DETAIL ESTIMATE FOR THE CONSTRUCTION OF 60 CFT CAPACITY SEPTIC TANK. IN THE DISTRICT OF ----------------------- UNDER -------------------------- DIVISION
Vide Drawing no.157 Sl.no.274 dt, 22.12.1978
VIDE S/R OF B.C.D.BIHAR, w.e.f. 15-09-2014

Sl.no.	SR.Item No.	Items of work	Total Quantity
1	2	3	4
1	2.8.1.	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m: All kinds of soil Tank- 11'-6" x 6'-0"x 5'-9" = 397 Cft. Chamber- 2x4'-8"x 2'-10"x2'-6" = 66 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x0'-6" = 2 Cft 465 Cft Or 13.17 M^3	13.17 M^3
2	11.72	Providing designation 100A one brick flat soling joints filled with local sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/I. Tank- 11'-6"x 6'- 0" = 69 Sft. Or 6.41 M^2	6.41 M^2
3	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level: 1:2:4 (1 Cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) Tank- 11'-6" x 6'-0"x 0'-6" = 35 Cft. Chamber- 2x4'-8"x 3'-4"x 0'-6" = 16 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x 0'-6" = 2 Cft 53 Cft Or 1.50 M^3	1.50 M^3
4	6.1.12/A	Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4(1 cement : 4 coarse sand) 16" Thick wall Tank - 2 x 10'- 6" = 21'-0" 2 x 2'- 6" = 5'-0" 26'-0" Quantity- 26'-0"x 1'-3"x4'-0" = 130 Cft. For 10" thick wall Tank - 2 x 10'-1" = 20'-2" 2 x 2' -11" = 5'-10" 26'- 0" Quantity- 26'-0"x 0'-10"x2'-3" = 49 Cft. Chamber- 2x2x3'-½" = 12'-2" 2x1x2'-0" = 4'-0" 16'-2" Quantity- 16'-2"x0'-10"x3'-3" = 44 Cft. Masonry Pillar- 1x1'-8"x1'-8"x3'-0" = 8 Cft. Total - 130 + 49 + 44+ 8 Cft = 231 Cft. Or 6.54 M^3	6.54 M^3

5	5.1.3	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement-All work upto plinth level : 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)
		In Baffle wall (2" thick:-)
		      2x3'-4"x2'-6"x 0"-2" = 2.80 Cft.
		      1x3'- 4"x2'-3"x 0'-2" = 1.30 Cft.
		Slab Cover (3" thick)
		Tank- 9'-9"x3'-9"x 0'-3" = 9.10 Cft.
		In Chambers 2 Nos
		      2x3'-½"x 2'-10"x0'-3" = 4.30 Cft.
		                       17.50 Cft.
		      Or 0.50 M^3
			0.50 M^3

6	5.22.7A	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete: Thermo-Mechanically Treated bars(TMTC-500) 8mm dia Qty- 17.50 Cft @ 2.00 kg per Cft. Including weight of lifting rings needed. Qty. = 17.50x 2.00 = 35 kg	35 kg
7	19.15.1	**Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :** With 20x20 mm square bar In Septic tank- 4 Nos.	4 Nos.
8	12.78.1	Providing and fixing on wall face unplasticised-PVC (working pressure 4 kg per sq cm) pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: 75mm diameter PVC pipe- 14'-0" = 14 Rft. Or 4.27 Mt	4.27 Mtr.
9	12.79.5.1	Providing and fixing on wall face unplasticised- PVC moulded fittings /accessories for unplasticised-PVC rain water pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: 75 mm bend	1 No.
10	N.S.I.	Providing and fixing on wall face unplasticised- PVC moulded fittings /accessories for unplasticised-PVC rain water pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion:75mm dia PVC Cowel.	1 No.
11	12.79.4.2	Providing & fixing on wall face unplastisised P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sewerage including jointing with seal ring confirming to IS:5382 leaving 10mm gap for thermal expansion: 110 x 110 x 110mm dia Single Jn Tee without door	1 No.
12	PH Code 7205 Analysed	Providing & fixing on wall face unplastisised P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sewerage including jointing with seal ring confirming to IS:5382 leaving 10mm gap for thermal expansion: 110 x 110 x110mm single equal Y without door	1 No.

13	13.17.1	12mm cement plaster of mix:
		1:3 (1 cement : 3 coarse sand) : Neat Cement Punning
		In side Tank - 2 x (8'- 0"+ 2' - 6") x 4'-0 = 84 Sft.
		           2 x (8'- 5"+ 2' - 11") x2'-0" = 45.32 Sft.
		Bottom of Tank- 1x 8' -0" x 2' - 6" = 20 Sft
		Chamber - 2 x 2 (2'- 2½" + 2'- 0")x3'- 0" = 50.50 Sft.
		Bottom - 2 x 2' - 0" x 2' - 0" = 08 Sft.
		Baffle wall- 2 x 2' - 6" x 2' - 6" = 12.50 Sft.
		         1x 2' - 6" x 2' -3" = 5.63 Sft.
		                       225.95 Sft
		      Or. 21.00 M^2
			21.00 M^2

14.	13.11.4	12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand)
		Out side the Tank - 2 x 10' - 1" x 1' - 9" = 35 Sft.
		Out sides of chamber- 2x2x3'- ½"x1'-9" = 21 Sft.
		                    2 x 3'- 8"x 1'- 9" = 13 Sft
		Projection of Tank- 4 x 0'- 5½" x 1' - 9" = 03 Sft.
		Top of Tank & Inspection Chamber -
		 Tank - 2x 10' - 1" x 0' - 5" = 08 Sft.
		Chamber 2 x 1 x 2'- 10"x 0'- 5" = 02 Sft.
		                2x 2x3' -½" x 0' - 5" = 05 Sft.
		Pillar - 4 x 1' - 8" x 3' - 0" = 20 Sft.
		              1x 1' - 8" x 1' - 8" = 03 Sft.
		                                  110 Sft.
		                    Or 10.22 M^2
			10.22 M^2

15	13.24.2	6mm cement plaster to ceilling of Mix :
		1:4 (1 cement : 4 coarse sand)
		R.C.C.Cover of tank- 1x 8' - 5"x 2' -11" = 25 Sft.
		R.C.C.Cover of
		Chamber - 2 x 2'- 2½" x 2'- 0" = 09 Sft.
		                              34 Sft.
		            Or 3.16 M^2
			3.16 M^2

16	19.9.1.1	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality:LD 2.5:Rectangular shape 600x450 mm internal dimensions	1 No.
17		Extra cost :- (a) Bricks - 3440 Nos. (b) Cement - 26 Bags.	- 3440 Nos 26 Bags. .
18		Carriage of materials :- (a) Bricks - 3440 Nos. (b) Sand - 2.67 M^3 (C) Stone Chips - 1.78 M^3 .	3440 Nos 2.67 M^3 1.78 M^3

CONSUMPTION STATEMENT OF MATERIALS FOR 60 C.F.T. SEPTIC TANK.

Sl No.	Item of work	Qty.	Cement in M^3	Coarse Sand in M^3	Stone Chips in ^{3}	Bricks in Nos.	Steel in Kg.
1	Brick flat soling.	6.41 M^2	-	0.100	-	207	-
2	P.C.C. (1:2:4)	1.50 M^3	0.334	0.668	1.335	-	-
3	Brick work (1:4)	6.54 M^3	0.327	1.308	-	3231	-
4	R.C.C.(1:2:4)	0.50 M^3	0.111	0.223	0.445	-	-
5	½" C.P. (1:3) with punning	21.00 M^2	0.080	0.227	-	-	-
6	½" C.P. (1:6)	10.22 M^2	0.021	0.126	-	-	-
7	¼" C.P. (1:4) in ceiling	3.16 M^3	0.004	0.018	-	-	-
Total -			**0.877 M^3 = 26 bags**	**2.670 M^3**	**1.78 M^3**	**3438 Nos Say 3440 Nos.**	**35Kg.**

(S.N. Verma)
Assistant Tech. Secy.

DETAIL ESTIMATE & ABSTRACT OF COST FOR CONSTRUCTION OF 4'-0" DIA SOAK PIT & 10'-0" DEPTH IN--Qrt. AT------------------ ----------------------- P..S. IN THE DISTRICT OF --- UNDER -- ------------------------------------- DIVISION VDE S/R OF B.C.D.BIHAR, w.e.f. 15-09-2014

Sl.no.	SR.Item No.	Items of work	Total Quantity
1	2	3	4
1	2.8.1.	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m: All kinds of soil (A) $\frac{22}{7\times4}$ x $(5'\text{-}8")^2$ X 3'-0" = 75.51 Cft. $\frac{22}{7\times4}$ x $(4'\text{-}0")^2$ X 2'-0" = 25.14 Cft. 100.65 Cft. Or 2.85 M^3 (B) Do- -Do- below 5' - 0" upto 8' - 0" depth. $\frac{22}{7\times4}$ x $(4'\text{-}0")^2$ X 3'-0" = 37.71 Cft. Or 1.068 M^3 (C)) Do- -Do- below 8' - 0" upto 10' - 0" depth. $\frac{22}{7\times4}$ x $(4'\text{-}0")^2$ X 2'-0" = 25.14 Cft. Or 0.719 M^3 4.63 M^3	4.63 M^3
2	4.1.3	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement-All work upto plinth level : 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) In Baffle wall (2" thick:-) $\frac{22}{7\times4}$ x $(5'\text{-}8")^2$ X 0'-3" = 6.29 Cft. Or 0.178 M^3	0.178 M^3
3	5.22.7A	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete: Thermo-Mechanically Treated bars(TMTC-500) 8mm dia. R.C.C. same as item 5.1.3 Qty- 6.29 Cft 2.00 kg per Cft. Including from lifting rings needed. Qty. = 12.58 kg say 13 kg	13 kg
.4	13.11.4	12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand) Ground Floor - $\frac{22}{7}$ x 5'- 8" X 1'-0" = 17.80 Sft. Or 1.654 M^2	1.654 M^2
5	13.24.2	6mm cement plaster to ceilling of Mix : 1:4 (1 cement : 4 coarse sand) $\frac{22}{7\times4}$ x $(5'\text{-}8")^2$ = 25.17 Sft. $\frac{22}{7\times5'\text{-}8"\times0'\text{-}3"}$ = 4.45 Sft 29.62 Sft. Or 2.753 M^2	2.753 M^2

6		Extra cost :- (a) Bricks - 663 Nos. (b) Cement - 3 Bags.	- 663 Nos 3 Bags. .
7		Carriage of materials :- (a) Bricks - 1573 Nos. (b) Sand - 0.40 M^3 (C) Stone Chips - 0.16 M^3 .	1573Nos 0.40 M^3 0.16 M^3

8	Br.	Providing brick bats and filling the same in soak pit as per specificarion and direction of engineer in charge.
		
		 $\frac{22}{7x4}$ x (4 '-0")^2 X 8'-6" = 106.85 Cft.
		                 Say 107 Cft.
		              Or 3.03 M^3
			3.03 M^3

9	6.1.14A	Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:6(1 cement : 6 coarse sand)
		   $\frac{22}{28}$ x { (5 '-8")^2 - (4'-0")^2 }x 3'-9" = 47.44 Cft.
		                            .
		                   Or 1.343 M^3
			1.343 M^3

CONSUMPTION STATEMENT OF MATERIALS FOR 4'-0" DIA SOAK PIT.

Sl No.	Item of work	Qty.	Cement in M^3	Coarse Sand in M^3	Stone Chips in ^{3}	Bricks in Nos.	Steel in Kg.
1	Brick work in c.m. (1:6)	1.343 M^2	0.048-	0.288	-	663	-
2	R.C.C. (1:2:4)	0.178 M^3	0.040	0.079	0.158	-	-
3	Reinforcement	0.013 M./T.	-	-	-	-	13
4	Brick bats	3.03 M^3	-	-	-	910	-
5	½" C.P. (1:6)	1.654M^2	0.003	0.020	-	-	-
6	¼" C.P. (1:4)	2.753 M^2	0.004	0.016	-	-	-
Total -			**0.095 M^3** **= 3 bags**	**0.403 M^3** **Say 0.40 M^3**	**0.158 M^3** **Say 0.16 M^3**	**1573 Nos.**	**13 Kg.**

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