REF : C11920-17261-calcs.XLS

STORMWATER DESIGN CALCULATIONS

21 ARTHUR STREET

FORESTVILLE

1.0 Detention System Requirements

Proposed Residence
21 ARTHUR STREET
FORESTVILLE

REF : C11920-17261-calcs.XLS

1.1 Storage-Area calcs.   6620

DATA:

Site Area Assessed due to easements
Site Area =   **0.0662** ha   **662** sq.m
OSD exemption if less than 450sqm or less than 40% site coverage
40% of site area =   264.8 sq.m

Impervious Area Pre Development =   **282** sqm
Percentage Impervious Pre Development =   43%
Impervious Area POST Development =   **290.2** sqm
Percentage Impervious POST Development =   44%
OSD Exemption Not Applicable

Catchment directed through OSD =   **290.2** sqm   OK 43.8 %

OSD Bypass Areas :   Impervious   **0** sqm   0.0 %
                                    Pervious   371.8 sqm   100.0 %
                                    Total   371.8 sqm   56 %

Impervious area bypass   0.0 % OK
Bypass - discharge -   16.2 L/s

Detention A

Volume Required   13.24 cu.m   200cum/ha
Total Area   333.33 sq.m

Orifice Dia. =   **64** mm $Q=d^2*\sqrt{h}/0.48$
Invert of pit =   **107.95** m $d=\sqrt{(0.48*Q)/\sqrt{h}}$
Max. Water Level achieved =   **109.40** m
Storage achieved   2860 L

Minimum Storage   **13240** L - SSR with no modelling.
Maximum Discharge   **10.3** L/s - PSD   400L/s/ha
Proposed Discharge   10.2 L/s - PSD **OK**

Basix Allowance
Raintank Basix =   **6620** L   3520
Raintank Provided =   **6628** L
50% of OSD =   6620 L
Basin Type   Below Ground Tank
Net OSD required   **6620 L**