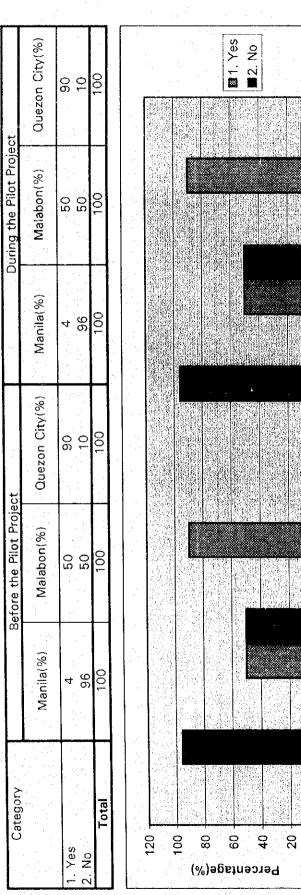
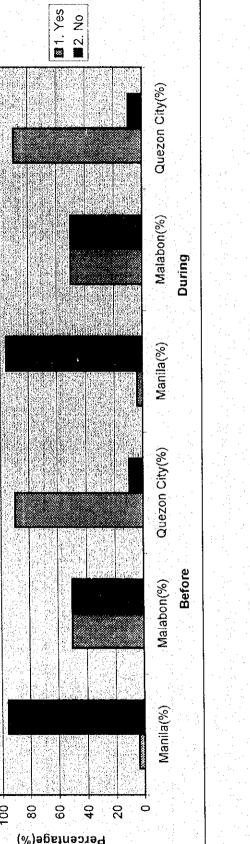
3.1 Do you pay collection fee?





Quezon City(%) D4. Push cart collector 31.25 68.75 000 <u>6</u> 🖻 1. Municipality 13. Association 2. Barangay 5.Other During the Pilot Project Malabon(%) 63.16 29.44 7.4 000 00 Manila(%) 0 0 0 0 0 8 Quezon City(%) 15.55 84.45 100 000 Before the Pilot Project Malabon(%) 44.45 48.15 7.4 0 0 00 Manila(%) 3.3 If yes, to whom do you pay? 4. Push cart collector Category . Municipality 3. Association Total 2. Barangay 20 100 00 4 120 80 5.Other Percentage(%)

Quezon City(%)

Malabon(%)

Manila(%)

Quezon City(%)

Malabon(%) Before

Manila(%)

0

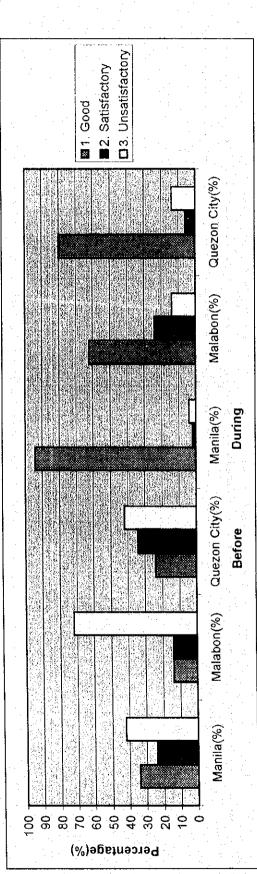
Ű

During

# PUBLIC OPINION SURVEY ON THE IMPROVEMENT FOR COLLECTION SYSTEM(PILOT PROJECT)

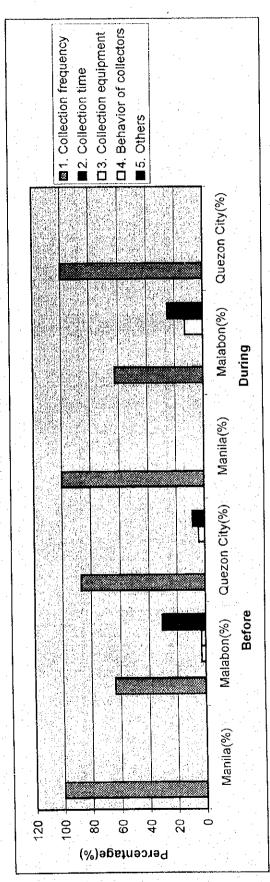
4.1 How do you rate the present waste collection?

Category	8	Before the Pilot Project	ct		During the Pilot Project	ict
	Manila(%)	Malabon(%)	Quezon City(%)	Manila(%)	Matabon(%)	Quezon City(%)
1. Good	34	14	24	94	62	80
2. Satisfactory	24	4	34	2	24	ġ
3. Unsatisfactory	42	72	42	4	14	14
Total	100	100 -	100	100	100	100



morened?	in hi over:
od of of	2
Ş	3
obcor 1	neeus
1	AU <sup>a</sup>
	4.2 If unsatistactory, v
	-
1	N
1	4 2 1

Category		Before the Pilot Project	ct	<b>Ind</b>	During the Pilot Project	tct
	Manila(%)	Malabon(%)	Quezon City(%)	Manila(%)	Malabon(%)	Quezon City(%)
<ol> <li>Collection frequency</li> <li>Collection time</li> <li>Collection equipment</li> <li>Behavior of collector</li> </ol>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63.8 0 2.8 30.6	86.96 0 0 4.34 8.7	0 0 0 0 0	62.5 0 12.5 25	
9. Others Total	100	100	100	100	100	100



4.3 What can you say about the sanitary condition in your community?

	Â.			 
ct	Quezon City(%)	24 40 36 100	<ul> <li>■ 1. Good</li> <li>■ 2. Satisfactory</li> <li>□ 3. Unsatisfactory</li> </ul>	
<b>During the Pilot Project</b>	Malabon(%)	16 18 66 100		
Ğ	Manila(%)	36 30 34 100		
t.	Quezon City(%)	24 40 36 100		
<b>Before the Pilot Project</b>	Malabon(%)	16 66 100		
в	Manila(%)	36 30 34 100		
Category		<ol> <li>Good</li> <li>Satisfactory</li> <li>Unsatisfactory</li> <li>Total</li> </ol>	(%)agetna: 6	9erc

Quezon City(%)

Malabon(%)

Manila(%)

Quezon City(%)

Malabon(%)

Manila(%)

ò

Before

During

4.4 Which of the following do you rate as the most pressing problem in your community?

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m)

March 21,1	199	8	•	
Residentia				
North Bay	1.			
Tondo,Mar	nila	/Le	on	el
3 1				
10	. '			
LN1S	۰.	• .		
02:10:42				
3				
30	1			

First Trip

and provide the	TI	ИE	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Garage						
Dispatch Area	a de la composición d	04:36:58 AM	0			Issuance of trip ticket
01 Station	04:55:54 AM	04:59:40 AM	79	00:03:46	00:18:56	Collecting Garbage
02 Station	04:59:56 AM	05:01:28 AM		00:01:32	00:00:16	Collecting Garbage
03 Station	05:01:54 AM	05:02:43 AM		00:00:49	00:00:26	Collecting Garbage
04 Station	05:02:54 AM	05:06:08 AM		00:03:14	00:00:11	Collecting Garbage
05 Station	05:06:21 AM	05:07:10 AM		00:00:49	00:00:13	Collecting Garbage
06 Station	05:07:31 AM	05:08:51 AM		00:01:20	00:00:21	Collecting Garbage
07 Station	05:09:39 AM	05:09:51 AM		00:00:12	00:00:48	Collecting Garbage
08 Station	05:10:00 AM	05:10:30 AM		00:00:30	00:00:09	Collecting Garbage
09 Station	05:11:26 AM	05:15:29 AM		00:04:03	00:00:56	Collecting Garbage
10 Station	05:17:00 AM	05:17:14 AM		00:00:14	00:01:31	Collecting Garbage
11 Station	05:17:41 AM	05:20:31 AM		00:02:50	00:00:27	Collecting Garbage
12 Station	05:21:32 AM	05:22:35 AM		00:01:03	00:01:01	Collecting Garbage
13 Station	05:22:49 AM	05:23:30 AM		00:00:41	00:00:14	Collecting Garbage
14 Station	05:24:55 AM	05:26:10 AM		00:01:15	00:01:25	Collecting Garbage
15 Station	05:27:27 AM	05:29:04 AM		00:01:37	00:01:17	Collecting Garbage
16 Station	05:29:27 AM	05:30:24 AM		00:00:57	00:00:23	Collecting Garbage
17 Station	05:30:42 AM	05:35:32 AM		00:04:50	00:00:18	Collecting Garbage
18 Station	05:35:50 AM	05:38:14 AM		00:02:24	00:00:18	Collecting Garbage
19 Station	05:38:35 AM	05:39:38 AM		00:01:03	00:00:21	Collecting Garbage
20 Station	05:39:58 AM	05:44:11 AM		00:04:13	00:00:20	Collecting Garbage
21 Station	05:45:01 AM	05:45:21 AM		00:00:20	00:00:50	Collecting Garbage
22 Station	05:45:48 AM	05:46:59 AM		00:01:11	00:00:27	Collecting Garbage
23 Station	05:47:54 AM	05:56:38 AM		00:08:44	00:00:55	Collecting Garbage
24 Station	05:57:43 AM	05:58:06 AM		00:00:23	00:01:05	Collecting Garbage
25 Station	05:58:50 AM	05:59:21 AM		00:00:31	00:00:44	Collecting Garbage
26 Station	06:00:28 AM	06:00:50 AM		00:00:22	00:01:07	Collecting Garbage
27 Station	06:01:10 AM	06:01:33 AM		00:00:23	00:00:20	Collecting Garbage
28 Station	06:02:10 AM	06:07:00 AM		00:04:50	00:00:37	Collecting Garbage
29 Station	06:07:32 AM	06:07:53 AM		00:00:21	00:00:32	Collecting Garbage
30 Station	06:09:30 AM	06:30:00 AM		00:20:30	00:01:37	Collecting Garbage
Transfer Station	06:42:26 AM	06:45:26 AM	16.3	00:03:00	00:12:26	Checking/Dumping permit
Dumping	06:47:11 AM	06:47:40 AM	16.32	00:00:29	00:01:45	Unloading

Type Of Waste Collection Area City/MunIcipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 21,1998 Residential Barangay 150 Zone 13 Tondo,Manila/Leonel 3 10 LN1S 01:32:19 3 30

Second Trip	TI	NE	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Transfer Station	e seren en el el composition de la comp	06:47:40 AM	0			
01 Station	07:01:01 AM	07:10:16 AM	1.8	00:09:15	00:13:21	Collecting Garbage
02 Station	07:10:54 AM	07:11:42 AM		00:00:48	00:00:38	Collecting Garbage
03 Station	07:12:01 AM	07:14:35 AM		00:02:34	00:00:19	Collecting Garbage
Station	07:16:00 AM	07:16:55 AM		00:00:55	00:01:25	Collecting Garbage
05 Station	07:16:59 AM	07:18:16 AM	gen i en <sup>en</sup> ser se	00:01:17	00:00:04	Collecting Garbage
06 Station	07:18:40 AM	07:19:24 AM		00:00:44	00:00:24	Collecting Garbage
07 Station	07:19:31 AM	07:21:11 AM		00:01:40	00:00:07	Collecting Garbage
08 Station	07:22:35 AM	07:23:02 AM		00:00:27	00:01:24	Collecting Garbage
09 Station	07:23:22 AM	07:28:30 AM		00:05:08	00:00:20	Collecting Garbage
10 Station	07:29:02 AM	07:29:36 AM		00:00:34	00:00:32	Collecting Garbage
11 Station	07:30:30 AM	07:30:48 AM		00:00:18	00:00:54	Collecting Garbage
12 Station	07:31:02 AM	07:32:11 AM		00:01:09	00:00:14	Collecting Garbage
13 Station	07:32:22 AM	07:33:07 AM		00:00:45	00:00:11	Collecting Garbage
14 Station	07:33:24 AM	07:33:40 AM	the training	00:00:16	00:00:17	Collecting Garbage
15 Station	07:34:00 AM	07:35:33 AM		00:01:33	00:00:20	Collecting Garbage
16 Station	07:35.41 AM	07:36:12 AM		00:00:31	00:00:08	Collecting Garbage
17 Station	07:38:11 AM	07:40:48 AM		00:02:37	00:01:59	Collecting Garbage
18 Station	07:41:34 AM	07:42:06 AM	The second second	00:00:32	00:00:46	Collecting Garbage
19 Station	07:43:16 AM	07:43:31 AM	a Ara	00:00:15	00:01:10	Collecting Garbage
20 Station	07:43:40 AM	08:03:28 AM		00:19:48	00:00:09	Collecting Garbage
Transfer Station	08:15:12 AM	08:19:53 AM	4.2	00:04:41	00:11:44	Checking/Dumping permit
mping	08:19:59 AM	08:21:48 AM	4.22	00:01:49	00:00:06	Unloading

Type Of Waste **Collection Area** City/Municipality or Private Contractor Crew(including Driver) Lording Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m)

March 21,1998 Residential Barangay 182 Zone 16 Tondo, Manila/Leonel 3 10 LN1S 4:13:13 3 30

Third	Trin
Ihird	I rip

Third Trip	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			No anti-Alia	
	TI	ME	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
					a sa ka 11 ku	
Transfer Station		8:21:48 AM	0			
01 Station	8:47:01 AM	9:07:17 AM	6.4	0:20:16	0:25:13	Collecting Garbage
02 Station	9:10:40 AM	9:33:58 AM	6.65	0:23:18	0:03:23	Collecting Garbage
Transfer Station	10:12:46 AM	10:13:54 AM	9.43	0:01:08	0:38:48	Checking/Dumping permit
Dumping	10:15:22 AM	10:18:19 AM	9.45	0:02:57	0:01:28	Unloading
Dispatch Area	12:35:01 PM		15.57		2:16:42	Garage

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 09,1998 Residential Kalayaan B Quezon City/Trans Star 4 8 UMG 491 Vehicle No. 787 01:45:24 4 32

	TI	ЛЕ	Odometer	Collection	Trip Time to	
	Arrivat	Departure	(Km)	Time	Next Station	Activities
Barage						
Dispatch Area		06:20:55 AM	0		~	Issuance of Trip ticket
01 Station	06:22:29 AM	06:24:00 AM	0.05	00:01:31	00:01:34	Collecting Garbage
02 Station	06:24:12 AM	06:26:13 AM		00:02:01	00:00:12	Collecting Garbage
Station	06:26:21 AM	06:28:29 AM		00:02:08	00:00:08	Collecting Garbage
04 Station	06:28:37 AM	06:29:38 AM		00:01:01	00:00:08	Collecting Garbage
05 Station	06:29:45 AM	06:31:17 AM		00:01:32	00:00:07	Collecting Garbage
06 Station	06:31:26 AM	06:32:21 AM		00:00:55	00:00:09	Collecting Garbage
07 Station	06:32:26 AM	06:32:51 AM		00:00:25	00:00:05	Collecting Garbage
08 Station	06:32:57 AM	06:34:27 AM		00:01:30	00:00:06	Collecting Garbage
09 Station	06:34:32 AM	06:35:51 AM		00:01:19	00:00:05	Collecting Garbage
10 Station	06:35:57 AM	06:36:19 AM		00:00:22	00:00:06	Collecting Garbage
11 Station	06:36:24 AM	06:37:32 AM		00:01:08	00:00:05	Collecting Garbage
12 Station	06:37:39 AM	06:38:10 AM		00:00:31	00:00:07	Collecting Garbage
13 Station	06:38:19 AM	06:39:24 AM		00:01:05	00:00:09	Collecting Garbage
14 Station	06:39:30 AM	06:40:49 AM		00:01:19	00:00:06	Collecting Garbage
15 Station	06:40:58 AM	06:42:03 AM		00:01:05	00:00:09	Collecting Garbage
16 Station	06:42:20 AM	06:43:36 AM		00:01:16	00:00:17	Collecting Garbage
17 Station	06:43:42 AM	06:44:08 AM		00:00:26	00:00:06	Collecting Garbage
18 Station	06:44:14 AM	06:50:53 AM	0.21	00:06:39	00:00:06	Collecting Garbage/Full load
Dispatch Area	06:55:20 AM	07:00:00 AM	0.65	00:04:40	00:04:27	Check volume
Controller	07:08:24 AM	07:08:35 AM	2.6	00:00:11	00:08:24	Issuance of dumping permit
Sk Force/SMILE	07:17:20 AM	07:18:10 AM	4.78	00:00:50	00:08:45	Approval of loading capacity
k Shop	07:20:52 AM	07:22:52 AM	5.1	00:02:00	00:02:42	Selling of recyclable items
Dumping Site	07:23:59 AM	07:27:13 AM	5.25	00:03:14	00:01:07	Unloading of garbage
Canteen	07:32:38 AM	07:51:25 AM	6.78	00:18:47	00:05:25	Breakfast/Rest
Dispatch Area	08:06:19 AM	i te see	11.7			Issuance of trip ticket

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 09,1998 Residential Kalayaan B Quezon City/Trans Star 4 8 UMG 491 Vehicle No. 787 01:32:26 4 32

### Second Trip

	in a second at a TI	ME	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Garage	والمشاهر والمعا					
Dispatch Area		08:13:37 AM	0		an an an an	
01 Station	08:13:45 AM	08:14:10 AM		00:00:25	00:00:08	Collecting Garbage
02 Station	08:14:23 AM	08:17:15 AM		00:02:52	00:00:13	Collecting Garbage
03 Station	08:17:30 AM	08:33:07 AM		00:15:37	00:00:15	Collecting Garbage
04 Station	08:33:12 AM	08:33:51 AM		00:00:39	00:00:05	Collecting Garbage
05 Station	08:33:59 AM	08:34:51 AM		00:00:52	00:00:08	Collecting Garbage
06 Station	08:35:46 AM	08:39:34 AM		00:03:48	00:00:55	Collecting Garbage
07 Station	08:40:01 AM	08:45:49 AM		00:05:48	00:00:27	Collecting Garbage
08 Station	08:46:04 AM	08:49:59 AM	0.48	00:03:55	00:00:15	Collecting Garbage/Full load
Dispatch Area	08:54:59 AM	09:00:24 AM	1.05	00:05:25	00:05:00	Issuance of trip ticket
Controller	09:11:05 AM	09:11:43 AM	3.2	00:00:38	00:10:41	Issuance of dumping permit
Task Force/SMILE	09:17:15 AM	09:17:20 AM	5.15	00:00:05	00:05:32	Approval of loading capacity
Junk Shop	09:19:50 AM	09:20:56 AM	5.39	00:01:06	00:02:30	Selling of recyclable items
Dumping Site	09:22:23 AM	09:23:13 AM	5.54	00:00:50	00:01:27	Unloading of garbage
Vulcanizing Shop	09:27:23 AM	09:29:38 AM	5.84	00:02:15	00:04:10	Air pressure test
Dispatch Area	09:46:03 AM		11.18			Issuance of trip ticket

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 09,1998 Residential Kalayaan B Quezon City/Trans Star 4 8 UMG 491 Vehicle No. 787 01:29:45 4 32

	TI	ME .	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Garage						
Dispatch Area		09:51:37 AM	0			
01 Station	09:54:53 AM	09;56:06 AM	0.45	00:01:13	00:03:16	Collecting Garbage
02 Station	09:56:26 AM	09:56:43 AM		00:00:17	00:00:20	Collecting Garbage
03 Station	09:56:56 AM	09:57:27 AM		00:00:31	00:00:13	Collecting Garbage
Station	09:57:52 AM	10:05:15 AM		00:07:23	00:00:25	Collecting Garbage
05 Station	10:06:05 AM	10:11:11 AM		00:05:06	00:00:50	Collecting Garbage
06 Station	10:11:49 AM	10:21:17 AM		00:09:28	00:00:38	Collecting Garbage/Full load
Dispatch Area	10:26:07 AM	10:34:44 AM	1.24	00:08:37	00:04:50	Issuance of call card
Controller	10:43:28 AM	10:43:40 AM	3.4	00:00:12	00:08:44	Issuance of dumping permit
Task Force/SMILE	10:48:40 AM	10:49:10 AM	5.29	00:00:30	00:05:00	Approval of loading capacity
Junk Shop	10:51:26 AM	10:52:40 AM	5.55	00:01:14	00:02:16	Selling of recyclable items
Dumping Site	10:53:48 AM	10:55:19 AM	5.7	00:01:31	00:01:08	Unloading of garbage
Dispatch Area	11:21:22 AM		11.4			Issuance of trip ticket/Lunch time
Dispaton Aloa	11					

# Third Trip

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 09,1998 Residential Kalayaan B Quezon City/Trans Star 4 8 UMG 491 Vehicle No. 787 01:21:54 4 32

and the second	TIME of the set		Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Garage						and the state of the state of the
Dispatch Area		12:00:05 PM	0			
01 Station	12:19:05 PM	12:19:56 PM	0.51	00:00:51	00:19:00	Collecting Garbage
02 Station	12:22:04 PM	12:22:09 PM	1.19 C	00:00:05	00:02:08	Collecting Garbage
03 Station	12:22:40 PM	12:23:00 PM		00:00:20	00:00:31	Collecting Garbage
04 Station	12:23:27 PM	12:25:23 PM		00:01:56	00:00:27	Collecting Garbage
05 Station	12:27:22 PM	12:27:30 PM		00:00:08	00:01:59	Collecting Garbage
06 Station	12:28:05 PM	12:28:19 PM		00:00:14	00:00:35	Collecting Garbage
07 Station	12:29:00 PM	12:29:09 PM		00:00:09	00:00:41	Collecting Garbage
08 Station	12:29:32 PM	12:29:52 PM		00:00:20	00:00:23	Collecting Garbage
09 Station	12:30:10 PM	12:30:39 PM		00:00:29	00:00:18	Collecting Garbage
0 Station	12:31:12 PM	12:31:21 PM		00:00:09	00:00:33	Collecting Garbage
11 Station	12:34:57 PM	12:35:15 PM		00:00:18	00:03:36	Collecting Garbage
12 Station	12:36:46 PM	12:37:24 PM		00:00:38	00:01:31	Collecting Garbage
13 Station	12:37:50 PM	12:39:16 PM	a a star a g	00:01:26	00:00:26	Collecting Garbage
14 Station	12:40:11 PM	12:41:07 PM		00:00:56	00:00:55	Collecting Garbage
15 Station	12:42:10 PM	12:42:43 PM		00:00:33	00:01:03	Collecting Garbage
16 Station	12:43:16 PM	12:43:30 PM		00:00:14	00:00:33	Collecting Garbage
17 Station	12:45:16 PM	12:45:29 PM	1	00:00:13	00:01:46	Collecting Garbage
18 Station	12:45:51 PM	12:46:36 PM		00:00:45	00:00:22	Collecting Garbage/Full load
Dispatch Area	12:54:31 PM	01:01:21 PM	1.75	00:06:50	00:07:55	Issuance of call card
Controller	01:09:09 PM	01:09:56 PM	3.9	00:00:47	00:07:48	Issuance of dumping permit
Task Force/SMILE	01:16:04 PM	01:16:12 PM	5.82	00:00:08	00:06:08	Approval of loading capacity
Junk Shop	01:18:25 PM	01:19:38 PM	6.08	00:01:13	00:02:13	Selling of recyclable items
Dumping Site	01:21:12 PM	01:21:59 PM	6.23	00:00:47	00:01:34	Unloading of garbage
						End collection/Cleaning Time
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		

Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m)

March 25, 1998
Residential
Kalayaan A
Quezon City/Trans Star
5
<b>3</b>
JPE 658 No.777
01:39:54
3
24

# First Trip

	TI	ME .	Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Garage						
Dispatch Area		06:29:01 AM	0			Issuance of trip ticket
01 Station	06:29:28 AM	06:36:50 AM		00:07:22	00:00:27	Collecting Garbage
02 Station	06:37:00 AM	06:37:40 AM		00:00:40	00:00:10	Collecting Garbage
3 Station	06:37:48 AM	06:39:52 AM		00:02:04	00:00:08	Collecting Garbage
4 Station	06:40:11 AM	06:41:43 AM		00:01:32	00:00:19	Collecting Garbage
05 Station	06:41:45 AM	06:42:43 AM		00:00:58	00:00:02	Collecting Garbage
06 Station	06:43:11 AM	06:43:23 AM		00:00:12	00:00:28	Collecting Garbage
07 Station	06:44:00 AM	06:44:12 AM		00:00:12	00:00:37	Collecting Garbage
08 Station	06:45:26 AM	06:45:39 AM	the second second	00:00:13	00:01:14	Collecting Garbage
09 Station	06:46:33 AM	06:46:40 AM		00:00:07	00:00:54	Collecting Garbage
10 Station	06:46:44 AM	06:49:00 AM		00:02:16	00:00:04	Collecting Garbage
11 Station	06:49:23 AM	06:55:37 AM		00:06:14	00:00:23	Collecting Garbage
Carinderia	07:02:32 AM	07:19:01 AM		00:16:29	00:06:55	Breakfast
Dispatch Area	07:23:51 AM	07:26:10 AM	4.33	00:02:19	00:04:50	Check volume
Controller	07:33:01 AM	07:33:10 AM	6.28	00:00:09	00:06:51	Issuance of dumping permit
Task Force/SMILE	07:40:48 AM	07:40:52 AM	6.59	00:00:04	00:07:38	Approval of loading capacity
Dumping Site	07:42:40 AM	07:42:50 AM	6.84	00:00:10	00:01:48	Dumping slip
Junk Shop	07:43:26 AM	07:44:40 AM	6.91	00:01:14	00:02:34	Selling of recyclable items
Dumping	07:46:35 AM	07:47:11 AM	7.21	00:00:36	00:01:55	Unloading of garbage
Dispatch Area	08:08:55 AM		12.78			Issuance of trip ticket
				and the second		



Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) March 25,1998 Residential Kalayaan B and Kalayan C Ext. Quezon City/Trans Star 5 8 UPE 658 No.777 01:44:03 3 24

Second Trip

	TIME		Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
Sarage						
)ispatch Area		08:11:24 AM	0			Issuance of trip ticket
01 Station	08:17:40 AM	08:22:07 AM		00:04:27	00:06:16	Collecting Garbage
02 Station	08:24:10 AM	08:24:40 AM		00:00:30	00:02:03	Collecting Garbage
03 Station	08:26:06 AM	08:27:02 AM		00:00:56	00:01:26	Collecting Garbage
04 Station	08:28:11 AM	08:29:28 AM		00:01:17	00:01:09	Collecting Garbage
05 Station	08:30:30 AM	08:31:53 AM	a da antes Alta da Antes da Carta	00:01:23	00:01:02	Collecting Garbage
06 Station	08:32:11 AM	08:33:11 AM		00:01:00	00:00:18	Collecting Garbage
07 Station	08:34:17 AM	08:35:15 AM		00:00:58	00:01:06	Collecting Garbage
08 Station	08:37:28 AM	08:46:28 AM		00:09:00	00:02:13	Collecting Garbage
09 Station	08:48:32 AM	08:49:09 AM	and the second second	00:00:37	00:02:04	Collecting Garbage
10 Station	08:49:38 AM	08:50:19 AM		00:00:41	00:00:29	Collecting Garbage
11 Station	08:50:39 AM	08:52:33 AM		00:01:54	00:00:20	Collecting Garbage
12 Station	08:53:18 AM	08:53:49 AM		00:00:31	00:00:45	Collecting Garbage
13 Station	08:54:20 AM	09:01:18 AM		00:06:58	00:00:31	Collecting Garbage
Dispatch Area	09:06:28 AM	09:09:51 AM	1.22	00:03:23	00:05:10	Check volume
Controller	09:17:40 AM	09:17:54 AM	3.42	00:00:14	00:07:49	Issuance of dumping permit
Task Force/SMILE	09:25:32 AM	09:25:48 AM	3.73	00:00:16	00:07:38	Approval of loading capacity
Dumping Site	09:26:23 AM	09:26:28 AM	4.04	00:00:05	00:00:35	Dumping slip
Junk Shop	09:27:38 AM	09:28:34 AM	4.12	00:00:56	00:01:50	Selling of recyclable items
Dumping	09:31:08 AM	09:31:41 AM	4.32	00:00:33	00:02:34	Unloading of garbage
Dispatch Area	09:55:27 AM		25.1		00:23:46	Issuance of trip ticket
				1		

Type Of Waste **Collection Area** City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m)

March 25,1998		·			
Residential					
Collection Bay ( IBP	ROAD	)&E	Bgy.Ba	itasar	h Hill
Quezon City/Trans 8	Star				
5		1	•	· .	. •
8		÷			
UPE 658 No.777					
02:03:10			$\{ e_{i}, e_{i} \}$	3	÷
3	1	1.1	1. N	1.1.1	
24	· · ·				

Third	Trip

	TIME		Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
arage	in the second second					
ispatch Area		09:58:02 AM	0.0		and the second second	Issuance of trip ticket
01 Station	10:04:33 AM	10:40:01 AM	1 · · · · ·	00:35:28	00:06:31	Collecting Garbage at
						Collection bay ( IBP road)
12 Station	10:50:23 AM	10:52:48 AM		00:02:25	00:10:22	Collecting Garbage
Station	10:53:01 AM	10:55:53 AM		00:02:52	00:00:13	Collecting Garbage
04 Station	10:56:01 AM	10:56:56 AM		00:00:55	00:00:08	Collecting Garbage
Dispatch Area	11:03:05 AM	11:07:00 AM	6.1	00:03:55	00:06:09	Check volume
Controller	11:16:23 AM	11:16:30 AM	8.05	00:00:07	00:09:23	Issuance of dumping permit
ask Force/SMILE	11:25:55 AM	11:25:59 AM	8.35	00:00:04	00:09:25	Approval of loading capacity
Dumping Site	11:27:25 AM	11:27:32 AM	8.7	00:00:07	00:01:26	Dumping slip
Junk Shop	11:28:12 AM	11:29:05 AM	8.08	00:00:53	00:02:13	Selling of recyclable items
Dumping	11:31:59 AM	11.32:31 AM	8.38	00:00:32	00:02:54	Unloading of garbage
Dispatch Area	12:01:12 PM		13.95		00:28:41	Garage
Jopaton / nou						
			e da entra de			
						and the second second second
			an el el terre			
		1		$(x,y) \in \mathcal{X}^{n-1}$		
<b>.</b>	-					
					and the second second	
			<b></b>	1		

Date Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m)

Vehicle No. (Year of Fabrication) Working Hours Number of Trips

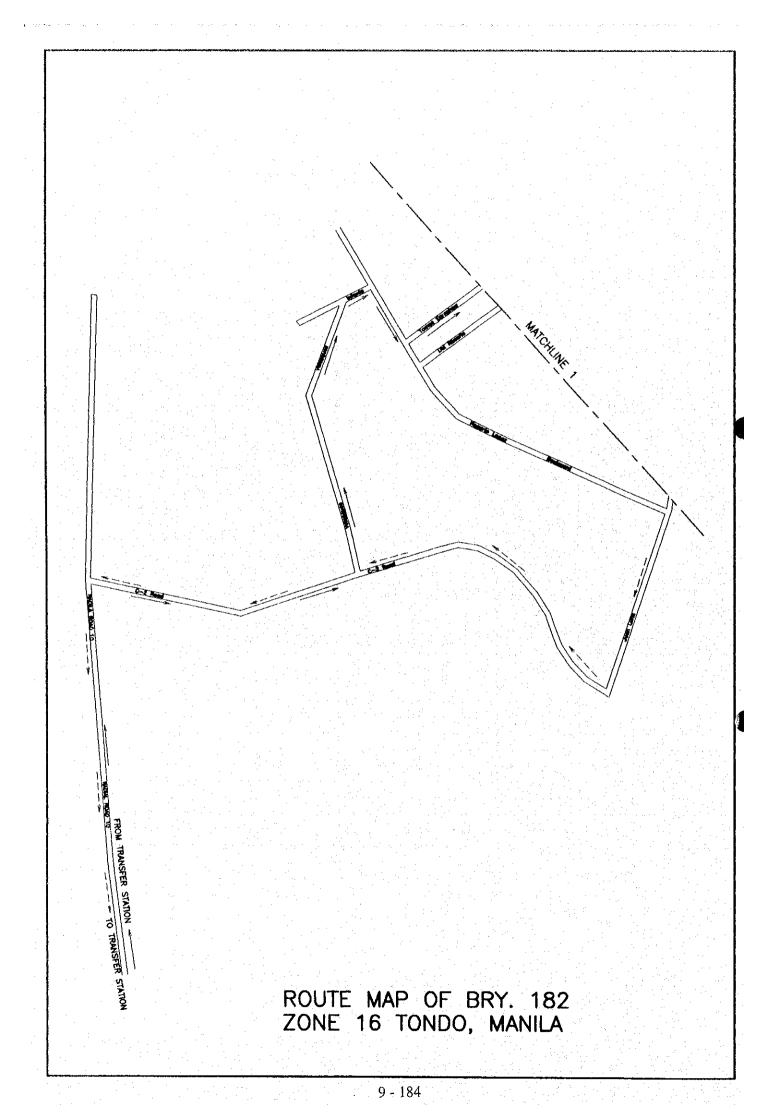
Collected Waste Volume (cu.m) Number of collection pt.

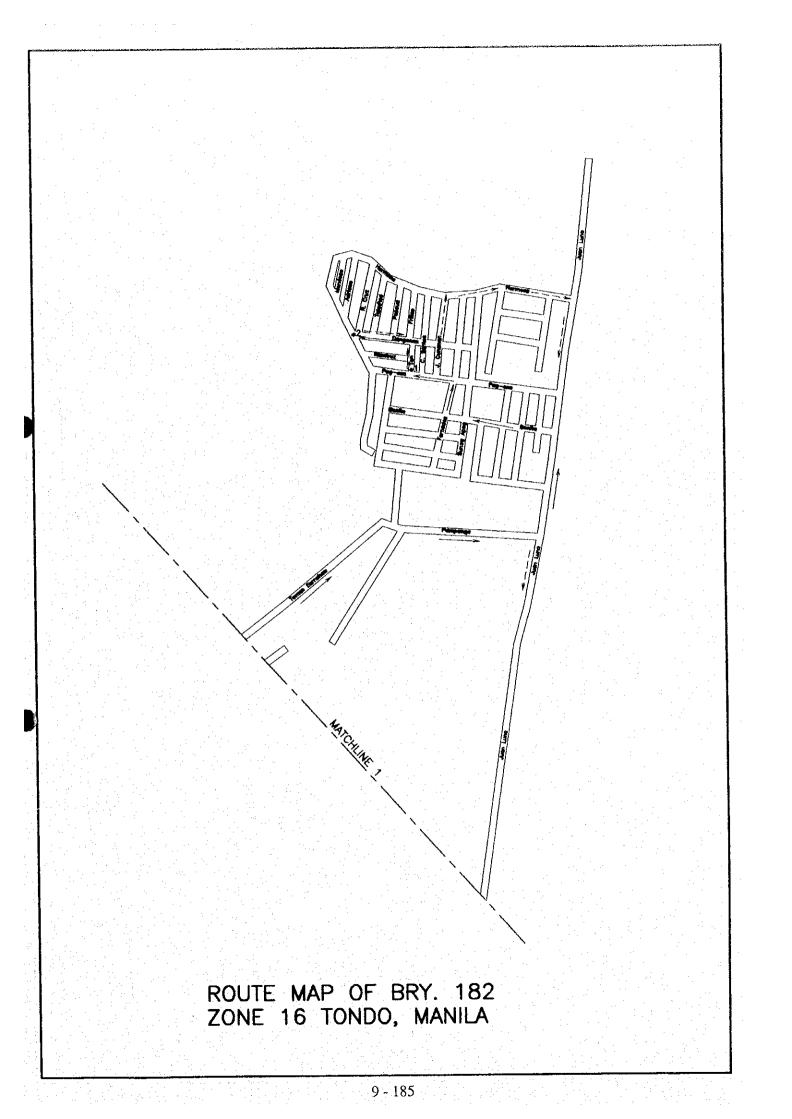
March 12,1998
Residential
Bayan,Bayanan
Malabon, Metro Manila
4
8
V-20 SEU 281
4:33:23
3
24
A

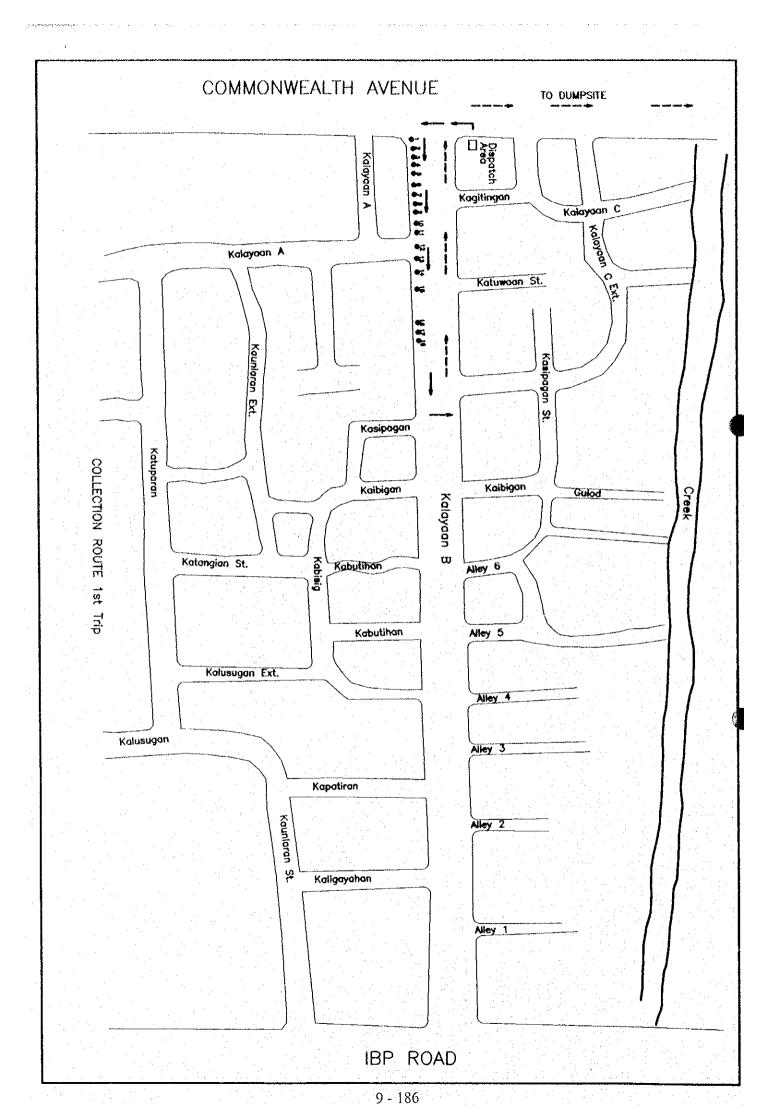
	TIME		Odometer	Collection	Trip Time to	
	Arrival	Departure	(Km)	Time	Next Station	Activities
First Trip						
Dispatch Area		12:17:40 AM	0.00			Issuance of trip ticket
01 Station	12:28:30 AM	1:05:45 AM	2.79	0:37:15	0:10:50	Collecting garbage
Dispatch Area	1:15:55 AM	1:16:01 AM	5.63	0:00:06	0:10:10	Check volume /Dumping permit
Dumping Area	1:17:10 AM	1:28:15 AM	5.83	0:11:05	0:01:09	Waiting to unload
Dumping Point	1:28:38 AM	1:30:35 AM	5.89	0:01:57	0:00:23	Unloading of garbage
Dispatch Area	1:35:00 AM		6.15	i a a companya	0:04:25	Issuance of trip ticket
				in the second second		
Second Trip					dependent of the	
Dispatch Area		1.35:30 AM	0.00			Issuance of trip ticket
01 Station	1:42:50 AM	2:07:28 AM	2.70	0:24:38	0:07:20	Collecting garbage
02 Station	2:07:42 AM	2:08:10 AM	2.90	0:00:28	0:00:14	Collecting garbage
03 Station	2:09:00 AM	2:30:20 AM	3.05	0:21:20	0:00:50	Collecting garbage
04 Station	2:34:10 AM	2:44:45 AM	3.40	0:10:35	0:03:50	Collecting garbage
Dispatch Area	2:52:02 AM	2:52:15 AM	6.80	0:00:13	0:07:17	Check volume /Dumping permit
Dumping Area	2:52:48 AM	3:00:54 AM	7.00	0:08:06	0:00:33	Waiting to unload
Dumping Point	3:01:03 AM	3:01:21 AM	7.02	0:00:18	0:00:09	Unloading of garbage
Dispatch Area	3:05:01 AM		7.28	$\Phi_{i,j} = E_{i,j} + E_{i,j} + E_{i,j}$	0:03:40	Issuance of trip ticket
Third trip						
Dispatch Area		3:06:10 AM	0.00			Issuance of trip ticket
01 Station	3:13:13 AM	4:29:30 AM	3.37	1:16:17	0:07:03	Collecting garbage
Dispatch Area	4:43:14 AM	4:44:05 AM	6.80	0:00:51	0:13:44	Check volume /Dumping permit
Dumping Area	4:45:00 AM	4:47:11 AM	7.01	0:02:11	0:00:55	Waiting to unload
Dumping Point	4:47:20 AM	4:49:13 AM	7.05	0:01:53	0:00:09	Unloading of garbage
Dispatch Area	4:51:03 AM		7.30		0:01:50	Garage
				2		
1			1			

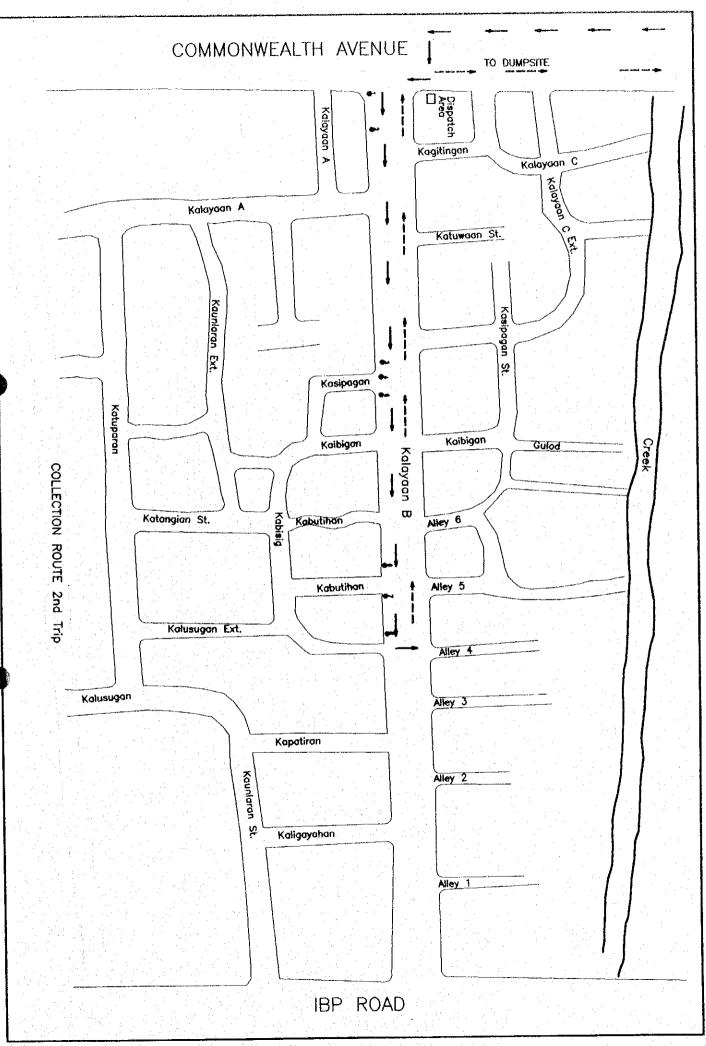
Date Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) Number of collection pt. March 20,1998 Residential Bayan,Bayanan Malabon, Metro Manila 4 8 V-70 2:51:18 2 16 4

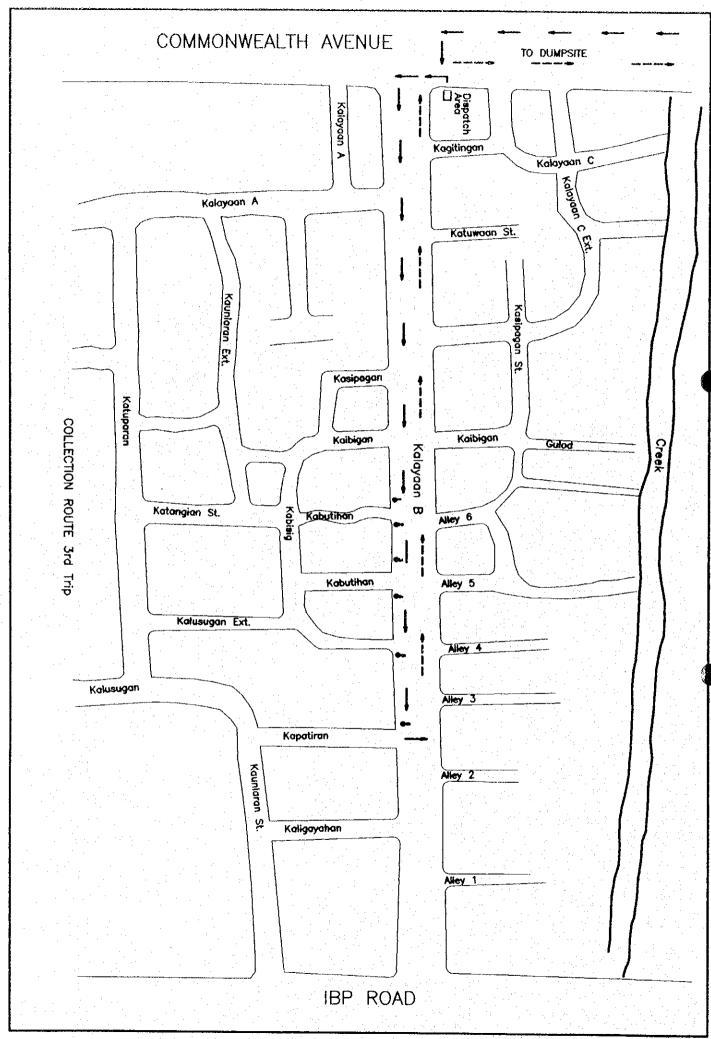
	TI	ME	Odometer (Km)	Collection Time	Trip Time to	Activities
Arrival	Arrival	Departure			Next Station	
First Trip						
Dispatch Area		12:23:29 AM	0.00			Issuance of trip ticket
01 Station	12:33:09 AM	1:24:14 AM	2.81	0:51:05	0:09:40	Collecting garbage
atch Area	1.34:37 AM	1:35:08 AM	5.71	0:00:31	0:10:23	Check volume /Dumping permit
Amping Area	1:37:40 AM	1:37:49 AM	5,91	0:00:09	0:02:32	Waiting to unload
oumping	1:37:56 AM	1:38:26 AM	5.97	0:00:30	0:00:07	Unloading of garbage
ispatch Area	1:40:26 AM		6.23		0:02:00	Issuance of trip ticket
		an di para si	and the second			
Second Trip			and the second second			
Dispatch Area		1:41:12 AM	0,00			Issuance of trip ticket
01 Station	1:47:40 AM	2:18:14 AM	3.00	0:30:34	0:06:28	Collecting garbage
02 Station	2:19:22 AM	2:19:54 AM	3.02	0:00:32	0:01:08	Collecting garbage
D3 Station	2:20:37 AM	2:40:18 AM	3.05	0:19:41	0:00:43	Collecting garbage
04 Station	2:42:41 AM	2:48:54 AM	3.60	0:06:13	0:02:23	Collecting garbage
Dispatch Area	2:59:40 AM	3:00:40 AM	6.85	0:01:00	0:10:46	Check volume /Dumping permit
Dumping Area	3:03:30 AM	3:10:51 AM	7.05	0:07:21	0:02:50	Waiting to unload
Dumping	3:11:46 AM	3:12:15 AM	7.11	0:00:29	0:00:55	Unloading of garbage
Dispatch Area	3:14:47 AM		7.37		0:02:32	Garage
		1	and a start			
	+					
				1997 - 19		
		1				
<u></u>	-			and the second state		
					<u></u>	
		1	1			
	+		<u> </u>			

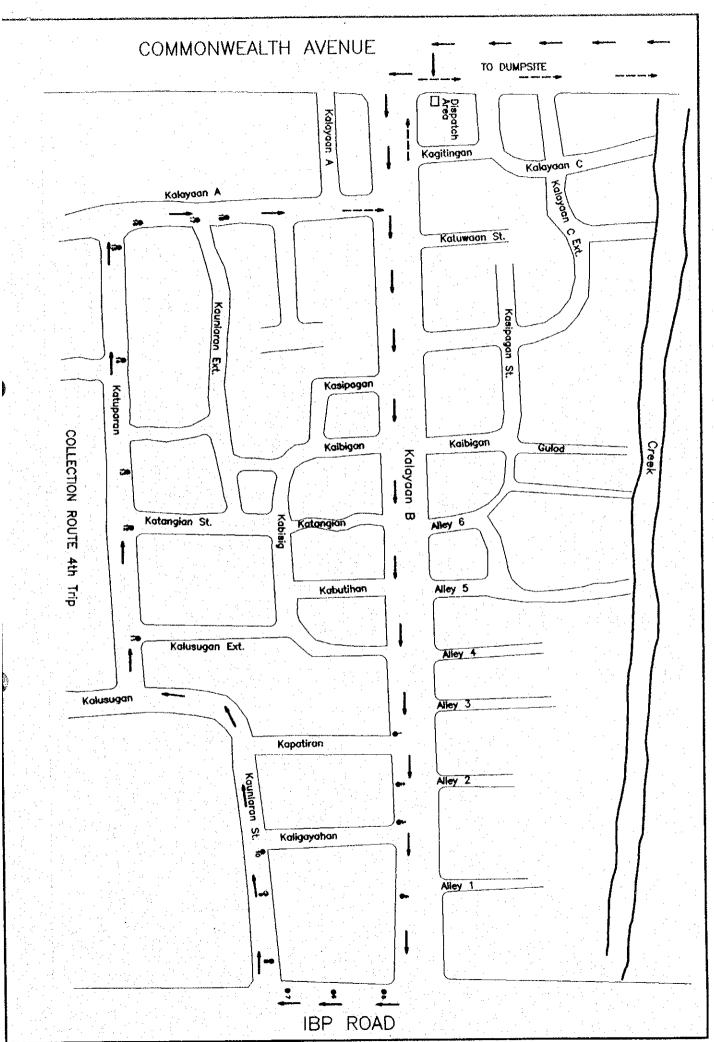




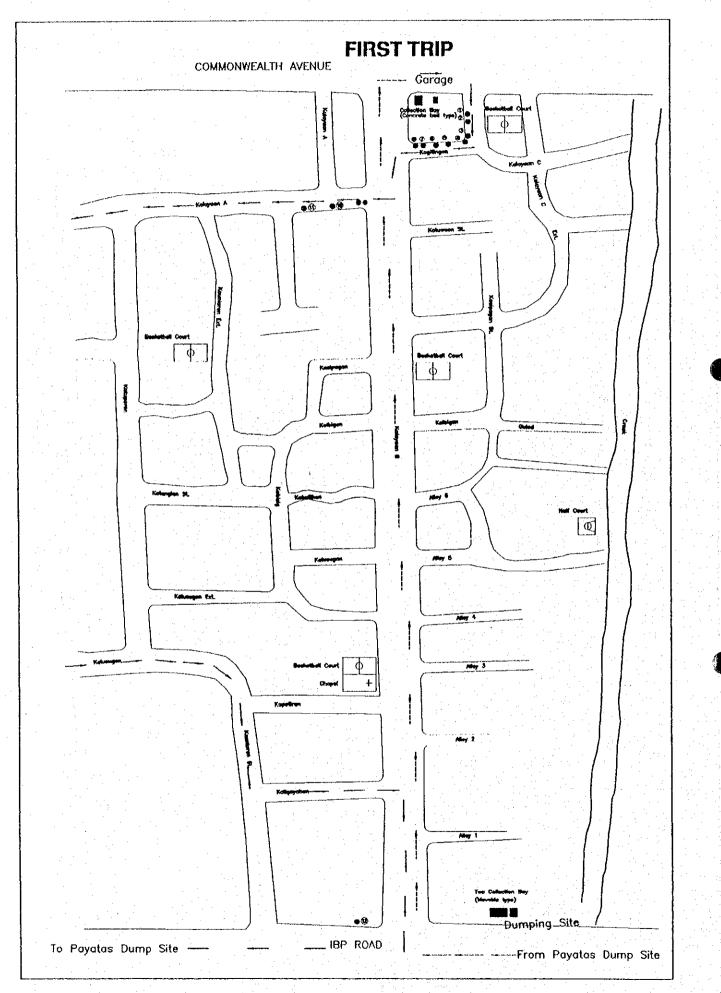


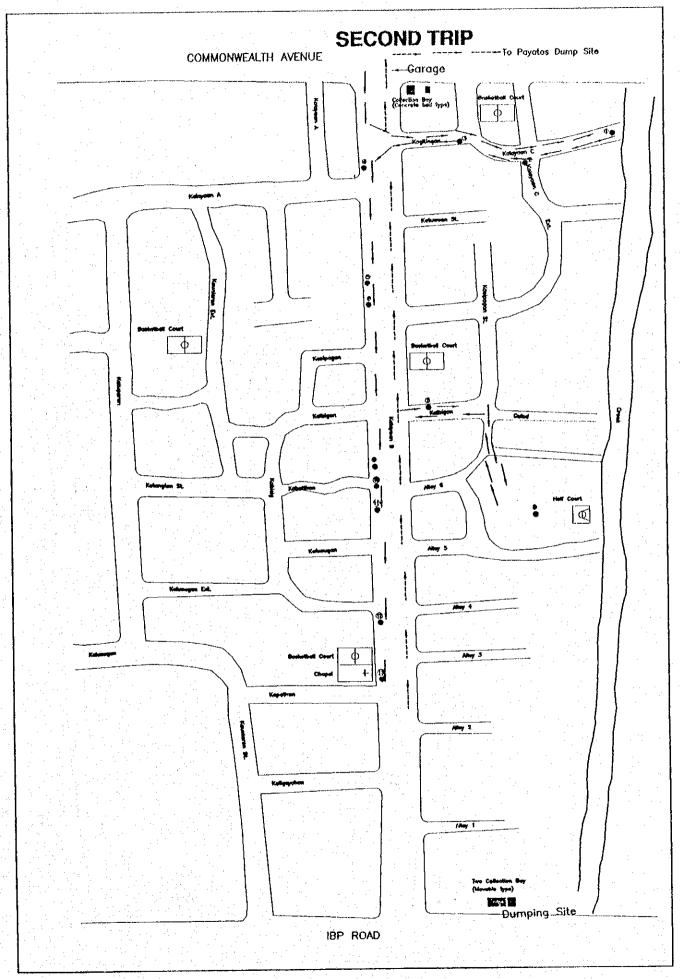




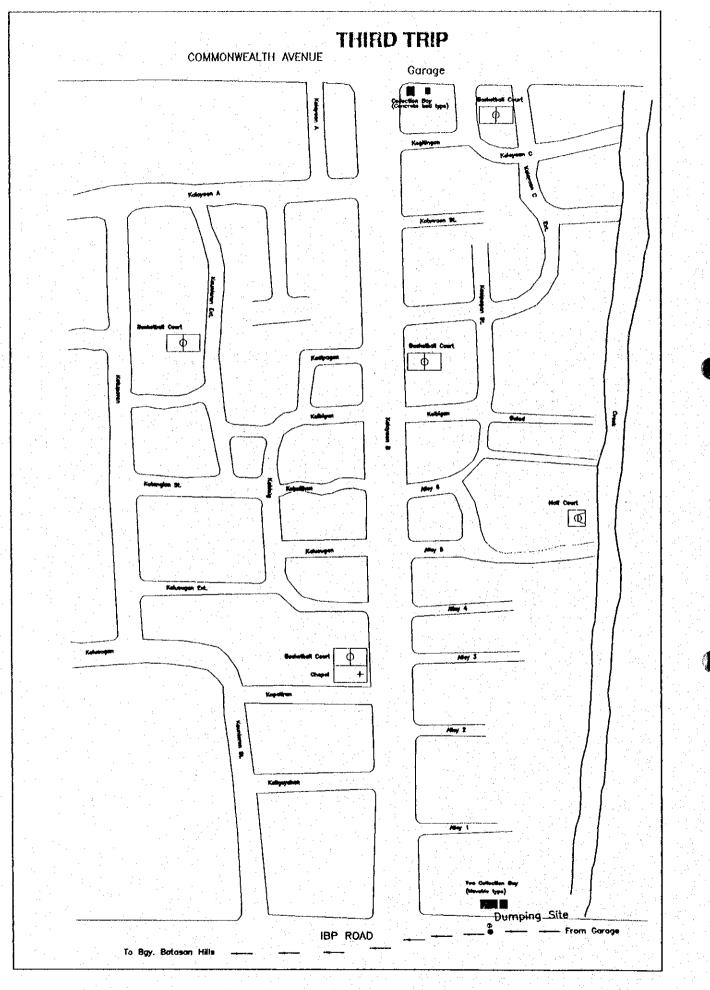


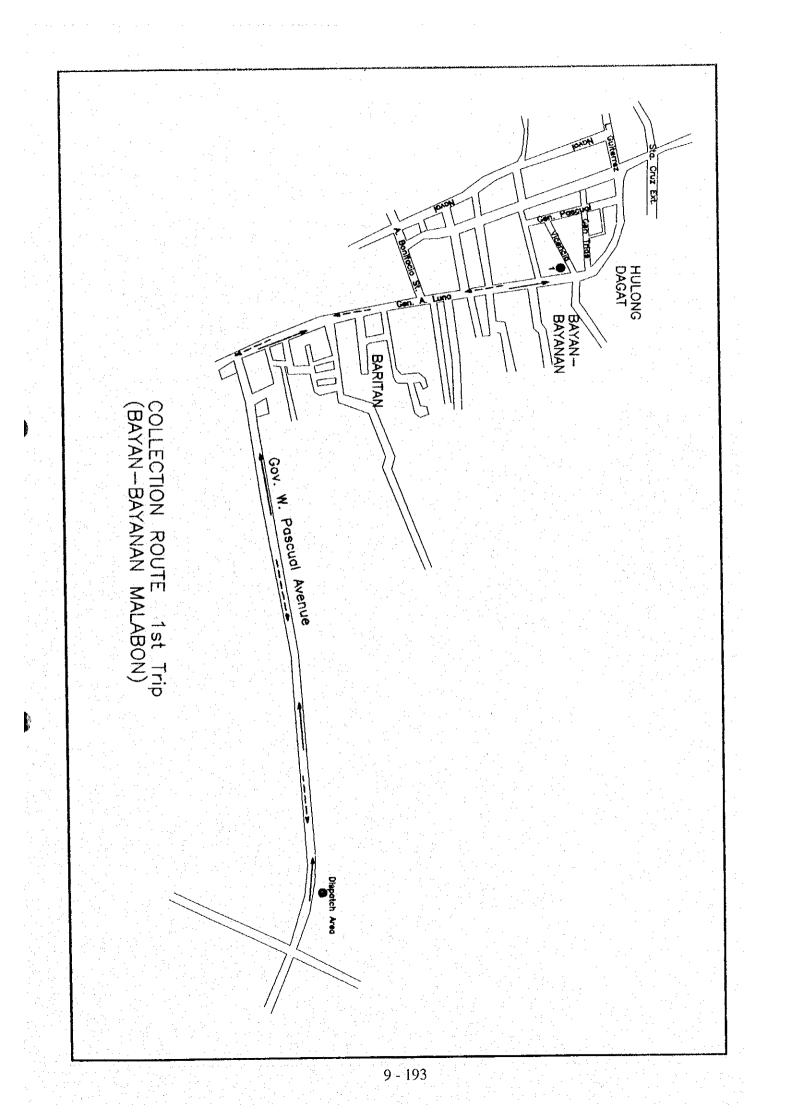
<sup>9 - 189</sup> 

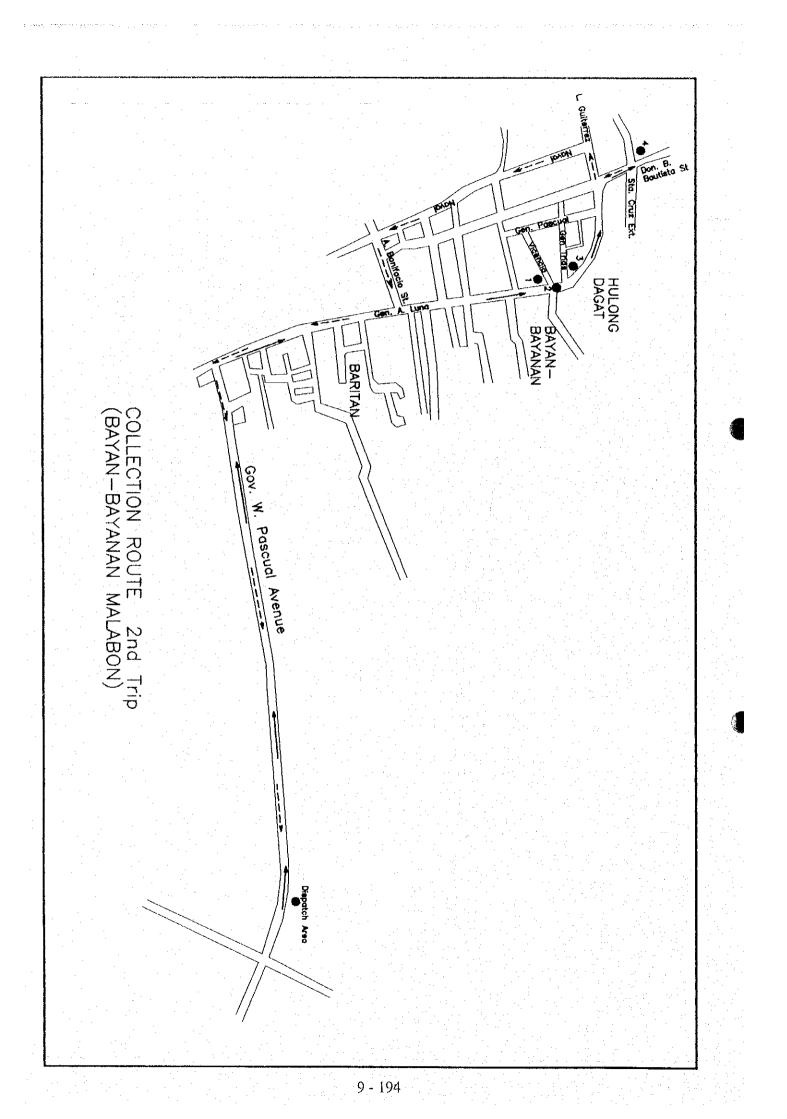


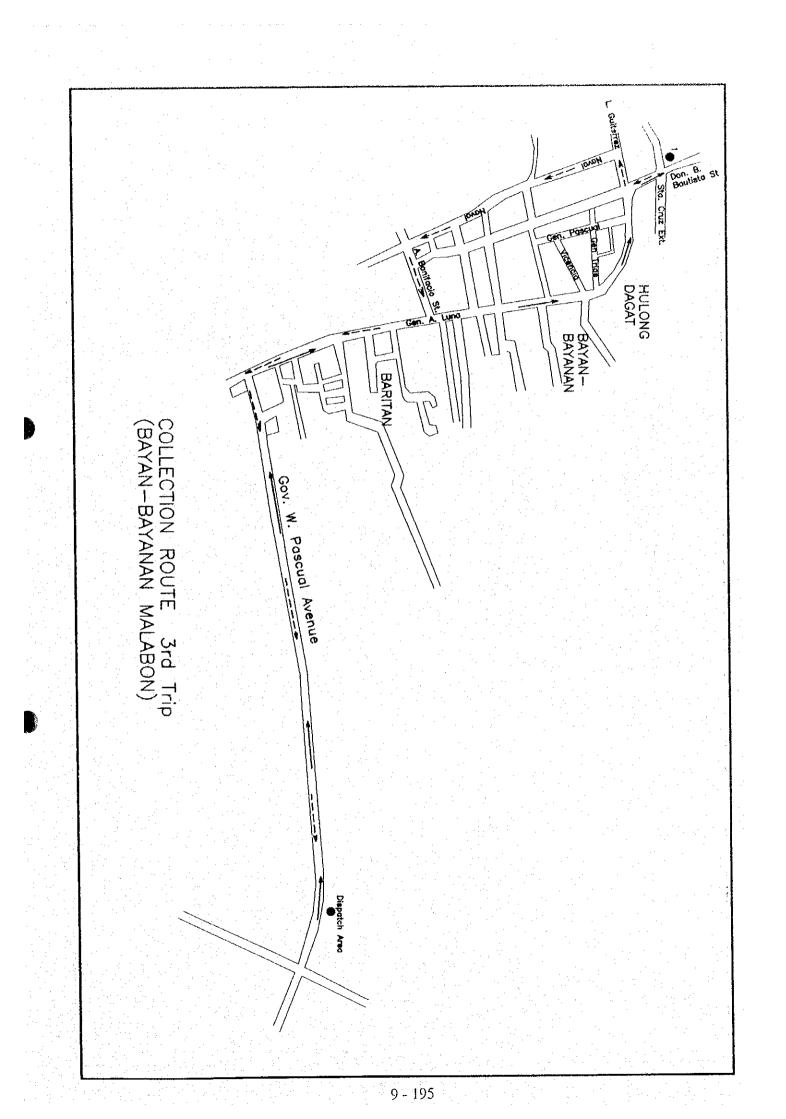


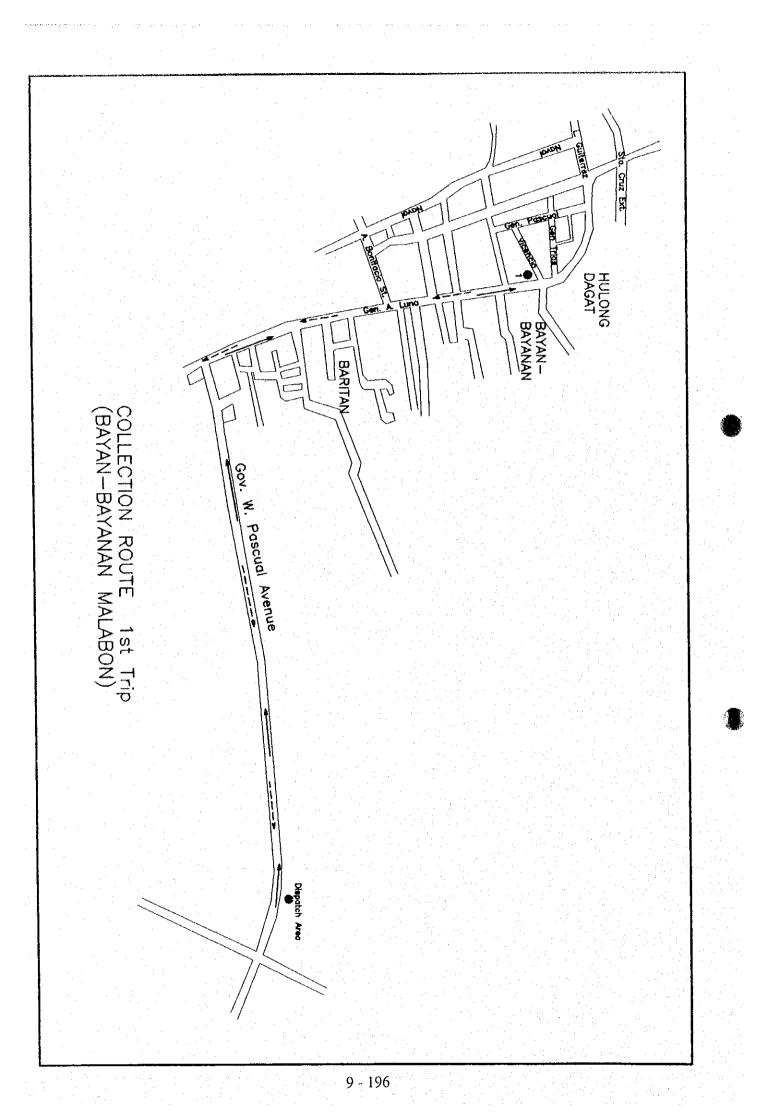
3

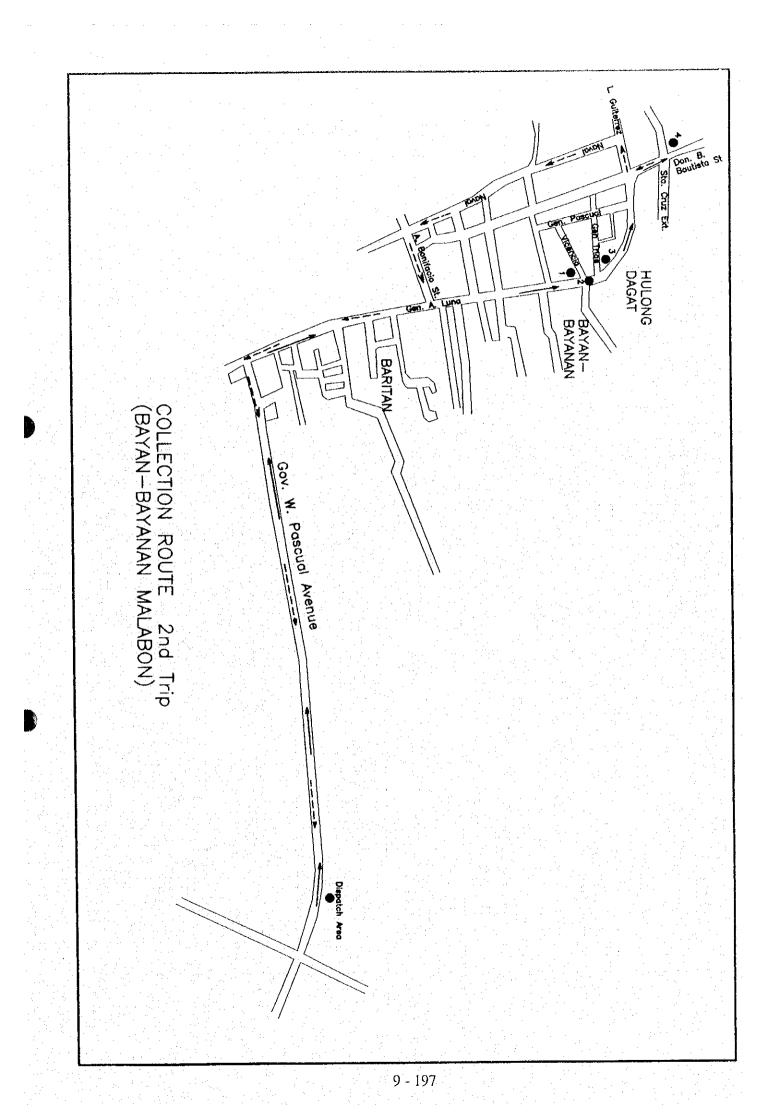












# TIME & MOTION STUDY Pushcart Route No. 4 (ML-1)

Date Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) 20-Mar-98 Residential Route No. 4 (see attached map) Primary Collector (Juanito Galoso) One (1) 1.2 Pushcart No.4 6:55am - 8:24am 2 2.4

	TI	VE	Distance (m)	Collection Time	Trip Time to	
	Arrival	Departure			Next Station	Activities
			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			
Garage		06:55:31	and the second second			Start of first trip
01 Station	06:59:22	07:01:54	15.9	00:02:32	00:03:51	Collecting garbage
02 Station	07:02:13	07:04:04	17.49	00:01:51	00:00:19	Collecting garbage
03 Station	07:04:25	07:07:11	12.72	00:02:46	00:00:21	Collecting garbage
04 Station	07:07:26	07:08:35	3.18	00:01:09	00:00:15	Resting/Collecting garbage
05 Station	07:08:39	07:10:09	10.07	00:01:30	00:00:04	Collecting garbage
06 Station	07:10:21	07:10:37	9.54	00:00:16	00:00:12	Collecting garbage
07 Station	07:10:48	07:11:47	3.18	00:00:59	00:00:11	Collecting garbage
08 Station	07:11:51	07:11:59	4.77	00:00:08	00:00:04	Collecting garbage
09 Station	07:12:05	07:13:36	3.71	00:01/31	00:00:06	Collecting garbage
10 Station	07:13:40	07:14:22	9.01	00:00:42	00:00:04	Collecting garbage
11 Station	07:14:32	07:14:41	13,78	00:00:09	00:00:10	Collecting garbage
12 Station	07:14:57	07:15:26	5.3	00:00:29	00:00:16	Collecting garbage
13 Station	07:15:32	07:15:35	7.42	00:00:03	00:00:06	Collecting garbage
14 Station	07:15:44	07:17:20	10.6	00:01:36	00:00:09	Collecting garbage
15 Station	07:17:33	07:18:55	15.9	00:01:22	00:00:13	Collecting garbage
16 Station	07:19:14	07:19:44	3,18	00:00:30	00:00:19	Collecting garbage
17 Station	07:19:47	07:23:58	12.72	00:04:11	00:00:03	Collecting garbage
18 Station	07:24:13	07:26:09	25.44	00:01:56	00:00:15	Collecting garbage
19 Station	07:26:39	07:30:53	19.61	00:04:14	00:00:30	Collecting garbage
Collection Point	07:31:16	07:52:22	55.65	(00:21:06)	00:00:23	Unloading garbage
01 Station	07:54:09	07:57:09	147.34	00:03:00	00:01:47	Collecting garbage
02 Station	07:57:25	07:58:16	12.72	00:00:51	00:00:16	Collecting garbage
03 Station	07:58:23	08:00:14	5.83	00:01:51	00:00:07	Collecting garbage
04 Station	08:00:24	08:01:05	8.48	00:00:41	00:00:10	Collecting garbage
05 Station	08:01:12	08:02:13	6,36	00:01:01	00:00:07	Collecting garbage
06 Station	08:02:23	08:03:13	8.48	00:00:50	00:00:10	Collecting garbage
07 Station	08:03:19	08:03:37	5.3	00:00:18	00:00:06	Collecting garbage
08 Station	08:03:41	08:04:47	3.18	00:01:06	00:00:04	Collecting garbage
09 Station	08:04:59	08:05:58	10.07	00:00:59	00:00:12	Collecting garbage
Collection Point	08:06:44	08:24:37	38.69	00:17:53	00:00:46	Unloading garbage
Garage	08:26:49		143.63		00:02:12	End collection
				<u></u>		
	·	<b>.</b>		·····		

# TIME & MOTION STUDY Pushcart Route No. 5 (QC-1)

### Date

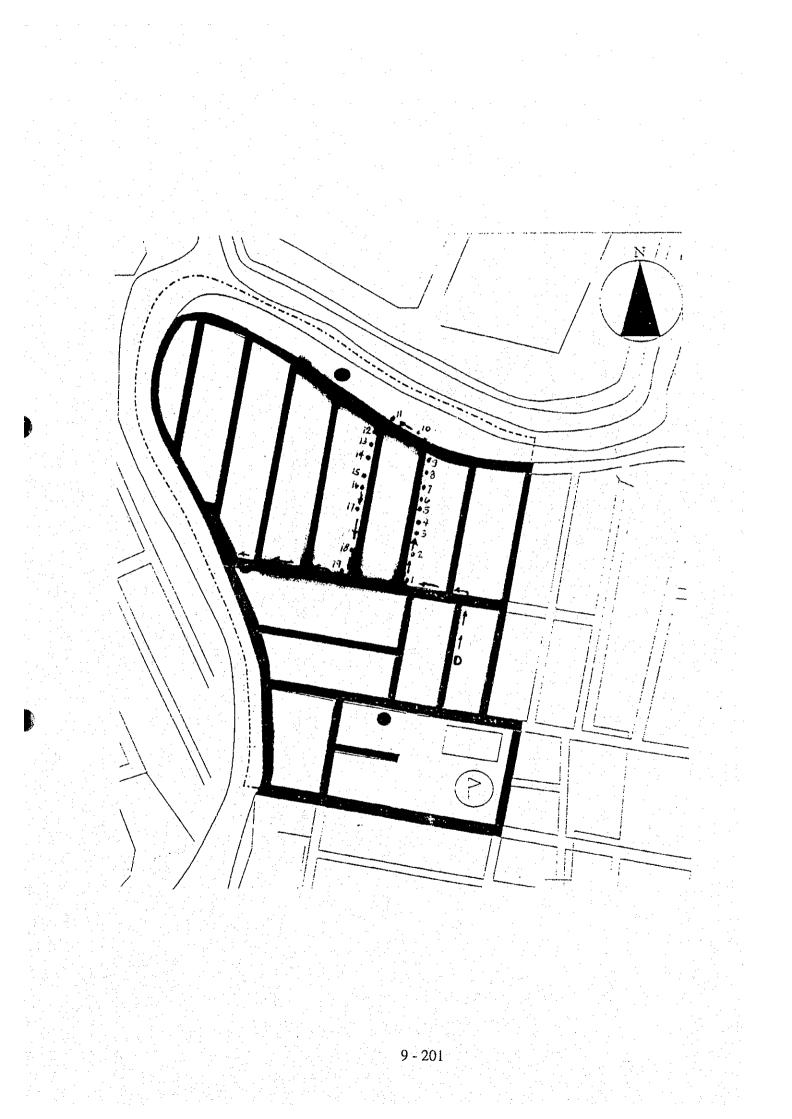
Type Of Waste Collection Area City/Municipality or Private Contractor Crew(including Driver) Loading Capacity (cu.m) Vehicle No. (Year of Fabrication) Working Hours Number of Trips Collected Waste Volume (cu.m) 20-Mar-98 Residential Route No. 5 (see attached map) Primary Collector (Longlong Cantaros & Fredie Irasga) Two (2) 0.8 Pushcart No. 5 6:17am - 10:20am 4 3.2

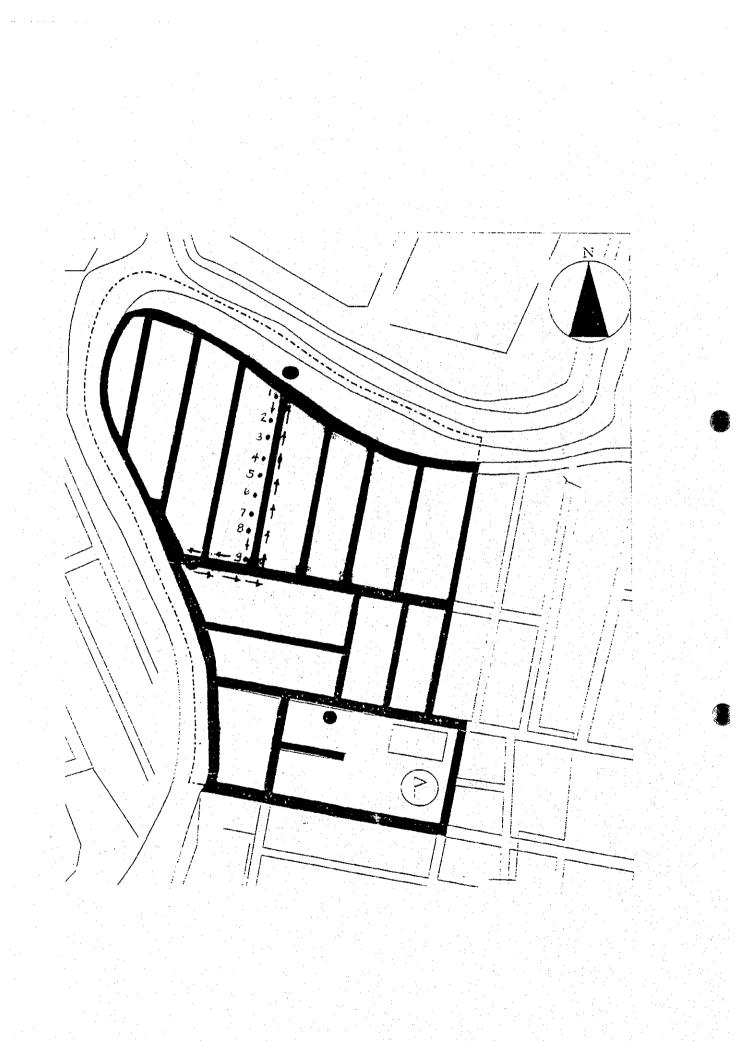
	TIN	ΛE	Distance	Collection	Trip Time to	
	Arrival Departure		(m)	Time	Next Station	Activities
				· · · · · · · · · · · · · · · · · · ·		
(Chage		6:17:00				Start of first trip
0 Station	6:29:00	6:54:00	556	0:25:00	0:12:00	Collecting garbage
Dumping Site	6:58:00	7:02:00	240	0:04:00	0:04:00	Unloading garbage
02 Station	7:07:00	7:32:00	216	0:25:00	0:05:00	Collecting garbage
03 Station	7:33:00	7:35:00	24	0:02:00	0:01:00	Collecting garbage
Dumping Site	7:43:00	7:50:00	240	0:07:00	0:08:00	Unloading garbage
04 Station	7:55:00	8:11:00	304	0:16:00	0:05:00	Resting/Collecting garbage
05 Station	8:12:00	8:23:00	20	0:11:00	0:01:00	Collecting garbage
06 Station	8:27:00	8:30:00	152	0:03:00	0:04:00	Collecting garbage
07 Station	8:32:00	8:35:00	80	0:03:00	0:02:00	Collecting garbage
Dumping Site	8:37:00	8:43:00	124.8	0:06:00	0:02:00	Unloading garbage
08 Station	8:47.00	9:54:00	240	1:07:00	0:04:00	Resting/Collecting garbage
Dumping Site	9:58:00	10:07:00	240	0:09:00	0:04:00	Unloading garbage
Garage	10:20:00		796		0:13:00	End of last trip
Galage	10.20.00					
-		en de la construcción de la constru La construcción de la construcción d				
					and the second sec	
			<u> </u>			
		<u>_</u>				
					and the second second	
			<u> </u>			

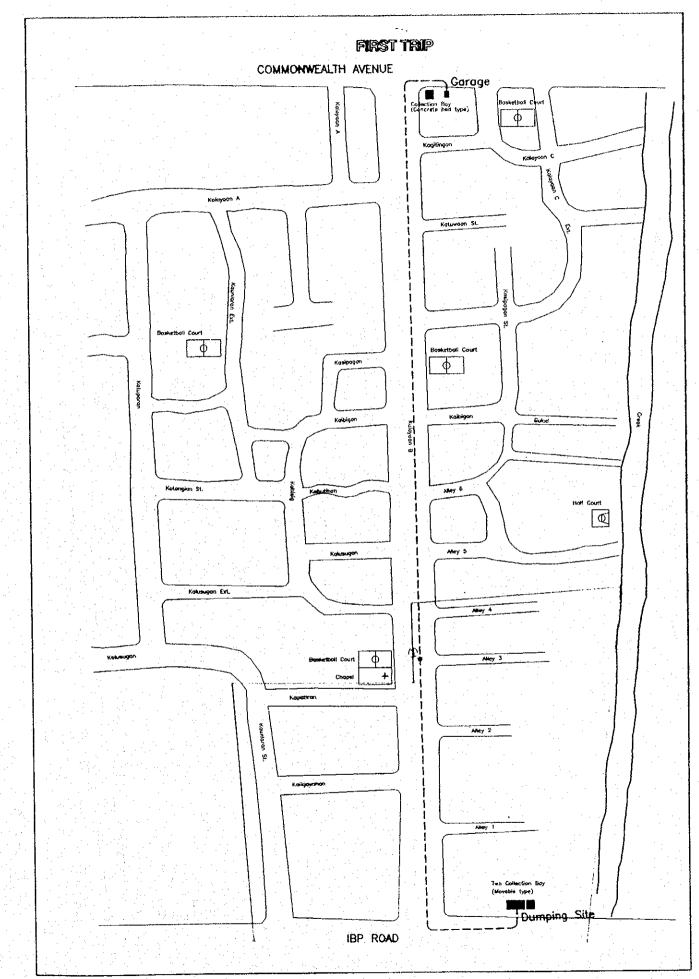
# TIME & MOTION STUDY Pushcart Route No. 3 (MB-1)

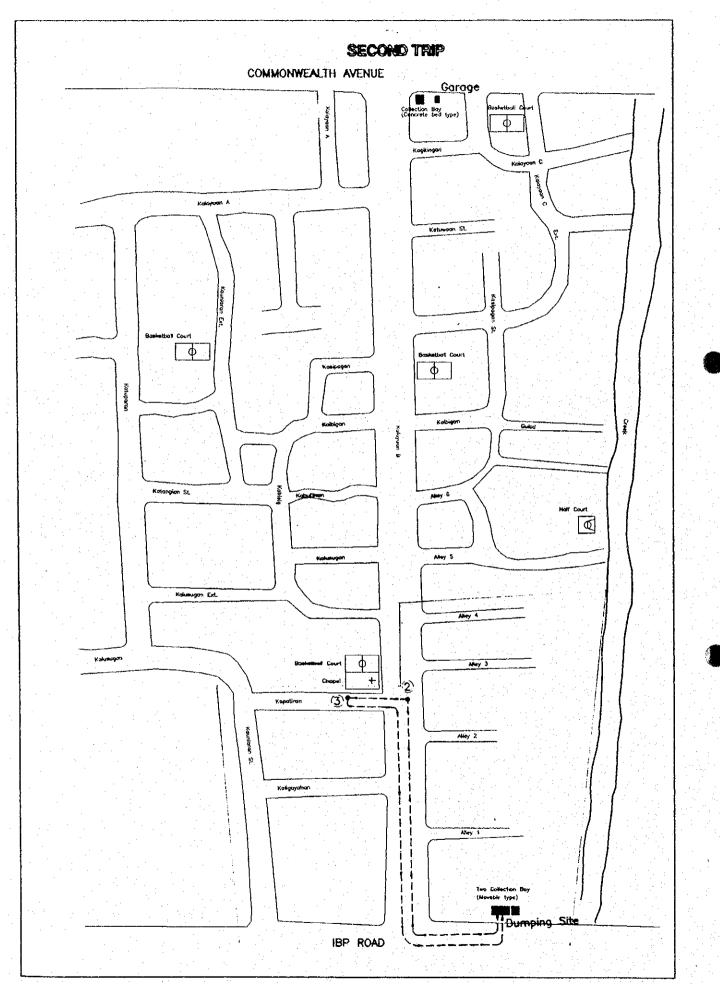
Date	25-Mar-98
Type Of Waste	Residential
Collection Area	Route No. 3 (see attached map)
City/Municipality or Private Contractor	Primary Collector (Leopoldo Aragon Jr.)
Crew(including Driver)	One(1)
Loading Capacity (cu.m)	0.86
Vehicle No. (Year of Fabrication)	Pushcart No. 3
Working Hours	6:34 AM - 11:42 AM
Number of Trips	4
Collected Waste Volume (cu.m)	3.46

	TIME		Collection	Trip Time to	
	Arrival	Departure	Time	Next Station	Activities
				a strategica da esta	
Garage/Storage Area		06:34:00			Start of collection
01 Station	06:47:00	06:53:00	00:06:00	00:13:00	Collecting garbage
02 Station	06:55:00	06:59:00	00:04:00	00:02:00	Collecting garbage
03 Station	07:00:00	07:00:00	00:00:00	00:01:00	Collecting garbage
04 Station	07:09:00	07:13:00	00:04:00	00:09:00	Collecting garbage
05 Station	07:15:00	07:18:00	00:03:00	00:02:00	Collecting garbage
Disposal Site	07:34:00	07:46:00	00:12:00	00:16:00	Unloading garbage
06 Station	07:55:00	07:59:00	00:04:00	00:09:00	Collecting garbage
07 Station	08:05:00	08:14:00	00:09:00	00:06:00	Collecting garbage
08 Station	08:17:00	08;24:00	00:07:00	00:03:00	Collecting garbage
Disposal Site	08:34:00	08:50:00	00:16:00	00:10:00	Unloading garbage
09 Station	09:04:00	09:10:00	00:06:00	00:14:00	Collecting garbage
10 Station	09:12:00	09:23:00	00.11:00	00:02:00	Collecting garbage
11 Station	09:30:00	09:44:00	00:14:00	00:07:00	Collecting garbage
12 Station	09:49:00	09:56:00	00:07:00	00:05:00	Collecting garbage
Disposal Site	10:11:00	10:24:00	00:13:00	00:15:00	Unloading garbage
13 Station	10:35:00	10:45:00	00:10:00	00:11:00	Collecting garbage
14 Station	10:48:00	10:52:00	00:04:00	00:03:00	Collecting garbage
15 Station	10:54:00	11:02:00	00:08:00	00:02:00	Collecting garbage
16 Station	11:05:00	11:11:00	00:06:00	00:03:00	Collecting garbage
Disposal Site	11:20:00	11:34:00	00:14:00	00:09:00	Unloading garbage
Garage/Storage Area	11:42:00			00:08:00	End of collection
and the second second		and the second		and the second second	
$   _{X_{n}} =    _{X_{n}} +    _{X_{n}} +    _{X_{n}} +    _{X_{n}} +    _{X_{n}} +     _{X_{n}} +     _{X_{n}} +                                   $					
	a and a star				
			net et et du		
an a					
		a second a second	a statut		
			n de la tratación		
			a di angan		



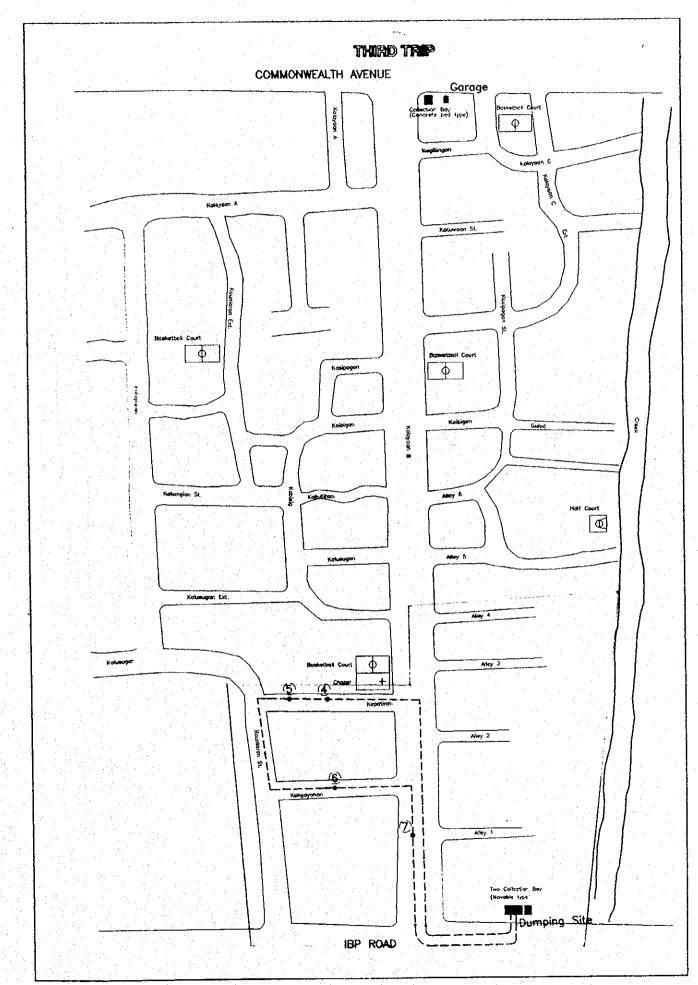


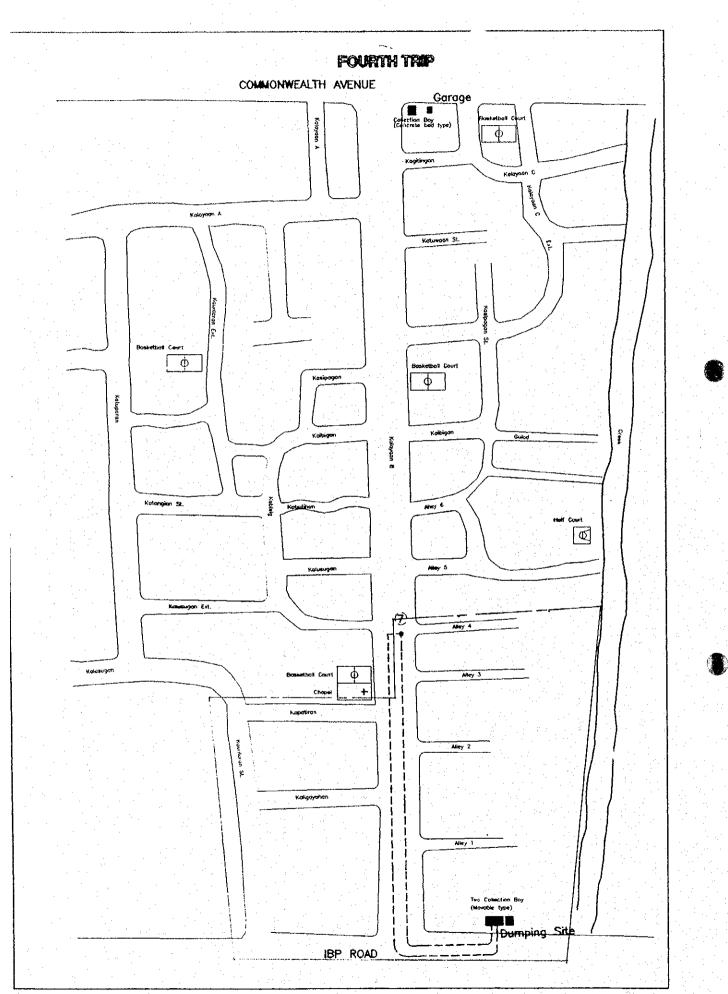




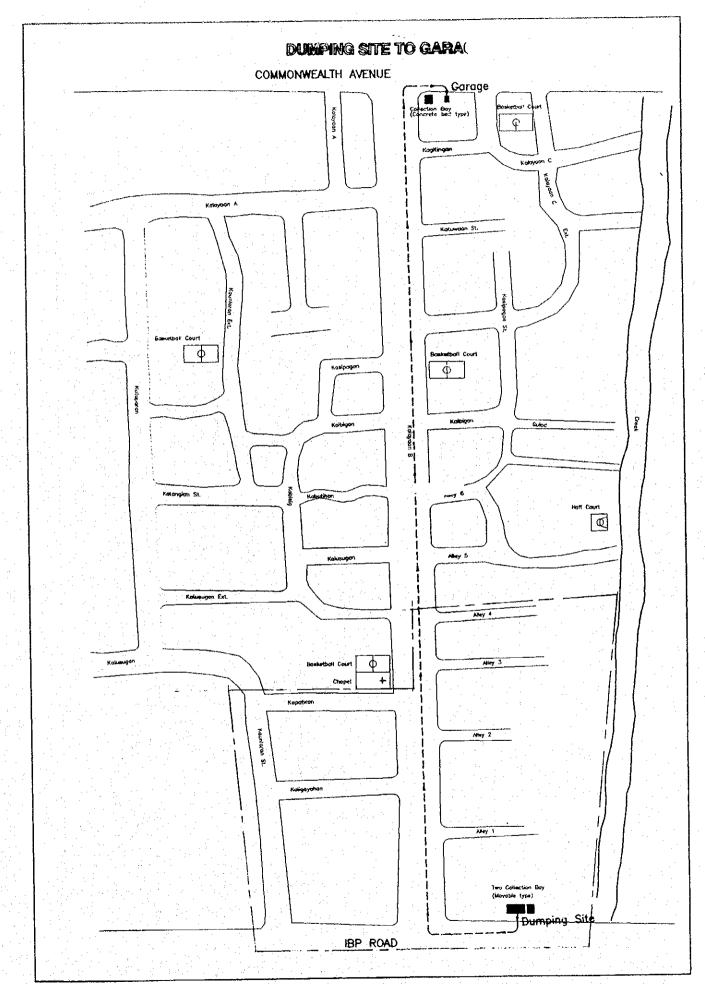
9 - 204

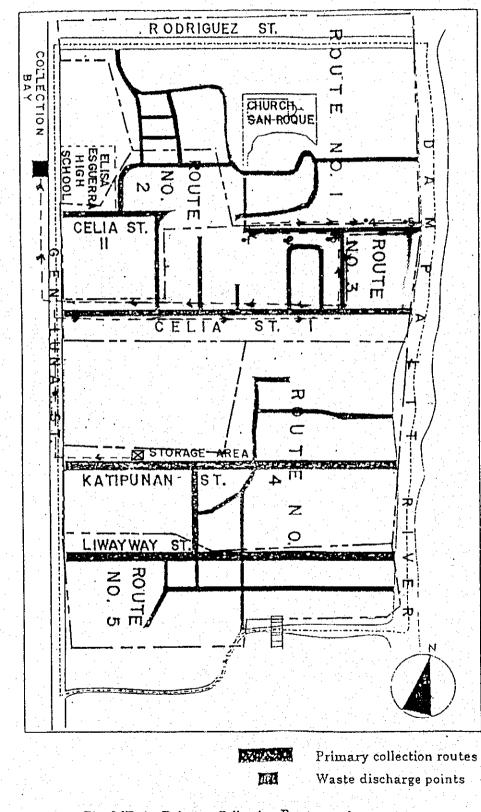
ii i Lii



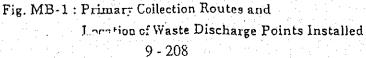


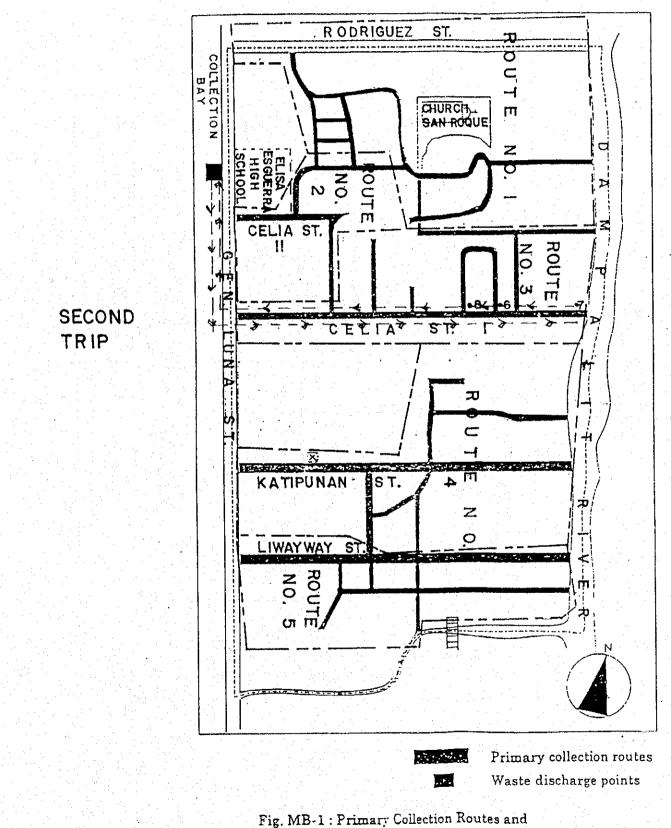
9 - 206



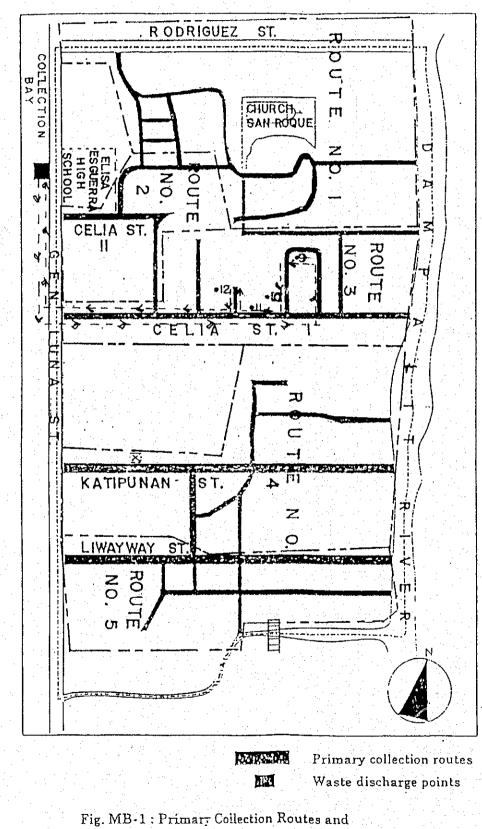


FIRST TRIP

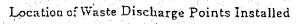




Location of Waste Discharge Points Installed



THIRD TRIP



9 - 210

