#### DETAIL ESTIMATE FOR THE CONSTRUCTION OF 45 CFT CAPACITY SEPTIC TANK. IN THE DISTRICT OF ------ UNDER ------ DIVISION Vide DRG no.156 Sl.no. 278 dt, 05.12.1978

## VIDE S/R OF B.C.D.BIHAR, w.e.f.15.09.2014

Sl.no.	SR.Item	Items of work	Total Quantity
1	No. 2	م	Α
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- 9'-6"x 6'-0"x 5'-9" = 328 Cft. Chamber- 2x4'-8"x 2'-10"x2'-6" = 66 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x0'-6" = $2 Cft$ 396 Cft Or 11.21 M <sup>3</sup>	11.21 M <sup>3</sup>
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- 9'-6"x 6'- 0" = 57 Sft. Or $5.30 \text{ M}^2$	5.30 M <sup>2</sup>
3	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering all work upto plinth level: 1:2:4 (1 Cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) Tank- 9'-6" x 6'-0"x 0'-6" = 29 Cft. Chamber- 2x4'-8"x 3'-4"x 0'-6" = 16 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x 0'-6" = $2 Cft$ 47 Cft Or 1.33 M <sup>3</sup>	1.33 M <sup>3</sup>
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) $\frac{16" \text{ Thick wall}}{\text{Tank - } 2 \times 8'-6" = 17'-0"}$ $2 \times 2'-6" = 5'-0"$ $22'-0"$ Quantity- 22'-0"x 1'-3"x4'-0" = 110 Cft. For 10" thick wall Tank - 2 \times 8'-1" = 16'-2" $2 \times 2' - 11" = 5'-10"$ $22'-0"$ Quantity- 22'-0"x 0'-10"x2'-3" = 41 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 - 110 + 41 + 44 + 8 Cft = 203 Cft. Or 5.75 M <sup>3</sup>	5.75 M <sup>3</sup>
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:-) 1x3'- 4"x2'-9"x 0'-2" = 2 Cft. Slab Cover (3" thick) Tank- 7'-3"x3'-9"x 0'-3" = 7 Cft. In Chambers 2 Nos 2x3'-½"x 2'-10"x0'-3" = $\frac{4. Cft.}{13.00 Cft.}$ Or 0.37 M <sup>3</sup>	0.37 M <sup>3</sup>

		- 2 -	
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- 13.00 Cft @ 2.00 kg per Cft. Including weight of lifting rings needed. Qty. = 13.00x 2.00 = 26 kg	26 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 molded 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 expanssion: 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 severage inlcuding jointing with seal ring confirming to IS:5382 leaving 10mm gap for thermal expanssion: 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( 6'- 0"+ 2' - 6" ) x 4'-0 = 68 Sft. 2 x ( 6'- 5"+ 2' - 11") x2' -0" = 37 Sft. Bottom of Tank - 1x 6' -0" x 2' - 6" = 15 Sft Chamber - 2 x 2 ( 2'- 2½" + 2'- 0")x3'- 0" = 51 Sft. Bottom - 2 x 2' - 0" x 2' - 0" = 08 Sft. Baffle wall - 2 x 2' - 6" x 2' - 9" = 14 Sft. " 193 Sft Or. 17.94 M <sup>2</sup>	17.94 M <sup>2</sup>

		- 3 -	
14.	13.11.4	12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand) <u>Out side the Tank</u> - 2 x 8' - 1" x 1' - 9" = 28 Sft. <u>Out sides of chamber</u> - 2x2x3' - $\frac{1}{2}$ "x1' - 9" = 21 Sft. 2 x 3' - 8"x 1' - 9" = 13 Sft <u>Projection of Tank</u> - 4 x 0' - 5 $\frac{1}{2}$ " x 1' - 9" = 03 Sft. <u>Top of Tank &amp; Inspection Chamber -</u> Tank - 2x 8' - 1" x 0' - 5" = 7 Sft. Chamber 2 x 1 x 2' - 10"x 0' - 5" = 02 Sft. 2x 2x3' - $\frac{1}{2}$ " x 0' - 5" = 05 Sft. <u>Pillar</u> - 4 x 1' - 8" x 3' - 0" = 20 Sft. 1x 1' - 8" x 1' - 8" = <u>03 Sft.</u> 102 Sft. Or 9.48 M <sup>2</sup>	9.48 M <sup>2</sup>
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 6' - 5"x 2' -11" =19 Sft.R.C.C.Cover ofChamber -2 x 2' - 2½" x 2' - 0" =09 Sft.28 Sft.Or2.60 M²	2.60 M <sup>2</sup>
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 - 3010 Nos.   (b) Cement - 22 Bags.	- 3010 Nos 22 Bags.
18		$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	3010 Nos 2.31 M <sup>3</sup> 1.51 M <sup>3</sup>

# CONSUMPTION STATEMENT OF MATERIALS FOR 45 C.F.T. SEPTIC TANK.

SI No.	Item of work	Qty.	Cement in M <sup>3</sup>	Coarse Sand in M <sup>3</sup>	Stone Chips in <sup>3</sup>	Bricks in Nos.	Steel in Kg.
1	Brick flat soling.	5.30 M <sup>2</sup>	-	0.081	-	171	-
2	P.C.C. (1:2:4)	1.33 M <sup>3</sup>	0.296	0.592	1.184	-	-
3	Brick work (1:4)	5.75 M <sup>3</sup>	0.288	1.150	-	2840	-
4	R.C.C.(1:2:4)	0.37 M <sup>3</sup>	0.082	0.165	0.329	-	-
5	½" C.P. (1:3) with punning	17.94 M <sup>2</sup>	0.068	0.194	-	-	-
6	½" C.P. (1:6)	9.48 M <sup>2</sup>	0.020	0.117	-	-	-
7	¼" C.P. (1:4) in ceiling	2.60 M <sup>3</sup>	0.004	0.015	-	-	-
	Total -	0.758 M <sup>3</sup> = 22 bags	2.314 M <sup>3</sup> Say 2.31	1.513 M <sup>3</sup> say 1.51	3011 Nos Say 3010 Nos.	26Kg.	

- 3 -

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### ------ 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) $22 \times (5'-8")^2 \times 3'-0" = 75.51$ Cft. 7x4 $22 \times (4'-0")^2 \times 2'-0" = 25.14$ Cft. 7x4 (B) DoDo- below 5' - 0" upto 8' - 0" depth. $22 \times (4'-0")^2 \times 3'-0" = 37.71$ Cft. 7x4 (C) DoDo- below 8' - 0" upto 10' - 0" depth. $22 \times (4'-0")^2 \times 2'-0" = 25.14$ Cft. 7x4 0r 1.068 M <sup>3</sup> (C) DoDo- below 8' - 0" upto 10' - 0" depth. $22 \times (4'-0")^2 \times 2'-0" = 25.14$ Cft. 7x4 0r 0.719 M <sup>3</sup> 4.63 M <sup>3</sup>	4.63 M <sup>3</sup>
2	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:-) $22 x (5'-8")^2 X 0'-3" = 6.29 Cft.$ 7x4 Or 0.178 M <sup>3</sup>	0.178 M <sup>3</sup>
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 - $\frac{22}{7} \times 5' - 8'' \times 1' - 0'' = 17.80 \text{ Sft.}$ Or 1.654 M <sup>2</sup>	1.654 M <sup>2</sup>
5	13.24.2	6mm cement plaster to ceilling of Mix : 1:4 (1 cement : 4 coarse sand) $22 \times (5'-8'')^2 = 25.17$ Sft. 7x4 22 $7 \times 5' - 8'' \times 0' - 3'' = 4.45$ Sft 29.62 Sft. Or 2.753 M <sup>2</sup>	2.753 M <sup>2</sup>

6		Extra cost:-(a) Bricks -663 Nos.(b) Cement -3 Bags.	- 663 Nos 3 Bags.
7		$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	1573Nos 0.40 M <sup>3</sup> 0.16 M <sup>3</sup>
8	Br.	Providing brick bats and filling the same in soak pit as per specificarion and direction of engineer in charge. $22$ $7x4$ x $(4'-0")^2$ X 8'-6" Say 107 Cft. Or 3.03 M <sup>3</sup>	3.03 M <sup>3</sup>
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) $22 \times \{ (5'-8'')^2 - (4'-0'')^2 \} \times 3'-9'' = 47.44 \text{ Cft.}$ 28 Or 1.343 M <sup>3</sup>	1.343 M <sup>3</sup>

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

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