



In harmony with its natural ENVIRONMENT

Kathleen Kinney discusses Boffa Miskell's involvement in the master-planning, ecology and landscape architecture of the Long Bay residential project in Auckland.

Boffa Miskell first became involved at the initial structure plan phase (around 2008), when the company provided landscape planning and ecology input.

In early 2009 we were engaged by Todd Property on the master planning team for the development. Following that, we led the public landscape design team (landscape architecture) and the stream/wetland/stormwater design and restoration ecology.

This 162-hectare Long Bay development on Auckland's North Shore involved the urbanisation of a large-scale landholding in a sensitive natural environment.

The master planning approach was underpinned by ecology, which aimed

to strike the right balance between efficient use of land, and enhancement of the natural environment.

The overall goal of the project was to provide an integrated urban form, ecological framework and landscape framework that demonstrates on a large scale how 'green infrastructure' can be layered throughout a new residential development. As a start, landscape was analysed in both a conceptual and functional way.

Conceptually, the landscape of Long Bay was viewed as a gradient; from coastline to headwaters, and from naturally-occurring to man-made habitats.

At a functional level, the narrative of a gradient plays out through the design of the Vaughan's stream and

Awaruku stream stormwater treatment areas. A sequence of sustainable stormwater devices links the restored landscape with engineering and green infrastructure to achieve stormwater management outcomes.

What's most innovative is the seamless integration of catchment planning and urban design, says the project's design lead, landscape architect Emma Todd, a partner at Boffa Miskell. "The development is an example of Water Sensitive Design thinking being integrated into the planning process right from the very start.

"The upper catchments, with the more sensitive stream environments, have lower density development; while higher density development has been





allowed in the lower catchment.

"This approach has served the Long Bay environment well and is protecting important natural assets. It provides clear evidence that achieving high environmental standards can easily be incorporated as an enhancement to thoughtful neighbourhood design, not a burden."

Pre-development, the ecological values of most streams within the Long Bay Development were compromised by the general lack of native streamside vegetation and the presence of weeds. Plant selection across the project respects the natural coastal character and greatly enhances the biodiversity of the area. Species selection was carefully considered to ensure natural regeneration occurs through all revegetation areas.

Along with establishing the framework for ecological reconnection, the development closely links the urban form and infrastructure with

the physical dynamics of the Long Bay landscape and its ecology to create a 'sense of place'. The built elements strongly integrate with the natural gully, stream and coastal environs through the extensive planting.

The streetscapes and public open spaces of Long Bay form a network of landscape elements which work together to connect the community through safe and pleasant routes.

'Garden Streets' within local neighbourhoods create the transition between car- and transit-oriented connector roads to local streets which focus on the needs of the local community for usable outdoor space whilst still allowing for essential vehicular access.

"The Garden Street concept has been to design a 'kit of parts' which includes visitor parking, stormwater treatment devices, amenity planting and multi-purpose hard landscaping," Emma explains.

"These 'parts' can be arranged in a variety of ways, and that's reflected in the diversity of the layout of the Garden Streets between the various areas of the overall development."

In Long Bay, private lawn areas are minimal and lawn mower ownership is low, says Emma. "The planting design throughout the development enhances the sense of place. We wanted a streetscape that was low maintenance, with hardy plant species; and that accommodates the necessary planting for Long Bay's extensive raingardens."

The streets are an integral part of a 'treatment train' where stormwater flows through complementary treatment methods before flowing into the wider environment. The streets incorporate water sensitive stormwater treatments such as rain gardens, which are an integral part of the landscaping. The raingardens act as bioretention areas, where sediments



and contaminants are filtered from stormwater before it flows into the nearby streams and wetlands.

The landform itself has been designed with stormwater treatment and erosion control in mind, too. Mid-block batter slopes (designed at a slope of 1 in 2.5) are used for grade management, minimising the need for retaining walls between development blocks. Established during the masterplan

phase, the mid-block batters have been implemented throughout all stages of development

These batters are planted with suitable native species to prevent erosion. The slopes form an essential part of the onsite treatment of stormwater, as the planting of the batter captures and holds stormwater, to allow it to permeate slowly into the ground.

“A big part of the success, in terms of green infrastructure, is the role that the urban form and landscape framework play in creating a unique sense of identity at Long Bay,” says Emma Todd.

“The green infrastructure in the residential development has been used to create an attractive community that is connected and legible; but it’s also a sustainable community that operates in harmony with the natural environment and with the ecological processes of the surrounding landscape.” **LG**



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