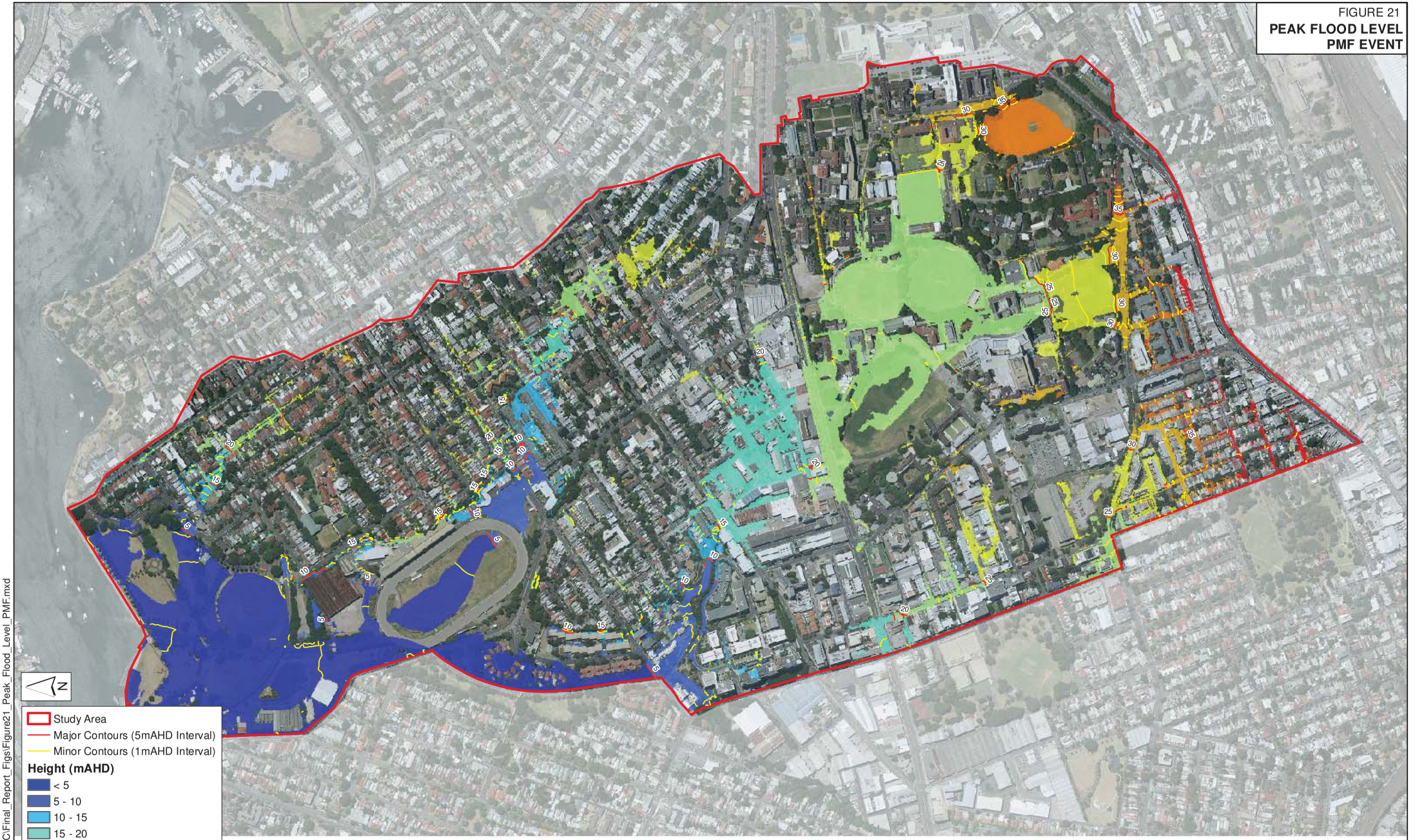
FIGURE 21
PEAK FLOOD LEVEL
PMF EVENT



Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure21_Peak_Flood_Level_PMF.mxd

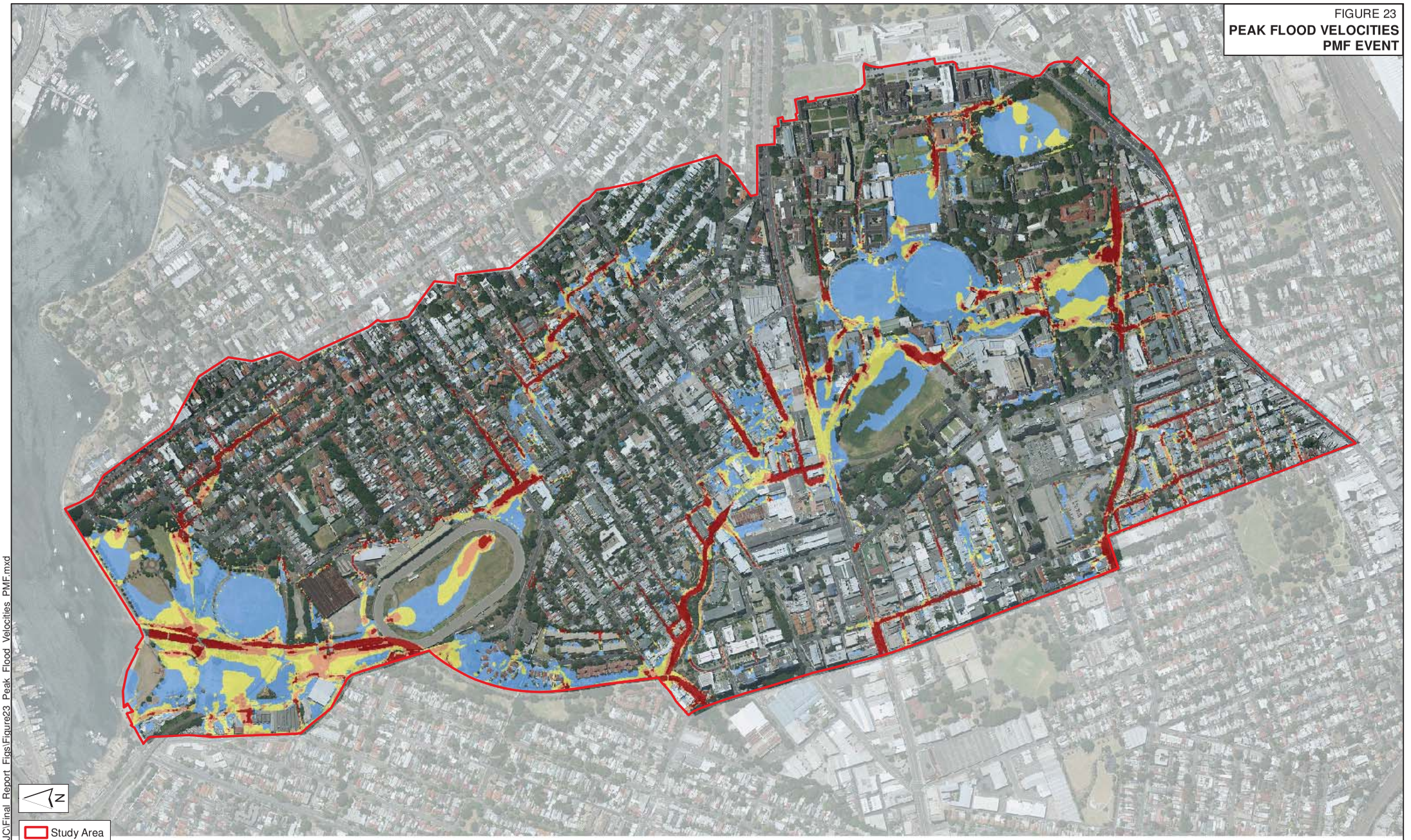
FIGURE 22

PEAK FLOOD VELOCITIES
1% AEP DESIGN FLOOD EVENT

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure22_Peak_Flood_Velocities_1%_AEP.mxd

FIGURE 23
PEAK FLOOD VELOCITIES
PMF EVENT

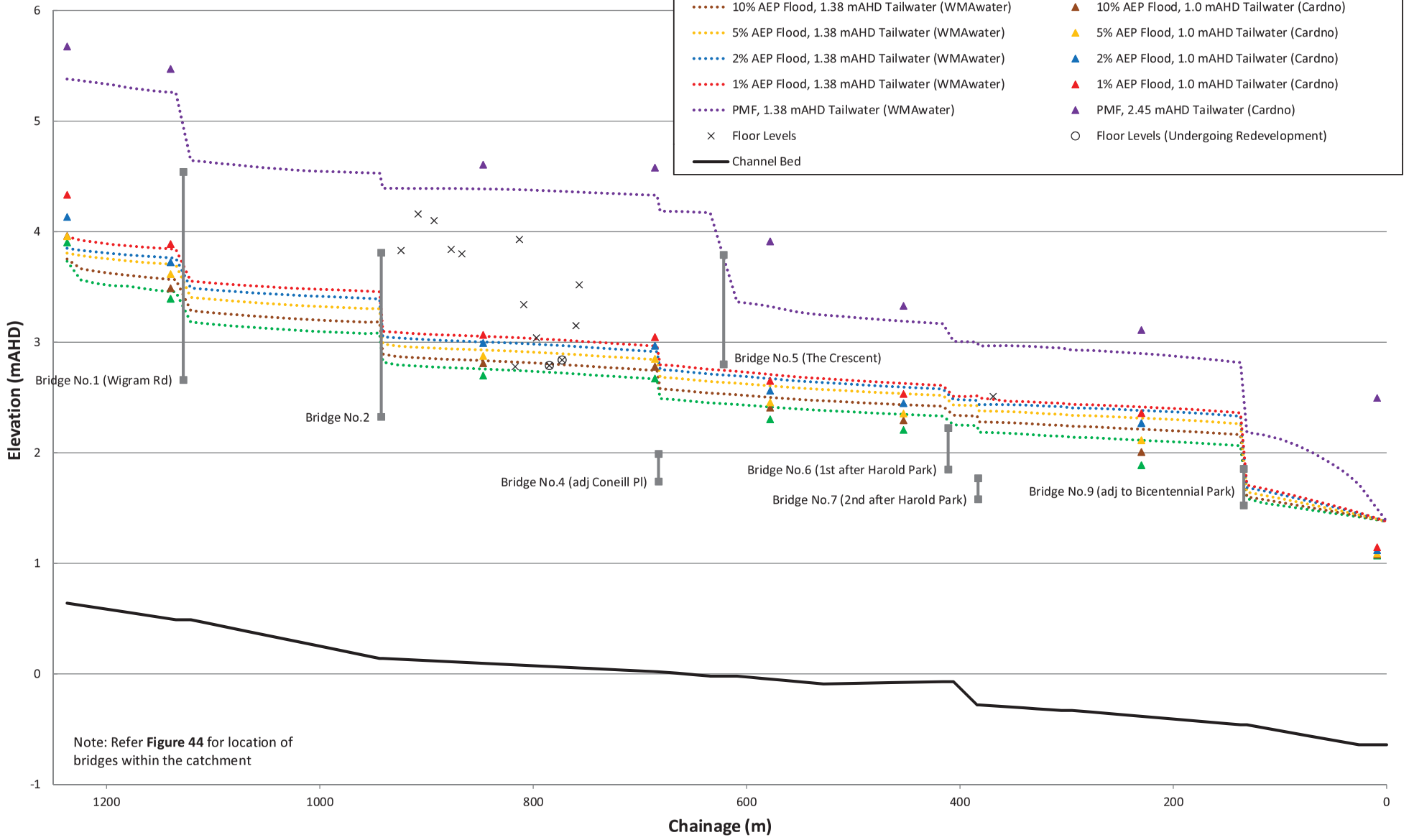


Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final Report Figs\Figure23 Peak Flood Velocities PMF.mxd

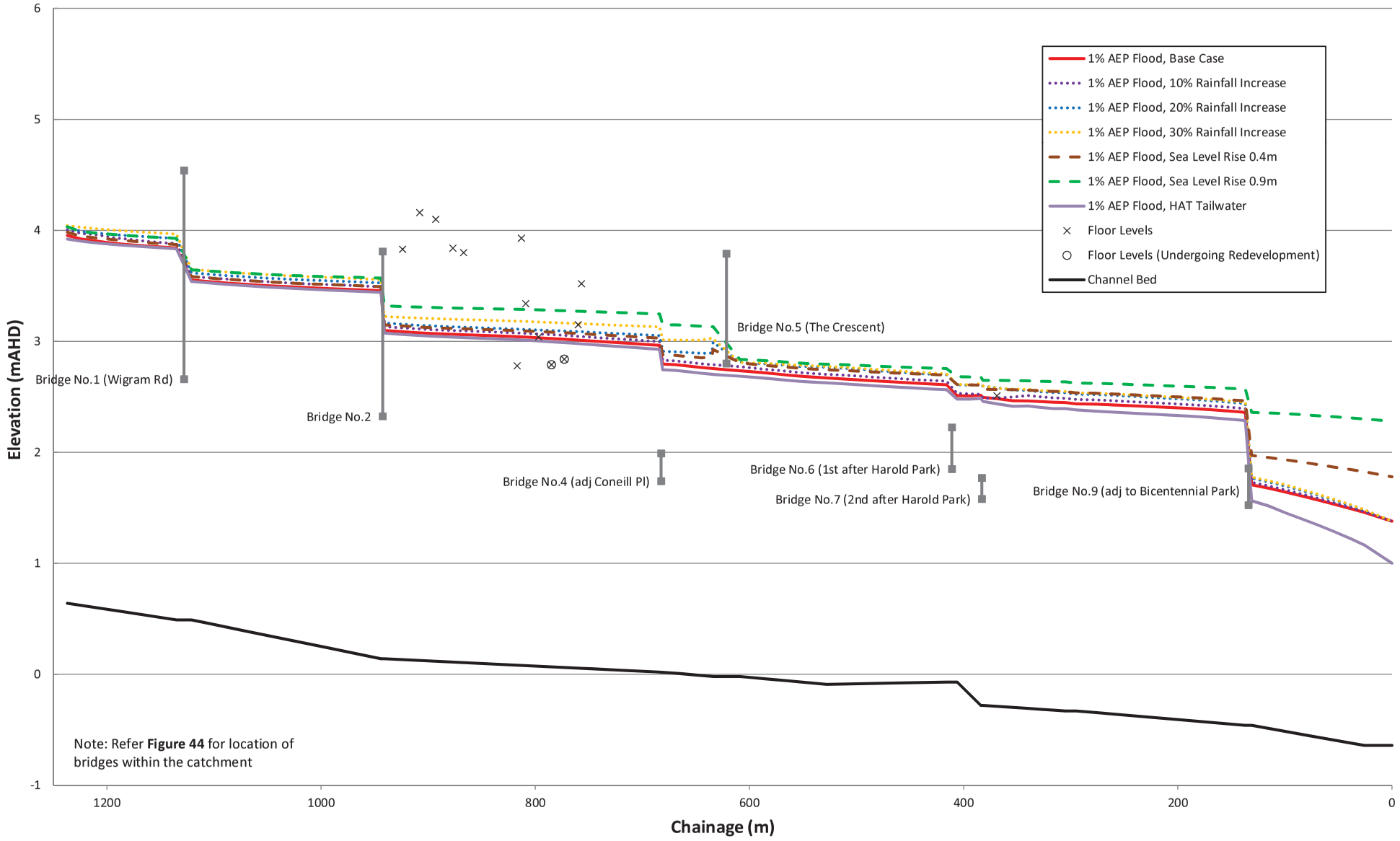
FIGURE 24

JOHNSTONS CREEK FLOOD PROFILES
ALL DESIGN FLOOD EVENTS



J:\Jobs\111021\TUFLOW_JC_Existing\results\Profiles\FS_Update_Aug2014\JC_Channel_WL_Profiles_06_Design.xlsx

FIGURE 25
JOHNSTONS CREEK FLOOD PROFILES
CLIMATE CHANGE SCENARIOS

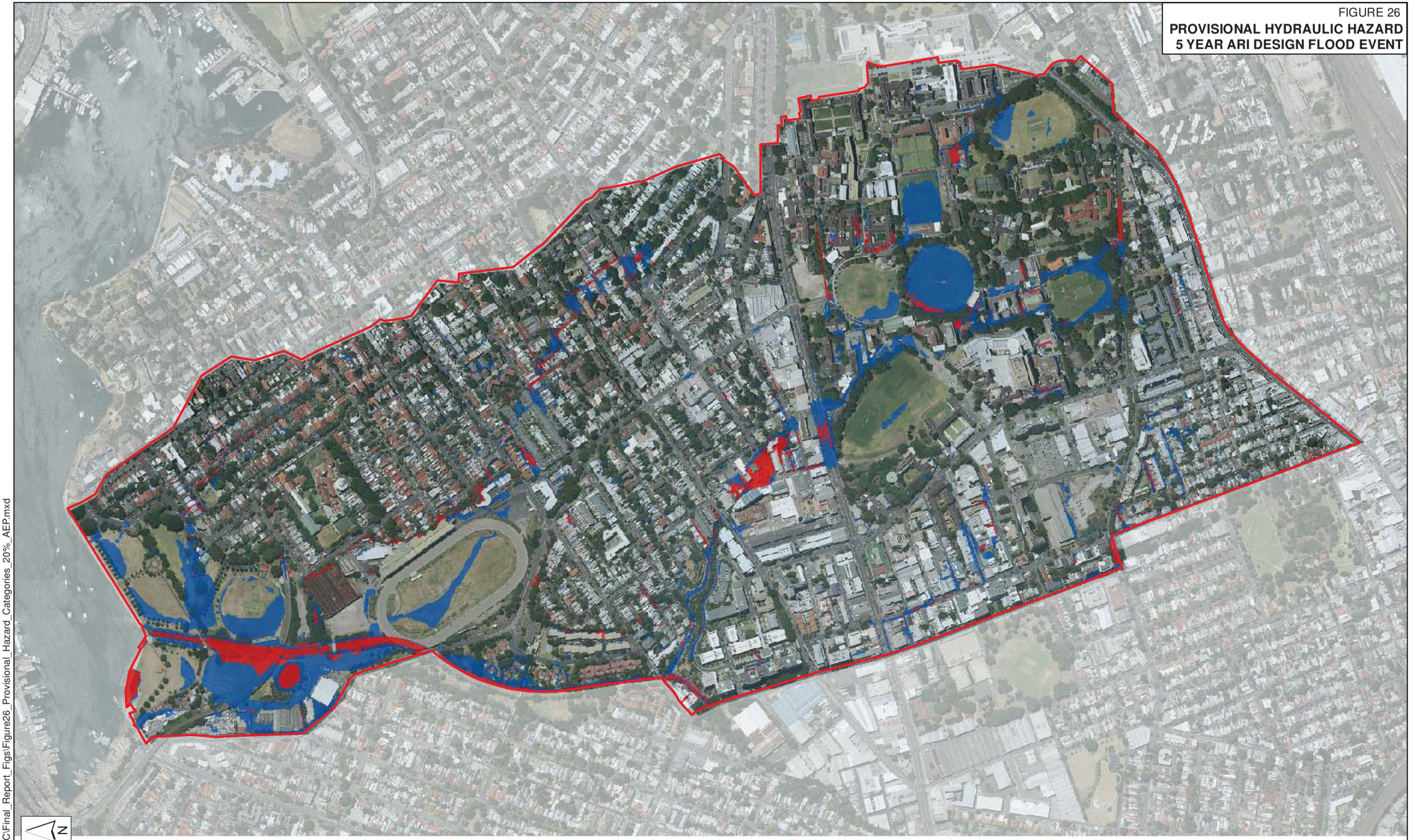


Note: Refer **Figure 44** for location of bridges within the catchment

J:\Jobs\111021\TUFLOW_JC_Existing\results\Profiles\FS_Update_Aug2014\JC_Channel_WL_Profiles_06_Design.xlsx

FIGURE 26

PROVISIONAL HYDRAULIC HAZARD
5 YEAR ARI DESIGN FLOOD EVENT



N

Study Area

Hydraulic Hazard

Low Hazard

High Hazard

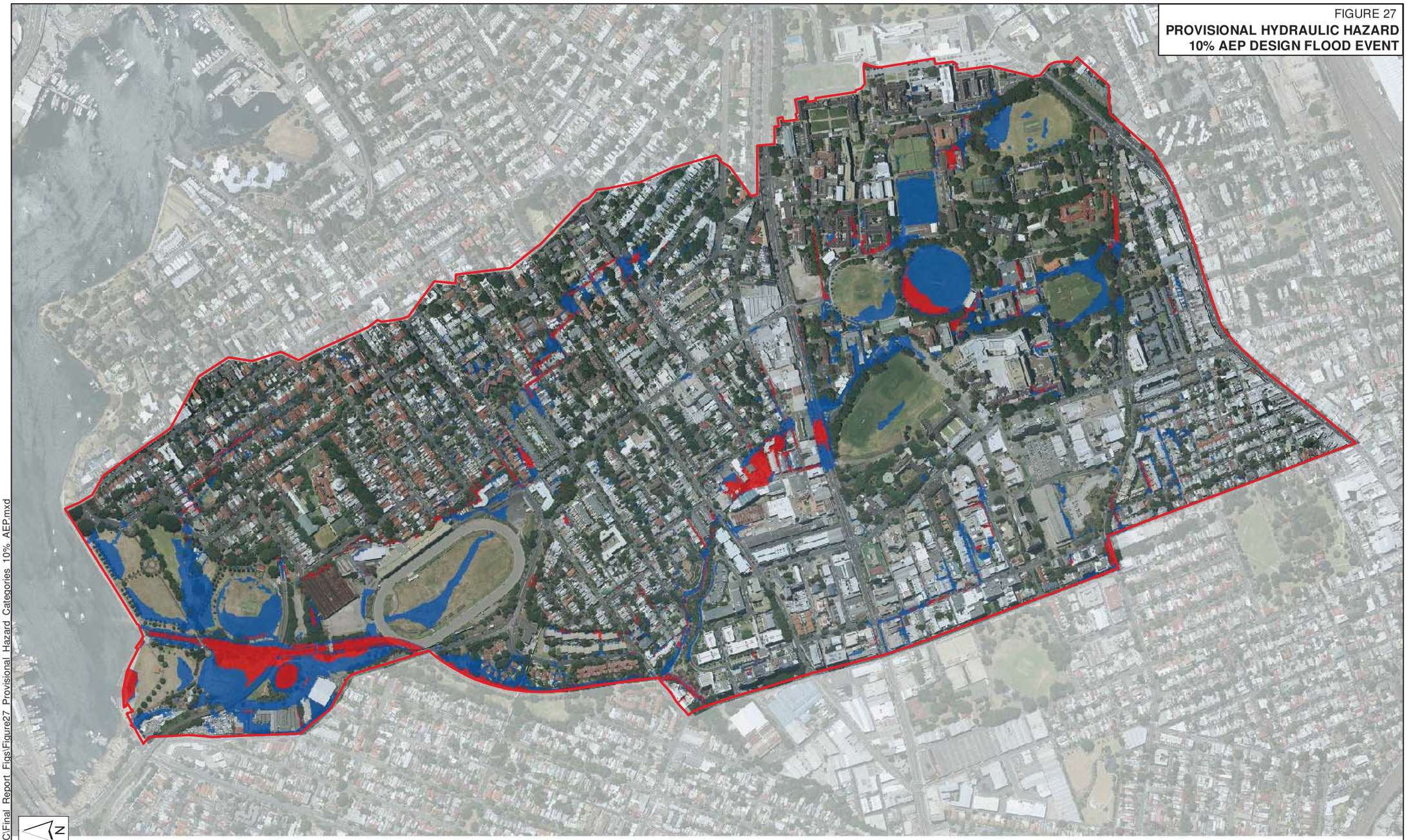
0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure26_Provisional_Hazard_Categories_20%_AEP.mxd

FIGURE 27

PROVISIONAL HYDRAULIC HAZARD
10% AEP DESIGN FLOOD EVENT



N

Study Area

Hydraulic Hazard

Low Hazard

High Hazard

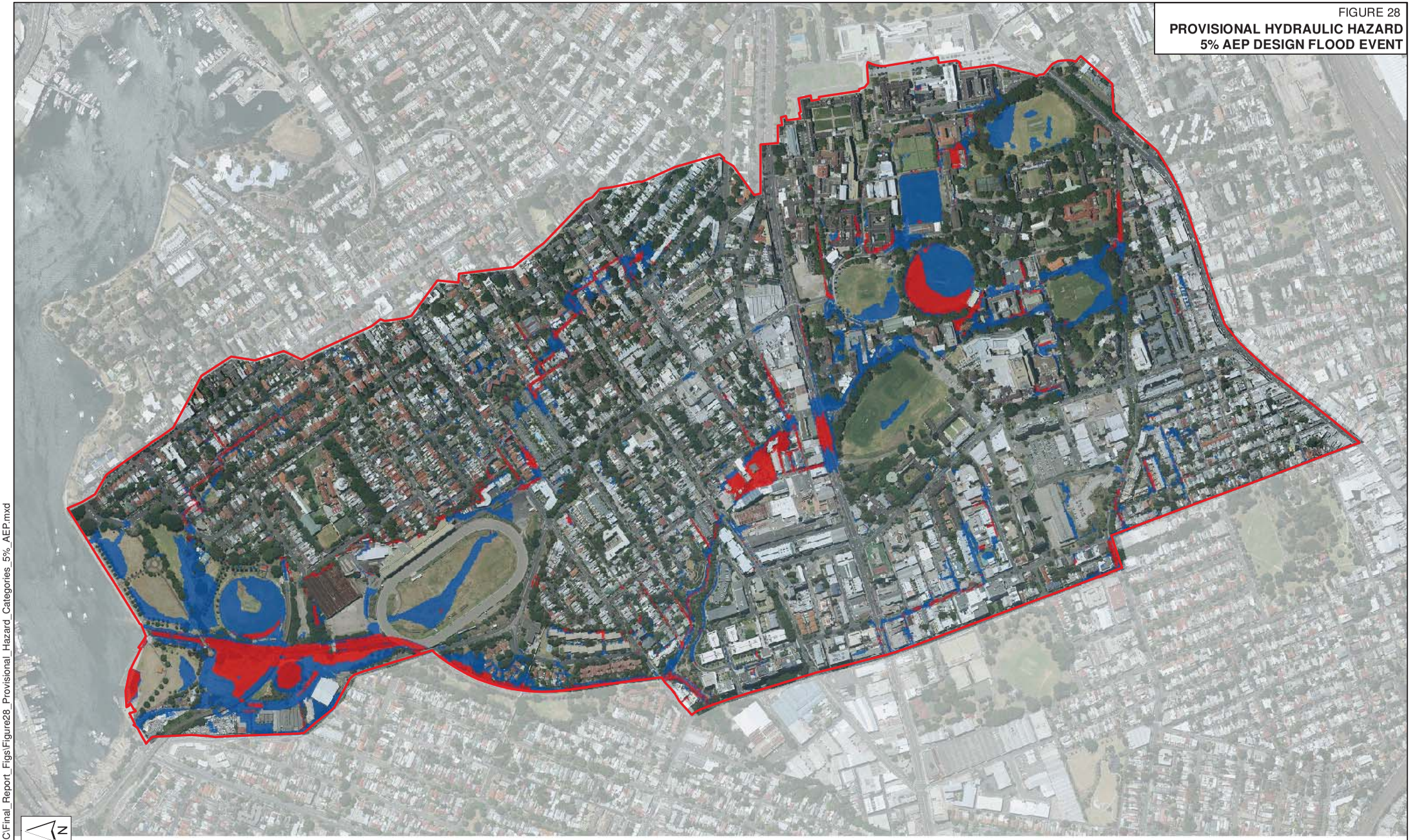
0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final Report Figs\Figure27 Provisional Hazard Categories 10% AEP.mxd

FIGURE 28

PROVISIONAL HYDRAULIC HAZARD
5% AEP DESIGN FLOOD EVENT



N

Study Area

Hydraulic Hazard

Low Hazard

High Hazard

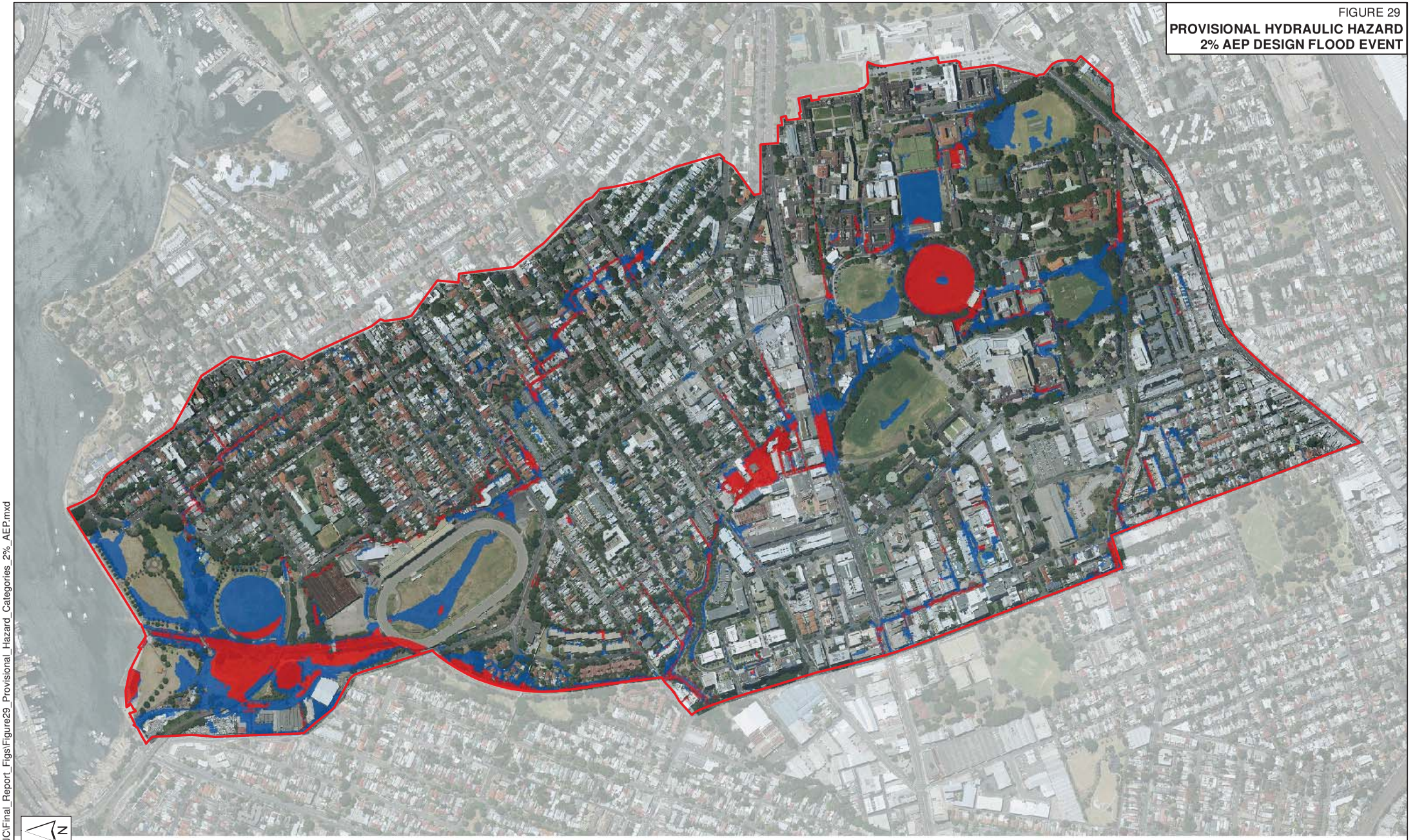
0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JO\Final_Report_Figs\Figure28_Provisional_Hazard_Categories_5%_AEP.mxd

FIGURE 29

PROVISIONAL HYDRAULIC HAZARD
2% AEP DESIGN FLOOD EVENT



N

Study Area

Hydraulic Hazard

Low Hazard

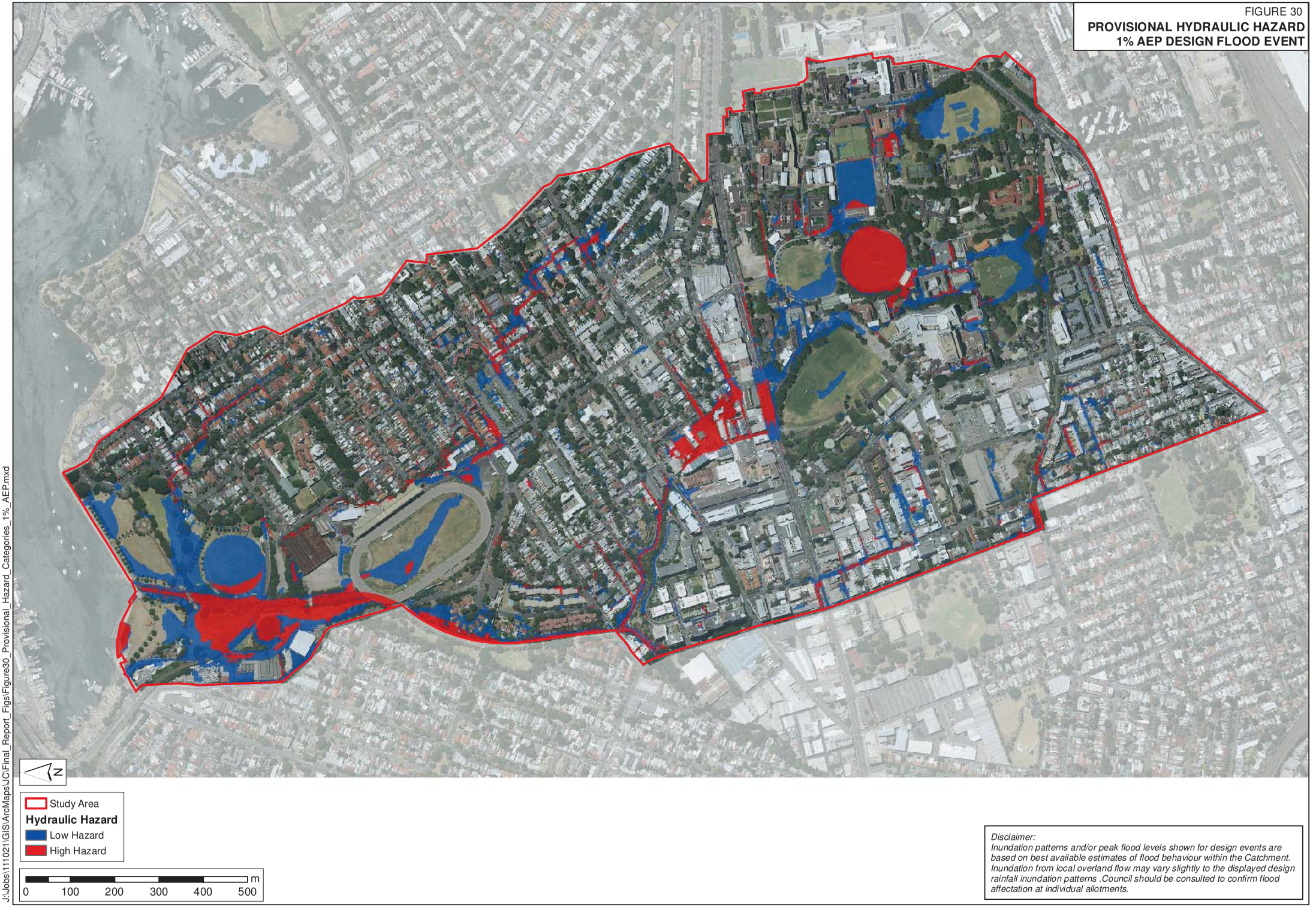
High Hazard

0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure29_Provisional_Hazard_Categories_2%_AEP.mxd

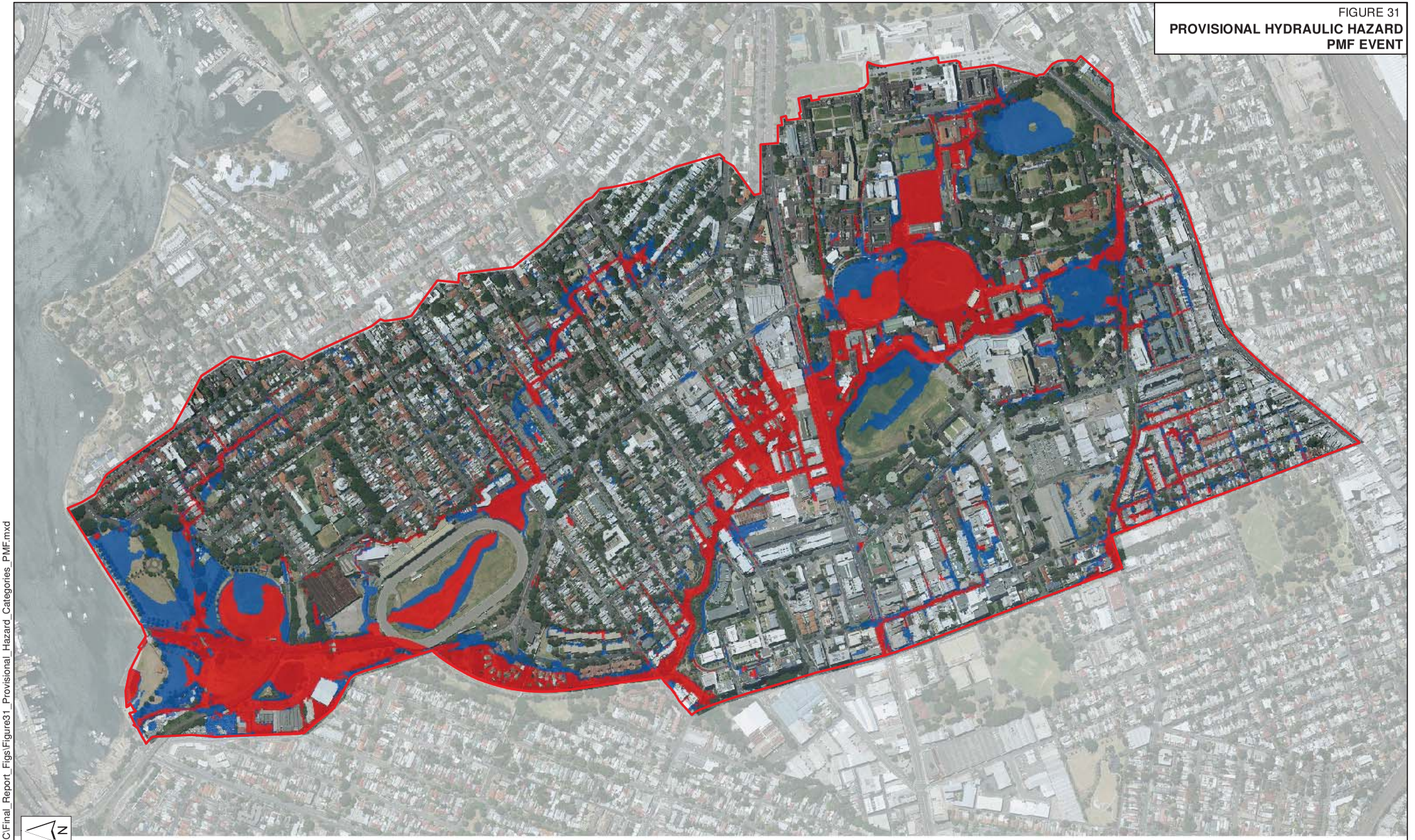
FIGURE 30
PROVISIONAL HYDRAULIC HAZARD
1% AEP DESIGN FLOOD EVENT



Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure30_Provisional_Hazard_Categories_1%_AEP.mxd

FIGURE 31
PROVISIONAL HYDRAULIC HAZARD
PMF EVENT



N

Study Area
Hydraulic Hazard
Low Hazard
High Hazard

0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure31_Provisional_Hazard_Categories_PMF.mxd

FIGURE 32

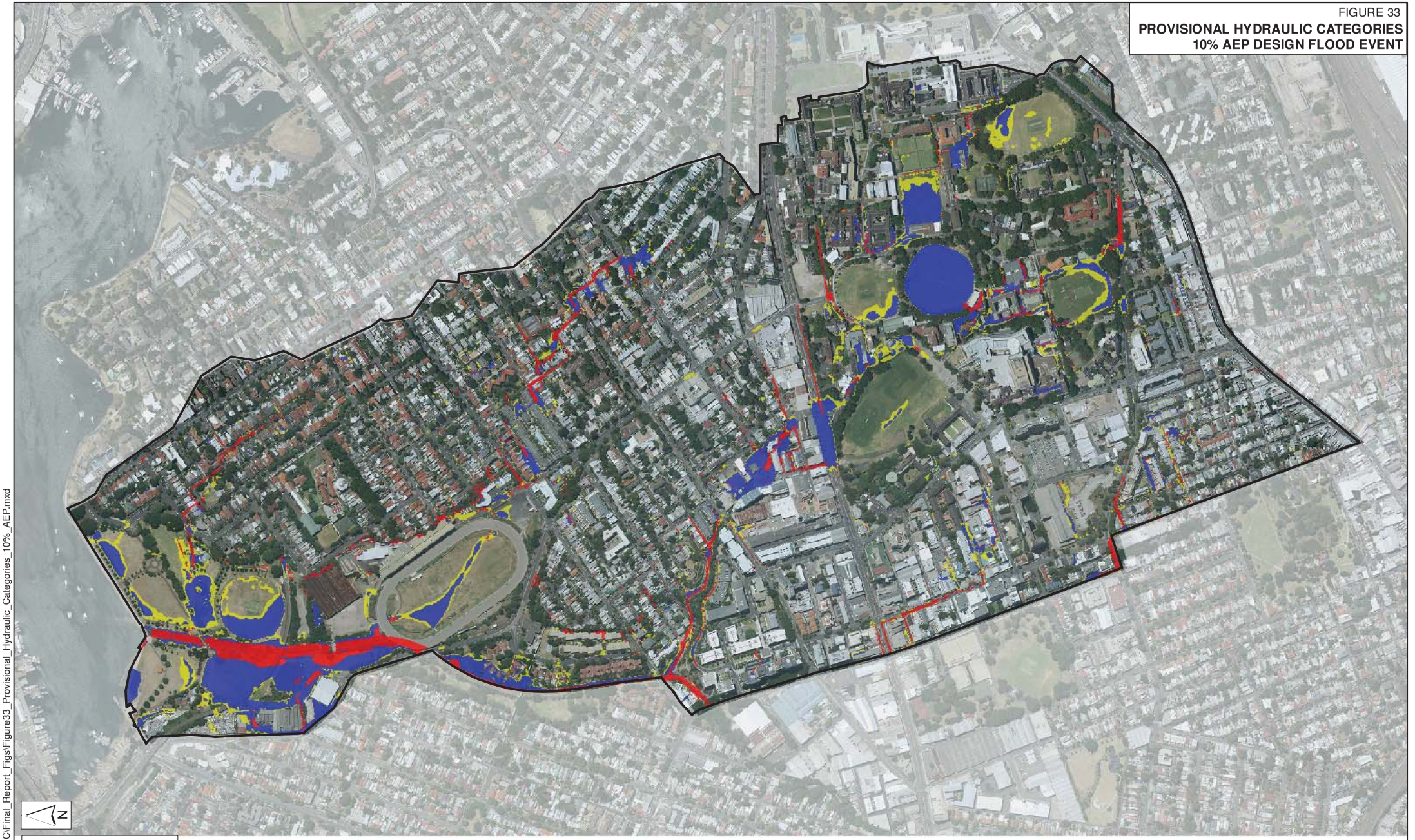
PROVISIONAL HYDRAULIC CATEGORIES
5 YEAR ARI DESIGN FLOOD EVENT

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final Report Figs\Figure32_Provisional Hydraulic Categories_20% AEP.mxd

FIGURE 33

PROVISIONAL HYDRAULIC CATEGORIES
10% AEP DESIGN FLOOD EVENT



N

Study Area

Hydraulic Categorisation

- Floodway
- Flood Storage
- Flood Fringe

0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure33_Provisional_Hydraulic_Categories_10%_AEP.mxd

FIGURE 34

PROVISIONAL HYDRAULIC CATEGORIES
5% AEP DESIGN FLOOD EVENT

Study Area

Hydraulic Categorisation

Floodway

Flood Storage

Flood Fringe

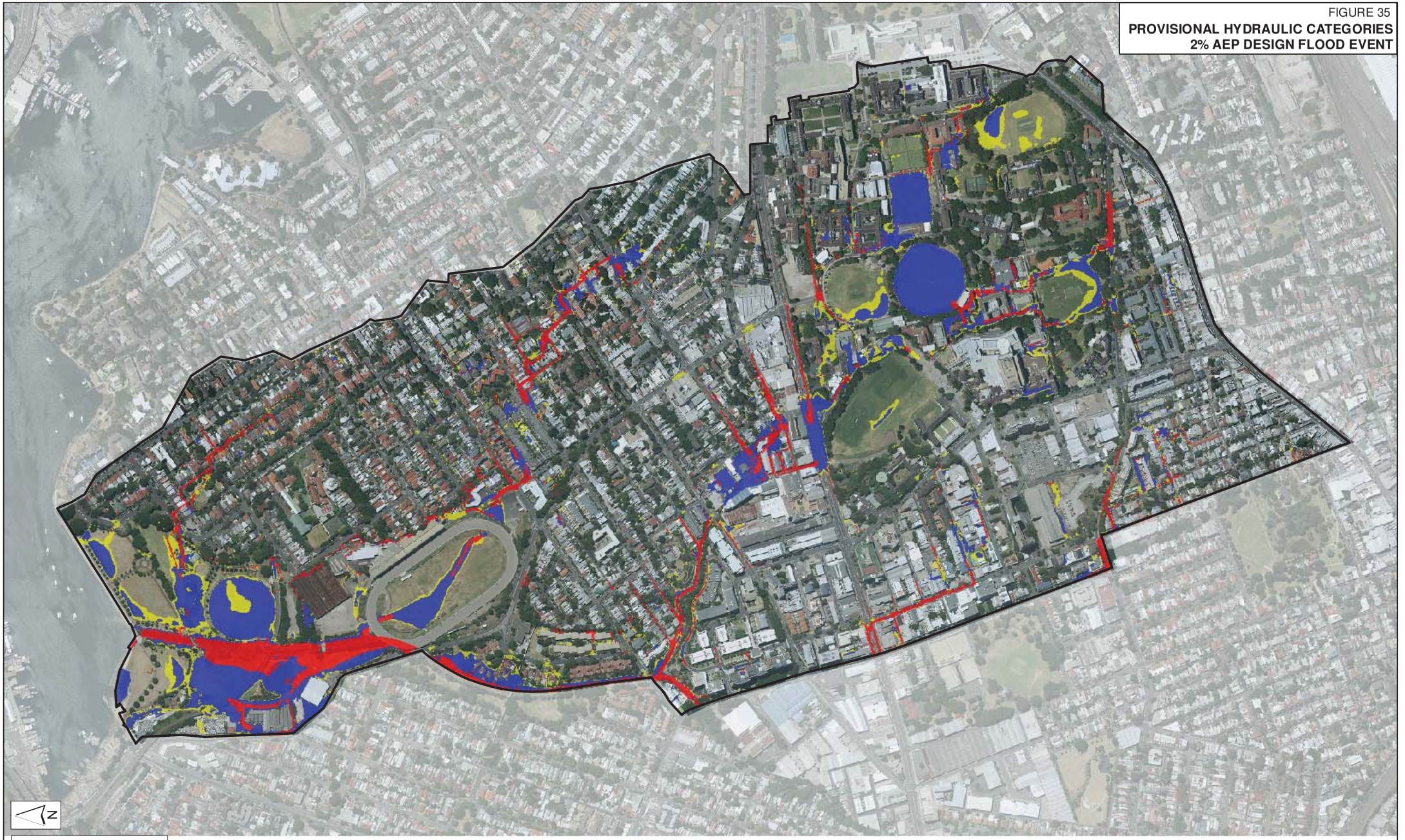
0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure34_Provisional_Hydraulic_Categories_5%_AEP.mxd

FIGURE 35

PROVISIONAL HYDRAULIC CATEGORIES
2% AEP DESIGN FLOOD EVENT

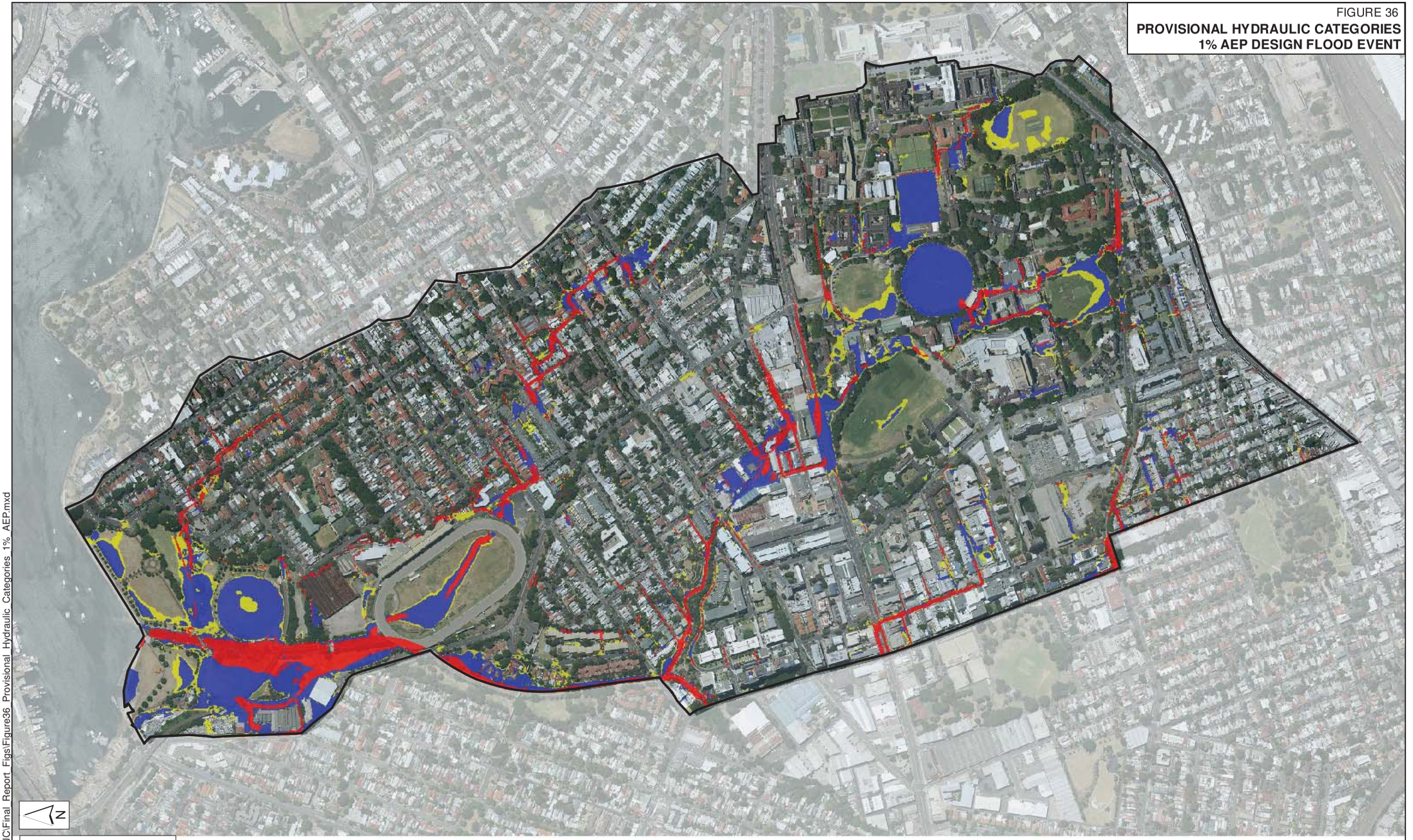


Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure35_Provisional_Hydraulic_Categories_2%_AEP.mxd

FIGURE 36

PROVISIONAL HYDRAULIC CATEGORIES
1% AEP DESIGN FLOOD EVENT



Study Area

Hydraulic Categorisation

- Floodway
- Flood Storage
- Flood Fringe

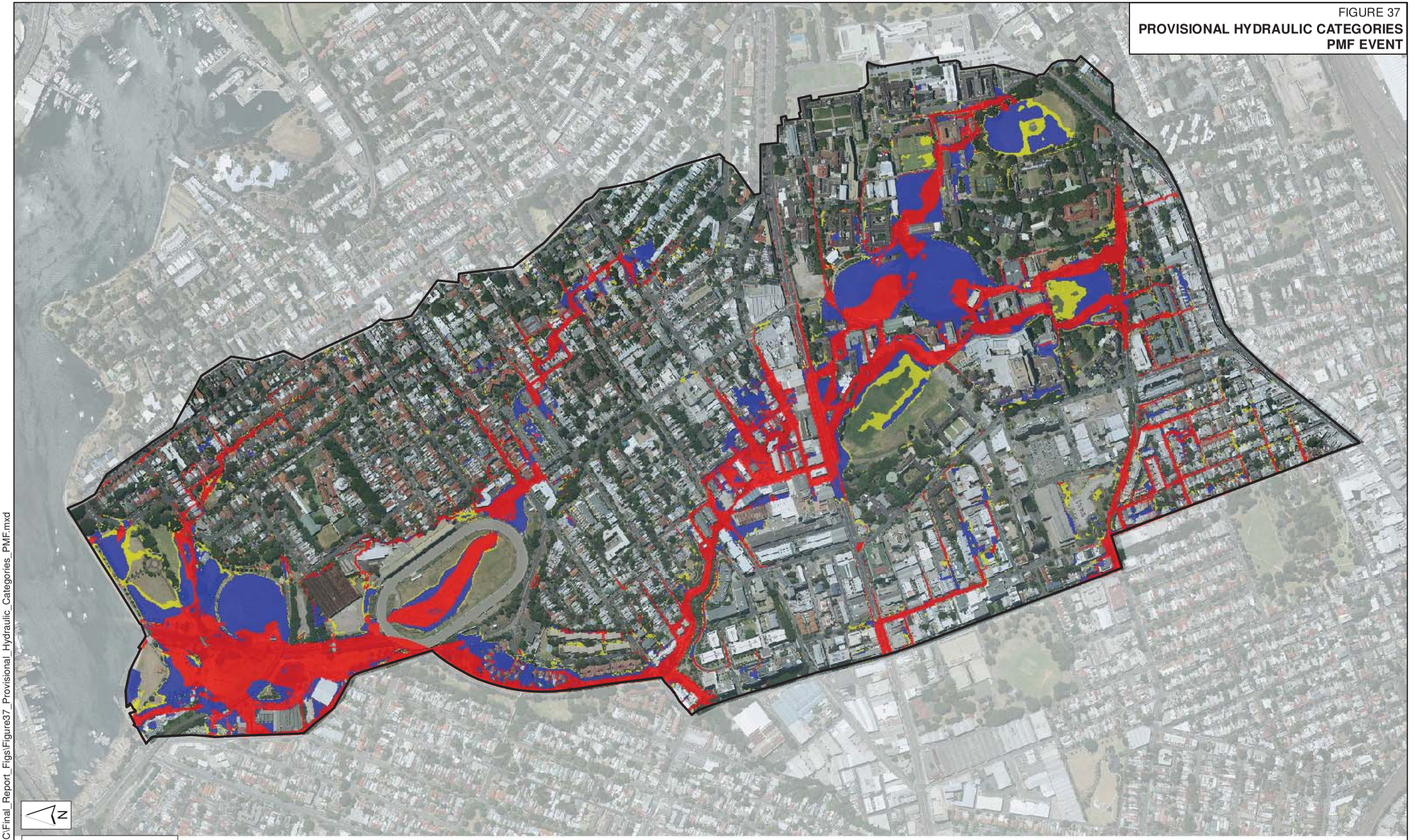
0 100 200 300 400 500 m

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final Report Figs\Figure36_Provisional_Hydraulic_Categories_1%_AEP.mxd

FIGURE 37

PROVISIONAL HYDRAULIC CATEGORIES
PMF EVENT



Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure37_Provisional_Hydraulic_Categories_PMF.mxd

FIGURE 38

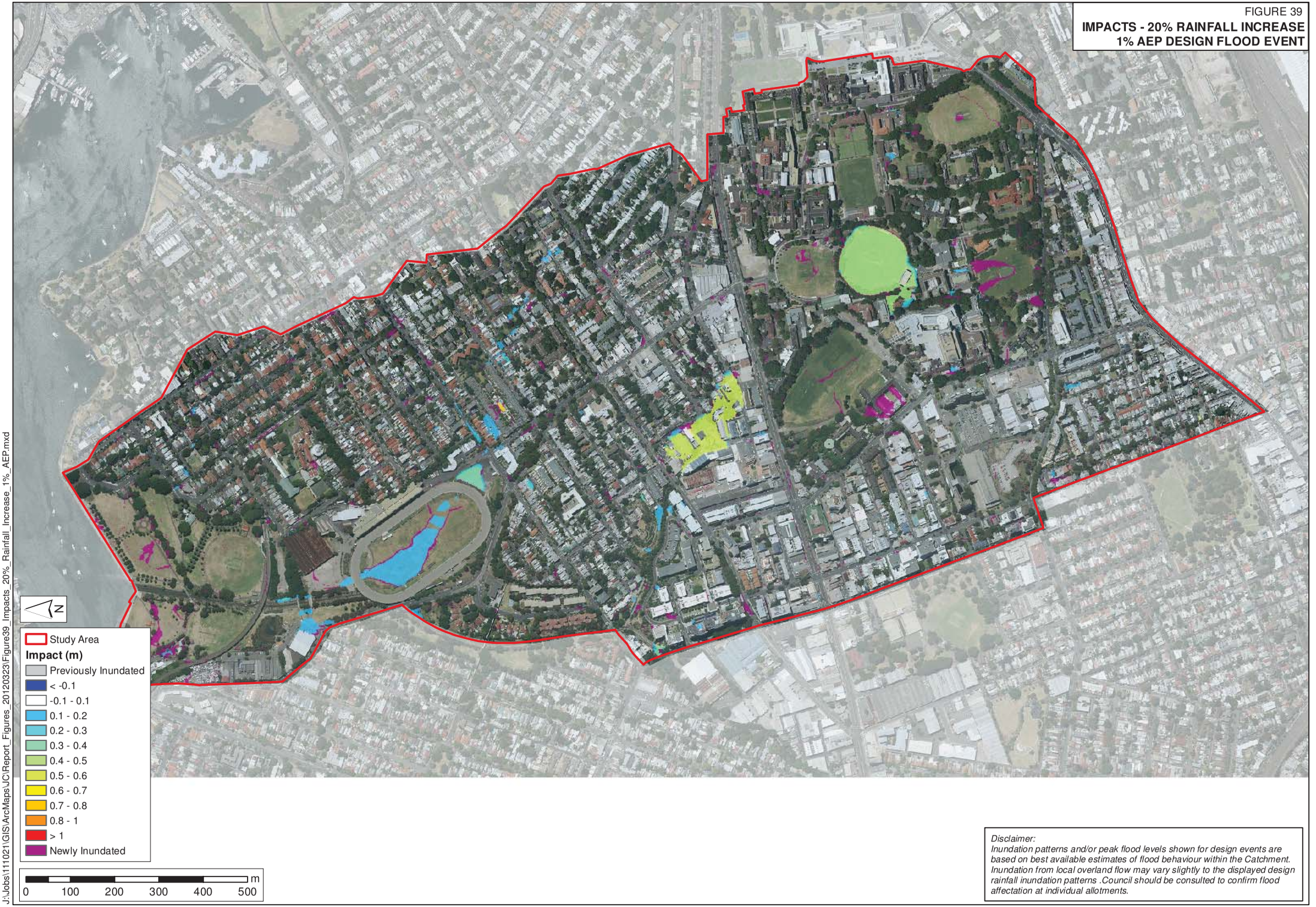
IMPACTS - 10% RAINFALL INCREASE
1% AEP DESIGN FLOOD EVENT

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Figure38_Impacts_10%_Rainfall_Increase_1%_AEP.mxd

FIGURE 39

IMPACTS - 20% RAINFALL INCREASE
1% AEP DESIGN FLOOD EVENT

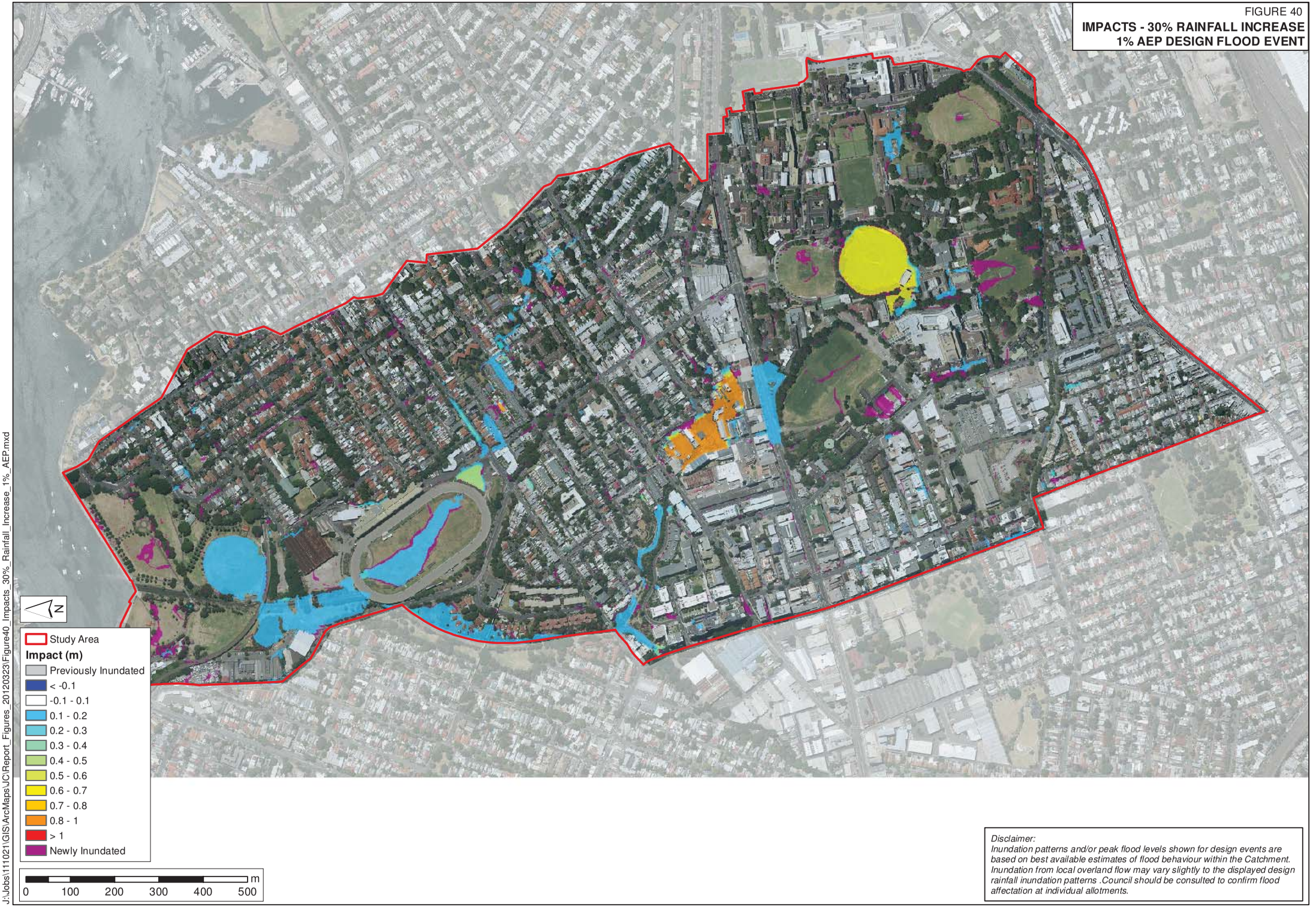


Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Figure39_Impacts_20%_Rainfall_Increase_1%_AEP.mxd

FIGURE 40

IMPACTS - 30% RAINFALL INCREASE
1% AEP DESIGN FLOOD EVENT



Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Figure40_Impacts_30%_Rainfall_Increase_1%_AEP.mxd

FIGURE 41

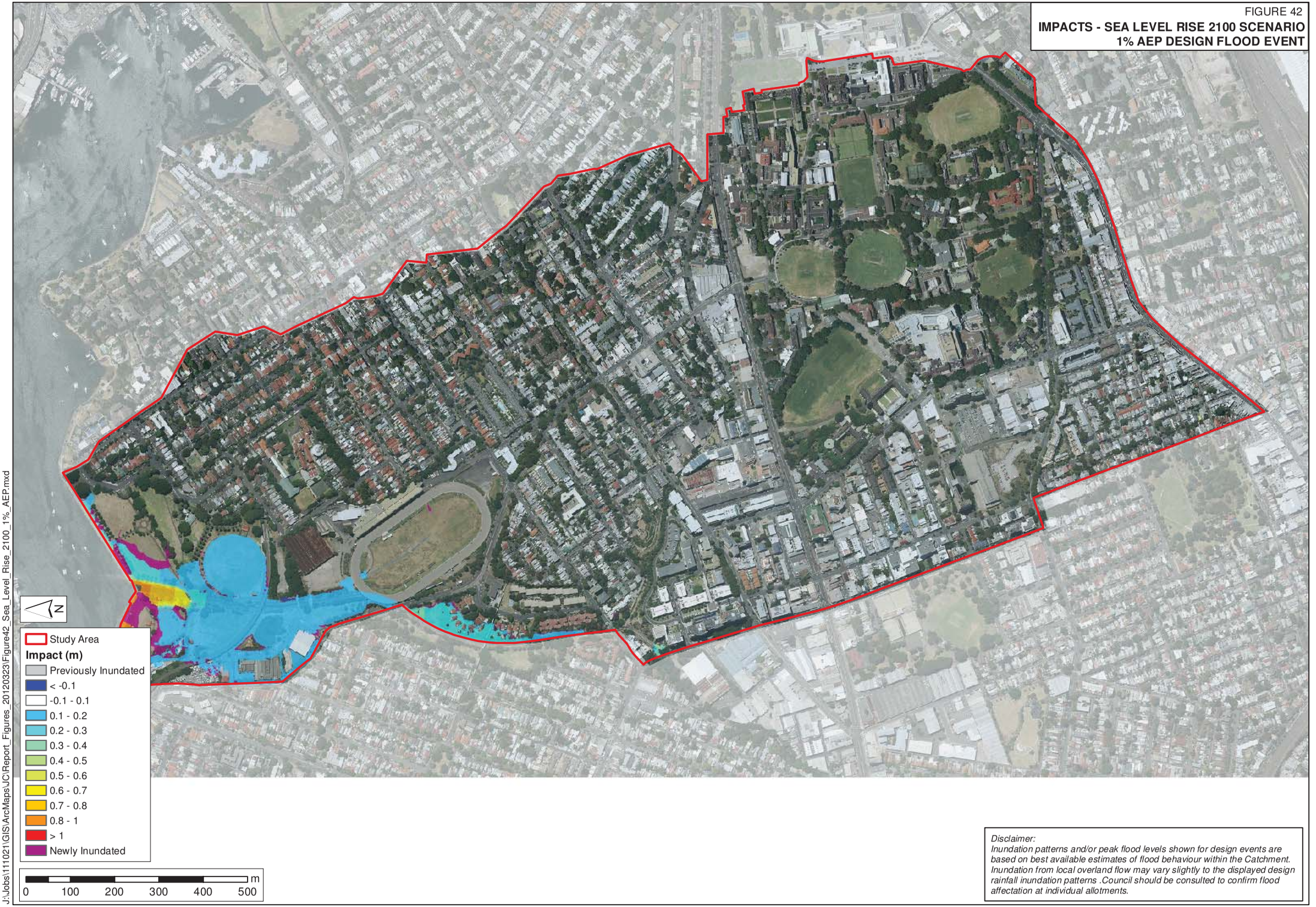
IMPACTS - SEA LEVEL RISE 2050 SCENARIO
1% AEP DESIGN FLOOD EVENT

Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Figure41_Sea_Level_Rise_2050_1%_AEP.mxd

FIGURE 42

IMPACTS - SEA LEVEL RISE 2100 SCENARIO
1% AEP DESIGN FLOOD EVENT



Disclaimer:
Inundation patterns and/or peak flood levels shown for design events are based on best available estimates of flood behaviour within the Catchment. Inundation from local overland flow may vary slightly to the displayed design rainfall inundation patterns .Council should be consulted to confirm flood affectation at individual allotments.

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Figure42_Sea_Level_Rise_2100_1%_AEP.mxd

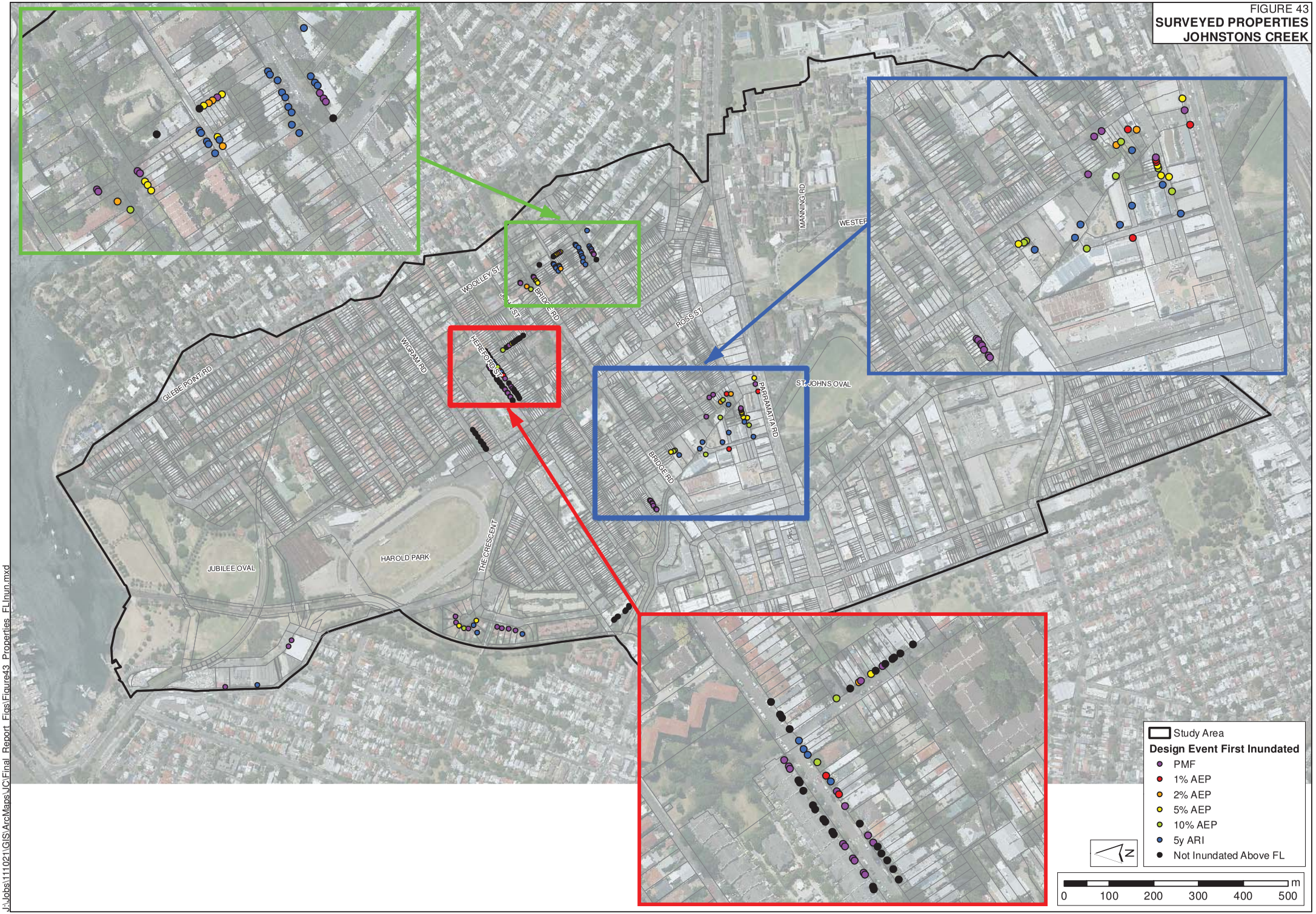
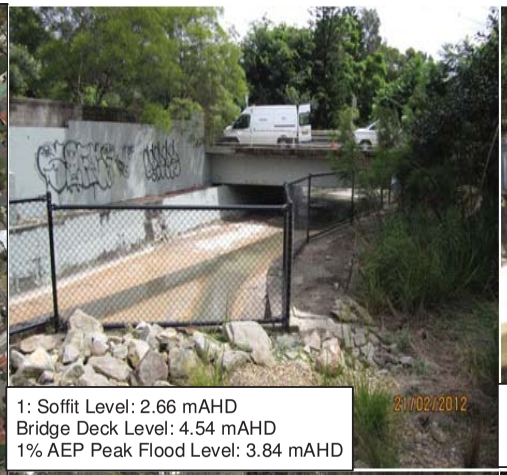
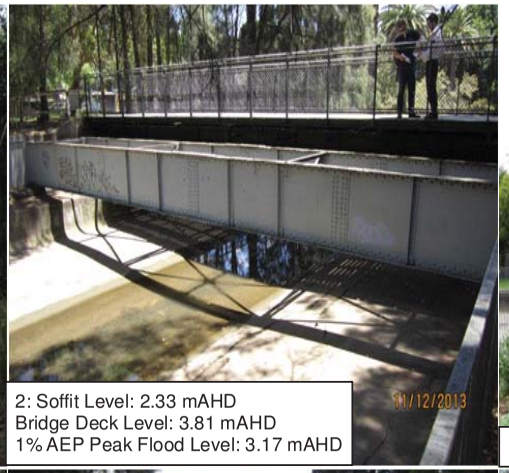


FIGURE 43
SURVEYED PROPERTIES
JOHNSTONS CREEK
WOOLLEY ST
BRIDGE RD
ROSS ST
MANNING RD
WESTER
GLEBE POINT RD
WIGRAM RD
HEREFORD ST
ST JOHNS OVAL
PARRAMATTA RD
BRIDGE RD
JUBILEE OVAL
HAROLD PARK
THE CRESCENT
Study Area
Design Event First Inundated
PMF
1% AEP
2% AEP
5% AEP
10% AEP
5y ARI
Not Inundated Above FL
N
0
100
200
300
400
500
m
J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\Figure43_Properties_FLInun.mxd

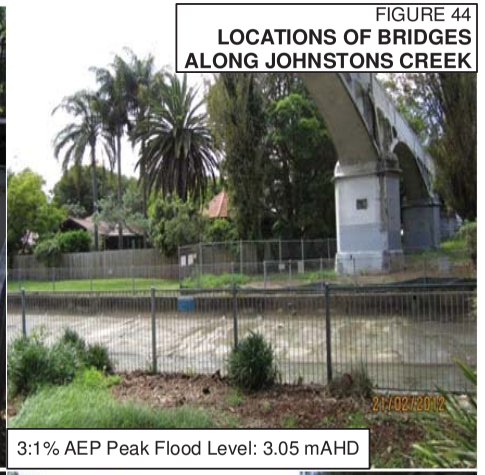
FIGURE 44
LOCATIONS OF BRIDGES ALONG JOHNSTONS CREEK



1: Soffit Level: 2.66 mAHD
Bridge Deck Level: 4.54 mAHD
1% AEP Peak Flood Level: 3.84 mAHD

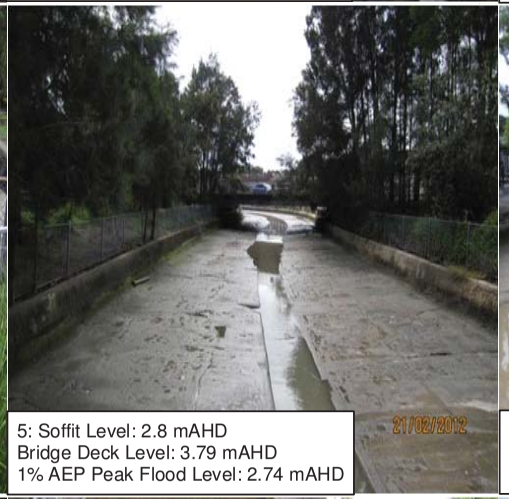


2: Soffit Level: 2.33 mAHD
Bridge Deck Level: 3.81 mAHD
1% AEP Peak Flood Level: 3.17 mAHD

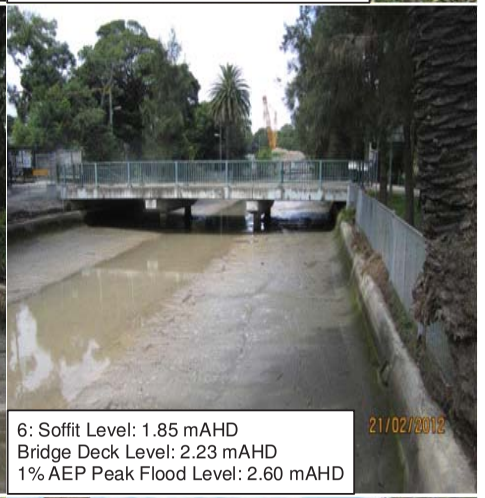


3:1% AEP Peak Flood Level: 3.05 mAHD

4: Soffit Level: 1.74 mAHD
Bridge Deck Level: 1.99 mAHD
1% AEP Peak Flood Level: 2.97 mAHD

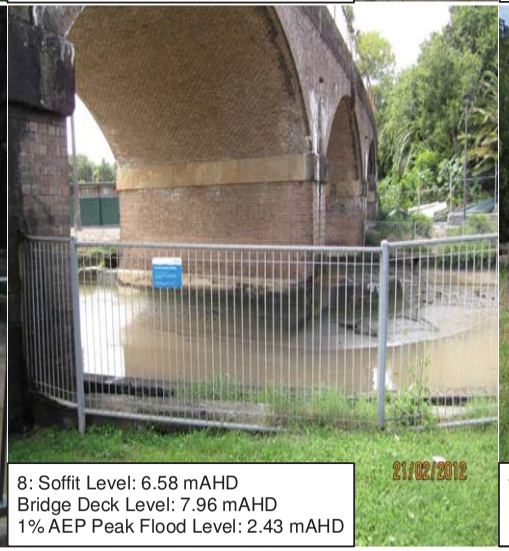


5: Soffit Level: 2.8 mAHD
Bridge Deck Level: 3.79 mAHD
1% AEP Peak Flood Level: 2.74 mAHD



6: Soffit Level: 1.85 mAHD
Bridge Deck Level: 2.23 mAHD
1% AEP Peak Flood Level: 2.60 mAHD

7: Soffit Level: 1.58 mAHD
Bridge Deck Level: 1.77 mAHD
1% AEP Peak Flood Level: 2.50 mAHD



8: Soffit Level: 6.58 mAHD
Bridge Deck Level: 7.96 mAHD
1% AEP Peak Flood Level: 2.43 mAHD

9: Soffit Level: 1.53 mAHD
Bridge Deck Level: 1.86 mAHD
1% AEP Peak Flood LevelI: 2.26 mAHD

J:\Jobs\111021\GIS\ArcMaps\JC\Final Report Figs\Figure44 Locations of Bridge Along Johnstons Creek.mxd

Glossary of Terms

Appendix A

APPENDIX A: GLOSSARY

Taken from the Floodplain Development Manual (April 2005 edition)

acid sulfate soils	Are sediments which contain sulfidic mineral pyrite which may become extremely acid following disturbance or drainage as sulfur compounds react when exposed to oxygen to form sulfuric acid. More detailed explanation and definition can be found in the NSW Government Acid Sulfate Soil Manual published by Acid Sulfate Soil Management Advisory Committee.
Annual Exceedance Probability (AEP)	The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 500 m^3/s has an AEP of 5%, it means that there is a 5% chance (that is one-in-20 chance) of a 500 m^3/s or larger event occurring in any one year (see ARI).
Australian Height Datum (AHD)	A common national surface level datum approximately corresponding to mean sea level.
Average Annual Damage (AAD)	Depending on its size (or severity), each flood will cause a different amount of flood damage to a flood prone area. AAD is the average damage per year that would occur in a nominated development situation from flooding over a very long period of time.
Average Recurrence Interval (ARI)	The long term average number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods with a discharge as great as, or greater than, the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.
caravan and moveable home parks	Caravans and moveable dwellings are being increasingly used for long-term and permanent accommodation purposes. Standards relating to their siting, design, construction and management can be found in the Regulations under the LG Act.
catchment	The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.
consent authority	The Council, government agency or person having the function to determine a development application for land use under the EP&A Act. The consent authority is most often the Council, however legislation or an EPI may specify a Minister or public authority (other than a Council), or the Director General of DIPNR, as having the function to determine an application.
design flood	A hypothetical flood representing a specific likelihood of occurrence (for example the 100 year ARI or 1% AEP flood). It is a probabilistic or statistical estimate, generally being based on some form of probability analysis of flood or rainfall data.
design rainfall	Used in the estimation of a flood or the design of a particular component or feature of a hydraulic structure. Design rainfall estimates are based on the intensity, frequency and duration of the storm bursts. The use of a design rainfall in the estimation of a flood does not imply that if such rainfall occurred at a given time, the estimated flood elevations would result.
development	Is defined in Part 4 of the Environmental Planning and Assessment Act (EP&A Act). **infill development:** refers to the development of vacant blocks of land that are

	generally surrounded by developed properties and is permissible under the current zoning of the land. Conditions such as minimum floor levels may be imposed on infill development. **new development:** refers to development of a completely different nature to that associated with the former land use. For example, the urban subdivision of an area previously used for rural purposes. New developments involve rezoning and typically require major extensions of existing urban services, such as roads, water supply, sewerage and electric power. **redevelopment:** refers to rebuilding in an area. For example, as urban areas age, it may become necessary to demolish and reconstruct buildings on a relatively large scale. Redevelopment generally does not require either rezoning or major extensions to urban services.
disaster plan (DISPLAN)	A step by step sequence of previously agreed roles, responsibilities, functions, actions and management arrangements for the conduct of a single or series of connected emergency operations, with the object of ensuring the coordinated response by all agencies having responsibilities and functions in emergencies.
discharge	The rate of flow of water measured in terms of volume per unit time, for example, cubic metres per second (m^3/s). Discharge is different from the speed or velocity of flow, which is a measure of how fast the water is moving for example, metres per second (m/s).
ecologically sustainable development (ESD)	Using, conserving and enhancing natural resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be maintained or increased. A more detailed definition is included in the Local Government Act 1993. The use of sustainability and sustainable in this manual relate to ESD.
effective warning time	The time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken. The effective warning time is typically used to move farm equipment, move stock, raise furniture, evacuate people and transport their possessions.
emergency management	A range of measures to manage risks to communities and the environment. In the flood context it may include measures to prevent, prepare for, respond to and recover from flooding.
flash flooding	Flooding which is sudden and unexpected. It is often caused by sudden local or nearby heavy rainfall. Often defined as flooding which peaks within six hours of the causative rain.
flood	Relatively high stream flow which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences excluding tsunami.
flood awareness	Flood awareness is an appreciation of the likely effects of flooding and a knowledge of the relevant flood warning, response and evacuation procedures.
flood education	Flood education seeks to provide information to raise awareness of the flood problem so as to enable individuals to understand how to manage themselves an their property in response to flood warnings and in a flood event. It invokes a state of flood readiness.
flood fringe areas	The remaining area of flood prone land after floodway and flood storage areas have been defined.

flood liable land	Is synonymous with flood prone land (i.e. land susceptible to flooding by the probable maximum flood (PMF) event). Note that the term flood liable land covers the whole of the floodplain, not just that part below the flood planning level (see flood planning area).
flood mitigation standard	The average recurrence interval of the flood, selected as part of the floodplain risk management process that forms the basis for physical works to modify the impacts of flooding.
floodplain	Area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.
floodplain risk management options	The measures that might be feasible for the management of a particular area of the floodplain. Preparation of a floodplain risk management plan requires a detailed evaluation of floodplain risk management options.
floodplain risk management plan	A management plan developed in accordance with the principles and guidelines in this manual. Usually includes both written and diagrammetic information describing how particular areas of flood prone land are to be used and managed to achieve defined objectives.
flood plan (local)	A sub-plan of a disaster plan that deals specifically with flooding. They can exist at State, Division and local levels. Local flood plans are prepared under the leadership of the State Emergency Service.
flood planning area	The area of land below the flood planning level and thus subject to flood related development controls. The concept of flood planning area generally supersedes the "flood liable land" concept in the 1986 Manual.
Flood Planning Levels (FPLs)	FPLs are the combinations of flood levels (derived from significant historical flood events or floods of specific AEPs) and freeboards selected for floodplain risk management purposes, as determined in management studies and incorporated in management plans. FPLs supersede the "standard flood event" in the 1986 manual.
flood proofing	A combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding, to reduce or eliminate flood damages.
flood prone land	Is land susceptible to flooding by the Probable Maximum Flood (PMF) event. Flood prone land is synonymous with flood liable land.
flood readiness	Flood readiness is an ability to react within the effective warning time.
flood risk	Potential danger to personal safety and potential damage to property resulting from flooding. The degree of risk varies with circumstances across the full range of floods. Flood risk in this manual is divided into 3 types, existing, future and continuing risks. They are described below. **existing flood risk:** the risk a community is exposed to as a result of its location on the floodplain. **future flood risk:** the risk a community may be exposed to as a result of new development on the floodplain. **continuing flood risk:** the risk a community is exposed to after floodplain risk management measures have been implemented. For a town protected by levees, the continuing flood risk is the consequences of the levees being overtopped. For an area without any floodplain risk management measures, the continuing flood risk is simply the existence of its flood exposure.

flood storage areas	Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation. Hence, it is necessary to investigate a range of flood sizes before defining flood storage areas.
floodway areas	Those areas of the floodplain where a significant discharge of water occurs during floods. They are often aligned with naturally defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flows, or a significant increase in flood levels.
freeboard	Freeboard provides reasonable certainty that the risk exposure selected in deciding on a particular flood chosen as the basis for the FPL is actually provided. It is a factor of safety typically used in relation to the setting of floor levels, levee crest levels, etc. Freeboard is included in the flood planning level.
habitable room	**in a residential situation:** a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom or workroom. **in an industrial or commercial situation:** an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.
hazard	A source of potential harm or a situation with a potential to cause loss. In relation to this manual the hazard is flooding which has the potential to cause damage to the community. Definitions of high and low hazard categories are provided in the Manual.
hydraulics	Term given to the study of water flow in waterways; in particular, the evaluation of flow parameters such as water level and velocity.
hydrograph	A graph which shows how the discharge or stage/flood level at any particular location varies with time during a flood.
hydrology	Term given to the study of the rainfall and runoff process; in particular, the evaluation of peak flows, flow volumes and the derivation of hydrographs for a range of floods.
local overland flooding	Inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.
local drainage	Are smaller scale problems in urban areas. They are outside the definition of major drainage in this glossary.
mainstream flooding	Inundation of normally dry land occurring when water overflows the natural or artificial banks of a stream, river, estuary, lake or dam.
major drainage	Councils have discretion in determining whether urban drainage problems are associated with major or local drainage. For the purpose of this manual major drainage involves: ▪ the floodplains of original watercourses (which may now be piped, channelised or diverted), or sloping areas where overland flows develop along alternative paths once system capacity is exceeded; and/or ▪ water depths generally in excess of 0.3 m (in the major system design storm as defined in the current version of Australian Rainfall and Runoff). These conditions may result in danger to personal safety and property damage to both premises and vehicles; and/or ▪ major overland flow paths through developed areas outside of defined drainage reserves; and/or

	▪ the potential to affect a number of buildings along the major flow path.
mathematical/computer models	The mathematical representation of the physical processes involved in runoff generation and stream flow. These models are often run on computers due to the complexity of the mathematical relationships between runoff, stream flow and the distribution of flows across the floodplain.
merit approach	The merit approach weighs social, economic, ecological and cultural impacts of land use options for different flood prone areas together with flood damage, hazard and behaviour implications, and environmental protection and well being of the State's rivers and floodplains. The merit approach operates at two levels. At the strategic level it allows for the consideration of social, economic, ecological, cultural and flooding issues to determine strategies for the management of future flood risk which are formulated into Council plans, policy and EPIs. At a site specific level, it involves consideration of the best way of conditioning development allowable under the floodplain risk management plan, local floodplain risk management policy and EPIs.
minor, moderate and major flooding	Both the State Emergency Service and the Bureau of Meteorology use the following definitions in flood warnings to give a general indication of the types of problems expected with a flood: **minor flooding:** causes inconvenience such as closing of minor roads and the submergence of low level bridges. The lower limit of this class of flooding on the reference gauge is the initial flood level at which landholders and townspeople begin to be flooded. **moderate flooding:** low-lying areas are inundated requiring removal of stock and/or evacuation of some houses. Main traffic routes may be covered. **major flooding:** appreciable urban areas are flooded and/or extensive rural areas are flooded. Properties, villages and towns can be isolated.
modification measures	Measures that modify either the flood, the property or the response to flooding. Examples are indicated in Table 2.1 with further discussion in the Manual.
peak discharge	The maximum discharge occurring during a flood event.
Probable Maximum Flood (PMF)	The PMF is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation, and where applicable, snow melt, coupled with the worst flood producing catchment conditions. Generally, it is not physically or economically possible to provide complete protection against this event. The PMF defines the extent of flood prone land, that is, the floodplain. The extent, nature and potential consequences of flooding associated with a range of events rarer than the flood used for designing mitigation works and controlling development, up to and including the PMF event should be addressed in a floodplain risk management study.
Probable Maximum Precipitation (PMP)	The PMP is the greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long-term climatic trends (World Meteorological Organisation, 1986). It is the primary input to PMF estimation.
probability	A statistical measure of the expected chance of flooding (see AEP).
risk	Chance of something happening that will have an impact. It is measured in terms of consequences and likelihood. In the context of the manual it is the likelihood of

	consequences arising from the interaction of floods, communities and the environment.
runoff	The amount of rainfall which actually ends up as streamflow, also known as rainfall excess.
stage	Equivalent to water level. Both are measured with reference to a specified datum.
stage hydrograph	A graph that shows how the water level at a particular location changes with time during a flood. It must be referenced to a particular datum.
survey plan	A plan prepared by a registered surveyor.
water surface profile	A graph showing the flood stage at any given location along a watercourse at a particular time.
wind fetch	The horizontal distance in the direction of wind over which wind waves are generated.

Identification of Potential Flood Liable Buildings Appendix B

APPENDIX B: IDENTIFICATION OF POTENTIAL FLOOD LIABLE BUILDINGS

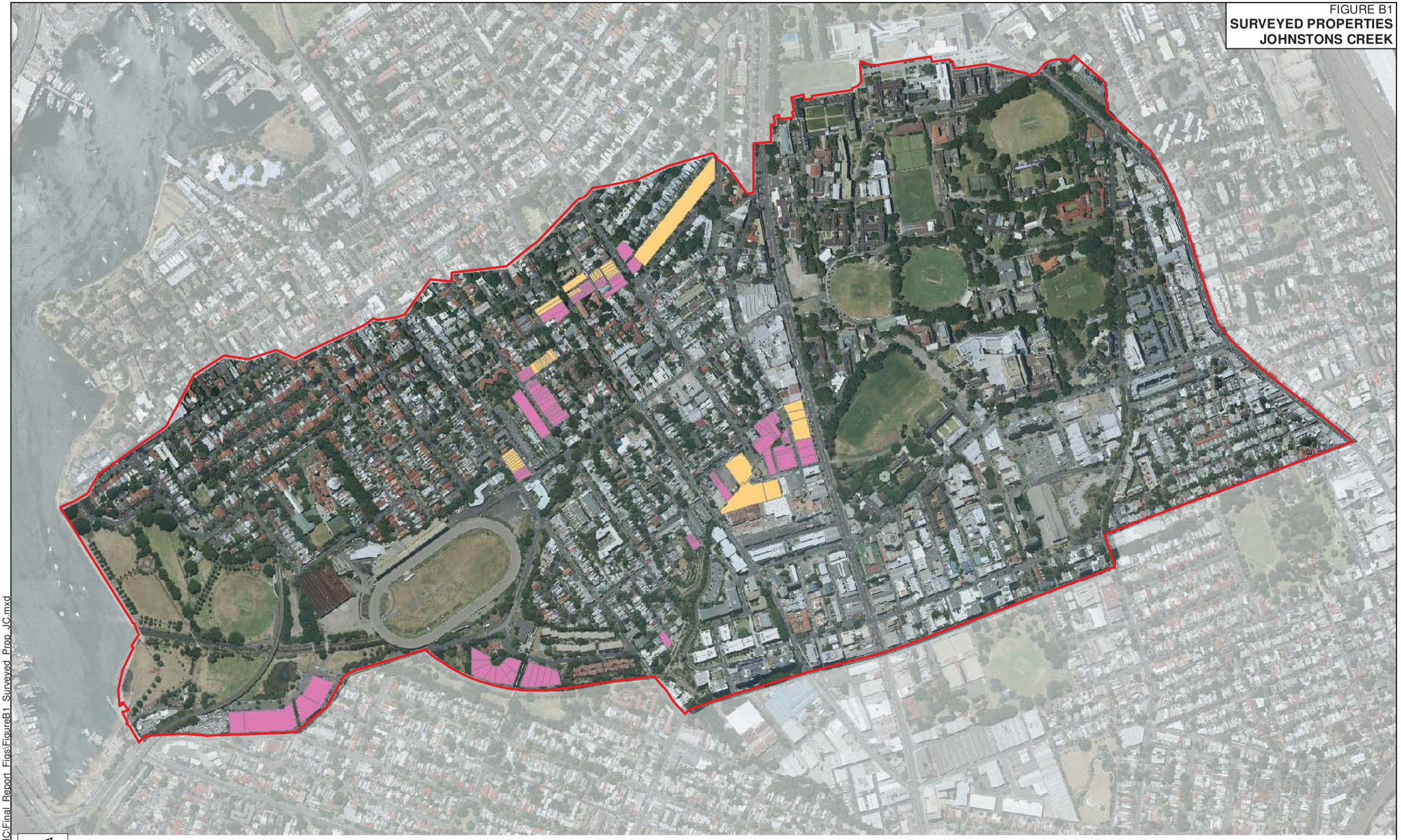
B1. Introduction

As a precursor to the future Floodplain Risk Management Study and Plan and to further investigate potentially flood liable regions within the catchment, selected properties have been surveyed to identify potential flood liable buildings. The selected properties are displayed in Figure B1 and were chosen using the two step method described below:

1. The 1% AEP design flood depth grid was inspected using a GIS program. Properties in the immediate vicinity of flood depths greater than 0.5 metres were noted as being in a flood prone region; and then
2. Using Google Earth the tagged properties were visually inspected to determine if over floor inundation may be possible during a flood event. Generally, properties that have floor levels approximately at or below the kerb level were identified as potentially flood liable and were selected for detail floor level survey.

Using the surveyed floor levels and modelled design flood levels, the flood liability of the selected properties was able to be determined.

FIGURE B1
SURVEYED PROPERTIES
JOHNSTONS CREEK



N

Study Area
Floor Levels Surveyed (2012) - 95 Properties
Floor Levels Surveyed (2013) - 47 Properties

0 100 200 300 400 500 m

J:\Jobs\111021\GIS\ArcMaps\JC\Final_Report_Figs\FigureB1_Surveyed_Prop_JC.mxd

Floor Level Database

Appendix C

Floor Level Survey (undertaken in 2012)

								RESIDENTIAL BUILDING		NON-RESIDENTIAL BUILDING				
Parcel Tags as on Council Cadastre (GIS Tag)	Photo Name	Number of Buildings	Street Number	Street Name	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	Lowest Habitable Floor Level (m AHD)	Floor Construction Pier (P) Slab (S) Other (describe)	Type Commercial (C) Industrial (I) Public (P)	Name and Nature of Use/Business	Lowest Floor Level (mAHD)	Floor Construction Pier (P) Slab (S) Other (describe)
518477	1 Minogue Crescent.jpg	1	1	Minogue Crescent	331335.3	6249641.3	3.24	3.80	P				
518478	3 Minogue Crescent.jpg	1	3	Minogue Crescent	331333.1	6249627.1	3.22	3.84	P				
518479	5 Minogue Crescent.jpg	1	5	Minogue Crescent	331331.5	6249613.9	3.60	4.10	P				
518481	7 Minogue Crescent.jpg	1	7	Minogue Crescent	331330.4	6249600.7	3.68	4.16	P				
518482	9 Minogue Crescent.jpg	1	9	Minogue Crescent	331327.5	6249584.9	3.78	3.83	S				
519049	2 Reuss Street.jpg	1	2	Reuss Street	332155.9	6249521.1	21.10	21.30	P				
519051	4 Reuss Street.jpg	1	4	Reuss Street	332152.2	6249517.5	21.10	21.30	P				
519053	6 Reuss Street.jpg	1	6	Reuss Street	332148.3	6249514.2	21.10	21.25	P				
519054	7 Reuss Street.jpg	1	7	Reuss Street	332163.4	6249489.2	21.67	22.38	P				
519055	8 Reuss Street.jpg	1	8	Reuss Street	332144.1	6249511.7	21.10	21.25	P				
519056	9 Reuss Street.jpg	1	9	Reuss Street	332159.4	6249486.4	21.63	22.25	P				
519057	10 Reuss Street.jpg	1	10	Reuss Street	332140.5	6249508.5	21.10	21.20	P				
519058	11 Reuss Street.jpg	1	11	Reuss Street	332155.2	6249483.5	21.68	22.42	P				
519452	34 Junction Street.jpg	1	34	Junction Street	331750.6	6249244.9	12.30	12.40	P				
519453	36 Junction Street.jpg	1	36	Junction Street	331748.0	6249248.5	12.30	12.40	P				
519454	38 Junction Street.jpg	1	38	Junction Street	331745.7	6249252.0	12.65	12.70	S				
519549	74 Westmoreland Street.jpg	1	74	Westmoreland Street	332229.4	6249432.9	25.53	25.58	S				
520001	107 Wigram Road.jpg	1	107	Wigram Road	331765.7	6249657.8	8.40	9.12	P				
520003	109 Wigram Road.jpg	1	109	Wigram Road	331761.7	6249654.8	8.40	9.12	P				
520005	111 Wigram Road.jpg	1	111	Wigram Road	331757.6	6249652.1	8.12	9.05	P				
520007	113 Wigram Road.jpg	1	113	Wigram Road	331752.6	6249648.1	8.12	9.05	P				
520073	Unit 13, 213 Wigram Road.jpg	1	13/213	Wigram Road	331366.5	6249382.2	3.92	5.78	S				
	Unit 12, 213 Wigram Road.jpg	1	12/213	Wigram Road	331375.5	6249377.0	3.92	5.79	S				
	Unit 11, 213 Wigram Road.jpg	1	11/213	Wigram Road	331378.7	6249373.0	3.92	5.78	S				
	Unit 10, 213 Wigram Road.jpg	1	10/213	Wigram Road	331381.3	6249368.5	3.92	5.79	S				
	Unit 7, 213 Wigram Road.jpg	1	7/213	Wigram Road	331390.8	6249355.0	4.03	5.77	S				
	Unit 6, 213 Wigram Road.jpg	1	6/213	Wigram Road	331394.8	6249351.7	4.03	5.77	S				
	Unit 5, 213 Wigram Road.jpg	1	5/213	Wigram Road	331399.1	6249348.2	4.03	5.77	S				
	Unit 4, 213 Wigram Road.jpg	1	4/213	Wigram Road	331404.8	6249345.2	4.03	5.76	S				
520132	1 The Crescent - Lawsons.jpg	1	1	The Crescent	331290.6	6250085.1	2.08			C	Lawsons - Auction house	2.52	S
	1 The Crescent - Webbers.jpg		1	The Crescent	331311.9	6250074.4	2.01			C	Webbers Carpet Warehouse - Carpet showroom	2.51	S
520133	3 The Crescent.jpg	0	3	The Crescent	331267.0	6250107.2	2.00			I	Vacant land	2.05	S
520136	7 The Crescent.jpg	3	7	The Crescent	331238.5	6250178.7	1.99			I	Security Self Storage - Self storage units	2.28	S
520137	9 The Crescent.jpg	1	9	The Crescent	331236.1	6250250.6	2.12			I	P & K Accident Repair Centre - Smash repairs	2.52	S
520201	4 Coneill Place.jpg	1	4	Coneill Place	331374.2	6249741.3	2.57	3.52	P				
520202	5 Coneill Place.jpg	1	5	Coneill Place	331358.5	6249742.1	2.33	3.15	P				
520203	6 Coneill Place.jpg	1	6	Coneill Place	331343.2	6249732.3	2.19	2.84	P				
520204	7 Coneill Place.jpg	1	7	Coneill Place	331334.7	6249717.2	2.22	2.79	P				
520205	8 Coneill Place.jpg	1	8	Coneill Place	331332.5	6249698.4	2.90	3.04	P				
520206	9 Coneill Place.jpg	1	9	Coneill Place	331349.2	6249687.9	2.97	3.34	P				
520207	9b Coneill Place.jpg	1	9b	Coneill Place	331330.7	6249674.6	2.15	2.78	P				
520208	10 Coneill Place.jpg	1	10	Coneill Place	331358.9	6249671.4	2.62	3.93	P				
520279	1 Kimber Lane.jpg	1	1	Kimber Lane	331721.4	6249229.0	11.38			I	Schein Castors & Indigenous Justice Advocacy Network	11.88	S
521212	Unit 1, 57 Hereford Street.jpg	1	1/57	Hereford Street	331928.4	6249660.5	12.72	13.55	S				
	Unit 2, 57 Hereford Street.jpg	1	2/57	Hereford Street	331924.6	6249658.1	12.54	13.56	S				
	Unit 3, 57 Hereford Street.jpg	1	3/57	Hereford Street	331920.0	6249655.6	12.54	13.56	S				
	Unit 5, 57 Hereford Street.jpg	1	5/57	Hereford Street	331916.5	6249652.8	12.42	13.56	S				
	Unit 6, 57 Hereford Street.jpg	1	6/57	Hereford Street	331912.1	6249650.3	12.42	13.56	S				
	Unit 7, 57 Hereford Street.jpg	1	7/57	Hereford Street	331907.3	6249648.7	12.60	13.57	S				
	Unit 12, 57 Hereford Street.jpg	1	12/57	Hereford Street	331901.0	6249644.7	12.57	13.57	S				
	Unit 13, 57 Hereford Street.jpg	1	13/57	Hereford Street	331897.7	6249641.9	12.57	13.57	S				
	Unit 15, 57 Hereford Street.jpg	1	15/57	Hereford Street	331894.2	6249638.3	12.79	13.54	S				
	Unit 16, 57 Hereford Street.jpg	1	16/57	Hereford Street	331890.6	6249635.5	12.80	13.54	S				
	Unit 17, 57 Hereford Street.jpg	1	17/57	Hereford Street	331886.6	6249633.3	12.86	13.54	S				
	Unit 18, 57 Hereford Street.jpg	1	18/57	Hereford Street	331882.9	6249630.9	12.86	13.54	S				
	Unit 19, 57 Hereford Street.jpg	1	19/57	Hereford Street	331879.4	6249626.2	13.05	13.45	S				
	Unit 20, 57 Hereford Street.jpg	1	20/57	Hereford Street	331874.7	6249623.3	13.05	13.45	S				
	Unit 21, 57 Hereford Street.jpg	1	21/57	Hereford Street	331870.1	6249620.4	13.16	13.47	S				
	Unit 22, 57 Hereford Street.jpg	1	22/57	Hereford Street	331866.4	6249617.6	13.16	13.47	S				
	Unit 23, 57 Hereford Street.jpg	1	23/57	Hereford Street	331862.3	6249614.3	13.34	13.47	S				
	Unit 25, 57 Hereford Street.jpg	1	25/57	Hereford Street	331857.8	6249611.8	13.34	13.47	S				
	Unit 26, 57 Hereford Street.jpg	1	26/57	Hereford Street	331853.8	6249609.3	13.50	14.16	S				
	Unit 27, 57 Hereford Street.jpg	1	27/57	Hereford Street	331849.9	6249606.7	13.50	14.15	S				

								RESIDENTIAL BUILDING		NON-RESIDENTIAL BUILDING			
Parcel Tags as on Council Cadastre (GIS Tag)	Photo Name	Number of Buildings	Street Number	Street Name	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	Lowest Habitable Floor Level (m AHD)	Floor Construction Pier (P) Slab (S) Other (describe)	Type Commercial (C) Industrial (I) Public (P)	Name and Nature of Use/Business	Lowest Floor Level (mAHD)	Floor Construction Pier (P) Slab (S) Other (describe)
521225	70 Hereford Street.jpg	1	70	Hereford Street	331973.3	6249648.8	15.16	15.47	P				
521226	72 Hereford Street.jpg	1	72	Hereford Street	331968.7	6249645.9	14.14	14.89	P				
521227	74 Hereford Street.jpg	1	74	Hereford Street	331964.2	6249642.5	14.14	14.36	P				
521234	76 Hereford Street.jpg	1	76	Hereford Street	331959.8	6249639.4	13.04	13.95	P				
521237	78 Hereford Street.jpg	1	78	Hereford Street	331948.7	6249633.1	12.61	12.84	P				
521238	80 Hereford Street.jpg	1	80	Hereford Street	331945.0	6249632.3	12.51	12.79	P				
521239	82 Hereford Street.jpg	1	82	Hereford Street	331942.9	6249629.5	12.48	12.80	P				
521240	84 Hereford Street.jpg	1	84	Hereford Street	331936.3	6249626.2	12.41	13.06	P				
521241	86 Hereford Street.jpg	1	86	Hereford Street	331931.8	6249618.2	12.56	13.21	P				
521243	88 Hereford Street.jpg	1	88	Hereford Street	331927.3	6249614.6	12.66	12.95	P				
521245	90 Hereford Street.jpg	1	90	Hereford Street	331922.9	6249611.0	12.68	13.27	P				
521247	92 Hereford Street.jpg	1	92	Hereford Street	331919.2	6249608.4	12.74	13.25	P				
521251	94 Hereford Street.jpg	1	94	Hereford Street	331913.0	6249604.8	12.83	13.27	P				
521253	96 Hereford Street.jpg	1	96	Hereford Street	331903.1	6249597.9	12.86	13.78	P				
521255	98 Hereford Street.jpg	1	98	Hereford Street	331894.9	6249592.8	12.96	13.32	P				
521257	100 Hereford Street.jpg	1	100	Hereford Street	331890.9	6249590.1	13.06	13.43	P				
521260	102 Hereford Street.jpg	1	102	Hereford Street	331887.0	6249587.1	13.07	15.35	P				
521262	104 Hereford Street.jpg	1	104	Hereford Street	331883.2	6249584.0	13.13	15.38	P				
521264	106 Hereford Street.jpg	1	106	Hereford Street	331880.5	6249579.2	13.24	15.40	P				
521266	108 Hereford Street.jpg	1	108	Hereford Street	331875.3	6249574.3	13.45	15.67	P				
521268	110 Hereford Street.jpg	1	110	Hereford Street	331870.0	6249570.1	13.68	15.70	P				
521600	33 Foss Street.jpg	1	33	Foss Street	331628.2	6249302.3	11.16	11.62	P				
521601	35 Foss Street.jpg	1	35	Foss Street	331625.2	6249300.0	10.77	11.32	P				
521602	37 Foss Street.jpg	1	37	Foss Street	331622.1	6249297.6	10.31	10.70	P				
521603	39 Foss Street.jpg	1	39	Foss Street	331619.3	6249295.3	9.87	10.32	P				
521604	41 Foss Street.jpg	1	41	Foss Street	331616.2	6249292.9	9.37	9.68	P				
521605	43 Foss Street.jpg	1	43	Foss Street	331610.7	6249289.7	8.45	8.83	P				
521606	45 Foss Street.jpg	1	45	Foss Street	331605.3	6249286.1	7.99	8.46	P				
521731	166 Bridge Road.jpg	1	166	Bridge Road	332131.9	6249538.9	20.75	21.15	P				
521733	168 Bridge Road.jpg	1	168	Bridge Road	332128.3	6249535.8	20.84	21.15	P				
521735	170 Bridge Road.jpg	1	170	Bridge Road	332124.2	6249533.0	20.83	21.16	P				
521747	183 Bridge Road.jpg	1	183	Bridge Road	332096.3	6249590.7	20.95	21.21	S				
521749	185a Bridge Road.jpg	1	185a	Bridge Road	332093.4	6249574.9	20.68	21.07	P				
521882	2 Short Street.jpg	1	2	Short Street	331850.0	6249149.7	14.17	15.37	P				
521883	2a Short Street.jpg	1	2a	Short Street	331822.4	6249144.8	10.05	12.48	S				
521885	4 Short Street.jpg	1	4	Short Street	331857.6	6249147.1	14.35	15.35	P				
521886	6 Short Street.jpg	1	6	Short Street	331850.7	6249134.6	13.06	13.27	P				
521887	8 Short Street.jpg	2	8	Short Street	331853.0	6249131.0	11.30	11.40	S				
521888	10 Short Street.jpg	1	10	Short Street	331857.2	6249125.9	12.05	12.27	S				
521889	12 Short Street.jpg	1	12	Short Street	331873.6	6249127.4	12.00	12.75	P				
521890	16 Short Street.jpg	1	16	Short Street	331876.8	6249121.2	12.89	13.38	P				
522121	111 St Johns Road.jpg	1	111	St Johns Road	332170.8	6249458.7	22.50	23.14	P				
522123	113 St Johns Road.jpg	1	113	St Johns Road	332166.8	6249457.5	22.50	23.16	P				
522125	115 St Johns Road.jpg	1	115	St Johns Road	332161.2	6249453.4	23.55	23.67	P				
522127	117 St Johns Road.jpg	1	117	St Johns Road	332145.3	6249458.1	23.52	23.67	P				
522245	256 St Johns Road.jpg	1	256	St Johns Road	331827.4	6249159.2	14.07	14.62	P				
523864	72-76 Parramatta Road.jpg	1	72 to 76	Parramatta Road	331821.8	6249061.4	15.01			C	Javanese Collection - Furniture store	15.40	S
523867	78 Parramatta Road.jpg	1	78	Parramatta Road	331804.1	6249056.9	16.28			C	Emona Instruments - Equipment re-seller	16.51	S
523868	80 Parramatta Road.jpg	1	80	Parramatta Road	331786.9	6249052.6	18.25			C	Vacant (formerly Booths Office Furniture)	18.63	S
529038	12-14 Larkin Street.jpg	1	12 to 14	Larkin Street	331782.0	6249133.6	10.10			I	Not Known	11.79	S
531329	12 Sparkes Street.jpg	1	12	Sparkes Street	331803.6	6249105.1	15.55	15.78	P				
531330	14 Sparkes Street.jpg	1	14	Sparkes Street	331810.8	6249111.8	14.88	14.94	P				
531332	18 Sparkes Street.jpg	1	18	Sparkes Street	331823.5	6249098.2	12.20	14.32	P				
531333	20 Sparkes Street.jpg	1	20	Sparkes Street	331826.3	6249098.7	12.20	14.34	P				
531334	22 Sparkes Street.jpg	1	22	Sparkes Street	331829.8	6249099.5	12.20	13.97	P				
531335	24 Sparkes Street.jpg	1	24	Sparkes Street	331832.8	6249100.4	12.20	13.95	P				
531336	26 Sparkes Street.jpg	1	26	Sparkes Street	331840.7	6249101.3	12.40	14.90	P				
612303	146 St Johns Road.jpg	1	146	St Johns Road	332201.3	6249426.1	24.87	25.18	P				
	148 St Johns Road.jpg	1	148	St Johns Road	332197.5	6249424.2	25.10	25.16	P				
	150 St Johns Road.jpg	1	150	St Johns Road	332193.6	6249422.2	25.09	25.17	P				
	152 St Johns Road.jpg	1	152	St Johns Road	332190.3	6249419.7	25.33	25.69	P				
	154 St Johns Road.jpg	1	154	St Johns Road	332186.5	6249417.7	25.31	25.69	P				
	156 St Johns Road.jpg	1	156	St Johns Road	332182.8	6249415.2	25.60	25.70	P				
	158 St Johns Road.jpg	1	158	St Johns Road	332177.0	6249412.8	26.24	26.61	P				
616311	16-20 Larkin Street.jpg	1	16 to 20	Larkin Street	331784.9	6249099.4	10.94	12.02	S				

Floor Level Survey (undertaken in 2013)

								RESIDENTIAL BUILDING		NON-RESIDENTIAL BUILDING			
Parcel Tags as on Council Cadastre (GIS Tag)	Photo Name	Number of Buildings	Street Number	Street Name	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	Lowest Habitable Floor Level (m AHD)	Floor Construction Pier (P) Slab (S) Other (describe)	Type Commercial (C) Industrial (I) Public (P)	Name and Nature of Use/Business	Lowest Floor Level (mAHD)	Floor Construction Pier (P) Slab (S) Other (describe)
629681	160 Bridge Road		160	Bridge Road	332144.2	2649565.4	10.27	10.78	S				
521728	162 Bridge Road		162	Bridge Road	332131.1	6249556.3	10.01	10.42	S				
521730	164 Bridge Road		164	Bridge Road	332129.3	6249555.0	10.01	10.42	S				
521743	179 Bridge Road		179	Bridge Road	332130.5	6249576.2	9.98	10.57	S				
521745	181 Bridge Road		181	Bridge Road	332120.0	6249569.3	9.98	10.57	S				
521860	1A Hegarty Street		1A	Hegarty Street	331967.0	6249623.0	14.00	14.30	S	R	Bottom Floor of 3 Storey Brick Flats		
521859	1 Hegarty Street		1	Hegarty Street	331973.6	6249615.6	14.55	14.99	S				
521863	3 Hegarty Street		3	Hegarty Street	331978.2	6249610.5	14.72	14.96	S				
521865	5 Hegarty Street		5	Hegarty Street	331979.0	6249609.3	14.89	15.38	S				
521867	7 Hegarty Street		7	Hegarty Street	331982.9	6249603.6	15.01	15.38	S				
521869	9 Hegarty Street		9	Hegarty Street	331983.3	6249602.5	15.34	15.83	S				
521871	11 Hegarty Street		11	Hegarty Street	331987.3	6249597.4	15.52	15.80	S				
521873	13 Hegarty Street		13	Hegarty Street	331988.1	6249596.1	15.72	16.24	S				
521875	15 Hegarty Street		15	Hegarty Street	331991.9	6249591.0	15.96	16.27	S				
521876	17 Hegarty Street		17	Hegarty Street	331993.1	6249589.4	15.99	16.7	S				
521877	19 Hegarty Street		19	Hegarty Street	331996.2	6249583.1	16.26	16.81	S				
521878	21 Hegarty Street		21	Hegarty Street	331998.9	6249579.3	16.51	17.14	S				
519440	12 Junction Street		12	Junction Street	331763.0	6249192.0	14.32	11.76	S	C	Level Of Office at Rear of 3 Storey Building		
519440	12 Junction Street		12	Junction Street	331762.0	6249178.0		10.88	S	C	Level Floor Old Building Rear of Site		
605105	1-3 Larkin Street		1 to 3	Larkin Street	331734.5	6249170.8	10.90	12.53	S				
533590	5-13 Larkin Street		5 to 13	Larkin Street	331744.6	6249120.0	14.06	13.49	S				
612303	1-73 Mount Vernon Street		1 to 73	Mount Vernon St	332197	6249431.0	24.85	25.17	P	R	Level Dwelling No.146 Corner St Johns Road and Mt Vernon Lane		
520880	62 Parramatta Road		62	Parramatta Road	331896.2	6249063.0	19.97	20.14	S	C	Antique Store	20.14	
520881	64 Parramatta Road		64	Parramatta Road	331892.0	6249061.6	19.75	20.68	S	C		20.68	
523861	66-70 Parramatta Road		66-70	Parramatta Road	331848.1	6249053.5	19.40	20.27	S	C	Antique Store	20.27	
520795	1 Puves Street		1	Purves Street	332186.8	6249495.2	22.57	23.03	S				
520796	2 Puves Street		2	Purves Street	332184.7	6249498.5	22.53	23.13	S				
520797	3 Puves Street		3	Purves Street	332182.6	6249501.9	22.45	22.96	S				
520798	4 Puves Street		4	Purves Street	332180.6	6249504.7	22.36	22.89	S				
520799	5 Puves Street		5	Purves Street	322178.4	6249507.9	22.31	22.74	S				
520800	6 Puves Street		6	Purves Street	332176.2	6249511.5	22.27	22.69	S				
522109	99 St Johns Road		99	St Johns Road	332203.5	6249461.9	24.95	25.14	S				
522109	101 St Johns Road		101	St Johns Road	332201.4	6249460.6	24.93	25.17	S				
522109	103 St Johns Road		103	St Johns Road	332195.7	2649456.7	24.82	25.05	S				
522109	105 St Johns Road		105	St Johns Road	332188.3	6249451.8	24.83	23.16	S				
522109	107 St Johns Road		107	St Johns Road	332187.2	6249451.0	24.79	23.15	S				
522109	109 St Johns Road		109	St Johns Road									
519985	91 Wigram Road		91	Wigram Road									
519987	93 Wigram Road		93	Wigram Road	331788.2	6249692.5	12.82	12.90	S				
519989	95 Wigram Road		95	Wigram Road	331781.5	6249687.9	11.21	11.45	S				
519991	97 Wigram Road		97	Wigram Road	331780.1	6249686.9	11.03	11.54	S				
519993	99 Wigram Road		99	Wigram Road	331772.9	6249681.8	10.07		S				
519995	101 Wigram Road		101	Wigram Road	331771.9	6249681.1	9.95	10.39	S				
519997	103 Wigram Road		103	Wigram Road	331762.6	6249674.5	9.20	9.65	S				
519999	105 Wigram Road		105	Wigram Road	331761.4	6249673.8	9.16	9.56	S				

Johnstons Creek Channel Cross Sections

Appendix D

BACK BRG FOR 205 = 218°26'03"
STN 205 → B = 164°41'27" 27.290 ELV = 0.834
" " → A = 354°08'46" 159.941 " = 0.680

1383, 1391

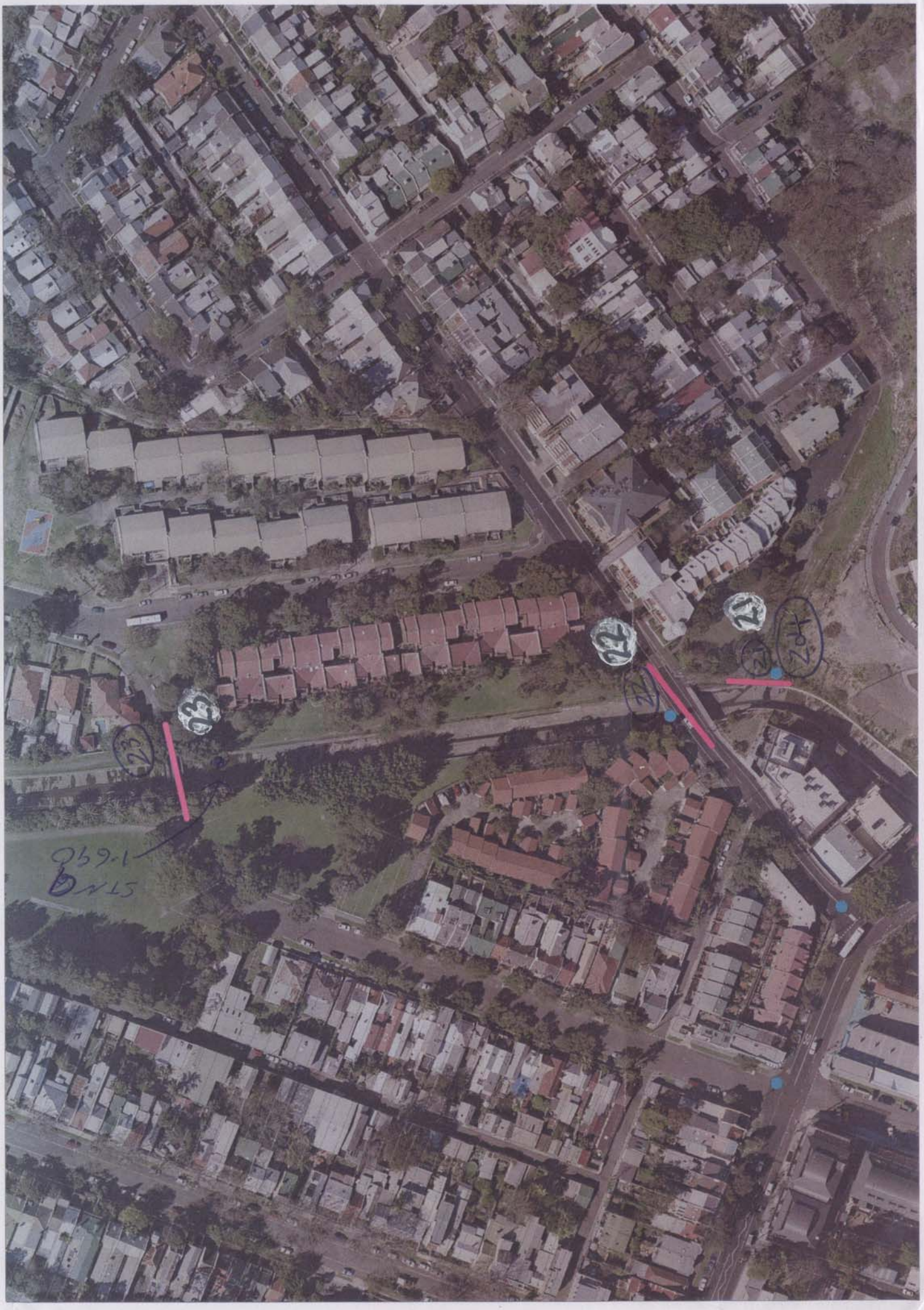
~~1395~~

9

STN 12 → 13 → 253052'51" 29.993 ELV = 1.068

STN 204 → 12 = 221°04'39" 91.570 ELV = 0.870

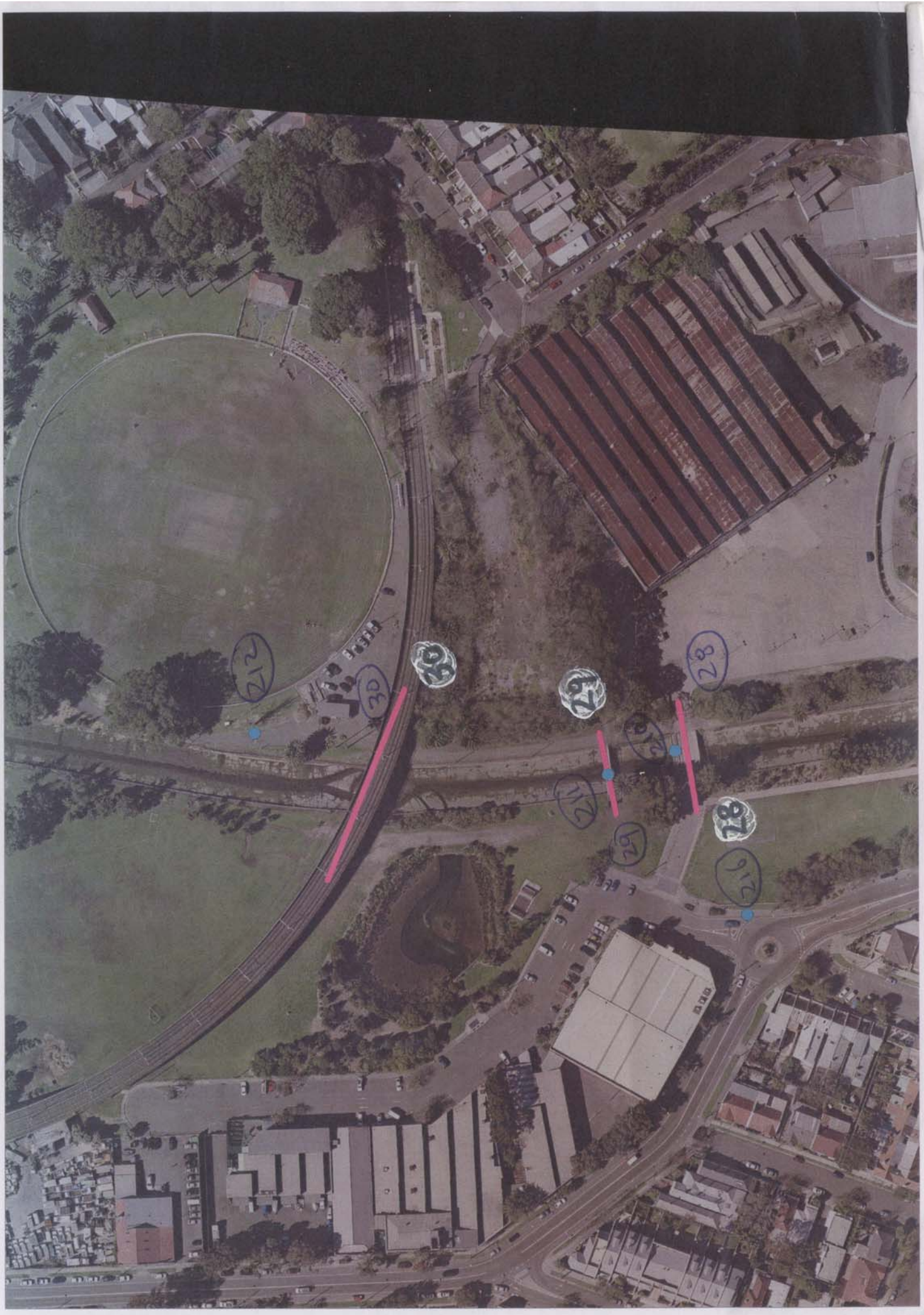
4


23
22
21
24
23
Q59-1
DWLS

STN 215→14 = 209°36'14" 20.090 ELV = 0.337
" "→15 = 316°39'11" 12.409 " " = 1.026 X
" "14→15 = 300°2'35" 26.534 " " = 1.043

11

1452


27
28
29
30
31
32
33
34
35
36

STN 207 → 17 = 179°53'51" 120.898 ELV=1.555
STN 210 → 20 = 170°45'06" 142.150 " "=1.408
! WHEN ON 210 USED WRONG STN # 666

13

2001
~~+545~~

h

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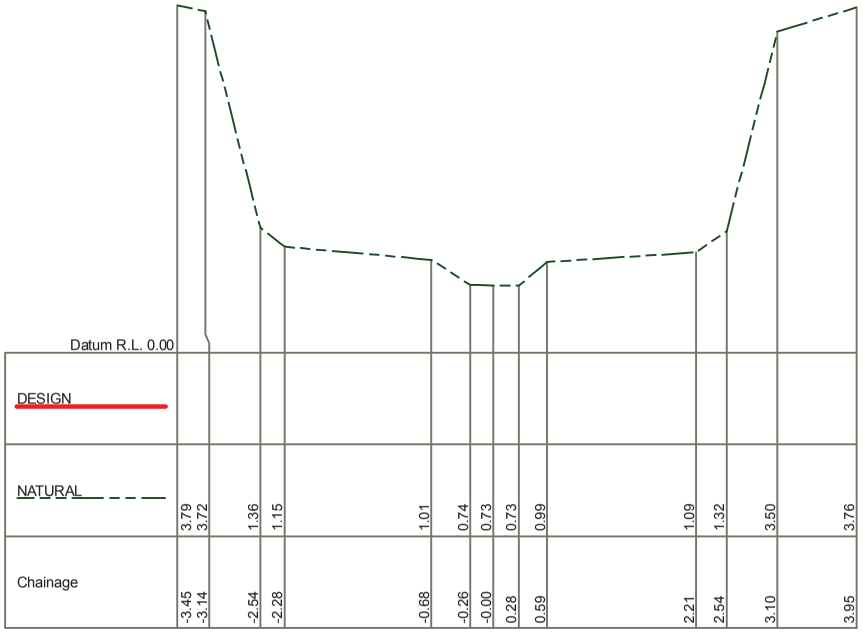

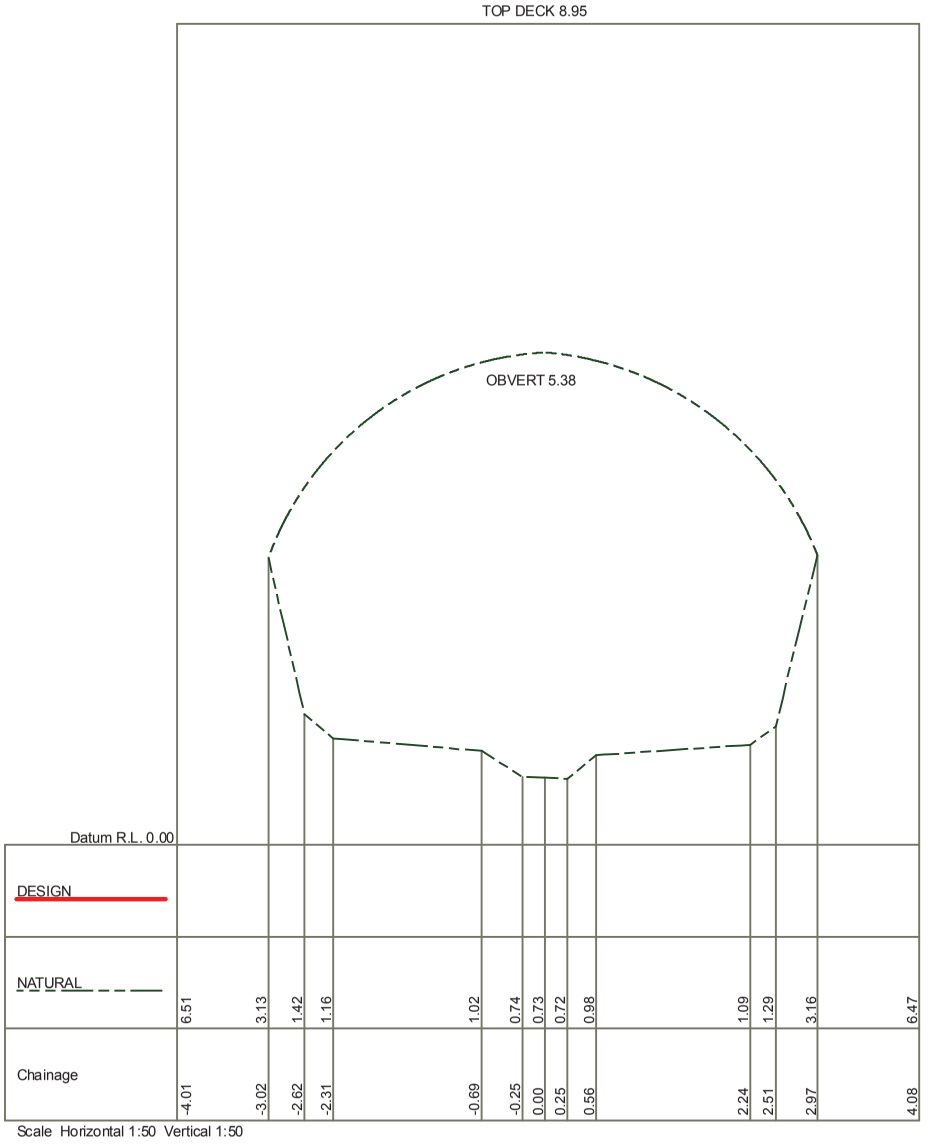

X-SECTION AT SITE 19

FIGURE D1
CROSS SECTION SITE 19

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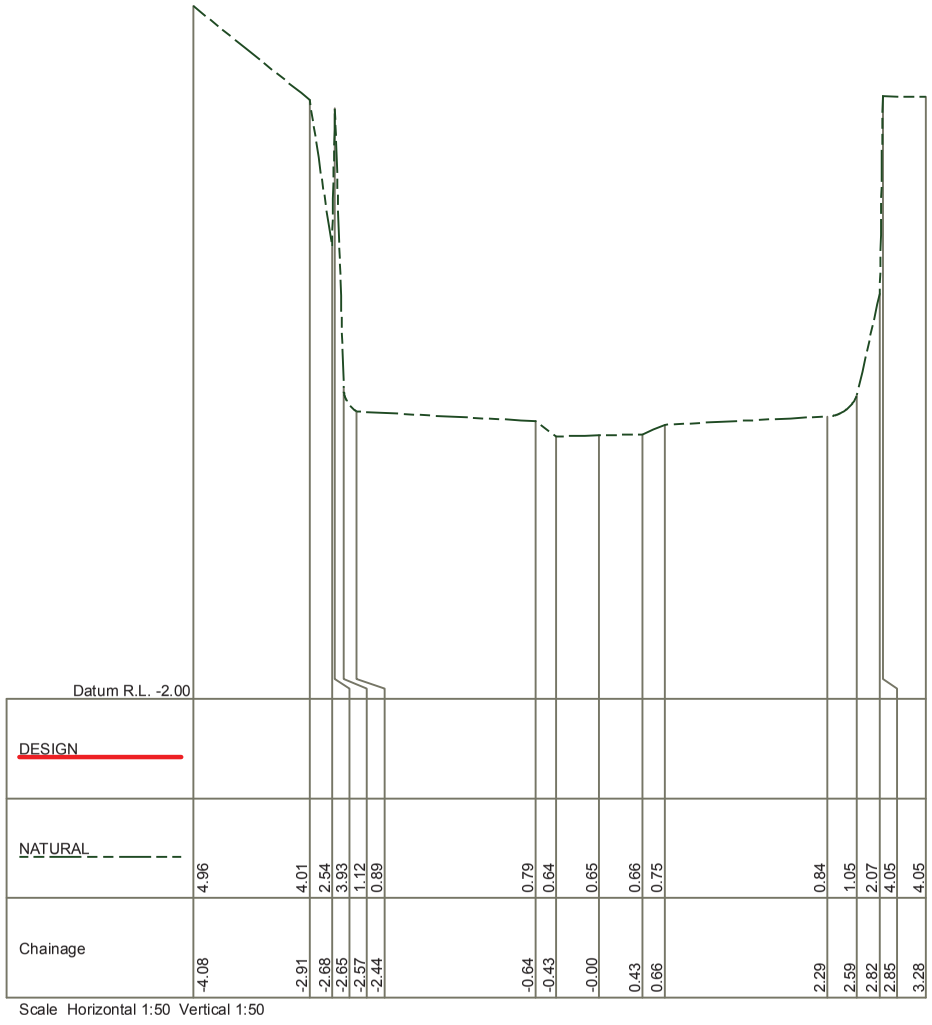
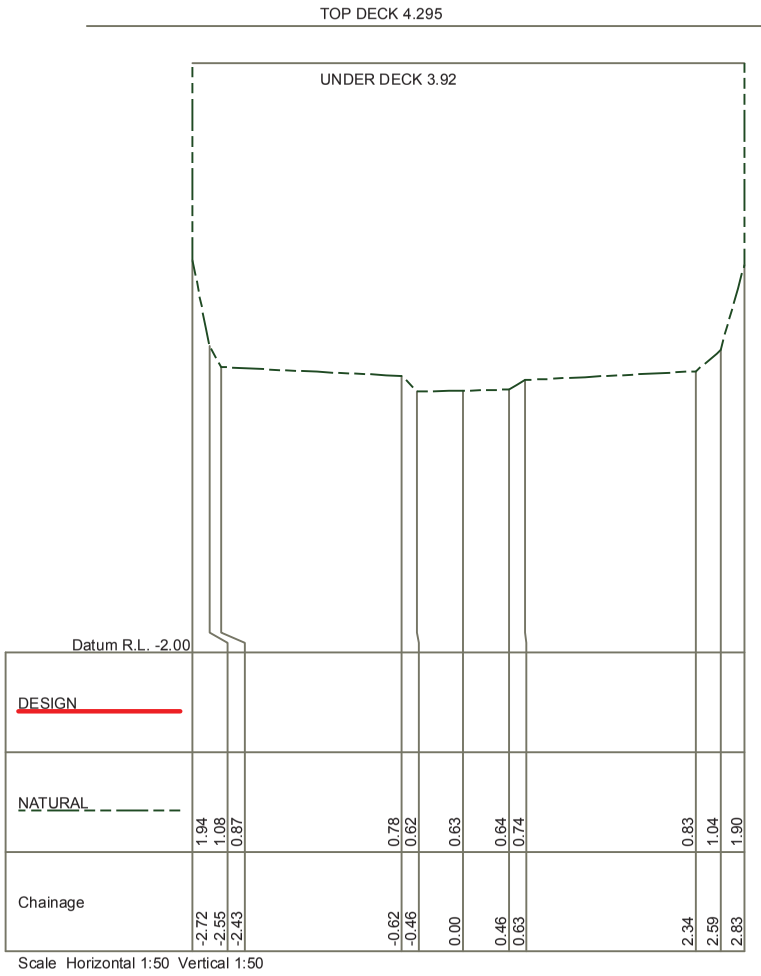
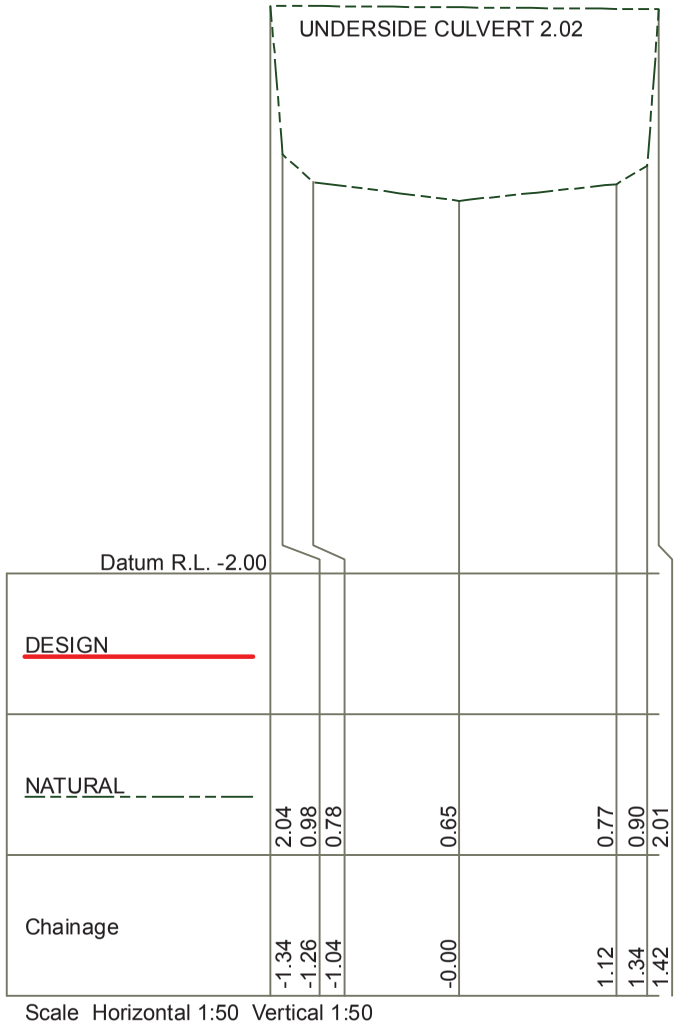




X-SECTION AT SITE 20

FIGURE D2
CROSS SECTION SITE 20

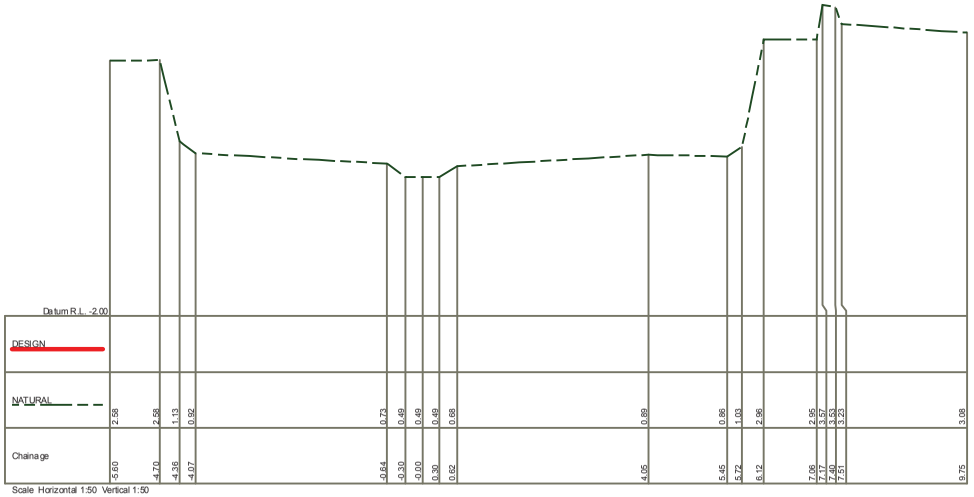
J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD3_CrossSectionSite21



X-SECTION AT SITE 21

FIGURE D3
CROSS SECTION SITE 21

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD4_CrossSectionSite22



X-SECTION AT SITE 22

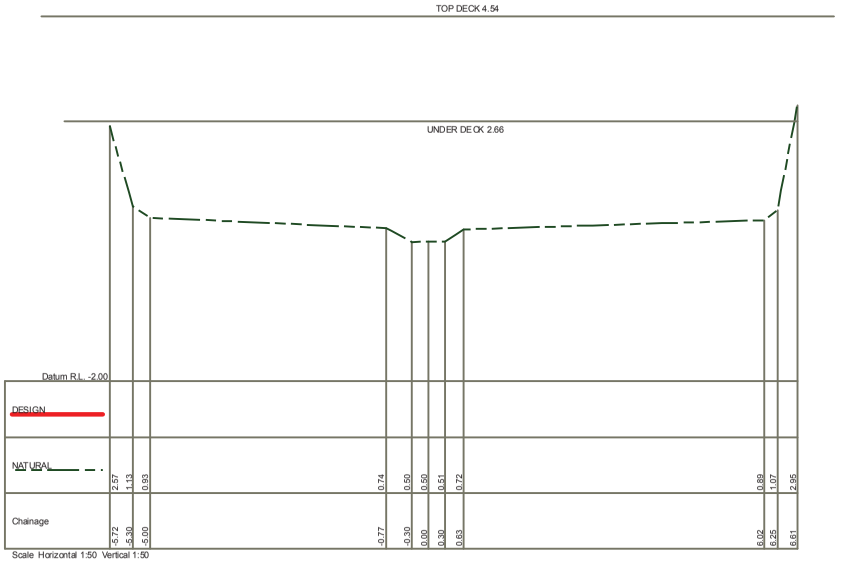
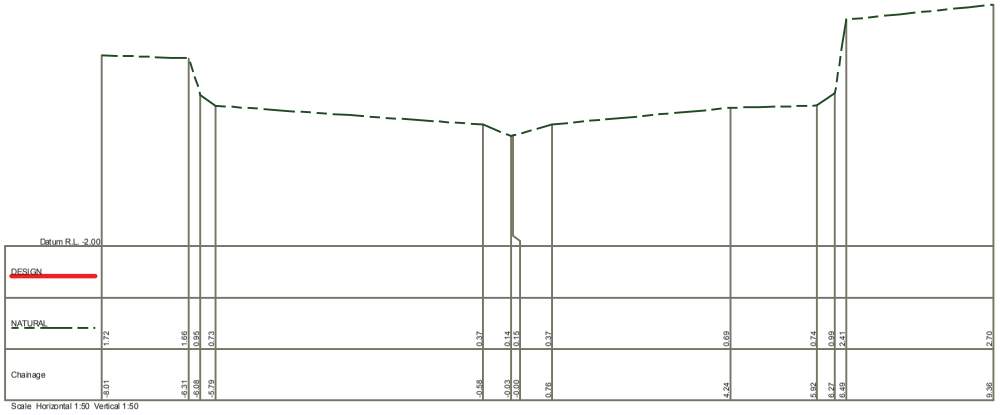
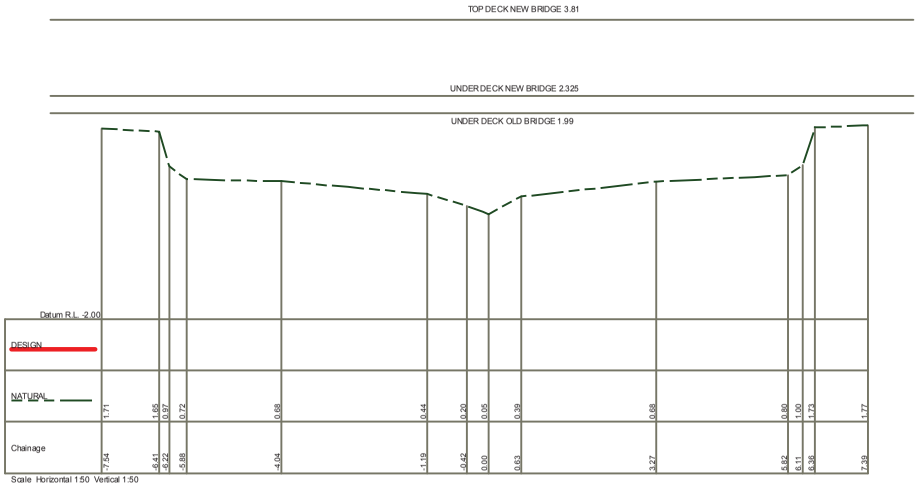


FIGURE D4
CROSS SECTION SITE 22

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD5_CrossSectionSite23

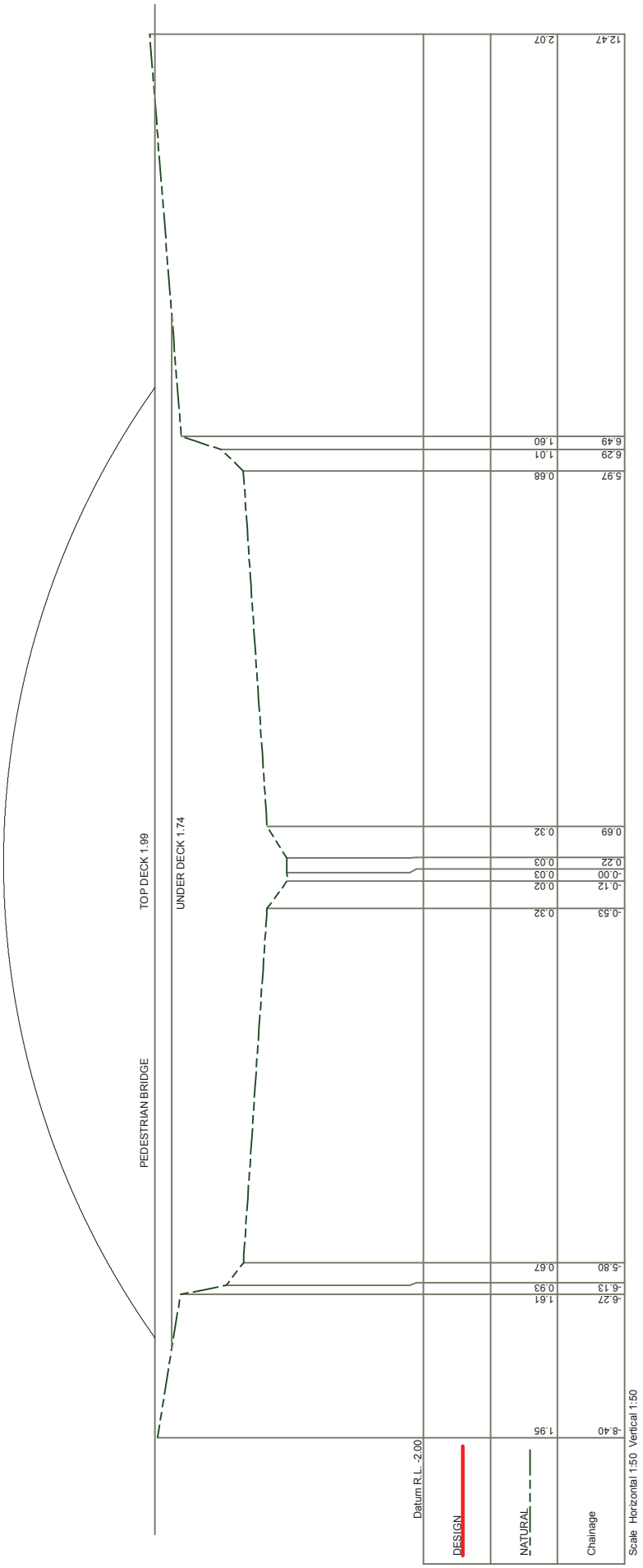




X-SECTION AT SITE 23

FIGURE D5
CROSS SECTION SITE 23

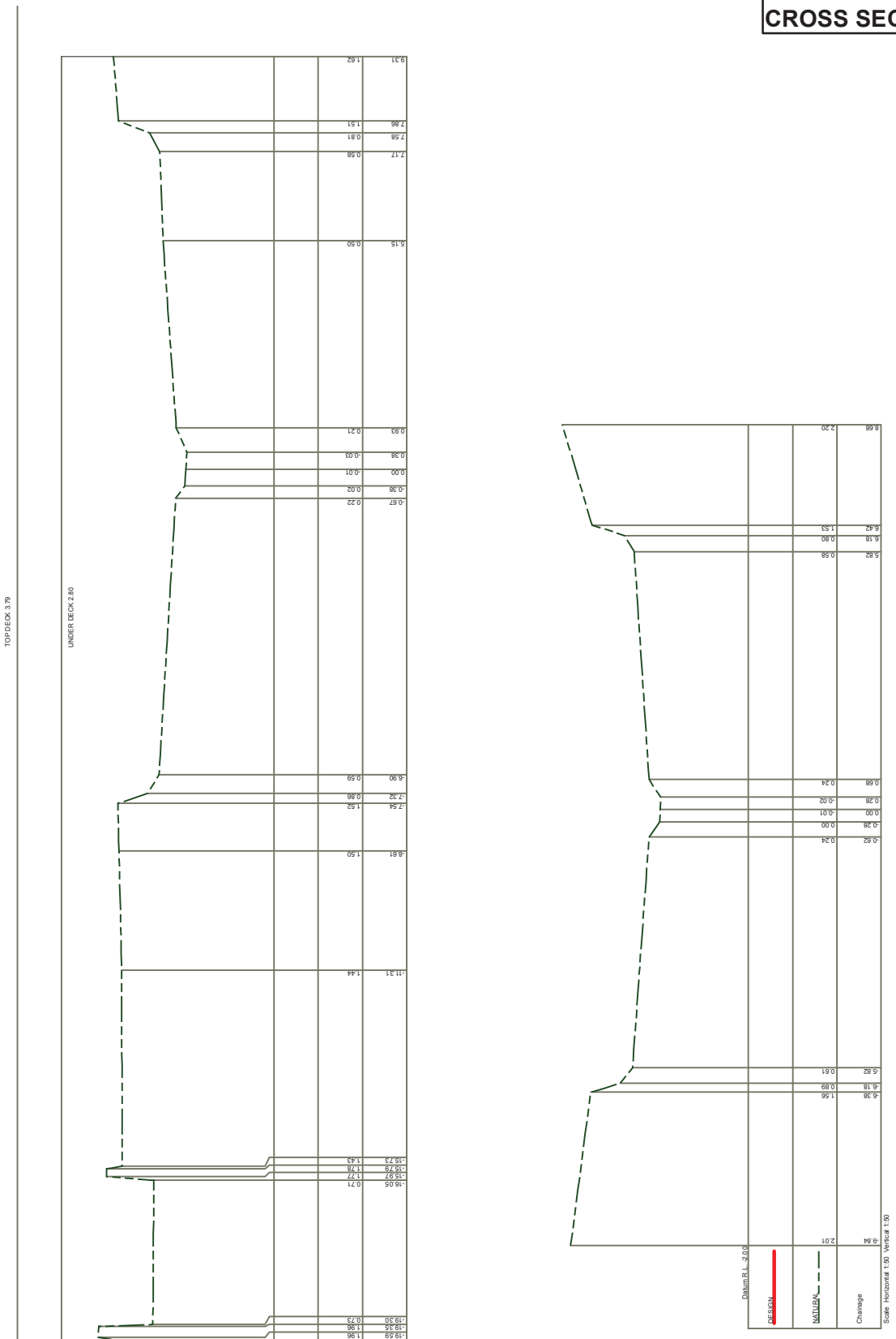
FIGURE D6
CROSS SECTION SITE 24



X-SECTION AT SITE 24

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD6_CrossSectionSite24

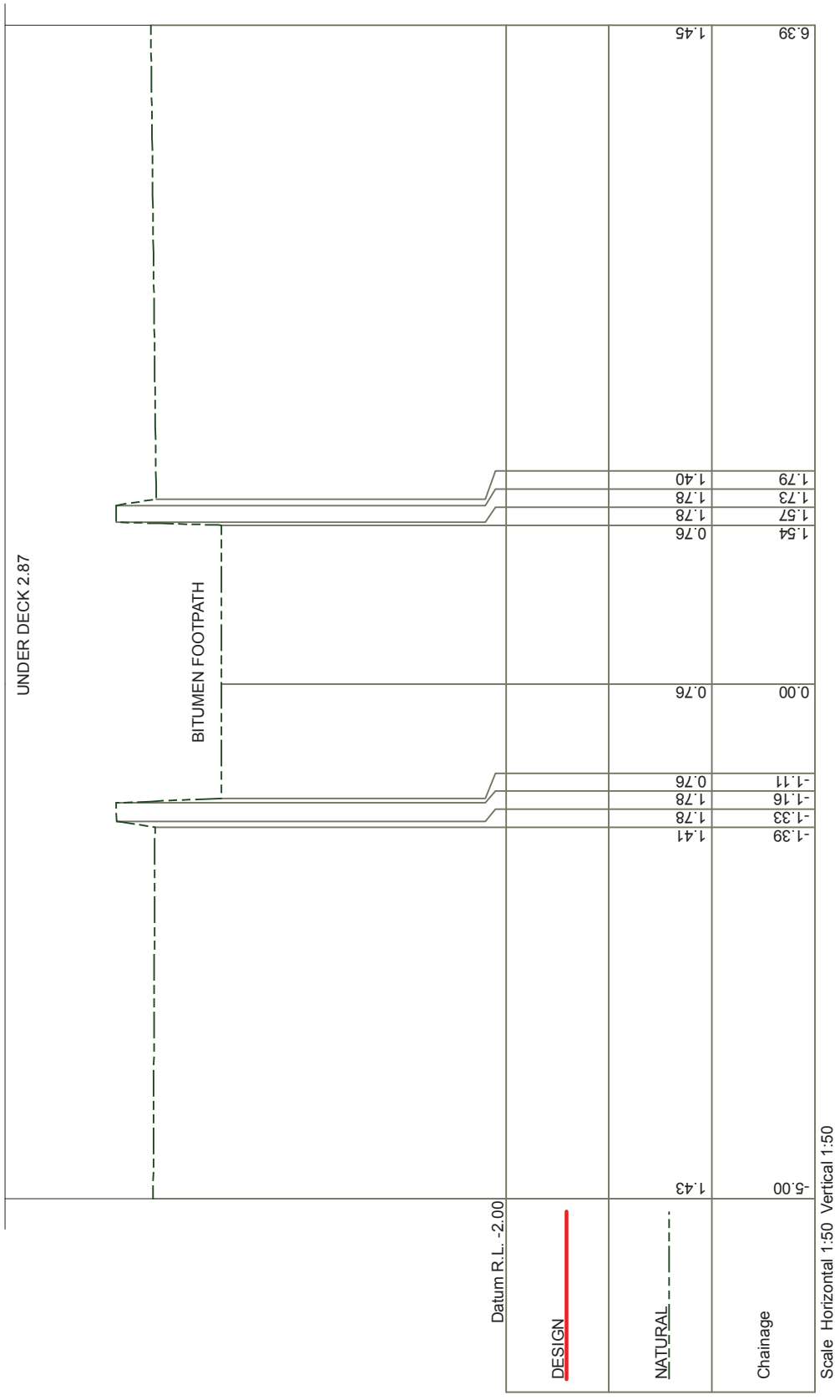
FIGURE D7
CROSS SECTION SITE 25



X-SECTION AT SITE 25

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD7_CrossSectionSite25

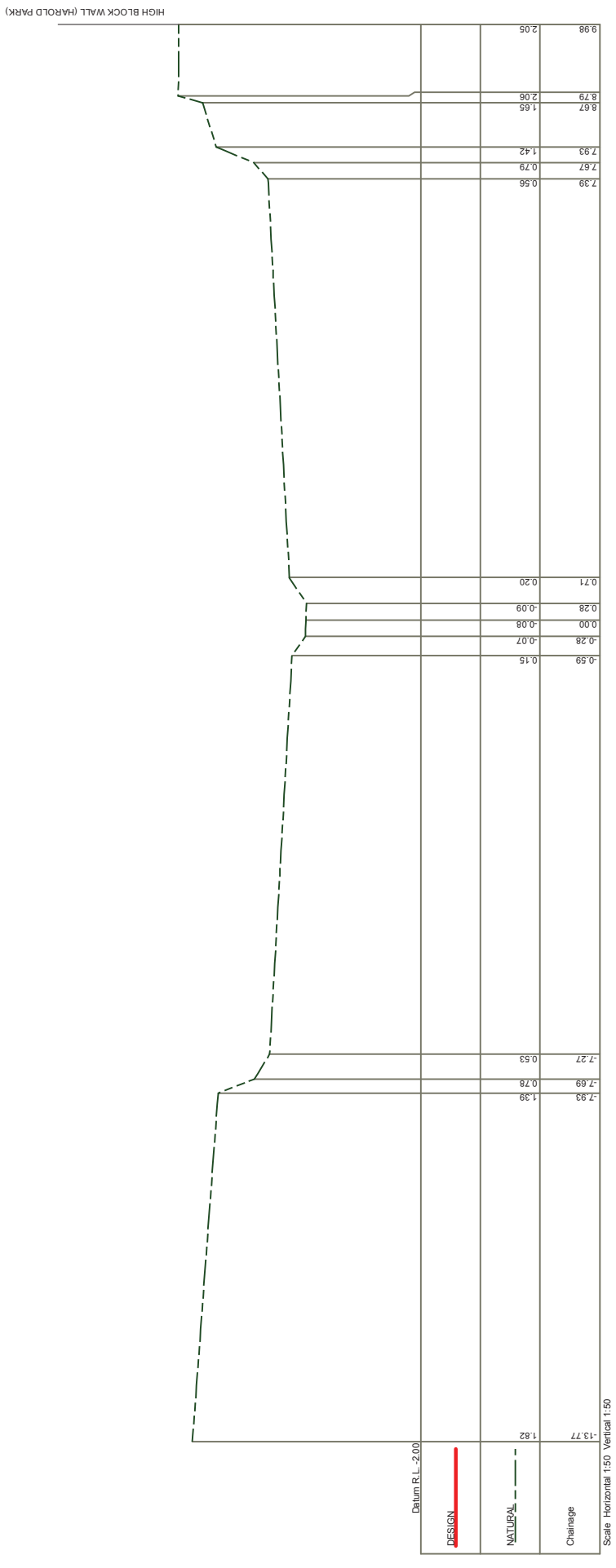
FIGURE D8
CROSS SECTION SITE 26



X-SECTION AT SITE 26

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD8_CrossSectionSite26

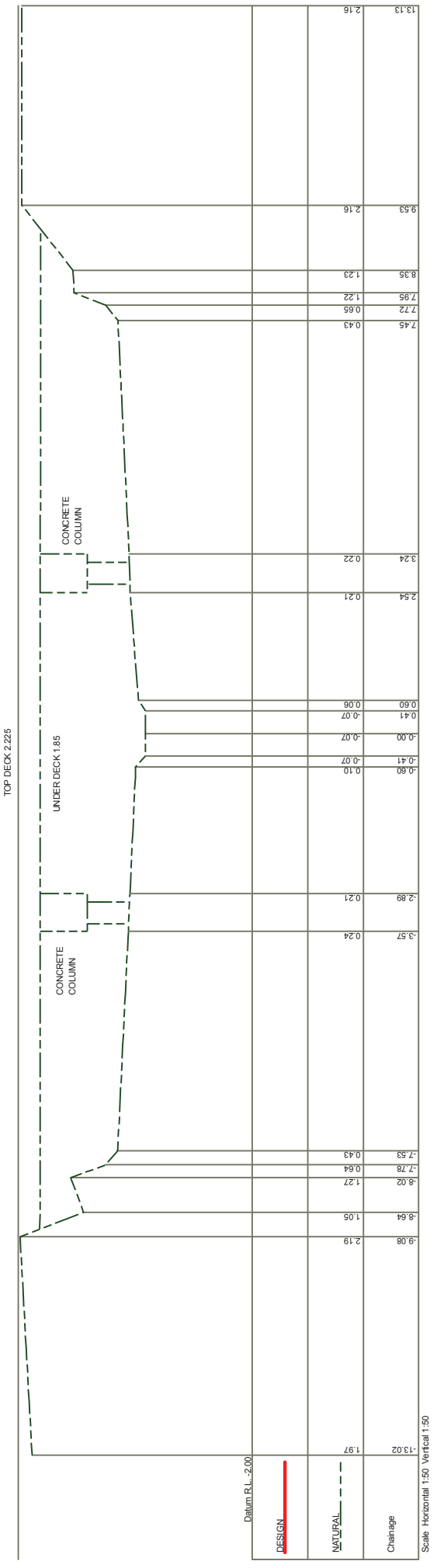
FIGURE D9
CROSS SECTION SITE 27



X-SECTION AT SITE 27

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD9_CrossSectionSite27

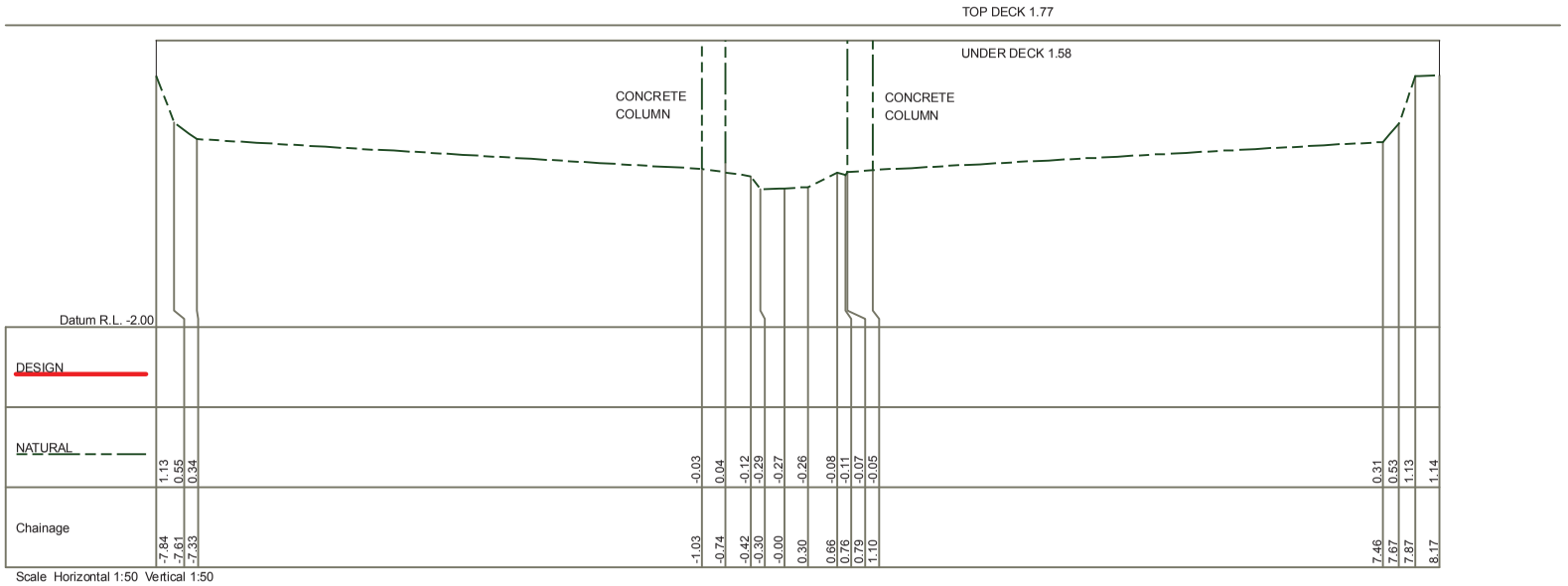
FIGURE D10
CROSS SECTION SITE 28

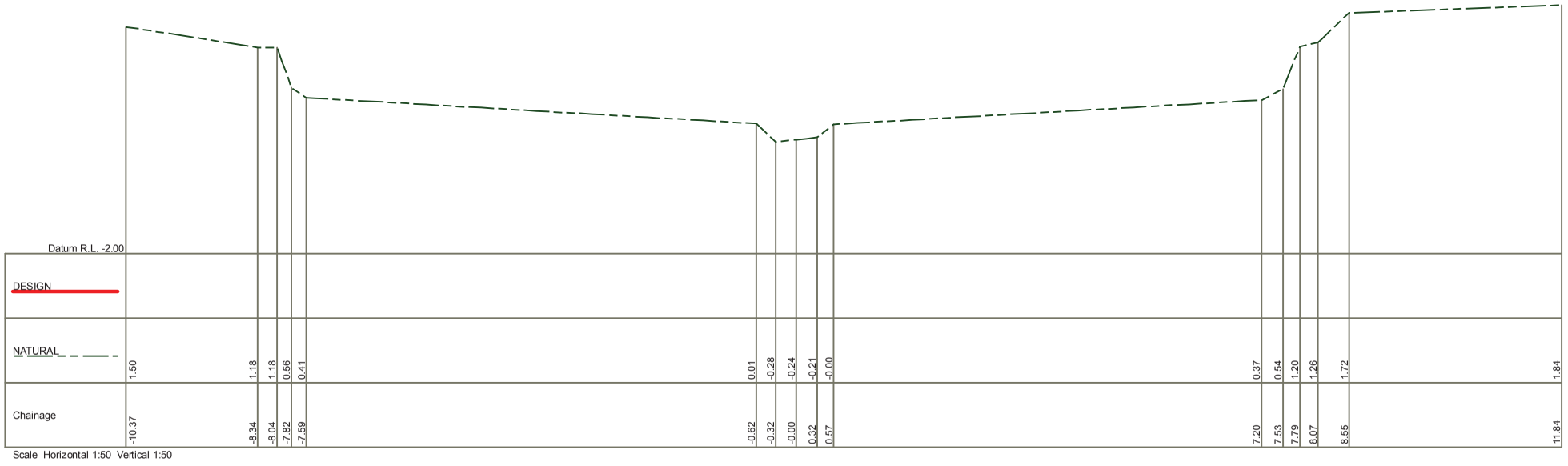


X - SECTION AT SITE 28

J:\Jobs\111021\GIS\ArcMaps\UC\Report_Figures_20120323\Appendix_D\FigureD10_CrossSectionSite28

J:\Jobs\111021\GIS\ArcMaps\JC\Report_Figures_20120323\Appendix_D\FigureD11_CrossSectionSite29

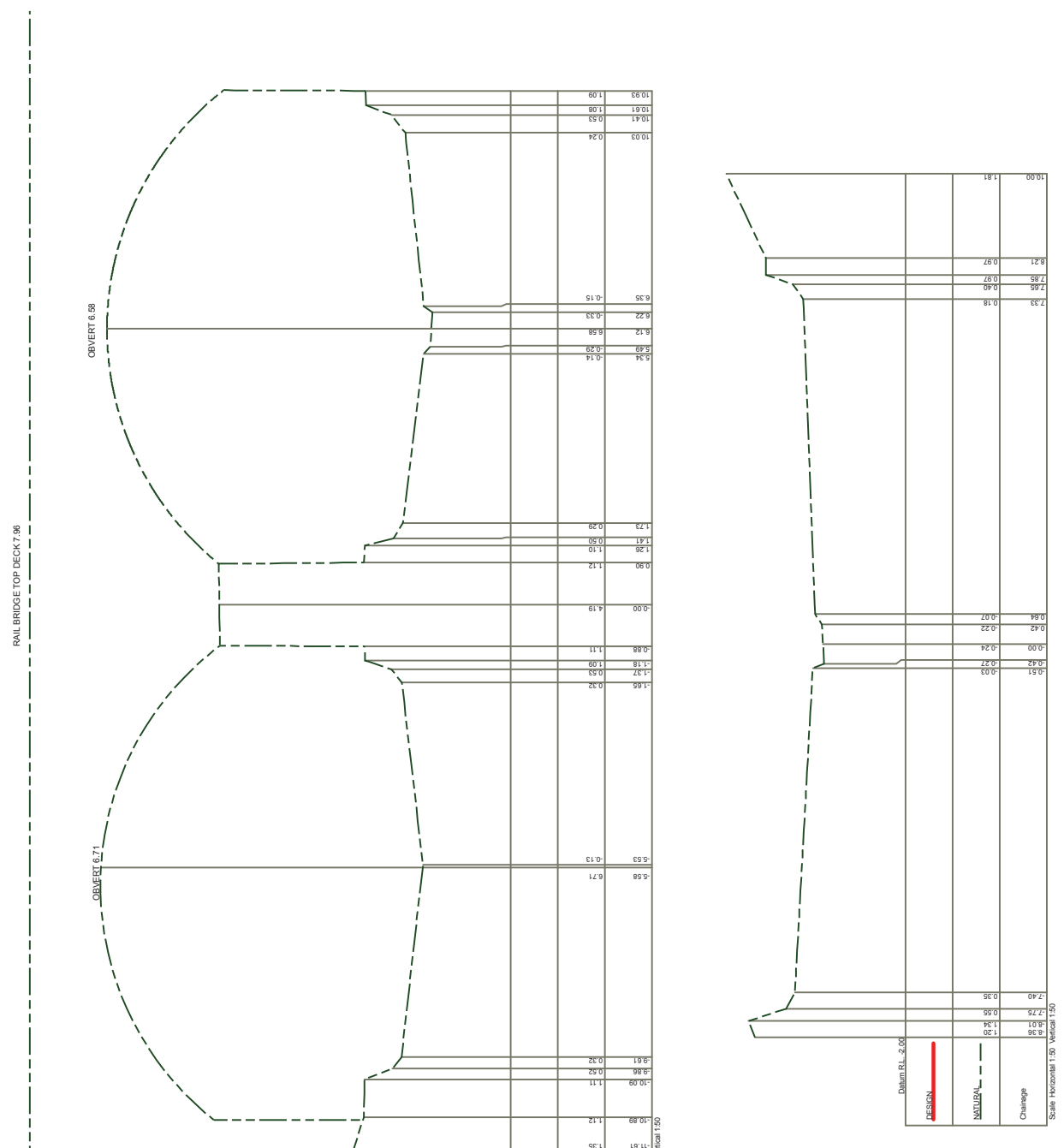




X-SECTION AT SITE 29

FIGURE D11
CROSS SECTION SITE 29

FIGURE D12
CROSS SECTION SITE 30



X - SECTION AT SITE 30

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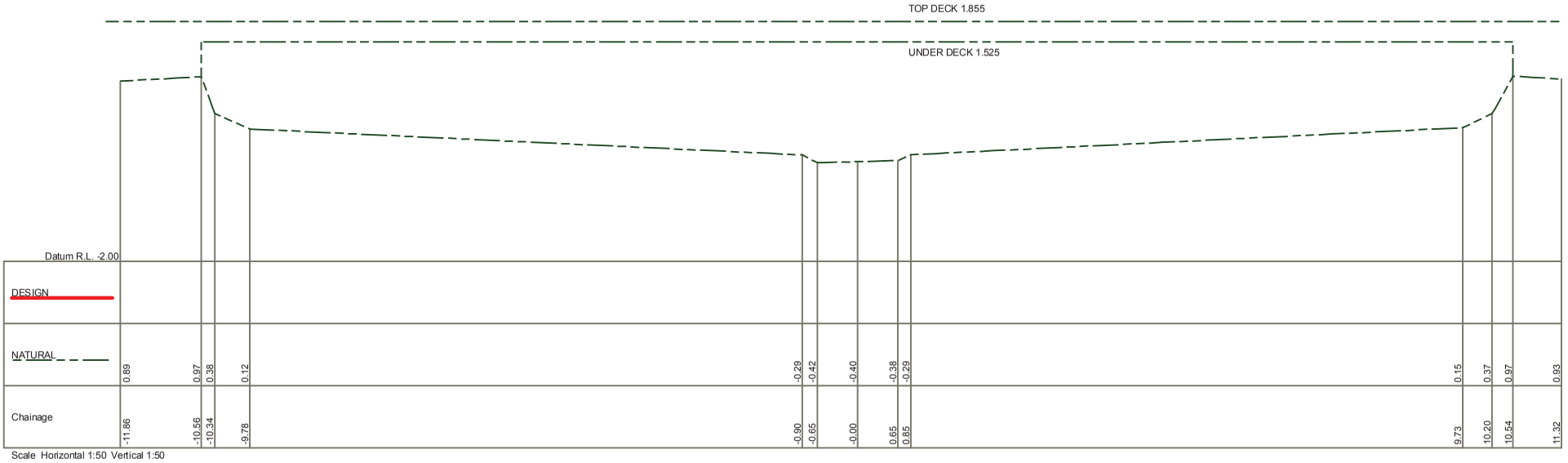
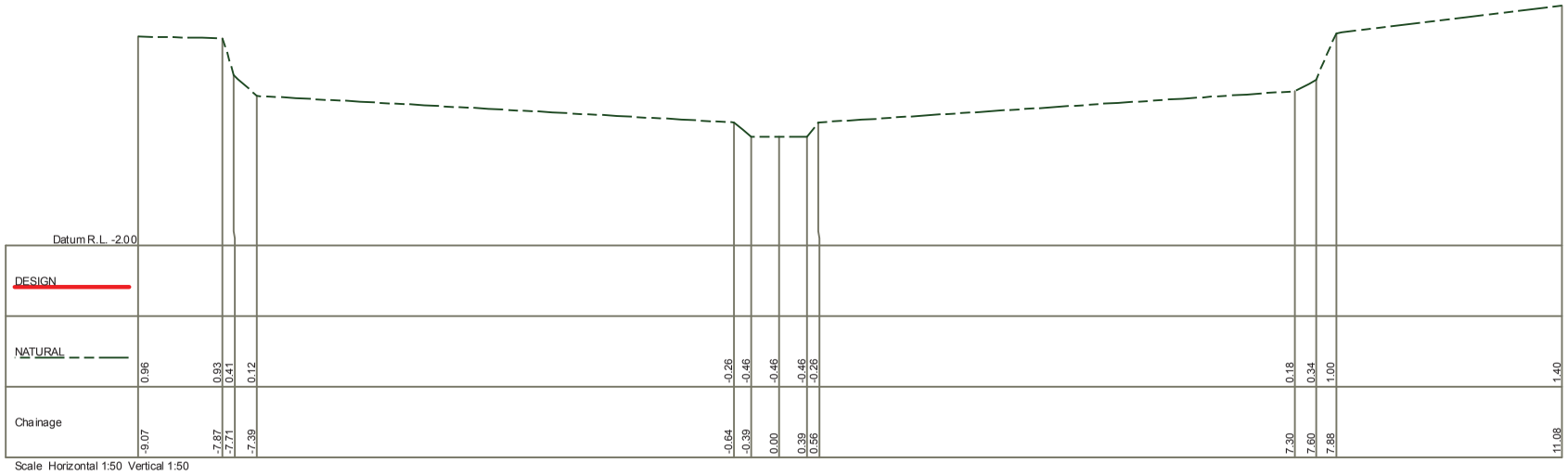
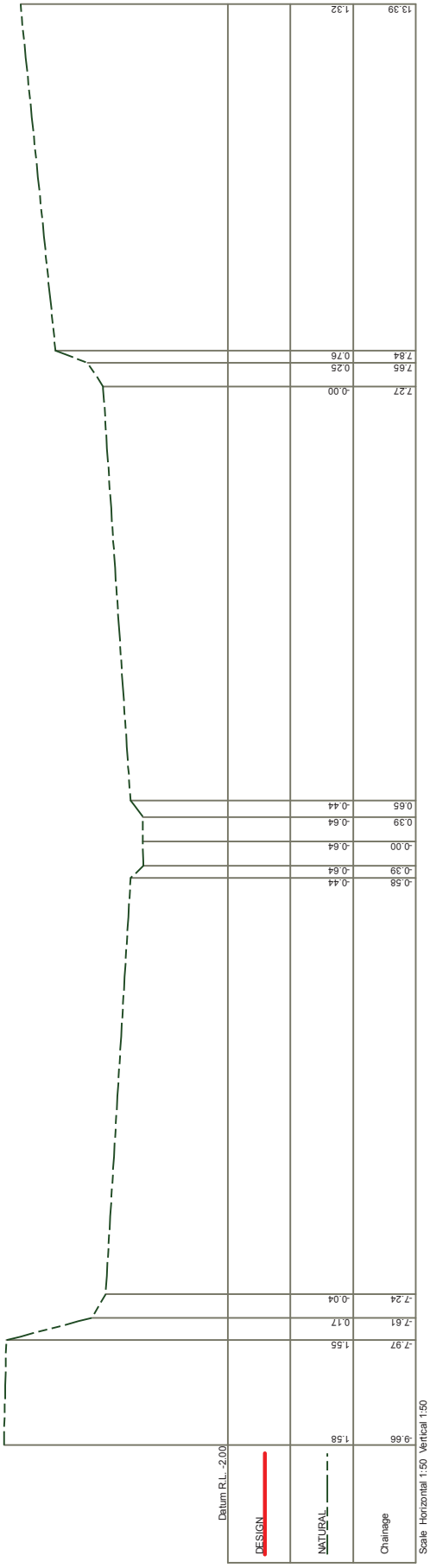




X-SECTION AT SITE 31

FIGURE D13
CROSS SECTION SITE 31

FIGURE D14
CROSS SECTION SITE 32



X-SECTION AT SITE 32

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