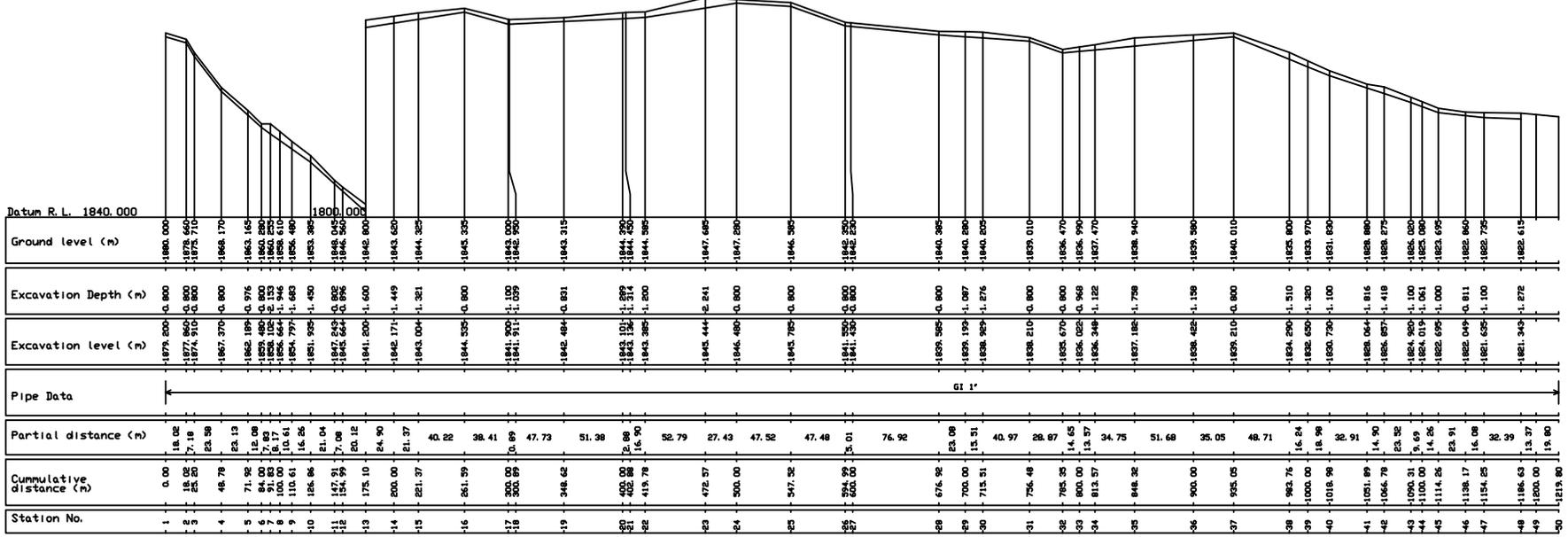
CONSULTING ENGINEERS :
 **NIPPON KOEI CO.,LTD.**

DRAWING TITLE :
Ofa (Yoge) 4/4 (Topographical Drawing)

SCALE V=1:500 H=1:2,000	DATE February 2005	DRAWING NO. SF-2.18
-------------------------------	-----------------------	------------------------

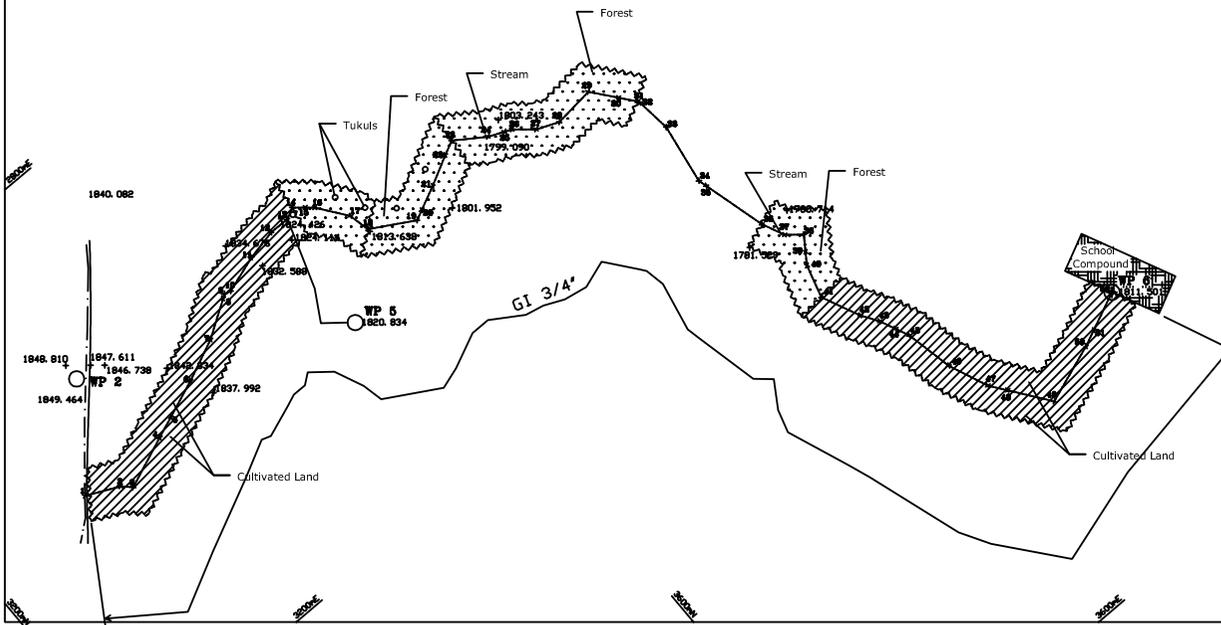


- Legend**
- : Spring
 - : Service Reservoir
 - : Break Pressure Tanks
 - : Public Taps



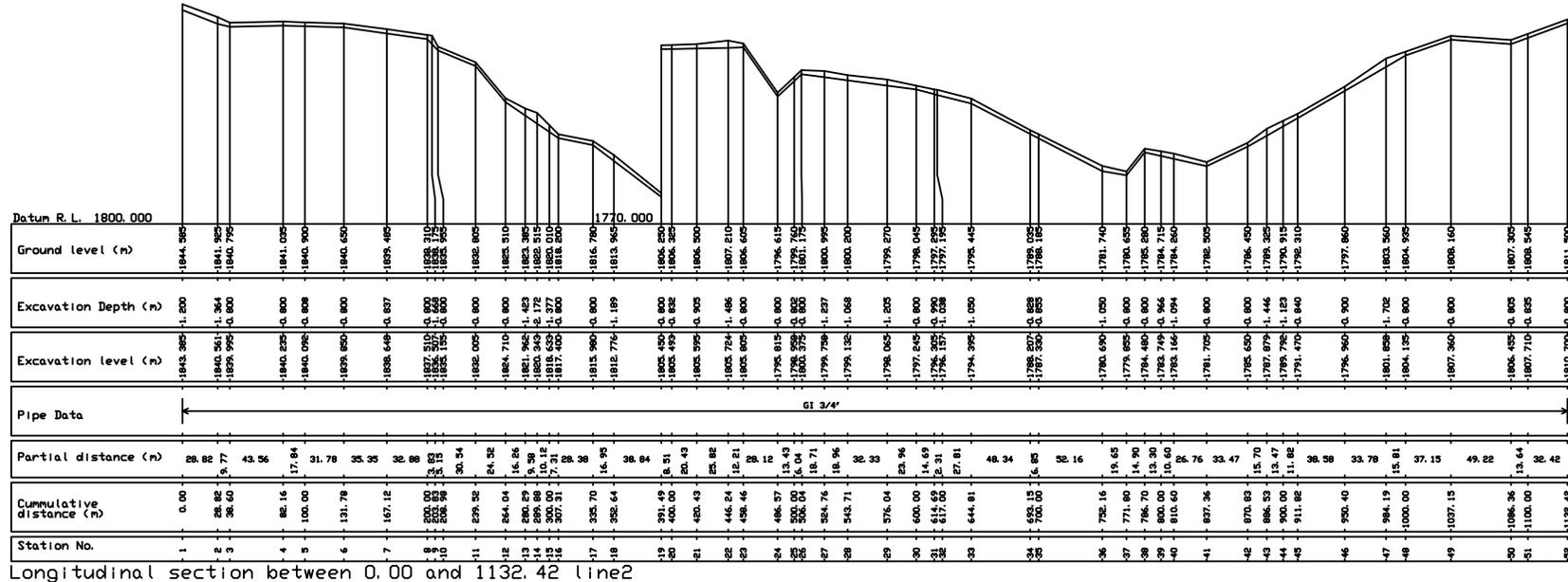
Longitudinal section between 0.00 and 1219.80 line1

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO.,LTD.	DRAWING TITLE : Sengeti 1/3 (Topographical Drawing)	
			SCALE V=1:500 H=1:2,000	DATE February 2005
			DRAWING NO. SF-2.19	



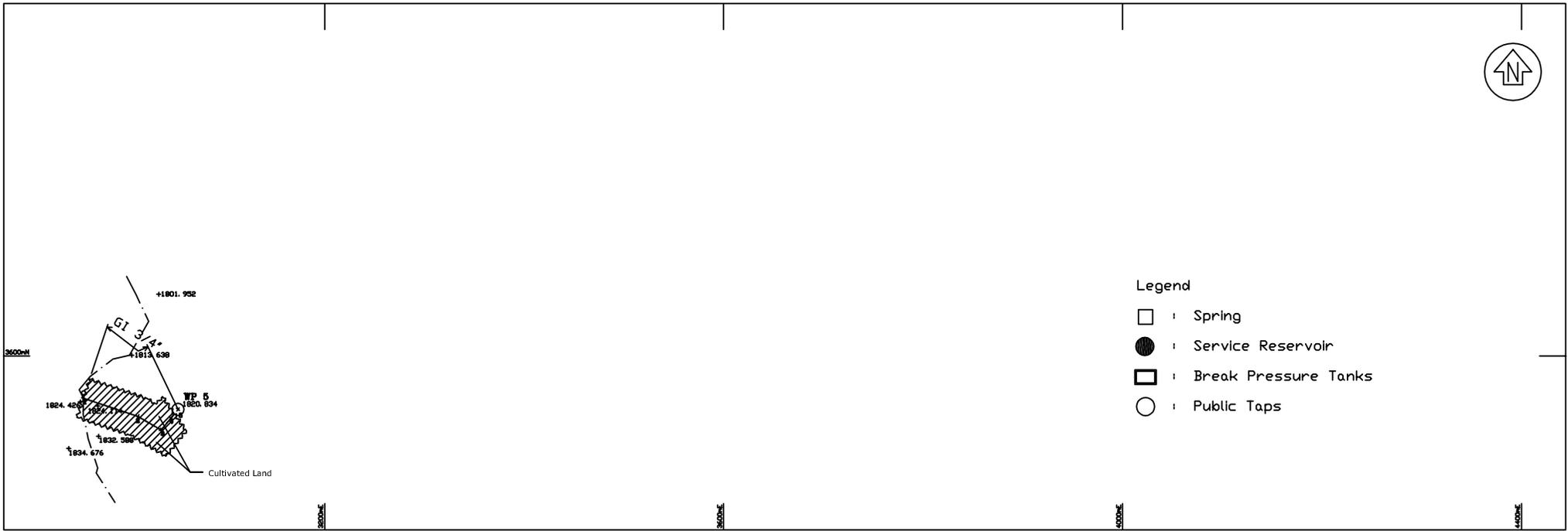
Legend

- : Spring
- : Service Reservoir
- : Break Pressure Tanks
- : Public Taps



Longitudinal section between 0.00 and 1132.42 Line2

OWNER: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME: THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO., LTD.	DRAWING TITLE : Sengeti 2/3 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.20



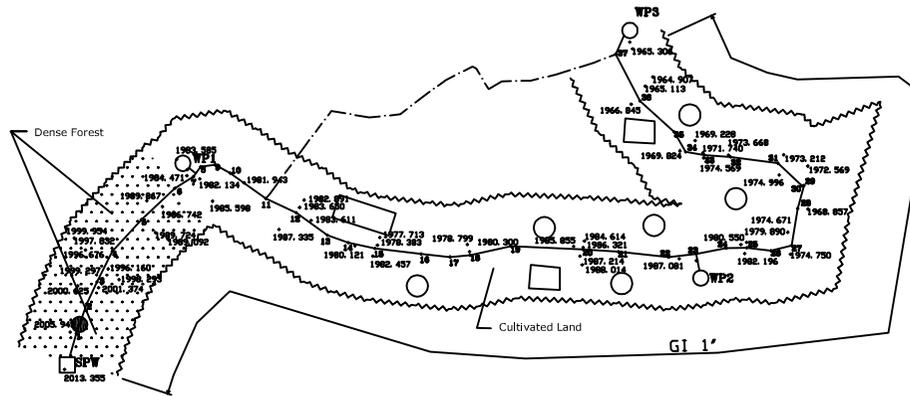
Legend

- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps

Datum R. L. 1800.000	
Ground level (m)	1823.985 1824.225 1823.225 1822.695 1820.625
Excavation Depth (m)	1.423 0.995 0.800 0.829 0.650
Excavation level (m)	1821.962 1823.230 1824.025 1821.866 1819.965
Pipe Data	GI 3/4"
Partial distance (m)	57.63 26.96 15.41 11.22
Cumulative distance (m)	0.00 57.63 84.59 100.00 111.22
Station No.	1 2 3 4 5

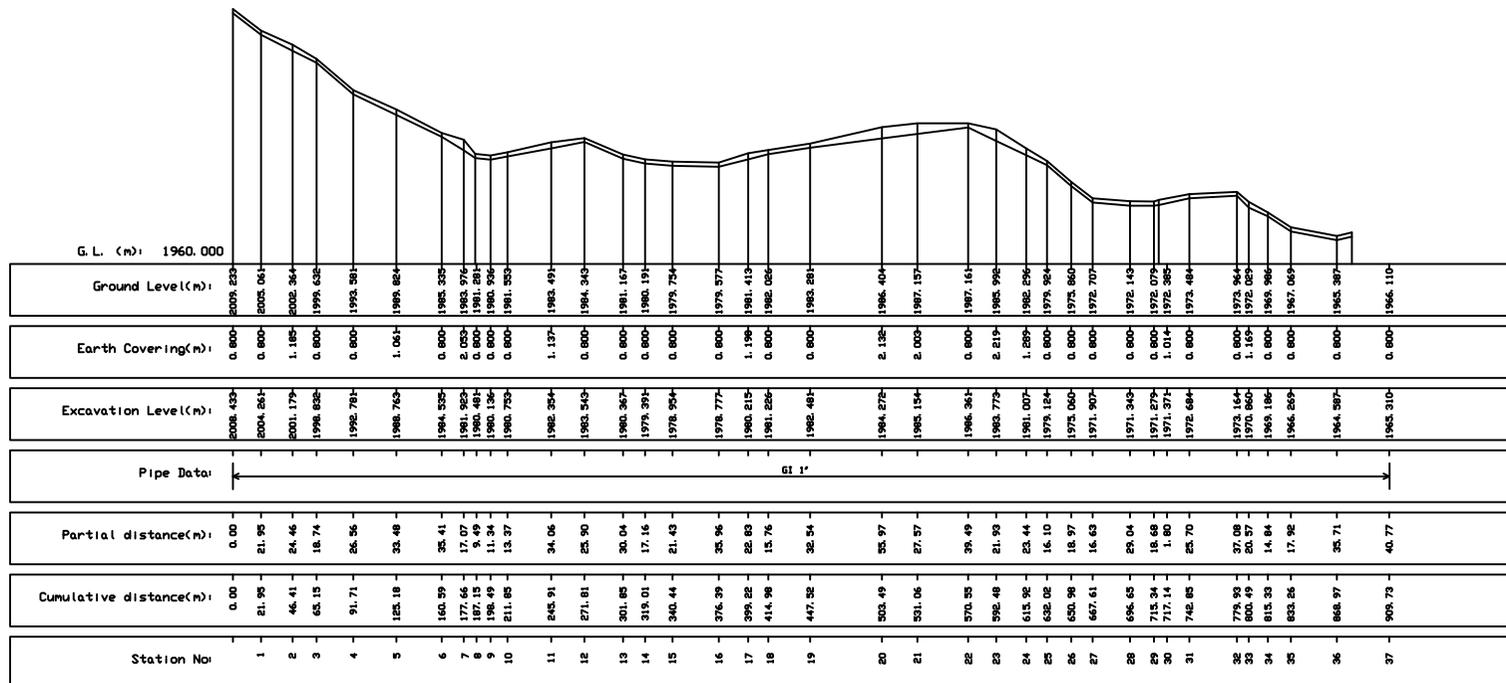
Longitudinal section between 0.00 and 111.22 line3

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS :  NIPPON KOEI CO.,LTD.	DRAWING TITLE : Sengeti 3/3 (Topographical Drawing)		
			SCALE : Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.21



Legend

- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps



OWNER :

JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

PROJECT NAME :

THE BASIC DESIGN STUDY ON THE PROJECT
FOR WATER SUPPLY IN SOUTHERN NATIONS,
NATIONALITIES AND PEOPLE'S REGIONAL STATE
IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CONSULTING ENGINEERS :

 NIPPON KOEI CO.,LTD.

DRAWING TITLE :

L. Argoba - Kora (Topographical Drawing)

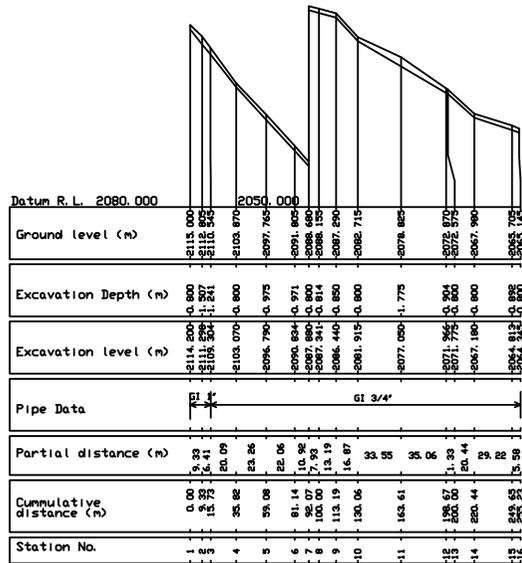
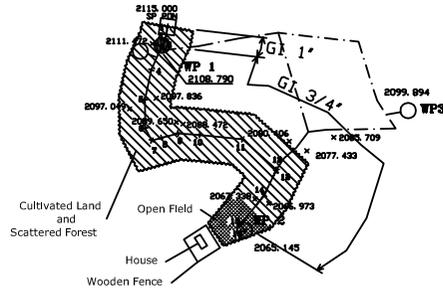
SCALE
Vt=1:500
Hz=1:2,000

DATE
February 2005

DRAWING NO.
SF-2.22

Legend

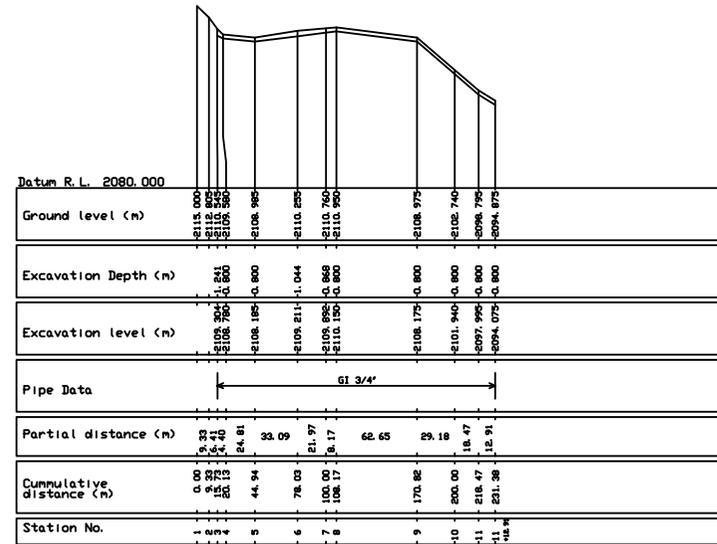
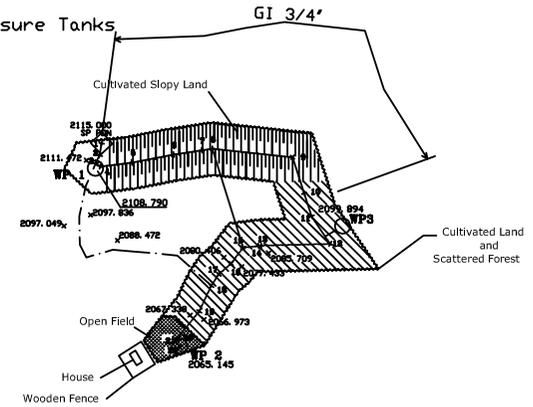
- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps



Longitudinal section line1 Sp-WP1-WP2

Legend

- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps



Longitudinal section between line2 Sp-WP3-WP2

OWNER :

JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

PROJECT NAME :

THE BASIC DESIGN STUDY ON THE PROJECT
FOR WATER SUPPLY IN SOUTHERN NATIONS,
NATIONALITIES AND PEOPLE'S REGIONAL STATE
IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CONSULTING ENGINEERS :

 NIPPON KOEI CO., LTD.

DRAWING TITLE :

L/Argoba (Hamro) 1/1 (Topographical Drawing)

SCALE

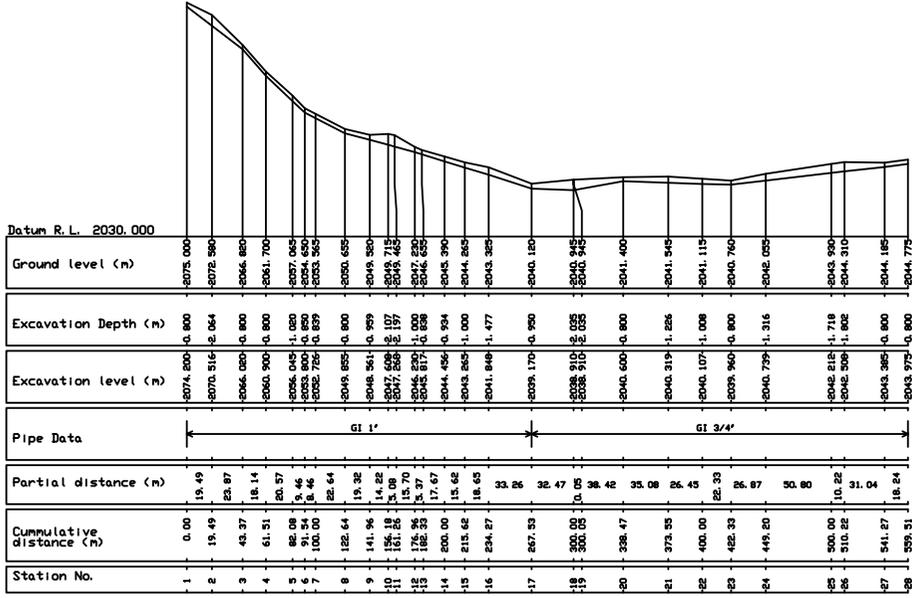
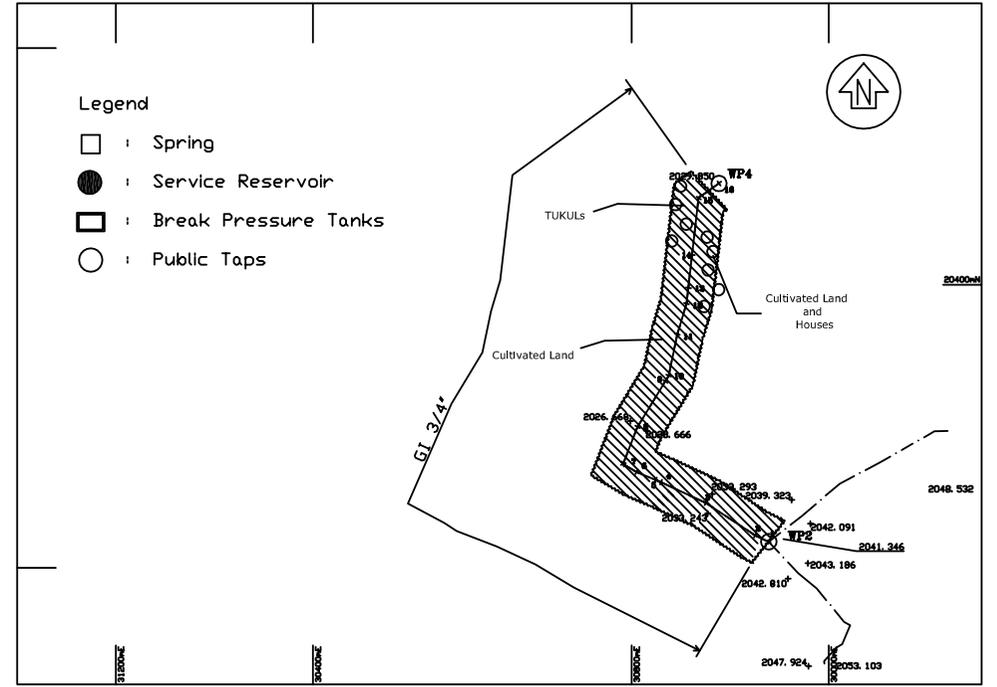
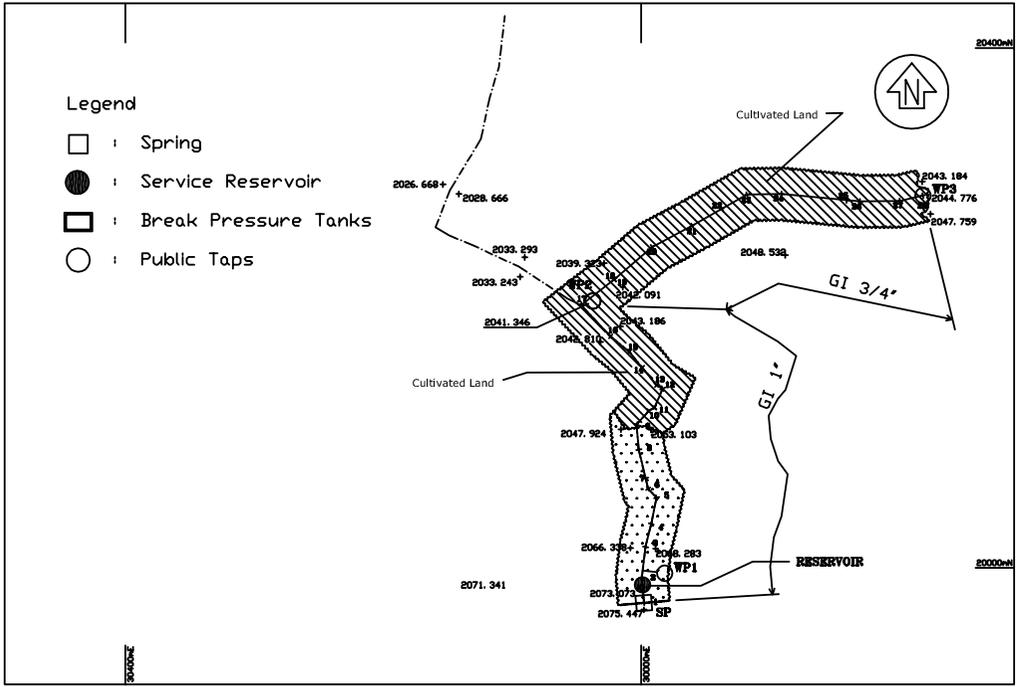
Vt=1:500
Hz=1:2,000

DATE

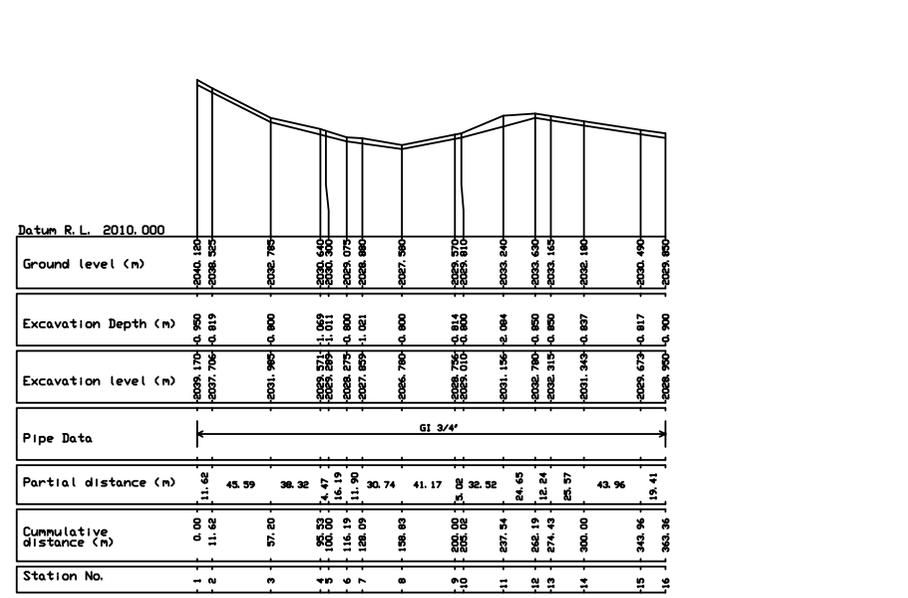
February 2005

DRAWING NO.

SF-2.23



Longitudinal section between 0.00 and 559.51 Line 1 Sp to Wp3



Longitudinal section between 0.00 and 363.36 Junction to Wp4

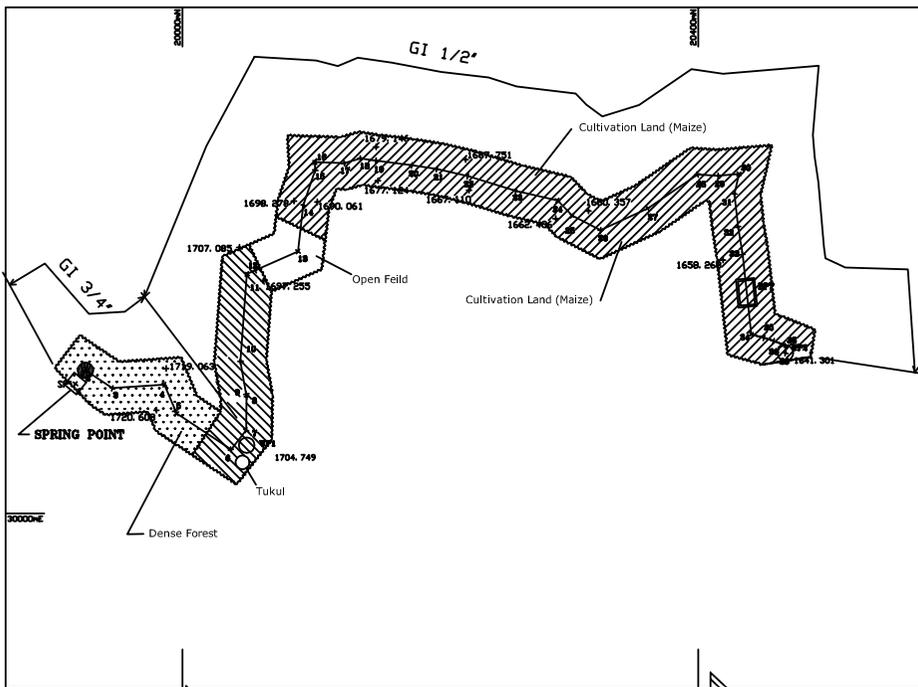
OWNER :
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PROJECT NAME :
THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CONSULTING ENGINEERS :
NIPPON KOEI CO., LTD.

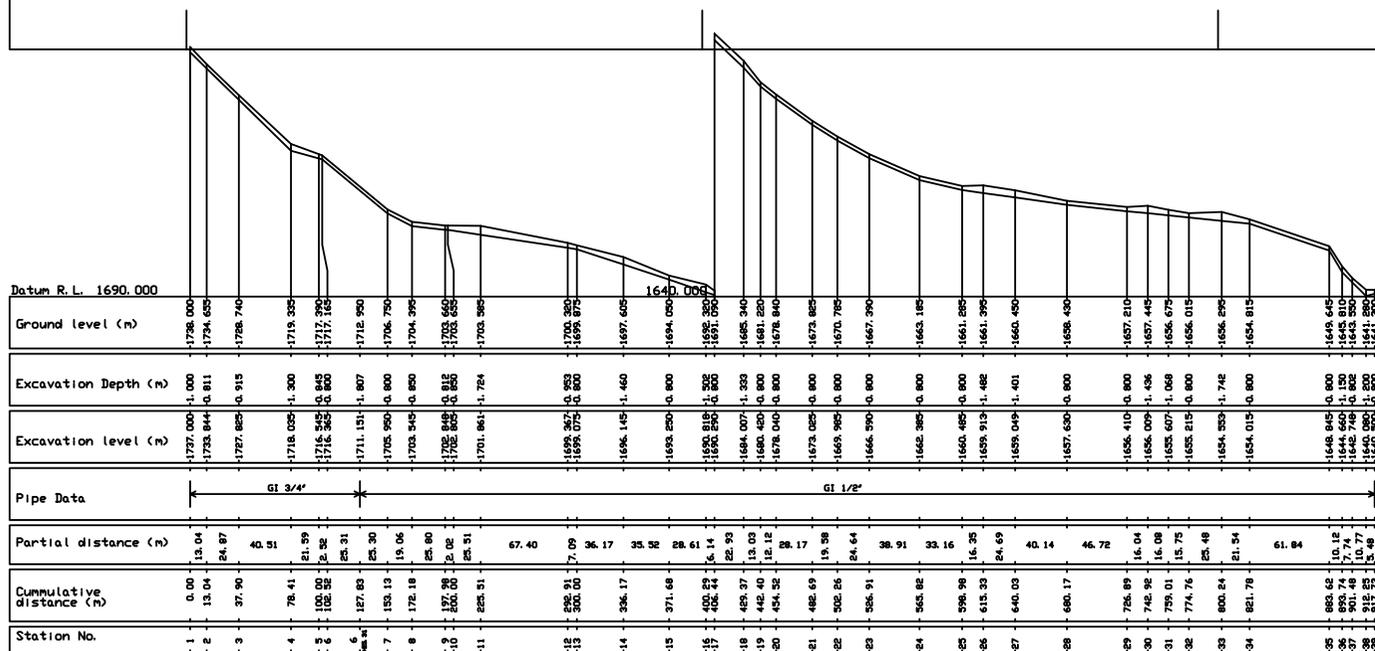
DRAWING TITLE :
L/Argoba (Abello) 1/1 (Topographical Drawing)

SCALE : Vt=1:500, Hz=1:2,000
DATE : February 2005
DRAWING NO. : SF-2.24



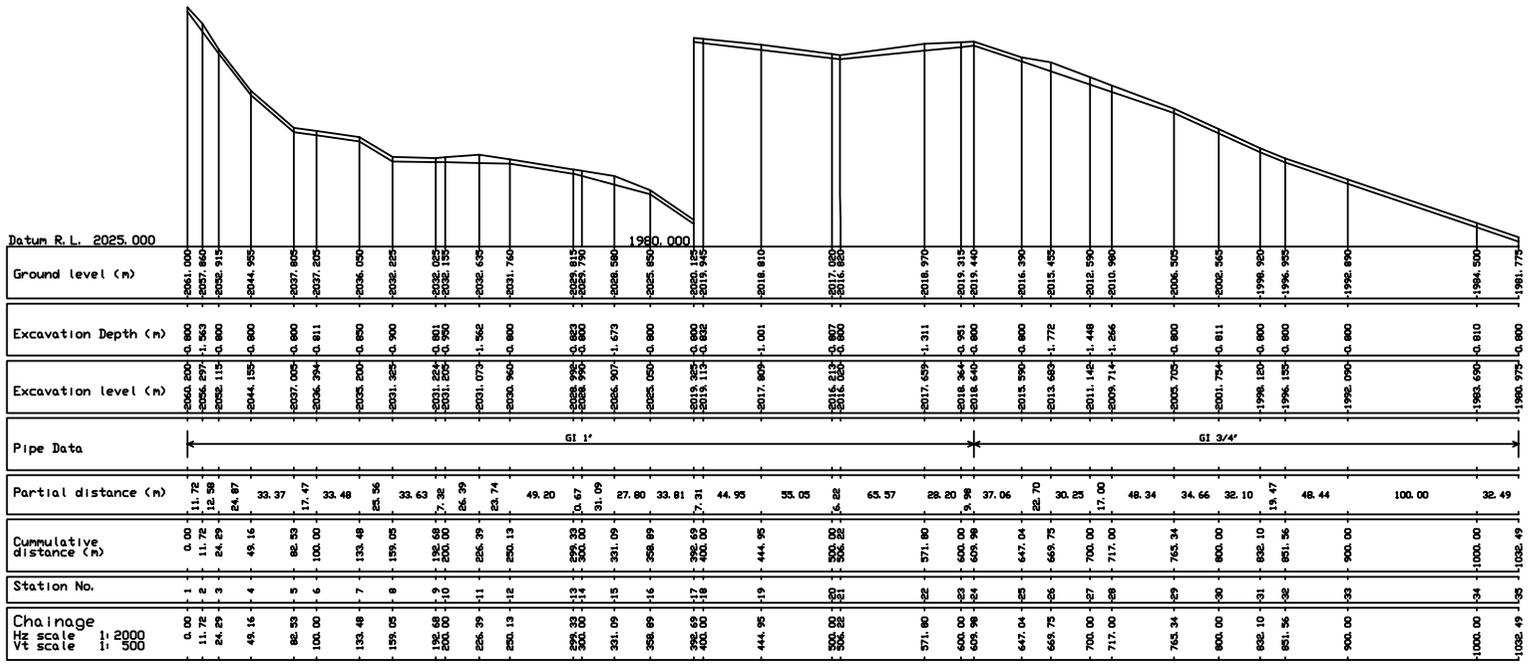
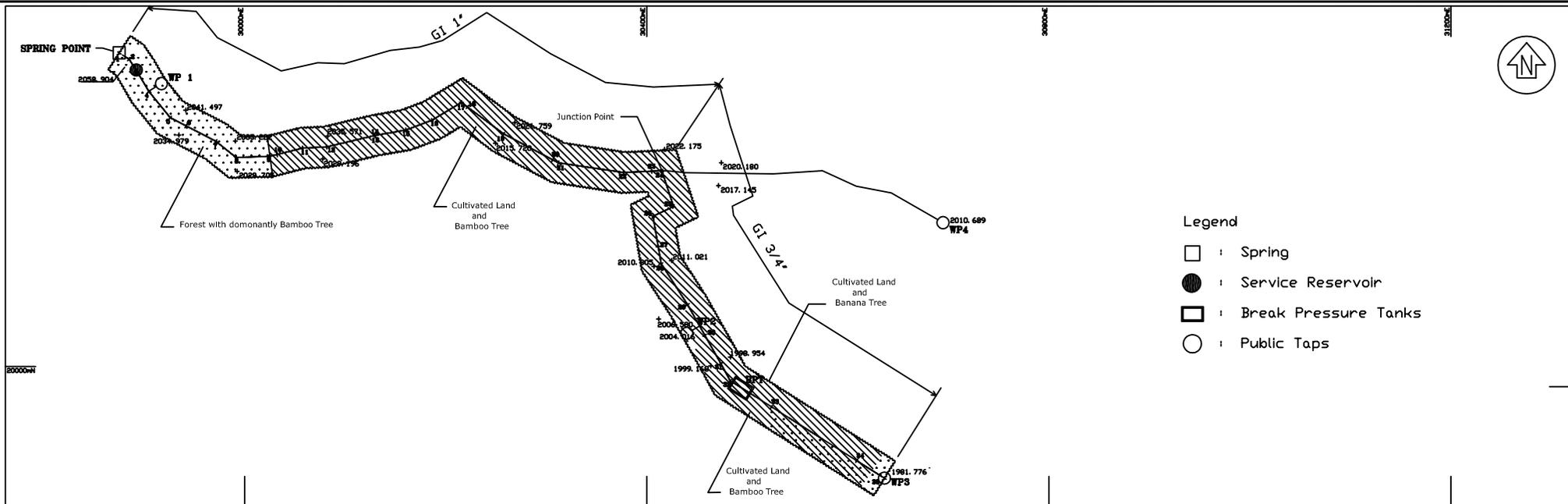
Legend

- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps



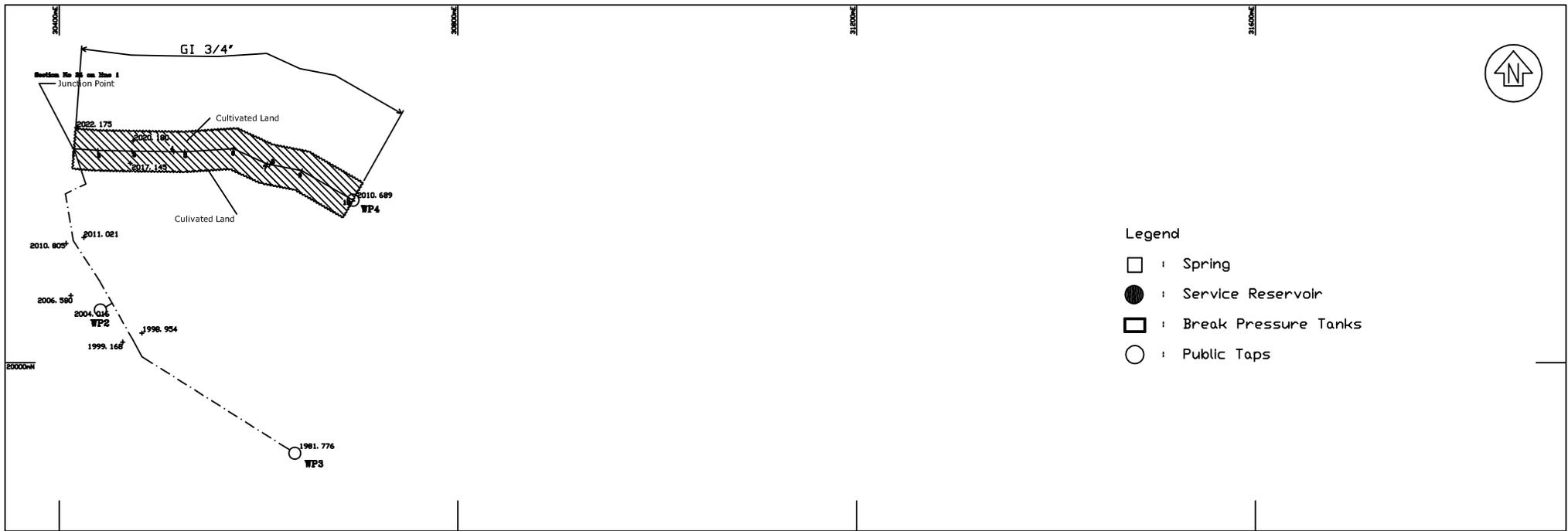
Longitudinal section between 0.00 and 917.73 Line 1

OWNER: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME: THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPOON KOEI CO., LTD.	DRAWING TITLE : Walayte (Elcola) 1/1 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.25



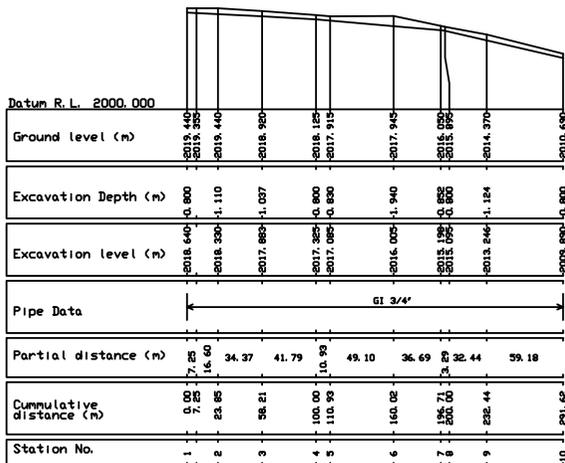
Longitudinal section between 0.00 and 1032.49 Line 1 Sp to WP3

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO., LTD.	DRAWING TITLE : Busabaso (Kogdeya) 1/2 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.26



Legend

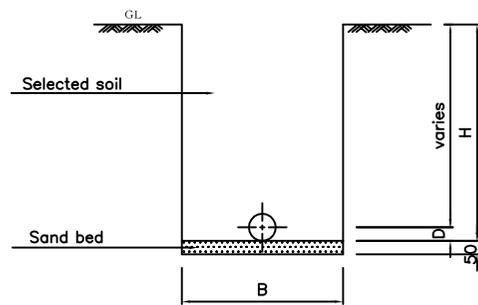
- : Spring
- : Service Reservoir
- ▣ : Break Pressure Tanks
- : Public Taps



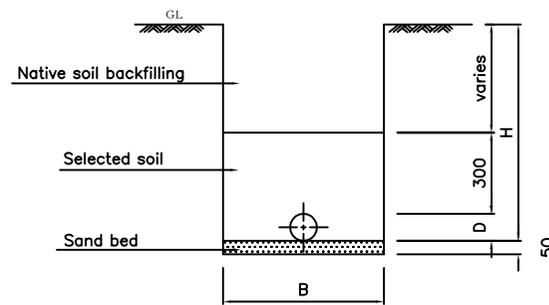
Longitudinal section between 0.00 and 291.62 Junction to Wp4

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPPON KOEI CO., LTD.	DRAWING TITLE : Busabaso (Kodgeya) 2/2 (Topographical Drawing)		
			SCALE Vt=1:500 Hz=1:2,000	DATE February 2005	DRAWING NO. SF-2.27

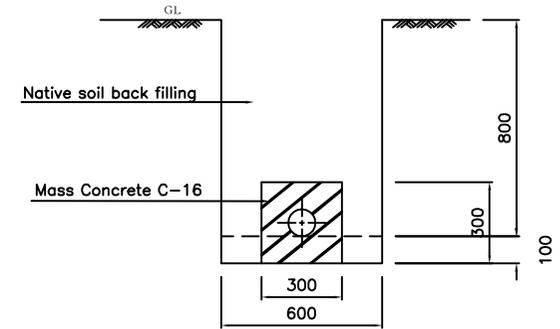
Unit:mm			
H	1,050	1,550	2,050
B	600	700	800



Typical section of soil excavation



Typical section of rock excavation



Section of road crossing

OWNER :

JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

PROJECT NAME :

THE BASIC DESIGN STUDY ON THE PROJECT
FOR WATER SUPPLY IN SOUTHERN NATIONS,
NATIONALITIES AND PEOPLE'S REGIONAL STATE
IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CONSULTING ENGINEERS :

 NIPPON KOEI CO.,LTD.

DRAWING TITLE : Typical Section of Earth Work
for Pipe Laying

SCALE

S=1:100

DATE

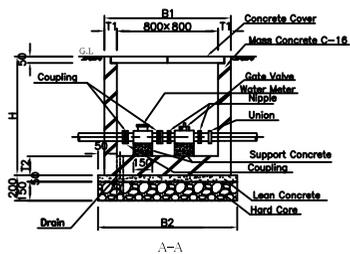
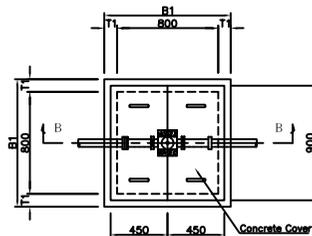
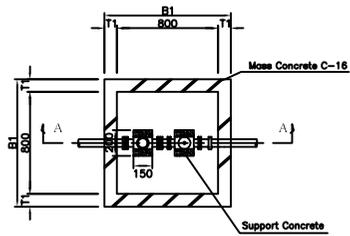
February 2005

DRAWING NO.

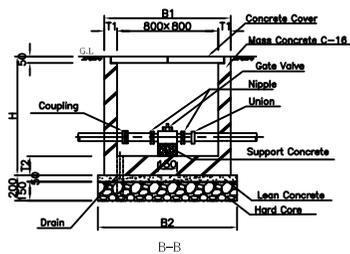
SF-2.28

Dimension	Unit:mm	
	H=1.00m	H=1.50m
T1	100	150
T2	150	200
B1	1,000	1,100
B2	1,100	1,200
H	1,300	1,850

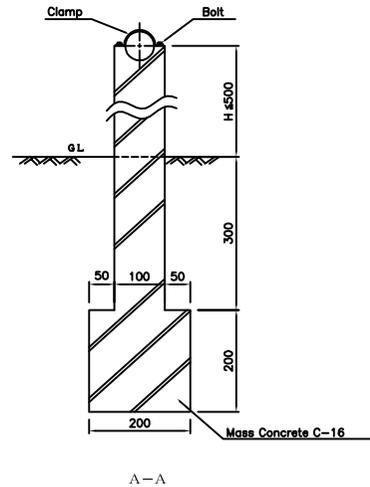
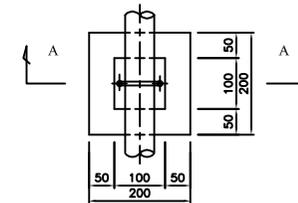
Pipe Size	Bolt DIA
1/2" ~ 1"	φ6mm
1" 1/2	φ10mm
2" ~ 2" 1/2	φ15mm



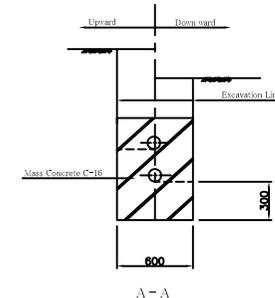
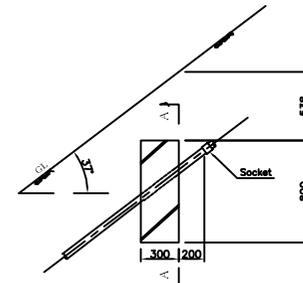
Water Meter & Gate Valve chamber
S=1:20



Water Meter & Gate Valve chamber
S=1:20



Support Concrete
S=1:5



Concrete block for pipe on slope
S=1:20

N.B. : The Chambers of wash-out and air valves are also applied to types of the chambers shown in drawing No.2.29.

OWNER : JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NAME : THE BASIC DESIGN STUDY ON THE PROJECT FOR WATER SUPPLY IN SOUTHERN NATIONS, NATIONALITIES AND PEOPLE'S REGIONAL STATE IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA	CONSULTING ENGINEERS : NIPON KOEI CO.,LTD.	DRAWING TITLE : Chambers, Support Concrete and Concrete Block for Pipe on Slope		
			SCALE S=1:20 S=1:5	DATE February 2005	DRAWING NO. SF-2.29