# SWEATING THE ASSETS: A SMART INFRASTRUCTURE APPROACH FOR AN INTENSIFIED FUTURE

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## ABSTRACT

Auckland's future will see a greater number of people living and working in the same urban area. There is a well-known shortage of suitable homes across the board but the shortage does hit some harder than others. One of the largest landowners in the city is Housing NZ. Much of the housing stock is no longer fit for purpose, with a greater proportion of large homes now required, many dwellings at the end of their useful lives and no longer capable of providing the warm, dry, safe homes needed.

Housing NZ, through their development arm HLC is intensifying the number of homes on their landholdings to tackle the housing problems at scale across Auckland and provide a mix of social, affordable and market homes.  Approximately 37,000 new homes are planned across Hobsonville Point, Mt Roskill, Mangere, Tamaki, Northcote and Oranga – with, on average, three new homes replacing one existing.  The scale of the intensification presents an opportunity to provide better quality infrastructure and environmental improvements, but also faces a number of challenges.

All these additional homes put extra demand on infrastructure. In terms of the stormwater this means; moving into more marginal areas (eg. flood risk), placing more demand on and rerouting networks and finding solutions for areas that have previously been poorly serviced (e.g providing new networks in areas previously relying on poor soakage).  These brownfields situations present a large range of physical constraints - with lots of different infrastructure and services to be provided in small spaces while keeping existing networks operating to service the existing community.  A large degree of coordination and integration is required.

Beca have prepared Infrastructure Masterplans for HLC to identify infrastructure constraints, projects, costs and sequencing.  The Masterplans operate on a GIS platform which allows spatial tools to be used to identify overall constraints, prioritise projects, manage cost and funding and coordinate projects.  The GIS platform has included:

- Traffic light mapping of constraints to identify quick wins
- Setting cost attributes for projects and linking these to individual sites to spatially map total infrastructure costs
- Linking infrastructure projects to the individual sites being serviced allowing equitable funding contributions to be determined between HLC growth / other development and existing sites, and
- Integration of projects across disciplines to allow coordinated sequencing

## KEYWORDS

**Intensification, GIS, infrastructure masterplanning**