10 COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

10.2 Assumption for Cost Estimates

10.2.1 Unit Construction Cost

(1) Calculation method

The base information in previous PW4SP, such as bill of quantities and unit cost of respective component facilities was fully utilized, which was referred to the standards of relevant sector agencies. Escalation rates experienced between 1995 and 1997 in terms of major construction materials and equipment rental were studied using NSO statistics (wholesale price index). Market prices of these items were also canvassed to compare with calculated prices in 1997 from those in 1995 in application of the escalation rates.

In general, escalated prices meet canvassed prices in most of the materials. Escalation rates between 1995 and 1997 were employed in round figures. Some of them (water closet, etc.) were, however, replaced by current price due to considerable increase in the last two years.

The Table 10.2.1 shows the prices of the major materials by facility.

Table 10.2.1 Price of Major Materials by Facility

	Wa	Water Supply	ply	ړی	Sanitation	u	P	rojection	Projection by major materials	r materia	ls	Canvass	Canvassed/collec	Domoeles
					Thich	VID/	NSO wh	NSO wholesale price index	ice index	Pr	Price	ted	ted price	Nemains
	7	L-II	L-III	ST/PT	isni i	y III/			Escalati			(2)		Compared
					Lype	11 1	1995	1997	on	1995	(1) 1997	DPWH (3)	(3) CIA	with (2) , (3)
I. Sand, stone, gravel	*	*	*	*	*	*	311.6	343.5	0.050					Altitus comen to the
Sand										304	335	330		Airliost sailte witti
Gravel										385	424	418	450	(c):(7)
2. Cement	*	*	*	*	*	*	197.4	200.1	0.007	117	119	126	105	- op -
3. Fuel and Lubricant	*		*				601.6	694.0	0.074	1,100	1,269	1,306		- op -
4. Metal pipe	*	*	*				208.7	211.5	0.007					Price of casing is
100m/m x 3m,										. ((1		almost same with (2),
casing										2,625	2,660	2,763		screen is 20% lower
screen										4,313	4,371	5,291		than (2)
5. PVC pipe	*	*	*	*			199.2	221.1	0.054					Price of PVC pipe is
63m/m pipe w/socket										813	902	882	715	almost same with (2) and/or 25% higher than
1 1/2" elbow									. :	13	14		32	(3)
6. Reinforcing steel		*	*	*	*	*	201.4	207.4	0.015					
12m/m x 6m								· ·		89	70			Same with (3)
10m/m x 6m						:				49	50		49	
7. Lumber				*	*	*	268.5	277.4	0.016					
8. Paint				*			128.0	132.8	0.019				_	Seme with (3)
Enamel, QDE		-		-			- 1			266	276		275	(2)
9 Machinery and equipm	*		*				254.8	254.8	0.000		:			

L-I: Deep well/shallow well, L-II: Mjor materials are same as those of L-I spring development,

ST: School toilet, PT: Public toilet, Flush type: Flush water sealed w/septic tank and Pour flush w/ double latrine,

CIA: Construction Industry Authority of the Philippines

Table 10.2.2 (a) Unit Cost of Level I (Gravel Packed Deep Well - 40m Depth)

				Cost: Peso
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		L.S.		15,000
B. Drilling of Well & Installation of Steel Casing/Screen	 			
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	11	pcs.	2,894	31,83
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,99
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	2	set	1,925	3,850
2. Labor, Fuel, Lubricant and others	*			
Well Drilling for 40 m depth at 200mm borehole	40	m -	2,460	98,40
3. Borchole Logging	1	no	5,000	5,00
4. Freight Cost (11% of Materials)		L.S.		5,30
e i m . i er				
Sub-Total of I	\$			156,89
C. Well Development and Pumping Test	 			····
Well Development	12	hr.	2,353	28,23
Pumping Test	6	i	1,472	8,83
The second secon	"	,,,,	''''	
Sub-Total of C				37,06
D. Gravel Packing, Installation of Handpump and				
Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9.92
(2) 63mm x 6m Riser Pipe and Pump Rod	6	pcs.	1,880	11,28
(3) #10 Sieved Gravel	0.7	cu.m	959	67
(4) Coarse Sand (5) Cernent for Sanitary Seal	1 1	cu.m	335	33
(6) Pump Base and Platform	4	bags	128	51
1) Cement	4	bags	128	51
2) Gravel	7	cu.m	424	84
3) Sand	1	cu m	335	33
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	27
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	. 29
6) Nail	1	kg.	35	3
Sub-Total of D-	ı			25,01
2. Labor (40% of D-1.)				10,00
3. Freight Cost (11% of Materials)	l .	L.S.		2,75
· 一生,一个人,一个人的人,这个人的人。				
Sub-Total of I)			37,77
		ļ		
E. Indirect Cost Profit (10% of A, B, C & D)				24 52
				24,67
Overhead Expense (13% of A,B,C & D) VAT (10% of Labor, Profit & Overhead Expense)		ŀ		32,07 16,51
Sub-Total of I	,			41,19
040-10141011		ļ <u> </u>		71,17
Total of Construction Cost (A+B+C+D+E)				259,69
				207,07
F. Estimated Government Expenses		—		
1. Preliminary & Detailed Engineering Cost		L.S.		3,30
2. Construction Supervision	100	L.S.		2,20
3. Water Quality Analysis	1	L.S.		1,24
Sub-Total of 1	7			6,74
<u> 1900 - Andrew Grand Grand</u>				
GRAND TOTAL				266,43
SAY	<u> </u>	<u> </u>		266,40

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.2 (b) Unit Cost of Level I (Natural Gravel packed Deep Well - 40m Depth)

		i		Cost: Peso
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		15,00
B. Drilling of Well & Installation of Steel Casing/Screen	-			
1. Materials			* .	
(1) 100mm x 3m Steel Casing with coupling	11	pcs.	2,894	31,83
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,99
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	
(4) Casing Centralizer	0	set	1,925	1, 4
2. Labor, Fuel, Lubricant and others				
Well Drilling for 40 m depth at 150mm borehole	40	m	1,534	
3. Borehole Logging	1	no	5,000	
4. Freight Cost (11% of Materials)		L.S.		4,87
0.1 m . 1 e				*
Sub-Total of E	5			115,57
C. Well Development and Pumping Test	 	·		
Well Development	6	hr.	2,353	12.11
Pumping Test	6	hr.	1,472	14,111 8,83
	"	111.	1,772	0,03
Sub-Total of C				22,95
				22,73
D. Gravel Packing, Installation of Handpump and				
Construction of Platform		7 1	100	4,
1. Materials		100	1.5	
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,92
(2) 63mm x 6m Riser Pipeand Pump Rod	6	pcs.	1,880	
(3) #10 Sieved Gravel	0	cu m	959	
(4) Coarse Sand	1	cu m	335	33
(5) Cement for Sanitary Scal	3	bags	128	38
(6) Pump Base and Platform		- T	100	
1) Cement	4	bags	128	51
2) Gravel	2	cu.m	424	. 84
3) Sand	1	cu m	335	33.
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	- 27
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	. 49	29
6) Nail 1991 200 1991 1991 1991 1991 1991 1991	1	kg.	35	3
Sub-Total of D-1			. 1	24,22
2. Labor (40% of D-1.)				9,68
3. Freight Cost (11% of Materials)		L.S.		2,66
Sub-Total of D) 			36,57
E. Indirect Cost	<u> </u>			
Profit (10% of A, B, C & D)				10.01
Overhead Expense (13% of A,B,C & D)				19,01
VAT (10% of Labor, Profit & Overhead Expense)				24,71
Sub-Total of E	.			11,47
Sub-rotal of £	<u>'</u>			30,48
Total of Construction Cost (A+B+C+D+E)		1		204 47
Cost (A. D. C. D. E)				206,47
F. Estimated Government Expenses	 			
Preliminary & Detailed Engineering Cost		L.S.		3,30
2. Construction Supervision		L.S.		
3. Water Quality Analysis		L.S.		2,20
Sub-Total of F		Lio,		1,24
Dan-10tal () P				6,74
GRAND TOTAL	†			213,21

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.3 (a) Unit Cost of Level I (Gravel Packed Deep Well - 80m Depth)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		L.S.		15,000
B. Drilling of Well & Installation of Steel Casing/Screen	<u> </u>			··········
1. Materials		٠		
(1) 100mm x 3m Steel Casing with coupling	24	pcs.	2,894	69,456
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	2	set	1,925	3,850
2. Labor, Fuel, Lubricant and others			i '' .	-,
Well Drilling for 40 m depth at 200mm borehole	80	m	2,460	196,800
3. Borchole Logging		no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.	3,000	9,439
77 Traight Cour (1.77 or Frankling)		D .G.		7,15.
Sub-Total of I	3	ŀ		297,053
C Will Devile and Devile Test	ļ			
C. Well Development and Pumping Test	1.7	L-	2 252	20.22
Well Development	12]	2,353	28,230
Pumping Test	6	hr.	1,472	8,83
	,			34 64
Sub-Total of C	1			37,06
D. Gravel Packing, Installation of Handpump and				- :
Construction of Platform	1 .		1.	
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,92
(2) 63mm x 6m Riser Pipe and Pump Rod	12		1,880	22,56
(3) #10 Sieved Gravel	1.6	1 '	959	1,53
(4) Coarse Sand	1	cu.m	335	33
(5) Cement for Sanitary Seal	4		128	51
(6) Pump Base and Platform		Jugo		
1) Cement	4	bags	128	51
2) Gravel	2	çu.m	424	84
3) Sand	1	cu.m	335	33
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	27
	6		49	
5) Form Lumber (50mm x 75mm x 1,800mm)	1	F	35	3
6) Nail	, '	kg.	37	37,16
Sub-Total of D-	1		{ · · ·	
2. Labor (40% of D-1.)		1.	-	14,86
3. Freight Cost (11% of Materials)	İ	L.S.		4,08
				50.11
Sub-Total of i	וי			56,11
E L-lines Cont				
E. Indirect Cost			'	40,52
Profit (10% of A, B, C & D)			1	
Overhead Expense (13% of A,B,C & D)			1.	52,68
VAT (10% of Labor, Profit & Overhead Expense)				30,48
Sub-Total of	<u> </u>		 	71,01
			1 4	448,01
Total of Construction Cost (A+B+C+D+E)				440,01
F. Estimated Government Expenses	1	T .	1	-
1. Preliminary & Detailed Engineering Cost		L.S.	1.	3,30
2. Construction Supervision		L.S.	1 .	2,20
3. Water Quality Analysis		L.S.		1,24
Sub-Total of	F			6,7
		1.		. ,
GRAND TOTAL				454,7
SAY		1	1 '	454,8

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.3 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 80m Depth)

Description	Quantity	Unit	Ylmis	Cost: Pesc
A. Mobilization/Demobilization/Site Preparation	Quantity		Cost	Cost
		L.S.		15,00
B. Drilling of Well & Installation of Steel Casing/Screen	 	 		
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	24	pcs.	2,894	69,45
(2) 100mm x 3m Steel Casing with one end closed (3) 100mm x 3m Low Carbon Steel Screen		pc.	2,997	
(4) Casing Centralizer	2	*	4,755	
2. Labor, Fuel, Lubricant and others	0	set	1,925	
Well Drilling for 80 m depth at 150mm borehole	80		1,534	122.72
3. Borchole Logging	00	m no	5,000	
4. Freight Cost (11% of Materials)		L.S.	2,000	9,01
		<i></i>		2,0,1
Sub-Total of B				218,69
C Will D. I				
C. Well Development and Pumping Test Well Development				
Pumping Test	6	hr.	2,353	
i uniping itsi	6	hr.	1,472	8,83
Sub-Total of C				33.05
				22,95
D. Gravel Packing, Installation of Handpump and		-		
Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type) (2) 63mm x 6m Riser Pipe and Pump Rod	1	set	9,922	
(3) #10 Sieved Gravel	8	pcs.	1,880	
(4) Coarse Sand	0	cu.m	959	i
(5) Cement for Sanitary Seal	1 3	cu.m bags	335 128	
(6) Pump Base and Platform		uags	120	30,
1) Cement	4	bags	128	51:
2) Gravel	2	cu.m	424	
3) Sand	1	cu.m	335	33
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	27
5) Form Lumber (50mm x 75mm x 1,800mm) 6) Nail	6	pcs.	49	i -
		kg.	35	
Sub-Total of D-1 2. Labor (40% of D-1.)				27,98
3. Freight Cost (11% of Materials)		L.S.		11,19
		L.S.	1	3,078
Sub-Total of D				42,250
				1.000
E. Indirect Cost				1 11
Profit (10% of A, B, C & D)				29,890
Overhead Expense (13% of A,B,C & D)				38,85
VAT (10% of Labor, Profit & Overhead Expense)				20,260
Sub-Total of E				50,150
Total of Construction Cost (A+B+C+D+E)				224.02
	- **. : .	-14	0.19	334,93
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.	and a ring to	3,30
2. Construction Supervision		L.S.		2,20
3. Water Quality Analysis		L.S.		1,24
Sub-Total of F			100	6,74
CRANDITOTAL				
GRAND TOTAL SAY				341,68
ote: L.S Lump Sum	<u> </u>			341,70

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.4 (a) Unit Cost of Level I (Gravel Packed Deep Well - 120m Depth)

	7*********	Y		Cost: Peso
Description	Quantity	L	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		L.S.		15,00
B. Drilling of Well & Installation of Steel Casing/Screen	<u> </u>		ļ	
1. Materials		ļ		[
(1) 100mm x 3m Steel Casing with coupling	37	pcs.	2,894	107,07
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	i
(4) Casing Centralizer	2	set	1,925	
2. Labor, Fuel, Lubricant and others				
Well Drilling for 120 m depth at 200mm borchole 3. Borchole Logging	120	l	2,460	
4. Freight Cost (11% of Materials)	1	no	5,000	
4. Freight Cost (1176 of Waterlass)		L.S.		13,578
Sub-Total of B				437.21
Out Total of p				437,213
C. Well Development and Pumping Test				
Well Development	1,2	hr.	2,353	28,230
Pumping Test	6	1	1,472	
Sub-Total of C		ļ		37,068
D. Gravel Packing, Installation of Handpump and				
Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	: 1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	15		1,880	
(3) #10 Sieved Gravel	2.5		959	
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform	,	Jugo	120	
1) Cement	4	bags	128	512
2) Gravel	,	cu.m	424	
3) Sand	ī	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)			275	275
5) Form Lumber (50mm x 75mm x 1,800mm)		pc.		
6) Nail	6	pcs. kg.	49 35	294 35
Sub-Total of D-1	1	v.R.	33	43,666
2. Labor (40% of D-1.)				17,466
3. Freight Cost (11% of Materials)		L.S.		4,803
	:			.,0.,.
Sub-Total of D				65,935
E. Indirect Cost				
Profit (10% of A, B, C & D)				55,522
Overhead Expense (13% of A,B,C & D)				72,178
VAT (10% of Labor, Profit & Overhead Expense)				44,037
Sub-Total of E				99,559
Total of Construction Cost (A+B+C+D+E)				car ear
rotator Construction Cost (A+b+C+D+E)				626,539
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,24
Sub-Total of F				6,74
	L			-
GRAND TOTAL				633,28
SAY	L			633,30

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.4 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 120m Depth)

			(C	ost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		L.S.		15,000
B. Drilling of Well & Installation of Steel Casing/Screen				
Materials (1) 100mm x 3m Steel Casing with coupling	37	pcs.	2,894	107,078
(2) 100mm x 3m Steel Casing with one end closed	"	•	2,997	
(3) 100mm x 3m Low Carbon Steel Screen	2	pc.	4,755	2,997
(4) Casing Centralizer	0	pcs.		9,510
2. Labor, Fuel, Lubricant and others		set	1,925	٩
Well Drilling for 120 m depth at 150mm borehole	120	m	1,534	184,080
3. Borehole Logging	1 120	no	5,000	5,000
4. Freight Cost (11% of Materials)	'	L.S.	3,000	- 11
		L.3.		13,154
Sub-Total of 1	B			321,819
Sub total of	٦			321,012
C. Well Development and Pumping Test	† · · · ·			
Well Development	6	hr.	2,353	14,118
Pumping Test	6	hr.	1,472	8,832
				,
Sub-Total of (22,950
D. Gravel Packing, Installation of Handpump and	-			
Construction of Platform		15.0		
1. Materials			in the wat	
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	15	pcs.	1,880	28,200
(3) #10 Sieved Gravel	0	cu.m	959	O.
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform	1 1		100	
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-	1			41,140
2. Labor (40% of D-1.)				16,456
3. Freight Cost (11% of Materials)		L.S.		4,525
Sub-Total of	D			62,121
	_			
E. Indirect Cost] !	ا د بر
Profit (10% of A, B, C & D)				42,189
Overhead Expense (13% of A,B,C & D)				54,846
VAT (10% of Labor, Profit & Overhead Expense)		1		29,757
Sub-Total of	<u> </u>	<u> </u>	 -	71,946
Total of Construction Cost (A+B+C+D+E)				479,718
F. Estimated Government Expenses		ļ		
Resultance Government Expenses Preliminary & Detailed Engineering Cost	1	L.S.		2 200
2. Construction Supervision	and the second	1		3,300
Construction Supervision Water Quality Analysis		L.S.		2,200
	E	L.S.		1,244
Sub-Total of	F			6,744
n en		1	1	
GRAND TOTAL		1		486,462

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.5 Unit Cost of Level I (Deep Well Rehabilitation)

(Cost: Peso)

						ost: Peso)
	ription		Quantity		Unit Cost	Cost
A. Mobilization/Demobilizat	ion			L.S.		5,000
	·					
B. Well Rehabilitation	er e					
1. Materials	. • • •		:			
(1) Cylinder Pump Set			1	set	9,922	9,922
(2) Cement for Surface Sea	_		4	bags	128	512
(3) Pump Base and Platform	1					
1) Cement	•		. 4	bags	128	512
2) Gravel			. 2	cu.m	424	848
3) Sand	:		1	cu.m	335	335
4) Pływood (4' x 8' x 1/4	4 ⁿ)		1	pc.	275	275
5) Form Lumber (2" x 3	" x 6")	4	6	pcs.	49	294
6) Nail			1	kg.	35	35
		Sub-Total of B-1				12,733
2. Labor (40% of B-1)						5,093
3. Freight Cost (11% of Mater	ials)	*				1,401
	•	Sub-Total of B				19,227
					•	
C. Well Development	:			L.S.		28,000
	1					
D. Indirect Cost						:
Profit (10% of A, B & C)		•				5,223
Overhead Expense (13% of						6,790
VAT (10% of Profit & Lab	or)				**	3,832
		Sub-Total of D				15,845
						:
Total of Construction Cos	t (A+B+C+D)					68,072
						·
E. Estimated Government E	•			· · · · · · · · · · · · · · · · · · ·		
1. Preliminary & Detailed Eng	gineering Cost			L.S.		1,200
2. Supervision				L.S.		720
3. Water Quality Analysis		•	-	L.S.		1,244
		Sub-Total of E	48.1	. :		3,164
	1 .	4				,
GRAND TOTAL						71,236
SAY	<u> </u>					71,200

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.6 Unit Cost of Level I (Shallow Well - 18m Depth)

(Cost: Peso) Unit Description Quantity Unit Cost Cost A. Mobilization/Demobilization L.S. 3,000 B. Drilling of Well & Installation of Steel Casing/Screen (1) 63mm x 6m PVC Pipe with socket 896 pcs. 1,792 (2) 63mm x 3m PVC Pipe with plug 452 DC. 452 (3) 63mm PVC Socket 99 99 nc. (4) 63mm x 3m PVC Screen pc. 1.433 1.433 (5) Casing Centralizer set 725 1,450 2. Labor, Fuel, Lubricant and others Well Drilling for 18 m depth at 150mm borehole 18 m 1,534 27,612 3. Freight Cost (11% of Materials) L.S. 415 Sub-Total of B 33,253 C. Well Development 1,482 hr. 5,928 D. Gravel Packing, Installation of Handpump and Construction of Platform I Materials (1) 50mm Jetmatic Handpump 2,623 2,623 set (2) 50mm Riser Pipe and Foot Valve 110 pc. 110 (3) #10 Sieved Gravel 0.1 959 cu.m 96 (4) Coarse Sand 0.07 cu.m 335 23 (5) Cement for Sanitary Seal bag 128 512 (6) Pump Base and Platform 1) Cement bags 512 2) Gravel 424 cu.m 424 3) Sand 335 cu.m 335 4) Plywood (1,200mm x 2,400mm x 6mm) pc. 275 275 5) Form Lumber (50mm x 75mm x 1,800 mm) 49 pc. 49 6) Nail kg. 35 35 Sub-Total of D-1 4.994 2. Labor (40% of D-1.) 1,998 3. Freight Cost (11% of Materials) L.S. 549 Sub-Total of D 7,541 E. Indirect Cost Profit (10% of A to D) 4,972 Overhead Expense (13% of A to D) 6,464 VAT (10% of Profit & Overhead Expense) 1,144 Sub-Total of E 6,116 Total of Construction Cost (A+B+C+D+E) 55,838 F. Estimated Government Expenses 1. Preliminary & Detailed Engineering Cost L.S. 2,200 2. Construction Supervision L.S. 1.650 3. Water Quality Analysis L.S. 1,244 Sub-Total of F 5.094 GRAND TOTAL 60,932 SAY

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.7 Unit Cost of Level I (Spring Development)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,60
		····		
B. Construction of Spring Box		1.0		20.00
1. Materials		L.S.		39,90
2. Labor (35% of 1.)		L.S.		13,96
3. Freight Cost (11% of Materials)		L.S.		4,38
Sub-Total of B				58,25
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials	1			
1) 63mm dia. PVC Pipe (Class 12.5 with push type socket)	330	pcs.	896	295,68
2) 63mm dia. Tee	1 1	no.	97	9
3) Solvent Cement	26	cans	50	1,30
,	3	nos.	83	24
4) 63mm dia. Elbow (90 deg.)	1 1		82	· - {
5) 63mm dia. Elbow (45 deg.)	1 1	pc.	841	1,68
6) 50mm dia. Gate Valve	2	pcs.		•
7) 50mm dia. x 1m Stand Pipe	11	pc.	165	10
8) 63mm x 50mm GI Nipple	1	pc.	115	1
9) 50mm dia. Union Patente	3	pcs.	179	53
10) 63mm x 50mm dia. Reducing Socket	. 2	pcs.	106	. 2
11) 50mm dia. Gl Elbow (90 deg.)	2	pcs.	74	14
12) 63mm x 50mm dia. Socket Adaptor	2	pcs.	156	3
	2	pcs.	739	1,4
13) 50mm dia. GI Gate Valve	2	'	45	
14) 13mm dia. Brass Faucet		pcs.	1 73	302,0
Sub-Total of Material	S		1	
(2) Labor (35% of Material Cost)		L.S.		105,72
(3) Freight Cost (11% of Materials)		L.S.		33,2
	İ			
Sub-Total of C	1			441,0
D. Indirect Cost	<u> </u>	1		
1. Transmission Main				
(1) Profit (10% of C)	1			44,1
(2) Overhead Expense (13% of C)				57,3
(3) VAT (10% of Profit, Overhead Expense and Labor)				20,7
2. Source Facilities		İ	i	
(1) Profit (10% of A, B)	1.			18,5
(2) Overhead Expense (13% of A, B)				6,1
				3,8
(3) VAT (10% of Profit, Overhead Expense and Labor) Sub-Total of I				150,7
Sub-10tar of 1	1			150,7
		 	 	
				653,6
Total Construction Cost (A+B+C+D)				0,55,0
		 		
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation	}		1	2,2
2. Supervision			1	13,2
3. Water Quality Analysis		[1	1,2
Sub-Total of	E			16,6
		1		·
GRAND TOTAL			1	670,2
SAY	1	1	1	670,3

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.8 Unit Cost of Level II (600 Service Population)

Description (A. M.)	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		5,00
B. Construction of Spring Box				·
1. Materials	"	L.S.		20.00
2. Labor (35% of 1.)		L.S.		39,90
3. Freight Cost (11% of Materials)	'			13.96
Sub-Total of B		L.S.		4,38
d to train of p			"	58,25
C. Installation of Pipelines & Fittings				
1. Transmission Main			.	
(1) Materials		100	· ·	
1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)	500	pcs.	896	448,0
2) 63mm dia. Tee	300	no.	97	440,0
3) Solvent Cement	40	cans	50	2,00
4) 63mm dia. x 50mm Nipple	3	nos.	149	4,0
5) 63mm dia. Union Patente		pc.	190	1
6) 63mm dia. x 50mm dia. Reducing Socket	2	pcs.	115	2
7) 63mm dia. Elbow (90 deg.)			83	
8) 63mm dia. Elbow (45 deg.)		pc.	82	
9) 63mm dia, Gate Valve	3	pc.	841	2.5
Sub-Total of Materials		pcs.	""	11 /
Out-10(a) Of Matchais	1.			453.6
(2) Labor (35% of Material Cost)		L.S.		1 20 4
(3) Freight Cost (11% of Materials)		L.S.		158,7
Sub-Total of Transmission Main		L.3.	1	49.9
2. Distribution Pipeline	1 1 1			662.3
(1) Materials	1	100		
1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)	20			
2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)	20	pcs.	496	9.9
3) 20mm dia. PVC Pipe (Class 12.3 with pusher type socket)	30	pcs.	330	9.9
	10	pes.	110	1.1
4) 13mm dia. x 1 m Stand Pipe	10	pcs.	103	1,0
5) Solvent Cement	4	cans	50	2
6) Fittings				
a. 50mm dia. x 150mm PVC Nipple	3	pcs.	137	4
b. 32mm dia. x 150mm PVC Nipple	3	pes.	83	2
c. 13mm dia. x 150mm GI Nipple	. 40	pes.] 27	1.0
d. 50mm dia. Union Patente	1	pcs.	179	i
e. 32mm dia. Union Patente	2	pes.	78	.1
f. 13mm dia. Union Patente	10	pcs.	27	2
g. 50mm dia. x 32mm dia. Reducing Socket	6	pcs.	99	5
h. 32mm dia. x 20mm dia. Reducing Socket	10	pcs.	77	- 1
i. 20mm dia. x 13mm dia. Reducing Socket	10	pcs.	60	- 6
j. 50mm dia. PVC Elbow (90 deg.)	2	pcs.	74	. 1
k. 13mm dia. GI Elbow (90 deg.)	20	pcs.	14	2
I. 20mm dia. x 13mm dia. Socket Adaptor	- 10	pcs.	45	4
m. 50mm dia. GI Gate Valve	2	pcs.	739	1.4
n. 32mm dia. Gl Gate Valve	2	pcs.	418	. 8
o. 13mm dia. Gl Gate Valve	24	pcs.	253	6,0
p. 13mm dia. Brass Faucet	24	pcs.	45	1.0
q. 50mm dia. Tee	4	pcs.	143	5
r. 32mm dia. Tee	6	pcs.	121	7
s. Water Meter	24	pcs.	826	19,8
t. Water Meter Box	· 24	pcs.	1,212	29.0
Sub-Total of Materials	,	•		87,0
		50		51,0
(2) Labor (35% of Material Cost)				30,4
(3) Freight Cost (11% of Materials)		L.S.		9,5
Sub-Total of Distribution Pipeline		2.0.		127,0
San Total of Distriction of the Control of the Cont			[121,0
Sub-Total of C				789,3

Unit Cost of Level II (600 Service Population)

Description	Quantity	Unit	Unit Cost	Cost
D. Indirect Cost] [
1. Transmission Main				
(1) Profit (10% of C-1)] [66,23
(2) Overhead Expense (13% of C-1)			1 1	86,10
(3) VAT (10% of Profit, Overhead Expense and Labor)			1 1	. 31,11
2. Source Facilities and Distribution Pipeline			1 1	
(1) Profit (10% of A, B, C-2)	1 1			19,02
(2) Overhead Expense (13% of A,B and C-2)	1: 1		ļ. [24,73
(3) VAT (10% of Profit, Overhead Expense and Labor)	1			8,81
Sub-Total of D				236,03
Total Construction Cost (A+B+C+D)				1,088,65
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation	1 1			2,20
2. Supervision			'	13,20
3. Water Quality Analysis] [l i	1,24
Sub-Total of E				16,64
	·			
Total Estimated Cost				1,105,30
Unit Cost per Person Served			 	1,84
			1	1,80

Note: L.S. - Lump Sum
Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Table 10.2.9 Unit Cost of Level III (5,000 Service Population)

				(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		330,000
B. Source Development and Storage				
1. Deep Well	1	No.	1,770,000	1,770,000
2. Deep Well Pump	1	No.	632,000	632,000
3. Chlorinator House & Equipment	1	L.S.		480,000
4. Storage Tank (250 cu.m)	1	No.	1,200,000	1,200,000
Sub-Total of B			·	4,082,000
C. Transmission Main				
1. 160mm dia.	500	L.M.	1,234	617,00
Sub-Total of C				617,000
D. Distribution Main				
1. 160mm dia.	1,000		1,234	1,234,00
2. 110mm dia.	3,000		1,019	
3. 90mm dia.	3,000	L.M.	639	
4. 75mm dia.	5,000	L.M.	595	2,975.00
Sub-Total of D				9,183,00
E. Service Connections	1,000	Nos.	2,138	2,138,00
F. Miscellaneous				
1. Vehicle	1	No.	606,000	
2. Office & Workshop Bldg.	1	No.	606,000	606,00
3. Office Equipment		L.S.	the state of	110,00
4. Tools and Spare Parts	1	L.S.		110,00
Sub-Total of I	:			1,432,00
Total Direct Cost (A+B+C+D+E+F)	1			17,782,00
G. Indirect Cost (25% of Direct Cost)		٠		4,445,50
Total Estimated Cost				22,227,50
Unit Cost per Person Served				
For New Construction				4,44
				4,40
For Expansion of Existing System (Exclude F.)			1.	4.0
			<u> </u>	4,10

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.10 Unit Cost of Level III (10,000 Service Population)

			····	(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		330,000
B. Source Development and Storage				
1. Deep Well	1	No.	1,770,000	1,770,000
2. Deep Well Pump		No.	632,000	632,000
3. Chlorinator House & Equipment	انا	L.S.	,	480,000
4. Storage Tank (250 cu.m)		No.	1,200,000	1,200,000
Sub-Total of B				4,082,000
]			
C. Transmission Main				
1. 160mm dia.	500	L.M.	1,234	617,000
Sub-Total of C			*.	617,000
D. Distribution Main	-			
1. 160mm dia.	2,000	L.M.	1,234	2,468,000
2. 110mm dia.	5,000	L.M.	1,019	5,095,000
3. 90mm dia.	6,000	L.M.	639	3,834,000
4. 75mm dia.	8,000	L.M.	595	4,760,000
Sub-Total of D				16,157,000
E. Service Connections	2,000	Nos.		3,880,000
F. Miscellaneous	 			
1. Vehicle	1	No.	606,000	606.000
2. Office & Workshop Bldg.	1	No.	606,000	606,00
3. Office Equipment		L.S.		110,000
4. Tools and Spare Parts		L.S.		110,000
Sub-Total of F				1,432,000
Total Direct Cost (A+B+C+D+E+F)			'	26,498,000
				7772.5
G. Indirect Cost (25% of Direct Cost)				6,624,50
		··		:
				22 122 50
Total Estimated Cost	1			33,122,50
XI. I. C	_	· · ·	ļ	
Unit Cost per Person Served For New Construction				3,31
FOR INEM CONSTRUCTION				3,30
For Expansion of Existing System (Evaluda E)	1			3,13
For Expansion of Existing System (Exclude F.)				3,10

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.11 Unit Cost of Level III (15,000 Service Population)

Description	Quantity	Unit	Unit Cost	(Cost: Peso
A. Mobilization/Demobilization		L.S.		330,000
	1			
B. Source Development and Storage				
1. Deep Well	2	No.	1,770,000	3,540,00
2. Deep Well Pump	2	No.	632,000	
3. Chlorinator House & Equipment	2	L.S.		480,00
4. Storage Tank (250 cu.m)	2	No.	1,200,000	1,200,00
Sub-Total of I	3	** .		6,484,00
	,			
C. Transmission Main		77.7		
1. 160mm dia.	1,000	L.M.	1,234	1,234,00
Sub-Total of C				1,234,00
				-,
D. Distribution Main				
1. 160mm dia.	3,000	L.M.	1,234	3,702,00
2. 110mm dia.	7,000	L.M.	1,019	
3. 90mm dia.	9,000	L.M.	639	
4. 75mm dia.	11,000	L.M.	595	6,545,00
Sub-Total of I		13.111.	373	23,131,00
The second secon				23,131,00
E. Service Connections	3,000	Nos.	·	5,820,00
			A Section 1999	
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,00
2. Office & Workshop Bldg.	1	No.	606,000	606,00
3. Office Equipment		L.S.		110,00
4. Tools and Spare Parts		L.S.		110,00
Sub-Total of I	7	2.0.		1,432,00
				.,
Total Direct Cost (A+B+C+D+E+F)				38,431,00
			hit sa	30,131,00
G. Indirect Cost (25% of Direct Cost)	 			9,607,75
		11.		2,007,73
	 			
Total Estimated Cost		•	[48,038,75
Toma Sommarya Coot			1	70,030,/3
Unit Cost per Person Served	+			
For New Construction				3,20
- 3. T. O DIGH MONORY		44.4	1	3,20
For Expansion of Existing System (Exclude F.)				3,20
or expansion or existing distent (evenue 1,1)	4		1	, ,,,o

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.12 Unit Cost of Flush Water Scaled with Septic Tank Toilet

(Cost: Peso) Unit Cost Description Quantity Unit Cost 1,000 L.S. Demolition Λ, Earthwork B. 1. Materials 424 424 (1) Gravel Fill cu.m. 424 Sub-Total of B-1 2. Labor 131 786 cu.m. (1) Excavation 119 238 cu.m. (2) Backfill 155 155 cu.m (3) Gravel Fill 1,179 Sub-Total of B-2 1,603 Sub-Total of B Concrete Work 1 Materials Slab on wood planks 1.024 (1) 16 - 2" x 8" x 6' Coco Lumber bd.ft 128 162 (2) 10mm dia x 6.0m Rebar 54 pcs. 54 27 0.5 (3) #16 Tie Wire kg. 1,280 128 10 bags (4) Cement 335 503 1.5 cu.m. (5) Sand 424 848 cu.m. (6) Gravel 1,115 L.S. (7) Stone Lining with Mortar 4,959 Sub-Total of C-1 1,488 2. Labor (30% of C-1) 6,447 Sub-Total of C Carpentry Work 1. Materials 120 60 pcs. (1) Nipa 70 210 (2) 1.5m x 1.8m, amakan 3 pcs. 10 200 20 bd.ft (3) 2x 3 x 10 Coco Lumber 10 333 bd.ft (4) 2 x 2 x 10' Coco Lumber 33.3 60 20 lights (5) 3" dia. Bamboo 160 40 (6) Assorted CWN 4 kgs. 20 20 (7) Rattan wire pcs. 1,103 Sub-Total of C-1 331 2. Labor (30% of C-1) 1,434 Sub-Total of C Plumbing 1. Materials 4,500 4,500 set (1) Water Closet 1,500 (2) Water line and sanitary fixtures L.S. 6,000 Sub-Total of E-1 1,800 2. Labor (30% of E-1) 7,800 Sub-Total of E 500 L.S. Transportation Cost (excluding indigenous materials) Indirect Cost 1,878 Profit (10% of A - F) 668 VAT (10% of Profit & Labor)

(A+B+C+D+E+F+G) Source: DOH standard price in 1993 Cost adjusted to 1997 Price Level

Total of Construction Cost

Sub-Total of F

2,546

21,330

21,300

Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine

(Cost: Peso) Unit Unit Cost Quantity Cost Description Earthwork 1. Materials 424 424 (1) Gravel Fill cu.m. Sub-Total of A-1 424 2. Labor (1) Excavation cu.m. 131 786 119 238 (2) Backfill cu.m. 155 155 (3) Gravel Fill cu.m. 1,179 Sub-Total of A-2 Sub-Total of A 1,603 Concrete Work 1. Materials Slab on wood planks 128 bd.ft 1,024 (1) 16 - 2" x 8" x 6' Coco Lumber (2) 10mm dia x 6.0m Rebar pcs. 54 162 3 54 27 (3) #16 Tie Wire 0.5 kg. 128 1,280 10 bags (4) Cement 335 503 cu.m. (5) Sand 424 848 cu.m. (6) Gravel L.S. 1,115 (7) Stone Lining with Mortar Sub-Total of B-1 4,959 1,240 2. Labor (25% of B-1) 6,199 Sub-Total of B Carpentry Work 1. Materials 120 (1) Nipa 60 pcs 70 210 (2) 1.5m x 1.8m, amakan 3 pcs 20 bdft 10 200 (3) 2x 3 x 10' Coco Lumber bdft 10 333 (4) 2 x 2 x 10 Coco Lumber 33.3 20 60 (5) 3" dia. Bamboo 3 lights kgs. 40 160 (6) Assorted CWN 20 (7) Rattan wire pcs 190 190 (8) Pale (medium) рс. 180 (9) 3" dia. PVC x 3m 180 pc. 30 (10) 3" dia. PVC Elbow 15 pcs 50 (11) PVC solvent pint 50 200 200 (12) Ga. 31 x 8' plain Gi sht. sht. 1,753 Sub-Total of C-1 438 2. Labor (25% of C-1) 2,191 Sub-Total of C Plumbing 1. Material 603 603 (1) Toilet Bowl-Squat Type pc. 142 (2) 75mm dia x 6.0m PVC Pipe pc. 745 Sub-Total of D-1 186 2. Labor (25% of D-1) Sub-Total of D 931 L.S. 300 Transportation Cost (excluding indigenous materials) Indirect Cost Profit (10% of A - D) 1,311 VAT (10% of Profit & Labor) 435 1,746 Sub-Total of F 12,970 **Total Construction Cost** 13,000 (A+B+C+D+E+F)

Note: L.S. - Lump Sum

Source: DOH standard price in 1993 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.14 Unit Construction Cost of Ventilated Improved Pit Latrine

Г	Decarintia			le to the second	(Cost: Peso)
A	Description Earthwork	Quantity	Unit	Unit Cost	Cost
Α.	· · · · · · · · · · · · · · · · · · ·				
. 1.	Materials				
	(1) Gravel Fill	0.5	cu.m.	424	212
_	Sub-Total of A-1				212
2.	Labor			•	
	(1) Excavation	3	cu.m.	131	393
	(2) Backfill	1	cu.m,	. 119	119
	(3) Gravel Fill	0.5	cu.m.	155	78
	Sub-Total of A-2				590
	Sub-Total of A				802
В.	Concrete Work				
1.	Materials				1
	Slab on wood planks				* *
	(1) 8 - 2" x 8" x 6' Coco Lumber	64	bd.ft	. 8	512
	(2) 10mm dia x 6.0m Rebar	2	pcs.	54	108
	(3) #16 Tie Wire	0.5	kg.	54	27
	(4) Cement	4	bags	128	512
	(5) Sand	0.5	cu.m	335	168
	(6) Gravel	0.5	cu.m	424	212
	(7) Stone Lining with Mortar		L.S.		1,075
	Sub-total of B-1				2,614
2.	Labor (25% of B-1)	·			653
· .	Sub-Total of B		1. 1. 4.		3,267
C.	Carpentry Work		····		3,207
	Materials				
	(1) Nipa	60	pcs	2	120
: :	(2) 1.5m x 1.8m, amakan	3	pcs	70	210
	(3) 2x 3 x 10' Coco Lumber	20	bdft	10	210
	(4) 2 x 2 x 10' Coco Lumber	33.3	bdft	10	333
	(5) 3" dia. Bamboo	3	lights	20	60
	(6) Assorted CWN	4	kgs.	40	160
	(7) Rattan wire	20	pcs	1	20
	(8) 3 x 3" hinges	20	•	30	60
	Sub-Total of C-1	2	pc.	30	1,163
2	Labor (25% of C-1)				1,103
۷.					
T)	Sub-Total of C				1,454
D.	Plumbing			-	
1.	Material			e 11	a .
	(1) 50mm dia. PVC Pipe	1	pc.	71	71.
	(2) Fly Screen		LS.		55
	Sub-Total of D-1	:			126
2.	Labor (25% of D-1)				- 38
	Sub-Total of D				164
E.	Transportation Cost		L.S.		150
	(excluding indigenous materials)			:	
F.	Indirect Cost				
	Profit (10% of A - E)				584
	VAT (10% of Profit & Labor)				216
1	Sub-Total of F				800
	Total Construction Cost				6,636
	(A+B+C+D+E+F)			Say	6,600

Note: L.S. - Lump Sum Source: DOH standard price in 1993 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.15 Unit Construction Cost of Pit Latrine

(Cost: Peso) Description Quantity Unit **Unit Cost** Cost Earthwork 1. Materials (1) Gravel Fill 0.3 cu.m. 424 Sub-Total of A-1 127 2. Labor (1) Excavation 2 131 cu.m. 262 (2) Backfill 0.6 119 cu.m. 71 (3) Gravel Fill 0.3 cu.m. 155 47 Sub-Total of A-2 380 Sub-Total of A 507 Concrete Work 1. Materials Slab on wood planks (1) 8 - 2" x 8" x 6' Coco Lumber 38 bd.ft 304 (2) 10mm dia x 6.0m Rebar pcs. 54 (3) #16 Tie Wire 0.5 kg. 27 (4) Cement 3 bags 128 384 (5) Sand 0.3 cu.m 335 101 (6) Gravel 0.3 424 cu.m 127 (7) Stone Lining with Mortar 650 L.S. Sub-total of B-1 1,647 2. Labor (25% of B-1) 412 Sub-Total of B 2,059 Carpentry Work 1. Materials (1) Nipa 30 pcs. (2) 1.0m x 1.8m, amakan 3 70 210 pcs. (3) 2x 3 x 10 Coco Lumber 14 bd.ft 10 140 (4) 2 x 2 x 10' Coco Lumber 24 bd.ft 10 240 (5) 3" dia. Bamboo 3 lights 20 60 (6) Assorted CWN 3 kgs. 40 120 (7) Rattan wire 14 pcs. 14 (8) 3 x 3" hinges 30 60 pcs. Sub-Total of C-1 904 2. Labor (25% of C-1) 226 Sub-Total of C 1,130 Transportation Cost L.S. 150 (excluding indigenous materials) **Indirect Cost** Profit (10% of A-D) 370 VAT (10% of Profit & Labor) 154 Sub-Total of E 524 **Total Construction Cost** 4,370 (A+B+C+D+E)

Note: L.S. - Lump Sum

Source: DOH standard price in 1993 Unit Cost: Adjusted to 1997 Price Level

Table 10.2.16 Unit Cost of School Toilet

	Dlast		T1.	VI	
	Description	Quantity	Unit	Unit Cost	Cost
١.	Mobilization and Demobilization		L.S.		5,500
3.	Earthwork				
1.	Materials				
	(1) Gravel Fill	3.00	cu.m	424	1,27
	Sub-Total of B-1	İ		Ì	1,27
2.	Labor	,		j	,
	(1) Excavation	15.88	cu.m	- 131	2,08
	(2) Backfill	4.97	cu.m	119	59
	(3) Gravel Fill	3.00	cu.m	155	46
	Sub-Total of B-2	I		i. i	3,13
	Sub-Total of B				4,40
.	Concrete Work				
	Materials				
• • • • • • • • • • • • • • • • • • • •	(1) Cement	61.00	bags	128	7,80
	(2) Sand	4.00	cu.m	335	1,34
	(3) Gravel	8.00	cu.m	424	3,39
	(4) Rebars: 12mm dia x 6m	38.00	pes.	74	2,81
	10mm dia x 6m	57.00	pcs.	54	3,07
	(5) #16 Tie Wire	8.00	kgs.	54	43
٠.	(6) Formworks:	8.00	Kgs.	24	
	1/4" Plywood	6.00		446	2,67
	2"x2"x10" (Coco Lumber)	200.00	pcs. bd.ft.	8	1,60
	Sub-Total of C-1	200.00	0d.H.	°	23,13
			L.S.	1.	6,94
۷.	Labor (30% of C-1) Sub-Total of C		L.S.		30,07
D.	Masonry Work				30,07
	Materials				
٠.	(1) 6" CHB	800.00	pcs.	6	4,80
	(2) 4" CHB	260.00	pes.	5	1,30
		97.00	-	128	1,30
	(3) Cement		bags	335	
	(5) Sand	10.00	cu.m	1	3,35
	(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,22
	10mm dia x 6m	11.00	•	54	59
	(7) #16 Tie Wire	4.00	kgs.	54	2
	(8) Scaffolding:	en 22		1 .	
	2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	42
	Sub-Total of D-1				25,32
2.	Labor (30% of D-1)	1	L.S.		7,59
	Sub-Total of D		ļ		32,92
Ε.	Roofing Work				
1	Materials			1	
	(1) GA #26 Corr. GI (1 = 10')	20.00		290	
	(2) GA #24 Pln. GI Flashing	3.00		280	
	(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	pcs.	280	
	(4) Umbrella Nails 2 - 1/2"	12.00	kgs.	46	
	(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bf.	33	
	(6) Purlins - 2"x2"x12' = 18 pcs.	72.00	bf.	33	2,3
	(7) WD Cleats - $2''x2''x10'' = 6$ pcs.	20.00	bf.	33	6

Table 10.2.16 Unit Cost of School Toilet

Sheet 2 of S				(Cost: Peso
Description	Quantity	Unit	Unit Cost	Cost
(8) Nailers - 2"x2"x1012' = 30 pcs.	120.00	bf.	33	3,96
-2"x2"x10' = 36 pcs.	120.00	bf.	33	3,96
(9) Fascia Board			. *	
1"x12"x12' = 4 pcs.	48.00	bf.	. 33	1,58
1''x12''x18' = 2 pcs.	36.00	bf.	33	1,18
(10) Wood Plate				,
2"x4"x20' = 2 pcs.	26.66	bf.	33	880
(11) 1/4" Thk. Mar. Plywood 4'x8'	14.00	pcs.	30	42
(12) C.W.N. Assorted	15.00	kgs.	30	45
(13) 3" dia x 3m Downspout (PVC)	3.00	pcs.	85	25
(14) 3" dia Elbow (PVC)	2.00	pcs.	15	3
(15) 3"dia Coupling (PVC)	1.00	pcs.	14	1
(16) Ceiling Vent	7.00	p co.		
1''x1''x8' = 4 pcs.	2.67	bf.	27	7
(17) Screen (1/8"x1/8")	1.00	yd.	85	8
Sub-Total of E-1	1.00	yu.	ادہ	28,12
2. Labor (30% of E-1)		L.S.	v fa	8,43
Sub-Total of E		1		
F. Carpentry Work				36,55
1. Materials			100	
(1) D - I Hollow Core Tanguile				
Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,02
(2) D - 2 Hollow Core Tanguile	2.00	3013	1,214	3,02
Flush Type Door (.60x2.10)	1.00	sets	1,136	1 12
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	1,13
(4) Door Jambs (Apitong)	5.00	2012	947	4,73
2"x6"x14" = 1 pc.	14.00	bf.	2.1	10
2"x6"x10" = 2 pcs.	20.00		33	46
2"x6"x10" = 1 pc.		bf.	33	66
$2^{1}\times4^{1}\times12^{1}=5$ pcs.	18.00 40.00	bf. bf.	33	59
(7) Wooden Jalousie Window	40.00	01.	33	1,32
	14.00		216	
With 5 Blades (.40x.50)	14.00	set	316	4,42
(8) Window Jambs (Apitong)	00.00	1.0		
$2^{n}x6^{n}x16^{n} = 5 \text{ pcs.}$	80.00	bf.	33	2,64
2''x6''x14'' = 1 pc.	14.00	bf.	33	46
2"x6"x10" = 1 pc.	10.00	bf.	33	33
(9) Cabinet				- 1
3/4"x4'x8' = 1 pc. (plyboard)	1.00	pc.	821	82
Sub-Total of F-1				20,61
2. Labor (30% of F-1)		L.S.		6,18
Sub-Total of F		·		26,79
G. Tile Work				
1. Materials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950.00		4	7,80
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	7	6,30
(3) Cement	4.00	bags	128	51
(4) White Cement	1.00	bag	693	69
Sub-Total of G-1				15,30

Table 10.2.16 Unit Cost of School Toilet

Shect	3 of 5				(Cost: Peso
·	Description	Quantity	Unit	Unit Cost	Cost
2.	Labor (30% of G-1)		L.S.		4,592
	Sub-Total of G			1	19,897
H.	Plumbing Work				
1.	Materials				
	(1) Toilet Bowl - Squat Type	3.00	sets	657	1,971
	(2) Toilet Bowl-Sit Type	2.00	sets	657	. 1,314
	(3) Lavatory	2.00	sets	3,000	6,000
	(4) 4" dia x 3m PVC San. Pipe	4.00	pcs.	164	650
	(5) 3" dia x 3m PVC San. Pipe	7.00	pcs.	92	644
	(6) 1 1/2" dia x 3m PVC San. Pipe	4.00	pcs.	58	232
:	(7) 2" dia. x 3m PVC San. Pipe	2.00	pcs.	55	110
	(8) 6" x 4" Floor Drain	5.00	pcs.	92	460
	(9) 2" dia, Elbow PVC	4.00	pcs.	7	25
	(10) 4" dia WYB PVC	2.00	pcs.	27	5.
	(11) 4" dia. x 3" dia. WYB PVC	12.00	pcs.	33	39
	(12) 4" dia. x 2" dia. TEE PVC	2.00	pcs.	34	6
	(13) 4" dia. TEE PVC	3.00	pcs.	34	. 10
	(14) I 1/2" dia. WYB PVC	1.00	pcs.	13	1
	(15) 4" dia. Clean Out PVC	3.00	pcs.	38	11
	(16) 3" dia. Clean Out PVC	1.00	pcs.	30	. 3
	(17) Faucet	3.00	pcs.	55	16
٠.	(18) 3" dia. x 2" dia. WYB PVC	2.00	pcs.	27	5
	(19) 1 1/2" dia. Elbow PVC	6.00	pcs.	14	8
	(20) PVC Cement	1.00	can	133	13
	(21) 2" dia. PVC San. Pipe x 3m	2.00	pcs.	87	17
	(22) 4" dia. x 2" dia. TEE	2.00	pcs.	23	4
	(23) Check Valve 1 1/2"	1.00	pcs.	200	20
	(24) 4" P-Trap	5.00	pcs.	72	36
de,	Sub-Total of H-1				13,40
2.	Labor (30% of H-1)		L.S.		4,02
	Sub-Total of H		,	·	17,43
 .	Painting				
1.	Materials			: 1	
-	(1) Acrylic, Semi Gloss	8.00	gals.	276	2,20
	(2) Concrete Sealer	4.00	gals.	218	87
	(3) Acri Color: Wood	4.00	gals.	84	-33
-	(4) Enamel, QDE	6.00	gals.	282	1,69
	(5) Wood Putty	1.00	gals.	320	32
	(6) Paint Thinner	1.00	gals.	63	
	(7) Tinting Color	4.00	pint	42	16
	(8) Sand Paper (Assorted)	15.00	pcs.	7	l id
	(9) Misecellaneous	15.00	L.S.	·	1,06
1	(10) Roof Paint (green, ready-mix)	2.00	gals.	298	59
	(10) Root Paint (green, ready-mix) Sub-Total of I-I	2.00	gais.	278	7,42
٠ -		1	L.S.		2,22
2.	Labor (30% of I-1) Sub-Total of I		L.J.	}	9,64
	300-10(2) 01	1	ı	I	2,0

Table 10.2.16 Unit Cost of School Toilet

Description	Quantity	Unit	Unit Cost	Cost
Electrical Work				
1. Materials				1
(1) 40 Watts Flourescent Lamp	2.00			
(2) Elect. Wire TW #12	2.00	sets	270	54
(3) Elect. Conduit - 1/2" dia x 10"	24.00	M	.7	10
	4.00	pcs.	82	3:
(4) Entrance Cap. 1/2" dia	1.00	pc.	30	
(5) Switch Outlet, Flush Type	2.00	pcs.	41	
(6) Utility Box 2"x3"	2.00	pcs.	7	
(7) Porcelain Receptacle 2" dia	2.00	pcs.	7	
(8) Safety Switch 60A, 250V	1.00	set	519	5
(9) Electrical Tape	1.00	roll	23	
Sub-Total of J-1	·			1,7
2. Labor (30% of J-1)		L.S.		5
Sub-Total of J		·		2,2
Hardware				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	15	1
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	19	2
(3) Door Lockset (Schlage US)	3.00	pcs.	481	1,4
(4) Barrel Bolt (4")	5.00	pcs.	42	2
(5) Cabinet Pull (4")	5.00	pcs.	7	
(6) Water Storage Cover				
Checkered Plate 1/4" thick	· · ·		and the second	
1.44x0.645 w/ L bar & flat bar	1.00	set	1,043	1,0
0.645x0.633 w/ L bar & flat bar	2.00	set	588	1,1
(7) Padlock	1.00	pes.	401	4
Sub-Total of K-1		pes.	101	4,6
2. Labor (30% of K-1)		L.S.		1,4
Sub-Total of K	14 L. C.	U.O.		6,0
Septic Tank and Sewage Basin				0,0
1. Materials				
(1) 4" CHB	180.00	pcs.	5	9
(2) Cement	18.00	bags	128	2,3
(3) Sand	1.50	cu.m	335	5
(4) Gravel	1.00	cu.m	424	4
(5) Rebars: 10mm dia x 6m	29.00	pcs.	74	
(6) #16 Tire Wire	29.00	_	54	2,1
(7) Formworks: Coco Lumber	2.00	kgs.] 34	1
2"x3"x10' = 12 pcs.	60.00	ьf.		
1/4" plywood ord. 4'x8'			8	4
	2.00	pcs.	446	8
C.W.N. (Assorted)	2.00	kgs.	31	
Sub-Total of L-1		4 1		7,8
2. Labor (30% of L-1)		L.S.		2,3
Sub-Total of L				10,1

Sheet 5 of 5	, 	,	·	(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
M. Shallow Well (18 depth)				
a. Drilling of Well & Installation of				
Steel Casing/Screen				
1. Materials			·	
(1) 63mm x 6m PVC Pipe with socket	2.00	pcs.	896	1,792
(2) 63mm x 3m PVC Pipe with plug	1.00		452	452
(3) 63mm PVC Socket	1.00	pc.	99	
(4) 63mm x 3m PVC Screen	1.00	pc.	1,433	1
Sub-Total of M-a-1		ρυ.	1,133	3,776
2. Labor, Fuel, Lubricant and others				3,770
Well Drilling for 18m depth at				
150mm borchole	18.00	m	573	10.214
Sub-Total of M-a		111	3/3	10,314
b. Well Development		L.S.		14,090
		L.O.		550
c. Gravel Packing, Installation of Hand-	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
Pump and Construction of Platform				*
I. Materials				
(1) 50mm Jetmatic Handpump	1.00	ant	2 (22	0.601
(2) 50mm x 1m Gl Pipe (Sch. 40)	1.00	set	2,623	2,623
(3) #10 Sieved Gravel	0.10	pc.	82	82
(4) Coarse Sand		cu.m	959	96
(5) Cement for Sanitary Seal	0.07	cu.m	474	. 33
(6) Pump Base and Platform	1.00	bag	128	128
1) Cement	4.00			
	4.00	bags	128	. 512
2) Gravel	1.00	cu.m	424	424
3) Sand	1.00	cu.m	335	. 335
4) Plywood (1,200mm x 2,400mm x 6mm)	1.00	pc.	446	446
5) Form Lumber (50mmx75mmx1,800mm)	1.00	pc.	49	49
6) Nail	1.00	kg.	31	31
Sub-Total of M-c-1			4.5	4,759
2. Labor (40% of M-c-1)		L.S.		1,904
Sub-Total of M-c				6,663
Sub-Total of M				21,303
N. Freight Cost (11% of Materials for A - M		L.S.		16,081
excluding sand and gravel)		<u> </u>		
O. Indirect Cost				
Profit (10% of A - N)	<u> </u>			23,911
VAT (10% of Profit & Labor)	;			7,322
Sub-Total of O			<u> </u>	31,233
Total of Construction Cost	· · · ·			270,340
(A to O)			<u> </u>	
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision	, 1	L.S.		1,600
Sub-Total of P	. :			3,800
GRAND TOTAL			1 1 1 1	274,140
			Say	274,100

Source: DOH standard price in 1993. Unit Cost: Adjusted to 1997 Price Level Table 10.2.17 Unit Cost of Public Toilet

sneet	1 of 5				(Cost: Peso)
****	Description	Quantity	Unit	Unit Cost	Cost
1. '	Mobilization and Demobilization (2.4% of B - M)		L.S.		6,800
3.	Earthwork				
1.	Materials				4
	(1) Gravel Fill	3.00	cu.m	424	1,272
:	Sub-Total of B-1				1,272
2.	Labor				-,
	(1) Excavation	15.88	cu.m	131	2,080
	(2) Backfill	4.97	cu.m	119	591
	(3) Gravel Fill	3.00	cu.m	155	46:
-	Sub-Total of B-2		٠.		3,137
	Sub-Total of B				4,409
C.	Concrete Work				
1.	Materials				
	(1) Cement	61.00	bags	128	7,808
-	(2) Sand	4.00	cu.m	335	
	(3) Gravel	8.00	cu m	424	
	(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	
	10mm dia x 6m	57.00	pcs.	52	
	(5) #16 Tie Wire	8.00	kgs.	52	
	(6) Formworks:		-		
	1/4" Plywood	6.00	pcs.	446	2,670
	2"x2"x10" (Coco Lumber)	200.00	bd.ft.	8	1,600
	Sub-Total of C-1				23,008
2.	Labor (30% of C-1)				6,90
	Sub-Total of C				29,910
D.	Masonry Work				
1.	Materials			1.1	
	(1) 6" CHB	800.00	pcs.	6	4,800
	(2) 4" CHB	260.00	pcs.	5	1,30
	(3) Cement	97.00	bags	128	12,41
	(5) Sand	10.00	cu.m	335	3,35
	(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,22
	10mm dia x 6m	11.00	pcs.	54	59
	(7) #16 Tie Wire	4.00	kgs.	54	21
	(8) Scaffolding:				
	2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	42
٠.	Sub-Total of D-1				25,32
2	Labor (30% of D-1)				7,59
	Sub-Total of D	1			32,92
E.	Roofing Work	1			
	. Materials				
	(1) GA #26 Corr. GI (1 = 10')	20,00	pcs,	290	5,80
	(2) GA #24 Pln. GI Flashing	3.00	1 -	280	
	(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	1 -	280	
	(4) Umbrella Nails 2 - 1/2"	12.00		46	1 .
	(5) Rafter - $2"x5"x18' = 5 pcs$.	75.00	_	33	

Table 10.2.17 Unit Cost of Public Toilet

(Cost: Peso)

Sheet 2 of 5

	Description	Quantity	Unit	Unit Cost	Cost
	(6) Purlins - $2''x2''x12' = 18$ pcs.	72.00	bf.	33	2,376
	(7) WD Cleats - $2"x2"x10" = 6$ pcs.	20.00	bf.	33	660
1 .	(8) Nailers - $2"x2"x1012' = 30$ pcs.	120.00	bf.	33	3,960
	-2''x2''x10' = 36 pcs.	120.00	bf.	33	3,960
	(9) Fascia Board			i i	
	1"x12"x12' = 4 pcs.	48.00	bf.	33	1,584
.	1"x12"x18' = 2 pcs.	36.00	bf.	33	1,188
	(10) Wood Plate				
	2"x4"x20' = 2 pcs.	26,66	bf.	33	880
	(11) 1/4" Thk. Mar. Plywood 4'x8'	14.00	pcs.	479	6,706
	(12) C.W.N. Assorted	15.00	kgs.	30	450
	(13) 3" dia x 3m Downspout (PVC)	3.00	pcs.	. 85	255
	(14) 3" dia Elbow (PVC)	2.00	pcs.	15	30
	(15) 3"dia Coupling (PVC)	1.00	pcs.	- 14	14
	(16) Ceiling Vent, 1"x1"x8', 4 pcs.	2.67	bf.	: 27	72
	(17) Screen (1/8"x1/8")	1.00	yđ.	85	85
.	Sub-Total of E-1				34,407
. 2.	Labor (30% of E-1)				10,322
1	Sub-Total of E				44,729
F.	Carpentry Work				
1.	Materials		,		
.	(1) D - 1 Hollow Core Tanguile			·	
.	Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,028
1	(2) D - 2 Hollow Core Tanguile				. :
	Flush Type Door (.60x2.10)	1.00	sets	1,136	1
	(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,735
1	(4) Door Jambs (Apitong)				
• .	2''x6''x14'' = 1 pc.	-14.00		.33	462
	2"x6"x10" = 2 pcs.	20.00	bf.	33	660

Table 10.2.17 Unit Cost of Public Toilet

Sheet 3 of 5

Sheet 3 of 5	т т			(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
(4) White Cement	1.00	bag	693	693
(5) Tiles Fittings		L.S.		5,280
Sub-Total of G-1	·			20,585
2. Labor (30% of G-1)				6,176
Sub-Total of G	!			26,761
H. Plumbing Work				
1. Materials				
(1) Urinal	3.00	sets	1,171	3,51.
(2) Toilet Bowl - Squat Type	6.00	sets	657	3,942
(3) 4" dia x 3m PVC San. Pipe	6.00	pcs.	164	984
(4) 3" dia x 3m PVC San. Pipe	4.00	pcs.	92	36
(5) 2" dia x 3m PVC San. Pipe	3.00	pcs.	55	16:
(6) 3/4" dia x 6m G.I. Pipe Sch. 40	5.00	pcs.	269	1,345
(7) 1/2" dia x 6m G.I. Pipe Sch. 40	1.00	pcs.	197	197
(8) 4"x4" WYE PVC	1.00	pcs.	27	27
(9) 3" dia Elbow PVC	10.00	pcs.	33	330
(10) 3" dia 45 degrees Bend PVC	2.00	pcs.	27	52
(11) 2" dia Elbow PVC	6.00	pcs.	7	4.
(12) 2" dia 45 degrees Bend PVC	2.00	pcs.	22	44
(13) 1/2" dia Elbow G.I.	5.00	pcs.	11	5:
(14) 4" dia 3" dia WYE PVC	8.00	pcs.	44	352
(15) 3/4" dia TEE G.I.	7.00	pcs.	44	308
(16) 1/2" dia TEE G.I.	5.00	pcs.	22	110
(17) 4" dia x 2" dia TEE PVC	6.00	pcs.	44	264
(18) 4" dia Clean Out PVC	3.00	pcs.	38	114
(19) 2" dia Clean Out PVC	1.00	pcs.	27	2
(20) Faucet	10.00		55	550
(21) 3" dia x 2" dia Elbow Reducer PVC	1.00	pcs.		
(22) 3" dia x 2" dia WYE PVC	3.00	pcs.	30	30
(23) 2" dia x 2" dia WYE PVC	1		27	8
(24) PVC Coment	3.00	_	16	4
(25) 4" dia x 2" dia WYE PVC	1.00		133	13.
(26) Gate Valve 3/4" dia	2.00	1 7 .	44	8
	1.00		133	13
(27) Gate Valve 1/2" dia	1.00	1 -	105	10
(28) Water Meter 3/4" dia	1.00		1,390	
(29) 3/4"dia x1/2"dia Elbow Reducer G.I.	1.00	pcs.	15	1
Sub-Total of H-1				14,81
2. Labor (30% of H-1) Sub-Total of H				4,44
I. Painting	1			19,25
l Materials				
(1) Acrylic, Semi Gloss	8.00	gals	276	2,20
(2) Concrete Sealer	4.00	_	218	
(3) Acri Color: Wood	4.00	_	84	
(4) Enamel, QDE	6.00		282	F .
(5) Wood Putty	1.00		La contract of the second	1
(6) Paint Thinner	1.00	T.	320 63	4 3 4 4

Table 10.2.17 Unit Cost of Public Toilet

Shee	t 4	اما	f
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Cost: I							
Description	Quantity	Unit	Unit Cost	Cost			
(7) Tinting Color	4.00	pint	42	168			
(8) Sand Paper (Assorted)	15.00		7	105			
(9) Misecellaneous		L.S.	'	1,066			
(10) Roof Paint (green, ready-mix)	2.00	1	298				
Sub-Total of I-	1			7,426			
2. Labor (30% of I-1)			İ	2,228			
Sub-Total of	II .			9,654			
J. Electrical Work		1		2,054			
1. Materials							
(1) 40 Watts Flourescent Lamp	2.00	sets	270	540			
(2) Elect. Wire TW #12	24.00		7	168			
(3) Elect. Conduit - 1/2" dia x 10"	4.00	1	82	1 1			
(4) Entrance Cap. 1/2" dia	1.00	1 1	30	328			
(5) Switch Outlet, Flush Type	2.00	4	41	30			
(6) Utility Box 2"x3"	2.00	1 2	71	82			
(7) Porcelain Receptacle 2" dia	2.00		/	14			
(8) Safety Switch 60A, 250V	1.00	1 1	510	14			
(9) Electrical Tape	1.00		519	519			
Sub-Total of J-		1011	23	23			
2. Labor (30% of J-1)	1			1,718			
Sub-Total of	T .	:		515			
K. Hardware		 	 i	2,233			
1. Materials							
(1) 3"x3" Butt Hinges (Loose Pin)	10.00		,,				
(2) 4"x4" Butt Hinges (Loose Pin)		*	15	150			
(3) Door Lockset (Schlage US)	12.00	pcs.	19	. 228			
(4) Barrel Bolt (4")	3.00	pcs.	481	1,443			
(5) Cabinet Pull (4")	5.00	pcs.	42	210			
(6) Water Storage Cover	5.00	pcs.	7	35			
Checkered Plate 1/4" thick							
1.44x0.633 w/ L bar & flat bar	1.00	set	1,043	1,043			
(7) 0.645x0.633 w/ L bar & flat bar	2.00	set	588	1,176			
(8) Padlock	1.00	pcs.	401	401			
Sub-Total of K-1			. 1	4,686			
2. Labor (30% of K-1)				1,406			
Sub-Total of K				6,092			
L. Septic Tank and Sewage Basin							
1. Materials							
(1) 4" CHB	180.00	pcs.	5	900			
(2) Cement	18.00	bags	128	2,304			
(3) Sand	1.50	cu.m	335	503			
(4) Gravel	1.60	cu.m	424	424			
(5) Rebars: 10mm dia x 6m	29.00	pcs.	74	2,146			
(6) #16 Tire Wire	2.00	kgs.	54	108			

Table 10.2.17 Unit Cost of Public Toilet

Sheet 5 of 5 (Cost: Peso) Description Quantity Unit **Unit Cost** Cost (7) Formworks: Coco Lumber 2''x3''x10' = 12 pcs60.00 bf. 480 1/4" plywood ord. 4'x8' 2.00 446 pcs. 892 C.W.N. (Assorted) 2.00 kgs. 31 62 Sub-Total of L-1 7,819 2. Labor (30% of L-1) 2,346 Sub-Total of L 10,165 Concrete Water Tank (Elevated) 1. Earth Work (1) Materials 1) Gravel Fill 1.00 cu.m 424 424 Sub-Total of M-1 (1) 424 (2) Labor 1) Excavation 14.70 cu.m 131 1,926 2) Backfill 13.08 1,557 cu.m 119 3) Gravel Fill 1.00 cu.m 155 155 Sub-Total of M-1 (2) 3,637 Sub-Total of M-1 4,061 2. Materials (1) Cement 62.00 bags 128 7.936 (2) Sand 4.50 cu.m 335 1,508 (3) Gravel 8.00 cu.m 424 3,392 (4) Rebars: 12mm dia x 6m 160,00 54 pcs. 8,640 (5) #16 Tie Wire 4.00 54 kgs. 216 (6) Formworks: 1/4" plywood 12.00 pcs. 446 5,352 2''x3''x16' = 60 pcs.480.00 bf. 8 3,840 (7) C.W.N. (Assorted) 5.00 kgs. 31 155 Sub-Total of M-2 43,222 3. Labor (30% of M-2) 12,967 Sub-Total of M 60,250 Freight Cost (11% of Materials for A - M 20,841 excluding sand and gravel) Indirect Cost 0. Profit (10% of A - M) 30,049 VAT (10% of Profit & Labor) 9,783 Sub-Total of O 39,832 **Total of Construction Cost** 340,321

Source: DOH standard price in 1993. Unit Cost: Adjusted to 1997 Price Level

2. Construction Supervision

GRAND TOTAL

(A to O)

Estimated Government Expenses

1. Preliminary & Detailed Engineering Cost

Sub-Total of P

L.S.

L.S.

2,200

1,600

3,800

344,121 344,100

10.2.2 Unit Cost of Equipment

Unit cost (CIF Manila) of equipment was referred to the market price in 1997 as follows.

(1) Medium size rotary drilling rig

Type: Truck-mounted top head drive mud circulation type

Rated drilling capacity: 150 m depth for \$\phi250 mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, casing tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 32,314,000 per set

(2) Medium size percussion drilling equipment

Type: Truck-mounted cable percussion type

Rated drilling capacity: 150 m depth for \$\phi250\$ mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, pipe handling tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 25,582,000 per set

(3) Well rehabilitation equipment

Equipment composition:

One unit of diesel engine driven air compressor (7.5 kg/sq.cm, 500 liter/min.)

One set of air hose and hose fittings

Unit cost: Peso 280,000 per set

(4) Service truck

Type: Diesel engine driven 4 tons truck equipped with crane

Unit cost: Peso 1,200,000 per unit

(5) Support vehicle

Type: Diesel engine driven pick-up truck with electric winch

Unit cost: Peso 590,000 per unit

(6) Refuse collection truck

Type: Closed type compactor truck with 5 cu.m of payload capacity

Unit cost: Peso 2,057,000 per unit including spare parts

(7) Maintenance tools

One set of maintenance tools for O&M of Level I facility shall be provided to respective municipality.

Unit cost: Peso 10,000 per unit

(8) Water quality testing kits

One set of water quality testing kits for O&M of Level I facility shall be provided to respective municipality.

Type: Ammonia-nitrogen/Iron testing kit

Unit cost: Peso 15,300 per unit

10.2.3 Cost of Laboratory and Equipment

Required cost for new laboratory including building/facility and instruments/chemicals and additional cost for upgrading of existing laboratory are shown in Table 10.2.18 and Table 10.2.19, respectively.

Table 10.2.18 Cost for New Laboratory

Item	Unit	Unit Cost (Pesos)	Qty.	Amount (Pesos)
1.Building				
New Building	m²	15,000	57	855,000
2.Instruments				
Turbidity meter	set	35,000	1	35,000
Color meter	set	9,800	1	9,800
pH/Residual chlorine cheker	set	15,000	1	15,000
Incubator	set	100,000	1	100,000
Refrigerator	set	25,000	2	50,000
Sterilizer	set	50,000	1	50,000
Water quality testing kits	set	300,000	l	300,000
Electric stove	set	1,000	1	1,000
Range hood	set	10,000	1	10,000
Sub-total				570,800
3.Accessories				
Sink	L.S.			
Working table	L.S.	·		
Shelf	L.S.			1.
Office desk	L.S.			
Chair	L.S.			
Sub-total				60,000
4.Glassware/Chemicals				
Glassware/Chemicals	L.S.			100,000
Total				1,585,800

Table 10.2.19 Cost for Upgrading Laboratory

Item	Unit	Unit Cost (Pesos)	Qty.	Amount (Pesos)
1.Instruments	. 4			
Turbidity meter	set	35,000	1	35,000
Color meter	set	9,800	1	9,800
pH/Residual chlorine cheker	set	15,000	I	15,000
Incubator	set	100,000	0	0
Refrigerator	set	25,000	1	25,000
Sterilizer	set	50,000	0	0
Water quality testing kits	set	300,000	: 1	300,000
Electric stove	set	1,000	1	1,000
Range hood	set	10,000	1	10,000
Sub-total				395,800
2.Glassware/Chemicals				
Glassware/Chemicals	L.S.			50,000
Total				445,800