

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

	Water Supply			Sanitation		Projection by major materials			Canvassed/collected price			Remarks Compared with (2), (3)	
	L-I	L-II	L-III	ST/PT	Flush type	VIP/Pit	NSO wholesale price index		Price	(2)	DPWH (3)		CIA
							1995	1997					
1. Sand, stone, gravel Sand Gravel	*	*	*	*	*	*	311.6	343.5	0.050	304	335	350	Almost same with (2),(3)
2. Cement	*	*	*	*	*	*	197.4	200.1	0.007	117	119	105	- do -
3. Fuel and Lubricant	*	*	*	*	*	*	601.6	694.0	0.074	1,100	1,269	1,306	- do -
4. Metal pipe 100m/m x 3m, casing 100m/m x 3m, screen	*	*	*	*	*	*	208.7	211.5	0.007	2,625	2,660	2,763	Price of casing is almost same with (2), screen is 20% lower than (2)
5. PVC pipe 63m/m pipe w/socket 1 1/2" elbow	*	*	*	*	*	*	199.2	221.1	0.054	813	902	715	Price of PVC pipe is almost same with (2) and/or 25% higher than (3)
6. Reinforcing steel 12m/m x 6m 10m/m x 6m	*	*	*	*	*	*	201.4	207.4	0.015	68	70	70	Same with (3)
7. Lumber	*	*	*	*	*	*	268.5	277.4	0.016	49	50	49	
8. Paint Enamel, QDE	*	*	*	*	*	*	128.0	132.8	0.019	266	276	275	Same with (3)
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	31,834
(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				
Well Drilling for 40 m depth at 200mm borehole	40	m	2,460	98,400
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		5,301
Sub-Total of B				156,892
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				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	6	pcs.	1,880	11,280
(3) #10 Sieved Gravel	0.7	cu.m	959	671
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				25,019
2. Labor (40% of D-1.)				10,008
3. Freight Cost (11% of Materials)		L.S.		2,752
Sub-Total of D				37,779
E. Indirect Cost				
Profit (10% of A, B, C & D)				24,674
Overhead Expense (13% of A,B,C & D)				32,076
VAT (10% of Labor, Profit & Overhead Expense)				16,516
Sub-Total of E				41,190
Total of Construction Cost (A+B+C+D+E)				259,693
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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				266,437
SAY				266,400

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

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

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		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	31,834
(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	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 40 m depth at 150mm borehole	40	m	1,534	61,360
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		4,878
Sub-Total of B				115,579
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 C				22,950
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	6	pcs.	1,880	11,280
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				24,220
2. Labor (40% of D-1.)				9,688
3. Freight Cost (11% of Materials)		L.S.		2,664
Sub-Total of D				36,572
E. Indirect Cost				
Profit (10% of A, B, C & D)				19,010
Overhead Expense (13% of A,B,C & D)				24,713
VAT (10% of Labor, Profit & Overhead Expense)				11,477
Sub-Total of E				30,487
Total of Construction Cost (A+B+C+D+E)				206,470
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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				213,214
SAY				213,200

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology 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)

(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	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				
Well Drilling for 40 m depth at 200mm borehole	80	m	2,460	196,800
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		9,439
Sub-Total of B				297,052
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				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	12	pcs.	1,880	22,560
(3) #10 Sieved Gravel	1.6	cu.m	959	1,534
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				37,162
2. Labor (40% of D-1.)				14,865
3. Freight Cost (11% of Materials)		L.S.		4,088
Sub-Total of D				56,115
E. Indirect Cost				
Profit (10% of A, B, C & D)				40,524
Overhead Expense (13% of A,B,C & D)				52,681
VAT (10% of Labor, Profit & Overhead Expense)				30,487
Sub-Total of E				71,011
Total of Construction Cost (A+B+C+D+E)				448,010
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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				454,754
SAY				454,800

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.3 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 80m 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	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	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 80 m depth at 150mm borehole	80	m	1,534	122,720
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		9,016
Sub-Total of B				218,699
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 C				22,950
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	8	pcs.	1,880	15,040
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				27,980
2. Labor (40% of D-1.)				11,192
3. Freight Cost (11% of Materials)		L.S.		3,078
Sub-Total of D				42,250
E. Indirect Cost				
Profit (10% of A, B, C & D)				29,890
Overhead Expense (13% of A,B,C & D)				38,857
VAT (10% of Labor, Profit & Overhead Expense)				20,266
Sub-Total of E				50,156
Total of Construction Cost (A+B+C+D+E)				334,937
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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				341,681
SAY				341,700

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (a) Unit Cost of Level I (Gravel Packed Deep Well - 120m 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	37	pcs.	2,894	107,078
(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				
Well Drilling for 120 m depth at 200mm borehole	120	m	2,460	295,200
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		13,578
Sub-Total of B				437,213
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				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	pcs.	1,880	28,200
(3) #10 Sieved Gravel	2.5	cu.m	959	2,398
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				43,666
2. Labor (40% of D-1.)				17,466
3. Freight Cost (11% of Materials)		L.S.		4,803
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)				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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				633,283
SAY				633,300

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 120m 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	37	pcs.	2,894	107,078
(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	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 120 m depth at 150mm borehole	120	m	1,534	184,080
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		13,154
Sub-Total of B				321,819
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 C				22,950
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	pcs.	1,880	28,200
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	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				
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)				29,757
Sub-Total of E				71,946
Total of Construction Cost (A+B+C+D+E)				479,718
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.		1,244
Sub-Total of F				6,744
GRAND TOTAL				486,462
SAY				486,500

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

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

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		5,000
B. Well Rehabilitation				
1. Materials				
(1) Cylinder Pump Set	1	set	9,922	9,922
(2) Cement for Surface Sealing	4	bags	128	512
(3) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (4' x 8' x 1/4")	1	pc.	275	275
5) Form Lumber (2" x 3" x 6")	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 Materials)				1,401
Sub-Total of B				19,227
C. Well Development		L.S.		28,000
D. Indirect Cost				
Profit (10% of A, B & C)				5,223
Overhead Expense (13% of A,B & C)				6,790
VAT (10% of Profit & Labor)				3,832
Sub-Total of D				15,845
Total of Construction Cost (A+B+C+D)				68,072
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		1,200
2. Supervision		L.S.		720
3. Water Quality Analysis		L.S.		1,244
Sub-Total of E				3,164
GRAND TOTAL				71,236
SAY				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)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,000
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 63mm x 6m PVC Pipe with socket	2	pcs.	896	1,792
(2) 63mm x 3m PVC Pipe with plug	1	pc.	452	452
(3) 63mm PVC Socket	1	pc.	99	99
(4) 63mm x 3m PVC Screen	1	pc.	1,433	1,433
(5) Casing Centralizer	2	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	4	hr.	1,482	5,928
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1	set	2,623	2,623
(2) 50mm Riser Pipe and Foot Valve	1	pc.	110	110
(3) #10 Sieved Gravel	0.1	cu.m	959	96
(4) Coarse Sand	0.07	cu.m	335	23
(5) Cement for Sanitary Seal	4	bag	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	1	cu.m	424	424
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800 mm)	1	pc.	49	49
6) Nail	1	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				60,900

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.7 Unit Cost of Level I (Spring Development)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,600
B. Construction of Spring Box				
1. Materials		L.S.		39,900
2. Labor (35% of 1.)		L.S.		13,965
3. Freight Cost (11% of Materials)		L.S.		4,389
Sub-Total of B				58,254
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials				
1) 63mm dia. PVC Pipe (Class 12.5 with push type socket)	330	pcs.	896	295,680
2) 63mm dia. Tee	1	no.	97	97
3) Solvent Cement	26	cans	50	1,300
4) 63mm dia. Elbow (90 deg.)	3	nos.	83	249
5) 63mm dia. Elbow (45 deg.)	1	pc.	82	82
6) 50mm dia. Gate Valve	2	pcs.	841	1,682
7) 50mm dia. x 1m Stand Pipe	1	pc.	165	165
8) 63mm x 50mm GI Nipple	1	pc.	115	115
9) 50mm dia. Union Patente	3	pcs.	179	537
10) 63mm x 50mm dia. Reducing Socket	2	pcs.	106	212
11) 50mm dia. GI Elbow (90 deg.)	2	pcs.	74	148
12) 63mm x 50mm dia. Socket Adaptor	2	pcs.	156	312
13) 50mm dia. GI Gate Valve	2	pcs.	739	1,478
14) 13mm dia. Brass Faucet	2	pcs.	45	90
Sub-Total of Materials				302,057
(2) Labor (35% of Material Cost)		L.S.		105,720
(3) Freight Cost (11% of Materials)		L.S.		33,226
Sub-Total of C				441,003
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C)				44,100
(2) Overhead Expense (13% of C)				57,330
(3) VAT (10% of Profit, Overhead Expense and Labor)				20,715
2. Source Facilities				
(1) Profit (10% of A, B)				18,556
(2) Overhead Expense (13% of A, B)				6,185
(3) VAT (10% of Profit, Overhead Expense and Labor)				3,871
Sub-Total of D				150,757
Total Construction Cost (A+B+C+D)				653,614
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation				2,200
2. Supervision				13,200
3. Water Quality Analysis				1,244
Sub-Total of E				16,644
GRAND TOTAL				670,258
SAY				670,300

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

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

sheet 1 of 2

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		5,000
B. Construction of Spring Box				
1. Materials		L.S.		39,900
2. Labor (35% of 1.)		L.S.		13,965
3. Freight Cost (11% of Materials)		L.S.		4,389
Sub-Total of B				58,254
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials				
1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)	500	pcs.	896	448,000
2) 63mm dia. Tee	1	no.	97	97
3) Solvent Cement	40	cans	50	2,000
4) 63mm dia. x 50mm Nipple	3	nos.	149	447
5) 63mm dia. Union Patente	1	pc.	190	190
6) 63mm dia. x 50mm dia. Reducing Socket	2	pcs.	115	230
7) 63mm dia. Elbow (90 deg.)	1	pc.	83	83
8) 63mm dia. Elbow (45 deg.)	1	pc.	82	82
9) 63mm dia. Gate Valve	3	pcs.	841	2,523
Sub-Total of Materials				453,652
(2) Labor (35% of Material Cost)		L.S.		158,778
(3) Freight Cost (11% of Materials)		L.S.		49,902
Sub-Total of Transmission Main				662,332
2. Distribution Pipeline				
(1) Materials				
1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)	20	pcs.	496	9,920
2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)	30	pcs.	330	9,900
3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)	10	pcs.	110	1,100
4) 13mm dia. x 1 m Stand Pipe	10	pcs.	103	1,030
5) Solvent Cement	4	cans	50	200
6) Fittings				
a. 50mm dia. x 150mm PVC Nipple	3	pcs.	137	411
b. 32mm dia. x 150mm PVC Nipple	3	pcs.	83	249
c. 13mm dia. x 150mm GI Nipple	40	pcs.	27	1,080
d. 50mm dia. Union Patente	1	pcs.	179	179
e. 32mm dia. Union Patente	2	pcs.	78	156
f. 13mm dia. Union Patente	10	pcs.	27	270
g. 50mm dia. x 32mm dia. Reducing Socket	6	pcs.	99	594
h. 32mm dia. x 20mm dia. Reducing Socket	10	pcs.	77	770
i. 20mm dia. x 13mm dia. Reducing Socket	10	pcs.	60	600
j. 50mm dia. PVC Elbow (90 deg.)	2	pcs.	74	148
k. 13mm dia. GI Elbow (90 deg.)	20	pcs.	14	280
l. 20mm dia. x 13mm dia. Socket Adaptor	10	pcs.	45	450
m. 50mm dia. GI Gate Valve	2	pcs.	739	1,478
n. 32mm dia. GI Gate Valve	2	pcs.	418	836
o. 13mm dia. GI Gate Valve	24	pcs.	253	6,072
p. 13mm dia. Brass Faucet	24	pcs.	45	1,080
q. 50mm dia. Tee	4	pcs.	143	572
r. 32mm dia. Tee	6	pcs.	121	726
s. Water Meter	24	pcs.	826	19,824
t. Water Meter Box	24	pcs.	1,212	29,088
Sub-Total of Materials				87,013
(2) Labor (35% of Material Cost)				30,455
(3) Freight Cost (11% of Materials)		L.S.		9,571
Sub-Total of Distribution Pipeline				127,039
Sub-Total of C				789,371

Table 10.2.7 Unit Cost of Level II (600 Service Population)

sheet 2 of 2

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C-1)				66,233
(2) Overhead Expense (13% of C-1)				86,103
(3) VAT (10% of Profit, Overhead Expense and Labor)				31,111
2. Source Facilities and Distribution Pipeline				
(1) Profit (10% of A, B, C-2)				19,029
(2) Overhead Expense (13% of A,B and C-2)				24,738
(3) VAT (10% of Profit, Overhead Expense and Labor)				8,819
Sub-Total of D				236,033
Total Construction Cost (A+B+C+D)				1,088,658
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation				2,200
2. Supervision				13,200
3. Water Quality Analysis				1,244
Sub-Total of E				16,644
Total Estimated Cost				1,105,302
Unit Cost per Person Served				1,842
				1,800

Note: L.S. - Lump Sum

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

Unit Cost: Adjusted to 1997 Price Level

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	617,000
Sub-Total of C				617,000
D. Distribution Main				
1. 160mm dia.	1,000	L.M.	1,234	1,234,000
2. 110mm dia.	3,000	L.M.	1,019	3,057,000
3. 90mm dia.	3,000	L.M.	639	1,917,000
4. 75mm dia.	5,000	L.M.	595	2,975,000
Sub-Total of D				9,183,000
E. Service Connections	1,000	Nos.	2,138	2,138,000
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	606,000	606,000
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)				17,782,000
G. Indirect Cost (25% of Direct Cost)				4,445,500
Total Estimated Cost				22,227,500
Unit Cost per Person Served				
For New Construction				4,446
For Expansion of Existing System (Exclude F.)				4,400
				4,088
				4,100

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	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	617,000
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	606,000
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
G. Indirect Cost (25% of Direct Cost)				6,624,500
Total Estimated Cost				33,122,500
Unit Cost per Person Served				
For New Construction				3,312
For Expansion of Existing System (Exclude F.)				3,300
				3,133
				3,100

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)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		330,000
B. Source Development and Storage				
1. Deep Well	2	No.	1,770,000	3,540,000
2. Deep Well Pump	2	No.	632,000	1,264,000
3. Chlorinator House & Equipment	2	L.S.		480,000
4. Storage Tank (250 cu.m)	2	No.	1,200,000	1,200,000
Sub-Total of B				6,484,000
C. Transmission Main				
1. 160mm dia.	1,000	L.M.	1,234	1,234,000
Sub-Total of C				1,234,000
D. Distribution Main				
1. 160mm dia.	3,000	L.M.	1,234	3,702,000
2. 110mm dia.	7,000	L.M.	1,019	7,133,000
3. 90mm dia.	9,000	L.M.	639	5,751,000
4. 75mm dia.	11,000	L.M.	595	6,545,000
Sub-Total of D				23,131,000
E. Service Connections	3,000	Nos.		5,820,000
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	606,000	606,000
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)				38,431,000
G. Indirect Cost (25% of Direct Cost)				9,607,750
Total Estimated Cost				48,038,750
Unit Cost per Person Served				
For New Construction				3,203
For Expansion of Existing System (Exclude F.)				3,200
				3,083
				3,100

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 10.2.12 Unit Cost of Flush Water Sealed with Septic Tank Toilet

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Demolition		L.S.		1,000
B. Earthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	424	424
Sub-Total of B-1				424
2. Labor				
(1) Excavation	6	cu.m.	131	786
(2) Backfill	2	cu.m.	119	238
(3) Gravel Fill	1	cu.m.	155	155
Sub-Total of B-2				1,179
Sub-Total of B				1,603
C. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.ft	8	1,024
(2) 10mm dia x 6.0m Rebar	3	pcs.	54	162
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	10	bags	128	1,280
(5) Sand	1.5	cu.m.	335	503
(6) Gravel	2	cu.m.	424	848
(7) Stone Lining with Mortar		L.S.		1,115
Sub-Total of C-1				4,959
2. Labor (30% of C-1)				1,488
Sub-Total of C				6,447
D. Carpentry Work				
1. 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	bd.ft	10	200
(4) 2 x 2 x 10' Coco Lumber	33.3	bd.ft	10	333
(5) 3" dia. Bamboo	3	lights	20	60
(6) Assorted CWN	4	kgs.	40	160
(7) Rattan wire	20	pcs.	1	20
Sub-Total of C-1				1,103
2. Labor (30% of C-1)				331
Sub-Total of C				1,434
E. Plumbing				
1. Materials				
(1) Water Closet	1	set	4,500	4,500
(2) Water line and sanitary fixtures		L.S.		1,500
Sub-Total of E-1				6,000
2. Labor (30% of E-1)				1,800
Sub-Total of E				7,800
F. Transportation Cost (excluding indigenous materials)		L.S.		500
G. Indirect Cost				
Profit (10% of A - F)				1,878
VAT (10% of Profit & Labor)				668
Sub-Total of F				2,546
Total of Construction Cost (A+B+C+D+E+F+G)				21,330
				21,300

Source: DOH standard price in 1993

Cost adjusted to 1997 Price Level

Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine

(Cost: Peso)

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

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

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Earthwork				
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
B. Concrete Work				
1. Materials				
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				3,267
C. Carpentry Work				
1. 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	200
(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	2	pc.	30	60
Sub-Total of C-1				1,163
2. Labor (25% of C-1)				291
Sub-Total of C				1,454
D. Plumbing				
1. Material				
(1) 50mm dia. PVC Pipe	1	pc.	71	71
(2) Fly Screen		L.S.		55
Sub-Total of D-1				126
2. Labor (25% of D-1)				38
Sub-Total of D				164
E. Transportation Cost (excluding indigenous materials)		L.S.		150
F. Indirect Cost				
Profit (10% of A - E)				584
VAT (10% of Profit & Labor)				216
Sub-Total of F				800
Total Construction Cost (A+B+C+D+E+F)			Say	6,636
				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
A. Earthwork				
1. Materials				
(1) Gravel Fill	0.3	cu.m.	424	127
Sub-Total of A-1				127
2. Labor				
(1) Excavation	2	cu.m.	131	262
(2) Backfill	0.6	cu.m.	119	71
(3) Gravel Fill	0.3	cu.m.	155	47
Sub-Total of A-2				380
Sub-Total of A				507
B. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 8 - 2" x 8" x 6' Coco Lumber	38	bd.ft	8	304
(2) 10mm dia x 6.0m Rebar	1	pcs.	54	54
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	3	bags	128	384
(5) Sand	0.3	cu.m	335	101
(6) Gravel	0.3	cu.m	424	127
(7) Stone Lining with Mortar		L.S.		650
Sub-total of B-1				1,647
2. Labor (25% of B-1)				412
Sub-Total of B				2,059
C. Carpentry Work				
1. Materials				
(1) Nipa	30	pcs.	2	60
(2) 1.0m x 1.8m, amakan	3	pcs.	70	210
(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.	1	14
(8) 3 x 3" hinges	2	pcs.	30	60
Sub-Total of C-1				904
2. Labor (25% of C-1)				226
Sub-Total of C				1,130
D. Transportation Cost (excluding indigenous materials)		L.S.		150
E. Indirect Cost				
Profit (10% of A -D)				370
VAT (10% of Profit & Labor)				154
Sub-Total of E				524
Total Construction Cost (A+B+C+D+E)			Say	4,370
				4,400

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

Sheet 1 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization		L.S.		5,500
B. Earthwork				
1. Materials				
(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	465
Sub-Total of B-2				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	1,340
(3) Gravel	8.00	cu.m	424	3,392
(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	2,812
10mm dia x 6m	57.00	pcs.	54	3,078
(5) #16 Tie Wire	8.00	kgs.	54	432
(6) Formworks:				
1/4" Plywood	6.00	pcs.	446	2,676
2"x2"x10" (Coco Lumber)	200.00	bd.ft.	8	1,600
Sub-Total of C-1				23,138
2. Labor (30% of C-1)		L.S.		6,941
Sub-Total of C				30,079
D. Masonry Work				
1. Materials				
(1) 6" CHB	800.00	pcs.	6	4,800
(2) 4" CHB	260.00	pcs.	5	1,300
(3) Cement	97.00	bags	128	12,416
(5) Sand	10.00	cu.m	335	3,350
(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,220
10mm dia x 6m	11.00	pcs.	54	594
(7) #16 Tie Wire	4.00	kgs.	54	216
(8) Scaffolding:				
2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	427
Sub-Total of D-1				25,323
2. Labor (30% of D-1)		L.S.		7,597
Sub-Total of D				32,920
E. Roofing Work				
1. Materials				
(1) GA #26 Corr. GI (1 = 10')	20.00	pcs.	290	5,800
(2) GA #24 Pln. GI Flashing	3.00	pcs.	280	840
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	pcs.	280	2,520
(4) Umbrella Nails 2 - 1/2"	12.00	kgs.	46	552
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bf.	33	2,475
(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

Table 10.2.16 Unit Cost of School Toilet

Sheet 2 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(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				
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.	30	420
(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	yd.	85	85
Sub-Total of E-1				28,121
2. Labor (30% of E-1)		L.S.		8,436
Sub-Total of E				36,557
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
(2) D - 2 Hollow Core Tanguile Flush Type Door (.60x2.10)	1.00	sets	1,136	1,136
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,735
(4) Door Jambs (Apitong)				
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 2 pcs.	20.00	bf.	33	660
2"x6"x10" = 1 pc.	18.00	bf.	33	594
2"x4"x12" = 5 pcs.	40.00	bf.	33	1,320
(7) Wooden Jalousie Window With 5 Blades (.40x.50)	14.00	set	316	4,424
(8) Window Jambs (Apitong)				
2"x6"x16" = 5 pcs.	80.00	bf.	33	2,640
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 1 pc.	10.00	bf.	33	330
(9) Cabinet				
3/4"x4'x8' = 1 pc. (plyboard)	1.00	pc.	821	821
Sub-Total of F-1				20,612
2. Labor (30% of F-1)		L.S.		6,184
Sub-Total of F				26,796
G. Tile Work				
1. Materials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950.00	pcs.	4	7,800
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	7	6,300
(3) Cement	4.00	bags	128	512
(4) White Cement	1.00	bag	693	693
Sub-Total of G-1				15,305

Table 10.2.16 Unit Cost of School Toilet

Sheet 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				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	656
(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	28
(10) 4" dia WYB PVC	2.00	pcs.	27	54
(11) 4" dia. x 3" dia. WYB PVC	12.00	pcs.	33	396
(12) 4" dia. x 2" dia. TEE PVC	2.00	pcs.	34	68
(13) 4" dia. TEE PVC	3.00	pcs.	34	102
(14) 1 1/2" dia. WYB PVC	1.00	pcs.	13	13
(15) 4" dia. Clean Out PVC	3.00	pcs.	38	114
(16) 3" dia. Clean Out PVC	1.00	pcs.	30	30
(17) Faucet	3.00	pcs.	55	165
(18) 3" dia. x 2" dia. WYB PVC	2.00	pcs.	27	54
(19) 1 1/2" dia. Elbow PVC	6.00	pcs.	14	84
(20) PVC Cement	1.00	can	133	133
(21) 2" dia. PVC San. Pipe x 3m	2.00	pcs.	87	174
(22) 4" dia. x 2" dia. TEE	2.00	pcs.	23	46
(23) Check Valve 1 1/2"	1.00	pcs.	200	200
(24) 4" P-Trap	5.00	pcs.	72	360
Sub-Total of H-1				13,408
2. Labor (30% of H-1)		L.S.		4,022
Sub-Total of H				17,430
I. Painting				
1. Materials				
(1) Acrylic, Semi Gloss	8.00	gals.	276	2,208
(2) Concrete Sealer	4.00	gals.	218	872
(3) Aeri Color: Wood	4.00	gals.	84	336
(4) Enamel, QDE	6.00	gals.	282	1,692
(5) Wood Putty	1.00	gals.	320	320
(6) Paint Thinner	1.00	gals.	63	63
(7) Tinting Color	4.00	pint	42	168
(8) Sand Paper (Assorted)	15.00	pcs.	7	105
(9) Miscellaneous		L.S.		1,060
(10) Roof Paint (green, ready-mix)	2.00	gals.	298	596
Sub-Total of I-1				7,420
2. Labor (30% of I-1)		L.S.		2,226
Sub-Total of I				9,646

Table 10.2.16 Unit Cost of School Toilet

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
J. Electrical Work				
1. Materials				
(1) 40 Watts Fluorescent Lamp	2.00	sets	270	540
(2) Elect. Wire TW #12	24.00	M	7	168
(3) Elect. Conduit - 1/2" dia x 10"	4.00	pcs.	82	328
(4) Entrance Cap. 1/2" dia	1.00	pc.	30	30
(5) Switch Outlet, Flush Type	2.00	pcs.	41	82
(6) Utility Box 2"x3"	2.00	pcs.	7	14
(7) Porcelain Receptacle 2" dia	2.00	pcs.	7	14
(8) Safety Switch 60A, 250V	1.00	set	519	519
(9) Electrical Tape	1.00	roll	23	23
Sub-Total of J-1				1,718
2. Labor (30% of J-1)		L.S.		515
Sub-Total of J				2,233
K. Hardware				
1. Materials				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	15	150
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	19	228
(3) Door Lockset (Schlage US)	3.00	pcs.	481	1,443
(4) Barrel Bolt (4")	5.00	pcs.	42	210
(5) Cabinet Pull (4")	5.00	pcs.	7	35
(6) Water Storage Cover				
Checkered Plate 1/4" thick				
1.44x0.645 w/ L bar & flat bar	1.00	set	1,043	1,043
0.645x0.633 w/ L bar & flat bar	2.00	set	588	1,176
(7) Padlock	1.00	pcs.	401	401
Sub-Total of K-1				4,686
2. Labor (30% of K-1)		L.S.		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	1.00	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
(7) Formworks: Coco Lumber				
2"x3"x10' = 12 pcs.	60.00	bf.	8	480
1/4" plywood ord. 4'x8'	2.00	pcs.	446	892
C.W.N. (Assorted)	2.00	kgs.	31	62
Sub-Total of L-1				7,819
2. Labor (30% of L-1)		L.S.		2,346
Sub-Total of L				10,165

Table 10.2.16 Unit Cost of School Toilet

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	pc.	452	452
(3) 63mm PVC Socket	1.00	pc.	99	99
(4) 63mm x 3m PVC Screen	1.00	pc.	1,433	1,433
Sub-Total of M-a-1				3,776
2. Labor, Fuel, Lubricant and others Well Drilling for 18m depth at 150mm borehole	18.00	m	573	10,314
Sub-Total of M-a				14,090
b. Well Development		L.S.		550
c. Gravel Packing, Installation of Hand-Pump and Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1.00	set	2,623	2,623
(2) 50mm x 1m GI Pipe (Sch. 40)	1.00	pc.	82	82
(3) #10 Sieved Gravel	0.10	cu.m	959	96
(4) Coarse Sand	0.07	cu.m	474	33
(5) Cement for Sanitary Seal	1.00	bag	128	128
(6) Pump Base and Platform				
1) Cement	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				4,759
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 excluding sand and gravel)		L.S.		16,081
O. Indirect Cost				
Profit (10% of A - N)				23,911
VAT (10% of Profit & Labor)				7,322
Sub-Total of O				31,233
Total of Construction Cost (A to O)				270,340
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision		L.S.		1,600
Sub-Total of P				3,800
GRAND TOTAL				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

Sheet 1 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization (2.4% of B - M)		L.S.		6,800
B. Earthwork				
1. Materials				
(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	465
Sub-Total of B-2				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	1,340
(3) Gravel	8.00	cu.m	424	3,392
(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	2,812
10mm dia x 6m	57.00	pcs.	52	2,964
(5) #16 Tie Wire	8.00	kgs.	52	416
(6) Formworks:				
1/4" Plywood	6.00	pcs.	446	2,676
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)				6,902
Sub-Total of C				29,910
D. Masonry Work				
1. Materials				
(1) 6" CHB	800.00	pcs.	6	4,800
(2) 4" CHB	260.00	pcs.	5	1,300
(3) Cement	97.00	bags	128	12,416
(5) Sand	10.00	cu.m	335	3,350
(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,220
10mm dia x 6m	11.00	pcs.	54	594
(7) #16 Tie Wire	4.00	kgs.	54	216
(8) Scaffolding:				
2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	427
Sub-Total of D-1				25,323
2. Labor (30% of D-1)				7,597
Sub-Total of D				32,920
E. Roofing Work				
1. Materials				
(1) GA #26 Corr. GI (1 = 10')	20.00	pcs.	290	5,800
(2) GA #24 Pln. GI Flashing	3.00	pcs.	280	840
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	pcs.	280	2,520
(4) Umbrella Nails 2 - 1/2"	12.00	kgs.	46	552
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bf.	33	2,475

Table 10.2.17 Unit Cost of Public Toilet

Sheet 2 of 5

(Cost: Peso)

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
(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				
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	yd.	85	85
Sub-Total of E-1				34,407
2. Labor (30% of E-1)				10,322
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
(2) D - 2 Hollow Core Tanguile Flush Type Door (.60x2.10)	1.00	sets	1,136	1,136
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,735
(4) Door Jambs (Apitong)				
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 2 pcs.	20.00	bf.	33	660
2"x6"x10" = 1 pc.	18.00	bf.	33	594
2"x4"x12" = 5 pcs.	40.00	bf.	33	1,320
(7) Wooden Jalousie Window With 5 Blades (.40x.50)	14.00	set		4,172
(8) Window Jambs (Apitong)				
2"x6"x16" = 5 pcs.	80.00	bf.	33	2,640
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 1 pc.	10.00	bf.	33	330
(9) Cabinet				
3/4"x4'x8' = 1 pc. (plyboard)	1.00	pc.	821	821
Sub-Total of F-1				20,360
2. Labor (30% of F-1)				6,108
Sub-Total of F				26,468
G. Tile Work				
1. Materials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950	pcs.	4	7,800
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	7	6,300
(3) Cement	4.00	bags	128	512

Table 10.2.17 Unit Cost of Public Toilet

Sheet 3 of 5

(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	3,513
(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	368
(5) 2" dia x 3m PVC San. Pipe	3.00	pcs.	55	165
(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	54
(11) 2" dia Elbow PVC	6.00	pcs.	7	42
(12) 2" dia 45 degrees Bend PVC	2.00	pcs.	22	44
(13) 1/2" dia Elbow G.I.	5.00	pcs.	11	55
(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	27
(20) Faucet	10.00	pcs.	55	550
(21) 3" dia x 2" dia Elbow Reducer PVC	1.00	pcs.	30	30
(22) 3" dia x 2" dia WYE PVC	3.00	pcs.	27	81
(23) 2" dia x 2" dia WYE PVC	3.00	pcs.	16	48
(24) PVC Cement	1.00	can	133	133
(25) 4" dia x 2" dia WYE PVC	2.00	pcs.	44	88
(26) Gate Valve 3/4" dia	1.00	pcs.	133	133
(27) Gate Valve 1/2" dia	1.00	pcs.	105	105
(28) Water Meter 3/4" dia	1.00	pcs.	1,390	1,390
(29) 3/4" dia x 1/2" dia Elbow Reducer G.I.	1.00	pcs.	15	15
Sub-Total of H-1				14,814
2. Labor (30% of H-1)				4,444
Sub-Total of H				19,258
I. Painting				
1. Materials				
(1) Acrylic, Semi Gloss	8.00	gals.	276	2,208
(2) Concrete Sealer	4.00	gals.	218	872
(3) Acri Color: Wood	4.00	gals.	84	336
(4) Enamel, QDE	6.00	gals.	282	1,692
(5) Wood Putty	1.00	gals.	320	320
(6) Paint Thinner	1.00	gals.	63	63

Table 10.2.17 Unit Cost of Public Toilet

Sheet 4 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(7) Tinting Color	4.00	pint	42	168
(8) Sand Paper (Assorted)	15.00	pcs.	7	105
(9) Miscellaneous		L.S.		1,066
(10) Roof Paint (green, ready-mix)	2.00	gals.	298	596
Sub-Total of I-1				7,426
2. Labor (30% of I-1)				2,228
Sub-Total of I				9,654
J. Electrical Work				
1. Materials				
(1) 40 Watts Fluorescent Lamp	2.00	sets	270	540
(2) Elect. Wire TW #12	24.00	M	7	168
(3) Elect. Conduit - 1/2" dia x 10"	4.00	pcs.	82	328
(4) Entrance Cap. 1/2" dia	1.00	pc.	30	30
(5) Switch Outlet, Flush Type	2.00	pcs.	41	82
(6) Utility Box 2"x3"	2.00	pcs.	7	14
(7) Porcelain Receptacle 2" dia	2.00	pcs.	7	14
(8) Safety Switch 60A, 250V	1.00	set	519	519
(9) Electrical Tape	1.00	roll	23	23
Sub-Total of J-1				1,718
2. Labor (30% of J-1)				515
Sub-Total of J				2,233
K. Hardware				
1. Materials				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	15	150
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	19	228
(3) Door Lockset (Schlage US)	3.00	pcs.	481	1,443
(4) Barrel Bolt (4")	5.00	pcs.	42	210
(5) Cabinet Pull (4")	5.00	pcs.	7	35
(6) Water Storage Cover				
Checked 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				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	1.00	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 pcs.	60.00	bf.	8	480
1/4" plywood ord. 4'x8'	2.00	pcs.	446	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
M. 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	cu.m	119	1,557
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	pcs.	54	8,640
(5) #16 Tie Wire	4.00	kgs.	54	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
N. Freight Cost (11% of Materials for A - M excluding sand and gravel)				20,841
O. Indirect Cost				
Profit (10% of A - M)				30,049
VAT (10% of Profit & Labor)				9,783
Sub-Total of O				39,832
Total of Construction Cost (A to O)				340,321
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision		L.S.		1,600
Sub-Total of P				3,800
GRAND TOTAL				344,121
			Say	344,100

Source: DOH standard price in 1993.

Unit Cost: Adjusted to 1997 Price Level

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 ϕ 250 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 ϕ 250 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	m ²	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	1	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.			
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				
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	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