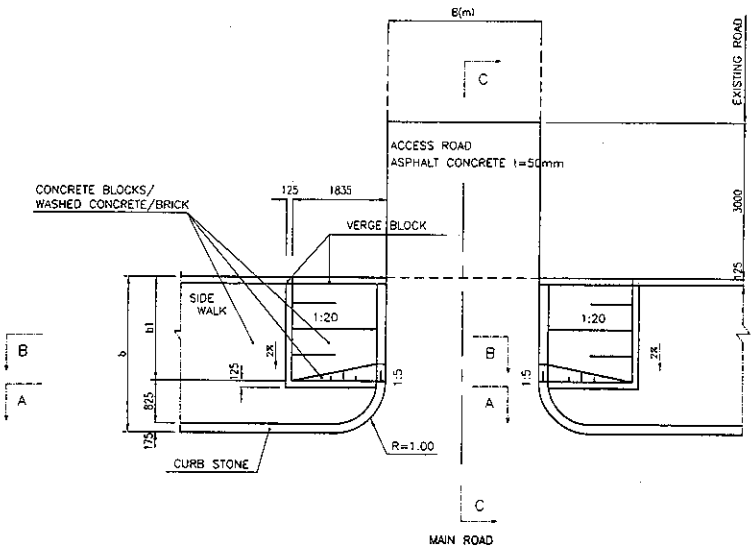
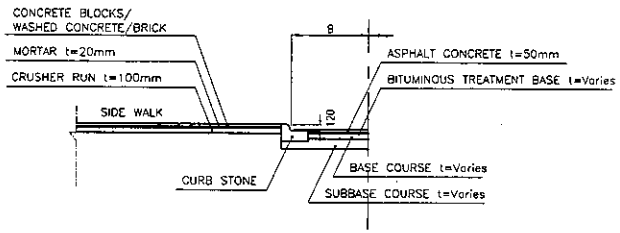
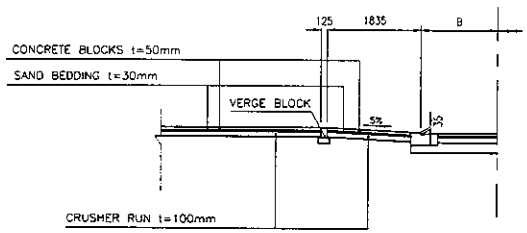


PLAN

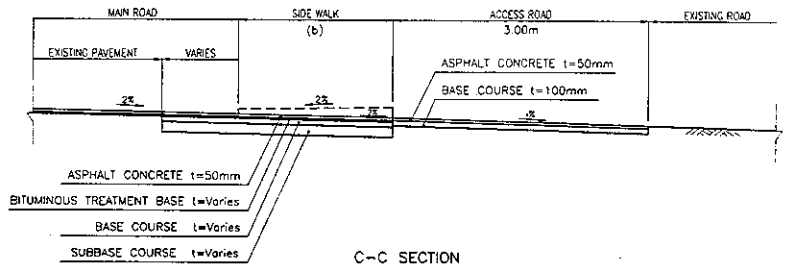
NOTE: Provision of slope is not necessary along flat sidewalks.



A–A SECTION



B–B SECTION



C–C SECTION

LIST OF MINOR INTERSECTION ON ROAD 1A

No	CHAINAGE	LEFT SIDE WIDTH (B)	LEFT SIDE LENGTH (L)	LEFT SIDE WALK b	LEFT SIDE WALK b1	No	CHAINAGE	RIGHT SIDE WIDTH (B)	RIGHT SIDE LENGTH (L)	RIGHT SIDE WALK b	RIGHT SIDE WALK b1
1	0+017	3.00	3.00	3.00	1.875	1	0+250	9.00	3.00	3.00	1.875
2	0+084	6.00	3.00	3.00	1.875	2	0+309	5.00	3.00	3.00	1.875
3	0+099	7.50	3.00	3.00	1.875	3	0+377	4.00	3.00	3.00	1.875
4	0+167	5.00	3.00	3.00	1.875	4	0+415	3.00	3.00	3.00	1.875
5	0+276	5.00	3.00	3.00	1.875	5	0+747	5.00	3.00	3.00	1.875
6	0+434	5.50	3.00	3.00	1.875	6	0+814	4.00	3.00	3.00	1.875
7	0+555	6.00	3.00	3.00	1.875	7	1+483	16.00	3.00	3.00	1.875
8	0+617	4.00	3.00	3.00	1.875	8	1+588	4.00	3.00	3.00	1.875
9	0+729	3.00	3.00	3.00	1.875	9	1+659	5.00	3.00	3.00	1.875
10	0+893	4.00	3.00	3.00	1.875	10	1+673	4.00	3.00	3.00	1.875
11	0+975	7.00	3.00	3.00	1.875	11	1+797	3.00	3.00	3.00	1.875
12	0+998	3.50	3.00	3.00	1.875	12	1+920	5.00	3.00	3.00	1.875
13	1+502	5.00	3.00	3.00	1.875	13	1+932	5.00	3.00	3.00	1.875
14	1+535	5.00	3.00	3.00	1.875	14	1+962	4.00	3.00	3.00	1.875
15	1+653	6.50	3.00	3.00	1.875	15	2+013	4.00	3.00	3.00	1.875
16	1+681	5.50	3.00	3.00	1.875	16	2+031	4.00	3.00	3.00	1.875
17	1+873	4.00	3.00	3.00	1.875	17	2+176	8.00	3.00	3.00	1.875
18	1+950	4.00	3.00	3.00	1.875	18	2+233	7.00	3.00	3.00	1.875
19	1+965	5.00	3.00	3.00	1.875	19	2+277	4.00	3.00	3.00	1.875
20	2+118	5.00	3.00	3.00	1.875	20	2+531	3.00	3.00	3.00	1.875
21	2+163	4.00	3.00	3.00	1.875	21	2+735	3.50	3.00	3.00	1.875
22	2+222	4.00	3.00	3.00	1.875	22	2+765	3.00	3.00	3.00	1.875
23	2+254	4.50	3.00	3.00	1.875	23	2+813	5.00	3.00	3.00	1.875
24	2+550	3.50	3.00	3.00	1.875	24	2+924	3.00	3.00	3.00	1.875
25	2+789	3.00	3.00	3.00	1.875	25	2+951	3.00	3.00	3.00	1.875

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF ACCESS ROADS (1)	SCALE: 1:50	DRAWING No: M-9	Rv.

SCHEDULED LIST OF MINOR INTERSECTION ROAD 1

LEFT SIDE					
No	CHAINAGE	WIDTH	LENGTH	SIDE WALK	
		(B)	(L)	b	b1
1	-0+103	5.00	3.00	3.00	1.875
2	-0+073	5.00	3.00	3.00	1.875
3	-0+004	3.00	3.00	3.00	1.875
4	0+020	3.00	3.00	3.00	1.875
5	0+060	3.00	3.00	3.00	1.875
6	0+084	3.00	3.00	3.00	1.875
7	0+112	4.00	3.00	3.00	1.875
8	0+156	3.00	3.00	3.00	1.875
9	0+203	3.00	3.00	3.00	1.875
10	0+257	3.00	3.00	3.00	1.875
11	0+296	3.00	3.00	3.00	1.875
12	0+350	3.00	3.00	3.00	1.875
13	0+398	3.00	3.00	3.00	1.875
14	0+437	3.00	3.00	3.00	1.875
15	0+495	3.00	3.00	3.00	1.875
16	0+544	4.00	3.00	3.00	1.875
17	0+569	3.00	3.00	3.00	1.875
18	0+652	3.00	3.00	3.00	1.875
19	0+730	3.50	3.00	3.00	1.875
20	0+751	3.00	3.00	3.00	1.875
21	0+792	3.00	3.00	3.00	1.875
22	0+829	5.50	3.00	3.00	1.875
23	0+903	6.00	3.00	3.00	1.875
24	0+963	5.00	3.00	3.00	1.875
25	1+142	5.00	3.00	3.00	1.875
26	1+446	8.00	3.00	3.00	1.875
27	1+658	5.00	3.00	3.00	1.875
28	1+743	7.00	3.00	3.00	1.875
29	3.00	7.00	3.00	3.00	1.875
30	1+812	4.00	3.00	3.00	1.875
31	1+930	5.00	3.00	3.00	1.875
32	1+963	5.00	3.00	3.00	1.875
33	1+983	5.00	3.00	3.00	1.875
34	1+997	3.00	3.00	3.00	1.875
35	2+054	5.50	3.00	3.00	1.875
36	2+073	4.00	3.00	3.00	1.875
37	2+117	4.00	3.00	3.00	1.875
38	2+141	3.00	3.00	3.00	1.875
39	2+305	7.00	3.00	3.00	1.875
40	2+363	4.00	3.00	3.00	1.875
41	2+418	3.50	3.00	3.00	1.875
42	2+509	3.00	3.00	3.00	1.875
43	2+534	5.00	3.00	3.00	1.875
44	2+555	4.50	3.00	3.00	1.875
45	2+608	6.50	3.00	3.00	1.875
46	2+684	6.00	3.00	3.00	1.875
47	2+723	4.50	3.00	3.00	1.875
48	2+743	4.00	3.00	3.00	1.875
49	2+772	5.00	3.00	3.00	1.875
50	2+788	6.00	3.00	3.00	1.875
51	2+836	3.00	3.00	3.00	1.875
52	2+861	4.50	3.00	3.00	1.875
53	2+874	3.00	3.00	3.00	1.875
54	2+918	3.00	3.00	3.00	1.875
55	2+984	4.00	3.00	3.00	1.875
56	3+029	4.00	3.00	3.00	1.875
57	3+127	5.00	3.00	3.00	1.875
58	3+137	3.00	3.00	3.00	1.875
59	3+160	3.00	3.00	3.00	1.875
60	3+177	5.00	3.00	3.00	1.875

LEFT SIDE					
No	CHAINAGE	WIDTH	LENGTH	SIDE WALK	
		(B)	(L)	b	b1
61	3+205	5.00	3.00	3.00	1.875
62	3+244	5.00	3.00	3.00	1.875
63	3+308	3.50	3.00	3.00	1.875
64	3+354	4.00	3.00	3.00	1.875
65	3+415	5.00	3.00	3.00	1.875
66	3+451	3.00	3.00	3.00	1.875
67	3+478	5.00	3.00	3.00	1.875
68	3+494	3.50	3.00	3.00	1.875
69	3+524	4.50	3.00	3.00	1.875
70	3+560	5.00	3.00	3.00	1.875
71	3+610	7.00	3.00	3.00	1.875
72	3+627	5.00	3.00	3.00	1.875
73	3+653	5.50	3.00	3.00	1.875
74	3+681	4.50	3.00	3.00	1.875
75	3+731	4.00	3.00	3.00	1.875
76	3+741	5.00	3.00	3.00	1.875
77	3+754	5.00	3.00	3.00	1.875
78	3+784	4.50	3.00	3.00	1.875
79	3+882	5.00	3.00	3.00	1.875
80	4+057	6.00	3.00	3.00	1.875
81	4+106	6.00	3.00	3.00	1.875
82	4+166	6.00	3.00	3.00	1.875
83	4+263	4.00	3.00	3.00	1.875
84	4+276	4.00	3.00	3.00	1.875
85	4+393	10.00	3.00	3.00	1.875
86	4+603	4.00	3.00	3.00	1.875
87	4+725	10.00	3.00	3.00	1.875
88	4+745	10.00	3.00	3.00	1.875
89	5+025	4.50	3.00	3.00	1.875
90	5+057	3.00	3.00	3.00	1.875
91	5+165	4.00	3.00	3.00	1.875
92	5+406	3.00	3.00	3.00	1.875
93	5+454	6.00	3.00	3.00	1.875
94	5+480	10.00	3.00	3.00	1.875
95	5+550	6.00	3.00	3.00	1.875
96	5+584	5.50	3.00	3.00	1.875
97	5+595	6.00	3.00	3.00	1.875
98	5+615	4.00	3.00	3.00	1.875
99	5+627	8.00	3.00	3.00	1.875
100	5+713	8.00	3.00	3.00	1.875
101	5+755	6.00	3.00	3.00	1.875
102	5+862	5.50	3.00	3.00	1.875
103	5+950	4.00	3.00	3.00	1.875
104	5+988	4.00	3.00	3.00	1.875
105	6+101	4.00	3.00	3.00	1.875
106	6+139	6.00	3.00	3.00	1.875
107	6+230	3.00	3.00	3.00	1.875
108	6+297	8.00	3.00	3.00	1.875
109	6+391	4.00	3.00	3.00	1.875
110	6+430	3.00	3.00	3.00	1.875
111	6+472	3.50	3.00	3.00	1.875
112	6+548	4.00	3.00	3.00	1.875
113	6+618	3.50	3.00	3.00	1.875
114	6+690	13.00	3.00	3.00	1.875
115	6+890	4.00	3.00	3.00	1.875
116	6+944	4.00	3.00	3.00	1.875
117	7+017	5.00	3.00	3.00	1.875
118	7+071	4.00	3.00	3.00	1.875
119	7+089	3.50	3.00	3.00	1.875
120	7+137	4.00	3.00	3.00	1.875

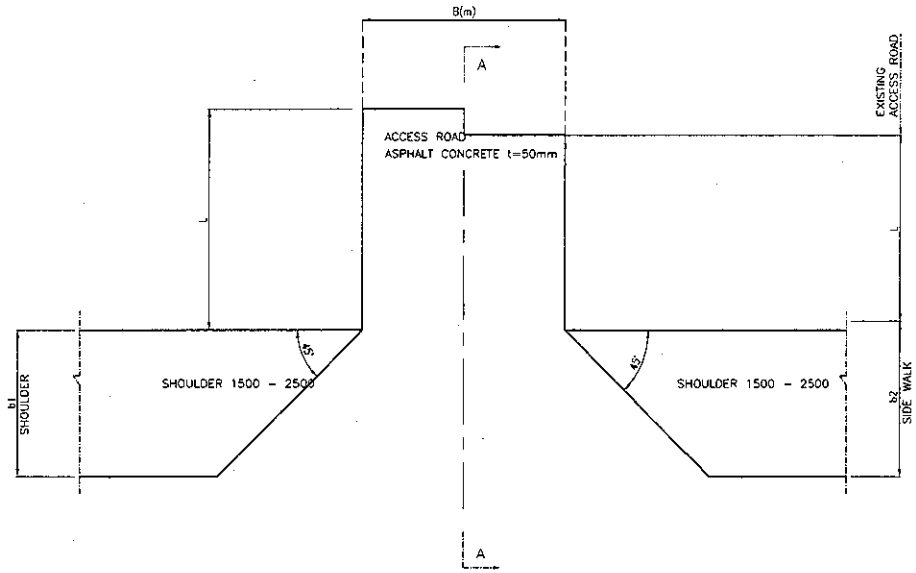
LEFT SIDE					
No	CHAINAGE	WIDTH	LENGTH	SIDE WALK	
		(B)	(L)	b	b1
121	7+278	4.00	3.00	2.5	1.375
122*	7+893	3.00	3.00	2.5	1.375
123*	7+934	2.70	3.00	2.5	1.375
124*	7+980	3.00	3.00	2.5	1.375
125*	8+492	16.00	3.00	2.5	1.375
126*	8+543	4.00	3.00	2.5	1.375
127*	8+809	16.00	3.00	2.5	1.375
128*	8+926	4.00	3.00	2.5	1.375
129*	9+037	14.50	3.00	2.5	1.375
130*	9+222	3.50	3.00	2.5	1.375
131*	9+456	4.50	3.00	2.5	1.375
132*	9+755	4.50	3.00	2.5	1.375
133*	9+768	4.00	3.00	2.5	1.375
134*	9+832	3.50	3.00	2.5	1.375
135*	9+894	2.50	3.00	2.5	1.375
136*	10+092	3.00	3.00	2.5	1.375
137*	10+207	3.50	3.00	2.5	1.375
138*	10+415	3.50	3.00	2.5	1.375
139*	10+475	3.50	3.00	2.5	1.375
140*	10+527	3.50	3.00	2.5	1.375
141*	10+596	3.00	3.00	2.5	1.375
142*	10+660	2.50	3.00	2.5	1.375
143*	10+754	7.70	3.00	2.5	1.375
144*	10+847	3.70	3.00	2.5	1.375
145*	10+933	3.60	3.00	2.5	1.375
146*	11+124	3.20	3.00	2.5	1.375
147*	11+323	3.10	3.00	2.5	1.375
148*	11+434	5.00	3.00	2.5	1.375
149*	11+481	3.00	3.00	2.5	1.375
150*	11+799	3.50	3.00	2.5	1.375
151*	11+861	2.80	3.00	2.5	1.375
152*	12+027	3.30	3.00	2.5	1.375
153*	12+439	3.60	3.00	2.5	1.375
154*	12+904	2.50	3.00	2.5	1.375
155*	12+982	3.00	3.00	2.5	1.375
156*	13+109	3.50	3.00	2.5	1.375
157*	13+624	4.50	3.00	2.5	1.375
158*	13+940	4.00	3.00	2.5	1.375
159*	13+983	2.50	3.00	2.5	1.375
160*	14+038	2.50	3.00	2.5	1.375
161*	14+089	2.50	3.00	2.5	1.375
162*	14+126	4.00	3.00	2.5	1.375
163*	14+244	9.00	3.00	2.5	1.375
164*	14+688	3.00	3.00	2.5	1.375
165*	14+857	4.00	3.00	2.5	1.375
166*	14+929	3.00	3.00	2.5	1.375
167*	15+310	2.70	3.00	2.5	1.375
168*	15+551	3.50	3.00	2.5	1.375
169*	15+668	5.00	3.00	2.5	1.375
170*	15+786	3.70	3.00	2.5	1.375
171*	16+627	3.70	3.00	2.5	1.375
172*	16+689	3.50	3.00	2.5	1.375
173*	16+772	3.60	3.00	2.5	1.375
174*	17+131	3.00	3.00	2.5	1.375

RIGHT SIDE					
No	CHAINAGE	WIDTH	LENGTH	SIDE WALK	
		(B)	(L)	b	b1
1	-0+080	5.00	3.00	3.00	1.875
2	-0+035	3.00	3.00	3.00	1.875
3	0+004	4.00	3.00	3.00	1.875
4	0+035	5.00	3.00	3.00	1.875
5	0+055	4.00	3.00	3.00	1.875
6	0+085	5.00	3.00	3.00	1.875
7	0+120	4.00	3.00	3.00	1.875
8	0+155	3.00	3.00	3.00	1.875
9	0+190	3.50	3.00	3.00	1.875
10	0+275	5.00	3.00	3.00	1.875
11	0+300	6.00	3.00	3.00	1.875
12	0+398	4.50	3.00	3.00	1.875
13	0+455	4.00	3.00	3.00	1.875
14	0+490	6.00	3.00	3.00	1.875
15	0+510	6.00	3.00	3.00	1.875
16	0+550	4.00	3.00	3.00	1.875
17	0+575	4.50	3.00	3.00	1.875
18	0+687	6.00	3.00	3.00	1.875
19	0+740	3.00	3.00	3.00	1.875
20	0+835	3.50	3.00	3.00	1.875
21	0+918	4.00	3.00	3.00	1.875
22	0+990	5.00	3.00	3.00	1.875
23	1+050	6.00	3.00	3.00	1.875
24	1+103	6.00	3.00	3.00	1.875
25	1+137	5.00	3.00	3.00	1.875
26	1+147	5.00	3.00	3.00	1.875
27	1+185	6.00	3.00	3.00	1.875
28	1+215	6.00	3.00	3.00	1.875
29	1+232	6.00	3.00	3.00	1.875
30	1+260	10.00	3.00	3.00	1.875
31	1+337	6.00	3.00	3.00	1.875
32	1+403	6.00	3.00	3.00	1.875
33	1+685	4.00	3.00	3.00	1.875
34	1+743	4.00	3.00	3.00	1.875
35	1+780	4.00	3.00	3.00	1.875
36	1+810	5.00	3.00	3.00	1.875
37	1+853	3.00	3.00	3.00	1.875
38	1+910	4.00	3.00	3.00	1.875
39	2+006	3.00	3.00	3.00	1.875
40	2+058	3.00	3.00	3.00	1.875
41	2+123	5.00	3.00	3.00	1.875
42	2+214	5.00	3.00	3.00	1.875
43	2+274	3.00	3.00	3.00	1.875
44	2+293	3.00	3.00	3.00	1.875
45	2+338	5.00	3.00	3.00	1.875
46	2+388	4.00	3.00	3.00	1.875
47	2+412	4.50	3.00	3.00	1.875
48	2+490	4.50	3.00	3.00	1.875
49	2+518	4.00	3.00	3.00	1.875
50	2+573	4.00	3.00	3.00	1.875
51	2+600	5.00	3.00	3.00	1.875
52	2+757	4.00	3.00	3.00	1.875
53	2+779	4.00	3.00	3.00	1.875
54	2+801	3.00	3.00	3.00	1.875
55	2+871	4.00	3.00	3.00	1.875
56	2+903	4.00	3.00	3.00	1.875
57	2+920	8.00	3.00	3.00	1.875
58	2+962	4.50	3.00	3.00	1.875
59	3+040	5.00	3.00	3.00	1.875
60	3+087	4.50	3.00	3.00	1.875
61	3+200	4.00	3.00	3.00	1.875
62	3+247	4.00	3.00	3.00	1.875
63	3+305	3.50	3.00	3.00	1.875
64	3+372	4.00	3.00	3.00	1.875
65	3+463	5.00	3.00	3.00	1.875
66	3+482	4.00	3.00	3.00	1.875
67	3+504	4.00	3.00	3.00	1.875
68	3+516	4.00	3.00	3.00	1.875
69	3+550	4.00	3.00	3.00	1.875
70	3+614	3.50	3.00	3.00	1.875
71	3+640	3.50	3.00	3.00	1.875

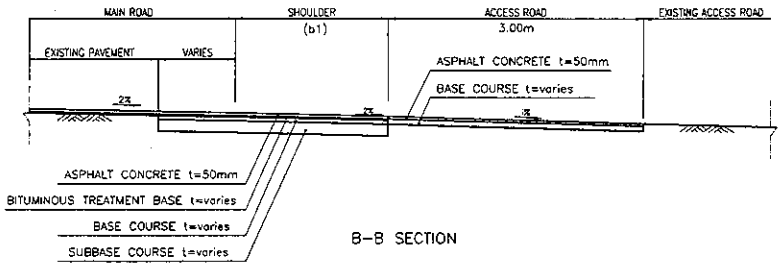
RIGHT SIDE					
No	CHAINAGE	WIDTH	LENGTH	SIDE WALK	
		(B)	(L)	b	b1
72	3+680	5.00	3.00	3.00	1.875
73	3+723	5.00	3.00	3.00	1.875
74	3+833	4.50	3.00	3.00	1.875
75	3+932	3.50	3.00	3.00	1.875
76	4+026	3.50	3.00	3.00	1.875
77	4+052	5.00	3.00	3.00	1.875
78	4+078	5.00	3.00	3.00	1.875
79	4+099	8.00	3.00	3.00	1.875
80	4+145	6.00	3.00	3.00	1.875
81	4+170	6.00	3.00	3.00	1.875
82	4+210	5.00	3.00	3.00	1.875
83	4+256	4.50	3.00	3.00	1.875
84	4+296	5.00	3.00	3.00	1.875
85	4+317	5.50	3.00	3.00	1.875
86	4+345	6.00	3.00	3.00	1.875
87	4+396	5.00	3.00	3.00	1.875
88	4+600	3.50	3.00	3.00	1.875
89	4+623	3.00	3.00	3.00	1.875
90	4+702	4.50	3.00	3.00	1.875
91	4+740	4.50	3.00	3.00	1.875
92	5+002	14.00	3.00	3.00	1.875
93	5+066	15.00	3.00	3.00	1.875
94	5+202	10.00	3.00	3.00	1.875
95	5+527	7.00	3.00	3.00	1.875
96	5+572	5.00	3.00	3.00	1.875
97	5+632	4.50	3.00	3.00	1.875
98	5+734	7.00	3.00	3.00	1.875
99	5+864	7.00	3.00	3.00	1.875
100	6+388	3.00	3.00	3.00	1.875
101	6+466	4.00	3.00	3.00	1.875
102	6+516	3.00	3.00	3.00	1.875
103	6+782	8.00	3.00	3.00	1.875
104	6+825	8.00	3.00	3.00	1.875
105	6+835	3.00	3.00	3.00	1.875
106	6+887	5.00	3.00	3.00	1.875
107	7+008	3.50	3.00	3.00	1.875
108	7+045	3.00	3.00	3.00	1.875
109	7+085	4.00	3.00	3.00	1.875
110	7+146	3.00	3.00	3.00	1.875
111	7+185	3.00	3.00	3.00	1.875
112*	9+742	3.00	3.00	2.5	1.375
113*	10+726	2.50	3.00	2.5	1.375
113*	10+765	3.00	3.00	2.5	1.375
114*	10+843	3.50	3.00	2.5	1.375
114*	10+874	3.30	3.00	2.5	1.375
115*	10+931	3.50	3.00	2.5	1.375
115*	11+015	3.50	3.00	2.5	1.375
116*	11+127	4.50	3.00	2.5	1.375
116*	11+340	4.00	3.00	2.5	1.375
117*	11+545	3.80	3.00	2.5	1.375
117*	11+733	4.50	3.00	2.5	1.375
118*	12+020	4.80	3.00	2.5	1.375
118*	12+211	3.20	3.00	2.5	1.375
119*	13+224	3.70	3.00	2.5	1.375
119*	14+177	4.00	3.00	2.5	1.375
120*	14+541	4.50	3.00	2.5	1.375
120*	14+920	3.50	3.00	2.5	1.375
121*	14+976	2.60	3.00	2.5	1.375
121*	15+102	4.00	3.00	2.5	1.375
122*	15+313	10.00	3.00	2.5	1.375
122*	18+154	3.00	3.00	2.5	1.375
123*	16+543	6.50	3.00	2.5	1.375
123*	17+032	3.00	3.00	2.5	1.375
124*	17+152	3.00	3.00	2.5	1.375
124*	17+308	2.50	3.00	2.5	1.375
125*	17+433	5.00	3.00	2.5	1.375
125*	17+519	4.00	3.00	2.5	1.375
126*	17+942	3.50	3.00	2.5	1.375
126*	18+187	4.00	3.00	2.5	1.375
127*	18+193	3.00	3.00	2.5	1.375
127*	18+407	4.00	3.00	2.5	1.375

NOTE: * marks represent flat sidewalk section where one meter long surb stone shall be applied at one meter interval.

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF ACCESS ROADS (2)	SCALE: 1:50	DRAWING No: M-9-1 Rv.



PLAN



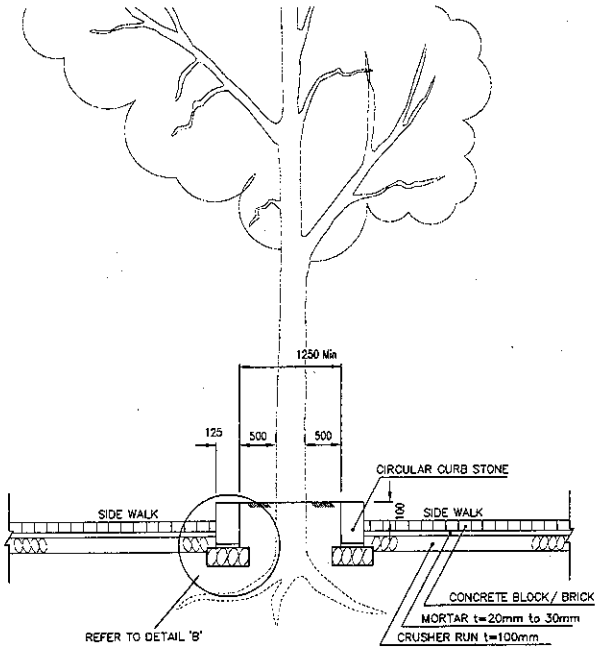
B-B SECTION

SCHEDULED LIST OF MINOR INTERSECTION BEYOND BEER LAO

LEFT SIDE				
No	CHAINAGE	WIDTH (B)	LENGTH (L)	SHOULDER b1
1	19+138	4.5	3	1.5
2	19+202	4	3	2.5
3	19+345	5	3	2.5
4	19+385	3	3	2.5
5	19+400	3	3	2.5
6	19+417	3	3	2.5
7	19+660	10	5	1.5
8	20+130	3	3	1.5
9	20+275	5	3	2.5
10	20+430	6	3	2.5
11	21+125	4	3	1.5
12	21+470	6	3	1.5
13	21+525	8.5	5	1.5
14	21+900	4	3	2.5
15	21+955	4	3	2.5
16	22+085	4.5	3	2.5
17	22+585	9	5	1.5
18	23+016	4.5	3	1.5
19	23+860	8	5	2.5
20	23+950	10	5	2.5
21	23+995	7.5	3	2.5
22	24+010	5	3	2.5
23	24+070	3	3	2.5
24	24+176	4.5	3	2.5
25	24+252	6	3	2.5
26	24+350.0	7	5	1.5
27	24+370.0	12	5	1.5
28	24+355.0	10	5	1.5
29	24+820.0	15	3	1.5
30	24+885.0	12.5	3	1.5
31	25+140.0	18	3	1.5
32	25+215.0	14	4	1.5
33	25+645.0	6	3	1.5

RIGHT SIDE				
No	CHAINAGE	WIDTH (B)	LENGTH (L)	SHOULDER b1
1	19+202	5	3	2.5
2	19+368	7.3	3	2.5
3	19+412	3	3	2.5
4	19+572	4	3	2.5
5	19+755	6	3	1.5
6	19+950	3	3	1.5
7	20+050	3	3	1.5
8	20+350	5	3	2.5
9	20+450	8	5	2.5
10	20+545	5	3	2.5
11	20+760	5	3	2.5
12	20+850	5	3	2.5
13	20+878	3	3	2.5
14	21+145	22.5	5	1.5
15	21+190	10	5	1.5
16	21+425	10	5	1.5
17	21+615	10	5	1.5
18	21+865	4	3	2.5
19	21+920	10	5	2.5
20	21+950	10	5	2.5
21	22+035	3	3	2.5
22	22+186	5	3	2.5
23	22+360	7.5	3	1.5
24	22+425	9.5	5	1.5
25	22+490	5	3	1.5
26	22+900	7.5	3	1.5
27	22+970	15	5	1.5
28	23+080	8	5	1.5
29	23+200	18	5	1.5
30	23+280	25	5	1.5
31	23+455	4	3	1.5
32	23+535	5	3	2.5
33	23+605	8	5	2.5
34	23+730	7	3	2.5
35	23+792	6.5	3	2.5
36	23+865	5	3	2.5
37	23+925	3	3	2.5
38	23+940	5	3	2.5
39	23+970	5	3	2.5
40	24+065	6	3	2.5
41	24+225	4.5	3	2.5
42	24+260	6	3	2.5
43	24+298	4.5	3	2.5
44	24+540	10	5	1.5
45	24+610	12	5	1.5
46	24+630	5	1	1.5
47	24+690	3	3	1.5
48	24+730	10	3	1.5
49	24+850	25	3	1.5
50	24+890	25	3	1.5
51	25+215	7.5	3	1.5
52	25+265	10	3	1.5
53	25+365	9	3	1.5
54	25+395	10	4	1.5
55	25+520	15	4	1.5
56	25+630	5	3	1.5

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF ACCESS ROADS (3)	SCALE: 1:50	DRAWING No: M-9-2	Rv.



A–A SECTION
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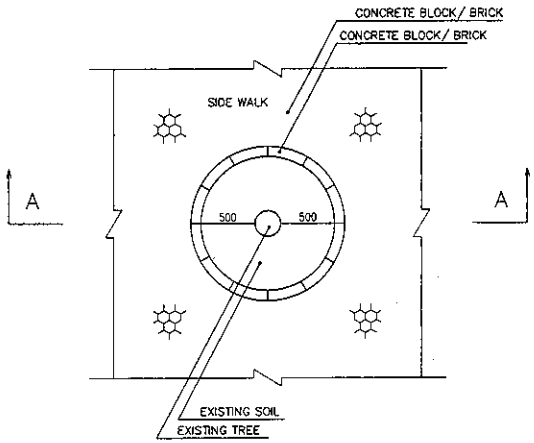
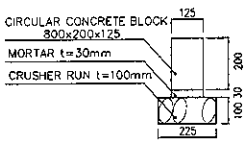
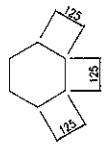


PLAN
NOT TO SCALE



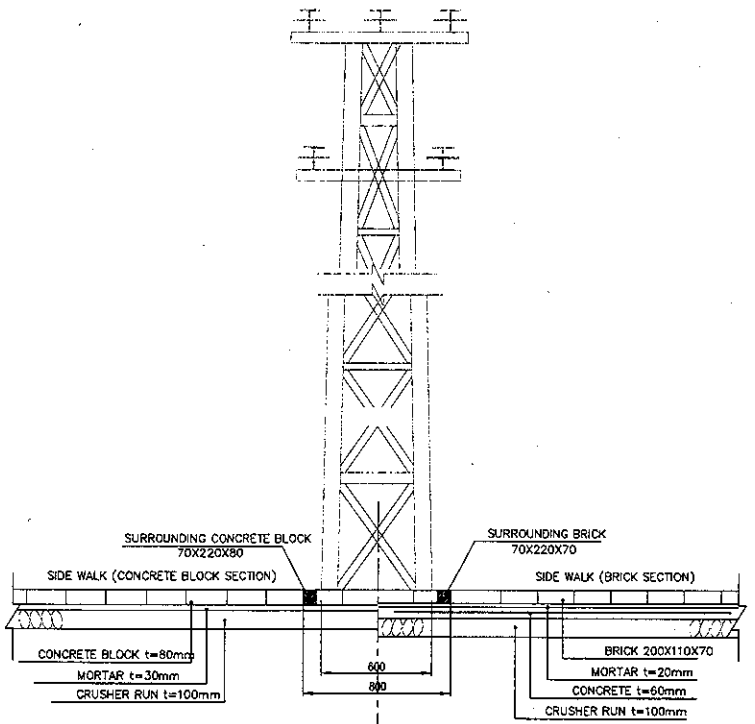
DETAIL "B"
SCALE 1:20

Average Circumference Of Tree Trunk	No. of trees
1.65m	450



PLAN
NOT TO SCALE

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF PLANT PROTECTION	SCALE: 1:50	DRAWING No: M–10	Rv.



A–A SECTION (CONCRETE PAVEMENT)
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A–A SECTION (BRICK PAVEMENT)
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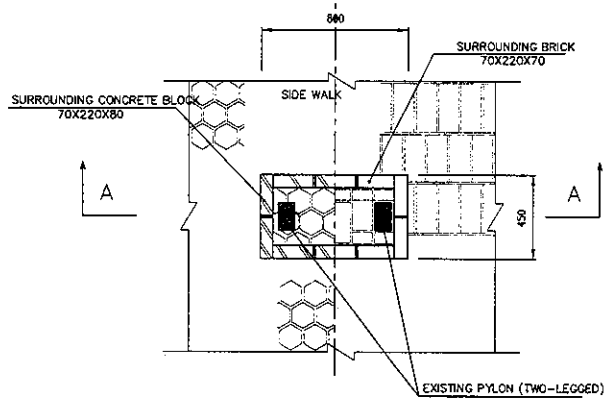

PLAN
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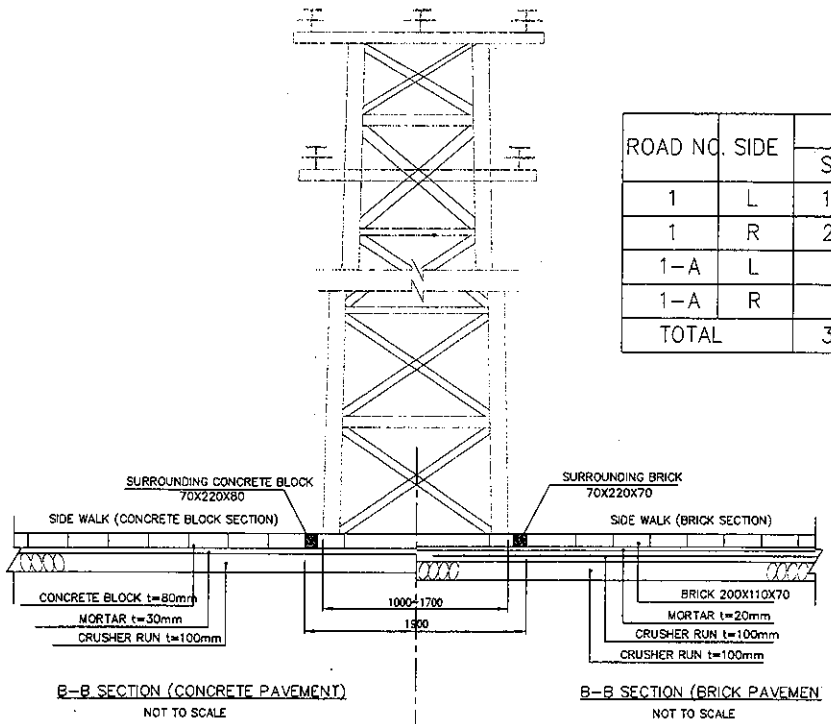

B–B SECTION (CONCRETE PAVEMENT)
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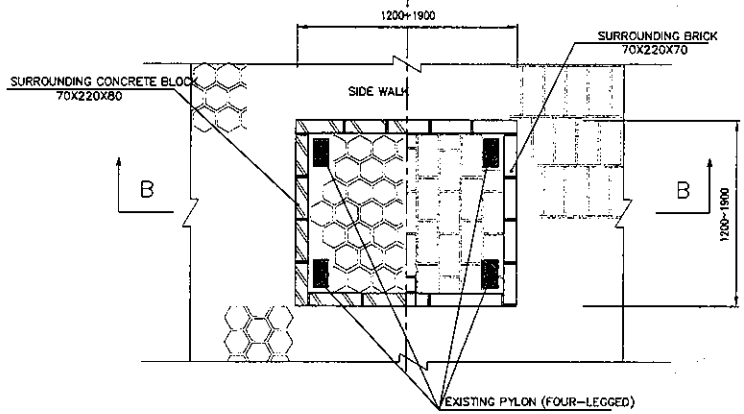
B–B SECTION (BRICK PAVEMEN
NOT TO SCALE



PLAN
NOT TO SCALE

ROAD NO.	SIDE	NUMBER	
		STEEL	CONCRETE
1	L	148	109
1	R	204	76
1–A	L	16	1
1–A	R	2	4
TOTAL		370	190

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF ELECTRIC POLE PROTECTION	SCALE: 1:50	DRAWING No: M–11 Rv.

2.2.4 Implementation Plan

2.2.4.1 Implementation Policy

The basic conditions for implementing the Project are as follows:

- This Project, if approved, will be implemented in accordance with the guidelines of Japan's Grant Aid after signing of the Exchange of Notes between the Governments of Japan (GOJ) and Lao People's Democratic Republic. However, this Project is subject to the completion of the urban drainage system implemented by VUDAA under the schedule shown in Table 2-2-2-(1).
- The Department of Road of the Ministry of Communication, Transport, Post and Construction is responsible for implementing the Project.
- The detail design which includes the trial excavation for Buried Cultural Properties Survey outside the initial city wall of Vientiane, assistance in tendering and construction supervision of the Project will be undertaken by a Japanese consulting firm in accordance with a contract between the Department of Road and the consultant.
- The Japanese tenderer who awarded the contract by the Department of Road will undertake the improvement of the road.

The followings are the main concepts in the implementation plan:

- Since the Project is implemented in the center of the city by occupying the main road congested with heavy traffic and lots of pedestrians, the work plan and schedule of the Project will be made considering the safety of all peoples concerned, convenience to the residence and environmental effects to the historical buildings.
- The urban drainage systems implemented by VUDAA should complete before commencement of the construction of drainage, which is the first item to implement in this Project.
- Materials necessary for the Project will be procured in Laos as far as they are available. Items unavailable locally could be procured in Japan or the third country as far as it is acceptable in terms of the quality, the supply time and its price.
- The work plan and schedule of the Project will be made reflecting local climatic conditions, topography, geography and others.
- Organization for construction and supervision of the Project will be proposed based upon standardization and specification for construction as well as construction supervision.
- The existing road should be opened for traffic and the facilities keeping safety traffic should be properly provided during construction.

2.2.4.2 Implementation Conditions

2.2.4.2-a Consideration for Implementation in the Urban Road

- This Project will be implemented based upon the work plan as mentioned in「2.2.2.7 Work plan」so that inconvenience to traffic and pedestrians will be minimized and safety of all peoples concerned will be secured.

- Proper detours shall be maintained during construction.
- The work plan that secures less vibrations and noises shall be adopted. Especially vibrations caused to works shall be minimized at the surrounding of the old buildings as well as residence houses.
- The safe access to the residence houses, offices, restaurants, hotels and other facilities alongside the road shall be maintained during the works.
- Counter measures against any type of dusts should be taken during the works.

2.2.4.2-b Consideration for Implementation during Rainy Season

- Since approx. 90 % of total precipitation per year falls during the rainy season from May to September, the road drainage will be connected to the outlet canal in the dry season for securing free flow of the road drainage.
  Construction sequence of the road drainage shall be planned from down stream towards upper stream.
- While construction of the underground structures are on-going, the temporary sheet piling will be provided for securing collapse of excavated ground due to erosion and/or seepages of rainwater.
- The road opened to public shall be always kept safe during the work.

2.2.4.2-c Consideration for Securing Safety for All Road Users and All Members Concerned to Construction Works

(1) Safety for all road users

- Temporary fences shall be installed to shelter working lots and safety facilities such as notice boards, detour signboards and flagmen shall be provided. When nighttime work is necessary, sufficient lighting facilities such as rotating warning lights and tube-lights shall be arranged to avoid accidents in nighttime traffic.
- While the road drainage facilities are under construction at the excavated open portions, it is planned to provide safety nets for safety to protect falling down accidents into the excavated portions.
- For securing safety of pedestrians, every safety measures shall be provided at the surrounding of the road during the work. The temporary crosswalks will be provided at the excavated open portion with sufficient safety facilities.

(2) Safety for all staff/workers concerned to the works

- Since construction of the road drainages is substantially the excavated under ground works, safety facilities such as durable ladders and safe access paths shall be provided.
- Since a lot of hauling works of heavy materials are expected, durable proper hauling goods shall be employed for handlings.
  It is very essential to prohibit anyone to be under the lifted objects during hauling works.

2.2.4.2-d Building Survey

Prior to commencement of the Project, building survey regarding such items mentioned as under shall be conducted by ether DOR or the contractor so that, if residents offer complains for building damages caused by the implementation of the Project, it could be judged whether those complains are reasonable or not.

At the same time, it is very important to notice to all concerned residents the information related to the implementation of the Project during surveying buildings.

The items to be surveyed are as follows:

- Whole view of building: Visual survey. Pictures shall be taken.
- Structural survey: Inclination of building and fence, settlement, cracks of wall, fence, ceiling, floor, basement, column and plat, etc. and any other damaged portion. Pictures shall be taken for all items.

2.2.4.3 Scope of Works

The undertakings of both Governments, Japan and Laos, are listed in Table 2.2.4.3-(1).

Table 2.2.4.3-(1) Undertakings of Both Governments

Item	Contents	Undertaken by		Remarks
		Japan	Laos	
Procurement of materials and equipment	Procurement	○		
	Customs clearance		○	
	In-land transportation clearance		○	
Procurement of materials for water supply relocation	For main work		○	
	For main work	○		Structure by designing restrictions
	For temporary work	○		
Temporary work	Acquisition of lots		○	Site offices, stock yard Work shop, etc.
	Control panel of lighting & traffic signal		○	One set for each 400m interval
	Notice for suspension of water supply		○	
	Others	○		
Relocation of obstacles, etc.	Ground obstacles		○	Electric poles & wire, Telephone cable, trees, etc.
	Under ground obstacles	○		Water supply
	-do-		○	Cable & Manholes, etc.
Main work	Improvement of the road	○		

2.2.4.4 Consultant Supervision

A Japanese consultant will supervise the implementation of the project on behalf of the Government of Laos. The consultant will carry out the detailed design and assist in tendering and construction supervision, in accordance with the consultant contract concluded between the Government of Laos and the consultant.

(1) Detailed Design

Major works in the detailed design to be carried out by the consultant are as follows:

- Supplemental site survey
- Trial excavation for Buried Cultural Properties Survey out of the initial city wall of Vientiane (Between Laksong and 4A Intersection : L = 2 km)

- Detailed Design of the road and drainage structure, relocation of the water supply and improvement of urban sidewalks
- Coordination with the relevant project (Drinking Water Supply and Distribution Project – AFD) for the location of the water supply pipeline and work schedule
- Preparation of Drawings and Specifications
- Construction Planning, Work Schedule and Cost Estimation
- Preparation of Tender Documents

In order to reduce the total periods of construction, detailed design for Phase-2 shall be conducted during Phase-1.

The implementation of detailed design shall be carried out Phase-1 first and then Phase-2. The necessary time for detailed design is 4.2 months for Phase-1 and 0.5 months for Phase-2.

(2) Assistance in Tendering

The consultant will render the following services during the period from tender publication to construction contract.

- Tender publication
- Pre-qualification
- Tendering
- Tender evaluation
- Contract facilitation

The necessary time for assistance in tendering is 2.5 months for Phase-1 and 2.5 months for Phase-2.

(3) Construction Supervision

The consultant will carry out supervision of the construction work, which will be executed by the contractor. The main work items are as follows:

- Inspection and approval of site survey
- Inspection and approval of construction planning
- Coordination with the relevant contractors and the client
- Quality control
- Progress control
- Measurement of the work
- Inspection of safety aspects
- Final inspection and turnover

The periods for construction supervision is 14.0 months for Phase-1 and 15.0 months for Phase-2.

For the construction supervision, five (5) engineers (3 for the road improvement, 2 for BCP Survey) will station. Since the Project is carried out in the center of the city and congested road with traffics and pedestrians, full attention shall be paid on the safety management.
The supervision shall be carried out so as to avoid any accidents, through the close

coordination and cooperation with the safety manager of the contractor.

2.2.4.5 Quality Control Plan

Quality control plan for earthwork and pavement is shown in Table 2.2.4.5-(1) and for concrete in Table 2.2.4.5-(2).

Table 2.2.4.5-(1) Quality Control Plan for Earthwork and Pavement

Work Item	Test	Test Method (Specification)	Frequency of Test
Embankment	Density in-situ	AASHTO T191	Once in 500 m^3
Base course / Sub-base	Sieve analysis	AASHTO T27	Once before placement, after that once in 1,500 m^3 and/or the material source changes
	CBR	AASHTO T193	Once before placement, after that once in 1,500 m^3 and/or the material source changes
	Dry density	AASHTO T180	Once before placement, after that twice in 1,500 m^3 and/or the material source changes
	Density in-situ	AASHTO T191	Once in 500 m^3
Asphalt concrete (Surface / BTB)	Temperature of Asphalt mixture	After mixed & placed	5 times in a day
	Abrasion test of aggregate	AASHTO T96	Once in 1,500 m^3 and/or the material source changes.

Table 2.2.4.5-(2) Quality Control Plan for Concrete Work

Item	Test	Test Method (Specification)	Frequency of Test
Cement	Physical property test	AASHTO M85	Once before trial mix. Thereafter, when the material brand changes.
Fine Aggregate	Physical property test	AASHTO M6	Once before trial mix. Thereafter, once in 1,500 m^3 and/or the material source changes.
	Sieve analysis	AASHTO T27	Once in a month.
Course Aggregate	Physical property test	AASHTO M80	Once before trial mix. Thereafter, once in 1,500 m^3 and/or the material source changes.
	Sieve analysis	AASHTO T27	Once a month.
Water	Quality test	AASHTO T26	Once before trial mix.
Concrete	Slump test	AASHTO T119	Twice a day
	Air content test	AASHTO T121	Twice a day
	Compressive strength test	AASHTO T22	6 specimens in each concreting. In case of large quantity in each concreting, 6 specimens per 75 m3 (3 for 7 days strength, 3 for 28 days)
	Temperature test	—	Twice a day

2.2.4.6 Procurement Plan

(1) Construction materials

The construction materials available in Laos are sand, asphalt concrete, aggregate, crashed stone, ready mixed concrete, concrete products and timbers. All others are imported. Imported materials available in local market will be purchased locally.

Materials which are not available from local sources are planned to be procured from Japan or third countries. The source will be chosen by its quality and purchasing cost.

Procurement plan for major materials is shown in Table 2.2.4.6-(1).

Table 2.2.4.6-(1) Material Procurement Plan

	Procured from			Remarks
	Vientiane	Japan	Third country	
Material for Structure	○			
Crushed stone	○			Crushed stone from Mekong River
Cement	○			Vientiane
Sand	○			Sand from Mekong River
Sub-base material	○			Laterite in dry season, crushed gravel from Mekong River in rainy season
Base course material	○			Gravel from Mekong River and crushed by the contractor
Ready mixed concrete	○			Vientiane
Asphalt concrete	○			-do-
Reinforcing steel (D6~32)	○			-do- (Imported)
Admixture for concrete	○			-do- (Imported)
Shape steel			○	Thailand
Material for Water pipe relocation			○	China
Retainer gland			○	-do-
Rubble for wet masonry	○			Cobble from Mekong River
Wire box	○			Vientiane (Imported)
PVC pipe (D50~200)	○			-do-
RC pipe (D300~1,000)	○			Vientiane
Road lighting	○			Vientiane (Imported)
Traffic signboard	○			-so-
Material for temporary work				
Timber for form	○			Vientiane
Plywood for form (with waterproof)	○			-do-
Plywood for form (without waterproof)	○			-do-
Nails	○			-do-
Scaffolding pole (timber)	○			-do-
Sheet pile (earth retaining)			○	Thailand
Steel for earth retaining			○	-do-
Shape steel			○	-do-
Road decking panel			○	-do-
Light gauge sheet pile		○		Japan
Bag for sandbag	○			Vientiane
Electric welding rod	○			-do-
Fuel, Lubricant oil	○			-do-
Oxygen, Acetylene	○			-do-
Gas cutter	○			-do-

(2) Equipment

Equipment operated in Laos is all imported one and no lease company is available. But it is possible to lease equipment owned by local contractors. General equipment is available locally but special equipment necessary for the work such as a hydraulic silent pile driver, a portal crane, a crushing plant and a mixing plant will be procured from the third country (Thailand).

The policy to procure equipment is as follows:

- General equipment owned by local contractors will be leased.
- Equipment unavailable locally will be imported from the third country (Thailand).
- Light equipment like a submersible pump, the lease charge of which is rather expensive, will be purchased in Thailand.

The procurement plan of major equipment is shown in Table 2.2.4.6-(2).

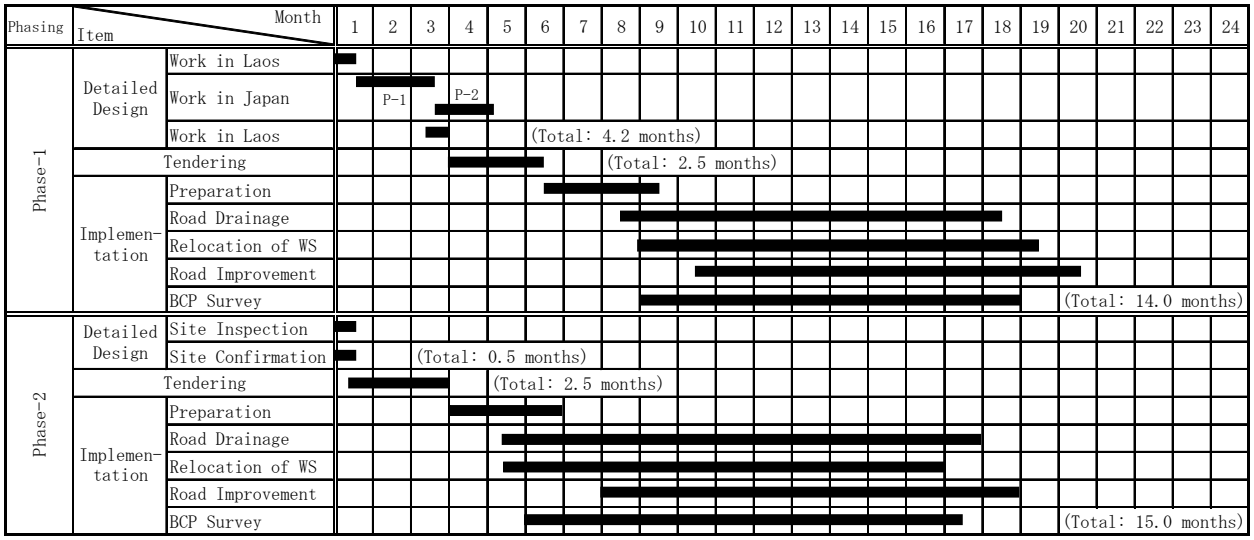
Table 2.2.4.6-(2) Equipment Procurement Plan

Equipment	Size	Procured from			Remark
		Vientiane	The Third Country	Japan	
Backhoe	0.28m^3	○			
Backhoe	0.5m^3	○			
Backhoe	0.8m^3	○			
Bulldozer	21t	○			
Bulldozer	15t	○			
Motor grader	3.1m	○			
Road roller	10~20t	○			
Tire roller	8~20t	○			
Vibration roller	3~4t	○			
Asphalt finisher	2.4~6.0m	○			
Sprinkler truck	6.0kλ	○			
Dump truck	2t	○			
Dump truck	10t	○			
Truck crane	4.9t	○			
Truck crane	20t	○			
Truck crane	35t	○			
Crawler crane	40t	○			
Portal crane	7.5t / 5t		○		Thailand
Hydraulic silent pile driver	150t class		○		-do-
Joe crasher	50t/h class		○		-do-
Impact crasher	40t/h class		○		-do-
Mixing plant (Aggregate)	100t/h class		○		-do-
Unic truck	4t		○		-do-
Trailer truck	20t	○			
Trailer truck	30t	○			
Generator	250KVA	○			
Generator	100KVA	○			
Generator	45KVA	○			
Generator	15KVA	○			
Submersible pump	150mm		○		Purchased in Thailand
Submersible pump	100mm		○		
Line marker			○		Thailand
Air compressor	3.7m^3		○		-do-
Concrete breaker	20k class		○		-do-
Lighting facility			○		-do-
Truck	4t	○			

2.2.4.7 Implementation Schedule

The Project will be implemented under the schedule shown in Table 2.2.4.7-(1).

Table 2.2.4.7-(1) Implementation Schedule



Note: Total construction period: 22.5 months including overlap

2.3 OBLIGATIONS OF LAO PEOPLES DEMOCRATIC REPUBLIC

The government of Laos Peoples Democratic Republic should undertake the following measures on condition that the Grant Aid by the Government of Japan is extended to the Project:

(1) To provide data and information necessary for the Project.
(2) To secure the land necessary for the execution of the Project, such as the land for temporary offices, construction works, storage yards and others.
(3) To clear the sites prior to the commencement of the work. (land for road expansion and the land illegally occupied)
(4) To conduct building survey alongside the Project road prior to commencement of the Project.
(5) To secure prompt internal transportation of the material and equipment through the existing roads and bridges.
(6) To bear commissions to the bank in Japan for its banking services, based upon the Banking Arrangement, namely the advisory commission of the "Authorization to Pay" and payment commission.
(7) To ensure prompt unloading, tax exemption, customs clearance at the port of disembarkation concerned of the materials and equipment for the Project purchased under the grant Aid.
(8) To exempt Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Lao Peoples Democratic Republic with respect to the supply of the pr0ducts and services under the verified contracts.
(9) To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Laos and stay therein for the performance of their work.
(10) To provide necessary permission, licenses and other authorizations for implementing the Project.
(11) To provide all materials necessary for relocation of the water supply pipes except materials used for temporary works.
(12) To arrange and keep the Buried Cultural Properties found during the Project.
(13) To provide traffic directional signboards alongside the Project road.
(14) To provide sewage pipes from residences to the public sewage inlet boxes arranged by the Project.
(15) To cut branches of the trees alongside the Project road.
(16) To relocate all structures like electric poles, advertising boards, drainage pipes from factories, under ground cables and manholes, etc. that hinders to the works.
(17) To maintain properly and effectively all the Project road facilities constructed under the Project.
(18) To coordinate and solve any issues related to the Project that may be raised from third parties or inhabitants in the Project area during implementation of the Project.
(19) To bear all the expenses, other than covered by the Japanese Grant Aid, necessary for the Project.

2.4 PROJECT OPERATION PLAN

Maintenance of the present Vientiane Road No.1 is carried out by DCTPC and VUDAA mainly for the pavement of the road by overlaying and patching the DBST surface.

After completion of the Project, asphalt pavement and concrete pavement (a part of Road No.2) as well as various road facilities such as road drainages, sidewalks, street lightings, traffic signals and traffic signboards, etc. shall be maintained properly.

Therefore, during implementing the Project, the consultant will provide「Maintenance Manual」to the agency of Lao government in charge and transfer full technical knowledge to them to maintain such various facilities so that the road improved will function well for long term in future.

It is proposed that MCTPC shall prohibit digging the improved road for at least three (3) years after completion of the Project so as to minimize damages to the road. (Remark: According to the circular notice issued by the Japan Government, it is prohibited to dig the concrete pavement road for five (5) years and the asphalt pavement road for three (3) years.)

Vientiane Road No.1「Maintenance Manual」, CONTENTS (Draft)

1. Asphalt Pavement
   (1) General
      1-1 Purpose and necessity of maintenance for asphalt pavement
      1-2 Life cycle of pavement
      1-3 Definition
   (2) Road monitoring
      2-1 Damage to asphalt pavement road
         2-1-1. Asphalt pavement structure
         2-1-2. Classification and causes of the damage
      2-2 Detailed visual inspection
         2-2-1. Purpose
         2-2-2. Method of evaluation of pavement damage
         2-2-3. Inspection procedure
         2-2-4. Implementation
         2-2-5. Report form
         2-2-6. Interpretation of the inspection results
         2-2-7. Pavement damage sheet
      2-3 Pavement surface condition investigation
         2-3-1. Purpose
         2-3-2. Method of investigation
         2-3-3. Evaluation of pavement condition
   (3) Planning of maintenance activities
      3-1 Types of maintenance activities
         3-1-1. Life cycle of pavement deterioration
         3-1-2. Routine maintenance
         3-1-3. Periodic maintenance
         3-1-4. Rehabilitation and betterment

3-2 Repairs by routine maintenance
3-2-1. Work performance standard
3-2-2. Annual work program
3-2-3. An example of annual work program
3-3 Repairs by periodic maintenance
3-3-1. Double Bituminous Surface Treatment
3-3-2. Asphalt overlay
3-4 Training
3-4-1. General
3-4-2. Possible training packages
(4) Methods of maintenance and repairs
A. General repairs
B. Bituminous surface treatment
C. Asphalt overlay

2. Concrete Pavement
(1) Damages to the concrete pavement and its causes
(2) Assessment of the pavement conditions
(3) Selection of the repairing method
(4) Methods of maintenance
(5) Methods of repairs

3. Road Drainages Facilities
(1) Road surface drainages
(2) Sub-ground drainages
(3) Side-slope drainages
(4) Cross drainages

4. Sidewalks
(1) Assessment of the surface
(2) Damages to the surface and its causes
(3) Selection of repairing method

5. Street Trees and Planted Trees and Sods
(1) Maintenance plan of street trees
(2) Pruning plan
(3) Control of blights and noxious insects
(4) Maintenance of planted sods
(5) Maintenance of planted trees

6. Other Various Facilities
(1) Street lightings
(2) Traffic signboards
(3) Traffic signals
(4) Parking lots
(5) Road markings
(6) Electric poles and advertising boards
(7) Other facilities like street stalls

7. Cleanings
   (1) Cleaning of the road
   (2) Cleaning of the sidewalks
   (3) Cleaning of the road drainages
   (4) Cleaning of the other facilities
      4-1. Street lightings
      4-2. Traffic signboards
      4-3. Traffic signals
      4-4. Others

2.5 ROUGH PROJECT COST

2.5.1 Rough Estimate of Project Cost

The total project cost necessary to implement this Project is estimated at 4,483 Million Yen. The costs to be borne by both governments, Japan and Lao PDR based on the scope of works for both governments as previously stated and respective details are estimated as follows on the conditions shown in (3) below.

This cost estimate is provisional and would be further examined he Government of Japan for the approval of the Grant.

(1) Cost borne by the Government of Japan

Improvement of Vientiane No.1 Road (28.9 km)

(Unit: Million Yen)

Item	Stage 1	Stage 2	Total
Construction Cost	1,800.5	2,235.6	4,036.1
Detailed Design/ Construction & Supervision	291.8	155.5	447.3
Total	2,092.3	2,391.1	4,483.4

(2) Cost borne by the Government of Lao PDR

Total Cost approximately 801,000 US$

(1) Materials for relocation of the water supply	US$ 166,820
(2) Relocation of electric poles.....	Kips 689,800
(3) Cost for connection to the supply pipes.....	US$ 55,000
(4) Cutting branches of trees alongside the road	US$ 10,000
(5) Relocation of under ground cables	US$ 500,000
(6) Relocation of telephone box	US$ 3,700
Total cost	US$ 801,220 ≒ US$ 801,000

(3) Conditions in Cost Estimate

- Time of Cost Estimate: June 2005
- Exchange Rate : 1US Dollar = 105.25 Yen
- Construction Period : As shown in the Implementation Schedule
- Others : This Project is implemented in accordance with the system of Japan's Grant Aid.

2.5.2 Estimated Maintenance Cost

The annual costs of the maintenance works are roughly estimated at US$154,000 as detailed in Table 2.5.2-1.

When the Project is completed, both routine inspection and daily maintenance work are undertaken by DCTPC or VUDAA.

Table 2.5.2-1 Estimation of Annual Cost for Maintenance

1. Routine Inspection

Facility	Inspection Item	Frequency	No. of Staff	Equipment	Quantity	Cost (US$/year)
Road Drainages	existence of soil, obstacles	1 time/week 52 times/year 2 days/time	1-manager 4-staff	tape, scoop, hammer, barricade, 1-pick-up truck	Manager 52p./year Staff 416p./year 104u./year	 1,456.00 4,992.00 7,800.00
Pavement	cracks, deformation, Potholes,					
Sidewalks	deformation, damages to blocks					
Side Slopes	erosion, collapse, etc.					
Road Marking	injury,, stain, splitting, etc.					
Signboards	injury, deformation, stain, splitting, etc.					
Guide Posts	damage, stain, splitting, etc.					
Traffic Signals	check of function					
Street Lightings	check of function					
Street Plants	check of traffic hazard					
					Sub-total	14,248.00

2. Cleaning

Facility	Work Item	Frequency	No. of Workers	Equipment	Quantity	Cost (US$/year)
Road Drainages	cleaning soils, obstacles,	12 times/year 7 days/time	2-manager 10-worker	scoop, broom, mowing machine barricade, 2-pick-up truck	Manager 168p./year Workers 840p./year 168u./year	 4,704.00 10,080.00 12,600.00
Pavement	cleaning surface					
Sidewalks	cleaning					
Side Slopes	cleaning, cutting grass,					
Road Marking	cleaning					
Signboards	cleaning					
Guide Posts	cleaning					
Traffic Signals	cleaning					
Street Lightings	cleaning					
Street Plants	cutting branches					
					Sub-total	27,384.00

3. Repair / Rehabilitation

Facility	Work Item	Frequency	No. of Workers	Equipment	Quantity	Cost (US$/year)
Road Drainages	repair of damages	4 times/year 14 days/time	1-manager 5-worker	plate tamper scoop, broom, barricade, 1-pick-up truck base course, bitumen, cement, guide post, bulb (Signal) bulb (S.Light)	Manager 56p./year Workers 280p./year 56u./year 10m3/year 1.0t/year 10bags/y. 20p./year 10p./year 20p./year	 1,568.00 3,360.00 4,200.00 250.00 65.00 40.00 400.00 350.00 2,200.00
Pavement	crack sealing, patching of potholes					
Sidewalks	repair of damages					
Side Slopes	repair of damages					
Road Marking	re-marking					
Signboards	repair/replacement					
Guide Posts	repair/replacement					
Traffic Signals	repair, replacing bulb					
Street Lightings	repair, replacing bulb					
Street Plants	re-plant, etc.					
					Sub-total	12,433.00

4. Electricity Charges of Traffic Signals & Street Lightings

Facility	No. of Facility	No. of Bulb	Size of Bulb	Quantity of Electricity (kwh/year)	Unit C./h (Kps/h.)	Cost (US$/year)
Traffic Signals	7 Intersections 12 Pedestrian crossings	43 pcs. 70 pcs.	50 W 50 W	24Hrs./day x 365days/year x 50W x 113 = 49,494kwh/y.	1,037	4,797.00
Street Lightings	422-Single Arm 324-Double Arm	422 pcs. 648 pcs.	250 W 250 W	10Hrs./day x 365days/year x 250W x 1,070 = 976,375kw/y	1,037	94,626.00
					Sub-total	99,423.00

Total	153,488.00
	≒ 154,000.00

CHAPTER 3

PROJECT EVALUATION AND RECOMMENDATION

CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

3.1 PROJECT EFFECT

The aim of the Project is to improve the deteriorated pavement and poor drainage system observed all through the road, by implementing the road improvement of about 28.9 km in between Sikhay Junction and Thanaleng Warehouse, to restore the function and capacity of Vientiane No.1 Road and smoothen the flow of goods and peoples.

The direct and indirect beneficial are the residents of Vientiane Capital in which the Project located is all the population of 700,000 (estimated population in 2004) in Vientiane.

The direct and indirect positive effects under the Project implementation are described as below.

① Travel time in the center of the city between Sikhay Junction and Chinaimo Junction is expected to be shortened as a result of improving mobility and segregation of mixed traffic.

Road Section	Before Improvement	After Improvement
Sikhay～Chinaimo (12.3 km)	30 minutes (Average speed: 25 km/h)	21 minutes (Average speed: 35 km/h)

② Safe and smooth traffic will be ensured as a result of improving road facilities such as sidewalk, bus stop, parking lots, pedestrian crosswalks, traffic signals, street lightings and traffic signals.

③ The improvement of the road will provide safe and smooth access to commercial and tourism facilities along the road by car and on foot.

④ Reduction of flooding on and along the road will improve the movement of persons and goods in the city.

Road Section	Before Improvement	After Improvement
Sikhay～Chinaimo	73 times flooding per year (3 hours each for interrupting traffic)	Reducing

⑤ Socio-economic activities will become more active by promoting physical exchange due to the improved function of the trunk road.

⑥ Health and sanitary environment along the road will be improved due to the reduction of flooding.

3.2 RECOMMENDATIONS

The Government of Lao PDR is expected to fulfill the following items, issues and recommendations, in order to execute the project satisfactory and maintain the sustainability of the effect of the Project;

(1) Issues

- To keep good maintenance. It is important, especially to maintain the road pavement and opening structures such as bridges and culverts for the road maintenance. Road maintenance is not only for comfortable driving, but also for prolonging the durability (periods until the maintenance required). To secure adequate budget to have good road maintenance, which is inevitable. It is also important to keep drainage structures and road accessories such as street lighting, traffic signal, road sign, road marking, etc., and thus prolong working life.
- As a result of road improvement, it is predictable that the traffic speed will be increased. Therefore, it is important to maintain traffic safety by the implementation of traffic safety education, improvement of traffic manner and strengthening of driving license system.

(2) Recommendation

Technical assistance on the maintenance and traffic measures to be implemented is recommended to ensure the maintenance and traffic safety, and secure manifestation/ sustainment of the Project efforts. Especially, system formation and establishment of guidelines are indispensable.

3.3 PROJECT ADEQUACY

It is reasonable to judge, upon the reason mentioned below, that the project is adequate to implement under the grant aid program of the Government of Japan:

① It contributes to the improvement of living standard and social-environment of residents by improving as a life road, reduction of traffic accidents, provision of countermeasure against flood, activation of social-economic activities, as an effects of the project implementation.

② The Government of Lao PDR has targeted in "the Fifth 5 Years Socio-Economic Development Plan (2001～2005)", to improve trunk road as an aim of road improvement, in this connection, the present project is worthy to attain the goal of the Plan, and in addition, the present project incorporated in the formation of part of "Asian Highway".

3.4 CONCLUSION

The implementation of the Project is expected to have enormous positive effects, as mentioned above. It can be judged that the Project to be undertaken by the Japan's Grant Aid is appropriate from the viewpoint of contributing the Lao nationwide socio-economic vitalization.

APPENDICES

APPENDIX 1

MEMBER LIST OF THE STUDY TEAM

MEMBER LIST OF THE STUDY TEAM

1) Field Survey Team

No.	Name	Position	Belong to
1	Mr. AOKI Makoto	Leader	Deputy Managing Director, Grant Aid Management Department, JICA
2	Mr. NISHIWAKI Hidetaka	Leader	Resident Representative, JICA Lao Office
3	Mr. TANAKA Kenshiro	Project Coordinator	Officer, Traffic Infrastructure Team Project Management Group, Grant Aid Management Dept. JICA
4	Mr. MIURA Minoru	Chief Consultant / Road Planner	Katahira & Engineers International
5	Mr. SAGARA Hidetaka	Road Drainage Planner	Katahira & Engineers International
6	Mr. KODERA Naoki	Road Designer/ Topographic & Geological Surveyor	Katahira & Engineers International
7	Mr. MINAMI Seibun	Water Supply Planner	Katahira & Engineers International
8	Mr. SATO Tadashi	Environment and Social Consideration Planner	Katahira & Engineers International
9	Mr. ISHII Masaki	Natural Condition Surveyor	CTI Engineering International Co., Ltd.
10	Mr. WATANABE Ryohei	Construction Planner/ Cost Estimator	Katahira & Engineers International
11	Mr. KUROKAWA Masaaki	Coordinator	Katahira & Engineers International

2) 2nd Field Survey

No.	Name	Position	Belong to
1	Mr. AOKI Makoto	Leader	Deputy Managing Director, Grant Aid Management Department, JICA
2	Mr. HATTORI Takanori	Grant Aid Assistance	Grant Aid Division Economic Cooperation Department, Ministry Foreign Affairs
3	Mr. TANAKA Kenshiro	Project Coordinator	Officer, Traffic Infrastructure Team Project Management Group, Grant Aid Management Dept. JICA
4	Mr. MIURA Minoru	Chief Consultant / Road Planner	Katahira & Engineers International
5	Mr. SAGARA Hidetaka	Road Drainage Planner	Katahira & Engineers International
6	Mr. SATO Tadashi	Environment and Social Consideration Planner	Katahira & Engineers International
7	Mr. TAKARA Shigeru	Natural Condition Surveyor	Katahira & Engineers International
8	Mr. WATANABE Ryohei	Construction Planner/ Cost Estimator	Katahira & Engineers International

3) Draft Final Report Explanation Team

No.	Name	Position	Belong to
1	Mr. MORI Senya	Leader	Resident Representative, JICA Lao Office
2	Mr. TANAKA Kenshiro	Project Coordinator	Officer, Traffic Infrastructure Team Project Management Group, Grant Aid Management Dept. JICA
3	Mr. MIURA Minoru	Chief Consultant / Road Planner	Katahira & Engineers International
4	Mr. SAGARA Hidetaka	Road Drainage Planner	Katahira & Engineers International
5	Mr. SATO Tadashi	Environment and Social Consideration Planner	Katahira & Engineers International
6	Mr. WATANABE Ryohei	Construction Planner/ Cost Estimator	Katahira & Engineers International

APPENDIX 2

STUDY SCHEDULE

STUDY SCHEDULE

1) Field Survey (July 4, 2004 ~ October 10, 2004)

No.	Date	Activities
1	July 4 (Sun)	Miura, Sagara, Kodera, Sato, Kurokawa Lv. Tokyo, Ar. Bangkok
2	July 5 (Mon)	Lv. Bangkok, Ar. Vientiane, Setting the Office
3	July 6 (Tue)	Tanaka arrived Vientiane, JICA Office, MCTPC
4	July 7 (Wed)	Presentation of IC/R to MCTPC
5	July 8 (Thu)	Joint meeting with agencies
6	July 9 (Fri)	Discussion with MCTPC
7	July 10 (Sat)	Site Survey
8	July 11 (Sun)	Internal Meeting
9	July 12 (Mon)	Signing of M/D
10	July 13 (Tue)	Aoki, Tanaka Lv. Vientiane Ishii Ar. Vientiane, Site Survey
~13	July 16 (Fri)	Watanabe, Ar. Vientiane
~20	July 23 (Fri)	Starting of Topo. Survey, Geo. Survey, Traffic Survey
~23	July 26 (Mon)	Minami, Ar. Vientiane
~29	Aug. 1 (Sun)	Miura, Lv. Vientiane
~37	Aug. 9 (Mon)	Starting of Inventory Survey (Access road, street trees, etc.)
~52	Aug. 24 (Tue)	Completion of Inventory Survey
~65	Sept. 6 (Mon)	Miura, Av. Vientiane
~70	Sept. 11 (Sat)	Minami, Lv. Vientiane
~78	Sept. 19 (Sun)	Ishii, Lv. Vientiane
~93	Oct. 4 (Mon)	Tanaka, Ar. Vientiane, Meeting with JICA Office
94	Oct. 5 (Tue)	Meeting with MCTPC
95	Oct. 6 (Wed)	Meeting with MCTPC
96	Oct. 7 (Thu)	Signing of M/D
97	Oct. 8 (Fri)	Report to JICA Office
98	Oct. 9 (Sat)	Lv. Vientiane, Ar. Bangkok
99	Oct. 10 (Sun)	Ar. Tokyo

2) 2nd Field Survey (March 24, 2005 ~ April 2, 2005, April 11, 2005 ~ April 24, 2005)

No.	Date	Activities
1	Mar. 24 (Thu)	Aoki, Hattori, Tanaka, Sagara, Sato, Watanabe Lv. Tokyo, Ar. Bangkok
2	Mar. 25 (Fri)	Ar. Vientiane, Meeting with EOJ, JICA
3	Mar. 26 (Sat)	Meeting with EOJ, JICA
4	Mar. 27 (Sun)	Meeting with EOJ
5	Mar. 28 (Mon)	Meeting with MCTPC, JICA
6	Mar. 29 (Tue)	Site Survey
7	Mar. 30 (Wed)	Aoki, Hattori, Tanaka, Sagara, Watanabe Lv. Vientiane
8	Mar. 31 (Thu)	Site Survey
9	Apr. 1 (Fri)	Sato, Lv. Vientiane
10	Apr. 2 (Sat)	Ar. Tokyo
1	Apr. 11 (Mon)	Sato, Sagara, Takara Lv. Tokyo, Ar. Bangkok
2	Apr. 12 (Tue)	Ar. Vientiane, Meeting with EOJ, JICA
3	Apr. 13 (Wed)	Site Survey
4	Apr. 14 (Thu)	Site Survey, Miura, Watanabe Ar. Vientiane
5	Apr. 15 (Fri)	Site Survey
6	Apr. 16 (Sat)	Site Survey
7	Apr. 17 (Sun)	Site Survey
8	Apr. 18 (Mon)	Meeting with JICA
9	Apr. 19 (Tue)	Meeting with MCTPC
10	Apr. 20 (Wed)	Meeting with MCTPC
11	Apr. 21 (Thu)	Joint Meeting with MCTPC
12	Apr. 22 (Fri)	Report to EOJ
13	Apr. 23 (Sat)	Lv. Vientiane, Ar. Bangkok
14	Apr. 24 (Sun)	Ar. Tokyo

3) Draft Final Report Explanation (May 26, 2005 ~ June 4, 2005)

No.	Date	Activities
1	May 26 (Thu)	Tanaka, Miura, Sagara, Sato, Watanabe Lv. Tokyo, Ar. Bangkok
2	May 27 (Fri)	Ar. Vientiane, Meeting with JICA, MCTPC
3	May 28 (Sat)	Meeting with MCTPC
4	May 29 (Sun)	Site Survey
5	May 30 (Mon)	Meeting with MCTPC
6	May 31 (Tue)	Signing of M/D, Report to EOJ, JICA
7	June 1 (Wed)	Tanaka, Miura, Sagara, Watanabe Lv. Vientiane
8	June 2 (Thu)	Site Survey, Data Collection
9	June 3 (Fri)	Sato, Lv. Vientiane
10	June 4 (Sat)	Ar. Tokyo

APPENDIX 3

LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY

MCTPC

1. HE. Sommad Pholsena	: Vice Minister
2. Mr. Viengsavath Sipandon	: Director General, Department of Roads
3. Mr. Math Sounmala	: Director General, Department of Planning & Cooperation
4. Mr. Laokham Sompheth	: Deputy Director General, Department of Roads
5. Mr. Khamphet Inthideth	: Director of Planning of Technical Division, DOR
6. Mr. Dedsongkham Thammavong	: Project Coordinator, Department of Roads
7. Mr. Katsuro Kondo (近藤克郎)	: Advisor to the Cabinet Office in Infrastructure Department

Vientiane Urban Development and Administration authority (VUDAA)

1. Mr. Ketkeo Sihalath	: Project Director, Vientiane Urban Infrastructure and Service Project (VUISP)
2. Mr. Lindsey Davison	: Team Leader, VUISP
3. Mr. Bounpakob Phonharath	: Chief of Technical & Town Planning Division (Chief of Thai Fund Project)

Vientiane Water Supply Company

1. Mr. Somlith Silaphet	: Deputy General Manager (Technical)
2. Mr. Sisamone Kongmany	: Chief of Project
3. Mr, Bouakeo Phinphonesavath	: Chief of Assets & Procurement Section
4. Mr. Saisamone Thammavongsa	: Water and Wastewater Engineer
5. Mr. Khitdavone Sengsavang	: Water Supply Engineer

Vientiane Capital City

1. Mr. Bounchan Sinthavong	: Vice Mayor, Vienntyann Capital City
2. Mr. Thongsy Viengphanya	: Deputy, Division of Agriculture & forestry

APPENDIX 4

MINUTES OF DISCUSSIONS

Minutes of Discussions
of the Basic Design Study
on the Project for the Improvement of the Vientiane No.1 Road
in Lao People's Democratic Republic

In response to a request from the Government of Lao People's Democratic Republic (hereinafter referred to as "Laos"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of the Vientiane No.1 Road in Lao People's Democratic Republic (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA dispatched to Laos the Basic Design Study Team from May 16 to July 23, 2003. However the handling of buried cultural properties could not be decided and the Study was suspended.

JICA dispatched to Laos the Preparatory Study Team from February 5 to 26, 2004, to find a solution of the resumption of the Basic Design Study. In the course of discussions and field surveys, JICA was requested to conduct the Support Study for Buried Cultural Property Survey on the Project for Improvement of Vientiane No.1 Road (hereinafter referred to as "the BCP Survey") as a part of the Pilot Buried Object Survey (hereinafter referred to as "the Pilot Survey") conducted by the Lao side. JICA agreed to conduct the Support Study for the BCP Survey and JICA dispatched to Laos the BCP Survey Team. The BCP Survey Team is scheduled to survey in Laos from June 7 to October 9, 2004.

JICA dispatched to Laos the Basic Design Study Team (hereinafter referred to as "the Team") again, headed by Mr. Hidetaka NISHIWAKI, the Resident Representative, JICA Lao Office and is scheduled to stay in the country from July 5 to October 9, 2004.

The Team held discussions with the officials concerned of the Government of Laos and conducted a field survey at the study area.

In the course of discussions and field surveys, both sides confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Vientiane, October 7, 2004

Mr. Hidetaka NISHIWAKI
Leader
Basic Design Study Team
Japan International Cooperation Agency

Mr. Sommad PHOLSENA
Vice Minister
Ministry of Communication, Transport, Post and Construction
Lao People's Democratic Republic

ATTACHMENT

1. Road Drainage

1-1. The drained water from the road drainage system of the project road will be drained into the urban drainage system being built by VUDAA with ADB and Thai funds. MCTPC has confirmed the construction work of the urban drainage system would be completed by the end of March, 2006 with VUDAA.

1-2. The road drainage system will not take untreated sewage from factories.

2. Water Supply Replacement

2-1. In the course of the Study and discussions with relevant authorities, water supply replacement will be carried out under the conditions mentioned below.

- The Project requires water supply replacement of the section 0+000 – 8+500 of the route no.1 and 0+000 – 3+200 of the route no.1A.
- Newly installed water supply pipes are designed equal level of existing water supply pipes.
- Japanese side will undertake the replacement of distribution main pipes and the connection pipes to existing water supply pipes. Lao side will undertake other works.
- Lao side will procure necessary water pipes and accessories designed in the Study and Japanese side will install the water pipes in the construction works of the project road.

3. Buried Cultural Properties

3-1. with the result of the BCP Survey, BCPs are supposed to be wholly existed inside of the old wall and partly existed outside of the old wall in the sections of the project road. It is required to pay special attention to BCPs during excavation works in the Project.

3-2. BCP survey will be carried out as a part of excavation work in the Project. The treatment of the excavated BCPs will be studied in the further study.

4. Coordination with "the Project for Vientiane Water Supply Development"

4-1. In the course of the Study and discussions with relevant authorities, approximately 1.6km of the installation work of the main water pipe of "the Project for Vientiane Water Supply Development" is located under the project road from 0+000 – 1+600.

4-2. As a result of the coordination of both projects, construction of road structures and water pipes are carried out integrally as much as possible for smooth and effici

5. Schedule of the Study

5-1. The Team will proceed to analysis in Japan and prepare the Draft Basic Design Report and JICA will dispatch a mission to Laos in order to explain its contents around the end of December, 2004.

5-2. When the contents of the Draft Basic Design Report are accepted in principle by the Government of Laos, JICA will prepare the Basic Design Study Report and send it to the Government of Laos by the end of February, 2004.

6. Other Relevant Issues

6-1. The procedures necessary for the approval of environmental consideration (Initial Environmental Examination) shall be completed by the Lao side by the end of December, 2004.

Minutes of Discussions
of the Basic Design Study
on the Project for the Improvement of the Vientiane No.1 Road
in Lao People's Democratic Republic

In response to a request from the Government of Lao People's Democratic Republic (hereinafter referred to as "Laos"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of the Vientiane No.1 Road in Lao People's Democratic Republic (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA dispatched to Laos the Basic Design Study Team from May 16 to July 23, 2003. However the handling of buried cultural properties could not be decided, and the Study was suspended.

JICA dispatched to Laos the Preparatory Study Team from February 5 to 26, 2004, to find a solution of the resumption of the Basic Design Study. In the course of discussions and field surveys, JICA was requested to conduct the Support Study for Buried Cultural Property Survey on the Project for Improvement of Vientiane No.1 Road (hereinafter referred to as "the BCP Survey") as a part of the Pilot Buried Object Survey (hereinafter referred to as "the Pilot Survey") conducted by the Lao side. JICA agreed to conduct the Support Study for the BCP Survey and JICA dispatched to Laos the BCP Survey Team. The BCP Survey Team is scheduled to survey in Laos from June 7 to September 17, 2004.

JICA dispatched to Laos the Basic Design Study Team (hereinafter referred to as "the Team") again, headed by Makoto AOKI, the Deputy Director General, the Grant Aid Management Dept., JICA, and is scheduled to stay in the country from July 10 to 13, 2004.

The Team held discussions with the officials concerned of the Government of Lao P.D.R. and conducted a field survey at the study area.

In the course of discussions and field surveys, both sides confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Vientiane, July 12, 2004

Mr. Makoto AOKI
Leader
Basic Design Study Team
Japan International Cooperation Agency

Mr. Sommad PHOLSENA
Vice Minister
Ministry of Communication, Transport, Post and Construction
Lao People's Democratic Republic

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the part of the Vientiane No.1 Road, section between Sikhay intersection and the entrance of Friendship Bridge (approximately 27.5 km).

2. Project Sites

The sites of the Project are shown in Annex-1.

3. Responsible and Implementing Organization

The responsible and implementing organization is the Department of Road of the Ministry of Communication, Transport, Post and Construction.

The organization chart of the implementing organization is shown in Annex-2.

4. Items Requested by the Government of Lao P.D.R.

After discussions with the Team, the following components of the Project were finally requested by the Lao side;

- Improvement of Pavement, Intersections, Traffic Signals, Street Lights, Sidewalks, Structures of Drainages and relocation of existing water distribution pipes in the proposed section of the Vientiane No.1 Road

JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1. The Lao side has understood the Japan's Grant Aid scheme explained by the Team, as described in Annex-3 in the Minutes of Discussions signed on May 22, 2003.

5-2. The Lao side will take the necessary measures, as described in Annex-3, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Laos until October 9, 2004.

6-2. JICA will prepare the interim report including the result of the study of the alternative plans to mitigate the effects of the Project based on the result of the BCP Surveys and dispatch a mission to Laos in order to discuss its contents around the middle of September, 2004. The discussion will be held in the steering committee for the coordination of the BCP Survey.

6-3. When the contents of the interim report are accepted in principle by the Government of Lao P.D.R., the Team will proceed to analysis in Japan and prepare the Draft Basic

Design Report and JICA will dispatch a mission to Laos in order to explain its contents around the end of December, 2004.

6-4. When the contents of the report are accepted in principle by the Government of Lao P.D.R., JICA will prepare the Basic Design Study Report and send it to the Government of Lao P.D.R. by the end of February, 2005.

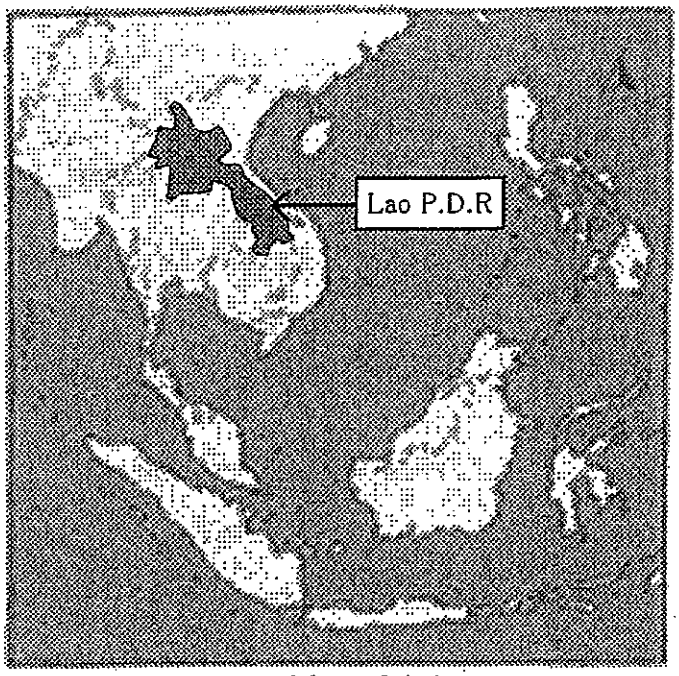
7. Other Relevant Issues

7-1. The Lao side shall complete relocation of existing utilities such as power lines, communication lines

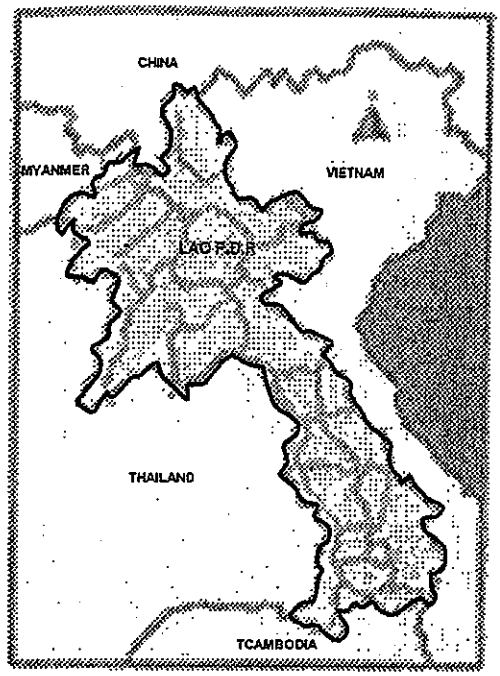
7-2. The procedures necessary for the approval of Environmental Impact Assessment shall be completed by the Lao side by the end of December, 2004.

7-3. The Team will pay full attention to avoid accidents directly/indirectly caused by the trial pit survey conducted by the Team. The Team will not owe the liability of any accidents directly/indirectly caused by the trial pit survey except as caused either intentionally or by gross negligence.

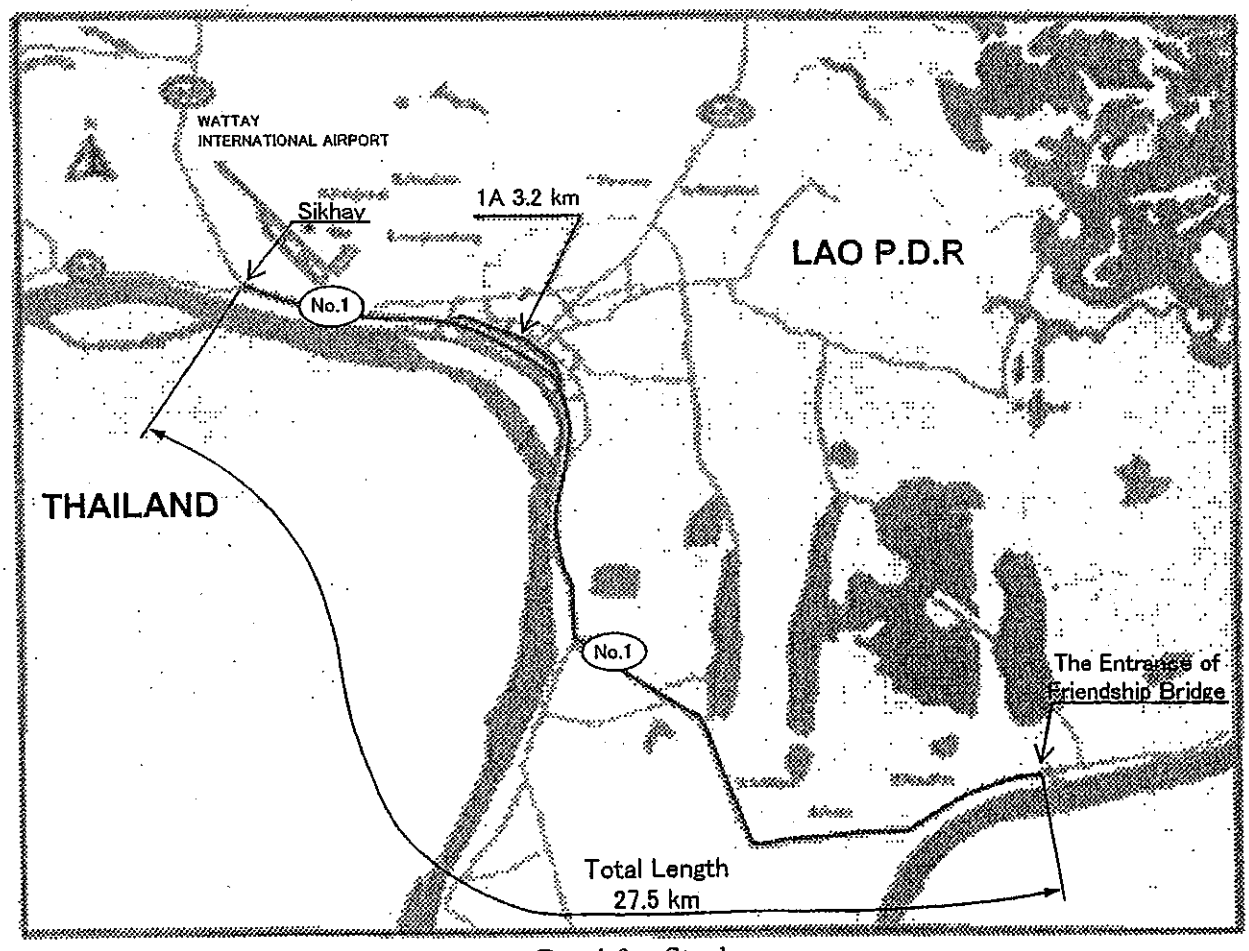
7-4 The Lao side and the Japanese side confirmed to take necessary coordination for effective planning and smooth implementation of the Project for the Improvement of Vientiane No.1 Road and the Project for Vientiane Water Supply Development.



Map of Asia



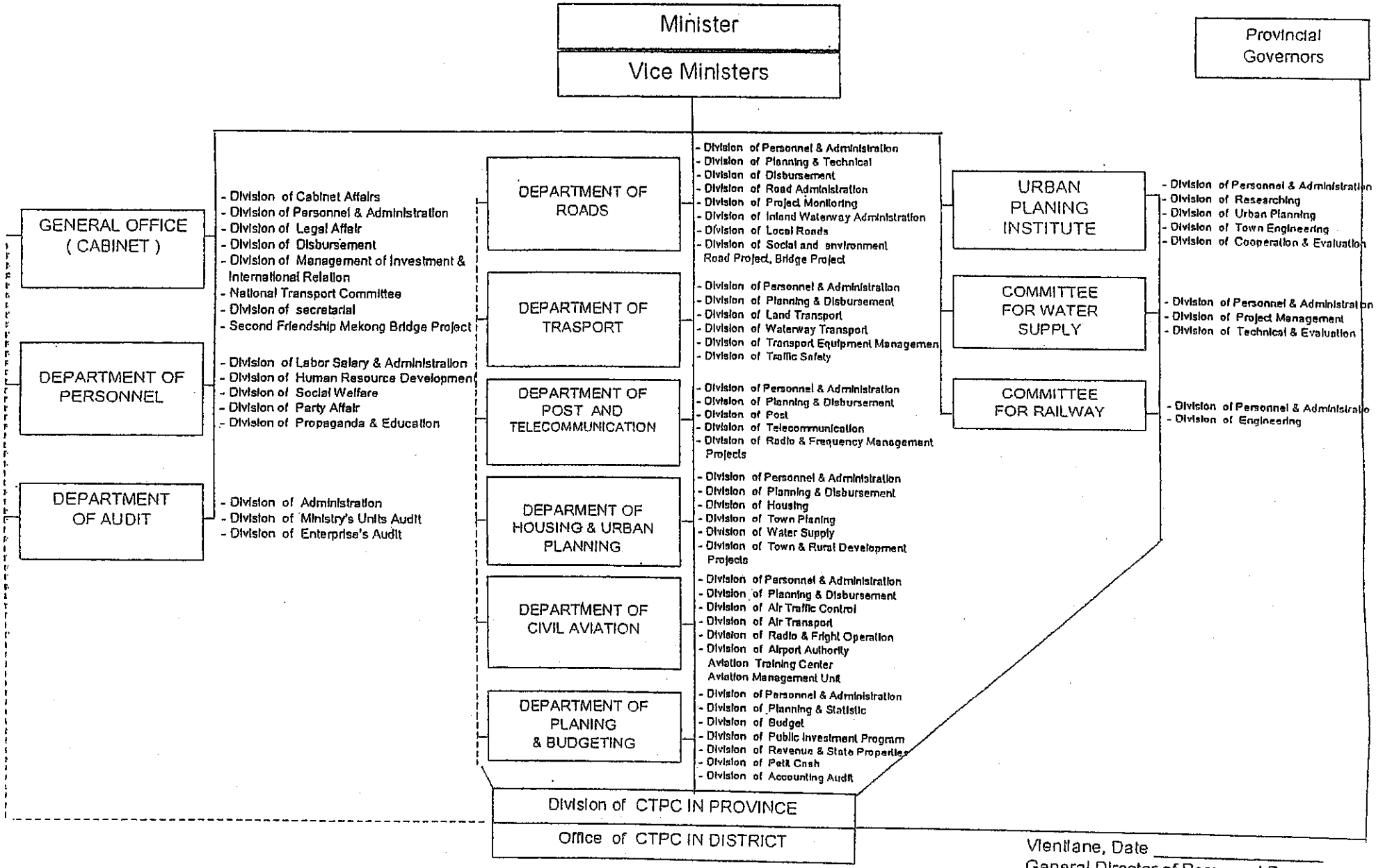
Map for Study Area



Road for Study

Location Map

Ministry of Communication Transport Post and Construction



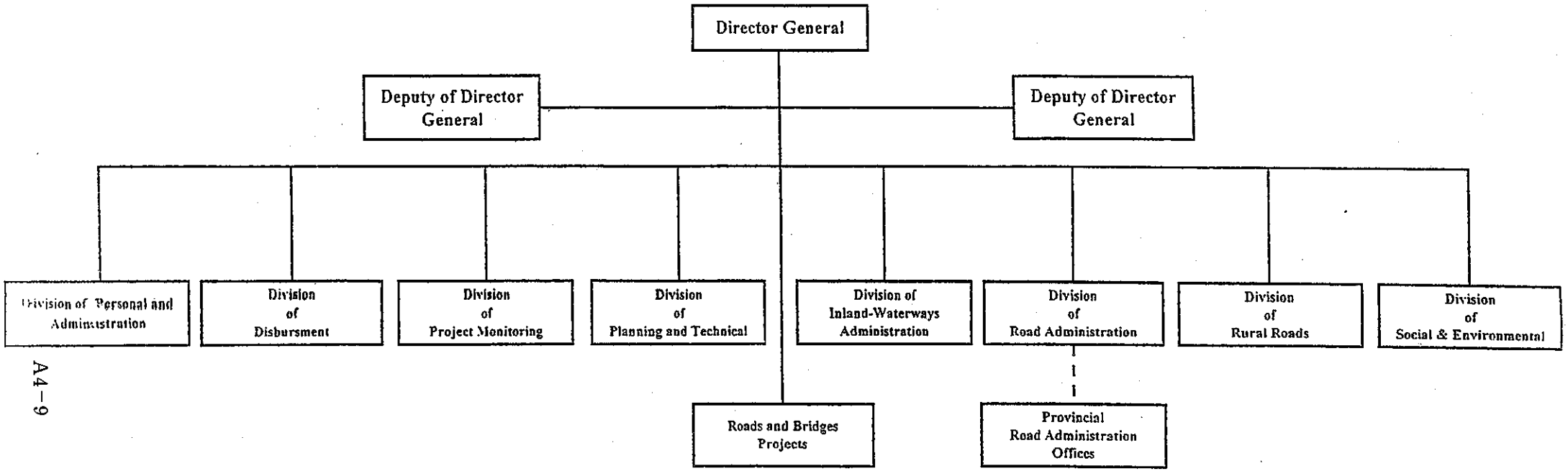
Vientiane, Date _____

General Director of Personnel Department

ORGANIZATION CHART

OF

Department of Roads



Annex-2 (2)

Minutes of Discussions
of the Basic Design Study
on the Project for the Improvement of the Vientiane No.1 Road
in Lao People's Democratic Republic
(Explanation of Draft Report)

In response to a request from the Government of Lao People's Democratic Republic (hereinafter referred to as "Laos"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of the Vientiane No.1 Road in Lao People's Democratic Republic (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Laos the Basic Design Explanation Team (hereinafter referred to as "the Team"), headed by Senya Mori, the Resident Representative, JICA Lao Office, and is scheduled to stay in the country from May 27 to June 1, 2005.

The Team held discussions with the concerned officials of the Government of Laos. In the course of the discussions, both sides have confirmed the main items of described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Vientiane, May 31, 2005

Mr. Senya Mori
Leader
Basic Design Study Team
Japan International Cooperation Agency

Mr. Sommad PHOLSENA
Vice Minister
Ministry of Communication, Transport, Post and Construction
Lao People's Democratic Republic

ATTACHMENT

1. Components of the Draft Report

The Government of Laos agreed and accepted in principle the components of the draft report explained by the Team.

2. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Lao side by July, 2005.

3. Water Supply Replacement

3.1 The Japanese side will undertake the replacement of distribution main pipes and the connection pipes to existing water supply pipes. Lao side will undertake other works.

3.2 The Lao side will procure necessary water pipes described in Annex-1 and the Japanese side will install the water pipes in the construction works of the project road.

3.3 The Lao side will inform project works and schedule of the people affected by the Project.

3.4 The Lao side will assist to operate valves to cut off the water supply.

3.5 If the Lao side will replace water supply pipes in the section from Shikai Junction to Lakson Junction, where the Project excludes the replacement of existing water pipes, the replacement and restoration shall be completed by August, 2006.

4. Buried Cultural Properties (BCP)

4.1 The Lao side will assign personnel to the sites of BCP surveys during excavation works in the Project to manage the survey works and coordinate relevant authorities.

4.2 The Japanese side will conduct minimum classification of excavated BCPs and hand over them after the completion of the Project. It is necessary for the Lao side to keep, analyse and exhibit BCPs appropriately

5. Coordination with "the Project for Vientiane Water Supply Development"

5.1 Approximately 6.5km of the installation work of the main water pipe of "the Project for Vientiane Water Supply Development" is located under the project road. (annex-2)

5.2 Concerned parties will coordinate both projects to carry out smooth and efficient implementation of both projects.

6. Other Relevant Issues

6-1. The Lao side will undertake additional items described below for smooth and efficient implementation of the Project.

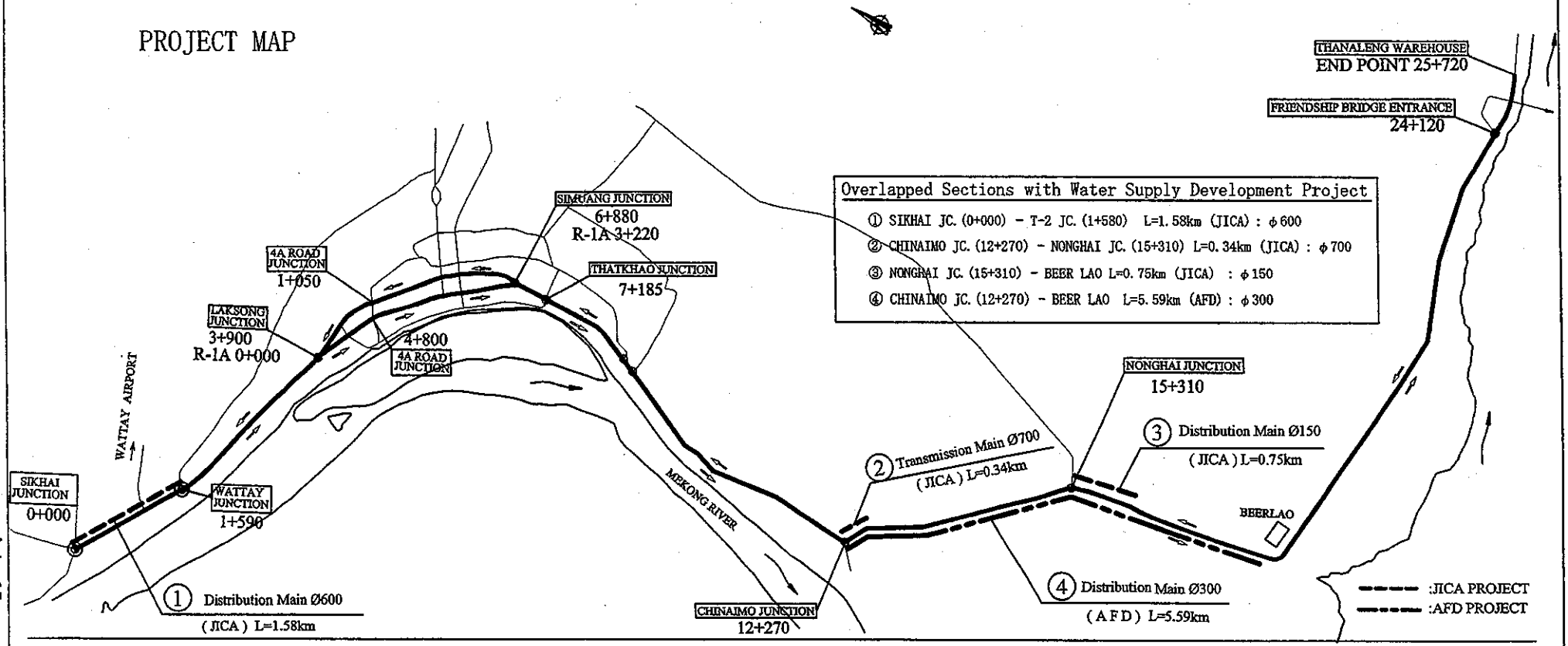
- To announce the residents living along the project roads from 4A junction to Simuan junction that passage of vehicles will be closed in the daytime during construction work and obtain their agreement above
- To secure construction yards and excavated soil yards
- To replace obstacles above the ground and underground, such as but not limited to electric poles or telecommunication cables, before the beginning of construction works
- To survey the present condition of the buildings along the project road as a precaution measure against the claims for the damage caused by the vibration from construction works.
- To permit using right-hand-drive vehicles for construction works
- To lay cables for traffic signals before paving works
- To install primary power distribution boxes for street lights
- To remove the water drainage pipes in the shoulder of the paper mill at Nonghai junction to the outside of the construction area

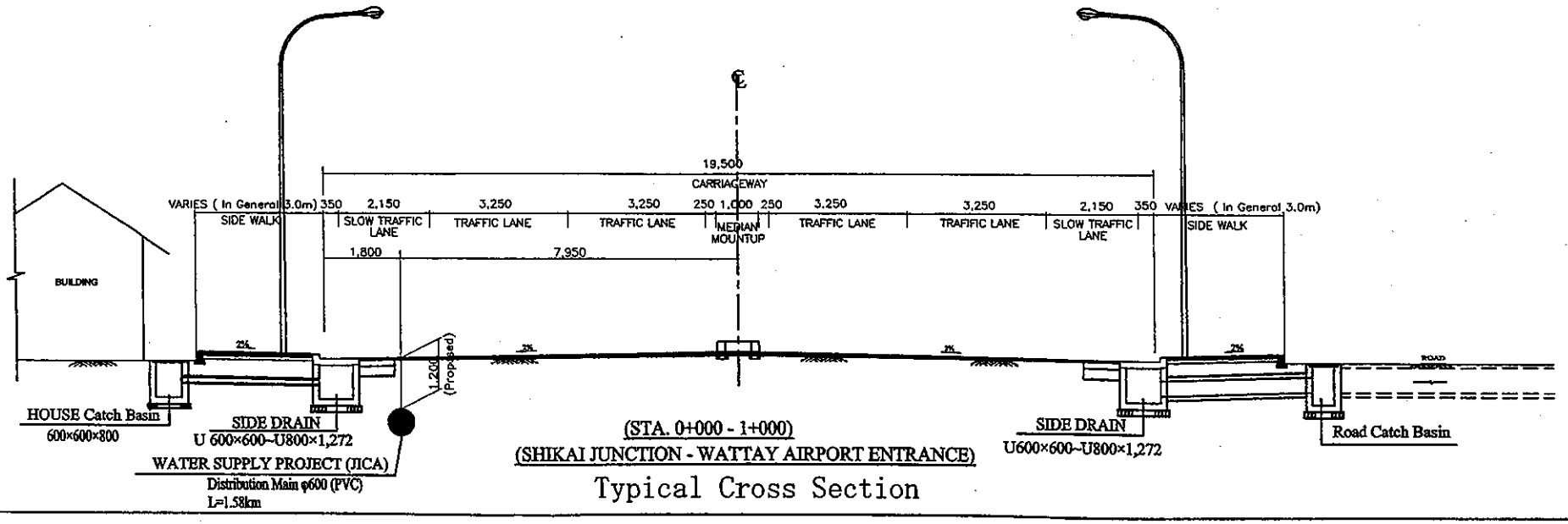
Supply List of water pipe materials by LAO

Description		Unit	Design				Purchased	Balance	Unit	Supply		
			Phase-1	Phase-2	Total		Q'ty	Q'ty		Supply Q'ty	Purchase Q'ty	Total Q'ty
DIP												
Straight Pipe	φ75 x 4000	Nos.	75	120	195							
〃		m				780	10,650	9,870	m	780	0	780
〃	φ100 x 4000	Nos.	9	15	24							
〃		m				96	7,200	7,104	m	96	0	96
〃	φ150 x 5000	Nos.	200	96	296							
〃		m				1,480	2,225	745	m	1,480	0	1,480
〃	φ200 x 5000	Nos.	336	141	477							
〃		m				2,385	4,105	1,720	m	2,385	0	2,385
〃	φ250 x 5000	Nos.	0	186	186							
〃		m				930	1,430	500	m	930	0	930
〃	φ300 x 6000	Nos.	172	163	335							
〃		m				2,010	2,096	86	m	2,010	0	2,010
〃	φ450 x 6000	Nos.	0	11	11							
〃		m				66	4,134	4,068	m	66	0	66
Flanged Spigot	φ75	Nos.	25	38	63		11	-52	Nos.	11	0	11
〃	φ100	Nos.	3	4	7		21	14	Nos.	7	0	7
〃	φ150	Nos.	8	7	15		10	-5	Nos.	10	0	10
〃	φ200	Nos.	13	14	27		5	-22	Nos.	5	0	5
Double Socket Tee with F	φ150 x φ75	Nos.	6	12	18		0	-18	Nos.	0	18	18
〃	φ150 x φ150	Nos.	3	2	5		0	-5	Nos.	0	5	5
〃	φ200 x φ75	Nos.	22	6	28		0	-28	Nos.	0	28	
〃	φ200 x φ100	Nos.	3	0	3		0	-3	Nos.	0	3	
〃	φ250 x φ75	Nos.	4	2	6		0	-6	Nos.	0	6	6
〃	φ250 x φ200	Nos.	0	16	16		0	-16	Nos.	0	16	16
〃	φ300 x φ100	Nos.	12	8	20		0	-20	Nos.	0	20	20
〃	φ450 x φ75	Nos.	0	1	1		0	-1	Nos.	0	1	1
All Socket Tee	φ75 x φ75	Nos.	12	24	36		0	-36	Nos.	0	36	36
〃	φ100 x φ100	Nos.	3	4	7		0	-7	Nos.	0	7	7
〃	φ150 x φ75	Nos.	0	1	1		12	11	Nos.	1	0	1
〃	φ150 x φ100	Nos.	2	2	4		21	17	Nos.	4	0	4
〃	φ200 x φ75	Nos.	9	2	11		12	1	Nos.	11	0	11
〃	φ200 x φ100	Nos.	1	0	1		29	28	Nos.	1	0	1
〃	φ250 x φ75	Nos.	0	2	2		2	0	Nos.	2	0	2
〃	φ250 x φ100	Nos.	0	1	1		0	-1	Nos.	0	1	1
〃	φ300 x φ75	Nos.	3	5	8		5	-3	Nos.	0	3	3
Sluice Valve	φ75	Nos.	14	26	40		69	29	Nos.	40	0	40
〃	φ100	Nos.	3	4	7		77	70	Nos.	7	0	7
〃	φ150	Nos.	8	7	15		29	14	Nos.	15	0	15
〃	φ200	Nos.	14	13	27		34	7	Nos.	27	0	27
〃	φ300	Nos.	3	2	5		3	-2	Nos.	3	2	5
〃	φ450	Nos.	0	1	1		4	3	Nos.	1	0	1
Collar	φ75	Nos.	35	64	99		43	-56	Nos.	43	0	43
〃	φ100	Nos.	6	10	16		33	17	Nos.	16	0	16
〃	φ150	Nos.	13	13	26		23	-3	Nos.	23	0	23
〃	φ200	Nos.	24	24	48		31	-17	Nos.	31	0	31
〃	φ300	Nos.	3	5	8		11	3	Nos.	8	0	8
〃	φ450	Nos.	0	1	1		9	8	Nos.	1	0	1
Duible Flanged Pipe	φ75 x φ200	Nos.	2	2	4		0	-4	Nos.	0	4	
2F Duckfoot Bend	φ75 x 90°	Nos.	11	12	23		0	-23	Nos.	0	23	
Air Valve	φ75	Nos.	2	2	4		0	-4	Nos.	0	4	4
Fire Hydrant	φ75	Nos.	11	12	23		0	-23	Nos.	0	23	23
Blind Flange	φ150	Nos.	0	1	1		0	-1	Nos.	0	1	1
〃	φ200	Nos.	1	0	1		0	-1	Nos.	0	1	1
〃	φ300	Nos.	2	2	4		0	-4	Nos.	0	4	4
PVC												
PVC Straight Pipe	φ75 x 4000	Nos.	3	12	15		3					
〃		m				60	12	-48	m	12	48	60
〃	φ150 x 4000	Nos.	3	3	6		8					
〃		m				24	24	0	m	24	0	24
TS Flange	φ75	Nos.	0	2	2		0	-2	Nos.	0	2	2
〃	φ150	Nos.	1	1	2		0	-2	Nos.	0	2	2
〃	φ200	Nos.	1	1	2		0	-2	Nos.	0	2	2
TS Elbow	φ75	Nos.	4	14	18		0	-18	Nos.	0	18	18
〃	φ100	Nos.	4	0	4		0	-4	Nos.	0	4	4
〃	φ150	Nos.	3	3	6		0	-6	Nos.	0	6	6
〃	φ200	Nos.	3	3	6		0	-6	Nos.	0	6	6
TS Tee	φ150 x φ150	Nos.	1	0	1		0	-1	Nos.	0	1	1
〃	φ200 x φ200	Nos.	1	0	1		0	-1	Nos.	0	1	1
Coupling for PVC	φ75	Nos.	2	8	10		0	-10	Nos.	0	10	10
〃	φ100	Nos.	2	0	2		0	-2	Nos.	0	2	2
〃	φ150	Nos.	2	2	4		0	-4	Nos.	0	4	4
〃	φ200	Nos.	2	2	4		0	-4	Nos.	0	4	4
〃	φ250	Nos.	0	2	2		0	-2	Nos.	0	2	2
GSP												
Straight Pipe	φ50 x 5500	Nos.	30	66	96		18					
〃		m				528	99	-429	m	99	429	528

Description		Unit	Design				Purchased	Balance	Unit	Supply		
			Phase-1	Phase-2	Total		Q'ty	Q'ty		Supply Q'ty	Purchase Q'ty	Total Q'ty
〃	φ75 x 5500	Nos.	3	3	6		43					
〃		m				33	237	204	m	33	0	33
〃	φ100 x 5500	Nos.	12	12	24		33					
〃		m				132	182	50	m	132		132
Socket	φ50	Nos.	50	125	175		96	-79	Nos.	96	79	175
〃	φ65	Nos.	15	5	20		0	-20	Nos.	0	20	20
〃	φ75	Nos.	5	26	31		0	-31	Nos.	0	31	31
〃	φ100	Nos.	23	14	37		0	-37	Nos.	0	37	37
〃	φ400	Nos.	8	16	24		0	-24	Nos.	0	24	24
Elbow	φ50	Nos.	30	1	31		0	-31	Nos.	0	31	31
〃	φ65	Nos.	9	17	26		0	-26	Nos.	0	26	26
〃	φ75	Nos.	3	0	3		0	-3	Nos.	0	3	3
〃	φ100	Nos.	13	1	14		145	131	Nos.	14	0	14
〃	φ400	Nos.	4	8	12		0	-12	Nos.	0	12	12
Gate Valve	φ50	Nos.	10	22	32		0	-32	Nos.	0	32	32
〃	φ65	Nos.	3	0	3		0	-3	Nos.	0	3	3
〃	φ75	Nos.	1	1	2		4	2	Nos.	2	0	2
〃	φ100	Nos.	4	4	8		0	-8	Nos.	0	8	8
TEE	φ50	Nos.	10	17	27		0	-27	Nos.	0	27	27
〃	φ65	Nos.	17	0	17		6	-11	Nos.	6	11	17
〃	φ75	Nos.	3	1	4		5	1	Nos.	4	0	4
〃	φ100	Nos.	1	2	3		0	-3	Nos.	0	3	3
Nipple	φ50	Nos.	20	34	54		0	-54	Nos.	0	54	54
〃	φ65	Nos.	6	0	6		0	-6	Nos.	0	6	6
〃	φ75	Nos.	2	2	4		0	-4	Nos.	0	4	4
〃	φ100	Nos.	6	4	10		0	-10	Nos.	0	10	10
..ange	φ75 x φ50	Nos.	10	17	27		0	-27	Nos.	0	27	27
〃	φ75 x φ65	Nos.	3	0	3		0	-3	Nos.	0	3	3
〃	φ75	Nos.	1	1	2		0	-2	Nos.	0	2	2
〃	φ100	Nos.	3	2	5		0	-5	Nos.	0	5	5

PROJECT MAP





(STA. 0+000 - 1+000)
(SHIKAI JUNCTION - WATTAY AIRPORT ENTRANCE)

Typical Cross Section

A4 - 15

Annex 2

APPENDIX 5

COST ESTIMATION BORNE BY THE RECIPIENT COUNTRY

APPENDICES

2. Cost Estimation Borne by Lao Peoples Democratic Republic

1). Materials for relocation of the water supply

Total 166,816.4 ≒ 166,820.00US$ (Refer to Table A-2-1)

2). Relocation of Electric Poles

(1) Poles necessary to relocate

• 2-leg steel pole	16 pc.	→	1-leg concrete pole	16 pc.
• 4-leg steel pole	5 pc.	→	2-leg concrete pole	5 pc.
• 1-leg concrete pole	20 pc.	→	1-leg concrete pole	20 pc.

(2) Poles necessary to demolish

- 2-leg steel pole 16 pc.
- 4-leg steel pole 5 pc.
- 1-leg concrete pole 20 pc.

(3) Cost to erect new poles

• 1-leg concrete pole	36 pc. x @5,565,808 =	200,369,088 kips
• 2-leg concrete pole	5 pc. x @50,968,541 =	254,842,705 kips
	Sub-total	455,211,793 kips
	≒	455,200,000 kips

(4) Cost to demolish old poles

• 2-leg steel pole	16 pc. x @4,800,000 =	76,800,000 kips
• 4-leg steel pole	5 pc. x @15,560,000 =	77,800,000 kips
• 1-leg concrete pole	20 pc. x @4,000,000 =	80,000,000 kips
	Sub-total	234,600,000 kips

(5) Total 689,800,000 kips

3). Cost for connection to the supply pipe

(1) Gross number of connection (219 + 278) = 497

(2) Assumed number of connection

① Hotels, Offices and Factories, etc. (Connection work only) 71

② Other connections except ① (Provision of pipes, meters and connection work) (497−71) x 70% = 298

③ Other connections except ① (Connection work only) (497−71) x 30% = 128

(3) Unit cost

① Connection work @45$ + α =@55$

② Pipe 5m + New meter + Connection work @150$

③ Connection work @45$

(4) Cost for each works

① 71 x @55 = 3,905 US$

② 298 x @150 = 44,700 US$

③ 128 x @45 = 5,760 US$

(5) Total Cost 54,365 ≒ 55,000 US$

4). Cutting branches of trees alongside the road

(1) Gross number of trees 337 pc.

- Laksong Int. ~ Thatkhao Int. (R. No.1) 230 pc.
- Laksong Int. ~ Simuang Int. (R. No.1A) 107 pc.

(2) Assumed number of trees to cut branches

- 337 pc. x 1/3 112.3 ≒ 110 pc.

(3) Equipment & Workers

• Special truck	1 unit	• Truck (4t)	1 unit
• Tools	1 lot		
• Special Driver	1 p.	• Driver	1 p.
• worker	5 p.	• Flagman	2 p.

(5) Gross number of days

- 110 pc. ÷ 4 pc./day = 27.5 days ≒ 28 days

(6) Cost

- Special truck 1 x 28 x @130 $/day = 3,640 US$
- Truck 1 x 28 x @90 $/day = 2,520 US$
- Tool 1 x 28 x @20 $/day = 560 US$
- Special Driver 1 x 28 x @20 $/day = 560 US$
- Driver 1 x 28 x @18.5 $/day = 518 US$
- Worker 5 x 28 x @12.0 $/day = 1,680 US$
- Flagman 2 x 28 x @9.0 $/day = 504 US$

(7) Total Cost 9,982 US$ ≒ 10,000 US$

5). Relocation of under ground cables

(1) Items for relocation & quantity

- Manhole A1 type 14 set
  A2 type 11 set
- Cable 5,292 m/cable x 3 cable = 15,876 m
  270 m/cable x1 cable = 270 m
  φ0.6mm, 400pc/c x 3,045m/pc x 3c = 3,654,000m
  φ0.4mm, 400pc/c x 270m/pc x 1c = 108,000m
  400pc/c x 2,247m/pc x 3c = 2,696,400m
  φ0.6mm, 3,654,000m ÷ 1,200m/roll = 3,045 roll
  φ0.4mm, 2,804,400m ÷ 2,100m/roll = 1,335 roll
- PVC Pipe (φ114mm)
  Road No.1 3,045m x 8cable = 24,360m
  270m x 1cable = 270m
  Road No.1 2,247m x 8cable = 17,976m
  (Total 42,606m)
- Warning Tape 5,562m
- Number of cable connection
  Connection in Manholes(25): 3set/mhl x 25mhl = 75 set
  Connection to the Existing Cable: 2set/sec x 6sec = 12 set
  Connection to the Road Cross Cable: 2set/c x 13c = 26 set
  (Total 113 set)

(2) Cost for each works

- Manholes

	A1	14 set x @5,857.76 = 82,008.64 US$
	A2	11 set x @3,906.45 = 42,970.95 US$
		(Sub-total 124,979.59US$)

- Cable

	ϕ 0.6mm	3,045roll x @70.49 = 214,642.05 US$
	ϕ 0.4mm	1,335roll x @54.49 = 72,744.15 US$
	Laying	16,146m x @10.66 = 172,116.36 US
	Connection	113set x @19.02 = 2,149.26 US$
		(Sub-total 461,651.82 US$)

- PVC Pipe

	ϕ 114mm	42,606m x @3.19 = 135,913.14 US$
	Laying	(42,606m ÷ 3) x @2.62 = 37,209.24 US$
		(Sub-total 173,122.38 US$)

- Warning Tape

5,562m x (@0.81 + @0.09) = 5,005.80

(Sub-total 5,005.80 US$)

- Miscellaneous Works

10% of Sub-total 764,759.59 x 10% = 76,475.96 US$

(3) Total Cost 841,235.55 ≒ 850,000 US$

6). Relocation of Telephone Box

(1) Gross number of telephone box necessary to relocate 37 set

(2) Cost for relocation 37 set x @100$ = 3,700 US$

(3) Total Cost 3,700 US$

APPENDIX 6

REFERENCES

List of Collected Data

No.	Title	Style	Issued by	Year
1	Vientiane No.1 Road Map (1 : 100,000)	Map	Geographic Institute	2002
2	Topo. Map (1 : 500,000)	Map	Geographic Institute	1986
3	Vientiane Urban Infrastructure and Services	Report	VUDAA (ADB)	Jan. 2001
3	Initial Environmental Examination on the Project for the Improvement of Vientiane No.1 Road	Report	MCTPC	Dec. 2004
5	Historical Assets of Old Vientiane City on Road No.1 in Vientiane Capital	Report	LTEC	Feb. 2004
6	Vientiane Municipality Road Project (Main Report)	Report	MCTPC	Oct. 2000
7	Project Completion Report on the Vientiane Integrated Urban Development Project	Report	ADB	Jul. 2002
8	Regulation and Guidelines for the Environment Assessment of Road Projects	Report	MCTPC (SIDA)	Jan. 2003
9	Regulation on Environmental Impact Assessment of Road Projects in Lao PDR	Report	MCTPC	Jun. 2003
10	Regulation on Environment Assessment in the Lao PDR	Report	STEA	Oct. 2000
11	Aero. Photo.	Photo	Geographic Institute	1997
12	Standard Technical Specification	Book	MCTPC	1997
13	Road Design Manual	Book	MCTPC	1996
14	Basic Statistics 1998	Book	National Statistical Center	1999

APPENDIX 7

TRAFFIC DATA

Traffic Survey Data No.1 (24 hours / 2 days)

Type of Vehicles		1) Sikhay Junction						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	472	147	310	237	145	191	501	501	
2	Bicycle	971	552	762	509	457	483	1,245	19,813	
3	Motorbike	6,604	7,106	6,855	7,280	8,079	7,680	14,535		
4	Tuk-tuk	2,316	1,557	1,937	2,377	1,818	2,098	4,034		
5	Passenger Car	2,020	1,655	1,838	1,828	1,317	1,573	3,410	12,638	9,149
6	Pick-up	3,319	2,366	2,843	3,424	2,369	2,897	5,739		
7	Bus	527	275	401	356	191	274	675		3,489
8	Truck	1,304	708	1,006	1,622	1,370	1,496	2,502		
9	Large Truck	194	66	130	246	97	172	302		
10	Semi-Trailer	5	3	4	10	4	7	11		
	Total	17,732	14,435	16,084	17,889	15,847	16,868	32,952		

Type of Vehicles		2) Wattay Junction (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	42	32	37	12	35	24	61	61	
2	Bicycle	237	361	299	293	427	360	659	23,159	
3	Motorbike	10,799	10,386	10,593	8,182	8,089	8,136	18,728		
4	Tuk-tuk	2,164	2,441	2,303	1,557	1,381	1,469	3,772		
5	Passenger Car	1,827	2,604	2,216	1,158	1,141	1,150	3,365	12,420	9,287
6	Pick-up	3,540	3,893	3,717	2,314	2,097	2,206	5,922		
7	Bus	511	488	500	388	355	372	871		3,133
8	Truck	1,160	751	956	1,121	1,090	1,106	2,061		
9	Large Truck	95	74	85	94	87	91	175		
10	Semi-Trailer	6	2	4	38	5	22	26		
	Total	20,381	21,032	20,707	15,157	14,707	14,932	35,639		

Type of Vehicles		3) Wattay Junction (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	46	17	32	54	52	53	85	85	
2	Bicycle	389	378	384	443	306	375	758	24,878	
3	Motorbike	10,710	9,971	10,341	11,158	9,374	10,266	20,607		
4	Tuk-tuk	1,686	1,647	1,667	2,049	1,645	1,847	3,514		
5	Passenger Car	1,868	1,636	1,752	2,740	2,558	2,649	4,401	11,885	9,540
6	Pick-up	2,425	2,138	2,282	2,957	2,758	2,858	5,139		
7	Bus	374	331	353	253	215	234	587		2,345
8	Truck	1,113	1,086	1,100	442	552	497	1,597		
9	Large Truck	39	20	30	131	108	120	149		
10	Semi-Trailer	4	5	5	9	7	8	13		
	Total	18,654	17,229	17,942	20,236	17,575	18,906	36,847		

Type of Vehicles		4) Laksong Junction (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	75	87	81	72	107	90	171	171	
2	Bicycle	317	239	278	318	262	290	568	25,552	
3	Motorbike	11,469	10,012	10,741	11,656	11,124	11,390	22,131		
4	Tuk-tuk	1,554	1,392	1,473	1,430	1,330	1,380	2,853		
5	Passenger Car	2,300	2,581	2,441	2,783	2,137	2,460	4,901	12,279	10,178
6	Pick-up	2,660	2,815	2,738	2,645	2,435	2,540	5,278		
7	Bus	389	251	320	265	397	331	651		2,101
8	Truck	621	665	643	770	661	716	1,359		
9	Large Truck	38	30	34	45	46	46	80		
10	Semi-Trailer	3	8	6	12	0	6	12		
	Total	19,426	18,080	18,753	19,996	18,499	19,248	38,001		

Type of Vehicles		5) Laksong Junction (No.1 Road Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	68	106	87				87	87	
2	Bicycle	208	289	249				249	10,570	
3	Motorbike	8,277	9,209	8,743				8,743		
4	Tuk-tuk	1,556	1,600	1,578				1,578		
5	Passenger Car	3,012	2,809	2,911				2,911	6,597	5,544
6	Pick-up	2,631	2,636	2,634	One direction			2,634		
7	Bus	217	324	271				271		1,053
8	Truck	720	724	722				722		
9	Large Truck	43	58	51				51		
10	Semi-Trailer	4	15	10				10		
Total		16,736	17,770	17,253				17,253		

Type of Vehicles		6) Simuang Junction (No.1 Road Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	414	174	294				294	294	
2	Bicycle	221	209	215				215	8,151	
3	Motorbike	6,765	6,702	6,734				6,734		
4	Tuk-tuk	1,166	1,239	1,203				1,203		
5	Passenger Car	2,893	2,949	2,921				2,921	5,972	5,220
6	Pick-up	2,211	2,386	2,299	One direction			2,299		
7	Bus	199	205	202				202		752
8	Truck	552	451	502				502		
9	Large Truck	42	53	48				48		
10	Semi-Trailer	0	2	1				1		
Total		14,463	14,370	14,417				14,417		

Type of Vehicles		7) Simuang Junction (No.1 Road Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	124	142	133	376	265	321	454	454	
2	Bicycle	135	174	155	236	204	220	375	11,994	
3	Motorbike	5,388	5,136	5,262	5,056	4,750	4,903	10,165		
4	Tuk-tuk	732	746	739	710	720	715	1,454		
5	Passenger Car	1,976	2,156	2,066	1,434	1,430	1,432	3,498	7,842	6,586
6	Pick-up	1,681	1,664	1,673	1,366	1,464	1,415	3,088		
7	Bus	197	157	177	303	226	265	442		1,257
8	Truck	343	300	322	411	374	393	714		
9	Large Truck	40	53	47	48	58	53	100		
10	Semi-Trailer	0	1	1	2	0	1	2		
Total		10,616	10,529	10,573	9,942	9,491	9,717	20,289		

Type of Vehicles		8) Thatkao Junction (No.1 Road Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	144	195	170	171	267	219	389	389	
2	Bicycle	342	336	339	380	328	354	693	17,105	
3	Motorbike	7,706	7,357	7,532	7,175	6,993	7,084	14,616		
4	Tuk-tuk	975	965	970	841	811	826	1,796		
5	Passenger Car	2,196	2,098	2,147	1,506	1,532	1,519	3,666	8,294	6,752
6	Pick-up	1,745	1,668	1,707	1,364	1,395	1,380	3,086		
7	Bus	297	273	285	269	250	260	545		1,542
8	Truck	537	436	487	449	407	428	915		
9	Large Truck	12	48	30	50	53	52	82		
10	Semi-Trailer	0	1	1	2	0	1	2		
Total		13,954	13,377	13,666	12,207	12,036	12,122	25,787		

Type of Vehicles		9) Laksong Junction (1-A Road Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	One direction			66	45	56	56	56	
2	Bicycle				484	393	439	439	13,194	
3	Motorbike				11,184	10,780	10,982	10,982		
4	Tuk-tuk				1,822	1,724	1,773	1,773		
5	Passenger Car				2,337	2,378	2,358	2,358	6,352	5,276
6	Pick-up				3,043	2,793	2,918	2,918		
7	Bus				602	483	543	543		1,077
8	Truck				417	545	481	481		
9	Large Truck				53	38	46	46		
10	Semi-Trailer				13	2	8	8		
Total					20,021	19,181	19,601	19,601		

Type of Vehicles		10) No.2 Junction (1-A Road Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	One direction			173	150	162	162	162	
2	Bicycle				320	247	284	284	11,883	
3	Motorbike				9,723	9,964	9,844	9,844		
4	Tuk-tuk				1,766	1,746	1,756	1,756		
5	Passenger Car				2,770	2,992	2,881	2,881	6,458	5,338
6	Pick-up				2,438	2,475	2,457	2,457		
7	Bus				451	451	451	451		1,120
8	Truck				638	668	653	653		
9	Large Truck				18	10	14	14		
10	Semi-Trailer				4	0	2	2		
Total					18,301	18,703	18,502	18,502		

Type of Vehicles		11) No.2 Junction (1-A Road Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	One direction			109	126	118	118	118	
2	Bicycle				270	228	249	249	9,704	
3	Motorbike				8,597	7,448	8,023	8,023		
4	Tuk-tuk				1,473	1,391	1,432	1,432		
5	Passenger Car				3,259	3,204	3,232	3,232	6,953	6,122
6	Pick-up				2,942	2,838	2,890	2,890		
7	Bus				348	393	371	371		832
8	Truck				409	431	420	420		
9	Large Truck				53	27	40	40		
10	Semi-Trailer				2	0	1	1		
Total					17,462	16,086	16,774	16,774		

Type of Vehicles		12) Simuang Junction (1-A Road Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	188	305	247			0	247	247	
2	Bicycle	302	369	336			0	336	9,024	
3	Motorbike	7,231	7,777	7,504			0	7,504		
4	Tuk-tuk	1,108	1,261	1,185			0	1,185		
5	Passenger Car	2,037	2,179	2,108			0	2,108	5,029	4,309
6	Pick-up	2,175	2,227	2,201			0	2,201		
7	Bus	355	339	347			0	347		720
8	Truck	288	362	325			0	325		
9	Large Truck	33	61	47			0	47		
10	Semi-Trailer	2	0	1			0	1		
Total		13,719	14,880	14,300	0	0	0	14,300		

Traffic Survey Data No.2 (24 hours / 2 days)

Type of Vehicles		1) 4A Junction (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	33	28	31	32	26	29	60	60	
2	Bicycle	85	66	76	100	106	103	179	10,324	
3	Motorbike	4,638	4,685	4,662	3,870	4,033	3,952	8,613		
4	Tuk-tuk	1,030	699	865	809	527	668	1,533		
5	Passenger Car	1,343	1,527	1,435	1,239	1,314	1,277	2,712	6,763	5,291
6	Pick-up	1,259	1,474	1,367	1,114	1,312	1,213	2,580		
7	Bus	282	327	305	248	228	238	543		1,472
8	Truck	257	612	435	243	427	335	770		
9	Large Truck	55	33	44	81	124	103	147		
10	Semi-Trailer	4	4	4	7	11	9	13		
	Total	8,986	9,455	9,221	7,743	8,108	7,926	17,146		

Type of Vehicles		2) 4A Junction (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	33	24	29	50	35	43	71	71	
2	Bicycle	149	107	128	175	160	168	296	17,840	
3	Motorbike	7,741	7,621	7,681	6,838	7,667	7,253	14,934		
4	Tuk-tuk	1,676	1,134	1,405	1,322	1,089	1,206	2,611		
5	Passenger Car	1,666	1,847	1,757	1,572	1,777	1,675	3,431	9,039	6,974
6	Pick-up	1,735	2,000	1,868	1,518	1,832	1,675	3,543		
7	Bus	359	417	388	342	366	354	742		2,066
8	Truck	352	809	581	467	669	568	1,149		
9	Large Truck	72	32	52	82	137	110	162		
10	Semi-Trailer	5	4	5	7	11	9	14		
	Total	13,788	13,995	13,892	12,373	13,743	13,058	26,950		

Type of Vehicles		3) Chinaimo Junction (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	51	25	38	62	56	59	97	97	
2	Bicycle	209	134	172	210	166	188	360	17,069	
3	Motorbike	7,711	6,489	7,100	8,125	7,121	7,623	14,723		
4	Tuk-tuk	1,025	993	1,009	980	975	978	1,987		
5	Passenger Car	727	922	825	713	801	757	1,582	6,077	3,813
6	Pick-up	1,086	1,166	1,126	1,102	1,109	1,106	2,232		
7	Bus	218	215	217	195	241	218	435		2,264
8	Truck	869	842	856	839	842	841	1,696		
9	Large Truck	61	31	46	98	55	77	123		
10	Semi-Trailer	3	4	4	7	8	8	11		
	Total	11,960	10,821	11,391	12,331	11,374	11,853	23,243		

Type of Vehicles		4) Chinaimo Junction (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	33	22	28	63	59	61	89	89	
2	Bicycle	175	125	150	185	137	161	311	11,779	
3	Motorbike	5,486	4,490	4,988	5,559	4,696	5,128	10,116		
4	Tuk-tuk	709	687	698	640	669	655	1,353		
5	Passenger Car	574	672	623	515	555	535	1,158	4,375	2,680
6	Pick-up	738	772	755	765	768	767	1,522		
7	Bus	206	198	202	189	224	207	409		1,696
8	Truck	590	578	584	575	567	571	1,155		
9	Large Truck	55	34	45	95	58	77	121		
10	Semi-Trailer	3	4	4	7	8	8	11		
	Total	8,569	7,582	8,076	8,593	7,741	8,167	16,243		

Type of Vehicles		5) Nonghai Junction (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	24	21	23	27	28	28	50	50	
2	Bicycle	235	220	228	223	275	249	477	9,379	
3	Motorbike	3,891	3,484	3,688	4,055	4,298	4,177	7,864		
4	Tuk-tuk	569	444	507	523	541	532	1,039		
5	Passenger Car	485	387	436	440	470	455	891	3,790	2,135
6	Pick-up	671	566	619	638	613	626	1,244		
7	Bus	205	178	192	221	221	221	413		1,655
8	Truck	579	409	494	576	587	582	1,076		
9	Large Truck	58	126	92	56	61	59	151		
10	Semi-Trailer	11	6	9	5	10	8	16		
Total		6,728	5,841	6,285	6,764	7,104	6,934	13,219		

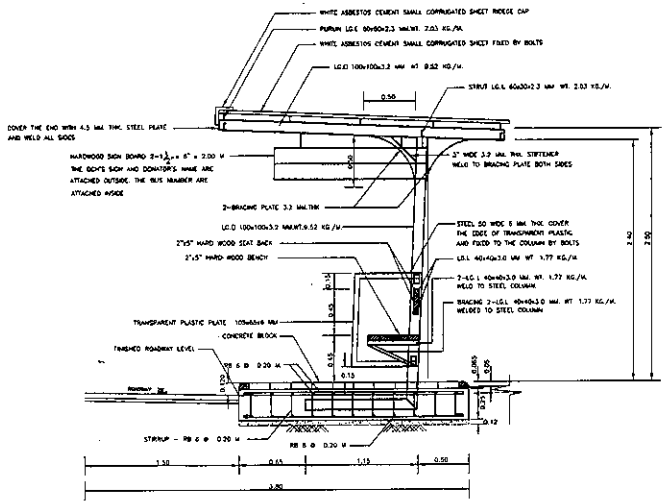
Type of Vehicles		6) Nonghai Junction (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	25	20	23	22	24	23	46	46	
2	Bicycle	282	252	267	279	353	316	583	10,673	
3	Motorbike	4,566	4,047	4,307	4,353	4,905	4,629	8,936		
4	Tuk-tuk	608	492	550	585	623	604	1,154		
5	Passenger Car	834	814	824	824	968	896	1,720	6,922	3,811
6	Pick-up	1,090	968	1,029	1,029	1,094	1,062	2,091		
7	Bus	359	334	347	393	414	404	750		3,111
8	Truck	1,010	778	894	804	996	900	1,794		
9	Large Truck	136	210	173	410	156	283	456		
10	Semi-Trailer	53	35	44	88	46	67	111		
Total		8,963	7,950	8,457	8,787	9,579	9,183	17,640		

Type of Vehicles		7) Friendship Bridge (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	18	1	10	11	15	13	23	23	
2	Bicycle	170	176	173	173	179	176	349	5,074	
3	Motorbike	1,991	2,120	2,056	1,792	1,953	1,873	3,928		
4	Tuk-tuk	419	426	423	376	373	375	797		
5	Passenger Car	562	634	598	534	600	567	1,165	4,569	2,403
6	Pick-up	668	626	647	622	559	591	1,238		
7	Bus	319	322	321	584	293	439	759		2,166
8	Truck	528	565	547	491	549	520	1,067		
9	Large Truck	110	112	111	119	136	128	239		
10	Semi-Trailer	50	43	47	61	50	56	102		
Total		4,835	5,025	4,930	4,763	4,707	4,735	9,665		

Type of Vehicles		8) Friedship Bridge (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	18	1	10	18	13	16	25	25	
2	Bicycle	174	175	175	146	152	149	324	4,686	
3	Motorbike	2,029	2,185	2,107	1,797	1,906	1,852	3,959		
4	Tuk-tuk	214	214	214	197	182	190	404		
5	Passenger Car	199	237	218	210	219	215	433	2,605	1,040
6	Pick-up	315	322	319	293	284	289	607		
7	Bus	118	118	118	125	102	114	232		1,565
8	Truck	469	494	482	421	476	449	930		
9	Large Truck	157	155	156	142	147	145	301		
10	Semi-Trailer	56	42	49	63	45	54	103		
Total		3,749	3,943	3,846	3,412	3,526	3,469	7,315		

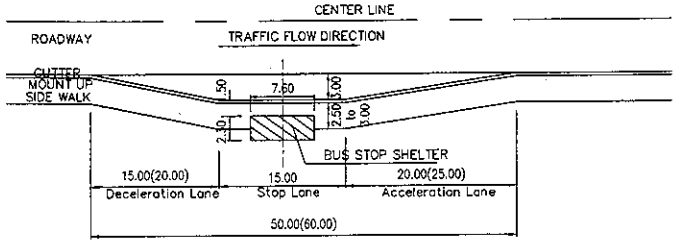
Type of Vehicles		9) Thanaleng Warehouse (Beginning Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	75	35	55	134	86	110	165	165	
2	Bicycle	457	439	448	523	419	471	919	5,950	
3	Motorbike	2,548	2,334	2,441	2,338	2,089	2,214	4,655		
4	Tuk-tuk	229	177	203	181	166	174	377		
5	Passenger Car	187	121	154	165	135	150	304	2,139	786
6	Pick-up	242	262	252	240	219	230	482		
7	Bus	107	84	96	95	72	84	179		1,353
8	Truck	429	441	435	398	406	402	837		
9	Large Truck	95	149	122	89	131	110	232		
10	Semi-Trailer	52	46	49	50	62	56	105		
Total		4,421	4,088	4,255	4,213	3,785	3,999	8,254		

Type of Vehicles		10) Thanaleng Warehouse (Ending Side)						Both Direction	Group Total	
		To Thatkao			To Sikhay					
		1st day	2nd day	Average	1st day	2nd day	Average			
1	Pedestrian	46	24	35	54	35	45	80	80	
2	Bicycle	441	429	435	401	331	366	801	5,694	
3	Motorbike	2,491	2,280	2,386	2,253	2,012	2,133	4,518		
4	Tuk-tuk	228	177	203	180	165	173	375		
5	Passenger Car	182	110	146	161	130	146	292	1,702	755
6	Pick-up	236	251	244	229	211	220	464		
7	Bus	104	81	93	90	67	79	171		947
8	Truck	340	325	333	303	297	300	633		
9	Large Truck	72	74	73	59	70	65	138		
10	Semi-Trailer	3	1	2	4	4	4	6		
Total		4,143	3,752	3,948	3,734	3,322	3,528	7,476		

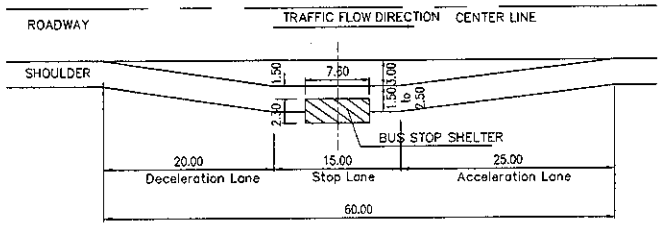


SIDE ELEVATION (BEER LAO TO END POINT OF PROJECT)

SCALE 1:40



FROM START POINT (SHIKAI) TO BEER LAO



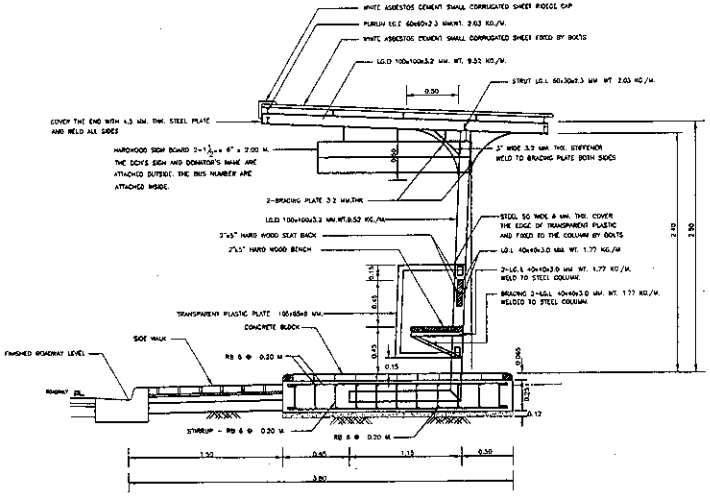
FROM BEER LAO TO END POINT OF PROJECT

SCHEDULED LIST OF BUS STOP(BUS BAY)

ROAD 1					
LEFT SIDE			RIGHT SIDE		
STATION	BUS BAY	SHELTER	STATION	BUS BAY	SHELTER
0+832	--	--	1+085	--	--
2+840	O	--	2+150	--	--
3+810	--	--	2+985	--	--
12+500	O	--	4+234	--	--
13+068	O	--	4+880	--	--
13+600	O	--	5+084	--	--
14+380	O	--	5+808	--	--
15+100	O	--	5+938	--	--
15+600	O	--	6+118	--	--
15+920	O	--	6+678	--	--
16+975	O	--	12+600	O	--
17+640	O	--	13+145	O	--
17+900	O	--	13+615	O	--
19+020	O	--	14+220	O	--
20+565	O	--	15+025	O	--
21+080	O	--	15+819	O	--
21+565	O	--	15+950	O	--
22+640	O	--	16+910	O	--
23+620	O	--	17+585	O	--
			17+840	O	--
ROAD 1-A			19+050	O	--
0+497	--	--	20+485	O	--
1+417	O	--	21+000	O	--
1+620	--	--	21+770	O	--
2+010	O	--	22+700	O	--
3+100	O	--	23+670	O	--

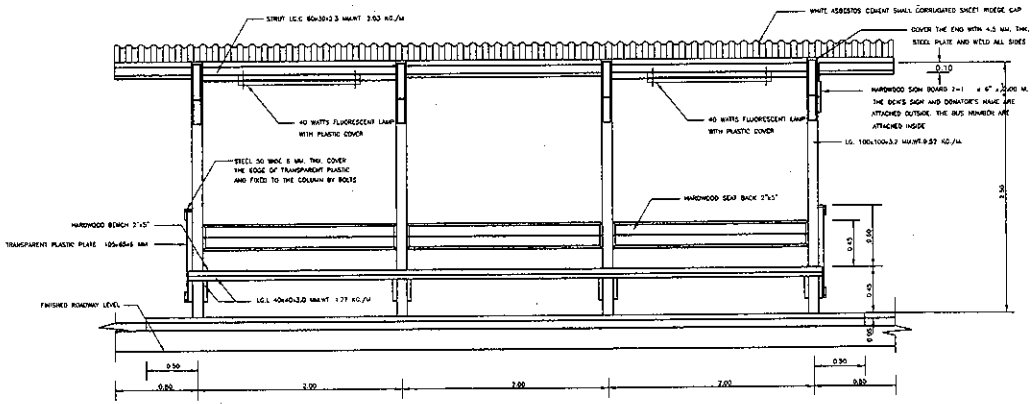
GENERAL PLAN FOR BUS STOP NOTE: Numbers Inside Brackets Indicate Dimension for Design Speed 60km/h (Beyond STA. 7+200)

SCALE 1:60



SIDE ELEVATION (START POINT (SHIKAI JUNCTION) TO BEER LAO

SCALE 1:40



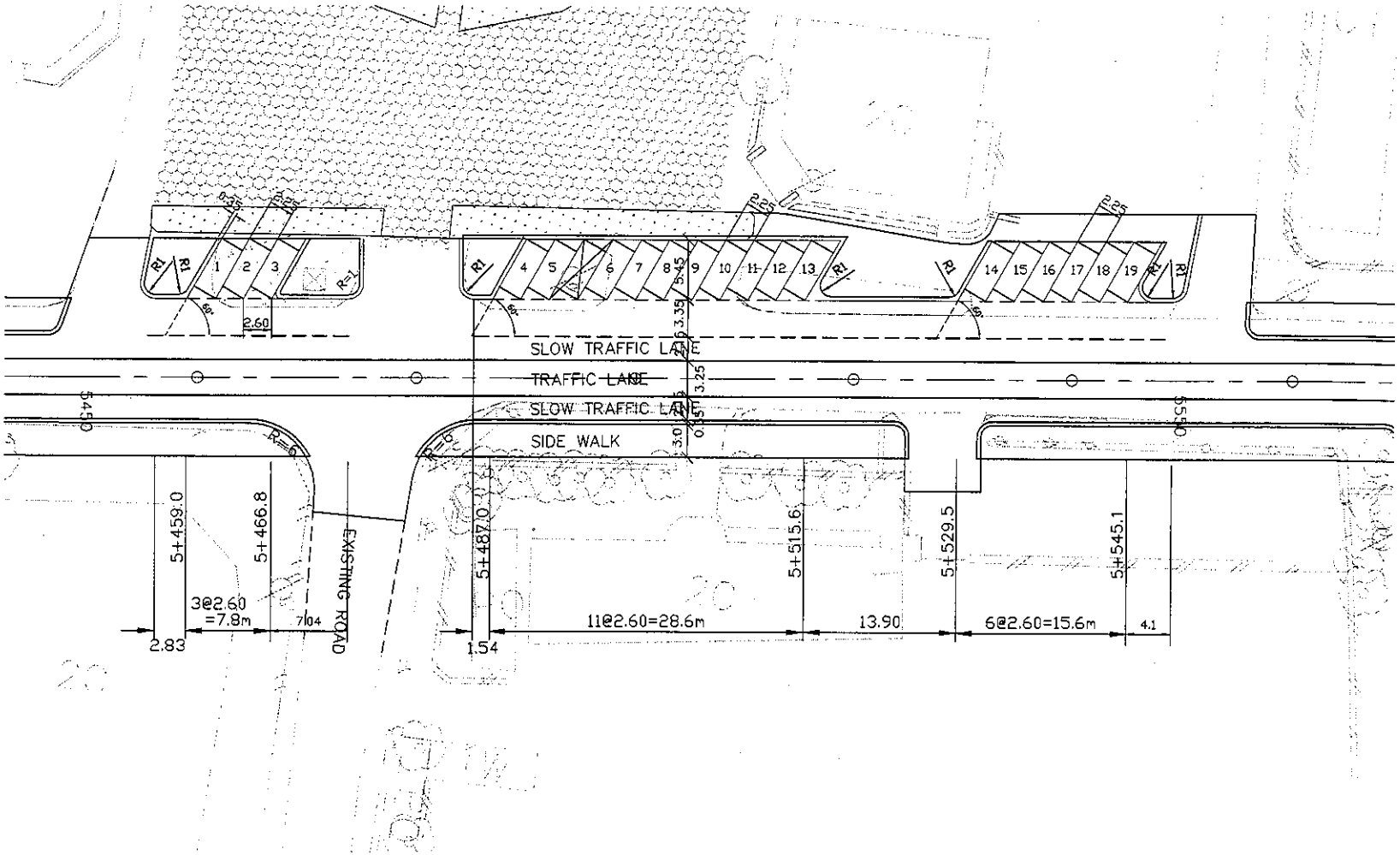
FRONT ELEVATION

BUS STOP SHELTER

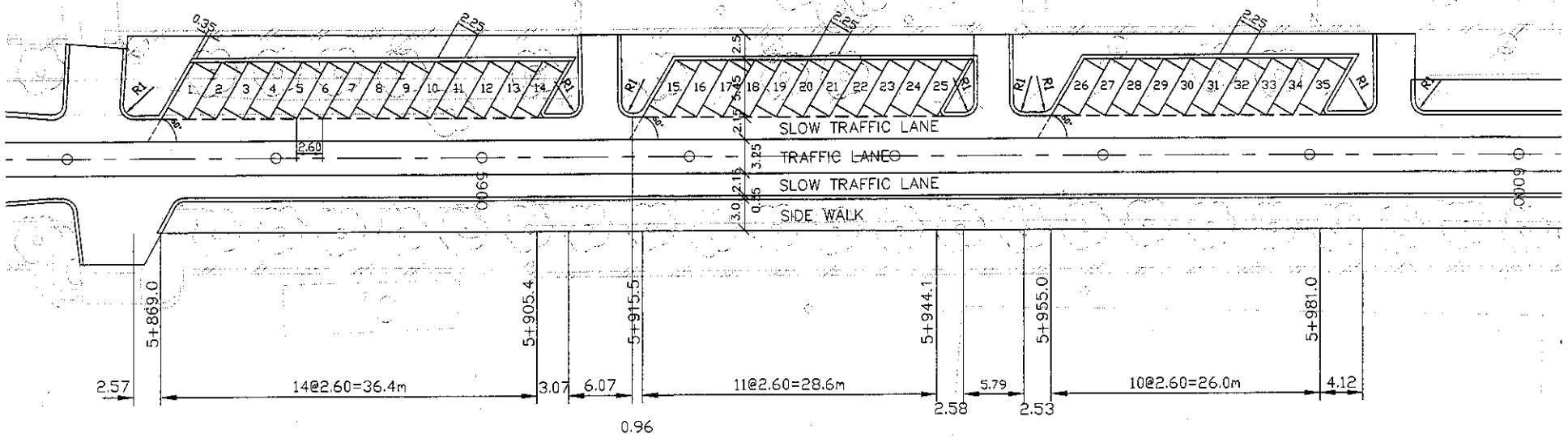
SCALE 1:50

NOTE:CONSTRUCTION OF BUS BAY SHELTERS IS NOT IN THE SCOPE OF THIS PROJECT.

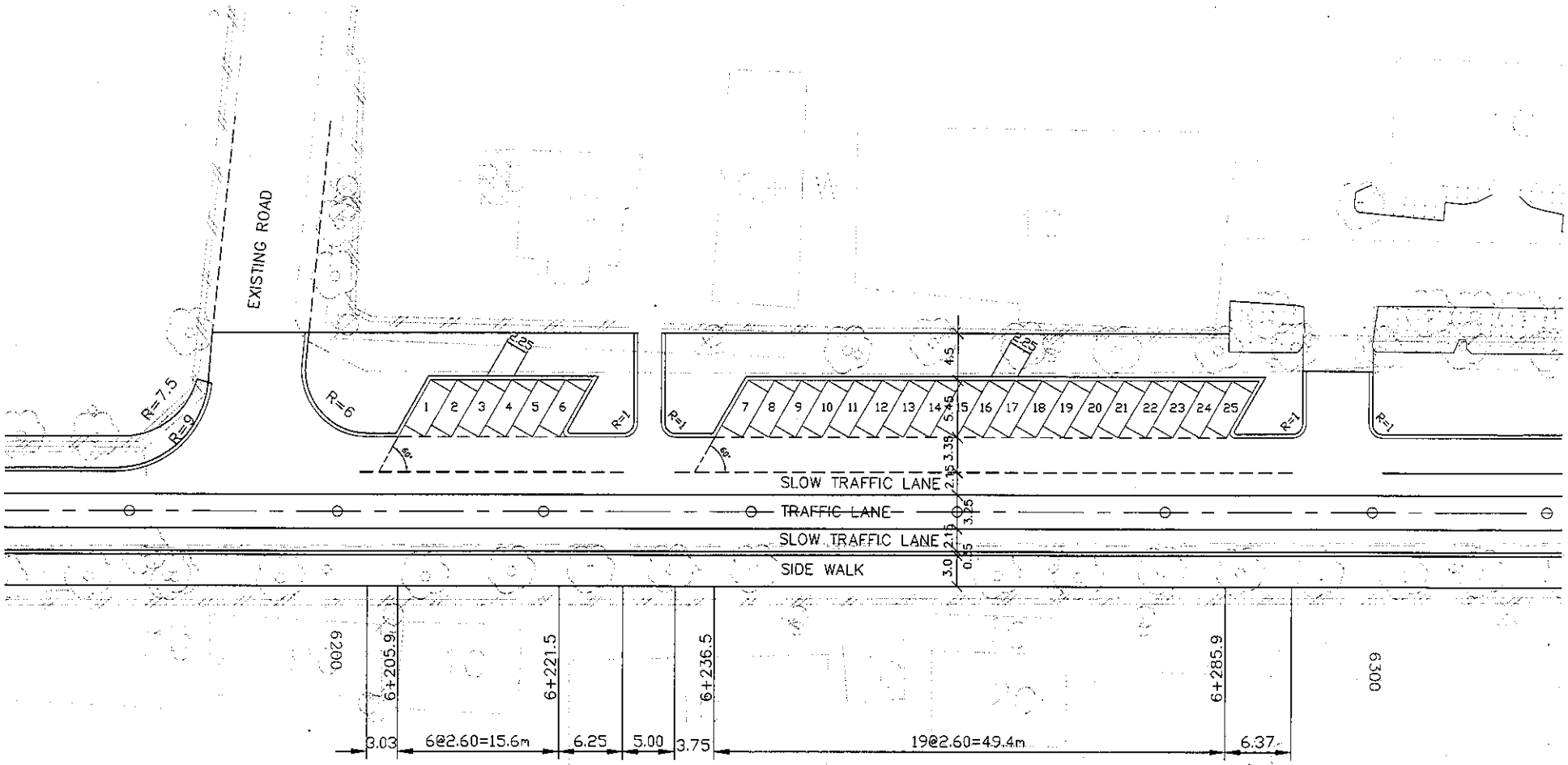
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF BUS STOP	SCALE: As Mentioned	DRAWING No: M-12 Rv.



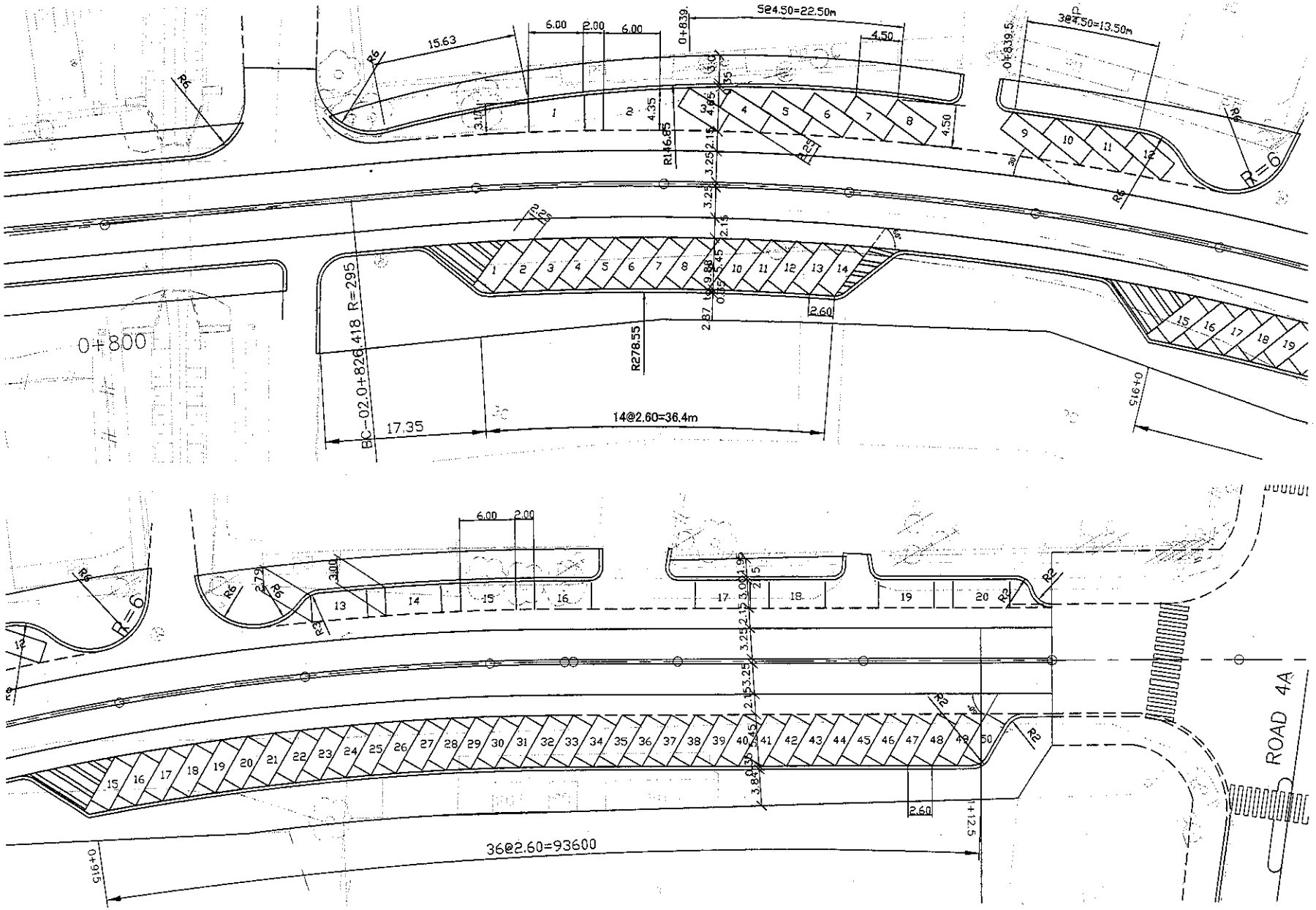
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF PARKING LOT(1)	SCALE: 1:200	DRAWING No: M-13	Rv.



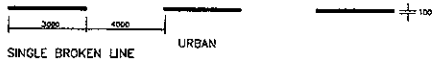
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF PARKING LOT(2)	SCALE: 1:200	DRAWING No: M-14 Rv.



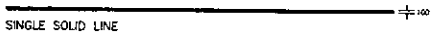
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF PARKING LOT(3)	SCALE: 1:200	DRAWING No: M-15 Rv.



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF PARKING LOT(4) (R1-A)	SCALE: 1:200	DRAWING No: M-16 Rv.



SINGLE BROKEN LINE



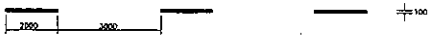
SINGLE SOLID LINE

DOUBLE LINE WITH HATCH CROSSINGS

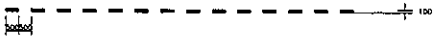
CENTER LINE MARKING

NOT TO SCALE

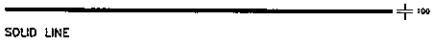
BROKEN LINE



WIDE BROKEN LINE



SHORT BROKEN LINE



SOLID LINE

LANE LINE MARKING

NOT TO SCALE

EDGE LINE MARKING

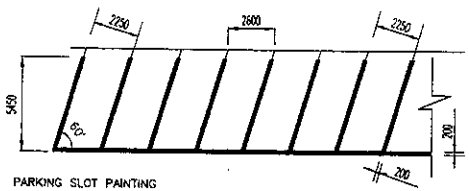
NOT TO SCALE

STOP LINE MARKING

NOT TO SCALE

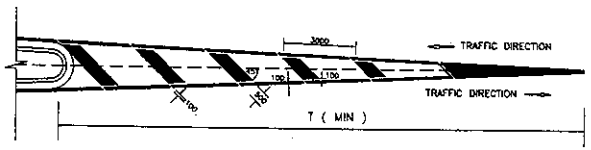
GIVEWAY LINE MARKING

NOT TO SCALE



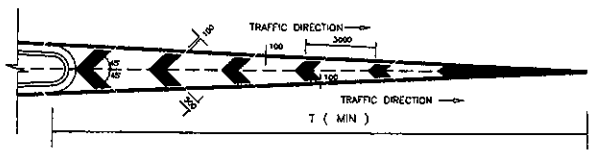
PARKING SLOT PAINTING

NOT TO SCALE



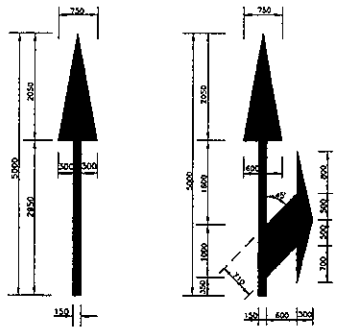
JUNCTION HATCHING MARKING

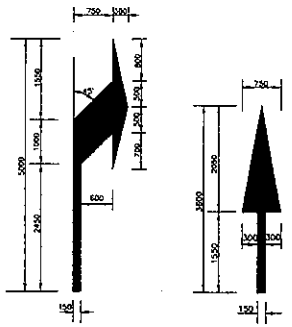
NOT TO SCALE



CHEVRON HATCHING MARKING

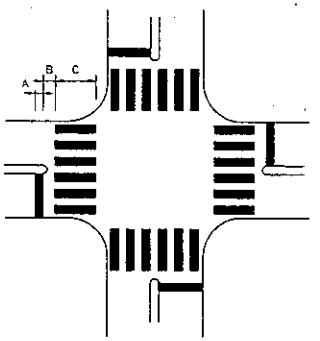
NOT TO SCALE





DIRECTIONAL ARROWS

SCALE 1:100



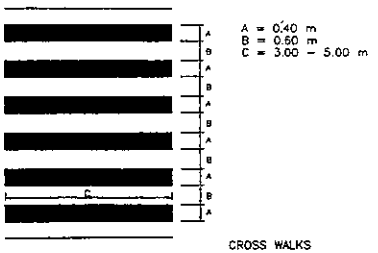
A = 0.30 m
B = 1.00 m
C = 3.00 m

CROSS WALKS AT INTERSECTION (TYPE B)

NOT TO SCALE

URBAN

DESIGN SPEED(Km/h)	T (m)
20	10
30	10
40	15
50	20
60	30



A = 0.40 m
B = 0.60 m
C = 3.00 ~ 5.00 m

CROSS WALKS

NOT TO SCALE

2 – 369

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: STANDARD PAVEMENT AND PEDESTRIAN MARKINGS	SCALE: As Mentioned	DRAWING No: M – 17	Rv.

LEFT BEND
W 1-1L

RIGHT BEND
W 1-1R

TRAFFIC ROTARY
W 8-1

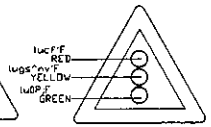
INTERSECTION WITH A NON PRIORITY ROAD
W 10-1

SIDE ROAD ,RIGHT
W 10-2R

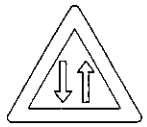
SIDE ROAD , LEFT
W 10-2L

CHILDREN CROSSING
W 11-1

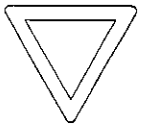
PEDESTRIAN CROSSING
W 12-2



SIGNALS AHEAD
W 15-1

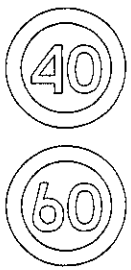


TWO - WAY TRAFFIC
W 18-1



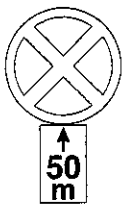
GIVE WAY
W 22-1

STOP
R 2-2

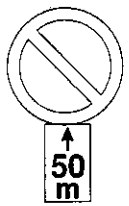


SPEED LIMIT 50 km/h
R 3-1

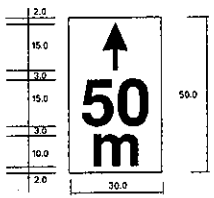
NO INT
R 4-1

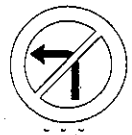


RESTRICRED STOPPING AND PARKING
R 4-2



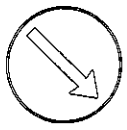
RESTRICRED STOPPING OR WAITING
R 4-3



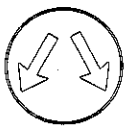


NO LEFT TURN
R 8-1

NO RIGHT TURN
R 8-2



RIGHT DETOUR DIRECTION TO BE FOLLOWED
R 15-2



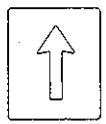
LEFT DETOUR DIRECTION AND RIGHT TO BE FOLLOWED
R 15-3

COMPULSORY MINIMUM SPEED
R 17-1

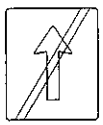
MANDATORY MOVEMENT
R 17-3

PEDESTRIAN CROSSING
I 39-1

PEDESTRIAN CROSSING
I 39-2

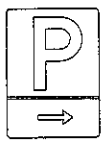


ONE WAY TRAFFIC
I 22-1

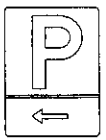


END OF ONE WAY TRAFFIC
I 22-2

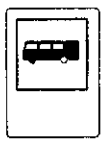
GENERAL PARKING
I 20-1



GENERAL PARKING ON RIGHT
I 20-2



GENERAL PARKING ON LEFT
I 20-2



BUS STOP
I 32

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: SCHEDULE OF ROAD SIGNS	SCALE: NONE	DRAWING No: M-18 Rv.

ROAD 1							
LEFT SIDE				RIGHT SIDE			
No.	STATION	TYPE	No. of Signs	No.	STATION	TYPE	No. of Signs
1	0-045	139-2	1	1	0-058	139-2	1
2	0-022	139-2	1	2	0-050	139-2	1
3	0+265	139-2	1	3	0+000	R3-1	3
4	0+332	W 12-2 & R 17-1	2	4	0+081	132	1
5	0+364	W 15-1	1	5	0+175	W 15-1	1
6	0+612	132	1	6	0+194	R 2-2	1
7	0+930	132	1	7	0+231	W 12-2 & R 17-1	2
8	0+980	R3-1	1	8	0+252	139-1	2
9	0+991	139-2	1	9	0+307	R 2-2	1
10	1+019	139-2	1	10	0+546	132	1
11	1+052	R 4-3	1	11	0+579	R 2-2	1
12	1+091	W 13-1	1	12	0+745	R 2-2	1
13	1+332	132	1	13	0+907	W 15-1	1
14	1+560	R3-1	1	14	0+955	R 4-3	1
15	1+582	139-2	1	15	0+980	139-2	2
16	1+613	139-2	1	16	0+994	R 2-2	1
17	1+648	R 4-3	1	17	1+060	R3-1	1
18	1+680	W 15-1	1	18	1+094	132	1
19	1+821	139-2	1	19	1+495	W 15-1	1
20	1+899	W 12-2 & R 17-1	2	20	1+539	R 4-3	1
21	2+188	132	1	21	1+570	139-2	1
22	2+268	W 12-2 & R 17-1	2	22	1+601	R 2-2	1
23	2+278	R 2-2	1	23	1+630	R3-1	1
24	2+347	W 10-2R	1	24	1+657	132	1
25	2+360	R3-1	1	25	1+757	W 12-2 & R 17-1	2
26	2+504	139-2	1	26	1+815	139-2	1
27	2+545	W 12-2 & R 17-1	2	27	2+149	132	1
28	2+601	R 2-2	1	28	2+435	W 12-2 & R 17-1	2
29	2+640	132	1	29	2+459	R3-1	1
30	2+656	139-2	1	30	2+486	139-2	1
31	2+997	W 12-2 & R 17-1	2	31	2+627	132	1
32	3+018	132	1	32	2+676	W 15-1	1
33	3+047	W 15-1	1	33	2+909	W 12-2 & R 17-1	2
34	3+079	R 2-2	1	34	2+949	139-2	1
35	3+153	W 10-2R	1	35	2+982	132	1
36	3+180	R3-1	1	36	3+206	W 15-1	1
37	3+201	R 2-2	1	37	3+242	W 12-2 & R 17-1	2
38	3+295	139-2	1	38	3+255	R3-1	1
39	3+348	W 12-2 & R 17-1	2	39	3+289	139-2	1
40	3+643	132	1	40	3+702	132	1
41	3+880	R3-1	1	41	3+822	W 10-2 R & R 17-1	2
42	4+194	R 2-2 & R 8-2	2	42	3+885	R 2-2 & R 8-1	2
43	4+316	R 2-2 & R 8-2	2	43	3+904	122-1	1
44	4+462	139-1	1	44	4+008	R 2-2 & R 8-1	2
45	4+462	R 8-2	1	45	4+121	W 10-1 & R 17-1	2
46	4+462	R 4-3	1	46	4+202	R 2-2 & R 8-1	2
47	4+797	139-1	1	47	4+237	132	1
48	4+797	R 4-3	1	48	4+274	W 10-1	1
49	4+797	R 8-2	1	49	4+338	R 2-2 & R 8-1	2
50	4+836	R 4-2	1	50	4+382	W 15-1	1
51	4+901	R 4-2	1	51	4+426	R 4-3	1
52	4+855	R 2-2 & R 8-2	2	52	4+456	139-2	2
53	4+896	R 4-2	1	53	4+530	R3-1	1
54	5+035	R 4-2	1	54	4+590	139-1	1
55	5+087	R 4-2	1	55	4+613	122-1	1
56	5+137	R 4-2	1	56	4+679	132	1
57	5+190	R 4-2	1	57	4+725	W 15-1	1
58	5+237	R 2-2 & R 8-1	2	58	4+765	R 4-3	1
59	5+249	R 4-1	1	59	4+786	139-2	2
60	5+262	R 4-2	1	60	4+814	139-1	1
61	5+302	R 2-2 & R 8-1	2	61	4+832	122-1	1
62	5+333	R 4-2	1	62	4+853	W 10-1	1
63	5+388	R 4-2	1	63	4+956	R 2-2 & R 8-1	2
64	5+448	R 2-2 & R 8-2	2	64	5+071	W 10-2R	1
65	5+503	120-1	1	65	5+080	132	1
66	5+559	R 4-2	1	66	5+153	R 2-2 & R 8-1	2
67	5+611	R 4-2	1	67	5+183	W 10-1	1
68	5+663	R 2-2 & R 8-2	2	68	5+250	R 2-2 & R 8-1	2
69	5+686	R 4-2	1	69	5+256	W 10-1	1
70	5+742	R 4-2	1	70	5+315	R 2-2 & R 8-1	2
71	5+786	139-2	1	71	5+426	W 10-1	1
72	5+796	R 4-3	1	72	5+483	R 2-2 & R 8-1	2
73	5+798	R 8-2	1	73	5+592	W 10-1	1
74	5+822	R 4-2	1	74	5+609	132	1
75	5+891	120-1	1	75	5+674	R 2-2 & R 8-1	2
76	5+927	120-1	1	76	5+707	W 15-1 - R 4-2	2
77	5+970	120-1	1	77	5+785	139-2 & R 2-2	2
78	6+025	R 8-1	1	78	5+830	R3-1	1
79	6+030	R 2-2 & R 8-2	2	79	5+832	122-1	1
80	6+042	R 4-1	1	80	5+847	120-2	1
81	6+074	R 4-2	1	81	5+936	132	1
82	6+145	R 4-2	1	82	5+979	W 10-1	1
83	6+326	120-1	1	83	6+010	R 4-3	1
84	6+350	R 2-2 & R 8-2	2	84	6+025	R 8-1	1
85	6+381	R 4-2	1	85	6+044	R 2-2 & R 8-1	2
86	6+466	R 4-2	1	86	6+056	110-2	1
87	6+523	R 4-2	1	87	6+086	R 10-1	1
88	6+579	R 4-2	1	88	6+103	132	1

ROAD 1							
LEFT SIDE				RIGHT SIDE			
No.	STATION	TYPE	No. of Signs	No.	STATION	TYPE	No. of Signs
89	6+644	R 4-2	1	89	6+133	W 10-2L	1
90	6+703	R 4-2	1	90	6+156	R 4-2	1
91	6+754	R 4-2	1	91	6+182	120-2	1
92	6+806	R 4-2	1	92	6+236	R 4-2	1
93	6+863	122-1	1	93	6+277	W 10-1 & R 17-1	2
94	6+907	W 2-11L & R 17-1	2	94	6+298	R 4-2	1
95	6+925	132	1	95	6+343	139-2 & R 2-2	2
96	7+074	W 15-1	1	96	6+361	R 2-2 & R 8-1	2
97	7+160	R3-1	1	97	6+446	W 12-2 & R 17-1	2
98	7+200	139-2	1	98	6+471	R 2-2 & R 8-1	2
99	7+220	139-2 & R 2-2	2	99	6+495	139-1	1
100	7+252	139-2	1	100	6+575	R 2-2 & R 8-1	2
101	7+231	R 4-3	1	101	6+630	R3-1	1
102	7+265	W 15-1	1	102	6+659	W 10-2R	1
103	7+438	R 2-2	1	103	6+678	132	1
104	7+515	W 10-2R & R 17-1	2	104	6+740	R 2-2 & R 8-1	2
105	7+650	R 2-2	1	105	6+854	122-2	1
106	7+670	132	1	106	6+875	W 15-1	1
107	7+712	W 10-2R & R 17-1	2	107	6+905	W 12-2 & R 17-1	2
108	7+986	139-2	1	108	6+950	139-2	1
109	8+050	139-2	1	109	7+040	R 2-2	1
110	8+100	W 12-2 & R 17-1	2	110	7+070	W 15-1	1
111	8+150	W 15-1	1	111	7+080	W 12-2 & R 17-1	2
112	8+440	R3-1	1	112	7+188	132	1
113	8+508	139-2	1	113	7+217	W 15-1	1
114	8+528	W 12-2 & R 17-1	2	114	7+220	R3-1	1
115	8+562	W 15-1	1	115	7+243	R 4-3	1
116	8+825	R 4-3	1	116	7+810	132	1
117	8+780	R3-1	1	117	7+843	W 15-1	1
118	8+825	139-2	1	118	7+950	W 12-2 & R 17-1	2
119	8+850	132	1	119	7+960	R 4-3	1
120	0+25 4A	W 12-2 & R 17-1	2	120	7+980	139-2	1
121	0+30 4A	139-2	1	121	8+449	R 17-1	1
122	0+50 4A	W 15-1	1	122	8+473	R 18-1	1
123	8+375	W 15-1	1	123	8+510	W 15-1	1
124	8+400	139-2	1	124	8+535	R 4-3	1
125	8+460	R 4-3	1	125	8+550	R3-1	1
126	8+465	W 12-2 & R 17-1	2	126	8+570	W 12-2 & R 17-1	2
127	0+25 No.7	W 12-2 & R 17-1	2	127	8+600	W 15-1	1
128	0+30 No.7	139-2	1	128	8+690	W 15-1	1
129	8+835	W 15-1	1	129	8+730	R 4-3	1
130	8+870	139-2	1	130	8+750	W 12-2 & R 17-1	2
131	8+890	R 4-3	1	131	8+770	132	1
132	8+920	W 12-2 & R 17-1	2	132	8+790	W 15-1	1
133	9+100	W 10-2L	1	133	8+796	W 10-2L	1
134	9+155	R 17-1	1	134	8+850	R3-1	1
135	9+218	R 2-2	1	135	8+885	R 17-1	1
136	9+297	W 10-2L	1	136	8+958	132	1
137	9+380	132	1	137	9+009	W 10-2L	1
138	9+387	R 17-1	1	138	9+330	132	1
139	9+430	R 2-2	1	139	9+366	R 17-1	1
140	9+512	W 10-2R	1	140	9+631	W 15-1	1
141	9+580	R3-1	1	141	9+650	R 4-3	1
142	9+653	R 2-2	1	142	9+690	R 17-1 & W 12-2	2
143	9+745	W 10-2R	1	143	9+950	139-2	1
144	9+840	132	1	144	10+120	132	1
145	9+915	R 17-1	1	145	10+165	R 17-1	1
146	10+015	R 2-2	1	146	10+265	R 2-2	1
147	10+086	W 10-2R	1	147	10+450	R3-1	1
148	10+160	132	1	148	10+570	W 10-2R	1
149	10+380	R3-1	1	149	10+634	R 2-2	1
150	10+432	R 17-1	1	150	10+710	132	1
151	10+560	R 17-1	1	151	10+728	R 17 - 1 & W 10 - 2R	2
152	10+740	132	1	152	10+853	R 2-2	1
153	10+743	139-2	1	153	11+018	W 10-2L	1
154	10+749	R 2-2	1	154	11+080	W 15-1	1
155	10+815	R 17-1 & W 12-2	2	155	11+238	R 17 - 1 & W 12-2	2
156	10+849	W 15-1	1	156	11+250	R3-1	1
157	11+035	R 17-1	1	157	11+275	139-2	1
158	11+160	R3-1	1	158	11+280	132	1
159	11+172	R 2-2	1	159	11+348	R 2-2	1
160	11+236	W 10-2R	1	160	11+527	W 10-2R	1
161	11+310	132	1	161	11+605	R 2-2	1
162	11+317	R 2-2	1	162	11+634	R 17 - 1 & W 12-2	2
163	11+371	W 10-2R	1	163	11+690	132	1
164	11+431	R 2-2	1	164	11+737	139-2	1
165	11+505	R 17 - 1 & W 10 - 2R	2	165	11+773	W 15-1	1
166	11+594	R 2-2	1	166	11+840	R 15-2	1
167	11+650	132	1	167	11+948	R 18 - 1 & W 22 - 1	2
168	11+698	W 10-2R	1	168	11+964	R 15-3	1
169	11+718	139-2	1	169	12+000	132	1
170	11+771	R 17-1 & W 12-2	2	170	12+022	R 2-2	1
171	11+804	W 15-1	1	171	12+050	R3-1	1
172	11+880	R3-1	1	172	12+191	R 18 - 1 & W 22 - 1	2
173	12+022	R 2-2	1	173	0+20 Boro	R 15-3	1
174	12+040	132	1	174	0+25 Boro	R 2-2	1
175	12+042	139-2	1	175	0+25 Boro	R 18 - 1 & W 22 - 1	2
176	12+097	R 17 - 1 & W 12-2	2	176	0+30 Boro	R 15-2	1

ROAD 1							
LEFT SIDE				RIGHT SIDE			
No.	STATION	TYPE	No. of Signs	No.	STATION	TYPE	No. of Signs
177	12+150	R3-1	1	177	0+45 Boro	W 8-1	1
178	12+190	R 15-2	1	178	12+120	W 8-1	1
179	12+202	R 15-3	1	179	12+200	R 2-2	1
180	12+240	R 2-2	1	180	12+240	R 15-3	1
181	12+240	R 18 - 1 & W 22 - 1	2	181	12+260	R3-1	1
182	12+265	R 4-3	1	182	12+233	R2-2	1
183	12+315	W 8-1	1	183	12+452	W10-2L	1
184	12+428	R17-1	1	184	12+500	132	1
185	12+500	132	1	185	12+850	R3-1	1
186	12+526	R2-2	1	186	12+878	W12-2&R17-1	2
187	12+610	W10-2R	1	187	12+057	W10-2R	1
188	12+720	R17-1&W11-2	2	188	13+170	R2-2	1
189	12+850	R3-1	1	189	13+135	132	1
190	13+070	132	1	190	13+205	W10-2L	1
191	13+250	R17-1	1	191	13+424	R17-1	1
192	13+280	W10-2L	1	192	13+615	132	1
193	13+440	R2-2	1	193	13+760	R3-1	1
194	13+483	W10-2R	1	194	14+085	W15-1	1
195	13+600	132	1	195	14+178	R4-3	1
196	13+760	R3-1	1	196	14+187	138-2	1
197	14+360	122	1	197	14+264	R2-2	1
198	14+237	W10-2L	1	198	14+320	132	1
199	14+245	R2-2	1	199	14+560	R3-1	1
200	14+315	W10-2R	1	200	14+580	W10-2L	1
201	14+387	R17-1	1	201	15+025	132	1
202	14+560	R3-1	1	202	15+184	W15-1	1
203	15+100	132	1	203	15+240	R2-2	1
204	15+150	R3-1	1	204	15+280	W10-2L	1
205	15+268	138-2	1	205	15+324	W10-2L	1
206	15+288	R4-3	1	206	15+450	R3-1	1
207	15+337	139-2	1	207	15+487	W15-1	1
208	15+360	R4-3	1	208	15+503	R2-2	1
209	15+424	W15-1	1	209	15+519	132	1
210	15+550	R2-2	1	210	15+684	R17-1&W12-2	2
211	15+583	W10-2R	1	211	15+720	W10-2R	1
212	15+660	132	1	212	15+806	R2-2	1
213	15+726	W15-1	1	213	15+950	132	1
214	15+785	R2-2	1	214	16+018	R17-1&W12-2	2
215	15+880	W10-2R	1	215	16+097	W10-2R	1
216	15+930	132	1	216	16+100	R3-1	1
217	15+974	R2-2	1	217	16+554	R2-2	1
218	16+078	R2-2	1	218	16+760	W10-2R	1
219	16+100	R3-1	1	219	16+875	R3-1	1
220	16+157	W15-1	1	220	16+887	R2-2	1
221	16+873	R3-1	1	221	16+975	132	1
222	16+910	132	1	222	17+040	R17-2&W12-2	2
223	16+926	W10-2L	1	223	17+437	R17-1&W12-2	2
224	17+045	R17-1&W12-2	2	224	17+450	R17-1	1
225	17+423	R17-1&W12-2	2	225	17+488	W10-2L	1
226	17+523	W10-2L	1	226	17+565	132	1
227	17+608	W10-2L	1	227	17+675	R3-1	1
228	17+640	132	1	228	17+723	R17-1	1
229	17+675	R3-1	1	229	17+840	132	1
230	17+897	R17-1&W12-2	2	230	17+883	R17-1&W12-2	2
231	17+900	132	1	231	18+475	R3-1	1
232	18+327	R17-1&W12-2	2	232	18+005	139-2	1
233	18+475	R3-1	1	233	18+122	W10-2L	1
234	18+188	R2-2	1	234	18+275	R3-1	1
235	18+275	R3-1	1	235	18+450	132	1
236	18+278	W10-2R	1	236	20+000	R2-2	1
237	18+320	132	1	237	20+100	R3-1	1
238	18+542	R17-1	1	238	20+485	132	1
239	20+100	R3-1	1	239	20+700	W15-1	1
240	20+565	132	1	240	20+728	139-2	1
241	20+764	R17-1&W12-2	2	241	20+755	R4-3	1
242	20+814	R4-3	1	242	20+788	R17-1&W12-2	2
243	20+835	139-2	1	243	20+900	R3-1	1
244	20+850	W15-1	1	244	21+066	132	1
245	20+880	R17-1&W12-2	2	245	21+183	R17-1&W11-1	2
246	20+900	R3-1	1	246	21+832	R17-1&W11-1	2
247	21+000	132	1	247	21+700	R3-1	1
248	21+700	R3-1	1	248	21+770	132	1
249	21+865	132	1	249	21+210	W10-2L	1
250	22+500	R3-1	1	250	22+299	R4-3	1
251	22+640	132	1	251	22+500	R3-1	1
252	23+300	R3-1	1	252	22+700	132	1
253	23+620	132	1	253	23+300	R3-1	1
254	24+300	R3-1	1	254	23+670	132	1
255	24+118	R2-2	1	255	24+000	W15-1	1
256	24+118	W10-3	1	256	24+040	139-2	1
257	24+145	R17-1&W12-2	2	257	24+060	R4-3	1
258	24+180	R4-3	1	258	24+098	R17-1&W12-2	2
259	24+220	139-2	1	259	24+300	R3-1	1
260	24+220	W15-1	1	260	24+400	R3-1	1
261	24+400	R3-1	1	261	24+800	W10-2R	1
262	24+800	W10-2L	1	262	25+350	W10-2R	1
263	25+400	R3-1	1	263	25+400	R3-1	1
264	25+700	R3-1	1	264	25+700	R3-1	1

ROAD 1A							
LEFT SIDE				RIGHT SIDE			
No.	STATION	TYPE	No. of Signs	No.	STATION	TYPE	No. of Signs
1	0+039	122-2	1	1	0+074	R17-3	1
2	0+128	139-2	1	2	0+457	W10-3R	
3	0+305	R8-1	1	3	0+457	R2-2 & R4-2	2
4	0+305	R2-2	1	4	0+518	R4-2R	
5	0+385	W10-2R	1	5	0+540	R3-1	1
6	0+505	132	1	6	0+567	W10-3R	
7	0+575	138-2	1	7	0+567	R8-2	1
8	0+620	W12-2 & R17-1	2	8	0+567	139-2	1
9	0+703	W10-1	1	9	0+623	R4-2	1
10	0+813	R2-2 & R8-1	2	10	0+646	R2-2 & R8-2	2
11	0+858	W10-2R	1	11	0+680	120-2	1
12	0+920	120-1	1	12	0+960	120-2	1
13	0+920	R2-2 & R8-1	2	13	1+020	120-2	1
14	0+970	120-1	1	14	0+540	R3-1	1
15	0+994	W10-2R	1	15	1+053	R8-2	1
16	1+020	120-1	1	16	1+053	R4-3	1
17	1+020	122-1	1	17	1+053	139-2	1
18	1+042	R8-1	1	18	1+098	R4-3	1
19	1+042	R4-3	1	19	1+147	R4-2	1
20	1+042	139-2	1	20	1+157	R4-1	1
21	1+068	138-2	1	21	1+172	R2-2 & R8-1R	
22	1+088	R4-3	1	22	1+212	R4-2	1
23	1+128	W15-1	1	23	1+238	R2-2 & R8-2	2
24	1+155	R2-2 & R8-1	2	24	1+262	R4-2	1
25	1+209	W10-1	1	25	1+285	R2-2 & R8-2	2
26	1+215	R2-2 & R8-1	2	26	1+321	R4-2	1
27	1+262	W10-1	1	27	1+343	R2-2 & R8-2	2
28	1+271	R2-2 & R8-1	2	28	1+375	R4-2	1
29	1+322	W10-1	1	29	1+399	R2-2 & R8-2	2
30	1+330	R2-2 & R8-1	2	30	1+432	R4-2	1
31	1+379	W10-1	1	31	1+463	R2-2 & R8-2	2
32	1+388	R2-2 & R8-1	2	32	1+492	R4-2	1
33	1+411	132	1	33	1+582	R4-2	1
34	1+432	W10-1	1	34	1+632	R4-2	1
35	1+442	R2-2 & R8-1	2	35	1+691	R4-2	1
36	1+529	W10-1	1	36	1+736	R4-2	1
37	1+582	R2-2 & R8-1	2	37	1+788	R4-2	1
38	1+647	W10-2R	1	38	1+835	R4-2	1
39	1+675	132	1	39	1+881	R4-2	1
40	1+709	R2-2 & R8-1	2	40	1+911	R2-2 & R8-2	2
41	1+736	W10-1	1	41	1+953	R4-2	1
42	1+800	R2-2 & R8-1	2	42	1+540	R3-1	1
43	1+959	W10-1	1	43	2+004	R4-2R	
44	2+009	132	1	44	2+052	R4-2	1
45	2+055	122-1	1	45	2+097	R4-3	1
46	2+075	R8-1	1	46	2+097	R8-2	1
47	2+075	R4-3	1	47	2+097	139-2	1
48	2+075	139-2	1	48	2+146	R4-2	1
49	2+110	139-2	1	49	2+207	R4-2	1
50	2+127	R4-3	1	50	2+249	R4-2	1
51	2+166	W15-1	1	51	2+311	R4-2	1
52	2+313	R8-1	1	52	2+327	W10-1	1
53	2+313	R4-3	1	53	2+384	R4-2	1
54	2+313	139-2	1	54	2+445	R4-2	1
55	2+342	138-2	1	55	2+471	R4-1	1
56	2+383	R4-3	1	56	2+484	R2-2 & R8-2	2
57	2+382	W15-1	1	57	2+510	R4-2	1
58	2+440	R17-1	1	58	2+561	R4-2	1
59	2+544	W10-1	1	59	2+622	R4-21	
60	2+600	R17-1	1	60	2+540	R3-1	1
61	2+643	R2-2 & R8-1	2	61	2+655	R2-2 & R8-2	2
62	2+665	138-2	1	62	2+678	R4-2	1
63	2+724	W10-1 & R17-1	2	63	2+725	R4-2	1
64	2+810	R2-2 & R8-1	2	64	2+787	R4-2	1
65	2+893	W10-2R & R17-1	2	65	2+851	R4-2	1
66	2+917	R2-2 & R8-1	2	66	2+926	R4-2	1
67	2+960	W10-2R & R17-1	2	67	2+976	R4-2	1
68	3+044	R2-2 & R8-1	2	68	3+048	R4-2	1
69	3+096	132	1	69	3+087	R4-2	1
70	3+123	W10-2R	1	70	3+148	R4-21	
71	3+128	R2-2 & R8-1	2	71	0+540	R3-1	1

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

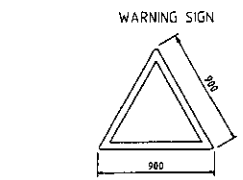
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
CTI ENGINEERING INTERNATIONAL CO, LTD

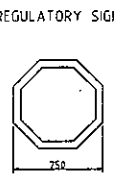
TITLE: SCHEDULE OF ROAD SIGNS

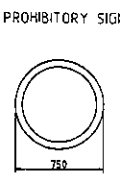
SCALE : NONE

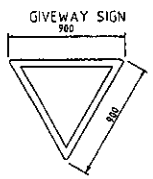
DRAWING No: M-19

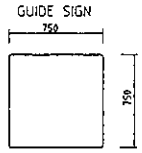
Rv.

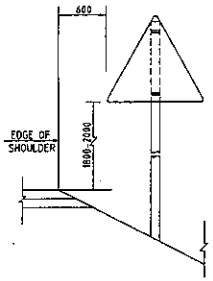


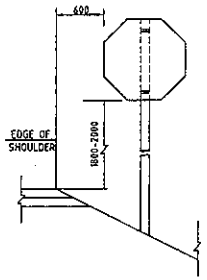


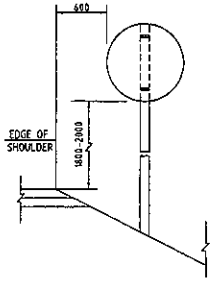




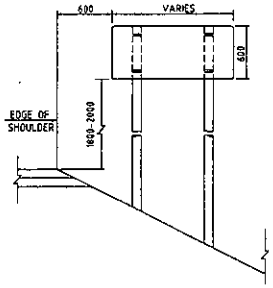


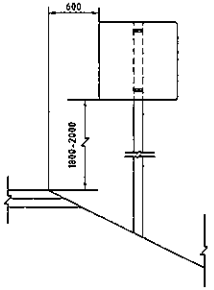




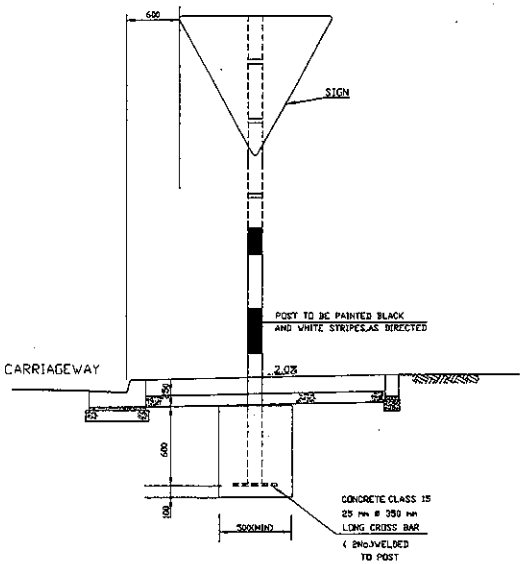


INFORMATION SIGN





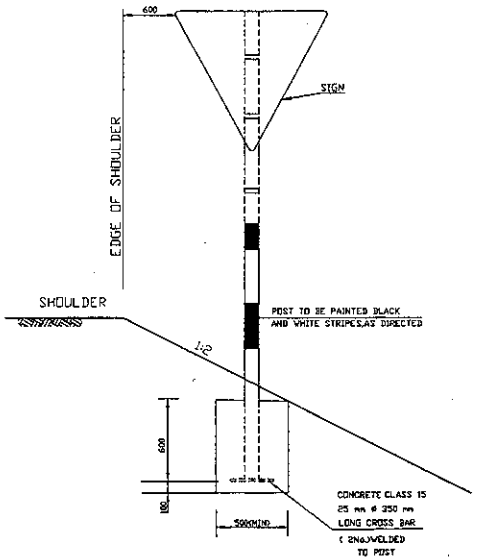
INSTALLATION OF SIGN POST



POST TYPE (SIDEWALK)

NOT TO SCALE

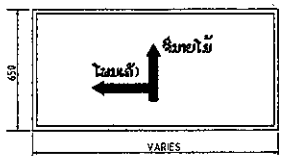
INSTALLATION OF SIGN POST



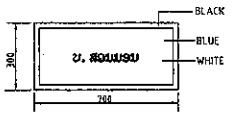
POST TYPE (SLOPE)

NOT TO SCALE

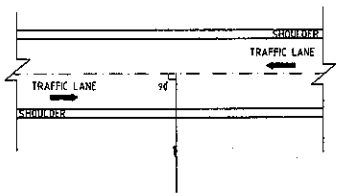
ADVANCE DIRECTION SIGN



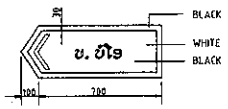
PLACE IDENTIFICATION



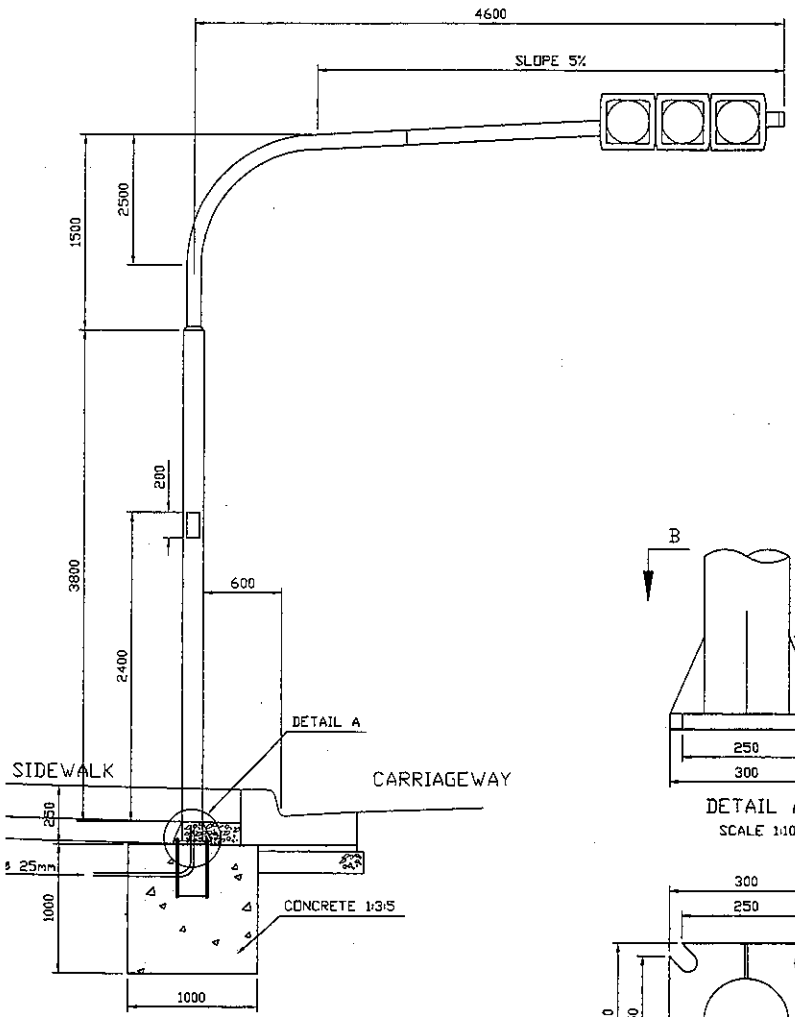
PLACEMENT OF SIGN POST



DIRECTION SIGN

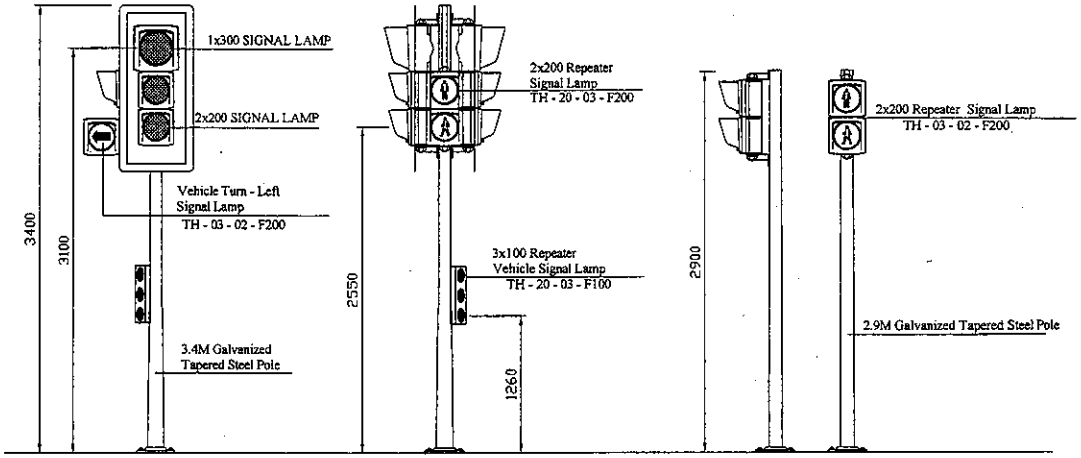


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: SCHEDULE OF ROAD SIGNS	SCALE: NONE	DRAWING No: M-20 Rv.



TRAFFIC SIGNAL(HANG-OVER TYPE)
SCALE 1:40

TRAFFIC SIGNAL(HANG-OVER TYPE)

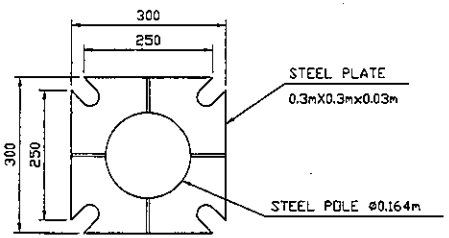


TRAFFIC SIGNAL(STAND POST TYPE)
SCALE 1:40

TRAFFIC SIGNAL(PEDESTRIAN TYPE)
SCALE 1:40

NOTE:
ALL DIMENSIONS ARE IN MILLIMETER

DETAIL A
SCALE 1:10



SECTION B-B
SCALE 1:10

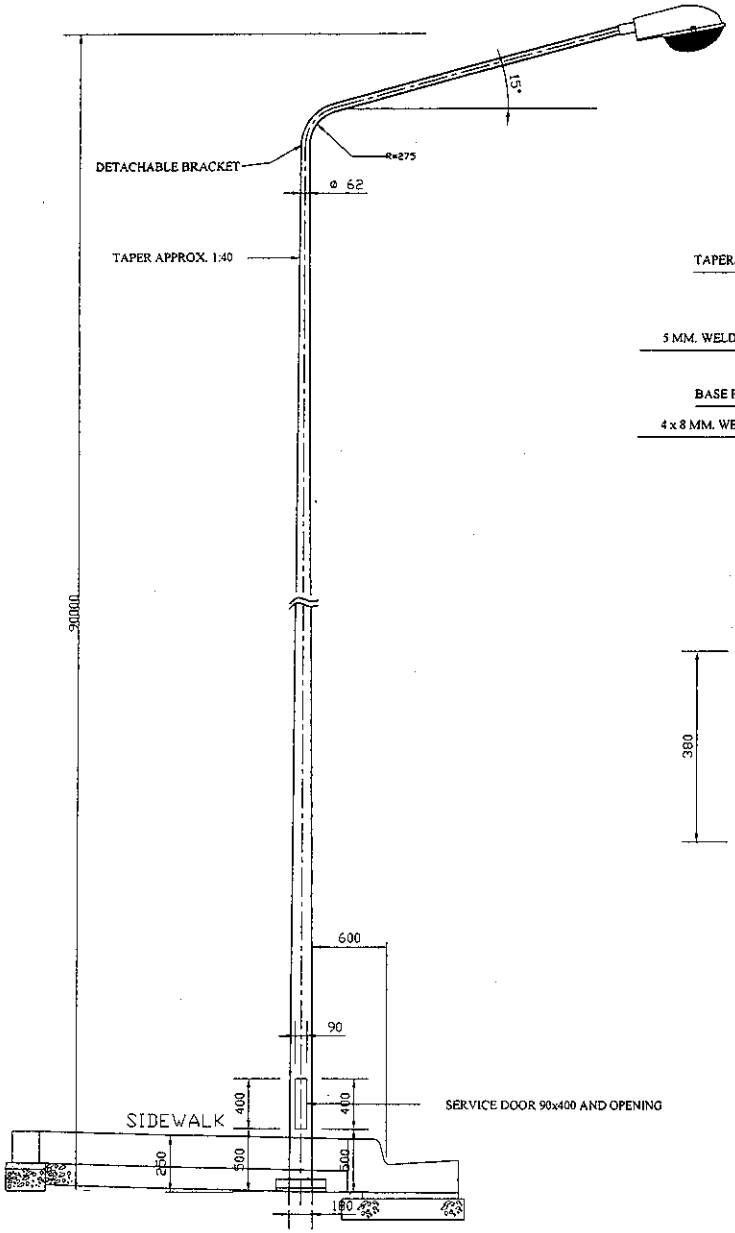
SCHEDULED LIST OF TRAFFIC SIGNAL / PEDESTRIAN SIGNAL

TRAFFIC SIGNAL			
NO.	STATION	SIDE (LEFT/RIGHT)	REMARKS
1	0+058	R	
2	0+035	R	
3	0+022	L	
4	0+282	R	
5	0+287	L	
6	0+977	R	
7	0+989	L	JUNCTION
8	1+022	L	
9	1+578	R	
10	1+585	L	JUNCTION
11	1+600.8	R	
12	1+612.5	L	
13	1+815	R	
14	1+820	L	
15	2+489	R	
16	2+505	L	
17	2+949	R	
18	2+955	L	
19	3+288	R	
20	3+304	L	
21	4+377	R	
22	6+500	R	
23	6+951	R	
24	6+956	L	
25	7+169	R	
26	7+175	L	JUNCTION
27	7+201	R	JUNCTION
28	7+204	L	
29	7+994	R	
30	8+055	L	
31	8+470	R	
32	8+479	L	JUNCTION
33	8+508	L	
34	8+790	R	
35	8+804	L	JUNCTION
36	8+832	L	
37	18+830	R	
38	18+835	L	
39	20+787	R	
40	20+792	L	
41	24+099	R	
42	24+113.5	L	
43	24+145	L	

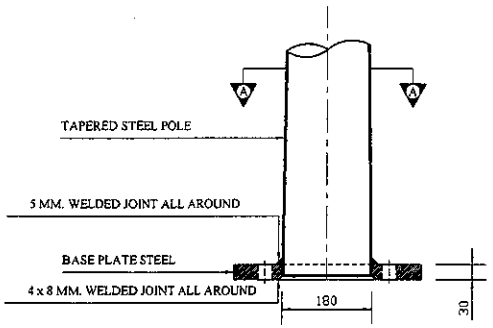
PEDESTRIAN SIGNAL			
NO.	STATION	SIDE (LEFT/RIGHT)	REMARKS
1	0+058	L,R	
2	0+055	R	
3	0+035	R	
4	0+022	L,R	
5	0+282	R	
6	0+287	L	
7	0+977	L,R	
8	0+989	L	JUNCTION
9	1+010	L	
10	1+022	L,R	
11	1+578	L,R	
12	1+585	L	JUNCTION
13	1+590.5	R	JUNCTION
14	1+600.8	R	JUNCTION
15	1+601.5	L	JUNCTION
16	1+612	L,R	
17	1+815	R	
18	1+820	L	
19	2+489	R	
20	2+505	L	
21	2+949	R	
22	2+955	L	
23	3+288	R	
24	3+304	L	
25	4+377	L,R	
26	6+500	L,R	
27	6+951	R	

PEDESTRIAN SIGNAL			
NO.	STATION	SIDE (LEFT/RIGHT)	REMARKS
28	6+956	L	
29	7+167	L	
30	7+169	R	
31	7+175	L	JUNCTION
32	7+184	R	JUNCTION
33	7+190	L	JUNCTION
34	7+201	R	JUNCTION
35	7+204	L	
36	7+206	R	
37	7+794	R	
38	8+002	L	
39	8+050	R	
40	8+055	L	
41	8+470	L,R	
42	8+479	L	JUNCTION
43	8+492	L	JUNCTION
44	8+508	L,R	
45	8+790	L,R	
46	8+804	L	JUNCTION
47	8+820	L	JUNCTION
48	8+832	L,R	
49	18+830	R	
50	18+835	L	
51	20+787	R	
52	20+792	L	
53	24+099	L,R	
54	24+133.5	L	
55	24+131	L	JUNCTION
56	24+145	L,R	

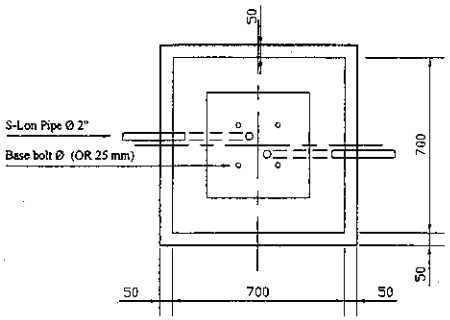
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF TRAFFIC POSTS	SCALE: As mentioned	DRAWING No: M-21 Rv.

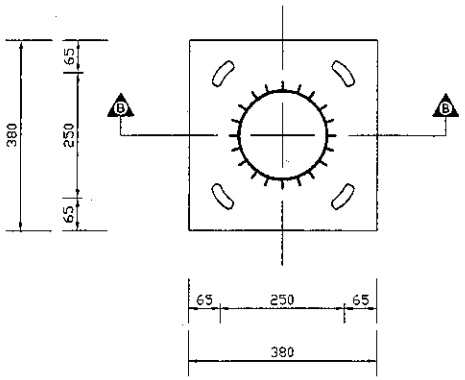


GENERAL VIEW OF LIGHTNING POLE
TYPE-1 (SINGLE LAMP)

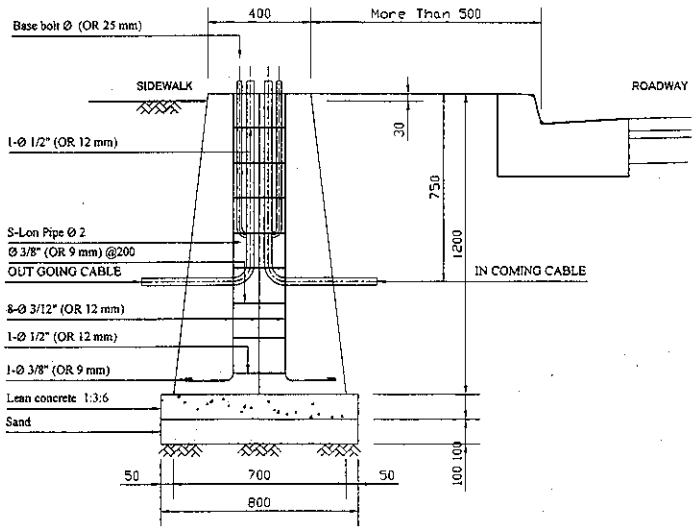


SECTION B-B



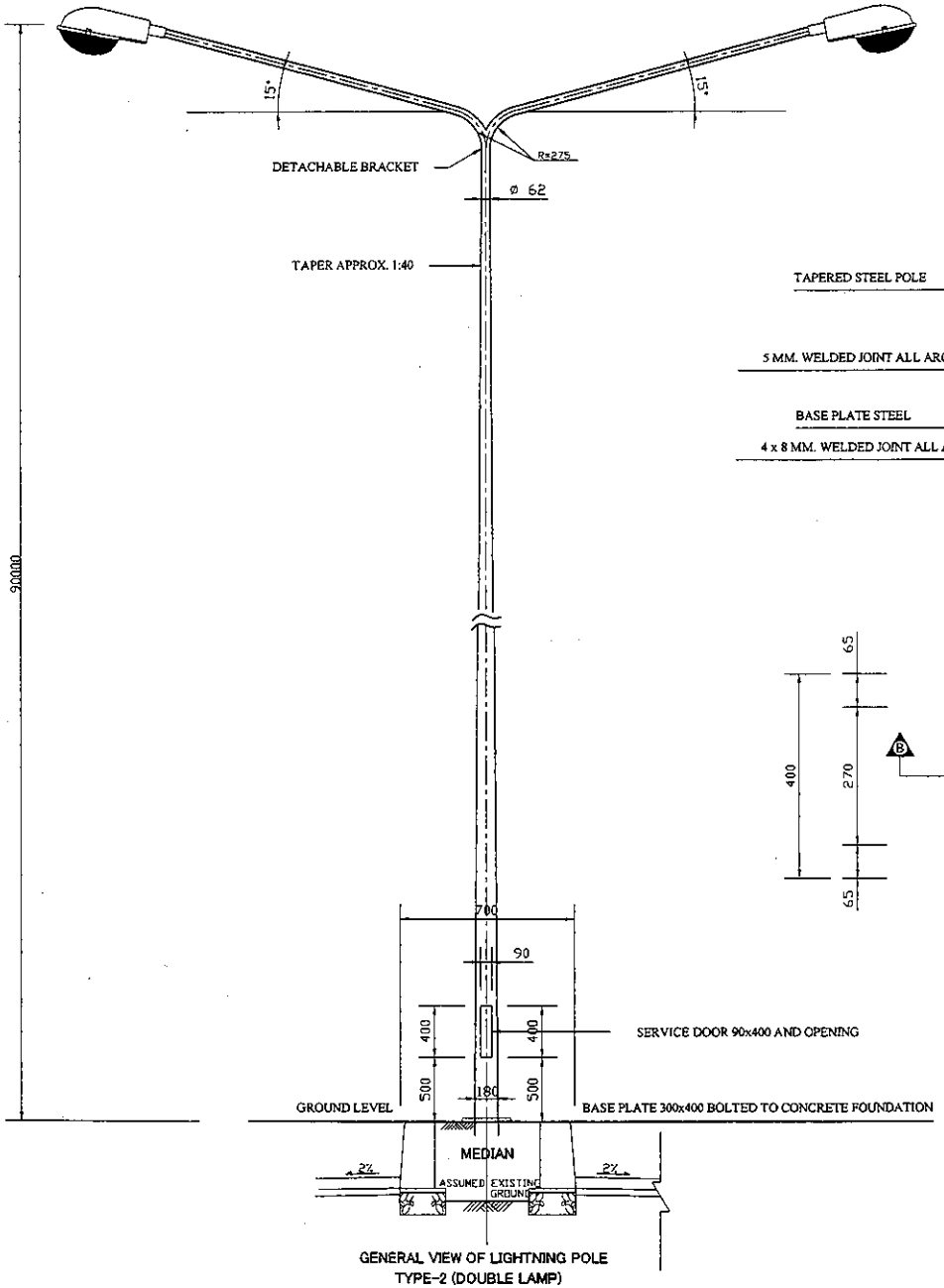


SECTION A-A

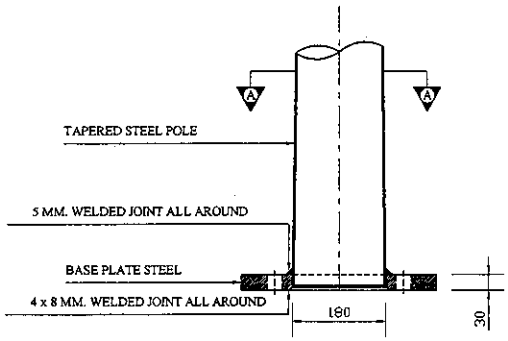


LIGHTING POLE FOUNDATION DETAILS

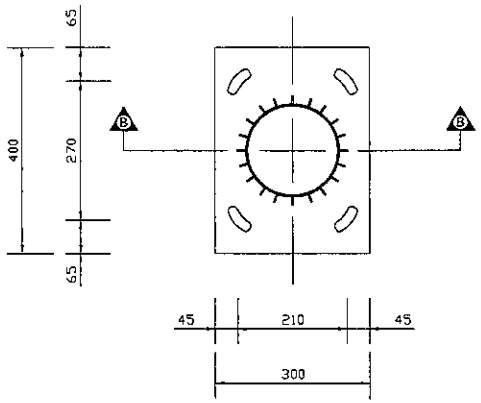
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF STREET LIGHTING SINGLE LAMP	SCALE : As mentioned	DRAWING No: M-22 Rv.



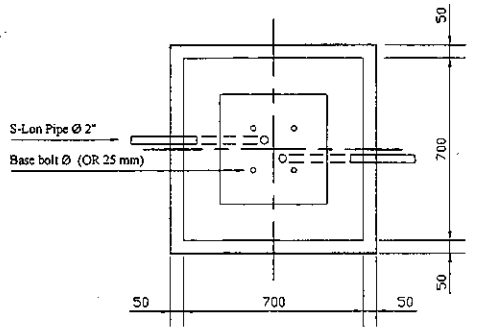
GENERAL VIEW OF LIGHTNING POLE
TYPE-2 (DOUBLE LAMP)

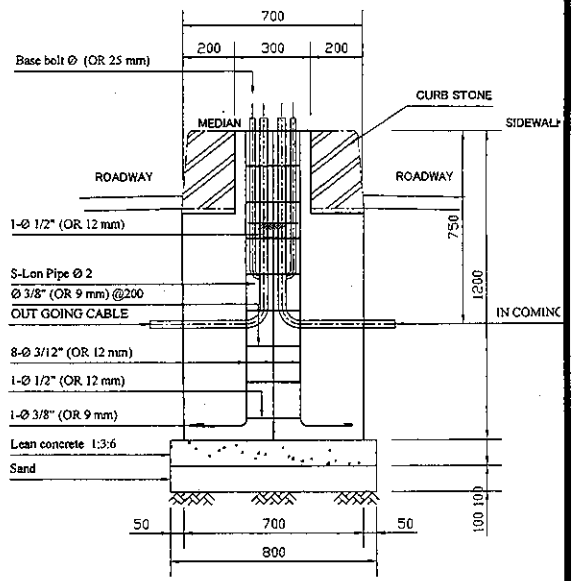


SECTION B-B
SCALE=1:50



SECTION A-A
SCALE=1:50





LIGHTING POLE FOUNDATION DETAILS
SCALE=1:100

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF STREET LIGHTING DOUBLE LAMP	SCALE: As mentioned	DRAWING No: M-23 RV.

SCHEDULED LIST OF STREET LIGHTS (SINGLE LAMP,SIDEWALK INSTALLMENT)

ROAD NO.1 LEFT SIDE			
No.	STATION	No.	STATION
1	1+034	43	2+504
2	1+069	44	2+539
3	1+104	45	2+574
4	1+139	46	2+609
5	1+174	47	2+644
6	1+209	48	2+679
7	1+244	49	2+714
8	1+279	50	2+749
9	1+314	51	2+784
10	1+349	52	2+819
11	1+384	53	2+854
12	1+419	54	2+889
13	1+454	55	2+924
14	1+489	56	2+959
15	1+524	57	2+994
16	1+559	58	3+029
17	1+570	59	3+064
18	1+629	60	3+099
19	1+664	61	3+134
20	1+699	62	3+169
21	1+734	63	3+204
22	1+769	64	3+239
23	1+804	65	3+274
24	1+839	66	3+309
25	1+874	67	3+344
26	1+909	68	3+379
27	1+944	69	3+414
28	1+979	70	3+449
29	2+014	71	3+484
30	2+049	72	3+519
31	2+084	73	3+554
32	2+119	74	3+589
33	2+154	75	3+624
34	2+189	76	3+659
35	2+224	77	3+694
36	2+259	78	3+729
37	2+284	79	3+764
38	2+329	80	3+799
39	2+364	81	3+834
40	2+399	82	3+869
41	2+434	83	3+904
42	2+469	84	3+939

ROAD NO.1 RIGHT SIDE					
No.	STATION	No.	STATION	No.	STATION
1	1+038	64	3+243	127	5+288
2	1+073	65	3+278	128	5+320
3	1+108	66	3+313	129	5+338
4	1+143	67	3+348	130	5+363
5	1+178	68	3+383	131	5+388
6	1+213	69	3+418	132	5+413
7	1+248	70	3+453	133	5+438
8	1+283	71	3+488	134	5+463
9	1+318	72	3+523	135	5+488
10	1+353	73	3+558	136	5+513
11	1+388	74	3+593	137	5+538
12	1+423	75	3+628	138	5+563
13	1+458	76	3+663	139	5+588
14	1+493	77	3+698	140	5+613
15	1+528	78	3+733	141	5+638
16	1+568	79	3+768	142	5+660
17	1+608	80	3+803	143	5+688
18	1+633	81	3+838	144	5+713
19	1+668	82	3+863	145	5+738
20	1+703	83	3+908	146	5+763
21	1+738	84	3+943	147	5+788
22	1+773	85	3+978	148	5+825
23	1+808	86	4+013	149	5+838
24	1+843	87	4+048	150	5+863
25	1+878	88	4+083	151	5+888
26	1+913	89	4+118	152	5+913
27	1+948	90	4+153	153	5+938
28	1+983	91	4+188	154	5+963
29	2+018	92	4+223	155	5+988
30	2+053	93	4+258	156	6+013
31	2+088	94	4+293	157	6+045
32	2+123	95	4+328	158	6+063
33	2+158	96	4+363	159	6+088
34	2+193	97	4+398	160	6+113
35	2+228	98	4+433	161	6+138
36	2+263	99	4+468	162	6+163
37	2+298	100	4+503	163	6+188
38	2+333	101	4+538	164	6+213
39	2+368	102	4+573	165	6+238
40	2+403	103	4+608	166	6+263
41	2+438	104	4+643	167	6+288
42	2+473	105	4+678	168	6+313
43	2+508	106	4+713	169	6+338
44	2+543	107	4+748	170	6+363
45	2+578	108	4+783	171	6+388
46	2+613	109	4+818	172	6+413
47	2+648	110	4+853	173	6+438
48	2+683	111	4+888	174	6+463
49	2+718	112	4+913	175	6+488
50	2+753	113	4+940	176	6+513
51	2+788	114	4+970	177	6+538
52	2+823	115	4+988	178	6+563
53	2+858	116	5+013	179	6+588
54	2+893	117	5+038	180	6+613
55	2+928	118	5+063	181	6+638
56	2+963	119	5+088	182	6+663
57	2+998	120	5+113	183	6+688
58	3+033	121	5+135	184	6+713
59	3+068	122	5+163	185	6+745
60	3+103	123	5+188	186	6+773
61	3+138	124	5+213	187	6+808
62	3+173	125	5+238	188	6+843
63	3+208	126	5+263	189	6+878

ROAD 1A LEFT SIDE			
No.	STATION	No.	STATION
1	0+053	47	1+663
2	0+088	48	1+698
3	0+123	49	1+739
4	0+158	50	1+768
5	0+193	51	1+803
6	0+228	52	1+838
7	0+263	53	1+873
8	0+298	54	1+900
9	0+333	55	1+943
10	0+368	56	1+978
11	0+403	57	2+013
12	0+438	58	2+048
13	0+473	59	2+060
14	0+508	60	2+118
15	0+543	61	2+153
16	0+578	62	2+188
17	0+613	63	2+223
18	0+648	64	2+258
19	0+683	65	2+293
20	0+718	66	2+315
21	0+753	67	2+363
22	0+788	68	2+398
23	0+830	69	2+433
24	0+858	70	2+468
25	0+893	71	2+503
26	0+920	72	2+538
27	0+963	73	2+573
28	0+998	74	2+608
29	1+033	75	2+643
30	1+068	76	2+678
31	1+103	77	2+713
32	1+138	78	2+748
33	1+173	79	2+783
34	1+208	80	2+810
35	1+243	81	2+853
36	1+285	82	2+888
37	1+313	83	2+915
38	1+348	84	2+958
39	1+390	85	2+993
40	1+418	86	3+028
41	1+443	87	3+063
42	1+488	88	3+098
43	1+523	89	3+140
44	1+558	90	3+168
45	1+585	91	3+203
46	1+628	92	

SCHEDULED LIST OF STREET LIGHTS (DOUBLE LAMP,MEDIAN INSTALLMENT)

ROAD NO.1 MEDIAN	
No.	STATION
1	6+913
2	6+948
3	6+983
4	7+018
5	7+053
6	7+088
7	7+123
8	7+258

SCHEDULED LIST OF FOUNDATION ONLY OF STREET LIGHTS

SINGLE LAMP (SIDEWALK INSTALLMENT)

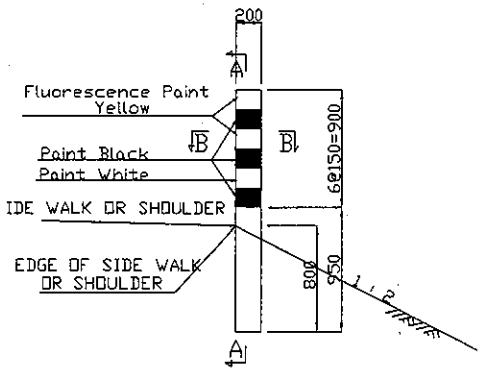
ROAD NO.1 LEFT SIDE	
No.	STATION
1	0-98
2	0-70
3	0-60
4	0-16
5	0+019
6	0+054
7	0+089
8	0+124
9	0+159
10	0+194
11	0+229
12	0+264
13	0+299
14	0+334
15	0+369
16	0+404
17	0+439
18	0+474
19	0+509
20	0+544
21	0+579
22	0+614
23	0+649
24	0+684
25	0+719
26	0+754
27	0+789
28	0+824
29	0+859
30	0+894
31	0+929
32	0+964
33	0+975

ROAD NO.1 RIGHT SIDE	
No.	STATION
1	0-50
2	0-20
3	0+058
4	0+093
5	0+128
6	0+163
7	0+198
8	0+233
9	0+268
10	0+303
11	0+338
12	0+373
13	0+408
14	0+443
15	0+478
16	0+513
17	0+548
18	0+583
19	0+618
20	0+653
21	0+688
22	0+723
23	0+758
24	0+793
25	0+828
26	0+863
27	0+898
28	0+933
29	0+968
30	1+003

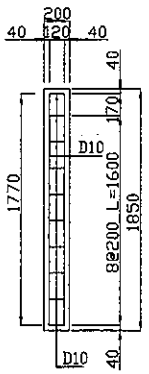
DOUBLE LAMP (MEDIAN INSTALLMENT)

ROAD NO.1 MEDIAN					
No.	STATION	No.	STATION	No.	STATION
1	7+293	48	9+010	95	10+655
2	7+328	49	9+045	96	10+690
3	7+363	50	9+080	97	10+725
4	7+398	51	9+115	98	10+760
5	7+433	52	9+150	99	10+795
6	7+468	53	9+185	100	10+830
7	7+503	54	9+220	101	10+865
8	7+538	55	9+255	102	10+900
9	7+573	56	9+290	103	10+935
10	7+608	57	9+325	104	10+970
11	7+643	58	9+360	105	11+005
12	7+678	59	9+395	106	11+040
13	7+713	60	9+430	107	11+075
14	7+748	61	9+465	108	11+110
15	7+783	62	9+500	109	11+145
16	7+818	63	9+535	110	11+180
17	7+853	64	9+570	111	11+215
18	7+888	65	9+605	112	11+250
19	7+923	66	9+640	113	11+285
20	7+958	67	9+675	114	11+320
21	7+993	68	9+710	115	11+355
22	8+028	69	9+745	116	11+390
23	8+063	70	9+780	117	11+425
24	8+098	71	9+815	118	11+460
25	8+133	72	9+850	119	11+495
26	8+168	73	9+885	120	11+530
27	8+203	74	9+920	121	11+565
28	8+238	75	9+955	122	11+600
29	8+273	76	9+990	123	11+635
30	8+308	77	10+025	124	11+670
31	8+343	78	10+060	125	11+705
32	8+378	79	10+095	126	11+740
33	8+413	80	10+130	127	11+775
34	8+448	81	10+165	128	11+810
35	8+524	82	10+200	129	11+845
36	8+559	83	10+235	130	11+880
37	8+594	84	10+270	131	11+915
38	8+629	85	10+305	132	11+950
39	8+664	86	10+340	133	11+985
40	8+699	87	10+375	134	12+020
41	8+734	88	10+410	135	12+055
42	8+769	89	10+445	136	12+090
43	8+835	90	10+480	137	12+125
44	8+870	91	10+515	138	12+160
45	8+905	92	10+550	139	12+195
46	8+940	93	10+585	140	12+402
47	8+975	94	10+620		

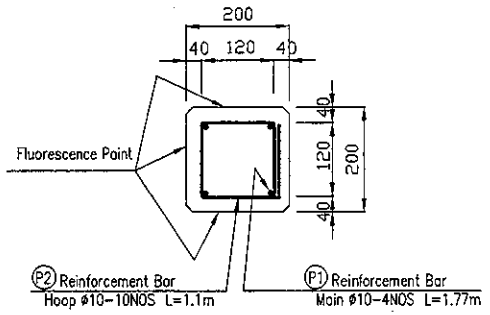
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: SCHEDULED LIST OF SINGLE LAMP	SCALE: As mentioned	DRAWING No: M-24 Rv.



GUIDE POST Scale 1:20



DETAIL A–A Scale 1:20



DETAIL B–B Scale 1:10

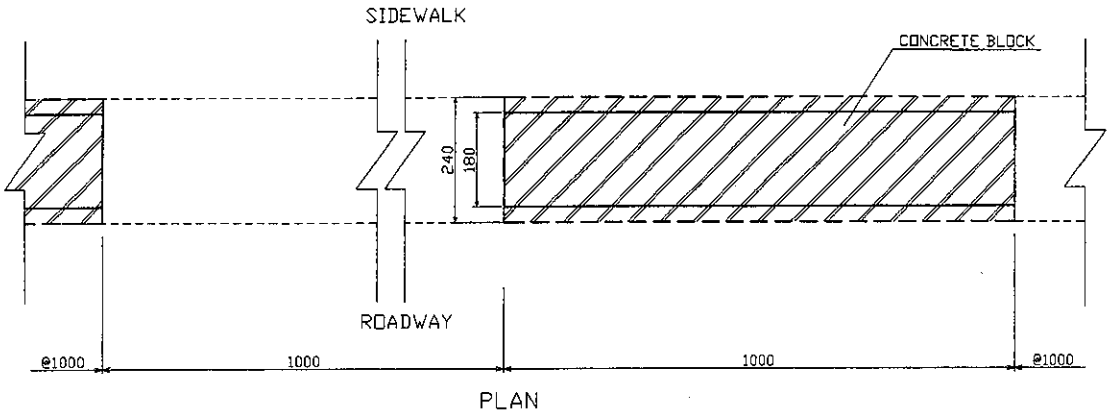
SCHEDULED LIST OF GUIDE POST

LEFT SIDE						
NO.	ROAD No.	STATION START	STATION END	LENGTH (m)	Nos. (5m Pitch)	REMARKS
1	1	4+610	4+630	20	5	Culvert
2	1A	0+805	0+827	22	6	Culvert
3	1	8+505	8+535	30	7	High Embankment
4	1	10+040	10+060	20	5	Canal
5	1	11+420	11+432	12	3	Canal
6	1	12+315	12+390	75	16	Pond
7	1	16+440	16+500	60	13	Creek Section
8	1	18+168	18+207	39	9	Culvert
9	1	18+770	19+200	430	87	Irrigation Creek
10	1	21+170	21+440	270	55	High Embankment

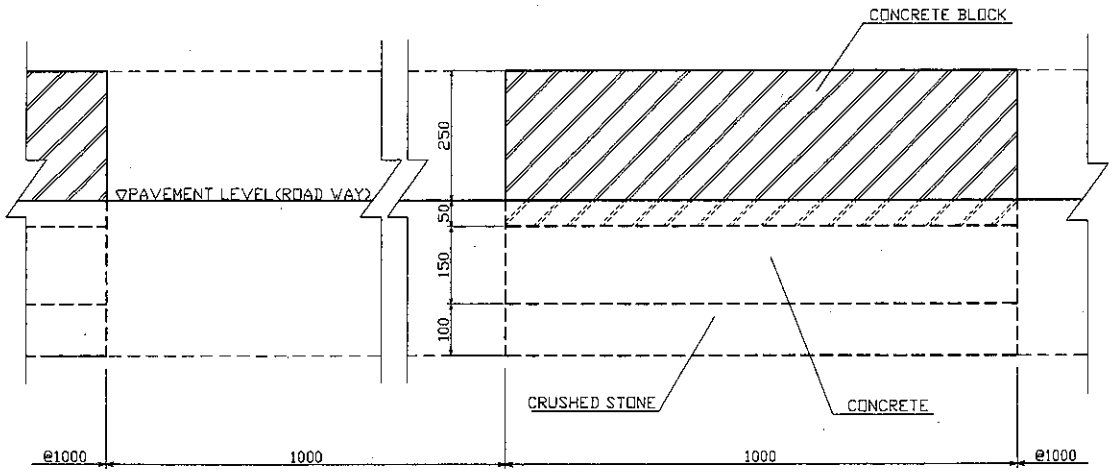
RIGHT SIDE						
NO.	ROAD No.	STATION START	STATION END	LENGTH (m)	Nos. (5m Pitch)	REMARKS
1	1	4+600	4+615	15	4	Culvert
2	1A	0+805	0+827	22	6	Culvert
3	1	8+505	8+535	30	7	High Embankment
4	1	10+040	10+060	20	5	Canal
5	1	11+405	11+420	15	4	Canal
6	1	16+260	16+475	215	44	Creek Section
7	1	17+590	17+620	30	7	Pond
8	1	17+980	18+025	45	10	Acute Curve
9	1	18+040	18+160	120	25	Acute Curve
10	1	18+168	18+187	19	5	Culvert
11	1	18+210	18+396	186	38	Creek Section
12	1	18+600	19+150	550	111	Irrigation Creek
13	1	21+195	21+340	145	30	High Embankment

MARK	DIA-METER	LENGTH (mm)	NO.	WEIGHT/m (kg/m)	WEIGHT/ONE (kg)	WEIGHT	REMARKS
P1	D10	1970	4	0.616	1.214	4.9	
2	〃	600	10	〃	0.370	3.7	
						8.6 kg	

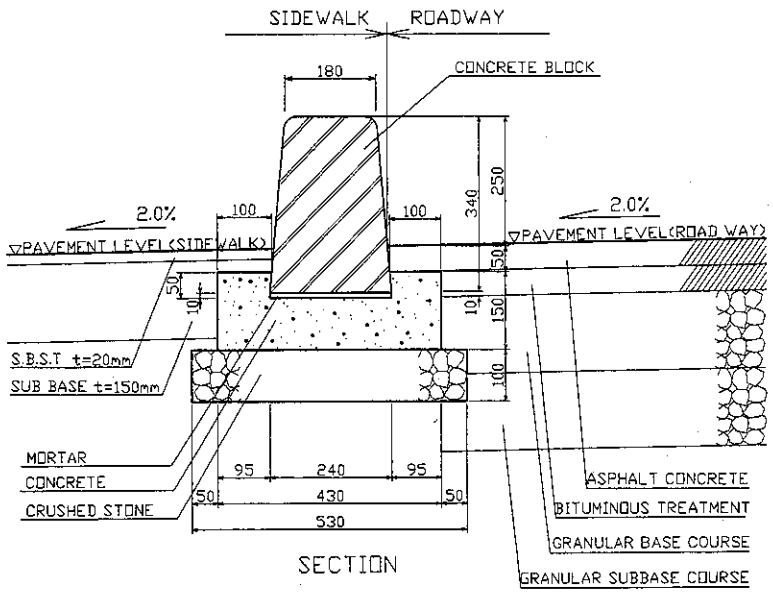
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAILS OF GUIDE POST AND KILOMETER POST	SCALE: AS SHOWN	DRAWING No: M-25 - Rv.



PLAN



FRONT VIEW



SECTION

NOTE : To be installed from Thatkhao Junction (Sta.7+280) to Beerlao (Sta.18+550)

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DETAIL OF CONCRETE CURB	SCALE : 1:10	DRAWING No: M-26 Rv.