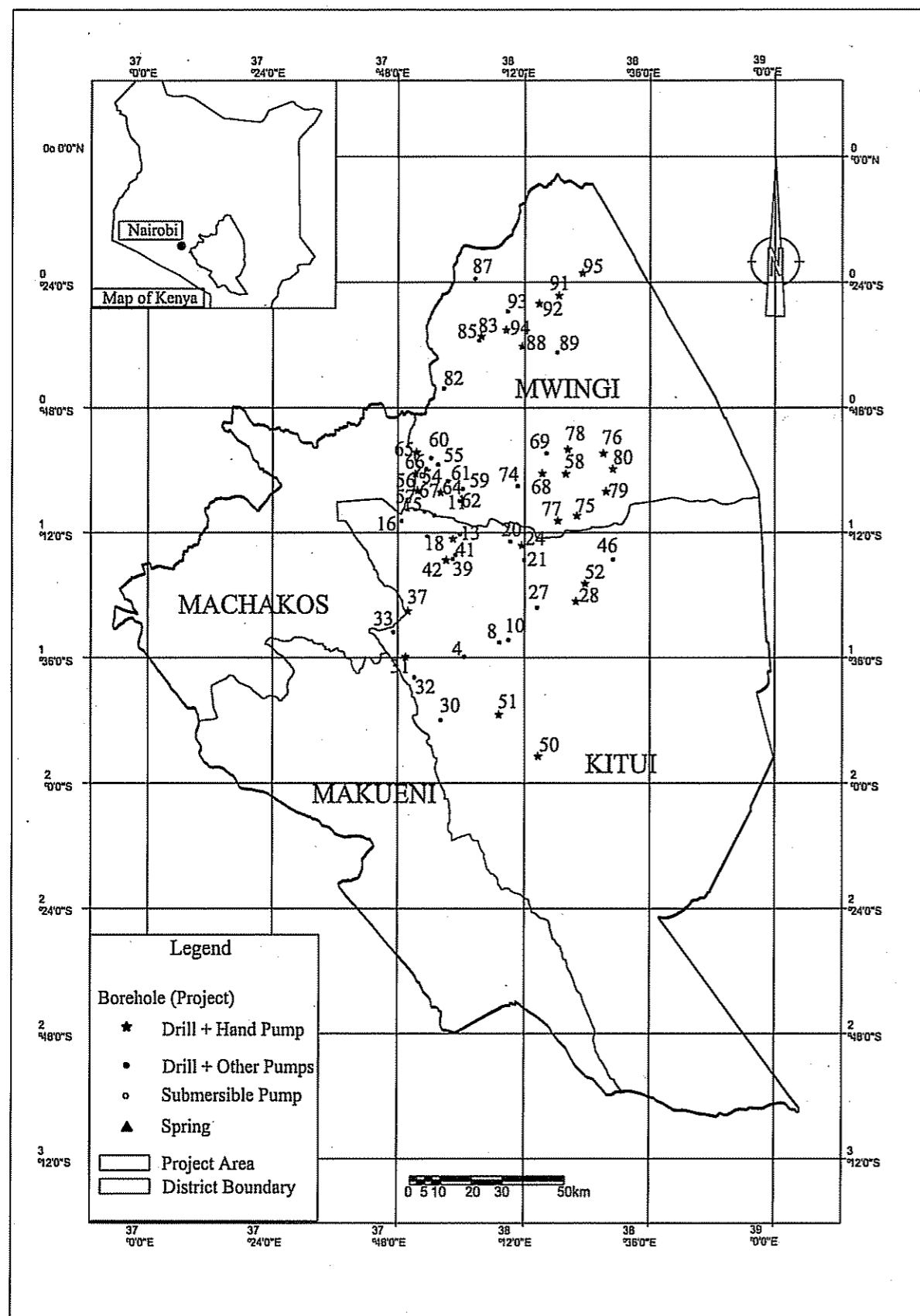


## 7.12 基本設計図面集



No.	Location No.	District	Division	Proposed Village / Community	Latitude	Longitude
1	4	Kitui	Chuluni	Nguuni	01°34'56"S	38°00'22"E
2	8			Kanzauwu	01°32'55"S	38°07'48"E
3	10		Mutonguni	Kaluva secondary school	01°33'00"S	38°09'00"E
4	11			Kyangulu	01°11'06"S	37°57'34"E
5	13			Ilako Mututa secondary school	01°12'30"S	37°58'00"E
6	15			Kakeani secondary school	01°08'56"S	37°54'36"E
7	16		Mutito	Kasakini	01°10'19"S	37°49'54"E
8	18			Kasue secondary school	01°13'08"S	37°54'19"E
9	20			St. Mary's Miambani	01°15'00"S	38°10'00"E
10	21			Kawala	01°17'00"S	38°17'25"E
11	24		Yatta	Kabati	01°18'00"S	38°12'00"E
12	27			Katikoni	01°27'00"S	38°19'00"E
13	28			Makongo	01°24'54"S	38°23'02"E
14	30			Kanyongonyo	01°47'05"S	37°55'51"E
15	31	Matinyani	Nthongoni	01°36'00"S	37°49'28"E	
16	32		Kalulini	01°38'55"S	37°50'42"E	
17	33		Muselele	01°31'34"S	37°46'45"E	
18	37		Ngava	01°29'08"S	37°47'16"E	
19	39	Ikutha	Kunikila	01°17'44"S	37°58'31"E	
20	41		Kyaani secondary school	01°17'00"S	37°58'54"E	
21	42		Kakumuti	01°17'42"S	37°57'29"E	
22	46	Mwitika	Endau secondary	01°20'09"S	38°32'03"E	
23	50		Mwala	01°53'34"S	38°14'21"E	
24	51	Mwingi	Kyatune	01°46'36"S	38°06'55"E	
25	52		Yuku	01°21'00"S	38°26'00"E	
26	54	Migwani	Yenzuva	01°59'47"S	37°54'03"E	
27	55		Winzeei	00°58'02"S	37°55'16"E	
28	56		Katuyu	01°00'46"S	37°52'00"E	
29	57		Kakuluto	01°04'00"S	37°52'21"E	
30	58		Makengekani	00°59'47"S	38°19'12"E	
31	59		Itumbi	01°02'44"S	38°00'00"E	
32	60		Kyusyanyi	00°56'46"S	37°53'57"E	
33	61		Kavaini	01°01'14"S	37°57'10"E	
34	62		Nzauni	01°07'06"S	38°00'33"E	
35	64		Kasanga	01°04'16"S	37°56'43"E	
36	65		Mavui	00°56'42"S	37°52'10"E	
37	66		Ndaluni	01°01'30"S	37°51'04"E	
38	67		Katoteni	01°05'36"S	37°53'50"E	
39	68		Mui	Itiko	00°59'24"S	38°15'17"E
40	69	Yumbu		00°55'55"S	38°16'03"E	
41	74	Nuu	Miambani	01°03'29"S	38°10'50"E	
42	75		Mutula	01°06'30"S	38°21'07"E	
43	76		Yatwa	00°55'04"S	38°26'45"E	
44	77		Nyaani	01°09'13"S	38°18'08"E	
45	78		Muangeni	00°55'07"S	38°20'13"E	
46	79		Engamba	01°06'00"S	38°28'00"E	
47	80	Mumoni	Ndunguni	01°00'21"S	38°28'44"E	
48	82		Tyaa Kamuthale	00°43'25"S	37°56'22"E	
49	83		Ndatha	00°34'24"S	38°04'43"E	
50	85		Ndathani	00°34'15"S	38°03'10"E	
51	87	Kyuso	Miramba Ikamba	00°23'26"S	38°02'16"E	
52	88		Muruu	00°36'20"S	38°12'40"E	
53	89		Kamusiliu	00°36'32"S	38°18'07"E	
54	91		Kamula	00°26'45"S	38°19'45"E	
55	92		Twimiwa	00°28'10"S	38°15'52"E	
56	93		Masevi	00°28'41"S	38°08'40"E	
57	94		Kandwira	00°33'15"S	38°09'30"E	
58	95		Kyanika	00°21'45"S	38°22'45"E	

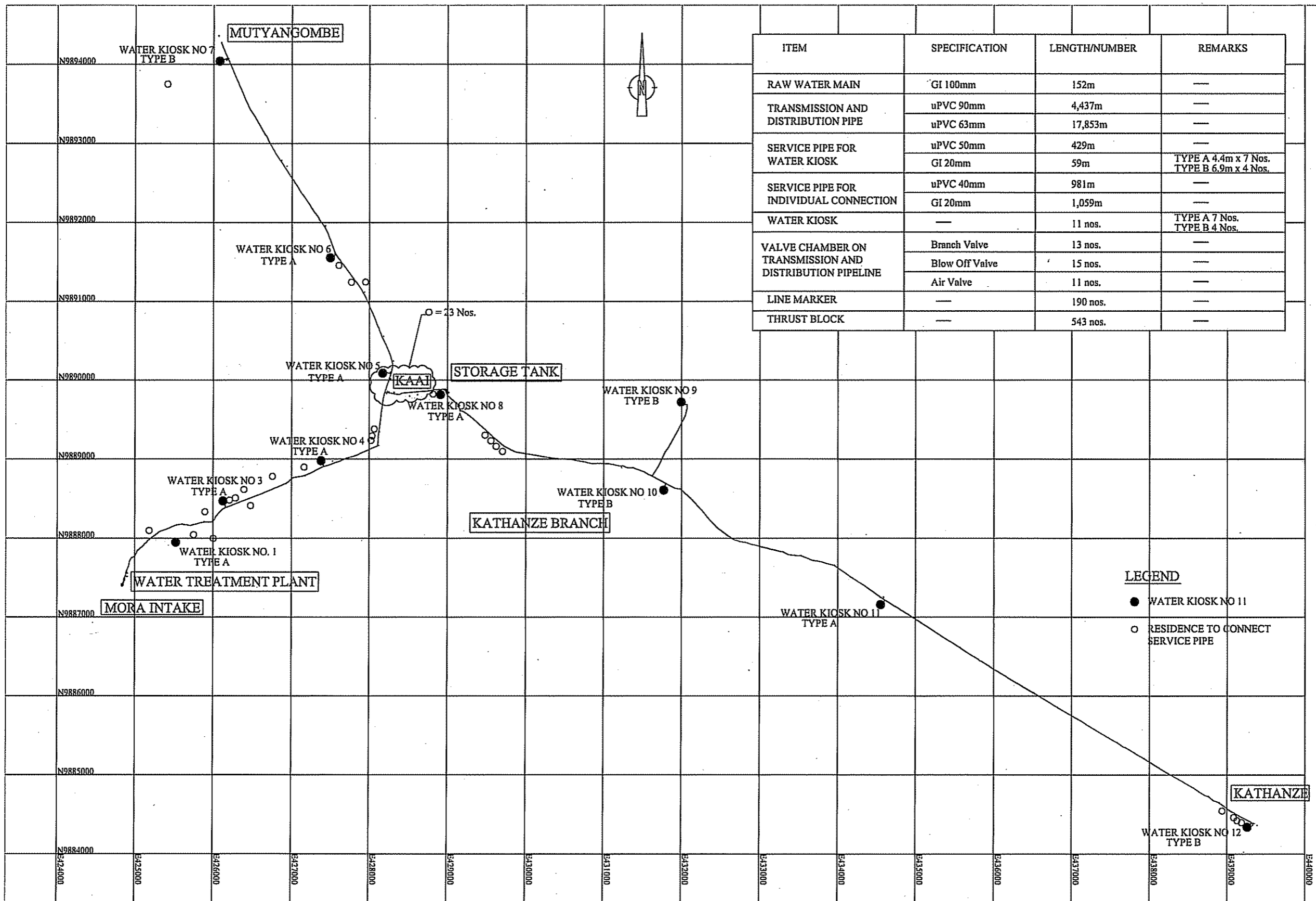
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
GENERAL  
LOCATION MAP

SCALE NONE	DATE FEB. 2006	DRAWING NO. GE-001
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ITEM	SPECIFICATION	LENGTH/NUMBER	REMARKS
RAW WATER MAIN	GI 100mm	152m	---
TRANSMISSION AND DISTRIBUTION PIPE	uPVC 90mm	4,437m	---
	uPVC 63mm	17,853m	---
SERVICE PIPE FOR WATER KIOSK	uPVC 50mm	429m	---
	GI 20mm	59m	TYPE A 4.4m x 7 Nos. TYPE B 6.9m x 4 Nos.
SERVICE PIPE FOR INDIVIDUAL CONNECTION	uPVC 40mm	981m	---
	GI 20mm	1,059m	---
WATER KIOSK	---	11 nos.	TYPE A 7 Nos. TYPE B 4 Nos.
VALVE CHAMBER ON TRANSMISSION AND DISTRIBUTION PIPELINE	Branch Valve	13 nos.	---
	Blow Off Valve	15 nos.	---
	Air Valve	11 nos.	---
LINE MARKER	---	190 nos.	---
THRUST BLOCK	---	543 nos.	---

**LEGEND**

- WATER KIOSK NO 11
- RESIDENCE TO CONNECT SERVICE PIPE

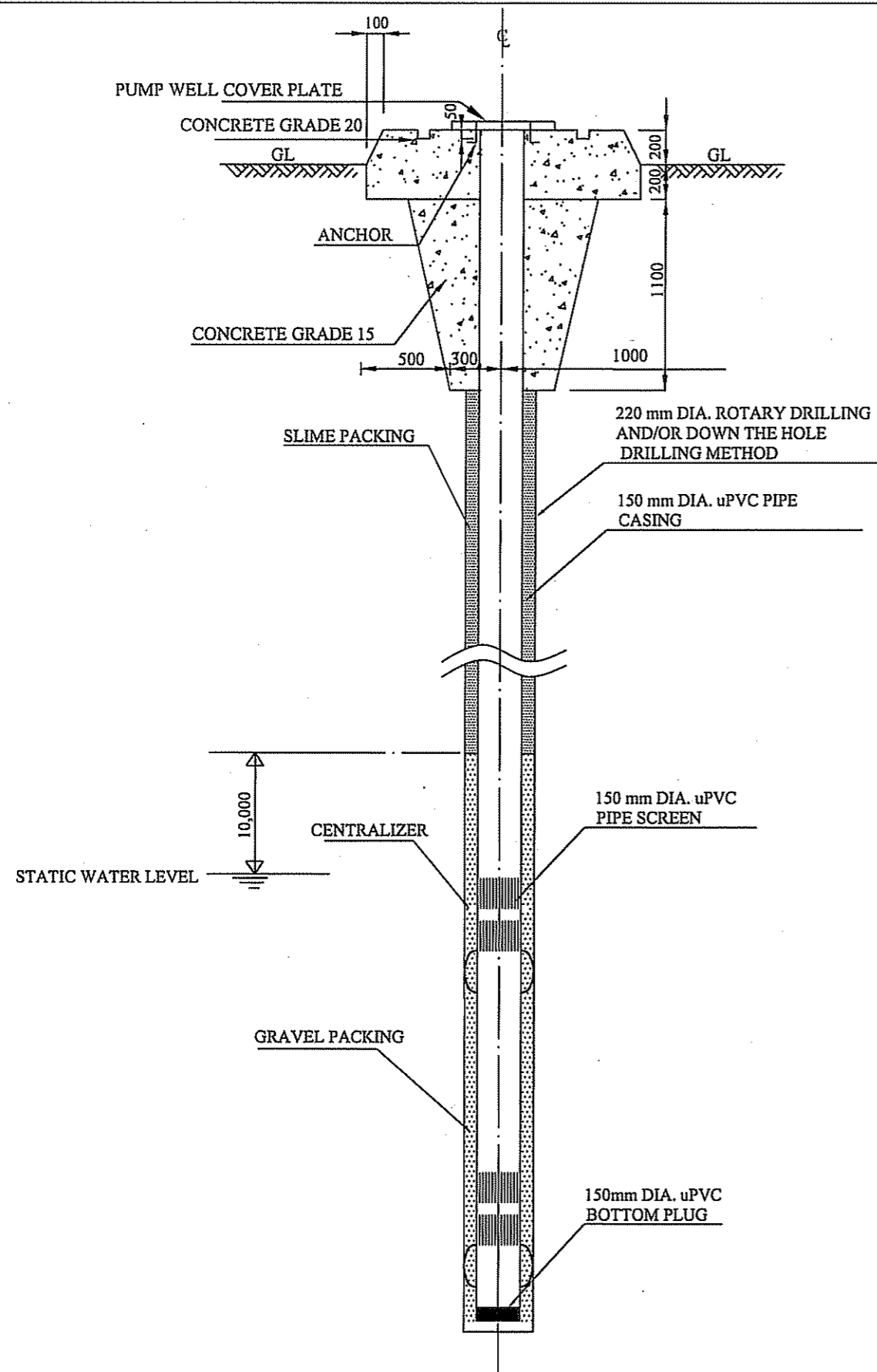
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
**GENERAL**  
PLAN OF MORA SPRING WATER SUPPLY FACILITY

SCALE	DATE	DRAWING NO.
1:5000	FEB. 2006	GE-002




STANDARD FIGURE OF BOREHOLE STRUCTURE

No	District	Division	Location No.	Proposed Village / Community	Well depth (m)	Water Supply Facilities		
1	Kitui	Chuluni	4	Nguuni	70	Submersible Pump		
2			8	Konzauwu	49	Submersible Pump		
3			10	Kaluva secondary school	154	Submersible Pump		
4		Mutonguni	11	Kyangulu	182	Submersible Pump		
5			13	Ilako Mututa secondary school	52	Handpump		
6			15	Kakeeni secondary school	112	Submersible Pump		
7			16	Kasakini	49	Submersible Pump		
8			18	Kasue secondary school	63	Submersible Pump		
9			Mutito	20	St. Mary's Miambani	35	Submersible Pump	
10		21		Kawala	182	Submersible Pump		
11		24		Kabati	71	Handpump		
12		27		Katikoni	182	Submersible Pump		
13		28		Makongo	39	Handpump		
14		Yatta		30	Kanyongonyo	175	Submersible Pump	
15			31	Nihongoni	182	Handpump with Iron Filter		
16			32	Kalulini	77	Submersible Pump		
17			33	Muselele	182	Submersible Pump		
18			37	Ngava	45	Handpump		
19			Matinyani	39	Kunikila	154	Submersible Pump	
20		41		Kyanni secondary school	112	Submersible Pump		
21		42		Kakumuti	168	Handpump		
22		46		Endau secondary	70	Submersible Pump		
23		Ikutha		50	Mwala	45	Handpump	
24			51	Kyatune	155	Handpump		
25		Mwitika	52	Yuku	168	Handpump		
26		Mwingi	Migwani	54	Yenzuva	90	Submersible Pump	
27				55	Winzezi	145	Submersible Pump	
28				56	Katuyu	145	Handpump with Iron Filter	
29				57	Kakululo	100	Handpump with Iron Filter	
30				58	Makengekani	40	Handpump	
31	59			Itumbi	123	Submersible Pump		
32	60			Kyusyani	188	Submersible Pump		
33	61			Kavani	80	Submersible Pump		
34	62			Nzauni	72	Submersible Pump		
35	64			Kasanga	133	Handpump		
36	65			Mavui	146	Handpump		
37	66			Ndaluni	51	Submersible Pump		
38	67			Katoten	80	Submersible Pump		
39	Mui			68	Itiko	173	Handpump	
40				69	Yumbu	94	Submersible Pump	
41				74	Miambani	130	Submersible Pump	
42	Nuu			75	Mutula	133	Handpump	
43				76	Yatwa	146	Handpump	
44				77	Nyaani	113	Handpump	
45				78	Muogeni	120	Handpump	
46				79	Engamba	120	Handpump	
47				80	Ndunguni	93	Handpump	
48				Mumoni	82	Tyaa Kamuthale	65	Submersible Pump
49					83	Ndathu	53	Handpump
50	85				Ndatheni	109	Submersible Pump	
51	Kyuso	87	Miramba Ikamba	188	Submersible Pump			
52		88	Muruu	146	Handpump			
53		89	Kamusiliu	101	Submersible Pump			
54		91	Kamula	107	Handpump			
55		92	Tumiyva	47	Handpump			
56		93	Mosevi	145	Submersible Pump			
57		94	Kandwia	93	Handpump			
58		95	Kyanika	53	Handpump			

Note: Well depth in the above table except Serial No. 54 is estimated depth.  
Location of the Iron filter shall be changed based on the Chemical Analysis

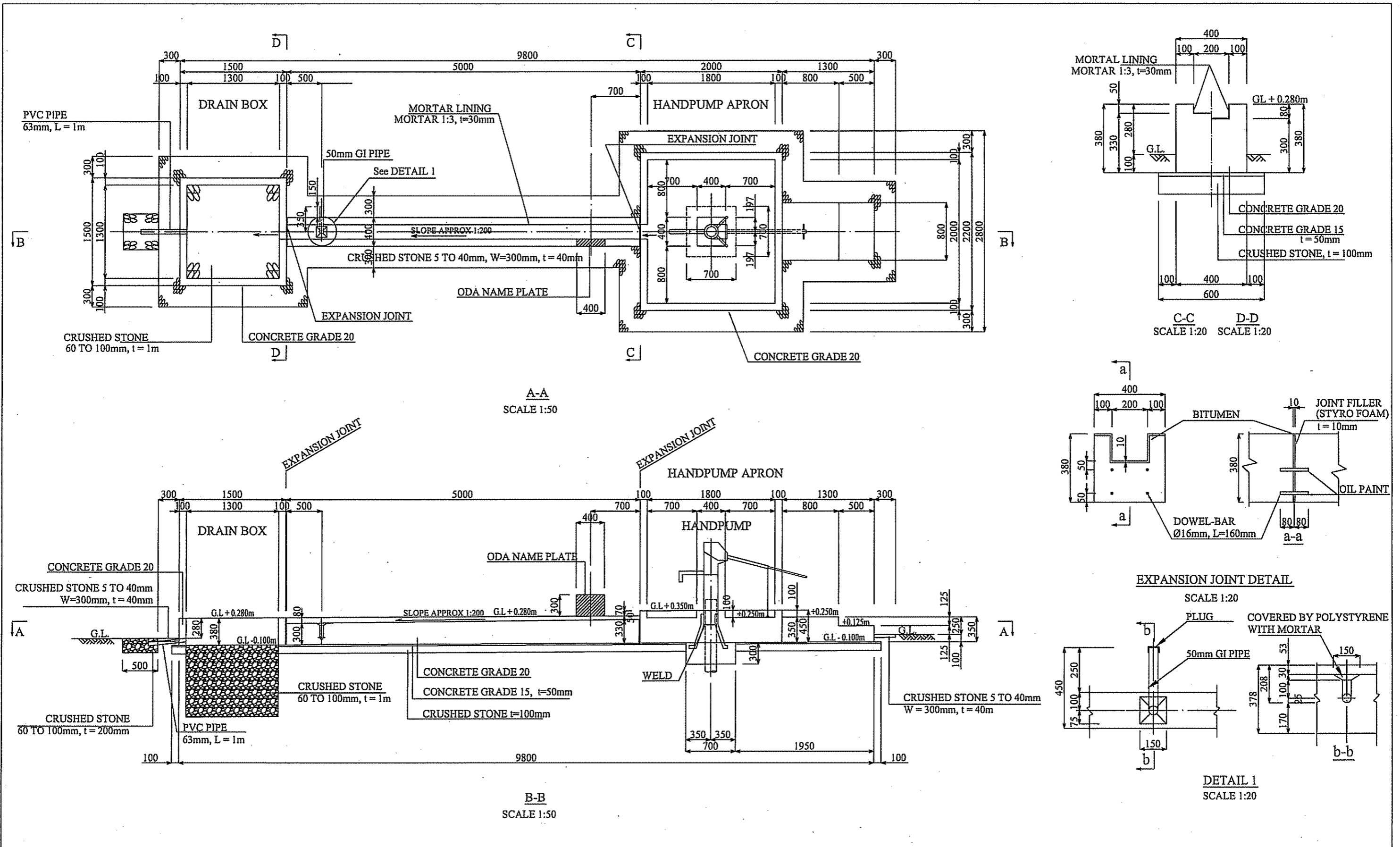
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THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
GENERAL  
DETAILS OF BOREHOLE STRUCTURE

SCALE NONE	DATE FEB. 2006	DRAWING NO. BW-001
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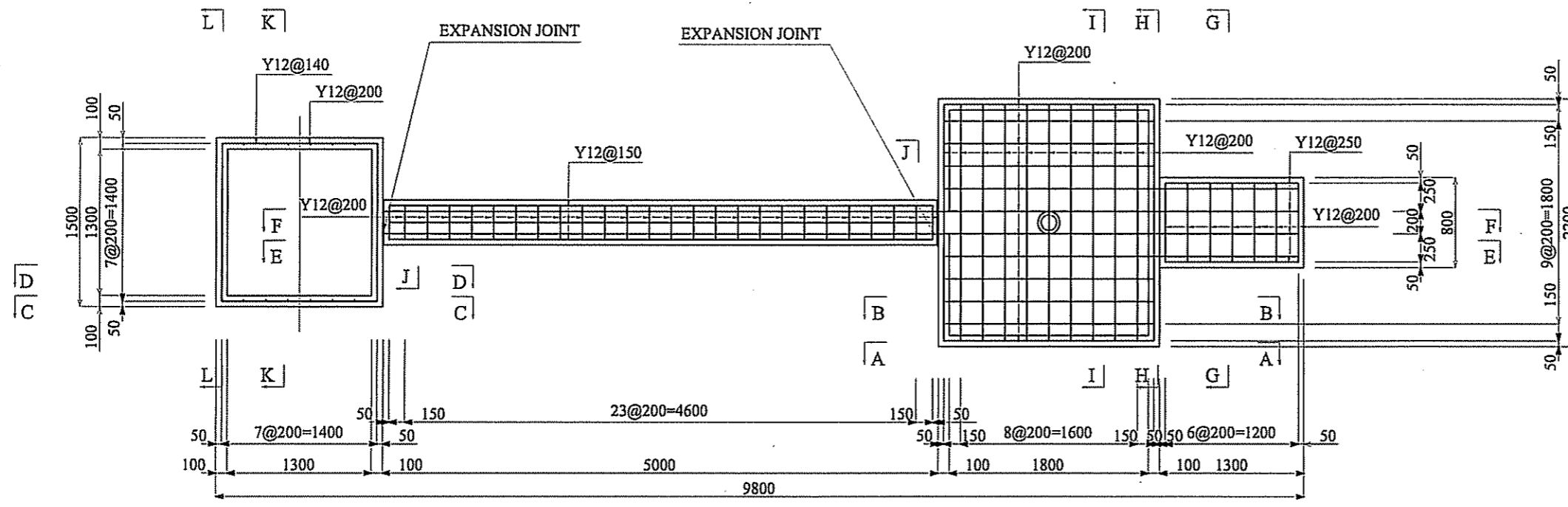
OWNER:  
**THE MINISTRY OF WATER AND IRRIGATION**  
**THE REPUBLIC OF KENYA**

PROJECT NAME:  
**THE PROJECT FOR**  
**RURAL WATER SUPPLY**

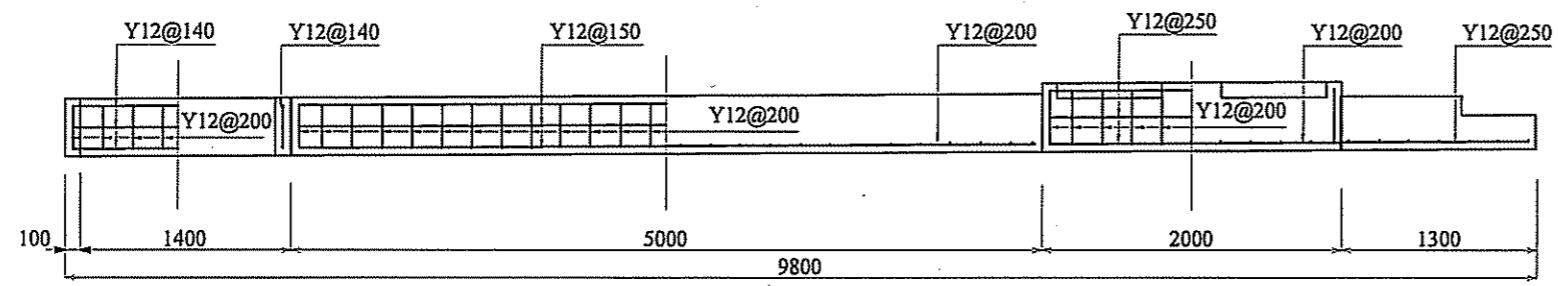
CONSULTING ENGINEERS:  
 **NIPPON KOEI CO., LTD.**

TITLE:  
**CONSTRUCTION OF BOREHOLE WATER SUPPLY FACILITIES**  
**HAND PUMP**

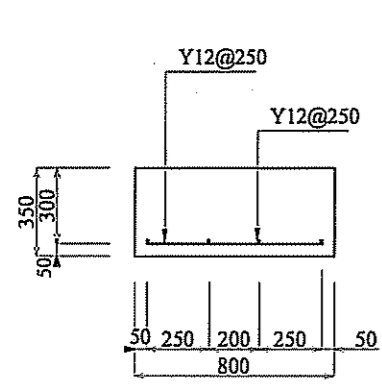
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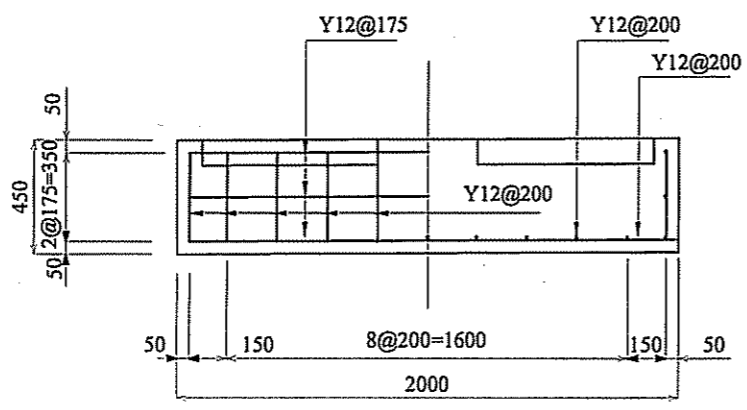
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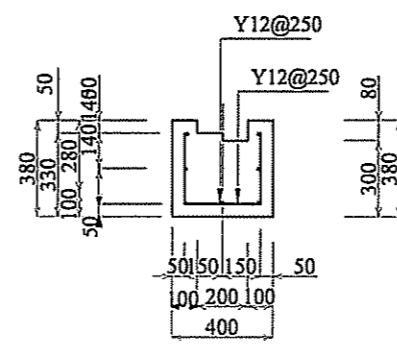
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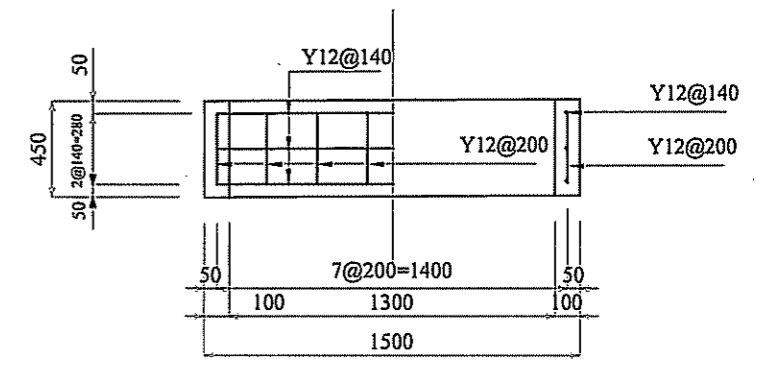
G-G SCALE 1:30



H-H SCALE 1:30      I-I SCALE 1:30



J-J SCALE 1:30



L-L SCALE 1:30      K-K SCALE 1:30

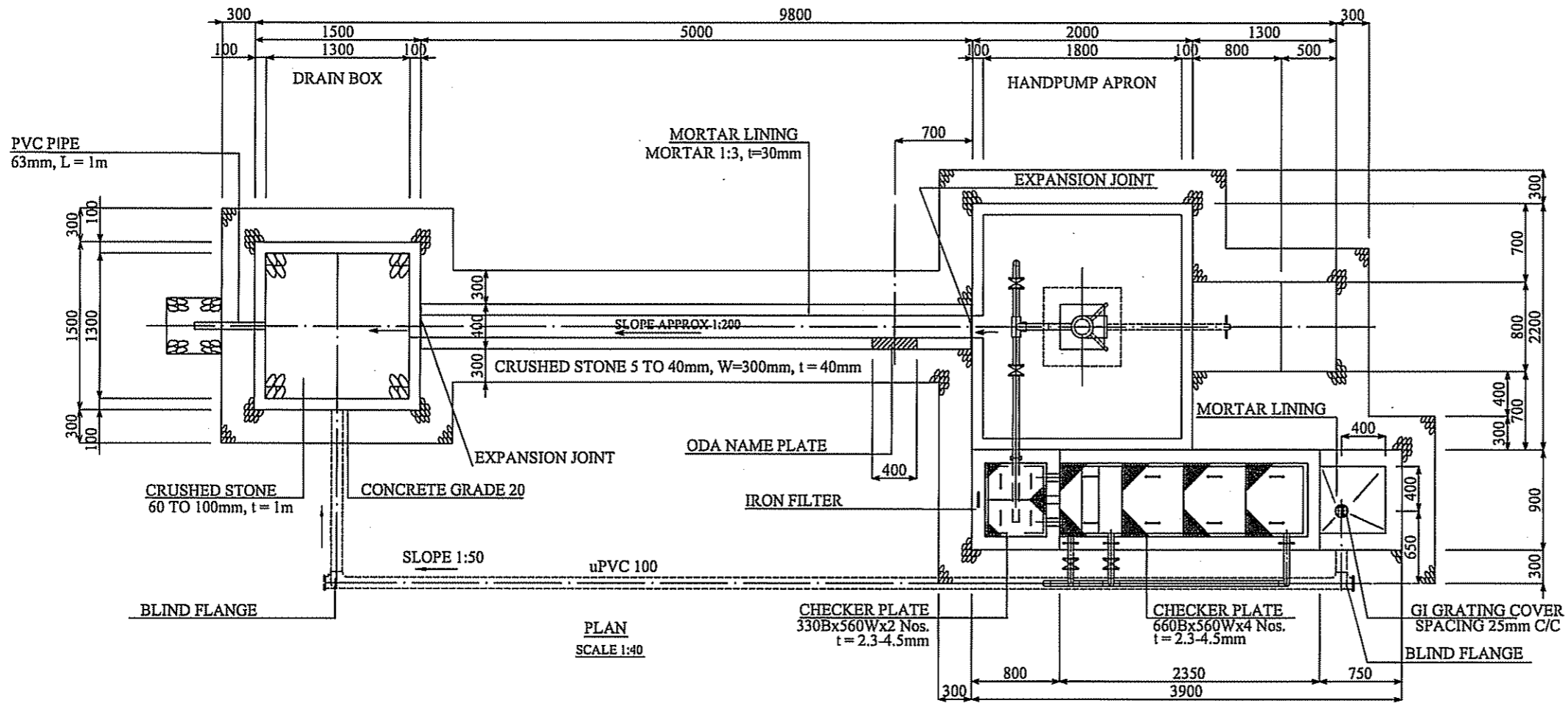
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

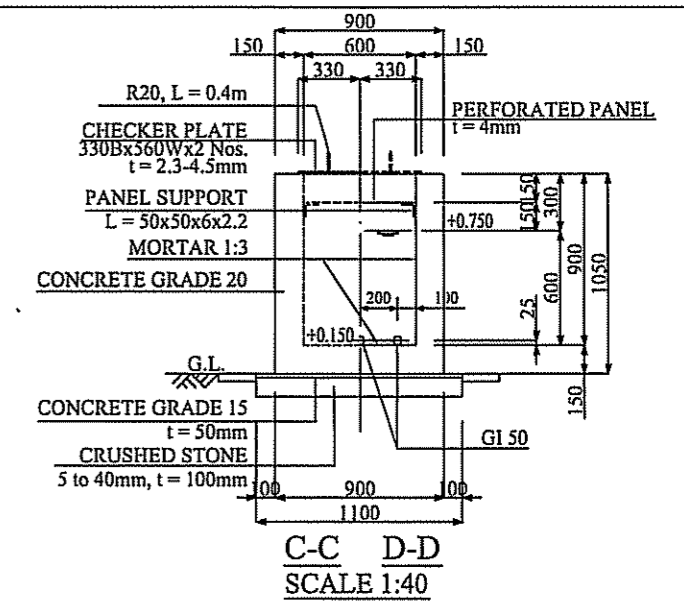
CONSULTING ENGINEERS:  
 **NIPPON KOEI CO., LTD.**

TITLE:  
**CONSTRUCTION OF BOREHOLE WATER SUPPLY FACILITIES  
REINFORCEMENT BAR ARRANGEMENT OF HAND PUMP**

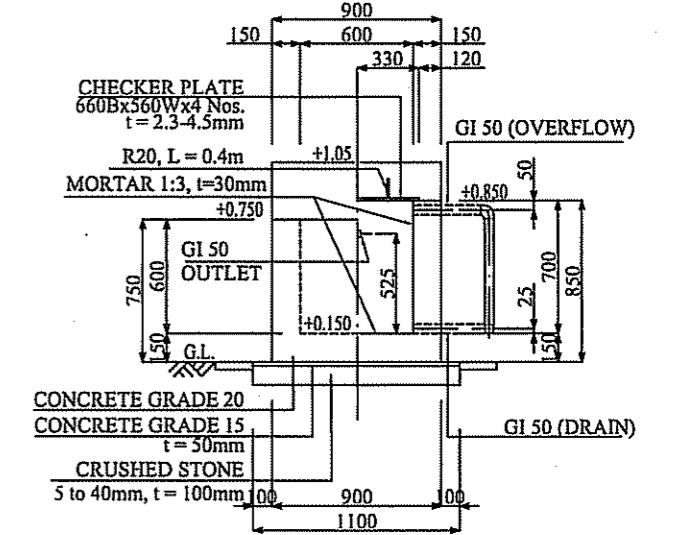
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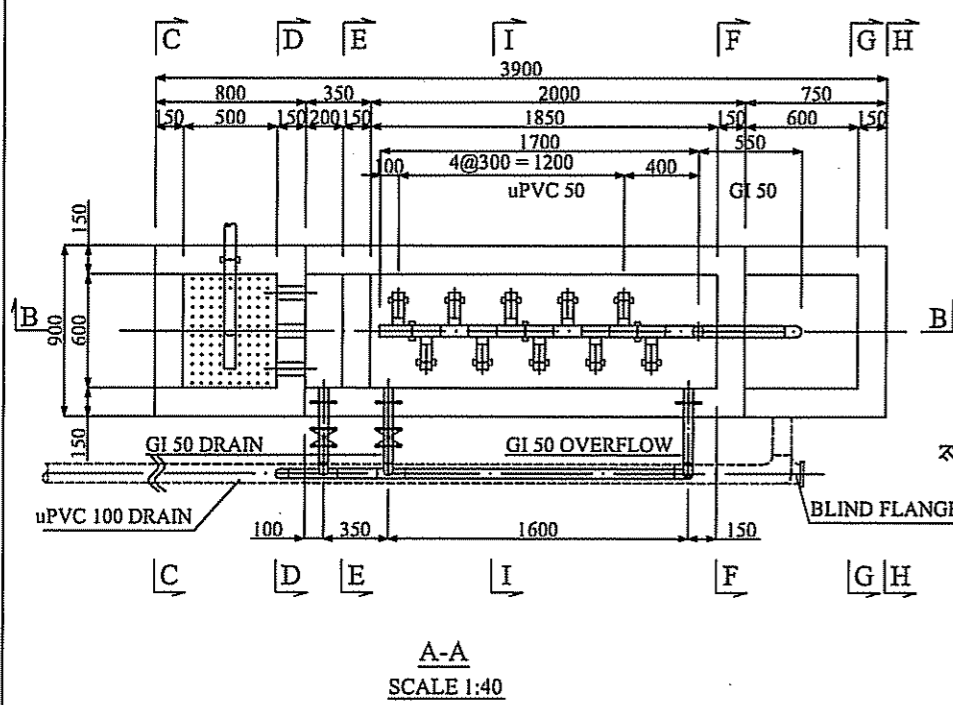
PLAN  
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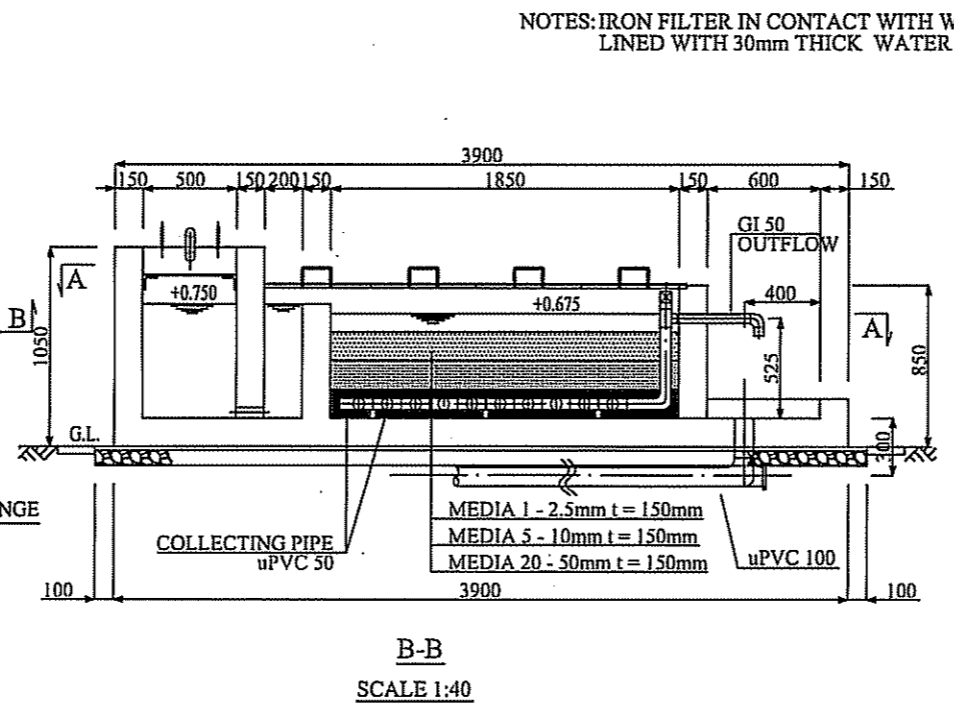
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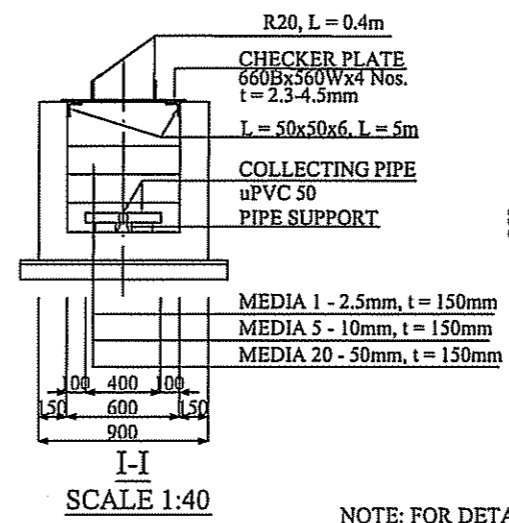
E-E F-F  
SCALE 1:40



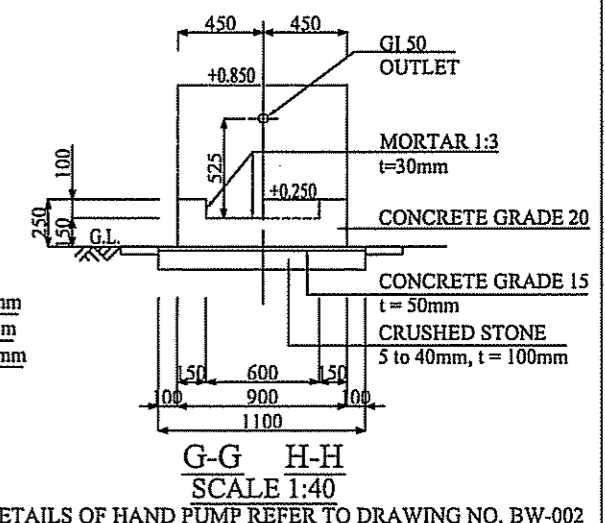
A-A  
SCALE 1:40



B-B  
SCALE 1:40



I-I  
SCALE 1:40




G-G H-H  
SCALE 1:40

NOTES: IRON FILTER IN CONTACT WITH WATER SHALL BE LINED WITH 30mm THICK WATER PROOFING MORTAR

NOTE: FOR DETAILS OF HAND PUMP REFER TO DRAWING NO. BW-002  
ALL IRON MATERIAL SHALL BE GALVANIZED

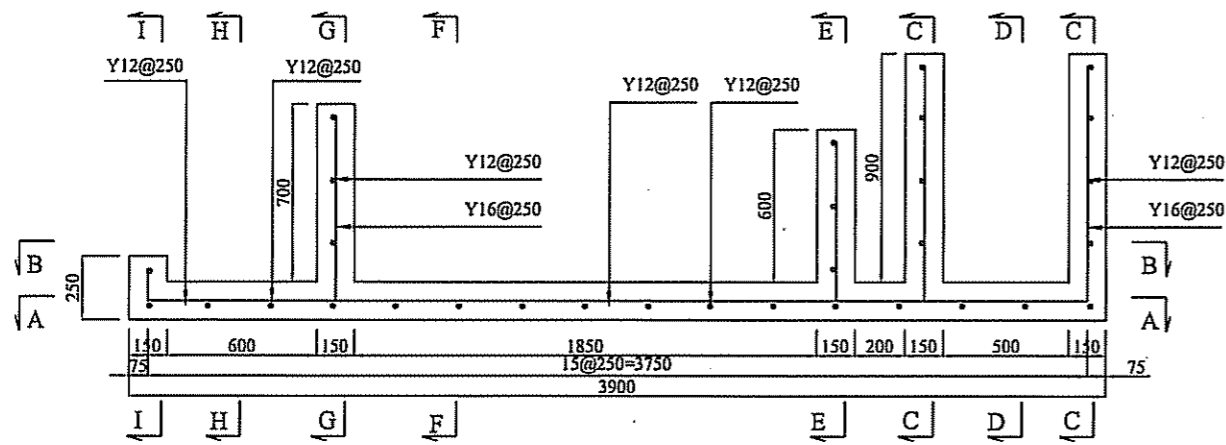
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

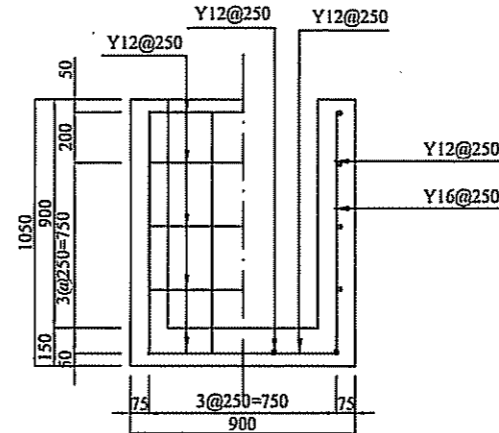
CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
CONSTRUCTION OF BOREHOLE WATER SUPPLY FACILITIES  
HAND PUMP WITH IRON FILTER

SCALE 1:50 1:40	DATE FEB.2006	DRAWING NO. BW-004
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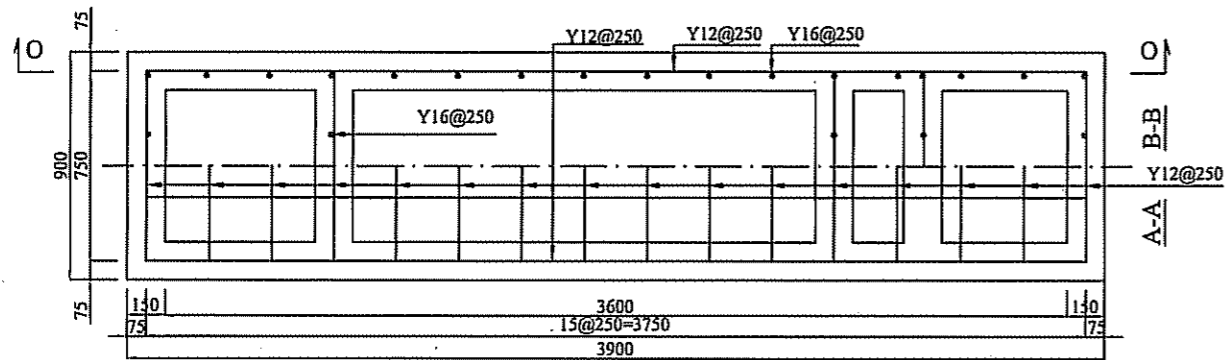


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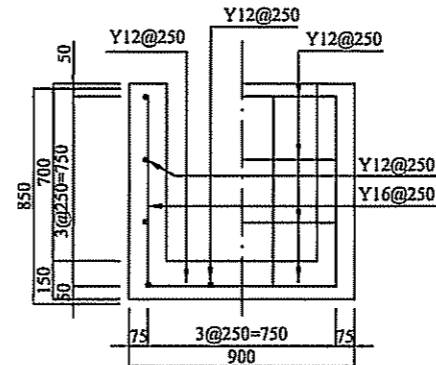


C-C D-D

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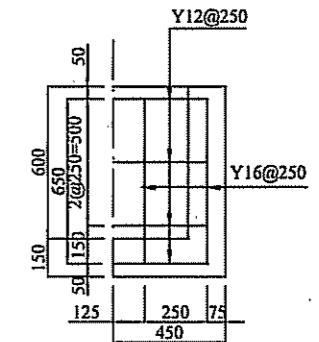


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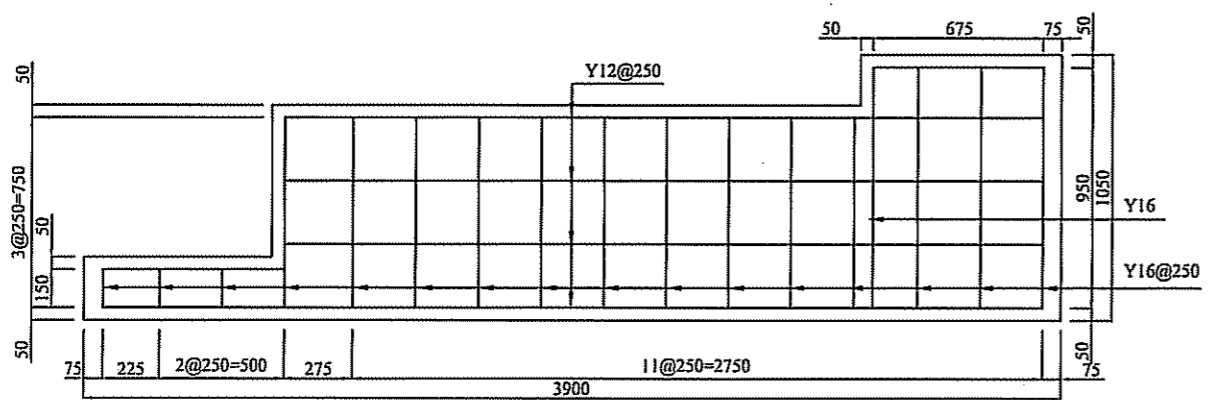
F-F G-G

SCALE 1:30



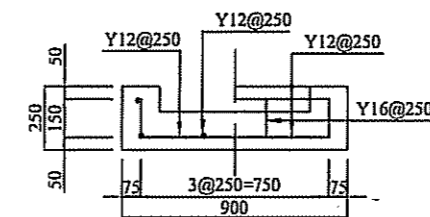
E-E

SCALE 1:30



SECTION O-O

SCALE 1:30



H-H I-I

SCALE 1:30

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

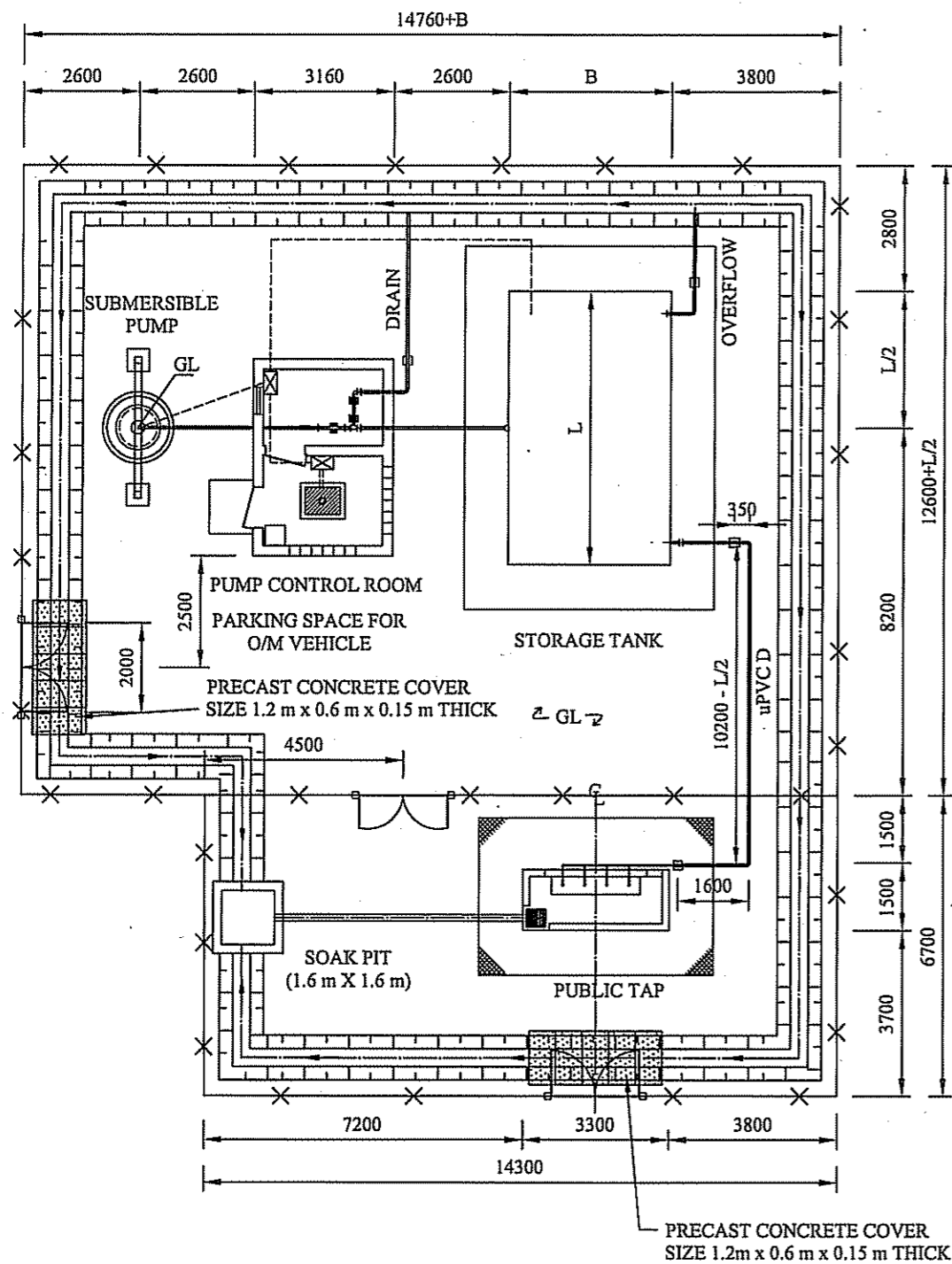
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THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

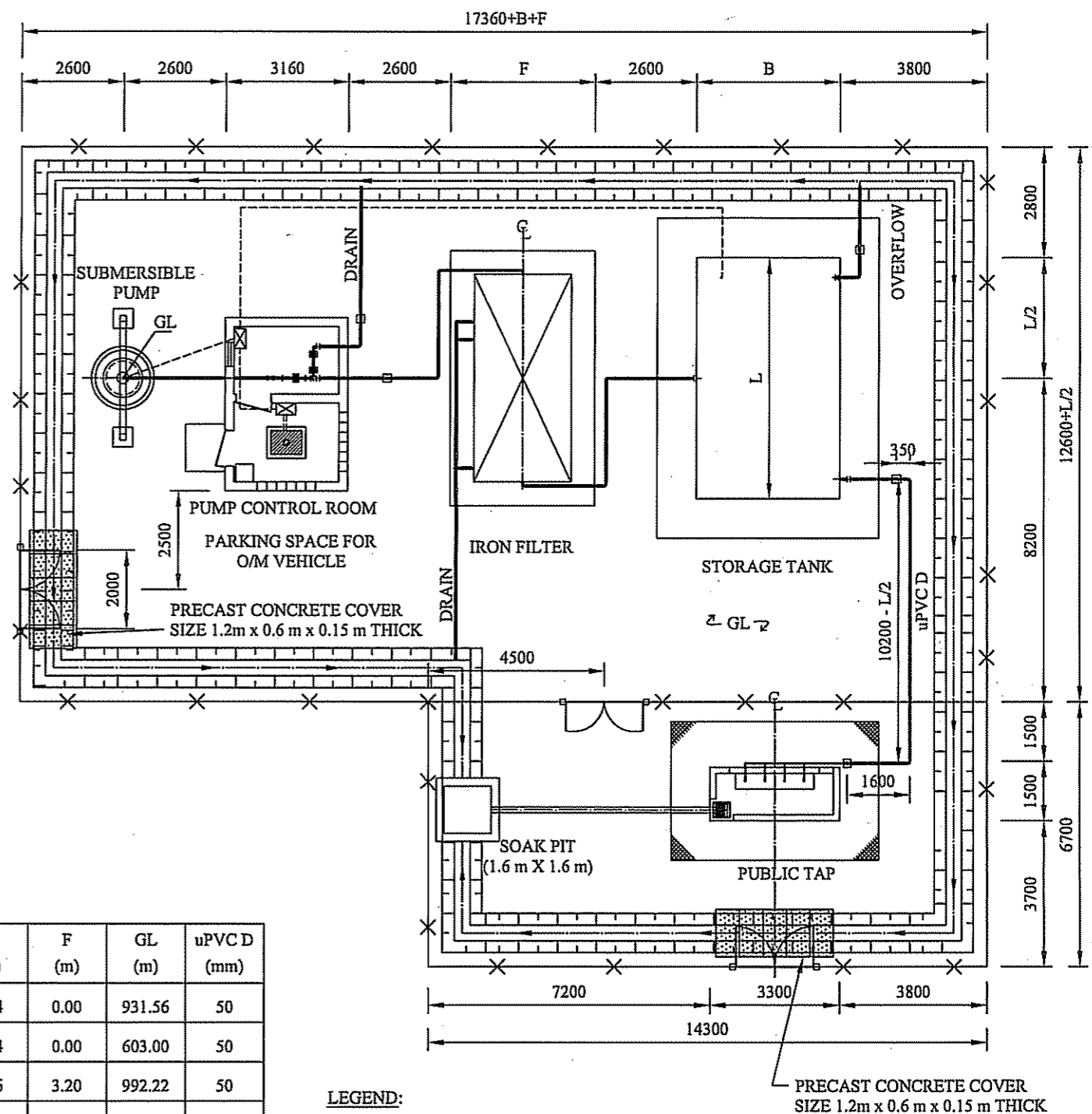
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CONSTRUCTION OF BOREHOLE SUPPLY FACILITIES  
REINFORCEMENT BAR ARRANGEMENT OF IRON FILTER

SCALE	DATE	DRAWING NO.
1:30	FEB.2006	BW-005





Without Iron Filter



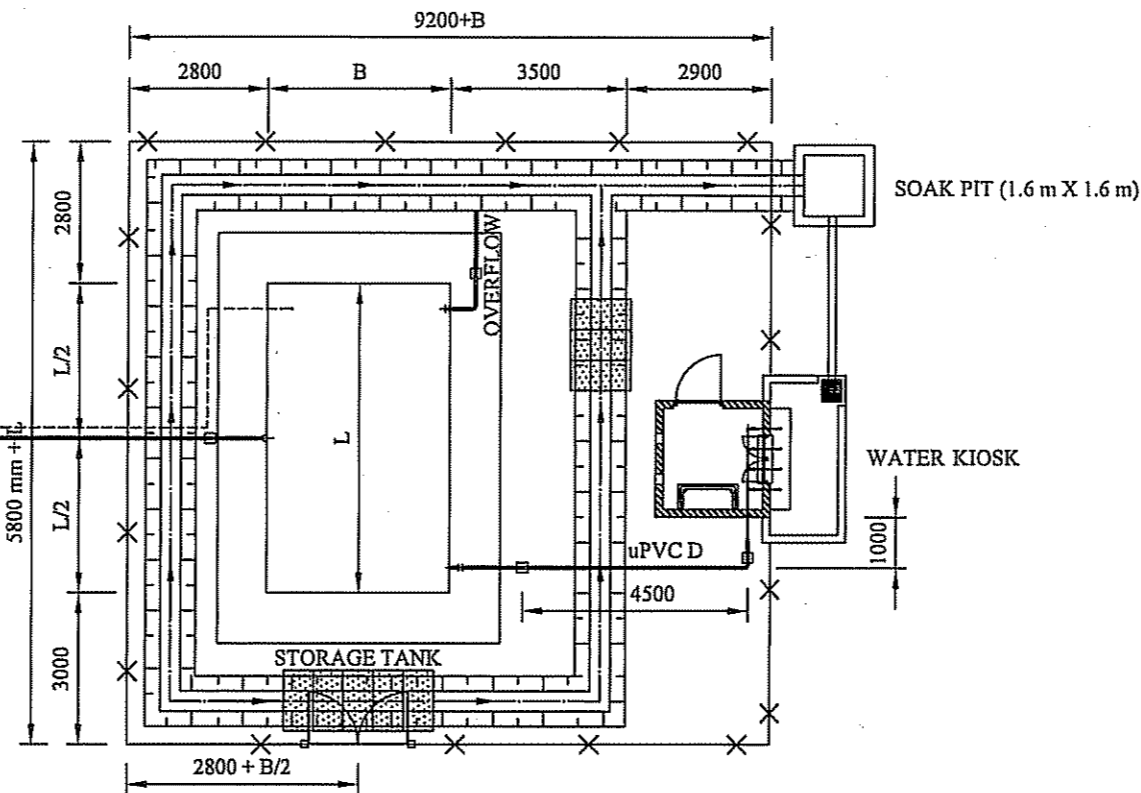
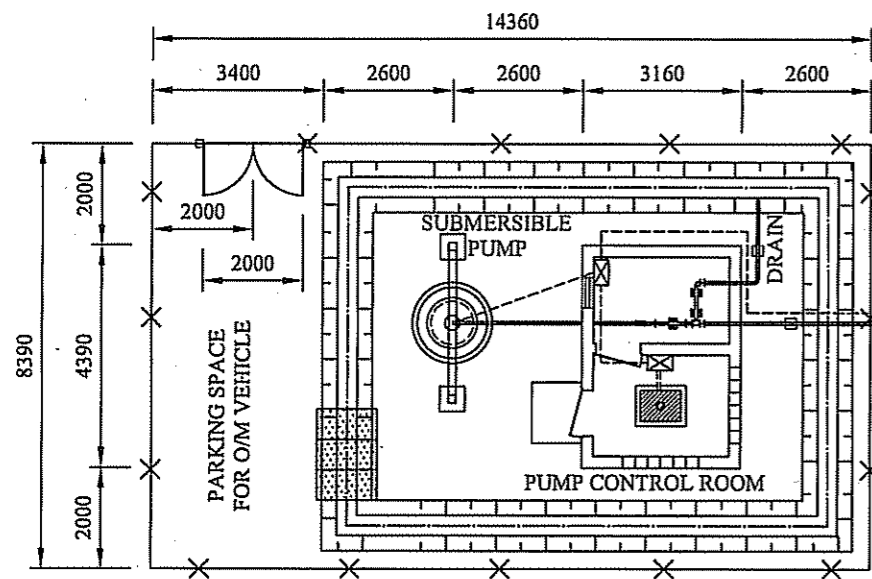
With Iron Filter

LOCATION No.	L (m)	B (m)	F (m)	GL (m)	uPVC D (mm)
8	4.88	2.44	0.00	931.56	50
21	4.88	2.44	0.00	603.00	50
60	6.10	3.66	3.20	992.22	50
61	4.88	2.44	-2.90	1099.86	50
66	4.88	2.44	2.90	987.82	50
85	6.10	3.66	0.00	865.85	50

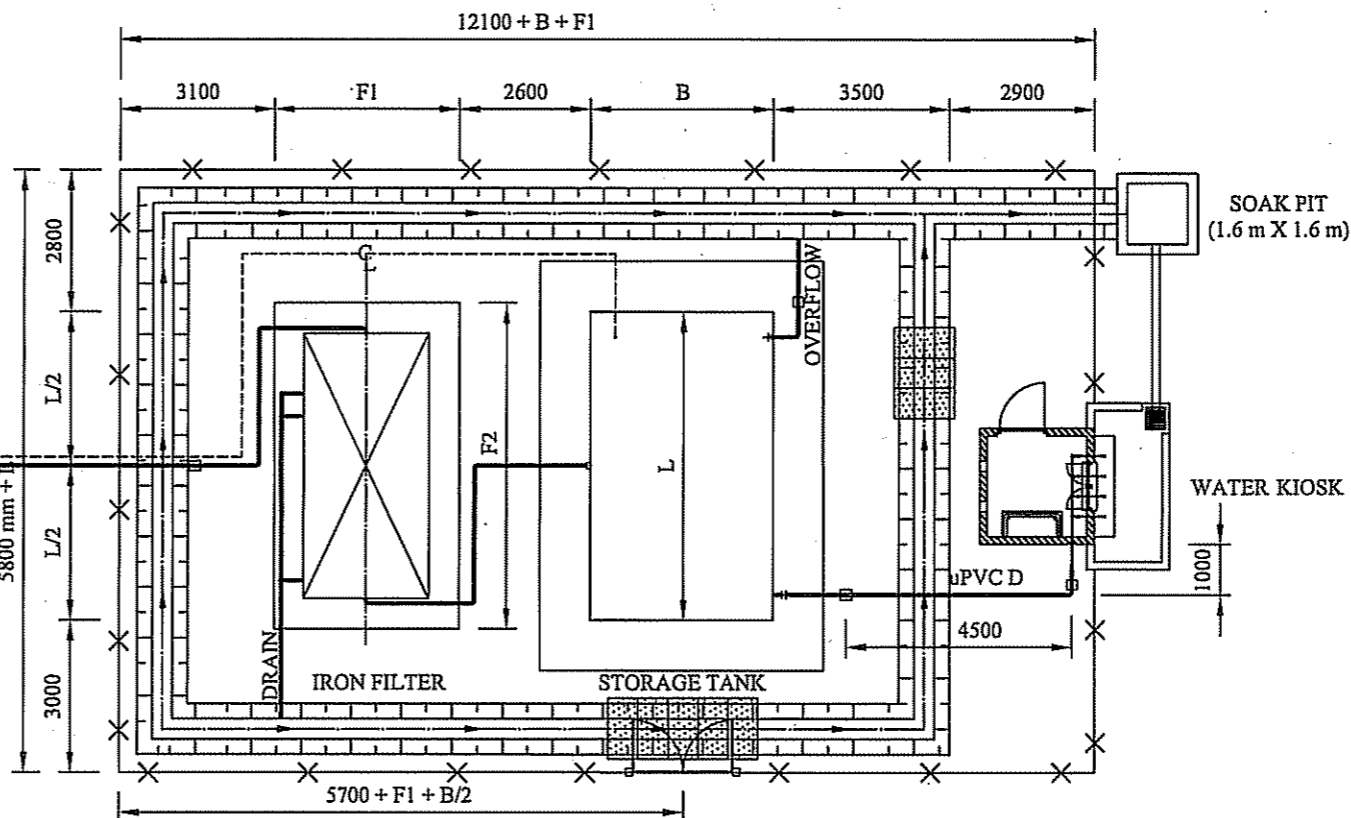
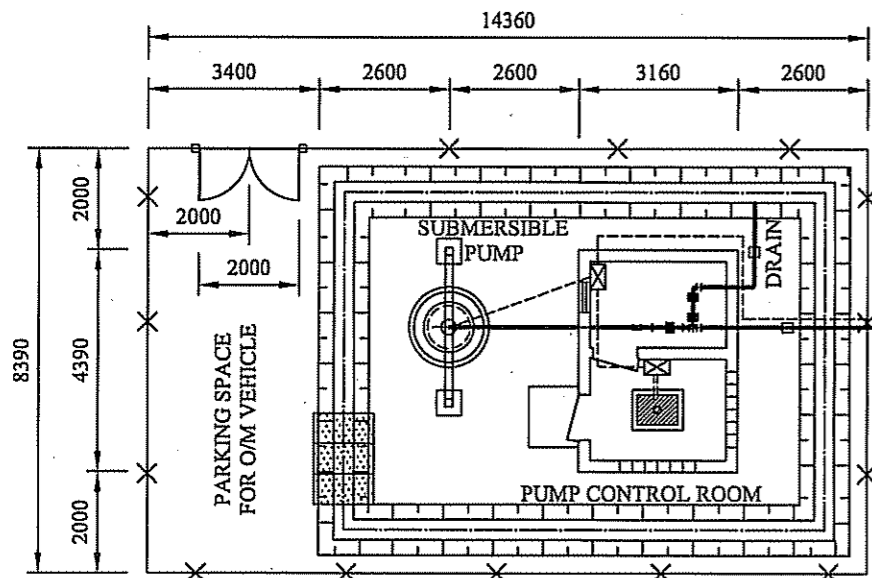
- LEGEND:**
- : PRECAST CONCRETE COVER
  - : GATE
  - : CHAIN-LINK FENCE
  - : CUT SLOPE (GRADIENT 1:0.5)
  - : WATER SUPPLY PIPE
  - : CABLE

- NOTES:**
- FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  - CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.

OWNER: <b>THE MINISTRY OF WATER AND IRRIGATION THE REPUBLIC OF KENYA</b>	PROJECT NAME: <b>THE PROJECT FOR RURAL WATER SUPPLY</b>	CONSULTING ENGINEERS: <b>NIPPON KOEI CO., LTD.</b>	TITLE: <b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b>		
			LAYOUT PLAN OF TYPE A		
SCALE: <b>1:150</b>	DATE: <b>FEB. 2006</b>	DRAWING NO.: <b>SP-001</b>			



Without Iron Filter



With Iron Filter

LOCATION No.	L (m)	B (m)	F1 (m)	F2 (m)	uPVC D (mm)
16	6.10	3.66	0.00	0.00	75
20	6.10	3.66	0.00	0.00	50
27	6.10	3.66	0.00	0.00	50
30	6.10	3.66	0.00	0.00	75
32	6.10	3.66	3.70	6.45	50
46	4.88	2.44	0.00	0.00	50
67	6.10	3.66	3.70	6.45	50
74	6.10	3.66	0.00	0.00	50
87	3.66	3.66	0.00	0.00	40

NOTES:

- FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
- CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.

LEGEND:

- : PRECAST CONCRETE COVER
- : GATE
- : CHAIN-LINK FENCE
- : CUT SLOPE (GRADIENT 1:0.5)
- : WATER SUPPLY PIPE
- : CABLE

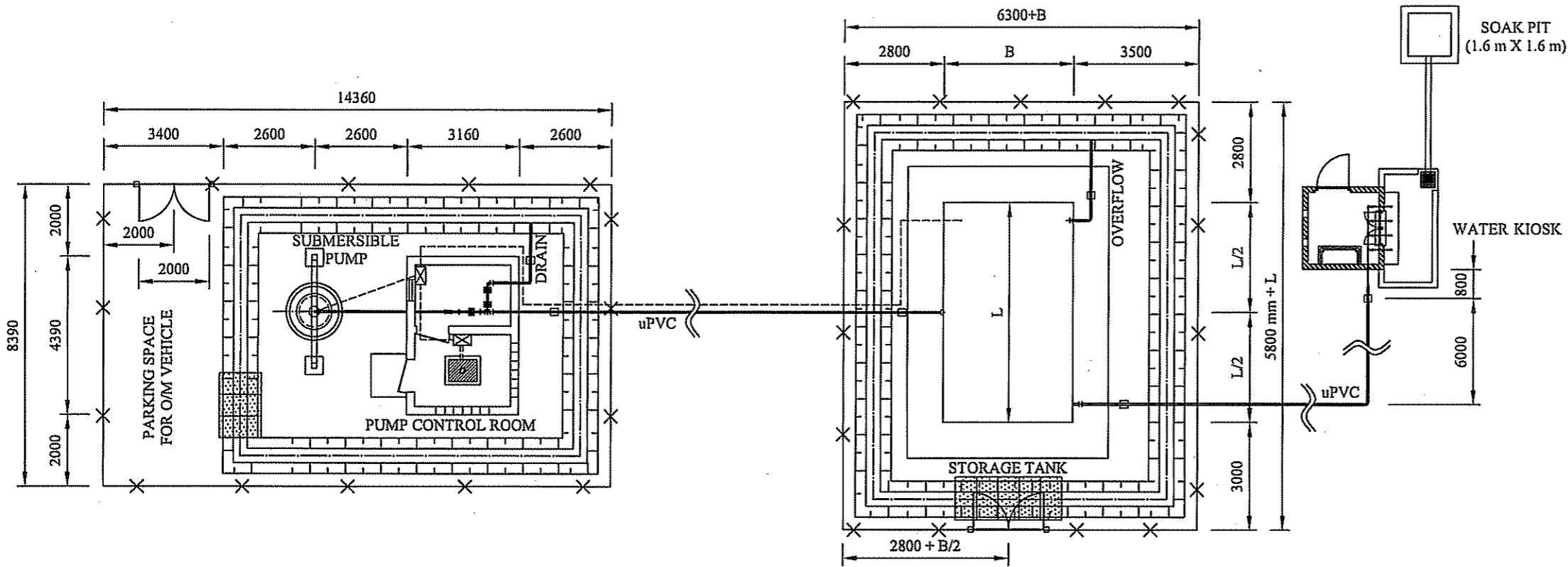
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

TITLE:  
CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP  
LAYOUT PLAN OF TYPE B

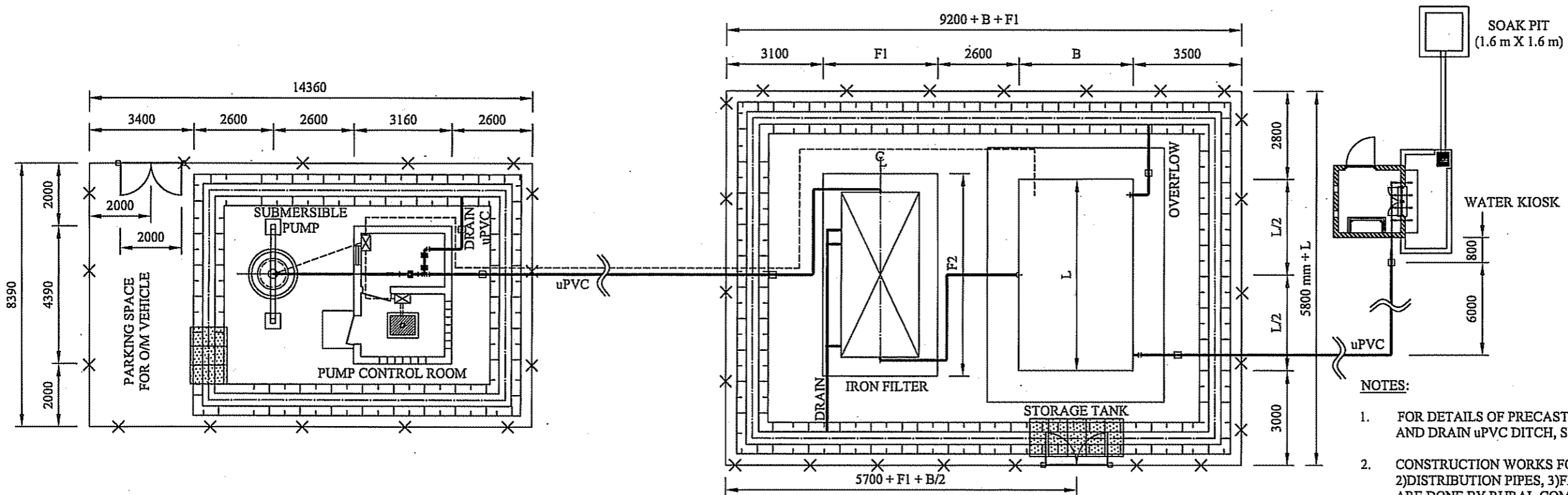
SCALE 1:150	DATE FEB. 2006	DRAWING NO. SP-002
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LOCATION No.	L (m)	B (m)	F1 (m)	F2 (m)
59	4.88	2.44	2.90	5.75
82	3.66	3.66	0.00	0.00
89	3.66	3.66	0.00	0.00
93	3.66	3.66	0.00	0.00

- LEGEND:**
- : PRECAST CONCRETE COVER
  - : GATE
  - : CHAIN-LINK FENCE
  - : CUT SLOPE (GRADIENT 1:0.5)
  - : WATER SUPPLY PIPE
  - : CABLE

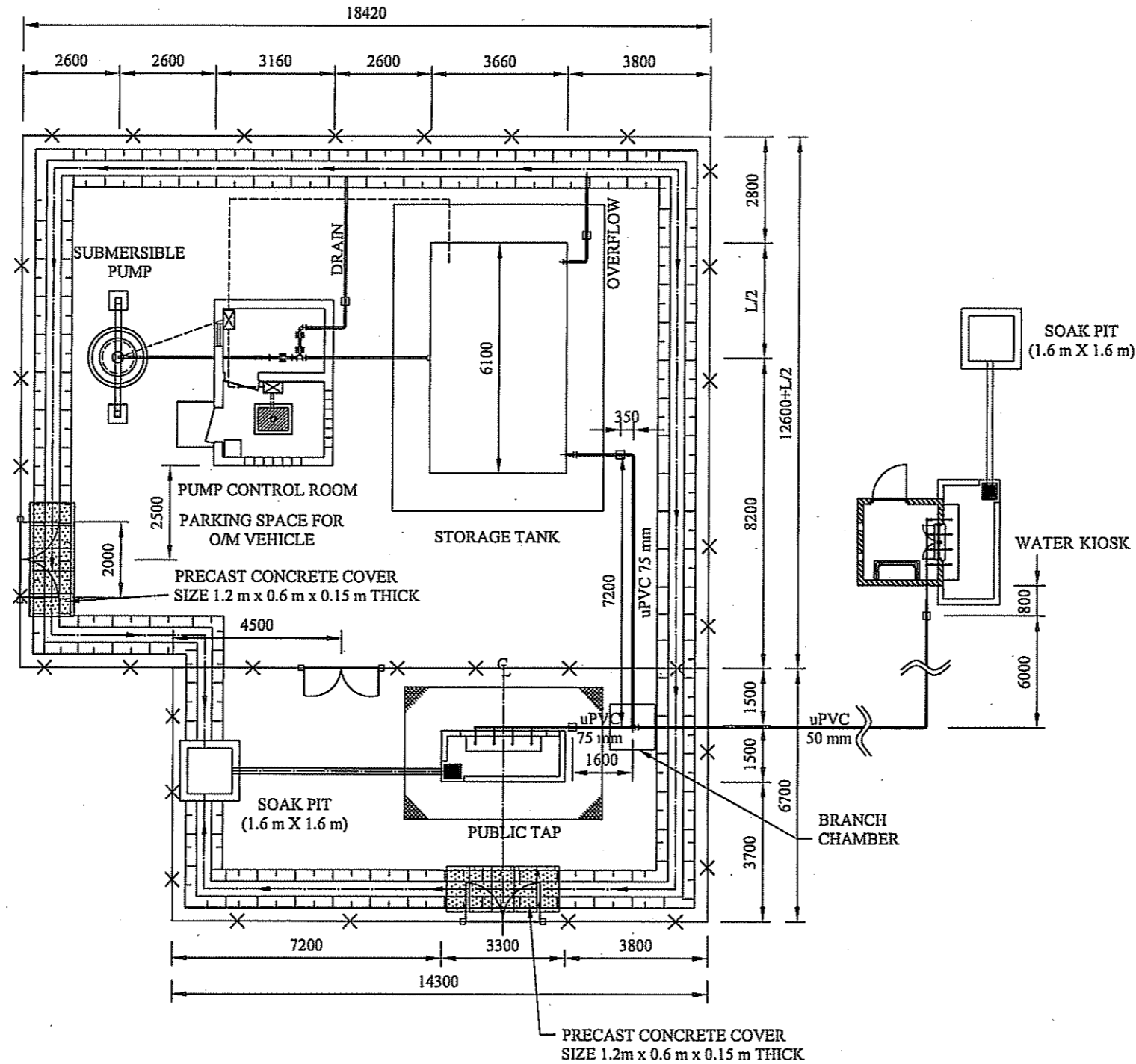
Without Iron Filter









- NOTES:**
- FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  - CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.

With Iron Filter

OWNER: <b>THE MINISTRY OF WATER AND IRRIGATION THE REPUBLIC OF KENYA</b>	PROJECT NAME: <b>THE PROJECT FOR RURAL WATER SUPPLY</b>	CONSULTING ENGINEERS: <b>NIPPON KOEI CO., LTD.</b>	TITLE: <b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b>		
			LAYOUT PLAN OF TYPE D		
SCALE: <b>1:150</b>	DATE: <b>FEB. 2006</b>	DRAWING NO.: <b>SP-003</b>			




- LEGEND:**
-  : PRECAST CONCRETE COVER
  -  : GATE
  -  : CHAIN-LINK FENCE
  -  : CUT SLOPE (GRADIENT 1:0.5)
  -  : WATER SUPPLY PIPE
  -  : CABLE

- NOTES:**
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.

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







PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

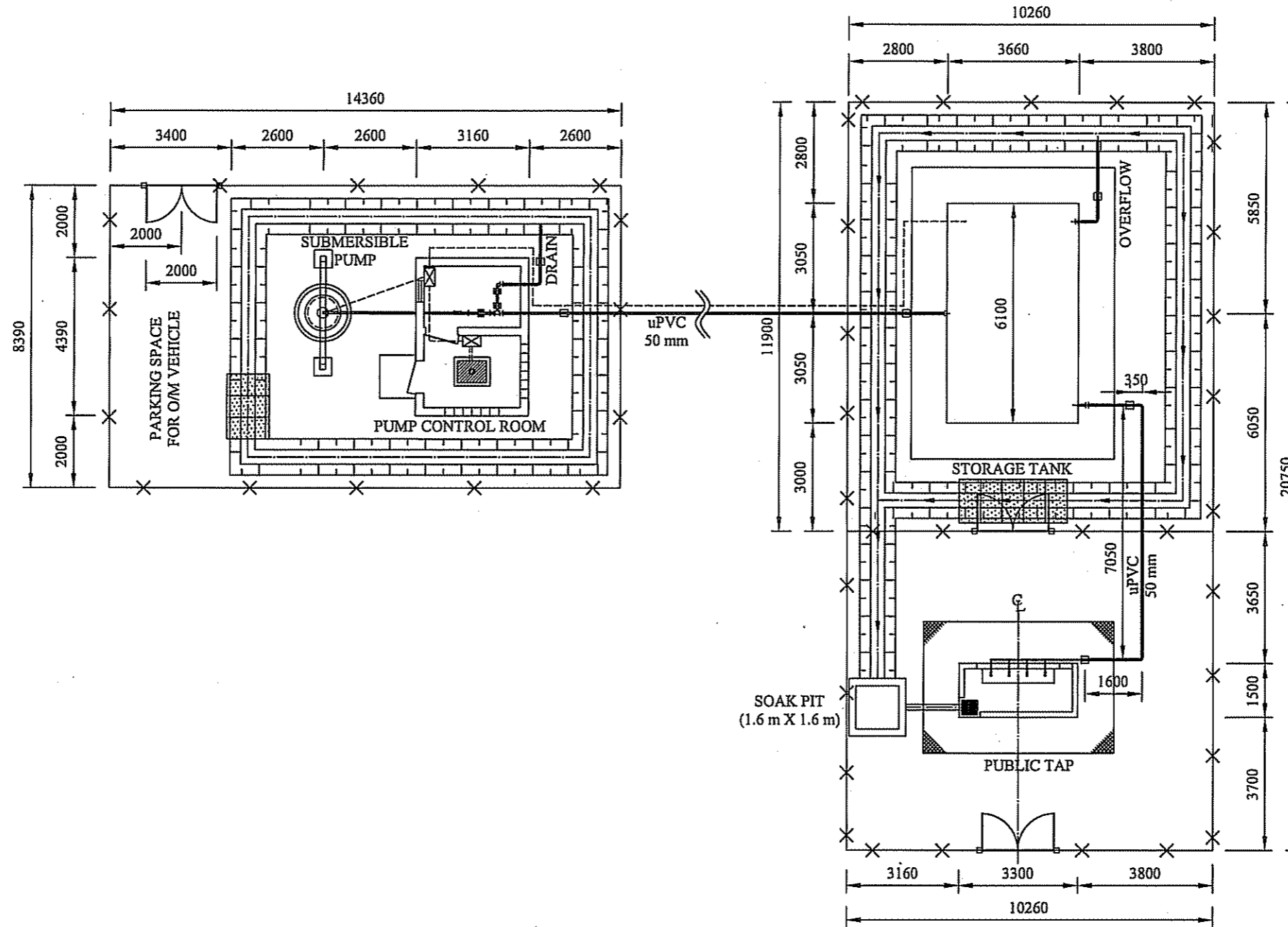
CONSULTING ENGINEERS:  
 **NIPPON KOEI CO., LTD.**

TITLE:  
CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP  
LAYOUT PLAN OF LOCATION No. 4

SCALE	DATE	DRAWING NO.
1:150	FEB. 2006	SP-004


**LEGEND:**

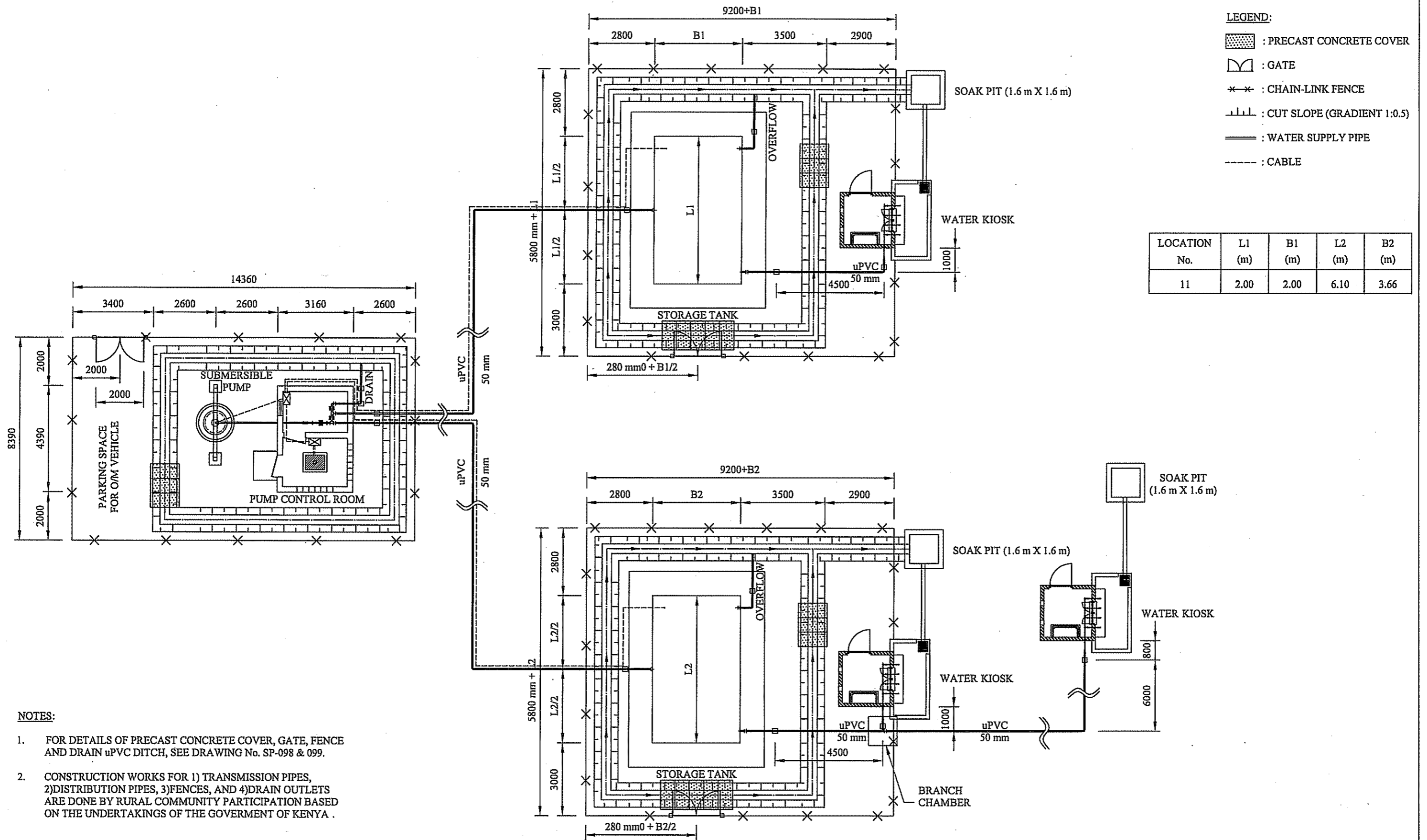
-  : PRECAST CONCRETE COVER
-  : GATE
-  : CHAIN-LINK FENCE
-  : CUT SLOPE (GRADIENT 1:0.5)
-  : WATER SUPPLY PIPE
-  : CABLE




**NOTES:**

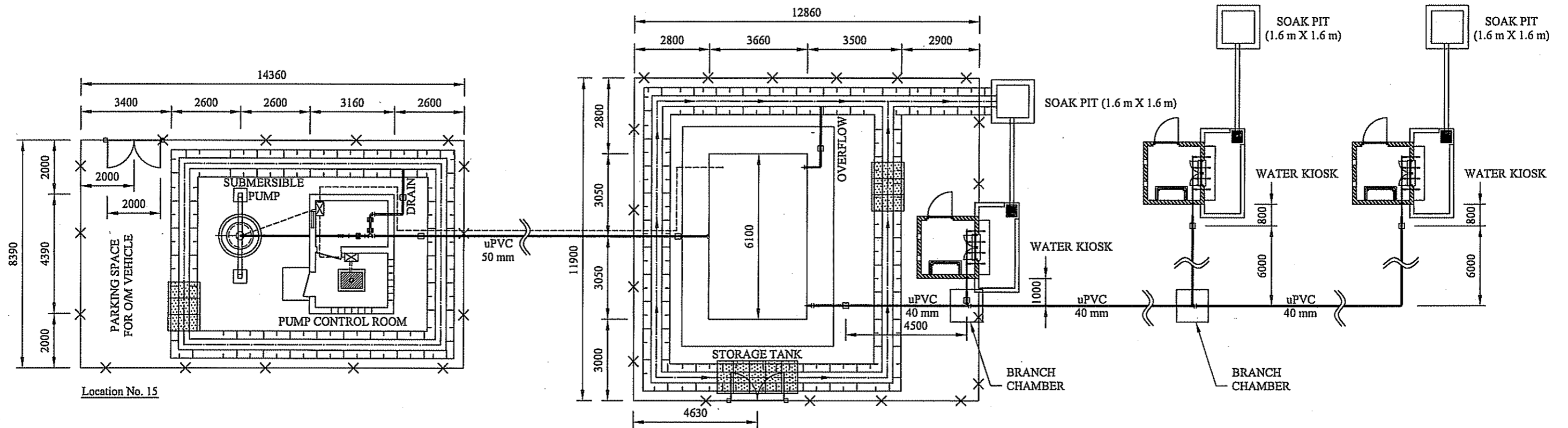
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .

<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 10</p>
		SCALE	DATE
		1:150	FEB. 2006
		DRAWING NO.	
		SP-005	









- NOTES:**
- FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  - CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.

<p>OWNER: <b>THE MINISTRY OF WATER AND IRRIGATION THE REPUBLIC OF KENYA</b></p>	<p>PROJECT NAME: <b>THE PROJECT FOR RURAL WATER SUPPLY</b></p>	<p>CONSULTING ENGINEERS:  <b>NIPPON KOEI CO., LTD.</b></p>	<p>TITLE: <b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP LAYOUT PLAN OF LOCATION No. 11</b></p> <table border="1" data-bbox="2058 1904 2866 2032"> <tr> <td>SCALE 1:150</td> <td>DATE FEB. 2006</td> <td>DRAWING NO. SP-006</td> </tr> </table>			SCALE 1:150	DATE FEB. 2006	DRAWING NO. SP-006
SCALE 1:150	DATE FEB. 2006	DRAWING NO. SP-006						



**LEGEND:**

-  : PRECAST CONCRETE COVER
-  : GATE
-  : CHAIN-LINK FENCE
-  : CUT SLOPE (GRADIENT 1:0.5)
-  : WATER SUPPLY PIPE
-  : CABLE

**NOTES:**

1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .

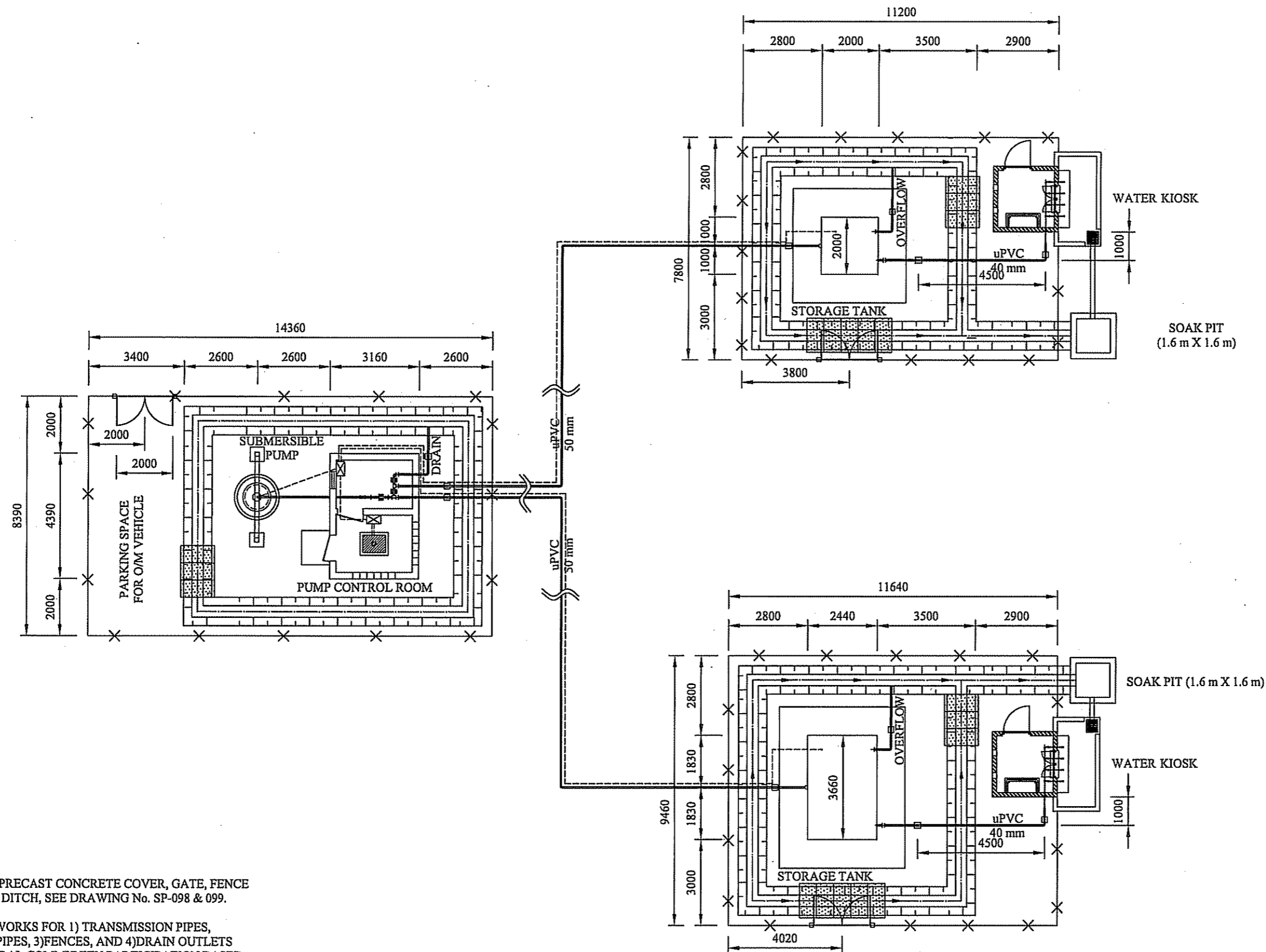
OWNER:  
**THE MINISTRY OF WATER AND IRRIGATION**  
**THE REPUBLIC OF KENYA**

PROJECT NAME:  
**THE PROJECT FOR**  
**RURAL WATER SUPPLY**

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

TITLE:  
**CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP**  
**LAYOUT PLAN OF LOCATION No. 15**

SCALE	DATE	DRAWING NO.
1:150	FEB. 2006	SP-007









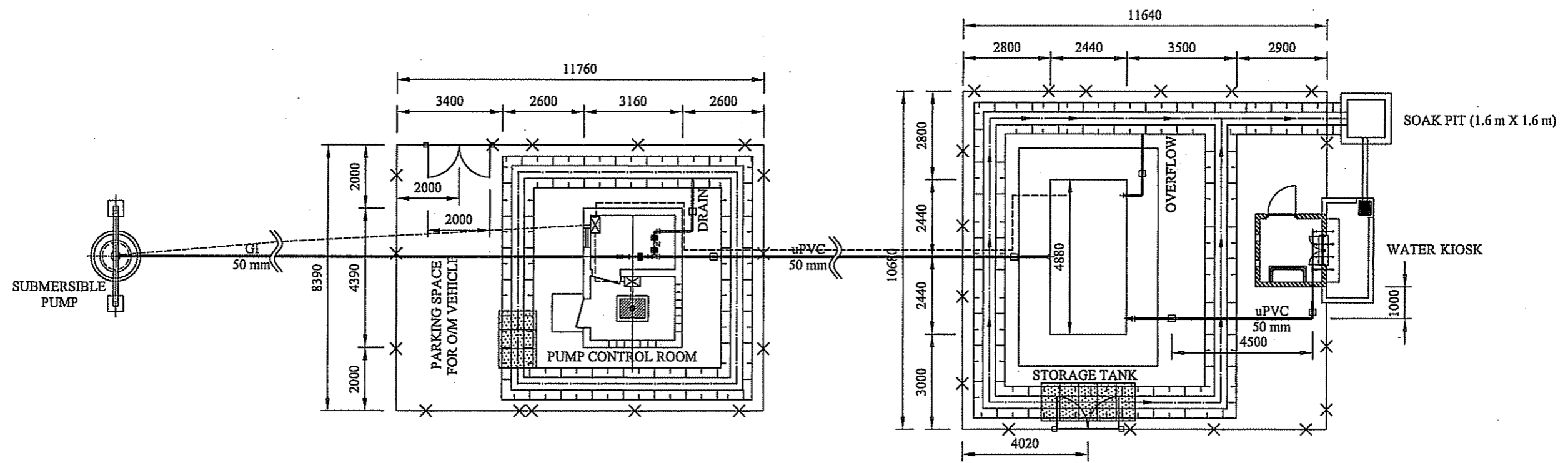
- LEGEND:**
- : PRECAST CONCRETE COVER
  - : GATE
  - : CHAIN-LINK FENCE
  - : CUT SLOPE (GRADIENT 1:0.5)
  - : WATER SUPPLY PIPE
  - : CABLE

- NOTES:**
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .


<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 18</p>
		SCALE	DATE
		1:150	FEB. 2006
		DRAWING NO.	
		SP-008	









- LEGEND:**
-  : PRECAST CONCRETE COVER
  -  : GATE
  -  : CHAIN-LINK FENCE
  -  : CUT SLOPE (GRADIENT 1:0.5)
  -  : WATER SUPPLY PIPE
  -  : CABLE

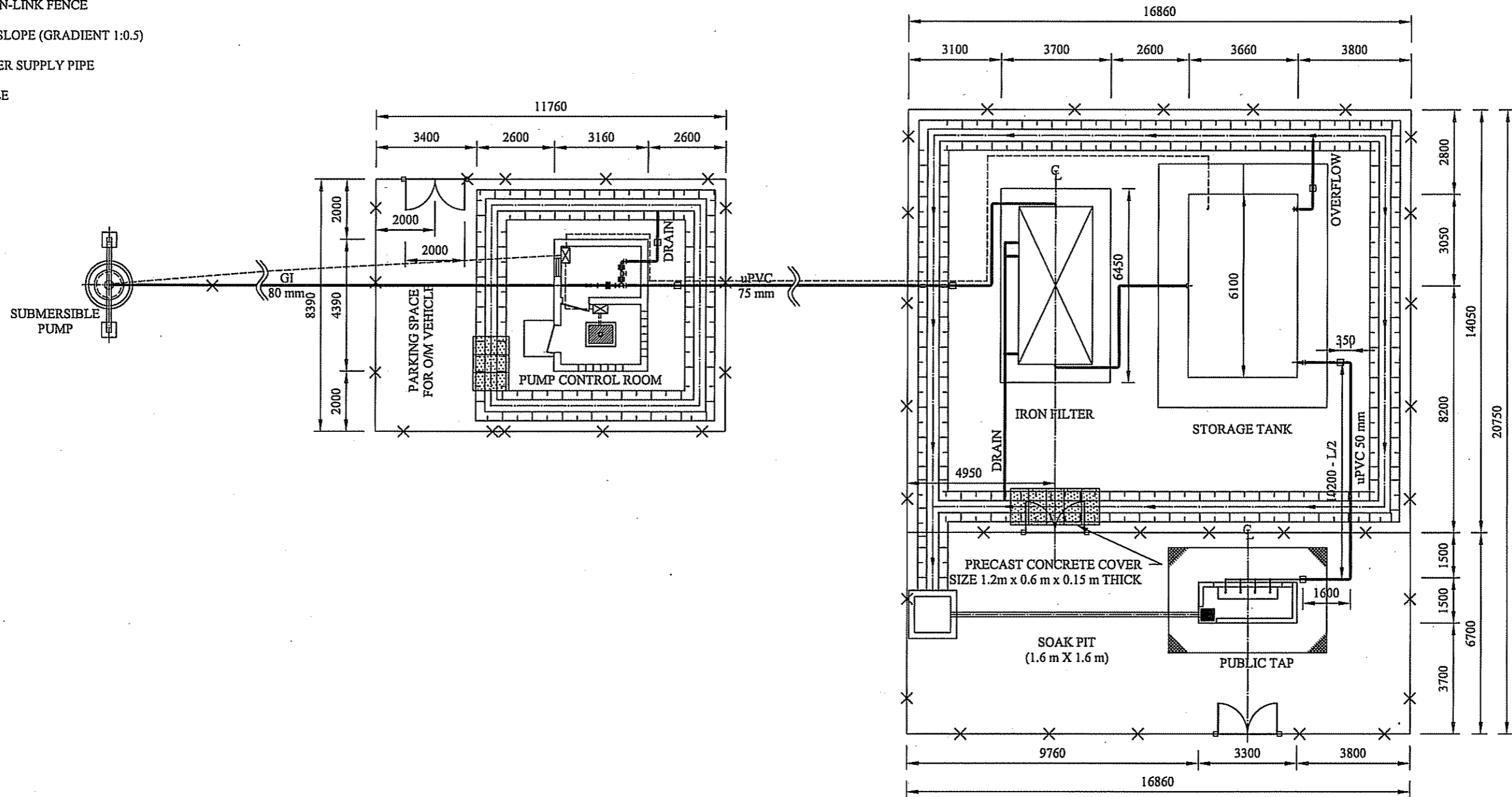


- NOTES:**
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .

<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 33</p>		
			<p>SCALE</p> <p style="text-align: center;">1:150</p>	<p>DATE</p> <p style="text-align: center;">FEB. 2006</p>	<p>DRAWING NO.</p> <p style="text-align: center;">SP-009</p>


**LEGEND:**







-  : PRECAST CONCRETE COVER
-  : GATE
-  : CHAIN-LINK FENCE
-  : CUT SLOPE (GRADIENT 1:0.5)
-  : WATER SUPPLY PIPE
-  : CABLE

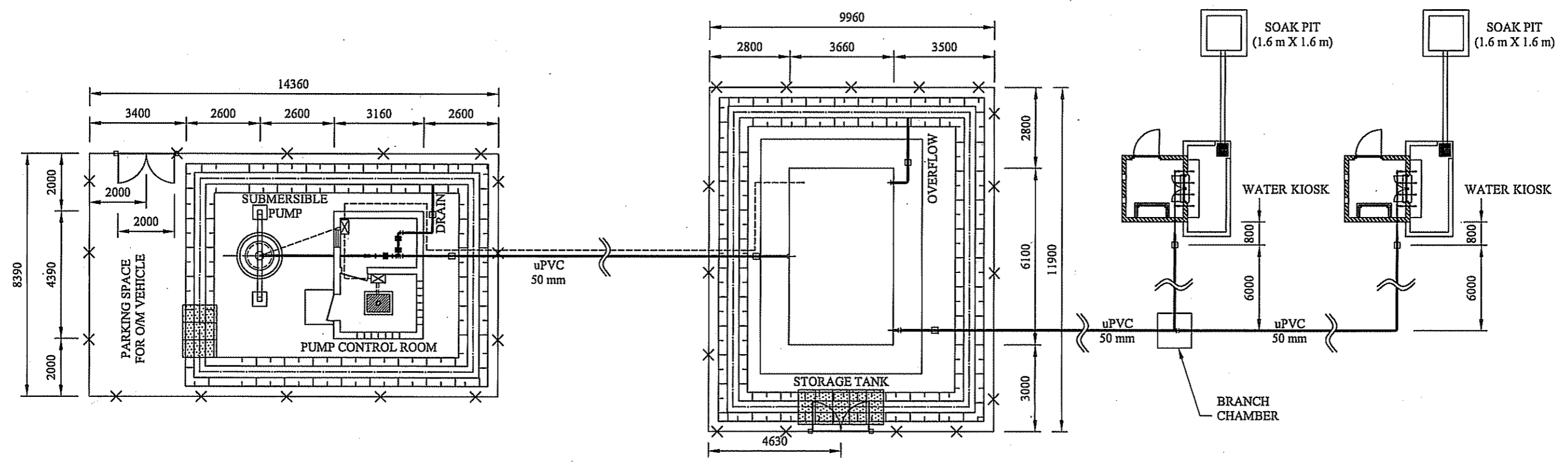


**NOTES:**

1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .


<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 39</p>
		SCALE	DATE
		1:150	FEB. 2006
		DRAWING NO.	
		SP-010	







- LEGEND:**
-  : PRECAST CONCRETE COVER
  -  : GATE
  -  : CHAIN-LINK FENCE
  -  : CUT SLOPE (GRADIENT 1:0.5)
  -  : WATER SUPPLY PIPE
  -  : CABLE

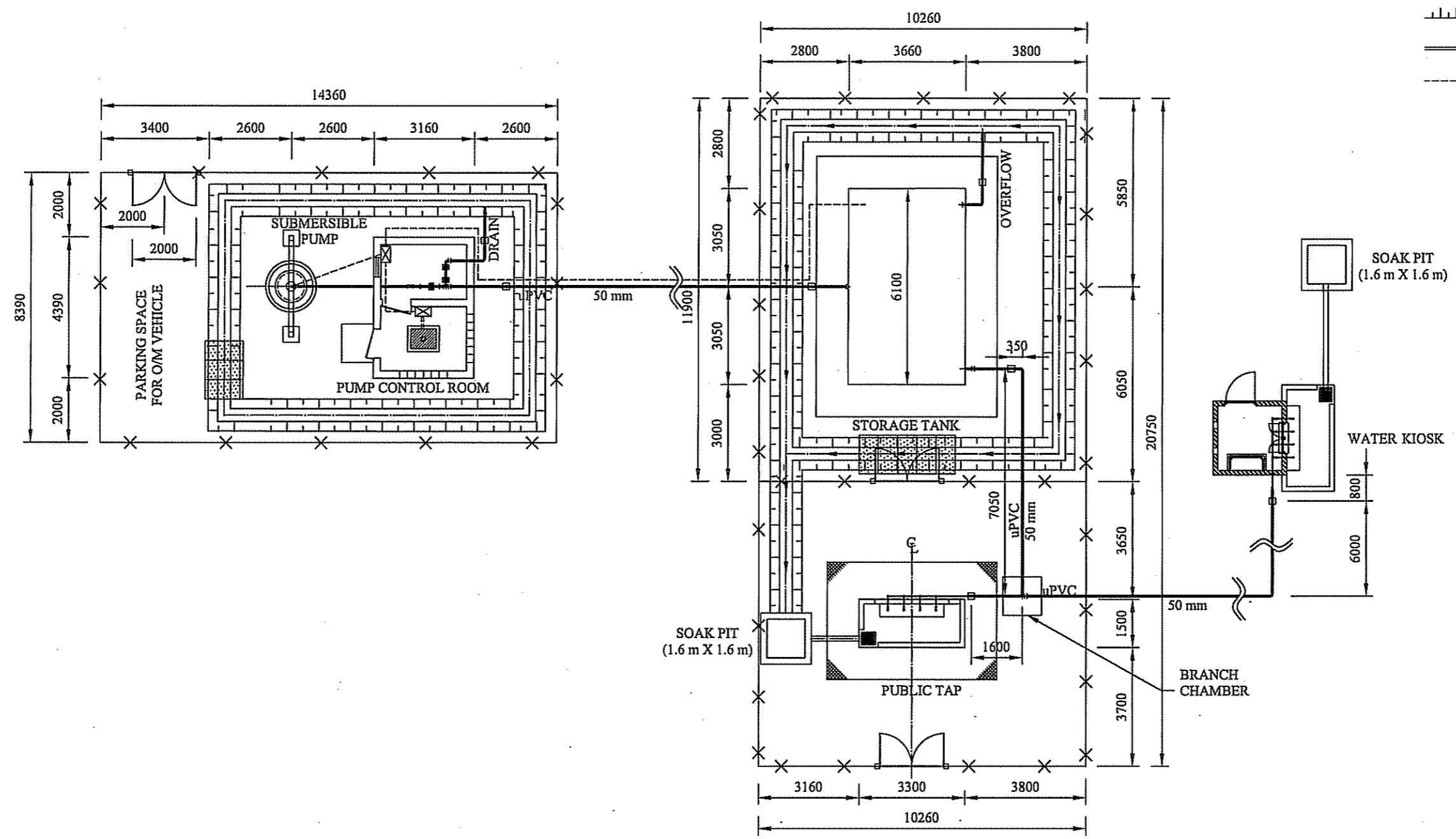


**NOTES:**

1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.


<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO., LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 41</p>	
		SCALE	DATE	DRAWING NO.
		1:150	FEB. 2006	SP-011

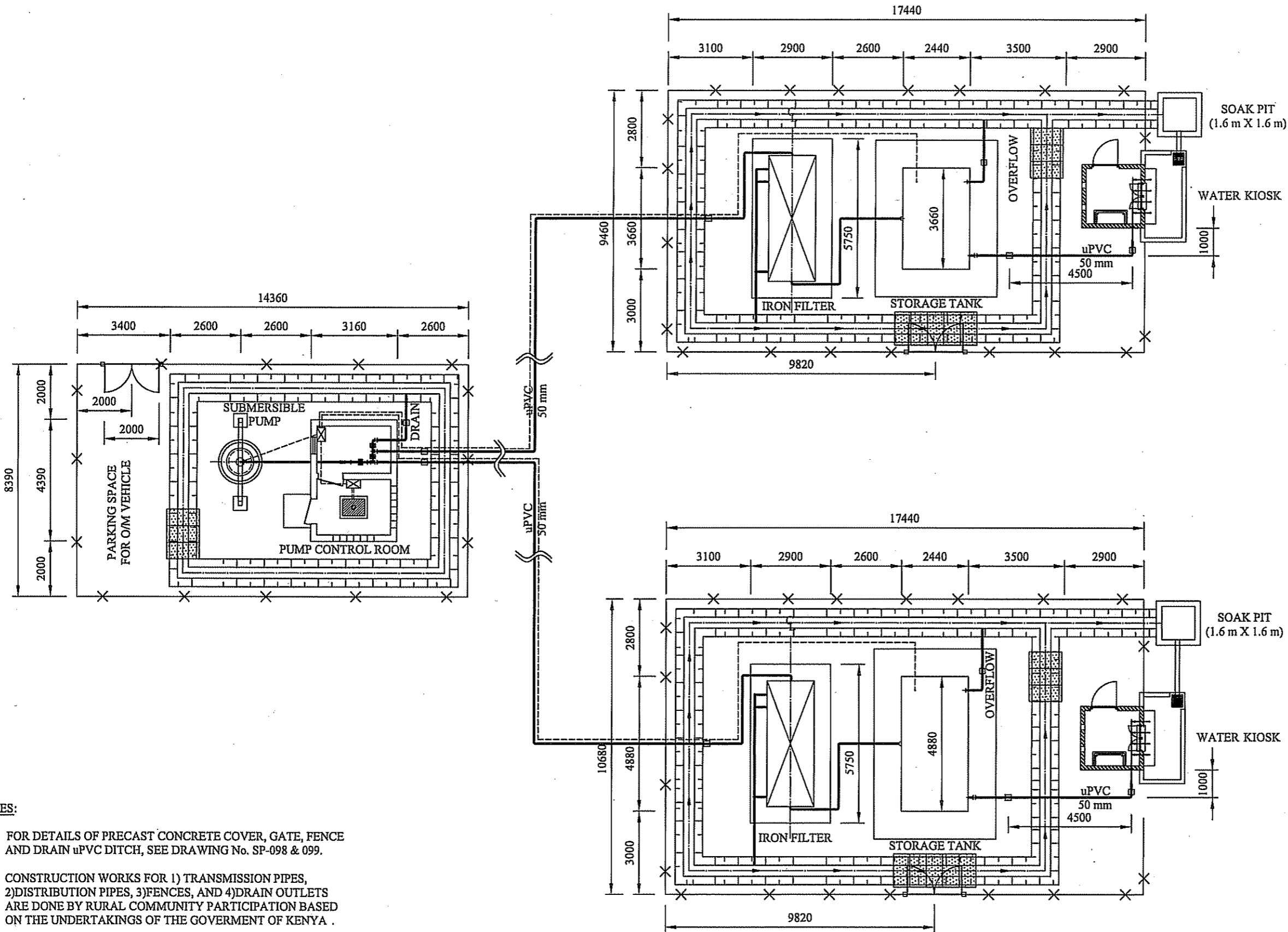
- LEGEND:**
-  : PRECAST CONCRETE COVER
  -  : GATE
  -  : CHAIN-LINK FENCE
  -  : CUT SLOPE (GRADIENT 1:0.5)
  -  : WATER SUPPLY PIPE
  -  : CABLE



**NOTES:**

1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .

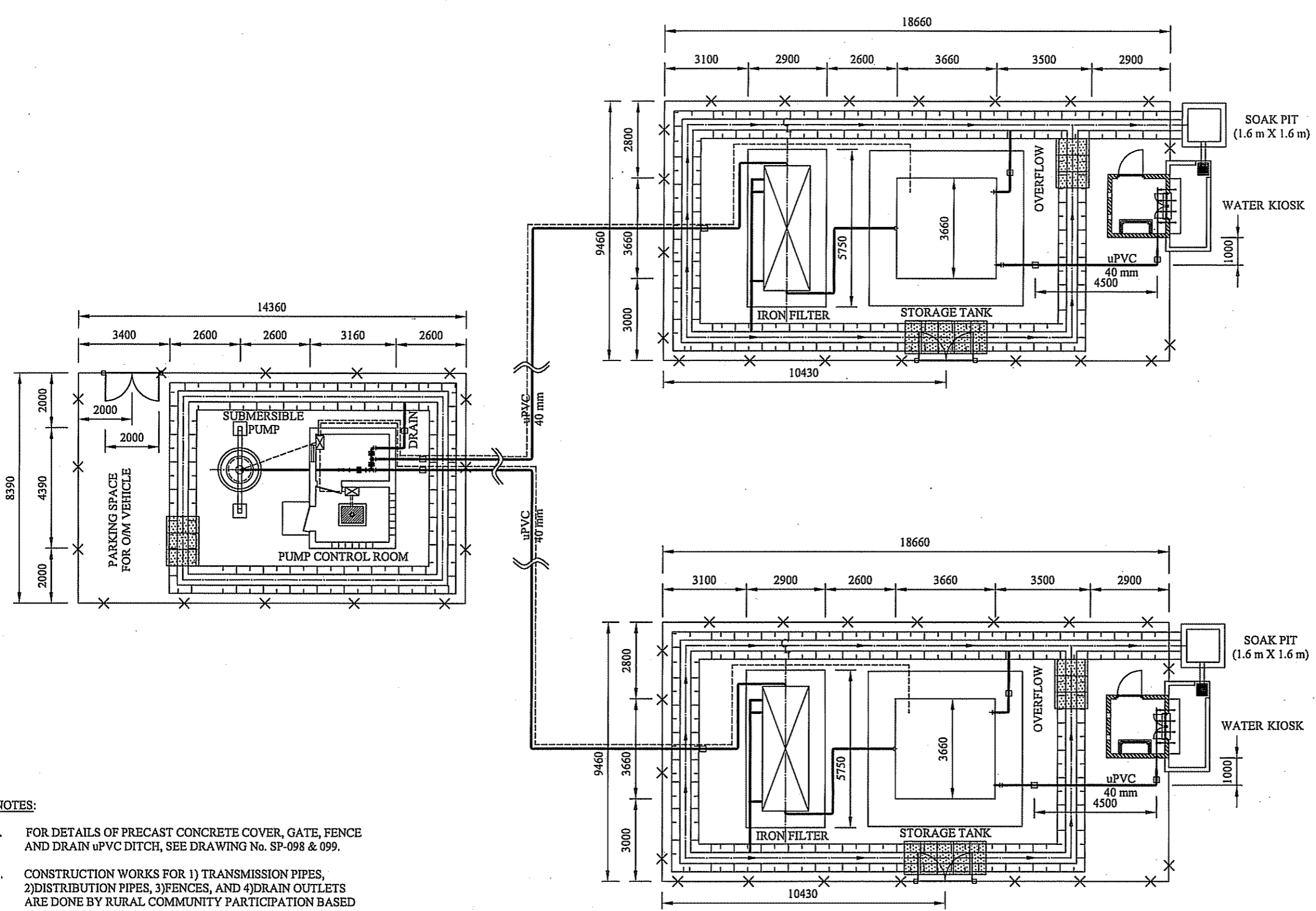
<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 54</p>
		<p>SCALE</p> <p style="text-align: center;">1:150</p>	<p>DATE</p> <p style="text-align: center;">FEB. 2006</p>
		<p>DRAWING NO.</p> <p style="text-align: center;">SP-012</p>	



- LEGEND:**
- : PRECAST CONCRETE COVER
  - : GATE
  - : CHAIN-LINK FENCE
  - : CUT SLOPE (GRADIENT 1:0.5)
  - : WATER SUPPLY PIPE
  - : CABLE

- NOTES:**
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .







<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 55</p>		
			<p>SCALE</p> <p style="text-align: center;">1:150</p>	<p>DATE</p> <p style="text-align: center;">FEB. 2006</p>	<p>DRAWING NO.</p> <p style="text-align: center;">SP-013</p>

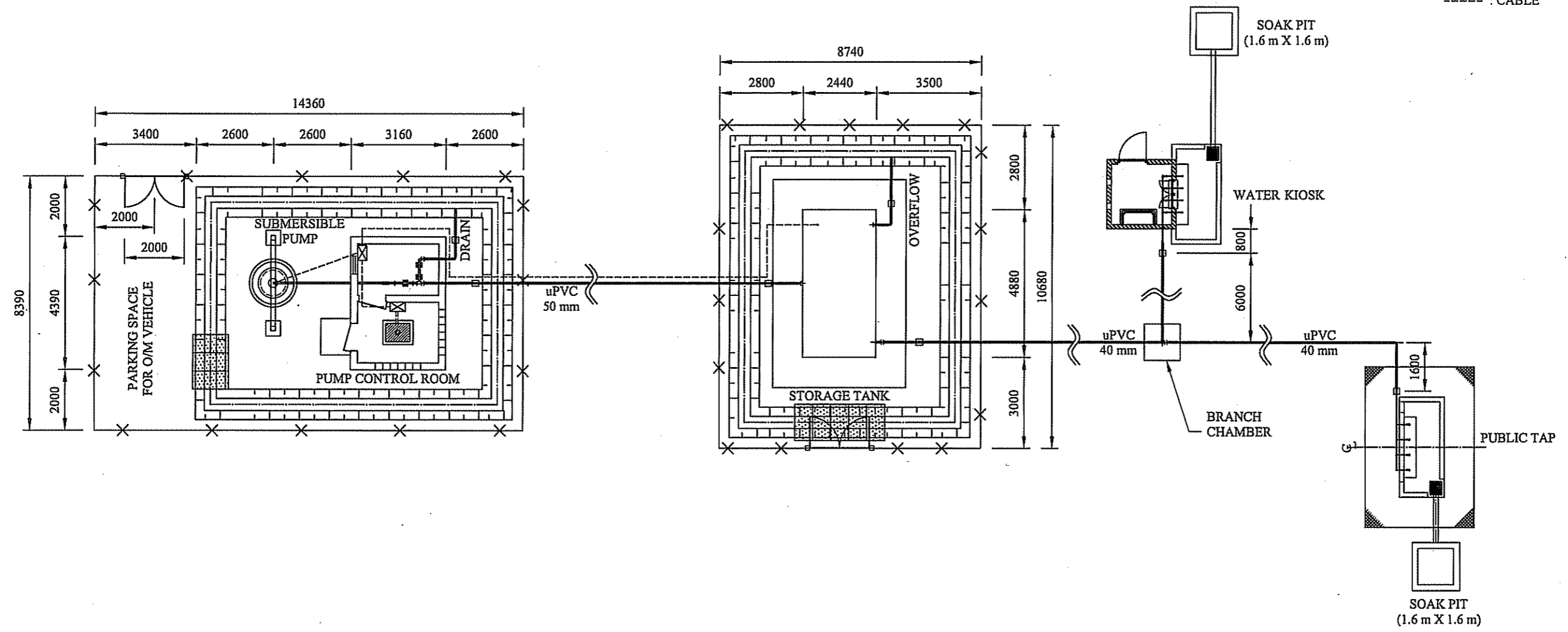


- LEGEND:**
- : PRECAST CONCRETE COVER
  - : GATE
  - : CHAIN-LINK FENCE
  - : CUT SLOPE (GRADIENT 1:0.5)
  - : WATER SUPPLY PIPE
  - : CABLE

- NOTES:**
1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
  2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA.


<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;"><b>THE PROJECT FOR</b> RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO., LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 62</p>
		SCALE	DATE
		1:150	FEB. 2006
		DRAWING NO.	
		SP-014	

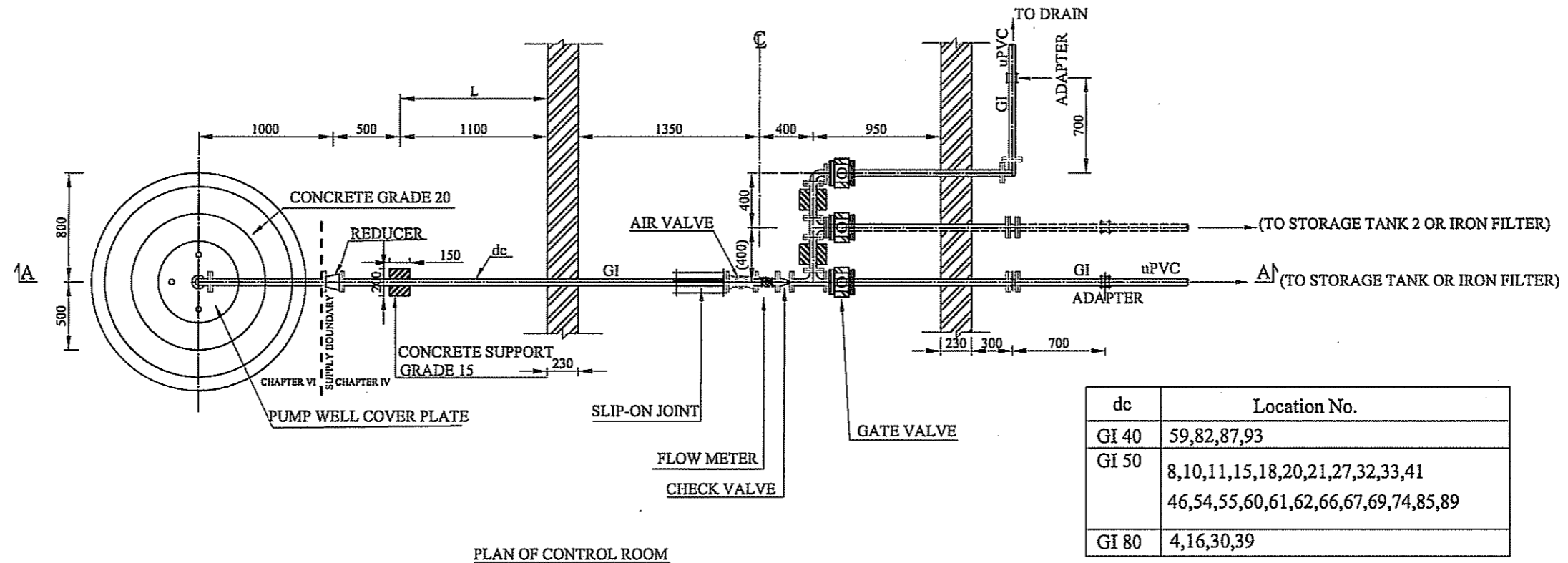
- LEGEND:**
-  : PRECAST CONCRETE COVER
  -  : GATE
  -  : CHAIN-LINK FENCE
  -  : CUT SLOPE (GRADIENT 1:0.5)
  -  : WATER SUPPLY PIPE
  -  : CABLE



**NOTES:**

1. FOR DETAILS OF PRECAST CONCRETE COVER, GATE, FENCE AND DRAIN uPVC DITCH, SEE DRAWING No. SP-098 & 099.
2. CONSTRUCTION WORKS FOR 1) TRANSMISSION PIPES, 2) DISTRIBUTION PIPES, 3) FENCES, AND 4) DRAIN OUTLETS ARE DONE BY RURAL COMMUNITY PARTICIPATION BASED ON THE UNDERTAKINGS OF THE GOVERNMENT OF KENYA .

<p>OWNER:</p> <p style="text-align: center;"><b>THE MINISTRY OF WATER AND IRRIGATION</b> THE REPUBLIC OF KENYA</p>	<p>PROJECT NAME:</p> <p style="text-align: center;">THE PROJECT FOR RURAL WATER SUPPLY</p>	<p>CONSULTING ENGINEERS:</p> <p style="text-align: center;"> <b>NIPPON KOEI CO.,LTD.</b></p>	<p>TITLE:</p> <p style="text-align: center;"><b>CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP</b> LAYOUT PLAN OF LOCATION No. 69</p>		
			SCALE	DATE	DRAWING NO.
			1:150	FEB. 2006	SP - 015

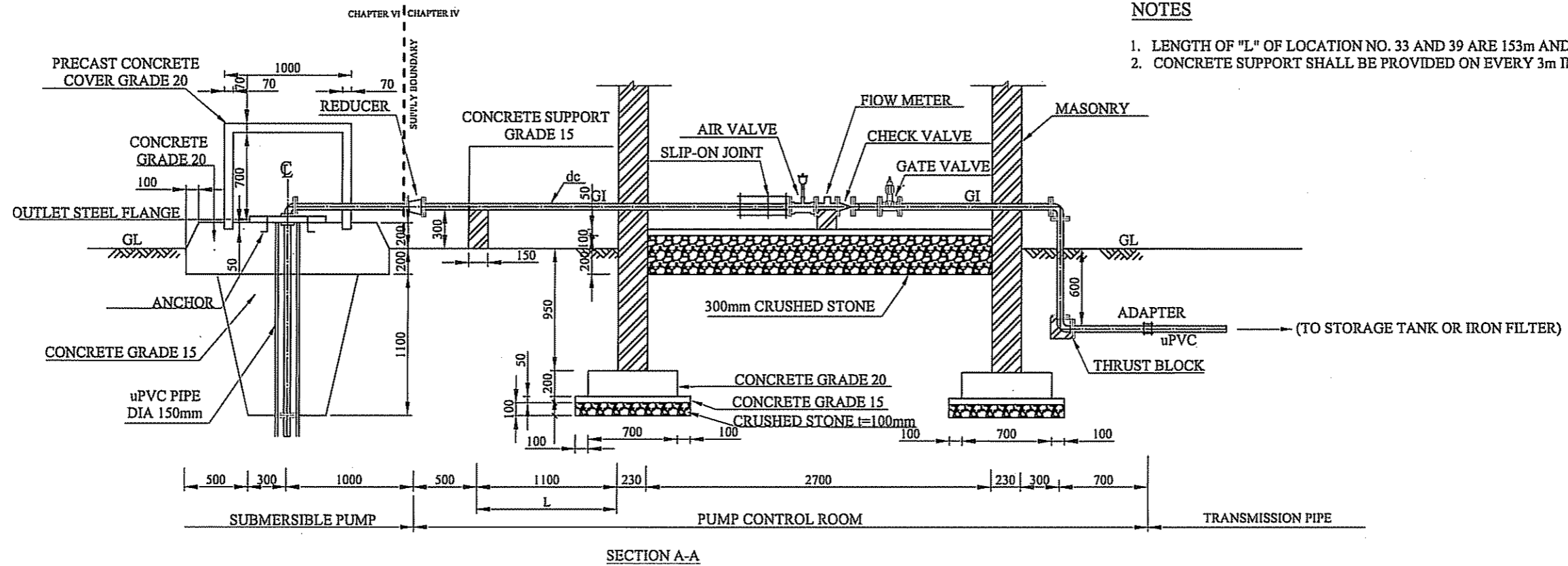


dc	Location No.
GI 40	59,82,87,93
GI 50	8,10,11,15,18,20,21,27,32,33,41 46,54,55,60,61,62,66,67,69,74,85,89
GI 80	4,16,30,39

PLAN OF CONTROL ROOM

NOTES

1. LENGTH OF "L" OF LOCATION NO. 33 AND 39 ARE 153m AND 102m RESPECTIVELY.
2. CONCRETE SUPPORT SHALL BE PROVIDED ON EVERY 3m INTERVAL IN LENGTH OF "L".



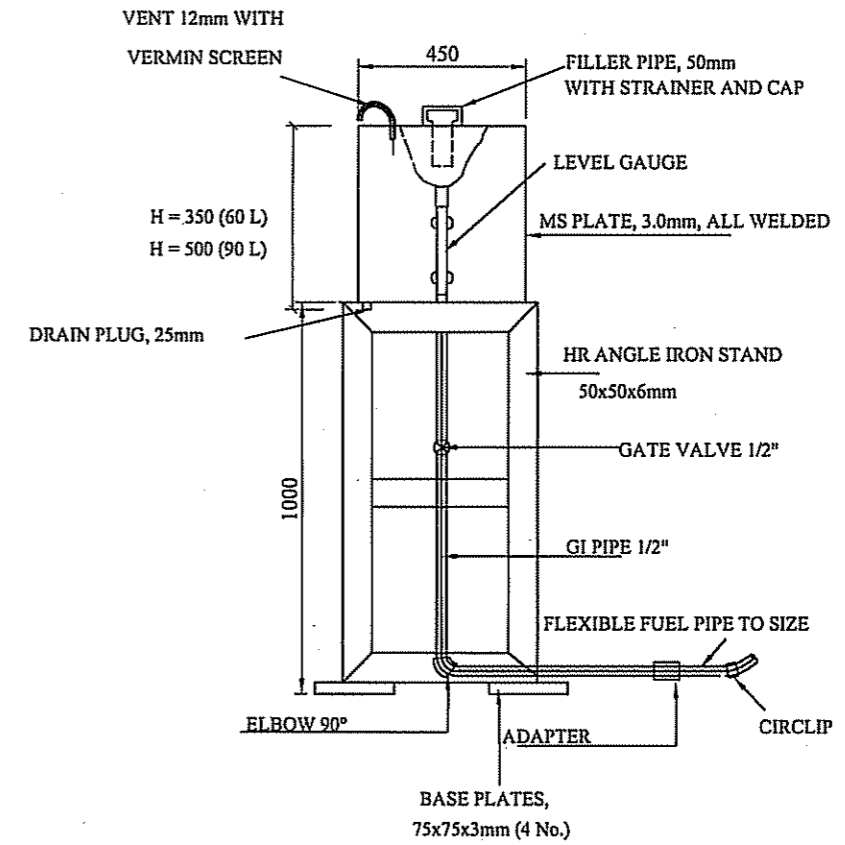
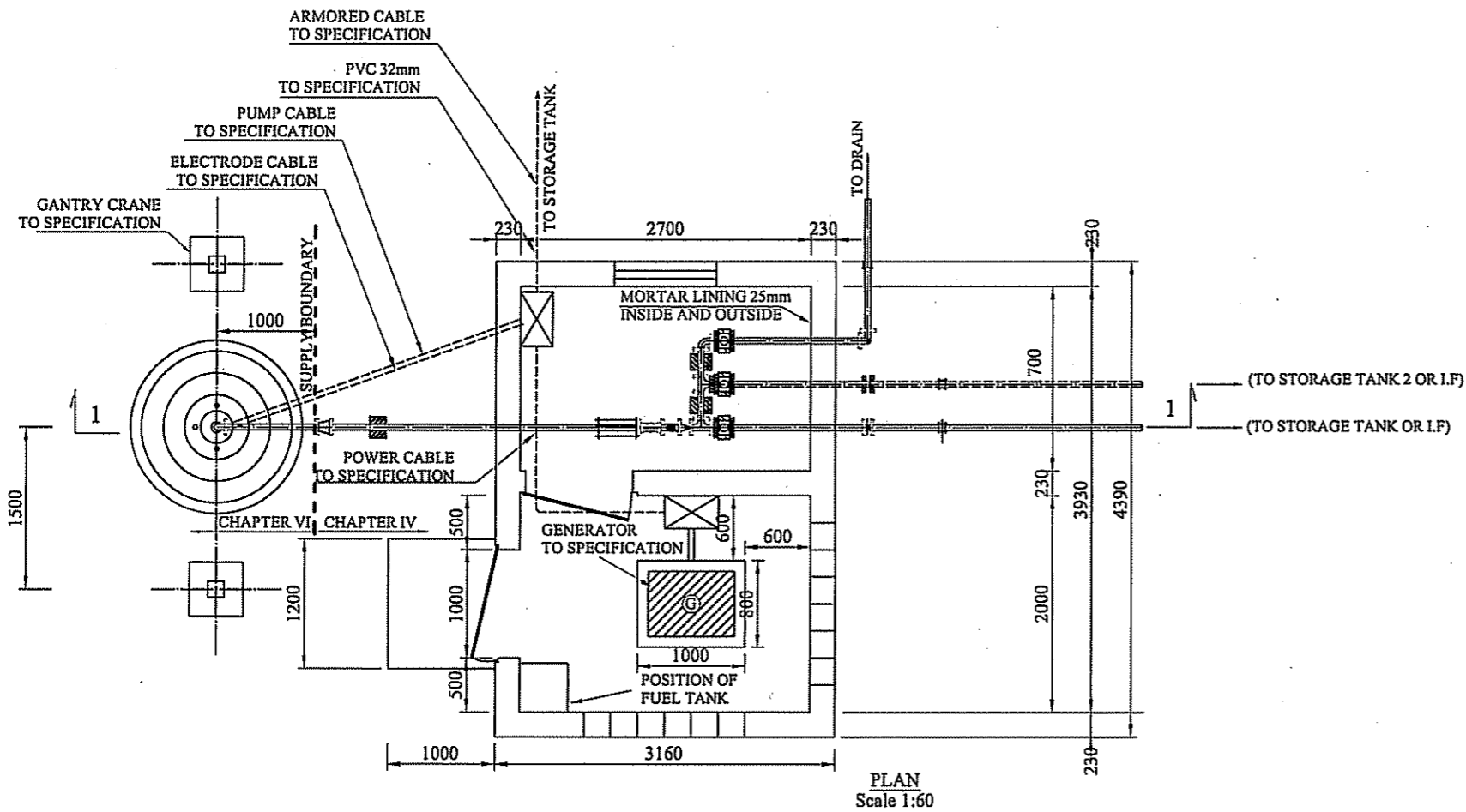
OWNER:  
THE MINISTRY OF WATER AND IRRIGATION  
THE REPUBLIC OF KENYA

PROJECT NAME:  
THE PROJECT FOR  
RURAL WATER SUPPLY

CONSULTING ENGINEERS:  
 NIPPON KOEI CO., LTD.

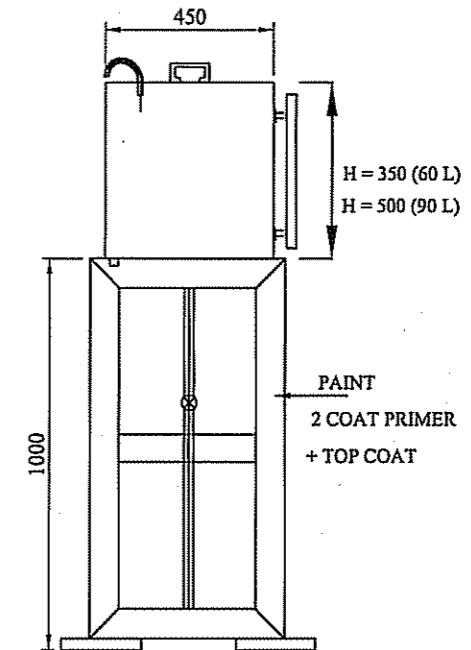
TITLE:  
CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP  
PIPEWORK OF PUMP CONTROL ROOM  
SCALE: 1:40  
DATE: FEB. 2006  
DRAWING NO.: SP-066





FUEL TANK - FRONT VIEW

Scale 1:20

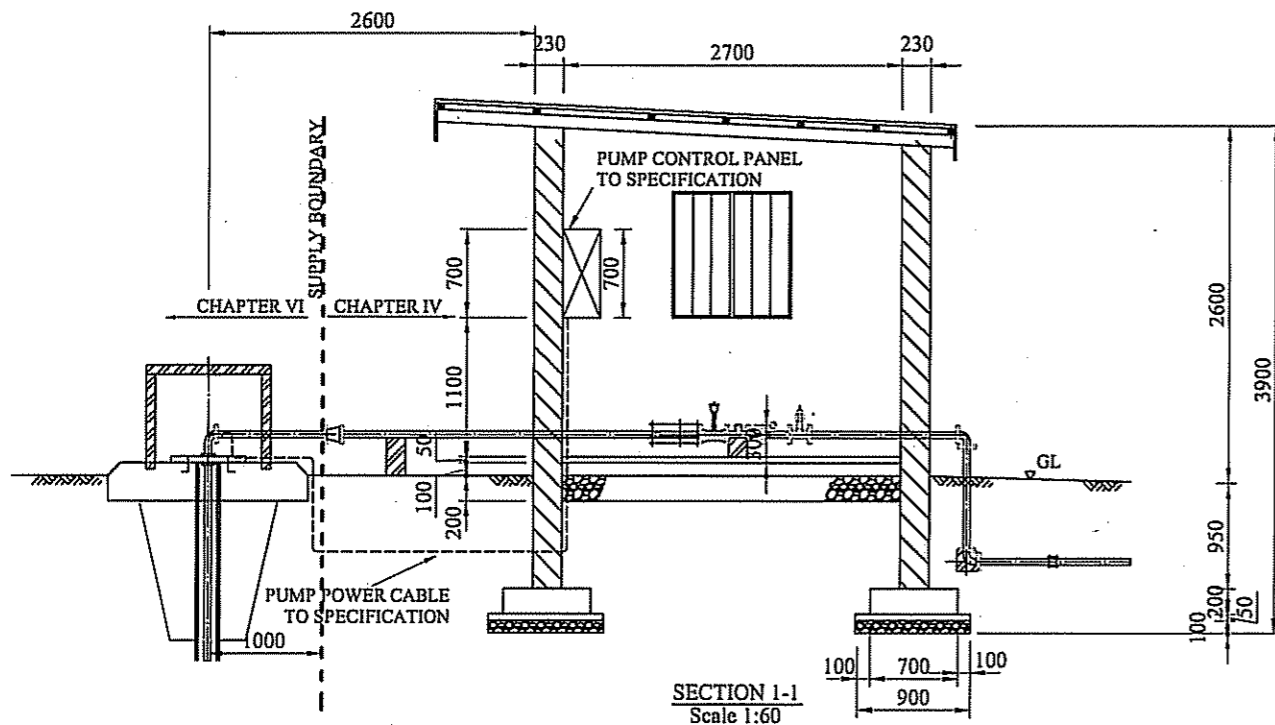


FUEL TANK - SIDE VIEW

Scale 1:20

**NOTE**

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING Nos. SP-065 TO SP-070.



SECTION 1-1  
Scale 1:60

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:  
CONSTRUCTION OF WATER SUPPLY FACILITIES BY SUBMERSIBLE PUMP  
LAYOUT OF CABLES

SCALE 1:20 1:60	DATE FEB. 2006	DRAWING NO. SP-068
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