APPENDIX 1: SEDIMENT CONTROL STANDARD BASED ON CATCHMENT AREA AND SOIL LOSS RATE

Table 4: Sediment control standard based on catchment area and maximum allowable soil loss rate, as calculated using the Revised Universal Soil Loss Equation (RUSLE). Based on Table B1 in IECA Appendix B, 2018.

Catchment Area (m^2) [1]	Soil loss (t/ha/yr) [2]			Soil loss (t/ha/month) [3]		
	Type 1[5]	Type 2	Type 3	Type 1[5]	Type 2	Type 3
250	N/A	N/A	[4]	N/A	N/A	[4]
1000	N/A	N/A	All cases	N/A	N/A	All cases
2500	N/A	>75	75	N/A	>6.25	6.25
>2500	>150	150	75	>12.5	12.5	6.25
>10,000	>75	N/A	75	>6.25	N/A	6.25

[1] Area is defined by the catchment area draining to a given site discharge. Sub-dividing a given drainage catchment shall not reduce its 'effective area' if runoff from these sub-areas ultimately discharges from the site at the same general location. The 'area' does not include any 'clean' water catchment that bypasses the sediment trap. The catchment area shall be designed by the 'worst case' scenario, i.e. the largest effective area that exists at any instance during the soil disturbance.

[2] Soil loss defines the maximum allowable soil loss rate (based on RUSLE analysis) from a given catchment area. A slope length of 80m should be adopted within the RUSLE analysis unless permanent drainage to landscape features reduce this length

[3] RUSLE analysis on a monthly basis shall only apply in circumstances where the timing of the soil disturbance is/shall be regulated by enforceable development approval conditions. When conducting monthly RUSLE calculations, use the worst-case monthly R-Factor during the nominated period of disturbance.

[4] Refer to the relevant regulatory authority for assessment procedures. The default standard is a Type 3 sediment trap.

[5] Exceptions to the use of sediment basins shall apply in circumstances where it can be demonstrated that the construction and/or operation of a sediment basin in not practical, such as in many forms of linear construction where the available work space or Right of Way does not provide sufficient land area. In this instance, the focus must be erosion control using techniques to achieve an equivalent outcome. The 'intent' shall always be to take all reasonable and practicable measures to prevent or minimise potential environmental harm.

RUSLE Soil Loss Analysis

The Revised Universal Soil Loss Equation (RUSLE) is used to predict long-term average soil loss rates and has the following form:

$$A = R \times K \times LS \times C \times P$$

Where:

A = annual soil loss due to erosion (t/ha/yr);
R = rainfall erosivity factor;
K = soil erodibility factor;
LS = combined slope length and gradient factor;
C = cover factor, and;
P = land management/practice factor.

For more information, refer to Witheridge 2012, *Principles of Construction Site Erosion and Sediment Control*. Catchments and Creeks Pty Ltd., Brisbane, Queensland.