SENATE INQUIRY INTO STORMWATER RESOURCE IN AUSTRALIA

<<SUBMISSION TO THE SENATE STANDING COMMITTEE ON ENVIRONMENT AND COMMUNICATIONS>>

Townsville City Council

15 April 2015

SENATE INQUIRY INTO STORMWATER

TOWNSVILLE CITY COUNCIL

INTRODUCTION

Townsville City Council (TCC) welcomes the opportunity to make a submission to the Senate Standing Committee on Environment and Communications.

Townsville is built on natural floodplain, consisting of a plethora of natural and constructed waterways. Management of stormwater quantity and quality is essential in this region of the dry-tropics, particularly given the close proximity to the Great Barrier Reef (GBR).

TCC has a strong interest in stormwater matters given the importance of achieving desirable outcomes for the environment and city-wide community. Below are council's comments on issues raised as part of the senate inquiry.

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(a) The quantum of stormwater resource in Australia and impact and potential of optimal management practices in areas of flooding, environmental impacts, waterway management and water resource planning

Stormwater management within Townsville is limited to flood management/drainage and to a lesser extent stormwater quality treatment. The feasibility of using stormwater harvesting as a source for addressing water needs has not been thoroughly investigated. There are both significant challenges and opportunities for stormwater re-use in Townsville including proximity to the GBR, high evaporation rates, dispersive soils, proliferation of weeds, extreme seasonality in rainfall and dislocation of the urban catchment from water trading catchments. Policy framework, funding and advances in scientific understanding are the keys to unlocking the potential of stormwater as a resource.

(b) The role of scientific advances in improving stormwater management outcomes and integrating these into policy at all levels of government to unlock the full suite of economic benefits

The management of urban stormwater within tropical conditions has not been the focus of significant scientific research to date. Townsville has very specific soil and climatic conditions that may be limiting the success and sustainability of biological assets. Local validation of new technologies such as bioretention and constructed wetlands is required to both gain industry confidence in the investments and also to rapidly adjust design principals to align with local functionalities. Given the proximity of tropical urban centres to the Great Barrier Reef World Heritage Area it is concerning that there has not been a push to advance the scientific understanding of stormwater management specific for tropical conditions. Council would support scientific advancement initiatives in tropical urban stormwater management.

(c) The role of stormwater as a positive contributor to resilient and desirable communities into the future, including 'public good' and productivity outcomes

Literature around Water Sensitive Urban Design identifies the role of stormwater as a positive contributor to the urban environment. While the benefits are spelt out in the literature and through high-level business cases, there is a significant gap to community expectation particularly with respect to funding for what is perceived as a new type of infrastructure (stormwater treatment and harvesting). Especially with respect to impact on Rates, stormwater management in terms of stormwater quality treatment and stormwater harvesting is perceived as a “nice to have” rather than core business of local governments.

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(d) Model frameworks to develop economic and policy incentives for stormwater management

Improved policy needs to be diligently supported by effective and efficient compliance frameworks to ensure implementation of the improved policy. A standardised *Soil Erosion and Sediment Control* compliance framework for Queensland is critical to guide consistent, fair, accountable and legislatively relevant compliance of both industry and local government themselves.

Anything that provides incentive to improve stormwater management through financial reward would be welcomed by council. Increased red-tape or incentivising through financial consequences of failure should be avoided.

Funding of council's capital expenditure toward stormwater and drainage infrastructure projects are generally of lower importance when prioritised against projects for highly ubiquitous assets such as roads, water, and wastewater. However it is noted that inadequate management of stormwater has the capacity to damage these high value assets, and private property. Funding assistance toward stormwater projects would potentially increase likelihood of a project receiving higher priority within council's capital plan.

(e) Model land use planning and building controls to maximise benefits and minimise impacts in both new and legacy situations

The Townsville City Plan which was gazetted in October 2014. The city plan adopts a flood hazard overlay approach inclusive of mapping for various degrees of hazard. This allows levels of assessment and outcomes to be tailored based on risk. The city plan also establishes a Healthy Waters Code identifying the need and requirements for stormwater management to protect the environmental value of receiving waters.

Council would be happy for these codes to be reviewed as part of any enquiry and looks forward to understanding any outcomes from such a review.

The Townsville City Plan can be viewed via the link below:
http://eplanning.townsville.qld.gov.au/Pages/Plan/Book.aspx

(f) Funding models and incentives to support strategic planning and investment in desirable stormwater management, including local prioritisation

Council is presently developing a strategy for regional approaches to stormwater quality treatment. The strategy may identify suitable catchment scale schemes for delivering stormwater quality treatment infrastructure that developers can voluntarily contribute to.

Under the present policy framework, contributions need to remain voluntary so that funding is realised given the $28,000 per lot cap to infrastructure charges imposed by the Queensland Government. The infrastructure charges cap is not indexed to CPI. At present the capped charge would just cover the average infrastructure costs in new development, however, without indexation this charge will fall short of the cost of infrastructure within 2 years. Furthermore Townsville's current infrastructure charging regime does not cover any stormwater infrastructure with all infrastructure provided by the developer.

The cost of stormwater infrastructure on a per lot basis is more expensive in tropical climates due to the intensity of rainfall, increased temperatures and growth rates, highly dispersive soils, very high pan evaporation rates and highly variable rainfall patterns. The existing infrastructure charges cap in Queensland does not account for any regional variations.

Any funding models or incentives for desirable stormwater management need to:

- Be indexed to inflation;
- Account for differences in infrastructure costs between regions; and
- Reflect the importance of receiving environments (such as the GBR).

Investment in desirable stormwater management options first requires understanding of the risks associated with the non-conformance of differing stormwater phases. Presently, the extent of construction phase sediment export for Townsville is not well understood and regulatory prioritisation defaults to smaller building sites and not large bulk earthwork projects. Investigation into both the severity and duration of risks associated with Townsville development stages (both bulk earthworks and building sites) should be used to prioritise compliance and policy actions

(g) Asset management and operations to encourage efficient investments and longevity of benefit

Council currently has asset management plans and maintenance regimes for most stormwater infrastructure. These generally include underground systems, open channels, kerb & channel, inlet pits, and minor stormwater treatment assets like gross pollutant traps. At present there is no asset management plans for treatment devices such as constructed wetlands and bio-retention devices, however these may come into inception once council's stormwater quality treatment strategy is adopted. Such asset management plans will require great consideration of lifecycle costs as a whole. Guidance provided to date by 'WaterByDesign' and 'Healthy Waterways' has been of assistance, however further support is needed particular to the Townsville climate.

Resources are required to develop necessary tools and local technical capacity for the management of biological assets. Localised field guides, rectification manuals and design innovations should be investigated to ensure the sustainability of the assets. Feedback between maintenance crews and asset designers should be encouraged, along with community education programs demonstrating the reasons for biological asset investment.

To capture a true representation of the asset condition of council's underground stormwater infrastructure is challenging given the exhaustive time and resources required. Not having an accurate representation across the full network limits the effectiveness of asset management strategies to achieve true asset sustainability.

(h) The role of innovation in supporting desirable outcomes and transparent decision-making, including access to information and novel technologies for planning, design and implementation

While innovation and novel techniques in planning design and implementation is supported, it must be remembered that local government caries the cost of operating, maintaining and replacing infrastructure in perpetuity. Transparent decision making needs to be coupled with education of assessing officers signing off on assets acquired by local government through the development process. Furthermore, education of maintenance and asset personnel is necessary to ensure appropriate function and efficient investment of the assets respectively. Decisions made without fully understanding the consequences have the potential for significant costs to local governments and ratepayers over time.

(i) any related matters

Allocation of State wide resources to local governments such as Townsville City Council should be prioritised. It appears that much of the investment into stormwater research, training, innovation and testing occurs in locations far from the internationally recognised receiving waters of the *Great Barrier Reef Marine Park* (i.e. South East Queensland). Allocation of resources should be a risk based approach and align most with the locations that require significant action to protect agreed priority assets (i.e. The Great Barrier Reef – including inland wetlands and intertidal zones).

Work Townsville City Council is doing to improve management of stormwater resources.

- The ongoing 'Creek to Coral Program' – local, state and federal government cooperation www.creektocoral.org.au
- Development of the 'Black Ross (Townsville) Water Quality Improvement Plan'
- Australia's only local government delivering *International Erosion Control Association* endorsed *Soil Erosion and Sediment Control Training*
    - Delivered for over 14 years
    - Offers locally accepted accreditation for planning and implementation of ESC best practice
    - Delivers this training to other local government areas

    - Is establishing a regional collaboration across LGA's to try and standardise ESC planning frameworks
    - Is establishing a regional approach to ESC regulation that aims to be transferable across the state of Queensland
- Current development of *Stormwater Management Training* that incorporates both the construction phase (ESC) and operational phase (WSUD) holistic treatment of stormwater
- Sensor Q research pilot to uncover low cost environmental sensors (including real time visualisation) for use in stormwater validation, monitoring and compliance
    - Objective is commercialisation and use in development compliance
    - Objective is commercialisation and use in stormwater asset management
- Reef Urban Stormwater Management (Group RUMIG)
- Townsville Water Futures Program
    - Using known cognitive psychology approaches to reduce outdoor water use in Townsville
    - Uncovering links between residential lawn care, receiving water quality and stormwater asset functionalities
- Sustainable education program including stormwater education learnscapes demonstrating stormwater management best practice and integrated catchment management approaches for North Queensland.