

|              |               |               |     |
|--------------|---------------|---------------|-----|
| Client       | Moreton Farm  |               |     |
| Date         | 14 April 2015 |               |     |
| Av Cow Yield | 6,000         |               |     |
| Av Cow Nos   | 400           | Av Youngstock | 200 |

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The calculations below are designed to predict the volumes of pollutants created and the storage capacity required. The main pollutants include slurry, parlour washing water and fouled rainwater from dirty yards. Figures are based on requirements to comply with NVZ legislation. Rainfall figures are estimated and site specific data should be obtained if possible. It is recommended that before any work is started you consult the Environment Agency or NRW.

Be aware of the rules concerning 'Freeboard' 750mm for earth bank lagoons 300mm for solid sided stores and slurry towers. *Please note - These figures are for guidance only and P&L AgriConsulting can accept no liability for actions taken.*

| Pollutants Created |         |              |                |            |             |                                      |               |          |            |             |          |
|--------------------|---------|--------------|----------------|------------|-------------|--------------------------------------|---------------|----------|------------|-------------|----------|
| COWS               | Slurry  |              |                |            |             | Parlour Washing Water (to DW lagoon) |               |          |            |             | CUMUL    |
|                    | cow nos | Slurry m3/hd | Slurry m3/ mth | To Store % | To Store m3 | Cows in Milk Nos                     | P.wash m3/ hd | Total m3 | To Store % | To Store m3 | Total m3 |
| Month              |         |              |                |            |             |                                      |               |          |            |             |          |
| October            | 400     | 1.59         | 636            | 100        | 636         | 350                                  | 0.60          | 210      | 100        | 210         | 846      |
| November           | 400     | 1.59         | 636            | 100        | 636         | 350                                  | 0.60          | 210      | 100        | 210         | 846      |
| December           | 400     | 1.59         | 636            | 100        | 636         | 350                                  | 0.60          | 210      | 100        | 210         | 846      |
| January            | 400     | 1.59         | 636            | 100        | 636         | 350                                  | 0.60          | 210      | 100        | 210         | 846      |
| February           | 400     | 1.59         | 636            | 100        | 636         | 350                                  | 0.60          | 210      | 100        | 210         | 846      |
|                    |         |              |                | Total      | 3180        |                                      |               |          | Total      | 1050        | 4230     |

| YOUNGSTOCK | AGE  | Slurry       |               |            |             | AGE    | Slurry       |               |            |             |          |
|------------|------|--------------|---------------|------------|-------------|--------|--------------|---------------|------------|-------------|----------|
|            | 3-12 | Slurry m3/hd | Slurry m3/mth | To Store % | To Store m3 | 13- 24 | Slurry m3/hd | Slurry m3/mth | To Store % | To Store m3 | Total m3 |
| Month      | Nos  |              |               |            |             | Nos    |              |               |            |             |          |
| October    | 100  | 0.60         | 60.00         | 0          | 0           | 100    | 1.20         | 120           | 0          | 0           | 0        |
| November   | 100  | 0.60         | 60.00         | 100        | 60          | 100    | 1.20         | 120           | 100        | 120         | 180      |
| December   | 100  | 0.60         | 60.00         | 100        | 60          | 100    | 1.20         | 120           | 100        | 120         | 180      |
| January    | 100  | 0.60         | 60.00         | 100        | 60          | 100    | 1.20         | 120           | 100        | 120         | 180      |
| February   | 100  | 0.60         | 60.00         | 100        | 60          | 100    | 1.20         | 120           | 100        | 120         | 180      |

| Fouled Rainwater on Yards    |          |           |          |              |              |    |    |    |                   |              |                         |
|------------------------------|----------|-----------|----------|--------------|--------------|----|----|----|-------------------|--------------|-------------------------|
|                              |          | Lagoon m2 | Tower m2 | DW lagoon m2 | Open Yard m2 |    |    |    | Total Dirty Water | Total Slurry | All pollutants to Store |
| Destination                  |          | Lagoon    | tower    | dw lagoon    | dw lagoon    |    |    |    |                   |              |                         |
| Month                        | Rainfall | 1,656     | 270      | 812          | 1975         | 0  | 0  | 0  |                   |              |                         |
|                              | mm       | m3        | m3       | m3           | m3           | m3 | m3 | m3 | m3                | m3           | m3                      |
| October                      | 150.0    | 248       | 40       | 122          | 296          | 0  | 0  | 0  | 707               | 846          | 1553                    |
| November                     | 150.0    | 248       | 40       | 122          | 296          | 0  | 0  | 0  | 707               | 1,026        | 1733                    |
| December                     | 150.0    | 248       | 40       | 122          | 296          | 0  | 0  | 0  | 707               | 1,026        | 1733                    |
| January                      | 150.0    | 248       | 40       | 122          | 296          | 0  | 0  | 0  | 707               | 1,026        | 1733                    |
| February                     | 150.0    | 248       | 40       | 122          | 296          | 0  | 0  | 0  | 707               | 1026         | 1733                    |
| March                        | 0        | 0         | 0        | 0            | 0            | 0  | 0  | 0  | -                 | -            | -                       |
| Total                        |          | 1242      | 202      | 609          | 1481         | 0  | 0  | 0  | 3,535             | 4,950        | 8,485                   |
| Average pollutants per month |          |           | 1,697    |              |              |    |    |    |                   |              |                         |
| Average Storage Period       |          |           | 4.1      |              |              |    |    |    |                   |              |                         |

| Cumulative m3 |         |       | Store Dimensions & Capacity |         |      |      |        | Actual Dimensions |      |      |         |
|---------------|---------|-------|-----------------------------|---------|------|------|--------|-------------------|------|------|---------|
| Month         | per mth | cumul |                             | L /diam | W    | d    | Volume | L /diam           | W    | d    | Catch   |
| To Store      | m3      | m3    |                             | m       | m    | m    | m3     | m                 | m    | m    | area m2 |
| October       | 1,553   | 1,553 | Lagoon                      | 40.0    | 30.0 | 3.25 | 3,900  | 46.0              | 36.0 | 4.00 | 1,656   |
| November      | 1,733   | 3,286 | Tower                       | 18.5    |      | 5.25 | 1,417  |                   |      |      | 270     |
| December      | 1,733   | 5,019 | Lagoon dw                   | 23.0    | 22.0 | 3.3  | 1,645  | 29.0              | 28.0 | 4.00 | 812     |
| January       | 1,733   | 6,752 |                             |         |      |      |        |                   |      |      |         |
| February      | 1,733   | 8,485 | Total                       |         |      |      | 6,961  |                   |      |      |         |