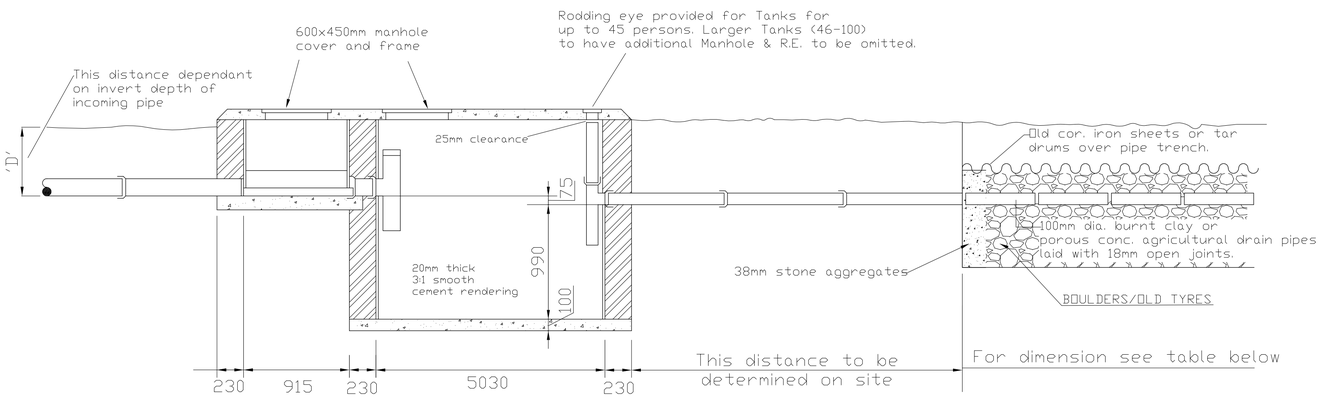
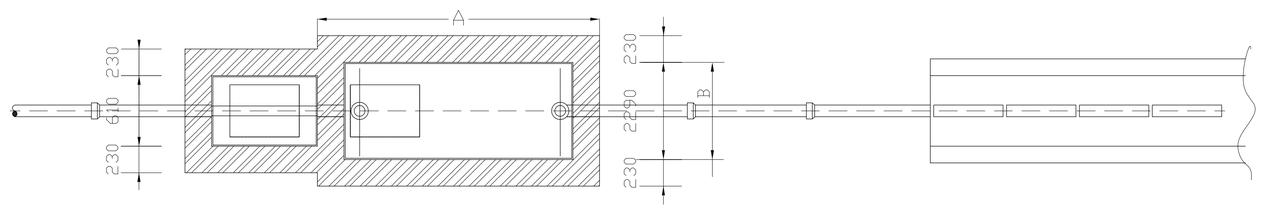
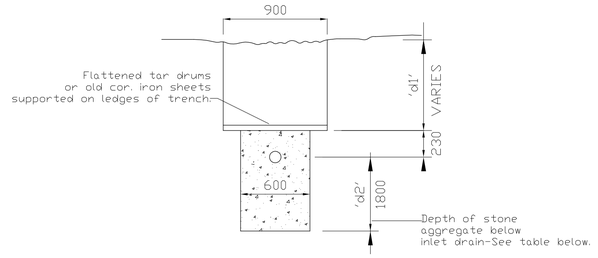


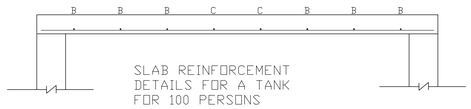

SECTION




PLAN

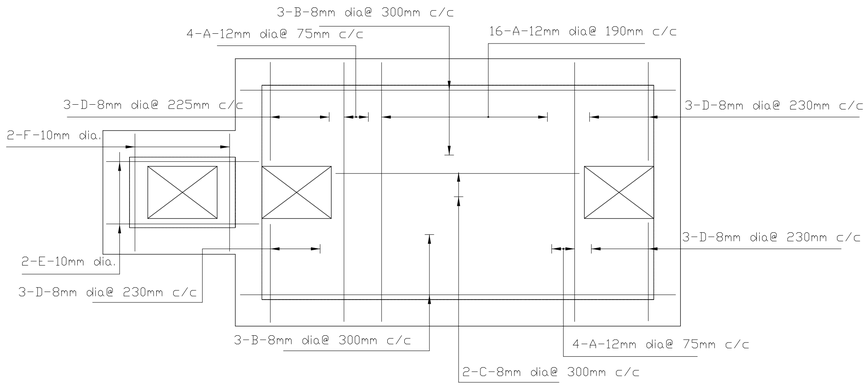



SECTION THROUGH SOAKAWAY

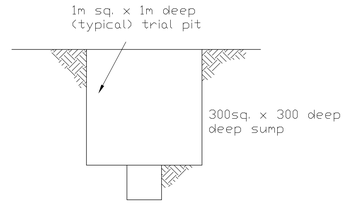



| BAR BENDING SCHEDULE | | | | |
|---|---|---|---|---|
| Bar Mark | Diameter (mm) | No. off | Length (mm) | Bending |
| A | 12 | 24 | 2670 | str. |
| B | 8 | 6 | 5410 | str. |
| C | 8 | 2 | 3730 | str. |
| D | 8 | 12 | 1070 | str. |
| E | 10 | 2 | 1300 | str. |
| F | 10 | 2 | 990 | str. |

| SOAKAWAY DETAILS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Percolation rating | Type of soil | Suitability of soil for effluent disposal | Depth in metres of stone aggregate below inlet drain in trench | Length of soakaway in metres for a given number of persons | | | | | | |
| | | | | Up to 10 | 11-15 | 16-20 | 21-30 | 31-45 | 46-60 | 61-80 | 81-100 |
| Not > 0.25 | Coarse sand or gravel with no clay or silt | Excellent | 0.6 | 6 | 7 | 9 | 14 | 19 | 24 | 29 | 33 |
| | | | 1.2 | 3 | 4 | 5 | 7 | 9 | 12 | 15 | 17 |
| | | | 1.8 | 2 | 3 | 3.5 | 5 | 6 | 8 | 10 | 11 |
| 0.25-1.00 | Well graded sand | Very good | 0.6 | 8 | 11 | 15 | 21 | 29 | 35 | 41 | 46 |
| | | | 1.2 | 4 | 6 | 7 | 11 | 15 | 17 | 21 | 23 |
| | | | 1.8 | 3 | 4 | 5 | 7 | 10 | 12 | 14 | 15 |
| 1.00-2.00 | Fine sand and silt or sandy loams. | Good | 0.6 | 11 | 16 | 20 | 28 | 38 | 46 | 55 | 60 |
| | | | 1.2 | 6 | 8 | 10 | 14 | 19 | 23 | 27 | 30 |
| | | | 1.8 | 4 | 5 | 7 | 9 | 13 | 15 | 18 | 20 |
| 2.00-5.00 | Clay with some or gravel, clay gravel, clay loams. | Fair | 0.6 | 21 | 30 | 38 | 52 | 69 | 84 | 99 | 110 |
| | | | 1.2 | 11 | 15 | 19 | 26 | 35 | 42 | 49 | 55 |
| | | | 1.8 | 7 | 10 | 13 | 17 | 23 | 28 | 33 | 37 |
| 5.00-10.00 | Clay with some silt and sand fractions | Poor Avoid if possible | 0.6 | 33 | 46 | 60 | 87 | 119 | 146 | 166 | 183 |
| | | | 1.2 | 17 | 23 | 30 | 44 | 59 | 71 | 83 | 91 |
| | | | 1.8 | 11 | 15 | 20 | 29 | 40 | 48 | 55 | 61 |
| > 10 | Clay or heavy clay | Bad totally unsuitable | Consult Civil Engineering Branch for alternative method of disposal | | | | | | | | |




PLAN



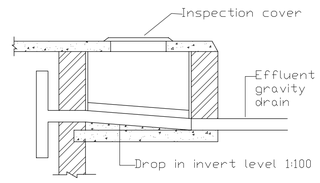

SOIL ABSORPTION TEST

Depth of trial pit decided in relation to ground condition & outlet level of septic tank.
Just fill sump with water and record time taken to seep away = T minutes (Total).
Percolation Rating = T , 12 (Mins)
(i.e Average time (mins) for water level to drop 25mm.)
Apply result obtained to soakaway details table above.

| SEPTIC TANK DIMENSIONS | | | | |
|---|---|---|---|---|
| No. of persons | Dimension 'A' (m) | Dimension 'B' (m) | Slab thickness (mm) | Capacity (m³) |
| 10 | 1.370 | 0.690 | 63 | 1.01 |
| 11 - 15 | 1.750 | 0.840 | 63 | 1.57 |
| 16 - 20 | 2.060 | 0.910 | 75 | 2.00 |
| 21 - 30 | 2.510 | 1.140 | 75 | 3.05 |
| 31 - 45 | 3.050 | 1.450 | 75 | 4.71 |
| 46 - 60 | 3.660 | 1.680 | 100 | 6.55 |
| 61 - 80 | 4.120 | 1.980 | 100 | 8.69 |
| 81 - 100 | 5.030 | 2.290 | 113 | 12.27 |

| BAR SCHEDULE FOR SIZES OF TANKS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tank- for no. of persons | Bar 'A' | | | Bar 'B' | | | Bar 'C' | | | Bar 'D' | | |
| | Dia. (mm) | No. off | Length (mm) | Dia. (mm) | No. off | Length (mm) | Dia. (mm) | No. off | Length (mm) | Dia. (mm) | No. off | Length (mm) |
| Up to 10 | 6 | 4 | 1070 | 6 | 2 | 1750 | 6 | 2 | 910 | | | |
| 10 - 15 | 6 | 6 | 1220 | 6 | 2 | 2130 | 6 | 2 | 1300 | | | |
| 16 - 20 | 10 | 8 | 1300 | 6 | 2 | 2440 | 6 | 2 | 1600 | | | |
| 21 - 30 | 10 | 9 | 1520 | 6 | 2 | 2900 | 6 | 2 | 2060 | | | |
| 31 - 45 | 10 | 13 | 1830 | 6 | 4 | 3430 | 6 | 2 | 2590 | 6 | 6 | 650 |
| 46 - 60 | 10 | 14 | 2060 | 6 | 4 | 4040 | 6 | 2 | 2360 | 6 | 12 | 840 |
| 61 - 80 | 10 | 21 | 2360 | 8 | 6 | 4500 | 8 | 2 | 2820 | 8 | 12 | 990 |
| 81 - 100 | | | | | | | | | | | | |

N.B: 1. Bars E and F are common to each size of tank and are detailed above in 100 person tank schedule.
2. The above reinforcement is based on the assumption that no vehicular or other heavy loads are to be carried by the slabs, otherwise specific structural designs must be called for.




DETAIL OF S.T. OUTLET CHAMBER
Where shown on services plan

N.T.S

## Notes

**Ministry of Local Government, Public Works and National Housing**
**P.O. Box CY7755 , Causeway**
**Zimbabwe**

| | | | |
|---|---|---|---|
| Engineer | A. MAISIRI | Director Engr | H. Hungwe |
| Designed | A. MAISIRI | Approved Branch Head | E.NJOMA |
| Drawn | A. MAISIRI | Scale | N.T.S |
| Checked | E.MURIMI | Date | SEPTEMBER 2018 |
| Telephone 04 700811 | | File Ref | |

| | | | |
|---|---|---|---|
| Ministry | FINANCE | Centre | MAITENGWE |
| Title | ZIMRA OFFICE BLOCK AND ACCOMMODATION | | |
| Description | STANDARD SEPTIC TANK DETAILS | | |
| Stock Drwg No | | G.P. No | Proj No ZIMRA/CE/02 |