STORMWATER DESIGN CALCULATIONS

74 SOLDIERS AVENUE

FRESHWATER

1.0 Detention System Requirements

Proposed Residence   REF : M11372-652201-calcs.XLS
74 SOLDIERS AVENUE
FRESHWATER

1.1 Storage-Area calcs.   5830

DATA: Detention A

Site Area Assessed due to easements
Site Area =   **0.0583** ha   583 sq.m   Volume Required   11.66 cu.m   200cum/ha
OSD exemption if less than 450sqm or less than 40% site coverage   Total Area   333.33 sq.m
40% of site area =   233.2 sq.m
                                                                Orifice Dia. =   93 mm   Q=d^2*sqrt(h)/0.48
Impervious Area Pre Development =   297.02   sqm   Invert of pit =   39.04 m   d=sqrt((0.48*Q)/sqrt(h))
Percentage Impervious Pre Development =   51%   Max. Water Level achieved =   40.05 m
Impervious Area POST Development =   269.91   sqm   Storage achieved   2853 L
Percentage Impervious POST Development =   46%
OSD Exemption Not Applicable   Minimum Storage   **11660** L - SSR with no modelling.
                                                                Maximum Discharge   **18.1** L/s - PSD   400L/s/ha
Catchment directed through OSD =   483.4 sqm   OK 82.9   %   Proposed Discharge   17.6 L/s - PSD **OK**

OSD Bypass Areas :   Impervious   49 sqm   49.2 %   **Basix Allowance**
                            Pervious   50.6 sqm   50.8 %   Raintank Basix =   8932 L
                            Total   99.6 sqm   17 %   Raintank Provided =   8932 L
                                                                         50% of OSD =   5830 L
Impervious area bypass   18.2 % OK   Basin Type   Below Ground Tank
Bypass - discharge -   5.3 L/s   Net OSD required   **5830 L**