Title	Kelso Stormwater Catchment Flood Study

Abstract

Study Area

The study area is largely located within the Sydney suburb of Panania. The study area includes the entire Kelso Creek catchment, from the stormwater pipe network in the upper catchment to Kelso Creek, which flows through Kelso Park and eventually joins the Georges River. The lower catchment is provided some protection against flooding from the Georges River through the Kelso levee. The catchment is wholly within the Bankstown local government area.

Report Structure

This report is divided into two parts. The first part provides background on the study and further discussion of the available data, modelling approach and results from the flood model that was established to analyse flooding within the catchment. The second part is a technical report that provides additional detail concerning the flood model, model results and flood mapping, which is included as an appendix.

Outcomes from the Study

Outcomes from this study include:

(i) a database of all drainage assets within the study area; (ii) establishment of a computer model capable of assessing flood behaviour; (iii) information on flood behaviour under existing catchment conditions; and (iv) a model that can be used to assess flood mitigation options and future development proposals.

Database of Drainage Assets

All data collected for the study has been included within a GIS database. This allows the data to be spatially represented across the study area and allows for easy retrieval of the data as required. Information in the database includes data for some 850 stormwater pits and 810 stormwater drainage pipelines. Photos of culverts and other sketches are also linked to the database.

Other catchment data, including aerial photography, property cadastre, building footprints and the terrain surface (based on ALS survey) is also represented in the database.

Computer Modelling

A numerical computer model was developed for the catchment to simulate flood behaviour, using the computer program known as TUFLOW. Surface flows are represented in the model through a 2-dimensional grid covering the entire study area. All pipes, drains and creeks are included as 1-dimensional elements within this grid.

Full details of the modelling approach, modelling parameters and other assumptions are included in the Flood Model Report, which is included in Appendix A.

Existing Flood Behaviour

Design flood behaviour has been computed for a range of floods, ranging from relatively frequent events to more extreme floods, under existing (2007) catchment conditions. The model produces a grid of results over the study area providing data on flood levels, flood depths and flood velocities. Flood level contours have also been prepared showing contours of equal flood heights throughout the study area. This data

is provided digitally and can be overlaid on base mapping such as aerial photos and cadastral plans showing property boundaries.

All flood model results have been provided to Council for incorporation into their GIS computer system. Much of this information is also included as A4 sized plans included in Appendix A.

It is intended to develop a database of properties that are at risk of being affected by flooding as part of the floodplain management study, which is the next phase of the investigations. This will define the problem areas within the catchment and allow an assessment of potential flood mitigation options.

Resource locator

Kelso - Stormwater Catchment Flood Study	Name: Kelso - Stormwater Catchment Flood Study Protocol: WWW:DOWNLOAD-1.0-http--download Function: download

Unique resource identifier

Code	0a90fb74-a7ac-4923-b8d9-a9f1e8954598

Presentation form

Edition

10/08/2021

Dataset language

English

Metadata standard

Name	ISO 19115
Edition	2016

Dataset URI

https://datasets.seed.nsw.gov.au/dataset/0a90fb74-a7ac-4923-b8d9-a9f1e8954598

Purpose

Land and Resource Management

Status

On going

Spatial representation

Type: vector

Spatial reference system

Code identifying the spatial reference system: 4283

Topic category

Keyword set	
keyword value	
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	150.96675
East bounding longitude	151.009909
North bounding latitude	-33.960498
South bounding latitude	-33.937171
NSW Place Name	Panania
Vertical extent information	
Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711
Temporal extent	
Begin position	
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
Organisation name	Canterbury-Bankstown Council
Full postal address	info@www.cbcity.nsw.gov.au
Email address	info@www.cbcity.nsw.gov.au
Responsible party role	pointOfContact
Limitations on public access	

Responsible party

Contact position	Data Broker
Organisation name	Canterbury-Bankstown Council
Full postal address	info@www.cbcity.nsw.gov.au
Email address	info@www.cbcity.nsw.gov.au
Responsible party role	pointOfContact

Metadata point of contact

Contact position	Data Broker
Organisation name	Canterbury-Bankstown Council
Full postal address	info@www.cbcity.nsw.gov.au
Email address	info@www.cbcity.nsw.gov.au
Responsible party role	pointOfContact

Metadata date

2024-03-25T07:09:16.645006

Metadata language