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Preliminary development of a sewerage infrastructure buffer assessment tool for engineering risk and strategic land use planning

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ABSTRACT

Urban expansion continues to encroach on once isolated sewerage infrastructure. In this context, legislation and guidelines provide limited direction to the amenity allocation of appropriate buffer distances for land use planners and infrastructure providers. Topography, wind speed and direction, temperature, humidity, existing land uses and vegetation profiles are some of the factors that require investigation in analytically determining a basis for buffer separations. This paper discusses the compilation and analysis of six years of Logan sewerage odour complaint data. Graphically, relationships between the complaints, topographical features and meteorological data are presented. Application of a buffer sizing process could assist planners and infrastructure designers alike, whilst automatically providing extra green spaces. Establishing a justifiable criterion for buffer zone allocations can only assist in promoting manageable growth for healthier and more sustainable communities.

Keywords: Buffer sizing; Separation distance; Sewage; Sewerage; Odour complaint; Topography

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