

### 3-2-3 概略設計図

マーケットセンター給水計画の概略設計図は以下の図面で構成される。

#### ムカンダ地区給水施設

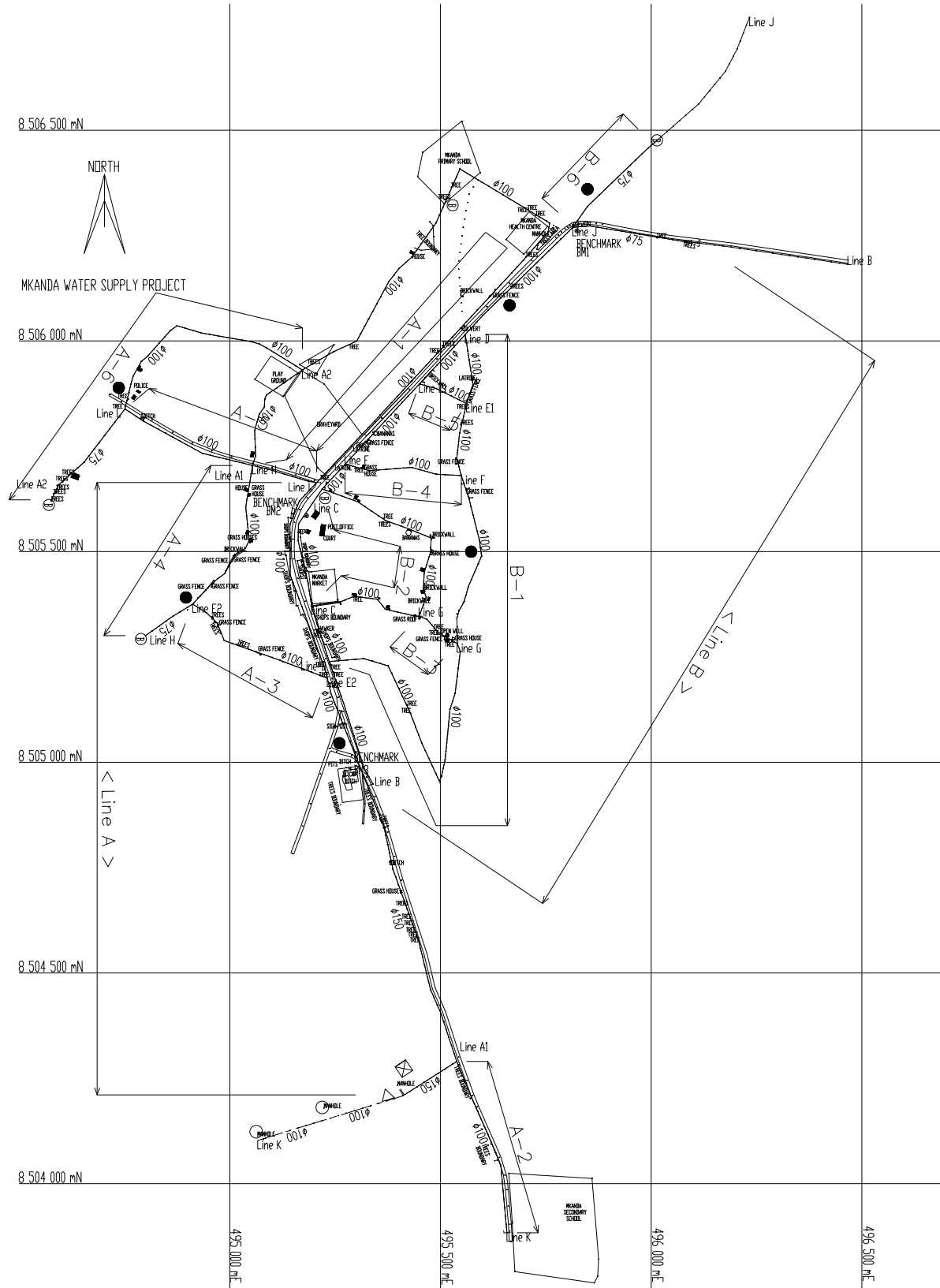
図面番号	図面名
M001	給水施設全体配置図
M002～003	取水井構造・設備図
M004	送水管路線・縦断図（取水井～高架水槽）
M005～006	高架水槽構造・設備図
M007～034	配水管路線・縦断図
M035	事務所棟建屋図

#### サンテ地区給水施設

図面番号	図面名
S001	給水施設全体配置図
S002～007	取水井構造・設備図
S008～013	送水管路線・縦断図（取水井～配水池）
S014	配水池構造・設備図
S015～053	配水管路線・縦断図
S0054	事務所棟建屋図

#### 共通施設

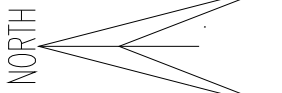
図面番号	図面名
C001	公共水栓構造・設備図



Legend	
○	Intake Well
⊠	Elevated Tank
⊡	Control Building
□	Office Building
●	Communal Water Point
—	Transmission Pipe
—	Distribution Pipe
⊕	Blow Off
⌋	Blind Cap

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Overall Facility Layout Mkanda	
Scale	Shown in the Drawing
Date	Oct. 2011
	Drawing No. MO01
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	

Overall Facility Layout S=1:5000(A1) 1:10000(A3)  
(Mkanda)

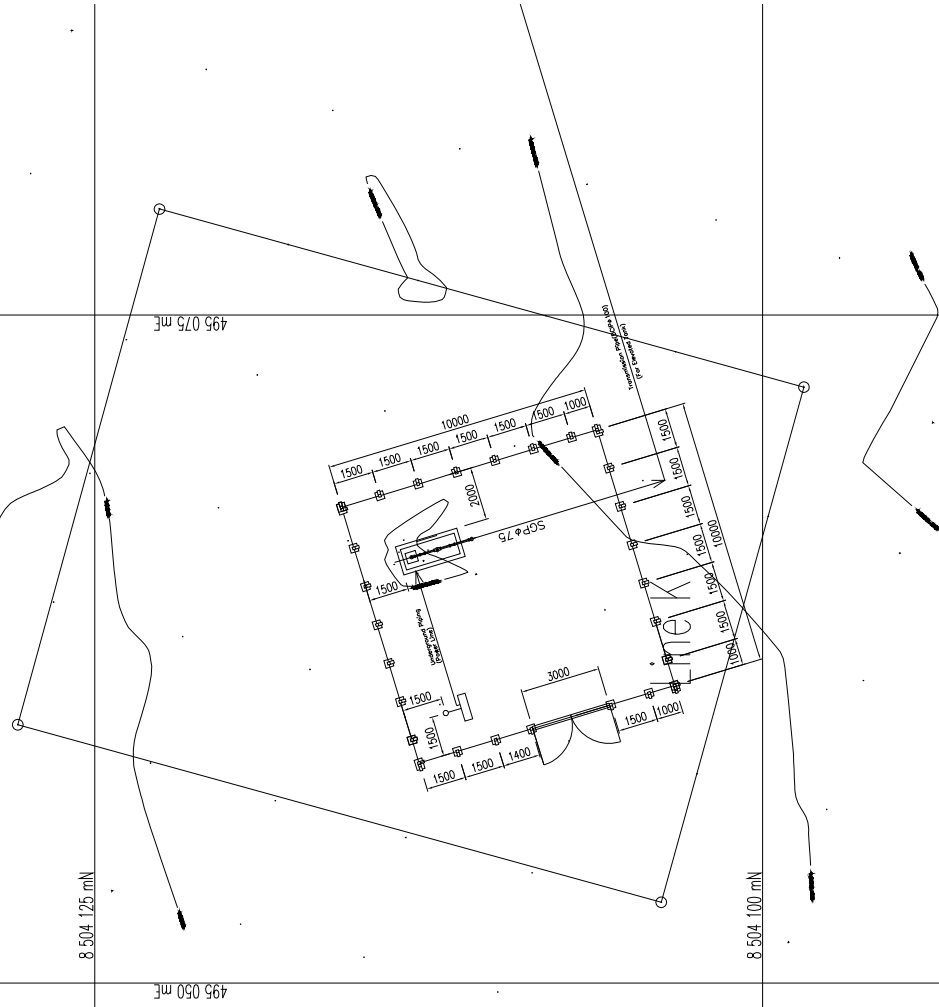


# TOPOGRAPHICAL SURVEY

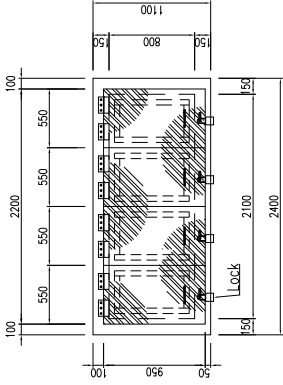
## SITE BH1

SITE BEACONS  
 BH1A : 1095.311m  
 BH1B : 1095.044m  
 BH1C : 1094.833m  
 BH1D : 1095.045m

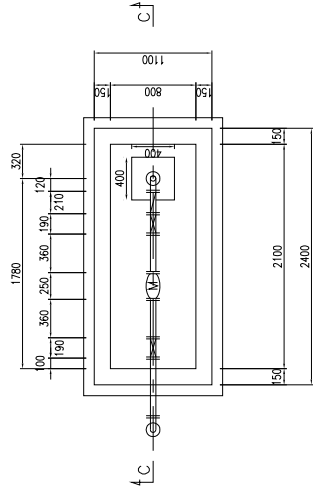
CONTOUR INTERVAL : 0.25m



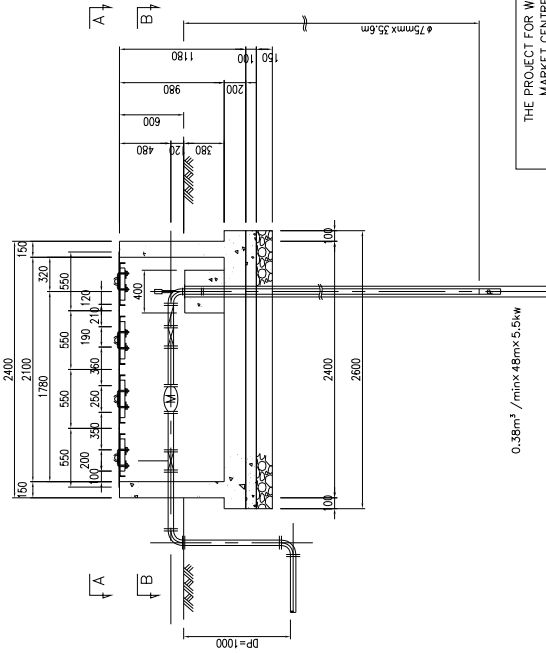
Intake Well MK-3 General Layout  
 (Mkanda) S=1:100(A1) 1:200(A3)



A - A Section



B - B Section

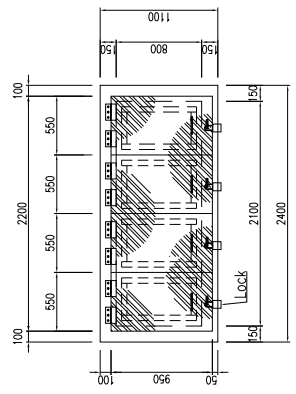
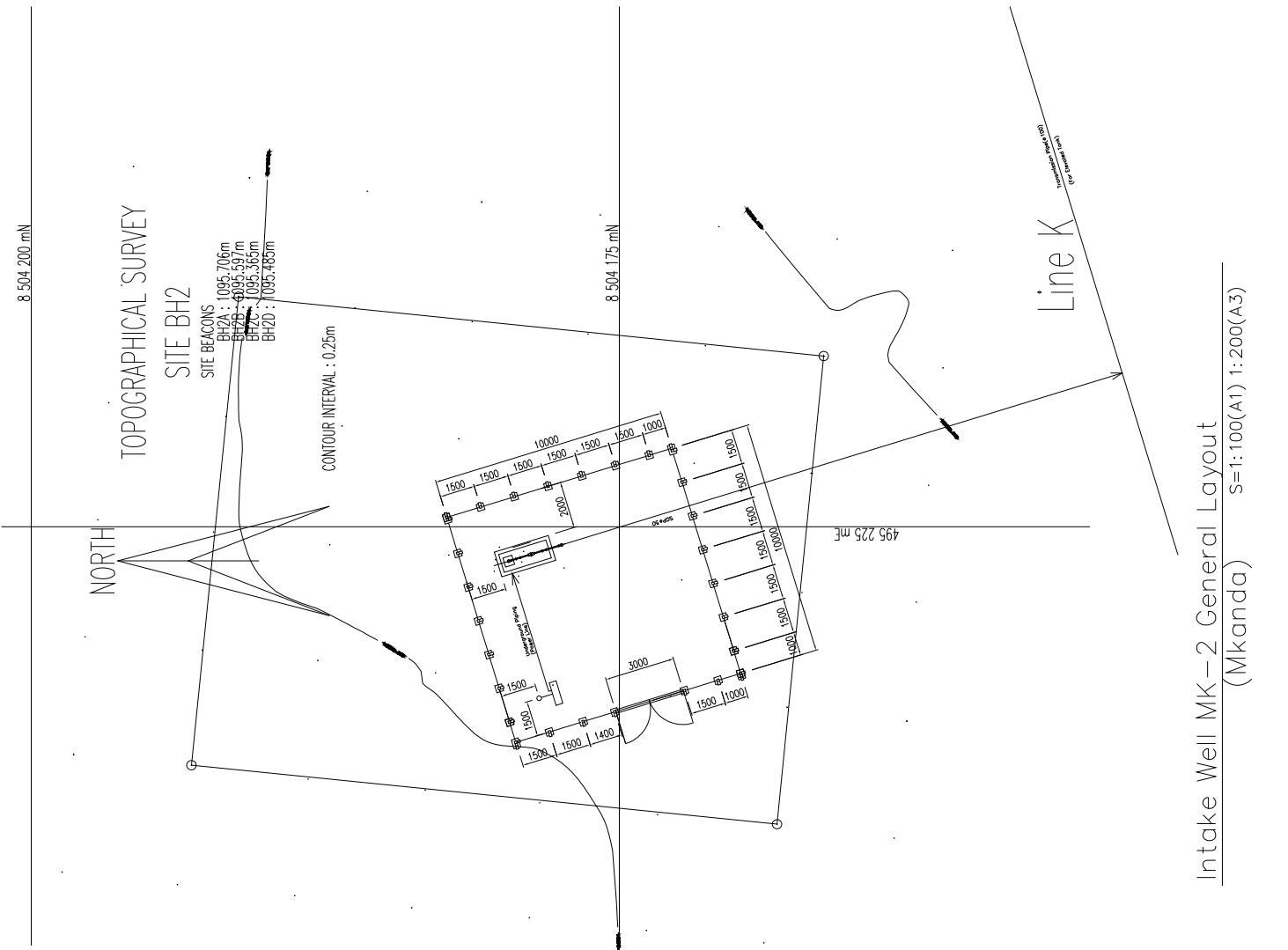


C - C Section

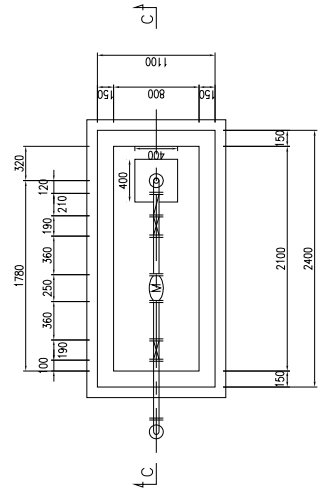
0.38m<sup>2</sup> / min x 48m x 5.5kw

Intake Well Structure  
 S=1:25(A1) 1:50(A3)

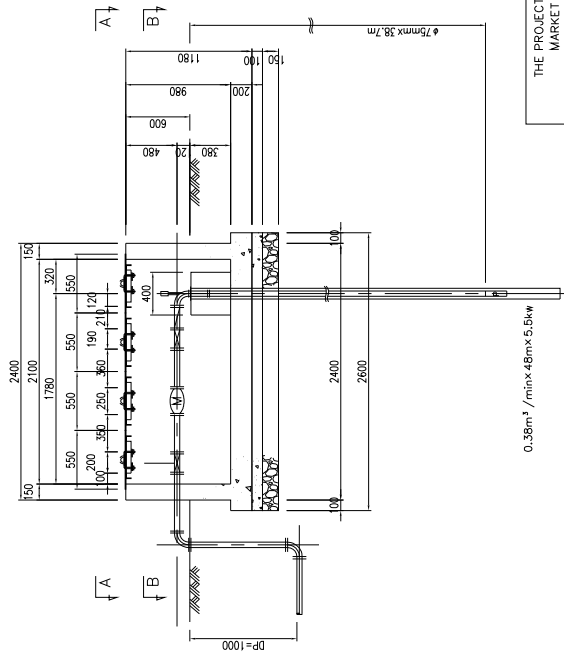
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Intake Well MK-3 Mkanda	
Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	M002
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	



A - A Section



B - B Section



C - C Section

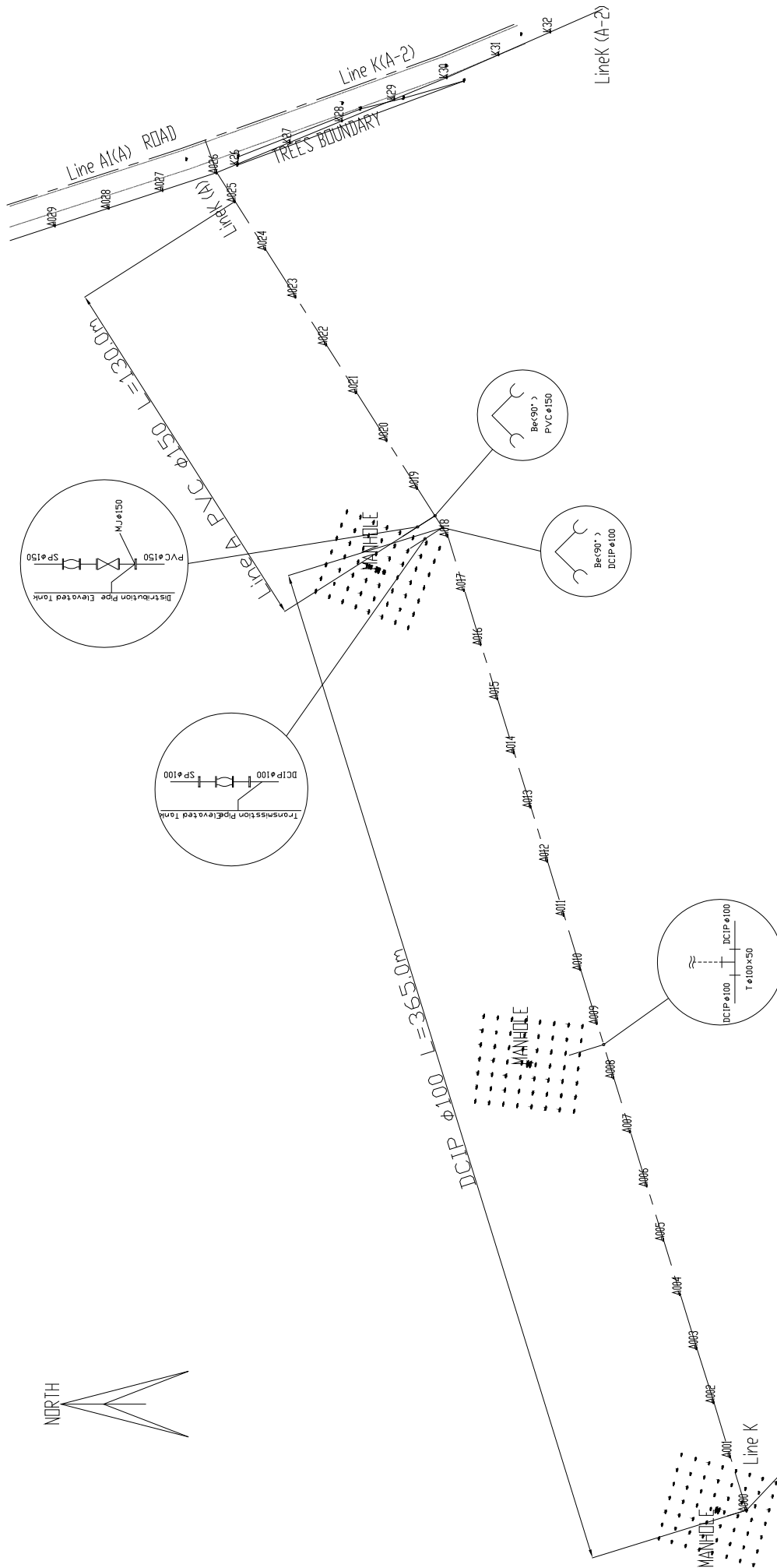
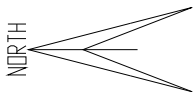
Intake Well Structure  
 S=1:25(A1) 1:50(A3)

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION			
Intake Well Mk-2 Mkanda			
Scale	Shown in the Drawing	Drawing No.	M003
Date	Oct. 2011		
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.			

Intake Well MK-2 General Layout  
 (Mkanda)  
 S=1:100(A1) 1:200(A3)

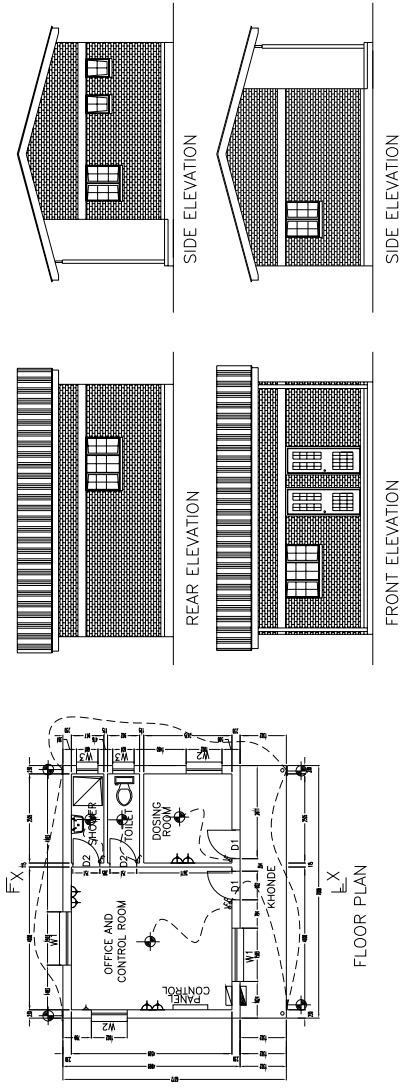
MKANDA WATER SUPPLY SCHEME  
 LINE K : 0.00m to 500m

SCALE : 1 / 500 (A0)

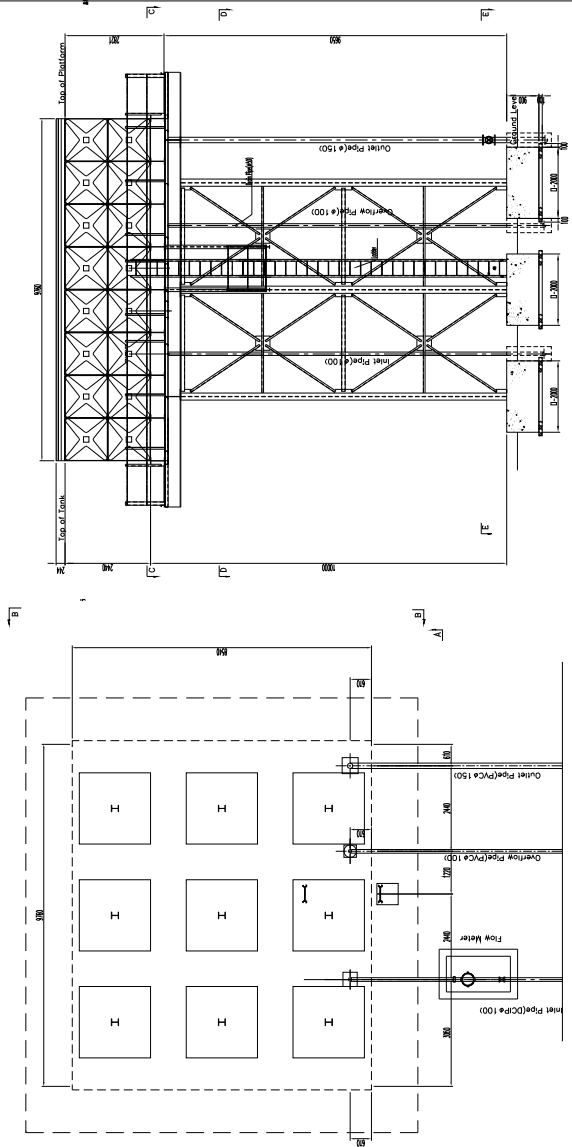


LEGEND	
VC	Valve
BC	Bend
BP	Bowditch Pipe
CL	Cast Iron Pipe
SA	Socket
AV	Air Valve
BP	Bowditch Pipe
MJ	Man Joint
CV	Gate Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Transmission Pipe Plan Mkanda	
Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	M004
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	

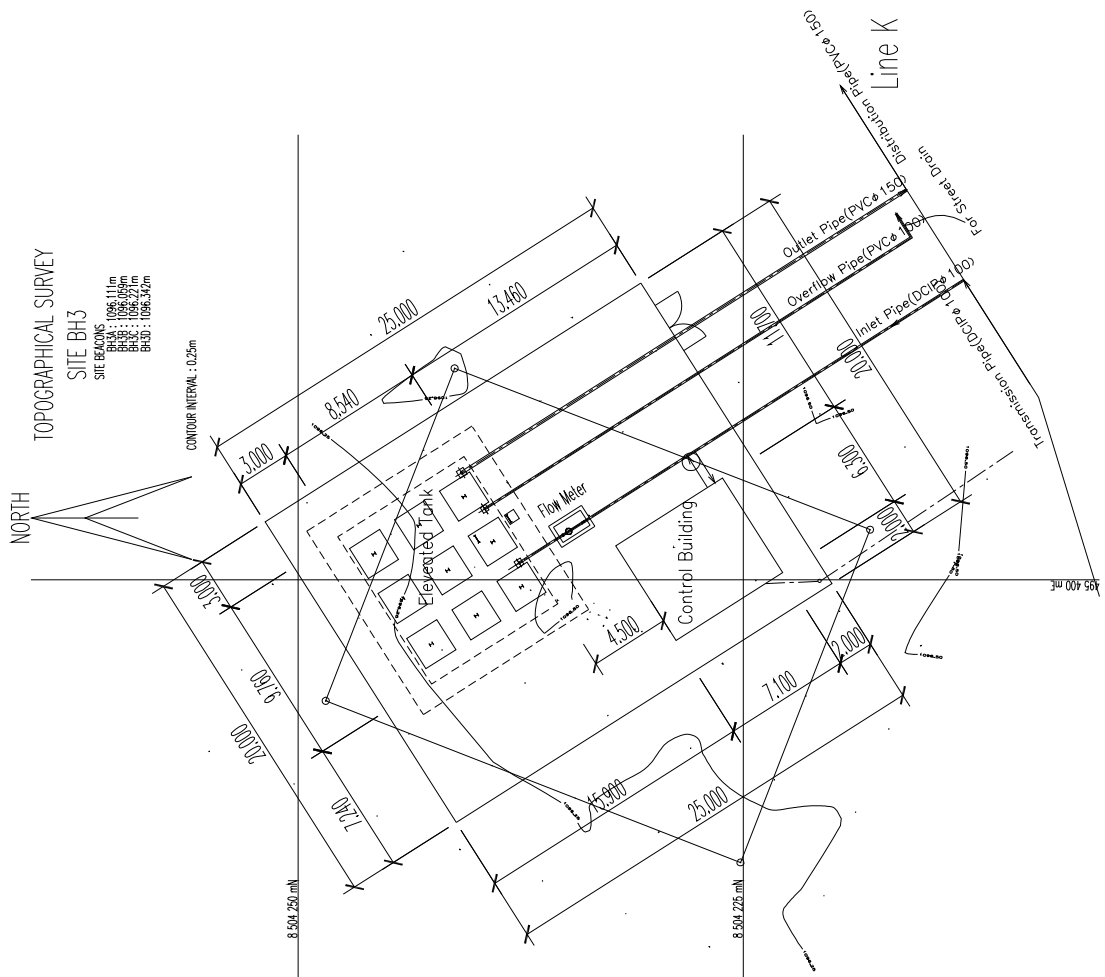


Control Building Layout  
S=1:75(A1) 1:150(A3)



GROUND PLAN  
(SECTION D-D)

SECTION A-A

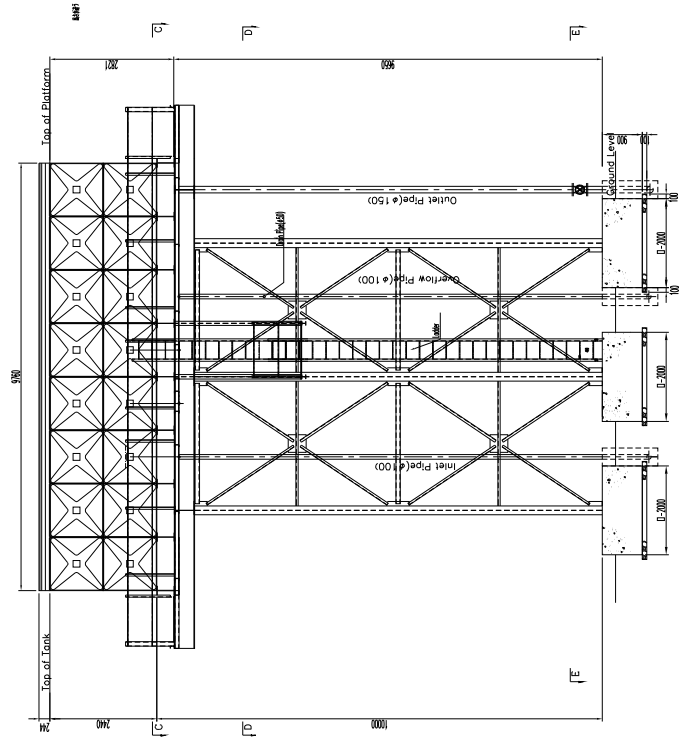


TOPOGRAPHICAL SURVEY  
SITE BH3  
SITE BEAMS  
BH30 : 106.111m  
BH31 : 106.059m  
BH32 : 106.271m  
BH33 : 106.349m  
CONTOUR INTERVAL : 0.25m

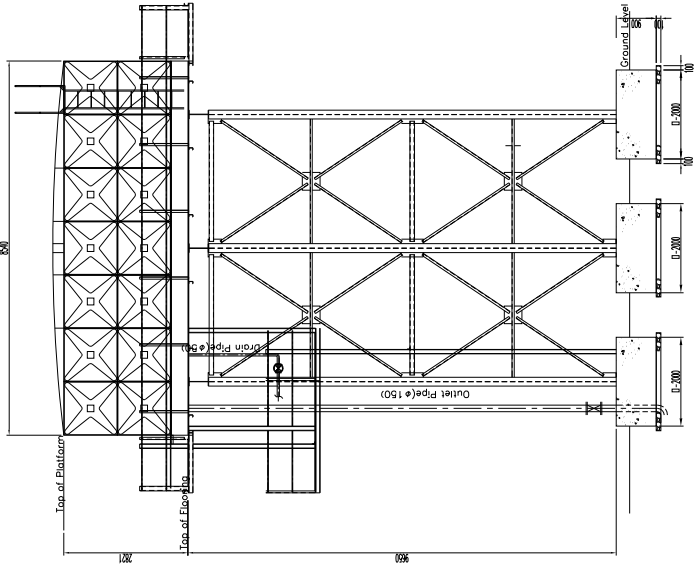
Elevated Tank and Control Building General Layout  
(Mkanda) S=1:150(A1) 1:300(A3)

Elevated Tank Structure  
S=1:75(A1) 1:150(A3)

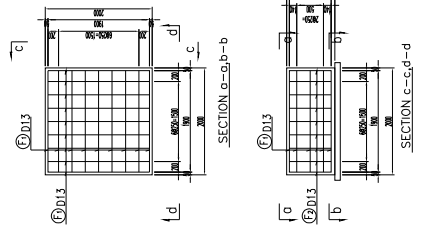
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION			
Elevated Tank and Control Building Layout Mkanda			
Scale	Shown in the Drawing	Drawing No.	M005
Date	Oct. 2011		
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.			



SECTION A-A



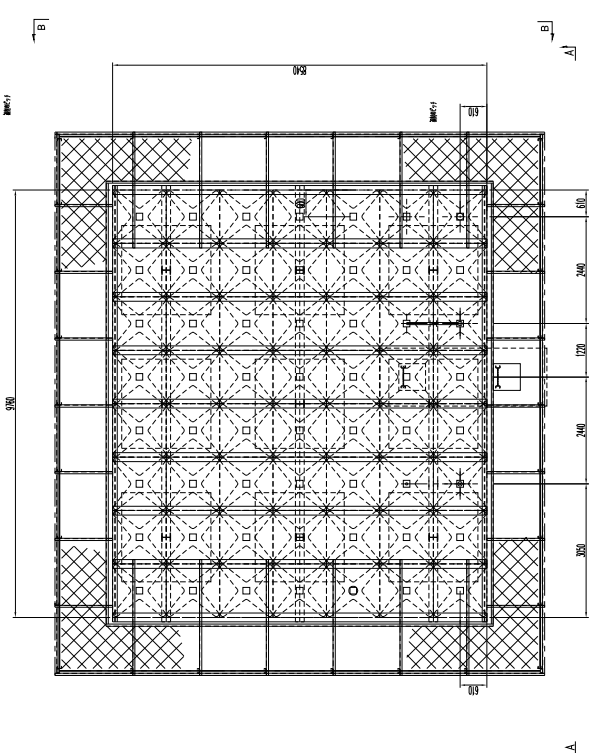
SECTION B-B



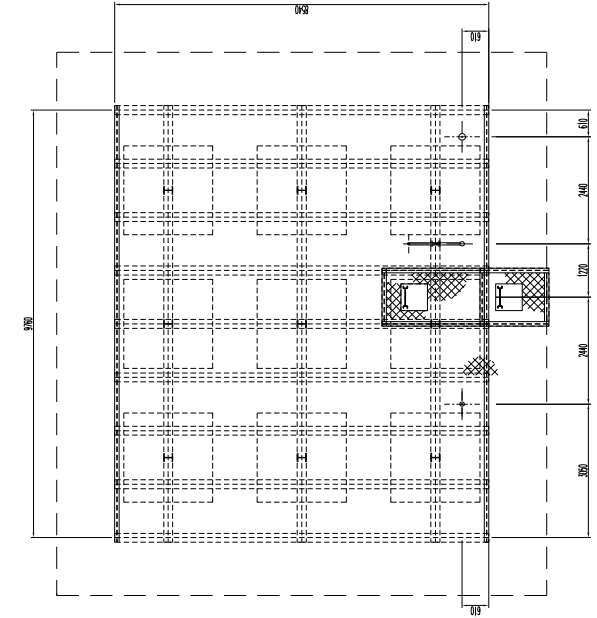
Concrete Foundation Reinforcement  
S=1:50(A1) 1:100(A3)

Table of Reinforcing bar Arrangement

Bar	Symbol	Type	a	b	c	R	Material	Min. No. Bars	Max. Spacing	Contract No.	Sheet No.
f	D13	A	1000	1000	60	0.25%	1.851	60	0.25%	1.851	50.4
g	D13	A	1000	1000	32	0.25%	0.176	32	0.25%	0.176	24.8
(RHP) Min. 1000 x 1000 x 100 (RHP) Min. 1000 x 1000 x 100 (RHP) Min. 1000 x 1000 x 100											



SECTION C-C



SECTION D-D

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
MARKET CENTRES IN CENTRAL REGION

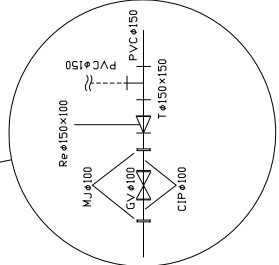
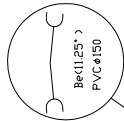
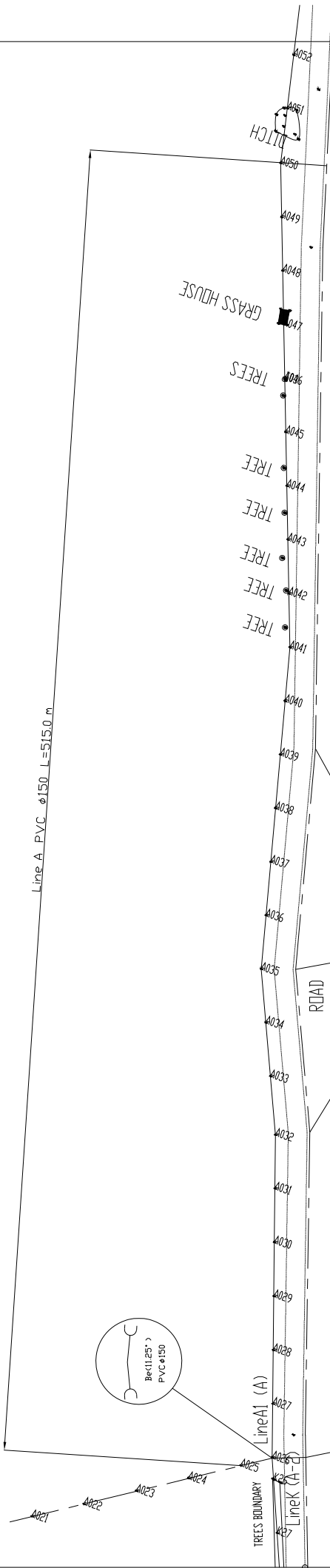
Elevated Tank and  
Control Building Layout  
Mkanda

Scale \_\_\_\_\_  
Date Oct. 2011  
Drawing No. M006  
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

Elevated Tank Structure  
S=1:60(A1) 1:120(A3)

MKANDA WATER SUPPLY SCHEME  
 LINE A : 0.00m to 500m

SCALE : 1 / 500 (A0)



LEGEND	
VC	Valve Box
BC	Breaker
CLP	Cast Iron Pipe
AV	Air Valve
BJP	Blow Off Pipe
CV	Gate Valve
Be	Be
Sp	Spigot Band
TS	Tee
BTCLCP	Branch Pipe
MJ	M. Joint
GV	Gate Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

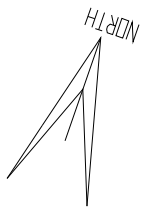
Water Distribution Pipe Plan  
 Mkanda

Scale : Shown in the Drawing  
 Date : Oct. 2011 Drawing No. : M007  
 EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

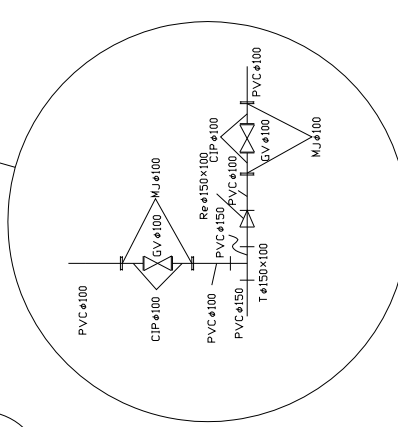
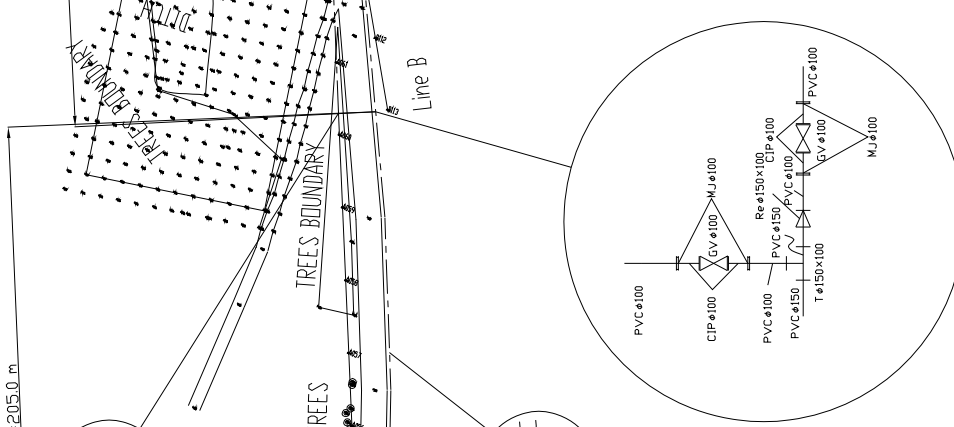
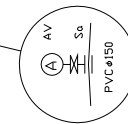
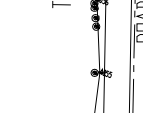
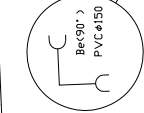


MKANDA WATER SUPPLY SCHEME  
 LINE A : 500m to 1,000m

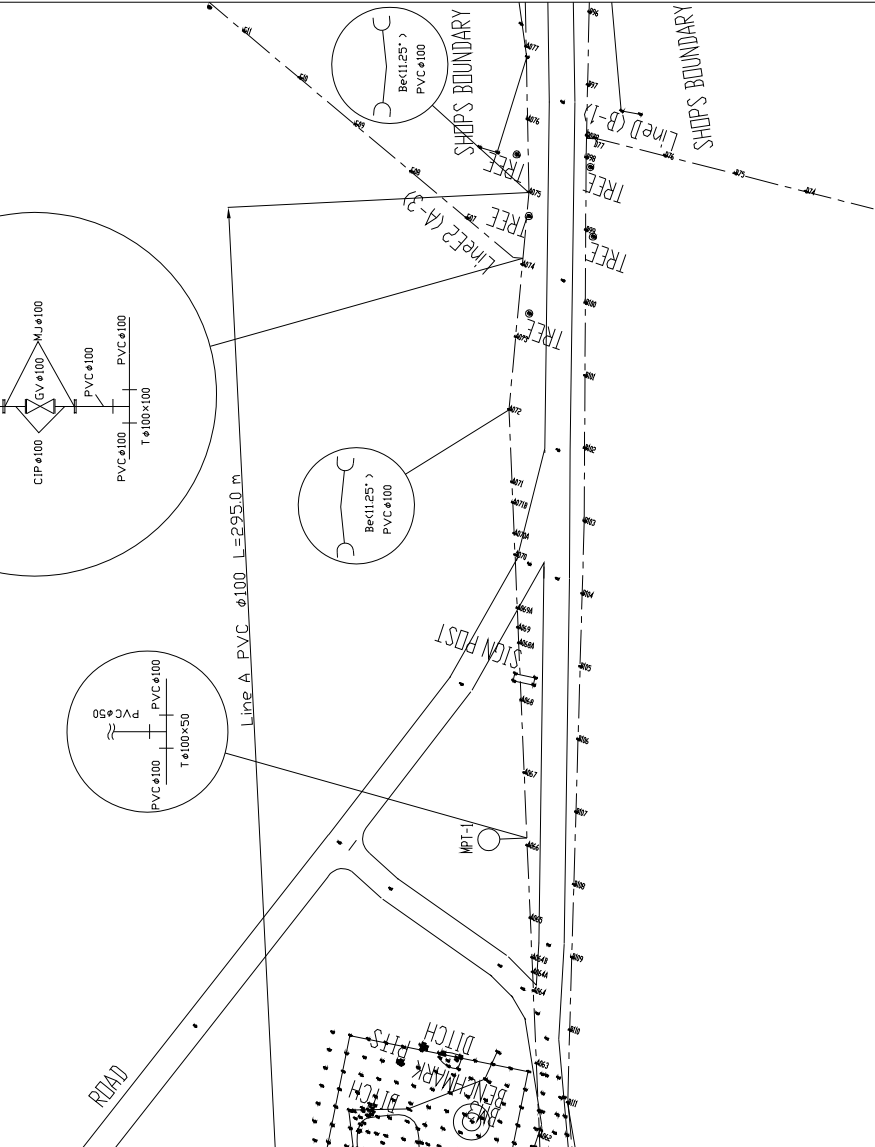
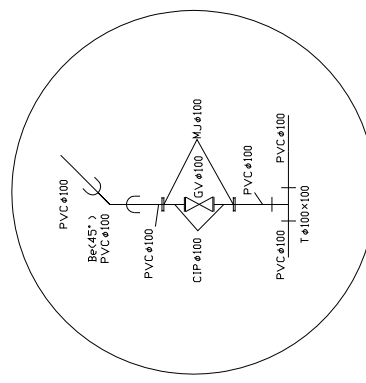
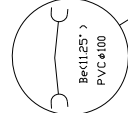
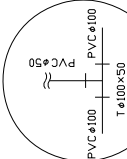
SCALE : 1 / 500 (A0)



Line A PVC  $\phi$ 150 L=205.0 m

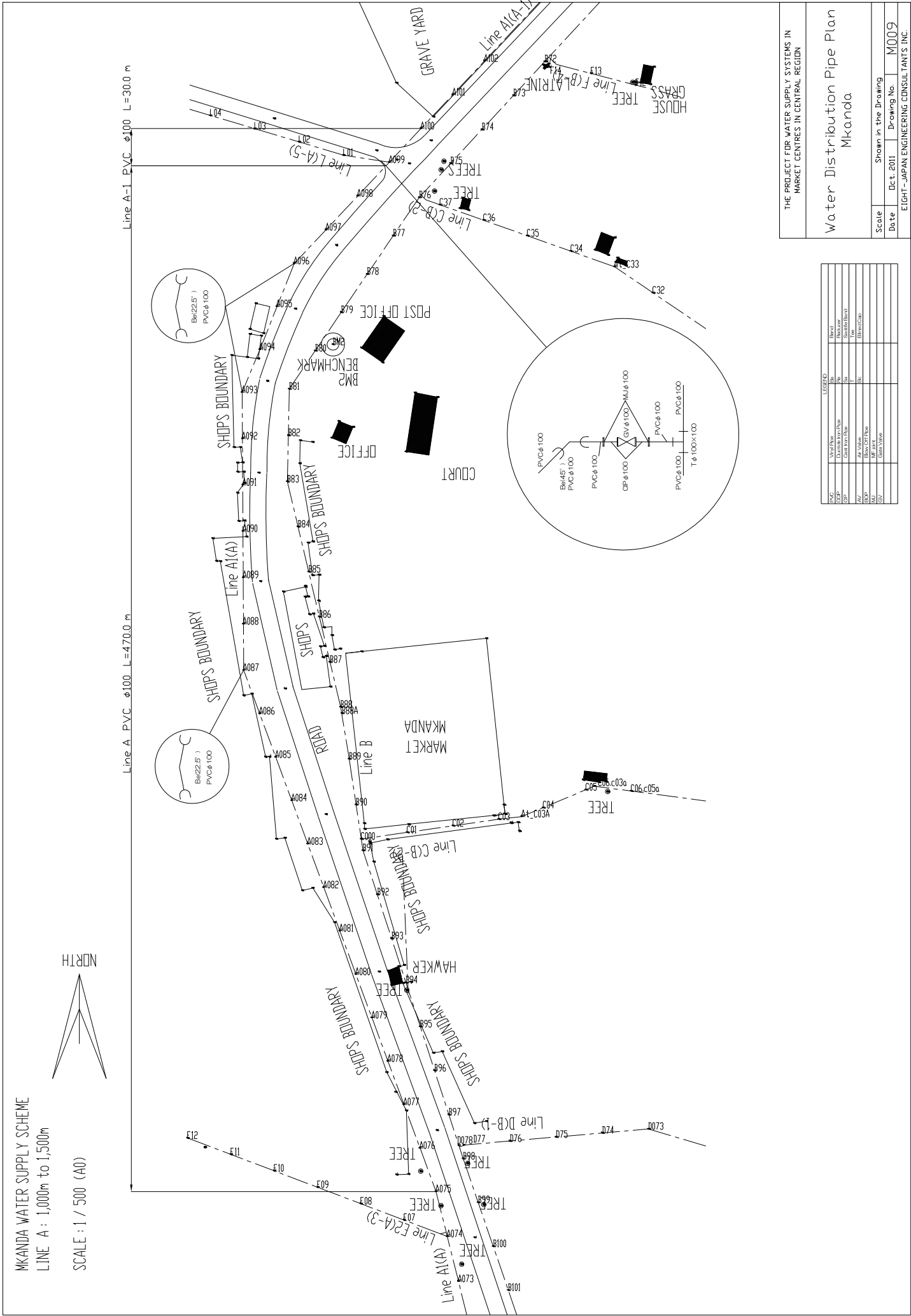


Line A PVC  $\phi$ 100 L=295.0 m



LEGEND	
Be	90° Elbow
B	Bend
Br	Breaker
CIP	Cast Iron Pipe
Ca	Cast Iron Pipe
So	Saddle Band
T	Tee
V	Gate Valve
AV	AV Valve
BP	Blow Off Pipe
MJ	Man Joint
GV	Gate Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Distribution Pipe Plan Mkanda	
Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M008
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	



MKANDA WATER SUPPLY SCHEME  
 LINE A : 1,000m to 1,500m  
 SCALE : 1 / 500 (A0)



Line A PVC φ100 L=4700 m  
 Line A-1 PVC φ100 L=3000 m

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

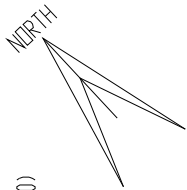
Scale: M009  
 Date: Dec. 2011  
 Drawing No.: M009  
 Shown in the Drawing

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

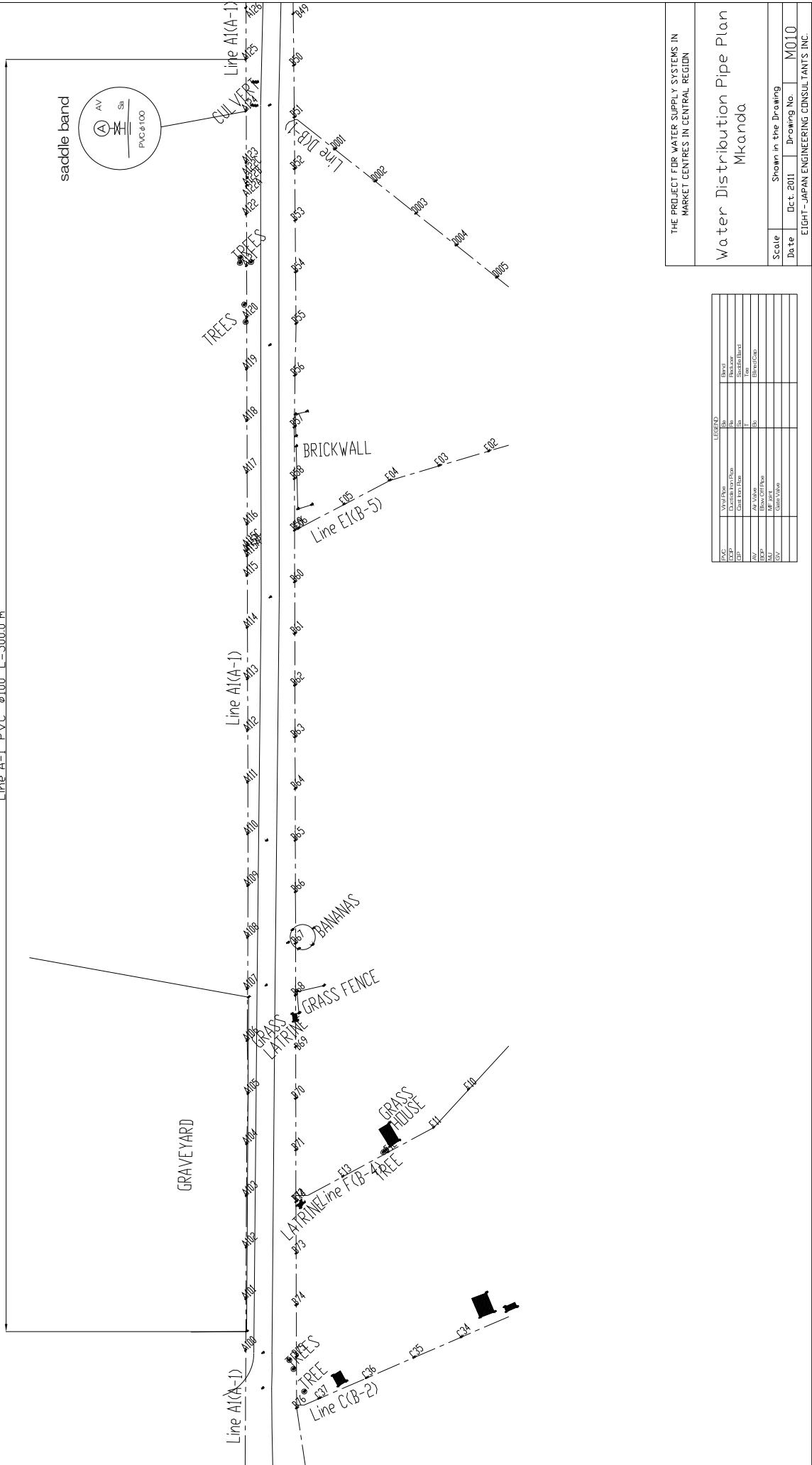
NO.	SYMBOL	LEGEND
1		Valve
2		Check Valve
3		Gate Valve
4		Stop Valve
5		Air Valve
6		Blow Off Pipe
7		Fire Hydrant
8		Manhole
9		Junction Box
10		Water Meter

MKANDA WATER SUPPLY SCHEME  
 LINE A(KA-1) : 1,500m to 2,000m

SCALE : 1 / 500 (A0)



Line A-1 PVC  $\phi$ 100 L=500.0 m



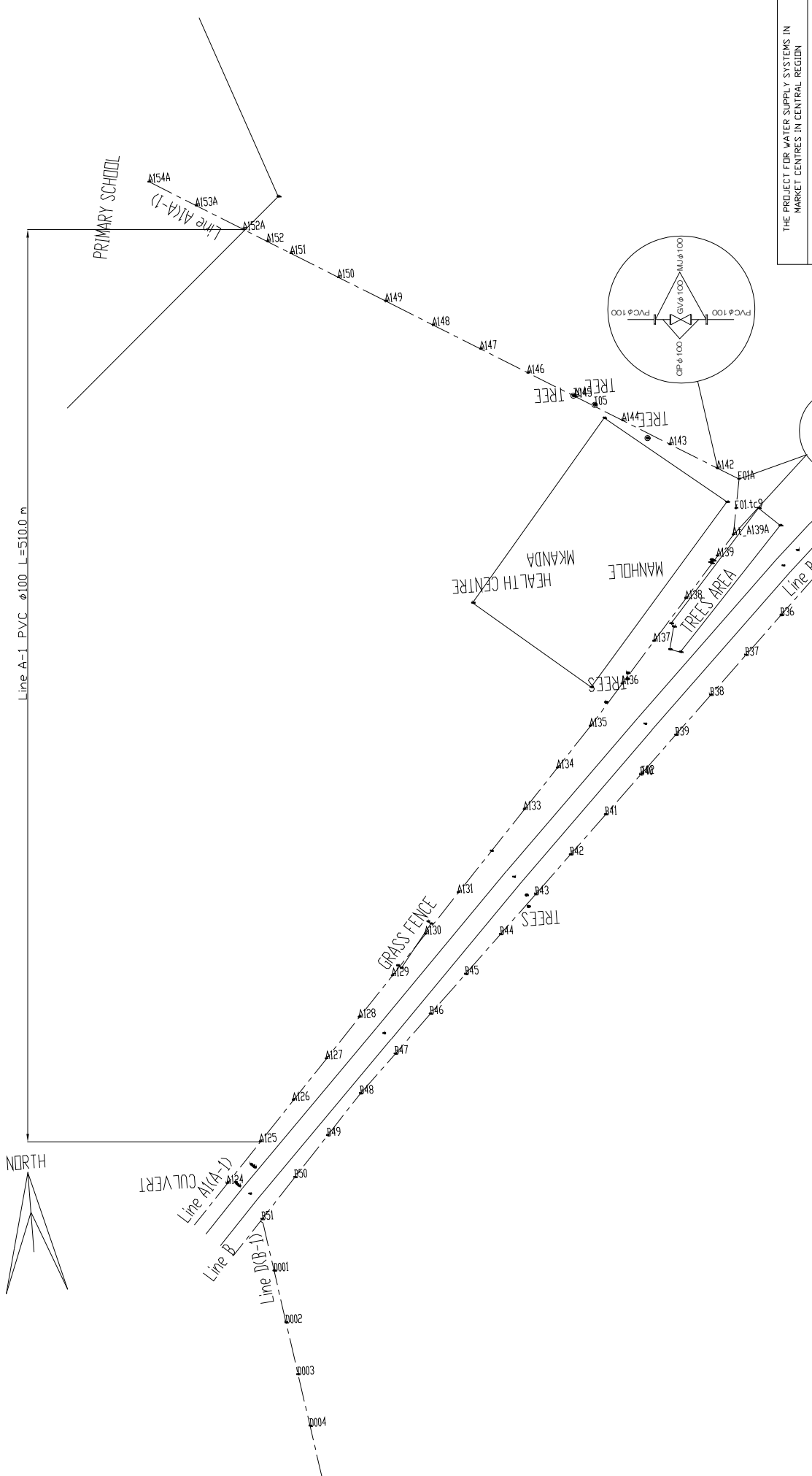
LEGEND			
W.P.	Water Pipe	Line	Water Pipe
D.P.	Distribution Pipe	Line	Distribution Pipe
C.P.	Control Pipe	Line	Control Pipe
E.P.	Elbow Pipe	Line	Elbow Pipe
M.U.	Manhole	Circle	Manhole
C.P.	Culvert	Circle	Culvert

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

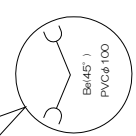
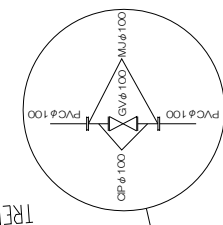
Water Distribution Pipe Plan  
 Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M010
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	

MKANDA WATER SUPPLY SCHEME  
 LINE A(KA-1) : 2,000m to 2,500m  
 SCALE : 1 / 500 (A0)



LEGEND	
CP	Coupling
GVP	Grip Valve
MU	Manhole
PVC	PVC Pipe
B36-B49	Manhole
A123	Valve
A124	Valve
A125	Valve
A100-A154	Pipe
D(B-1)	Pipe
KA-1	Line
KA-1	Line
B(B-1)	Line
KA-1	Line
KA-1	Line
KA-1	Line
KA-1	Line
KA-1	Line
KA-1	Line



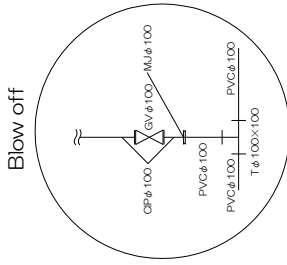
THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

**Water Distribution Pipe Plan**  
 Mkanda

Scale	Shown in the Drawing	Date	Dec. 2011	Drawing No.	M011
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.					

MKANDA WATER SUPPLY SCHEME  
 LINE A1(A-1) : 2,500m to 3,000m

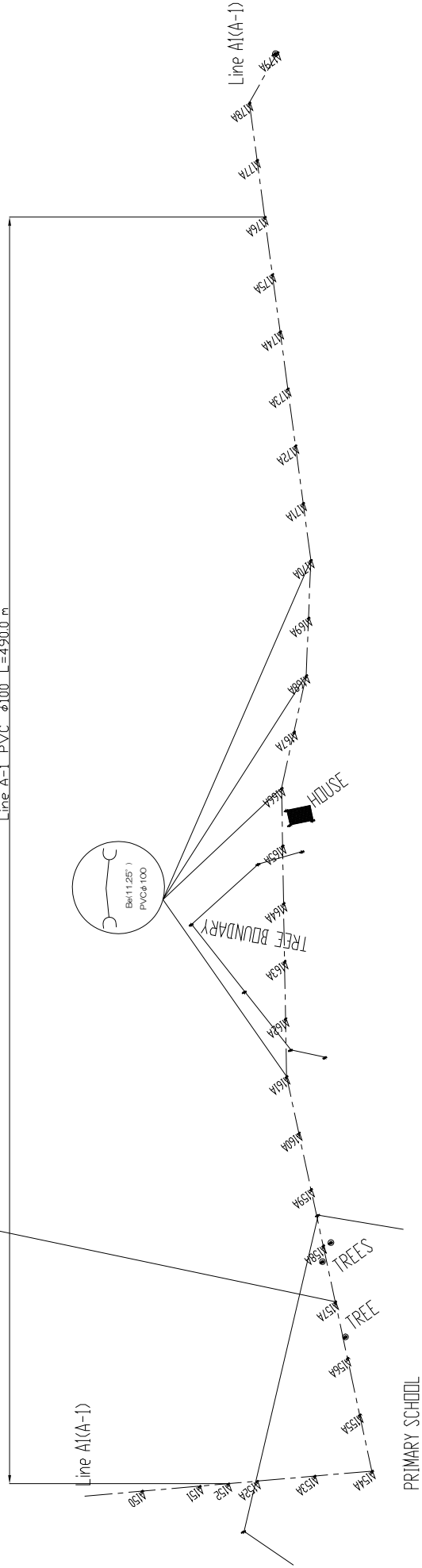
SCALE : 1 / 500 (A0)



Blow off



Line A-1 PVC  $\phi$ 100 L=4900.0 m

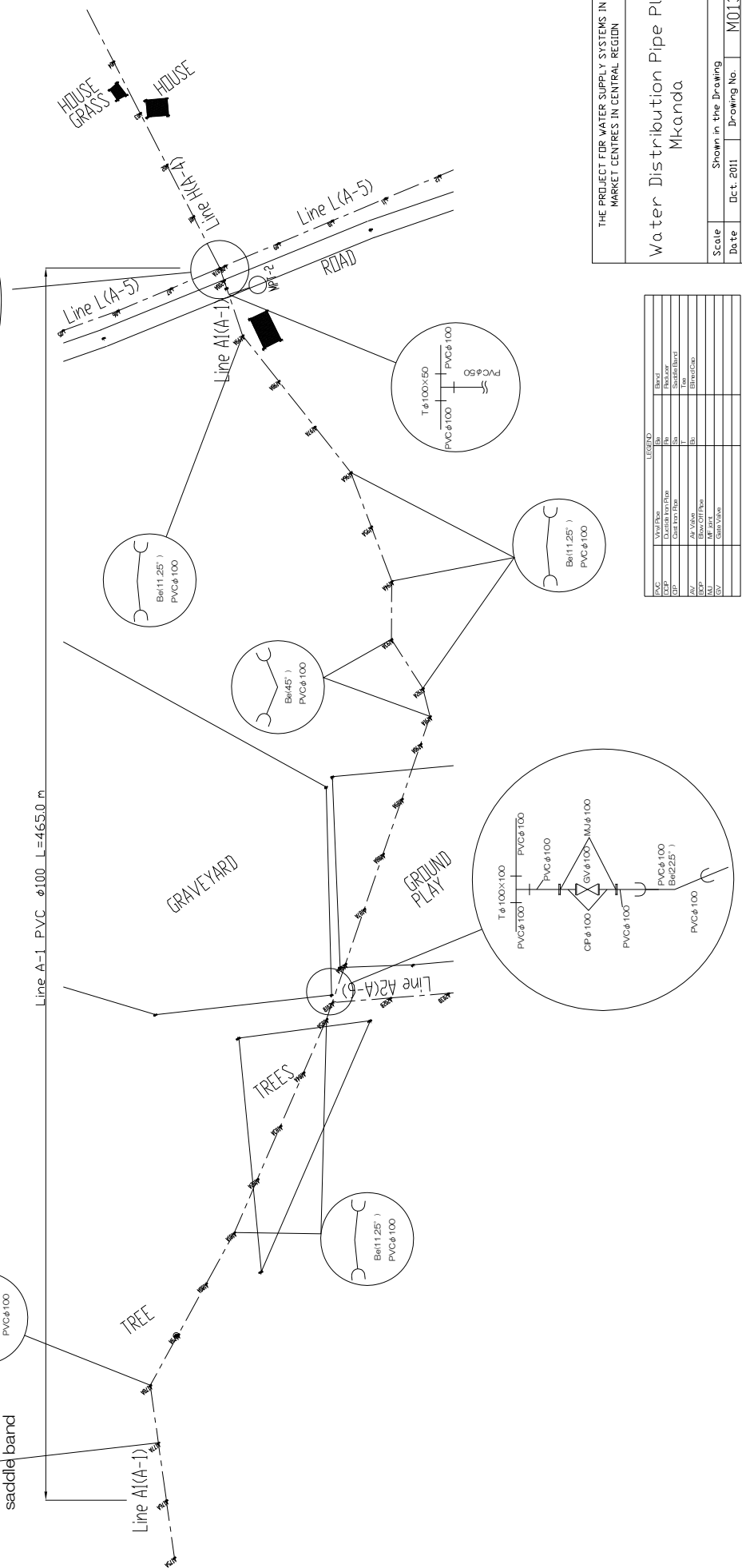
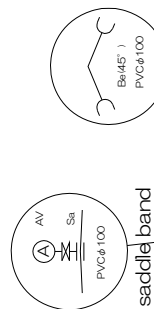
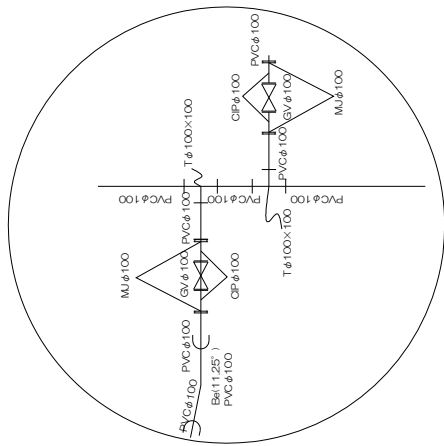
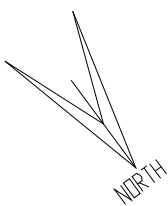


THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION			
Water Distribution Pipe Plan Mkanda			
Scale	Shown in the Drawing	Date	Dec. 2011
		Drawing No.	M012
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.			

NO.	DESCRIPTION	LEGEND
01	Water Main	Line
02	Water Main Valve	Circle
03	Water Main Tee	T
04	Water Main Elbow	E
05	Water Main Stop Valve	SV
06	Water Main Gate Valve	GV
07	Water Main Blow Off	BO
08	Water Main Tee	T
09	Water Main Elbow	E
10	Water Main Stop Valve	SV
11	Water Main Gate Valve	GV
12	Water Main Blow Off	BO
13	Water Main Tee	T
14	Water Main Elbow	E
15	Water Main Stop Valve	SV
16	Water Main Gate Valve	GV
17	Water Main Blow Off	BO
18	Water Main Tee	T
19	Water Main Elbow	E
20	Water Main Stop Valve	SV
21	Water Main Gate Valve	GV
22	Water Main Blow Off	BO
23	Water Main Tee	T
24	Water Main Elbow	E
25	Water Main Stop Valve	SV
26	Water Main Gate Valve	GV
27	Water Main Blow Off	BO
28	Water Main Tee	T
29	Water Main Elbow	E
30	Water Main Stop Valve	SV
31	Water Main Gate Valve	GV
32	Water Main Blow Off	BO
33	Water Main Tee	T
34	Water Main Elbow	E
35	Water Main Stop Valve	SV
36	Water Main Gate Valve	GV
37	Water Main Blow Off	BO
38	Water Main Tee	T
39	Water Main Elbow	E
40	Water Main Stop Valve	SV
41	Water Main Gate Valve	GV
42	Water Main Blow Off	BO
43	Water Main Tee	T
44	Water Main Elbow	E
45	Water Main Stop Valve	SV
46	Water Main Gate Valve	GV
47	Water Main Blow Off	BO
48	Water Main Tee	T
49	Water Main Elbow	E
50	Water Main Stop Valve	SV
51	Water Main Gate Valve	GV
52	Water Main Blow Off	BO
53	Water Main Tee	T
54	Water Main Elbow	E
55	Water Main Stop Valve	SV
56	Water Main Gate Valve	GV
57	Water Main Blow Off	BO
58	Water Main Tee	T
59	Water Main Elbow	E
60	Water Main Stop Valve	SV
61	Water Main Gate Valve	GV
62	Water Main Blow Off	BO
63	Water Main Tee	T
64	Water Main Elbow	E
65	Water Main Stop Valve	SV
66	Water Main Gate Valve	GV
67	Water Main Blow Off	BO
68	Water Main Tee	T
69	Water Main Elbow	E
70	Water Main Stop Valve	SV
71	Water Main Gate Valve	GV
72	Water Main Blow Off	BO
73	Water Main Tee	T
74	Water Main Elbow	E
75	Water Main Stop Valve	SV
76	Water Main Gate Valve	GV
77	Water Main Blow Off	BO
78	Water Main Tee	T
79	Water Main Elbow	E
80	Water Main Stop Valve	SV
81	Water Main Gate Valve	GV
82	Water Main Blow Off	BO
83	Water Main Tee	T
84	Water Main Elbow	E
85	Water Main Stop Valve	SV
86	Water Main Gate Valve	GV
87	Water Main Blow Off	BO
88	Water Main Tee	T
89	Water Main Elbow	E
90	Water Main Stop Valve	SV
91	Water Main Gate Valve	GV
92	Water Main Blow Off	BO
93	Water Main Tee	T
94	Water Main Elbow	E
95	Water Main Stop Valve	SV
96	Water Main Gate Valve	GV
97	Water Main Blow Off	BO
98	Water Main Tee	T
99	Water Main Elbow	E
100	Water Main Stop Valve	SV

MKANDA WATER SUPPLY SCHEME  
 LINE A(KA-1) : 3,000m to 3,447.41m

SCALE : 1 / 500 (A0)



SYM	DESCRIPTION	LEGEND
AV	Avalanche Valve	Valve
SA	Saddle Band	Band
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve
CP	Control Valve	Valve

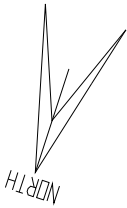
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

### Water Distribution Pipe Plan Mkanda

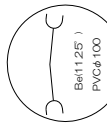
Scale: Shown in the Drawing  
 Date: Dec. 2011 Drawing No. M013  
 EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE K(A-2) : 500m to 940.13m

SCALE : 1 / 500 (A0)



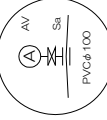
Line A-2 PVC  $\phi$ 100 L=430.0 m



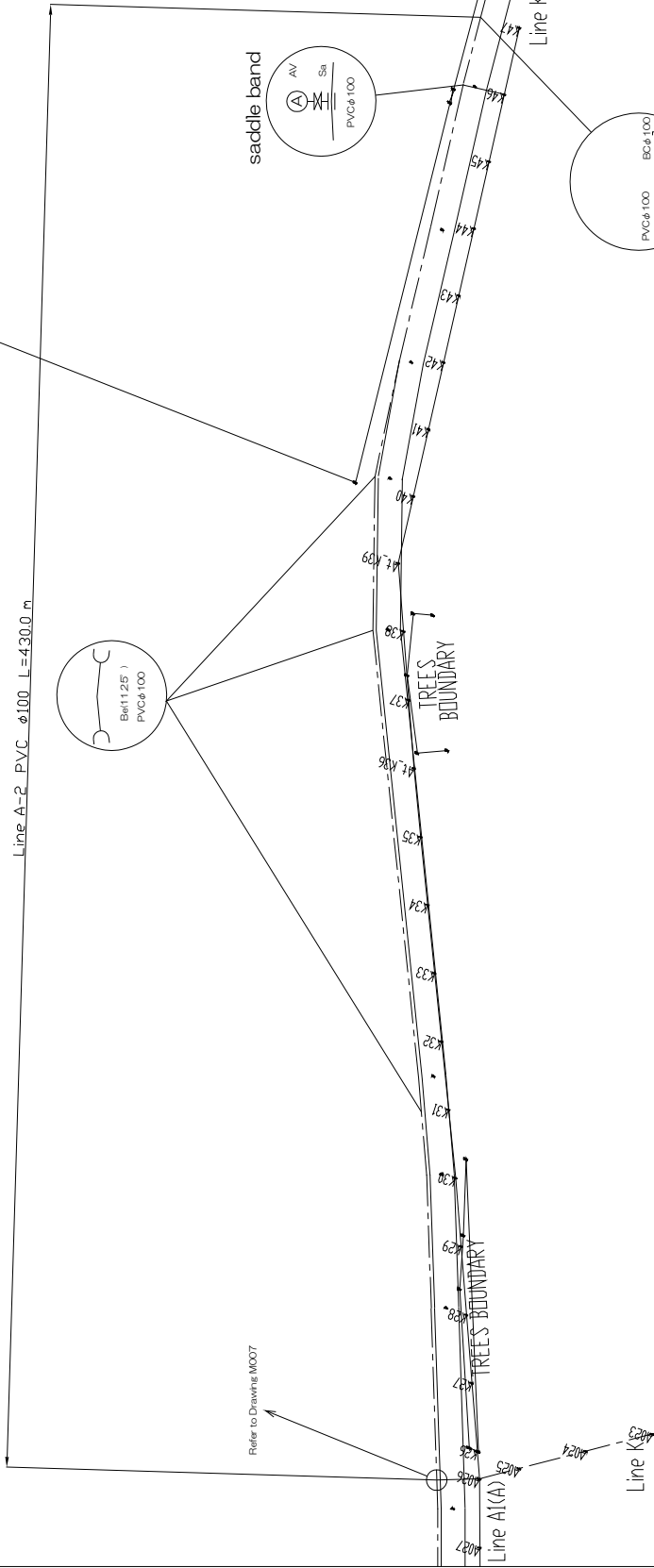
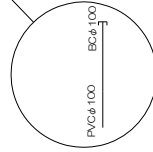
Refer to Drawings M007

MKANDA  
 SECONDARY  
 SCHOOL

saddle band



Line K(A-2)



THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

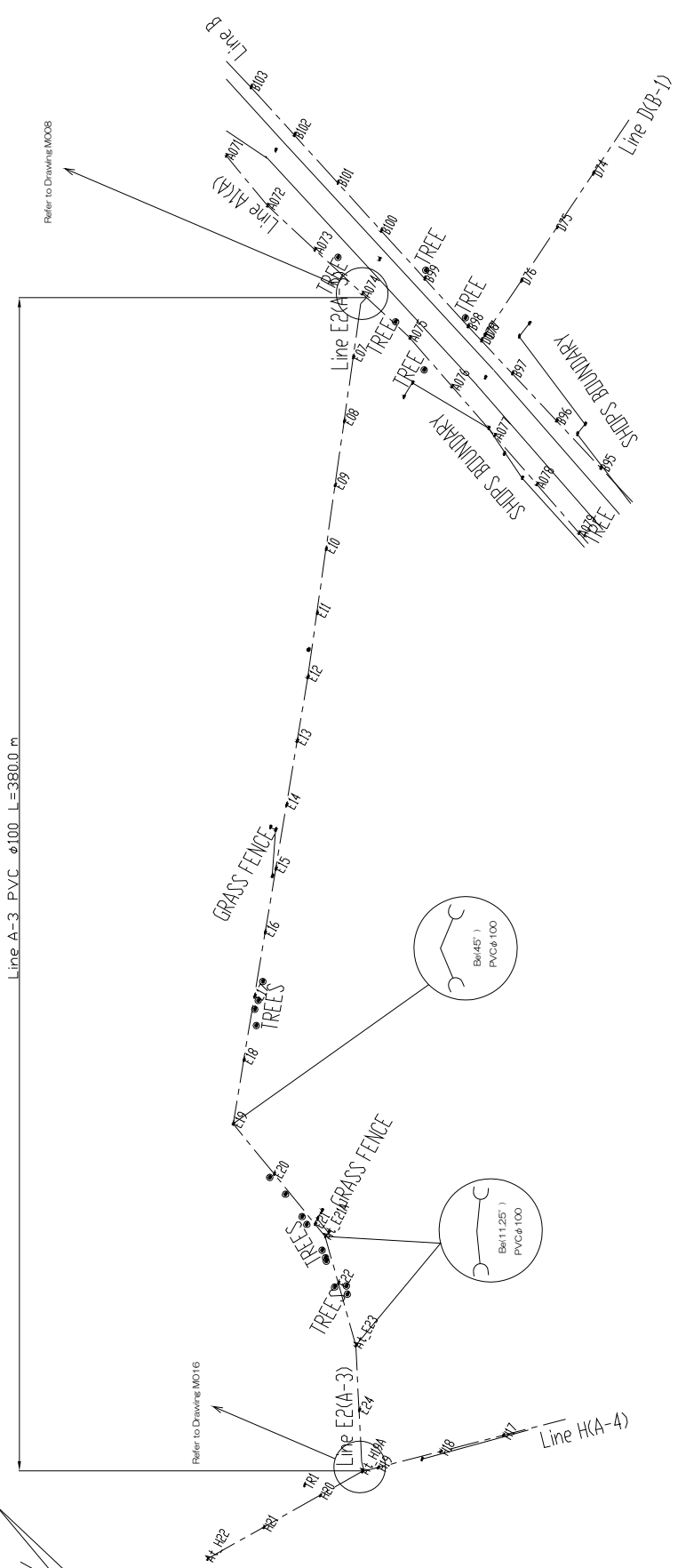
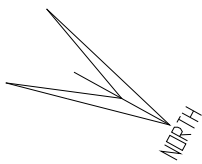
# Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing	M014
Date	Drawing No.	
EIGHT - JAPAN ENGINEERING CONSULTANTS INC.		

LEGEND	
WSP	Water Supply Pipe
DSP	Distribution Pipe
GP	General Purpose Pipe
AV	As Valve
EB	Elbow, 90° Elbow
MU	Manhole
GP	General Purpose
SB	Saddle Band
TR	Trees
TRB	Trees Boundary

MKANDA WATER SUPPLY SCHEME  
 LINE E2(A-3): 0.00m to 379.08m

SCALE : 1 / 500 (A0)



Refer to Drawing MO08

Refer to Drawing MO16

LEGEND	
---	Water Pipe
---	Electric Cable
---	Grass Fence
---	Ship Boundary
---	Tree
---	Valve
---	Elbow/Off Take
---	RF Joint
---	Ship Yard

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

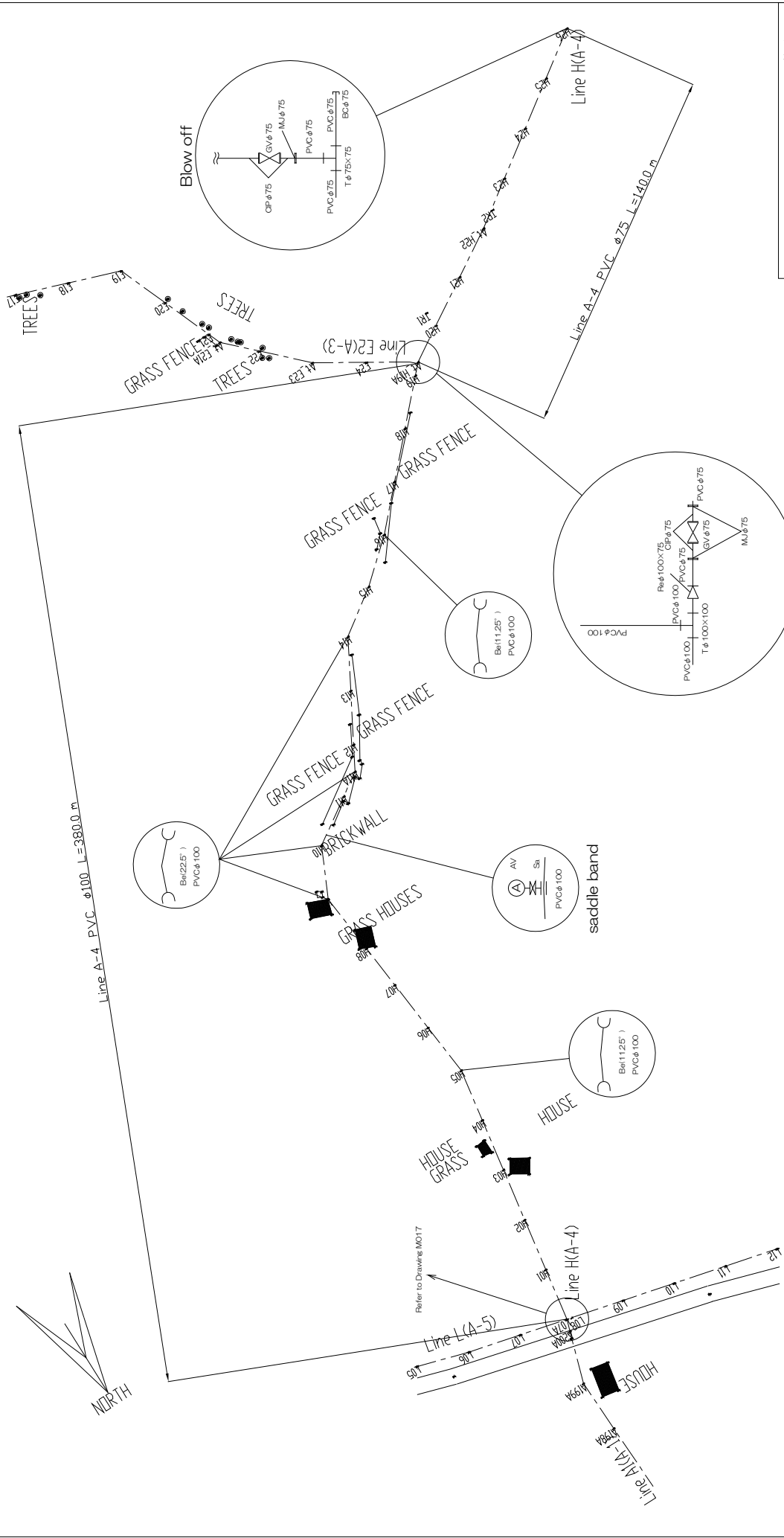
Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M015

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.



MKANDA WATER SUPPLY SCHEME  
 LINE H(A-4) : 0.00m to 520.21m

SCALE : 1 / 500 (A0)



LEGEND	
CP	Cast Iron Pipe
PVC	PVC Pipe
AV	Angle Valve
SV	Stop Valve
E	Elbow
T	Tee
B	Blow Off
W	Water
S	Soil
Gr	Grass
Br	Brick Wall
H	House
GrH	Grass House
Gr	Grass
T	Tree

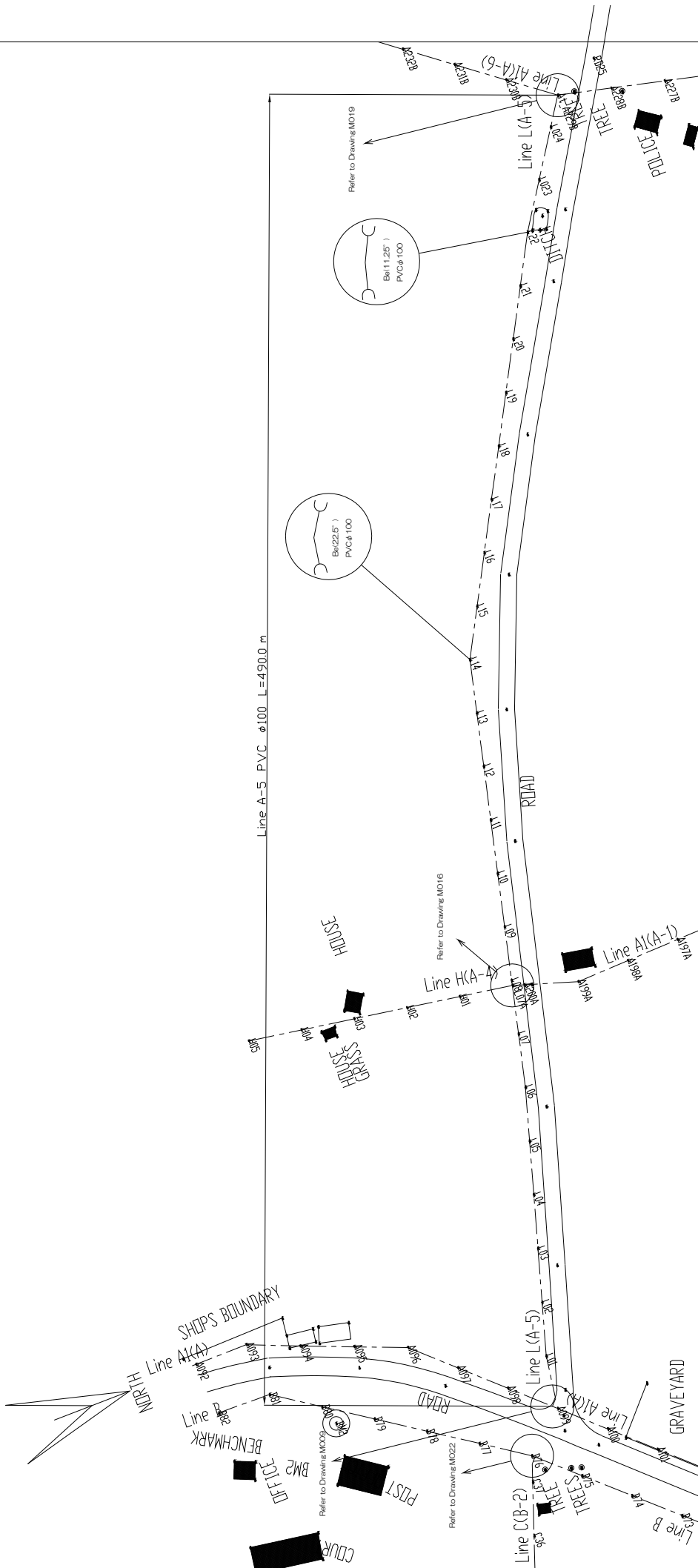
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

### Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M016
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	

MKANDA WATER SUPPLY SCHEME  
 LINE L(A-5) : 0.00m to 492.17m

SCALE : 1 / 500 (A0)



THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

### Water Distribution Pipe Plan Mkanda

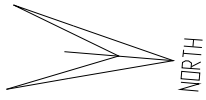
Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M017

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

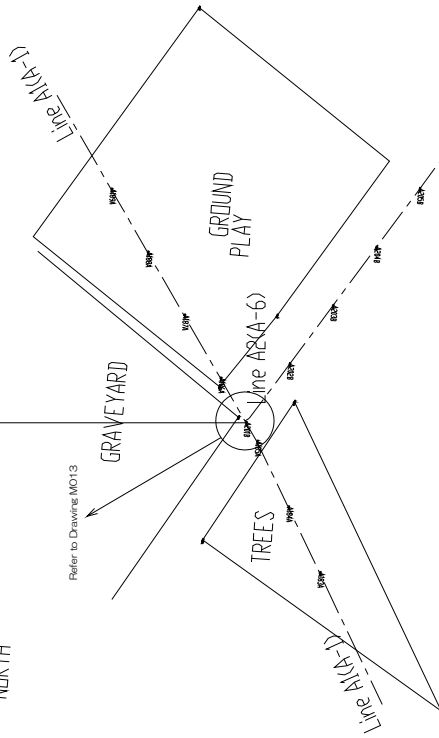
LEGEND	
W.P.	Water Pipe
W.P.	Water Pipe (100mm)
W.P.	Water Pipe (150mm)
W.P.	Water Pipe (200mm)
W.P.	Water Pipe (250mm)
W.P.	Water Pipe (300mm)
W.P.	Water Pipe (350mm)
W.P.	Water Pipe (400mm)
W.P.	Water Pipe (450mm)
W.P.	Water Pipe (500mm)
W.P.	Water Pipe (550mm)
W.P.	Water Pipe (600mm)
W.P.	Water Pipe (650mm)
W.P.	Water Pipe (700mm)
W.P.	Water Pipe (750mm)
W.P.	Water Pipe (800mm)
W.P.	Water Pipe (850mm)
W.P.	Water Pipe (900mm)
W.P.	Water Pipe (950mm)
W.P.	Water Pipe (1000mm)

MKANDA WATER SUPPLY SCHEME  
LINE A2(A-6): 0.00m to 500m

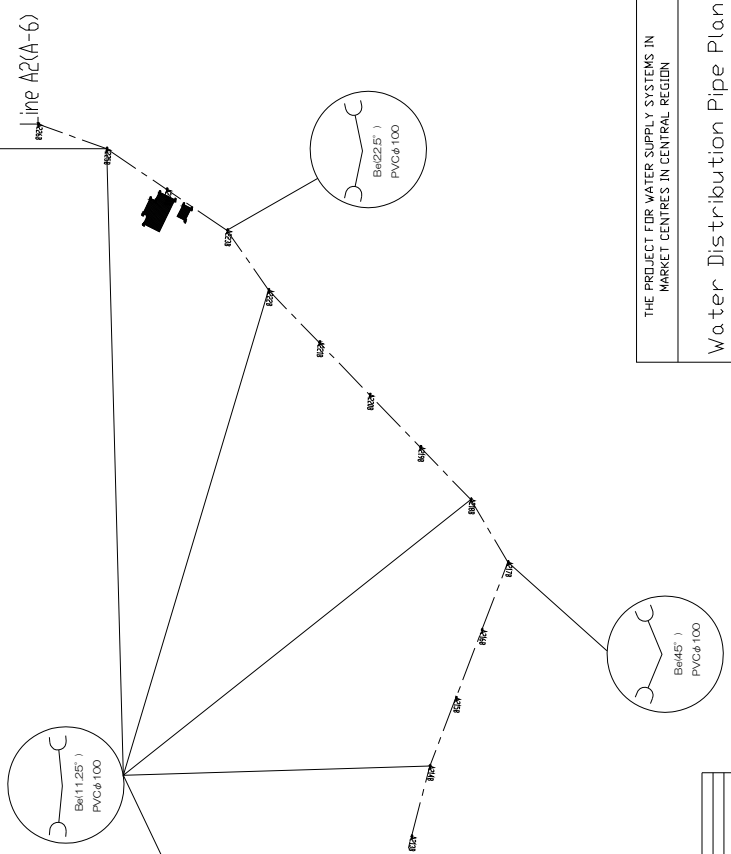
SCALE : 1 / 500 (A0)



Line A-6 PVC  $\phi$ 100 L=480.0 m



Refer to Drawing MO13



NO	SYMBOL	LEGEND
1	BV	Valve
2	TV	Tees
3	CP	Control Valve
4	GP	Ground Play
5	AV	As Valve
6	EV	Elbow/OT Pipe
7	MU	MU 1:1
8	UT	Control Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
MARKET CENTRES IN CENTRAL REGION

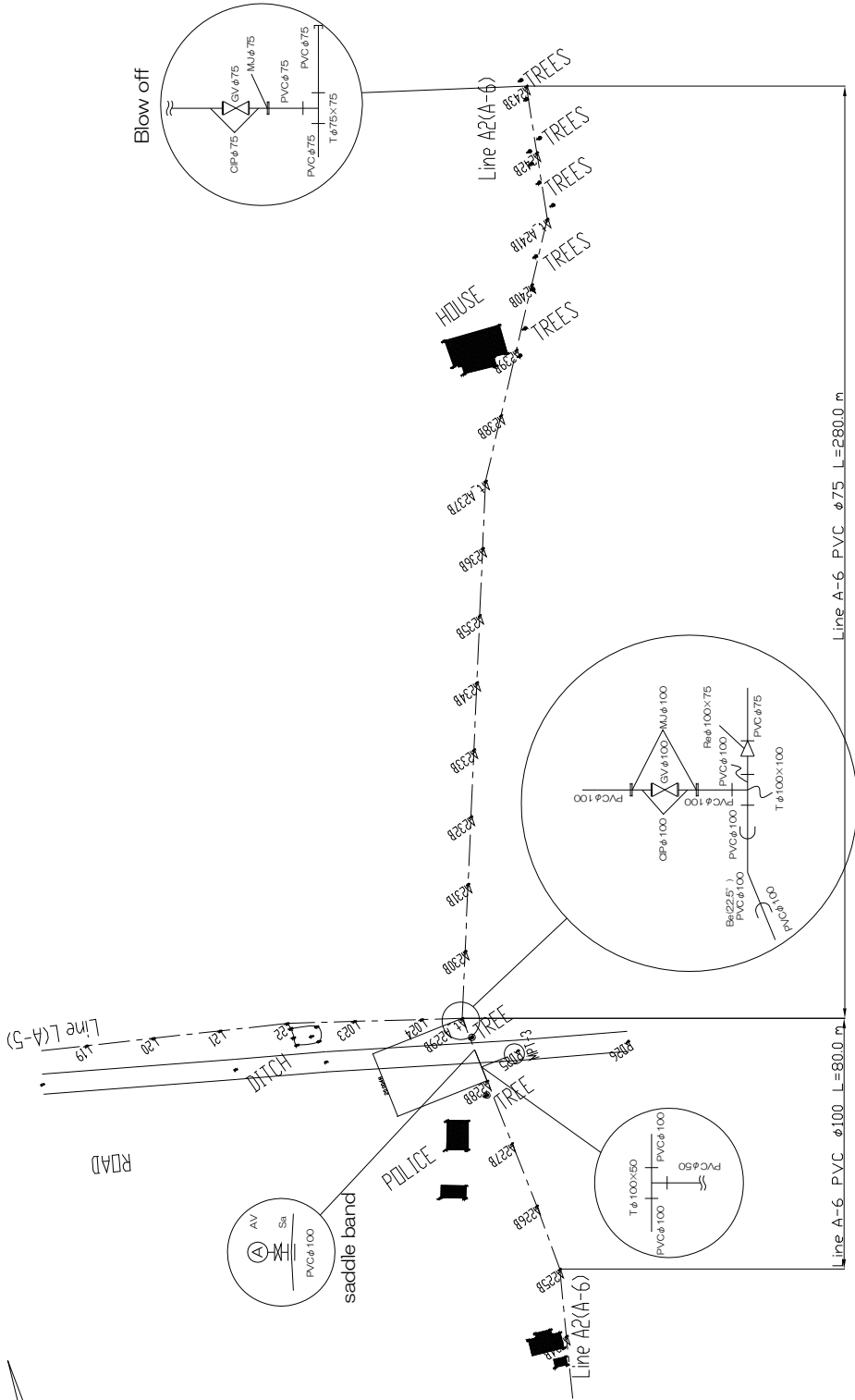
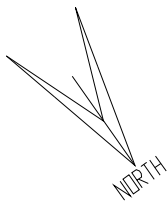
### Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M018

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE A2(A-6): 500m to 840.30m

SCALE : 1 / 500 (A0)



LEGEND	
CP	Control Valve
GV	Gate Valve
SH	Shut off Valve
SA	Service Valve
AV	Air Valve
BL	Blow Off Valve
MU	Meter Unit
CF	Control Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M019

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

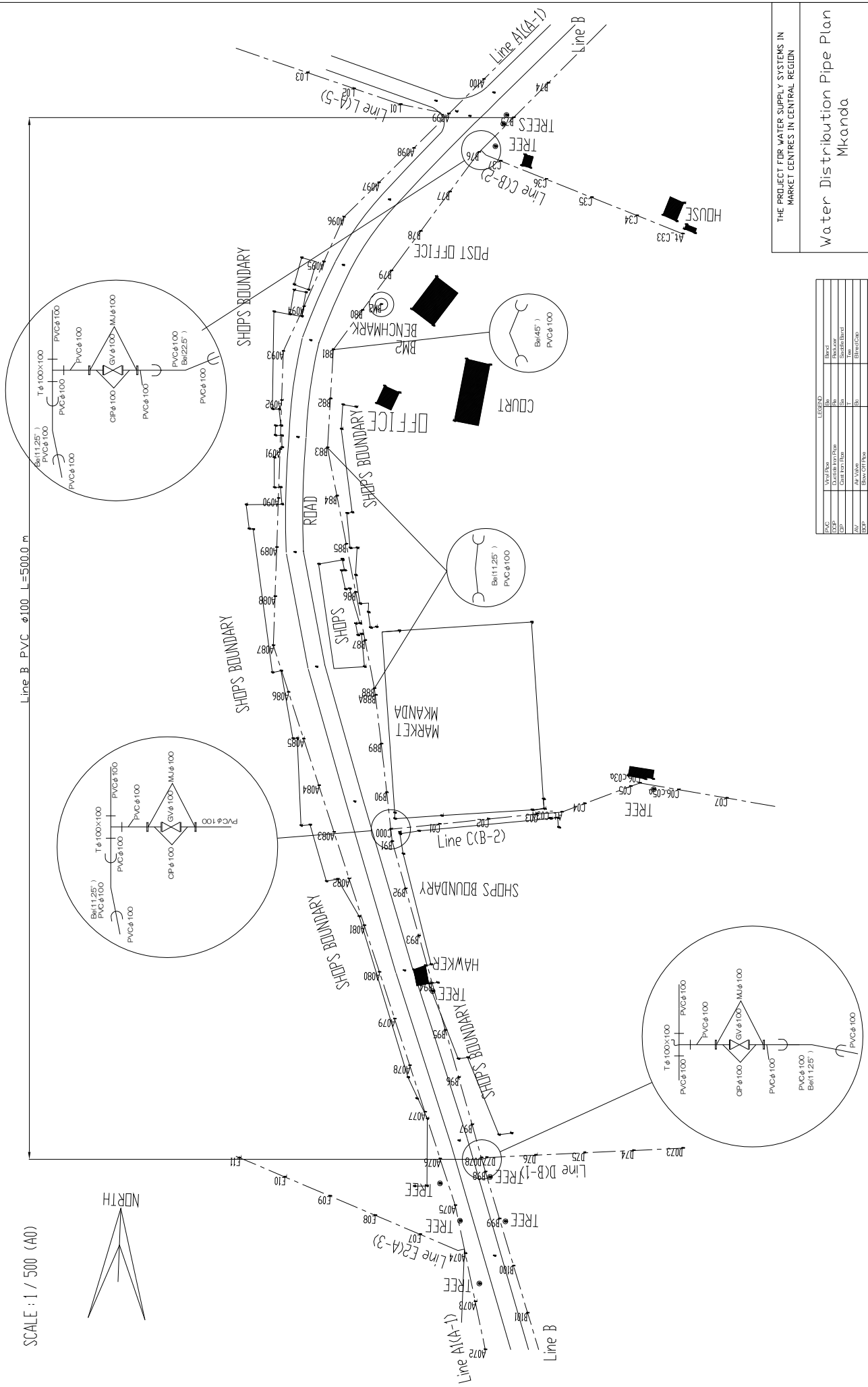


MKANDA WATER SUPPLY SCHEME  
 LINE B : 262.86m to 753.65m

SCALE : 1 / 500 (A0)



Line B PVC  $\phi$ 100 L=500.0 m



LEGEND	
GV	Gate Valve
MH	Manhole
T	Tee
SH	Shut-off Valve
EL	Elbow
CP	Check Valve
AV	Air Valve
EP	End of Pipe
MU	Manhole
CP	Check Valve

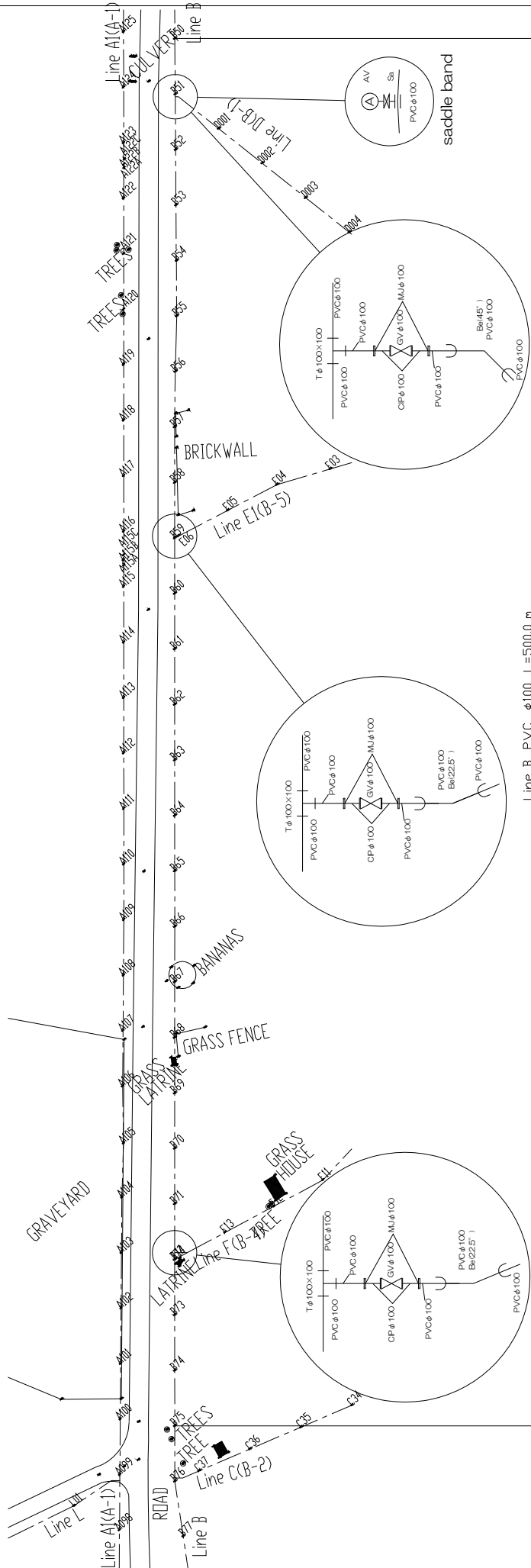
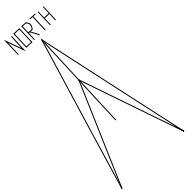
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

## Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M021
EIGHT - JAPAN ENGINEERING CONSULTANTS INC.	

MKANDA WATER SUPPLY SCHEME  
 LINE B : 765.65m to 1,265.72m

SCALE : 1 / 500 (A0)



LEGEND	
CPV	Check Valve
GV	Gate Valve
CP	Check Pipe
CV	Check Valve
CPV	Check Valve
GV	Gate Valve
CP	Check Pipe
CV	Check Valve
CPV	Check Valve
GV	Gate Valve
CP	Check Pipe
CV	Check Valve

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

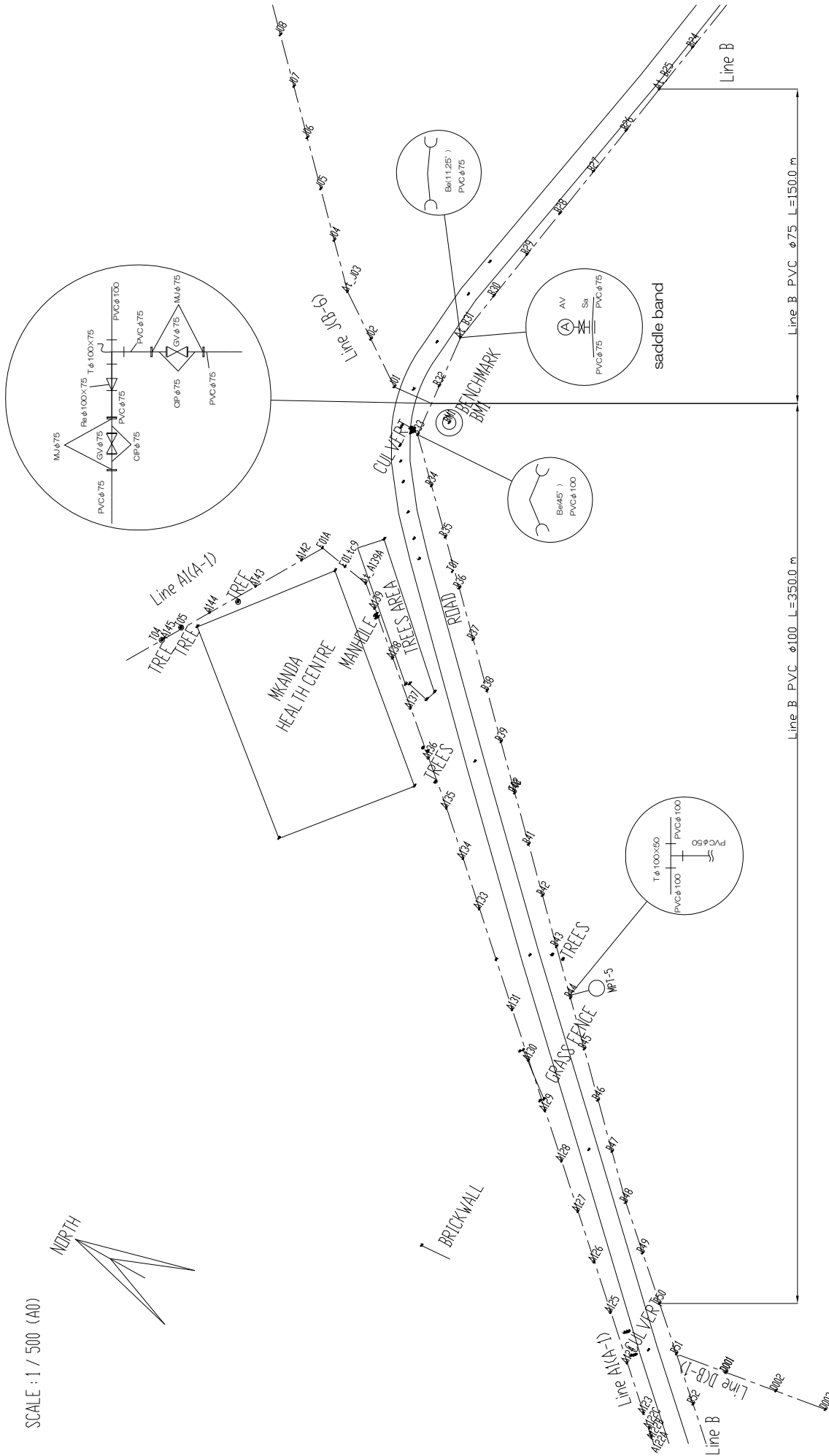
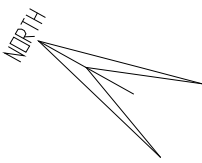
### Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M022

EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE B : 1,265.72m to 1,765.79m

SCALE : 1 / 500 (A0)



LEGEND	
GV	Gate Valve
OP	Open Valve
CP	Check Valve
AV	Air Valve
MU	Manhole
BM	Benchmark
CP	Control Valve
T	Tee
E	Elbow
SB	Saddle Band
BR	Brick Road
TR	Tree
CF	Grass Fence
CR	Culvert

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

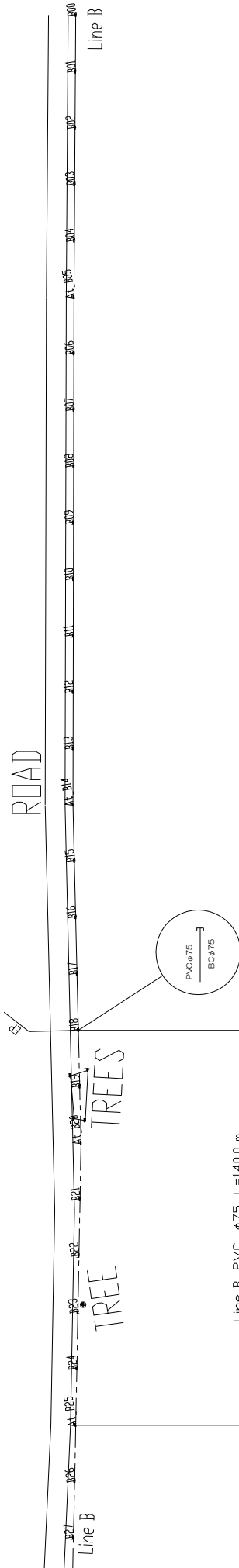
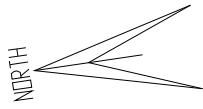
Water Distribution Pipe Plan  
 Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M023
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	



MKANDA WATER SUPPLY SCHEME  
 LINE B : 1,765.79m to 1,905.86m

SCALE : 1 / 500 (A0)



LEGEND		Symbol	Item
---	Water Main	---	Water Main
---	Water Distribution Pipe	---	Water Distribution Pipe
---	Water Valve	---	Water Valve
---	Water Meter	---	Water Meter
---	Water Tap	---	Water Tap
---	Water Stop	---	Water Stop
---	Water Check Valve	---	Water Check Valve
---	Water Elbow	---	Water Elbow
---	Water Tee	---	Water Tee
---	Water Cross	---	Water Cross
---	Water Flange	---	Water Flange
---	Water Coupling	---	Water Coupling
---	Water Adapter	---	Water Adapter
---	Water Reducer	---	Water Reducer
---	Water Expander	---	Water Expander
---	Water Plug	---	Water Plug
---	Water Cap	---	Water Cap
---	Water Blank	---	Water Blank
---	Water Gasket	---	Water Gasket
---	Water Seal	---	Water Seal
---	Water O-Ring	---	Water O-Ring
---	Water Shim	---	Water Shim
---	Water Spacers	---	Water Spacers
---	Water Washers	---	Water Washers
---	Water Lock Washers	---	Water Lock Washers
---	Water Flat Washers	---	Water Flat Washers
---	Water Concave Washers	---	Water Concave Washers
---	Water Convex Washers	---	Water Convex Washers
---	Water Spacers	---	Water Spacers
---	Water Shim	---	Water Shim
---	Water Washers	---	Water Washers
---	Water Lock Washers	---	Water Lock Washers
---	Water Flat Washers	---	Water Flat Washers
---	Water Concave Washers	---	Water Concave Washers
---	Water Convex Washers	---	Water Convex Washers

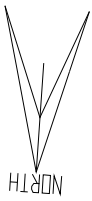
THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

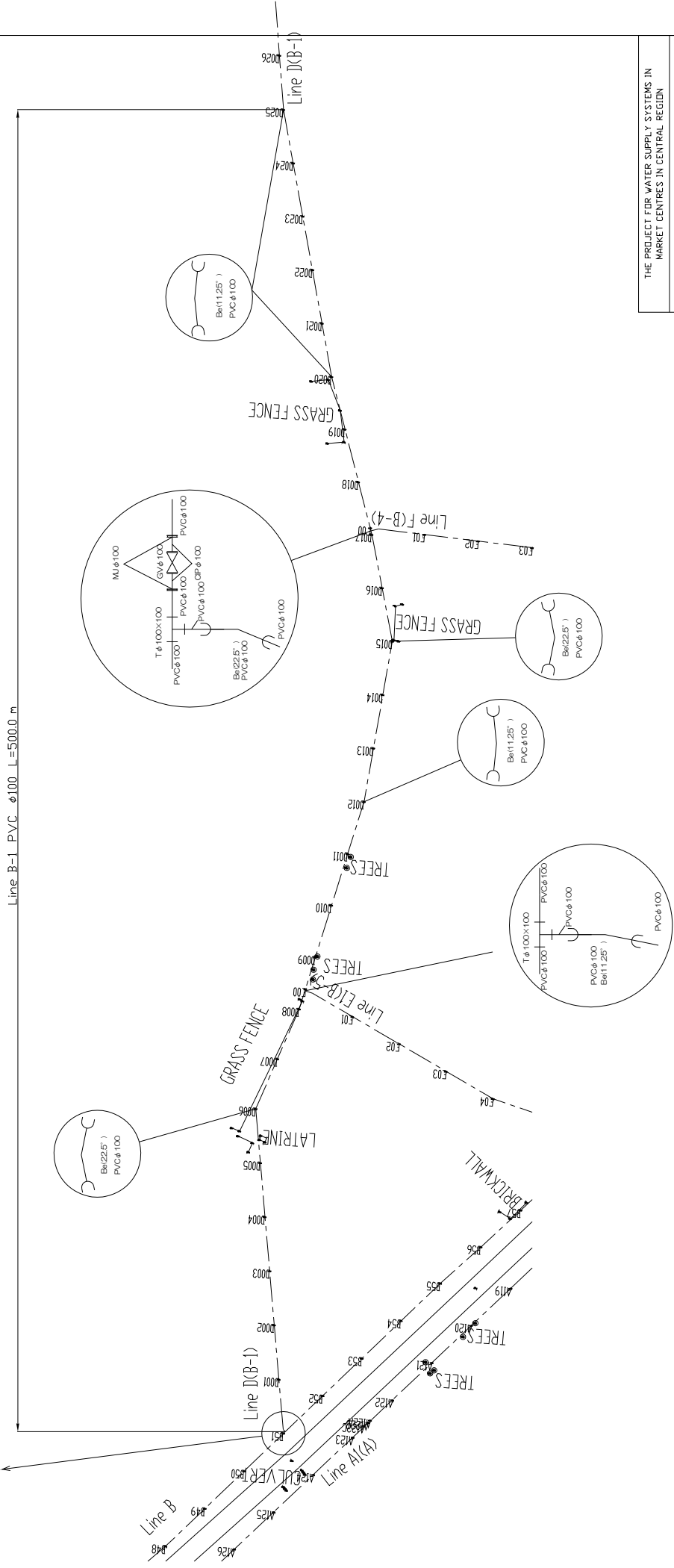
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 Date: Oct. 2011 Drawing No. M024  
 EIGHT--JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE DCB-1) : 0.00m to 500m

SCALE : 1 / 500 (A0)



Refer to Drawing M022



LEGEND	
WSP	Water Supply Pipe
WDP	Water Distribution Pipe
WUP	Water User Pipe
WCP	Water Connection Pipe
WEP	Water End Pipe
WMP	Water Main Pipe
WSP	Water Service Pipe
WUP	Water User Pipe
WCP	Water Connection Pipe
WEP	Water End Pipe
WMP	Water Main Pipe
WSP	Water Service Pipe

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

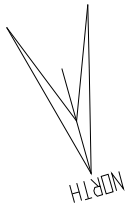
### Water Distribution Pipe Plan Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M025

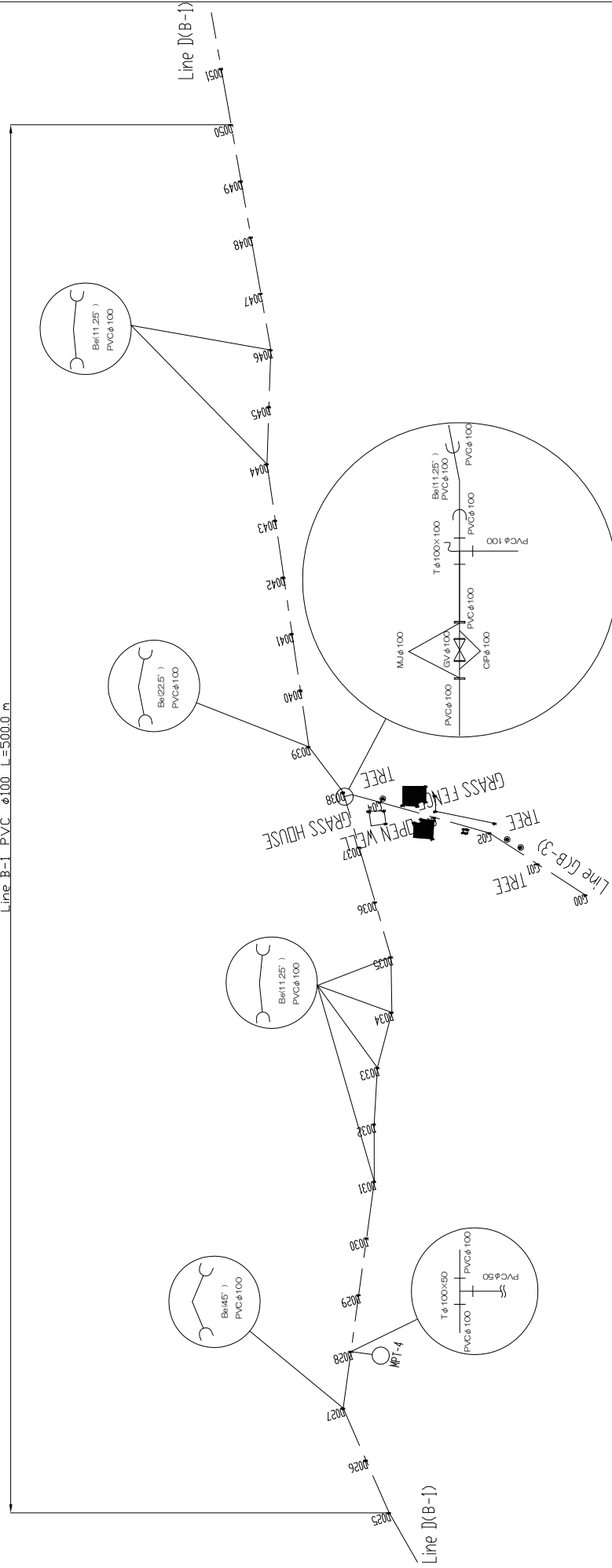
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE D(B-1): 500m to 1,000m

SCALE : 1 / 500 (A0)



Line B-1 PVC φ100 L=500.0 m



THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

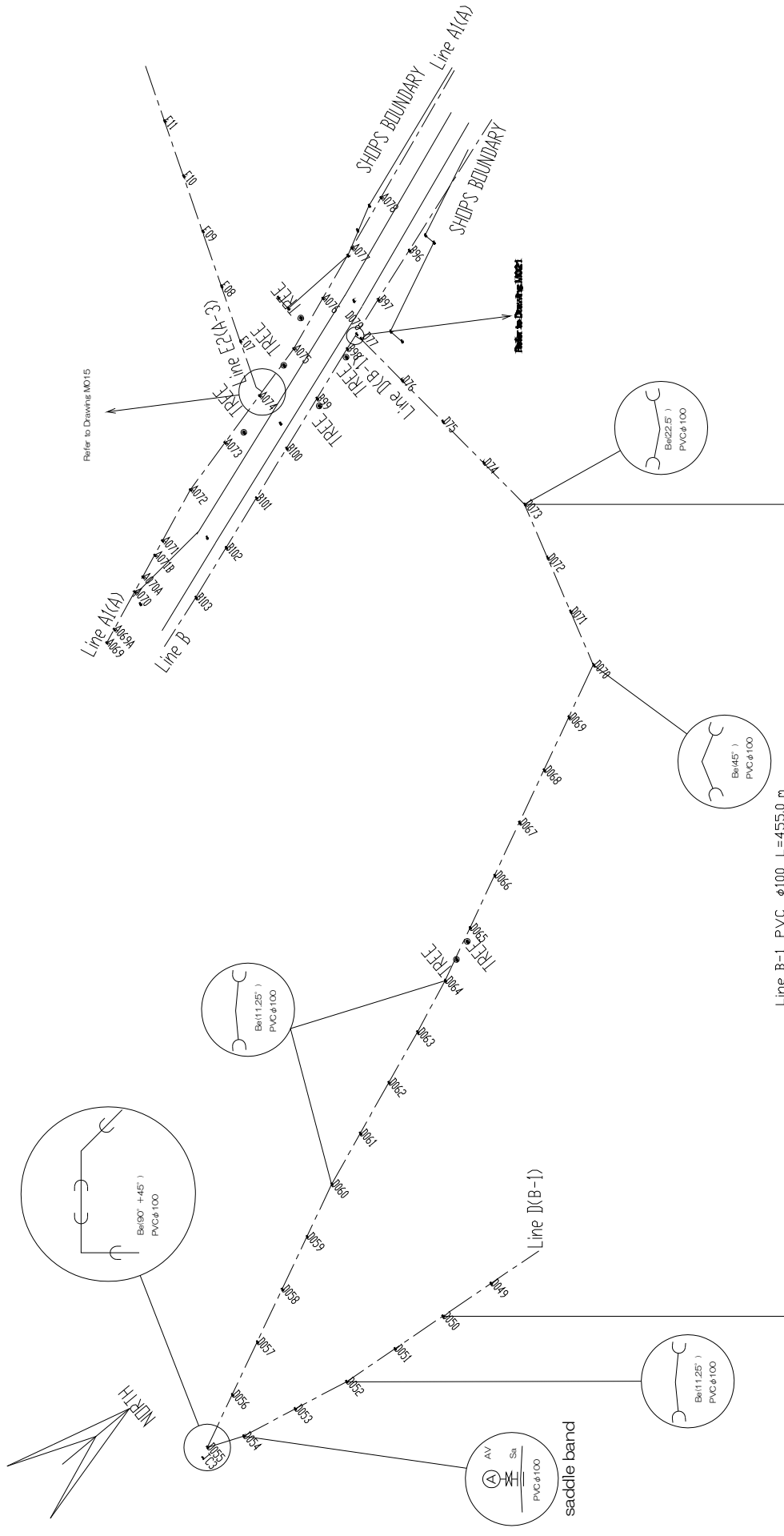
Water Distribution Pipe Plan  
 Mkanda

Scale	Shown in the Drawing	
Date	Oct. 2011	Drawing No. M026
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.		

LEGEND	
PIPE	Water
VALVE	Gate Valve
PIPE	Check Valve
PIPE	Manhole
PIPE	Gate Valve
PIPE	Check Valve
PIPE	Manhole
PIPE	Gate Valve
PIPE	Check Valve
PIPE	Manhole

MKANDA WATER SUPPLY SCHEME  
 LINE D(B-1) : 1,000m to 1,500m

SCALE : 1 / 500 (A0)

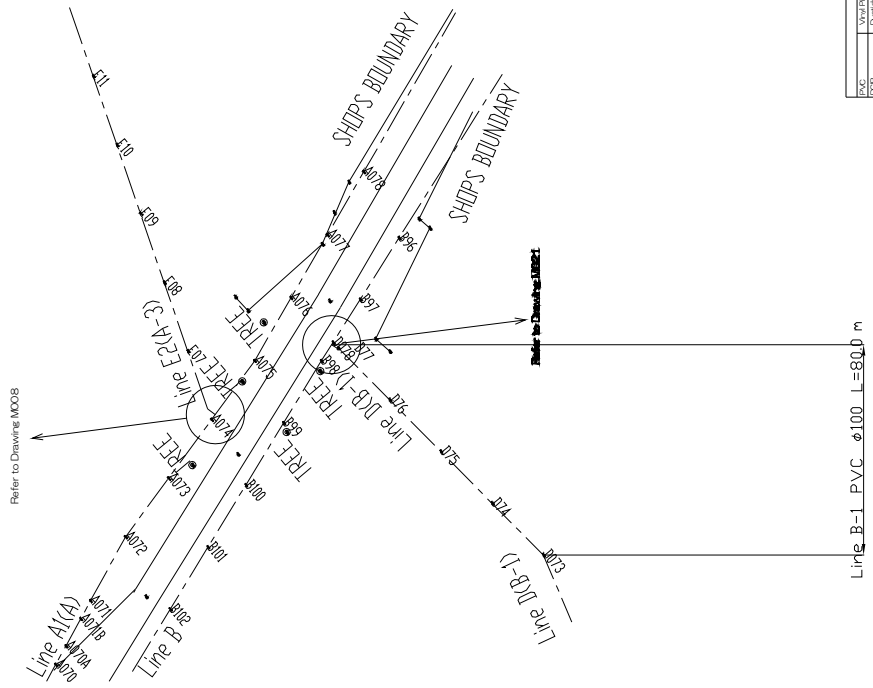
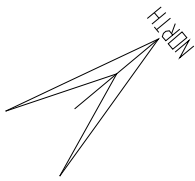


LEGEND		
W.P.	Water Pipe	Water
D.P.	Distribution Pipe	D.P.
W.P.	Water Pipe	Water
D.P.	Distribution Pipe	D.P.
W.P.	Water Pipe	Water
D.P.	Distribution Pipe	D.P.
W.P.	Water Pipe	Water
D.P.	Distribution Pipe	D.P.
W.P.	Water Pipe	Water
D.P.	Distribution Pipe	D.P.

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION		
Water Distribution Pipe Plan Mkanda		
Scale	Shown in the Drawing	
Date	Dec. 2011	Drawing No. M027
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.		

MKANDA WATER SUPPLY SCHEME  
 LINE DCB-1: 1,500m to 1,534.61m

SCALE : 1 / 500 (A0)



LEGEND	
---	Water Main
---	Water Distribution
---	Water Service Line
---	Water Meter
---	Water Valve
---	Water Stop
---	Water Tap
---	Water Hydrant
---	Water Tank
---	Water Tower
---	Water Pump
---	Water Reservoir
---	Water Treatment Plant
---	Water Distribution Station
---	Water Distribution Point
---	Water Distribution Node
---	Water Distribution Junction
---	Water Distribution Branch
---	Water Distribution Loop
---	Water Distribution Ring
---	Water Distribution Grid
---	Water Distribution Network
---	Water Distribution System
---	Water Distribution Scheme
---	Water Distribution Plan
---	Water Distribution Map
---	Water Distribution Diagram
---	Water Distribution Drawing
---	Water Distribution Document
---	Water Distribution Record
---	Water Distribution Log
---	Water Distribution Journal
---	Water Distribution Book
---	Water Distribution File
---	Water Distribution Folder
---	Water Distribution Drive
---	Water Distribution Server
---	Water Distribution Database
---	Water Distribution Application
---	Water Distribution Software
---	Water Distribution Hardware
---	Water Distribution Network
---	Water Distribution System
---	Water Distribution Scheme
---	Water Distribution Plan
---	Water Distribution Map
---	Water Distribution Diagram
---	Water Distribution Drawing
---	Water Distribution Document
---	Water Distribution Record
---	Water Distribution Log
---	Water Distribution Journal
---	Water Distribution Book
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---	Water Distribution Folder
---	Water Distribution Drive
---	Water Distribution Server
---	Water Distribution Database
---	Water Distribution Application
---	Water Distribution Software
---	Water Distribution Hardware

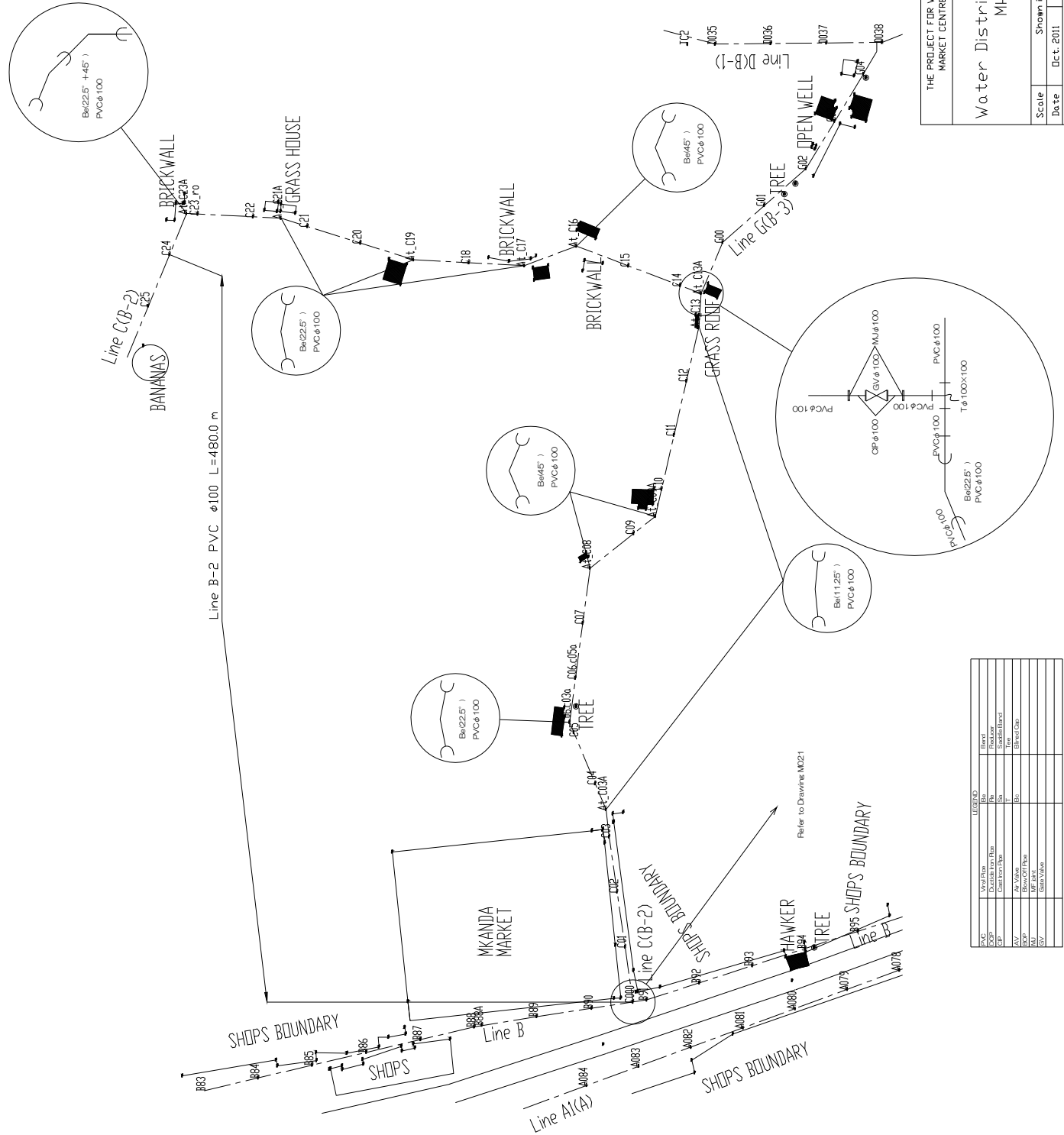
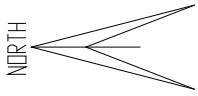
THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

Scale: Shown in the Drawing  
 Date: Dec. 2011 Drawing No. M028  
 EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
LINE C(B-2) : 0.00m to 500m

SCALE : 1 / 500 (A0)



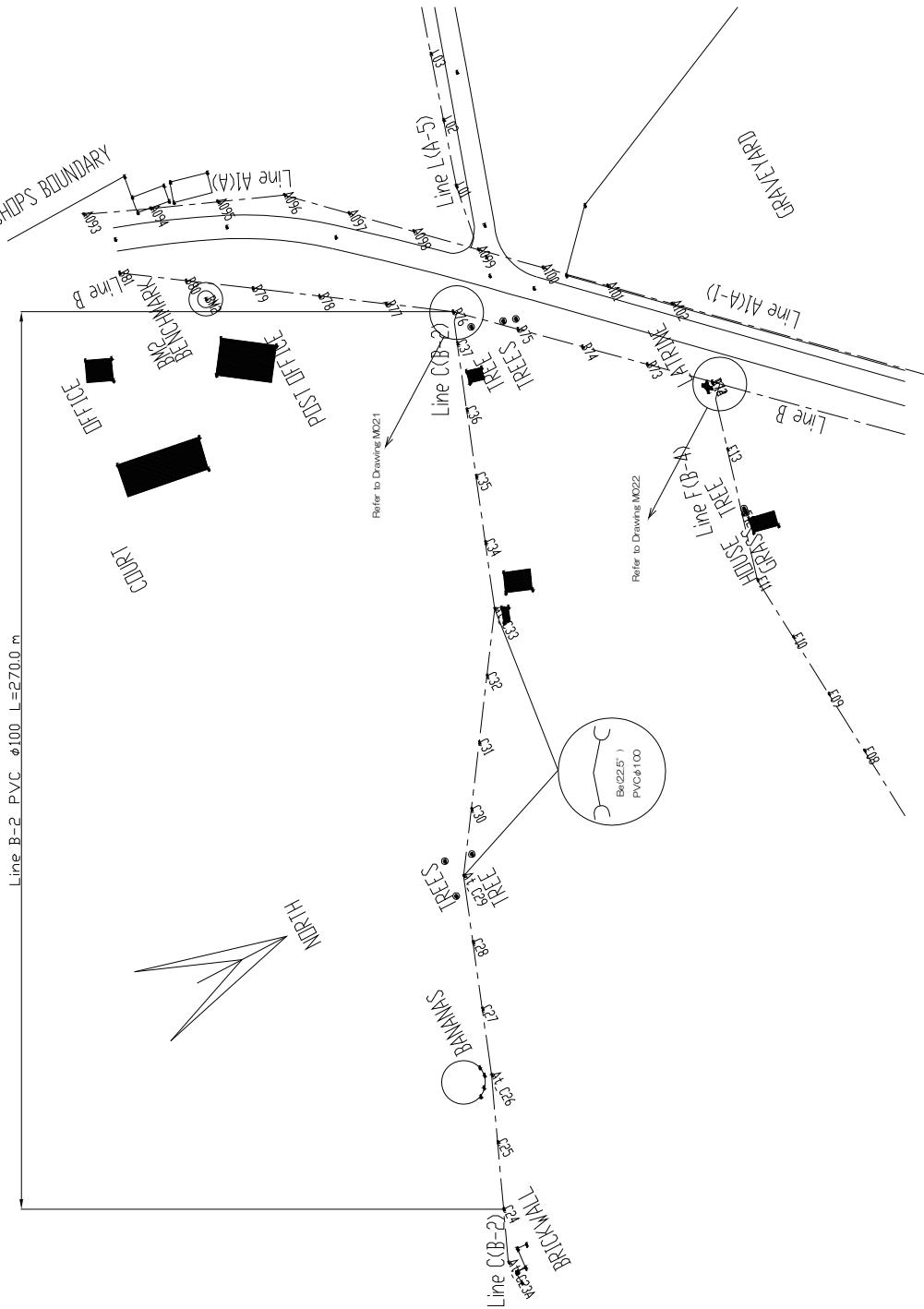
THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
Mkanda

Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M029
EIGHT - JAPAN ENGINEERING CONSULTANTS INC.	

MKANDA WATER SUPPLY SCHEME  
 LINE C(B-2) : 500m to 749.74m

SCALE : 1 / 500 (A0)



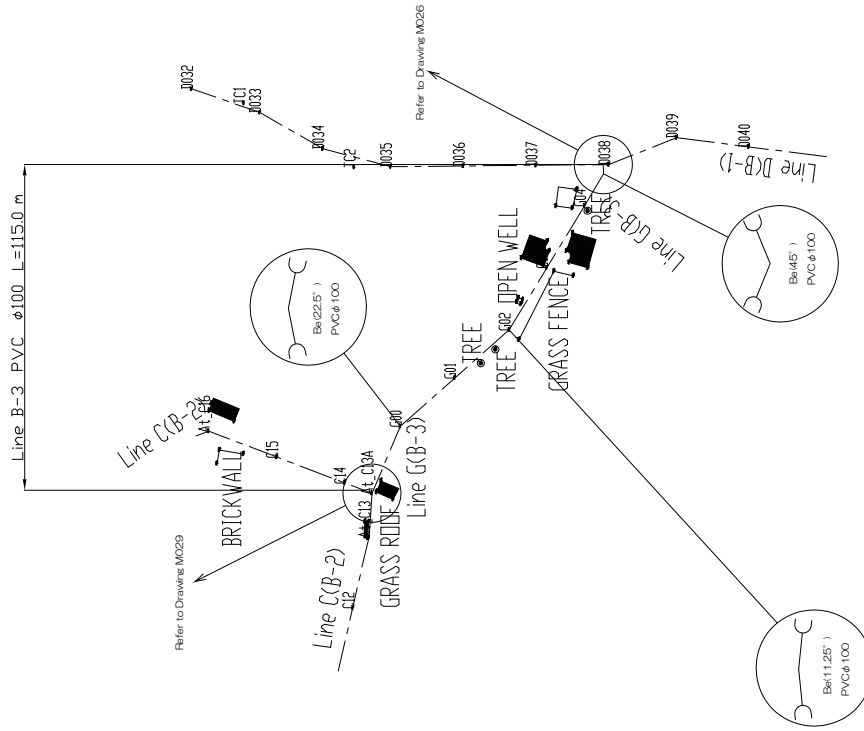
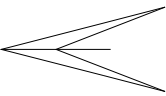
LEGEND	
WP	Water Pipe
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector
WCP	Water Collector

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Distribution Pipe Plan Mkanda	
Date	Dec. 2011
Date	Oct. 2011
Scale	Shown in the Drawing
Date	Drawing No. M030
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	

MKANDA WATER SUPPLY SCHEME  
 LINE G(B-3) : 0.00m to 113.11m

SCALE : 1 / 500 (A0)

NORTH



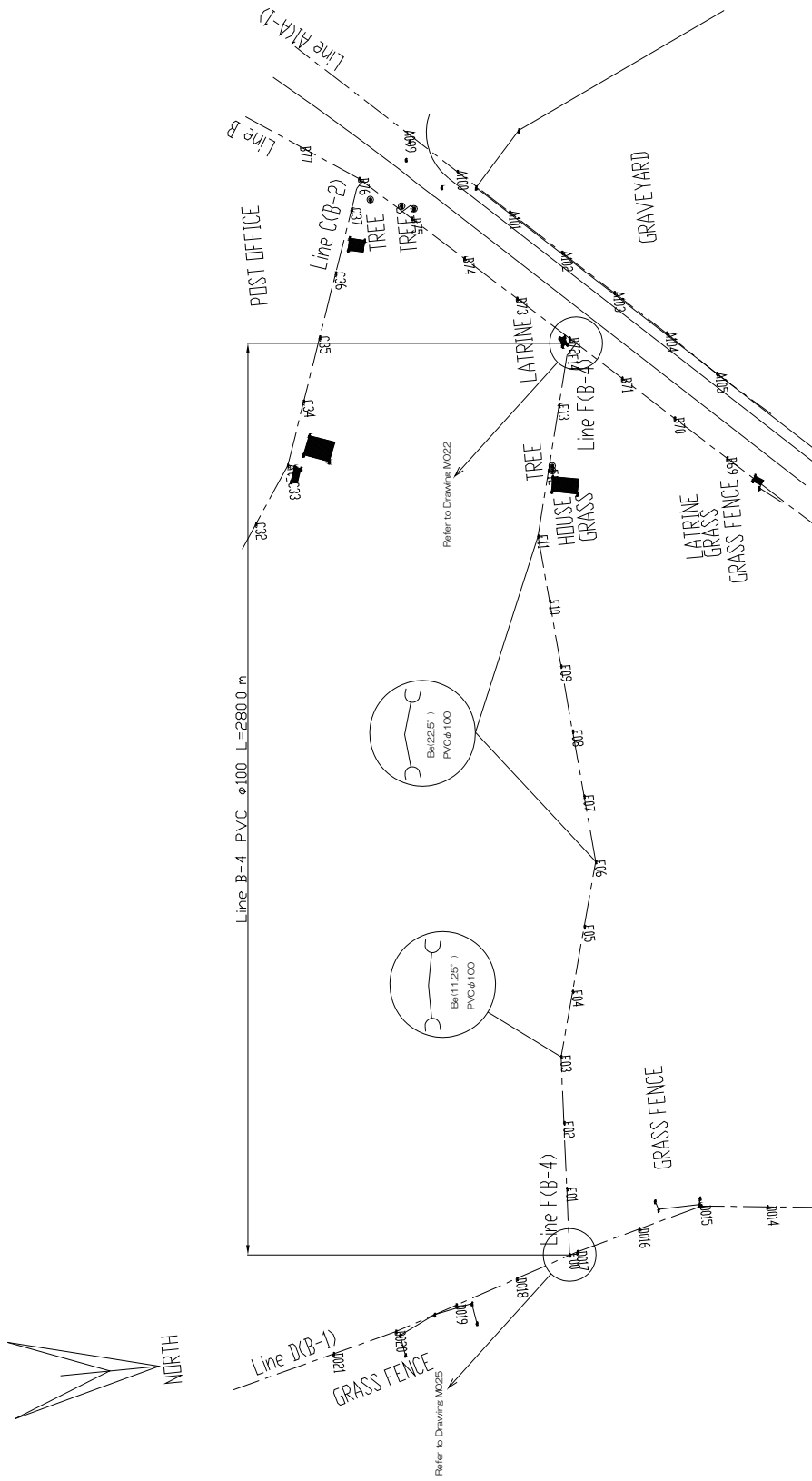
LEGEND	
WV	Water Valve
CV	Control Valve
DP	Drain Pipe
SV	Service Valve
AV	Air Valve
EP	Elbow/Offset Pipe
MU	Manhole
GF	Grass Fence
T	Tree
OW	Open Well
BF	Brick Fence
BR	Brick Wall
GR	Grass Rose

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Distribution Pipe Plan Mkanda	
Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M031
EIGHT - JAPAN ENGINEERING CONSULTANTS INC.	



MKANDA WATER SUPPLY SCHEME  
 LINE F(B-4) : 0.00m to 280.71m

SCALE : 1 / 500 (A0)



THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

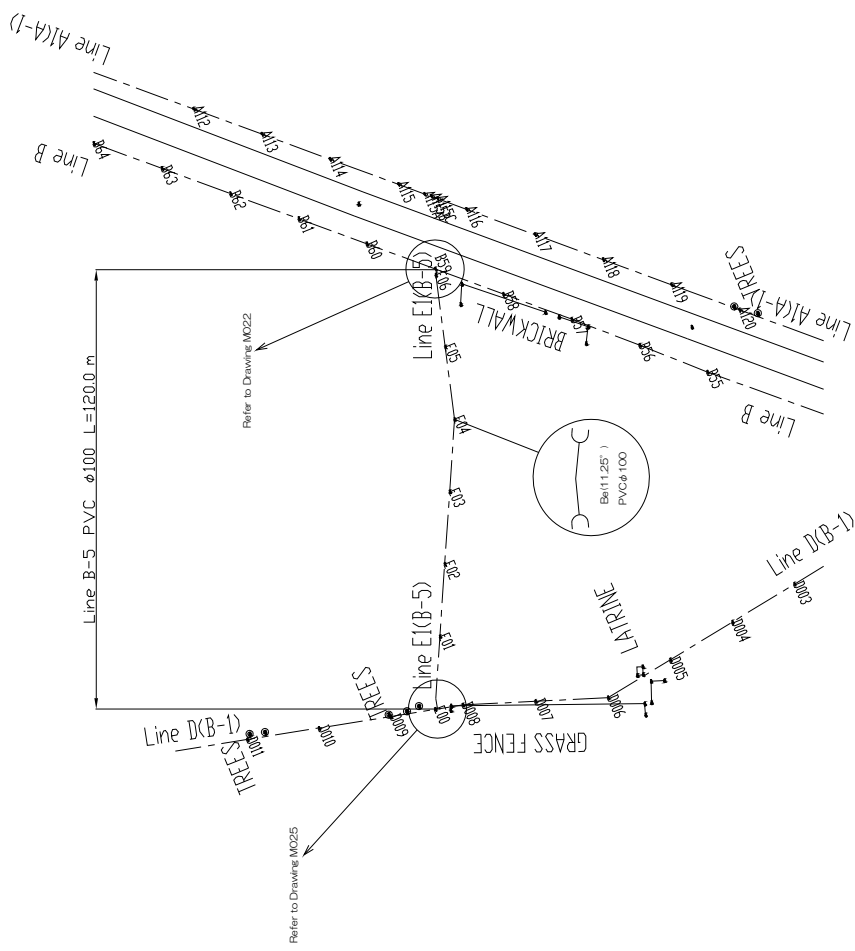
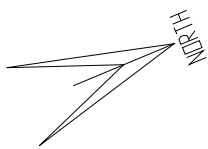
### Water Distribution Pipe Plan Mkanda

Scale	Show in the Drawing	
Date	Dec. 2011	Drawing No. M032
		EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

LEGEND	
Symbol	Description
(Symbol)	Water Main
(Symbol)	Water Distribution Pipe
(Symbol)	Check Valve
(Symbol)	Standard Elbow
(Symbol)	tee
(Symbol)	Elbow (90°)
(Symbol)	RF Joint
(Symbol)	Grass Fence

MKANDA WATER SUPPLY SCHEME  
 LINE E1(B-5) : 0.00m to 121.67m

SCALE : 1 / 500 (A0)



LEGEND	
○	Manhole
□	Valve
○	Water Tap Point
□	Check Valve
○	Water Meter
○	Water Filter
○	Water Valve
○	Water Tap
○	Water Meter
○	Water Filter
○	Water Valve
○	Water Tap
○	Water Meter
○	Water Filter
○	Water Valve
○	Water Tap
○	Water Meter
○	Water Filter
○	Water Valve
○	Water Tap

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Water Distribution Pipe Plan  
 Mkanda

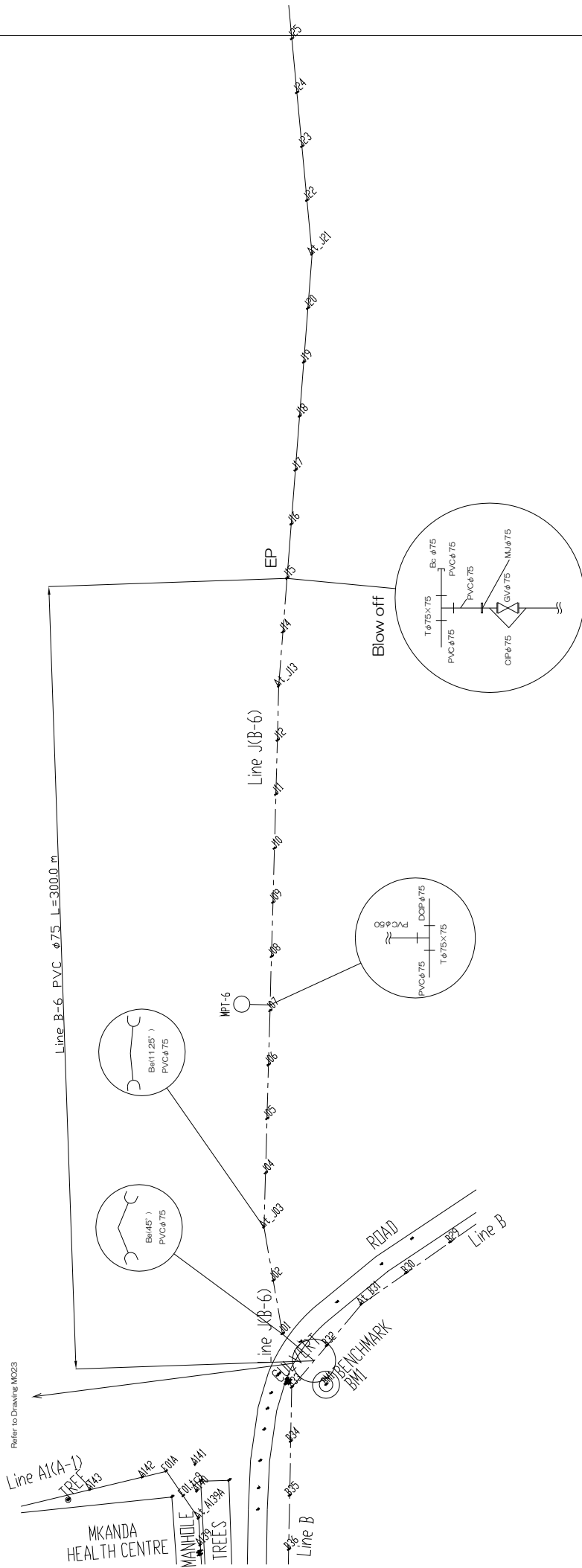
Scale : Shown in the Drawing  
 Date : Oct. 2011 Drawing No. : M033  
 EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

MKANDA WATER SUPPLY SCHEME  
 LINE JB-6 : 0.00m to 500m

SCALE : 1 / 500 (A0)

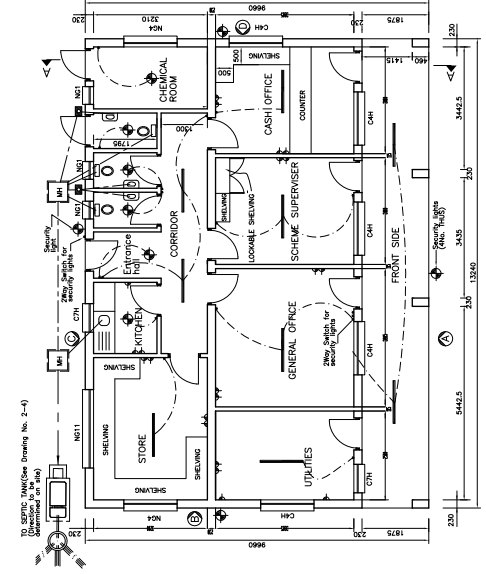
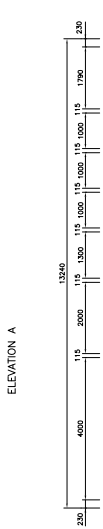
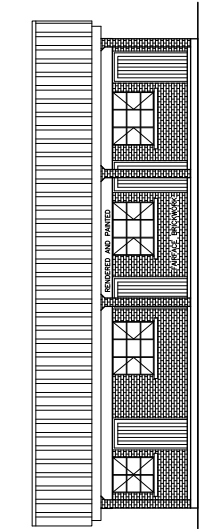


Refer to Drawing M023

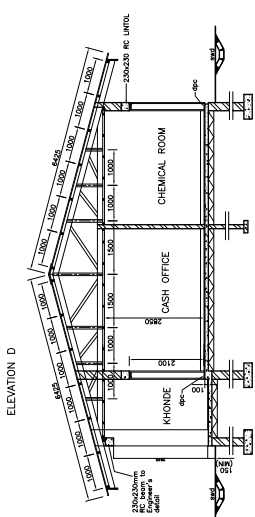
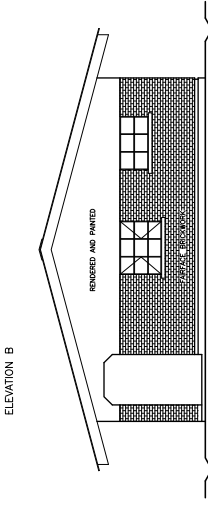
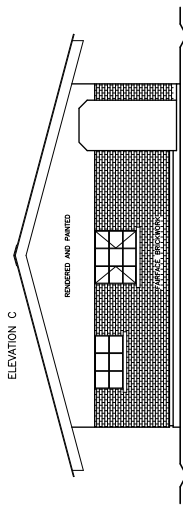
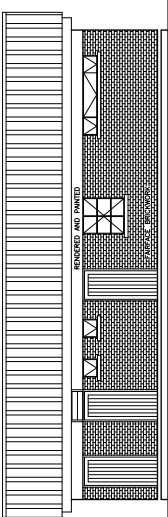


LEGEND	
MP	Manhole
GV	Gate Valve
DP	Drain Pipe
CP	Cast Iron Pipe
SV	Standard Valve
AV	Air Valve
EP	End of Pipe
MU	Manhole
CP	Cast Iron

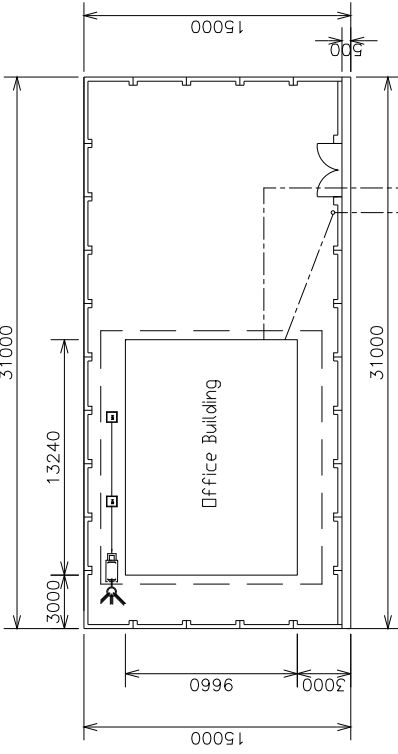
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Distribution Pipe Plan Mkanda	
Scale	Shown in the Drawing
Date	Dec. 2011
Drawing No.	M034
EIGHT - JAPAN ENGINEERING CONSULTANTS INC.	



FLOOR PLAN



Office Building Layout  
S=1:75(A1) 1:150(A3)



Brick Fence Layout  
S=1:150(A1) 1:300(A3)

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Office Building Layout Mkanda	
Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	M035
EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.	

NORTH

SANTHE WATER SUPPLY PROJECT

8.516.000 mN  
8.515.500 mN  
8.515.000 mN  
8.514.500 mN  
8.514.000 mN  
8.513.500 mN  
8.513.000 mN  
8.512.500 mN  
8.512.000 mN  
8.511.500 mN

540.000 mE

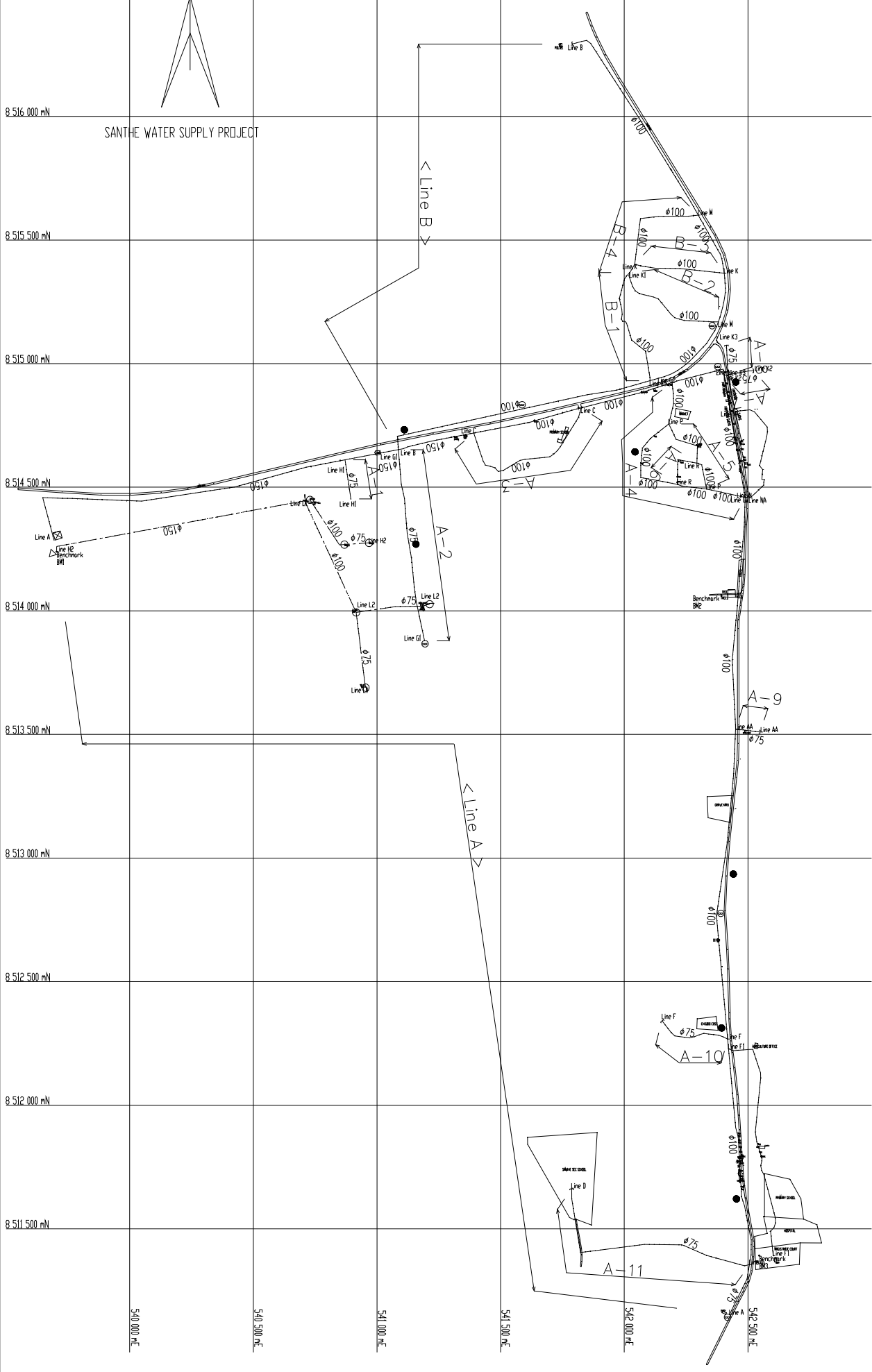
540.500 mE

541.000 mE

541.500 mE

542.000 mE

542.500 mE



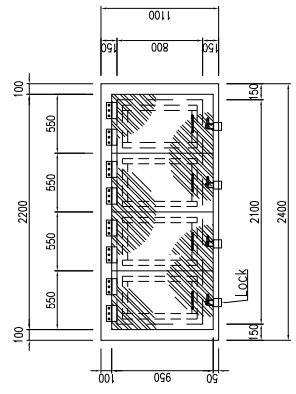
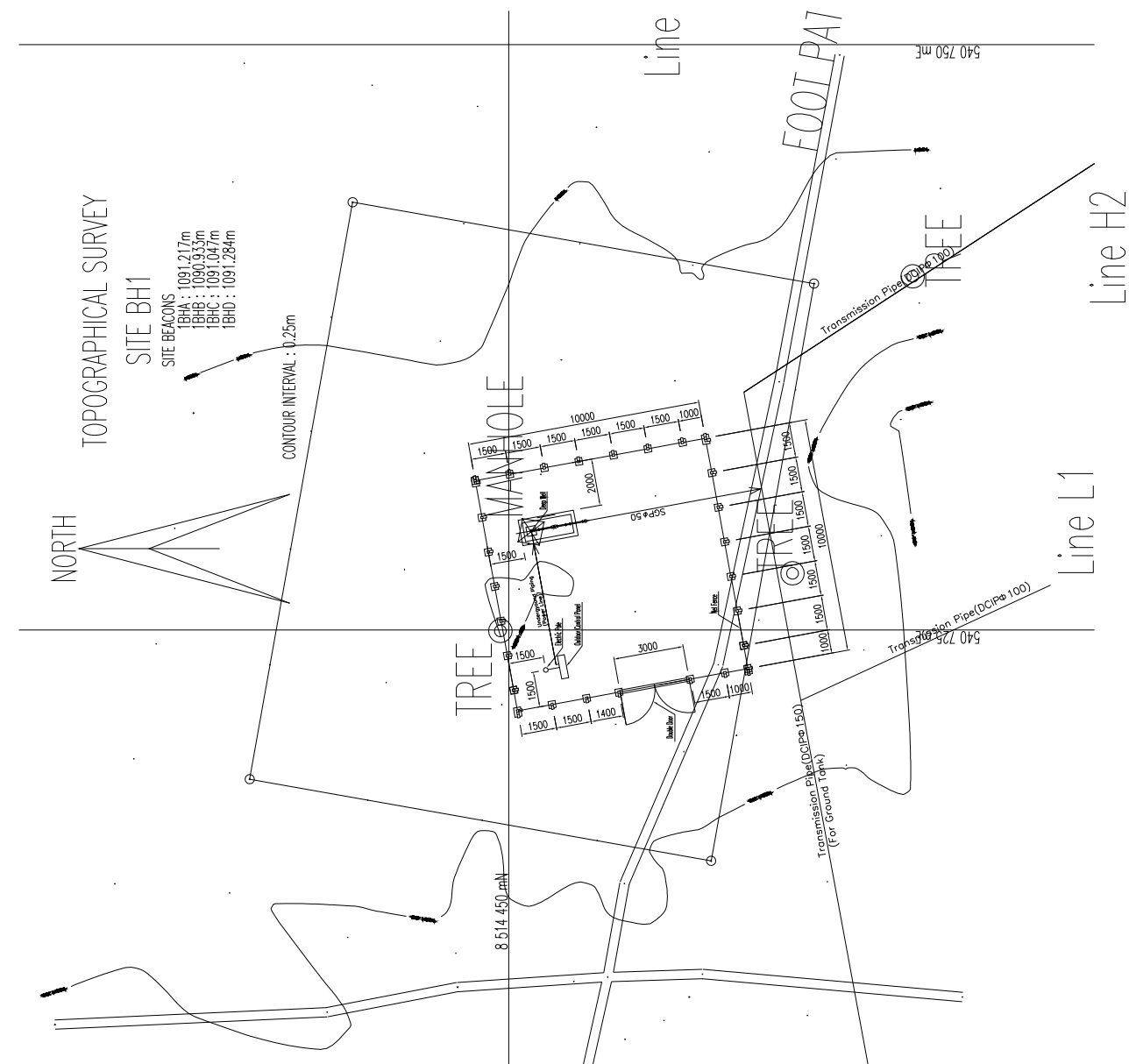
THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

Overall Facility Layout  
Santhe

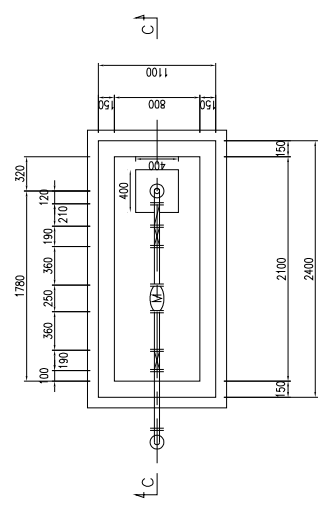
Scale: \_\_\_\_\_  
Date: Oct. 2011  
Drawing No.: S001  
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

Legend	
○	Intake Well
⊗	Elevated Tank
△	Control Building
□	Office Building
●	Communal Water Point
---	Transmission Pipe
---	Distribution Pipe
⊕	Blow Off
┌	Blind Cap

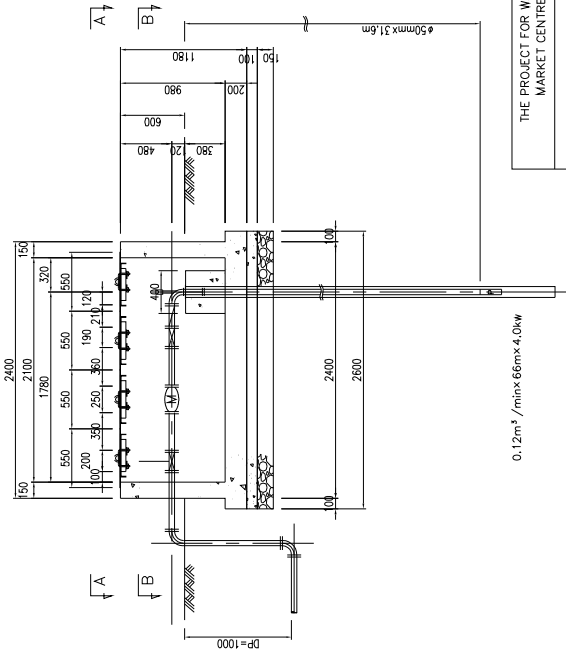
Overall Facility Layout  
(Santhe) S=1:7500(A1) 1:15000(A3)



A - A Section



B - B Section

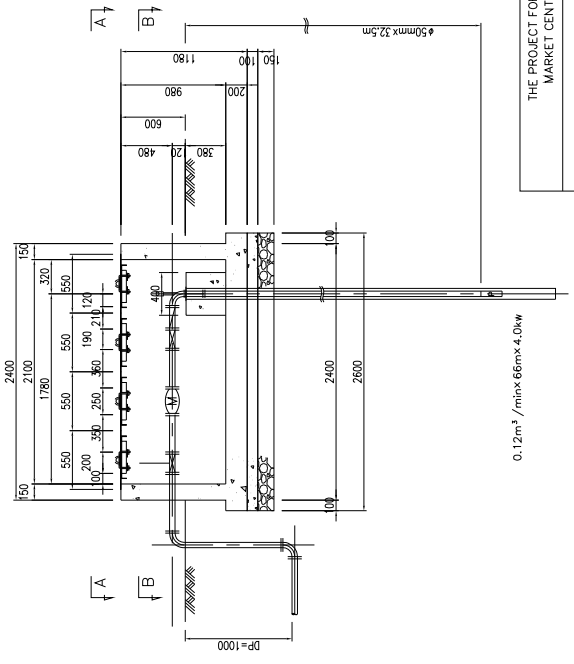
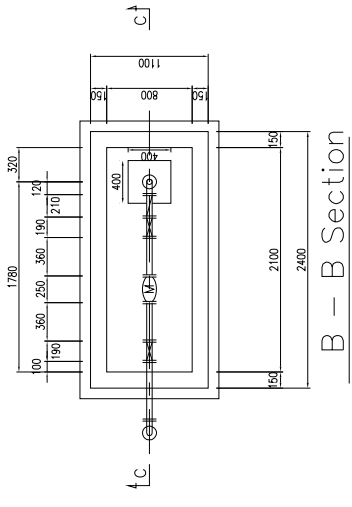
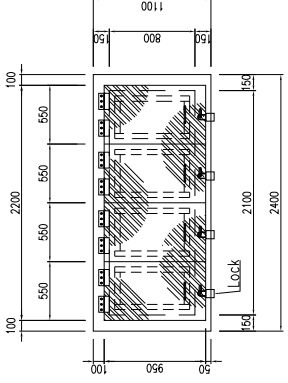
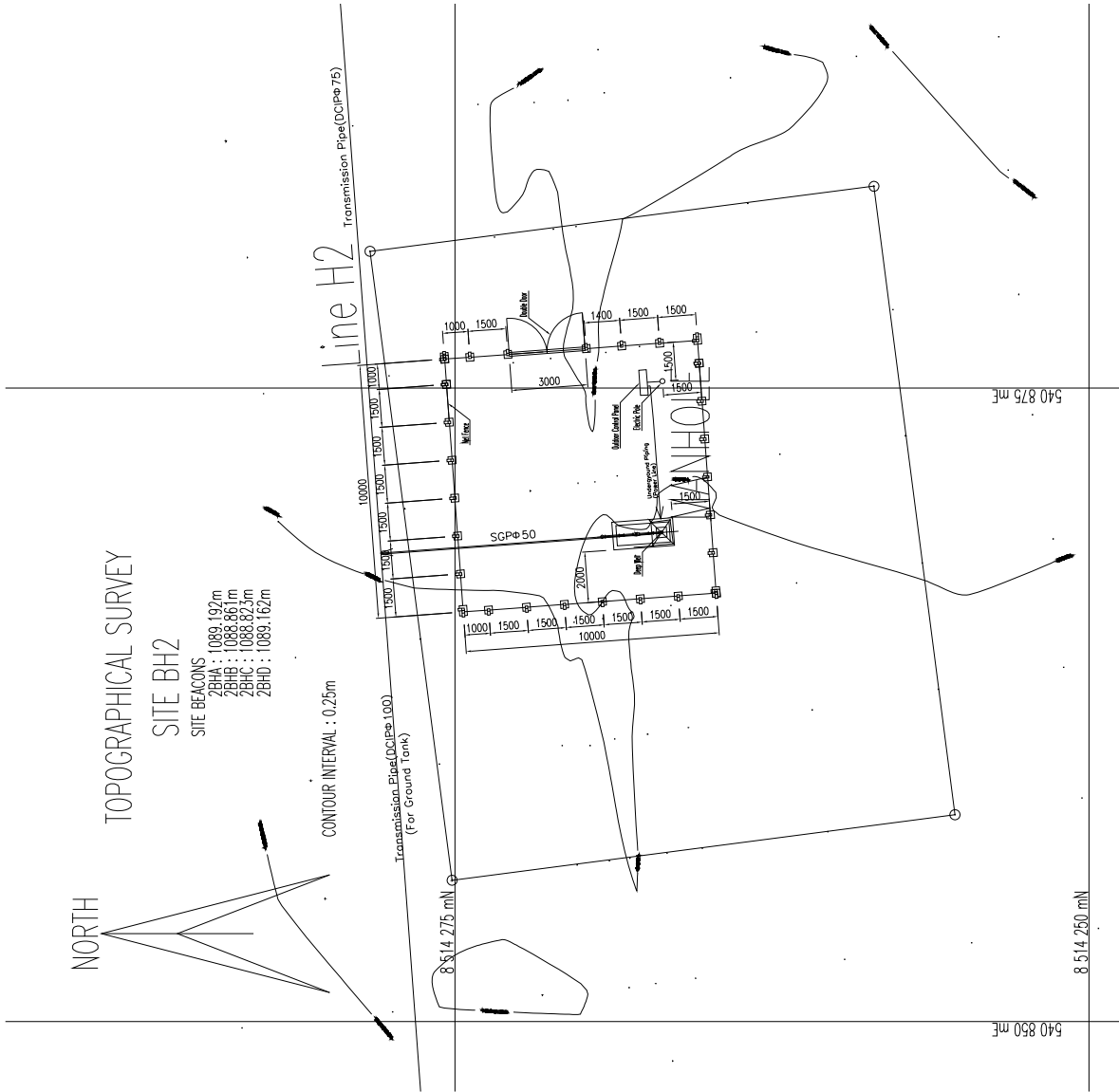


C - C Section

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION			
Intake Well ST-1 Santhe			
Scale	Shown in the Drawing	Date	Oct. 2011
Date	Oct. 2011	Drawing No.	S002
			EIGHT-JAPAN ENGINEERING CONSULTANTS INC.

Intanke Well Structure  
S=1:25(A1) 1:50(A3)

Intanke Well ST-1 General Layout  
(Santhe)  
S=1:100(A1) 1:200(A3)



THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION			
Intake Well ST-2 Santhe			
Scale	Shown in the Drawing	Drawing No.	S003
Date	Oct. 2011	Drawing No.	S003
EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.			

Intanke Well Structure  
S=1:25(A1) 1:50(A3)

Intanke Well ST-2 General Layout  
(Santhe)  
S=1:100(A1) 1:200(A3)

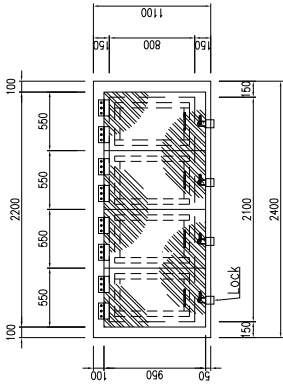
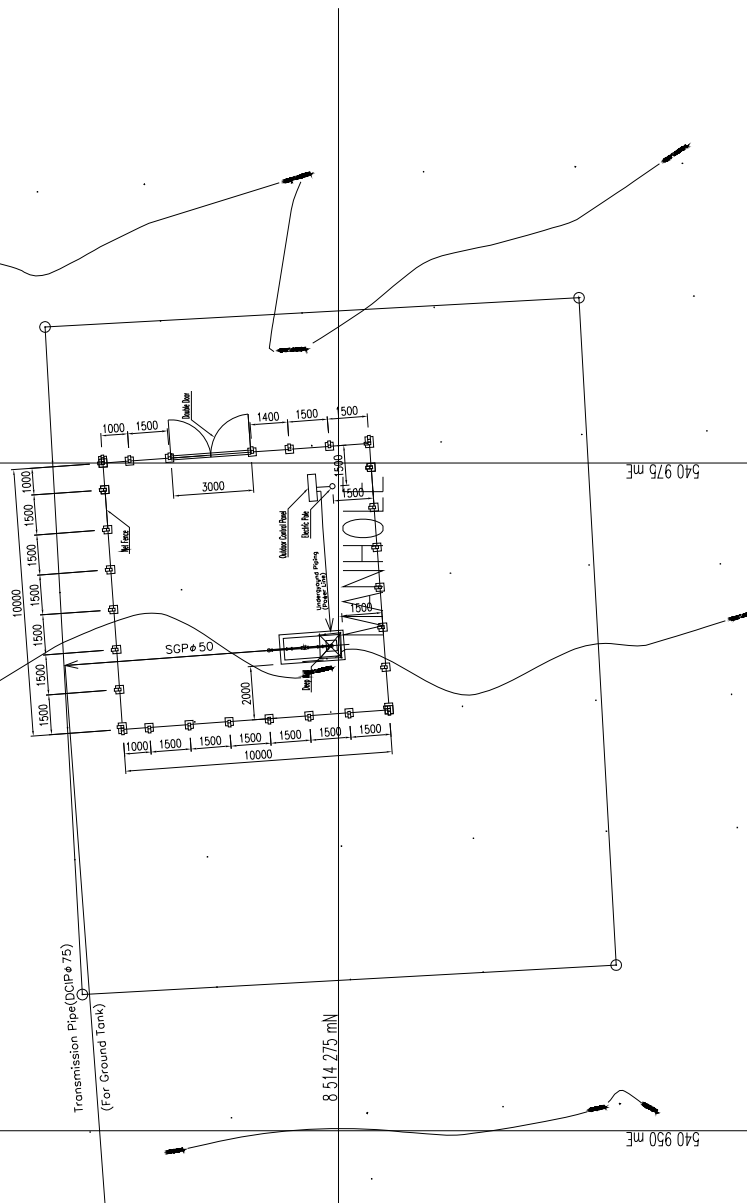
NORTH

# TOPOGRAPHICAL SURVEY

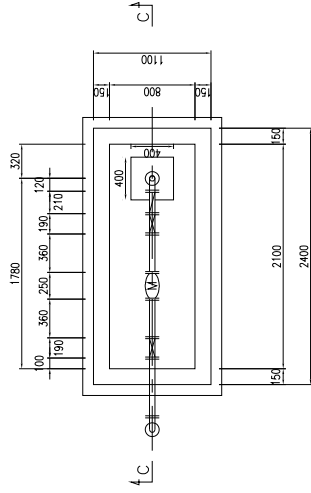
## SITE BH3

SITE BEACONS  
 38HA : 1087.938m  
 38HB : 1087.596m  
 38HC : 1087.592m  
 38HD : 1087.933m

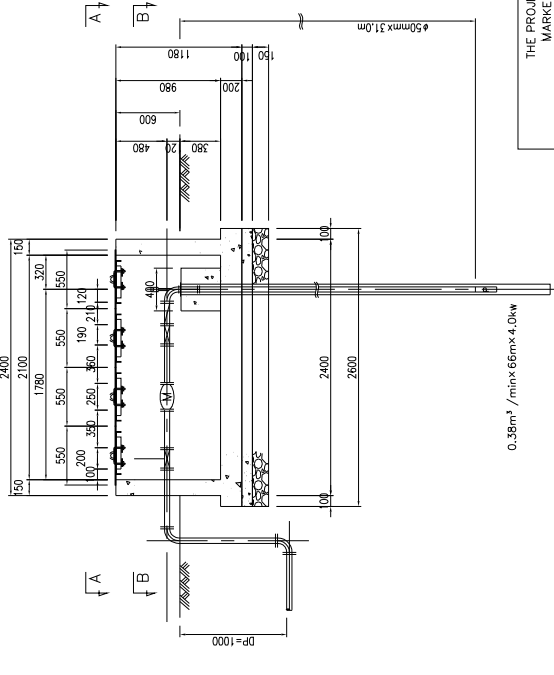
CONTOUR INTERVAL : 0.25m



A - A Section



B - B Section



C - C Section

### Intanke Well ST-3 General Layout (Santhe)

S=1:100(A1) 1:200(A3)

### Intanke Well Structure

S=1:25(A1) 1:50(A3)

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

### Intanke Well ST-3 Santhe

Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	S004
EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.	



NORTH

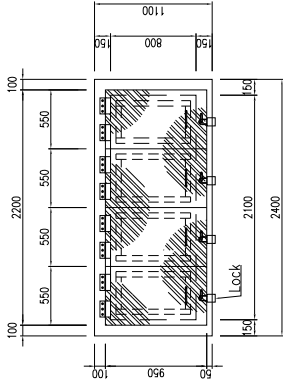
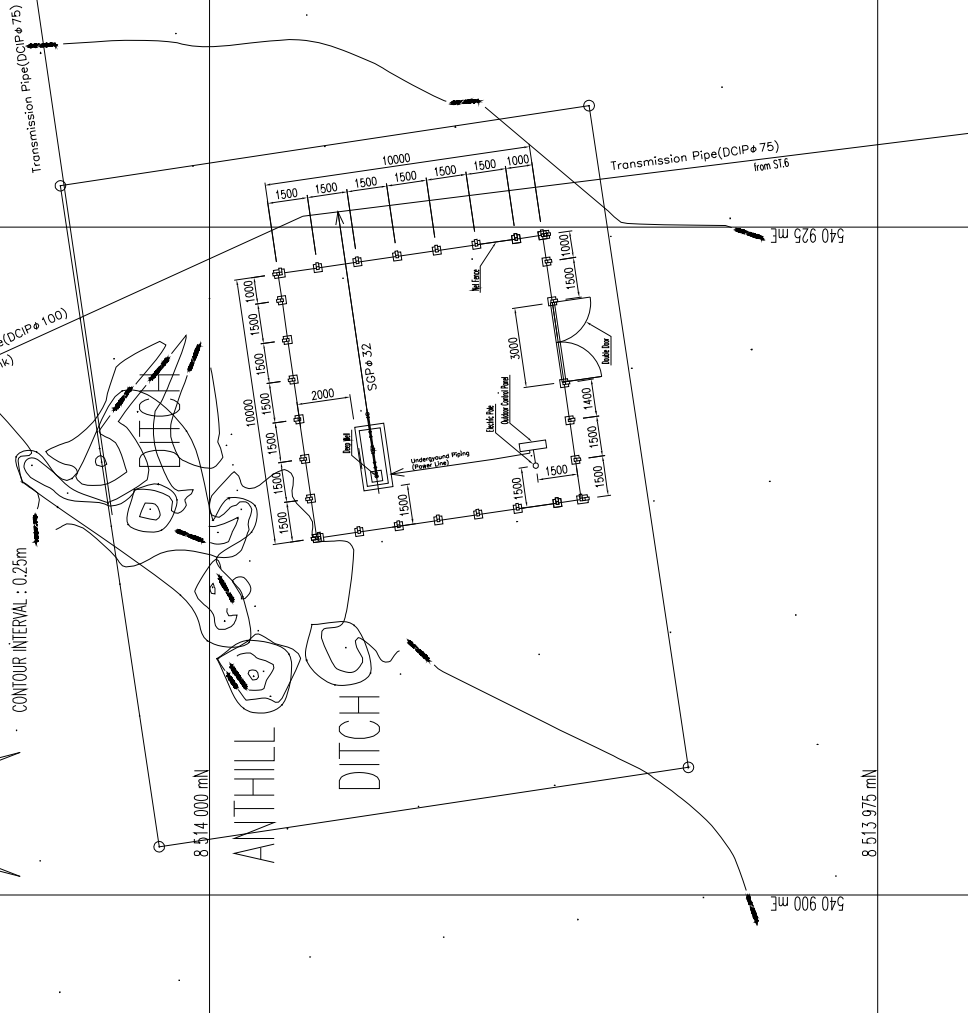
TOPOGRAPHICAL SURVEY

SITE BH4

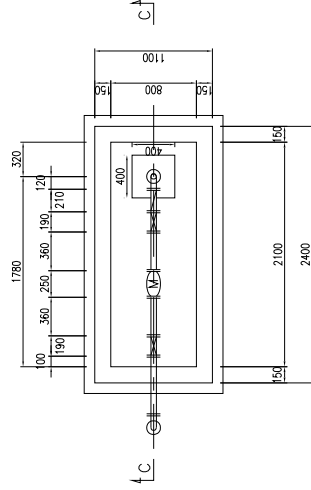
SITE BEACONS

- 48HA : 1087.555m
- 48HB : 1087.475m
- 48HC : 1087.823m
- 48HD : 1087.791m

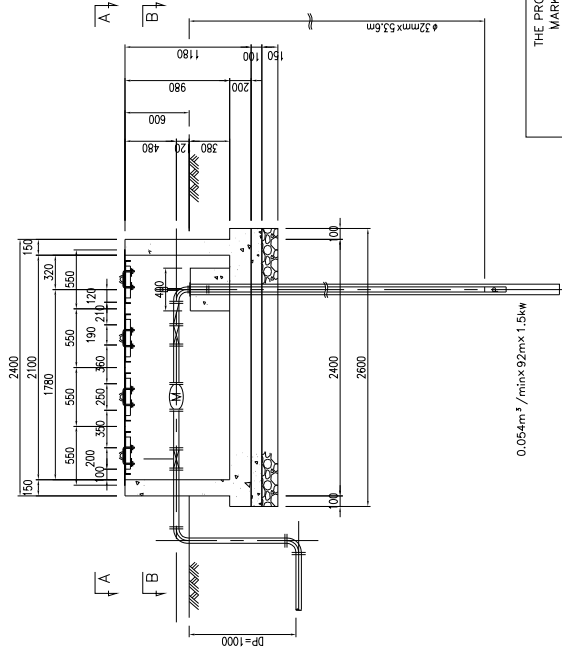
CONTOUR INTERVAL : 0.25m



A - A Section



B - B Section



C - C Section

0.054m³ / min x 92m x 1.5kw

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

Intake Well ST-4  
Santhe

Intanke Well Structure

S=1:25(A1) 1:50(A3)

Intanke Well ST-4 General Layout

(Santhe)

S=1:100(A1) 1:200(A3)

Scale	Shown in the Drawing	Drawing No.	S005
Date	Oct. 2011		

EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.

8 514 650 mN

NORTH

### TOPOGRAPHICAL SURVEY

#### SITE BH5

SITE BEACONS  
 5BHA : 1082.572m  
 5BHB : 1082.956m  
 5BHC : 1082.328m  
 5BHD : 1082.110m

CONTOUR INTERVAL : 0.25m

Line 2

Transmission Pipe (Dc1000x75)  
(For Ground Tank)

SGP# 32

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

Water Tank

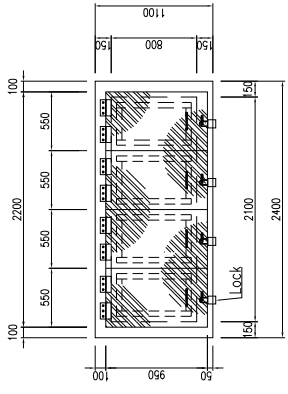
Water Tank

Water Tank

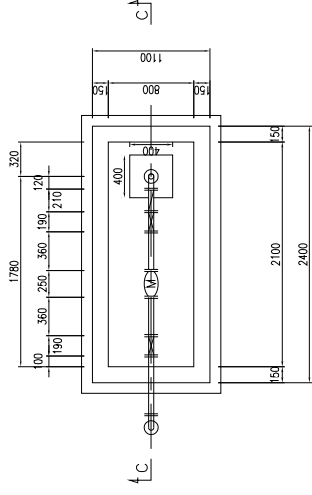
FOOTPATH

541 225 mE

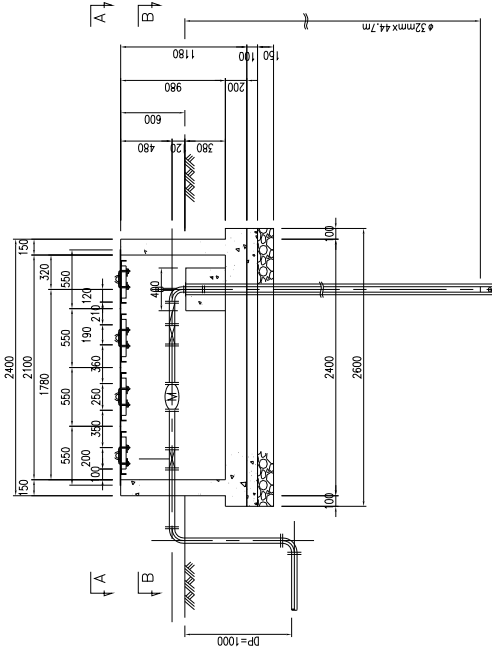
541 200 mE



A - A Section



B - B Section



C - C Section

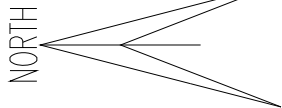
Intanke Well ST-5 General Layout  
 (Santhe) S=1:100(A1) 1:200(A3)

Intanke Well Structure  
 S=1:25(A1) 1:50(A3)

THE PROJECT FOR WATER SUPPLY SYSTEMS IN  
 MARKET CENTRES IN CENTRAL REGION

Intanke Well ST-5  
 Santhe

Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	S006
EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.	



TOPOGRAPHICAL SURVEY

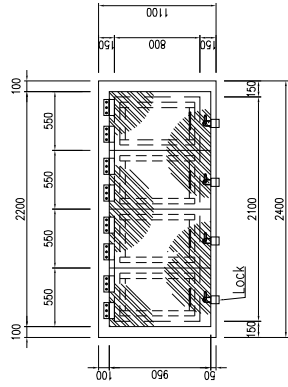
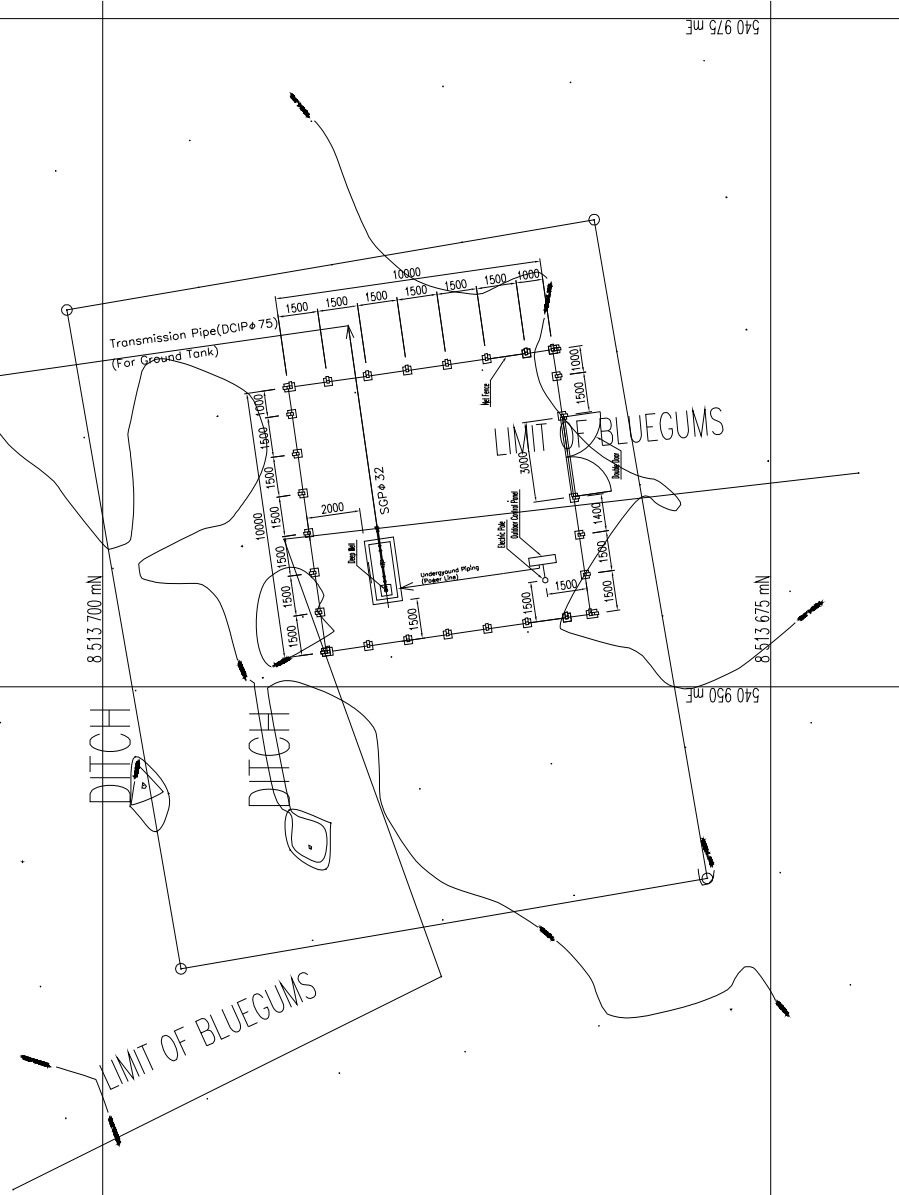
SITE BH6

SITE BEACONS

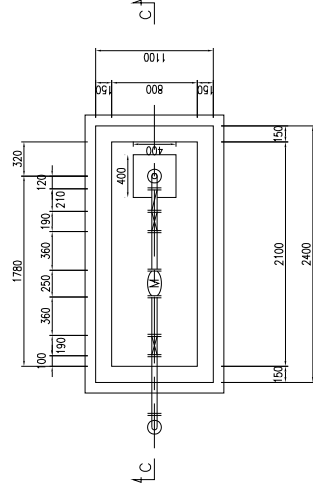
- 68HA : 1085.136m
- 68HB : 1084.911m
- 68HC : 1084.712m
- 68HD : 1084.737m

Line L1

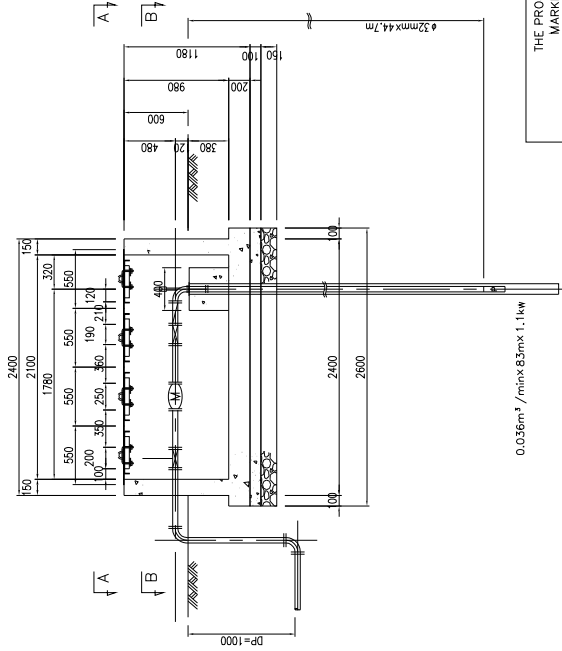
CONTOUR INTERVAL : 0.25m



A - A Section



B - B Section



C - C Section

0.0366m / min x 83mm x 1.1kw

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION

Intanke Well ST-6  
Santhe

Intanke Well Structure

S=1:25(A1) 1:50(A3)

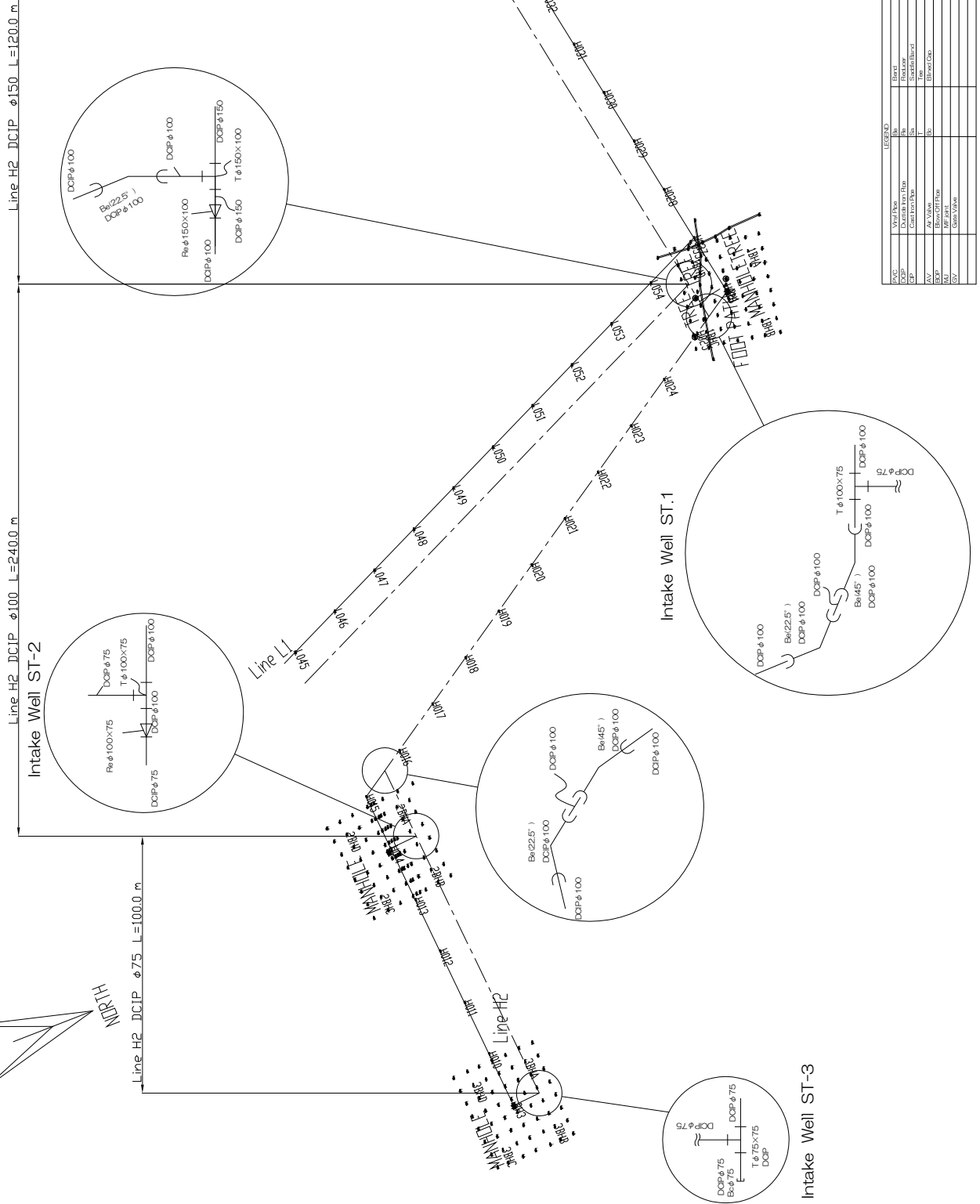
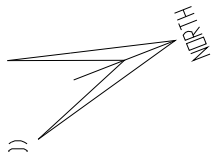
Intanke Well ST-6 General Layout

(Santhe) S=1:100(A1) 1:200(A3)

Scale	Shown in the Drawing
Date	Oct. 2011
	Drawing No. S007
	EIGHT-JAPAN ENGINEERING CONSULTANTS, INC.

SANTHE WATER SUPPLY SCHEME  
 LINE H2 : 0.00m to 500m

SCALE : 1 / 500 (A0)



LEGEND	
PIPE	PIPE
VALVE	VALVE
TELEPHONE	TELEPHONE
POWER	POWER
WATER	WATER
SEWER	SEWER
RAIL	RAIL
ROAD	ROAD
DRIVEWAY	DRIVEWAY
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
SOIL	SOIL
ROCK	ROCK
WATER	WATER
SEWER	SEWER
RAIL	RAIL
ROAD	ROAD
DRIVEWAY	DRIVEWAY
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
SOIL	SOIL
ROCK	ROCK

THE PROJECT FOR WATER SUPPLY SYSTEMS IN MARKET CENTRES IN CENTRAL REGION	
Water Transmission Pipe Plan Santhe	
Scale	Shown in the Drawing
Date	Oct. 2011
Drawing No.	S008
EIGHT-JAPAN ENGINEERING CONSULTANTS INC.	