Water Sensitive Drainage and Flood Management Strategy for Fishermans Bend

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Biography:
Philip is a Technical Director and the leader of the Waterways and Stormwater Team in GHD's Melbourne Office. He is a Chartered Engineer with the Institution of Civil Engineers (UK) and has over 21-years working experience.
Following an MSc in hydraulic engineering, he began his career in the UK, where he worked for 9 years, before moving to Australia and Melbourne in 2006 with his family.
His work covers a wide range of water related projects, including integrated water management plans, drainage and flood investigations as well as being the lead technical advisor for flooding and drainage at the Level Crossing Removal Authority. He has a passion for his work and is a committee member for Stormwater Victoria.

Fishermans Bend is the largest urban renewal area in Australia, at approximately 480 hectares and more than twice the size of the Melbourne's CBD. It is expected to be home to 80,000 residents and 80,000 jobs by 2050 and has a vision of being Australia's largest urban renewal green star community with zero net greenhouse gas emissions via smart buildings and infrastructure. At least 80% of all household waste will be diverted from landfill, and urban forest canopy and green roofs and walls will help reduce the urban heat island effect as well as increase habitats for indigenous flora and fauna.
The area of Fishermans Bend is relatively low lying with ground levels generally varying from 1 m AHD to 4 m AHD. Significant parts of the renewal area are therefore vulnerable to inundation in tidal events. This problem is further exacerbated by the effects of climate change through sea level rise. Due to the relatively high risk of flooding in the area, significant new drainage infrastructure is likely to be required as part of the development of this urban renewal area.
This paper presents the Water Sensitive Drainage and Flood Management Strategy for Fishermans Bend collaboratively developed by the Fishermans Bend Taskforce Drainage Working Group in late 2018.
A key feature of the strategy was the use of distributed flood storages in streetscapes and open spaces as an alternative to more traditional drainage infrastructure (i.e. pipelines and pump stations). An aim was to optimise WSUD as a drainage solution to support and enhance streetscape and public open space landscape and resilience. This needed to be underpinned by a rigorous assessment of this 'hybrid' solution from a flooding perspective, as well as benefits and costs, appropriately informed by an overarching understanding of risk and uncertainty in the context of climate change.
The paper will describe the iterative and collaborative nature of the project and the key challenge of tying together and integrating the drainage/water strategy with the urban planning and design process at different levels of planning.