International Public Works Conference
25 -29 August 2019

Strategy for management of former landfills within an urban area

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ABSTRACT: *Waste management is a core activity for government. Landfills remain a key component of those activities. Expectations on best practice in managing landfills has changed significantly with an increased focus from regulators and the public on the appropriate management of landfills. This also applies to former landfills where operations ceased decades previously and urbanisation has since encroached on the site.*

Victorian local government has been given a range of directives and encouragement by the State Government through the guidance, advice and actions of the Environment Protection Authority and the Victorian State Government Auditor General's Office to identify and manage discontinued landfills.

Since 2011 the City of Whitehorse has been allocating recurrent, capital and reserve funds to investigate, treat and as appropriate monitor, environmental land management matters on former landfill sites.

Council approved the Environmental Management Strategy for Former Council Landfill Sites in February 2012. The implementation of this Strategy has been a major undertaking for Council.

A 2013 risk assessment of Council land identified six former landfill sites potentially requiring implementation of environmental land management actions. The allocation of funds from the Waste Management Reserve enabled the planning and preparation of Landfill Aftercare Management Plans and for necessary capital environmental projects at these sites. These works are expected to be completed by 2020 with ongoing recurrent funding required for the monitoring of environmental land matters at these sites.

Council has extensively invested in training to improve individual and organisational capacity to manage these issues. Through this investment, Council officers have developed considerable knowledge to manage former landfill sites with the assistance of suitably qualified consultants.

The paper and presentation will inform Conference delegates of the activities undertaken and planned to meet the requirements of regulators and manage the significant environmental land management risks of former landfill sites in the City of Whitehorse.

KEYWORDS: landfill, risk, remediation, strategy, urban, collaborative

1 Introduction

Waste management is a core activity for all levels of government. Landfills remain a key component of those activities. Expectations on best practice in managing landfills has changed significantly with an increased focus from regulators and the public on the appropriate management of landfills. This equally applies to the management of historical, discontinued landfills where operations ceased decades previously and urbanisation has since encroached on the site. This urbanisation brings challenges to managing risk and the perception of risk in our communities. As responsible land managers local government has a key role to play in managing these risks and planning and developing the best use of that land.

2 Discussion

2.1 Historical approach to refuse

The rise of cities and towns in the 18th and 19th centuries led to challenges in public health and public works brought about by increased population and density of housing. In the late 18th century, local authorities addressed the refuse issue by creation of shared open tips at the edge of municipal boundaries. Over the next 100 years technology advancements have driven improvements to the methods of disposing of waste, including incineration, covered tips, recycling, managed cell landfills and the emergence of alternative waste to energy options.

The legacy of this historical approach to municipal refuse management was the creation of a number of cut and fill landfill facilities, where oversight of the type, volumes and fill techniques were varied, localised and subject to basic record keeping.

As population increases drove housing availability away from the cities and into the newly created suburbs, these landfills were closed, discontinued and moved further away from urban activity. As available land for housing estates became scarce, the pressure to utilise these formal landfills for recreational space became prominent.

Governments have become more active in the regulation of this space in the past 30-40 years, leveraging the improvements in monitoring and landfill management technology to improve the management of risk associated with landfill operations.

However historic landfills which were in operation prior to this increased regulatory framework are not subject to this regime, but retain an inherent risk for communities which must be effectively managed.

2.2 A collaborative approach

A traditional approach to managing landfill issues for public authorities has been to utilise legal privilege to gather information, assess risk and plan for managing or remediating landfill issues. While this approach has merit in cases where commercial sensitivity, land ownership or immediate public safety issues are present, in many cases a more open, transparent and collaborative approach may be deployed.

Development of a set of guiding principles can be useful for public authorities in choosing an appropriate approach to managing risk associated with former landfill sites.

A comprehensive battery of investigative testing and monitoring can provide Councils' and other responsible public bodies with the information required to make appropriate assessment of risk to public property and person. Data collected on an ongoing basis and in conjunction with technical partners allows for effective analysis and remediation approaches, which address the real rather than perceived risk.

Where low risk can be established at former landfill sites, effective direct communication with a number of relevant stakeholders is possible.

3 Conclusions and recommendations

Local Governments have a key role to play in managing former landfills and mitigating the risk associated with urban encroachment on these sites. The methodology utilised to manage risk can be risk averse or collaborative. The benefits of a collaborative approach are that the information required to manage risks, inform impacted communities and plan for future uses is readily available, reliably captured and transparent.

Utilising a risk management approach to managing former landfills as opposed to a risk averse approach can lead to more timely and cost effective remediation of publically owned and managed land.

Acknowledgements

The authors wish to acknowledge the specialist technical support provided by David Coutts and Phil Baynes of Jacobs as well as the City of Whitehorse.