

# WIGRAM BASIN UPGRADE

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## ABSTRACT

Wigram Basin is located in Canterbury Agricultural Park, Christchurch, on the Papanua Stream just upstream of its confluence with the Ōpāwaho/Heathcote River. The original Wigram Retention Basin was constructed in 1993 primarily as a flood retention basin, but included a wet pond for treatment. The design anticipated changes in the catchment over time and included concept design for future additional treatment and storage.

Since the basin was constructed the upstream catchment developed, with industrial and residential developments and the construction of the Christchurch Southern motorway just upstream of the site. The impervious area and contaminant load in the catchment have increased, with the upstream waterway having some of the worst water quality in Christchurch.

The development of the adjacent site into the Ngā Puna Wai Sports Hub provided an opportunity to excavate material from Wigram Basin site and fill the Ngā Puna Wai site, providing significant cost savings and enabling the basin upgrade project.

The Wigram Basin Upgrade Project, currently under construction, involves modifying the existing basin to provide additional flood storage and add 3.4 hectares of wetland for treatment. The project is part of a wider Ōpāwaho/Heathcote River floodplain management programme of works to mitigate downstream flooding which worsened as a result of changes to drainage patterns following the Canterbury Earthquake Sequence. The project also contributes to another key community aspiration which is to improve water quality in the River. However, the drive for additional storage and treatment needed to be balanced with the existing environment, land use and stakeholders.

Canterbury Agricultural Park, within which the basin sits, is used by multiple stakeholders for a range of activities including horse riding, polo and the A & P show, as well as walking, running and cycling. The original Wigram Basin project included landscaping/planting at the wet pond margins and around the wet pond, as well as a network of walkways. Over time the plants have become well established (creating important habitat for birds), fish have established in the basin, and the walkways have become popular.

This paper discusses how the project balanced these needs to achieve a successful outcome, with innovative design and a collaborative effort from a multi-disciplinary client and consultant team.

## KEYWORDS

**Flood storage, retrofit, wetlands, wet pond, multi-disciplinary**