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PROJECT BRIEF

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GARDINERS CREEK (KOOYONGKOOT) CATCHMENT – WHOLE OF SYSTEM APPROACH TO LITTER MANAGEMENT

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PROBLEM STATEMENT

Litter generated within the Gardiners Creek (KooyongKoot) catchment is negatively impacting environmental, social and cultural values of its waterways (Gardiners Creek, Scotchmans Creek, Damper Creek and Back Creek) and – through flow on affect – the Yarra River and Port Phillip Bay.

The five councils located within the catchment (Stonnington, Boroondara, Monash, Whitehorse and Glen Eira) have invested in local litter reduction projects and infrastructure projects (such as GPTs, side entry pit guards and isolated WSUD features), and the local community are engaged in litter-clean-ups, particularly in the lower catchment. However individual organisations tackling litter within the boundaries of the land and creekline they manage does not match with the systemic and interconnected nature of the problem, nor address the behavioural factors that are essential to a long-term solution. Interventions made in one part of the catchment system may not be reinforced by the interventions made in another part of the system.

Without a holistic, data-driven and preventative-focussed approach, efforts of individual partners and community members cannot have the most impact, and without centralised information sharing between relevant stakeholders, there is a risk of reproducing actions (and mistakes).

In addition to the above, the increasing stresses exerted on the Gardiners Creek (KooyongKoot) catchment through ever-higher density of residential and commercial land-use is increasing (1) the volume of litter being generated within the catchment and (2) the area of land being used for construction, putting pressure on green spaces and leading to increased peak storm water run-off events, which presents challenges in capturing litter prior to entry to the stormwater system.

LEVERAGING THE GARDINERS CREEK (KOOYONGKOOT) REGIONAL COLLABORATION (GCRC)

The GCRC has been setup to take a catchment-scale approach to issues which negatively impact the Gardiners Creek (KooyongKoot) catchment. The governance and communication channels are in place through the GCRC to consider litter management as a shared responsibility across land, catchment and waterway managers, and through these channels can (1) coordinate information and interventions between those managers more effectively, (2) can better leverage existing resources, (3) can target new interventions more effectively, and (4) can improve overall outcomes across partners and for the community.

PROJECT CONTEXT

Litter management is a shared responsibility across managers and owners of catchments and land, and the communities who use our public and private spaces.

Melbourne Water has been developing a strategic catchment-scale approach to litter management that aims to move away from individual actions towards a coordinated and collaborative whole of system approach. The benefit of this approach is the ability to leverage combined efforts, resources and spheres of influence across partners and across municipal boundaries to target interventions where they will be most effective and achieve improved overall outcomes for the community.

Litter is first and foremost a land management issue. Over 90% of litter in our waterways and 95% of litter on our beaches comes from urban and industrial environments, carried through the stormwater system. Once litter has entered the stormwater system, it is difficult to catch, and even harder to prevent from breaking down into smaller more harmful pieces such as microplastics. Litter prevention and management close to the source and/or prior to being conveyed by the stormwater system is key to minimising water pollution and a more effective approach than focussing on more visible solutions such as large end of system litter traps or clean-up.

To have a lasting improvement in litter management at a catchment scale needs an overarching data-driven action plan that drives solutions which present the highest likelihood of effectiveness and value for money.

This project will draw from the success and learnings of the approach taken in catchment-scale collaborations within the Moonee Ponds Creek and Lower Dandenong Creek litter collaborations.

WHAT DOES SUCCESS LOOK LIKE?

- Litter entering the Gardiners Creek (KooyongKoot) catchment waterways (Gardiners Creek, Scotchmans Creek, Damper Creek and Back Creek) & subsequently entering the Yarra River/Port Phillip Bay is measurably reduced through the collaborative actions of project partners.
- The community are knowledgeable about litter issues in the catchment and how it can be transported via stormwater systems & waterways into the Gardiners Creek (and subsequently the Yarra and The Bay), and are active advocates for the project and actively contribute to management of litter in the catchment.
- All project partners share holistic and reliable data about litter sources, transmission routes, and accumulation hotspots in the catchment.
- A reliable understanding of cost/benefit of various possible interventions, and interventions are prioritised according to that cost/benefit. This includes an understanding of the context of the potential catchment-wide Gross Pollutant Trap upgrade project submitted within the Urban Rivers & Catchments grant.
- Interventions to reduce litter are planned and implemented where they will be most effective, based on data, and the costs shared according to the end benefit to project partners and not according to land management boundaries.
- Actions and interventions are adapted as new data is available, new challenges emerge or as the character of the catchment changes, and the collaboration continues to manage litter effectively into the future.
- All partners in the catchment benefit from the approach and understand each other's role towards agreed common objectives.

PROJECT PHASES AND PARTNERS INVOLVED, ESTIMATED COSTS

Phase 1 – Catchment Analysis: analysis of (a) paths of transmission (i.e. stormwater network mapping), (b) existing litter management infrastructure and the effectiveness of that infrastructure,(c) hotspots where litter accumulates within the waterway system, whether those sites are of high amenity value or not (because both present an opportunity to remove litter before it travels further downstream through the system), and (d) development of litter generation hotspot mapping using land use analysis and on-ground intelligence (e) gathering data about overall litter volumes, most common litter types, (f) collating littering reports across the catchment from EPA and councils, and (g) undertaking reviews of existing maintenance programs and existing litter infrastructure servicing those litter generation hotspots.

Partners involved in this phase will include all GCRC members including local government, community groups, sports bodies and environmental groups and the EPA. With validation of litter data and hotspots by government and community groups. The catchment-scale analysis will be led by an external consultant.

Phase 2 – Priority Infrastructure Upgrade Plan: development of a priority action plan for asset-based solutions, including new infrastructure, infrastructure renewals or upgrades, and improvements to maintenance at both street scale and within stormwater assets. Projects will be ranked by priority

Partners involved in this phase will include Melbourne Water, and catchment councils, and the prioritised actions will be developed by an external consultant.

Phase 3 – (A) Ground-truthing/validation of Infrastructure Upgrade Plan (feasibility analysis) (B) High-level design: on-ground investigation of recommended infrastructure renewal or upgrade sites linked to regional, local and industrial litter hotspot locations to ground-truth identified sites/locations, and to verify or adjust these recommendations in regard to (a) the proposed location and (b) the proposed infrastructure solution.

High-level design of priority infrastructure improvements such as Gross Pollutant Traps (GPTs), WSUD features, and integrated water management solutions. Priority locations as determined by Phases 2 & 3A.

Partners involved in this phase will include Melbourne Water, catchment councils and an external consultant, which will be responsible for doing the on-ground analysis, reporting recommendations with priority ranking, and undertaking high-level design for priority sites (number to be determined by Gardiners Creek Collaboration).

Phase 4 – Holistic Catchment Action Plan: incorporates targeted communications, community engagement and education programs, and compliance and enforcement activities, to the prioritised infrastructure and maintenance actions.

Partners involved in this phase will include all members of the GCRC, and will be coordinated through the GCRC Litter Pollution working group. Funding for this phase is to be determined.

Phase 5 – Action Plan Implementation: will be led by the GCRC Litter Pollution Working Group and will involve systematically and collaboratively working through the Catchment-wide Litter Action Plan. This process will involve working with all relevant stakeholders and will involve the management of projects from funding sourcing to management of project works on the ground.

Partners involved in this phase will include all members of the GCRC, and will be coordinated through the GCRC Litter Pollution working group. Additional partners such as DEECA, Sustainability Victoria, and Tangaroa Blue may be brought in to guide the group at key stages throughout the project. Funding for this phase is to be determined.