Figure B1: Contour Plan of the Basin

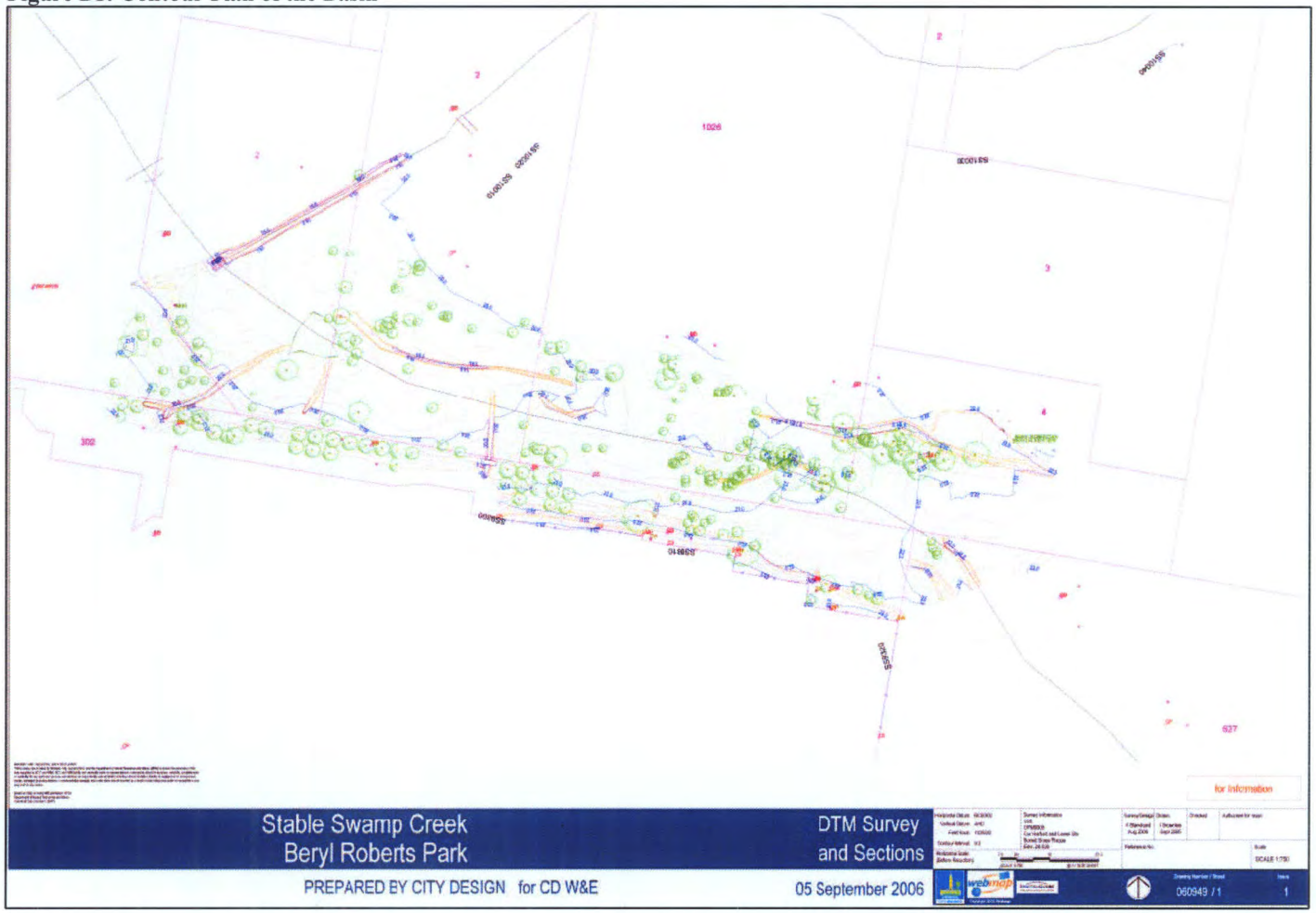


Figure B2: Long Section Along Top of Levee Bank

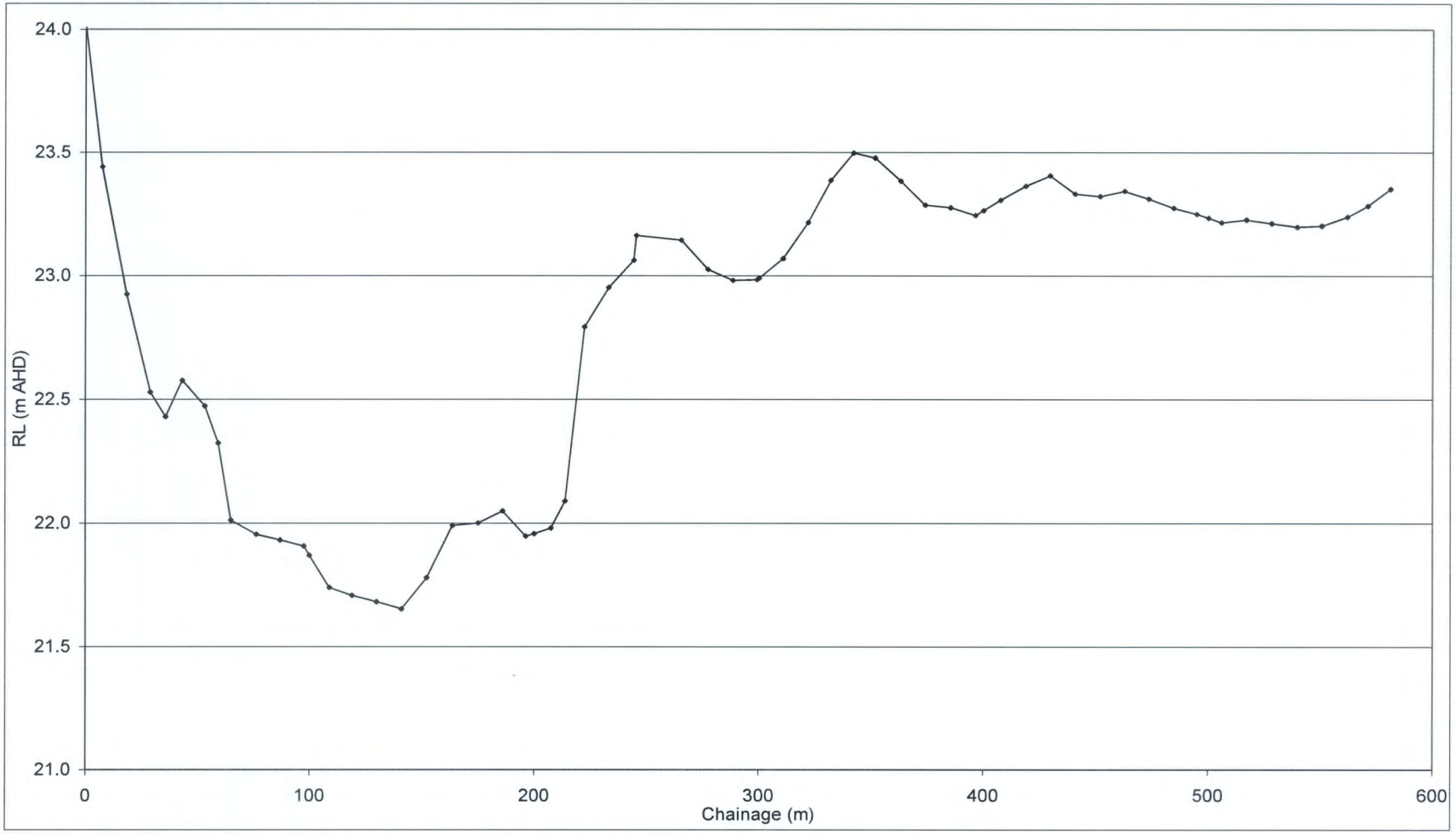
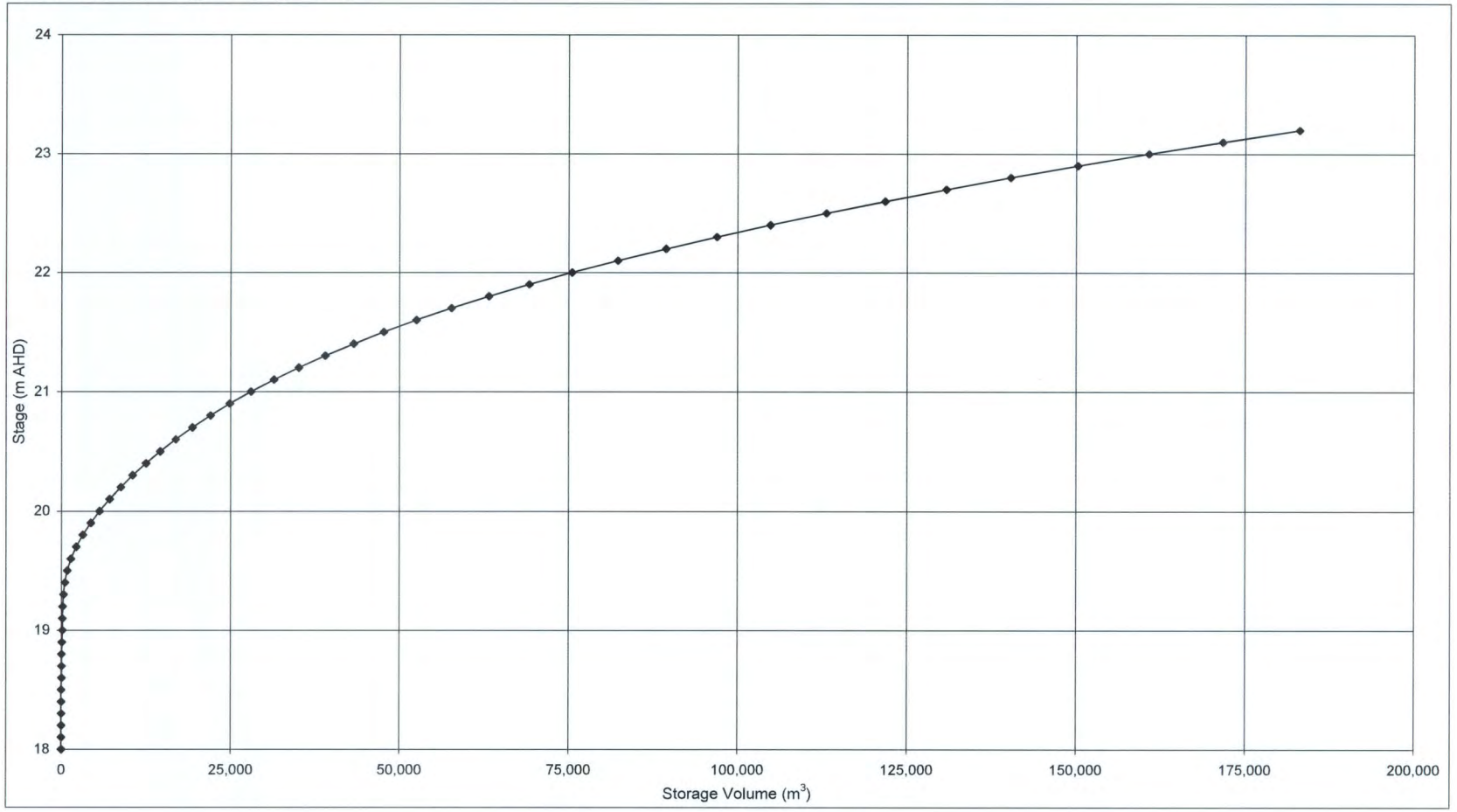


Figure B3: Basin Stage-Storage Curve



Appendix C: Forms

Table C1: Level 1 Inspection and Maintenance Form
Table C2: Assets Maintenance Plan – Beryl Roberts Park Detention Basin

BCC.123.0032

Table C1: Level 1 Inspection and Maintenance Form

Inspection and Maintenance Form *Beryl Roberts Park Detention Basin*			
Mitigated Asset Type:	Channel and Basin	**District:**	South
Asset Location	Stable Swamp Creek, North Branch, Barham Street, Coopers Plains		
Asset Description	Grass-lined Detention Basin and associated Drainage works		

SITE VISIT DETAILS		
Date:		
Site Visit By:		
Purpose of the Site Visit	Tick Box	Complete Sections
Routine Inspection	☐	Section 1 only
Annual Inspection	☐	Section 1 only
Inspection following major storm event	☐	Section 1 only
Maintenance	☐	Section 2 only

PROJECT FILING		
Document	Filed	Comment
Completed Inspection Form (**Table C1**)	☐	G:\BI\CD\CD_Business\
Request for Maintenance	☐	

BCC.123.0033

SECTION 1: INSPECTION		
1.1 LOW FLOW CHANNEL AND BIKEWAY STRUCTURE		
Feature	**Condition**	**Comments**
Low Flow Channel	Debris / blockages	....
	Sediment/vegetation overgrowth present	....
	Structural integrity including: infiltration seepers, tree roots, cracking, spalling and joint displacement	....
Bikeway Structure	General structural integrity and safety for pedestrians and cyclists	....
Is there a need for any maintenance, remediation or further work?		YES / NO
If YES, then give details		....

BCC.123.0034

1.2 EMBANKMENT		
UPSTREAM FACE OF EMBANKMENT		
Feature	**Condition**	**Comments**
Grass cover	Coverage (% cover, extent of bare patches)	....
Embankment condition	Cracking	....
	Subsidence or settlement	....
	Erosion / scour	....
Is there a need for any maintenance, remediation or further work?		YES / NO
Is there a need for a specialist advice? (LEVEL 2)		YES / NO
If YES, then give details		....

BCC.123.0035

CREST OF EMBANKMENT		
Feature	**Condition**	**Comments**
Grass cover	Coverage (% cover, extent of bare patches)	....
Embankment condition	Cracking	....
	Subsidence or settlement	....
	Erosion / scour	....
	Burrows, piping or holes	....
	Pathway concrete (cracking, tilting, undermining, scour along edges)	....
Is there a need for any maintenance, remediation or further work?		YES / NO
Is there a need for a specialist advice? (LEVEL 2)		YES / NO

BCC.123.0036

If YES, then give details	....

DOWNSTREAM FACE OF EMBANKMENT		
Feature	**Condition**	**Comments**
Grass cover	Coverage (% cover, extent of bare patches)	....
Embankment condition	Cracking	....
	Subsidence or settlement	....
	Erosion / scour	....
	Burrows, piping or holes	....

BCC.123.0037

	Exposure of wire mesh (and condition of mesh)	....
Is there a need for any maintenance, remediation or further work?		YES / NO
Is there a need for a specialist advice? (LEVEL 2)		YES / NO
If YES, then give details		....
EMBANKMENT CONDITION SUMMARY		
Summary Comments		....
Recommendations for remedial works		....
Recommendation for specialist advice		....
Specific items to review at next inspection		....

BCC.123.0038

1.3 INLET PIT AND PIPE		
INLET PIT		
Feature	**Condition**	**Comments**
Inside of Pit	Depth of sediment	....
	Debris / blockages	....
	Cracking, spalling, movement and general structural integrity of the concrete walls	....
	Differential settlement between the outlet pit and outlet pipe	....
Grate	Debris / blockages	....
	Structural integrity and damage	....

BCC.123.0039

	Grate locked	.....
Is there a need for any maintenance, remediation or further work?		YES / NO
If YES, then give details		.....

1.4 OUTLET PIPE

Feature	Condition	Comments
Pipework	Debris / blockages	.....
	Sediment present	.....
	Structural integrity including: infiltration seepers, tree roots, cracking, spalling and joint displacement	.....

BCC.123.0040

Headwall	Cracking, spalling, movement and general structural integrity	....
Outlet Channel	Condition of Rock Lining (e.g. scour)	....
Is there a need for any maintenance, remediation or further work?		YES / NO
If YES, then give details		....

1.5 MISCELLANEOUS COMMENTS

....

Table C2: Asset Maintenance Plan – Beryl Roberts Park Detention Basin

Asset Maintenance Management Plan – Beryl Roberts Park Detention Basin, Coopers Plains			
Type	Channel and Basin	**Region**	South LAS South S5
Location	Stable Swamp Creek, North Branch Barham Street, Coopers Plains		
Description	Grass-lined Detention Basin and associated Drainage Works		

Schedule of Site Visits													
	Frequency	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Routine Inspection	3 / year		✓			✓			✓				
Annual Inspection	1 / year											✓	
Following Major Storm Event	As Needed												
Maintenance	As Needed												

The above schedule is a guide only. Maintenance will be scheduled based on the outcome of the inspection.

1.0 HEALTH AND SAFETY		
1.1	Statutory Requirements	All inspection and maintenance work must be carried out in accordance with the appropriate Australian Standards and Statutory Requirements.
1.2	Weather	Inspection and maintenance work may involve entry into the detention basin, outlet pipe and inlet channels. This shall only occur after a reasonably rain-free period when there is negligible water in the basin and flow in the inlet channels is at a minimum.
1.3	Access to Outlet Pipework	Access for inspection and maintenance work to the outlet pit and ∅1950 mm RCP shall be from the downstream headwall. This shall be undertaken in accordance with confined space regulations and general safe work practices.
1.4	General Access	Care shall be taken when entering the basin via the 1 in 4 grassed embankments.
1.5	Movement along Embankment	Inspection and maintenance work may involve traversing the detention basin spillway and embankment. Care shall be taken with regards to adverse slopes and steep drop offs.
1.6	Hazards	Contact with sharp objects, including hypodermic needles, is a risk when working in the basin. To prevent injury all workers must: • be made aware of this risk; • use caution when clearing the trash and debris; and wear appropriate protective gear when in the basin.
2.0 QUALITY ASSURANCE		
2.1	Forms	The **Inspection and Maintenance – Beryl Roberts Park Detention Basin** form shall be completed for all inspection and/or maintenance activities. Completed forms need to reside on the official file. A copy of the form shall be forwarded to LAS Area Coordinator – Open Space for information.
2.2	Reference Drawings	W5501 Sheets 110A, 111A, 112A, 113, 114, 115A and 116.
3.0 INSPECTION		
3.1 ROUTINE INSPECTION		
3.1.1	Frequency	Routine inspections shall be undertaken generally every 3 months as per the Schedule of Site Visits
3.1.2	Scope of Works	Routine inspections shall examine the following: Spillway/embankment Inlet pit Outlet pipe Floor of basin Low flow channel and bikeway structure

3.1.3	Spillway / Embankment	
	Upstream face of Embankment	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
	Crest of Embankment	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions Inspect the concrete footpath for cracking, tilting, undermining and scour along edges
	Downstream Embankment	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
3.1.4	Outlet Pit	
	Inside of Pit	Inspect the inside of the pit (from outside) for sediment build up and blockages
	Grate	Inspect the grate for degree of blockage from vegetation / debris Inspect the grate for structural integrity and damage Inspect the grate to ensure that access to the pit cannot be gained by members of the public.
3.1.5	Outlet Pipe	Inspect the pipe from the downstream headwall for debris, sediment build up and blockages (no access into the pipe is required)
3.1.6	Floor of Basin	Inspect the detention basin for degree of sedimentation, debris, weeds, vegetation and the general condition of the basin.
3.1.7	Low flow channels	Inspect the entire length of the low flow channels within the basin for erosion, deposition, vegetation and general condition.
3.2 ANNUAL INSPECTION		
3.2.1	Frequency	Annual inspections shall be undertaken generally once every year as per the Schedule of Site Visits
3.2.2	Scope of Works	Annual inspections shall examine the following: Spillway/embankment Inlet pit Outlet pipe Floor of basin Low flow channel and bikeway structure Photographic records shall be taken during the annual inspection of all elements of the detention basin.
3.2.3	Spillway / Embankment	Inspection of the spillway / embankment shall be as per the requirements of the Routine Inspection
3.2.4	Outlet Pit	
	Inside of Pit (entry required)	Inspect the concrete walls for cracking, spalling, movement and general structural integrity Inspect for signs of differential settlement between the outlet pit and outlet pipe. Inspect the inside of the pit for sediment build up and blockages
	Grate	Inspect the grate for degree of blockage from vegetation / debris Inspect the grate for structural integrity and damage Inspect the grate to ensure that access to the pit cannot be gained by members of the public.
3.2.5	Outlet Pipe (entry required)	Inspect the outlet headwall for cracking, spalling, movement and general structural integrity Inspect the length of the pipe for sediment build up and blockages Inspect the length of the pipe for structural integrity including: infiltration, seepage, tree roots, cracking, spalling and joint displacement.
3.2.6	Floor of Basin	Inspect the detention basin for degree of sedimentation, debris, weeds, vegetation and the general condition of the basin.
3.2.7	Low flow channels	Inspect the entire length of the low flow channels within the basin for erosion, deposition, vegetation and general condition.
3.3 INSPECTION FOLLOWING SIGNIFICANT STORM EVENT		
3.3.1	Frequency	Inspection shall be undertaken following a significant storm event.
3.3.2	Scope of works	The scope of works shall per as per the Annual Inspection

4.0 MAINTENANCE		
4.1	Frequency	Maintenance shall be undertaken whenever it is deemed necessary following an inspection of the detention basin
4.2	Set-up and Preparation for Maintenance	
	Notification	At least three days prior to date of maintenance works, notify the following: • LAS Area Coordinator – Roads and Drainage • LAS Area Coordinator – Open Space
	Dry weather flows	When carrying out maintenance of the outlet pit and/or ∅1950 mm RCP it may be necessary to use sandbags to bund off dry weather flow on the upstream side of the structure. If Bunding is not effective the dry weather flow can be diverted (by pumping) over the spillway.
	Close Site	Ensure that all working areas are adequately fenced off with plastic barricade fence or similar and that temporary 'No Public Access' signs are erected to restrict entry to the area.
	Equipment	Ensure all necessary equipment to undertake the maintenance is operational and on site or readily available to minimise the time required to undertake the maintenance.
	Training	Ensure that all person(s) undertaking the works are adequately trained and have the necessary skills / licences.
4.3	Scope of Works	The scope of maintenance work required shall be determined during the site inspection.
4.4	Sediment Removal	
	Environmental Regulations	Any desilting (sediment removal) activities carried out must comply with the conditions set by the EPA Licence No SR1251 – Maintenance Dredging at Numerous Sites Throughout Brisbane City Queensland.
	Erosion and sediment control	Establish all necessary sediment and drainage control measures to ensure that accumulated sediment does not enter the downstream watercourse.
	Disposal of sediment	All sediment shall be removed from the site and disposed of at an appropriate waste management facility.
4.5	Debris and Trash Removal	
	Trash Removal	Remove and dispose of any trash that is visible within the detention basin and the surrounding area.
	Debris Removal	Remove any debris (large branches, excessive amounts of vegetative matter covering the ground etc) that is visible within the detention basin. The basin will contain higher amounts of debris after a major storm.
	Transportation	The trash and debris shall be loaded into the back of a tip-truck. The truck shall be covered prior to leaving the site.
4.6	Vegetation	
	Weed Removal	If weeds are observed during an inspection, these weeds shall be removed from the detention basin. Weeding generally involves manual removal of species. Ensure that any flowering weeds are removed before they can set seed.
	Herbicides	To prevent contamination of the creek water, herbicides must not be used.
	Disposal	All vegetative matter removed from the creek must be disposed offsite at an appropriate waste management facility.
	Replanting	Replant plant species where necessary in areas that have been extensively weeded.
4.7	Spillway / Embankment	Works should only be undertaken to the spillway / embankment under the direction or supervision of an experienced geotechnical engineer.
4.8	Concrete work	Concrete repair works to the outlet structure or outlet pipe should only be undertaken under the direction of an experienced engineer.
4.9	Low flow channels	Maintain the low flow channel bed / banks and repair any damage which may have been viewed in the site inspection
4.10	Preparation for leaving the site	
	Tidy	Remove any litter and ensure the site is left in a tidy condition prior to leaving.
	Sediment Control Devices	Remove all sediment and drainage control devices prior to leaving.
	Repair Damage	Repair any damage that may have occurred during any maintenance works.

BCC.123.0044

090154 Asset Maintenance Management Plan

CITY ASSETS – BRISBANE INFRASTRUCTURE

OXLEY CREEK – FLOOD MITIGATION ASSETS

PROJECT OWNER: GAVIN BLAKEY

Document Change History

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D	22/02/11								

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The following officers have **approved** this document.

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Signature _____ Date _____

Management Team Meeting Approval

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Project Stakeholders

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Stakeholder _____

Signature _____ Date _____

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1 INTRODUCTION

1.1 PURPOSE OF MAINTENANCE MANAGEMENT PLAN

The purpose of this Asset Maintenance Management Plan is to;

- Provide a comprehensive reference for the Flood Mitigation Asset, including the original design objectives, drawings and survey.
- Define the required level of service or performance of the Flood Mitigation Asset.
- Outline possible risks which may prevent the Asset from performing to the required level of service
- Specify a maintenance regime to manage these risks so that the Asset may function at the required level of service.
- Ensure that a long term record of condition assessment reports and a log of maintenance work are recorded.

1.2 PLAN FRAMEWORK

The Oxley Creek Asset Maintenance Management Plan (AMMP) is a constituent in a suite of Management Plans for flood mitigation assets within Brisbane.

The Waterways Asset Strategic Plan (WASP) includes a summary of flood mitigation assets in Brisbane. The WASP is a reference point for citywide policy and refers to the AMMP, the document includes the following relevant information:

- An asset's purpose and function; and
- A 'Management Plan' for the mitigation asset.



Figure 1: Brisbane City Council Policy Framework - Showing AMMP

2 DESCRIPTION OF ASSET

2.1 GENERAL DESCRIPTION OF FLOOD MITIGATION ASSET

The Oxley Creek mitigation works are located along a downstream reach of Oxley Creek near its confluence with the Brisbane River at Graceville. (see ***Figure 2*** and ***Figure 3***)

Oxley Creek is located on the south side of Brisbane, rising near Flinders Peak in Beaudesert Shire and flowing for approximately 50km to its confluence with the Brisbane River. The Oxley catchment covers 259 km^2 making it the largest creek catchment in Brisbane.

In 1984 Brisbane City Council commissioned a report into the feasibility of completing mitigation works in the lower reach of Oxley Creek to reduce the risk of flood damage to properties in the Rocklea industrial area and surrounding residential communities.

The mitigation works were scheduled and completed in 1985, and included the following:

- A widened reach of the main channel from the confluence with the Brisbane River upstream for approximately 2.1km to 150m beyond Sherwood Road;
- A grass-lined high level bypass channel from Oxley Creek near its confluence with Moolabin Creek to 200m upstream of Sherwood Road. It should be noted that culverts installed under Sherwood Road during the construction phase of this mitigation component are classified as a Road asset and will not be addressed by the Oxley Creek AMMP;
- Gabion walls bordering the St Joseph College playing fields. The walls were installed over approximately 450m along the right bank of the main channel of Oxley Creek from AMTD 800m and
- The BCC report (1984) describes the construction of a 'relocation habitat' on Moolabin Creek, to facilitate the relocation of flora and fauna displaced by the mitigation works in Oxley Creek. The relocation habitat is not considered to be a component of the Oxley Creek AMMP.

For further details of the location of the Oxley Creek mitigation assets refer to ***Figure 2*** and ***Figure 3***.



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Figure 2
Oxley Creek Flood Mitigation Asset Locations (2009 Aerial)

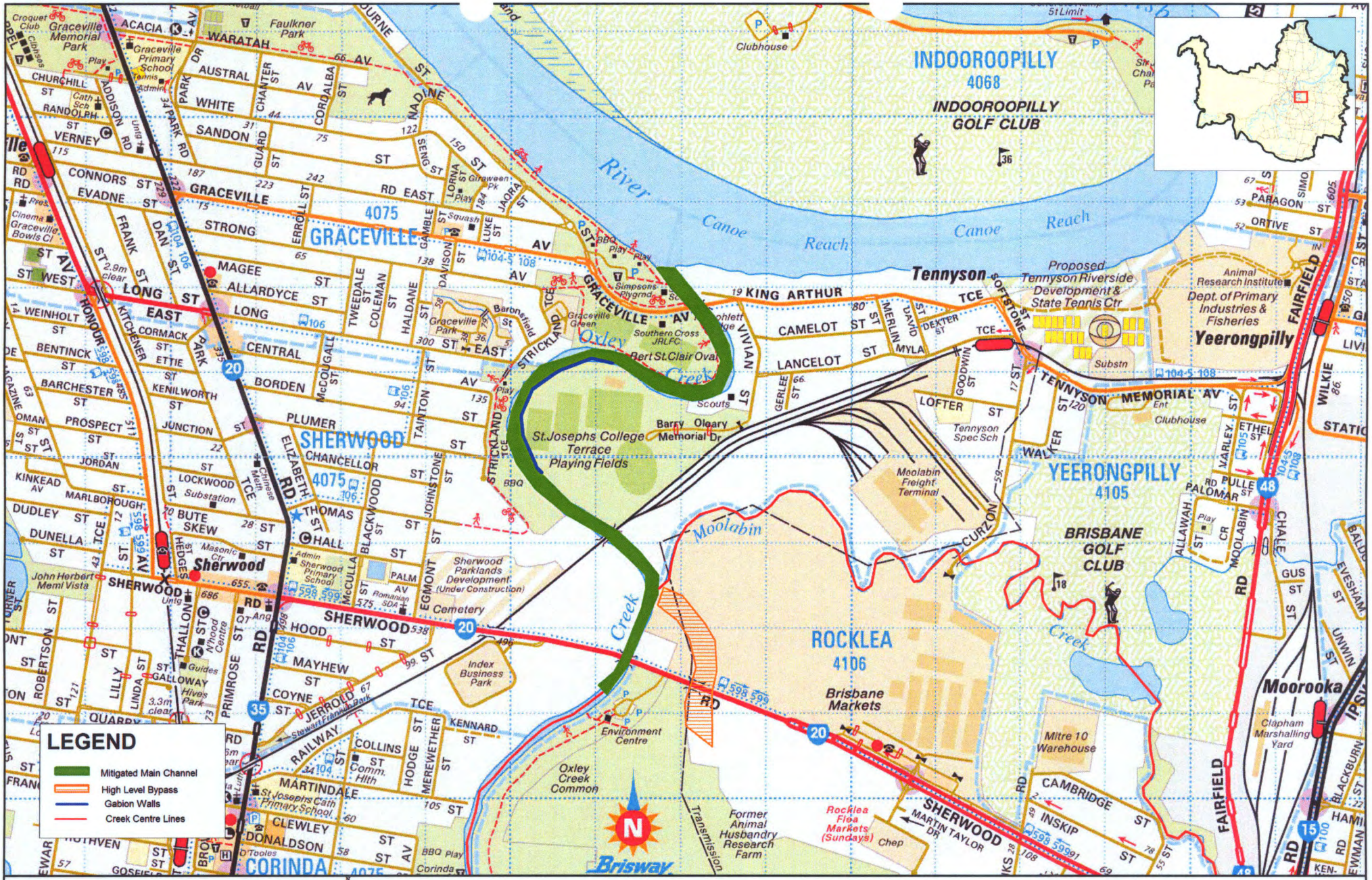

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Figure 3

Oxley Creek Flood mitigation Asset Locations (Brisway)

BCC.129.0068

2.2 BACKGROUND

The Brisbane City Council "Oxley Creek Flood Mitigation Report" (1984) proposed the construction of mitigation works along the lower reaches of Oxley Creek during 1985, which were carried out.

The mitigation scheme was constructed in two phases. In order of priority, the stages of the scheduled works were:

- The excavation of a grass-lined high level bypass channel through the wide floodplain downstream of Sherwood Road. The high level bypass consists of a 500m long channel from Oxley Creek near the confluence with Moolabin Creek to 200m upstream of Sherwood Road;
- The widening of the main channel along a reach of the lower tidal zone of Oxley Creek. The works extend from the confluence of Oxley Creek with the Brisbane River, to 150m upstream of Sherwood Road; and
- The widening phase of the mitigation works required the installation of the third component of the asset – gabion walls - along the right bank of Oxley Creek, adjoining the St Joseph College playing fields at Graceville (see ***Figure 2***).

A cost/benefit analysis of the mitigation works was adopted to justify the scheme proposed in 1984. A project lifetime of 50 years was assumed for the basis of the mitigation proposal.

The mitigation works were designed to reduce creek flooding. The mitigation scheme was not designed to mitigate Brisbane River flooding (BCC, 1984). The minimum habitable floor level - development control for the lower reach of Oxley Creek - is governed by the higher Brisbane River event and is defined at 8.0mAHD.

2.3 VARIOUS COMPONENTS OF FLOOD MITIGATION ASSET

Design drawings (BCC, 1984) of the flood mitigation works are provided in ***Appendix A***.

2.3.1 High-Level Bypass Channel

The BCC report (1984) states the optimum channel base width is 60m. The channel bed was to be excavated with a lateral base slope of 1V:100H, and a side bank slope of 1V:4H. The channel is approximately 500m long, beginning 200m upstream of Sherwood Road and ending with the excavation of the natural levee at Oxley Creek, near the confluence with Moolabin Creek.

The channel was to be graded longitudinally up at 1V:1000H from a minimum EL: 1.3mAHD at the junction with the main channel.

The typical design cross-section of the 'high-level bypass channel' component of the mitigation works is displayed in ***Figure 4***, with the component location and current vegetation shown in ***Figure 2*** and ***Figure 5*** respectively.

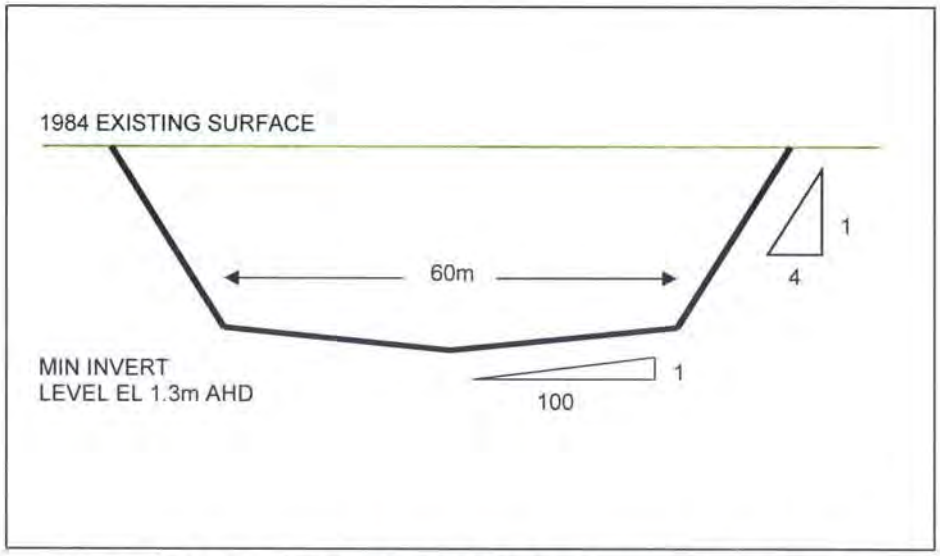

Figure 4. Design sketch of typical high level bypass channel section.



Figure 5. Aerial Image (left) of High Level Bypass, with upstream (top) and downstream (bottom) images from Sherwood Rd

The schedule of works (BCC, 1984) also specified the installation of culverts under Sherwood Road as an element of the Oxley Creek mitigation works. The culverts form a critical connection between the wide floodplain upstream of Sherwood Road and the high level bypass channel excavated to Oxley Creek. For maintenance purposes the culverts are considered to be part of the road infrastructure and as such the maintenance of the culverts is covered by the *Bridges and Culverts Asset Maintenance Plan*.

2.3.2 Widened Main Channel

The main channel was widened for a length of 2.1km from Oxley Creek's confluence with the Brisbane River to AMTD2150m, approximately 150m upstream of Sherwood Road. The mitigation work included the removal of mangroves and excavation of design section profiles. The cost-benefit analysis of possible section geometries concluded the 15m channel base width provided the most effective mitigation option (BCC, 1984).

A typical section (***Figure 7***) was described as a "modified trapezoidal channel", having a base width of 15m (at EL: -4.5mAHD), a bank slope of 1V:3H up to the low tide mark (approximately EL -1.0mAHD) and 1V:4H slope for the profile above this point. Complete (1984) design sketches are supplied in ***Appendix A***.

Reduction of the existing mangrove habitat along the mitigated section of the main branch of Oxley Creek was completed to increase the conveyance area for large flood events. ***Figure 5*** shows pre and post-mangrove reduction (1985).

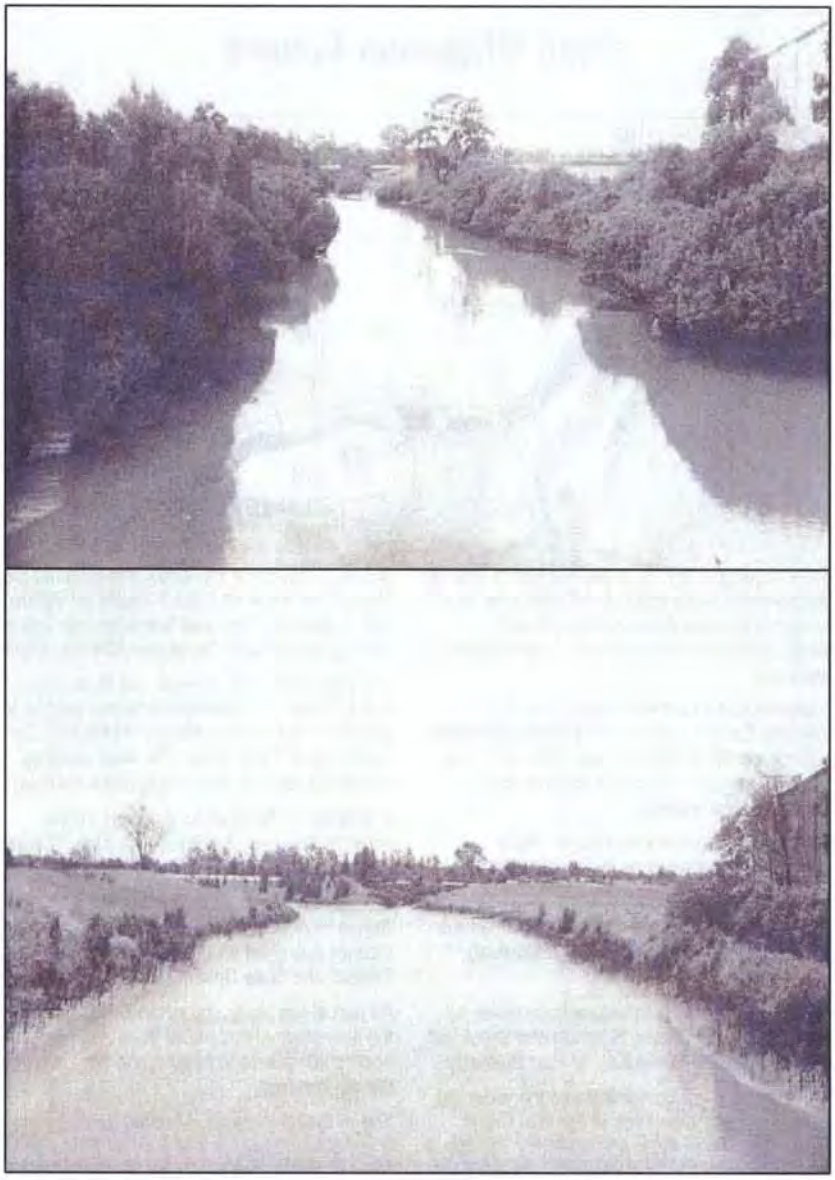

Figure 6. Comparison of Pre and Post-mitigation: Mangroves removed and the main channel widened upstream of Sherwood Rd – completed in 1985.

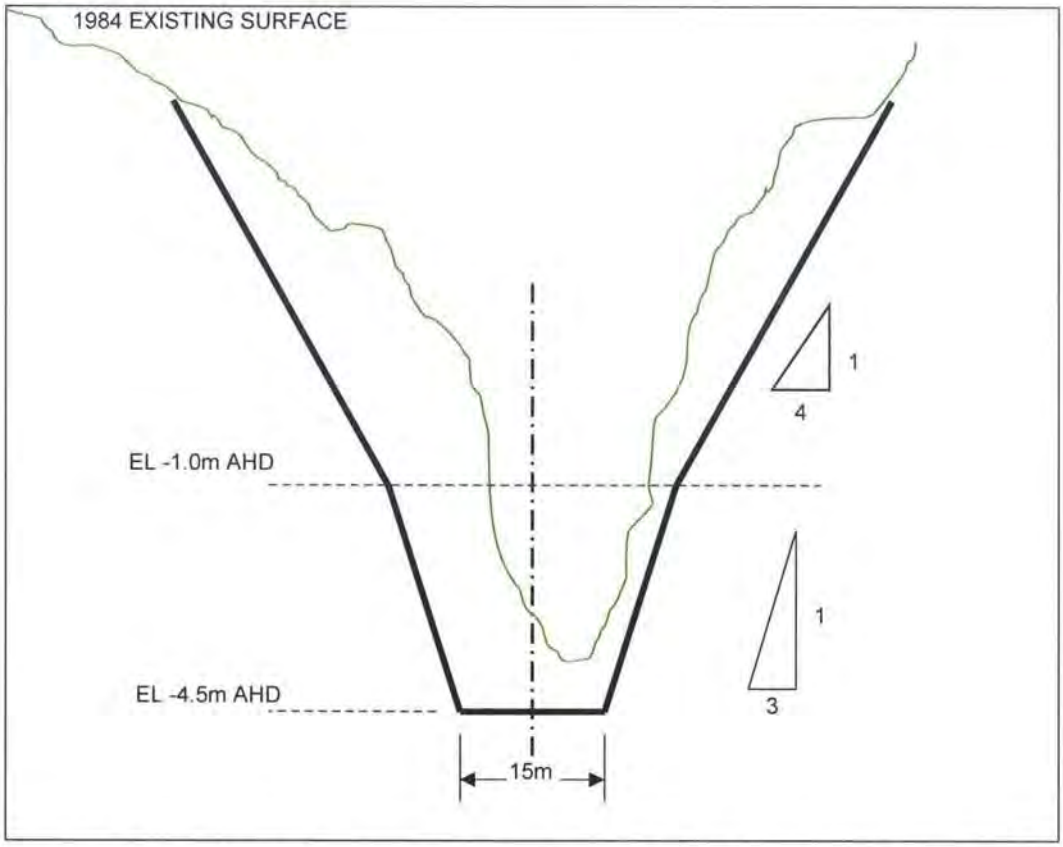

Figure 7. Design sketch of an excavation profile for a typical main channel cross-section.

The mitigated reach of the main channel was surveyed prior to the 1985 construction of the Oxley Creek mitigation asset. Since the works were completed, the following survey data has been recorded under various projects.

- 1984 – Flood Mitigation Proposal
- 1994 – Siltation Assessment
- 2005 – Connell Wagner Flood Study

These projects are summarised in ***Section 8.***

2.3.3 Gabion Walls

Construction of the mitigated main channel required the installation of gabion walls for approximately 500m along the eastern bank of the channel. Bordering the St Josephs playing fields at Sherwood, the gabions have been installed between AMTD 800m-1300m. The gabions extend nearly 1.5 metres out from the top of bank and are formed by two 1 metre by 1 metre gabions of appropriate length (*see* ***Figure 8***). The Gabions are resting on a foundation of up to 500mm of rock and backfilled with locally excavated soil for stability.

The location of the gabion walls at St Josephs playing fields are detailed in design drawing *W5550/9*, as supplied in ***Appendix A***.

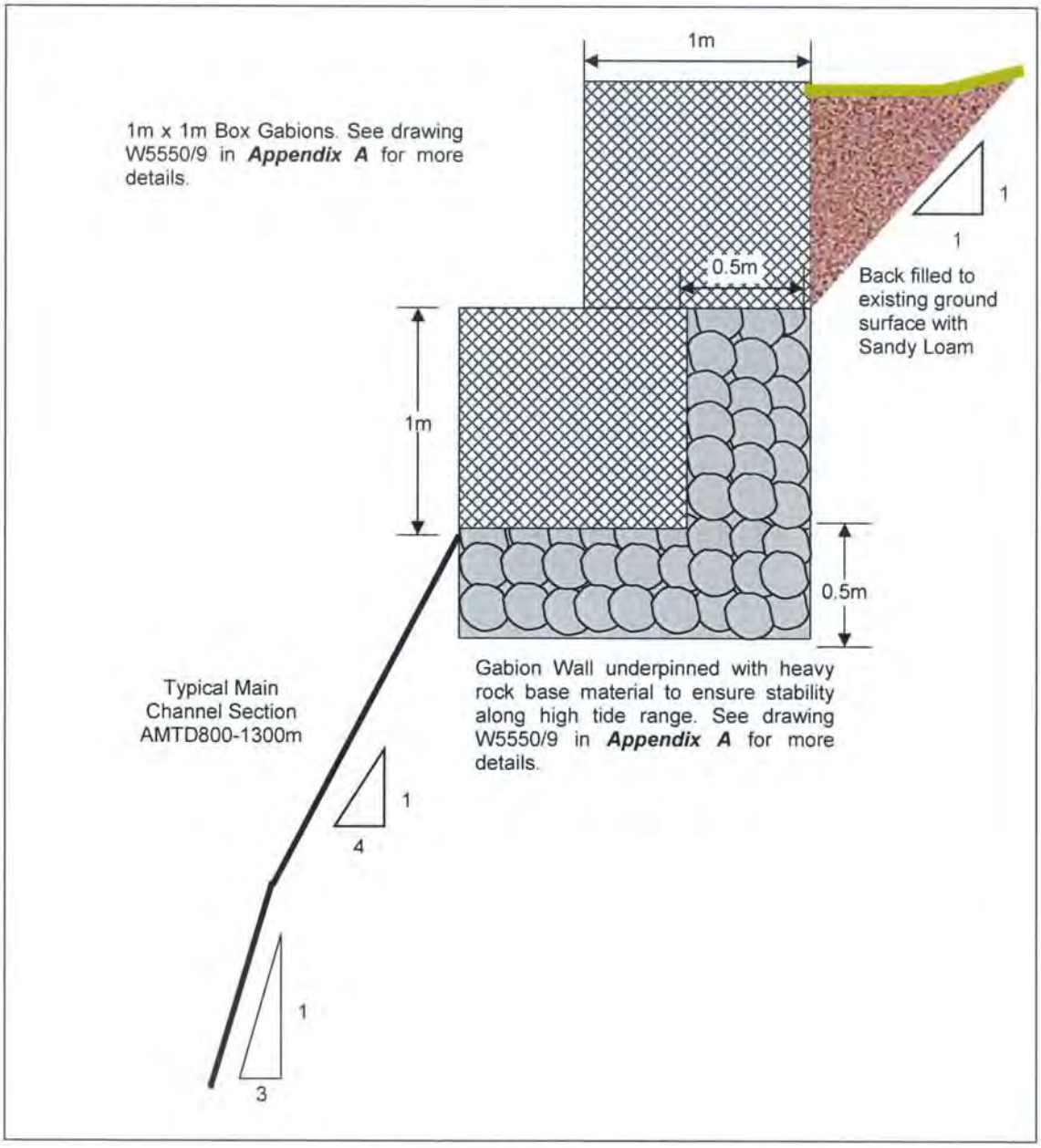

Figure 8. Design Sketch of Gabion Wall Detail at St Josephs College playing fields

2.4 FUNCTION

The Flood Mitigation Report for Oxley Creek (BCC, 1984) claims the following tangible benefits would be achieved by the completion of the above works:

- Reduction of the 100yr ARI flood levels by approximately 1.5m;
- Reduction of 100yr ARI flood inundation area by 20% (30ha to 24ha) in the Oxley Creek catchment;
- Reduction in damage to the structure and contents of buildings is the most significant and direct benefit;
- Reduction of damage indirectly caused by flooding and
- Reduction in damage to public utilities and reduced disruption of traffic (reduced inundation period).

The Oxley Creek flood mitigation assets reduce the impacts of minor and major creek flooding via the functions described for each component of the asset. The most effective flood mitigation will be achieved when each of the components is operating efficiently, to provide the Assets' "required level of service".

2.4.1 High Level Bypass Channel

The high-level bypass channel provides significant flood mitigation for small to medium events in the immediate area and for several kilometres upstream of the works. The bypass channel links the wide floodplain upstream of Sherwood Road with Oxley Creek via the excavated high-level channel and removes the major constriction posed by Sherwood Road. Secondly, excavation of Oxley Creek's natural levee at Moolabin Creek (formed by siltation during larger events) allows rapid discharge of the smaller events.

2.4.2 Widened Main Channel

Removal of silt deposited in the main channel and widening of the main flow path reduced flood impacts and potential damages for larger events. The channel (15m base width) potentially reduced flood damage by 32 percent in comparison to the non-mitigated creek profile (BCC, 1984) by increasing the conveyance area.

2.4.3 Gabion Walls

Gabion walls were installed along the eastern bank of the main channel of Oxley Creek. This component of the asset allowed the design embankment to be constructed without the need for reclamation of any portion of St Joseph College playing fields or compensatory earthworks. Construction of the creek profile as designed, was critical to ensure the mitigation benefits were achieved for the lower reaches of Oxley Creek.

A retaining wall built of box gabions exhibits characteristics of flexibility and permeability, while protecting the embankment from tidal erosion and creating a stable channel above the high tide level.

3 REQUIRED LEVEL OF SERVICE

3.1 LEGISLATIVE, STRATEGIC AND CORPORATE REQUIREMENTS

The legislative and corporate requirements for flood mitigation schemes are outlined in the Waterways ASP (Asset Strategic Plan).

3.2 REQUIRED LEVEL OF SERVICE

The profile is dependent on each of the asset's components performing to specification and without impedance.

The purpose of the original 1984 mitigation design was to reduce the impacts of flooding of the lower reaches of Oxley Creek. Council has since conducted investigations into the rate of siltation evident along the lower reaches over the past twenty-four years. Most recently an investigation was conducted in 1995 to determine the extent of siltation in the main channel since the original mitigation works were completed a decade earlier. The investigation concluded that the cross-section profile of the main channel was changing over time. These findings are referenced in ***Section 8*** of this document.

As a component of the formalisation of the Oxley Creek Asset Maintenance Management Plan, an investigation was undertaken in collaboration with Sinclair Knight Merz (SKM, 2009) to determine the effect of reinstating the "As-designed" flood mitigation scheme on the current conditions of Oxley Creek. The 100yr ARI design event and flood profile produced by the current hydrodynamic (MIKE FLOOD) model (See ***Figure 9***) were used as the basis of comparison for this investigation. The key findings were:

- The most significant decrease in water surface levels was approximately 700mm near the confluence of Moolabin Creek and Oxley Creek.
- Tangible flood benefits span over 16km of the downstream reach of Oxley Creek.
- The greatest decrease in water surface levels were achieved around the QR railway crossing of Oxley Creek at Tennyson

Analysis of the extent of inundation showed that the reinstatement of the "As-designed" flood mitigation scheme on Oxley Creek could eliminate flooding on approximately 140 previously flood-prone residential properties, as well as reduce flooding to varying degrees on over 1000 flood-prone residential properties and numerous other industrial properties and other land use areas.

Given the degree of siltation evident in Oxley Creek since the implementation of the original flood mitigation works, it was decided to further monitor the degree and rate of accretion in the creek before making a decision on possible reinstatement of the previous flood mitigation works. Also 100 year flood immunity up as far as AMTD 34km (between Ipswich Road and Beauty Road) is determined by flooding from the Brisbane River (*see* ***Figure 9***)

The required level of service is therefore defined by an accepted geometric profile of the asset's components. The service profile is dependent on each of the asset's components performing to specification and without impedance by the identified risks.

The level of service required for the Oxley Creek Flood Mitigation Asset, should satisfy current Council policy, community obligations, consideration for future ecological development and anticipation of hydraulic influences; as discussed in Risks to Level of Service in ***Section 3.3***.

The Maintenance Requirements (***Section 4***) and Maintenance Plan (***Section 5***) have been established to provide guidelines to sustain the required level of service.

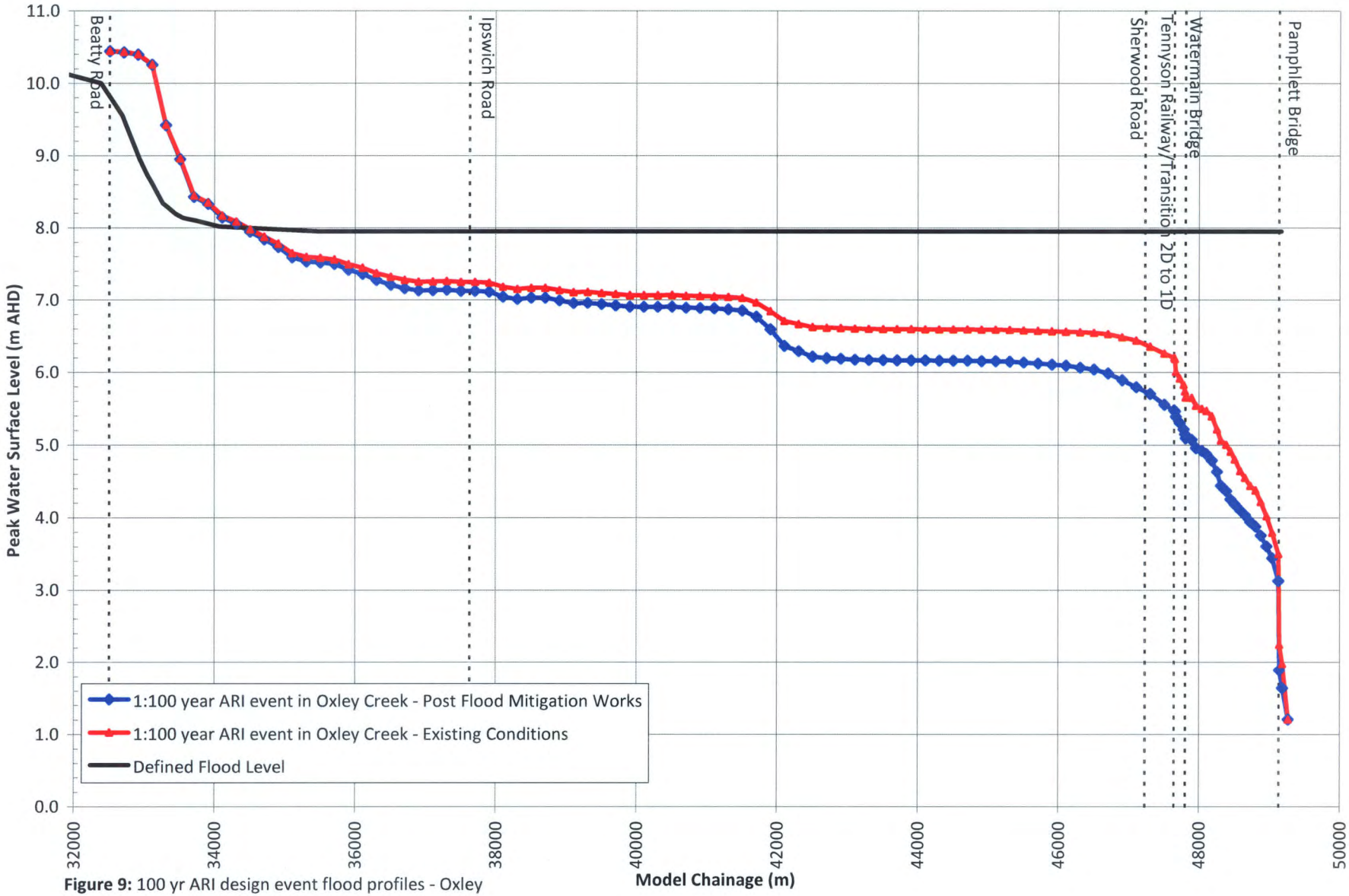

Figure 9: 100 yr ARI design event flood profiles - Oxley

3.3 RISKS TO LEVEL OF SERVICE

The Oxley Creek AMMP - Maintenance Plan is included in ***Section 4***, ***Section 5*** and ***Appendix B*** to ensure satisfactory performance of the mitigation components.

3.3.1 High Level Bypass

The main risks to the operation of the high level bypass at the required level of service include:

- **Increased roughness in-bank of the excavated channel.**

The excavated channel was designed with a specific channel roughness of Manning's n= 0.06. An increase in vegetation density or composition may alter the design Manning's roughness and would impact the anticipated mitigation benefits of the High-level bypass channel.

The generic description for the design Manning's value is an irregular channel with many weeds (Natural Channel Design, BCC, 2000). ***Figure 10*** presents two examples of a channel performing at a level that may be expected of the bypass channel as described above.



Figure 10: Examples of an Irregular Channel with Manning's roughness n=0.06

- **Blockage of the culverts under Sherwood Road.**

The culvert under Sherwood Road is a key element of the high level channel component, providing a linkage between the large floodplain upstream of Sherwood Road and Oxley Creek. Blockage of the entry and exit of the culverts poses a risk to the required level of service.

- **Reformation of the natural levee.**

The mitigation works involved the reduction of the natural levee formed when large events deposited sediment along the main channel bank. Following several larger events the levee at the confluence of Moolabin and Oxley Creeks may reform. If this occurs, there is a risk that the bypass component of the Oxley mitigation works will not maintain the required level of service.

- **Mangrove habitat extending across the mouth of the high level channel**

Dense mangrove growth along the main channel at the mouth of the high level bypass channel will affect discharge from the floodplain.

Mangrove revegetation in the main channel is inevitable due to the favourable growth conditions along the tidal zone of Oxley Creek. The maintenance requirements and Asset Maintenance Plan are critical to maintaining the desired level of service for this component of the asset.

3.3.2 Widened Main Channel

- **Siltation of the main channel.**

As a consequence of the tidal nature of Oxley Creek and the clay soil type, the main channel is prone to siltation. The siltation mechanism scours the channel invert with higher velocity flow and deposits silt along the banks of the main channel. The result is a deeper, narrower channel profile with reduced conveyance capacity. Two investigations have been undertaken to determine the severity of the risk of siltation to the desired level of service. (CW, 2005; BCC, 1987).

- **Mangrove Revegetation along the main Channel.**

The maintenance of the mangroves introduces the need to satisfy the following *Queensland Primary Industries and Fisheries* criteria:

(a) For channels greater than 8m in width- Development Assessment submissions must be approved prior to maintenance (removal or trimming) of any mangrove vegetation; or

(b) For Channels less than 8m it is recommended that mangrove trimming be planned in consultation with Environmental Management, City Design and other relevant experts.

In consultation with *Queensland Primary Industries and Fisheries* any proposed mangrove maintenance should include a staged reduction in existing habitat area. That is, mangrove removal is more likely to be approved where a mosaic process is scheduled.

- **Bank slump – including bank slip at Strickland Terrace.**

The nature of the soil in the lower reaches of Oxley Creek contributes to the siltation of the main channel and to the risk of bank slump along the main channel.

An investigation is underway to specifically assess the bank stability of the main channel in the proximity of 79 Strickland Terrace, Graceville (CD/W3-070917). The investigation confirmed resident's reports that bank-slip has occurred in the area since the mitigation works were completed in 1984. Examination of aerial photography indicates that bank slip has also occurred in this area prior to the completion of the mitigation works.

Bank instability poses a risk to the required level of service. Collapse of the designed creek section would cause a narrowing of the channel and filling of the creek profile; reducing the mitigation effects of the desilted main channel.

3.3.3 Gabion Wall

- **Rust and Corrosion**

The Gabions are located in the tidal reach of Oxley Creek, and are exposed to an environment that may cause the wire baskets to rust over time. This risk becomes more prominent should the wire baskets be damaged over time by debris in the creek or routine maintenance.

- **Damage**

Unlike retaining walls, the gabion structures do not rely on the rock interaction for structural support. Instead, the rocks are encased in a wire mesh. The properties of the rocks increase the compression strength of the gabion wall, while the wire basket determines the tensile strength of the gabion.

Routine mowing and channel works may damage the wire mesh and compromise the structural integrity of the gabions. It is also plausible that the wire mesh may be damaged by debris in the creek during high flow events. Maintenance should be scheduled on a periodic basis and after any major storm to identify damage.

Another consideration is the potential for vegetation to grow within the gabion structures. Although the gabions are designed to allow small plants to grow within the wire mesh, trees or mangroves growing in the mesh may damage the wire and compromise the designed structural performance.

4 MAINTENANCE REQUIREMENTS

The maintenance schedule outlined in ***Table B2*** (***Appendix B***) aims to ensure the mitigation asset achieves the level of service defined in ***Section 3.2***.

The level of service should be preserved with regular inspections and appropriate maintenance which protects the asset from the risks to service identified in ***Section 3.3*** of this Asset Maintenance Management Plan.

This chapter of the Oxley Creek AMMP discusses the maintenance requirements for each of the components of the mitigation asset.

4.1 HIGH LEVEL BYPASS CHANNEL

The main purpose of the high level bypass is to provide a defined connection between the wide floodplain upstream of Sherwood Road with Oxley Creek near it's confluence with Moolabin Creek.

To ensure the bypass channel provides the appropriate level of service the following maintenance is required:

- Monitor, evaluate and manage the in-bank hydraulic roughness;
- Maintain the entry and exit of the culverts under Sherwood Road;
- Monitor and maintain the levee profile at the bypass channel confluence with Oxley Creek. Survey (Section O20) and review the bypass channel performance
- and
- Inspect and manage the degree of mangrove vegetation across the mouth of the bypass channel.

4.2 WIDENED MAIN CHANNEL

The key requirement of the widened main channel is the conveyance of flood moderate and large flood events.

To ensure the widened main channel provides the required level of service, the following

maintenance regime is required:

- Observation and evaluation of siltation.

  Assessment of siltation will be achieved via the following methods:

  - Survey of the main channel at representative sections is to be conducted every five years as a component of the inspection requirements. Location of the above representative section is provided in ***Section 5*** and ***Appendix C***.
  - Survey of the complete mitigated reach of Oxley Creek is scheduled for completion every 10 years as a component of inspection requirements. A layout of the required survey boundary is provided in ***Section 5*** and ***Appendix C***;

- Observation and evaluation of the extent of mangrove vegetation along the main channel. Photographs of the mangrove vegetation will be taken from specific locations in order to determine current habitat status. A plan of the required site photo perspectives is provided in ***Figure 11*** in ***Section 5*** and
- Monitor and evaluate the impacts of bank-slip at Strickland Terrace, Graceville. The risk of bank-slip, especially near Strickland Terrace has been detailed in ***Section 3.3*** of this report. The Maintenance Plan (***Table C2***) requires access from the top of bank (easement) and from the channel (watercraft) to accurately assess the condition of the widened main channel.

4.3 GABION WALLS

To ensure the flood mitigation scheme provides the appropriate level of service the following maintenance is required:

- Monitor and evaluate the condition of the wire mesh;
- Maintain and repair the wire when necessary;
- Monitor the location of the Gabions to ensure no lateral or longitudinal movement of the structures and
- Inspect the degree of vegetation within the gabion structures. Any significant vegetation should be noted and where the vegetation is compromising the integrity of the wall, the vegetation should be removed and the wire mesh repaired.

5 ASSET MAINTENANCE PLAN

The working forms of the Maintenance Plan are outlined in ***Appendix B*** and comprise an Inspection Form (***Table. B1***) and Asset Maintenance Plan (***Table B.2***).

The Inspection and Maintenance Form should be filled out by LAS during the scheduled site inspection. The Inspection Form is a fundamental element of the Asset Maintenance Plan. ***Table B1*** and ***Table B2*** provide a framework for site inspections and are intended to establish consistent guidelines for commenting on the asset's current level of service. The Maintenance Plan should be used to determine the requirement for maintenance, remediation and specialist work.

Inspection of the Oxley Creek mitigation asset is required to be carried out annually with an inspection date recommended in September or October prior to the onset of the summer storm season. The Maintenance Plan also prescribes an inspection of the asset after a significant flood event.

In addition to routine inspection, the Oxley Creek AMMP requires survey of "representative" creek cross-sections to be completed every 7 years. Comprehensive survey of the complete mitigated reach of Norman Creek is to be undertaken if deemed to be necessary as a result of the 7 yearly inspection of representative sections. In accordance with previous survey data, the next complete survey should be scheduled in 2015.

The locations of the cross sections are provided in ***Figure 11***. Cross sections OX_1, OX_2 and OX_3 correspond to sections OX110, OX190 and OX310 respectively in the 1D component of the MIKE FLOOD model. Cross section OX_1 will allow the monitoring of sediment accretion at the creek elbow, and sections OX_2 and OX_3 will monitor the creek bathymetry near Strickland Terrace and near the Tennyson Railway crossing respectively.

Cross sections OX_4 and OX_5 are both located upstream of the rail crossing, within the 2D component of the MIKE FLOOD model. Cross section OX_4 is a kinked cross section to allow monitoring of the bathymetry of both the outlet of the high level bypass channel and the main channel of Oxley Creek. Cross section OX_5 is to monitor creek bathymetry near Sherwood Road.

An overview of the schedule of maintenance inspections is provided in ***Table 1***.

Table 1: Routine of Maintenance Activity

Maintenance Procedure	Frequency of Routine Activity
Asset Inspection	Annually
	Post Flood Event
Survey of Representative Sections	Every 7 years
Survey of Complete Mitigation Works	Every 7 years (if deemed necessary)

5.1 INSPECTION AND MAINTENANCE FORMS

The necessary forms to conduct the scheduled condition assessment reports and maintenance are located in ***Appendix B***.

Table B1 is the record of inspection completed during the scheduled assessment of the asset. Specialist technical advice will be based on the details and trends described by the inspection and maintenance form.

Table B2 provides a detailed Maintenance Plan for the Oxley Creek mitigation asset. The plan documents the objectives and instructions for the inspection and evaluation of the asset. The Maintenance Plan contains information relating to:

- Health and Safety,
- Quality Assurance,
- Inspection requirements and
- Maintenance requirements.

Inspection and Maintenance procedures require photographic records be compiled to allow a history of the Mitigation Asset to be developed. Site photos should be taken in conjunction with the site inspection, conducted by LAS, at the locations detailed in ***Table 2***.

Table 2: Locations for Site Inspection Photographs

Photo #	Asset Component	Location	Easting	Northing	Bearing
1	Main Channel	Mouth of Oxley Creek	499464.9	6955519.54	E135S
2	Main Channel	Downstream of St Josephs College Rowing Jetty	499264.08	6955284.59	E90
3	Main Channel	Upstream of St Josephs College Rowing Jetty – Towards Strickland Terrace	499264.08	6955284.59	W270
4	Main Channel	Downstream from Strickland Terrace Park	499007.70	6954975.82	N15E
5	Main Channel	Upstream from Strickland Terrace Park	499007.70	6954975.82	E90
6	Main Channel	Looking Upstream to Watermain Crossing	499125.17	6954833.74	E60
7	Main Channel	Looking Upstream to QR Tennyson Railway Crossing	499202.17	6954773.41	E90
8	Main Channel	Downstream from Sherwood Rd	499325.2	6954416.22	N35E
9	Main Channel	Upstream from Sherwood Rd	499325.2	6954416.22	S200W
10	High level Bypass	Downstream from Sherwood Rd	499596.66	6954324.94	N350W
11	High level Bypass	Upstream from Sherwood Rd	499596.66	6954324.94	S200W
12	High level Bypass	Near Confluence of Moolabin Ck and Oxley Creek (385 Sherwood Rd) Looking Towards Sherwood Rd	499453.79	6954572.59	S150E
13	High level Bypass	Near Confluence of Moolabin Ck and Oxley Creek (385 Sherwood Rd) Looking downstream towards mouth of Moolabin Creek.	499453.79	6954572.59	W270

See ***Figure 12*** for a layout of the locations requiring annual site inspection photographs as a component of the Maintenance Plan.

It is imperative that all forms and site photos are completed and filed according to record keeping requirements of the AMMP as in ***Section 6***.



Scale 1 : 6 000 1cm = 60m

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Figure 11

Cross Section Locations for Indicitive Survey



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Figure 12

Locations for Site Site Inspection Photographs

5.2 HIERARCHY OF MAINTENANCE INSPECTIONS

The three levels of inspection for the asset and its associated components are outlined below:

5.2.1 Level 1 inspection (LAS)

- Undertaken by LAS Technical Officer
- Inspect components, take photos, checklist for each component
- Frequency at least annually and after a major flood / storm event
- Funded from *Budget Service 2.3.2.5 Manage and Maintain Assets*

This level of inspection requires survey to be undertaken regularly at agreed locations identified in the AMMP.

Actions (post inspection):

1. Record inspection and survey information and;
2. Minor maintenance (job brief to BCW or others) and/or;
3. Commission Level 2 inspection (specialist advice).

Minor maintenance is funded by *Budget Service 2.3.2.4 Mitigate Flooding (Service Budget Operating)*.

5.2.2 Level 2 inspection (specialist advice)

- LAS to engage City Design Water & Environment, Geotechnical Services, etc for specialist advice and recommendations.
- Triggered by a Level 1 inspection. Triggers include for example significant scouring or silt buildup.
- Inspections undertaken by City Design are funded from *Budget Service 2.3.1.3 Flooding Investigations*
- Survey of representative cross-sections to be undertaken by City Design as scheduled in the Maintenance Plan (***Table B2***).

Actions:

1. When required, City Design - Survey completes survey of representative cross-sections.
2. City Design prepares report to LAS with maintenance / rehabilitation recommendations and costs.
3. LAS organises capital works or maintenance.

5.2.3 Level 3 inspection (long term)

- Hydraulic analysis, function check, structural checks, specialist report (City Design, Brisbane City Works etc)
- Comprehensive survey of the mitigation asset; City Design to undertake survey of all relevant cross-sections in accordance with the maintenance plan.
- Frequency every 7 years
- Initiated by City Assets and/or Water Resources
- Funded by *Budget Service 2.3.2.4 Mitigate Flooding (Schedule 160)*

Actions:

1. When required, City Design - Survey completes comprehensive survey of all necessary cross-sections.
2. City Design (W&E) prepares report to City Assets and LAS with maintenance / rehabilitation recommendations and costs.
3. LAS organise capital works / maintenance

6 RECORD KEEPING

The procedure for logging condition reports, maintenance requests, and site photos has been established to ensure a long term record of the Asset's performance is documented. At present Local Asset Services does not have access to the shared network folders, and until the TRIM file management system is rolled-out across Council, the following interim procedure shall be used.

6.1 FILING OF INSPECTION AND MAINTENANCE FORMS

Upon completion of each inspection and condition assessment, LAS Regional will scan the completed form and all associated documentation and send to:

Flood Management
Level 1 Green Square South Tower
505 St Pauls Terrace
Fortitude Valley
QLD 4006

Flood Management will save an electronic (PDF) copy of the inspection and maintenance forms in the Oxley Creek Asset Maintenance Management Plan project directory:

G:\BI\CD\Proj09\090154_Schedule_160_Oxley_Creek_AMMP\LAS\Inspection and Maintenance Forms

The PDF file will have the following naming convention:

OxleyCreekAMMP_InspectionForm&ConditionAsessment_yymmdd.pdf

Where "yymmdd" denotes the year, month and day the inspection was carried out.

6.2 FILING OF SITE INSPECTION PHOTOS

Flood Management will save an electronic (PDF) copy of the inspection and maintenance forms in the Oxley Creek Asset Maintenance Management Plan project directory:

G:\BI\CD\Proj09\090154_Schedule_160_Oxley_Creek_AMMP\LAS\Site Inspection Photos

7 ACTIONS

7.1 LISTING OF WORKS

After the inspection and condition assessment, maintenance work as required will be carried out. If rehabilitation works are identified, these works will be listed by LAS in Ellipse for consideration in the future capital or recurrent program.

7.2 UNDERTAKING MAINTENANCE WORKS

The undertaking of maintenance works is described in detail in ***Appendix B***.

7.3 REVIEW OF ASSET MAINTENANCE MANAGEMENT PLAN

LAS Regional in consultation with the Stormwater Infrastructure team in City Assets Branch shall review this Oxley Creek Asset Maintenance Management Plan every 7 years.

8 BIBLIOGRAPHY

Publications and previous studies related to the mitigated reach of Oxley Creek include:

- **1973 – *Oxley Creek Flood Study* (Bornhorst and Ward)**

The report discusses the results of a 1973 study of flooding problems in the Oxley Creek catchment. Detailed hydrologic and hydraulic studies were developed for Oxley Creek and calibrated against available flood records for February 1973 and April 1972.

Damage surveys were carried out over a large part of the catchment and aspects of town planning relating to flood mitigation works and flood zoning were examined.

The report recommended:

1. Zoning controls for the upper rural catchment to control the pattern of future development and to retain the existing natural storage;
2. The creation of regulation lines in the lower regions of Oxley, Moolabin and Rocky Waterholes Creeks;
3. Systematic control over sand mining in the catchment;
4. Possible retention basins in the Stable Swamp catchment.

- **1984 – *Oxley Creek Flood Mitigation Report* (BCC)**

A feasibility study of flood mitigation for Oxley Creek was completed in 1984. This report details potential damage reduction achievable following the completion of the proposed works.

Following a number of small floods (June 1967, February and April 1972, March 1974, May 1980, June 1983) and one major flood (January 1974) the Mitigation report, including mathematical modelling was completed.

The proposal called for a widening of the existing creek in an area near the mouth, where there is no floodplain. Secondly a connection of the wide floodplain upstream of Sherwood Road to the widened channel by excavation of part of the creek's natural levee and creation of a second opening in Sherwood Road.

The study investigated the cost of the work and the benefit in terms of the reduced damage costs to the Rocklea industrial area and surrounding areas. The total cost of the proposed work was $5.8M (1984 dollars) and had a cost/benefit ratio of 3.41.

The report recommended the proposed mitigation works be undertaken in 1985.

- **1999 – *Oxley Creek Flood Study* (BCC-Connell Wagner)**

A hydrodynamic model of the Oxley Creek catchment was developed as a component of this study. The hydraulic model component included a one-dimensional model of the catchment from the upstream limit of Brisbane City Council to the confluence of Oxley Creek with the Brisbane River.

A final draft report was published in September 2000.

- **2005 – *Oxley Creek Siltation Investigation* (Connell Wagner)**

Following the development of a more accurate and detailed multi-dimensional hydrodynamic (MIKE FLOOD) model, an investigation of siltation was conducted by Connell Wagner in 2005.

The investigation compared the survey obtained in 2005 with the 1994 survey that formed the basis of the previous Flood Study (BCC-CW, 1999).

The investigation assessed the impact on predicted peak flood levels due to the variation in surveyed sections. Various afflux impacts were reported for design events with the following average return intervals: 5yr, 10yr, 20yr, 50yr, and 100yr.

The new modelling technique resulted in afflux being calculated on a 1-dimensional basis for Oxley Creek between the Brisbane River and the Queensland Rail crossing at Tennyson. And for the catchment beyond the rail bridge a 2-dimensional plot of afflux was prepared.

The change in cross-section profiles between the 1994 survey and 2005 survey are due mainly to siltation. Report findings are summarised as follows:

1. Peak water level predictions generated assuming the 2005 cross-sections are generally slightly higher than those generated using the previously survey 1994 data.
2. The differences in peak water level prediction are generally of the order of +50mm to +100mm and are generally greatest for events with magnitudes of approximately 20yr ARI.
3. The influence of the siltation (2005 survey) appears to extend upstream to Ipswich Road.
4. The differences in peak water level predictions are more significant downstream of the Railway crossing (where the creek is confined with no floodplain areas)

- **2008 – *Oxley Creek Flood Study* (BCC-Connell Wagner)**

The *Draft* version of the 2008 study was published in 2008. The study uses the refined 1D-2D hydrodynamic MIKE FLOOD model to assess the impacts of flooding in the Oxley Creek catchment.

The hydrologic (RAFTS) model was calibrated to the May 1996, April 1990 and March 1992 events. The MIKE FLOOD model was calibrated to the May 1996 event.

The calibrated hydrologic and hydraulic models were then used to simulate a range of design flood events, including 2, 5, 10, 20, 50 and 100 year ARI design events and the Probable Maximum Flood event. These events were modelled recognising Brisbane City Council's Waterway Corridor and Riparian Corridor.

Other information that is related to the Oxley Creek mitigation Asset includes:

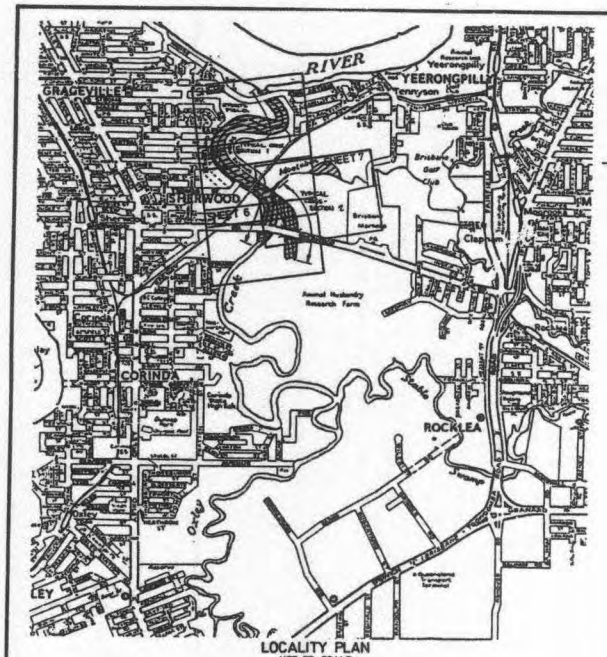
- Sherwood Road design and construction drawings –W6677
- Mitigation Design Sketches: W5550-SK1
- Flood Mitigation Schemes in Brisbane, BCC, 1990: 627.4 BRI 1990
- Oxley Creek Siltation geotechnical reports: 551.48OXC

- **2008 - *Corporate Plan 2008-2012* (BCC)**

This document was used as a reference to derive the Plan Framework for the Oxley Creek Asset Maintenance Management Plan.

9 APPENDICES

APPENDIX A: DESIGN DRAWINGS



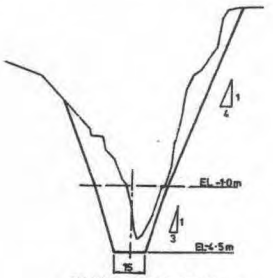
LOCALITY PLAN
NOT TO SCALE

PLAN INDEX

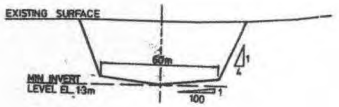
PLAN NUMBER	DESCRIPTION
W 5550 - 3B	GENERAL PLAN
W 5550 - 4A	MAIN CHANNEL BRISBANE RIVER TO BORDEN ST (PLAN)
W 5550 - 5A	MAIN CHANNEL BORDEN ST. TO SHERWOOD RD. (PLAN)
W 5550 - 6A	MAIN CHANNEL SHERWOOD RD. AND BYPASS CHANNEL (PLAN)
W 5550 - 7	PLAN, HABITAT AREA MOOLABIN CREEK
W 5550 - 8A	CO-ORDINATE TABLE AND TYPICAL CROSS SECTIONS
W 5550 - 21	MAIN CHANNEL CROSS SECTIONS OX1 - OX 4 01 - 05
W 5550 - 22	MAIN CHANNEL CROSS SECTIONS 06 - 014
W 5550 - 23	MAIN CHANNEL CROSS SECTIONS 015 - 018 OX 10 - OX 14
W 5550 - 24	MAIN CHANNEL CROSS SECTIONS 0A, 019, 0100 - 0103, OX 17, OX 18
W 5550 - 25	MAIN CHANNEL CROSS SECTIONS 020 - 028
W 5550 - 16	MAIN, BYPASS CHANNEL LONGITUDINAL SECTIONS
W 5550 - 17	HABITAT AREA LONGITUDINAL SECTION AND CROSS SECTIONS
W 6677 - 1	ROADWORKS
W 6677 - 2	BRIDGEWORKS, PLAN, ELEVATION AND DETAIL.
W 6677 - 3	BRIDGEWORKS, BASESLAB, PARAPET AND KERB REINFORCEMENT
W 6677 - 4	BRIDGEWORKS, WINGWALL, LAYOUT AND REINFORCEMENT

NOTES

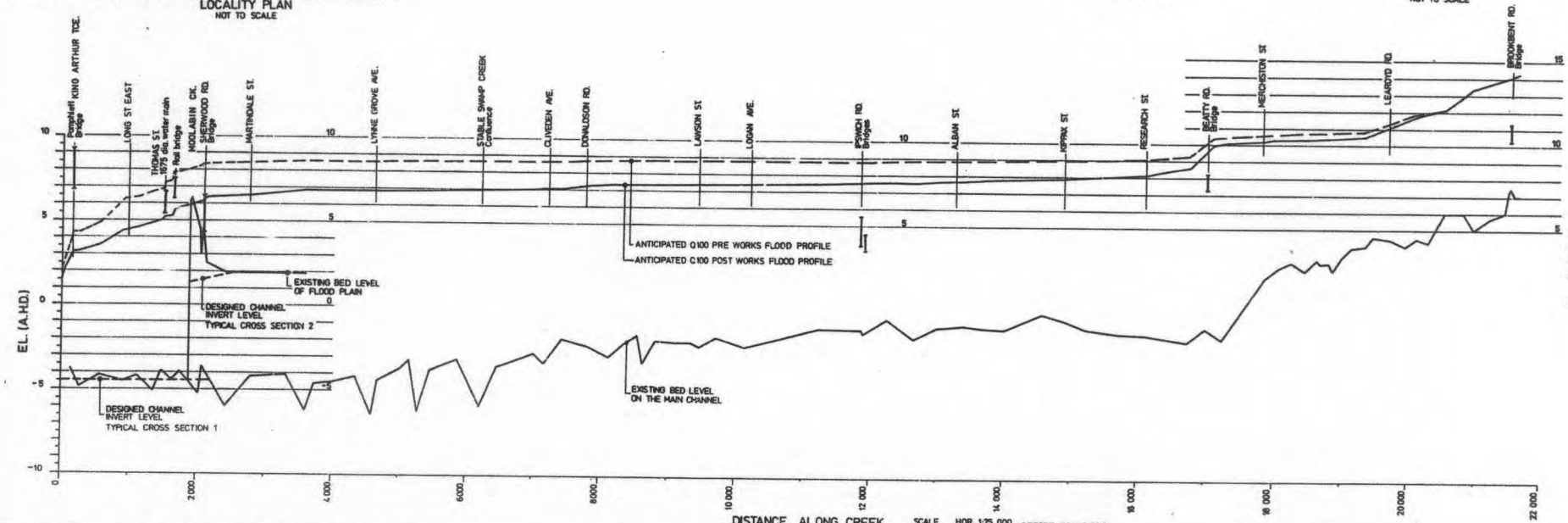
1. ADDITIONAL ROCK FILL PROTECTION MAY BE ADDED AS DIRECTED BY THE SUPERINTENDENT.
2. ALL CONSTRUCTION AND WORKS ARE TO BE JOINED NEATLY TO EXISTING WORK.
3. BENCH MARKS MUST BE CHECKED PRIOR TO SETTING OUT WORK.
4. NOTWITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITIONS OF PUBLIC UTILITIES, FITTINGS PIPES POLES MANHOLE ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE BRISBANE CITY COUNCIL FOR THE ACCURACY OF THE REPRESENTATION OR OMMISION THEREOF.
5. OPEN CHANNEL "BANKS" ARE TO BE GRASSED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR GRASSING OF OPEN CHANNELS.
6. CROSS SECTIONS OF EXISTING BED LEVELS OF THE CREEK WERE OBTAINED IN 1975 & 1983 AND ARE SUBJECT TO CHANGES DUE TO MINOR FRESHES IN THE CREEK AND FILLING OF THE FLOOD PLAIN. THE CROSS SECTIONS ARE PROVIDED FOR TENDERING PURPOSES ONLY AND ESTIMATED QUANTITIES SHOWN IN THE SCHEDULE ARE BASED ON THESE LEVELS.
7. ANY LOCAL DRAINAGE OR PRIVATE PROPERTY DRAINAGE NOT SHOWN ON PLANS IS TO BE RELOCATED AS DIRECTED BY THE SUPERINTENDENT.
8. CROSS SECTIONS FROM 1975 SURVEY HAVE PREFIX LABEL "OX". EG. OX1, OX2. THOSE FROM 1983 SURVEY HAVE PREFIX LABEL "0" EG. 01, 02.
9. FOR THE MAIN CHANNEL WIDENING AND BYPASS CHANNEL, THE CO-ORDINATES FOR THE OFFSET LINES SHOWN ARE GIVEN AT 20m INTERVALS
10. NB. ALL CO-ORDINATES ARE IN AMG.
11. ANTICIPATED FLOOD LEVELS SHOWN DO NOT INCLUDE THE BACKWATER FROM BRISBANE RIVER FLOODING



TYPICAL CROSS SECTION 1
NOT TO SCALE



TYPICAL CROSS SECTION 2
NOT TO SCALE



SHEET	AMENDMENT	DATE	R. FOR D.	C.E.S.M.		ISSUED	MICROFILMED
A	PLAN INDEX, NOTES & X-SECTIONS	8/84	Jan C				
B	NOTE 10.11	10/84	Jan C				
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's
DATUM : AHD
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER ____ DATE 8.11.84
ENGINEER FOR DESIGN ____ DATE 6/11/84

DESIGNED	PEB	22-11-83	FIELD BK.		GENERAL FILE No.
DESIGN CHECKED			LEVEL BK.		SERVICES FILE No.
DRAWN	S.J.W.	22-11-83	REGISTD.	12/11/84	ACQUISITION FILE No.
TRACED	S.J.W.	22-11-83	PASSED		SUB PLAN No.
CHECKED	L.A.P.	JAN. '84			

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

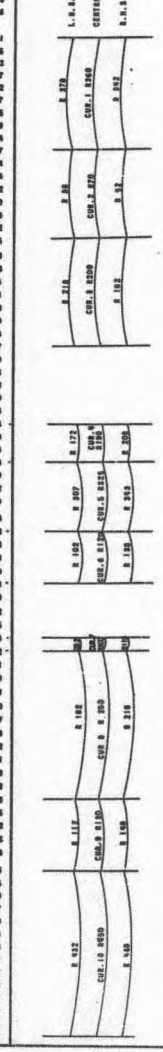
OXLEY CREEK
FLOOD MITIGATION
GENERAL PLAN

DRAWING No. W5550 3B
No. OF SHEETS
A0 A1 A2 A3 A4

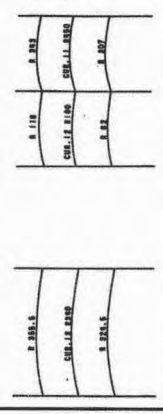
BCC.129.0102

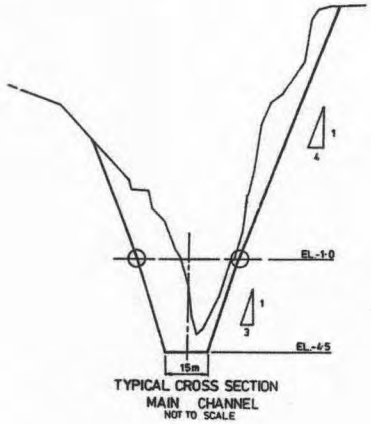
MAIN CHANNEL WIDENING

L.H.S. LOCATING LINE		CENTRE LINE DISTANCE	R.H.S. LOCATING LINE	
EASTING	NORTHING		EASTING	NORTHING
499836.450	6954408.872	000.0	499821.590	6954390.128
840.188	894.452	20	825.280	876.700
841.925	878.038	40	826.025	859.290
874.663	863.614	60	860.762	843.871
887.400	848.185	80	863.501	828.461
900.138	832.775	100	876.238	813.052
912.876	817.366	120	888.976	797.613
925.613	801.937	140	901.713	782.194
938.351	786.518	160	914.451	766.774
951.088	771.089	180	927.188	751.355
963.826	755.679	200	939.926	735.936
		207.851		
972.837	746.388	212.846	947.489	725.521
977.882	740.723	220	951.936	719.935
991.248	724.723	240	961.849	703.952
982.862	707.245	260	972.370	686.127
918.527	689.144	280	983.002	671.762
929.161	670.662	300	990.709	654.877
931.726	651.215	320	998.966	637.536
939.218	631.701	340	998.267	618.769
945.814	611.701	360	911.883	601.496
948.749	596.187	376.292	914.774	587.657
950.956	580.306	380	915.467	584.234
951.695	565.948	400	915.910	568.634
945.226	541.111	420	912.160	545.112
932.393	515.648	440	904.618	542.430
913.935	6955902.702	460	893.611	522.416
891.450	881.644	480	880.326	525.882
852.960	6954860.348	484.899	875.308	524.525
868.024	866.787	500	863.673	522.886
887.941	884.629	520	865.670	520.586
825.550	884.647	540	827.378	520.601
803.868	884.640	560	808.278	522.421
782.516	881.106	580	791.451	526.068
761.706	6954887.643	600	776.975	531.660
741.640	6954866.195	620	767.525	538.568
725.790	816.626	636.984	764.100	545.627
722.780	814.418	660	761.861	567.619
705.557	826.585	680	728.858	587.586
688.334	836.752	680	706.695	607.753
671.111	846.919	700	689.612	627.920
658.868	857.066	720	672.189	648.088
646.525	862.023	735.719	663.825	662.025
627.881	866.538	760	658.977	686.484
620.906	879.025	780	654.053	707.538
610.906	877.525	771.730	621.961	711.850
608.962	879.099	780	618.622	716.430
585.168	896.601	800	598.305	740.772
566.535	868.228	820	573.189	723.888
547.912	880.831	840	551.580	726.694
529.420	881.662	860.025	542.062	727.483
530.069	881.848	860	529.961	727.863
513.206	880.145	880	506.622	725.598
504.626	865.662	900	484.585	710.474
503.154	864.238	904.638	479.498	717.548
478.986	878.410	920	465.279	711.719
460.481	870.823	940	446.774	704.182
441.926	862.235	960	428.269	696.545
424.179	860.059	968.873	420.522	693.368
428.450	857.448	976.952	412.278	690.612
426.257	855.804	980	4169908.453	687.641
4169909.612	846.519	1000	4169889.714	676.530
4169904.973	835.716	1020	872.179	665.569
901.485	823.510	1040	854.623	648.960
900.283	6955810.016	1060	841.408	632.757
856.488	6954985.372	1080	828.679	6955816.258
840.211	6954979.725	1100	817.366	6954986.512
841.562	868.226	1120	808.180	976.751
835.586	846.048	1140	801.612	966.172
831.510	828.264	1160	805.835	954.882
829.794	818.821	1178.611	804.108	935.568
828.019	810.770	1180	803.084	913.925
829.312	800.588	1200	803.471	890.182
832.240	876.896	1220	807.989	867.766
837.702	860.382	1240	806.687	846.296
838.156	858.297	1241.295	805.157	844.906
845.656	842.048	1260	813.326	827.105
856.477	828.274	1280	822.838	808.709
864.010	808.211	1300	829.168	790.647
874.272	792.006	1320	844.284	773.070
885.267	777.238	1340	856.172	756.004
4168906.910	761.904	1360	868.807	738.486
4169003.239	747.267	1380	882.164	723.541
022.210	733.113	1400	4168896.215	706.207
035.736	719.548	1420	4169010.554	693.513
049.972	706.603	1440	026.282	679.467
064.719	694.296	1460	042.257	666.158
079.978	682.661	1480	058.798	653.551
095.520	680.112	1484.595	062.035	650.790



L.H.S.		CENTRE LINE DISTANCE	R.H.S.	
EASTING	NORTHING		EASTING	NORTHING
499896.108	6954871.186	1500	499875.238	6954861.823
112.388	858.543	1520	891.516	830.220
128.680	847.860	1540	107.805	818.617
144.980	836.327	1560	124.095	807.015
161.270	826.794	1580	140.385	795.412
177.561	815.122	1600	156.676	783.809
193.851	801.529	1620	172.966	772.206
210.104	789.596	1640	188.925	760.550
226.330	777.780	1660	205.062	748.736
242.192	766.165	1679.660	220.823	737.118
242.482	765.852	1680	221.183	736.935
258.104	753.949	1700	236.060	725.280
274.005	738.947	1720	250.194	713.758
289.795	724.001	1740	263.530	699.381
304.748	708.167	1760	276.018	685.209
304.992	707.987	1760.959	276.595	684.510
314.537	698.787	1780	288.318	671.985
326.072	687.070	1800	291.661	656.486
330.711	675.971	1820	294.885	640.461
339.668	670.410	1840	294.855	624.069
325.846	697.337	1860	291.573	608.038
329.022	369.036	1867.462	289.561	602.267
318.611	377.367	1880	284.830	590.596
309.668	358.227	1900	278.743	571.586
301.385	341.085	1920	272.554	552.576
294.035	322.485	1940	265.304	533.576
286.684	303.885	1960	257.054	515.278
279.334	285.284	1980	250.504	496.677
271.984	266.684	2000	243.153	478.077
266.094	248.250	2019.746	236.284	460.648
264.610	248.061	2020	235.622	459.630
256.287	228.851	2040	228.234	442.022
248.050	210.183	2060	210.610	424.981
234.634	193.178	2080	211.708	407.440
221.505	177.508	2100	203.722	389.898
207.517	161.734	2120	192.674	372.595
192.733	147.298	2140	181.586	357.533
177.212	134.040	2160	169.884	341.568
		2180		
		2186.050		

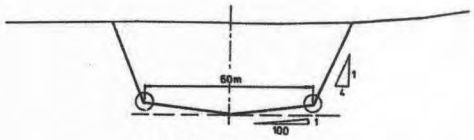




TYPICAL CROSS SECTION
MAIN CHANNEL
NOT TO SCALE

BYPASS CHANNEL

LEFT LOCATING LIN.		CENTRE LINE				RIGHT LOCATING LINE		
NORTHING	EASTING	NORTHING	EASTING	CENTRE DIST.	INVERT LEVEL	NORTHING	EASTING	
		6954485.845	499290.481	00				
6954486.595	499326.868	479.669	802.066	20		6954462.746	499277.329	TANGENT POINT
480.082	388.152	463.156	318.382	40		446.291	288.612	
463.568	349.435	446.643	324.665	60		429.716	299.896	
447.055	360.719	430.130	335.949	80		413.206	311.180	
430.542	372.002	413.617	347.233	100	1.304	396.692	322.463	
		402.385	354.906	115.604	1.320			CROSS SECTION 020
414.029	383.286	397.104	358.516	120	1.324	380.179	333.747	
397.516	394.569	380.591	369.800	140	1.345	363.665	345.030	
381.003	405.853	364.078	381.083	160	1.366	347.153	356.314	
		355.368	387.025	170.531	1.377			CROSS SECTION 021
364.490	417.137	347.565	392.367	180	1.386	330.639	367.597	
347.977	428.420	331.052	403.651	200	1.406	314.126	378.881	
331.464	439.704	314.539	414.934	220	1.426	297.613	390.165	
314.951	450.987	298.026	426.218	240	1.446	281.100	401.448	
		290.258	431.529	247.614	1.455			CROSS SECTION 022
298.438	462.271	281.513	437.501	260	1.466	264.587	412.732	
		270.827	488.658	282.042				TANGENT POINT
278.507	474.662	264.463	447.982	280	1.486	250.518	421.923	
264.861	484.222	246.251	456.148	300	1.506	235.021	428.114	
224.205	491.229	227.155	462.068	320	1.526	220.105	432.909	
		216.059	464.237	330.719	1.537			CROSS SECTION 023
210.831	495.356	207.972	465.548	340	1.546	204.112	435.732	
187.128	476.524	187.510	466.526	360	1.566	187.874	436.638	
168.658	484.748	167.580	466.012	380	1.586	171.701	435.817	
		161.213	464.018	386.662	1.592			TANGENT POINT
		158.166	462.570	384.624	1.591			CHANGE OF GRADE
142.560	481.162	147.875	461.617	400	1.623	153.188	432.082	
		146.116	461.131	402.883	1.624			CROSS SECTION 024
122.877	487.600	128.181	458.074	420	1.703	138.504	428.549	
		123.105	456.162	426.184	1.727			CHANGE OF GRADE
		110.604	454.900	437.751	1.739			TANGENT POINT
103.401	484.101	108.586	454.530	440	1.741	119.611	424.576	
085.376	481.632	088.699	451.795	460	1.761	091.023	421.056	
067.624	480.855	068.733	450.376	480	1.781	080.883	420.896	
		057.267	450.164	491.606	1.792			CROSS SECTION 025
048.827	480.277	048.757	450.280	500	1.801	047.887	420.803	
031.885	481.308	029.600	451.526	520	1.821	026.884	421.673	
		014.892	452.196	525.922	1.827			TANGENT POINT
6954013.317	483.745	6954006.561	454.049	540	1.841	6954004.704	424.552	
6953993.915	486.583	6953989.169	456.887	560	1.861	6953984.906	427.186	
		970.886	458.094	580.961	1.869			CROSS SECTION 026
973.622	489.421	949.285	459.726	580	1.861	965.109	430.028	
958.624	492.259	948.568	462.562	600	1.901	946.811	432.866	
935.627	495.096	929.770	465.400	620	1.921	925.513	435.703	
916.229	497.934	909.972	468.237	640	1.941	905.715	438.541	
		908.923	468.356	641.150	1.942			CROSS SECTION 027
894.491	500.772	890.175	471.075	660		885.918	441.378	
874.494	503.609	870.387	473.913	680		866.120	444.216	
854.896	506.447	850.578	476.750	700		846.322	447.054	
		835.946	478.867	714.878				CROSS SECTION 028



TYPICAL CROSS SECTION
BYPASS CHANNEL
NOT TO SCALE

NOTE: POINTS CIRCLED ON THESE TYPICAL CROSS SECTIONS ARE THE POINTS FOR WHICH CO-ORDINATES ARE GIVEN AT 20m INTERVALS IN THE ABOVE TABLES. THESE POINTS ARE REPRESENTED ON THE PLAN BY LINES LABELED "LOCATING LINES"

SET-OUT TABLE

STATION I.D.	CO-ORDINATES		ELEVATION
	EASTING	NORTHING	
1010X	499 412.473	6954 294.875	7.867
1020X	387.080	288.370	8.492
1030X	112.026	6954 904.552	6.967
1040X	916.670	884.105	5.772
1070X	106.229	770.296	6.942
1080X	422.551	960.701	5.711
1120X	542.553	6953 838.758	7.469

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE & M		ISSUED	MICROFILED
A	SET-OUT TABLE & BYPASS CHANNEL CURVES ADDED	JUL 84	JUL 84	[redacted]			
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.'s

DATUM : A.H.D.
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER [redacted] DATE 22-8-84

DESIGNED			
DESIGN CHECKED			
DRAWN	SJW	JUL 84	
TRACED	FD. NEL	JUL 84	
CHECKED	FLD	JUL 84	[redacted]

FIELD BK.
LEVEL BK.
REGISTD. JE 9/10/84

GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

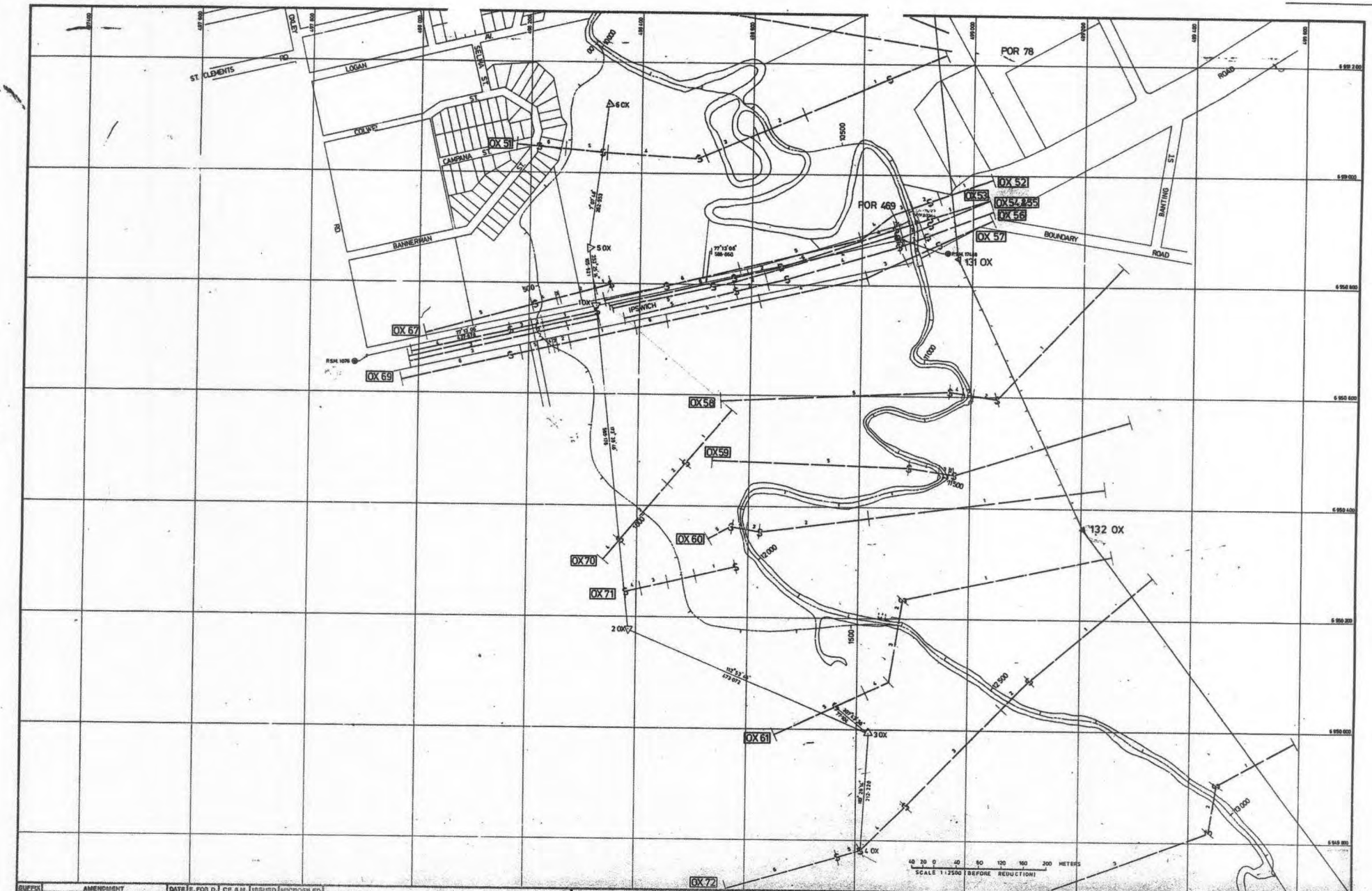
Brisbane City

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
LAYOUT A.M.G. CO-ORDINATES.
FLOOD MITIGATION

No. OF DRGS. 8A
DRAWING No. W5550
A B C D E F G

BCC.129.0103



SUFFIX	AMENDMENT	DATE	E. FOR D.	C.E. & M.	ISSUED	MICROFILED
G						
F						
E						
D						
C						
B						
A						

DATUM:
REFERENCE: B.M.

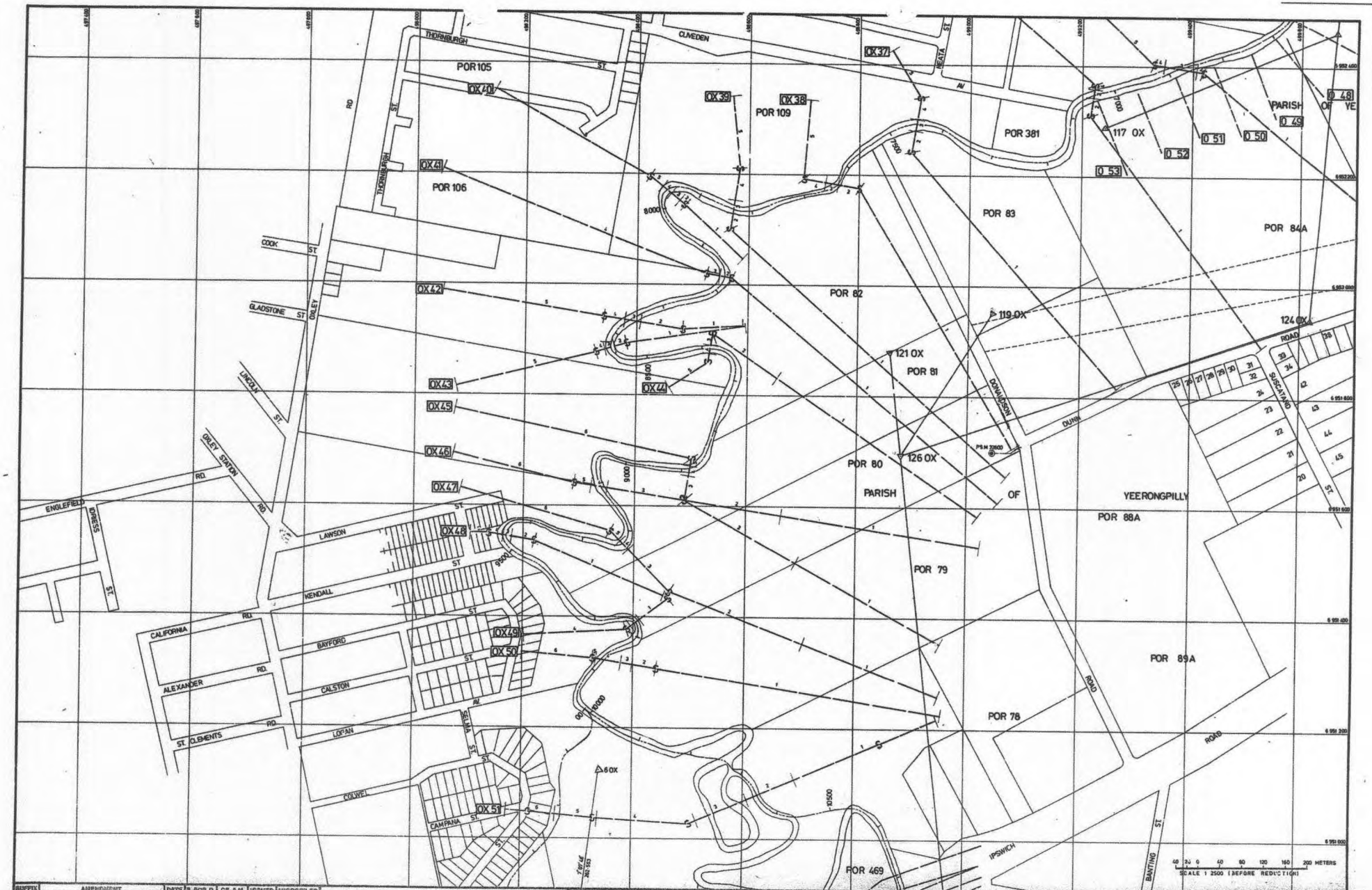
CHIEF ENGINEER & MANAGER ..... DATE .....
ENGINEER FOR DESIGN ..... DATE .....

DESIGNED / DESIGN CHECKED / DRAWN / TRACED / CHECKED
FIELD BK. / LEVEL BK. / REGISTD. / PASSED
GENERAL FILE No. / SERVICES FILE No. / ACQUISITION FILE No. / SUB PLAN No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
PLAN
SECTION OX 51 TO SECTION OX 72

No. OF DRGS.
DRAWING No. W 5550



SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.	ISSUED	MICROFILED
G						
F						
E						
D						
C						
B						
A						

DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER ..... DATE .....
ENGINEER FOR DESIGN ..... DATE .....

DESIGNED
DESIGN CHECKED
DRAWN
TRACED
CHECKED

FIELD BK. 6158/6
LEVEL BK.
REGISTD.
PASSED

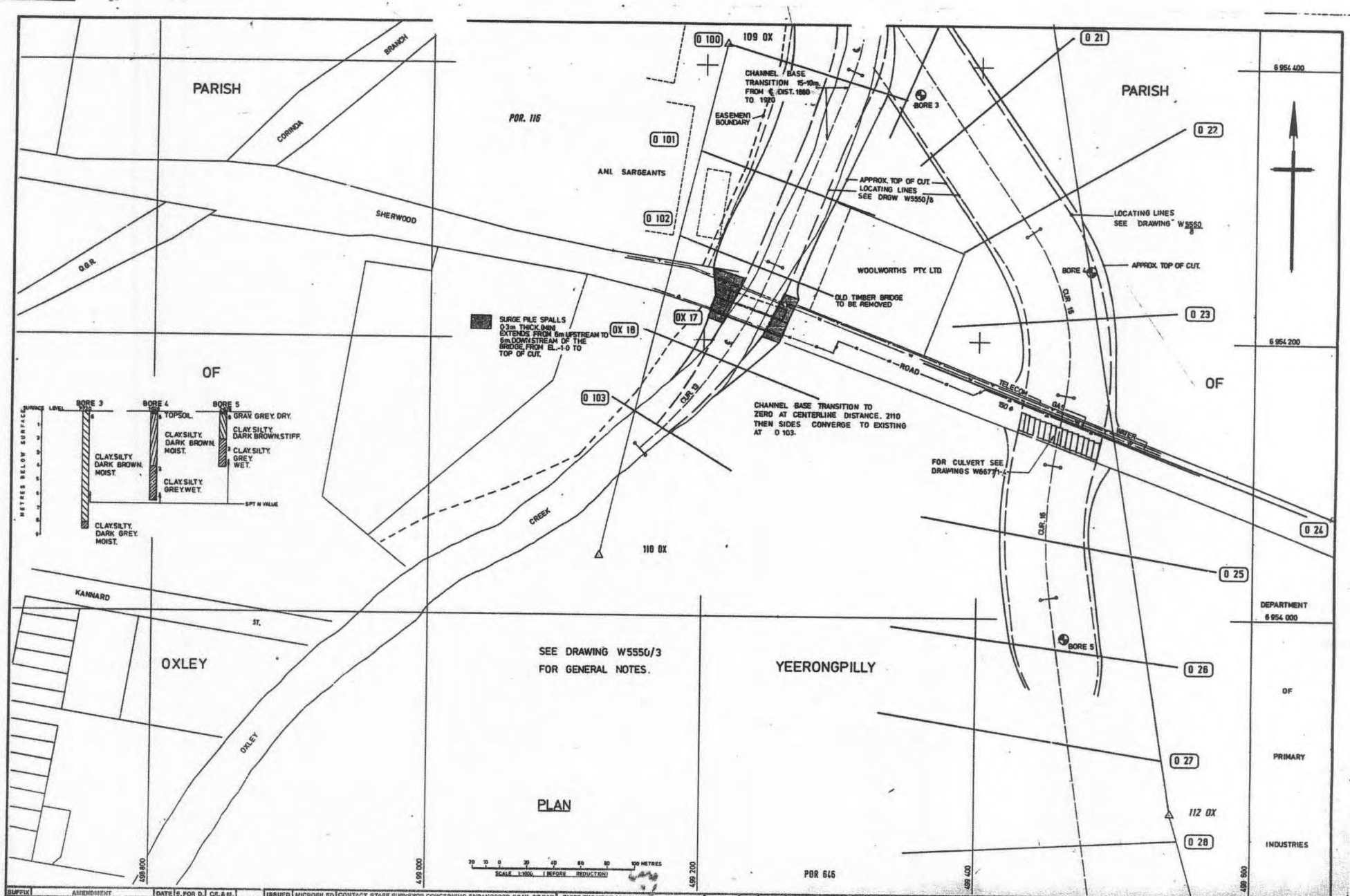
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR. PLAN No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
PLAN
SECTION OX 37 TO SECTION OX 51

No. OF DWGS.
DRAWING No. W5550
7
A B C D E F G

BCC.129.0105



SUFFIX	AMENDMENT	DATE	S. FOR D.	C.E. & M.		ISSUED	MICROFILED
A	CURVE NUMBERS	1/85	[illegible]	[illegible]			
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's

DATUM : A.H.D.
REFERENCE : B.M.

[redacted] DATE 16.8.84
DATE 18.8.84

DESIGNED	P.E.B.	JUN '84	FIELD BK.	
DESIGN CHECKED	J.D.W.	JUL '84	LEVEL BK.	
DRAWN	C.J.W.	JUN '84	REGISTD.	[illegible]
TRACED	C.J.W. S.J.W.	JUN '84	[redacted]	
CHECKED	[illegible]	[illegible]		

GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR. PLAN No.

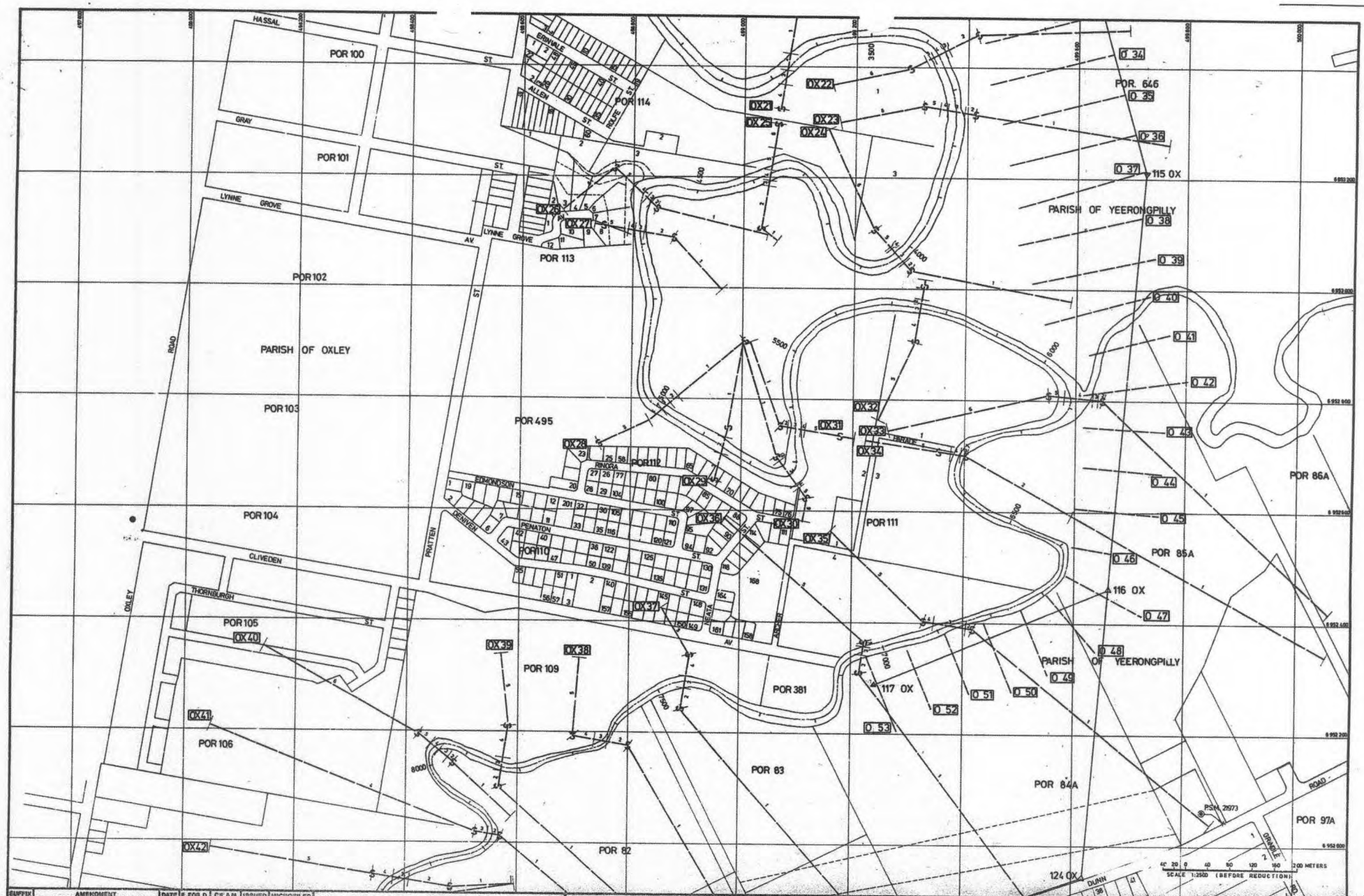
Brisbane City

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
CHANNEL WORKS PLAN
FLOOD MITIGATION

No. OF DRGS.
DRAWING No. W5550 6A
A B C D E F G

BCC.129.0106



SUFFIX	AMENDMENT	DATE	E. FOR D.	C.E. & M.	ISSUED	MICROFILED
G						
F						
E						
D						
C						
B						
A						

DATUM:
REFERENCE: B.M.

CHIEF ENGINEER & MANAGER ____ DATE ____
ENGINEER FOR DESIGN ____ DATE ____

DESIGNED		FIELD BK.	6150/6
DESIGN CHECKED		LEVEL BK.	
DRAWN		REGISTD.	
TRACED		PASSED	
CHECKED			

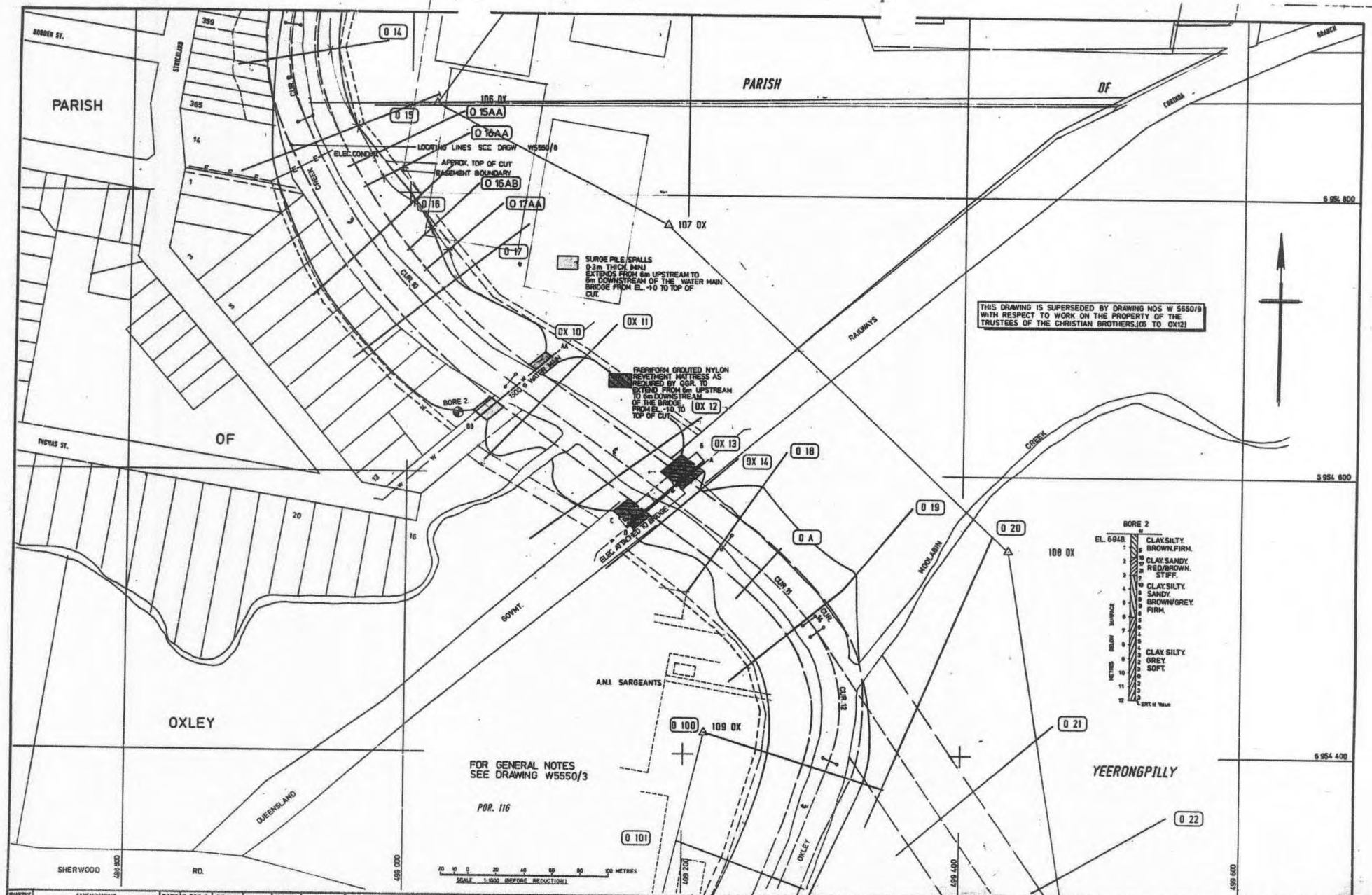
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUB. PLAN No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
PLAN
SECTION OX 21 TO SECTION OX 42

No. OF DRGS.
DRAWING No. W5550 6
A B C D E F G

BCC.129.0107



SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILED
A	CURVE NUMBERS	1/85	[illegible]	[illegible]			
B	CHRIST. BROS NOTE & ADD X-SECT	11/85	[illegible]	[illegible]			
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.'s

DATUM : A.H.D.
REFERENCE : B.M. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W5550/8A)

[redacted] DATE 16.8.84

DATE 16.8.84

DESIGNED	P.E.B.	JUN '84	FIELD BK.	
DESIGN CHECKED	J.D.W.	JUL '84	LEVEL BK.	
DRAWN	C.J.W.	JUN '84	REGISTD.	[illegible]
TRACED	[redacted]			
CHECKED				

GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

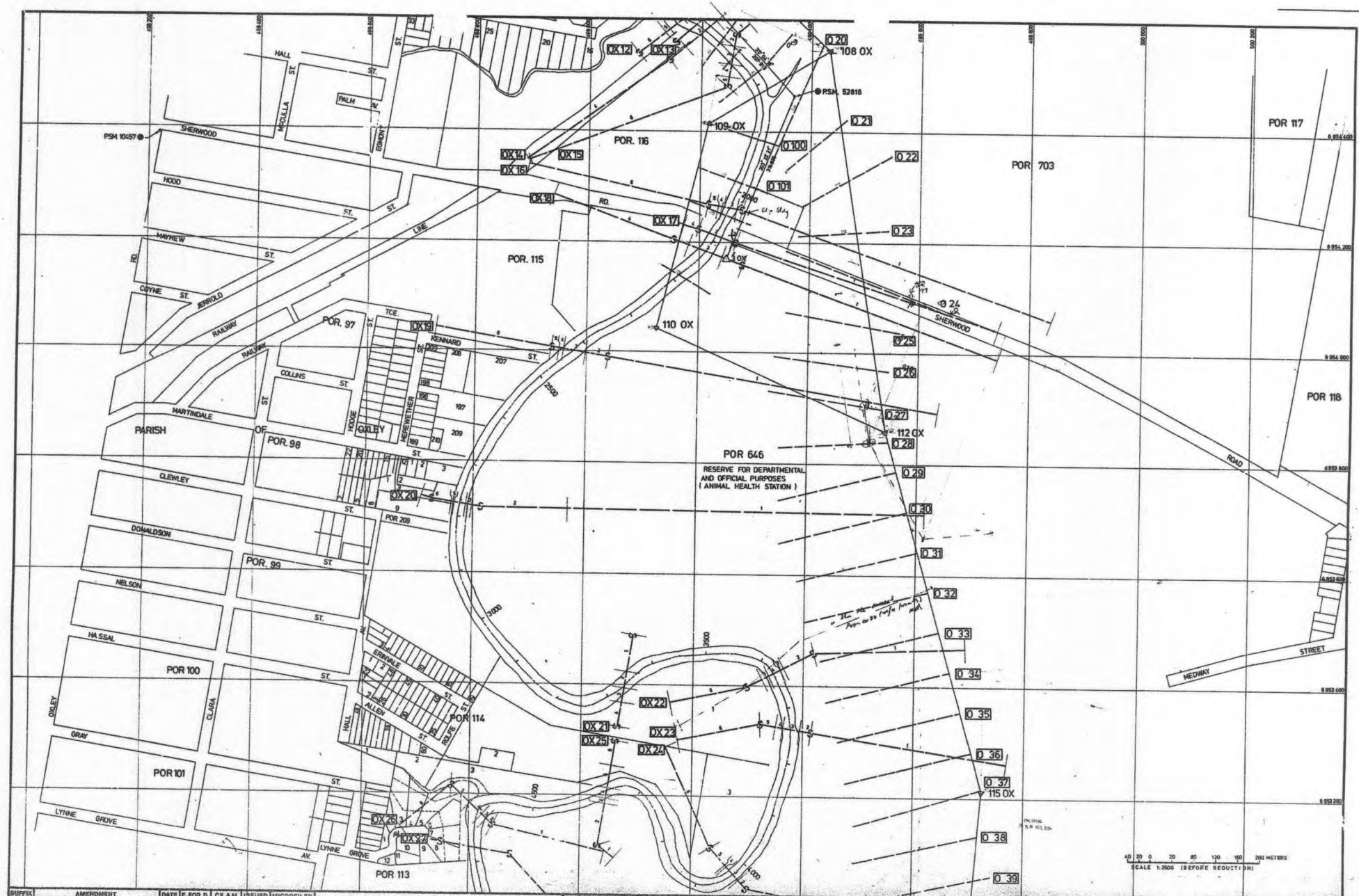
Brisbane City

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

OXLEY CREEK
CHANNEL WORKS PLAN
FLOOD MITIGATION

No. OF DRGS.
DRAWING No. W5550
5B

BCC.129.0108



SUFFIX	AMENDMENT	DATE	E.FOR D.	CE. & M.	ISSUED	MICROFILED
G						
F						
E						
D						
C						
B						
A						

DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER ..... DATE .....
ENGINEER FOR DESIGN ..... DATE .....

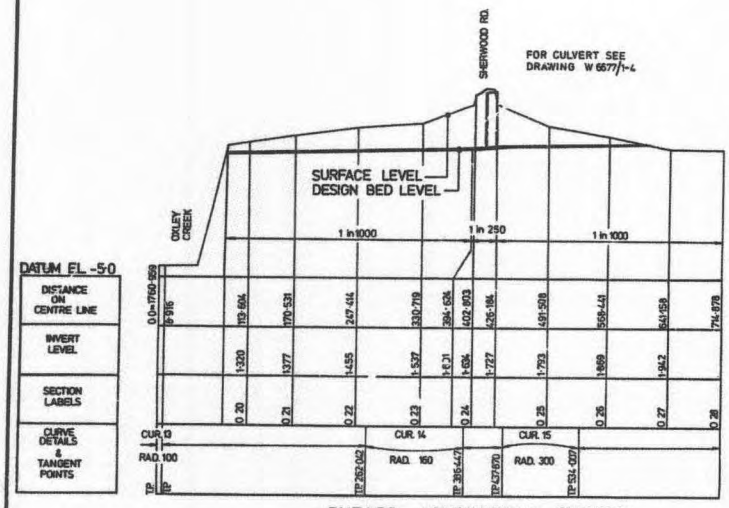
DESIGNED		FIELD BK. 4158/6	GENERAL FILE No.
DESIGN CHECKED		LEVEL BK.	SERVICES FILE No.
DRAWN		REGISTD.	ACQUISITION FILE No.
TRACED		PASSED	SUR. PLAN No.
CHECKED			

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
PLAN
SECTION OX 15 TO SECTION OX 26

No. OF DRGS.
DRAWING No. W5550 5
ADOPTED

BCC.129.0109

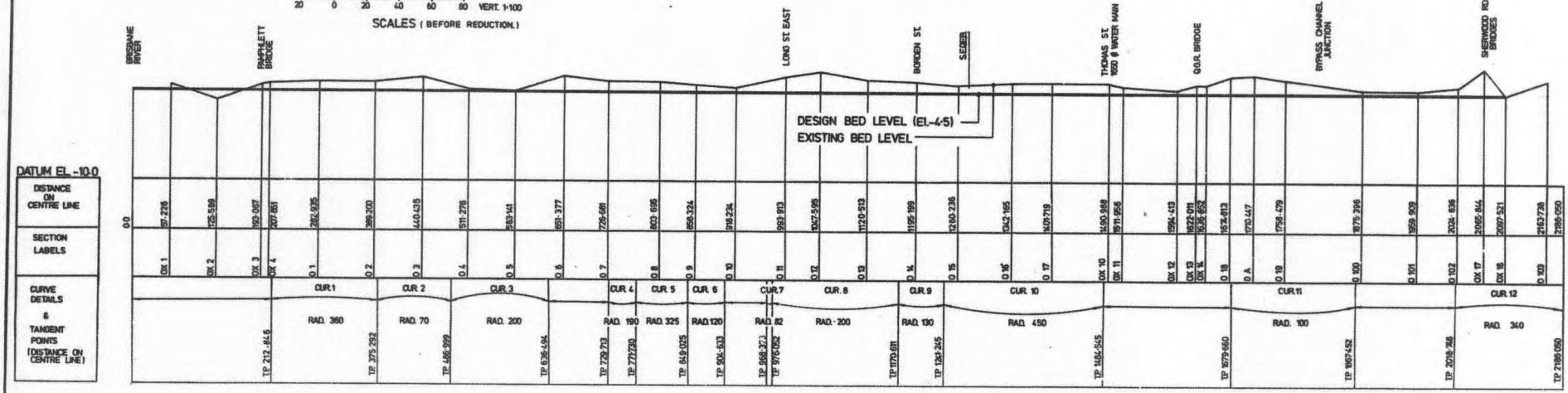


BYPASS LONGITUDINAL SECTION

SCALES (BEFORE REDUCTION.)

HOR. 1-2500

VERT. 1-100



MAIN CHANNEL LONGITUDINAL SECTION

SCALES- (BEFORE REDUCTION.)

HOR. 1:2500

VERT. 1-100

SEE DRAWING W 5550/3 FOR GENERAL NOTES.

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.	ISSUED	MICROFILED
A						
B						
C						
D						
E						
F						
G						

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'S OR P.A.D.

DATUM : AHD

REFERENCE : B.M.

[redacted]

DESIGNED			FIELD BK.
DESIGN CHECKED			LEVEL BK.
DRAWN	SJW	31/5/84	RECISTD.
TRACED			
CHECKED	[redacted]		

GENERAL FILE No.

SERVICES FILE No.

ACQUISITION FILE No.

SUR PLAN No.

Brisbane City

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

OXLEY CREEK

LONGITUDINAL SECTIONS

FLOOD MITIGATION

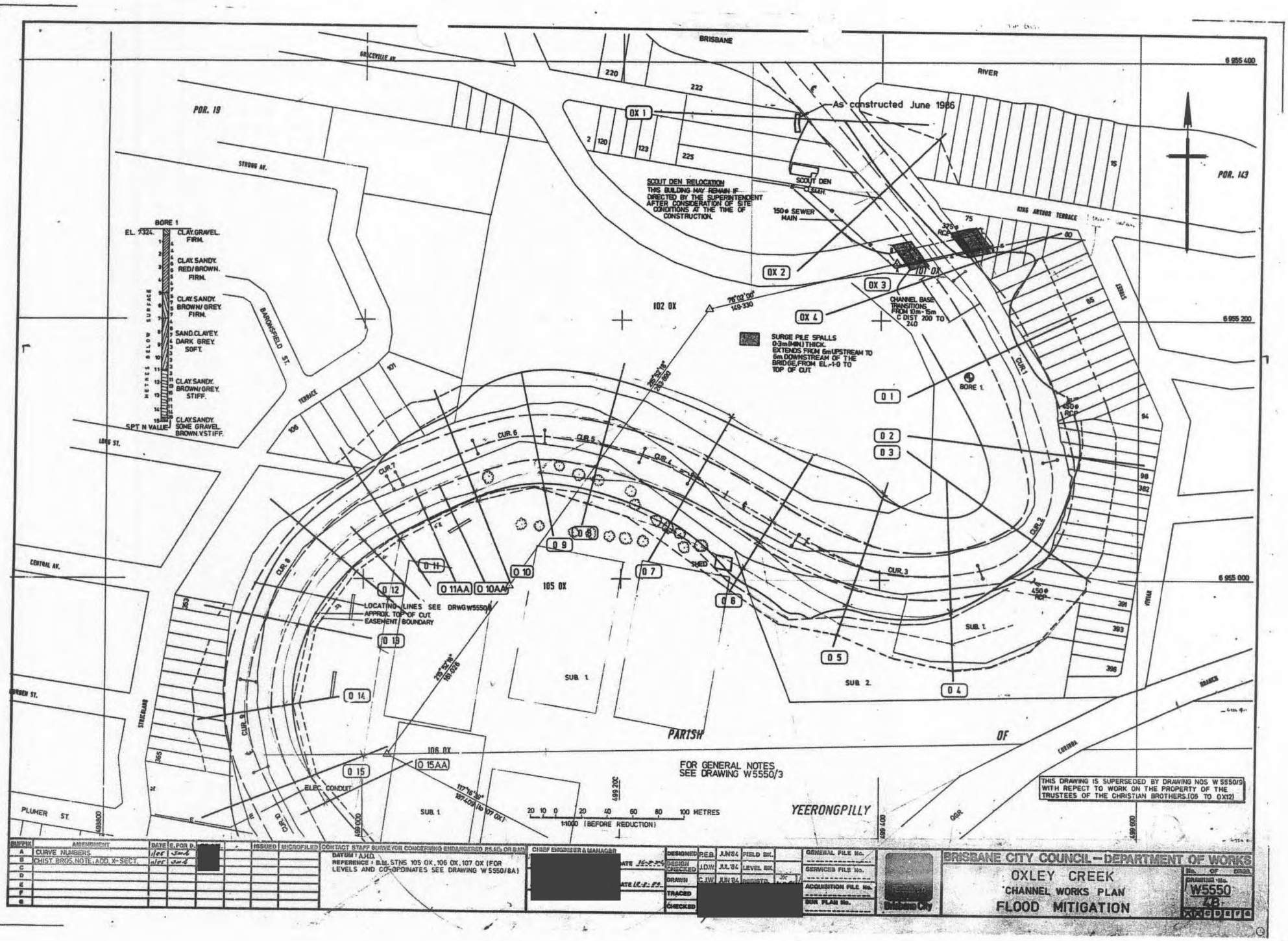
No. OF DRGS.

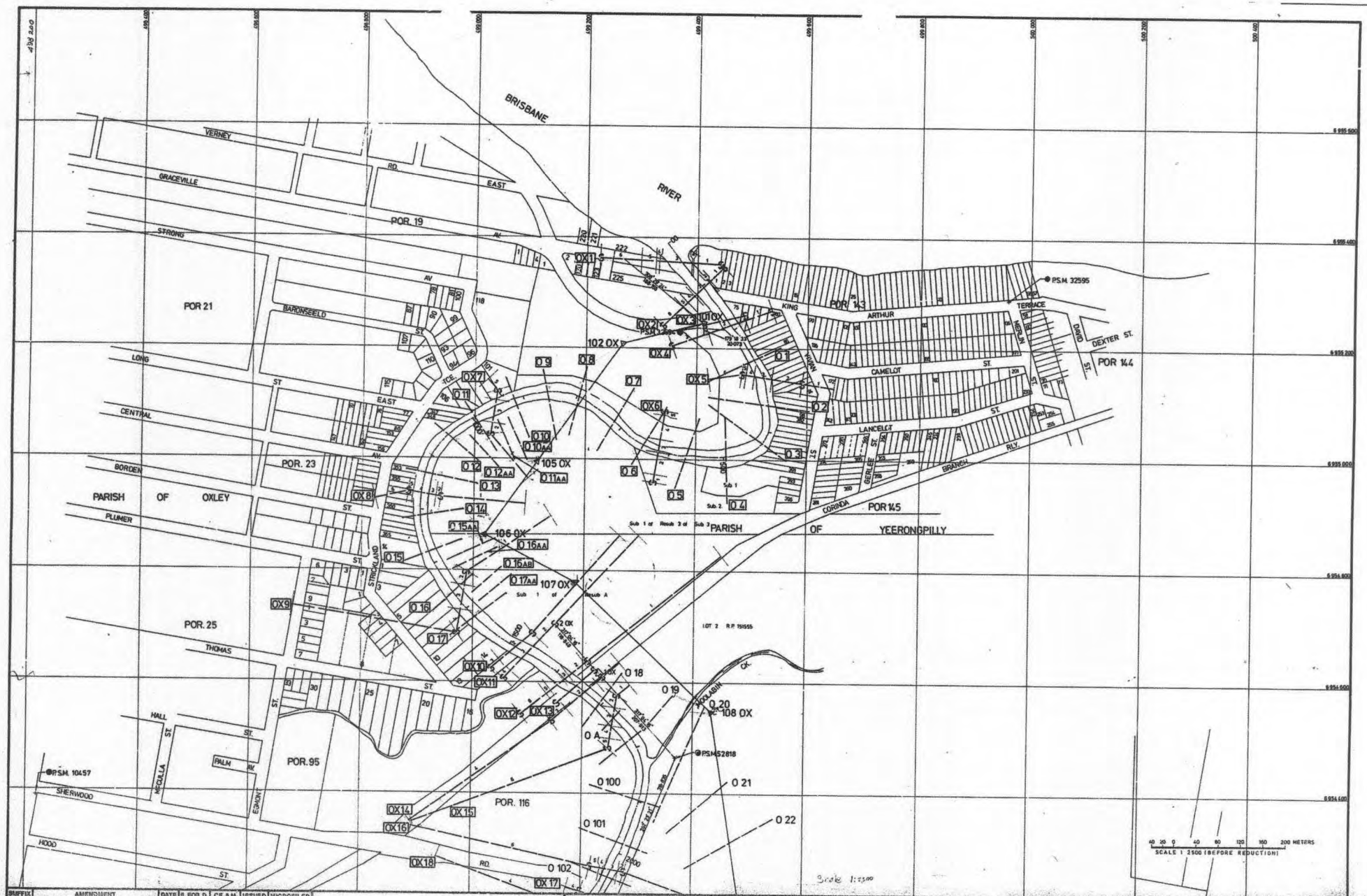
DRAWING No. W5550

16

A B C D E F G

BCC.129.0110


BRISBANE
RIVER
As constructed June 1986
POR. 19
POR. 143
GRACEVILLE AV.
STRONG AV.
KING ARTHUR TERRACE
BARRONSFIELD ST.
LONG ST.
CENTRAL AV.
PLUMER ST.
STREELMAN
SCOUT DEN RELOCATION
THIS BUILDING MAY REMAIN IF DIRECTED BY THE SUPERINTENDENT AFTER CONSIDERATION OF SITE CONDITIONS AT THE TIME OF CONSTRUCTION.
SCOUT DEN
150ø SEWER MAIN
375ø RCP
450ø RCP
BORE 1
EL. 7.324.
METRES BELOW SURFACE
CLAY, GRAVEL. FIRM.
CLAY, SANDY. RED/BROWN. FIRM.
CLAY, SANDY. BROWN/GREY. FIRM.
SAND, CLAYEY. DARK GREY. SOFT.
CLAY, SANDY. BROWN/GREY. STIFF.
CLAY, SANDY. SOME GRAVEL. BROWN. V.STIFF.
SPT N VALUE
101 OX
102 OX
105 OX
106 OX
76°02'00" 149.330
265°32'10" 249.980
CHANNEL BASE TRANSITIONS FROM 10m - 15m C DIST 200 TO 240
SURGE PILE SPALLS 0.3m (MIN.) THICK. EXTENDS FROM 6m UPSTREAM TO 6m DOWNSTREAM OF THE BRIDGE, FROM EL. -1·0 TO TOP OF CUT
LOCATING LINES SEE DRWG W5550/4
APPROX. TOP OF CUT
EASEMENT / BOUNDARY
235°35'30" 186.026
177°16'30" 197.408 (to 107 OX)
ELEC. CONDUIT
SUB. 1.
SUB. 2.
SHED
PARISH OF YEERONGPILLY
FOR GENERAL NOTES SEE DRAWING W5550/3
THIS DRAWING IS SUPERSEDED BY DRAWING NOS W 5550/9 WITH REPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. (O5 TO OX12)
20 10 0 20 40 60 80 100 METRES
1:1000 (BEFORE REDUCTION)
6 955 400
6 955 200
6 955 000
699 200
699 000
698 800
OX 1
OX 2
OX 3
OX 4
O 1
O 2
O 3
O 4
O 5
O 6
O 7
O 8
O 9
O 10
O 10AA
O 11
O 11AA
O 12
O 13
O 14
O 15
O 15AA
CUR. 1
CUR. 2
CUR. 3
CUR. 4
CUR. 5
CUR. 6
CUR. 7
CUR. 8
CUR. 9
CUR. 10
CUR. 11
CUR. 12
CUR. 13
CUR. 14
CUR. 15
CUR. 16
CUR. 17
CUR. 18
CUR. 19
CUR. 20
CUR.



SUFFIX	AMENDMENT	DATE	S. FOR D.	C.E. & M.	ISSUED	MICROFILED
G						
F						
E						
D						
C						
B						
A						

DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER ..... DATE .....
ENGINEER FOR DESIGN ..... DATE .....

DESIGNED		FIELD SK.	6158/6
DESIGN CHECKED		LEVEL BK.	
DRAWN		REGISTD.	
TRACED		PASSED	
CHECKED			

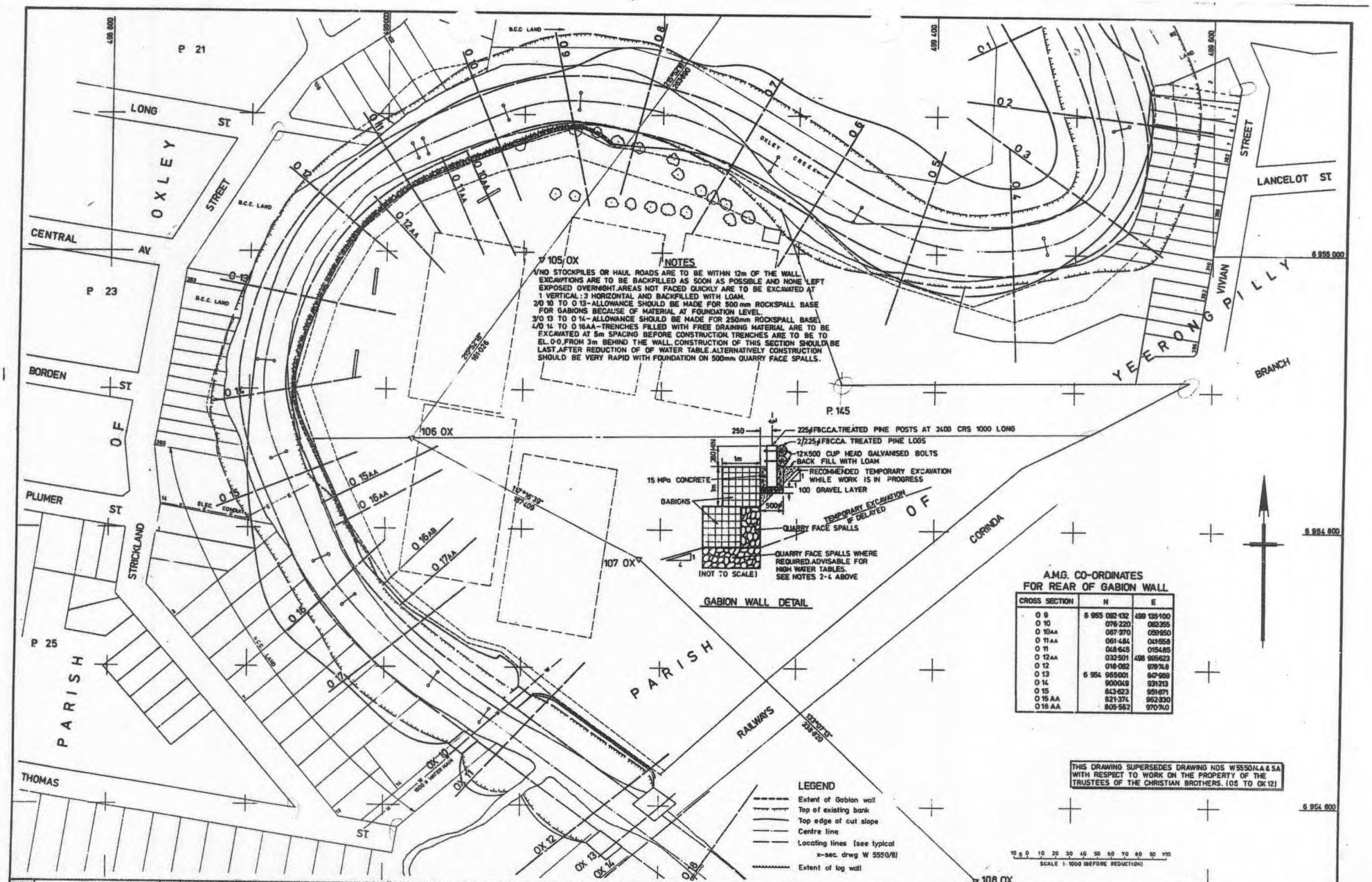
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR. PLAN No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
PLAN
SECTION OX1 TO SECTION OX 18

No. OF DRGS.
DRAWING No. W.5550 4
A B C D E

BCC.129.0112



A.M.G. CO-ORDINATES FOR REAR OF GABION WALL

CROSS SECTION	N	E
0 9	6 955 092·132	499 135·100
0 10	076·220	082355
0 10AA	067·370	059950
0 11AA	061·484	041·558
0 11	048·645	015485
0 12AA	032·501	498 995·623
0 12	018·082	978·748
0 13	6 954 965·001	947·969
0 14	900049	931·213
0 15	843·623	951·871
0 15 AA	821·374	962·330
0 16 AA	805·562	970·740

THIS DRAWING SUPERSEDES DRAWING NOS W5550/4A & 5A WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. (05 TO OX 12)

SUFFIX	AMENDMENT	DATE	E. FOR D.	C.E. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's

DATUM : A.H.D.
REFERENCE : B.M. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS AND COORDINATES SEE DRAWING W 5550/8A)

CHIEF ENGINEER & MANAGER [redacted] DATE 20.12.85 DATE 18.12.85

DESIGNED	P.E.B.	NOV '85	FIELD BK.	5564
DESIGN CHECKED			LEVEL BK.	
DRAWN	T.J.R.	OCT '85	REGISTD.	
TRACED	A.K.	Oct. 85	PASSED	
CHECKED	[redacted]			

GENERAL FILE No.
SERVICES FILE No. 436/12-LG 830 (1)
ACQUISITION FILE No. 202/11-NG 870/63
UR PLAN No. 090-3094

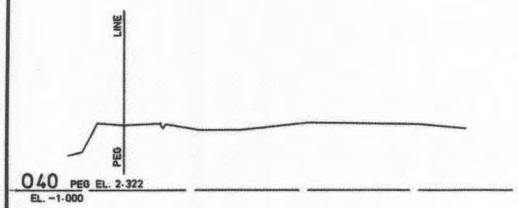
Brisbane City

BRISBANE CITY COUNCIL – DEPARTMENT OF WORKS

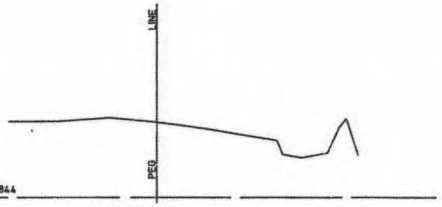
OXLEY CREEK
CHANNEL WORKS PLAN
FLOOD MITIGATION

No. OF DRGS.
DRAWING No. W 5550 9
A B C D E F G

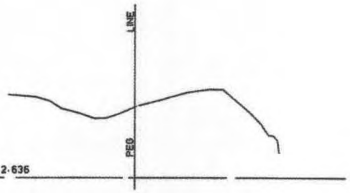
BCC.129.0113



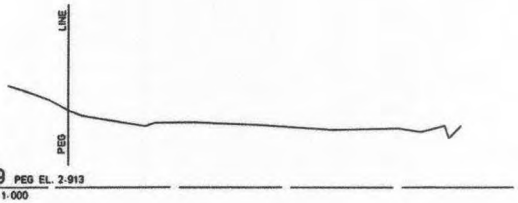
040 PEG EL. 2·322
EL. −1·000



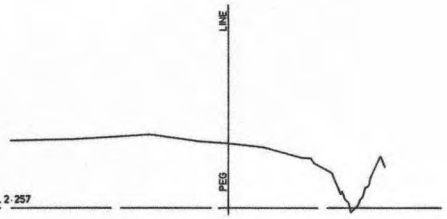
043 PEG EL. 2·844
EL. −1·000



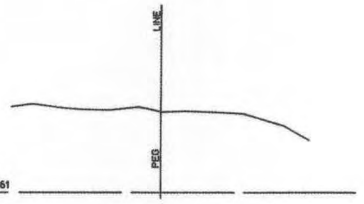
046 PEG EL. 2·636
EL. −1·000



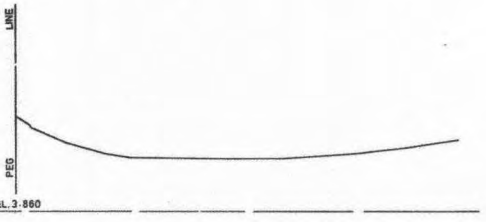
039 PEG EL. 2·913
EL. −1·000



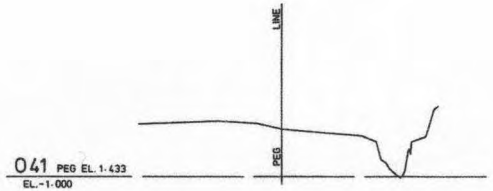
042 PEG EL. 2·257
EL. −1·000



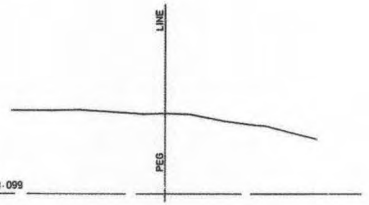
045 PEG EL. 3·061
EL. −1·000



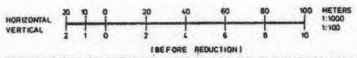
038 PEG EL. 3·860
EL. −1·000



041 PEG EL. 1·433
EL. −1·000



044 PEG EL. 3·099
EL. −1·000



(BEFORE REDUCTION)

SUFFIX	AMENDMENT	DATE	E. FOR O.	C.E. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's
DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER
DATE
ENGINEER FOR DESIGN
DATE

DESIGNED			FIELD BK.
DESIGN CHECKED			LEVEL BK. 6158/47
DRAWN	B.T.D.	AUG. 83	REGISTD. P9 & 7-53
TRACED	B.T.D.	AUG. 83	PASSED
CHECKED			

GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

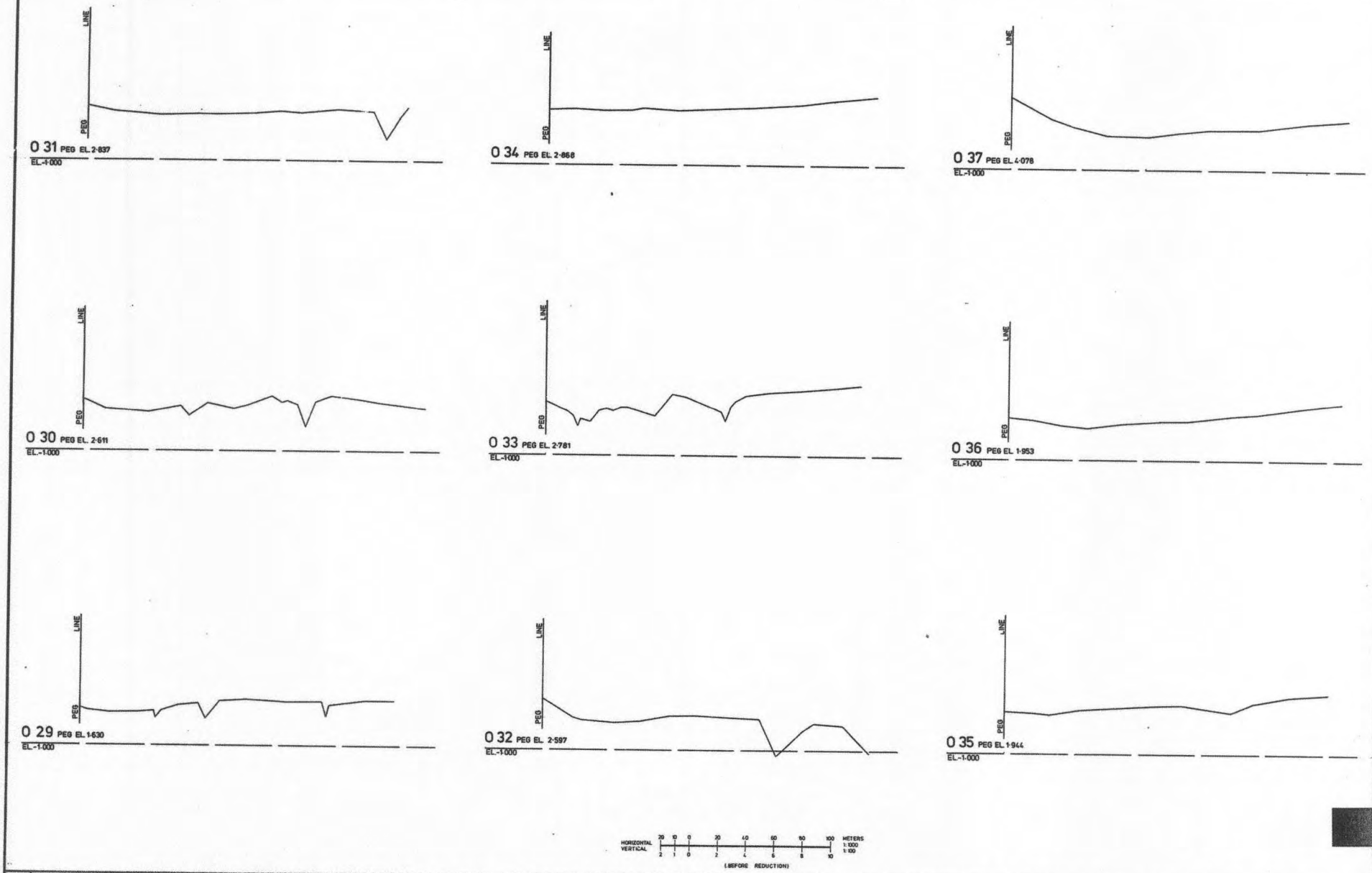
Brisbane City

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 038-046

No. OF DRGS. 33
DRAWING No. W5550
A B C D E F G

BCC.129.0114



SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.'s
DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER
DATE
ENGINEER FOR DESIGN
DATE

DESIGNED			FIELD BK.	
DESIGN CHECKED			LEVEL BK.	6158/47
DRAWN	C.J.W.	AUG. 83	REGISTD.	PDE 7.93
TRACED	C.J.W.	AUG. 83	PASSED	
CHECKED				

GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

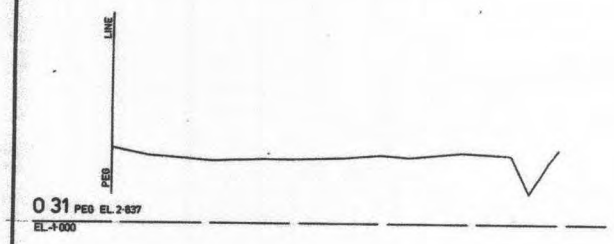
Brisbane City

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

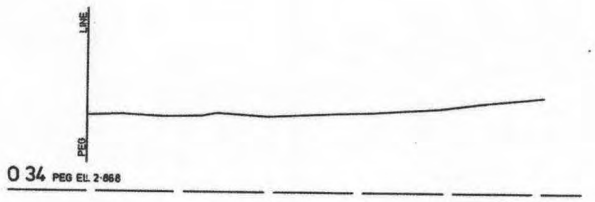
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 029-037

No. OF DRGS.
DRAWING No. W5550
32
A B C D E F G

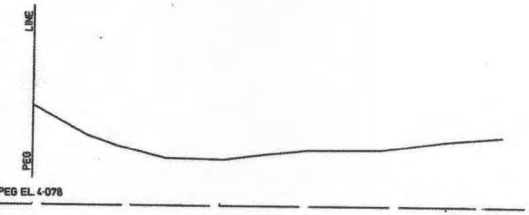
BCC.129.0115



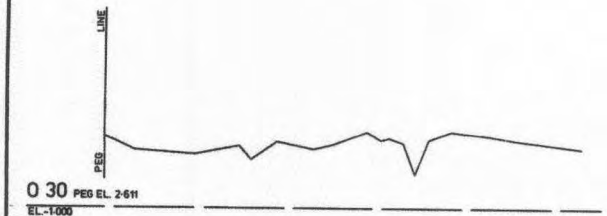
0 31 PEG EL 2·837
EL.-1·000



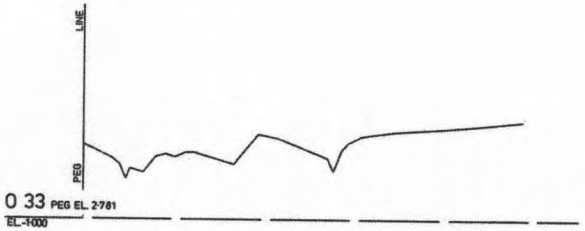
0 34 PEG EL 2·868



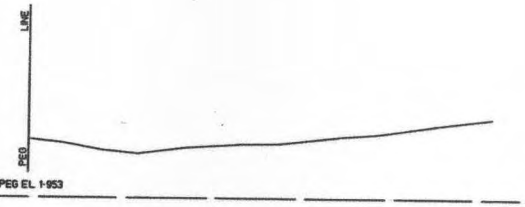
0 37 PEG EL 4·078
EL.-1·000



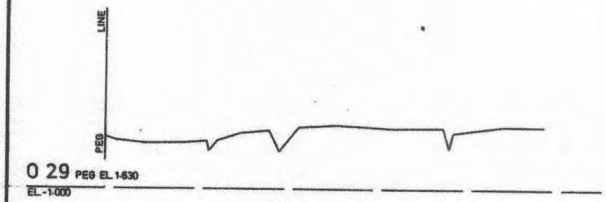
0 30 PEG EL. 2·611
EL.-1·000



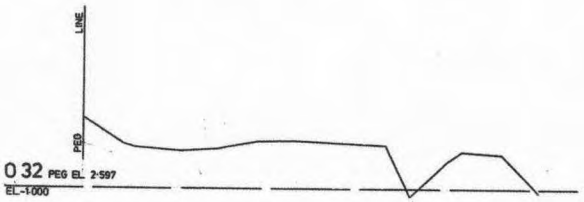
0 33 PEG EL. 2·781
EL.-1·000



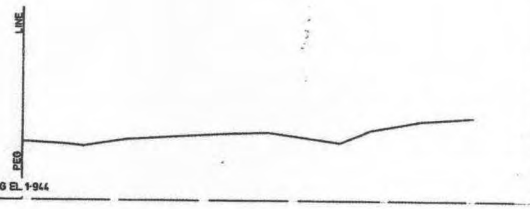
0 36 PEG EL 1·953
EL.-1·000



0 29 PEG EL 1·630
EL.-1·000



0 32 PEG EL. 2·597
EL.-1·000



0 35 PEG EL 1·944
EL.-1·000

HORIZONTAL 20 10 0 20 40 60 80 100 METERS 1:1000
VERTICAL 2 1 0 2 4 6 8 10 1:100
(BEFORE REDUCTION)

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILMED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.
DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER
DATE
ENGINEER FOR DESIGN
DATE

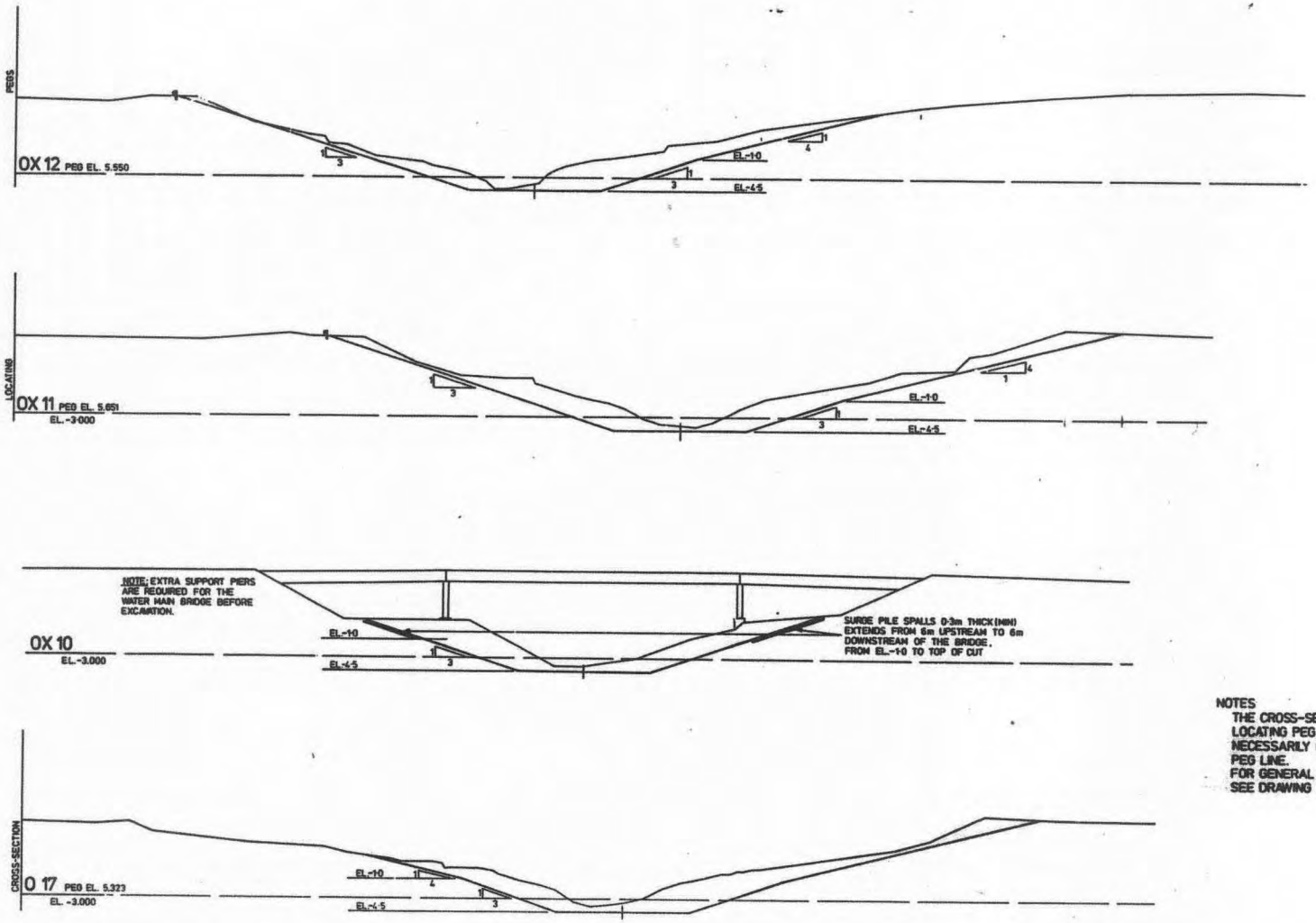
DESIGNED			FIELD BK.		GENERAL FILE No.
DESIGN CHECKED			LEVEL BK.	6158/47	SERVICES FILE No.
DRAWN	C.J.W.	AUG. 83	REGISTD.	9 Feb 1983	ACQUISITION FILE No.
TRACED	C.J.W.	AUG. 83	PASSED		SURVEY PLAN No.
CHECKED					

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 029-037

No. OF DRGS.
DRAWING No. W5550 32

BCC.129.0116



NOTES
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES SEE DRAWING W5550/3

THIS DRAWING SUPERSEDES DRAWING NOS W 5550/23 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS.

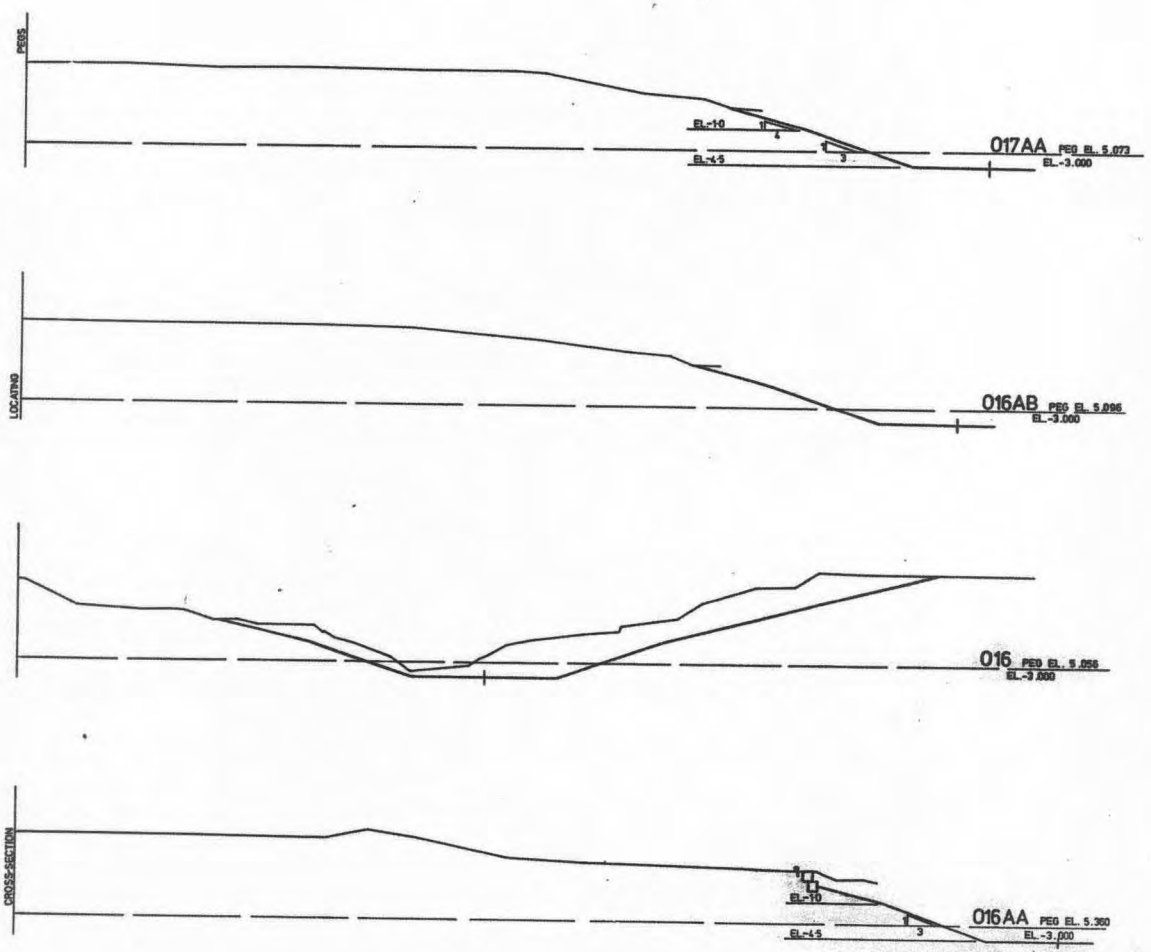
SUFFIX	AMENDMENT	DATE	S. FOR D.	C.E. & H.		ISSUED	MICROFILMED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING RIGIDITY POINT ON DATUM
DATUM: A.H.D.
REFERENCE: B.S.S. S1145 105 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W 5550/8A)
[redacted] ER
DATE: Apr. 1985
DATE: 11.2.C.

DESIGNED	P.E.B.	OCT '85	FIELD BK.	6158/61	GENERAL FILE No.
CHECKED			LEVEL BK.	6158/18	SERVICES FILE No. 438/12-L6830(1)
DRAWN	A.N.	OCT '85	REGISTD.		ACQUISITION FILE No. 207(1)-1967/0164
TRACED	[redacted]				SUB. PLAN No. 31081004.3099
CHECKED					

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS O17, OX10-OX12
No. OF SHEETS 1
DRAWING No. W 5550
31

BCC.129.0117



NOTES:
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES SEE DRAWING W5550/3

SCALE 1:200 (BEFORE REDUCTION)

THIS DRAWING SUPERSEDES DRAWING NOS W 5550/23 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. SEE DRAWING NOS W 5550/9 FOR DETAILS OF ROCK BASE FOR GABION WALL AND GABION WALL.

SUFFIX	AMENDMENT	DATE	S. FOR D.	CE. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENHANCED CEAL CHECK

DATUM: A.H.D.
REFERENCE: B.M. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W5550/8A

[redacted]

DATE: 25/7/66

DATE: 12/9/66

DESIGNED	P.E.B.	OCT '65	FIELD BK.	6158/1	
DESIGN CHECKED			LEVEL BK.	7256	
DRAWN	A.N.	OCT '65	REGISTD.		
TRACED					
CHECKED					

[redacted]

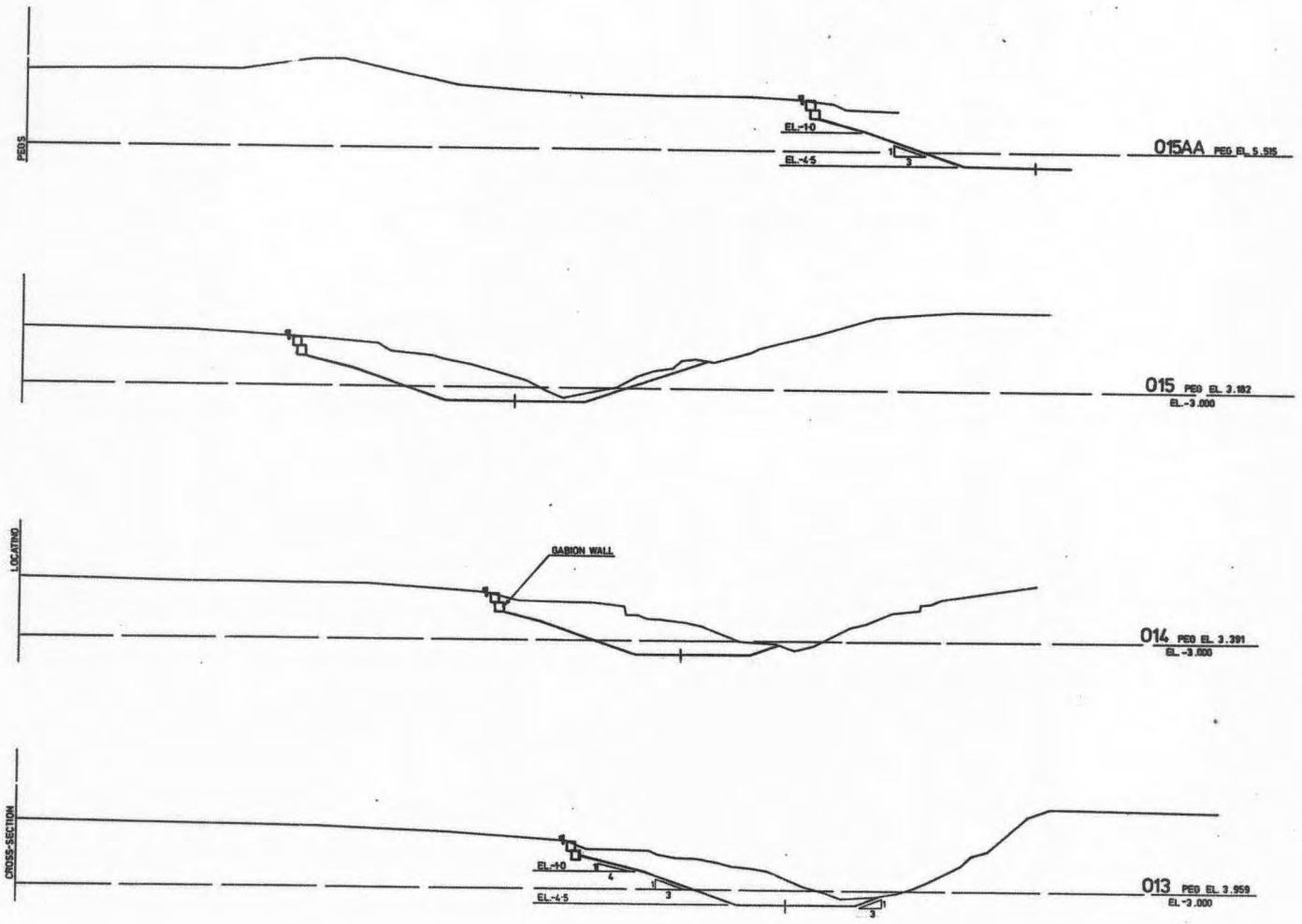
GENERAL FILE No.
DRAWING FILE No. 1.W.R.:1.4.6.6.1.0
ACQUISITION FILE No. 20/01-46 870/3
SUB. SUR. No.

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 016AA - 017AA

DRAWING No. W 5550 30

BCC.129.0118



NOTES:
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES SEE DRAWING W5550/3

THIS DRAWING SUPERSEDES DRAWING NOS W5550/22&23 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS.
SEE DRAWING NOS W5550/9 FOR DETAILS OF ROCK BASE FOR GABION WALL AND GABION WALL.

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILMED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.'s
DATUM: A.H.D.
REFERENCE: B.M. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W 5550/8A)

CHIEF ENGINEER & MANAGER [redacted]

DATE [illegible]
DATE [illegible]

DESIGNED	R.E.B.	OCT '85	FIELD BK.	6158/41
DESIGN CHECKED			LEVEL BK.	6158/40 42.55
DRAWN	A.N.	OCT '85	REGISTD.	
TRAC[redacted]				
CHEC[redacted]				

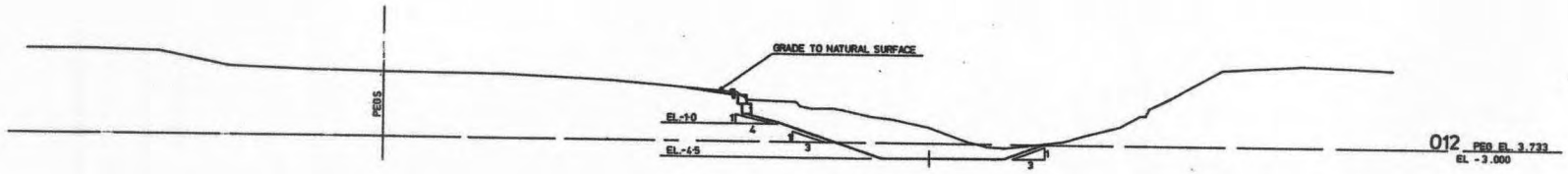
GENERAL FILE No.
SERVICES FILE No. 436/12-LG83011
ACQUISITION FILE No. 202/11-HG870/63
SUB PLAN No. 2090.3092.3093

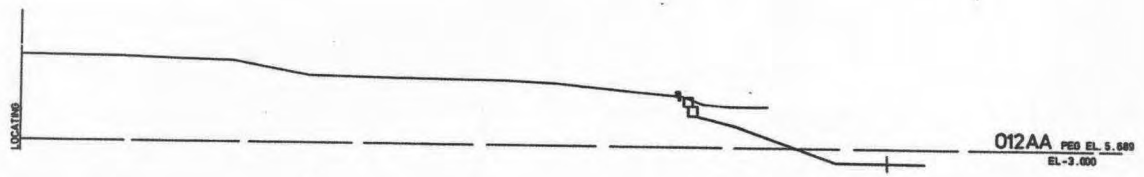
BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

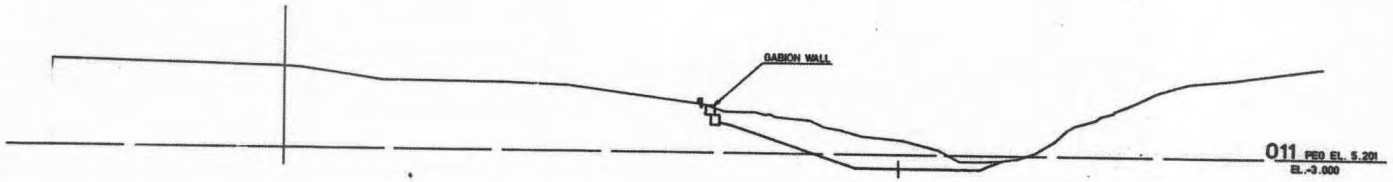
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 013 - 015AA

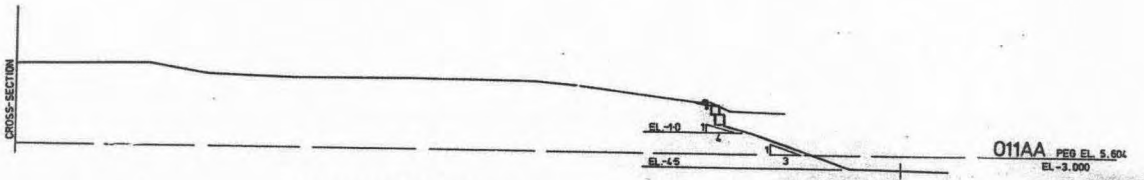
No. OF DRGS.
DRAWING No. W 5550 29
A B C D E F G

BCC.129.0119









NOTES:
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES SEE DRAWING W5550/3

SCALE 1:200 (BEFORE REDUCTION)

THIS DRAWING SUPERSEDES DRAWING NOS W5550/22 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. SEE DRAWING NOS W5550/9 FOR DETAILS OF ROCK BASE FOR GABION WALL AND GABION WALL.

SUFFIX	AMENDMENT	DATE	C. FOR D.	CS. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

DATUM: A.H.D.
REFERENCE: B.M. STNS 175 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W 5550/8A)

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR MARKS

[redacted] MANAGER DATE 20.12.85

[redacted] DATE 18.12.85

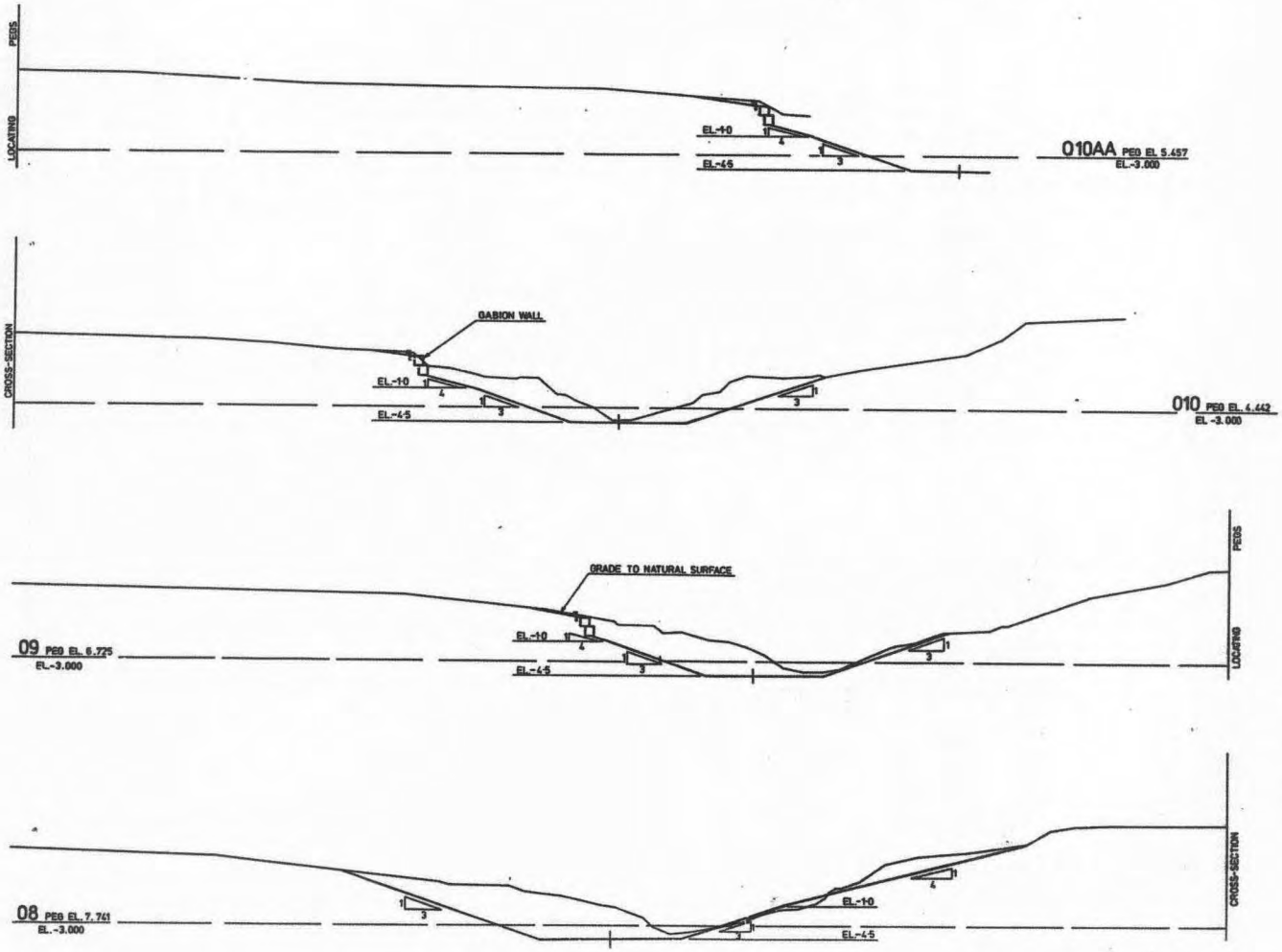
DESIGNED	P.E.B.	OCT '85	FIELD BK.	6158/41	GENERAL FILE No.
FOREMAN CHECKED			LEVEL BK.	6159/40 41 42 43	SURVEYS FILE No. 5902E-1050(1)
DRAWN	A.N.	OCT '85	REGISTD	28	ACQUISITION PLS. No. 20201-20207/82
TRACED	[redacted]				SUB. C.ON No. 3081.3082
CHKD					

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 011AA - 012

DRAWING No. W 5550 28 OF SHEETS

BCC.129.0120



NOTES:
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES SEE DRAWING W 5550/3.

THIS DRAWING SUPERSEDES DRAWING NOS W 5550/22 WITH RESPECT TO WORKS ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS.
SEE DRAWING NOS W 5550/9 FOR DETAILS OF ROCK BASE FOR GABION WALL AND GABION WALL.

SUFFIX	AMENDMENT	DATE	E. FOR D.	CR. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED PEGS OR BMS
DATUM: A.H.D.
REFERENCE : S.S. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS & CO-ORDINATES SEE DRAWING W 5550/8A)

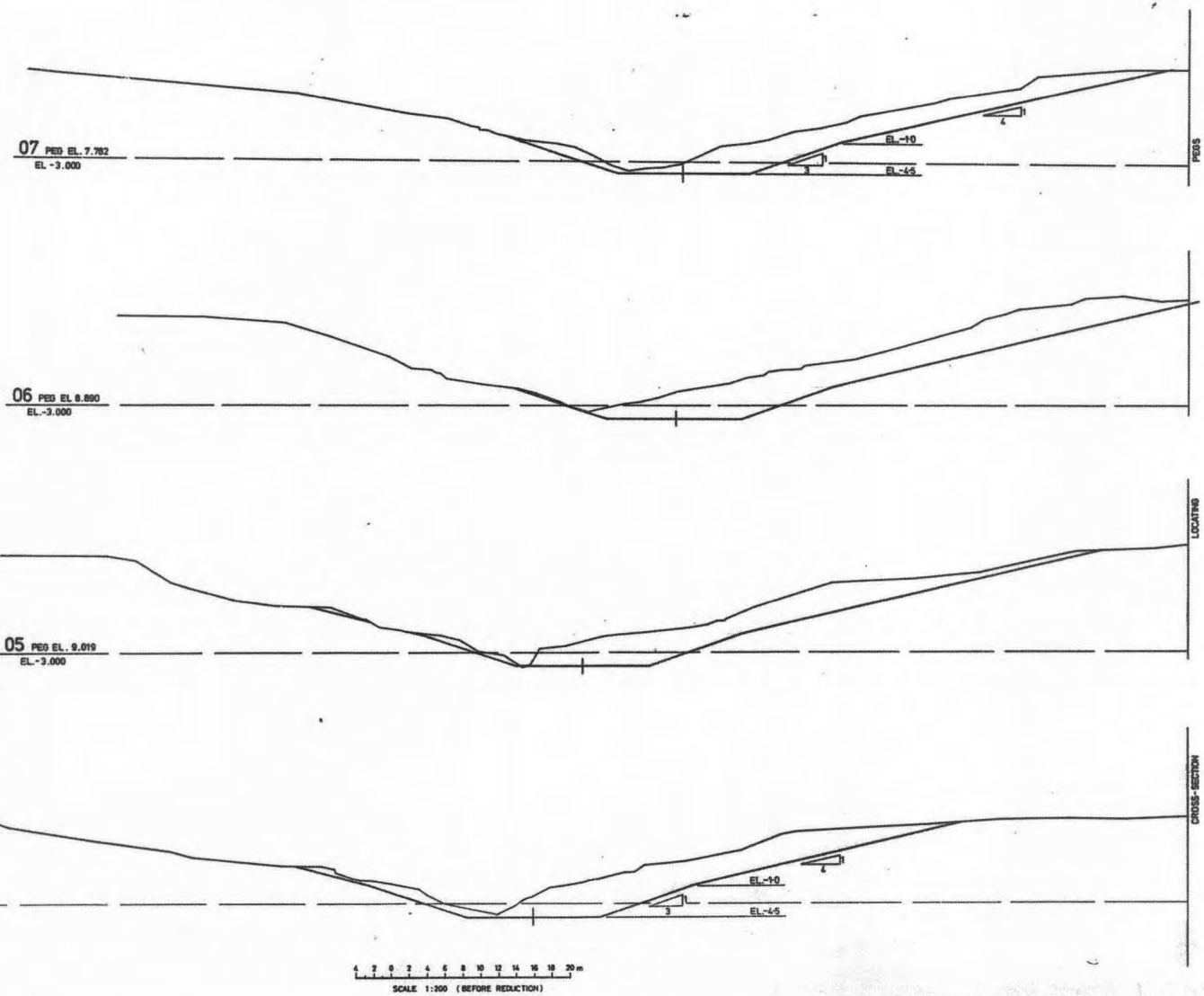
CHIEF ENGINEER
DATE 25.03.85
DATE 12.11.85

DESIGNED	P.E.B.	OCT '85	FIELD BK.
CHECKED			LEVEL BK.
DRAWN	A.N.	OCT '85	REGISTD.
TRACED			
CHECKED			

GENERAL FILE No. 4/410-4/33301L
SURVEYS FILE No. 2021C-HQ870/93
ACQUISITION PLAN No.
SUB PLAN No. 20843081

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 08 - 010AA
No. OF DRGS. 27
DRAWING No. W 5550

BCC.129.0121



NOTES
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
FOR GENERAL NOTES REFER DRAWING W5550/3

THIS DRAWING SUPERSEDES DRAWING NOS W 5550/22 WITH RESPECT TO WORKS ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS.

SUFFIX	AMENDMENT	DATE	E.FOR D.	CH. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'S OR BMS
DATUM: A.H.D.
REFERENCE / P.S.M. STNS 105 OX, 106 OX, 107 OX (FOR LEVELS AND CO-ORDINATES SEE DRAWING W 5550/8A)

CHIEF ENGINEER & MANAGER
[redacted]
DATE
DATE

DESIGNED	P.E.B.	OCT '85	FIELD BK.	5158/41
DESIGN CHECKED			LEVEL BK.	5158/18 & 5042
DRAWN	A.N.	OCT '85	REGISTD.	
TRACED	[redacted]			
CHECKED				

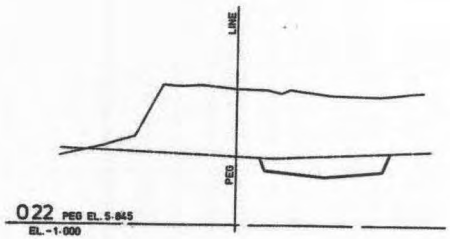
GENERAL FILE No.
SEWERAGE FILE No. 4602-1.0.6.0.(1)
ACCRETION FILE No. 207.(2)-NO. 67.0.83
SUB. PLAN No. 3080

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

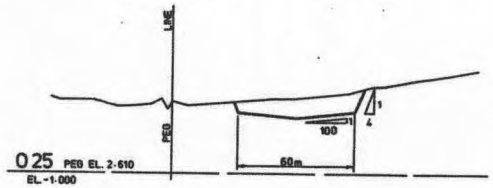
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 04 - 07

No. OF SHEETS
DRAWING No. W 5550 26

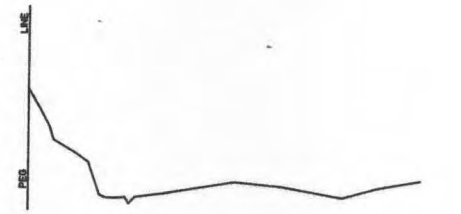
BCC.129.0122



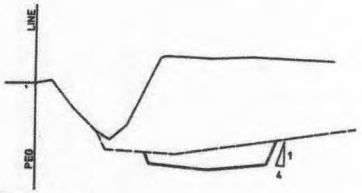
022 PEG EL. 5·845
EL. -1·000



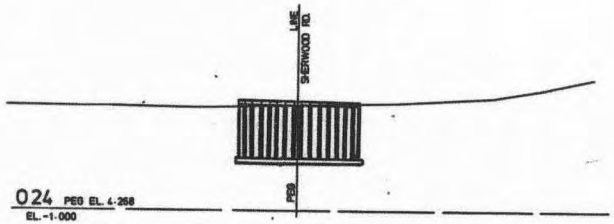
025 PEG EL. 2·610
EL. -1·000



028 PEG EL. 6·910
EL. -1·000



021 PEG EL. 5·545
EL. -1·000



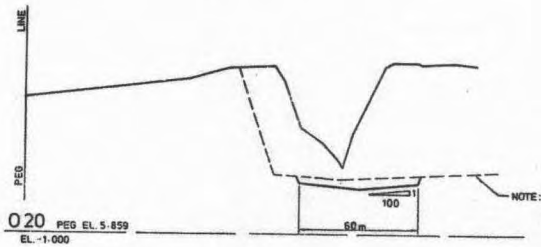
024 PEG EL. 4·268
EL. -1·000

FOR CULVERT SEE
DRAWING W 6677/1-4



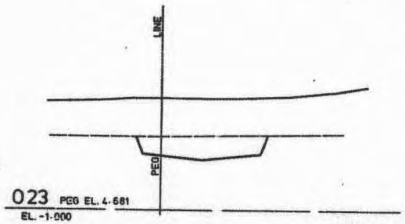
027 PEG EL. 5·500
EL. -1·000

NOTE.
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE..
SEE DRAWING W 5550/3 FOR GENERAL NOTES.

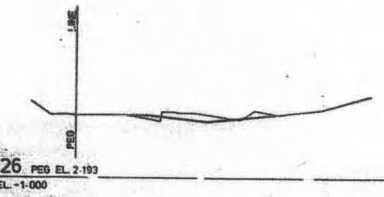


020 PEG EL. 5·859
EL. -1·000

NOTE: DASHED LINE REPRESENTS APPROX. EXTENT OF MARKETS EXCAVATION



023 PEG EL. 4·681
EL. -1·000



026 PEG EL. 2·193
EL. -1·000

HORIZONTAL 20 10 0 20 40 60 80 100 METERS 1:1000
VERTICAL 2 1 0 2 4 6 8 10 1:100
(BEFORE REDUCTION)

SUFFIX	AMENDMENT	DATE	C. FOR D.	CE. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's
DATUM : AHD.
REFERENCE : B.S.

CHIEF ENGINEER & MANAGER [redacted] DATE 6.4.83
DATE

DESIGNED		FIELD BK.	
DESIGN CHECKED		LEVEL BK.	858/A3/3
DRAWN	B.T.D. AUG. 83	ASSISTD.	
TRACED			
CHECKED	[redacted]		

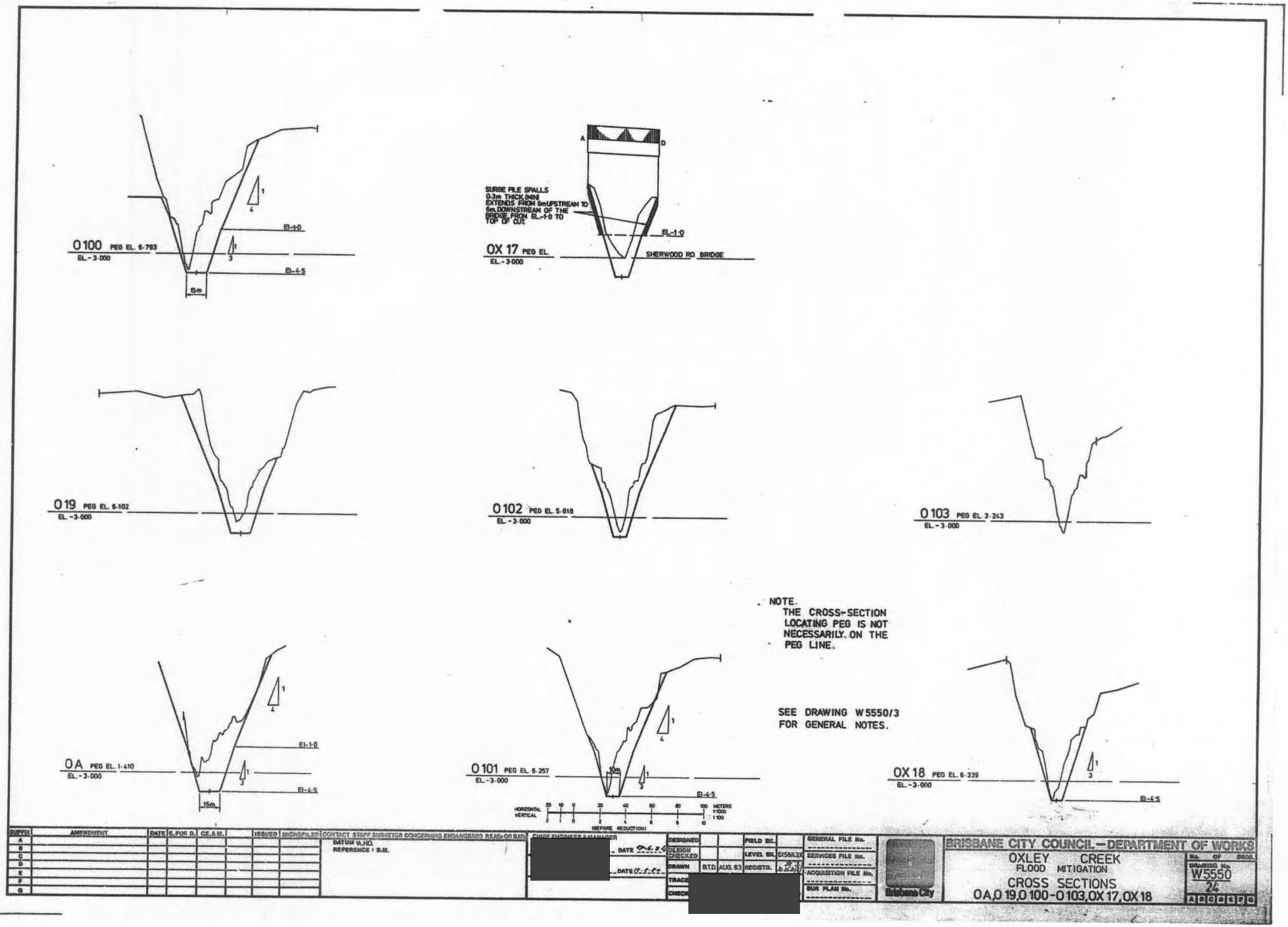
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUB PLAN No.

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 020-028

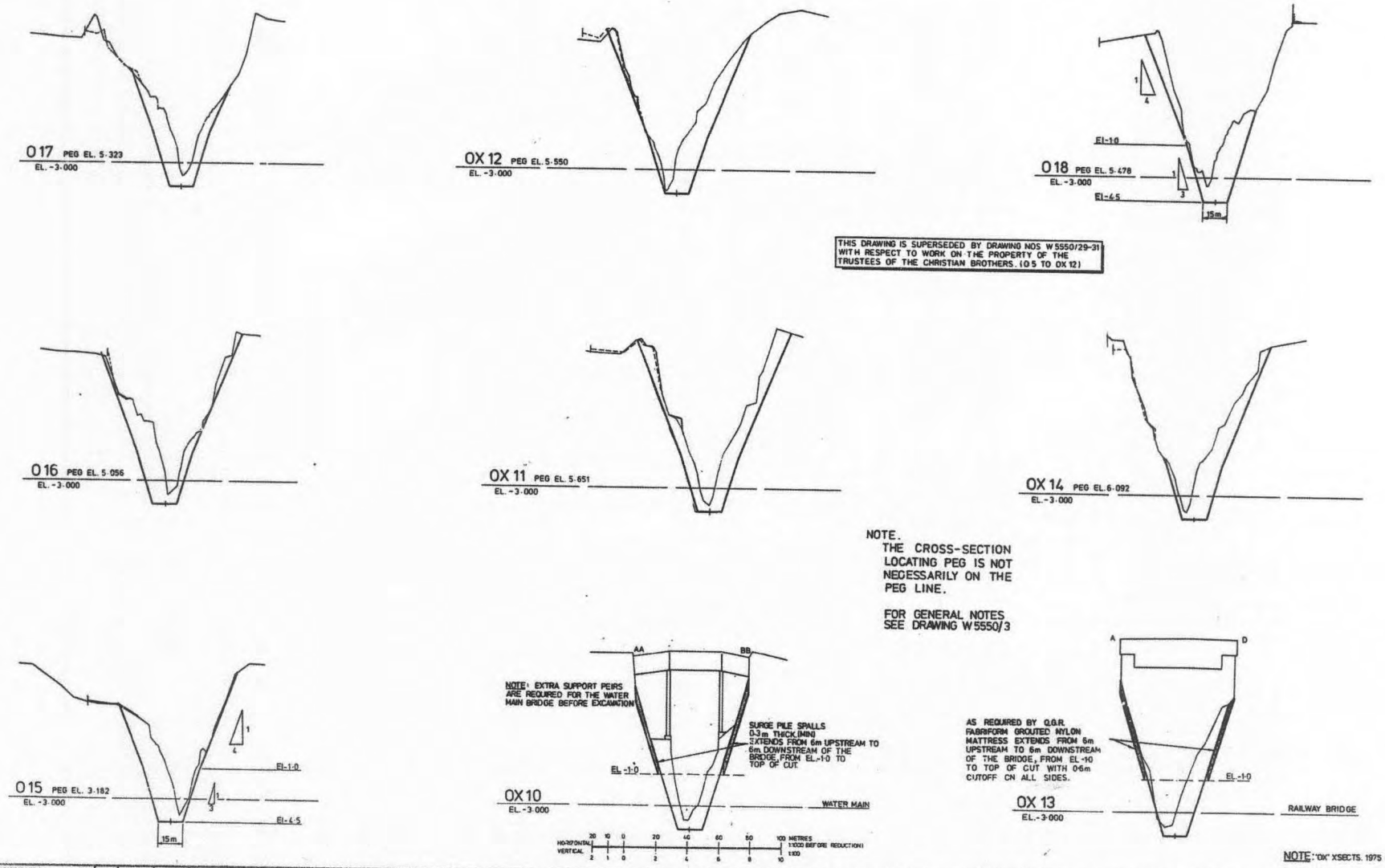
DRAWING No. W5550/25 No. OF SHEETS A 0 0 0 0 0 0 0

BCC.129.0123



0100 PEG EL. 6·793
EL. -3·000
El-1·0
El-4·5
15m
SURGE PILE SPALLS 0·3m THICK (MIN) EXTENDS FROM 6m UPSTREAM TO 6m DOWNSTREAM OF THE BRIDGE FROM EL.-1·0 TO TOP OF CUT
OX 17 PEG EL.
EL. -3·000
EL.-1·0
SHERWOOD RD BRIDGE
0 19 PEG EL. 6·102
EL. -3·000
0 102 PEG EL. 5·618
EL. -3·000
0 103 PEG EL. 3·243
EL. -3·000
NOTE.
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
SEE DRAWING W5550/3 FOR GENERAL NOTES.
0A PEG EL. 1·410
EL. -3·000
El-1·0
El-4·5
15m
0 101 PEG EL. 6·257
EL. -3·000
10m
El-4·5
OX 18 PEG EL. 6·339
EL. -3·000
El-4·5
HORIZONTAL
VERTICAL
METERS
(BEFORE REDUCTION)
SUFFIX
AMENDMENT
DATE
E. FOR D.
C.E. & M.
ISSUED
MICROFILED
CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.s OR B.M.s
DATUM V.A.H.D.
REFERENCE : B.M.
CHIEF ENGINEER & MANAGER
[redacted]
DATE
DESIGNED
DESIGN CHECKED
DRAWN
B.T.D.
AUG. 83
TRACE
CHECK
FIELD BK.
LEVEL BK.
REGISTD.
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.
Brisbane City
BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS
OA, 0 19, 0 100 - 0 103, OX 17, OX 18
No. OF DRGS.
DRAWING No.
W5550
24

BCC.129.0124



THIS DRAWING IS SUPERSEDED BY DRAWING NOS W5550/29-31 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. (O5 TO OX 12)

NOTE.
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.

FOR GENERAL NOTES SEE DRAWING W5550/3

NOTE: "OX" XSECTS. 1975 SURVEY

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILED
A	CHRISTIAN BROS. NOTE	[illegible]	[illegible]	[illegible]			
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's
DATUM : A.H.D.
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER [redacted]
DATE [illegible]
DATE [illegible]

DESIGNED
DESIGN CHECKED
DRAWN
TRACED [redacted]
CHECKED

FIELD BK.
LEVEL BK. 6159/42, 43.18

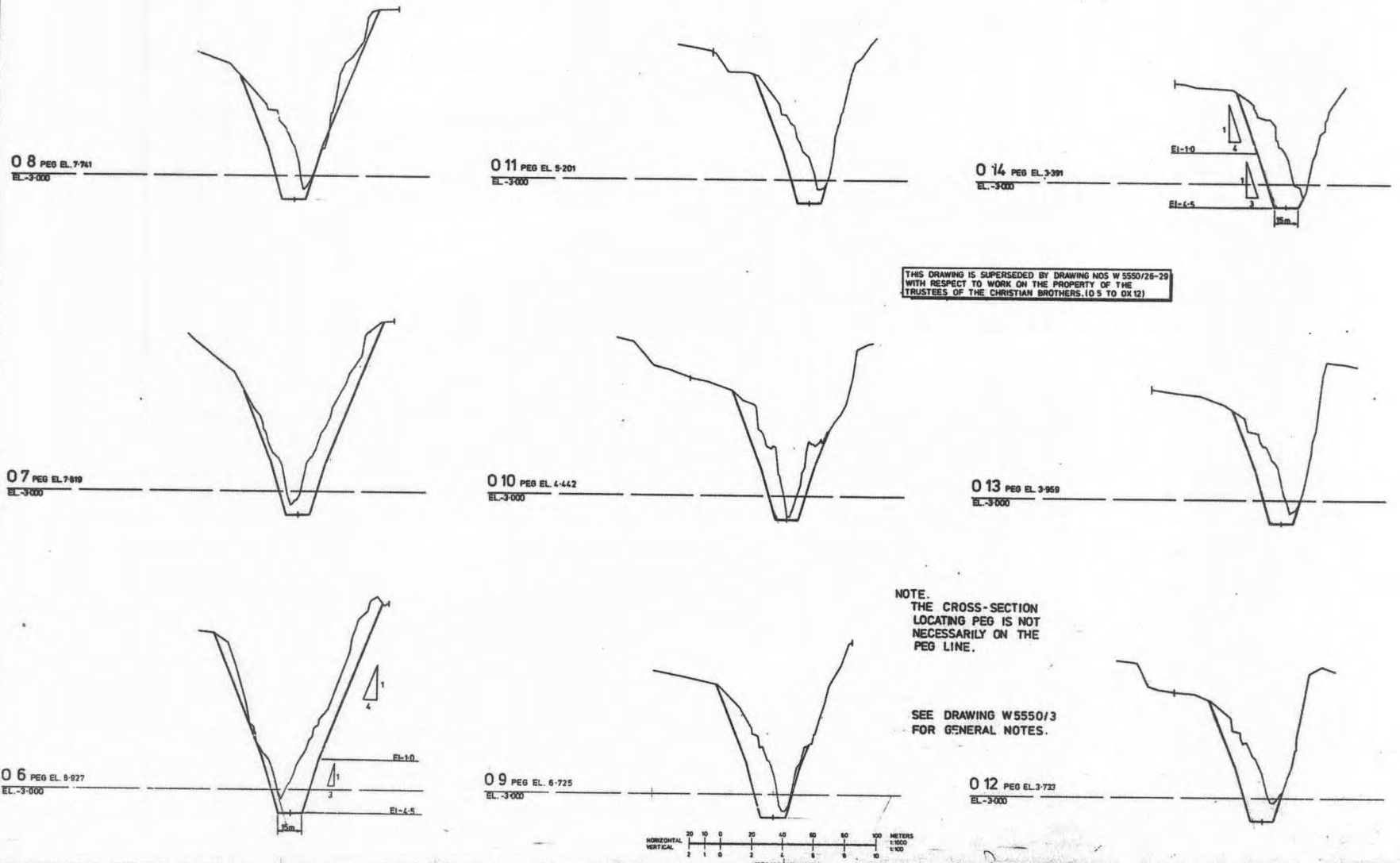
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

Brisbane City

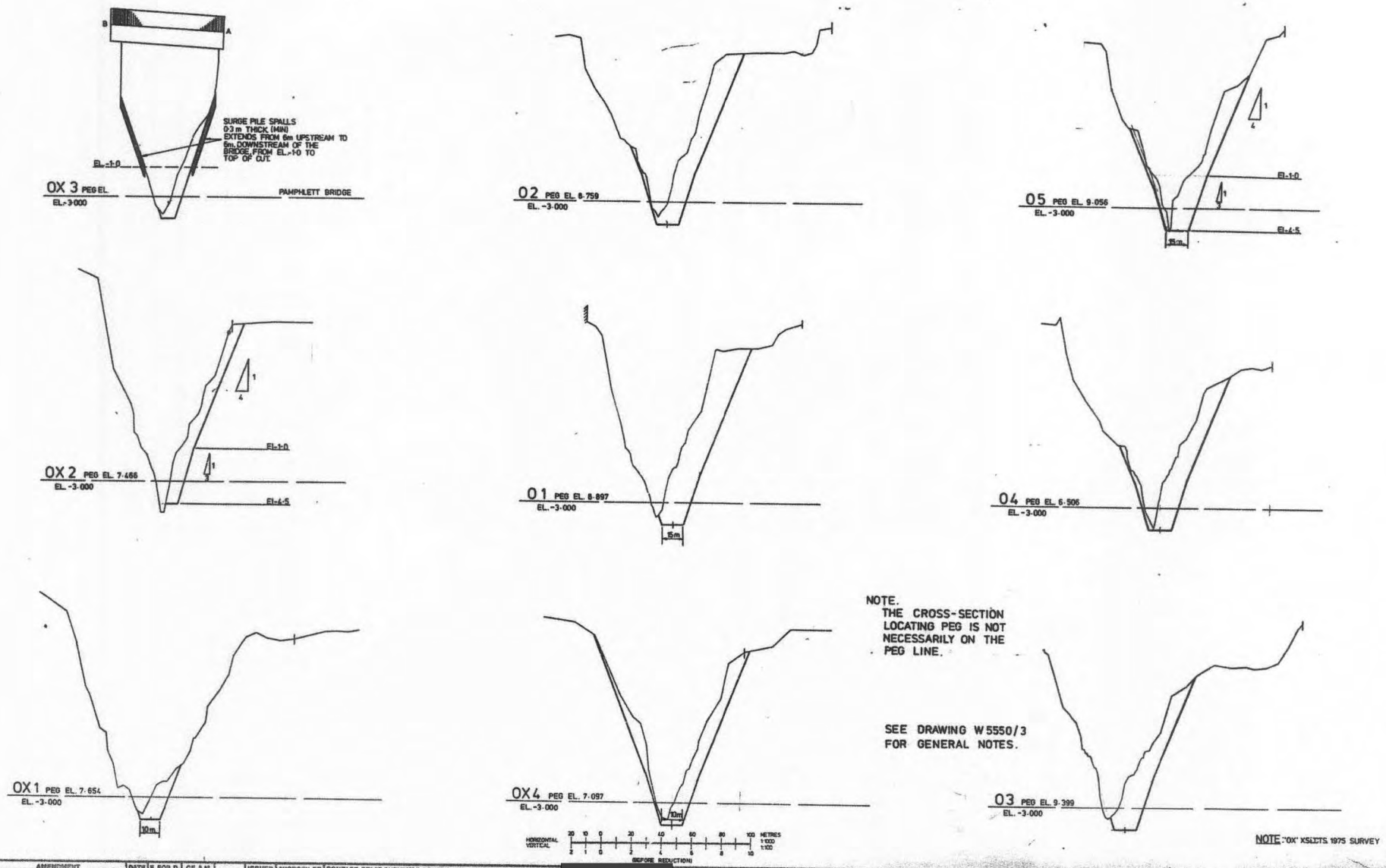
BRISBANE CITY COUNCIL -- DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS O15-O18, OX10-OX14

No. OF DRGS.
DRAWING No. W5550 23A
X B C D E F G

BCC.129.0125


0 8 PEG EL. 7·741
EL.-3·000
0 11 PEG EL. 5·201
EL.-3·000
0 14 PEG EL. 3·391
EL.-3·000
EI-1·0
EI-4·5
15m
THIS DRAWING IS SUPERSEDED BY DRAWING NOS W 5550/26-29 WITH RESPECT TO WORK ON THE PROPERTY OF THE TRUSTEES OF THE CHRISTIAN BROTHERS. (O 5 TO OX 12)
0 7 PEG EL. 7·819
EL.-3·000
0 10 PEG EL. 4·442
EL.-3·000
0 13 PEG EL. 3·959
EL.-3·000
NOTE.
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.
SEE DRAWING W 5550/3 FOR GENERAL NOTES.
0 6 PEG EL. 9·927
EL.-3·000
EI-1·0
EI-4·5
15m
0 9 PEG EL. 6·725
EL.-3·000
0 12 PEG EL. 3·733
EL.-3·000
HORIZONTAL 20 10 0 20 40 60 80 100 METERS 1:1000
VERTICAL 2 1 0 2 4 6 8 10 1:100
(BEFORE REDUCTION)
ISSUE
A CHRISTIAN BROS. NOTE
B
C
D
E
F
G
AMENDMENT
DATE
R. FOR D.
CE & M.
ISSUED
MICROFILED
CONTACT STAFF SURVEYOR CONCERNING ENDANGERED PEGS OR B.M.
DATUM : A.H.D.
REFERENCE : B.M.
DATE
DESIGNED
DESIGN CHECKED
DRAWN C.J.W. AUG. 83
TRACED
CHECKED
FIELD BK.
LEVEL BK. 958404
REGISTD.
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
PLAN No.
Brisbane City
BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS O6-O14
No. OF DRGS.
DRAWING No.
W5550
22A

BCC.129.0126



NOTE.
THE CROSS-SECTION LOCATING PEG IS NOT NECESSARILY ON THE PEG LINE.

SEE DRAWING W 5550/3 FOR GENERAL NOTES.

NOTE: 'OX' XSECTS 1975 SURVEY

SUFFIX	AMENDMENT	DATE	E. FOR D.	CE. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M.'s OR B.M.

DATUM: AHD
REFERENCE: P.M.

[redacted]

DESIGNED
DESIGN CHECKED
DRA[redacted]
TRA[redacted]
CHE[redacted]

FIELD BK.
LEVEL BK. 8158/18/4

GENERAL FILE No.
SERVICES FILE No.
[redacted]UISITION FILE No.
[redacted] PLAN No.

Brisbane City

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

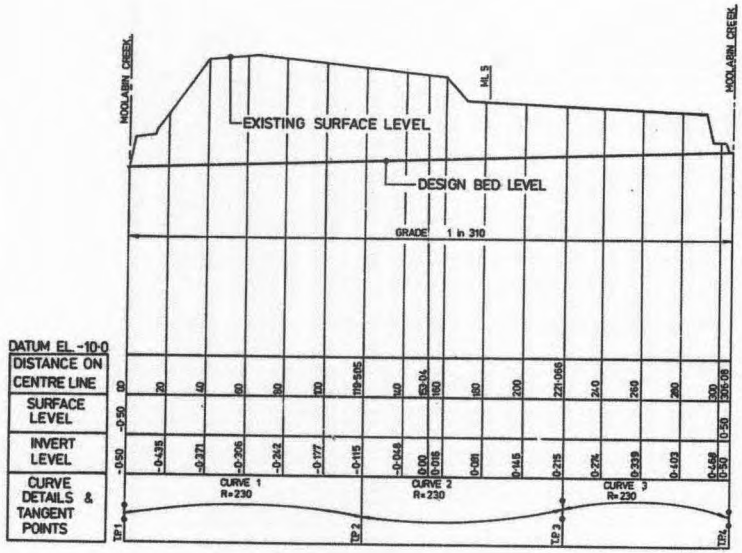
OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS OX1-OX4, 01-05

No. OF DRGS.
DRAWING No. W5550
21
A B C D E F G

BCC.129.0127

LAYOUT TABLE

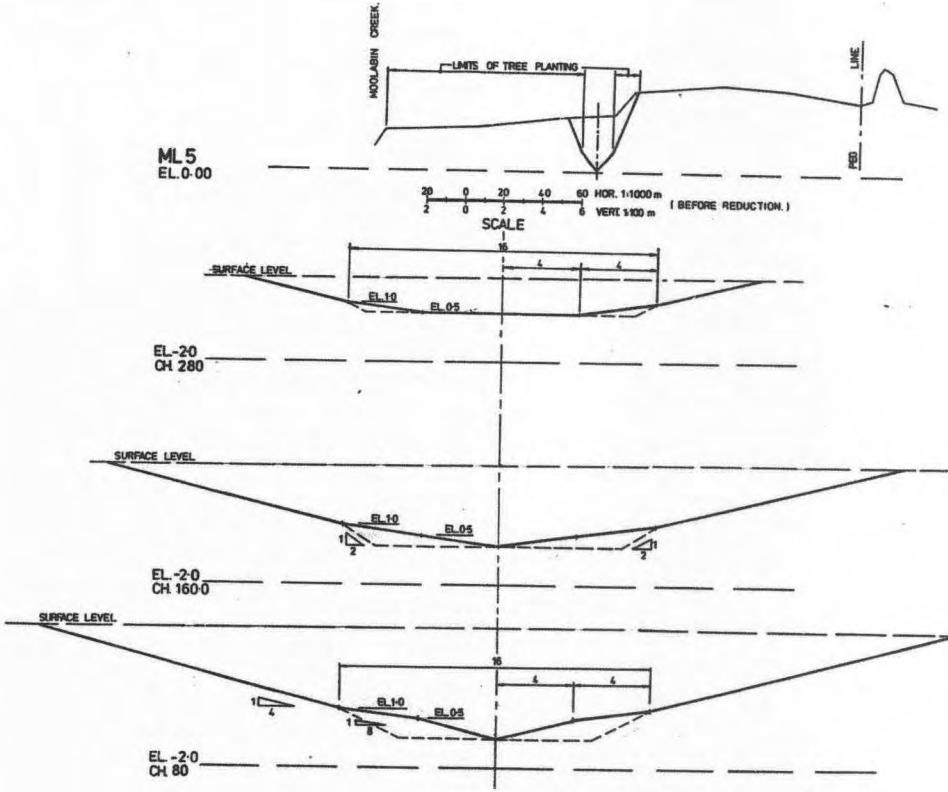
TANGENT POINT	CENTRE LINE DISTANCE	EASTING	NORTHING	RADIUS	CHORD LENGTH	MID ORD.
1	00	499 589·982	6954 631·260	230·0	118·165	7·718
2	119·505	703·552	589·569	230·0	100·738	5·583
3	221·066	799·214	566·995	230·0	84·531	3·917
4	306·060	880·387	534·405			



LONGITUDINAL SECTION

20 0 20 40 60 80 100 HOR 1·1000
2 0 2 4 6 8 10 VERT 1·100

SCALES
(BEFORE REDUCTION)



CROSS SECTIONS

2 0 2 4 6 8 10
SCALE 1·100
(BEFORE REDUCTION.)

NOTE:
CROSS SECTIONS SHOWN AS FULL LINES ARE THE FINISHED SHAPE.
THE EXTENT OF INTERIM OVER-EXCAVATION IS SHOWN BY THE DASHED LINE.
THE FINAL SHAPE IS ACHIEVED BY FILLING WITH MATERIAL EXCAVATED FROM OXLY CREEK MAIN CHANNEL WIDENING BETWEEN EL.1·0 AND EL.-1·0 AHD.

FOR CHANNEL WORKS SEE W5550/7

FOR GENERAL NOTES SEE DRAWING W5550/3

SUFFIX	AMENDMENT	DATE	E. FOR D.	C.E. & M.	ISSUED	MICROFILED
A						
B						
C						
D						
E						
F						
G						

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED PSM'S
DATUM : A.H.D.
REFERENCE : B.M.

[redacted]

DESIGNED | FIELD BK.
DESIGN CHECKED | LEVEL BK.
DRAWN | GENERAL FILE No.
TRACED | SERVICES FILE No.
CHECKED | ACCUSITION FILE No.
SUR PLAN No.

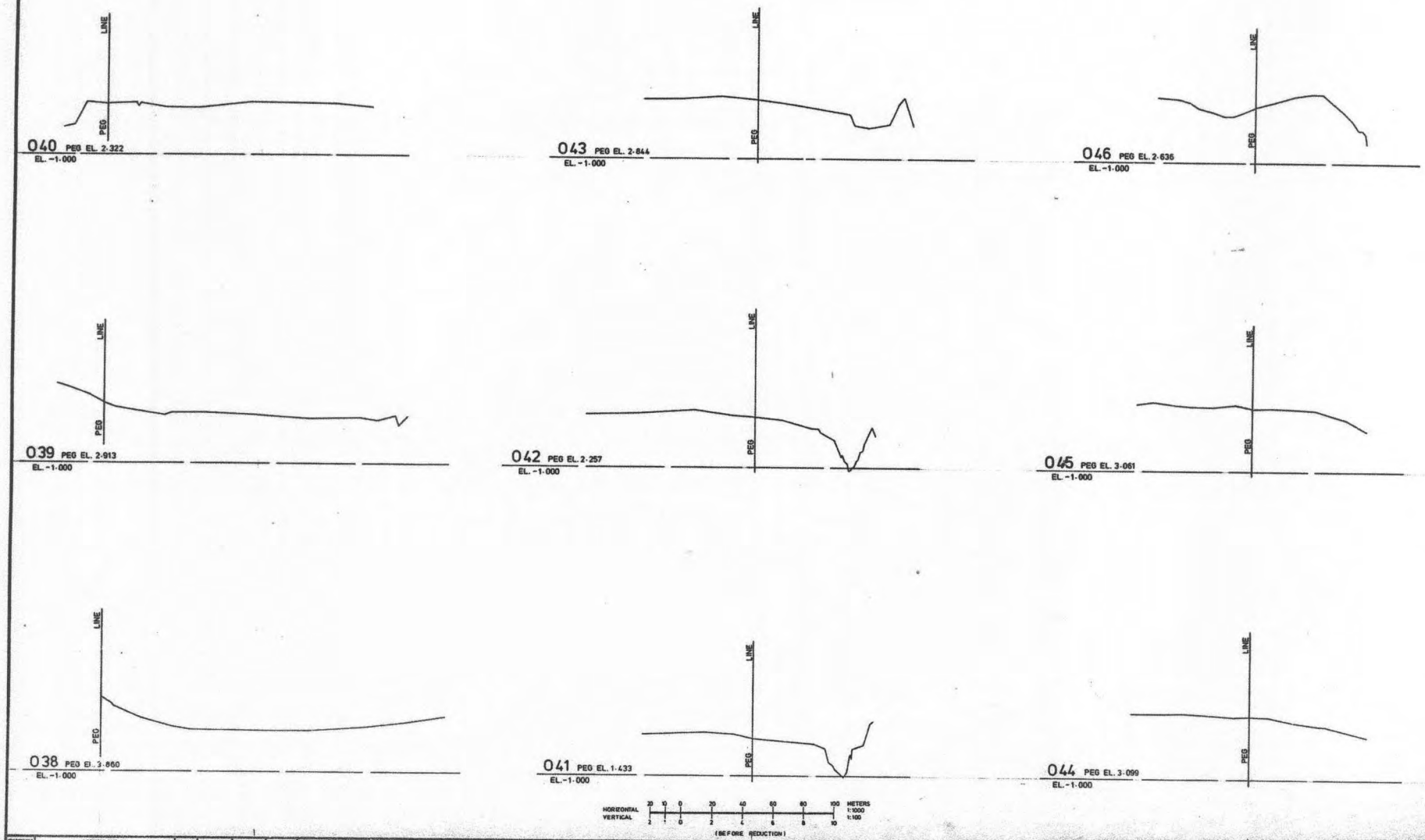
Brisbane City

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

OXLEY CREEK
HABITAT AREA LONGITUDINAL & CROSS SECTIONS
FLOOD MITIGATION

No. OF DRGS. 17
DRAWING No. W5550
A B C D E F G

BCC.129.0128



SUFFIX	AMENDMENT	DATE	E. FOR D.	CR. & M.		ISSUED	MICROFILED
A							
B							
C							
D							
E							
F							
G							

CONTACT STAFF SURVEYOR CONCERNING ENDANGERED P.S.M's OR B.M's

DATUM :
REFERENCE : B.M.

CHIEF ENGINEER & MANAGER
DATE
ENGINEER FOR DESIGN
DATE

DESIGNED			FIELD BK.	
DESIGN CHECKED			LEVEL BK.	5158/47
DRAWN	B.T.D.	AUG. 63	REGISTD.	PDB 7-53
TRACED	B.T.D.	AUG. 63	PASSED	
CHECKED				

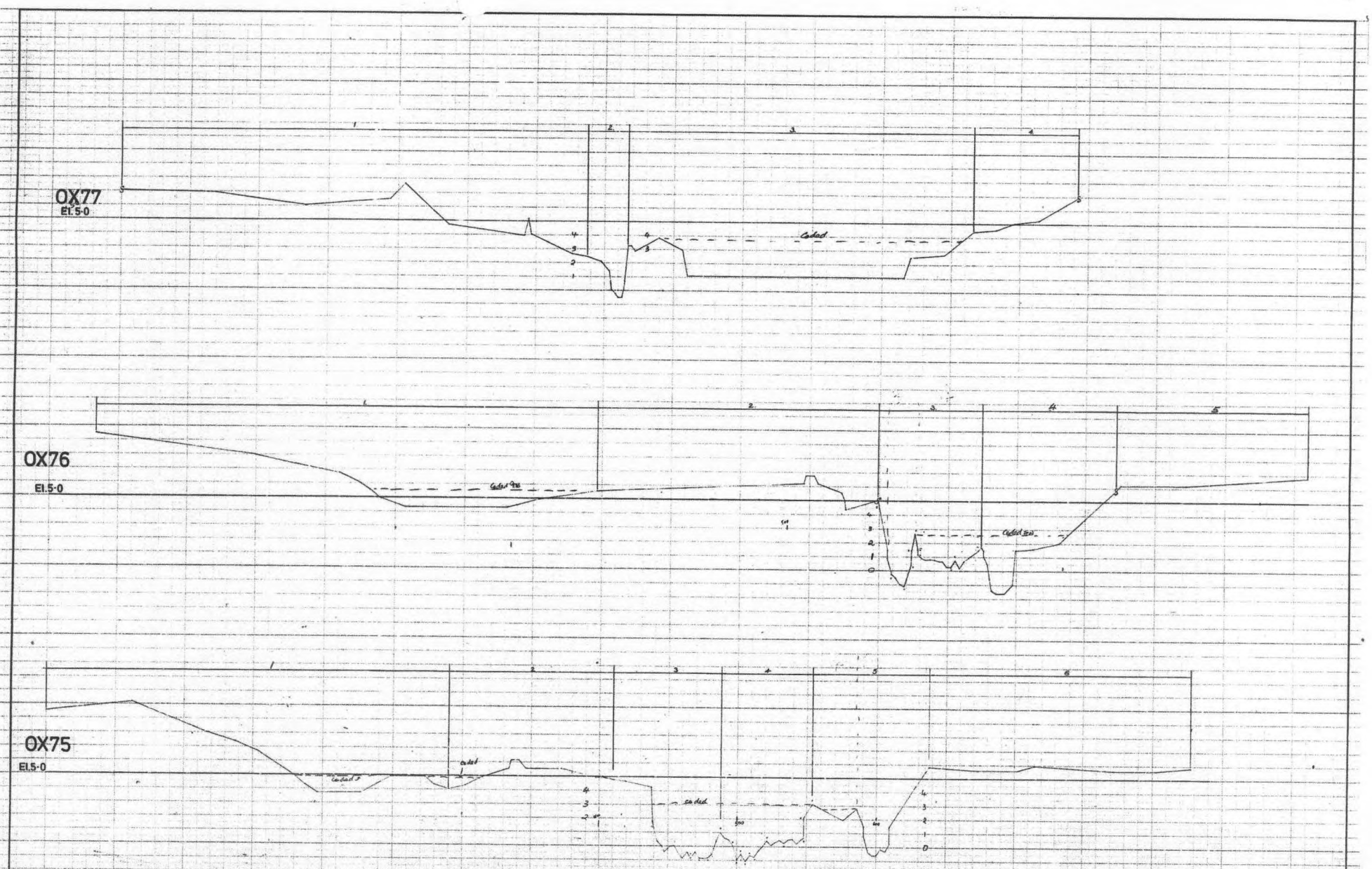
GENERAL FILE No.
SERVICES FILE No.
ACQUISITION FILE No.
SUR PLAN No.

BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS 038-046

No. OF DRGS.
DRAWING No. W5550 33
A B C D E F G

BCC.129.0129



BRISBANE CITY COUNCIL— DEPARTMENT OF WORKS

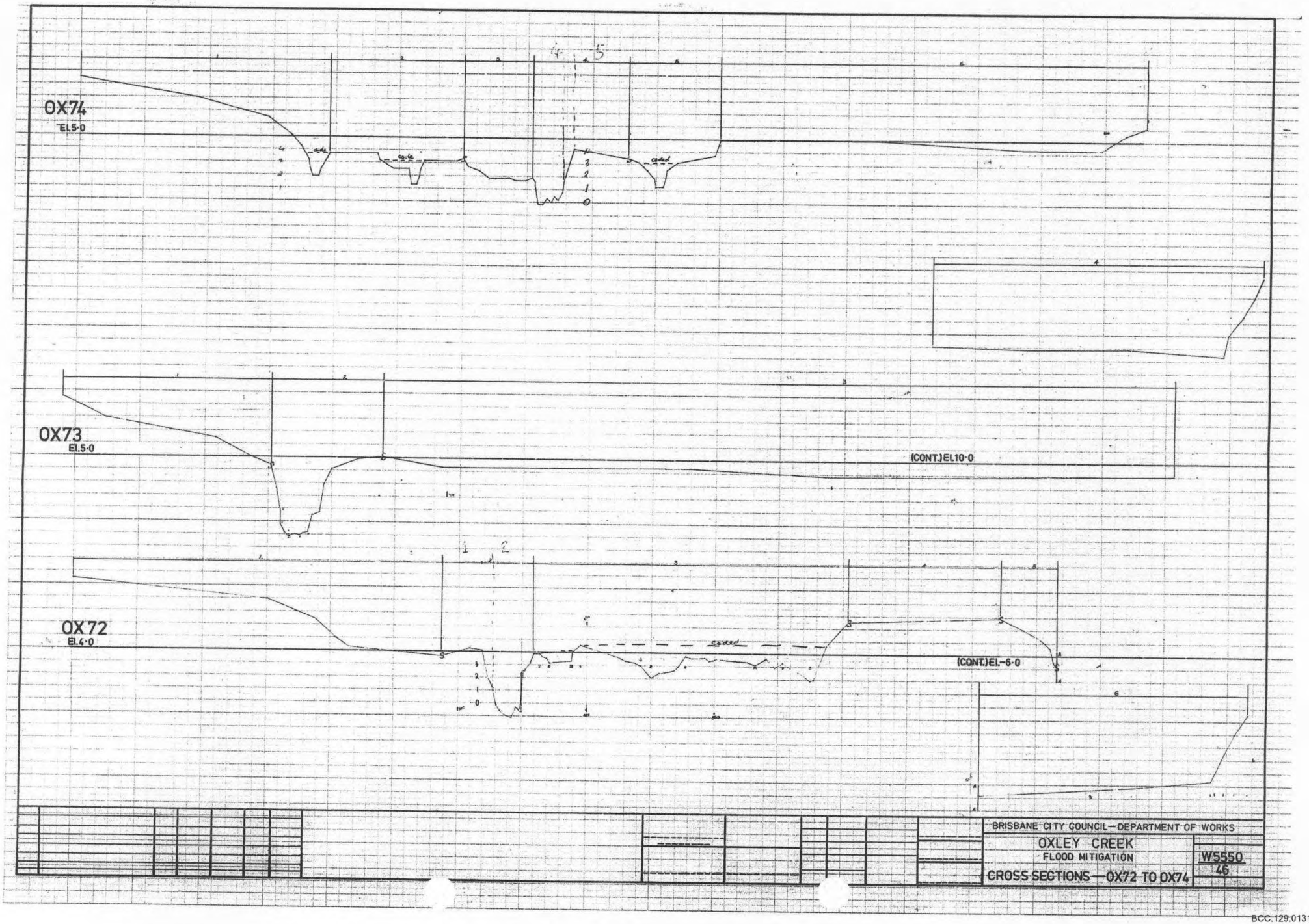
OXLEY CREEK

FLOOD MITIGATION

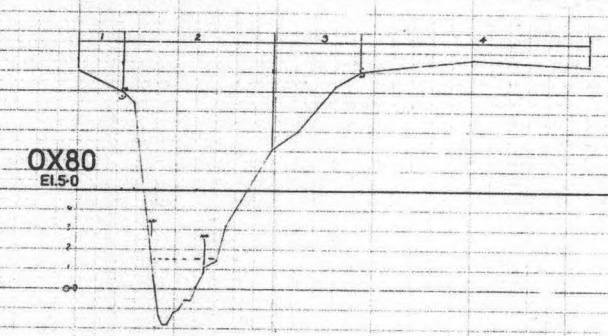
CROSS SECTIONS — OX75 TO OX77

W5550
47

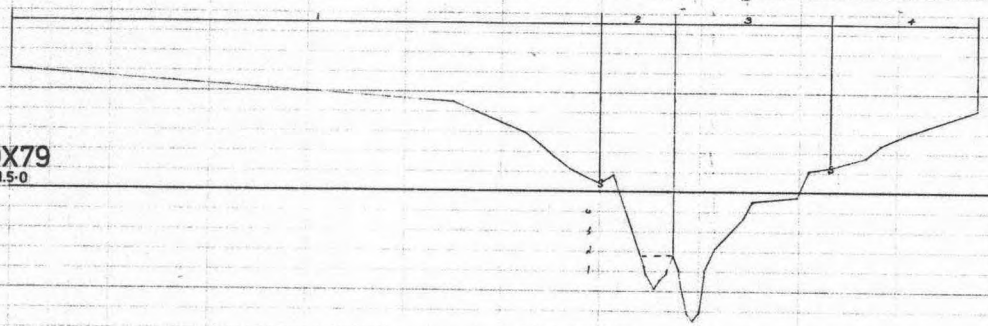
BCC.129.0130


OX74
EL.5·0
OX73
EL.5·0
(CONT.) EL.10·0
OX72
EL.4·0
(CONT.) EL.-6·0
BRISBANE CITY COUNCIL—DEPARTMENT OF WORKS
OXLEY CREEK
FLOOD MITIGATION
W5550
46
CROSS SECTIONS — OX72 TO OX74

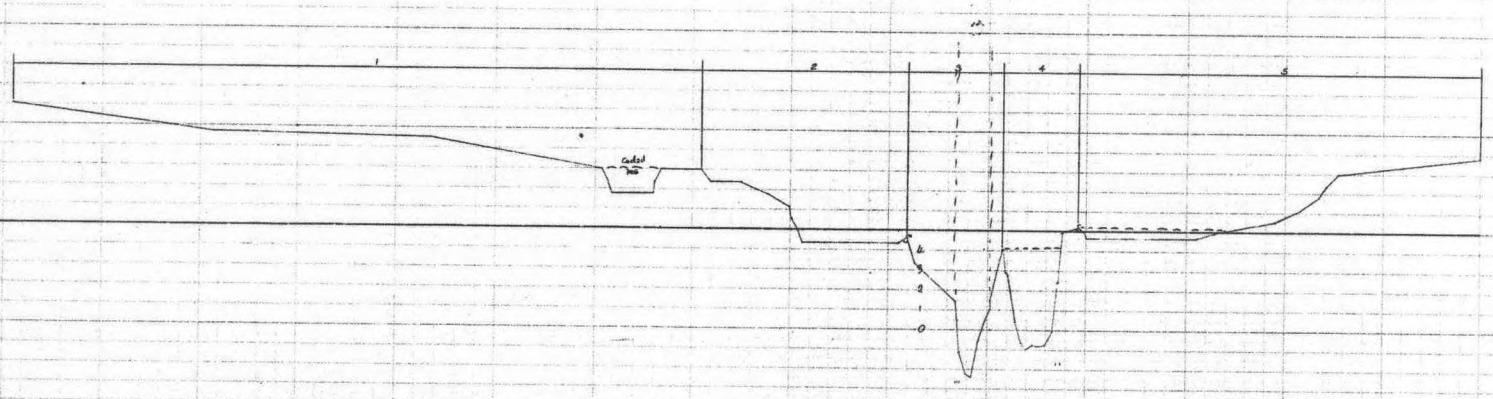
BCC.129:0131



OX80
EI.5·0



OX79
EI.5·0



OX78
EI.5·0

A.H.DATUM

BRISBANE CITY COUNCIL— DEPARTMENT OF WORKS

OXLEY CREEK
FLOOD MITIGATION
CROSS SECTIONS—OX78 TO OX80

W5550
48

BCC.129.0132

APPENDIX B: FORMS

B-1 Level 1 Inspection and Maintenance Form

INSPECTION AND MAINTENANCE FORM *Oxley Creek Flood Mitigation Asset*			
Mitigated Asset Type:	Main Channel and Bypass Channel	**LAS District:**	LAS South
Asset Location	Oxley Creek, from approximately 200 metres upstream of Sherwood Road to its confluence with Brisbane River, Sherwood.		
Additional Description	Dredged main channel and excavated grass-lined Bypass channel, and associated works.		

SITE VISIT DETAILS		
Date:		
Site Visit By:		
Purpose of the Site Visit	Tick Box	Complete Sections
Routine Inspection	☐	Section 1 only
Annual Inspection	☐	Section 1 only
Inspection following major storm event	☐	Section 1 only
Maintenance	☐	Section 2 only

PROJECT FILING		
Document	Filed	Comment
Completed Inspection Form (**Table B1**)	☐	G:\BI\CD\CD_Business\
Site Photos	☐	G:\BI\CD\CD_Business\
Request for Maintenance	☐	

SECTION 1: INSPECTION		
1.1 WIDENED MAIN CHANNEL		
Feature	**Condition**	**Comments**
Dredged Channel	Has the schedule of required survey been checked?	Survey of Representative Sections Due?: YES / NO Additional Survey Recommended?: YES / NO If Yes give brief reason .....
	Debris / blockages across channel?	YES / NO If Yes give brief description: .....
	Crossing structures in sound condition?	QR crossing: ..... Pipe crossing U/S of QR crossing: .....
	Condition of bank	Main Channel: ..... Bank at Strickland Terrace: .....
Mangroves	Estimated width from bank/ height etc	....
Is there a need for any maintenance, remediation or further work?		YES / NO
If YES, then give details		....
Is there a need for specialist advice? (LEVEL 2)		YES / NO
If YES, then give details		....

1.2 HIGH-LEVEL BYPASS CHANNELS			
Feature	**Condition**	**Comments**	
Vegetation	Coverage	(% cover, extent over bank).....	
	Approximate height	.....	
	Woody trees present	YES / NO	
Levee at Oxley Creek	Mangrove Vegetation across opening	YES / NO	If yes; Mangroves extend over bypass-channel entry ..... with a density of .....
	Evidence of silt build up in bypass channel?	YES / NO If Yes give brief description:	
Sherwood Road Culverts	Entry and Exit Opening in sound condition and unblocked?	YES / NO If No give brief description:	
Is there a need for any maintenance, remediation or further work?		YES / NO	
If YES, then give details		.....	
Is there a need for specialist advice? (LEVEL 2)		YES / NO	
If YES, then give details		.....	
Is there a need for specialist advice? (LEVEL 2)		YES / NO	
If YES, then give details		.....	

1.3 GABION WALLS		
Feature	**Condition**	**Comments**
Structural Integrity	Is there evidence of corrosion of wire?	YES / NO If Yes give brief description: .....
	Is there debris on / or damage to Gabion?	YES / NO If Yes give brief description: .....
	Vegetation affecting mesh shape	YES / NO If Yes give brief description: .....
Rock wall shape	Gabion location as per design drawings (see ***APP.A***)	YES / NO If Yes give brief description: .....
	Is rock contained within mesh?	YES / NO If Yes give brief description: .....
Is there a need for any maintenance, remediation or further work?		YES / NO
If YES, then give details		....
Is there a need for specialist advice? (LEVEL 2)		YES / NO
If YES, then give details		....

1.4 MISCELLANEOUS COMMENTS
Please add any further relevant comment from site inspection. ....

1.5 CONTACTS FOR STAGE 2 AND STAGE 3 ANALYSIS	
Hydraulic Advice Survey Geotechnical Advice	Flood Management, City Design, Brisbane Infrastructure, Brisbane City Council
	Survey Services, City Design, Brisbane Infrastructure, Brisbane City Council
	Ground Engineering, City Design, Brisbane Infrastructure, Brisbane City Council

B-2: Assets Maintenance Plan – Oxley Creek

Asset Maintenance Plan – Oxley Creek Mitigation Works, Sherwood			
Type	Main Channel and Bypass Channel	**District**	LAS South
Location	Oxley Creek, from approximately 200m upstream Sherwood Road to the confluence with the Brisbane River, Sherwood.		
Description	Dredged Main Channel and Excavated High-level Bypass Channel		

Schedule of Site Visits												
	Frequency	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Inspection	1 / year	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Following Major Storm Event	As Needed											
Survey of Representative Sections	7 years						✓					
Survey of all sections in mitigated reach	7 years where required						✓					

Maintenance will be scheduled based on the outcome of the inspection.

1.0 HEALTH AND SAFETY		
1.1	Statutory Requirements	All inspection and maintenance work must be carried out in accordance with the appropriate Australian Standards and Statutory Requirements.
1.2	Weather	Inspection and maintenance work shall only occur after a reasonably rain-free period.
1.3	Widened Main Channel	Access for inspection and maintenance work to Widened Main Channel shall be via the closest and safest road access to the given inspection site. Inspection best undertaken at low tide.
1.4	High Level Bypass Channel	Access for inspection and maintenance work to High Level Bypass Channel shall be via the closest and safest road access to the given inspection site.
1.5	General Access	Care shall be taken when entering the basin via the 1 in 4 grassed embankments.
1.6	Movement along banks	Care shall be taken with regards to adverse slopes and steep drop offs.
1.7	Hazards	Contact with sharp objects, including hypodermic needles, is a risk when working in waterways. To prevent injury all workers must be made aware of this risk and use caution when clearing the trash and debris; and wear appropriate protective gear when in the waterways.
2.0 QUALITY ASSURANCE		
2.1	Forms	The **Inspection and Maintenance Form – Oxley Creek AMMP** form shall be completed for all inspection and/or maintenance activities. Completed forms need to reside on the official file. A copy of the form shall be forwarded to LAS Area Coordinator – Open Space for information.

2.2	Reference Drawings	W5550 Sheets 0, 1, 2, 3B, 4, 4B, 5, 5B, 6, 6A, 7, 8, 8A, 9, 10, 11, 12A, 13, 14, 14B, 15, 15A, 16, 17, 18, 19A, 20, 20A, 21, 21A, 22, 22A, 23A, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 41, 42, 43, 46, 47, 48, 50, 51, 52, and SK1 to SK25.
3.0 INSPECTION		
3.1 ROUTINE INSPECTION		
3.1.1	Frequency	Routine inspections shall be undertaken as per the Schedule of Site Visits
3.1.2	Scope of Works	Routine inspections shall examine the following: High Level Bypass Channel Widened Main Channel Gabion Wall
3.1.3	High Level Bypass Channel	
	In bank Vegetation	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
	Crest of Embankment	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions Inspect the concrete footpath for cracking, tilting, undermining and scour along edges
	Downstream Embankment	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
3.1.4	Widened Main Channel	
	In bank vegetation	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
	Channel Banks	Inspect the grass cover for degree of coverage and condition Inspect the embankment for cracking, subsidence / settlement, erosion / scour, burrows / piping / holes and unusual conditions
3.1.5	Gabion Walls	
	Structural Integrity	Inspect the Gabion Wall from closest vantage point for signs of structural integrity or signs of damage.
3.2 ANNUAL INSPECTION		
3.2.1	Frequency	Annual inspections shall be undertaken generally once every year as per the Schedule of Site Visits
3.2.2	Scope of Works	Annual inspections shall examine the following: High Level Bypass Channel Mitigated Main Channel Gabion Walls Photographic records shall be taken during the annual inspection of all elements of the mitigation assets.
3.2.3	High Level Bypass Channel	
		Inspection of the high level bypass channel shall be as per the requirements of the Routine Inspection
3.2.4	Widened Main Channel	

		Inspection of the Widened Main Channel shall be as per the requirements of the Routine Inspection with the inclusion of the following: - Where the scheduled year for indicative section survey occurs or full creek survey is deemed necessary, undertake the appropriate survey. ***FIGURE 11*** shows locations for representative section survey and - Photos of representative locations as designated in ***FIGURE 12.***
3.2.5	Gabion Walls	
		Inspect the Gabion Walls for damaged mesh or overgrowth of vegetation in the gabion netting.
3.2.6	Low Flow Channels	
		Inspect the entire length of the low flow channels within the basin for erosion, deposition, vegetation and general condition.
3.3 INSPECTION FOLLOWING SIGNIFICANT STORM EVENT		
3.3.1	Frequency	Inspection shall be undertaken following a significant storm event.
3.3.2	Scope of works	The scope of works shall per as per the Annual Inspection
4.0 MAINTENANCE		
4.1	Frequency	Maintenance shall be undertaken whenever it is deemed necessary following an inspection of the mitigation assets.
4.2	Set-up and Preparation for Maintenance	
	Notification	At least three days prior to date of maintenance works, notify the following: LAS Area Coordinator – Roads and Drainage LAS Area Coordinator – Open Space
	Close Site	Ensure that all working areas are adequately fenced off with plastic barricade fence or similar and that temporary 'No Public Access' signs are erected to restrict entry to the area.
	Equipment	Ensure all necessary equipment to undertake the maintenance is operational and on site or readily available to minimise the time required to undertake the maintenance.
	Training	Ensure that all person(s) undertaking the works are adequately trained and have the necessary skills / licences.
4.3	Scope of Works	The scope of maintenance work required shall be determined during the site inspection.
4.4	Sediment Removal	
	Environmental Regulations	**Any desilting (sediment removal) activities carried out must comply with the conditions set by the EPA Licence No SR1251 – Maintenance Dredging at Numerous Sites Throughout Brisbane City Queensland.**
	Erosion and sediment control	Establish all necessary sediment and drainage control measures to ensure that accumulated sediment does not enter the downstream watercourse.
	Disposal of sediment	All sediment shall be removed from the site and disposed of at an appropriate waste management facility.
4.5	Debris and Trash Removal	
	Trash Removal	Remove any debris (large branches, excessive amounts of vegetative matter covering the ground etc)
	Transportation	The trash and debris shall be loaded into the back of a tip-truck. The truck shall be covered prior to leaving the site.
4.6	Vegetation	
	Herbicides	To prevent contamination of the creek water, herbicides **MUST NOT** be used.

	Disposal	All vegetative matter removed from the creek must be disposed offsite at an appropriate waste management facility.
	Replanting	Replant plant species where necessary in areas that have been extensively weeded.
4.7	Preparation for leaving the site	
	Tidy	Remove any litter and ensure the site is left in a tidy condition prior to leaving.
	Sediment Control Devices	Remove all sediment and drainage control devices prior to leaving.
	Repair Damage	Repair any damage that may have occurred during any maintenance works.

Dedicated to a better Brisbane

MEMORANDUM

Brisbane City Council

City Design
Water and Environment

Green Square South Tower
505 St Pauls Tce
Fortitude Valley Qld 4006
GPO Box 1434
Brisbane Qld 4001
Phone:
Facsimile:
Email:
Internet: www.brisbane.qld.gov.au

To: **Gavin Blakey** Date: **5/01/09**
Principal Engineer - Stormwater Infrastructure

Attn:
Senior Works Schedule Manager

From
Product Manager Design

Re: **Castlemaine Street, Milton to Brisbane River**
(3000 dia Stormwater Pipe)
Investigation of failed stormwater pipe liner

BRIEF CONFIRMATION

Thank you for your request to investigate the stormwater pipe liner issues relating to the 3.0m dia stormwater pipe from Castlemaine Street, Milton to the Brisbane River.

BACKGROUND

The tender for the construction of the major drainage project at Castlemaine Street, Milton (sometimes called Black Street) was let in January 2000 and reached Practical Completion on 2 June 2001. The drainline is within a tidal zone and the outlet was constructed approximately 750mm lower than design. Infrastructure Management raised concerns with respect to the Australian Standard utilised on the project for the manufacture of Precast Concrete Pipes.

Australian Standard AS4058-1992 (Precast Concrete Pipes) was adopted for this project. A review of the quality assurance documentation from CSR Humes (the supplier) confirmed the pipes manufactured comply with the standard. This standard requires a minimum of 20mm cover to reinforcing, the pipe design adopted for this project has an internal cover of 25mm.

Infrastructure Management, believed that the pipes should comply with AS3600-1995 (Structural Concrete Code) which requires a minimum of 40mm cover to reinforcing and recommended that the pipes should be lined to increase their life/durability to a minimum of fifty years.

Lining of the pipe was undertaken by Ultracoat Project Management and Contracting (UPMC) Pty Ltd and completed on 26 November 2001.

During a routine drainline inspection it was discovered the liner was sagging from the obvert of the pipe (refer attached photographs). The extent of the failure is unknown as only 16 metres of 350 metres was surveyed. Councils Pipe Survey Unit has indicated that they are not keen to undertake further work at this location for safety reasons.

RESULTS

Contract files for this project (243/103-61/99/2000 to 243/103-61/99/2000 P15) have been researched and all relevant information relating to the pipe, the installation and the relining were copied and are attached in chronological order.

Two main documents were found:

Firstly, Folio 14 – Memo from (Principal Contract Manager) to Barry Ball (Waterways Manager) explains the background and reasons for the installation of the pipe liner and provides a recommendation.

Secondly, Folio 19 – Is the Deed of Agreement between Brisbane City Council and Ultracoat Project Management and Contracting (UPMC) Pty Ltd. This document provides a 10 year warranty from the date of the completion of the installation of the liner, and an option to extend the warranty for further periods up to a maximum of 50 years. Pipe relining works were completed on 26 November 2001. The warranty provides for the repair of the liner (materials and labour) and also includes the damming and dewatering of the pipe. Ultracoat was also required to establish a $70,000 trust account for the purpose of making repairs to the liner.

RECOMMENDATIONS

It is recommenced that UPMC Pty Ltd be instructed to repair the failed pipe liner as per the warranty. This assumes that UMPC Pty Ltd still exists. If UMPC Pty Ltd no longer exists, its parent company Rhino Linings (Folio 12) should be instructed to undertake the repairs. Rhino Linings web site www.rhinolinings.com.au reports a Case Study titled Brisbane Pipeline (Folio 28) this is probably the Castlemaine Street project.

If you require any further information, please contact on ext.

Chris Wilson
Product Manager Design
Water and Environment
City Design

Dedicated to a better Brisbane

MEMORANDUM

Brisbane City Council

To: Manager
Local Asset Services South

Date: **6/7/09**

Attn:

CC:

From: Acting Product Manager Design

Re: **Drainage Investigation**
64 Leybourne Street, Chelmer

City Design
Water and Environment

Green Square South Tower
505 St Pauls Tce
Fortitude Valley Qld 4006
GPO Box 1434
Brisbane Qld 4001

Phone: [redacted]
Facsimile
Email:
Internet: www.brisbane.qld.gov.au

BRIEF CONFIRMATION

Thank you for your request to investigate the stormwater drainage issues within the property at 64 Leybourne Street, Chelmer and possible relief drainage to resolve the problem.

INVESTIGATION

To determine the effect of rainfall runoff on private property, investigations of the catchment and site inspection have been carried out to determine the capacity of the existing drainage system for various storm events. When inspecting the site the limit of the catchment area and existing pit types were confirmed.

RESULTS

Leybourne Street, Chelmer is included in the Faulkner Park Graceville Local Stormwater Management Plan undertaken in 1998. The LSMP (W10630) identified flooding to several properties including 64 Leybourne Street and recommended a drainage upgades from Oxley Road to Faulkner Park via Richardson Street. It has been listed in Schedule 72 for Major Drainage at an estimated cost of $4 million. It is currently programmed to start construction in the 2011/12 financial year.

Therefore, this investigation has explored an interim solution. The property is affected by runoff from a 22.7 ha catchment at a sag in Leybourne Street. The existing 1275 dia. drain line in 64 Leybourne Street has a pipe capacity of 2537 l/s. The capacity of the existing pipe is 76% adequate for Q2 and will have approximately 7960 l/s overland Q10 flows from the catchment, which is comparable to drainage in similar aged localities of Brisbane.

The proposed works shown on CDW5091292/SK1 outline the construction of a flap valve constructed in a manhole with a bolt down cover. The existing field inlet can remain or be reconstructed with the new manhole.

Underground services will not be crossed, therefore no allowance for alterations to services has been included in the estimate.

The proposed works shown on sketch CDW5091292/SK1 has been estimated in Ellipse at $13,302.32, Estimate 67148, Version 1. The total estimate including 40 percent contingencies is $18,623.25. Please attach a Work Request and Work Order to this estimate in Ellipse.

RECOMMENDATIONS

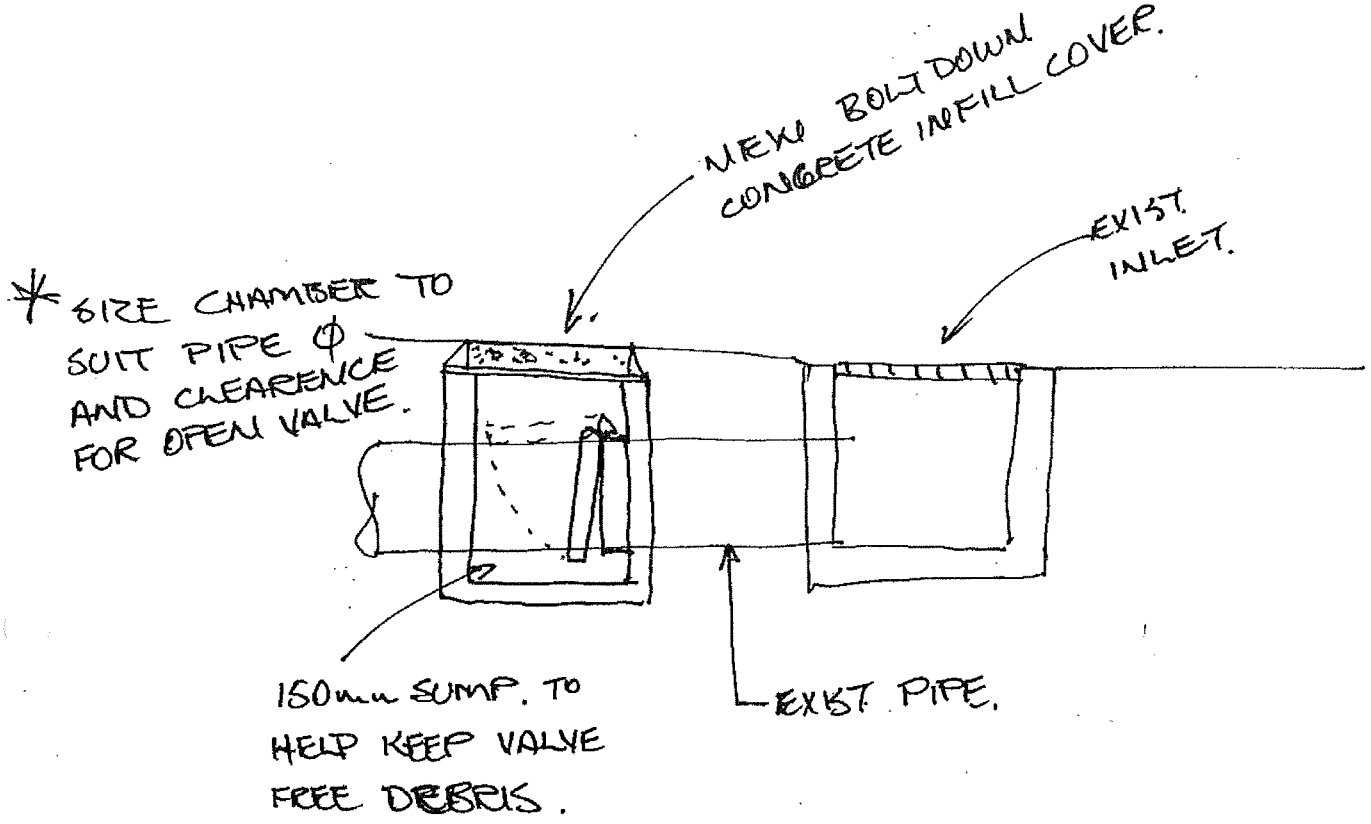
It is recommended that the proposed interim drainage works shown in on sketch CDW5091292/SK1 be listed in schedule 68 for future construction at an estimated cost of $18,623.25 to reduce the incidence of overland flow into 64 Leybourne Street, Chelmer.

If you require any further information, please contact Brett Darlington on ext. 74717.

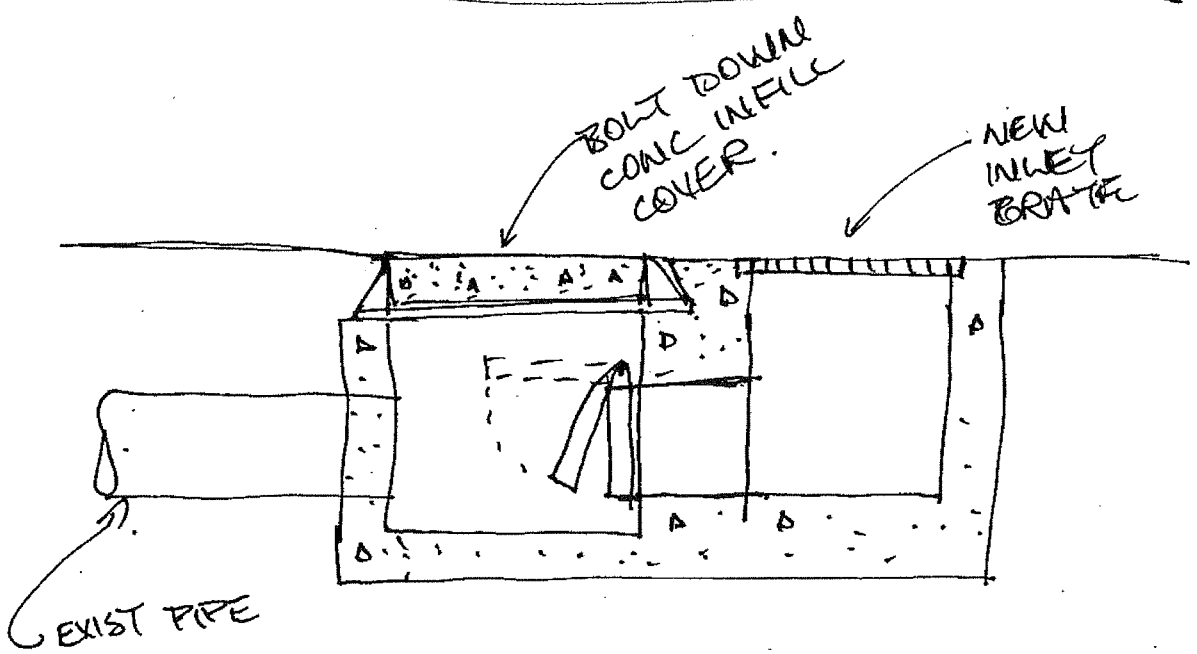
Approved: ...../...../.....

Brett Darlington
Acting Product Manager Design
Water and Environment
City Design

RPEQ .....
Stormwater Engineer
Stormwater Management



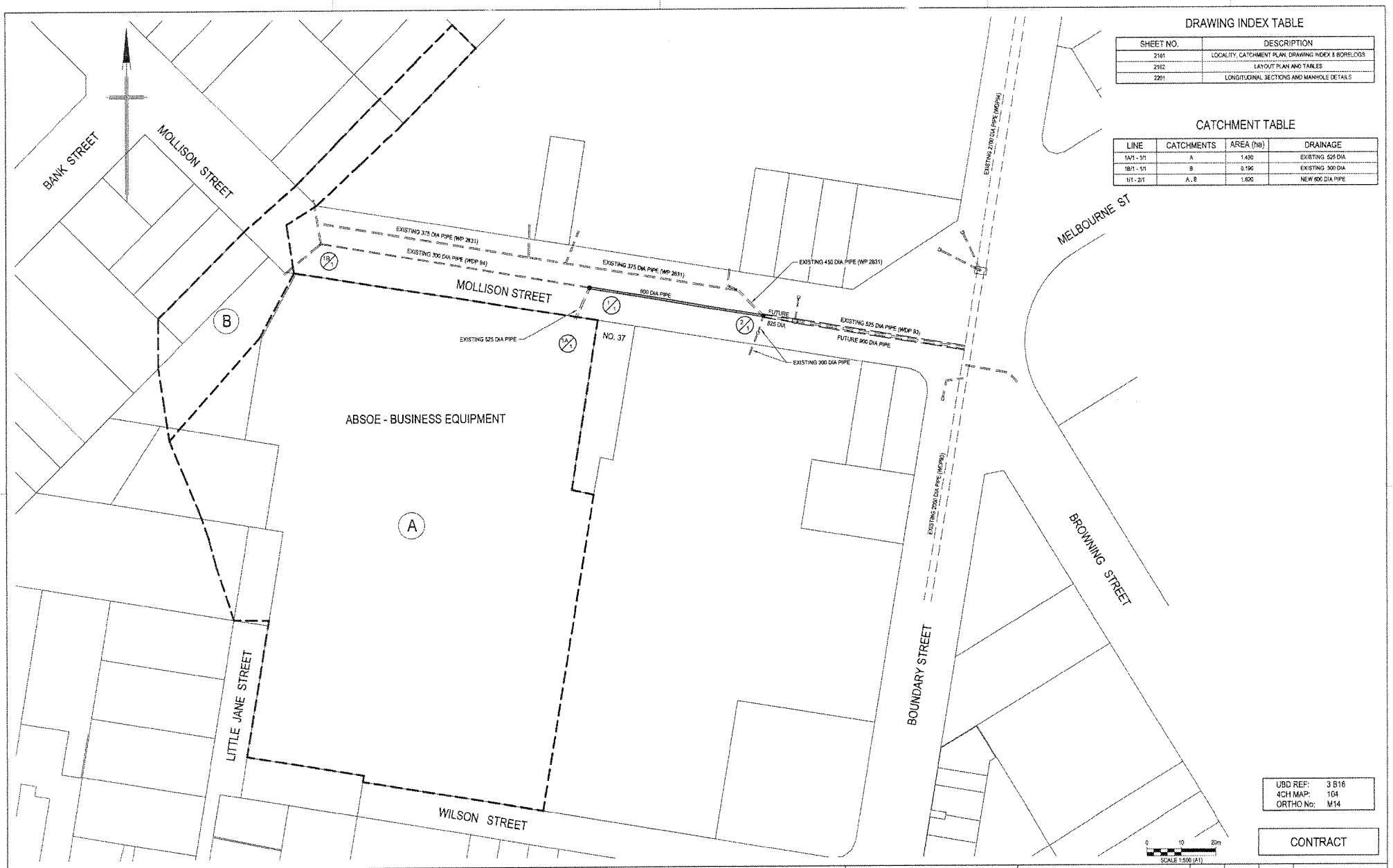
RETRO FIT EXIST INLET



NEW COMBINATION INLET & VALVE CHAMBER

C. WILSON.
18/5/09
NTS

BCC.129.0145



DRAWING INDEX TABLE

SHEET NO.	DESCRIPTION
2101	LOCALITY, CATCHMENT PLAN, DRAWING INDEX & BORELOGS
2102	LAYOUT PLAN AND TABLES
2201	LONGITUDINAL SECTIONS AND MANHOLE DETAILS

CATCHMENT TABLE

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1A/1 - 1/1	A	1.480	EXISTING 525 DIA
1B/1 - 1/1	B	0.190	EXISTING 300 DIA
1/1 - 2/1	A , B	1.600	NEW 600 DIA PIPE

UBD REF: 3 B16
4CH MAP: 104
ORTHO No: M14

CONTRACT

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	AUG 10	JMC	

Issue	Description	Date	Drawn	Auth.

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Survey Information
PSM 133830 RL 8.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

Project
DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title
LOCALITY, CATCHMENT PLAN, DRAWING INDEX & BORELOGS

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	R.P.E.Q. No. 13...

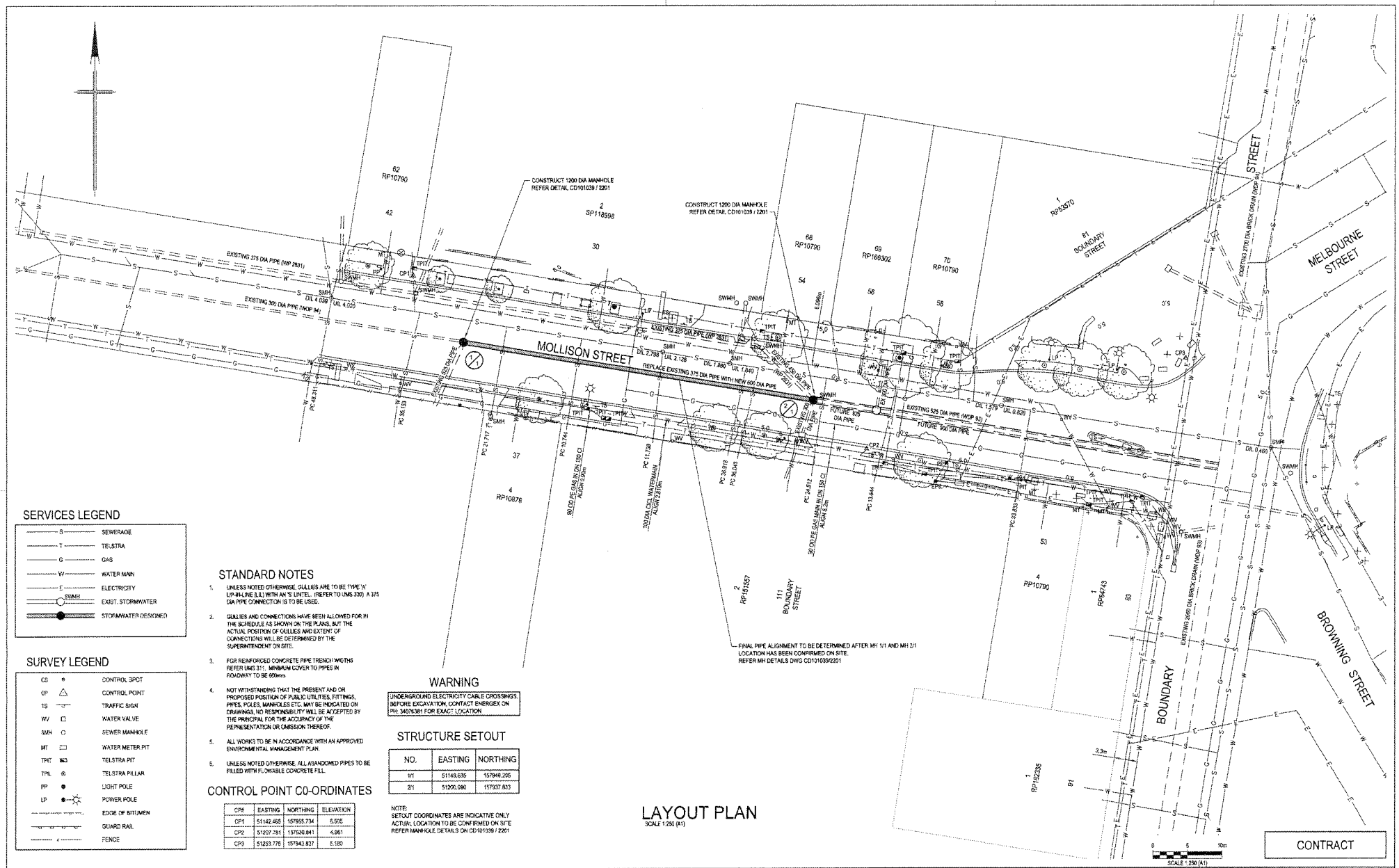
Reference No.

Scale: 1:500

Project Number / Sheet: CD 101039 / 2101

Issue: A

BCC.129.0144



SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
TS	TRAFFIC SIGN
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
TPIT	TELSTRA PIT
TPIL	TELSTRA PILLAR
PP	LIGHT POLE
LP	POWER POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP1	51142.455	157955.734	6.505
CP2	51207.781	157930.841	4.961
CP3	51253.776	157943.837	5.180

WARNING

UNDERGROUND ELECTRICITY CABLE CROSSINGS. BEFORE EXCAVATION, CONTACT ENERGEX ON PH: 34076361 FOR EXACT LOCATION.

STRUCTURE SETOUT

NO.	EASTING	NORTHING
1/1	51149.635	157948.205
2/1	51200.080	157937.833

NOTE:
SETOUT COORDINATES ARE INDICATIVE ONLY
ACTUAL LOCATION TO BE CONFIRMED ON SITE
REFER MANHOLE DETAILS ON CD101039 / 2201

LAYOUT PLAN

SCALE 1:250 (A1)

CONTRACT

City Design
Brisbane City Council
MAILING ADDRESS: GPO Box 1434 Brisbane Qld 4001
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e-mail: citydesign@brisbane.qld.gov.au
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Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	AUG 10	JMC	

Issue	Description	Date	Drawn	Auth.

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Survey Information
PSM 103639 RL 6.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

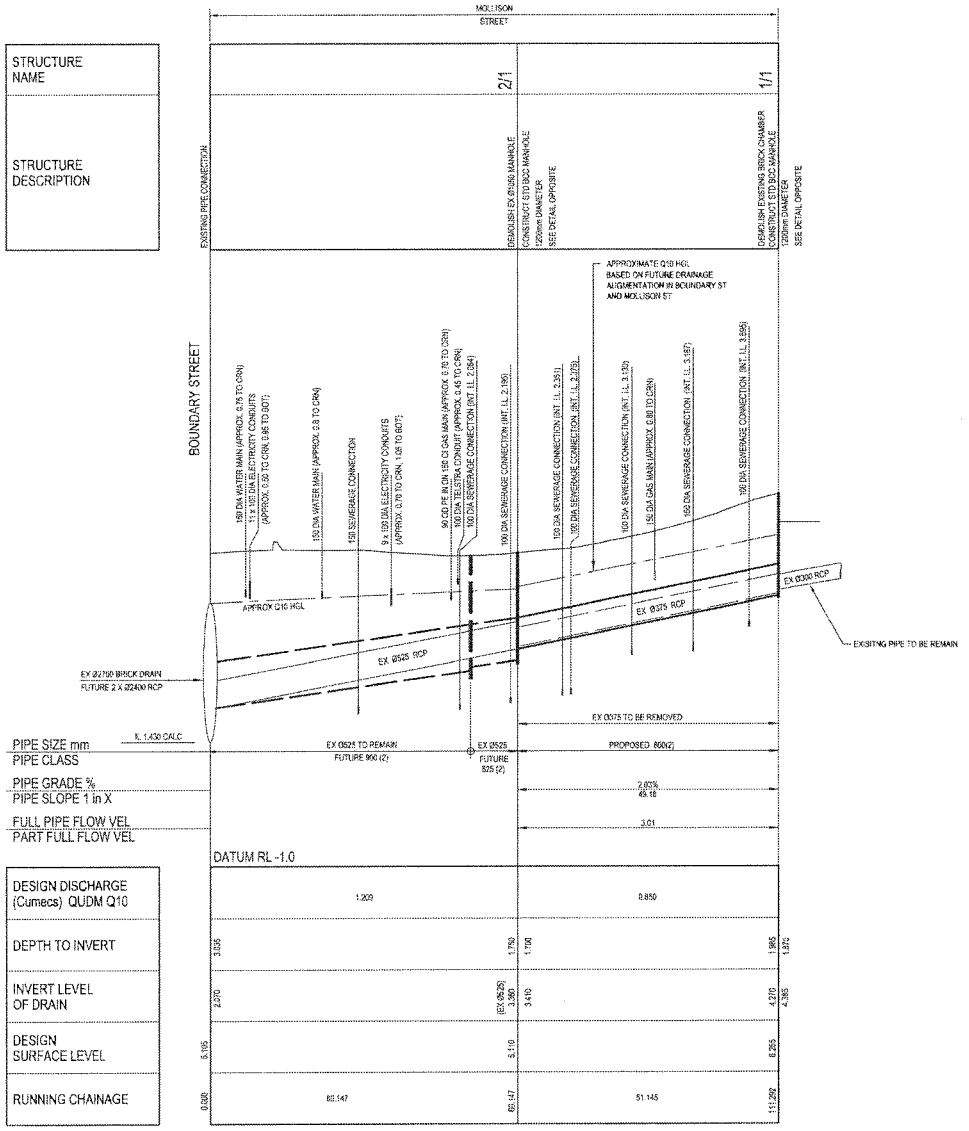
Project
DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title
LAYOUT PLANS AND TABLES

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	R.P.E.Q. No. 15...

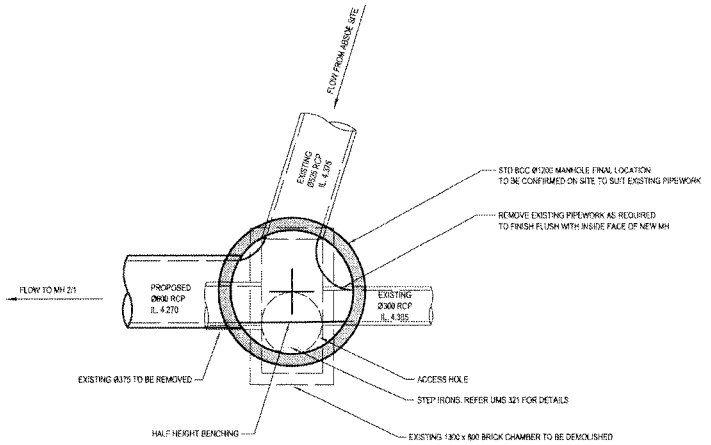
Reference No.
Scale 1:250
Project Number / Sheet: CD 101039 / 2102
Issue: A

BCC.129.0149



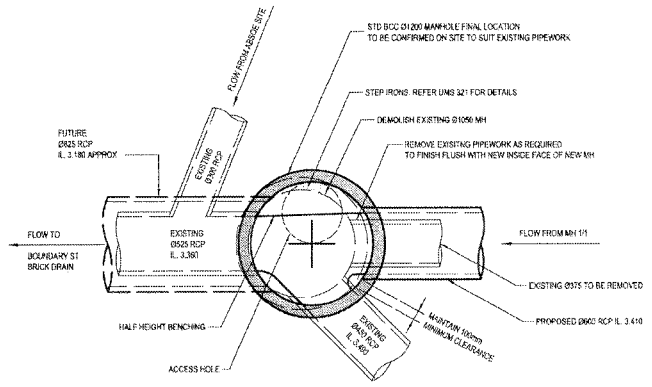
LONGITUDINAL SECTION

SCALE 1:500 H 1:50 V (A1)



MANHOLE 1/1 DETAIL

SCALE 1:25 (A1)



MANHOLE 2/1 DETAIL

SCALE 1:25 (A1)

0 0.5 1m
SCALE 1:25 (A1)

CONTRACT

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Audit
A	FOR CONSTRUCTION	AUG 10	JMC						

Survey Information
PSM 13080 RL 8.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

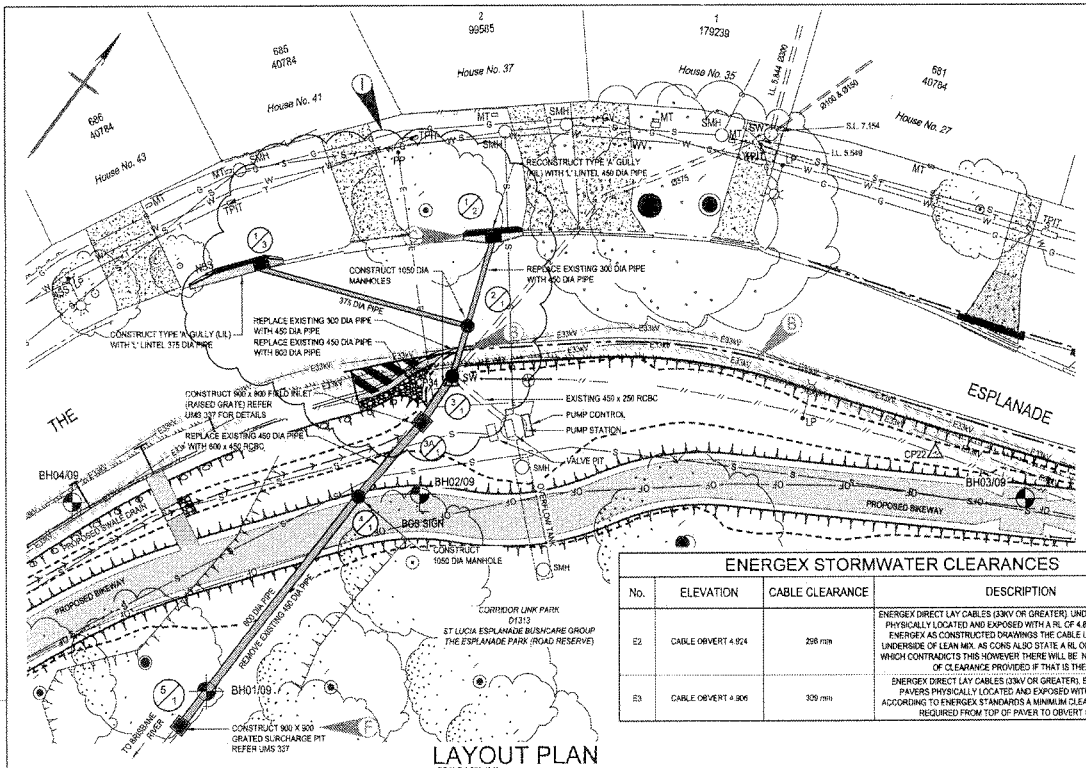
Project
DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title
LONGITUDINAL SECTION AND MANHOLE DETAILS

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	R.P.E.Q. No. 17511

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 101039 / 2201
Issue: A

BCC.129.0150



LAYOUT PLAN

SCALE 1:200 (A1)

STRUCTURE NAME	5/1	4/1	3A/1	3/1	2/1	2/1	1/2	2/1	1/3
STRUCTURE DESCRIPTION	CONSTRUCT 900 x 900 GRATED SURCHARGE PIT REFER UMS 337	STD BCC MANHOLE 1050mm DIAMETER	BCC FIELD INLET 900/600 (RAISED GRATE) TYPE 1 (100% BLOCKAGE FACTOR)	STD BCC MANHOLE 1050mm DIAMETER	STD BCC MANHOLE 1050mm DIAMETER	STD BCC MANHOLE 1050mm DIAMETER	BCC KERB IN LINE GULLY (SAG) 4.8m Lintel Type DE KAC	STD BCC MANHOLE 1050mm DIAMETER	BCC LIP IN LINE GULLY 4.8m Lintel, Type "D" KAC
PIPE SIZE mm	600(2)	600 x 450 (RCBC)	600(2)	450(3)	450(3)			375(3)	
PIPE CLASS									
PIPE GRADE %	0.43%	1.27%	0.91%	0.48%	0.54%			0.53%	
PIPE SLOPE 1 in X	232.39	78.45	109.55	210.00	184.08			190.29	
FULL PIPE FLOW VEL.	2.58	2.71	1.56	2.85	2.01			1.81	
PART FULL FLOW VEL									
DATUM RL 0.0									
DESIGN DISCHARGE (Cumecs) QUDM Q2	0.731	0.731	0.559	0.427	0.320			0.134	
DEPTH TO INVERT	1.436 / 2.640	2.640 / 1.805	1.403 / 1.505	0.725 / 0.887	0.867 / 0.859			0.887 / 0.868	
INVERT LEVEL OF DRAIN	3.400 / 3.550	4.170 / 4.200	4.403 / 4.440	5.210 / 5.230	5.330 / 5.370			5.230 / 5.320	
DESIGN SURFACE LEVEL	4.836 / 5.140	5.585 / 5.945	5.945 / 6.117	6.117 / 6.129	6.117 / 6.218				
RUNNING CHAINAGE	0.000 / 23.239	23.239 / 7.845	31.084 / 4.382	35.466 / 6.200	39.666 / 0.000 / 7.363			7.363 / 0.000 / 17.126	17.126
LINE	1				2			3	

LONGITUDINAL SECTIONS

SCALE 1:500 H 1:50 V (A1)

SCALE 1:50 (A1) SCALE 1:200 (A1) SCALE 1:500 (A1)

JOB NOTES

1. ALL LINE MARKING AND KERB AND CHANNEL TO BE CONSTRUCTED BY OTHERS.

WARNING
UNDERGROUND ELECTRICITY CABLES CROSSING. BEFORE EXCAVATION, CONTACT ENERGEX ON PH: 3407 8381 FOR EXACT LOCATION.

ENERGEX STORMWATER CLEARANCES

No.	ELEVATION	CABLE CLEARANCE	DESCRIPTION
E2	CABLE OBVERT 4.924	298 mm	ENERGEX DIRECT LAY CABLES (33KV OR GREATER) UNDERSIDE OF LEAN MIX PHYSICALLY LOCATED AND EXPOSED WITH A RL OF 4.634. ACCORDING TO ENERGEX AS CONSTRUCTED DRAWINGS THE CABLE LIES 100mm ABOVE UNDERSIDE OF LEAN MIX. AS CONS ALSO STATE A RL OF 5.100 IN THIS AREA WHICH CONTRADICTS THIS HOWEVER THERE WILL BE NO LESS THAN 292mm OF CLEARANCE PROVIDED IF THAT IS THE CASE.
E3	CABLE OBVERT 4.806	309 mm	ENERGEX DIRECT LAY CABLES (33KV OR GREATER). ENERGEX TRENCH PAVERS PHYSICALLY LOCATED AND EXPOSED WITH A RL OF 5.006 ACCORDING TO ENERGEX STANDARDS A MINIMUM CLEARANCE OF 160mm IS REQUIRED FROM TOP OF PAVER TO OBVERT OF CABLE.

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
NSS	NO STANDING SIGN
BCS	BRISBANE CITY COUNCIL SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
PP	POWER POLE
LP	LIGHT POLE
	EDGE OF BITUMEN
	FENCE

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
G	GAS
W	WATER MAIN
E	ELECTRICITY
E3.3kV	ENERGEX E33KV CABLE
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330). A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.

DRAWING INDEX TABLE

SHEET No.	DESCRIPTION
2101	LAYOUT PLAN AND LONGITUDINAL SECTIONS
2401	CALCULATION TABLE AND CATCHMENT PLAN

CONTROL POINT CO-ORDINATES

CP No.	EASTING	NORTHING	ELEVATION
CP 22	6029.518	2103.923	8.892
CP 34	5994.960	2065.155	5.962

STRUCTURE SETOUT

No.	EASTING	NORTHING
1/1	6012.306	2109.800
2/1	5993.308	2089.406
3/1	5994.736	2085.457
3A/1	5994.981	2081.082
4/1	5994.484	2073.262
5/1	5994.004	2050.020
1/2	5990.706	2096.296
1/3	5977.357	2063.173

NOMINAL LIP OF KERB LINE — GULLY LOCATION GIVEN FOR CENTRE OF PIT ON THE NOMINAL LIP OF CHANNEL LINE

GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)

NOT TO SCALE

FOR GULLY CONSTRUCTION DETAILS REFER UMS 331/5 FOR KERB IN LINE AND UMS 330 FOR LIP IN LINE

LIP OF KERB LINE — GULLY LOCATION GIVEN FOR CENTRE OF PIT ON THE LIP OF CHANNEL LINE

GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)

NOT TO SCALE

UBD REF: 179 F5
4CH MAP: 129
ORTHO No: 014

CONTRACT

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	DEC 09	MCW	DAS
B	AMENDED STORMWATER AND SEWER	JAN 10	MCW	DAS
C	GULLIES UPDATED	JAN 10	MCW	DAS
D	DESIGN SURFACE LEVELS UPDATED	JAN 10	MCW	DAS
E	ENERGEX CLEARANCE TABLE ADDED	FEB 10	MCW	DAS
F	PIT S/1 SIZE ADDED	MAR 10	MCW	DAS
G	INVERT AND SERVICE LEVELS AMENDED	APR 10	MCW	DAS
H	LINE S/1 TO 4/1 AMENDED	AUG 10	CJN	DAS
I	LINES 1,2, 3 AMENDED	SEP'10	CJN	DAS

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Green Square South Tower 505 St. Pauls Terrace Fortitude Valley, Qld 4006
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e-mail: citydesign@brisbane.qld.gov.au

Survey Information
PM 7670 R.L. 15.065 FB 10132/1

Datum	A.H.D.
Filenaming	100349
Field Book	10132/1

Project
DRAINAGE DESIGN
THE ESPLANADE
ST LUCIA

Title
LAYOUT PLAN
AND
LONGITUDINAL SECTIONS

Design	Drawn	Checked	Authorised for Issue
IH DEC 09	MCW DEC 09	CJN DEC 09	ORIGINAL SIGNED BY: D.A.SIMPSON 23.12.09 R.P.E.Q. No. 1911

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 100349 / 2101
Issue: I

BCC 129 0151

CALCULATIONS TABLE

Location / Time / Sub-catchment runoff / Inlet design

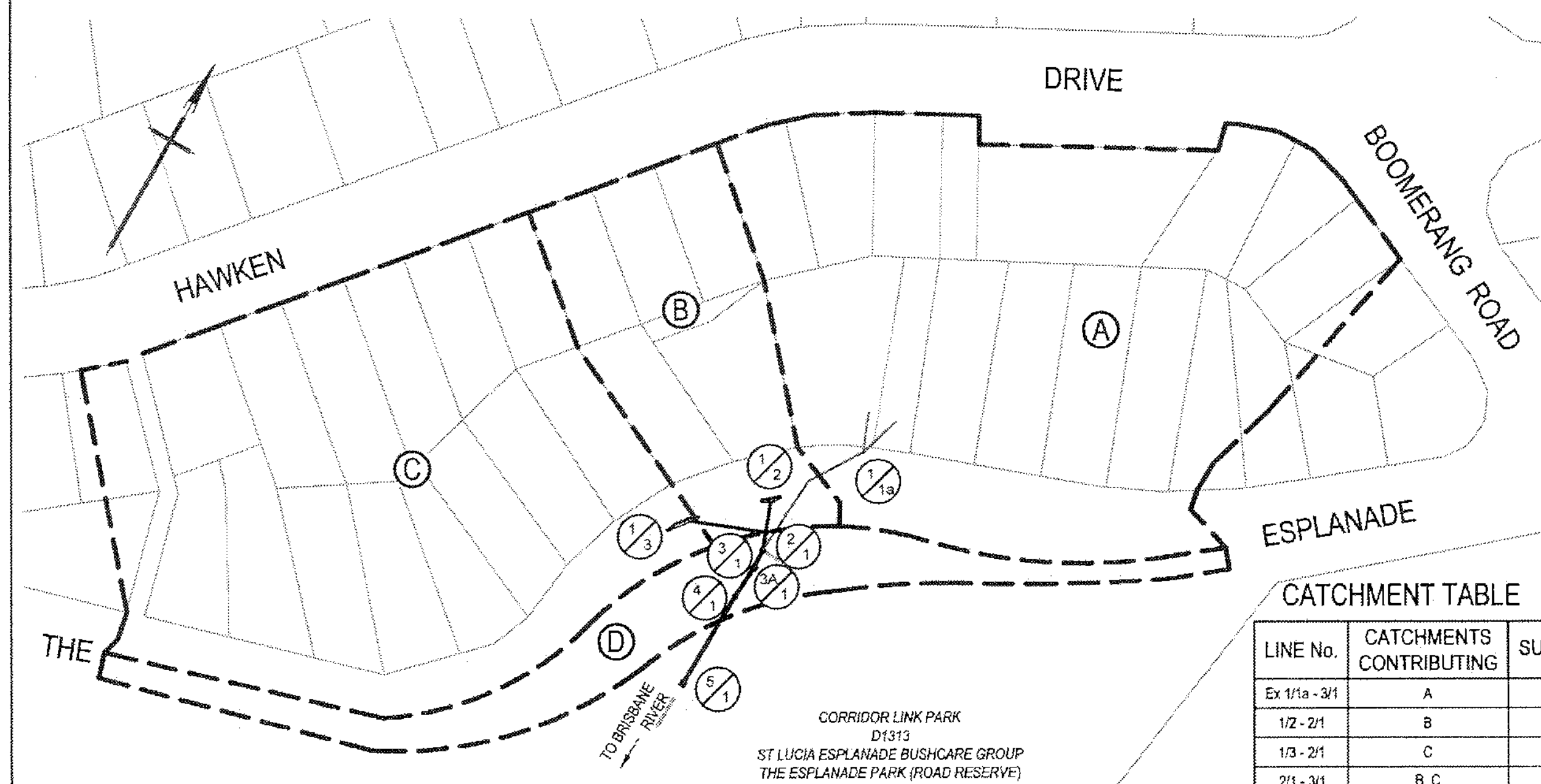
Design ARI (yrs)	Structure No.	Drain Section	Sub-catchments Contributing	Land Use	Slope of Catchment (%)	tc Sub-catchment Time of Conc. (min)	I Rainfall Intensity (mm/h)	C10 10yr Runoff Co-efficient	C Co-efficient of Runoff	A Sub-catchment Area (ha)	C*A Equivalent Area (ha)	+CA Sum of (C * A) (ha)	Q Sub-catchment Discharge (l/s)	Flow in K&C (Inc. Bypass) (l/s)	Road Grade at Inlet (%)	Minor Flow Road Capacity (l/s)	Inlet Type	Qg Flow into Inlet (l/s)	Qb Bypass Flow (l/s)	Bypass Structure No.
2 2	1/2	1/2 to 2/1	B			5.00 5.00	151 151		0.72 0.72	0.341 0.341	0.246 0.246	0.246 0.246	103 103	457 FLOW WIDTH/DEPTH	0.00	320 6.935m	29S.12	320	137	3A/1
2 2	1/3	1/3 to 2/1	C			6.00 6.00	141 141		0.72 0.72	1.076 1.076	0.777 0.777	0.777 0.777	304 304	304 FLOW WIDTH/DEPTH DOWNSTREAM	16.00	1916 2.362m 1.788m	6	134	170	1/2
2 2	2/1	2/1 to 3/1	B;C														44			
2 2	Ex1/1a	Ex1/1a to 3/1	A			6.00 6.00	141 141		0.72 0.72	1.138 1.138	0.822 0.822	0.822 0.822	322 322	322 FLOW WIDTH/DEPTH DOWNSTREAM	16.00	1916 2.425m 1.860m	6	138	184	1/2
2 2	3/1	3/1 to 3A/1	B;C;A														44			
2 2	3A/1	3A/1 to 4/1	B;C;A;D			5.00 5.00	151 151		0.75 0.75	0.260 0.260	0.195 0.195	0.195 0.195	82 82	219 FLOW WIDTH/DEPTH	10.00	194 5.194m	30S.12	194	25	
2 2	4/1	4/1 to 5/1	B;C;A;D														41			

Drain design

Structure No.	tc Critical Time of Conc. (min)	I Rainfall Intensity (mm/h)	+CA Total (C * A) (ha)	Qt Major Total Flow (l/s)	Qm Major Surface Flow Capacity (l/s)	Qs Major Surface Flow (l/s)	Qp Pipe Flow (l/s)	L Reach Length (m)	S Pipe Grade (%)	Pipe / Box Dimensions (Class) (mm)	V Flow Velocity Full (Pipe Grade Velocity) (m/s)	T Time of Flow in Reach (min)	Structure Chart No.	Structure Ratios for 'K' Value Calculations
1/2	5.00 5.00	151 151	0.246 0.246	103	0	0 (Pipe flow=	320 Grate flow)	7.363	0.54	450(3)	2.01 (1.32)	0.06		
1/3	6.00 6.00	141 141	0.777 0.777	304	2299	170 (Pipe flow=	134 Grate flow)	17.126	0.53	375(3)	1.21 (1.15)	0.24		Qg 0.134 Qo 0.134 Do 375 CHRT 32: Vo2/2gDo 0.20 H/Do Kg side flow 3.82 end flow 3.25
2/1	6.24 6.24	139 139	1.023 1.023	395	3447 (Pipe	0 flow=	427 Sum upstr	4.200 atten	0.48 flows)	450(3)	2.68 (1.24)	0.03		
Ex1/1a	6.00 6.00	141 141	0.822 0.822	322	2299	184 (Pipe flow=	138 Grate flow)	30.023	1.64	375(3)	1.25 (2.03)	0.40		Qg 0.138 Qo 0.138 Do 375 CHRT 32: Vo2/2gDo 0.21 H/Do Kg side flow 4.12 end flow 3.48
3/1	6.40 6.40	138 138	1.845 1.845	707	2778 (Pipe	149 flow=	559 Sum upstr	4.382 atten	0.91 flows)	600(2)	1.98 (2.07)	0.04		
3A/1	6.44 6.44	137 137	2.040 2.040	776	2778 (Pipe	46 flow=	731 Sum upstr	7.845 atten	1.27 flows)x	600 450 (RCBC)	2.71 (2.21)	0.05		Qg 0.176 Qo 0.731 Do 514 Flow 3/1 made eqv grate flow CHRT 32: Vo2/2gDo 0.83 H/Do Kg side flow 2.80 end flow 2.57 K vals above for stepped pipes as grate flow grate flow decreased by 0.555 from 3/1
4/1	6.49 6.49	137 137	2.040 2.040	776	2778 (Pipe	46 flow=	731 Sum upstr	23.239 atten	0.43 flows)	600(2)	2.58 (1.42)	0.15		Qo 0.731 Do 600 Flow 3A/1 made eqv grate flow CHRT 32: Vo2/2gDo 0.56 H/Do Kg side flow 3.41 end flow 3.05 K vals above for stepped pipes as grate flow grate flow decreased by 0.731 from 3A/1

Headlosses / Part full / Design levels

Structure No.	V2/2g Velocity Head (m)	Ku U/S Headloss Coefficient	hu U/S Pipe Struct. Headloss (m)	Kl Lat. Headloss Co-efficient	hl Lat. Pipe Struct. Headloss (m)	Kw W.S.E Co-efficient	hw Change in W.S.E (m)	Sf Pipe Friction Slope (%)	hf Pipe Friction Headloss (L * Sf) (m)	Depth (m)	Vp Velocity (m/s)	Obvert Levels (m)	Drain Section H.G.L (m)	Upstream H.G.L (m)	Lat. H.G.L (m)	W.S.E. (m)	Surface or K&C Invert Level (m)	Structure No.
1/2	0.206	0.50	0.103			0.50	0.103	1.26	0.093			5.720 5.680	6.140 6.047	6.243		6.243	6.129	1/2
1/3	0.075	3.82	0.285			3.82	0.285	0.59	0.100			5.695 5.605	6.147 6.047	6.432		6.432	6.218	1/3
2/1	0.366	0.80	0.293			0.80	0.293	2.24	0.094			5.680 5.660	5.754 5.660	6.047		6.047	6.117	2/1
Ex1/1a	0.080	4.12	0.328			4.12	0.328	0.62	0.186			5.375 4.882	5.720 5.534	6.048		6.048	6.881	Ex1/1a
3/1	0.200	1.40	0.280			1.40	0.280	0.83	0.036			5.050 5.010	5.254 5.218	5.534		5.534	5.945	3/1
3A/1	0.374	0.96	0.359	CHART 33 Angle 7 S/Do 2.5 Du/Do 1.17 Qg/Qo 0.24 K 0.92 S/Do 2.27 cor 0.04 Ku 0.96 Kw 0.96 K vals step pipes as pipe flow Ku 0.96 Kw 0.96		0.96	0.359	1.91	0.150			4.650 4.550	4.859 4.709	5.218		5.218	5.855	3A/1
4/1	0.339	1.09	0.370	CHART 51 ti 526 Do 600 theta 3 r/Do 0.88 Du 514 Du/Do 0.86 Kd 1.09 K'w 0.10 Vu 3.52 WSE 0.43 Ku 1.09 Kw 1.28 K vals step pipes as pipe flow Ku 1.09 Kw 1.28		1.28	0.434	1.42	0.329			4.110 4.010	4.339 4.010	4.709		4.773	6.140	4/1



CATCHMENT PLAN
SCALE 1:1000 (A1)

BRISBANE RIVER ⟶

CATCHMENT TABLE

LINE No.	CATCHMENTS CONTRIBUTING	SUM AREA (ha)	DRAINAGE PROVIDED
Ex 1/1a - 3/1	A	1.138	EXISTING 375 DIA PIPE
1/2 - 2/1	B	0.341	NEW 450 DIA PIPE
1/3 - 2/1	C	1.076	NEW 375 DIA PIPE
2/1 - 3/1	B, C	1.417	NEW 450 DIA PIPE
3/1 - 3A/1	A, B, C	2.555	NEW 600 DIA PIPE
3A/1 - 4/1	A - D	2.815	NEW 600 x 450 RCBC
4/1 - 5/1	A - D	2.815	NEW 600 DIA PIPE

BOREHOLE No.1/09

- 0.00m – 1.20m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 1.20m – 1.50m: MOTTLED BROWN, ORANGE AND GREY — SPT 3, 2, 13 N=15
- 1.50m – 2.60m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, MOTTLED BROWN, ORANGE AND GREY, MEDIUM PLASTICITY CLAY, SOME FINE GRAINED GRAVEL — SPT 4, 9, 16 N=25
- 2.60m – 2.95m: (SCI) SANDY CLAY — MEDIUM PLASTICITY, BROWN, FINE TO MEDIUM GRAINED SAND

BOREHOLE No.2/09

- 0.00m – 0.80m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.80m – 1.20m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, MOTTLED BROWN AND GREY, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 6, 9, 10 N=19
- (CI) SANDY CLAY — MEDIUM PLASTICITY, MOTTLES BROWN, ORANGE AND GREY, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 5, 7, 9 N=16
- 2.95m

BOREHOLE No.3/09

- 0.00m – 0.80m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.80m – 2.20m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, MOTTLED GREY, ORANGE AND BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL — SPT 3, 5, 5 N=10
- 2.20m – 2.60m: (CG) CLAYEY GRAVEL — FINE TO MEDIUM GRAINED, MOTTLED GRAY ORANGE AND PALE BWORN, MEDIUM PLASTICITY CLAY — SPT 30/105mm (HB)

BOREHOLE No.4/09

- 0.00m – 0.70m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.70m – 1.00m: (SC) CLAYEY SAND — FINE TO MEDIUM GRAINED, MOTTLED PALE BROWN AND BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL — SPT 1, 3, 7 N=10
- (CI) SANDY CLAY — MEDIUM PLASTICITY, MOTTLED BROWN, GREY AND ORANGE, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 4, 10, 14 N=24
- 2.95m

BORELOGS
SCALE 1:50 (A1)

0 1 2m — SCALE 1:50 (A1)

0 10 20 40m — SCALE 1:1000 (A1)

CONTRACT

City Design
Brisbane City Council
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e-mail: citydesign@brisbane.qld.gov.au
Dedicated to a better Brisbane

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	DEC 09	MCW	DAS
B	CALCULATIONS SHEET UPDATED	JAN 10	MCW	DAS
C	CALCULATIONS SHEET UPDATED	JAN 10	MCW	DAS
D	CALCULATIONS SHEET UPDATED	MAY 10	MCW	DAS
E	CALCULATIONS SHEET UPDATED	AUG 10	JRD	DAS
F	CALCULATIONS SHEET UPDATED	SEP'10	JRD	[signature]

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Survey Information: PM 7670 R.L. 15.065 FB 10132/1

Datum	A.H.D.
Filename	100349
Field Book	10132/1

Project: DRAINAGE DESIGN THE ESPLANADE ST LUCIA

Title: CALCULATION TABLE AND CATCHMENT PLAN

Design	Drawn	Checked	Authorised for Issue
IH DEC 09	MCW DEC 09	CJN DEC 09	ORIGINAL SIGNED BY: D.A.SIMPSON 23.12.09 R.P.E.Q. No. 1911

Reference No.:

Scale: AS SHOWN

Project Number / Sheet: CD 100349 / 2401

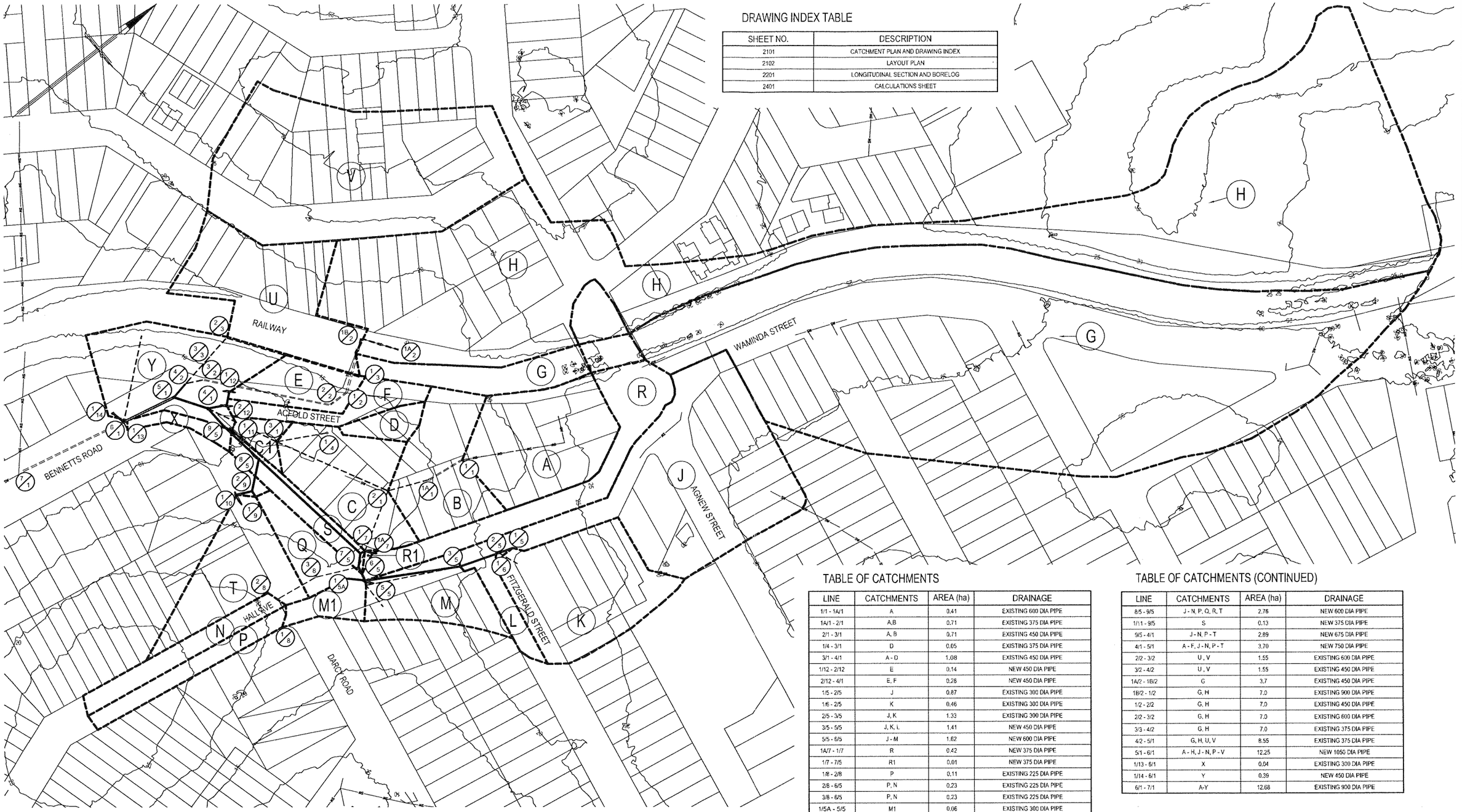
Issue: F

BCC.129.0152

BCC.129.0153

DRAWING INDEX TABLE

SHEET NO.	DESCRIPTION
2101	CATCHMENT PLAN AND DRAWING INDEX
2102	LAYOUT PLAN
2201	LONGITUDINAL SECTION AND BORELOG
2401	CALCULATIONS SHEET



CATCHMENT AND LOCALITY PLAN

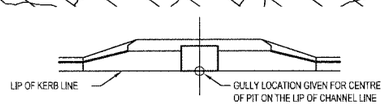
SCALE 1:1000 (A1)

TABLE OF CATCHMENTS

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1/1 - 1A/1	A	0.41	EXISTING 600 DIA PIPE
1A/1 - 2/1	A,B	0.71	EXISTING 375 DIA PIPE
2/1 - 3/1	A, B	0.71	EXISTING 450 DIA PIPE
1/4 - 3/1	D	0.05	EXISTING 375 DIA PIPE
3/1 - 4/1	A - D	1.08	EXISTING 450 DIA PIPE
1/12 - 2/12	E	0.14	NEW 450 DIA PIPE
2/12 - 4/1	E, F	0.28	NEW 450 DIA PIPE
1/5 - 2/5	J	0.87	EXISTING 300 DIA PIPE
1/6 - 2/5	K	0.46	EXISTING 300 DIA PIPE
2/5 - 3/5	J, K	1.33	EXISTING 300 DIA PIPE
3/5 - 5/5	J, K, L	1.41	NEW 450 DIA PIPE
5/5 - 6/5	J - M	1.62	NEW 600 DIA PIPE
1A/7 - 1/7	R	0.42	NEW 375 DIA PIPE
1/7 - 7/5	R1	0.01	NEW 375 DIA PIPE
1/8 - 2/8	P	0.11	EXISTING 225 DIA PIPE
2/8 - 6/5	P, N	0.23	EXISTING 225 DIA PIPE
3/8 - 6/5	P, N	0.23	EXISTING 225 DIA PIPE
1/5A - 5/5	M1	0.06	EXISTING 300 DIA PIPE
6/5 - 7/5	J - M, M1, P, N	1.91	NEW 600 DIA PIPE
7/5 - 5/5	J - M, M1, R, P, N	2.34	NEW 675 DIA PIPE
1/10 - 2/9	T	0.29	NEW 300 DIA PIPE
1/9 - 2/9	Q	0.13	NEW 300 DIA PIPE
2/9 - 8/5	Q,T	0.42	NEW 375 DIA PIPE

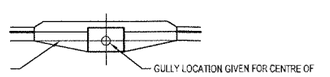
TABLE OF CATCHMENTS (CONTINUED)

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
8/5 - 9/5	J - N, P, Q, R, T	2.76	NEW 600 DIA PIPE
1/11 - 9/5	S	0.13	NEW 375 DIA PIPE
9/5 - 4/1	J - N, P - T	2.89	NEW 675 DIA PIPE
4/1 - 5/1	A - F, J - N, P - T	3.70	NEW 750 DIA PIPE
2/2 - 3/2	U , V	1.55	EXISTING 600 DIA PIPE
3/2 - 4/2	U , V	1.55	EXISTING 450 DIA PIPE
1A/2 - 1B/2	G	3.7	EXISTING 450 DIA PIPE
1B/2 - 1/2	G, H	7.0	EXISTING 900 DIA PIPE
1/2 - 2/2	G, H	7.0	EXISTING 450 DIA PIPE
2/2 - 3/2	G, H	7.0	EXISTING 600 DIA PIPE
3/3 - 4/2	G, H	7.0	EXISTING 375 DIA PIPE
4/2 - 5/1	G, H, U, V	8.55	EXISTING 375 DIA PIPE
5/1 - 6/1	A - H, J - N, P - V	12.25	NEW 1050 DIA PIPE
1/13 - 5/1	X	0.04	EXISTING 300 DIA PIPE
1/14 - 6/1	Y	0.39	NEW 450 DIA PIPE
6/1 - 7/1	A-Y	12.68	EXISTING 900 DIA PIPE



GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)

NOT TO SCALE



GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)

NOT TO SCALE

FOR EXISTING DRAINAGE REFER: C-2-450, WP880, WP4491

UBD REF: 24L9
4CH MAP: 106
ORTHO No: M18

0 10 20 40m

SCALE 1:1000 (A1)

CONTRACT

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Dedicated to a better Brisbane

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	MAR 10	MCW						

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Fugro

webmap

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Survey Information

Datum	A.H.D.
Filename	
Field Book	

Project

DRAINAGE DESIGN
BENNETTS ROAD
NORMAN PARK
(DARCY ROAD - ACFOLD STREET)

Title

CATCHMENT AND LOCALITY PLAN

Design	Drawn	Checked	Authorised for Issue
IEM MAR 10	MCW MAR 10		R.P.E.Q. No. 3585

Reference No.

Scale: AS SHOWN

Project Number / Sheet: CD 100074 / 2101

Issue: A

BCC.129.0154

STRUCTURE SETOUT

STRUC No.	EASTING	NORTHING
1/5	56558.086	157938.919
1/6	56566.323	157935.573
2/5	56555.589	157931.445
3/5	56548.260	157910.315
1/8	56510.049	157819.741
2/8	56500.412	157821.873
3/8	56504.036	157845.507
1/5A	56515.549	157858.584
1/5B	56524.454	157863.918
5/5	56522.079	157865.205
6/5	56514.080	157866.981
1A/7	56512.926	157877.630
1/7	56509.346	157875.191
7/5	56508.835	157872.365
1/1	56503.416	157947.640
1A/1	56500.689	157927.013
2/1	56491.434	157905.372
1/10	56441.962	157839.935

STRUCTURE SETOUT

STRUC No.	EASTING	NORTHING
1/9	56449.360	157847.297
2/9	56445.638	157847.527
8/5	56434.187	157861.444
1/2	56435.501	157921.311
2/2	56435.149	157909.912
3/2	56381.659	157864.777
4/2	56377.208	157855.977
1/11	56412.822	157859.547
9/5	56408.549	157857.593
1/12	56395.527	157871.434
2/12	56400.203	157865.044
1/4	56446.129	157899.302
3/1	56432.837	157874.873
4/1	56395.361	157856.889
5/1	56379.042	157845.193
1/13	56377.209	157815.342
1/14	56365.188	157814.802
6/1	56372.564	157816.450

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP1	56383.68	157848.5	8.687
CP2	56429.63	157903.9	10.508
CP3	56411.53	157848.1	9.625
CP4	56435.44	157864.8	10.734
CP5	56455.92	157909	11.341
CP6	56432.54	157890.5	10.027
CP7	56473.46	157911.1	11.372
CP8	56449.08	157896.8	10.268
CP9	56500.7	157835.9	17.942

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP10	56488.61	157872.4	13.914
CP11	56528.51	157869.9	16.837
CP12	56557.84	157935.2	20.866
CP13	56492.92	157910.5	12.973
CP14	56471.52	157905.1	11.203
CP15	56482.27	157898.6	11.671
CP16	56460.82	157895.2	10.409
CP17	56500.71	157927	14.81

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
W	WATER MAIN
E	ELECTRICITY
E33kV	33kV ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
TS	TRAFFIC SIGN
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
TPIT	TELSTRA PIT
PP	LIGHT POLE
LP	POWER POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE

LAYOUT PLAN

SCALE 1:250 (A1)

0 5 10m

SCALE 1:250 (A1)

CONTRACT

City Design
Brisbane City Council

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e-mail: citydesign@brisbane.qld.gov.au

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Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	APR 10	MCW	

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Survey Information		
	Datum	A.H.D.
	Filename	
	Field Book	

Project

DRAINAGE DESIGN
BENNETTS ROAD
NORMAN PARK
(DARCY ROAD - ACFOLD STREET)

Title

LAYOUT PLAN AND TABLES

Design	Drawn	Checked	Authorised for Issue
IEM MAR 10	MCW MAR 10		R.P.E.Q. No. 3585

Reference No.	Scale
	AS SHOWN

Project Number / Sheet	Issue
CD 100074 / 2102	A

	Brisbane Infrastructure **City Design** **Project Brief – Major Projects**	**CD F 403 001** Date: 23 May 2002 Rev no: 1A Rev date: 23 May 2011 Pages: 1 of 3

This Project Brief should be completed by / with Client. Client to sign and retain copy. Original to be forwarded to City Design.

CLIENT DETAILS AND TIMEFRAME

Client Contact [redacted]	Officer Code. LTOW3	Phone Number 70040
Division/Purchaser/Location Local Asset Services West	Area ID No.	Fax Number 70029

Date Brief Received 27 / 7 / 10	Date Project Required by Client 30 / 12 / 10	Date Project Promised 30 / 12 / 10
CD Project No. CD090085	Agreed Fee for service (if applicable) $ 5,000	Budget Allocation (if applicable)

PROJECT DETAILS

Project Title Castlemaine Street	Location/Suburb Milton	Schedule No. (if applicable) 74

General Description of Project

Investigate preliminary (initial) drainage rehabilitation works at Castlemaine Street, Milton

Functional Requirements (size, shape, functions, purpose, use, etc)

Minimium Q2 underground relief pipe drainage. Q10 immunity to utilities and living areas

Serviceability Requirements (estimated life, maintainability, etc)

N/A

Reason for Work (if known)

Existing relining failing in Castlemaine Street, Milton

Tick where applicable

SERVICE TO BE PROVIDED BY CITY DESIGN

☐ Site Inspection	☐ Investigation/Testing/Feasibility	☐ Site Development Checks
☐ Design Cost Estimate	☐ Specifications	☐ Constructability Check (BCW)
☐ Construction Cost Estimate	☐ Quantity Schedules	☐ Model
☐ Contract Documents	☐ Concept Design/Layout	☐ Public Consultation
☐ Written Advice / Report	☐ Detailed Sketches	☐ Landscape Design
☐ Design Certification	☐ Design/Working Drawings	☐ Public Lighting Design
☐ Construction Certification	☐ Consultant's Brief	☐ Other: _____
☐ Construction Inspection	☐ Consultant Drawing Checks	☐ Risk Mitigation

CONSULTANTS AND SERVICE AUTHORITIES

The following consultants or service authorities may be involved in this Project. All briefing, instructions, and verbal communication will be through the nominated officer:

Other Council	Briefed and Coordinated by	Comments
☐ City Business	☐ City Design ☐ Client	
☐ Brisbane City Works	☐ City Design ☐ Client	
☐ Brisbane Transport	☐ City Design ☐ Client	
☐ Brisbane Water	☐ City Design ☐ Client	
☐ City Governance	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

External Service Authorities	Briefed and Coordinated by	Comments
☐ Powerlink	☐ City Design ☐ Client	
☐ Energex	☐ City Design ☐ Client	
☐ Telecom / Optus	☐ City Design ☐ Client	
☐ Gas	☐ City Design ☐ Client	
☐ Moonie Oil	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

External Departments / Authorities	Briefed and Coordinated by	Comments
☐ Transport (Q.R., M.R.D.)	☐ City Design ☐ Client	
☐ Port Authority	☐ City Design ☐ Client	
☐ Environment & Heritage	☐ City Design ☐ Client	
☐ Natural Resources	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

Specialist / Nominated Consultant	Briefed and Coordinated by	Comments
☐ _____	☐ City Design θ Client	

E & C SUBMISSIONS

	Prepared and Submitted by	
☐ Planning / Design Issues	☐ City Design ☐ Client	
☐ Land Resumptions / Easements	☐ City Design ☐ Client	
☐ Public Consultation	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

LEGISLATIVE APPROVALS

The following legislative approvals may be required and will be controlled as nominated. It should be noted that some approvals require several months to obtain.

Approval	Initiated and Process by	Comments
☐ City Plan Approval	☐ City Design ☐ Client	
☐ Building Approval	☐ City Design ☐ Client	
☐ Section 86, Harbours Act and/or 51 Fisheries, 89 Dredging, 266 Riverine, Permits	☐ City Design ☐ Client	
☐ Workplace Health & Safety	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

AUTHORISATION

This project brief is a summary of the formal agreement between City Design and the Client. As such, City Design's representative and the client's representative should both have the necessary authority to approve the brief.

This Project Brief has been reviewed with the Client. ☐ Yes ☐ No

Signature of Review Officer	Officer Code	Date
		/ /

I acknowledge the scope and intent of this project brief and authorise City Design to initiate the work as described above and overleaf.

Signature of Client's Representative	Officer Code	Date
		/ /

This form shall be filed in the Project File

From :

To :

pauls [redacted] R>

Sent :

24/03/2011 3:16:54 PM

Subject :

3 000 mm dia Tideflex Checkmate valve

Hi Paul,

As discussed I'm interested in the feasibility of installing a "checkmate" valve in a 3 000 mm dia stormwater pipe at Milton. The invert level of the pipe is -3.9m AHD and the obvert is -0.88 m AHD which is close to Mean Low water Springs. Mean high water springs at this location is 0.98 m AHD. The Defined Brisbane River Flood Level at this point is 5.00 m AHD.

From the attached photo of the outlet you can see there is also a 1200 mm dia and a 2400 mm Dia outlet which may subsequently require valves.

Can you please assess the feasibility of installing a checkmate valve on the 3 000 mm dia pipe and the indicative head loss. As you can see from the attached longitudinal section the road level upstream is very low. I'd also need a rough order of cost to supply. Ideally I'd also like an indication of installation cost but understand the specific nature of this installation is not standard that is not possible. what I would like is an indication of just what needs to be done to install the checkmate valve so we can then subsequently gauge what the install cost would entail.

Regards

Principal Design Project Manager
WATER & ENVIRONMENT
CITY DESIGN
Level 1, Green Square South Tower
505 St Paul's Terrace, Fortitude Valley Qld 4006
PO Box 1434, Brisbane Qld 4001

<[redacted]

Attachments :

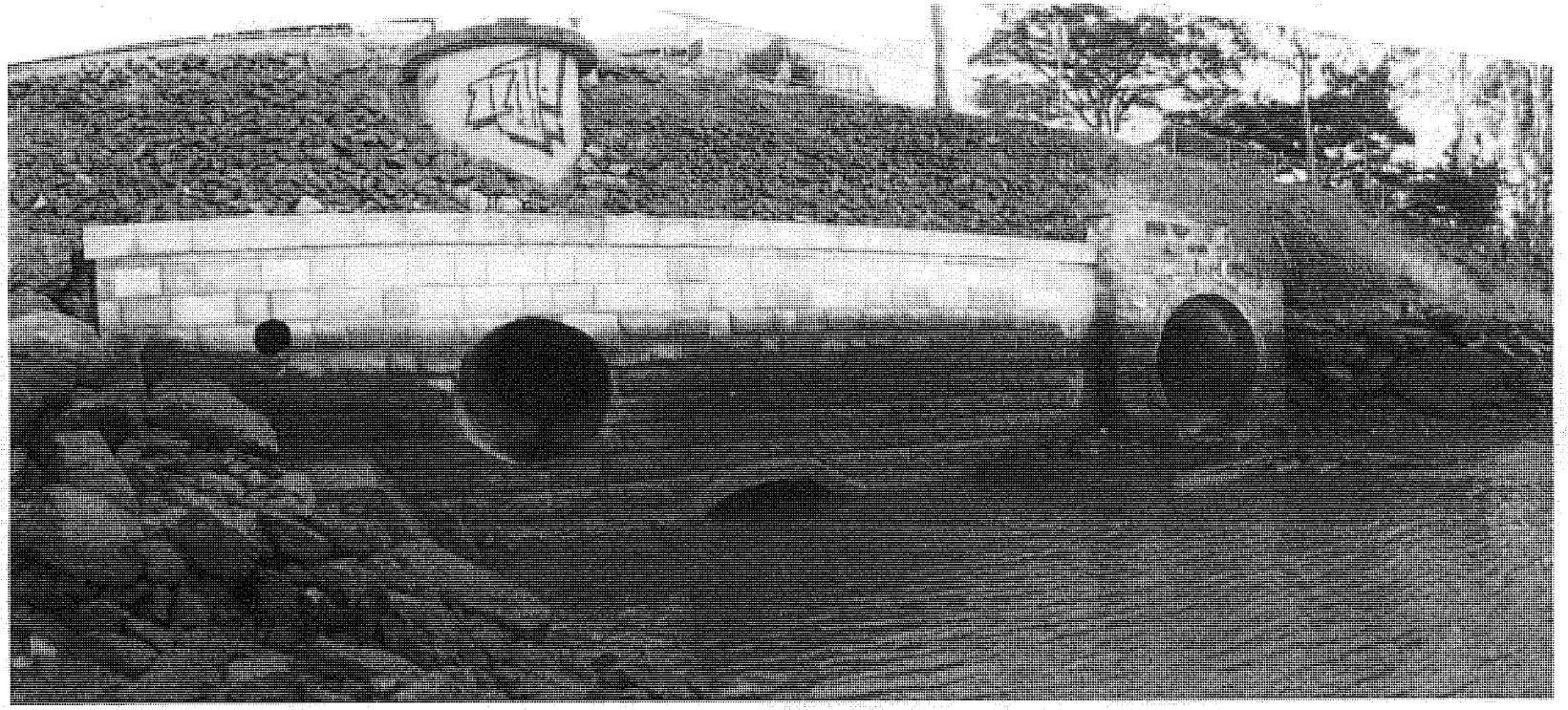
img-324143548.pdf

img-324143620.pdf

\\CL1CD1\CD1\Project\040604_MORETON_ST_PADDINGTON\Drainage\Documents\E-mail\DougalC\Out\Trans Pacific - Troy Wrathall 13 Jun 06.doc
Date: Tue, 13 Jun 2006 15:56:58 +1000
Fro
To:
Cc:
Subject: **Attn** **(Trans Pacific) - Pipe Survey of 3m dia pipe - Milton**
Part(s): 2 **IMG_0743a.jpg** image/pjpeg 116.28 KB

hello Troy
attached is a pic taken yesterday (12th June at 4.30pm - Low Tide) at the outlet (off Coronation Drive) of the 3m dia pipe - the top 300mm or so of which is just visible

Regards
Senior Designer
Brisbane City Council, City Design, Water and Environment, Drainage Design
Level 3 T.C. Beirne Building
315 Brunswick St Mall, Fortitude Valley Qld 4006
Locked Mail Bag 6996, Albion Qld 4010



BOREHOLE No.1 (25-3-76)

Date :

Surface Level

Depth	
0.00m	(CH) CLAY FILL, MOIST BROWN GRAVELLY CLAY
2.44	(CI) SILTY CLAY, MOIST RED-BROWN, VERY STIFF CLAY.
3.66	(DR) DECOMPOSED ROCK, BROWN GRAVELLY CLAY, WITH APPEARENCE OF DECOMPOSED ROCK TENDING TO BE VERY WEATHERED.
5.49	(R) ROCK, VERY WEATERED BROWN ROCK WITH CONTORTED BEDDING TENDING TO BE VERY WEATHERED.
11.12	

BOREHOLE No.2 (25-3-76)

Date :

Surface Level

Depth	
0.00m	(G) GRAVEL, GRAVEL FILL
1.83	(CI) SILTY CLAY, MOIST AND FIRM, BROWN-GREY.
5.49	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
7.62	(R) ROCK, VERY WEATERED BROWN SCHIST WITH CONSIDERABLE FRACTURING ALONG BEDDING, QUARTZ SEAMS.
13.41	

BOREHOLE No.3 (29-3-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, STONY FILL MATERIALS
0.61	ASH FILL
2.13	(CI) SILTY CLAY, MOIST, DARK GREY BROWN-GREY SILTY CLAY
5.79	VERY MOIST TO SATURATED, GREY AND BROWN GRITTY CLAY.
6.71	VERY MOIST DARK GREY SILTY CLAY
10.06	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
13.72	(R) ROCK, VERY WEATERED BROWN MOSTLY BROWN AND WHITE SCHIST WITH QUARTZ SEAMS.
16.69	WEATHERED SCHIST, MOSTLY GREY AND WHITE WITH A FEW CLAY SEAMS, CONTORTED BEDDING.
17.83	

BOREHOLE No.4 (30-3-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, STONE AND ASH FILL MATERIALS
3.35	(CI) SILTY CLAY, JUST FIRM, GREY AND BROWN VERY SOFT, DARK GREY SILTY CLAY
4.88	
13.11	STIFF, DARK GREY GRAVELLY CLAY
14.63	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK, CLAY SEAMS.
17.50	(R) ROCK, WEATHERED, GREY AND WHITE SCHIST, CONTORTED BEDDING AND CONSIDERABLE QUARTZ AND SILICIFCATION.
20.42	

BOREHOLE No.5 (31-3-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, GRAVEL AND STONE MATERIALS.
0.50	ASH FILL
1.20	(CI) SILTY CLAY, MEDIUM FIRM, MOIST, BROWN AND GREY.
3.70	VERY SOFT, DARK GREY, HIGHLY PLASTIC, MARINE SILTY CLAY.
14.30	STIFF TO VERY STIFF, MOIST, BROWN SILTY CLAY.
17.40	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
18.29	(R) ROCK, HARD WEATHERED, GREY AND WHITE SCHIST WITH MAJOR SILICIFICATION AND QUARTZ SEAMS. CONTORTED BEDDING, SOME FRACTURING AND MINOR CLAY SEAMS.
21.18	

BOREHOLE No.6 (31-3-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, GRAVEL AND STONE MATERIALS.
0.90	BLACK ASH FILL
1.83	(CI) SILTY CLAY, MEDIUM FIRM, MOIST BROWN AND GREY.
3.66	VERY SOFT, SATURATED, DARK GREY CLAY, HIGH PLASTICITY.
7.92	(DR) DECOMPOSED ROCK, DECOMPOS VERY WEATHERED SCHIST ROCK AND C SEAMS.
10.36	(R) ROCK, VERY WEATHERED, GREY, I WHITE SCHIST WITH QUARTZ AND CLA CONTORTED BEDDING, VERY FRACTURED WEATHERED, GREY AND WHITE SCHIST MAJOR SILICIFICATION. CONSIDERABLE FI
11.73	
14.35	

BOREHOLE No.7 (5-4-76)

Date :

Depth	
0.00m	(F) FILL, GRAVEL MATERIALS.
1.80	(CI) SILTY CLAY, VERY SOFT, SATU DARK GREY.
3.55	MEDIUM FIRM, MOIST, YELLOW-BROWN C CLAY.
4.30	(DR) DECOMPOSED ROCK, DECOMPOS VERY WEATHERED SCHIST ROCK AND CL SEAMS.
6.10	

BOREHOLE No.8 (5-4-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, GRAVEL AND BROKEN SCHIST FILL MATERIALS.
1.52	(CI) SILTY CLAY, SOFT TO VERY SOFT, SATURATED, DARK GREY MARINE CLAY.
5.20	(DR) DECOMPOSED ROCK, DECOMPOSED ROCK AND CLAY.
5.35	

BOREHOLE No.9 (5-4-76)

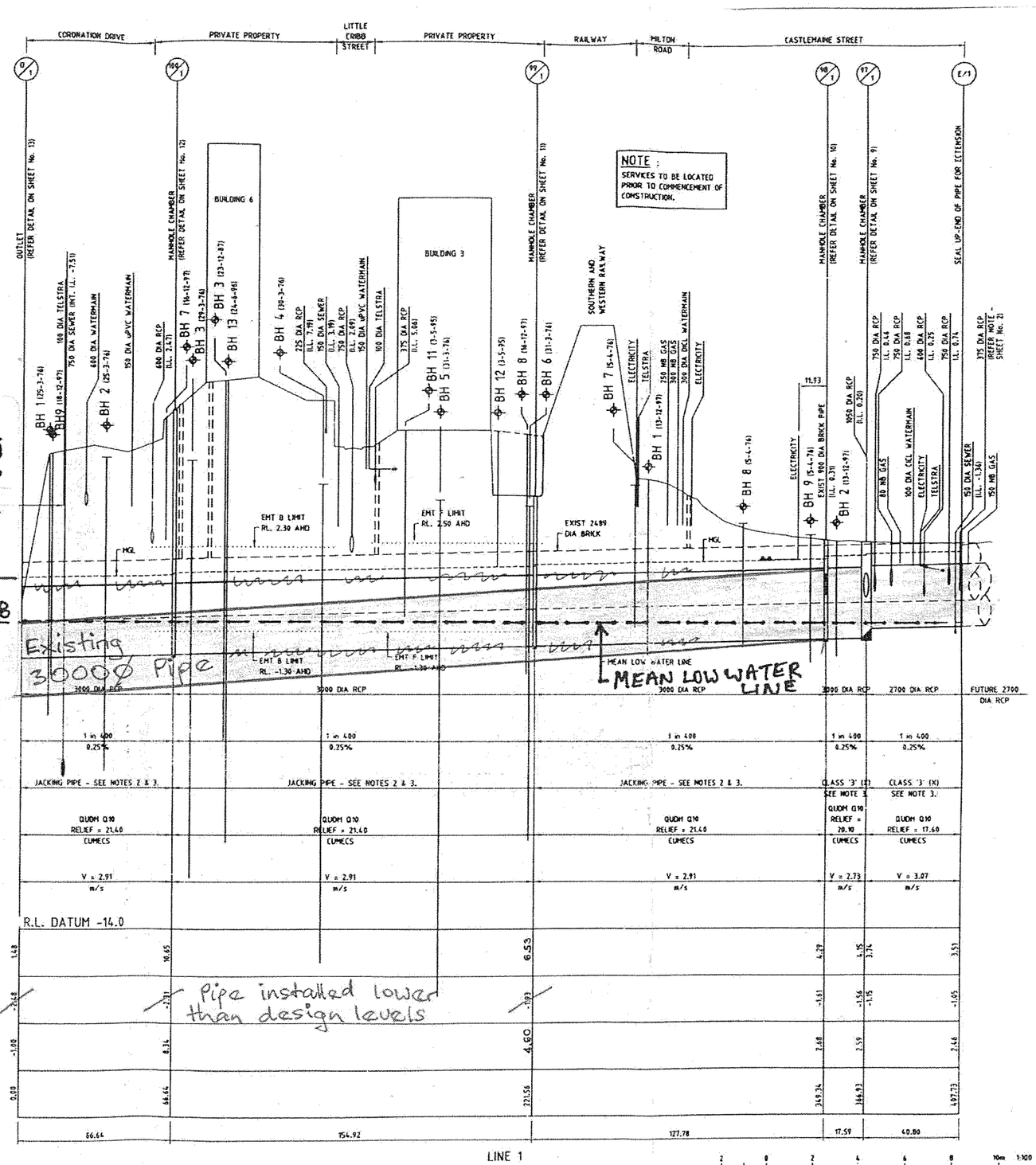
Date :

Surface Level

Depth	
0.00m	(F) FILL, GRAVEL FILL MATERIALS.
0.91	(CI) SILTY CLAY, MEDIUM FIRM, MOIST, GREY AND BROWN.
2.13	SOFT TO VERY SOFT, SATURATED, DARK GREY, SILTY MARINE CLAY.
5.50	

NOTE :

1. FOR FUTHER BOREHOLE INFORMATION LOGS REFER DWG W10506-7.
2. JACKING PIPE CLASS TO BE DETERMINED BY CONTRACTOR IN CONJUNCTION WITH THE PIPE MANUFACTURER.
3. PIPES TO BE SALTWATER RESISTANT.
4. CAUTION - DATES OF BORELOG DISTINGUISH SAME NUMBER LOGS.



Wade Lester Consultants Pty Ltd.
12th Floor, 141 Queen St, Brisbane, Qld 4000
GPO Box 2356, Brisbane, Qld Australia 4001
Phone (07) 3229 1183 Fax (07) 3221 7088
A.C.N. 010 241 719

CERTIFIED BY F.R.CRANE
RPEQ 31 Date 12/1/98

AMENDMENT		DATE	CHECKED	AUTHORISED	MICRO.
A	PSM ADDED	21-1-98			

CONTACT SURVEYOR-IN-CHARGE CHECKING ENGINEERED PERMANENT SURVEY MARKS

DATUM: A.H.D. FIELD BOOK FILENAME

REFERENCE:- B.M.

PSM 89459 R.L. 13.995 - CASTLEMAINE STREET

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE. [redacted] DESIGN DATE 24/1/98

CADD REFERENCE

PLAN CUSTODIAN

REGISTERED RX 23-11-98

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	19/1/98
CHECKED		19/1/98
DRAWN		19/1/98
PASSED		19/1/98

FILE NO. 240/17 (67)

SERVICES FILE NO.

ACQUISITION FILE NO.

SUB PLAN NO.

Brisbane City

RELIEF DRAINAGE

BLACK STREET

MILTON

DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 6 OF 12	PLANS No.	
DRAWING No.	SHEET No.	AMEND.
W10506	6	A

BCC.129.0160

Dedicated to a better Brisbane

MEMORANDUM

Brisbane City Council

To: Manager
Local Asset Services South

Date: **6/7/09**

Attn:

CC:

From: Acting Product Manager Design

Re: **Drainage Investigation**
64 Leybourne Street, Chelmer

City Design
Water and Environment

Green Square South Tower
505 St Pauls Tce
Fortitude Valley Qld 4006
GPO Box 1434
Brisbane Qld 4001

Phone: [redacted]
Facsimile
Email:
Internet: www.brisbane.qld.gov.au

BRIEF CONFIRMATION

Thank you for your request to investigate the stormwater drainage issues within the property at 64 Leybourne Street, Chelmer and possible relief drainage to resolve the problem.

INVESTIGATION

To determine the effect of rainfall runoff on private property, investigations of the catchment and site inspection have been carried out to determine the capacity of the existing drainage system for various storm events. When inspecting the site the limit of the catchment area and existing pit types were confirmed.

RESULTS

Leybourne Street, Chelmer is included in the Faulkner Park Graceville Local Stormwater Management Plan undertaken in 1998. The LSMP (W10630) identified flooding to several properties including 64 Leybourne Street and recommended a drainage upgades from Oxley Road to Faulkner Park via Richardson Street. It has been listed in Schedule 72 for Major Drainage at an estimated cost of $4 million. It is currently programmed to start construction in the 2011/12 financial year.

Therefore, this investigation has explored an interim solution. The property is affected by runoff from a 22.7 ha catchment at a sag in Leybourne Street. The existing 1275 dia. drain line in 64 Leybourne Street has a pipe capacity of 2537 l/s. The capacity of the existing pipe is 76% adequate for Q2 and will have approximately 7960 l/s overland Q10 flows from the catchment, which is comparable to drainage in similar aged localities of Brisbane.

The proposed works shown on CDW5091292/SK1 outline the construction of a flap valve constructed in a manhole with a bolt down cover. The existing field inlet can remain or be reconstructed with the new manhole.

Underground services will not be crossed, therefore no allowance for alterations to services has been included in the estimate.

The proposed works shown on sketch CDW5091292/SK1 has been estimated in Ellipse at $13,302.32, Estimate 67148, Version 1. The total estimate including 40 percent contingencies is $18,623.25. Please attach a Work Request and Work Order to this estimate in Ellipse.

RECOMMENDATIONS

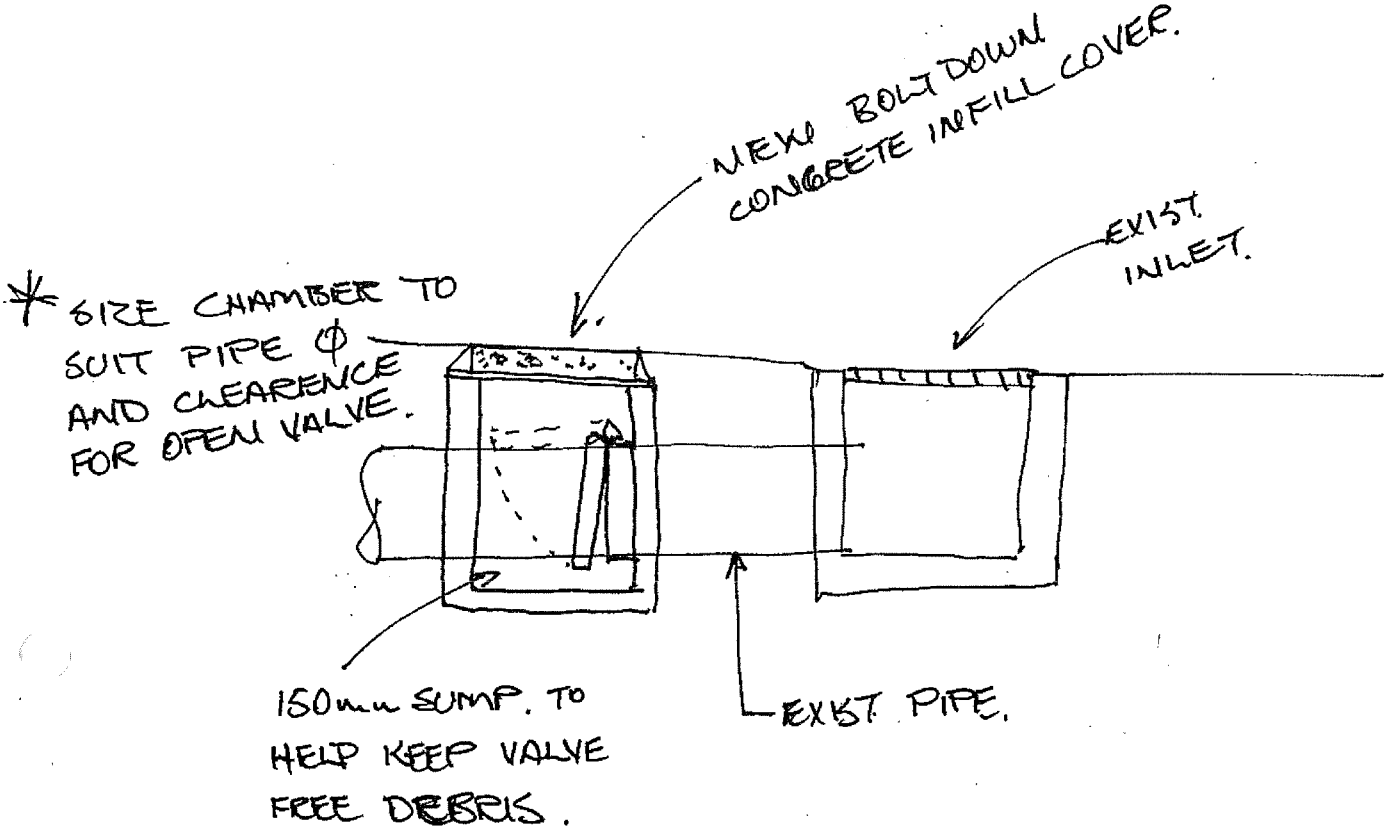
It is recommended that the proposed interim drainage works shown in on sketch CDW5091292/SK1 be listed in schedule 68 for future construction at an estimated cost of $18,623.25 to reduce the incidence of overland flow into 64 Leybourne Street, Chelmer.

If you require any further information, please contact Brett Darlington on ext. 74717.

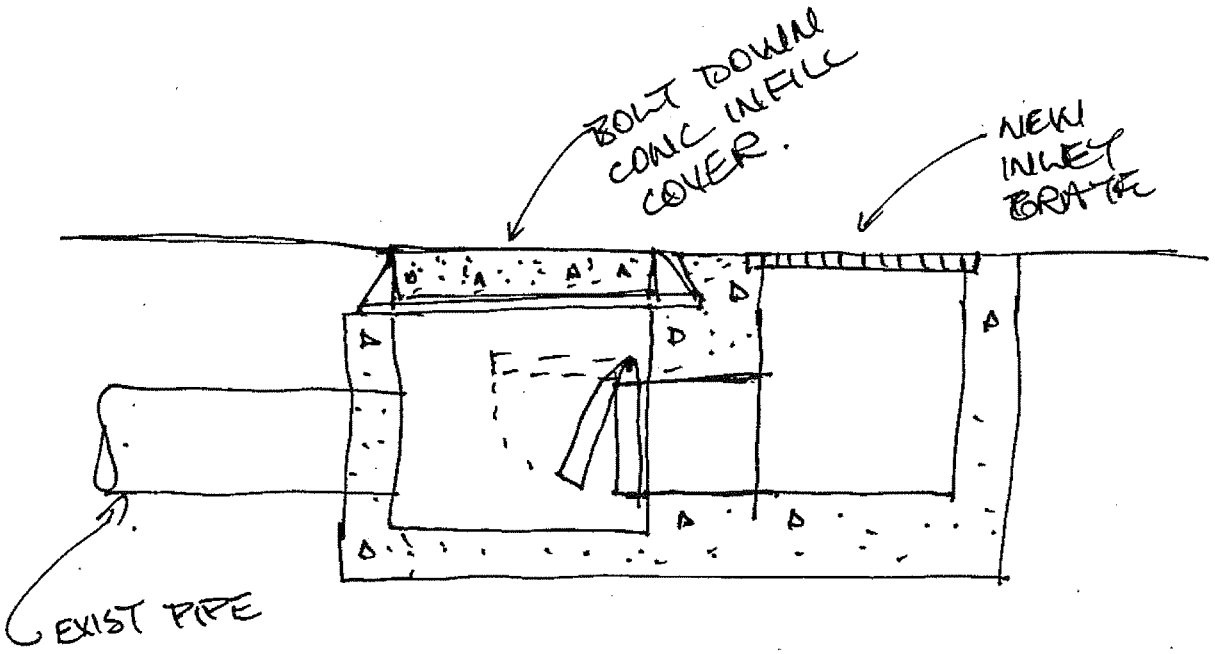
Approved: ...../...../.....

Brett Darlington
Acting Product Manager Design
Water and Environment
City Design

RPEQ .....
Stormwater Engineer
Stormwater Management



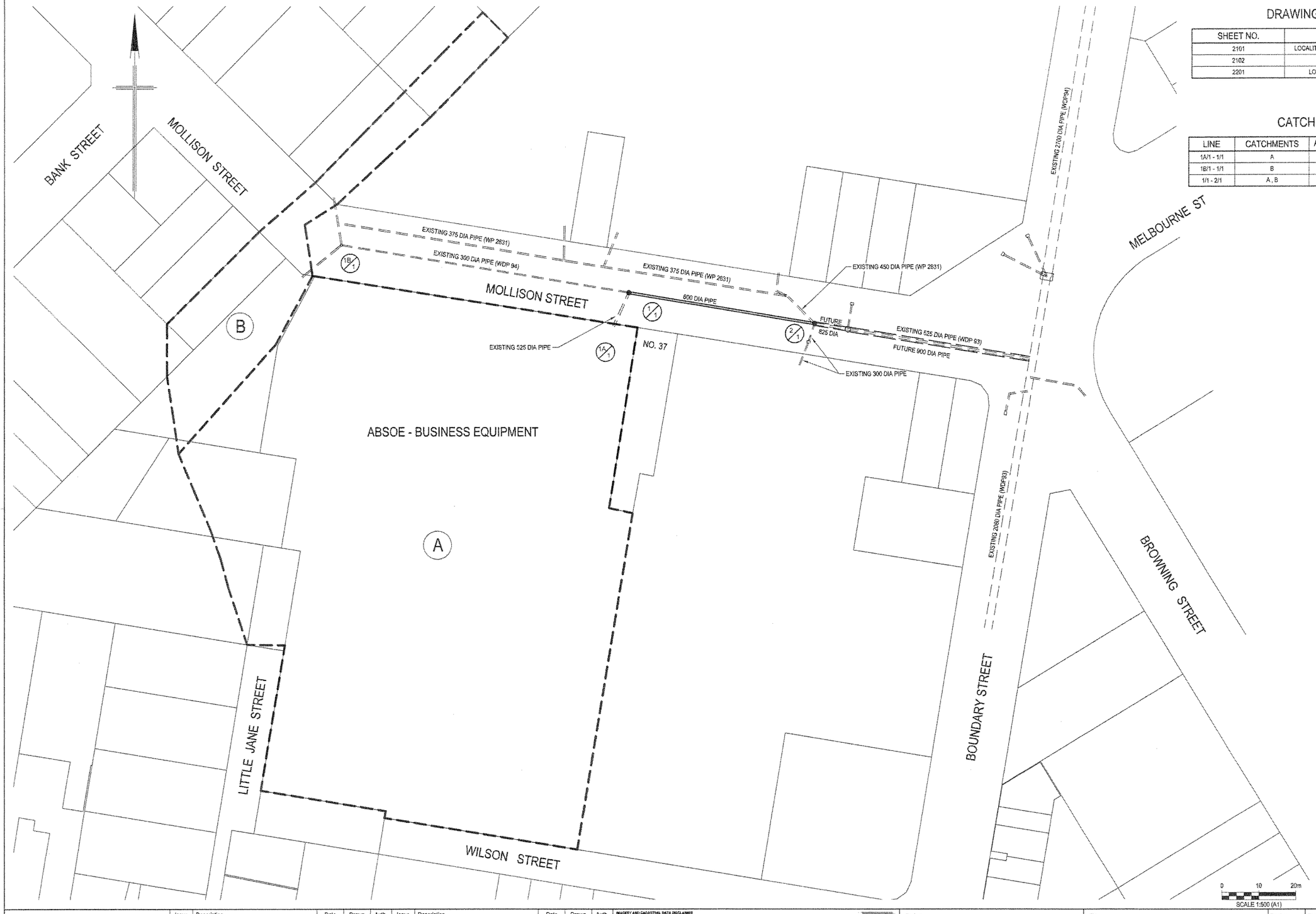
RETRO FIT EXIST INLET



NEW COMBINATION INLET & VALVE CHAMBER

C. WILSON.
18/5/09
NTS

BCC.129.0145



DRAWING INDEX TABLE

SHEET NO.	DESCRIPTION
2101	LOCALITY, CATCHMENT PLAN, DRAWING INDEX & BORELOGS
2102	LAYOUT PLAN AND TABLES
2201	LONGITUDINAL SECTIONS AND MANHOLE DETAILS

CATCHMENT TABLE

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1A/1 - 1/1	A	1.430	EXISTING 525 DIA
1B/1 - 1/1	B	0.190	EXISTING 300 DIA
1/1 - 2/1	A , B	1.620	NEW 600 DIA PIPE

UBD REF: 3 B16
4CH MAP: 104
ORTHO No: M14

CONTRACT

City Design
Brisbane City Council

MAILING ADDRESS:
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Brisbane Qld 4001

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Telephone: 07- 3027 5550
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e-mail: citydesign@brisbane.qld.gov.au

Dedicated to a better Brisbane

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	AUG 10	JMC						

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Based on Data provided with permission of the Department of Natural Resources and Mines: Cadastral Data (October / 2004)

Survey Information
PSM 133839 RL 8.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

Project
DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title
LOCALITY, CATCHMENT PLAN, DRAWING INDEX & BORELOGS

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	31/8/10 R.P.E.Q. No. 1911

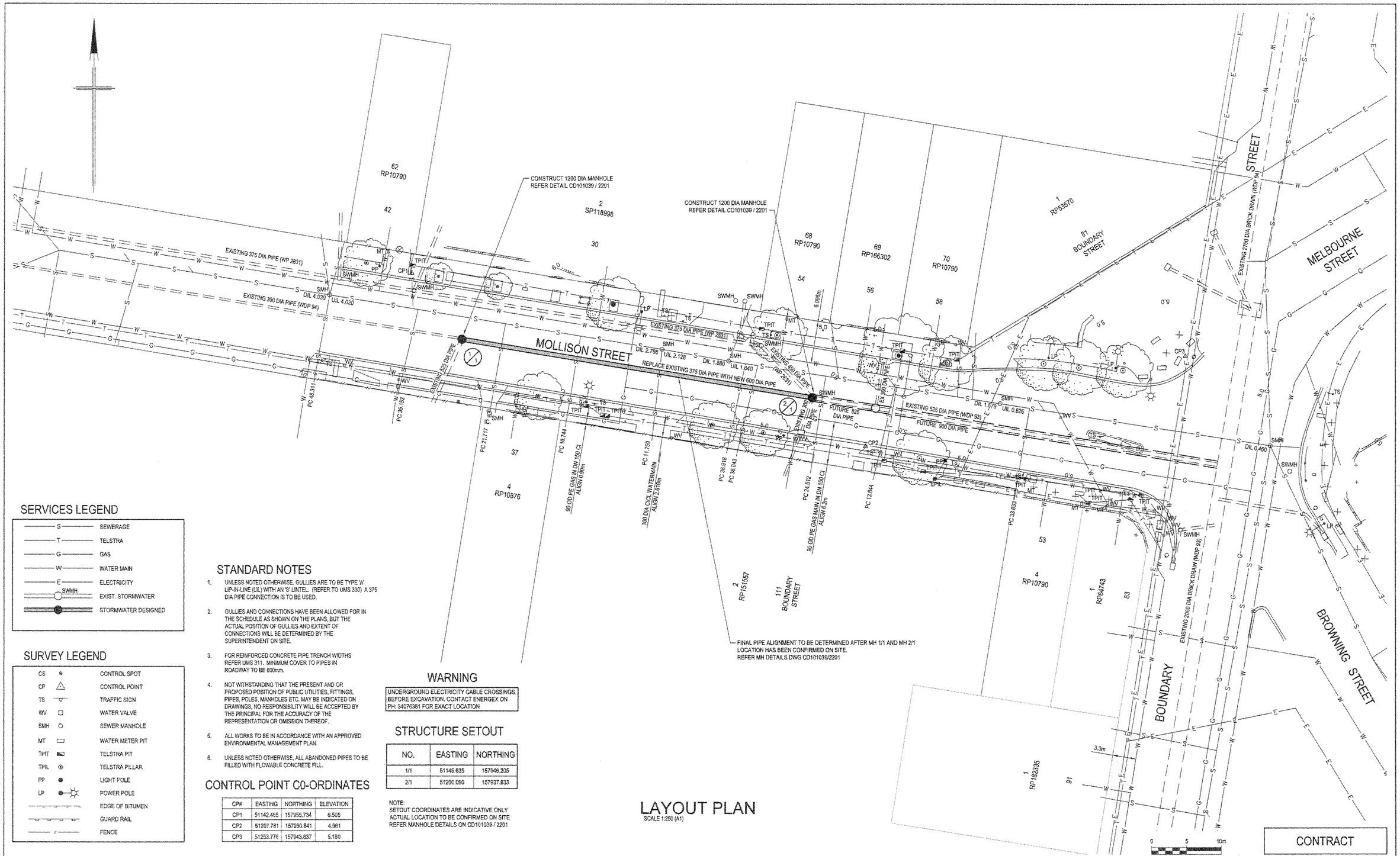
Reference No.

Scale 1:500

Project Number / Sheet: CD 101039 / 2101

Issue: A

BCC.129.0148



SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
TS	TRAFFIC SIGN
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
TPIT	TELSTRA PIT
TPIL	TELSTRA PILLAR
PP	LIGHT POLE
LP	POWER POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 900mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP1	51142.465	157955.734	6.505
CP2	51207.781	157930.841	4.961
CP3	51253.776	157843.837	5.180

WARNING

UNDERGROUND ELECTRICITY CABLE CROSSINGS. BEFORE EXCAVATION, CONTACT ENERGEX ON PH: 34076381 FOR EXACT LOCATION

STRUCTURE SETOUT

NO.	EASTING	NORTHING
1/1	51149.635	157946.205
2/1	51200.090	157937.833

NOTE:
SETOUT COORDINATES ARE INDICATIVE ONLY ACTUAL LOCATION TO BE CONFIRMED ON SITE REFER MANHOLE DETAILS ON CD101039 / 2201

LAYOUT PLAN

SCALE 1:250 (A1)

CONTRACT

City Design
Brisbane City Council
MAILING ADDRESS: GPO Box 1434 Brisbane Qld 4001
Green Square South Tower 505 St. Paul's Terrace Fortitude Valley, Q 4006
Telephone: 07- 3027 5550 Facsimile: 07- 3334 0225
e-mail: citydesign@brisbane.qld.gov.au
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Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	AUG 10	JMC	

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Survey Information
PSM 133839 RL 8.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

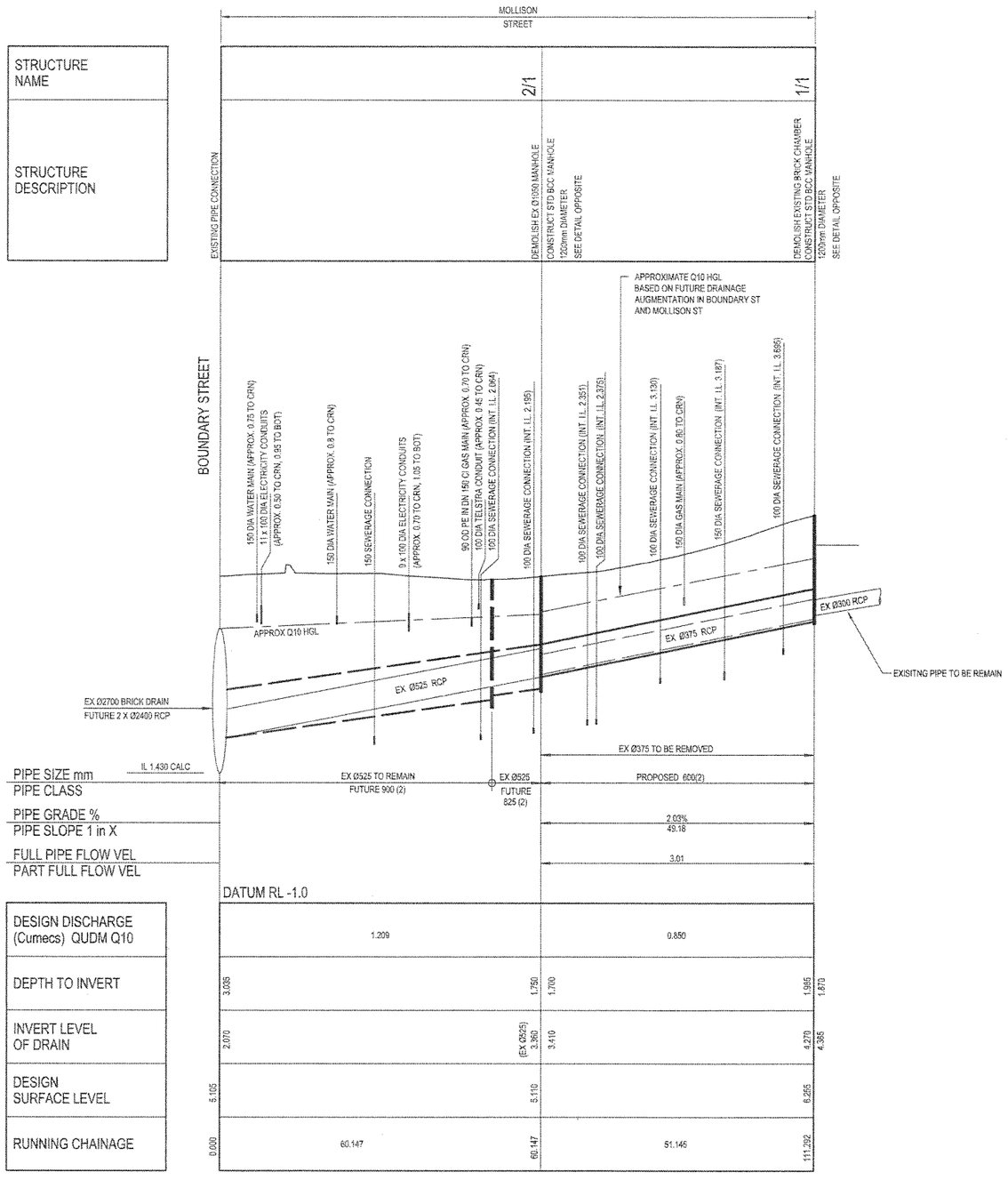
Project: DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title: LAYOUT PLANS AND TABLES

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	R.P.E.Q. No. 1911

Reference No.
Scale: 1:250
Project Number / Sheet: CD 101039 / 2102
Issue: A

BCC.129.0149



LONGITUDINAL SECTION

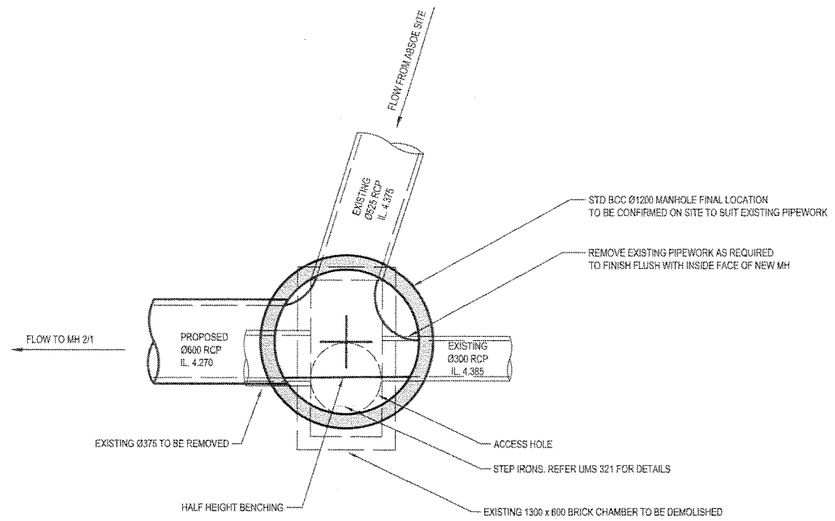
SCALE 1:500 H 1:50 V (A1)

0 10 20m

SCALE 1:500 (A1)

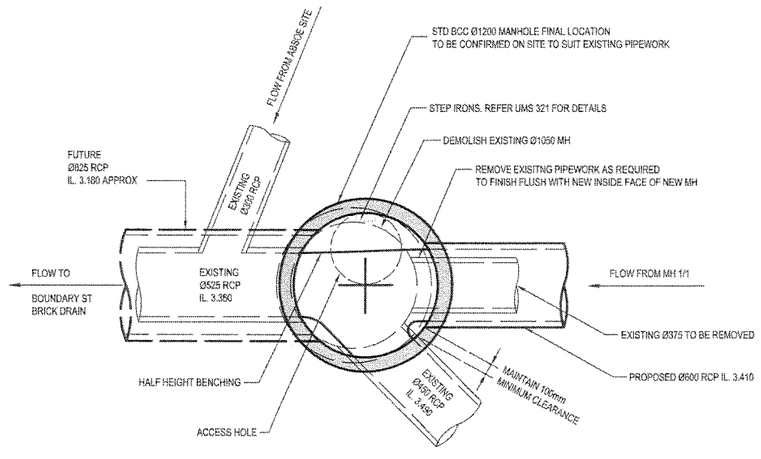
0 1 2m

SCALE 1:50 (A1)



MANHOLE 1/1 DETAIL

SCALE 1:25 (A1)



MANHOLE 2/1 DETAIL

SCALE 1:25 (A1)

0 0.5 1m

SCALE 1:25 (A1)

CONTRACT

City Design
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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	AUG 10	JMC						

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DIGITALGLOBE
Qasco
Tiger
webmap
Copyright 2007 Webmap

Survey Information
PSM 133939 RL 8.023
CORNER BOUNDARY STREET AND JANE STREET

Datum	A.H.D.
Filename	101039
Field Book	ELECTRONIC

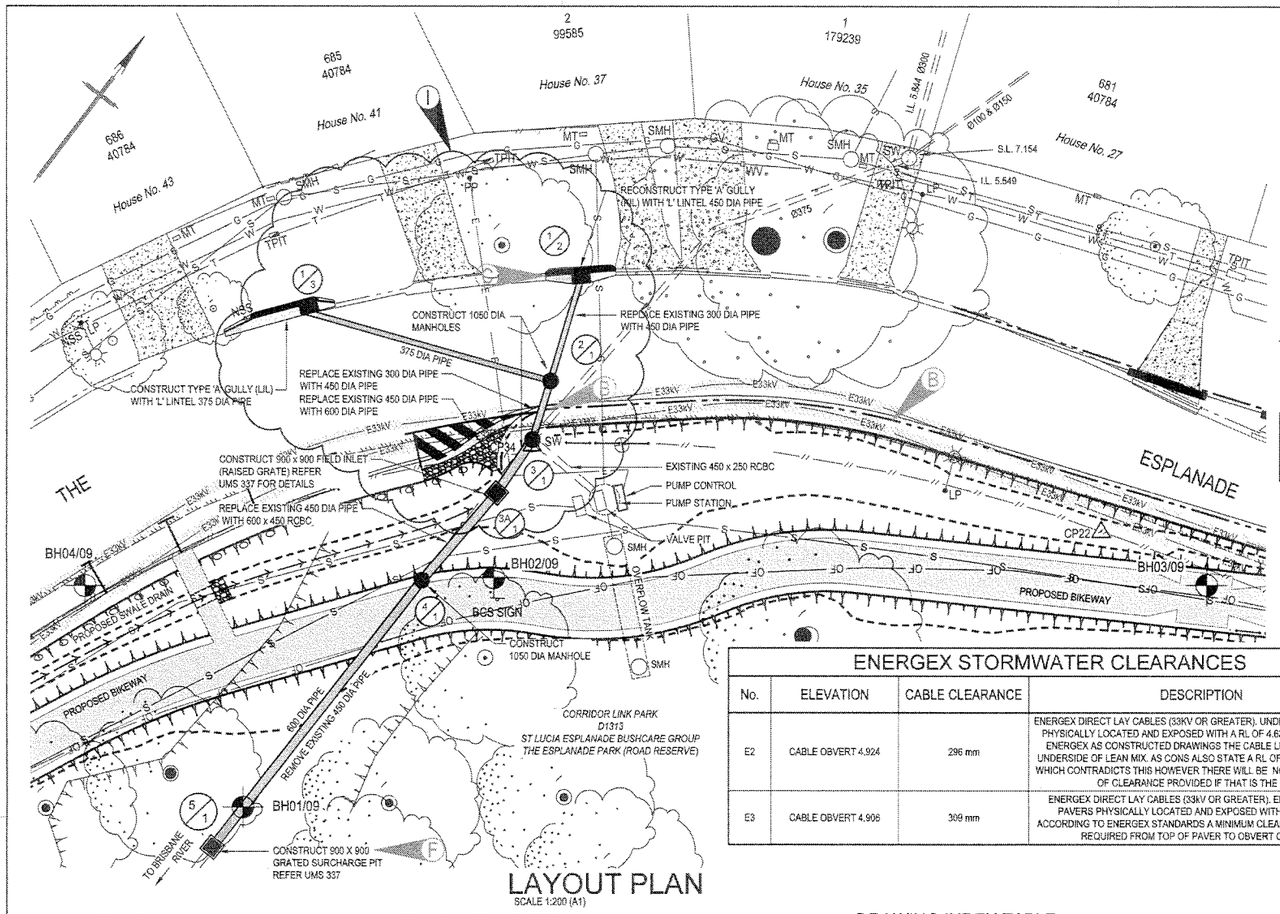
Project
DRAINAGE REHABILITATION MOLLISON STREET WEST END

Title
LONGITUDINAL SECTION AND MANHOLE DETAILS

Design	Drawn	Checked	Authorised for Issue
N.H.J JULY 2010	J.M.C JULY 2010	B.T.D AUG 2010	31/8/10 R.P.E.Q. No. 4911

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 101039 / 2201
Issue: A

BCC.129.0150



LAYOUT PLAN

SCALE 1:200 (A1)

STRUCTURE NAME	
STRUCTURE DESCRIPTION	

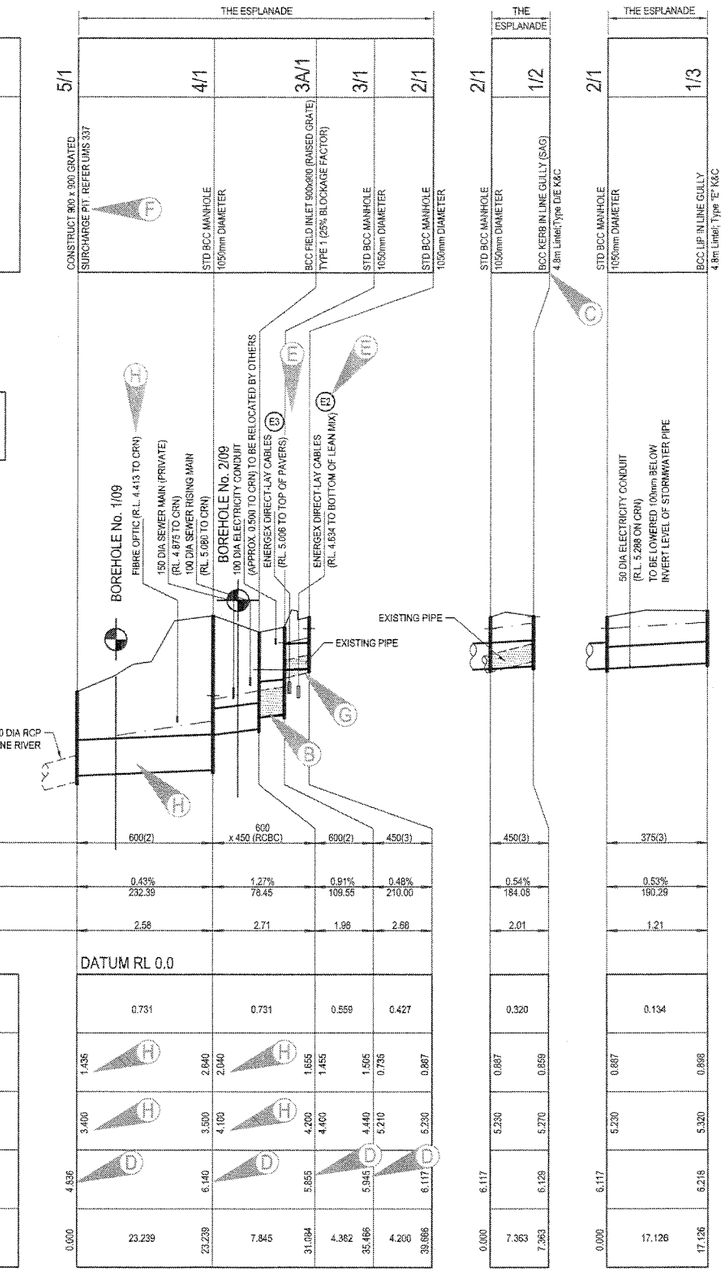
JOB NOTES

1. ALL LINE MARKING AND KERB AND CHANNEL TO BE CONSTRUCTED BY OTHERS.

WARNING
UNDERGROUND ELECTRICITY CABLES CROSSING. BEFORE EXCAVATION, CONTACT ENERGEX ON PH. 34076381 FOR EXACT LOCATION.

ENERGEX STORMWATER CLEARANCES

No.	ELEVATION	CABLE CLEARANCE	DESCRIPTION
E2	CABLE OBVERT 4.924	296 mm	ENERGEX DIRECT LAY CABLES (33KV OR GREATER). UNDERSIDE OF LEAN MIX PHYSICALLY LOCATED AND EXPOSED WITH A RL OF 4.634. ACCORDING TO ENERGEX AS CONSTRUCTED DRAWINGS THE CABLE LIES 100mm ABOVE UNDERSIDE OF LEAN MIX. AS CONS ALSO STATE A RL OF 5.100 IN THIS AREA WHICH CONTRADICTS THIS HOWEVER THERE WILL BE NO LESS THAN 292mm OF CLEARANCE PROVIDED IF THAT IS THE CASE.
E3	CABLE OBVERT 4.906	309 mm	ENERGEX DIRECT LAY CABLES (33kV OR GREATER). ENERGEX TRENCH PAVERS PHYSICALLY LOCATED AND EXPOSED WITH A RL OF 5.006. ACCORDING TO ENERGEX STANDARDS A MINIMUM CLEARANCE OF 100mm IS REQUIRED FROM TOP OF PAVER TO OBVERT OF CABLE.



PIPE SIZE mm		600(2)	600 x 450 (RCBC)		600(2)	450(3)	450(3)	375(3)
PIPE CLASS								
PIPE GRADE %		0.43%	1.27%		0.91%	0.48%	0.54%	0.53%
PIPE SLOPE 1 in X		232.39	78.45		109.55	210.00	184.08	190.29
FULL PIPE FLOW VEL		2.58	2.71		1.98	2.66	2.01	1.21
PART FULL FLOW VEL								
	DATUM RL 0.0							
DESIGN DISCHARGE (Cumecs) QUDM Q2		0.731	0.731		0.559	0.427	0.320	0.134
DEPTH TO INVERT		1.436	2.640	2.040	1.655	1.455	1.505	0.735	0.887	0.859	0.887	0.868
INVERT LEVEL OF DRAIN		3.400	3.500	4.100	4.200	4.400	4.440	5.210	5.230	5.270	5.230	5.320
DESIGN SURFACE LEVEL		4.836	6.140		5.855	5.945	6.117		6.117	6.129	6.117	6.218
RUNNING CHAINAGE		0.000	23.239	23.239	7.845	31.084	4.362	35.466	4.200	39.666	0.000	7.363	7.363	0.000	17.126	17.126
LINE				1							2			3		

LONGITUDINAL SECTIONS

SCALE 1:500 H 1:50 V (A1)

0 1 2m SCALE 1:50 (A1) | 0 2 4 8m SCALE 1:200 (A1) | 0 10 20m SCALE 1:500 (A1)

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
NSS	NO STANDING SIGN
BCS	BRISBANE CITY COUNCIL SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
PP	POWER POLE
LP	LIGHT POLE
	EDGE OF BITUMEN
	FENCE

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
G	GAS
W	WATER MAIN
E	ELECTRICITY
E33KV	ENERGEX E33KV CABLE
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.

STRUCTURE SETOUT

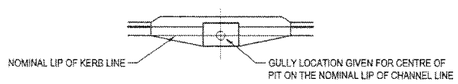
No.	EASTING	NORTHING
1/1	6012.308	2109.800
2/1	5993.308	2089.406
3/1	5994.736	2085.457
3A/1	5994.981	2081.082
4/1	5994.484	2073.262
5/1	5994.004	2050.020
1/2	5990.708	2096.296
1/3	5977.357	2083.173

DRAWING INDEX TABLE

SHEET No.	DESCRIPTION
2101	LAYOUT PLAN AND LONGITUDINAL SECTIONS
2401	CALCULATION TABLE AND CATCHMENT PLAN

CONTROL POINT CO-ORDINATES

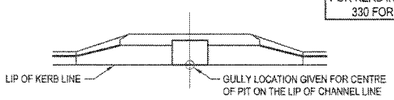
CP No.	EASTING	NORTHING	ELEVATION
CP 22	6029.518	2103.923	8.092
CP 34	5994.950	2085.155	5.982



GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)

NOT TO SCALE

FOR GULLY CONSTRUCTION DETAILS REFER UMS 331/B FOR KERB IN LINE AND UMS 330 FOR LIP IN LINE



GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)

NOT TO SCALE

UBD REF: 179 F6
4CH MAP: 129
ORTHO No: O14

CONTRACT

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	DEC 09	MCW	DAS
B	AMENDED STORMWATER AND SEWER	JAN 10	MCW	DAS
C	GULLIES UPDATED	JAN 10	MCW	DAS
D	DESIGN SURFACE LEVELS UPDATED	JAN 10	MCW	DAS
E	ENERGEX CLEARANCE TABLE ADDED	FEB 10	MCW	DAS
F	PIT 5/1 SIZE ADDED	MAR 10	MCW	DAS
G	INVERT AND SERVICE LEVELS AMENDED	APR 10	MCW	DAS
H	LINE 5/1 TO 4/1 AMENDED	AUG 10	CJN	DAS
I	LINES 1,2, 3 AMENDED	SEP'10	CJN	DAS

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Dedicated to a better Brisbane

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Survey Information
PM 7670 R.L. 15.065 FB 10132/1

Datum	A.H.D.
Filename	100349
Field Book	10132/1

Project
DRAINAGE DESIGN
THE ESPLANADE
ST LUCIA

Title
LAYOUT PLAN
AND
LONGITUDINAL SECTIONS

Design	Drawn	Checked	Authorised for Issue
IH DEC 09	MCW DEC 09	CJN DEC 09	ORIGINAL SIGNED BY: D.A.SIMPSON 23.12.09 R.P.E.Q. No. 1911

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 100349 / 2101
Issue: I

BCC:129.0151

CALCULATIONS TABLE

LOCATION / TIME / SUB-CATCHMENT RUNOFF / INLET DESIGN

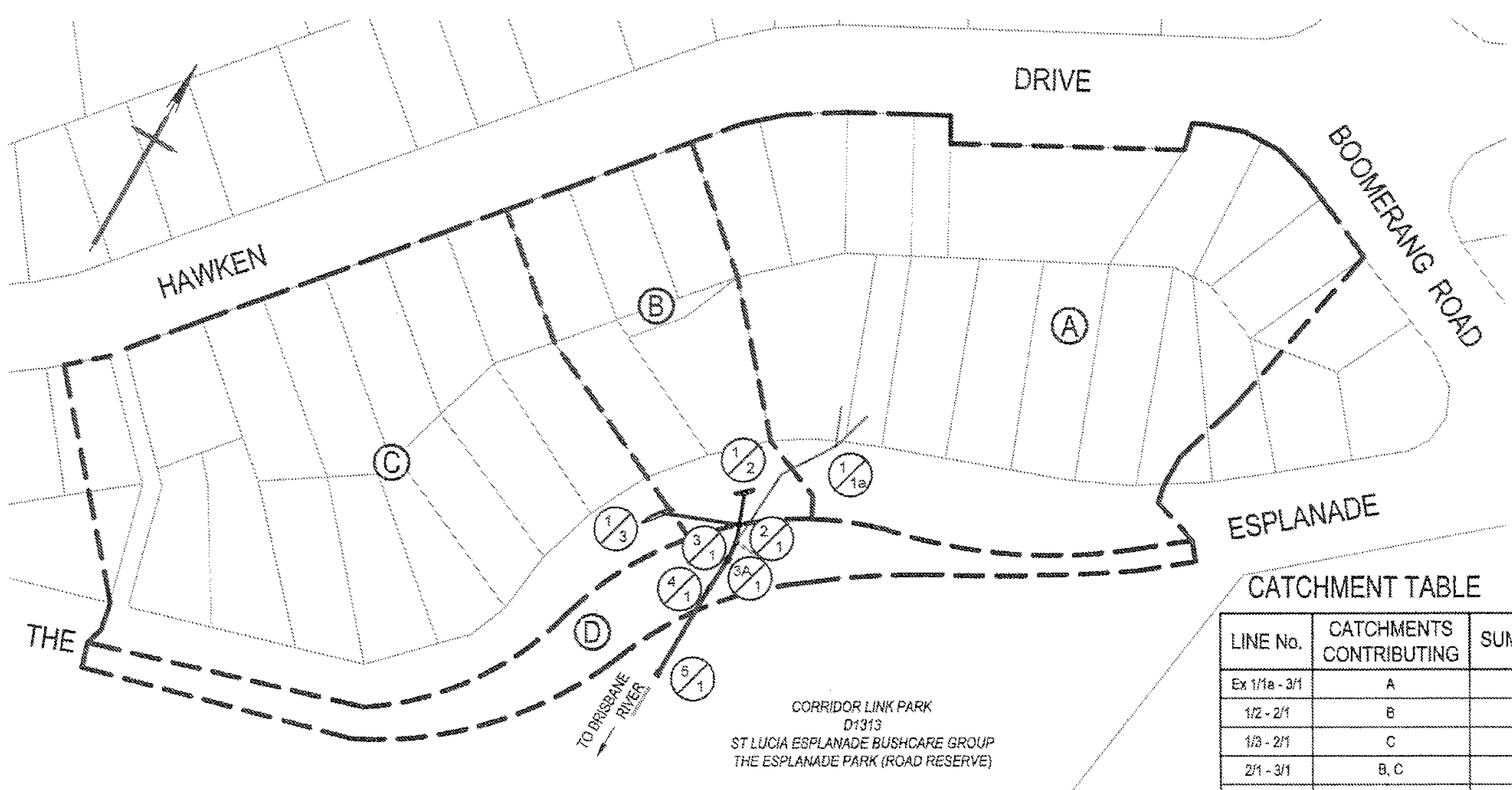
DESIGN ARI (yrs)	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT (%)	tc SUB-CATCHMENT TIME OF CONC. (min)	I RAINFALL INTENSITY (mm/h)	C10 10yr RUNOFF CO-EFFICIENT	C CO-EFFICIENT OF RUNOFF	A SUB-CATCHMENT AREA (ha)	C*A EQUIVALENT AREA (ha)	+CA SUM OF (C * A) (ha)	Q SUB-CATCHMENT DISCHARGE (l/s)	FLOW IN K&C (INC. BYPASS) (l/s)	ROAD GRADE AT INLET (%)	MINOR FLOW ROAD CAPACITY (l/s)	INLET TYPE	Qg FLOW INTO INLET (l/s)	Qb BYPASS FLOW (l/s)	BYPASS STRUCTURE No.
2 2	1/2	1/2 to 2/1	B			5.00 5.00	151 151		0.72 0.72	0.341 0.341	0.246 0.246	0.246 0.246	103 103	457 FLOW WIDTH/DEPTH 6.935m	0.00	320	29S.12	320	137	3A/1
2 2	1/3	1/3 to 2/1	C			6.00 6.00	141 141		0.72 0.72	1.076 1.076	0.777 0.777	0.777 0.777	304 304	304 FLOW WIDTH/DEPTH 2.362m DOWNSTREAM 1.788m	16.00	1916	6	134	170	1/2
2 2	2/1	2/1 to 3/1	B;C														44			
2 2	Ex1/1a	Ex1/1a to 3/1	A			6.00 6.00	141 141		0.72 0.72	1.138 1.138	0.822 0.822	0.822 0.822	322 322	322 FLOW WIDTH/DEPTH 2.425m DOWNSTREAM 1.860m	16.00	1916	6	138	184	1/2
2 2	3/1	3/1 to 3A/1	B;C;A														44			
2 2	3A/1	3A/1 to 4/1	B;C;A;D			5.00 5.00	151 151		0.75 0.75	0.260 0.260	0.195 0.195	0.195 0.195	82 82	219 FLOW WIDTH/DEPTH 5.194m	10.00	194	30S.12	194	25	
2 2	4/1	4/1 to 5/1	B;C;A;D														41			

DRAIN DESIGN

STRUCTURE No.	tc CRITICAL TIME OF CONC. (min)	I RAINFALL INTENSITY (mm/h)	+CA TOTAL (C * A) (ha)	Qt MAJOR TOTAL FLOW (l/s)	Qm MAJOR SURFACE FLOW CAPACITY (l/s)	Qs MAJOR SURFACE FLOW (l/s)	Qp PIPE FLOW (l/s)	L REACH LENGTH (m)	S PIPE GRADE (%)	PIPE / BOX DIMENSIONS (CLASS) (mm)	V FLOW VELOCITY FULL (PIPE GRADE VELOCITY) (m/s)	T TIME OF FLOW IN REACH (min)	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS
1/2	5.00 5.00	151 151	0.246 0.246	103	0	0 (Pipe flow= Grate flow)	320	7.363	0.54	450(3)	2.01 (1.32)	0.06		
1/3	6.00 6.00	141 141	0.777 0.777	304	2299	170 (Pipe flow= Grate flow)	134	17.126	0.53	375(3)	1.21 (1.15)	0.24		Qg 0.134 Qo 0.134 Do 375 CHRT 32: Vo2/2gDo 0.20 H/Do Kg side flow 3.82 end flow 3.25
2/1	6.24 6.24	139 139	1.023 1.023	395	3447 (Pipe flow= Sum upstr atten flows)	0	427	4.200	0.48	450(3)	2.68 (1.24)	0.03		
Ex1/1a	6.00 6.00	141 141	0.822 0.822	322	2299	184 (Pipe flow= Grate flow)	138	30.023	1.64	375(3)	1.25 (2.03)	0.40		Qg 0.138 Qo 0.138 Do 375 CHRT 32: Vo2/2gDo 0.21 H/Do Kg side flow 4.12 end flow 3.48
3/1	6.40 6.40	138 138	1.845 1.845	707	2778 (Pipe flow= Sum upstr atten flows)	149	559	4.382	0.91	600(2)	1.98 (2.07)	0.04		
3A/1	6.44 6.44	137 137	2.040 2.040	776	2778 (Pipe flow= Sum upstr atten flows)x	46	731	7.845	1.27	600 450 (RCBC)	2.71 (2.21)	0.05		Qg 0.176 Qo 0.731 Do 514 Flow 3/1 mode eqv grate flow CHRT 32: Vo2/2gDo 0.83 H/Do Kg side flow 2.80 end flow 2.57 K vals above for stepped pipes as grate flow grate flow decreased by 0.555 from 3/1
4/1	6.49 6.49	137 137	2.040 2.040	776	2778 (Pipe flow= Sum upstr atten flows)	46	731	23.239	0.43	600(2)	2.58 (1.42)	0.15		Qo 0.731 Do 600 Flow 3A/1 made eqv grate flow CHRT 32: Vo2/2gDo 0.56 H/Do Kg side flow 3.41 end flow 3.05 K vals above for stepped pipes as grate flow grate flow decreased by 0.731 from 3A/1

HEADLOSSES / PART FULL / DESIGN LEVELS

STRUCTURE No.	V2/2g VELOCITY HEAD (m)	Ku U/S HEADLOSS COEFFICIENT	hu U/S PIPE STRUCT. HEADLOSS (m)	Kl LAT. HEADLOSS CO-EFFICIENT	hl LAT. PIPE STRUCT. HEADLOSS (m)	Kw W.S.E CO-EFFICIENT	hw CHANGE IN W.S.E (m)	Sf PIPE FRICTION SLOPE (%)	hf PIPE FRICTION HEADLOSS (L * Sf) (m)	DEPTH (m)	Vp VELOCITY (m/s)	OBVERT LEVELS (m)	DRAIN SECTION H.G.L (m)	UPSTREAM H.G.L (m)	LAT. H.G.L (m)	W.S.E. (m)	SURFACE OR K&C INVERT LEVEL (m)	STRUCTURE No.
1/2	0.206	0.50	0.103			0.50	0.103	1.26	0.093			5.720 5.680	6.140 6.047	6.243		6.243	6.129	1/2
1/3	0.075	3.82	0.285			3.82	0.285	0.59	0.100			5.695 5.605	6.147 6.047	6.432		6.432	6.218	1/3
2/1	0.366	0.80	0.293			0.80	0.293	2.24	0.094			5.680 5.660	5.754 5.660	6.047		6.047	6.117	2/1
Ex1/1a	0.080	4.12	0.328			4.12	0.328	0.62	0.186			5.375 4.882	5.720 5.534	6.048		6.048	6.881	Ex1/1a
3/1	0.200	1.40	0.280			1.40	0.280	0.83	0.036			5.050 5.010	5.254 5.218	5.534		5.534	5.945	3/1
3A/1	0.374	0.96	0.359	CHART 33 Angle 7 S/Do 2.5 Du/Do 1.17 Qg/Qo 0.24 K 0.92 S/Do 2.27 cor 0.04 Ku 0.96 Kw 0.96 K vals step pipes as pipe flow Ku 0.96 Kw 0.96		0.96	0.359	1.91	0.150			4.650 4.550	4.859 4.709	5.218		5.218	5.855	3A/1
4/1	0.339	1.09	0.370	CHART 51 ti 526 Do 600 theta 3 r/Do 0.88 Du 514 Du/Do 0.86 Kd 1.09 K'w 0.10 Vu 3.52 WSE 0.43 Ku 1.09 Kw 1.28 K vals step pipes as pipe flow Ku 1.09 Kw 1.28		1.28	0.434	1.42	0.329			4.110 4.010	4.339 4.010	4.709		4.773	6.140	4/1



CATCHMENT PLAN

SCALE 1:1000 (A1)

BRISBANE RIVER →

CATCHMENT TABLE

LINE No.	CATCHMENTS CONTRIBUTING	SUM AREA (ha)	DRAINAGE PROVIDED
Ex 1/1a - 3/1	A	1.138	EXISTING 375 DIA PIPE
1/2 - 2/1	B	0.341	NEW 450 DIA PIPE
1/3 - 2/1	C	1.076	NEW 375 DIA PIPE
2/1 - 3/1	B, C	1.417	NEW 450 DIA PIPE
3/1 - 3A/1	A, B, C	2.555	NEW 600 DIA PIPE
3A/1 - 4/1	A - D	2.815	NEW 600 x 450 RCBC
4/1 - 5/1	A - D	2.815	NEW 600 DIA PIPE

BOREHOLE No.1/09

- 0.00m – 1.20m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 1.20m – 1.50m: MOTTLED BROWN, ORANGE AND GREY — SPT 3, 2, 13 N=15
- 1.50m – 2.60m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, MOTTLED BROWN, ORANGE AND GREY, MEDIUM PLASTICITY CLAY, SOME FINE GRAINED GRAVEL — SPT 4, 9, 16 N=25
- 2.60m – 2.95m: (SCI) SANDY CLAY – MEDIUM PLASTICITY, BROWN, FINE TO MEDIUM GRAINED SAND

BOREHOLE No.2/09

- 0.00m – 0.80m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.80m – 1.20m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, MOTTLED BROWN AND GREY, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 6, 9, 10 N=19
- 1.20m – 2.95m: (CI) SANDY CLAY – MEDIUM PLASTICITY, MOTTLES BROWN, ORANGE AND GREY, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 5, 7, 9 N=16

BOREHOLE No.3/09

- 0.00m – 0.80m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.80m – 2.20m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, MOTTLED GREY, ORANGE AND BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL — SPT 3, 5, 5 N=10
- 2.20m – 2.60m: (CG) CLAYEY GRAVEL – FINE TO MEDIUM GRAINED, MOTTLED GRAY ORANGE AND PALE BWORN, MEDIUM PLASTICITY CLAY — SPT 30/105mm (HB)

BOREHOLE No.4/09

- 0.00m – 0.70m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL
- 0.70m – 1.00m: (SC) CLAYEY SAND – FINE TO MEDIUM GRAINED, MOTTLED PALE BROWN AND BROWN, MEDIUM PLASTICITY CLAY, SOME FINE TO MEDIUM GRAINED GRAVEL — SPT 1, 3, 7 N=10
- 1.00m – 2.95m: (CI) SANDY CLAY – MEDIUM PLASTICITY, MOTTLED BROWN, GREY AND ORANGE, FINE TO MEDIUM GRAINED SAND, SOME FINE GRAINED GRAVEL — SPT 4, 10, 14 N=24

BORELOGS

SCALE 1:50 (A1)

0 1 2m — SCALE 1:50 (A1)

0 10 20 40m — SCALE 1:1000 (A1)

CONTRACT

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Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	DEC 09	MCW	DAS
B	CALCULATIONS SHEET UPDATED	JAN 10	MCW	DAS
C	CALCULATIONS SHEET UPDATED	JAN 10	MCW	DAS
D	CALCULATIONS SHEET UPDATED	MAY 10	MCW	DAS
E	CALCULATIONS SHEET UPDATED	AUG 10	JRD	DAS
F	CALCULATIONS SHEET UPDATED	SEP'10	JRD	[signature]

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Survey information: PM 7670 R.L. 15.065 FB 10132/1

Datum	A.H.D.
Filename	100349
Field Book	10132/1

Project: DRAINAGE DESIGN THE ESPLANADE ST LUCIA

Title: CALCULATION TABLE AND CATCHMENT PLAN

Design	Drawn	Checked	Authorised for Issue
IH DEC 09	MCW DEC 09	CJN DEC 09	ORIGINAL SIGNED BY: D.A.SIMPSON 23.12.09 R.P.E.Q. No. 1911

Reference No.:

Scale: AS SHOWN

Project Number / Sheet: CD 100349 / 2401

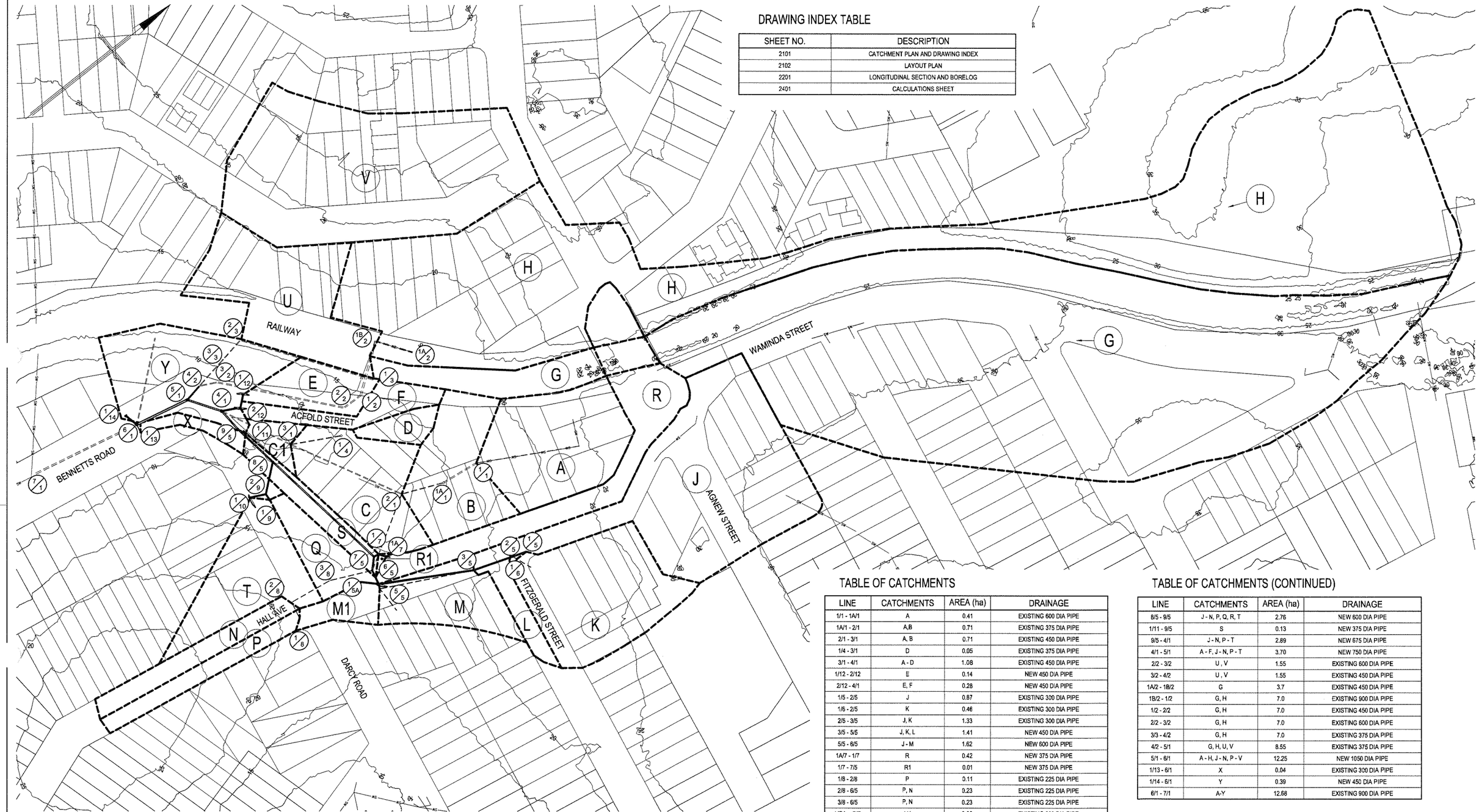
Issue: F

BCC.129.0152

BCC: 1281053

DRAWING INDEX TABLE

SHEET NO.	DESCRIPTION
2101	CATCHMENT PLAN AND DRAWING INDEX
2102	LAYOUT PLAN
2201	LONGITUDINAL SECTION AND BORELOG
2401	CALCULATIONS SHEET



CATCHMENT AND LOCALITY PLAN

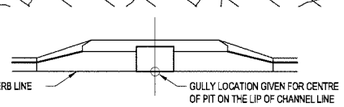
SCALE 1:1000 (A1)

TABLE OF CATCHMENTS

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1/1 - 1A/1	A	0.41	EXISTING 600 DIA PIPE
1A/1 - 2/1	A,B	0.71	EXISTING 375 DIA PIPE
2/1 - 3/1	A, B	0.71	EXISTING 450 DIA PIPE
1/4 - 3/1	D	0.05	EXISTING 375 DIA PIPE
3/1 - 4/1	A - D	1.08	EXISTING 450 DIA PIPE
1/12 - 2/12	E	0.14	NEW 450 DIA PIPE
2/12 - 4/1	E, F	0.28	NEW 450 DIA PIPE
1/5 - 2/5	J	0.87	EXISTING 300 DIA PIPE
1/6 - 2/5	K	0.46	EXISTING 300 DIA PIPE
2/5 - 3/5	J, K	1.33	EXISTING 300 DIA PIPE
3/5 - 5/5	J, K, L	1.41	NEW 450 DIA PIPE
5/5 - 6/5	J - M	1.62	NEW 600 DIA PIPE
1A/7 - 1/7	R	0.42	NEW 375 DIA PIPE
1/7 - 7/5	R1	0.01	NEW 375 DIA PIPE
1/8 - 2/8	P	0.11	EXISTING 225 DIA PIPE
2/8 - 6/5	P, N	0.23	EXISTING 225 DIA PIPE
3/8 - 6/5	P, N	0.23	EXISTING 225 DIA PIPE
1/5A - 5/5	M1	0.06	EXISTING 300 DIA PIPE
6/5 - 7/5	J - M, M1, P, N	1.91	NEW 600 DIA PIPE
7/5 - 8/5	J - M, M1, R, P, N	2.34	NEW 675 DIA PIPE
1/10 - 2/9	T	0.29	NEW 300 DIA PIPE
1/9 - 2/9	Q	0.13	NEW 300 DIA PIPE
2/9 - 8/5	Q,T	0.42	NEW 375 DIA PIPE

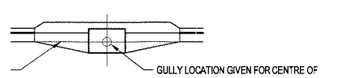
TABLE OF CATCHMENTS (CONTINUED)

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
8/5 - 9/5	J - N, P, Q, R, T	2.76	NEW 600 DIA PIPE
1/11 - 9/5	S	0.13	NEW 375 DIA PIPE
9/5 - 4/1	J - N, P - T	2.89	NEW 675 DIA PIPE
4/1 - 5/1	A - F, J - N, P - T	3.70	NEW 750 DIA PIPE
2/2 - 3/2	U , V	1.55	EXISTING 600 DIA PIPE
3/2 - 4/2	U , V	1.55	EXISTING 450 DIA PIPE
1A/2 - 1B/2	G	3.7	EXISTING 450 DIA PIPE
1B/2 - 1/2	G, H	7.0	EXISTING 900 DIA PIPE
1/2 - 2/2	G, H	7.0	EXISTING 450 DIA PIPE
2/2 - 3/2	G, H	7.0	EXISTING 600 DIA PIPE
3/3 - 4/2	G, H	7.0	EXISTING 375 DIA PIPE
4/2 - 5/1	G, H, U, V	8.55	EXISTING 375 DIA PIPE
5/1 - 6/1	A - H, J - N, P - V	12.25	NEW 1050 DIA PIPE
1/13 - 6/1	X	0.04	EXISTING 300 DIA PIPE
1/14 - 6/1	Y	0.39	NEW 450 DIA PIPE
6/1 - 7/1	A-Y	12.68	EXISTING 900 DIA PIPE



GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)

NOT TO SCALE



GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)

NOT TO SCALE

FOR EXISTING DRAINAGE REFER: C-2-45D, WP680, WP4491

UBD REF: 24L9
4CH MAP: 106
ORTHO No: M18

0 10 20 40m

SCALE 1:1000 (A1)

CONTRACT

City Design
Brisbane City Council

MAILING ADDRESS:
GPO Box 1434
Brisbane Qld 4001

Green Square
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Fortitude Valley, Q 4006

Telephone: 07- 3027 5550
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Dedicated to a better Brisbane

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	MAR 10	MCW	

Issue	Description	Date	Drawn	Auth.

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Based on Data provided with permission of the Department of Natural Resources and Mines; Cadastre/ Data (October / 2004)"

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Survey Information

Datum	A.H.D.
Filename	
Field Book	

Project

DRAINAGE DESIGN
BENNETTS ROAD
NORMAN PARK
(DARCY ROAD - ACFOLD STREET)

Title

CATCHMENT AND LOCALITY PLAN

Design	Drawn	Checked	Authorised for Issue
IEM MAR 10	MCW MAR 10		R.P.E.Q. No. 3585

Reference No.

Scale: AS SHOWN

Project Number / Sheet: CD 100074 / 2101

Issue: A

BCC 129 0154

STRUCTURE SETOUT

STRUC No.	EASTING	NORTHING
1/5	56558.086	157938.919
1/6	56566.323	157935.573
2/5	56555.589	157931.445
3/5	56548.260	157910.315
1/8	56510.049	157819.741
2/8	56500.412	157821.873
3/6	56504.036	157845.507
1/5A	56515.549	157858.584
1/5B	56524.454	157863.918
5/5	56522.079	157865.205
6/5	56514.080	157866.981
1A/7	56512.926	157877.630
1/7	56509.346	157875.191
7/5	56508.835	157872.365
1/1	56503.416	157947.640
1A/1	56500.689	157927.013
2/1	56491.434	157905.372
1/10	56441.962	157839.935

STRUCTURE SETOUT

STRUC No.	EASTING	NORTHING
1/9	56449.360	157847.297
2/9	56445.638	157847.527
8/5	56434.187	157861.444
1/2	56435.501	157921.311
2/2	56435.149	157909.912
3/2	56381.659	157864.777
4/2	56377.208	157855.977
1/11	56412.822	157859.547
9/5	56408.549	157857.693
1/12	56395.627	157871.434
2/12	56400.203	157866.044
1/4	56446.129	157899.302
3/1	56432.837	157874.673
4/1	56395.361	157856.889
5/1	56379.042	157846.193
1/13	56377.209	157815.342
1/14	56365.188	157814.802
6/1	56372.564	157816.450

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP1	56383.68	157848.5	8.687
CP2	56429.63	157903.9	10.508
CP3	56411.53	157848.1	9.625
CP4	56435.44	157864.8	10.734
CP5	56455.92	157909	11.341
CP6	56432.54	157890.5	10.027
CP7	56473.46	157911.1	11.372
CP8	56449.08	157896.8	10.268
CP9	56500.7	157835.9	17.942

CONTROL POINT CO-ORDINATES

CP#	EASTING	NORTHING	ELEVATION
CP10	56488.61	157872.4	13.914
CP11	56528.51	157869.9	16.837
CP12	56557.84	157935.2	20.866
CP13	56492.92	157910.5	12.973
CP14	56471.52	157905.1	11.203
CP15	56482.27	157898.6	11.671
CP16	56460.82	157895.2	10.409
CP17	56500.71	157927	14.81

SERVICES LEGEND

- S — SEWERAGE
- T — TELSTRA
- W — WATER MAIN
- E — ELECTRICITY
- E33kV — 33kV ELECTRICITY
- SWMH — EXIST. STORMWATER
- STORMWATER DESIGNED

SURVEY LEGEND

- CS — CONTROL SPOT
- CP — CONTROL POINT
- TS — TRAFFIC SIGN
- WV — WATER VALVE
- SMH — SEWER MANHOLE
- MT — WATER METER PIT
- TPIT — TELSTRA PIT
- PP — LIGHT POLE
- LP — POWER POLE
- EDGE OF BITUMEN
- GUARD RAIL
- FENCE

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOT WITHSTANDING THAT THE PRESENT AND OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

LAYOUT PLAN

SCALE 1:250 (A1)

0 5 10m

SCALE 1:250 (A1)

CONTRACT

City Design
Brisbane City Council
MAILING ADDRESS: GPO Box 1434 Brisbane Qld 4001
Green Square South Tower 505 St. Pauls Terrace Fortitude Valley, Q 4006
Telephone: 07- 3027 5550 Facsimile: 07- 3334 0225
Dedicated to a better Brisbane
e-mail: citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.
A	FOR CONSTRUCTION	APR 10	MCW	

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Survey Information

Datum	A.H.D.
Filename	
Field Book	

Project: DRAINAGE DESIGN BENNETTS ROAD NORMAN PARK (DARCY ROAD - ACFOLD STREET)

Title: LAYOUT PLAN AND TABLES

Design	Drawn	Checked	Authorised for Issue
IEM MAR 10	MCW MAR 10		R.P.E.Q. No. 3585

Reference No.

Scale: AS SHOWN

Project Number / Sheet: CD 100074 / 2102

Issue: A

Dedicated to a better Brisbane

MEMORANDUM

To: **Gavin Blakey** Date: **5/01/09**
Principal Engineer - Stormwater Infrastructure

Attn:
Senior Works Schedule Manager

From:
Product Manager Design

Re: **Castlemaine Street, Milton to Brisbane River (3000 dia Stormwater Pipe)**
Investigation of failed stormwater pipe liner

Brisbane City Council

City Design
Water and Environment

Green Square South Tower
505 St Pauls Tce
Fortitude Valley Qld 4006
GPO Box 1434
Brisbane Qld 4001
Phone:
Facsimile:
Email:
Internet: www.brisbane.qld.gov.au

BRIEF CONFIRMATION

Thank you for your request to investigate the stormwater pipe liner issues relating to the 3.0m dia stormwater pipe from Castlemaine Street, Milton to the Brisbane River.

BACKGROUND

The tender for the construction of the major drainage project at Castlemaine Street, Milton (sometimes called Black Street) was let in January 2000 and reached Practical Completion on 2 June 2001. The drainline is within a tidal zone and the outlet was constructed approximately 750mm lower than design. Infrastructure Management raised concerns with respect to the Australian Standard utilised on the project for the manufacture of Precast Concrete Pipes.

Australian Standard AS4058-1992 (Precast Concrete Pipes) was adopted for this project. A review of the quality assurance documentation from CSR Humes (the supplier) confirmed the pipes manufactured comply with the standard. This standard requires a minimum of 20mm cover to reinforcing, the pipe design adopted for this project has an internal cover of 25mm.

Infrastructure Management, believed that the pipes should comply with AS3600-1995 (Structural Concrete Code) which requires a minimum of 40mm cover to reinforcing and recommended that the pipes should be lined to increase their life/durability to a minimum of fifty years.

Lining of the pipe was undertaken by Ultracoat Project Management and Contracting (UPMC) Pty Ltd and completed on 26 November 2001.

During a routine drainline inspection it was discovered the liner was sagging from the obvert of the pipe (refer attached photographs). The extent of the failure is unknown as only 16 metres of 350 metres was surveyed. Councils Pipe Survey Unit has indicated that they are not keen to undertake further work at this location for safety reasons.

RESULTS

Contract files for this project (243/103-61/99/2000 to 243/103-61/99/2000 P15) have been researched and all relevant information relating to the pipe, the installation and the relining were copied and are attached in chronological order.

Two main documents were found:

Firstly, Folio 14 – Memo from Warren Fischer (Principal Contract Manager) to Barry Ball (Waterways Manager) explains the background and reasons for the installation of the pipe liner and provides a recommendation.

Secondly, Folio 19 – Is the Deed of Agreement between Brisbane City Council and Ultracoat Project Management and Contracting (UPMC) Pty Ltd. This document provides a 10 year warranty from the date of the completion of the installation of the liner, and an option to extend the warranty for further periods up to a maximum of 50 years. Pipe relining works were completed on 26 November 2001. The warranty provides for the repair of the liner (materials and labour) and also includes the damming and dewatering of the pipe. Ultracoat was also required to establish a $70,000 trust account for the purpose of making repairs to the liner.

RECOMMENDATIONS

It is recommenced that UPMC Pty Ltd be instructed to repair the failed pipe liner as per the warranty. This assumes that UMPC Pty Ltd still exists. If UMPC Pty Ltd no longer exists, its parent company Rhino Linings (Folio 12) should be instructed to undertake the repairs. Rhino Linings web site www.rhinolinings.com.au reports a Case Study titled Brisbane Pipeline (Folio 28) this is probably the Castlemaine Street project.

If you require any further information, please contact

Product Manager Design
Water and Environment
City Design

	Brisbane Infrastructure **City Design** **Project Brief – Major Projects**	**CD F 403 001** Date: 23 May 2002 Rev no: 1A Rev date: 23 May 2011 Pages: 1 of 3

This Project Brief should be completed by / with Client. Client to sign and retain copy. Original to be forwarded to City Design.

CLIENT DETAILS AND TIMEFRAME

Client Contact [redacted]	Officer Code. LTOW3	Phone Number 70040
Division/Purchaser/Location Local Asset Services West	Area ID No.	Fax Number 70029

Date Brief Received 27 / 7 / 10	Date Project Required by Client 30 / 12 / 10	Date Project Promised 30 / 12 / 10
CD Project No. CD090085	Agreed Fee for service (if applicable) $ 5,000	Budget Allocation (if applicable)

PROJECT DETAILS

Project Title Castlemaine Street	Location/Suburb Milton	Schedule No. (if applicable) 74

General Description of Project

Investigate preliminary (initial) drainage rehabilitation works at Castlemaine Street, Milton

Functional Requirements (size, shape, functions, purpose, use, etc)

Minimium Q2 underground relief pipe drainage. Q10 immunity to utilities and living areas

Serviceability Requirements (estimated life, maintainability, etc)

N/A

Reason for Work (if known)

Existing relining failing in Castlemaine Street, Milton

Tick where applicable

SERVICE TO BE PROVIDED BY CITY DESIGN

☐ Site Inspection	☐ Investigation/Testing/Feasibility	☐ Site Development Checks
☐ Design Cost Estimate	☐ Specifications	☐ Constructability Check (BCW)
☐ Construction Cost Estimate	☐ Quantity Schedules	☐ Model
☐ Contract Documents	☐ Concept Design/Layout	☐ Public Consultation
☐ Written Advice / Report	☐ Detailed Sketches	☐ Landscape Design
☐ Design Certification	☐ Design/Working Drawings	☐ Public Lighting Design
☐ Construction Certification	☐ Consultant's Brief	☐ Other: _____
☐ Construction Inspection	☐ Consultant Drawing Checks	☐ Risk Mitigation

CONSULTANTS AND SERVICE AUTHORITIES

The following consultants or service authorities may be involved in this Project. All briefing, instructions, and verbal communication will be through the nominated officer:

Other Council	Briefed and Coordinated by	Comments
☐ City Business	☐ City Design ☐ Client	_____
☐ Brisbane City Works	☐ City Design ☐ Client	_____
☐ Brisbane Transport	☐ City Design ☐ Client	_____
☐ Brisbane Water	☐ City Design ☐ Client	_____
☐ City Governance	☐ City Design ☐ Client	_____
☐ Other: _____	☐ City Design ☐ Client	_____

External Service Authorities	Briefed and Coordinated by	Comments
☐ Powerlink	☐ City Design ☐ Client	_____
☐ Energex	☐ City Design ☐ Client	_____
☐ Telecom / Optus	☐ City Design ☐ Client	_____
☐ Gas	☐ City Design ☐ Client	_____
☐ Moonie Oil	☐ City Design ☐ Client	_____
☐ Other: _____	☐ City Design ☐ Client	_____

External Departments / Authorities	Briefed and Coordinated by	Comments
☐ Transport (Q.R., M.R.D.)	☐ City Design ☐ Client	_____
☐ Port Authority	☐ City Design ☐ Client	_____
☐ Environment & Heritage	☐ City Design ☐ Client	_____
☐ Natural Resources	☐ City Design ☐ Client	_____
☐ Other: _____	☐ City Design ☐ Client	_____

Specialist / Nominated Consultant	Briefed and Coordinated by	Comments
☐ _____	☐ City Design θ Client	_____

E & C SUBMISSIONS

	Prepared and Submitted by	
☐ Planning / Design Issues	☐ City Design ☐ Client	_____
☐ Land Resumptions / Easements	☐ City Design ☐ Client	_____
☐ Public Consultation	☐ City Design ☐ Client	_____
☐ Other: _____	☐ City Design ☐ Client	_____

LEGISLATIVE APPROVALS

The following legislative approvals may be required and will be controlled as nominated. It should be noted that some approvals require several months to obtain.

Approval	Initiated and Process by	Comments
☐ City Plan Approval	☐ City Design ☐ Client	
☐ Building Approval	☐ City Design ☐ Client	
☐ Section 86, Harbours Act and/or 51 Fisheries, 89 Dredging, 266 Riverine, Permits	☐ City Design ☐ Client	
☐ Workplace Health & Safety	☐ City Design ☐ Client	
☐ Other: _____	☐ City Design ☐ Client	

AUTHORISATION

This project brief is a summary of the formal agreement between City Design and the Client. As such, City Design's representative and the client's representative should both have the necessary authority to approve the brief.

This Project Brief has been reviewed with the Client. ☐ Yes ☐ No

Signature of Review Officer	Officer Code	Date
		/ /

I acknowledge the scope and intent of this project brief and authorise City Design to initiate the work as described above and overleaf.

Signature of Client's Representative	Officer Code	Date
		/ /

This form shall be filed in the Project File

BOREHOLE No.1 (25-3-76)

Date :

Surface Level

Depth	
0.00m	(CH) CLAY FILL, MOIST BROWN GRAVELLY CLAY
2.44	
3.66	(CI) SILTY CLAY, MOIST RED-BROWN, VERY STIFF CLAY.
5.49	(DR) DECOMPOSED ROCK, BROWN GRAVELLY CLAY, WITH APPEARENCE OF DECOMPOSED ROCK TENDING TO BE VERY WEATHERED.
11.12	(R) ROCK, VERY WEATERED BROWN ROCK WITH CONTORTED BEDDING TENDING TO BE VERY WEATHERED.

BOREHOLE No.2 (25-3-76)

Date :

Surface Level

Depth	
0.00m	(G) GRAVEL, GRAVEL FILL
1.83	(CI) SILTY CLAY, MOIST AND FIRM, BROWN-GREY.
5.49	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
7.62	(R) ROCK, VERY WEATERED BROWN SCHIST WITH CONSIDERABLE FRACTURING ALONG BEDDING, QUARTZ SEAMS.
13.41	

BOREHOLE No.3 (29-3-76)

Date :

Surface Level

Depth	
0.00m	
0.61	(F) FILL, STONY FILL MATERIALS
2.13	ASH FILL
	(CI) SILTY CLAY, MOIST, DARK GREY BROWN-GREY SILTY CLAY
5.79	
6.71	VERY MOIST TO SATURATED, GREY AND BROWN GRITTY CLAY.
10.06	VERY MOIST DARK GREY SILTY CLAY
	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
13.72	
16.69	(R) ROCK, VERY WEATERED BROWN MOSTLY BROWN AND WHITE SCHIST WITH QUARTZ SEAMS.
17.83	WEATHERED SCHIST, MOSTLY GREY AND WHITE WITH A FEW CLAY SEAMS, CONTORTED BEDDING.

BOREHOLE No.4 (30-3-76)

Date :

Surface Level

Depth	
0.00m	(F) FILL, STONE AND ASH FILL MATERIALS
3.35	
4.88	(CI) SILTY CLAY, JUST FIRM, GREY AND BROWN
	VERY SOFT, DARK GREY SILTY CLAY
13.11	
14.63	STIFF, DARK GREY GRAVELLY CLAY
	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK, CLAY SEAMS.
17.50	
	(R) ROCK, WEATHERED, GREY AND WHITE SCHIST, CONTORTED BEDDING AND CONSIDERABLE QUARTZ AND SILICIFCATION.
20.42	

BOREHOLE No.5 (31-3-76)

Date :

Surface Level

Depth	
0.00m	
0.50	(F) FILL, GRAVEL AND STONE MATERIALS.
1.20	ASH FILL
3.70	(CI) SILTY CLAY, MEDIUM FIRM, MOIST, BROWN AND GREY.
	VERY SOFT, DARK GREY, HIGHLY PLASTIC, MARINE SILTY CLAY.
16.30	
	STIFF TO VERY STIFF, MOIST, BROWN SILTY CLAY.
17.40	
18.29	(DR) DECOMPOSED ROCK, DECOMPOSED TO VERY WEATHERED SCHIST ROCK AND CLAY SEAMS.
21.18	
	(R) ROCK, HARD WEATHERED, GREY AND WHITE SCHIST WITH MAJOR SILICIFICATION AND QUARTZ SEAMS. CONTORTED BEDDING, SOME FRACTURING AND MINOR CLAY SEAMS.

BOREHOLE No.6 (31-3-76)

Date :

Surface Level

Depth	
0.00m	
0.90	(F) FILL, GRAVEL AND STONE MATERIALS.
1.83	BLACK ASH FILL
3.66	(CI) SILTY CLAY, MEDIUM FIRM, MOIST BROWN AND GREY.
	VERY SOFT, SATURATED, DARK GREY CLAY, HIGH PLASTICITY.
7.92	
10.36	(DR) DECOMPOSED ROCK, DECOMPOS… VERY WEATHERED SCHIST ROCK AND C… SEAMS.
11.73	
14.35	(R) ROCK, VERY WEATHERED, GREY, … WHITE SCHIST WITH QUARTZ AND CLAY CONTORTED BEDDING, VERY FRACTURED WEATHERED, GREY AND WHITE SCHIST … MAJOR SILICIFICATION. CONSIDERABLE FI…

BOREHOLE No.7 (5-4-76)

Date :

Depth	
0.00m	
1.80	(F) FILL, GRAVEL MATERIALS.
3.55	(CI) SILTY CLAY, VERY SOFT, SATU… DARK GREY.
4.30	MEDIUM FIRM, MOIST, YELLOW-BROWN C… CLAY.
6.10	(DR) DECOMPOSED ROCK, DECOMPOS… VERY WEATHERED SCHIST ROCK AND CLA… SEAMS.

BOREHOLE No.8 (5-4-76)

Date :

Surface Level

Depth	
0.00m	
1.52	(F) FILL, GRAVEL AND BROKEN SCHIST FILL MATERIALS.
5.20	(CI) SILTY CLAY, SOFT TO VERY SOFT, SATURATED, DARK GREY MARINE CLAY.
5.35	(DR) DECOMPOSED ROCK, DECOMPOSED ROCK AND CLAY.

BOREHOLE No.9 (5-4-76)

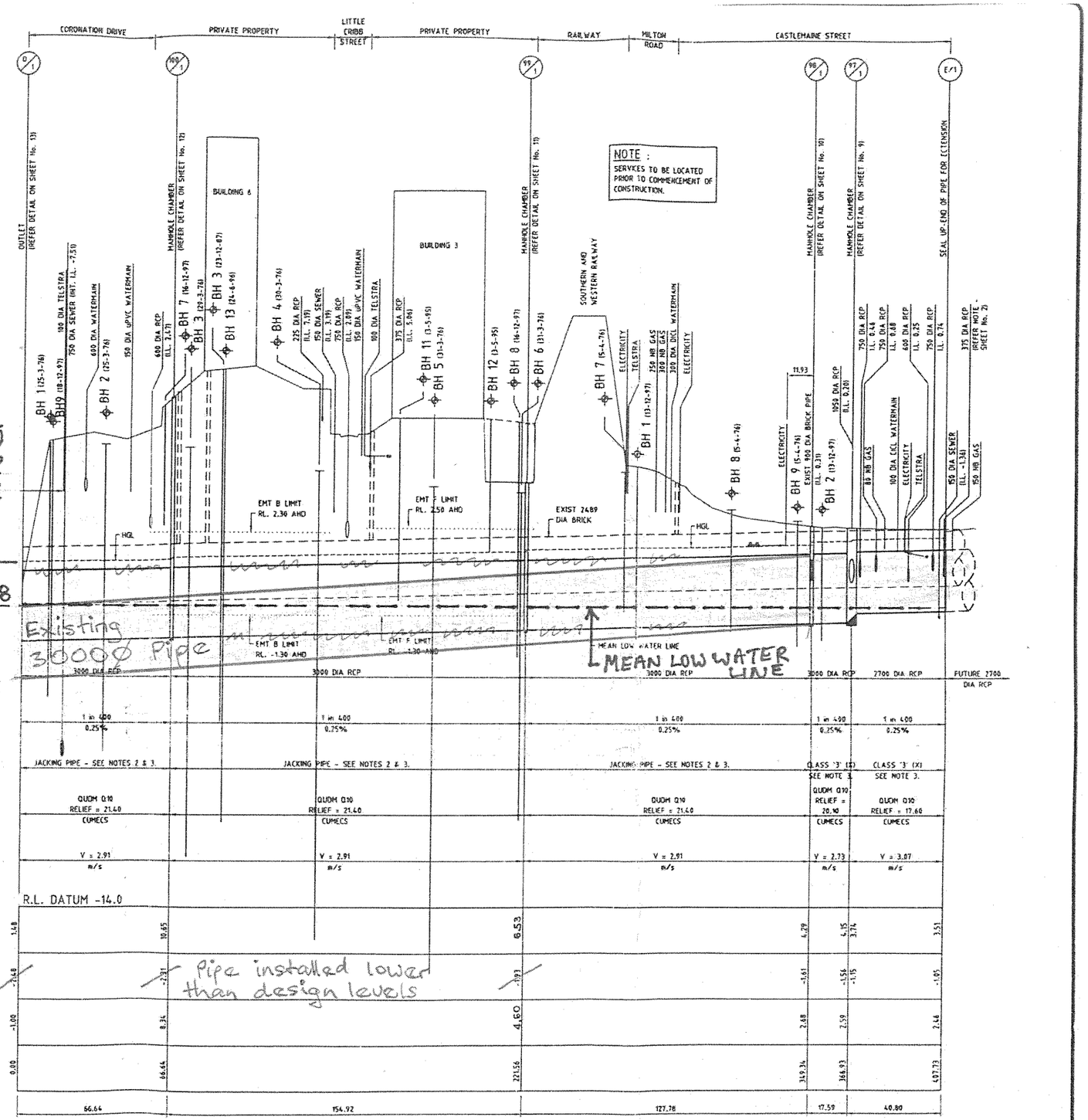
Date :

Surface Level

Depth	
0.00m	
0.91	(F) FILL, GRAVEL FILL MATERIALS.
2.13	(CI) SILTY CLAY, MEDIUM FIRM, MOIST, GREY AND BROWN.
5.50	SOFT TO VERY SOFT, SATURATED, DARK GREY, SILTY MARINE CLAY.

NOTE :

1. FOR FUTHER BOREHOLE INFORMATION LOGS REFER DWG W10506-7.
2. JACKING PIPE CLASS TO BE DETERMINED BY CONTRACTOR IN CONJUNCTION WITH THE PIPE MANUFACTURER.
3. PIPES TO BE SALTWATER RESISTANT.
4. CAUTION - DATES OF BORELOG DISTINGUISH SAME NUMBER LOGS.



Wade Lester Consultants Pty Ltd.
12th Floor, 141 Queen St., Brisbane, Qld 4000
GPO Box 2356, Brisbane, Qld Australia 4001
Phone (07) 3229 1183 Fax (07) 3221 7088
A.C.N. 010 241 719

CERTIFIED BY F.R.CRANE
RPEQ 31 Date 12/2/98

AMENDMENT		DATE	CHECKED	AUTHORISED	MICRO.
A	PSM ADDED	21-1-98			

CONTACT SURVEYOR-IN-CHARGE (CHECKING ENGINEER) PERMANENT SURVEY MARKS
DATUM: A.H.D. FIELD BOOK FILENAME
REFERENCE: - B.M.
PSM 09459 R.L. 13.995 - CASTLEMAINE STREET

DESIGN ACCEPTED AND … FOR ISSUE.
PRINCIPAL ENGINEER - DRAINAGE DESIGN DATE 24/1/98

CADD REFERENCE
PLAN CUSTODIAN
REGISTERED 25-11-98
MICROFILM

	INITIALS	DATE
DESIGN		19/1/98
CHECKED		19/1/98
DRAWN		19/1/98
PLANNED		19/1/98

FILE NO. 240/17 (67)
SERVICES FILE NO.
ACQUISITION FILE NO.
SUB PLAN NO.

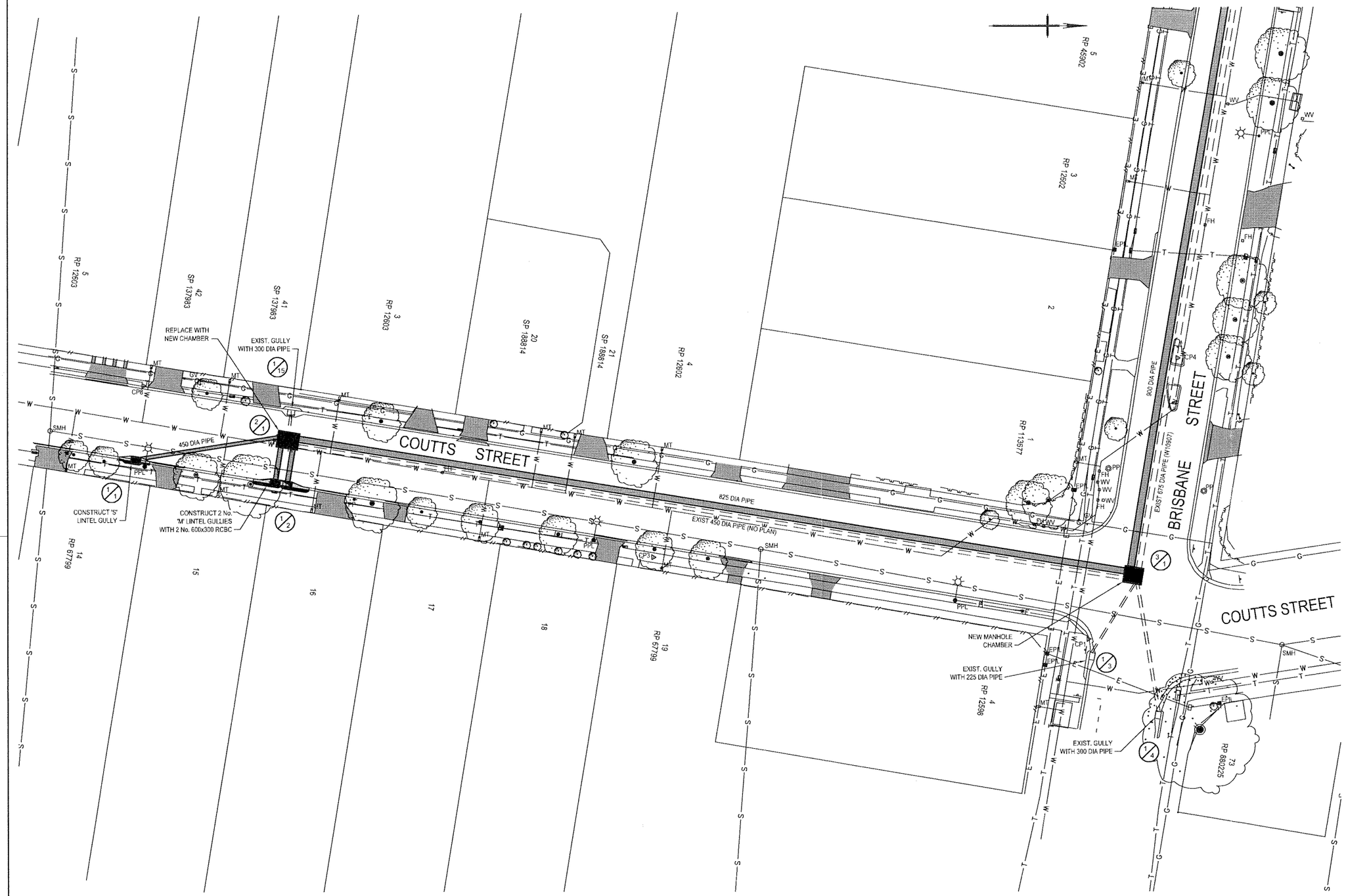
Brisbane City

RELIEF DRAINAGE
BLACK STREET MILTON
DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 6 OF 12	NAME Nº.	
DRAWING Nº. W10506	SHEET Nº. 6	AMEND. A

BCC.129.0160



SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
PNS	PARK NUMBER SIGN
NES	NO ENTRY SIGN
NSS	NO STANDING SIGN
KLS	KEEP LEFT SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
PP	POWER POLE
LP	LIGHT POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE
	CONCRETE SLAB EDGE

STANDARD NOTES

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3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

LAYOUT PLAN

SCALE 1:250 (A1)

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

PRELIMINARY

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Brisbane City Council

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Issue	Description	Date	Drawn	Auth.
PR1	PRELIMINARY ISSUE	APR 11	C.J.A.	
PR2	SURVEY ADDED	MAY 11	C.J.A.	

Issue	Description	Date	Drawn	Auth.

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Survey Information		
	Datum	A.H.D.
	Filename	
	Field Book	

Project

DRAINAGE DESIGN
COUTTS STREET BULIMBA
COUTTS STREET -
BRISBANE STREET

Title

LAYOUT PLAN
COUTTS STREET -
BRISBANE STREET

Design	Drawn	Checked	Authorised for Issue
C.A. APR 11	C.A. APR 11	B.T.D. APR 11	R.P.E.Q. No.

Reference No.	Scale
	1:250

Project Number / Sheet	Issue
CD 110796 / 2102	PR2

BCC.128.2161



CATCHMENT PLAN

SCALE 1:1000 (A1)

20 10 0 20 40 60 80 100 METRES

SCALE 1 : 1000 (BEFORE REDUCTION)

CATCHMENT TABLE

STRUCT No.	CATCHMENTS CONTRIBUTING	AREA (ha)	DRAINAGE PROVIDED
1/1	A	0.118	375 DIA RCP
1/15	B	0.202	375 DIA RCP
1/2	C	2.781	2 No. 600 x 375 RCBC
2/1	A-C	3.101	825 DIA RCP + Ex. 450 DIA RCP
1/3	D	0.141	EXIST 225 DIA RCP
1/4	E	0.841	EXIST 375 DIA RCP
3/1	A-E	4.083	900 DIA RCP + Ex. 675 DIA RCP
1/5	F	0.470	375 DIA RCP
1/6	G	1.802	525 DIA RCP
5/1	A-G	6.355	1050 DIA RCP + Ex. 600 DIA RCP
1/7	H	0.725	375 DIA RCP
2/7	H-I	1.231	525 DIA RCP
6/1	A-I	7.586	1050 DIA RCP + Ex. 600 DIA RCP
1/8	J	0.513	375 DIA RCP
2/6	J-K	0.742	375 DIA RCP
1/10	L	0.324	EXIST 300 DIA RCP
1/12	M	0.158	EXIST 300 DIA RCP
2/10	L-M	0.482	EXIST 375 DIA RCP
1/13	N	0.079	EXIST 300 DIA RCP
1/14	O	0.184	EXIST 300 DIA RCP
3/10	L-O	0.745	EXIST 375 RCP
1/9	P	0.197	EXIST 300 DIA RCP
1/11	Q	0.406	EXIST 375 DIA RCP
7/1	A-Q	9.636	1050 DIA RCP + Ex. 525 DIA RCP

DRAWING SHEET INDEX

SHEET No.	DRAWING DESCRIPTION
2101	CATCHMENT PLAN AND DRAWING INDEX
2102	DRAINAGE LAYOUT PLAN SHEET 1 COUTTS ST - BRISBANE ST
2103	DRAINAGE LAYOUT PLAN SHEET 2 BRISBANE ST - BRISBANE RIVER
2201	DRAINAGE LONGITUDINAL SECTIONS LINE 1
2202	DRAINAGE LONGITUDINAL SECTIONS LINES 2,3,4,10,12,15
2203	DRAINAGE LONGITUDINAL SECTIONS LINES 5-9,11,13,14
2302	BORELOG DETAILS
2401	CALCULATIONS SHEET 1
2402	CALCULATIONS SHEET 2

PRELIMINARY

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
PR1	PRELIMINARY ISSUE	APR 11	C.J.A.						
PR2	SURVEY ADDED	MAY 11	C.J.A.						

Survey Information | Datum A.H.D. | Filename | Field Book

Project: DRAINAGE DESIGN COUTTS STREET BULIMBA COUTTS STREET - BRISBANE STREET

Title: CATCHMENT PLAN AND DRAWING INDEX

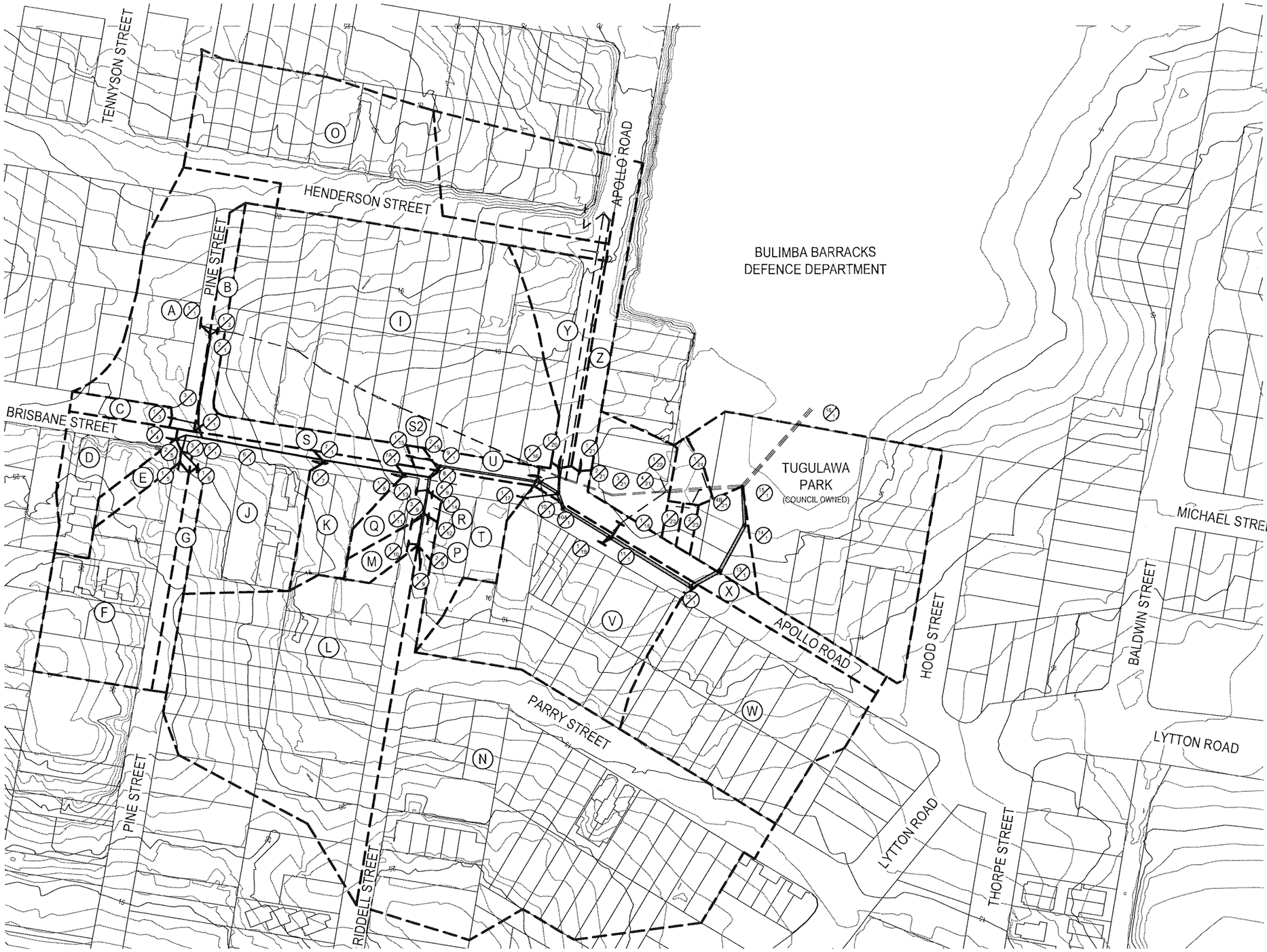
Design	Drawn	Checked	Authorised for Issue
C.A. APR 11	C.A. APR 11	B.T.D. APR 11	R.P.E.Q. No.

Reference No. | Scale 1:1000

Project Number / Sheet: CD 110796 / 2101 | Issue: PR2

BCC.123.0162.

BCC.129.0163



DRAWING INDEX TABLE

SHEET No.	DESCRIPTION
2101	CATCHMENT AND LOCALITY AND DRAWING INDEX
2102	LAYOUT PLAN SHEET 1 OF 2 RIDDELL ST - APOLLO RD
2103	LAYOUT PLAN SHEET 2 OF 2 PINE ST - RIDDELL ST
2201	LONGITUDINAL SECTION - LINE 1
2202	LONGITUDINAL SECTIONS - LINES 1 - 7, 9 - 12
2203	LONGITUDINAL SECTIONS - LINES 8, 13 - 22 & 25
2204	LONGITUDINAL SECTIONS - LINES 23 & 24, BORELOGS & MH10A/1 & 11/1 DETAILS
2301	MANHOLE 2/9, 3/9, 4/9, 8/1 AND 10/1 DETAILS
2401	CALCULATIONS SHEET 1 OF 4
2402	CALCULATIONS SHEET 2 OF 4
2403	CALCULATIONS SHEET 3 OF 4
2404	CALCULATIONS SHEET 4 OF 4

TABLE OF CATCHMENTS

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1/1 - 2/1	A	0.48	NEW 600 DIA PIPE
1/2 - 2/1	B	0.11	NEW 450 DIA PIPE
2/1 - 3/1	A - B	0.59	NEW 600 DIA PIPE
3/1 - 4/1	A - B	0.59	NEW 600 DIA PIPE
1/3 - 4/1	C	0.05	NEW 300 DIA PIPE
4/1 - 5/1	A - C	0.64	NEW 600 DIA PIPE
1/5 - 2/5	F	0.49	NEW 375 DIA PIPE
1/6 - 2/5	G	0.09	NEW 300 DIA PIPE
2/5 - 3/5	E - G	0.64	NEW 375 DIA PIPE
1/4 - 3/5	D	0.23	NEW 375 DIA PIPE
3/5 - 5/1	D, E, F, G	0.87	NEW 375 DIA PIPE
5/1 - 6/1	A - G	1.51	NEW 600 DIA PIPE
6/1 - 7/1	A - G	1.51	NEW 525 DIA PIPE
1/7 - 7/1	J	0.38	NEW 375 DIA PIPE
7/1 - 7A/1	A - G, J	1.89	NEW 525 DIA PIPE
1/8 - 7A/1	K	0.17	NEW 375 DIA PIPE
1/10 - 2/9	L	1.23	NEW 525 DIA PIPE
1/9 - 2/9	N	2.00	NEW 600 DIA PIPE
2/9 - 3/9	L, N	3.23	NEW 750 DIA PIPE
1/11 - 3/9	M	0.04	NEW 375 DIA PIPE
1/12 - 3/9	P	0.02	NEW 450 DIA PIPE
3/9 - 4/9	L, M, N, P	3.29	NEW 750 DIA PIPE
1/13 - 4/9	Q	0.07	NEW 375 DIA PIPE
1/14 - 4/9	R	0.01	NEW 375 DIA PIPE
4/9 - 8/1	L, M, N, P, Q, R	3.37	NEW 1050 DIA PIPE
7A/1 - 8/1	A - G, J, K	2.06	NEW 600 DIA PIPE
8/1 - 9/1	A - G, J-N, P-R	5.43	NEW 1050 DIA PIPE
1/15 - 2/15	S	0.10	NEW 300 DIA PIPE
2/15 - 9/1	S, H	0.12	NEW 300 DIA PIPE
9/1 - 10/1	A - H, J-N, P-S	5.55	NEW 900 DIA PIPE
1/16 - 10/1	U	0.05	NEW 300 DIA PIPE
10/1 - 10A/1	A - H, J-N, P-S, U	5.60	NEW 1200 DIA PIPE
1/17 - 10A/1	T	0.22	NEW 375 DIA PIPE
LINK I - 1/25	I	1.70	EXIST 600 DIA PIPE
LINK O - 2/20	O	0.72	EXIST 375 DIA PIPE
1/20 - 2/20	Y	0.24	NEW 600 DIA PIPE
2/20 - 10A/1	I, O, Y	2.66	NEW 900 DIA PIPE
10A/1 - 11/1	A - T, U, Y	8.88	NEW 1500 DIA PIPE
1/18 - 11/1	X	0.20	NEW 600 DIA PIPE
1/19 - 11/1	V	0.80	NEW 750 DIA PIPE
11/1 - 12/1	A - V, X, Y	9.48	NEW 1650 DIA PIPE
1/27 - 12/1	W	0.81	NEW 375 DIA PIPE
12/1 - 13/1	A - Y	10.29	NEW 1650 DIA PIPE
13/1 - 14/1	A - Y	10.29	NEW 1650 DIA PIPE
14/1 - 15/1	A - Y	10.29	NEW 1350 DIA PIPE

FOR EXISTING DRAINAGE
REFER: I-4-178, H-11-24

UBD REF: MAP 20 J3
4CH MAP: 80
ORTHO No: K17

CONTRACT

CATCHMENT AND LOCALITY PLAN
SCALE 1:1000 (A1)

0 10 20 40m
SCALE 1:1000 (A1)

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
1	FOR CONSTRUCTION	JUL 11	MCW						

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Brisbane
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Survey Information
PSM 21454 R.L.11.362

Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

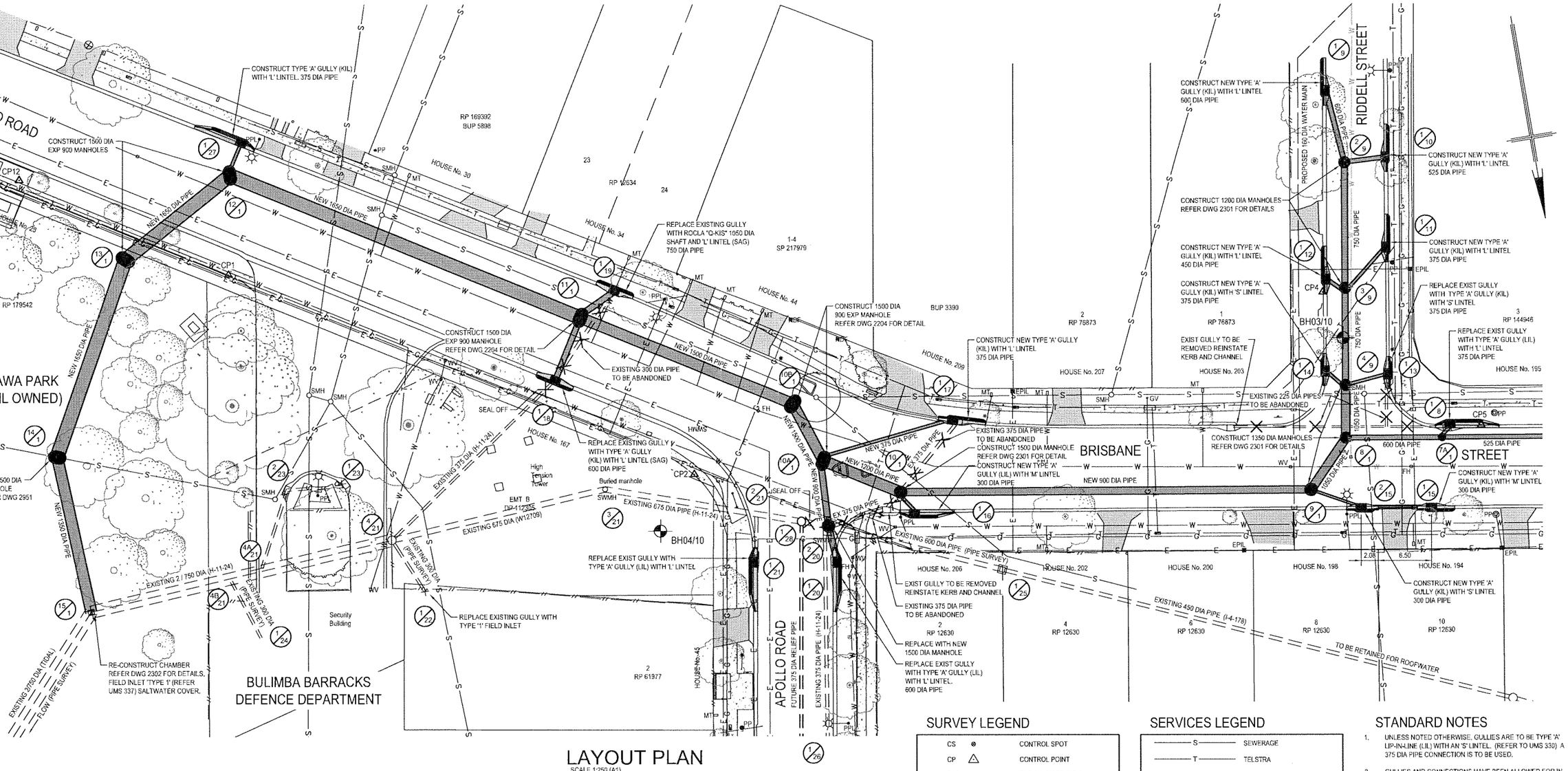
Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

Title
CATCHMENT AND
LOCALITY PLAN AND
DRAWING INDEX

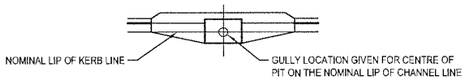
Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUL 11	R.P.E.Q. No.

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 100760 / 2101
Issue: 1

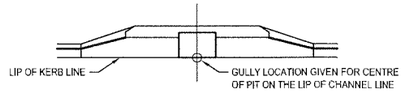
BCC.129.0164



LAYOUT PLAN
SCALE 1:250 (A1)



GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)
NOT TO SCALE



GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)
NOT TO SCALE

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
PNS	PARK NUMBER SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
PP	POWER POLE
LP	LIGHT POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE
	CONCRETE SLAB EDGE

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
W	WATER MAIN TO BE REMOVED
	PROPOSED WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

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0 5 10m
SCALE 1:250 (A1)

CONTRACT

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
1	FOR CONSTRUCTION	JUN 11	MCW						

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Survey Information
PSM 21454 R.L.11.362

Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

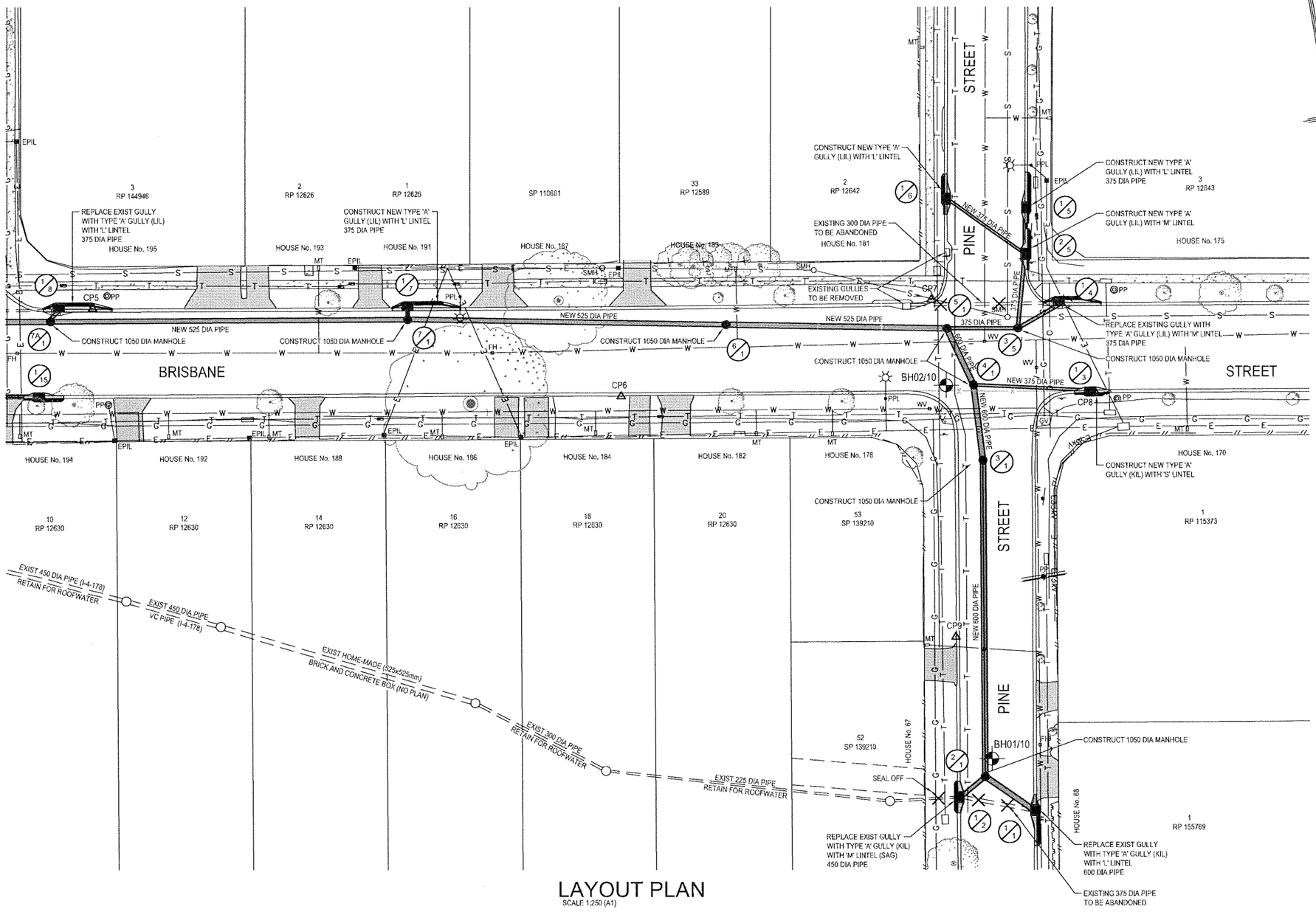
Title
LAYOUT PLAN
SHEET 1 OF 2

Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUN 11	R.P.E.Q. No.

Reference No.	Scale
	AS SHOWN

Project Number / Sheet	Issue
CD 100760 / 2102	1

BCC.129.0165



LAYOUT PLAN
SCALE 1:250 (A1)

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
PNS	PARK NUMBER SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
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0 5 10m
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CONTRACT

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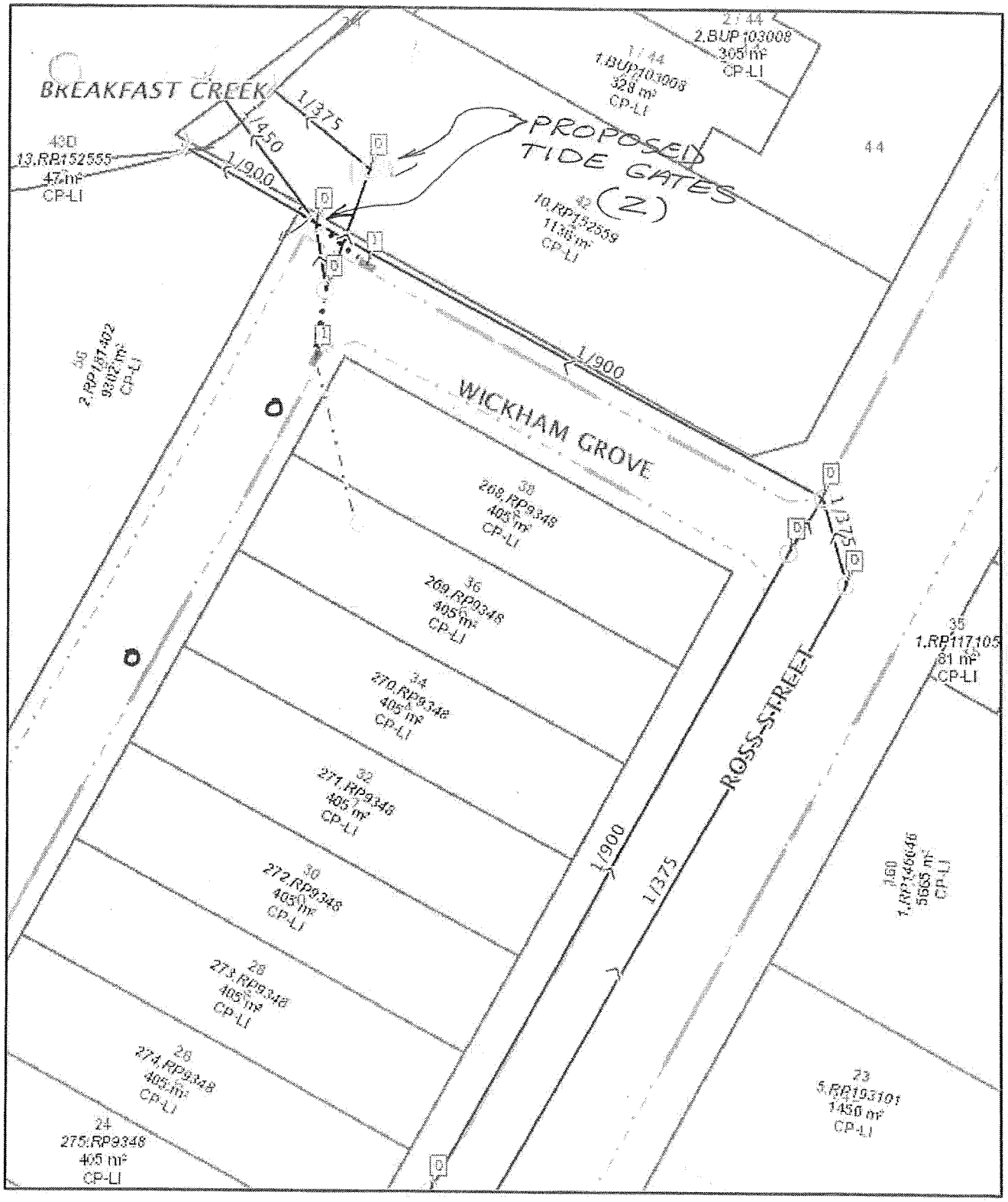
Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

Title
LAYOUT PLAN
SHEET 2 OF 2

Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUN 11	R.P.E.Q. No.

Reference No.
Scale: AS SHOWN
Project Number / Sheet: CD 100760 / 2103
Issue: 1



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Scale = 1:500

Metres 10 20

Date : Jan 7, 2011

User : 025424

Location :

6,964,593

504,156 N 504,293

6,964,489

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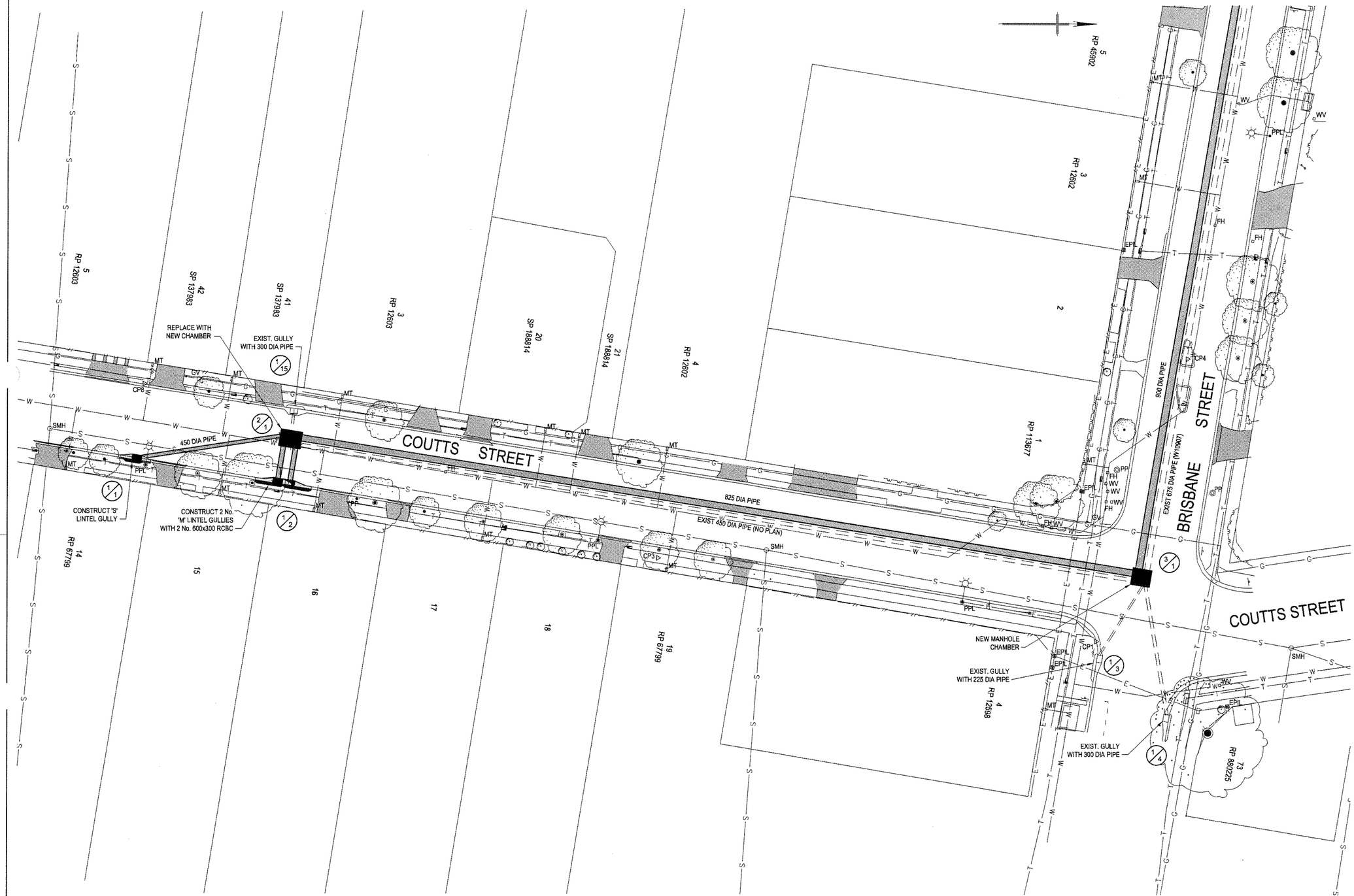
GDA

Qasco



SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

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5. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

LAYOUT PLAN

SCALE 1:250 (A1)

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

PRELIMINARY

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Issue	Description	Date	Drawn	Auth.
PR1	PRELIMINARY ISSUE	APR 11	C.J.A.	
PR2	SURVEY ADDED	MAY 11	C.J.A.	

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Survey Information

Datum	A.H.D.
Filename	
Field Book	

Project: DRAINAGE DESIGN COUTTS STREET BULIMBA COUTTS STREET - BRISBANE STREET

Title: LAYOUT PLAN COUTTS STREET - BRISBANE STREET

Design	Drawn	Checked	Authorised for Issue
C.A. APR 11	C.A. APR 11	B.T.D. APR 11	R.P.E.Q. No.

Reference No.

Scale: 1:250

Project Number / Sheet: CD 110796 / 2102

Issue: PR2

BCC 123 0161



CATCHMENT PLAN

SCALE 1:1000 (A1)

20 10 0 20 40 60 80 100 METRES

SCALE 1 : 1000 (BEFORE REDUCTION)

CATCHMENT TABLE

STRUCT No.	CATCHMENTS CONTRIBUTING	AREA (ha)	DRAINAGE PROVIDED
1/1	A	0.118	375 DIA RCP
1/15	B	0.202	375 DIA RCP
1/2	C	2.781	2 No. 600 x 375 RCBC
2/1	A-C	3.101	825 DIA RCP + Ex. 450 DIA RCP
1/3	D	0.141	EXIST 225 DIA RCP
1/4	E	0.841	EXIST 375 DIA RCP
3/1	A-E	4.083	900 DIA RCP + Ex. 675 DIA RCP
1/5	F	0.470	375 DIA RCP
1/6	G	1.802	525 DIA RCP
5/1	A-G	6.355	1050 DIA RCP + Ex. 600 DIA RCP
1/7	H	0.725	375 DIA RCP
2/7	H-I	1.231	525 DIA RCP
6/1	A-I	7.586	1050 DIA RCP + Ex. 600 DIA RCP
1/8	J	0.513	375 DIA RCP
2/8	J-K	0.742	375 DIA RCP
1/10	L	0.324	EXIST 300 DIA RCP
1/12	M	0.158	EXIST 300 DIA RCP
2/10	L-M	0.482	EXIST 375 DIA RCP
1/13	N	0.079	EXIST 300 DIA RCP
1/14	O	0.184	EXIST 300 DIA RCP
3/10	L-O	0.745	EXIST 375 RCP
1/9	P	0.197	EXIST 300 DIA RCP
1/11	Q	0.406	EXIST 375 DIA RCP
7/1	A-Q	9.636	1050 DIA RCP + Ex. 525 DIA RCP

DRAWING SHEET INDEX

SHEET No.	DRAWING DESCRIPTION
2101	CATCHMENT PLAN AND DRAWING INDEX
2102	DRAINAGE LAYOUT PLAN SHEET 1 COUTTS ST - BRISBANE ST
2103	DRAINAGE LAYOUT PLAN SHEET 2 BRISBANE ST - BRISBANE RIVER
2201	DRAINAGE LONGITUDINAL SECTIONS LINE 1
2202	DRAINAGE LONGITUDINAL SECTIONS LINES 2,3,4,10,12,15
2203	DRAINAGE LONGITUDINAL SECTIONS LINES 5-9,11,13,14
2302	BORELOG DETAILS
2401	CALCULATIONS SHEET 1
2402	CALCULATIONS SHEET 2

PRELIMINARY

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
PR1	PRELIMINARY ISSUE	APR 11	C.J.A.						
PR2	SURVEY ADDED	MAY 11	C.J.A.						

Survey information

Datum	A.H.D.
Filename	
Field Book	

Project: DRAINAGE DESIGN COUTTS STREET BULIMBA COUTTS STREET - BRISBANE STREET

Title: CATCHMENT PLAN AND DRAWING INDEX

Design	Drawn	Checked	Authorised for Issue
C.A. APR 11	C.A. APR 11	B.T.D. APR 11	R.P.E.Q. No.

Reference No.

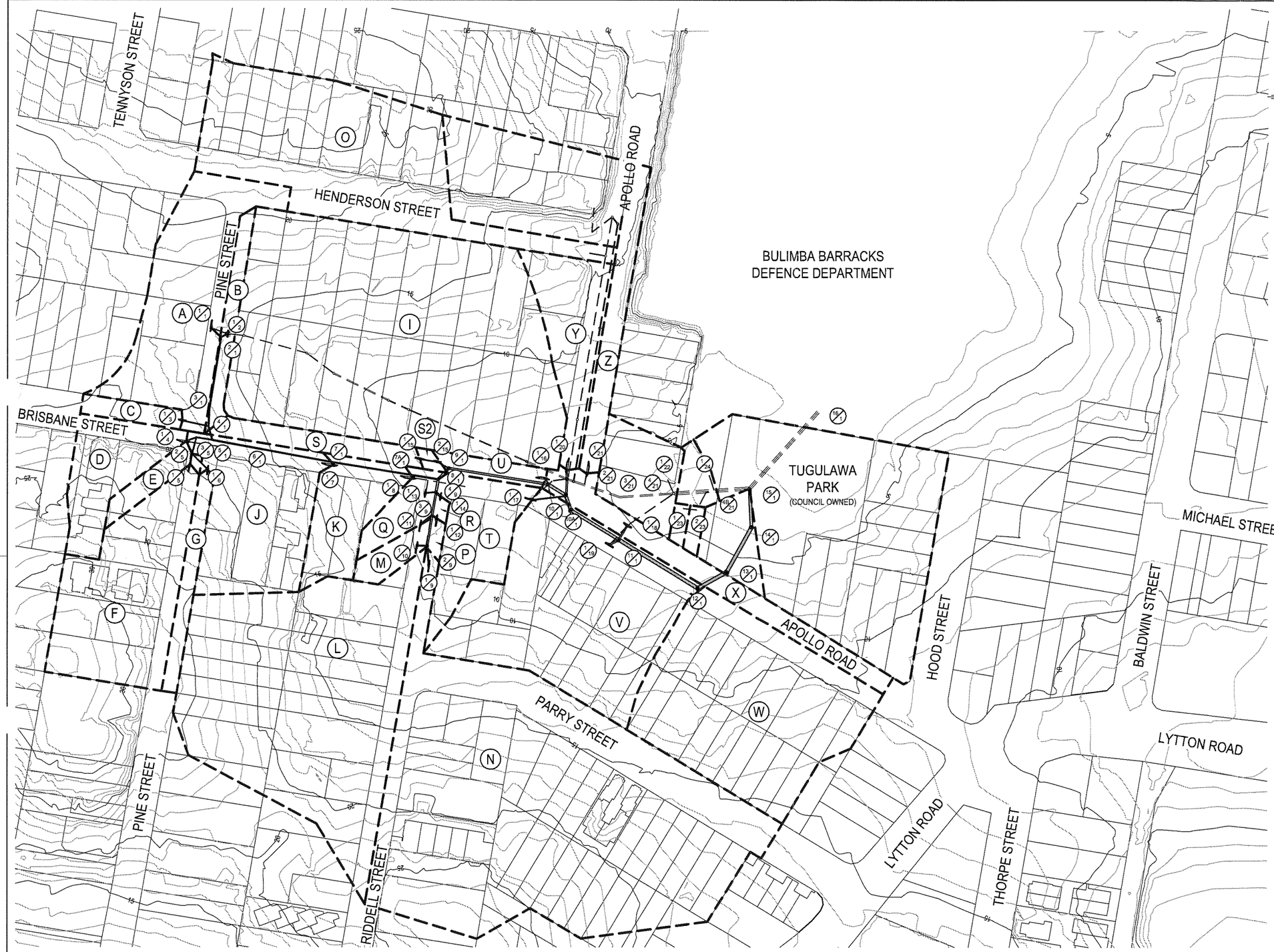
Scale: 1:1000

Project Number / Sheet: CD 110796 / 2101

Issue: PR2

BCC 1230.6162

BCC.129.0163



CATCHMENT AND LOCALITY PLAN
SCALE 1:1000 (A1)

DRAWING INDEX TABLE

SHEET No.	DESCRIPTION
2101	CATCHMENT AND LOCALITY AND DRAWING INDEX
2102	LAYOUT PLAN SHEET 1 OF 2 RIDDELL ST - APOLLO RD
2103	LAYOUT PLAN SHEET 2 OF 2 PINE ST - RIDDELL ST
2201	LONGITUDINAL SECTION - LINE 1
2202	LONGITUDINAL SECTIONS - LINES 1 - 7, 9 - 12
2203	LONGITUDINAL SECTIONS - LINES 8, 13 - 22 & 25
2204	LONGITUDINAL SECTIONS - LINES 23 & 24, BORELOGS & MH10A/1 & 11/1 DETAILS
2301	MANHOLE 2/9, 3/9, 4/9, 8/1 AND 10/1 DETAILS
2401	CALCULATIONS SHEET 1 OF 4
2402	CALCULATIONS SHEET 2 OF 4
2403	CALCULATIONS SHEET 3 OF 4
2404	CALCULATIONS SHEET 4 OF 4

TABLE OF CATCHMENTS

LINE	CATCHMENTS	AREA (ha)	DRAINAGE
1/1 - 2/1	A	0.48	NEW 600 DIA PIPE
1/2 - 2/1	B	0.11	NEW 450 DIA PIPE
2/1 - 3/1	A - B	0.59	NEW 600 DIA PIPE
3/1 - 4/1	A - B	0.59	NEW 600 DIA PIPE
1/3 - 4/1	C	0.05	NEW 300 DIA PIPE
4/1 - 5/1	A - C	0.64	NEW 600 DIA PIPE
1/5 - 2/5	F	0.49	NEW 375 DIA PIPE
1/6 - 2/5	G	0.09	NEW 300 DIA PIPE
2/5 - 3/5	E - G	0.64	NEW 375 DIA PIPE
1/4 - 3/5	D	0.23	NEW 375 DIA PIPE
3/5 - 5/1	D, E, F, G	0.87	NEW 375 DIA PIPE
5/1 - 6/1	A - G	1.51	NEW 600 DIA PIPE
6/1 - 7/1	A - G	1.51	NEW 525 DIA PIPE
1/7 - 7/1	J	0.38	NEW 375 DIA PIPE
7/1 - 7A/1	A - G, J	1.89	NEW 525 DIA PIPE
1/8 - 7A/1	K	0.17	NEW 375 DIA PIPE
1/10 - 2/9	L	1.23	NEW 525 DIA PIPE
1/9 - 2/9	N	2.00	NEW 600 DIA PIPE
2/9 - 3/9	L, N	3.23	NEW 750 DIA PIPE
1/11 - 3/9	M	0.04	NEW 375 DIA PIPE
1/12 - 3/9	P	0.02	NEW 450 DIA PIPE
3/9 - 4/9	L, M, N, P	3.29	NEW 750 DIA PIPE
1/13 - 4/9	Q	0.07	NEW 375 DIA PIPE
1/14 - 4/9	R	0.01	NEW 375 DIA PIPE
4/9 - 8/1	L, M, N, P, Q, R	3.37	NEW 1050 DIA PIPE
7A/1 - 8/1	A - G, J, K	2.06	NEW 600 DIA PIPE
8/1 - 9/1	A - G, J-N, P-R	5.43	NEW 1050 DIA PIPE
1/15 - 2/15	S	0.10	NEW 300 DIA PIPE
2/15 - 9/1	S, H	0.12	NEW 300 DIA PIPE
9/1 - 10/1	A - H, J-N, P-S	5.55	NEW 900 DIA PIPE
1/16 - 10/1	U	0.05	NEW 300 DIA PIPE
10/1 - 10A/1	A - H, J-N, P-S, U	5.60	NEW 1200 DIA PIPE
1/17 - 10A/1	T	0.22	NEW 375 DIA PIPE
LINK I - 1/25	I	1.70	EXIST 600 DIA PIPE
LINK O - 2/20	O	0.72	EXIST 375 DIA PIPE
1/20 - 2/20	Y	0.24	NEW 600 DIA PIPE
2/20 - 10A/1	I, O, Y	2.66	NEW 900 DIA PIPE
10A/1 - 11/1	A - T, U, Y	8.88	NEW 1500 DIA PIPE
1/18 - 11/1	X	0.20	NEW 600 DIA PIPE
1/19 - 11/1	V	0.80	NEW 750 DIA PIPE
11/1 - 12/1	A - V, X, Y	9.48	NEW 1650 DIA PIPE
1/27 - 12/1	W	0.81	NEW 375 DIA PIPE
12/1 - 13/1	A - Y	10.29	NEW 1650 DIA PIPE
13/1 - 14/1	A - Y	10.29	NEW 1650 DIA PIPE
14/1 - 15/1	A - Y	10.29	NEW 1350 DIA PIPE

FOR EXISTING DRAINAGE
REFER: I-4-178, H-11-24

UBD REF: MAP 20 J3
4CH MAP: 80
ORTHO No: K17

0 10 20 40m
SCALE 1:1000 (A1)

CONTRACT

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
1	FOR CONSTRUCTION	JUL 11	MCW						

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Survey Information
PSM 21454 R.L.11.362

Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

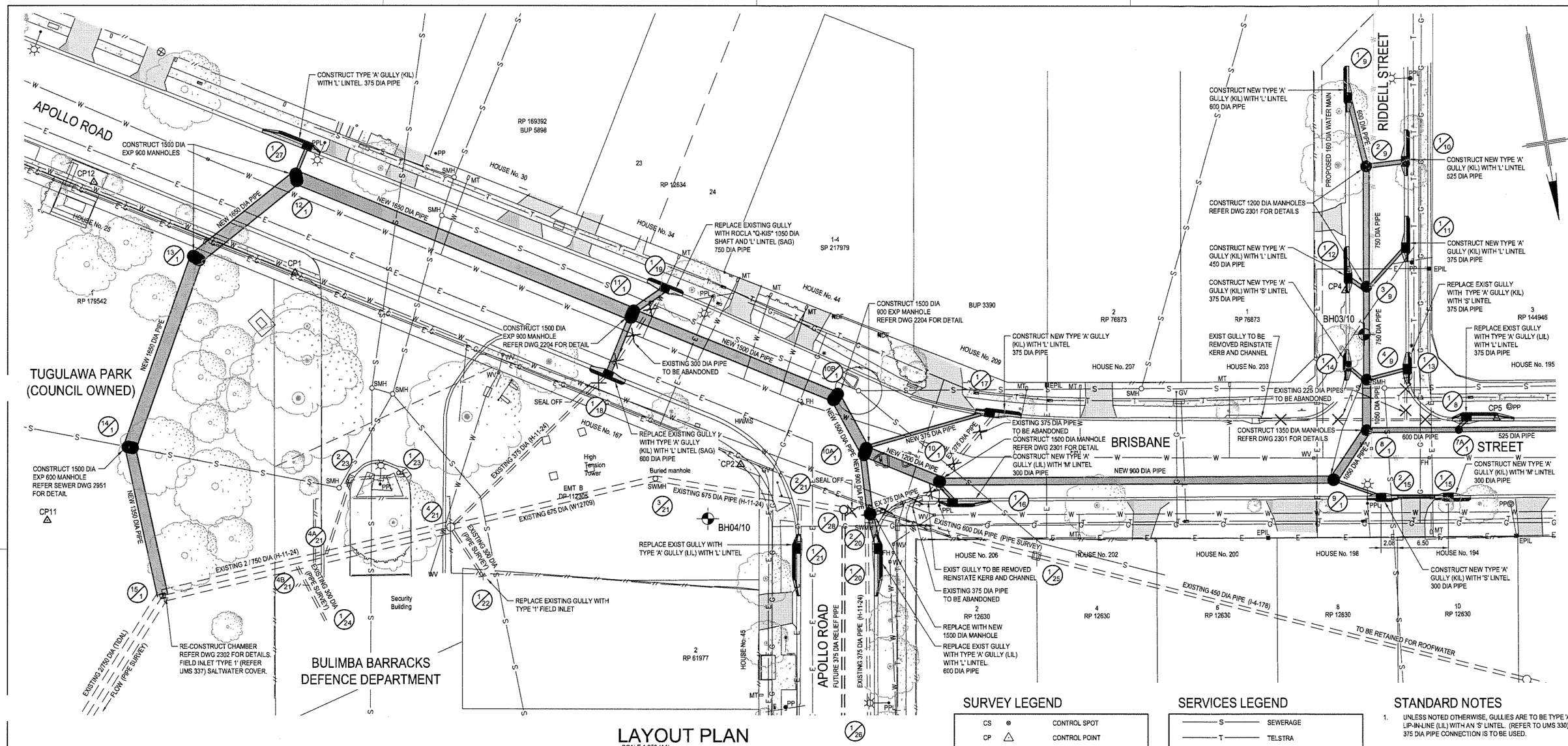
Title
CATCHMENT AND
LOCALITY PLAN AND
DRAWING INDEX

Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUL 11	R.P.E.Q. No.

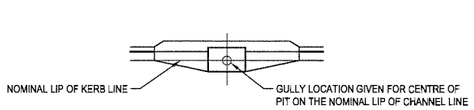
Reference No.
Scale: AS SHOWN

Project Number / Sheet: CD 100760 / 2101
Issue: 1

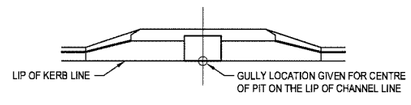
BCC.129.0164



LAYOUT PLAN
SCALE 1:250 (A1)



GULLY PIT SETOUT DETAIL - KERB IN LINE GULLY (KIL)
NOT TO SCALE



GULLY PIT SETOUT DETAIL - LIP IN LINE GULLY (LIL)
NOT TO SCALE

SURVEY LEGEND

CS	⊗	CONTROL SPOT
CP	△	CONTROL POINT
PNS		PARK NUMBER SIGN
FH	○	FIRE HYDRANT
WV	□	WATER VALVE
SMH	○	SEWER MANHOLE
MT	▭	WATER METER PIT
PP	●	POWER POLE
LP	●☼	LIGHT POLE
		EDGE OF BITUMEN
		GUARD RAIL
		FENCE
		CONCRETE SLAB EDGE

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
W	WATER MAIN TO BE REMOVED
	PROPOSED WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP-IN-LINE (LIL) WITH AN 'S' LINTEL. (REFER TO UMS 330) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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0 5 10m
SCALE 1:250 (A1)

CONTRACT

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.
1	FOR CONSTRUCTION	JUN 11	MCW						

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Survey Information
PSM 21454 R.L.11.362

Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

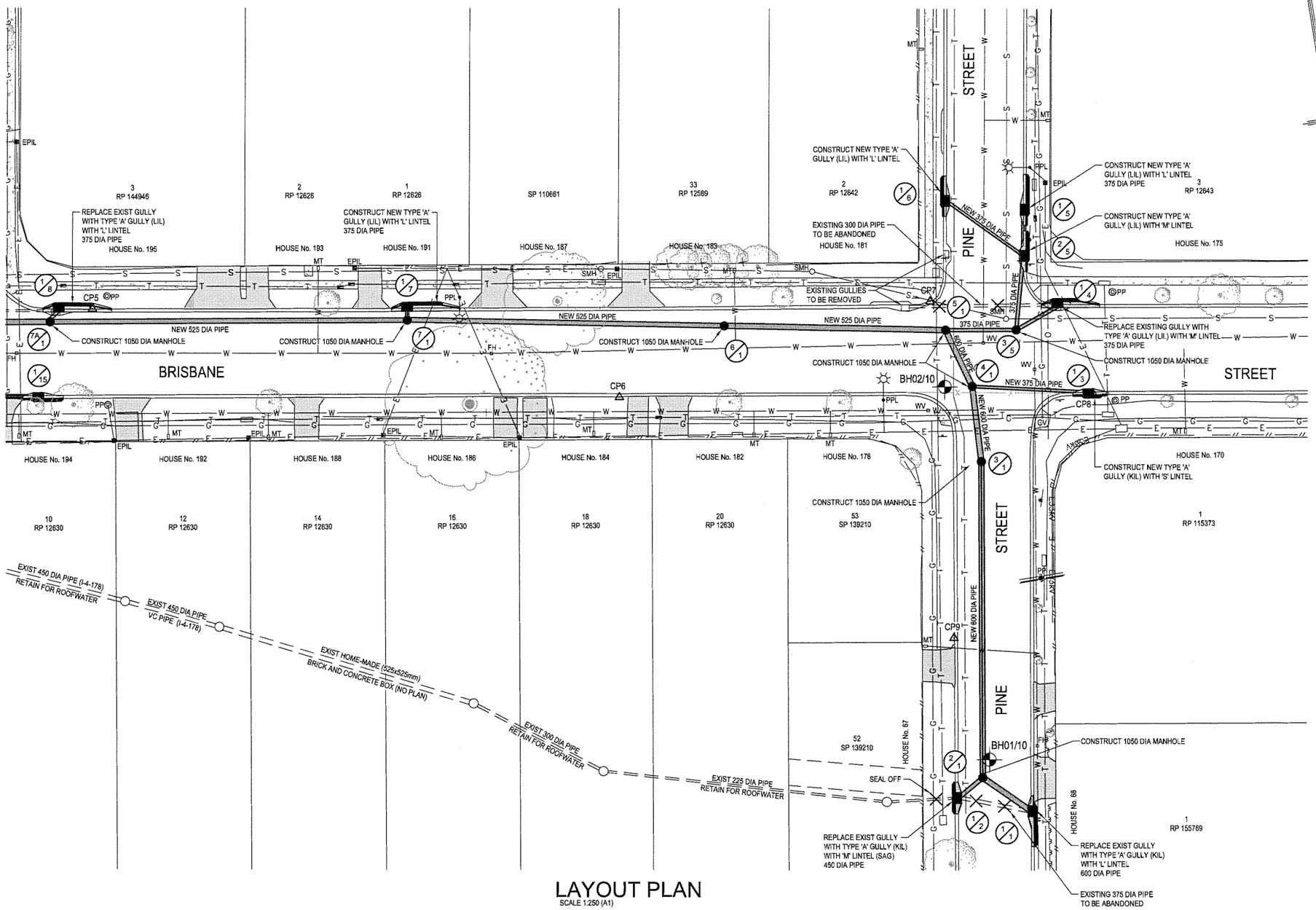
Title
LAYOUT PLAN
SHEET 1 OF 2

Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUN 11	R.P.E.Q. No.

Reference No.	Scale
	AS SHOWN

Project Number / Sheet	Issue
CD 100760 / 2102	1

BCC.129.0165



LAYOUT PLAN
SCALE 1:250 (A1)

SERVICES LEGEND

S	SEWERAGE
T	TELSTRA
OF	OPTICAL FIBRE
G	GAS
W	WATER MAIN
E	ELECTRICITY
SWMH	EXIST. STORMWATER
	STORMWATER DESIGNED

SURVEY LEGEND

CS	CONTROL SPOT
CP	CONTROL POINT
PNS	PARK NUMBER SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
SMH	SEWER MANHOLE
MT	WATER METER PIT
PP	POWER POLE
LP	LIGHT POLE
	EDGE OF BITUMEN
	GUARD RAIL
	FENCE
	CONCRETE SLAB EDGE

STANDARD NOTES

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0 5 10m
SCALE 1:250 (A1)

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Issue	Description	Date	Drawn	Auth.
1	FOR CONSTRUCTION	JUN 11	MCW	

Issue	Description	Date	Drawn	Auth.

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Survey Information
PSM 21454 R.L.11.362

Datum	A.H.D.
Filename	100760
Field Book	ELECTRONIC

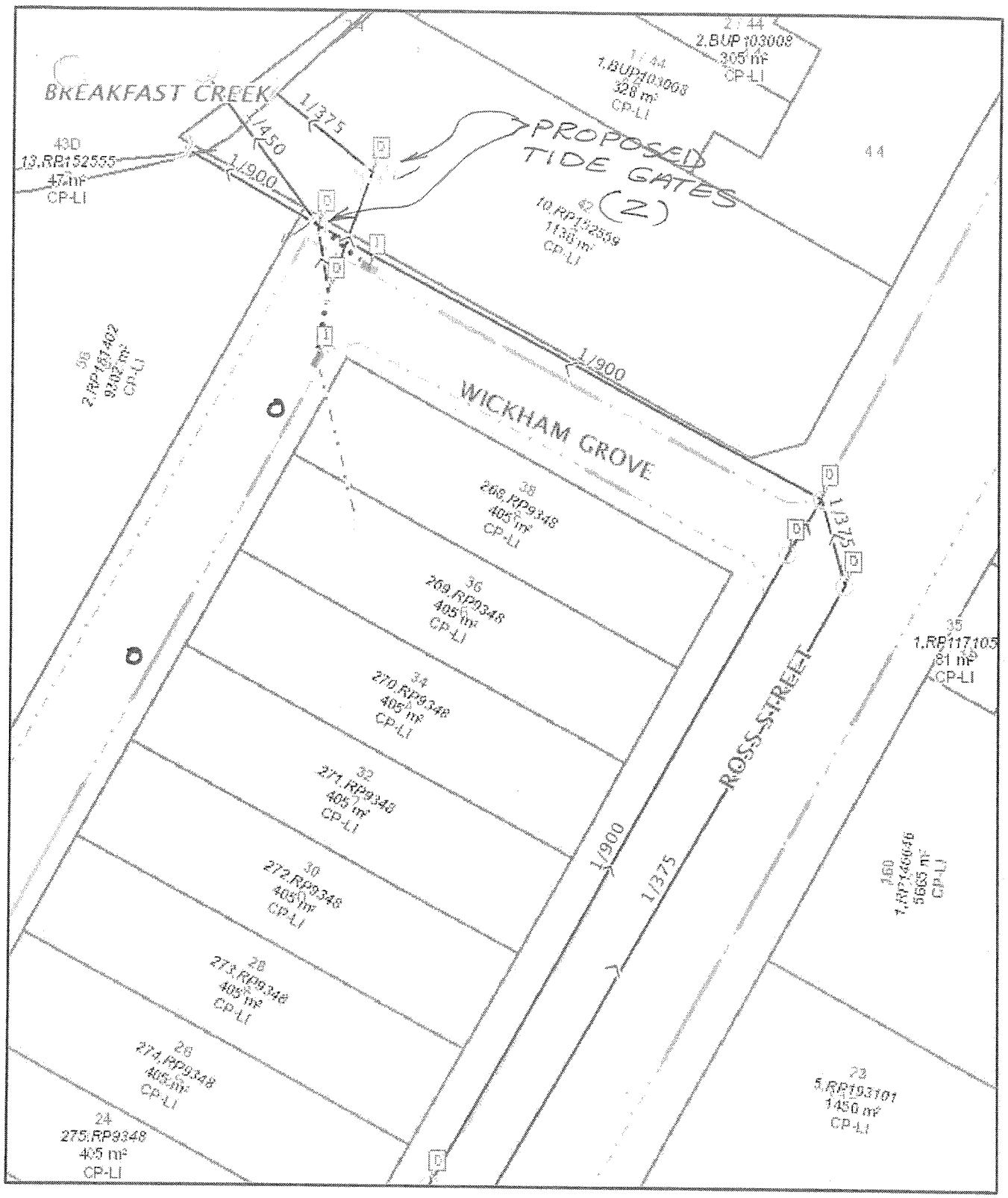
Project
DRAINAGE DESIGN
BRISBANE STREET
BULIMBA
(PINE ST - APOLLO RD)

Title
LAYOUT PLAN
SHEET 2 OF 2

Design	Drawn	Checked	Authorised for Issue
IEM DEC 10	MCW JUN 11	BTD JUN 11	R.P.E.Q. No.

Reference No.	Scale
	AS SHOWN

Project Number / Sheet	Issue
CD 100760 / 2103	1



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Scale = 1:500

Metres 10 20

Date : Jan 7, 2011

User : 025424

Location :

6,964,593

504,156 N 504,293

6,964,489

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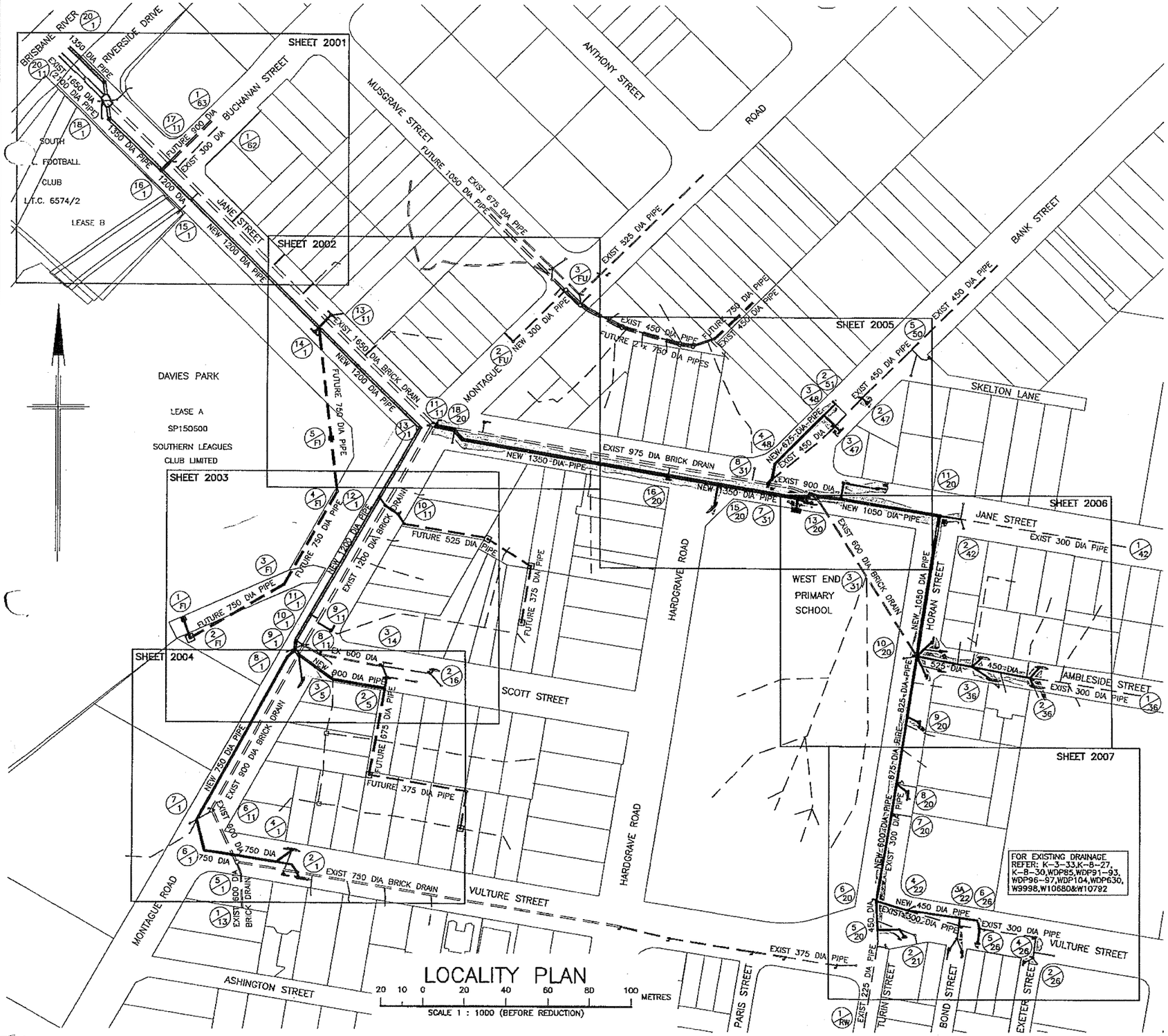
GDA

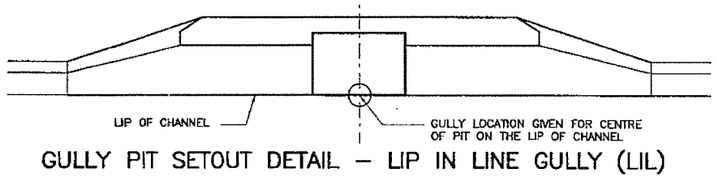
Qasco

BCC.129.0684



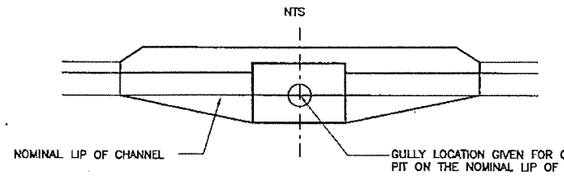
DRAWING SHEET INDEX

STAGE No.	SHEET No.	DRAWING DESCRIPTION
1 – 3	2000	LOCALITY PLAN AND DRAWING INDEX
1	2001	PLAN BRISBANE RIVER – JANE STREET
1 & 3	2002	PLAN MONTAGUE ROAD AND JANE STREET
1 & 2	2003	PLAN MONTAGUE ROAD AND SCOTT STREET
1 & 2	2004	PLAN SCOTT STREET – VULTURE STREET
3	2005	PLAN JANE STREET AND BANK STREET
3	2006	PLAN HORAN STREET & AMBLESIDE STREET
3	2007	PLAN HORAN STREET AND VULTURE STREET
1 & 2	2008	LONGITUDINAL SECTIONS LINES 0,FI,FU&1a
1 & 2	2009	LONGITUDINAL SECTION LINE 1b
1 & 2	2010	LONGITUDINAL SECTIONS LINES 1c – 10
1 & 2	2011	LONGITUDINAL SECTION LINE 11a
2	2012	LONGITUDINAL SECTIONS LINES 11b – 19
3	2013	LONGITUDINAL SECTION LINE 20a
3	2014	LONGITUDINAL SECTIONS LINES 20b – 25
3	2015	LONGITUDINAL SECTIONS LINES 26 – 31a
3	2016	LONGITUDINAL SECTIONS LINES 31b – 40
3	2017	LONGITUDINAL SECTIONS LINES 41 – 49
1 & 3	2018	LONGITUDINAL SECTIONS LINES 50 – 62
1 – 3	2019	LONGITUDINAL SECTIONS LINES 63–67 & BORELOGS
1	2020 & 4001	MANHOLE CHAMBER 18/1 DETAILS
3	2021 & 4002	MANHOLE CHAMBER 13/20 DETAILS



GULLY PIT SETOUT DETAIL – LIP IN LINE GULLY (LIL)

NTS



GULLY PIT SETOUT DETAIL – KERB IN LINE GULLY (KIL)

NTS

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP IN LINE GULLIES WITH AN 'S' LINTEL (REFER UMS 330). A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
5. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
6. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 900x600 AND INCORPORATE A TYPE 2 GRATE AND FRAME (REFER UMS 337).
7. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

UBD REF. : 159 G15
4CH. MAP : 104
ORTHO NO.: M14

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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGES 1 - 3
LOCALITY PLAN
AND INDEX TABLE
BRISBANE RIVER -
VULTURE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 1511

Reference no.

Scale 1:1000(A1)

Drawing no. CD 050607

Sheet 2000

Issue A

BCC.129.0685

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9903	50639.177	157795.303	6.384
CP9905	50702.154	157888.478	4.895
CP9906	50707.721	157788.219	7.404
CP9922	50590.464	157859.830	4.837
CP9923	50592.391	157795.957	5.576

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
13/1	50628.510	157807.291	1500ext600
14/1,1/10	50579.724	157855.080	1500ext900
1/9	50577.766	157853.048	KIL GULLY 'L'
11/11	50634.529	157808.173	EX CHAMBER
13/11	50583.341	157859.028	1500ext900
17/20	50649.197	157801.069	1500ext600
18/20	50645.367	157806.299	1500ext900
2/58	50585.412	157861.158	KIL GULLY 'L'
2/FU	50673.350	157848.842	1050 DIA MH
3/FU	50698.123	157873.535	EXIST PIPE
5/FI	50586.046	157801.400	FIELD INLET
1/56	50659.620	157809.364	KIL GULLY 'S'

NOTE: THESE WORKS BORDER AN ENVIRONMENTALLY SIGNIFICANT AREA. ALL CARE SHOULD BE TAKEN TO LIMIT DISTURBANCE TO THIS AREA.

JOINS SHEET 2001

JOINS SHEET 2005

RP120812 JOINS SHEET 2003

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

WARNING – GAS MAINS

GAS MAINS IN THIS AREA OPERATE AT HIGH PRESSURE. AN INSPECTOR IS REQUIRED TELEPHONE 3426 1605 TWO WORKING DAYS PRIOR TO COMMENCEMENT OF WORK TO ARRANGE A SITE INSPECTION AND MAINS LOCATION.

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGES 1 & 3
PLAN AND TABLES
MONTAGUE ROAD
MUSGRAVE STREET
- JANE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

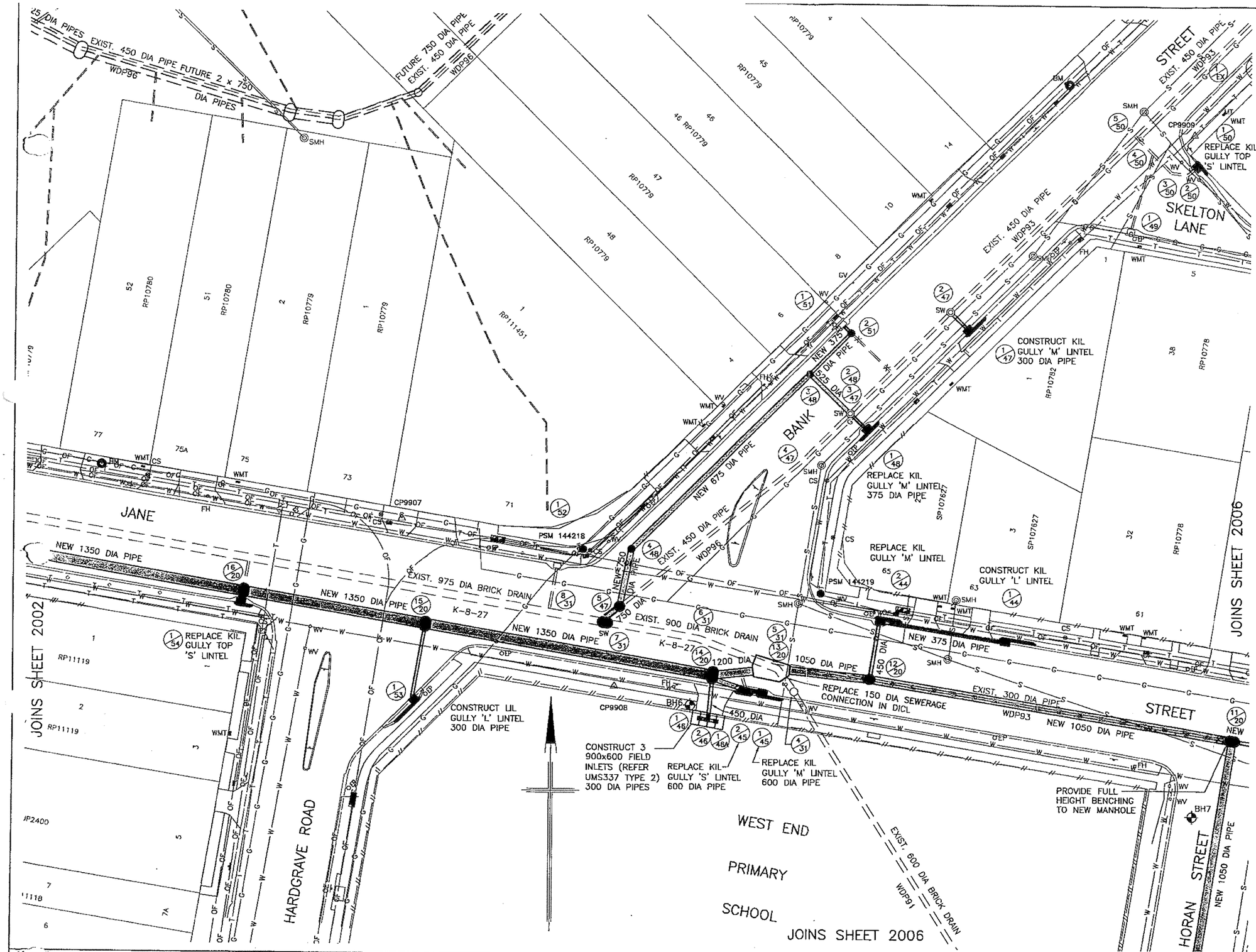
Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 1911

Reference no.

Scale 1:250(A1)

Drawing no.	Sheet	Issue
CD 050607	2002	A

BCC.129.0686



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9907	50768.887	157793.923	7.313
CP9908	50797.118	157771.785	6.862
CP9909	50873.781	157846.070	6.758

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
11/20	50879.208	157765.091	1500ext600
12/20	50831.128	157773.016	1500 DIA MH
13/20,5/31	50818.783	157774.304	MH CHAMBER
14/20	50810.148	157773.373	1500ext900
15/20	50772.110	157779.810	1500ext600
16/20	50748.093	157783.964	1500ext600
7/31	50795.886	157780.264	1500ext600
1/44	50849.050	157777.998	KIL GULLY 'L'
2/44	50832.388	157780.727	KIL GULLY 'M'
1/45	50816.815	157771.086	KIL GULLY 'M'
2/45	50814.553	157771.475	KIL GULLY 'S'
1/46	50808.481	157767.590	FIELD INLET
2/46	50809.549	157767.402	FIELD INLET
1/46A	50810.617	157767.214	FIELD INLET
1/47	50843.890	157819.940	KIL GULLY 'M'
5/47	50797.781	157782.418	1500 DIA MH
1/48	50830.434	157806.516	KIL GULLY 'M'
3/48	50822.951	157813.765	1050 DIA MH
4/48	50799.288	157790.126	1050 DIA MH
1/50	50874.046	157841.761	KIL GULLY 'S'
2/51	50828.471	157819.279	1050 DIA MH
1/53	50770.369	157770.028	LIL GULLY 'L'

FIELD INLET TABLE

No	T.O.G. EL.	I/S I.L.	O/S I.L.	CONNECTION SIZE	TYPE
1/46	6.700	5.750	5.700	300 DIA	900 x 600
2/46	6.700	5.200	5.100	450 DIA	900 x 600
1/46A	6.700	5.750	5.700	300 DIA	900 x 600

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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CITY BUSINESS

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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
PLAN AND TABLES
JANE STREET
HARDGRAVE ROAD
- HORAN STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 1911

Reference no.

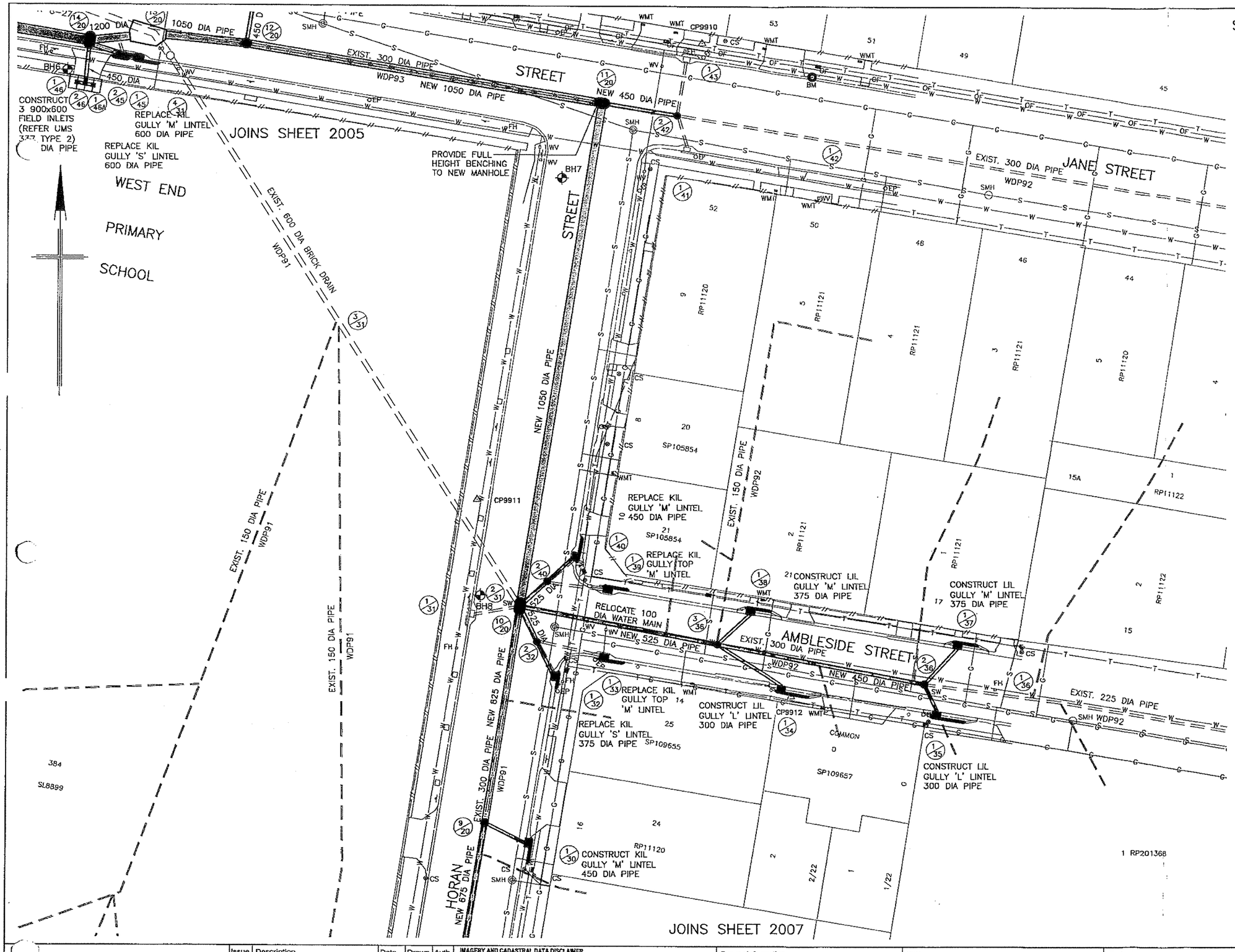
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2005

Issue A

BCC.129.0687



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9910	50892.667	157773.305	10.683
CP9911	50862.404	157711.270	9.380
CP9912	50904.707	157684.735	10.650

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
9/20	50863.461	157667.520	1200 DIA MH
10/20,2/31	50868.184	157696.787	1500ext900
11/20	50879.208	157765.091	1500ext600
12/20	50831.128	157773.016	1500 DIA MH
13/20,5/31	50818.783	157774.304	MH CHAMBER
14/20	50810.148	157773.373	1500ext900
1/30	50868.965	157664.764	KIL GULLY 'M'
1/32	50872.703	157687.214	KIL GULLY 'S'
2/32	50870.444	157692.000	1050 DIA MH
1/33	50879.299	157690.104	KIL GULLY 'M'
1/34	50903.394	157686.136	LIL GULLY 'L'
1/35	50924.334	157682.714	LIL GULLY 'L'
2/36	50922.635	157686.386	1050 DIA MH
3/36	50894.681	157691.726	1200 DIA MH
1/37	50927.016	157691.214	LIL GULLY 'M'
1/38	50899.114	157695.798	LIL GULLY 'M'
1/39	50879.794	157698.933	KIL GULLY 'M'
1/40	50875.447	157703.585	KIL GULLY 'M'
2/40	50871.815	157700.186	1050 DIA MH
2/42	50889.308	157763.426	1050 DIA MH
1/45	50816.815	157771.086	KIL GULLY 'M'
2/45	50814.553	157771.475	KIL GULLY 'S'
1/46	50808.481	157767.590	FIELD INLET
2/46	50809.549	157767.402	FIELD INLET
1/46A	50810.617	157767.214	FIELD INLET

FIELD INLET TABLE

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1/46	6.700	5.750	5.700	300 DIA	900 x 600
2/46	6.700	5.200	5.100	450 DIA	900 x 600
1/46A	6.700	5.750	5.700	300 DIA	900 x 600

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Issue	Description	Date	Drawn	Auth.
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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
PLAN AND TABLES
HORAN STREET
JANE STREET -
AMBLESIDE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

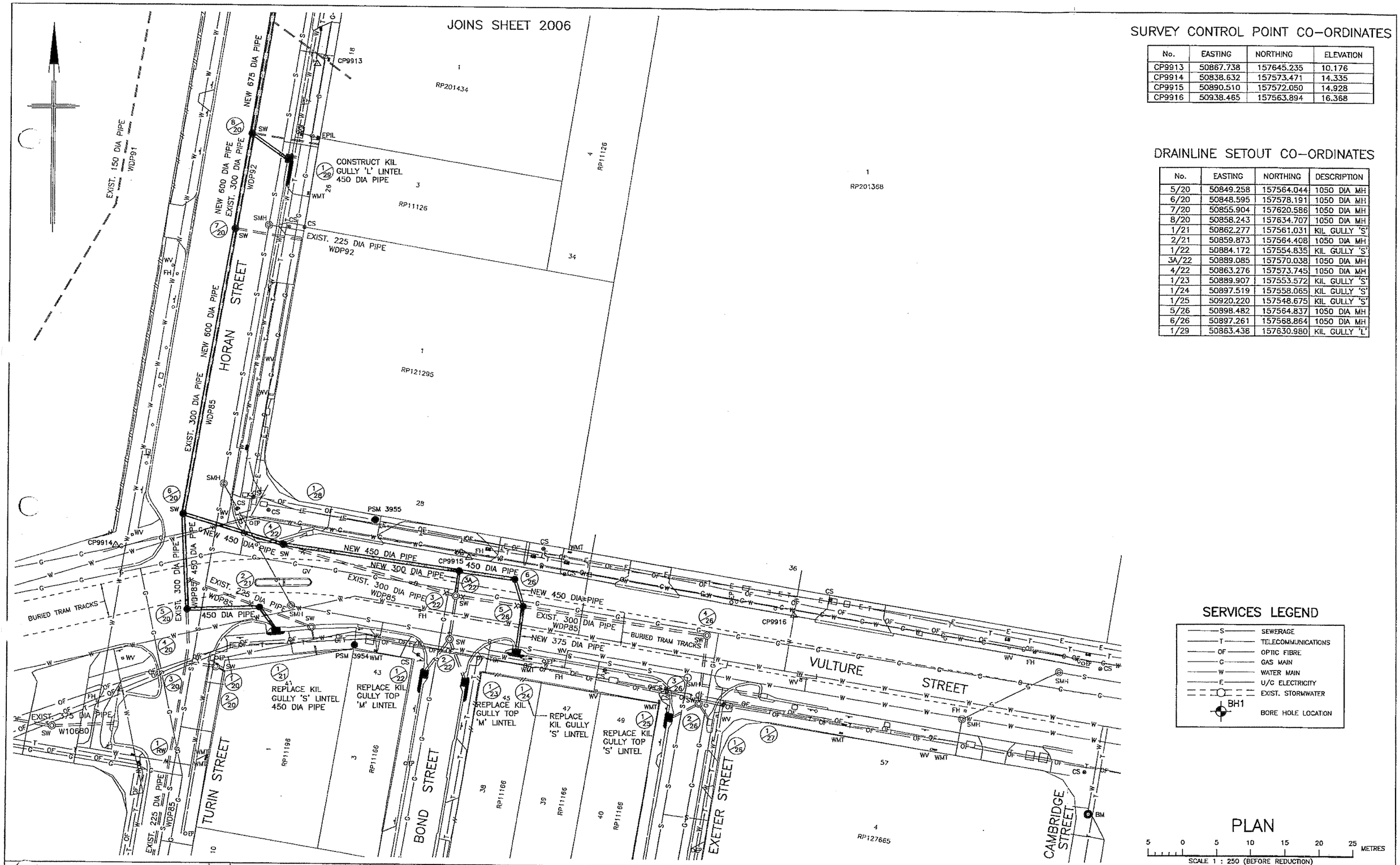
Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 1911

Reference no.

Scale 1:250(A1)

Drawing no.	Sheet	Issue
CD 050607	2006	A

BCC.129.0688



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9913	50867.738	157645.235	10.176
CP9914	50838.632	157573.471	14.335
CP9915	50890.510	157572.050	14.928
CP9916	50938.465	157563.894	16.368

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
5/20	50849.258	157564.044	1050 DIA MH
6/20	50848.595	157578.191	1050 DIA MH
7/20	50855.904	157620.586	1050 DIA MH
8/20	50858.243	157634.707	1050 DIA MH
1/21	50862.277	157561.031	KIL GULLY 'S'
2/21	50859.873	157564.408	1050 DIA MH
1/22	50884.172	157554.835	KIL GULLY 'S'
3A/22	50889.085	157570.038	1050 DIA MH
4/22	50863.276	157573.745	1050 DIA MH
1/23	50889.907	157553.572	KIL GULLY 'S'
1/24	50897.519	157558.065	KIL GULLY 'S'
1/25	50920.220	157548.675	KIL GULLY 'S'
5/26	50898.482	157564.837	1050 DIA MH
6/26	50897.261	157568.864	1050 DIA MH
1/29	50863.438	157630.980	KIL GULLY 'L'

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
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PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Title

STAGE 3
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AMBLESIDE STREET
- VULTURE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 1811

Reference no.

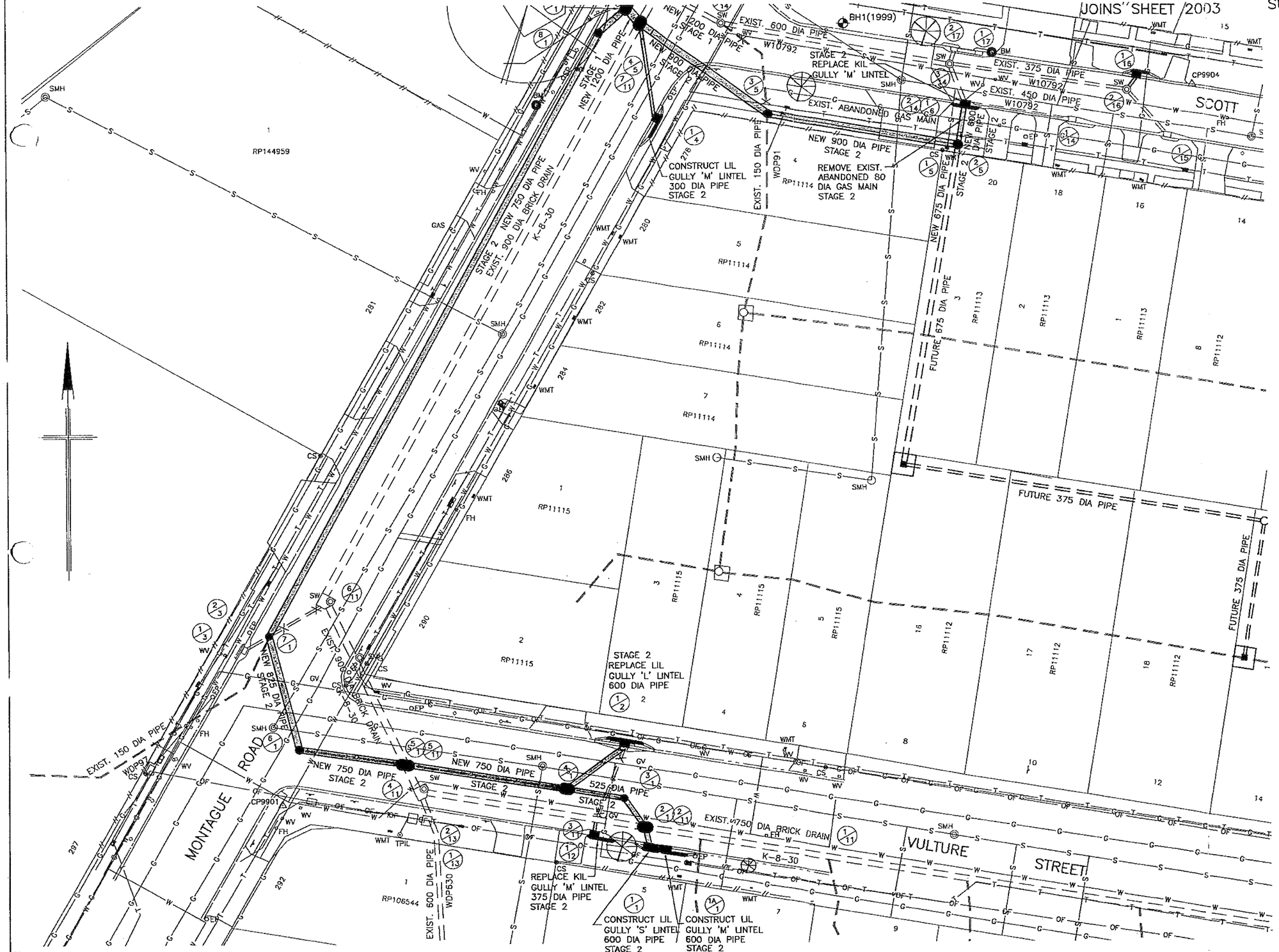
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2007

Issue A

BCC.129.0689



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9901	50523.240	157593.825	7.867
CP9904	50642.348	157687.857	5.016

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
1A/1	50573.053	157588.292	LIL GULLY 'M'
1/1	50570.712	157588.718	LIL GULLY 'S'
2/1,2/11	50570.235	157590.770	1500ext600
3/1	50567.540	157594.563	1050 DIA MH
4/1	50560.604	157595.801	1500ext600
5/1,5/11	50539.135	157598.993	1500ext900
6/1	50525.477	157601.075	1200 DIA MH
7/1	50521.616	157615.944	1050 DIA MH
8/1	50565.083	157695.036	1500ext600
9/1	50568.698	157698.359	1500ext600
1/2	50567.547	157601.259	LIL GULLY 'L'
1/4	50572.152	157683.987	LIL GULLY 'M'
2/5	50611.960	157680.050	1500 DIA MH
3/5	50587.028	157684.240	1200 DIA MH
1/6,2/14	50612.862	157685.546	KIL GULLY 'M'
3/11	50563.886	157591.809	EXIST PIPE
7/11,4/5	50570.459	157696.282	1500ext600
1/12	50563.550	157589.886	KIL GULLY 'M'
1/16	50635.043	157688.735	LIL GULLY 'S'

SERVICES LEGEND

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- OF — OPTIC FIBRE
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PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title: STAGES 1 & 2 PLAN AND TABLES MONTAGUE ROAD SCOTT STREET - VULTURE STREET

Project: DRAINAGE JANE STREET WEST END BRISBANE RIVER - VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	R.P.E.Q. No. 19[illegible] 5/1/07

Reference no.

Scale: 1:250(A1)

Drawing no.	Sheet	Issue
CD 050607	2004	A

BCC.129.0690

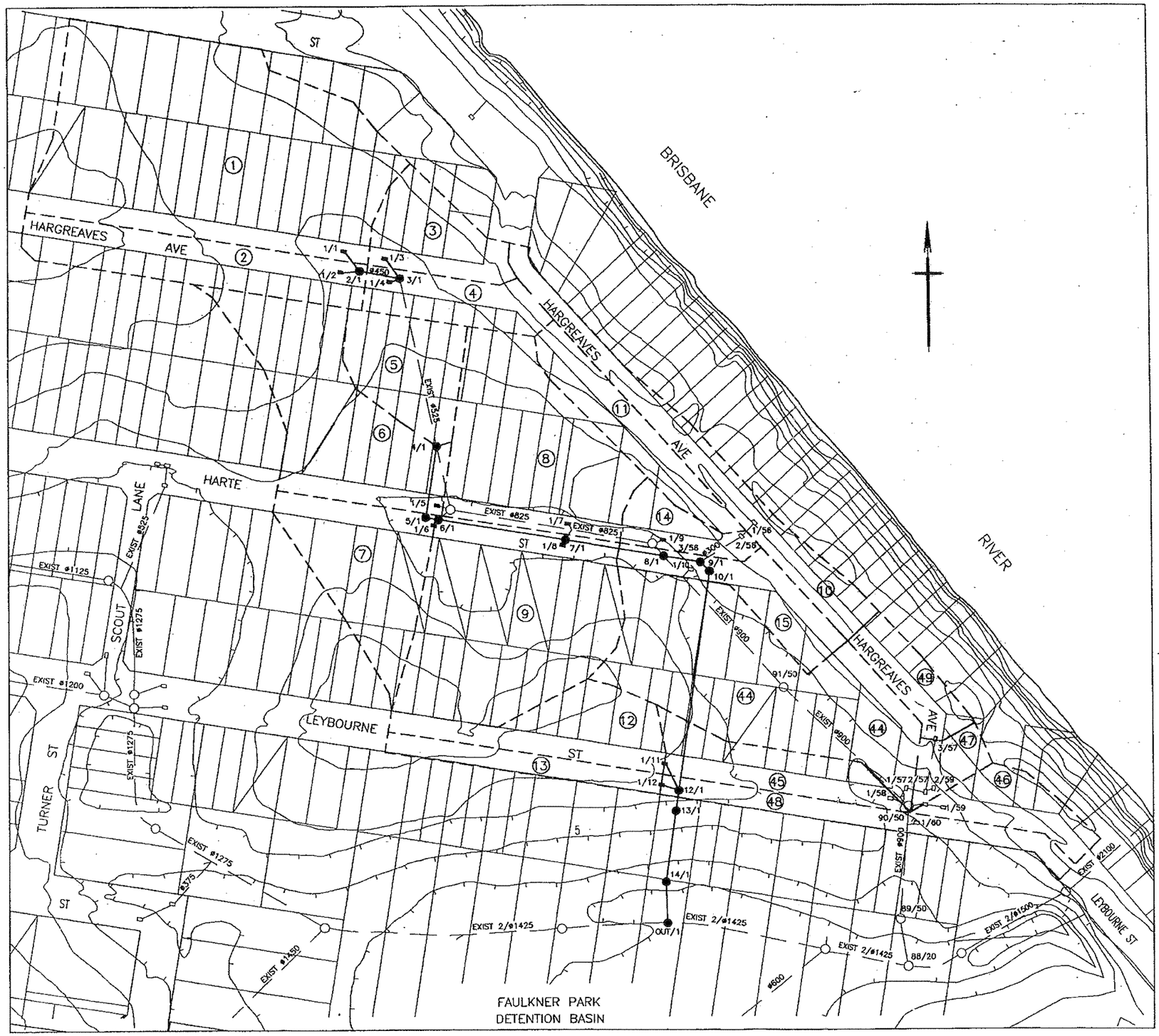


TABLE OF CATCHMENTS

LINE	CATCHMENTS CONTRIBUTING	AREA ha.	DRAINAGE PROVIDED
1/1–2/1	1	1.431	NEW 525 DIA RCP
1/2–2/1	2	0.369	NEW 375 DIA RCP
2/1–3/1	1,2	1.800	NEW 600 DIA RCP
1/3–3/1	3	0.232	NEW 450 DIA RCP
1/4–3/1	4	0.193	NEW 525 DIA RCP
3/1–4/1	1,2,3,4	2.225	EXIST 525 DIA RCP
4/1–6/1	1,2,3,4,5	2.495	EXIST 525 AND NEW 600/675 DIA RCP
1/5–6/1	6	0.592	NEW 600 DIA RCP
1/6–6/1	7	0.397	NEW 375 DIA RCP
6/1–7/1	1–7	3.484	EXIST 825 AND NEW 825 DIA RCP
1/7–7/1	8	0.832	NEW 525 DIA RCP
1/8–7/1	9	0.817	NEW 525 DIA RCP
7/1–8/1	1–9	4.933	NEW 300 DIA RCP
1/9–8/1	14	0.128	NEW 450 DIA RCP
8/1–9/1	1–9,14	5.061	EXIST 900 AND NEW 825 DIA RCP
1/56–2/56	10	0.345	EXIST 300 DIA RCP
2/56–9/1	10,11	0.579	EXIST 300 DIA RCP
9/1–12/1	1–11,14	5.640	NEW 825 DIA RCP *
1/11–12/1	12	0.300	NEW 825 DIA RCP *
1/12–12/1	13	0.130	NEW 825 DIA RCP *
12/1–OUT/1	1–14	8.070	NEW 825 DIA RCP *

* Q10 FLOWS DOWNSTREAM OF MH 8/1 HAVE BEEN REDUCED BY 900 L/s DUE TO FLOWS ENTERING THE EXISTING 900 DIA DRAIN

DRAWING INDEX

SHEET NO.	DESCRIPTION
1	CATCHMENT PLAN, CATCHMENT TABLE AND DRAWING INDEX
2	PLAN – Sheet 1 of 2
3	PLAN – Sheet 2 of 2
4	LONGITUDINAL SECTIONS – Sheet 1 of 3
5	LONGITUDINAL SECTIONS – Sheet 2 of 3
6	LONGITUDINAL SECTIONS – Sheet 3 of 3
7	MANHOLE CHAMBER DETAILS

CATCHMENT PLAN

20 10 0 20 40 60 80 100 METRES

SCALE 1:1000 (BEFORE REDUCTION)

UBD REF. : 178 N11
4CH. MAP : 140
ORTHO NO.: P12

City Design
Brisbane City Council
Level 3
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley, Q 4006
Telephone 07- 3403 8849
Facsimile 07- 3403 0447
e-mail citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.

Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.029

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
CATCHMENT PLAN
CATCHMENT TABLE
AND DRAWING INDEX

Design	Drawn	Checked	Authorised for Issue
B.O. 15/06/01	B.O.	18/6/01	20/6/01

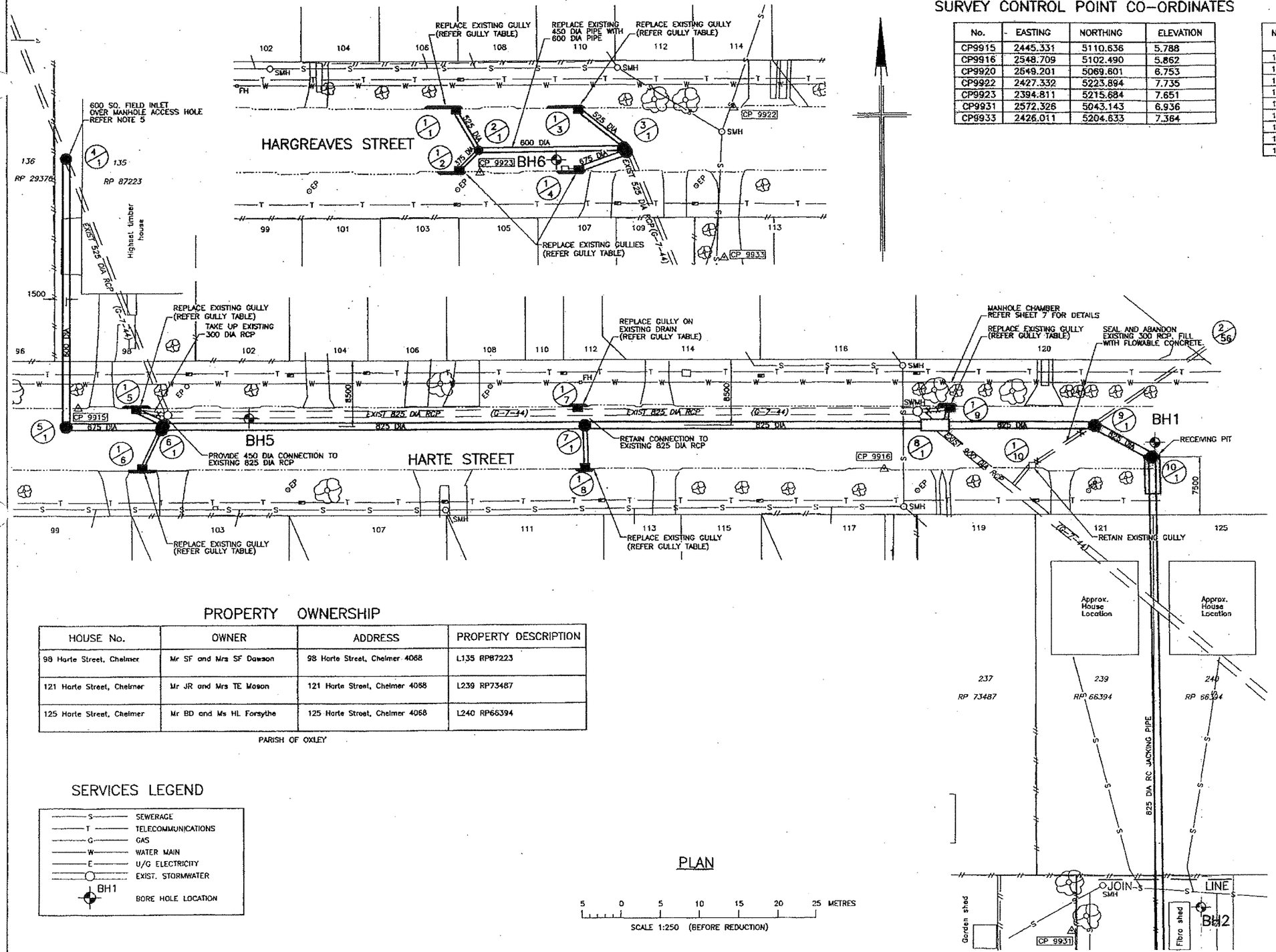
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-1/7

Issue

BCC.129.0691



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9915	2445.331	5110.636	5.788
CP9916	2548.709	5102.490	5.862
CP9920	2549.201	5069.601	6.753
CP9922	2427.332	5223.894	7.735
CP9923	2394.811	5215.684	7.651
CP9931	2572.326	5043.143	6.936
CP9933	2426.011	5204.633	7.364

GULLY TABLE

No.	T.O.K. EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/1	7.700	6.300	6.175	525 DIA	'L' LINTEL
1/2	7.680	6.500	6.325	375 DIA	'M' LINTEL
1/3	7.510	6.100	5.705	525 DIA	'L' LINTEL
1/4	7.495	5.800	5.705	675 DIA	'M' LINTEL
1/5	5.760	4.275	4.225	600 DIA	'M' LINTEL
1/6	5.880	4.550	4.450	375 DIA	'M' LINTEL
1/7	5.635	4.250	4.150	525 DIA	'S' LINTEL
1/8	5.770	4.350	4.150	525 DIA	'S' LINTEL
1/9	5.975	4.600	4.500	450 DIA	'S' LINTEL

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
2/1	2394.645	5218.488	1050 DIA MH
3/1	2413.764	5218.627	1500 MH EXT 600
4/1	2443.837	5142.727	1350 DIA MH, FI
5/1	2443.817	5108.166	1500 DIA MH
6/1	2456.198	5108.159	1500 MH EXT 600
7/1	2510.261	5108.130	1500 DIA MH
8/1	2555.131	5108.107	CHAMBER
9/1	2575.547	5108.096	1500 DIA MH
10/1	2582.952	5104.051	1500 DIA MH

JOB NOTE

1. THE DRAWINGS ASSUME THAT THE SECTION OF DRAINLINE BETWEEN 13/1 AND 10/1 IS TO BE MICROTUNELLED TO THE EXTENT OF THE JACKING PITS SHOWN. TENDERS FOR PIPE BORING IN LARGER DIAMETER PIPES WILL BE CONSIDERED DEPENDING ON COST.

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 600 x 600 WITH 150 THICK INSITU CONCRETE WALLS AND FLOOR AND INCORPORATE A WELDLOK PC 6060A GRATE AND FRAME. THE GRATE IS TO BE DEPRESSED 50 BELOW NATURAL SURFACE WITH A 200 WIDE CONCRETE PERIMETER TRANSITION STRIP. A 300 DIA PIPE CONNECTION IS TO BE USED.
6. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
7. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

PROPERTY OWNERSHIP

HOUSE No.	OWNER	ADDRESS	PROPERTY DESCRIPTION
98 Harte Street, Chelmer	Mr SF and Mrs SF Dawson	98 Harte Street, Chelmer 4068	L135 RP87223
121 Harte Street, Chelmer	Mr JR and Mrs TE Mason	121 Harte Street, Chelmer 4068	L239 RP73487
125 Harte Street, Chelmer	Mr BD and Ms HL Forsythe	125 Harte Street, Chelmer 4068	L240 RP66394

PARISH OF OXLEY

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- G — GAS
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

City Design
Brisbane City Council
Level 3
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley, Q 4006
Telephone 07-3403 3849
Facsimile 07 3403 0447
e-mail citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER
HARGREAVES ST-FAULKNER PK

Title
PLAN
Sheet 1 of 2

Design	Drawn	Checked	Authorised for issue
B.D. 15/6/01	B.D.	18/6/01	19/6/01

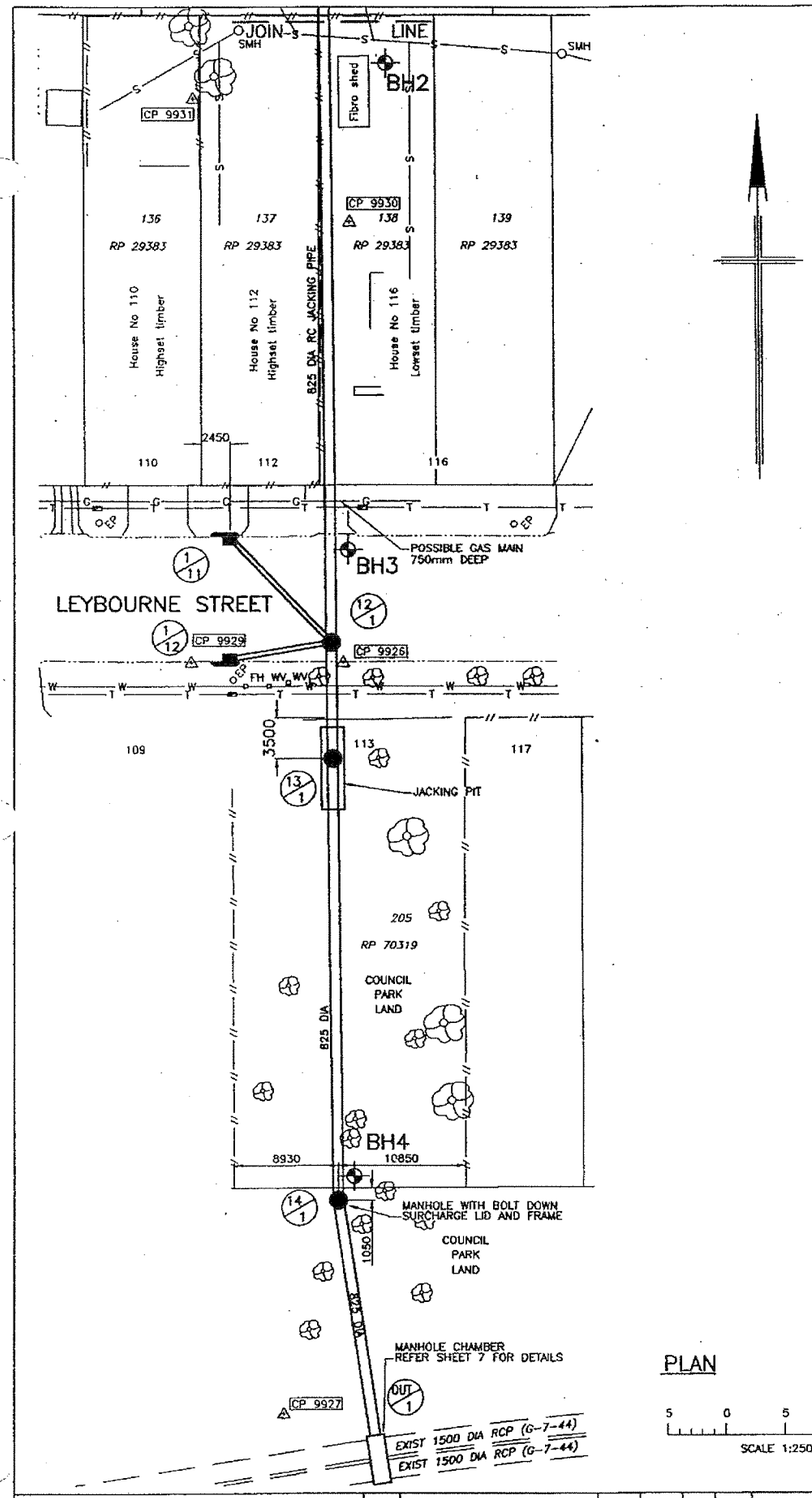
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-2/7

Issue

BCC.129.0692



DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
12/1	2584.194	4926.382	1500 DIA MH
14/1	2584.746	4948.493	1500 DIA MH
out/1	2588.182	4926.350	* CHAMBER

* EXACT LOCATION OF EXISTING 2/1500 DIA DRAIN TO BE CONFIRMED PRIOR TO COMMENCEMENT OF WORKS.

GULLY TABLE

No.	T.O.K. EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/11	6.780	5.600	5.000	375 DIA	'S' LINTEL
1/12	6.455	5.200	4.700	375 DIA	'S' LINTEL

PROPERTY OWNERSHIP

HOUSE No.	OWNER	ADDRESS	PROPERTY DESCRIPTION
116 Leybourne St, Chelmer	Mrs Clare Foster	116 Leybourne Street, Chelmer 4068	L138/139 RP29383
113 Leybourne St, Graceville	Brisbane City Council Community and Economic Development Division	69 Anne Street, Brisbane 4000	L205 RP70319

PARISH OF OXLEY

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9926	2585.225	4984.629	6.387
CP9927	2580.012	4930.271	2.922
CP9929	2572.180	4994.634	6.624
CP9930	2585.755	5032.594	6.585
CP9931	2572.326	5043.143	6.936

SERVICES LEGEND

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- T — TELECOMMUNICATIONS
- G — GAS
- W — WATER MAIN
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- EXIST. STORMWATER
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PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

City Design
Brisbane City Council
City Design
Level 3
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley, Q 4006
Telephone 07- 3403 3849
Facsimile 07- 3403 0447
e-mail cityclesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

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FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
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Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER
HARGREAVES ST-FAULKNER PK

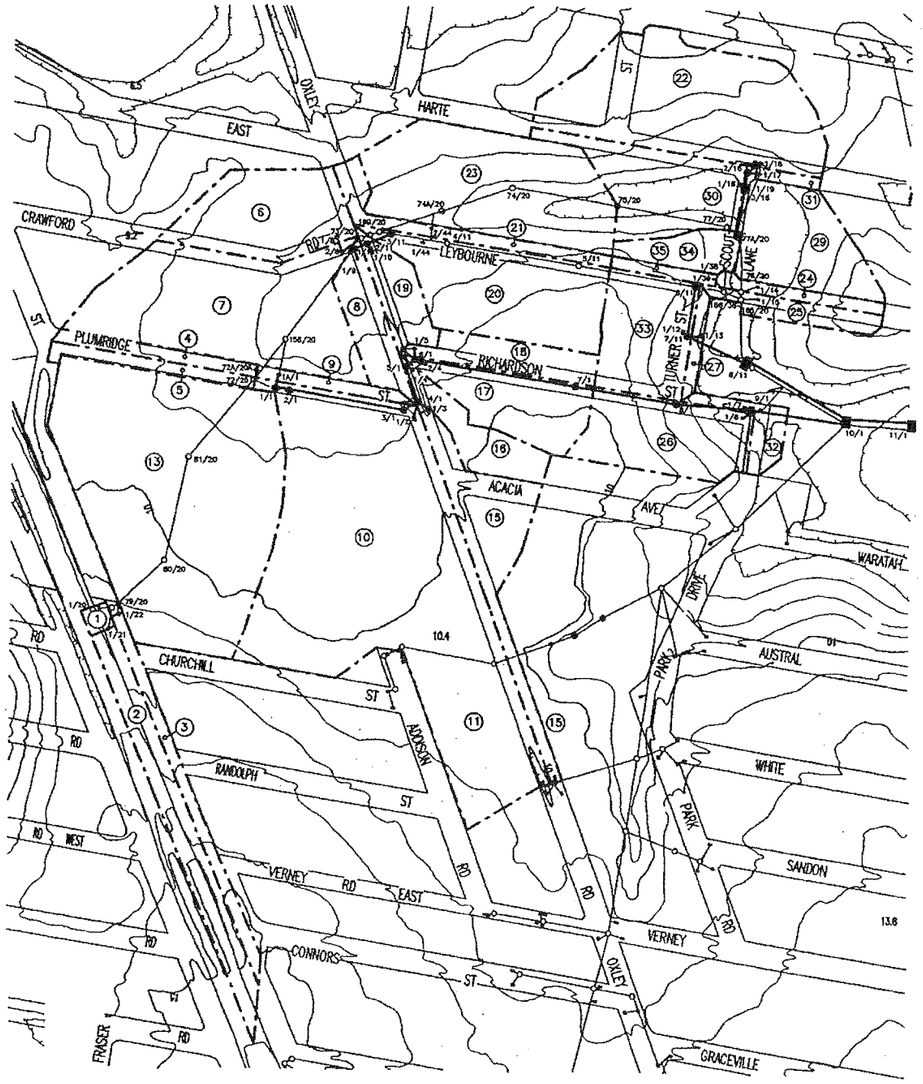
Title
PLAN
Sheet 2 of 2

Design	Drawn	Checked	Authorised for Issue
B.D. 18/6/01	B.D.	18/6/01	19/6/01

Reference no.
W11308

Drawing no.	Sheet	Issue
CD-0184292	W2-3/7	

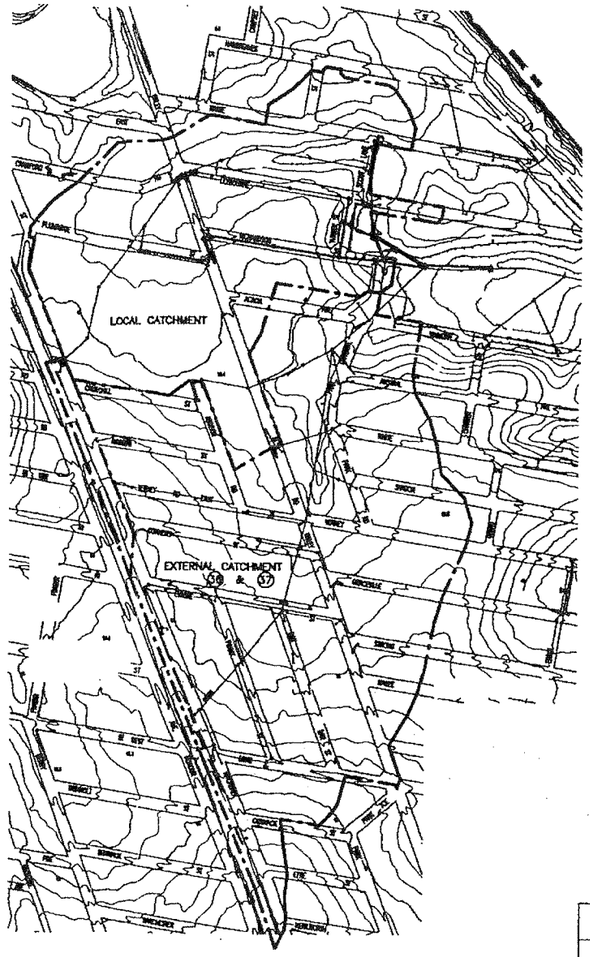
BCC.129.0693



LOCAL CATCHMENT PLAN

50 0 50 100 150 200 250 METRES

SCALE 1:2500 (BEFORE REDUCTION)



OVERALL CATCHMENT PLAN

1:5000

TABLE OF CATCHMENTS

LINE	CATCHMENTS CONTRIBUTING	AREA ha	DRAINAGE PROVIDED
1A/1 – 1/1	9	0.13	525 DIA. RCP
1/1 – 2/1	9,13	3.789	1350 DIA. RCP
2/1 – 4/1	9,10,13	7.598	1350 DIA. RCP / 1500 DIA RCP
1/2 – 4/1	11	0.947	375 DIA.RCP
1/3 – 4/1	15	0.825	450 DIA. RCP
4/1 – 6/1	9–11,13,15	9.370	1500 DIA. RCP
1/4 – 2/4	16	0.408	EXIST. 300 DIA. RCP
2/4 – 6/1	16,17	1.125	450 DIA. RCP
1/5 – 6/1	18	0.374	375 DIA. RCP
6/1 – 9/1	9–11,13,15–18	10.869	1350 / 1200 DIA. RCP
1/6 – 9/1	26	0.894	600 DIA. RCP
1/7 – 9/1	32	0.213	375 DIA. RCP
EXT – 9/1	37	38.660	FUTURE 1500 DIA. RCP
9/1 – 10/1	9–11,13,15–18,26,32,37	50.636	1650 DIA. RCP
1/9 – 1/11	8	0.331	EXIST. 375 DIA. RCP
1/11 – 2/11	1–5,8	1.722	1200 DIA. RCP
1/10 – 2/11	19	0.331	EXIST. 600 DIA. RCP
2/11 – 4/11	1–5,8,19	2.053	EXIST. / NEW 1200 DIA. RCP
1/44 – 4/11	20	1.244	EXIST. 375 DIA. RCP
2/44 – 4/11	21	0.307	EXIST. 375 DIA. RCP
4/11 – 7/11	1–5,8,19–21	3.604	EXIST. / NEW 1200 DIA. RCP
1/12 – 7/11	33	0.785	375 DIA. RCP
1/13 – 7/11	27	0.090	300 DIA. RCP
7/11 – 8/11	1–5,8,19–21,27,33	4.479	1200 DIA. RCP
1/8 – 2/8	6	0.898	600 DIA. RCP
2/8 – 73/20	6,7	2.804	825 DIA. RCP / EXIST. 1125 DIA. RCP
73/20 – 75/20	6,7	2.804	EXIST. 1125 DIA. RCP
75/20 – 77/20	6,7,23	4.448	EXIST. 1125 DIA. RCP
1/16 – 2/16	22	1.925	750 DIA. RCP
1/17 – 2/16	31	0.054	375 DIA. RCP
2/16 – 3/16	22,31	1.979	825 DIA. RCP
1/18 – 3/16	30	0.900	525 DIA. RCP
1/19 – 3/16	28	0.863	525 DIA. RCP
3/16 – 77A/20	22,29–31	3.762	1050 DIA. RCP
77A/20 – 78/20	6,7,22,23,29–31	8.210	EXIST. 1275 DIA. RCP
1/38 – 166/36	34	0.250	EXIST. 375 DIA. RCP
1/39 – 166/36	35	0.086	EXIST. 375 DIA. RCP
166/36 – 78/20	34,35	0.336	EXIST. 1200 DIA. RCP
1/14 – 165/20	24	0.148	EXIST. 375 DIA. RCP
1/15 – 165/20	25	0.663	EXIST. 375 DIA. RCP
165/20 – 8/11	6,7,22–25,29–31,34,35	9.357	EXIST. 1275 DIA. RCP
8/11 – 10/1	1–8,19–25,27,29–31,33–35	13.836	EXIST. 1275 AND NEW 1500 DIA. RCP
10/1 – 11/1	1–11,13,15–27,29,37	84.473	EXIST. 2/1500 AND NEW 2/1650 DIA. RCP

DRAWING INDEX

DRAWING No.	DESCRIPTION
W11103–1	CATCHMENT PLANS AND DRAWING INDEX
W11103–2	PLAN SHEET 1 OF 6
W11103–3	PLAN SHEET 2 OF 6
W11103–4	PLAN SHEET 3 OF 6
W11103–5	PLAN SHEET 4 OF 6
W11103–6	PLAN SHEET 5 OF 6
W11103–7	PLAN SHEET 6 OF 6
W11103–8	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 1 OF 5
W11103–9	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 2 OF 5
W11103–10	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 3 OF 5
W11103–11	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 4 OF 5
W11103–12	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 5 OF 5
W11103–13	MANHOLE CHAMBERS 8/1, 9/1 AND 10/1 PLAN AND SECTIONS
W11103–14	MANHOLE CHAMBERS 1/1, 2/1 AND 11/1 PLAN AND SECTIONS
W11103–15	CROSS SECTIONS FAULKNER PARK
W11103–16	LANDSCAPE PLAN – FAULKNER PARK

UBD REF : 178 M12
4 CHN MAP NO : 140
ORTHO NO : P12

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK 9181–1 | FILE NAME 0081517
REFERENCE:– B.M. PSM 7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 26/4/00 MANAGER DESIGN

CADD REFERENCE
0081517 CATCH
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

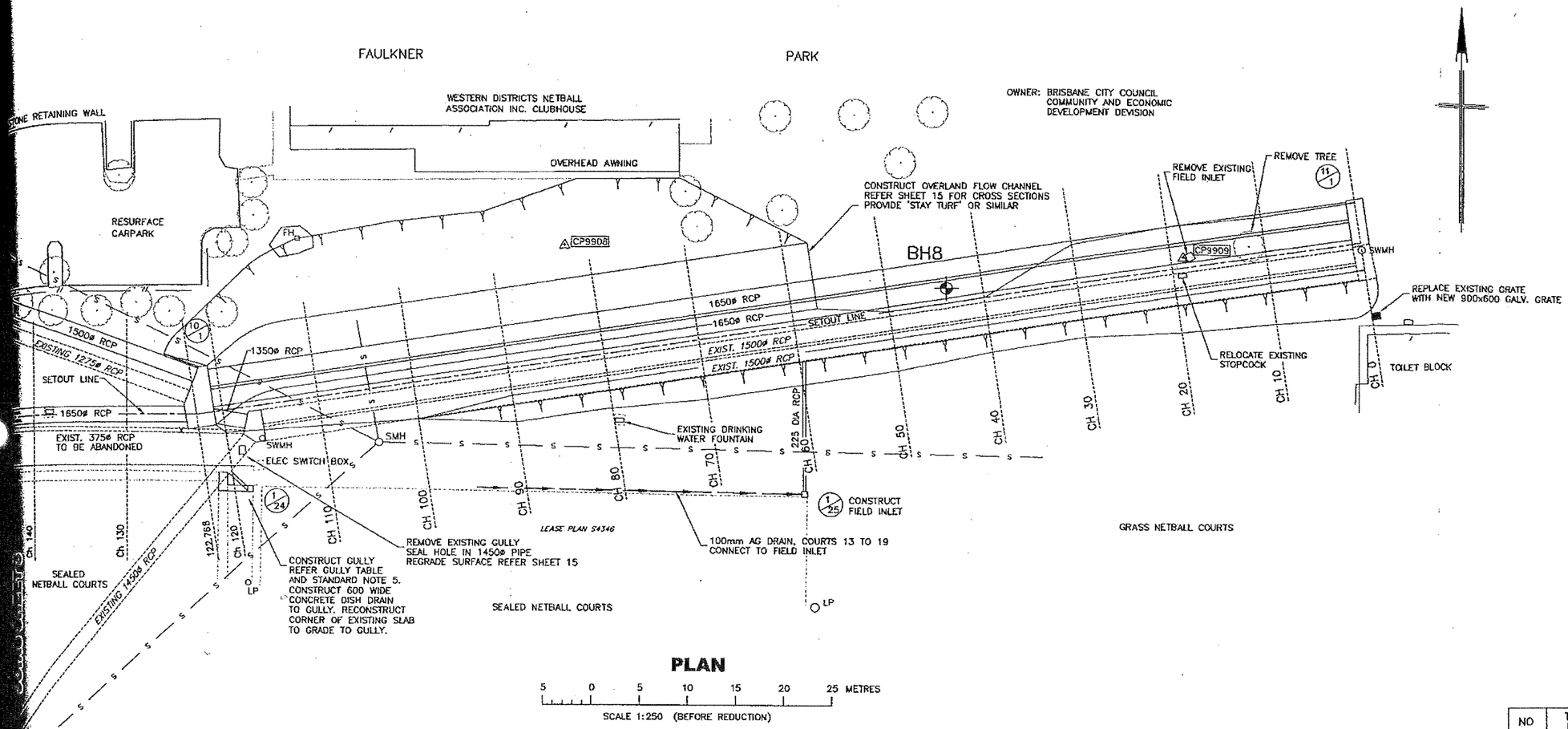
Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 1 OF 16	ISSUE No. 1
DRAWING No. W11103	SHEET No. 1 AMEND.

BCC.129,069



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

STANDARD NOTES

1. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
2. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50–1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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SERVICES LEGEND

SEWERAGE
EXIST. STORMWATER
BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	IL AT EX PIPE	CONNECTION SIZE	TYPE
1/24	4.435	3.800	2.800	300	600 x 600 FIELD INLET
1/25	3.635	3.135	2.800	225	600 x 600 FIELD INLET

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
10/1	2418.400	4901.963	MANHOLE CHAMBER
11/1	TO SUIT EXISTING		MANHOLE CHAMBER

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9908	2456.565	4920.064	4.540
CP9909	2521.053	4919.139	3.065

FOR EXISTING DRAINAGE
REFER: C-13-13, G-7-44
I-7-37 & W10902

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.
DRAIN AT COURTS 13–19 ADDED	21/8/01			

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK: 9181–1 | FILE NAME: 0081517
REFERENCE:– B.M. PSM 7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
ORIGINALLY SIGNED N.J.GIBSON DATE 26/4/00
PRINCIPAL ENGINEER – DRAINAGE DESIGN

CADD REFERENCE
0081517
PLAN1
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	BD	26/4/00
CHECKED	BJD	26/4/00
DRAWN	BD	26/4/00
PASSED	GMA	26/4/00

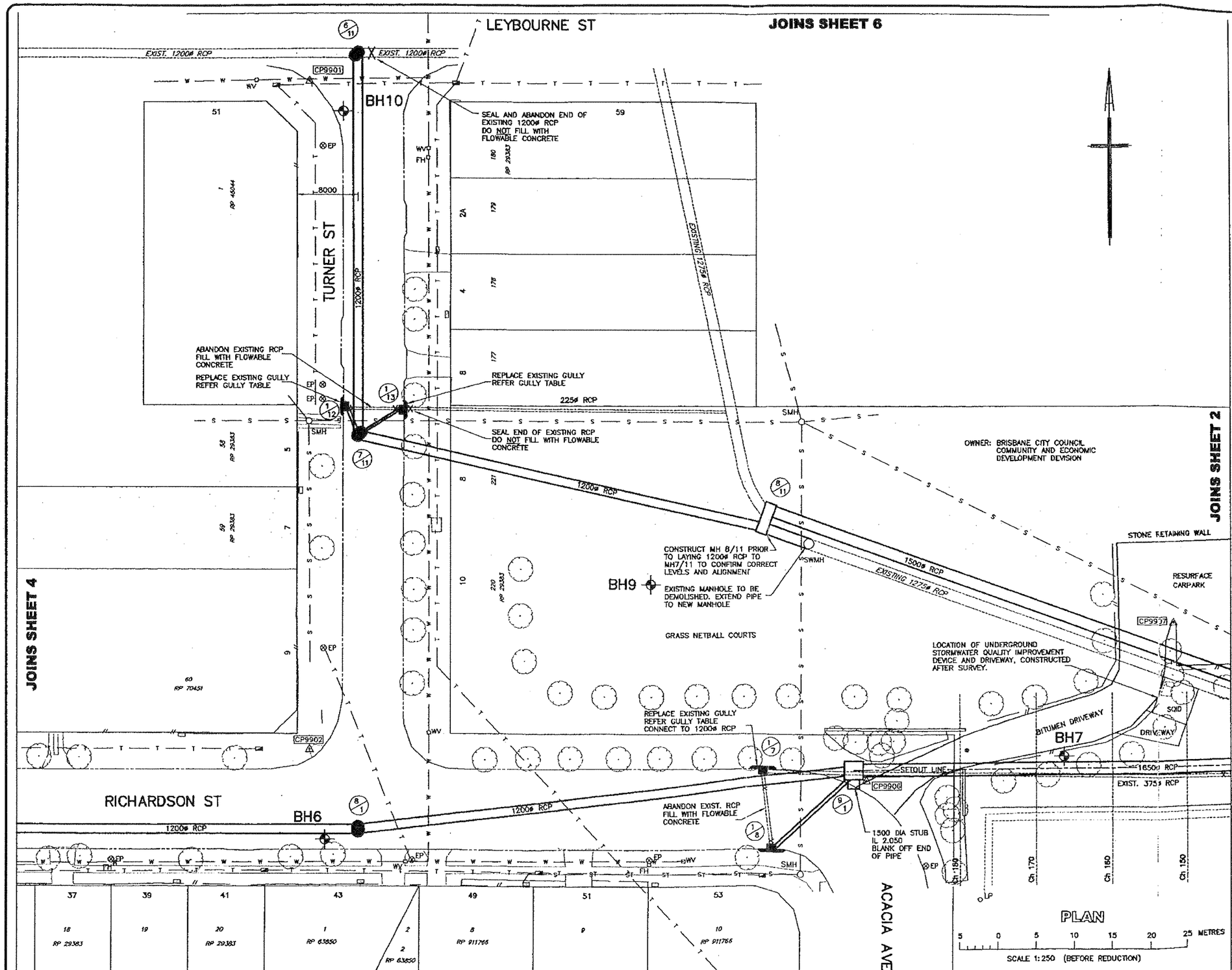
FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 2 OF 16 | ISSUE No. 1
DRAWING No. W11103 | SHEET No. 2 | AMEND. A



STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
6/11	TO SUIT EXISTING RCP		1500 DIA MH. EXT. 600
7/11	2281.891	4945.813	1500 DIA MH. EXT. 600
8/11	TO SUIT EXISTING RCP		MANHOLE CHAMBER
8/1	2281.902	4893.737	1500 DIA MH. EXT. 600
9/1	2347.230	4901.521	MANHOLE CHAMBER

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9901	2275.590	4892.767	7.297
CP9902	2275.564	4904.236	7.451
CP9908	2348.851	4900.139	4.991
CP9907	2389.272	4921.029	5.001

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/6	4.875	3.525	3.350	600	'M' LINTEL
1/7	5.075	3.800	PIPE	375	'M' LINTEL
1/12	6.160	5.100	5.050	375	'S' LINTEL
1/13	5.975	5.000	4.900	300	'S' LINTEL

FOR EXISTING DRAINAGE REFER: C-13-13, I-7-37 W9355 & W10902

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK: 9181-1 | FILE NAME: 0081517

REFERENCE:- B.M. PSM #7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

[redacted] DATE 26/4/00 DRAINAGE DESIGN

CADD REFERENCE: 0081517 PLAN2

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. ---

SERVICES FILE NO. ---

ACQUISITION FILE NO. ---

SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE

RICHARDSON STREET CHELMER

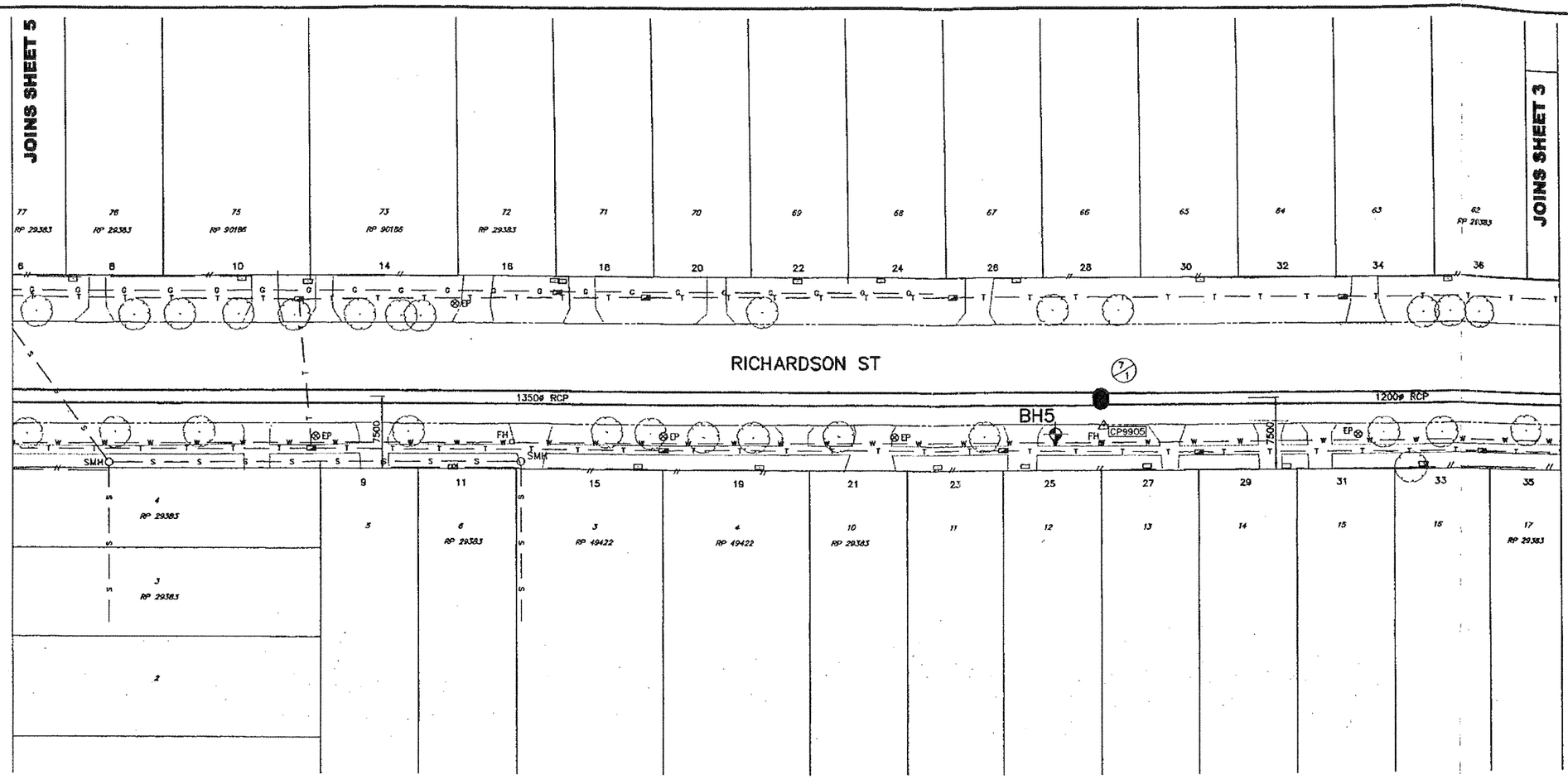
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 3 OF 16 | ISSUE No. 1

DRAWING No. W11103 | SHEET No. 3 | AMDT.

BCC 129 069



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

STANDARD NOTES

1. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50–1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- BORE HOLE LOCATION

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
7/1	2188.260	4883.861	1500 DIA MH. EXT. 600

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9905	2186.822	4881.129	8.659

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK | 9181–1 | FILE NAME | 0081517

REFERENCE:– B.M. PSM #7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

[redacted] DATE 26/4/00 MANAGE DESIGN

CADD REFERENCE 0081517 PLAN3

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26.4.00
CHECKED		26.4.00
DRAWN		26.4.00
PASSED		26.4.00

FILE NO. ---

SERVICES FILE NO. ---

ACQUISITION FILE NO. ---

SUR PLAN NO. ---

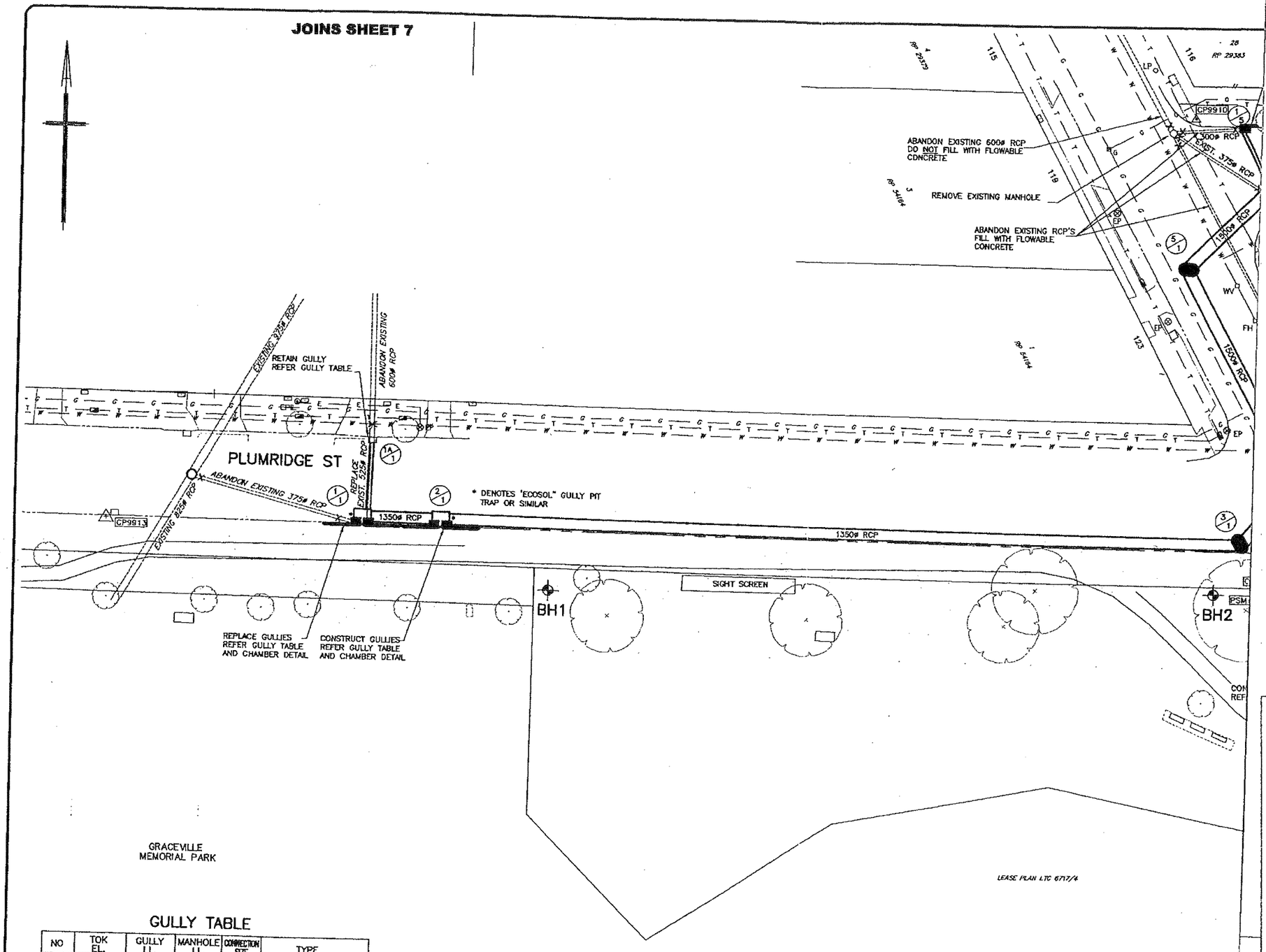
Brisbane City

RELIEF DRAINAGE

RICHARDSON STREET CHELMER

PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL



STANDARD NOTES

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SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1A/1	7.845	6.524	6.300	525	EXISTING GULLY
1/1	7.930	5.550	5.500	1350	2 / 'L' LINTEL/CHAMBER
2/1	7.985	5.500	5.250	1350	2 / 'L' LINTEL/CHAMBER
1/2	8.780	7.100	6.700	375	'L' LINTEL
1/3	8.810	7.300	7.000	450	'M' LINTEL
2/4	8.355	7.000	6.800	450	ADDITIONAL 'S' LINTEL
1/5	8.300	7.200	6.600	375	'S' LINTEL

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/8	7.535	6.000	5.850	600	'S' LINTEL
2/8	7.355	5.720	5.670	825	'L' LINTEL 'Q-825'

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9911	1189.141	4979.026	7.604

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
3/1	2053.198	4850.319	1500 DIA. MH. EXT. 900
4/1	2059.872	4858.092	1500 DIA MH. EXT. 900
5/1	2046.167	4884.188	1500 DIA MH. EXT. 900
6/1	2056.104	4894.087	1500 DIA MH. EXT. 900

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
1/11	TO SUIT EXISTING		1800ø MH EXT 900
2/11	TO SUIT EXISTING		1800ø MH EXT 900
3/11	TO SUIT EXISTING		1800ø MH EXT 900

FOR EXISTING DRAINAGE REFER I-7-37, W1104 & W1105

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK 9181-1 | FILE NAME 0081517
REFERENCE:- B.M. PSM ø7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 26/6/00
PRINCIPAL ENGINEER - DRAINAGE DESIGN

CADD REFERENCE
0081517 PLAN4
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

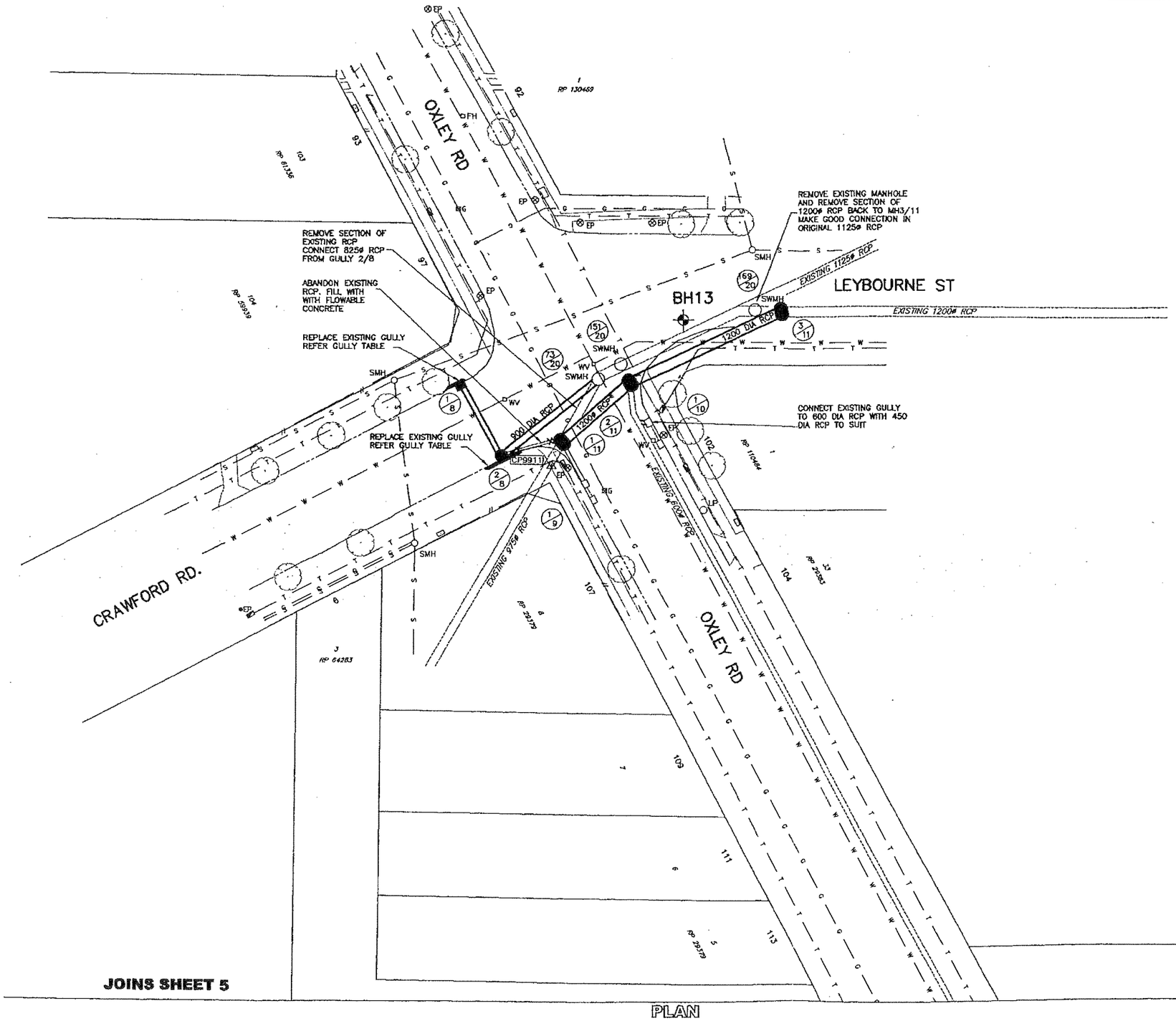
FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO.

Brisbane City Council

RELIEF DRAINAGE
HARDSON STREET
CHELMER
E STREET TO FAULKNER PARK

RICH
PLUMRIDGE

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN
DRAWING SHEET 7 OF 10 SHEETS
DRAWING No. W11103



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

JOINS SHEET 4

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52–1) A 375 DIA PIPE CONNECTION IS TO BE USED.
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5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1998.

SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/8	7.535	6.000	5.850	600	'S' LINTEL
2/8	7.355	5.720	5.670	825	'L' LINTEL 'Q–KIS'

SURVEY CONTROL POINT CO–ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9911	1189.141	4978.026	7.404

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
1/11	TO SUIT EXISTING		1500ø MH EXT 900
2/11	TO SUIT EXISTING		1500ø MH EXT 900
3/11	TO SUIT EXISTING		1500ø MH EXT 900

FOR EXISTING DRAINAGE REFER: I–7–37, W8824 & W8366

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR–IN–CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK 9181–1 | FILE NAME 0081517

REFERENCE:– B.M. PSM #7661 BCC 140/120 EL. 8.659 (CP8912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

[redacted] DATE [redacted] MANAGER DESIGN

CADD REFERENCE 0081517 PLAN8

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-6-00
CHECKED	[redacted]	26-6-00
DRAWN	[redacted]	26-6-00
PASSED	[redacted]	26-6-00

FILE NO. ---

SERVICES FILE NO. ---

ACQUISITION FILE NO. ---

SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE

RICHARDSON STREET

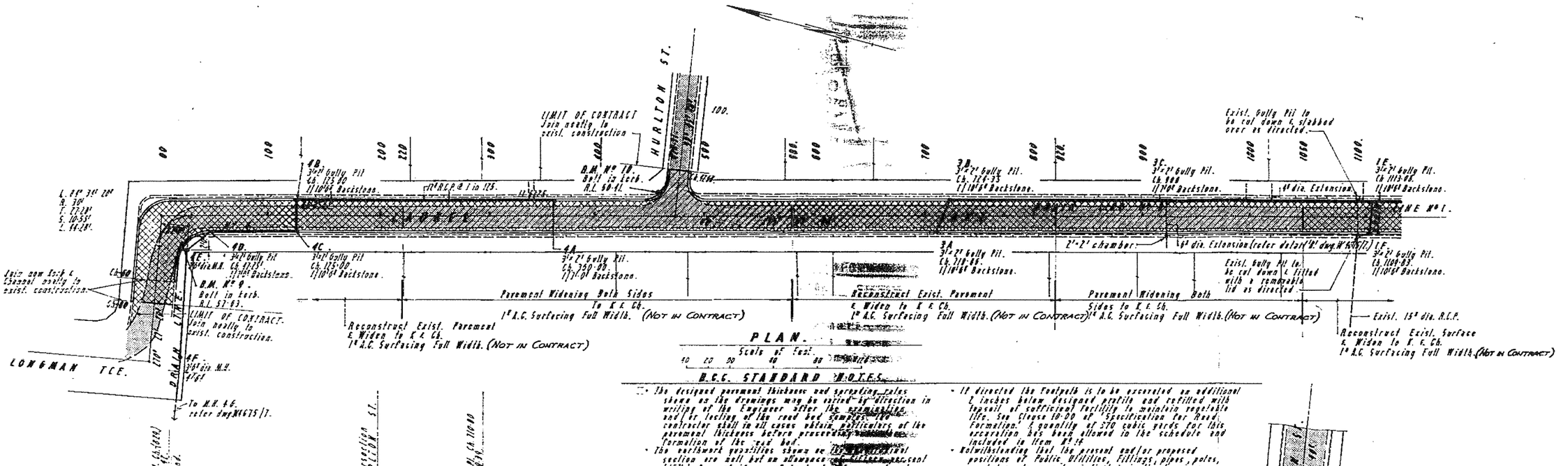
CHELMER

PLUMRIDGE STREET TO FAULKNER PARK

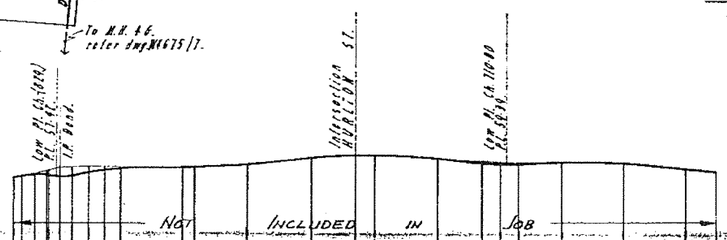
BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

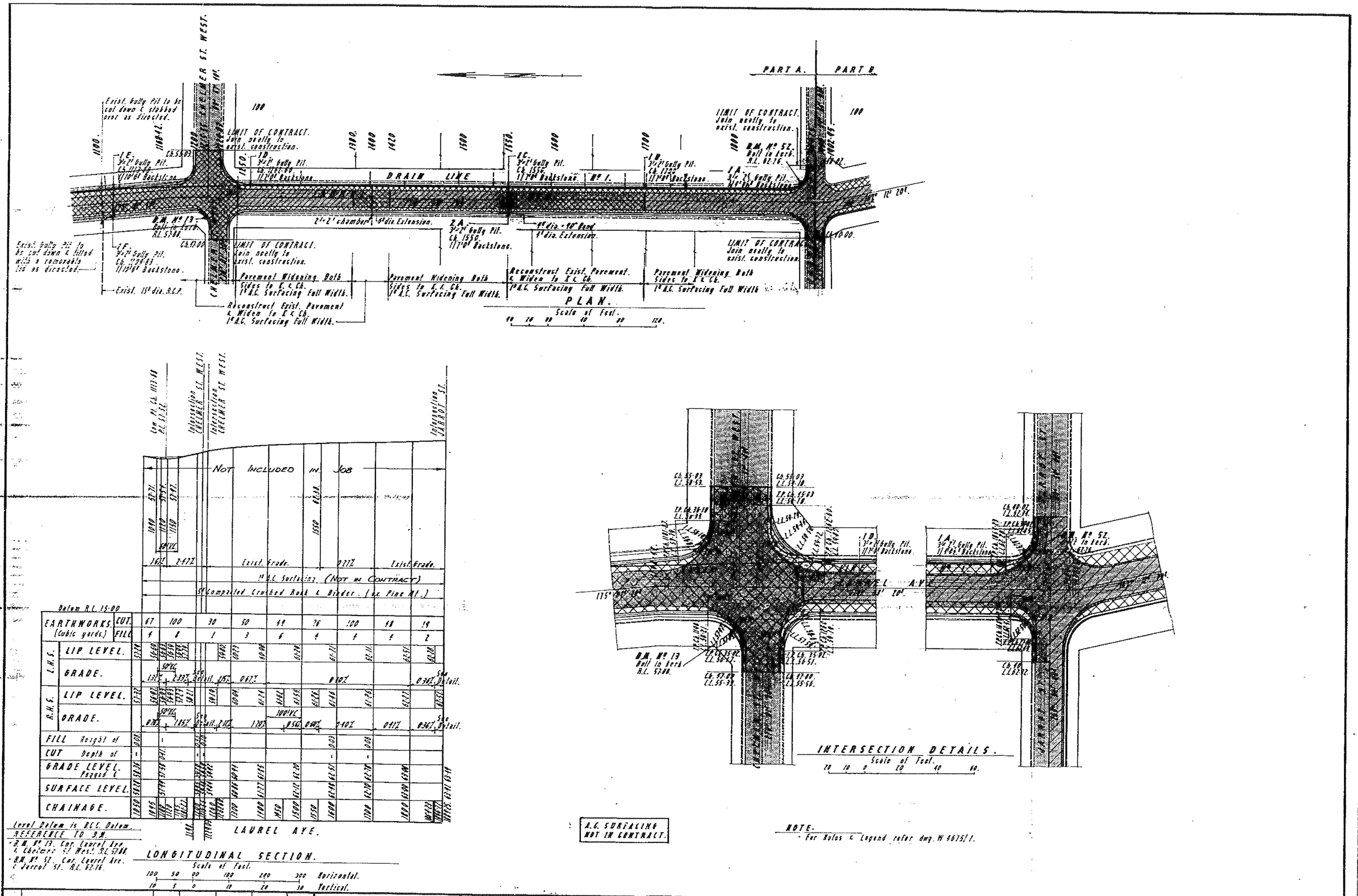
DRAWING SHEET 7 OF 16 | ISSUE No. 1

DRAWING No. W11103 | SHEET No. 7 | AMEND.



PLAN.
Scale of Feet.
10 20 30 40 80





SUFFIX	AMENDMENT	DATE	E. for D.	D/C.E.& H.	F.C.M.S.E.	ISSUED.

McINTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA

Passed
Date

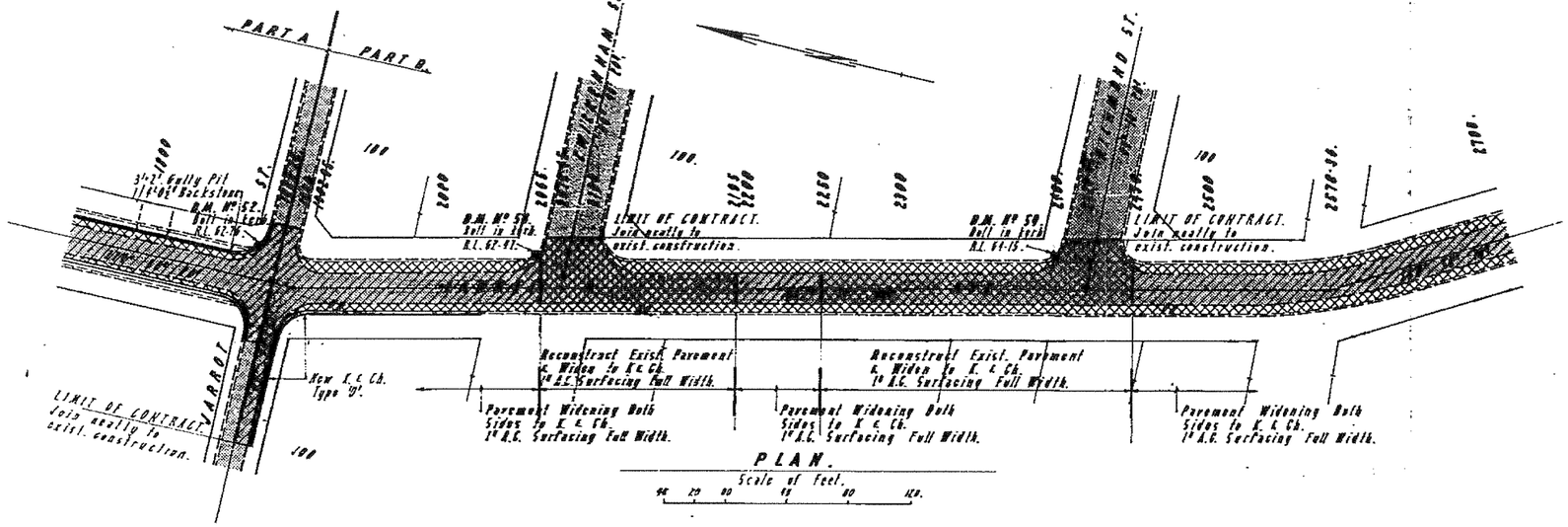
CHIEF ENGINEER AND MANAGER.	WORKS ORDER No.	PLOTTE[redacted]	FIELD BK. 1000. 1002.
DATE.		DRAWN.	LEVEL BK. 463. 471.
DEP. CHIEF ENGINEER & MANAGER.	ENGINEER FOR DESIGN. [redacted]	TRACED	REGISTERED
DATE.	DATE. 4-7-73	CHECKED	D.O.C. No.
		PASSED [redacted]	EST. No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS

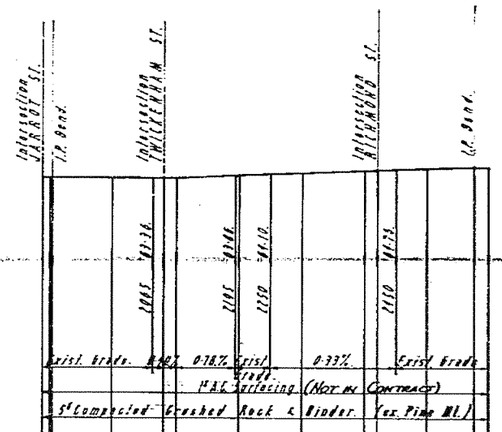
ROADWORKS AND DRAINAGE
LAUREL AVENUE
CHELMER
PLAN AND LONGITUDINAL SECTION

R.L. FILE. W 17228/71.
SCALES. AS SHOWN.
W 4675
2
No. OF DWGS. 10

BCC.129.0701



PLAN.
Scale of Feet.
40 20 0 40 80 120.



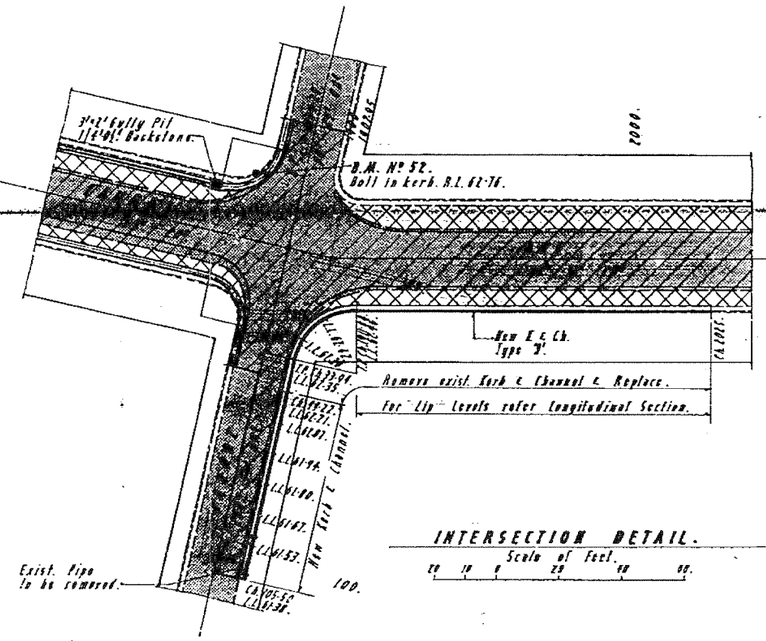
Datum R.L. 20.00.

EARTHWORKS (Cubic yards)	CUT	20	53	76	51	85	66	43.
	FILL	–	–	–	–	–	–	–
L.H.S. LIP LEVEL.								
L.H.S. GRADE.								
R.H.S. LIP LEVEL.		62.46 62.45	62.42 62.25					
R.H.S. GRADE.		See Detail 0-40%-0-60%			Exist. K. & Ch.			
FILL Height of								
CUT Depth of								
GRADE LEVEL. Pegged ℄								
SURFACE LEVEL.								
CHAINAGE.		1000	1000	1000	2000	2000	2000	2000

LAUREL AVE.

Level datum is B.C.C. Datum.
REFERENCE TO B.M.
·B.M. No 52. Cnr. Laurel Ave. & Jarrot St. R.L. 62-76.
·B.M. No 58. Cnr. Laurel Ave. & Twickenham St. R.L. 62-47.
·B.M. No 59. Cnr. Laurel Ave. & Richmond St. R.L. 64-15.

LONGITUDINAL SECTION.
Scale of Feet.
100 50 0 100 200 300 Horizontal.
10 5 0 10 20 30 Vertical.



INTERSECTION DETAIL.
Scale of Feet.
20 10 0 20 40 60.

A.C. SURFACING
NOT IN CONTRACT.

NOTE
For Notes & Legend refer dwg. W 4675/1.

SUFFIX	AMENDMENT	DATE	E. for D.	D/C.E.& M.	F.C.M.S.E.	ISSUED.

McINTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA
Passed [redacted]
Date 14. 10. 71.

CHIEF ENGINEER AND MANAGER. [redacted]
DEP. CHIEF ENGINEER & MANAGER.
DATE.

WORKS ORDER No.
ENGINEER FOR DESIGN. [redacted]
DATE. 4.7.73

PLOTTED. [redacted]
DRAWN.
TRACED.
CHECKED.
PASSED.

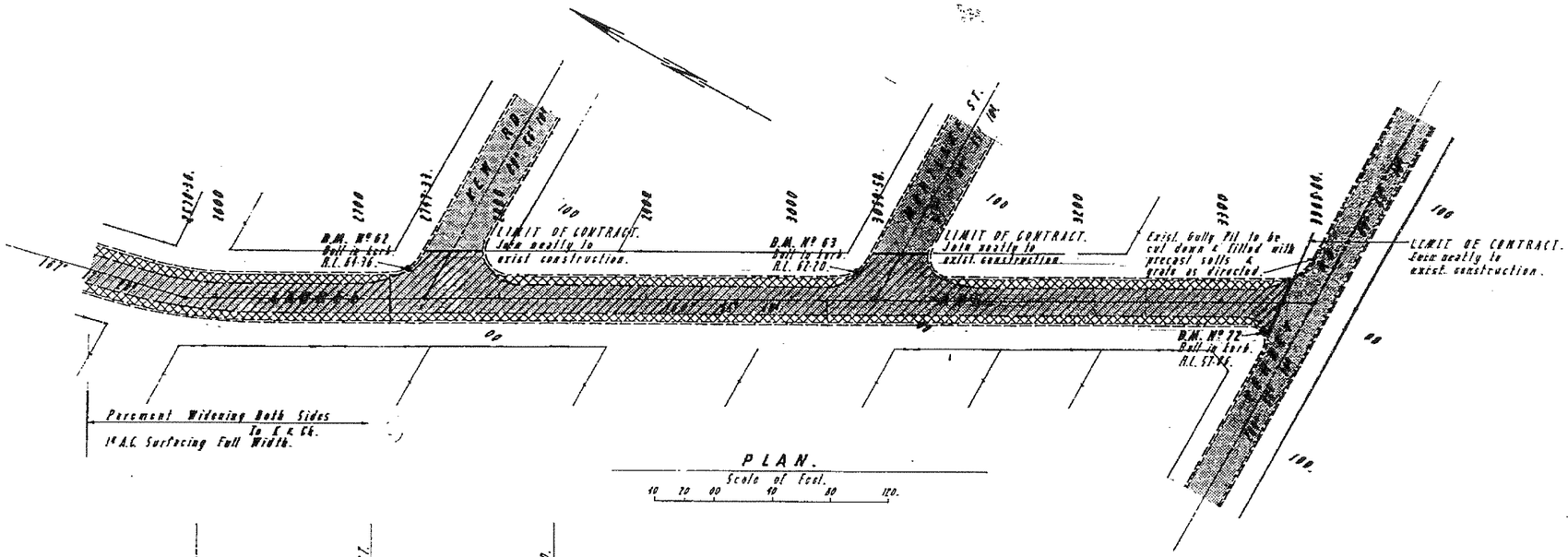
FIELD BK. 1006 1007.
LEVEL BK. 472. 477.
REGISTERED
D.O.O. No.
EST. No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
ROADWORKS AND DRAINAGE
LAUREL AVENUE
CHELMER
PLAN AND LONGITUDINAL SECTION

R.L. FILE. W 17228/71.
SCALES. AS SHOWN.
W 4675
3
No. OF DRGS. 10

SCHEDULE PRICE JARROT ST to VERNEY RD #17382 Allocation $22000

BCC.129.0702



PLAN.
Scale of Feet.
10 20 00 40 80 120.

EARTHWORKS (cubic yards)	CUT	15	43	41	41	35	33	43	11
	FILL	–	–	–	–	–	–	–	–
L.H.S.	LIP LEVEL.								
	GRADE.								
R.H.S.	LIP LEVEL.								
	GRADE.								
FILL Height of									
CUT Depth of									
GRADE LEVEL. Pegged ℄		65·05	64·10	63·15	62·20	61·25	60·30	59·35	58·40
SURFACE LEVEL.		65·07	64·12	63·17	62·22	61·27	60·32	59·37	58·42
CHAINAGE.		2100	2200	2300	2400	2500	2600	2700	2800

Level Datum is B.C.C. Datum.
REFERENCE TO B.M.
- B.M. No 62. Cor. Laurel Ave. & Kelvin Rd. R.L. 64·36.
- B.M. No 63. Cor. Laurel Ave. & Mortlake St. R.L. 62·20.
- B.M. No 72. Cor. Laurel Ave. & Verney Rd. R.L. 57·46.

LAUREL AVE.

LONGITUDINAL SECTION.
Scale of Feet.
100 50 00 100 200 300 Horizontal.
10 5 0 10 20 30 Vertical.

A.C. SURFACING
NOT IN CONTRACT.

NOTE.
- for Kolos & legend refer dwg. W 4675/1.

SUFFIX	AMENDMENT	DATE	E. for D.	D/C E. & M.	F.C.M.S.E.	ISSUED.

McINTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA
Passed
Date

CHIEF ENGINEER AND MANAGER.
DEP. CHIEF ENGINEER & MANAGER.
DATE.
WORKS ORDER No.
ENGINEER FOR DESIGN.
DATE. 4-7-73

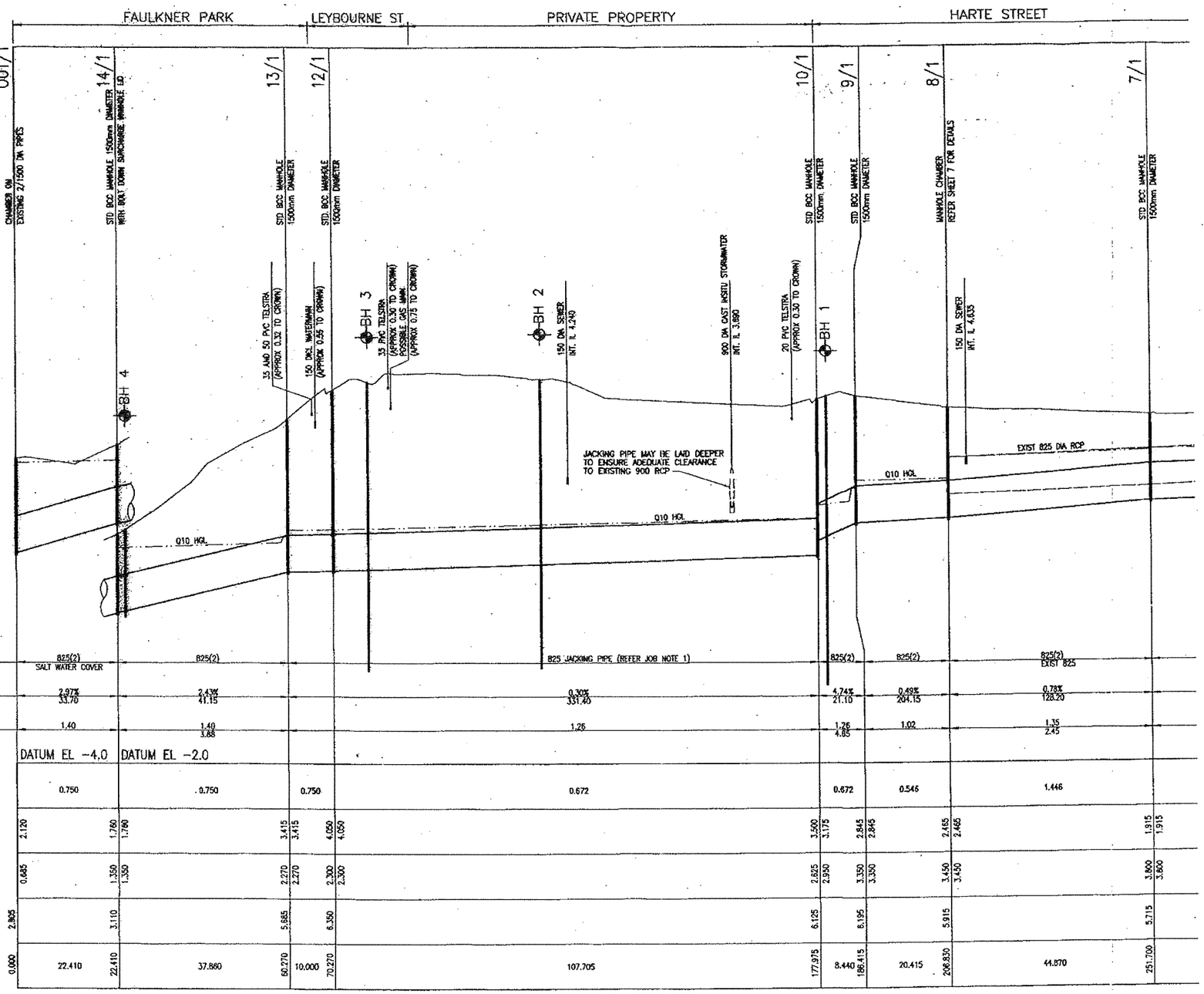
PLANNED
DRAWN
TRACED
CHECKED
PASSED

FIELD BK. 1095 / 1097.
LEVEL BK. 472. / 477.
DESCRIPTION Exist.
R.O.D. G.M.
REST. M.P.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
ROADWORKS AND DRAINAGE
LAUREL AVENUE
CHELMER
PLAN AND LONGITUDINAL SECTION

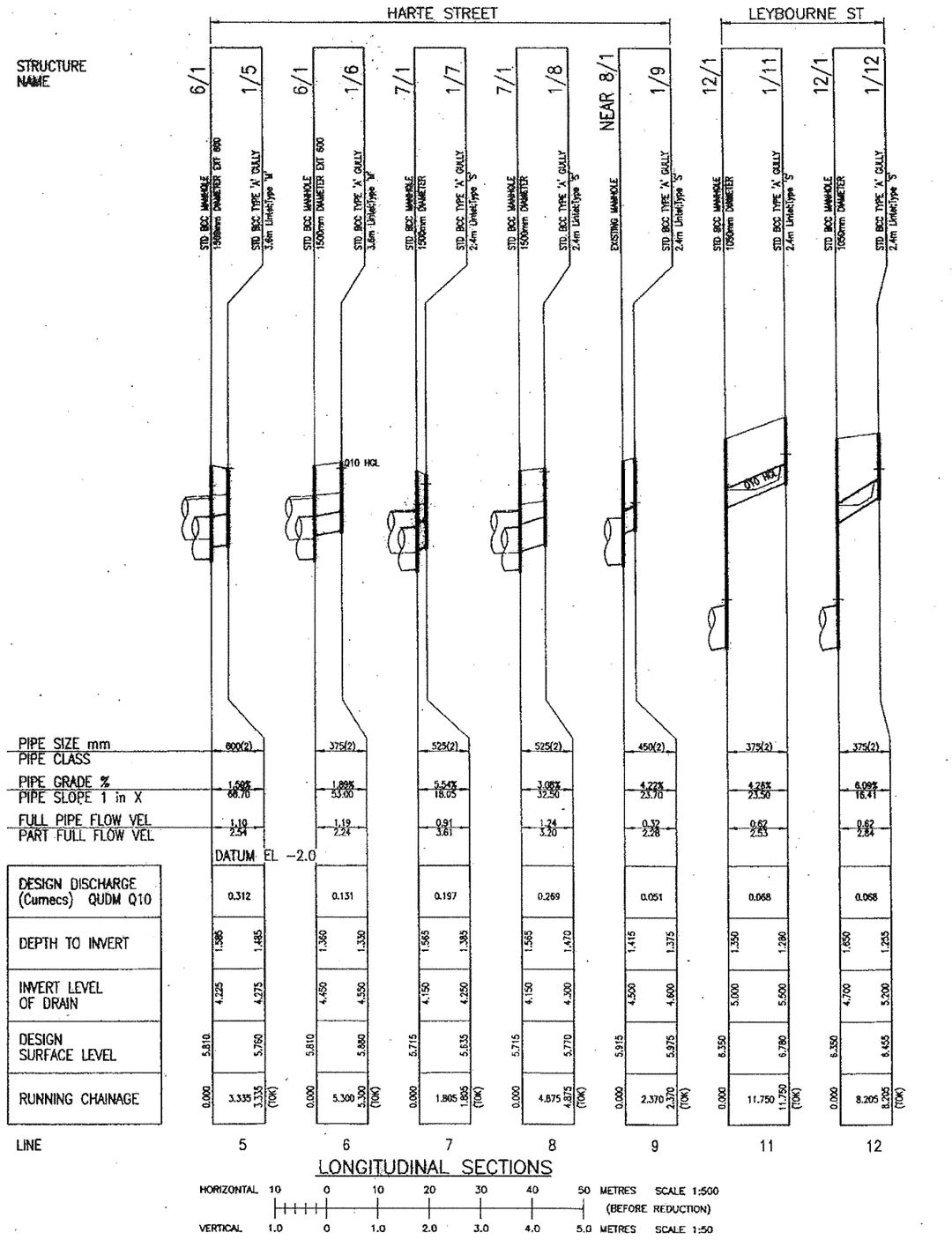
R.L. FILE. W 17228/11.
SCALES. As SHOWN.
W 4675
4
No. OF DRGS. 10

BCC.129.0703



STRUCTURE NAME

| | | |



City Design
Brisbane City Council

Level 3
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley, Q 4006
Telephone 07- 3403 3840
Facsimile 07- 3403 0447
e-mail citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP8003 AND CP8004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
LONGITUDINAL SECTIONS
Sheet 3 of 3

Design	Drawn	Checked	Authorised for Issue
B.D. 15/06/01	B.D.	18/6/01	

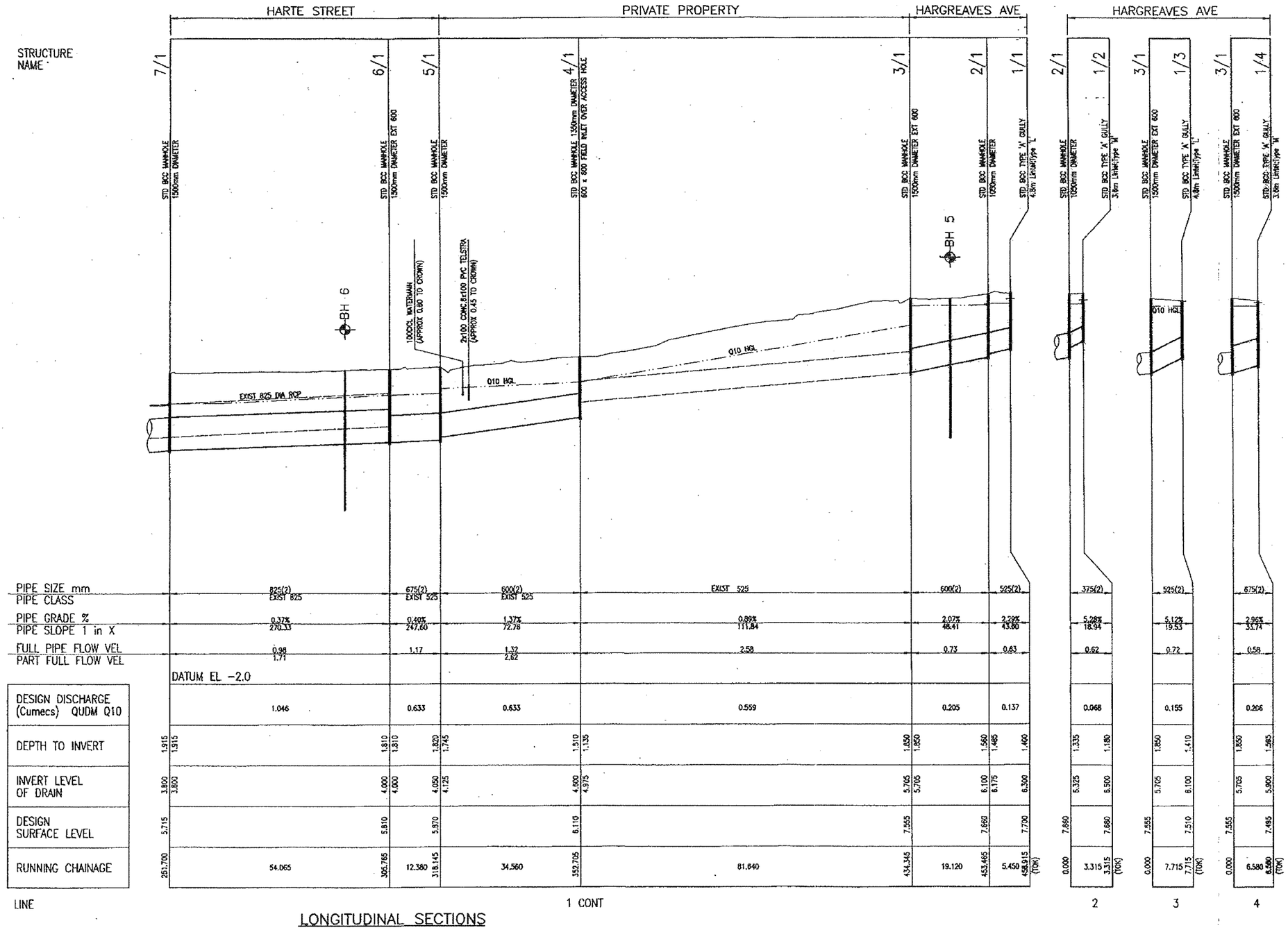
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-6/7

Issue

BCC.129.0705



PIPE SIZE mm	825(2)		675(2)	600(2)		EXIST 525		600(2)	525(2)		375(2)	525(2)	675(2)
PIPE CLASS	EXIST 825		EXIST 525	EXIST 525									
PIPE GRADE %	0.37%		0.40%	1.37%		0.89%		2.07%	2.29%		5.28%	5.12%	2.96%
PIPE SLOPE 1 in X	270.33		247.60	72.78		111.84		48.41	43.60		18.94	19.53	33.74
FULL PIPE FLOW VEL	0.98		1.17	1.32		2.58		0.73	0.63		0.62	0.72	0.58
PART FULL FLOW VEL	1.71			2.62									
DATUM EL −2.0													
DESIGN DISCHARGE (Cumecs) QUDM Q10	1.046		0.633	0.633		0.559		0.205	0.137		0.068	0.155	0.206
DEPTH TO INVERT	1.915	1.915	1.810	1.820	1.745	1.510	1.135	1.650	1.560	1.485	1.400	1.335	1.180	1.850	1.410	1.850	1.585
INVERT LEVEL OF DRAIN	3.800	3.800	4.000	4.000	4.050	4.125	4.975	5.705	5.705	6.100	6.175	6.300	5.325	6.500	5.705	6.100	5.705	5.900
DESIGN SURFACE LEVEL	5.715		5.810		5.970		6.110	7.555		7.660		7.700	7.680		7.555	7.510	7.555	7.485
RUNNING CHAINAGE	251.700	54.065	305.765	12.380	318.145	34.560	352.705	81.640	434.345	19.120	453.465	5.450	458.915 (TOK)	0.000	3.315	3.315 (TOK)	0.000	7.715	7.715 (TOK)	0.000	6.580	6.580 (TOK)
LINE	1 CONT													2			3			4		

LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500
(BEFORE REDUCTION)
VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50

BOREHOLE No.5

0.00m	
0.30	ASPHALT AND ROADBASE
	(CI) SILTY CLAY MEDIUM PLASTICITY, BROWN–GREY MOTTLED ORANGE–BROWN
PIPE ∥	SPT 2,3,4; N = 7
3.45	SPT 3,4,7; N = 11

BOREHOLE No.6

0.00m	
0.20	ASPHALT AND ROADBASE
0.50	(CI) SANDY CLAY MEDIUM PLASTICITY, GREY–BROWN
	(CI) SILTY CLAY MEDIUM PLASTICITY, BROWN–GREY SOME SAND
PIPE ∥	SPT 2,5,6; N = 11
2.50	(SC) CLAYEY SAND FINE TO COURSE GRAINED, BROWN
3.30	(SP) SAND FINE TO COURSE GRAINED MOTTLED GREY AND BROWN, SOME FINES
3.45	SPT 4,6,8; N = 14

BORE LOGS

SCALE 1 : 50

City Design
Brisbane City Council

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e-mail cityd esign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

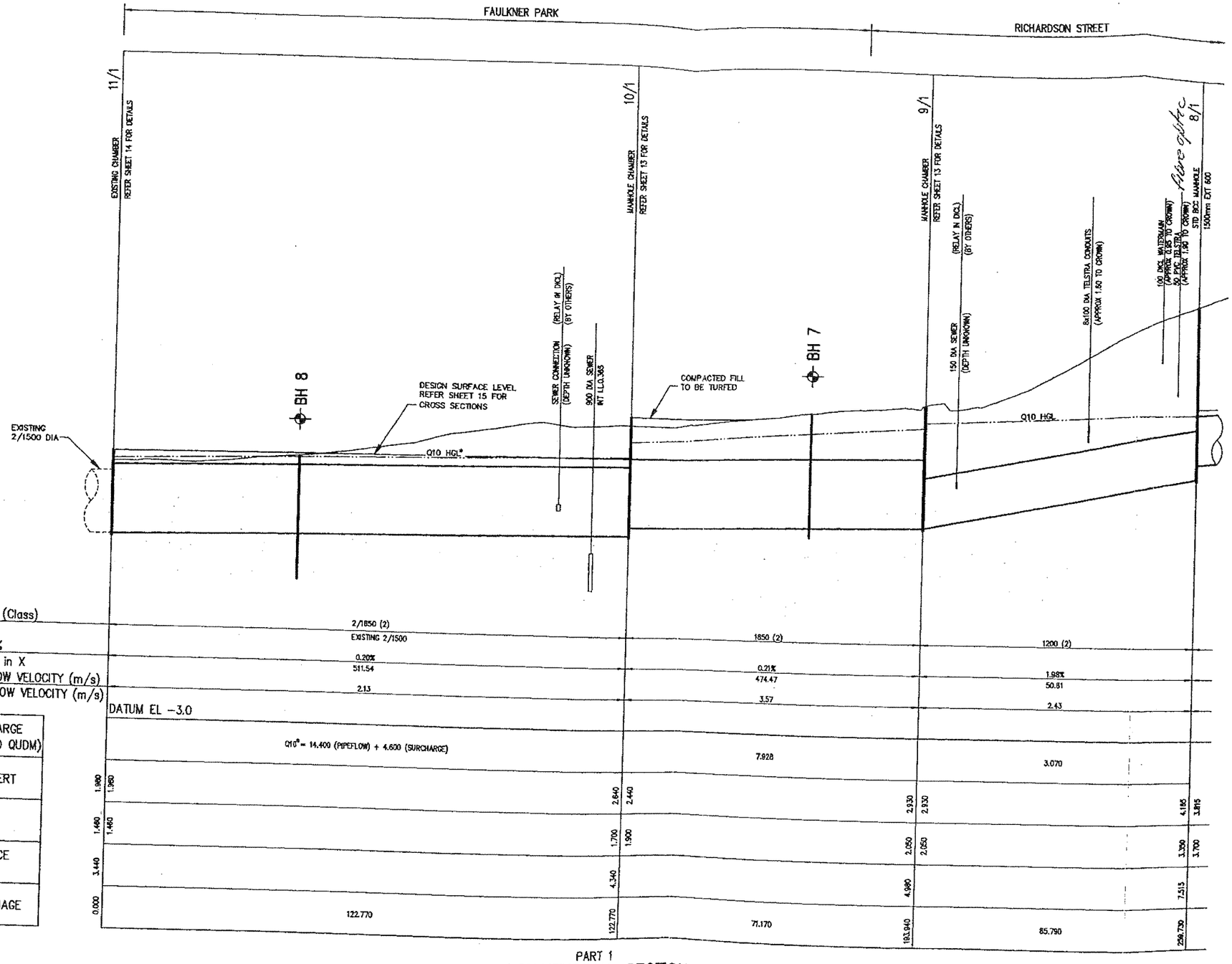
Title
LONGITUDINAL SECTIONS
Sheet 2 of 3

Design	Drawn	Checked	Authorised for Issue
B.D. 15/06/01	B.D.	18/6/01	27/6/01

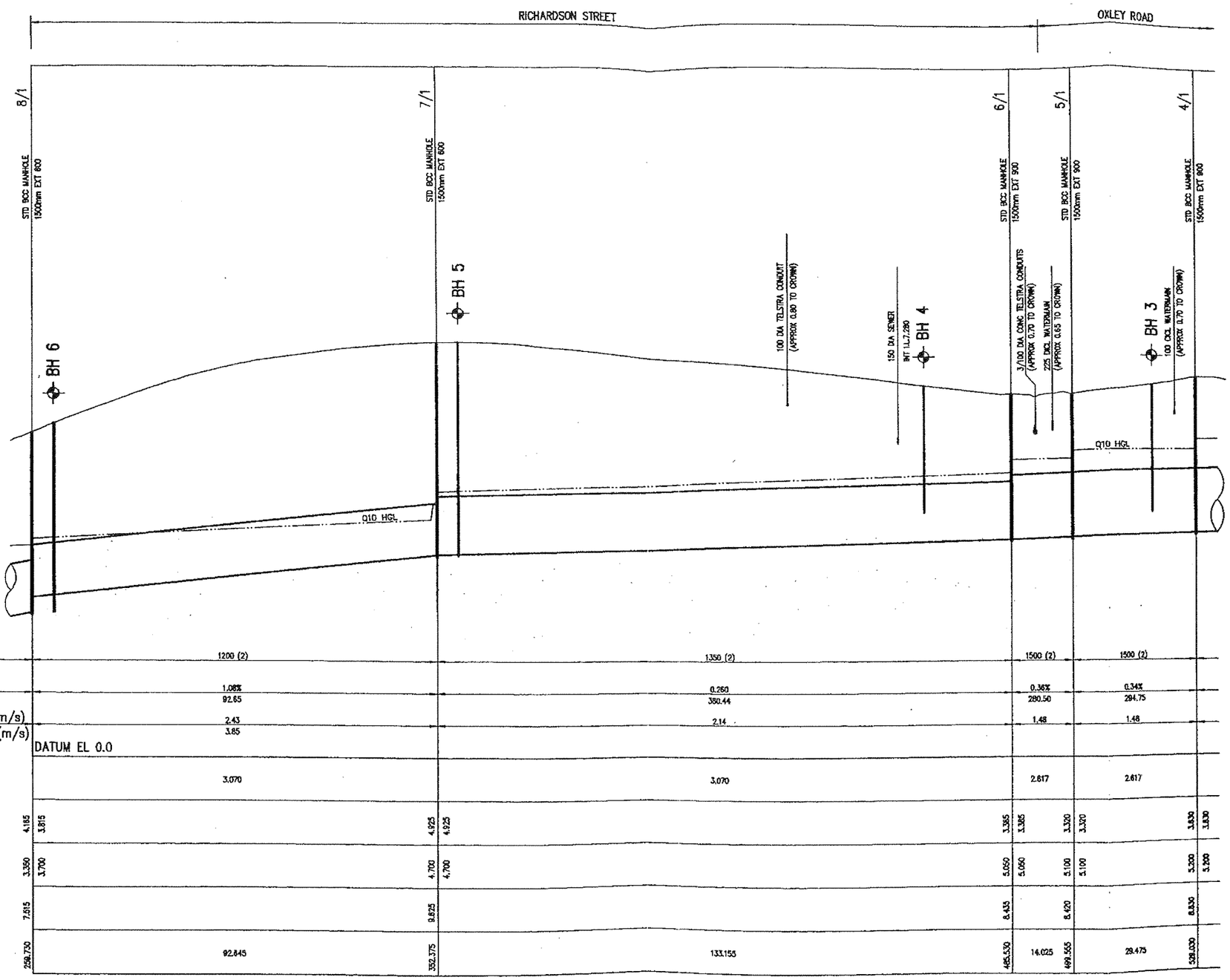
Reference no.
W11308

Drawing no.	Sheet	Issue
CD-0184292	W2-5/7	

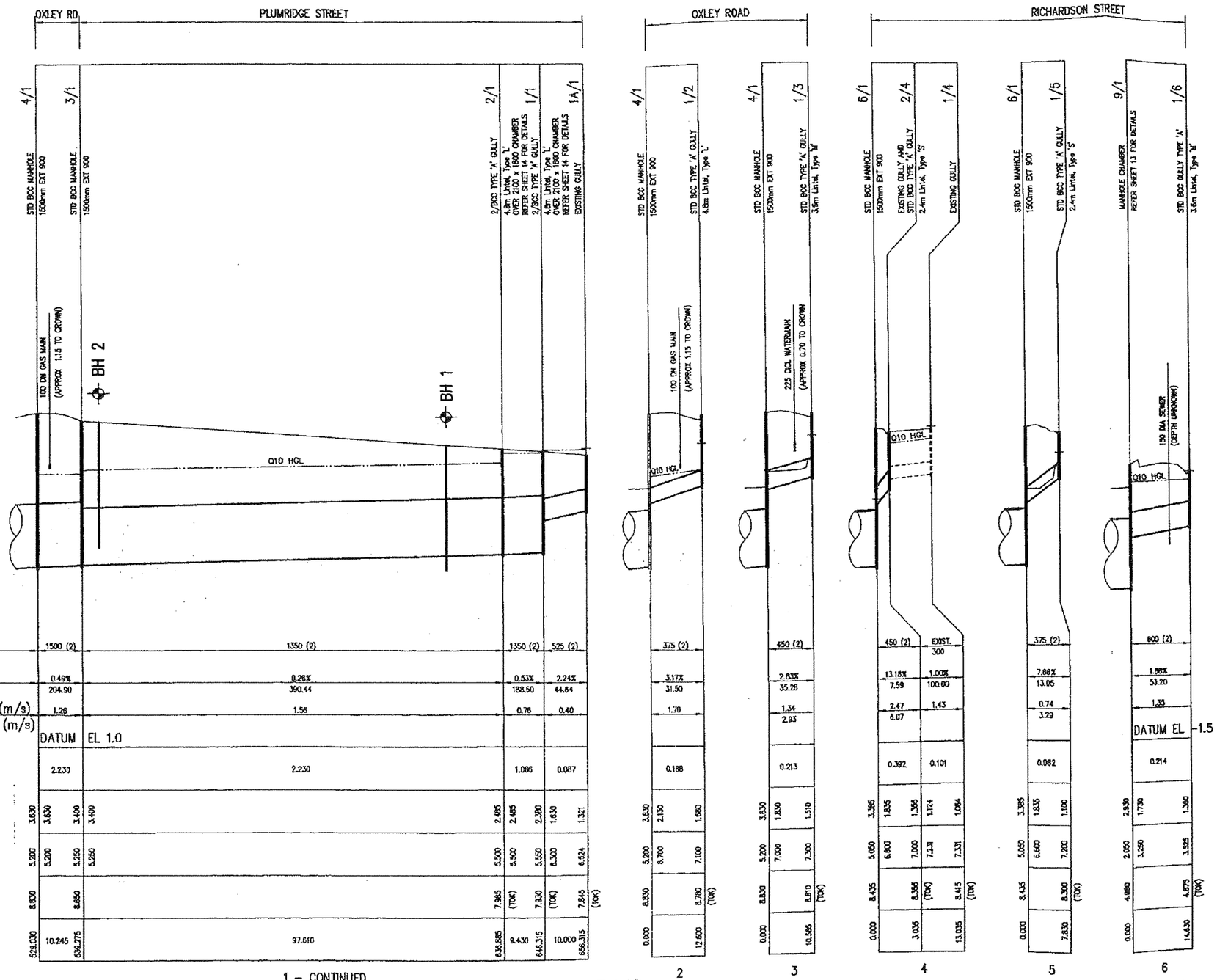
BCC.129.0706


FAULKNER PARK
RICHARDSON STREET
11/1
10/1
9/1
8/1
EXISTING CHAMBER
REFER SHEET 14 FOR DETAILS
MANHOLE CHAMBER
REFER SHEET 13 FOR DETAILS
MANHOLE CHAMBER
REFER SHEET 13 FOR DETAILS
BH 8
BH 7
EXISTING
2/1500 DIA
DESIGN SURFACE LEVEL
REFER SHEET 15 FOR
CROSS SECTIONS
Q10 HGL*
SEWER CONNECTION
(DEPTH UNKNOWN)
(RELAY IN DCL)
(BY OTHERS)
900 DIA SEWER
INTO LGA 365
COMPACTED FILL
TO BE TURFED
Q10 HGL
150 DIA SEWER
(DEPTH UNKNOWN)
(RELAY IN DCL)
(BY OTHERS)
8x100 DIA TELSTRA CONDUITS
(APPROX 1.50 TO CROWN)
100 DIA WATERMAIN
(APPROX 0.85 TO CROWN)
50 PVC TELSTRA
(APPROX 1.90 TO CROWN)
STD BCC MANHOLE
1500mm DIA 600
fibre optic

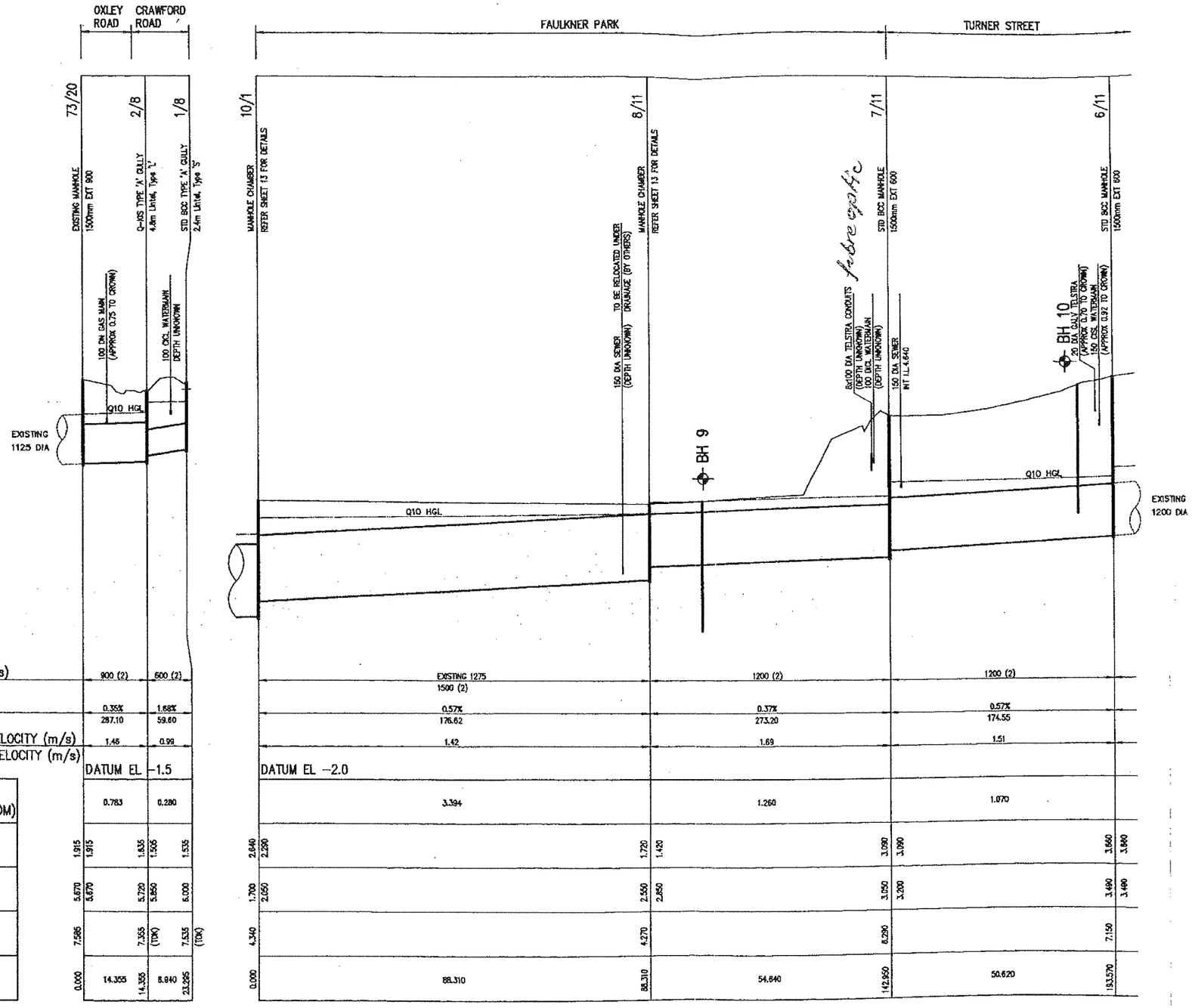
| | | |


RICHARDSON STREET
OXLEY ROAD
8/1
7/1
6/1
5/1
4/1
STD BCC MANHOLE 1500mm EXT 600
STD BCC MANHOLE 1500mm EXT 600
STD BCC MANHOLE 1500mm EXT 900
STD BCC MANHOLE 1500mm EXT 900
STD BCC MANHOLE 1500mm EXT 900
BH 6
BH 5
BH 4
BH 3
100 DIA TELSTRA CONDUIT (APPROX 0.80 TO CROWN)
150 DIA SEWER INT IL 7.290
3/100 DIA CONC TELSTRA CONDUITS (APPROX 0.70 TO CROWN)
225 DICL WATERMAIN (APPROX 0.65 TO CROWN)
100 DICL WATERMAIN (APPROX 0.70 TO CROWN)
Q10 HGL
Q10 HGL

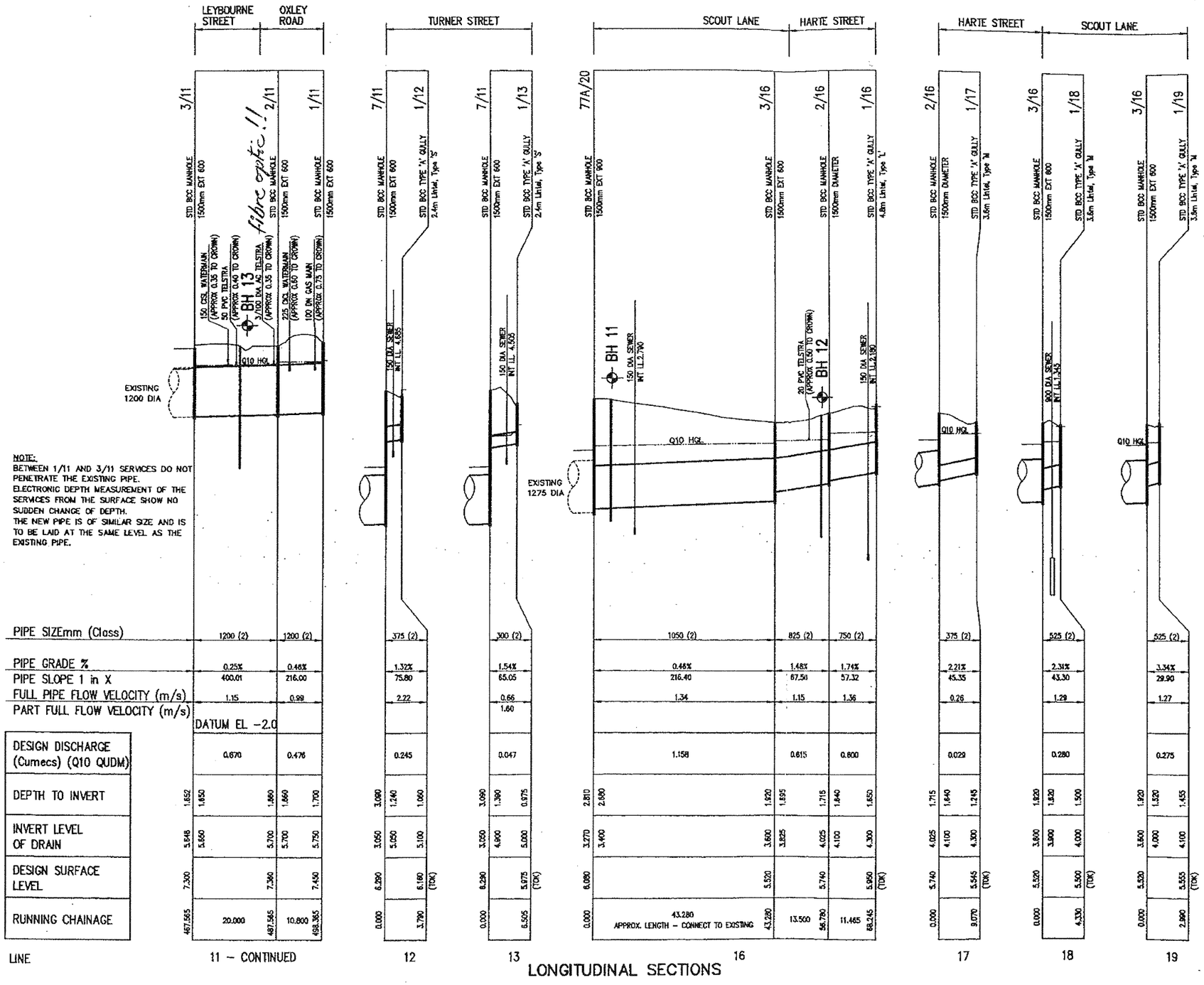
| | | |


OXLEY RD
PLUMRIDGE STREET
OXLEY ROAD
RICHARDSON STREET
STD BCC MANHOLE 1500mm EXT 900
100 DN GAS MAIN (APPROX 1.15 TO CROWN)
BH 2
BH 1
Q10 HGL
2/BCC TYPE 'A' GULLY 4.8m Lintel, Type 'L' OVER 2000 x 1800 CHAMBER REFER SHEET 14 FOR DETAILS
2/BCC TYPE 'A' GULLY 4.8m Lintel, Type 'L'
EXISTING GULLY
STD BCC TYPE 'A' GULLY 4.8m Lintel, Type 'L'
225 DCL WATERMAIN (APPROX 0.70 TO CROWN)
STD BCC TYPE 'A' GULLY 3.6m Lintel, Type 'M'
EXISTING GULLY AND STD BCC TYPE 'A' GULLY 2.4m Lintel, Type 'S'
STD BCC TYPE 'A' GULLY 2.4m Lintel, Type 'S'
MANHOLE CHAMBER REFER SHEET 13 FOR DETAILS
STD BCC GULLY TYPE 'A' 3.6m Lintel, Type 'M'
150 DIA SEWER (DEPTH UNKNOWN)

| | | |


OXLEY ROAD
CRAWFORD ROAD
FAULKNER PARK
TURNER STREET
73/20
2/8
1/8
10/1
8/11
7/11
6/11
EXISTING MANHOLE 1500mm EXT 900
Q-MS TYPE 'A' GULLY 4.8m Lintel, Type 'L'
STD BCC TYPE 'A' GULLY 2.4m Lintel, Type 'S'
MANHOLE CHAMBER REFER SHEET 13 FOR DETAILS
STD BCC MANHOLE 1500mm EXT 600
100 DIA GAS MAIN (APPROX 0.75 TO CROWN)
100 DIA. WATERMAIN DEPTH UNKNOWN
150 DIA SEWER (DEPTH UNKNOWN)
TO BE RELOCATED UNDER DRAINAGE (BY OTHERS)
8x100 DIA TELSTRA CONDUITS (TOP 0.41 TO CROWN)
150 DIA. SEWER INT I.L.4.640
20 DIA GALV TELSTRA (APPROX 0.76 TO CROWN)
150 DIA. WATERMAIN (APPROX 0.92 TO CROWN)
BH 9
BH 10
Q10 HGL
EXISTING 1125 DIA
EXISTING 1200 DIA
Before early

| | | |



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)
VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50

BOREHOLE No.13

0.00m		
0.4	ASPHALT AND ROADBASE	
	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY, TRACE OF FINE GRAINED SAND	N = 5
PIPE IL 1.52		
	MOTTLED RED-BROWN AND BROWN	N = 8
2.95		

BOREHOLE No.12

0.00m		
0.3	ASPHALT AND ROADBASE	
0.5	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY, TRACE OF FINE GRAINED SAND	
1.3	MOTTLED PALE BROWN AND GREY	N = 6
PIPE IL	MOTTLED RED AND BROWN	
		N = 14
2.95		

BOREHOLE No.11

0.00m		
0.25	ASPHALT AND ROADBASE	
	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY, TRACE OF SAND	N = 8
PIPE IL 2.95		N = 10

BORE LOGS
SCALE 1 : 50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK --- | FILE NAME ---
REFERENCE:- B.M.

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 26/6/00
DRAINAGE DESIGNER

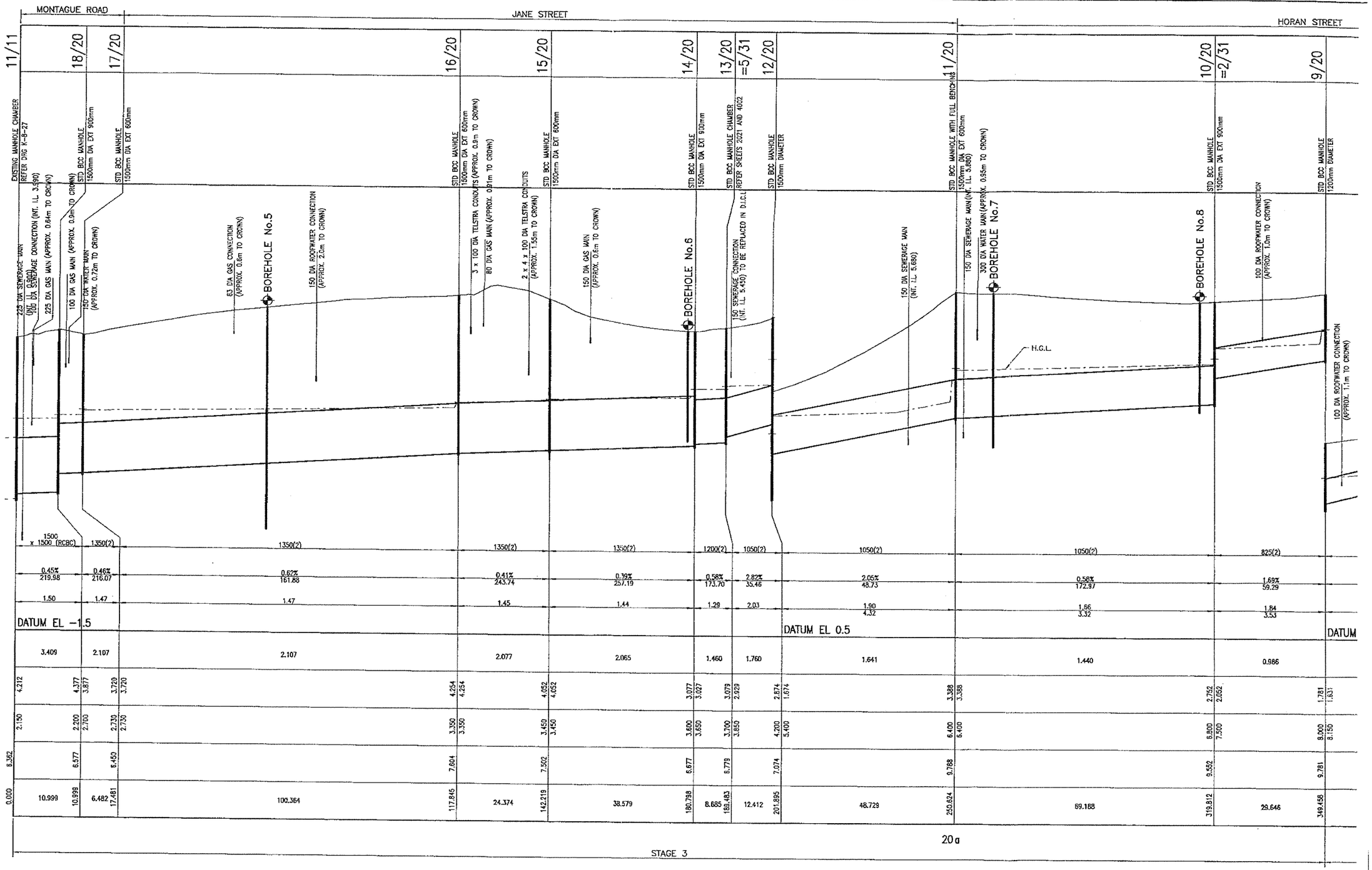
CADD REFERENCE
0081517
LONGS
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-6-00
CHECKED		26-6-00
DRAWN		26-6-00
PASSED		26-6-00

FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

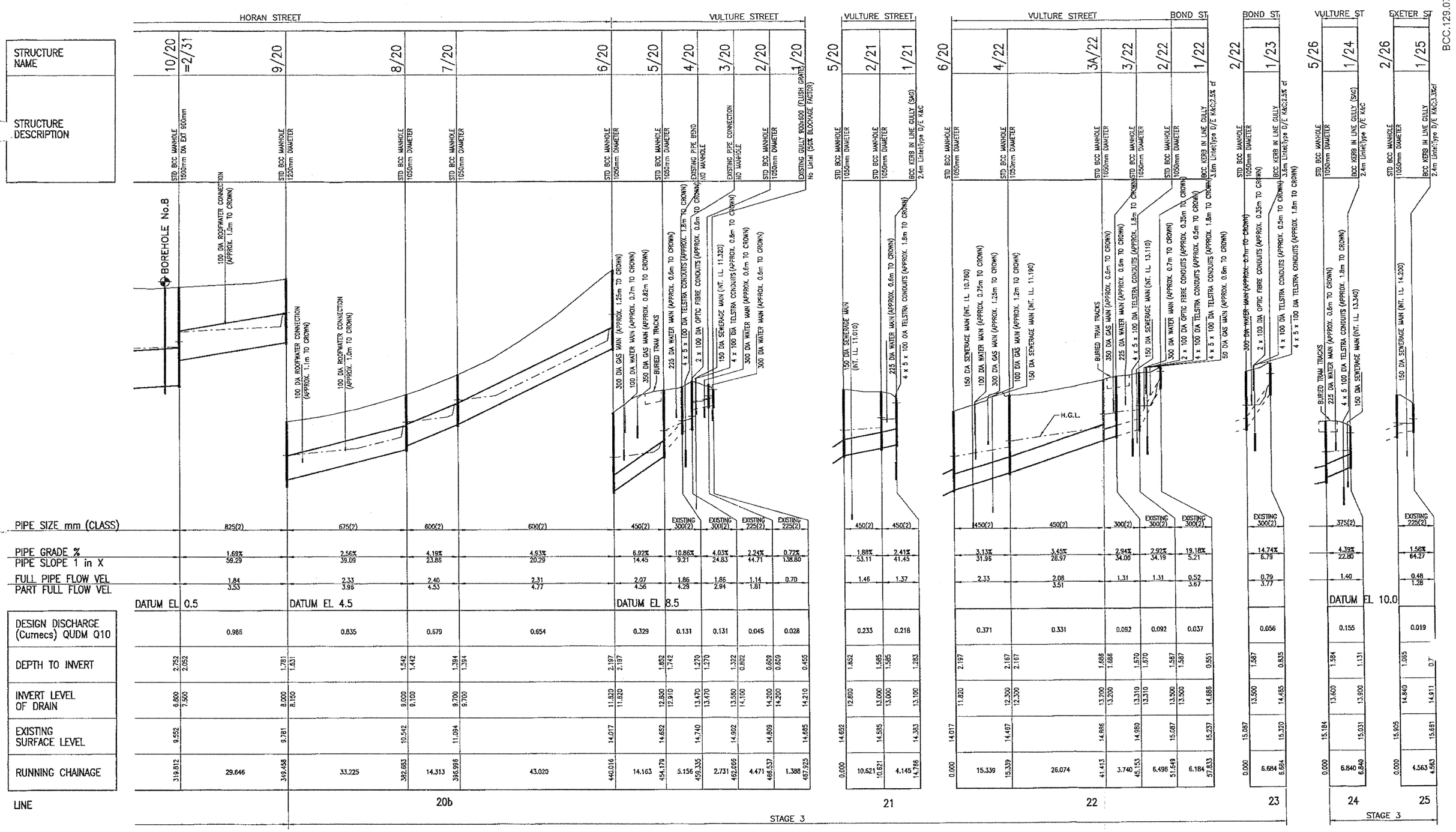
Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK


MONTAGUE ROAD
JANE STREET
HORAN STREET
11/11
18/20
17/20
16/20
15/20
14/20
13/20
=5/31
12/20
11/20
10/20
=2/31
9/20
EXISTING MANHOLE CHAMBER REFER DRG K-8-27
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1500mm DIA EXT 600mm
STD BCC MANHOLE 1500mm DIA EXT 600mm
STD BCC MANHOLE 1500mm DIA EXT 800mm
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE CHAMBER REFER SHEETS 2021 AND 4032
STD BCC MANHOLE 1500mm DIAMETER
STD BCC MANHOLE WITH FULL BENCHING 1500mm DIA EXT 600mm
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1200mm DIAMETER
225 DIA SEWERAGE DRAIN (INV. I.L 3.690)
100 DIA SEWERAGE CONNECTION (INT. I.L 3.990)
225 DIA GAS MAIN (APPROX. 0.64m TO CROWN)
100 DIA GAS MAIN (APPROX. 0.9m TO CROWN)
150 DIA WATER MAIN (APPROX. 0.72m TO CROWN)
63 DIA GAS CONNECTION (APPROX. 0.6m TO CROWN)
BOREHOLE No.5
150 DIA ROOFWATER CONNECTION (APPROX. 2.0m TO CROWN)
3 x 100 DIA TELSTRA CONDUITS (APPROX. 0.9m TO CROWN)
80 DIA GAS MAIN (APPROX. 0.81m TO CROWN)
2 x 4 x 100 DIA TELSTRA CONDUITS (APPROX. 1.55m TO CROWN)
150 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
BOREHOLE No.6
150 SEWERAGE CONNECTION (INT. I.L 5.450) TO BE REPLACED IN D.I.C.L
150 DIA SEWERAGE MAIN (INT. I.L 5.680)
150 DIA SEWERAGE MAIN (INT. I.L 5.880)
300 DIA WATER MAIN (APPROX. 0.95m TO CROWN)
BOREHOLE No.7
H.G.L.
BOREHOLE No.8
100 DIA ROOFWATER CONNECTION (APPROX. 1.0m TO CROWN)
100 DIA ROOFWATER CONNECTION (APPROX. 1.1m TO CROWN)
STAGE 3
20a

| | | |

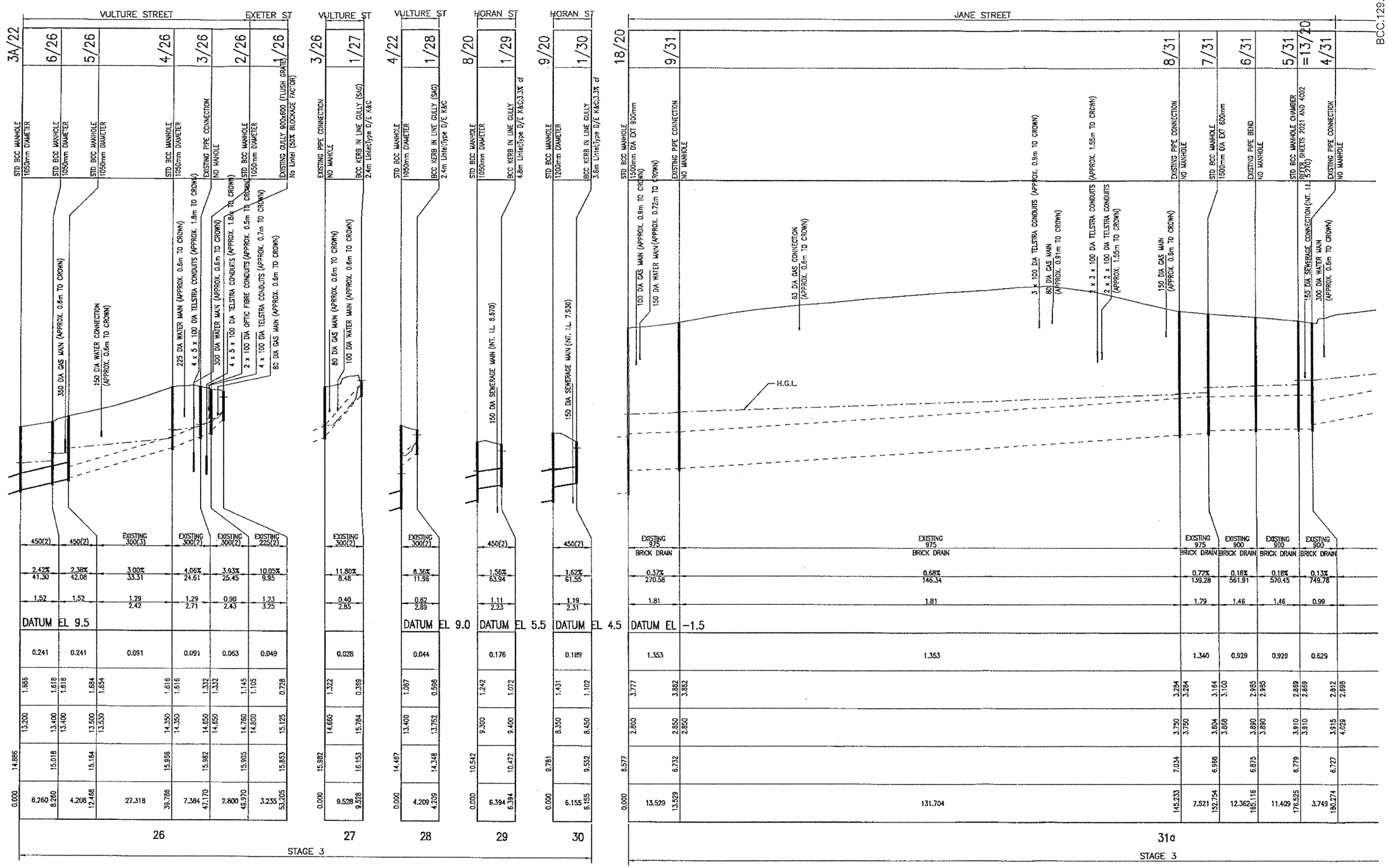
BCC.129.0713


HORAN STREET
VULTURE STREET
VULTURE STREET
VULTURE STREET
BOND ST
BOND ST
VULTURE ST
EXETER ST
STRUCTURE NAME
STRUCTURE DESCRIPTION
10/20
=2/31
9/20
8/20
7/20
6/20
5/20
4/20
3/20
2/20
1/20
5/20
2/21
1/21
6/20
4/22
3A/22
3/22
2/22
1/22
2/22
1/23
5/26
1/24
2/26
1/25
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1200mm DIAMETER
STD BCC MANHOLE 1050mm DIAMETER
EXISTING GULLY 900x600 (FLUSH GRATE) No Lintel (50% BLOCKAGE FACTOR)
BCC KERB IN LINE GULLY 2.4m LintelType D/E K&C
BCC KERB IN LINE GULLY 3.6m LintelType D/E K&C
BOREHOLE No.8
100 DIA ROOFWATER CONNECTION (APPROX. 1.0m TO CROWN)
100 DIA ROOFWATER CONNECTION (APPROX. 1.1m TO CROWN)
300 DIA GAS MAIN (APPROX. 1.25m TO CROWN)
100 DIA WATER MAIN (APPROX. 0.7m TO CROWN)
350 DIA GAS MAIN (APPROX. 0.82m TO CROWN)
BURIED TRAM TRACKS
225 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 1.8m TO CROWN)
2 x 100 DIA OPTIC FIBRE CONDUITS (APPROX. 0.6m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 11.320)
4 x 100 DIA TELSTRA CONDUITS (APPROX. 0.6m TO CROWN)
300 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
EXISTING PIPE CONNECTION NO MANHOLE
EXISTING PIPE BEND NO MANHOLE
150 DIA SEWERAGE MAIN (INT. I.L. 11.010)
225 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 1.8m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 10.760)
100 DIA WATER MAIN (APPROX. 0.75m TO CROWN)
300 DIA GAS MAIN (APPROX. 1.25m TO CROWN)
150 DIA SEWERAGE MAIN (APPROX. 1.2m TO CROWN)
100 DIA GAS MAIN (APPROX. 1.2m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 11.190)
H.G.L.
BURIED TRAM TRACKS
350 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
225 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 1.8m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 13.110)
300 DIA WATER MAIN (APPROX. 0.7m TO CROWN)
2 x 100 DIA OPTIC FIBRE CONDUITS (APPROX. 0.35m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 0.5m TO CROWN)
50 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
300 DIA WATER MAIN (APPROX. 0.7m TO CROWN)
2 x 100 DIA OPTIC FIBRE CONDUITS (APPROX. 0.35m TO CROWN)
4 x 100 DIA TELSTRA CONDUITS (APPROX. 0.5m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 1.8m TO CROWN)
BURIED TRAM TRACKS
225 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
4 x 5 x 100 DIA TELSTRA CONDUITS (APPROX. 1.8m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 13.340)
150 DIA SEWERAGE MAIN (INT. I.L. 14.220)

| | | |

BCC.129.07114

STRUCTURE NAME	
STRUCTURE DESCRIPTION	



PIPE SIZE mm (CLASS)	450(2)	450(2)	EXISTING 300(3)	EXISTING 300(2)	EXISTING 300(2)	EXISTING 225(2)	EXISTING 300(2)	EXISTING 300(2)	450(2)	450(2)	EXISTING 975 BRICK DRAIN	EXISTING 975 BRICK DRAIN	EXISTING 900 BRICK DRAIN	EXISTING 900 BRICK DRAIN	EXISTING 900 BRICK DRAIN	EXISTING 900 BRICK DRAIN
PIPE GRADE %	2.42%	2.38%	3.00%	4.06%	3.93%	10.05%	11.80%	8.36%	1.56%	1.62%	0.37%	0.68%	0.77%	0.18%	0.18%	0.13%
PIPE SLOPE 1 in X	41.30	42.08	33.31	24.61	25.45	9.95	8.48	11.96	63.94	61.55	270.56	146.34	139.28	561.91	570.45	749.78
FULL PIPE FLOW VEL	1.52	1.52	1.29	1.29	0.90	1.23	0.40	0.62	1.11	1.19	1.81	1.81	1.79	1.46	1.46	0.99
PART FULL FLOW VEL			2.42	2.71	2.43	3.25	2.85	2.89	2.23	2.31						
DATUM EL	9.5							9.0	5.5	4.5	-1.5					
DESIGN DISCHARGE (Cumecs) QUDM Q10	0.241	0.241	0.091	0.091	0.063	0.049	0.028	0.044	0.176	0.189	1.353	1.353	1.340	0.929	0.929	0.629
DEPTH TO INVERT	1.886 / 1.618	1.818 / 1.684	1.854 / 1.616	1.616 / 1.332	1.332 / 1.145	1.105 / 0.728	1.322 / 0.389	1.067 / 0.596	1.242 / 1.072	1.431 / 1.102	3.777 / 3.882	3.882	3.284 / 3.164	3.100 / 2.985	2.985 / 2.869	2.869 / 2.812 / 2.686
INVERT LEVEL OF DRAIN	13.200 / 13.400	13.400 / 13.500	13.530 / 14.350	14.350 / 14.650	14.650 / 14.760	14.800 / 15.125	14.660 / 15.784	13.400 / 13.752	9.300 / 9.400	8.350 / 8.450	2.860 / 2.850	2.850	3.750 / 3.804	3.868 / 3.890	3.890 / 3.910	3.910 / 3.915 / 4.028
EXISTING SURFACE LEVEL	14.886 / 15.018	15.184	15.956	15.982	15.905	15.853	15.982 / 16.153	14.467 / 14.348	10.542 / 10.472	9.781 / 9.552	6.577 / 6.732		7.034	6.966	6.875	6.779 / 6.727
RUNNING CHAINAGE	0.000 / 8.260	8.260 / 12.468	27.318 / 39.786	7.384 / 47.170	2.800 / 49.970	3.235 / 53.205	0.000 / 9.528	0.000 / 4.209	0.000 / 6.394	0.000 / 6.155	0.000 / 13.529	131.704	145.233 / 152.754	7.521 / 165.116	12.362 / 176.525	11.409 / 180.274 / 3.749
LINE	26						27	28	29	30	31a					
STAGE 3											STAGE 3					

LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

City Design
Brisbane City Council
Level 3
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley Qld 4006
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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information		
P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713		
Datum	Filename	Field Book
A.H.D.	050607	10057

Title: STAGE 3 LONGITUDINAL SECTIONS LINES 26 - 31a JANE STREET - VULTURE STREET

Project: DRAINAGE JANE STREET WEST END BRISBANE RIVER - VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 05	BTD DEC 05	DRC DEC 06	

Reference no.

Scale: AS SHOWN

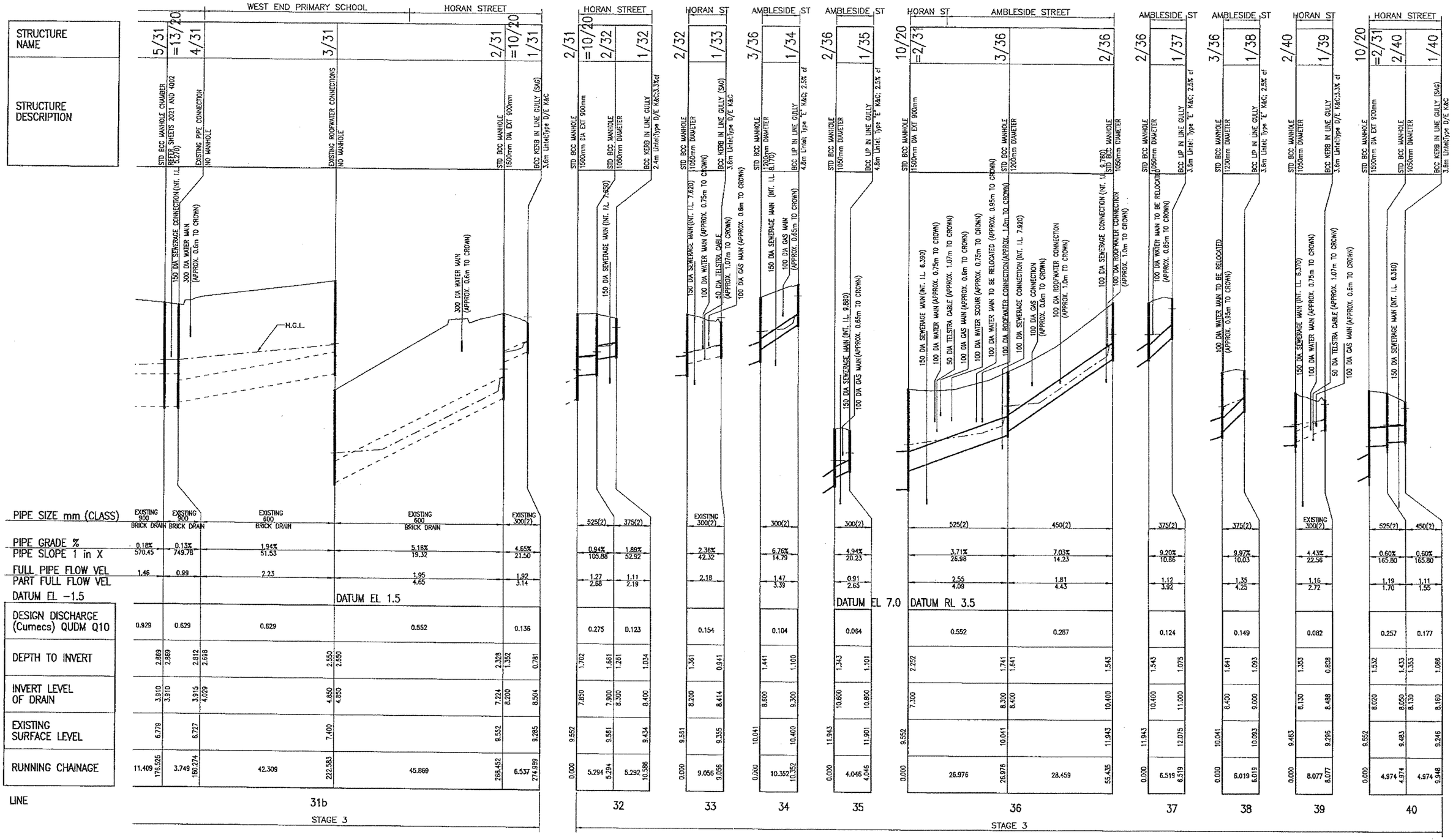
Drawing no.: CD 050607

Sheet: 2015

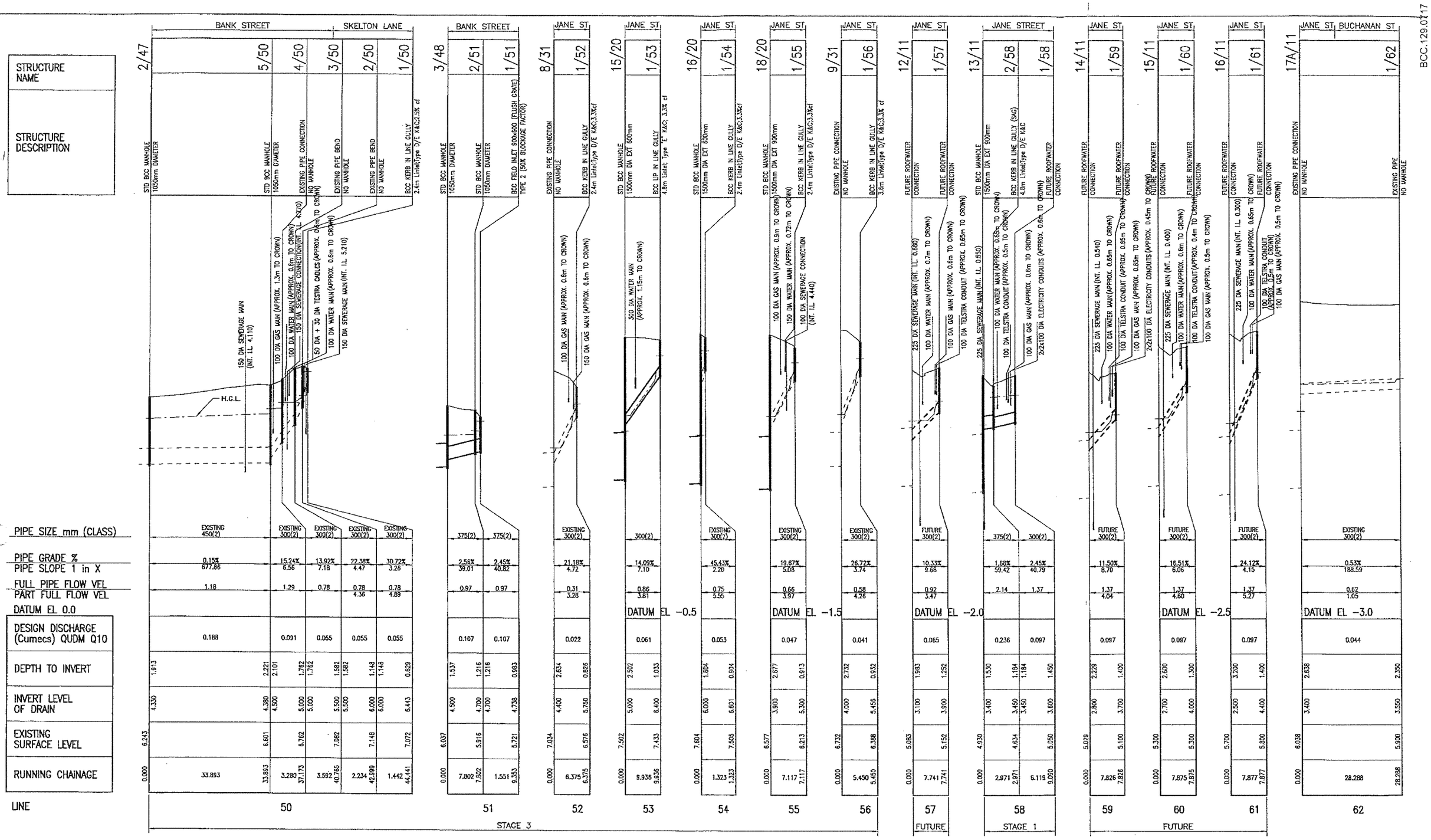
Issue: A

BCC 129.0715

| STRUCTURE NAME | | |


STRUCTURE NAME
STRUCTURE DESCRIPTION
WEST END PRIMARY SCHOOL
HORAN STREET
AMBLESIDE ST
AMBLESIDE STREET
STD BCC MANHOLE CHAMBER REFER SHEETS 2021 AND 4002
EXISTING PIPE CONNECTION NO MANHOLE
EXISTING ROOFWATER CONNECTIONS NO MANHOLE
STD BCC MANHOLE 1500mm DIA EXT 900mm
BCC KERB IN LINE GULLY (SAG) 3.6m Lintel Type D/E K&C
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1050mm DIAMETER
BCC KERB IN LINE GULLY 2.4m Lintel Type D/E K&C 3.3%cf
STD BCC MANHOLE 1050mm DIAMETER
BCC KERB IN LINE GULLY (SAG) 3.6m Lintel Type D/E K&C
STD BCC MANHOLE 1200mm DIAMETER
BCC UP IN LINE GULLY 4.8m Lintel Type "E" K&C; 2.5% cf
STD BCC MANHOLE 1050mm DIAMETER
BCC UP IN LINE GULLY 4.8m Lintel Type "E" K&C; 2.5% cf
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1050mm DIAMETER
STD BCC MANHOLE 1050mm DIAMETER
BCC UP IN LINE GULLY 3.6m Lintel Type "E" K&C; 2.5% cf
STD BCC MANHOLE 1200mm DIAMETER
BCC UP IN LINE GULLY 3.6m Lintel Type "E" K&C; 2.5% cf
STD BCC MANHOLE 1050mm DIAMETER
BCC KERB IN LINE GULLY 3.6m Lintel Type D/E K&C 3.3% cf
STD BCC MANHOLE 1500mm DIA EXT 900mm
STD BCC MANHOLE 1050mm DIAMETER
BCC KERB IN LINE GULLY (SAG) 3.6m Lintel Type D/E K&C
150 DIA SEWERAGE CONNECTION (INT. I.L. 7.820)
300 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
H.G.L.
300 DIA WATER MAIN (APPROX. 0.6m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 7.850)
150 DIA SEWERAGE MAIN (INT. I.L. 7.820)
100 DIA WATER MAIN (APPROX. 0.75m TO CROWN)
50 DIA TELSTRA CABLE (APPROX. 1.07m TO CROWN)
100 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 7.800)
100 DIA GAS MAIN (APPROX. 0.65m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 9.880)
100 DIA GAS MAIN (APPROX. 0.65m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 6.390)
100 DIA WATER MAIN (APPROX. 0.75m TO CROWN)
50 DIA TELSTRA CABLE (APPROX. 1.07m TO CROWN)
100 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
100 DIA WATER MAIN (APPROX. 0.75m TO CROWN)
100 DIA WATER MAIN TO BE RELOCATED (APPROX. 0.95m TO CROWN)
100 DIA SEWERAGE CONNECTION (INT. I.L. 7.920)
100 DIA GAS CONNECTION (APPROX. 0.6m TO CROWN)
100 DIA ROOFWATER CONNECTION (APPROX. 1.0m TO CROWN)
100 DIA SEWERAGE CONNECTION (INT. I.L. 9.760)
100 DIA ROOFWATER CONNECTION (APPROX. 1.0m TO CROWN)
100 DIA WATER MAIN TO BE RELOCATED (APPROX. 0.85m TO CROWN)
100 DIA WATER MAIN TO BE RELOCATED (APPROX. 0.95m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 6.370)
100 DIA WATER MAIN (APPROX. 0.75m TO CROWN)
50 DIA TELSTRA CABLE (APPROX. 1.07m TO CROWN)
100 DIA GAS MAIN (APPROX. 0.6m TO CROWN)
150 DIA SEWERAGE MAIN (INT. I.L. 6.360)

| | | |



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title: STAGES 1 & 3 LONGITUDINAL SECTIONS LINES 50 - 62 JANE STREET - BANK STREET

Project: DRAINAGE JANE STREET WEST END BRISBANE RIVER - VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.

Scale: AS SHOWN

Drawing no.: CD 050607

Sheet: 2018

Issue: A

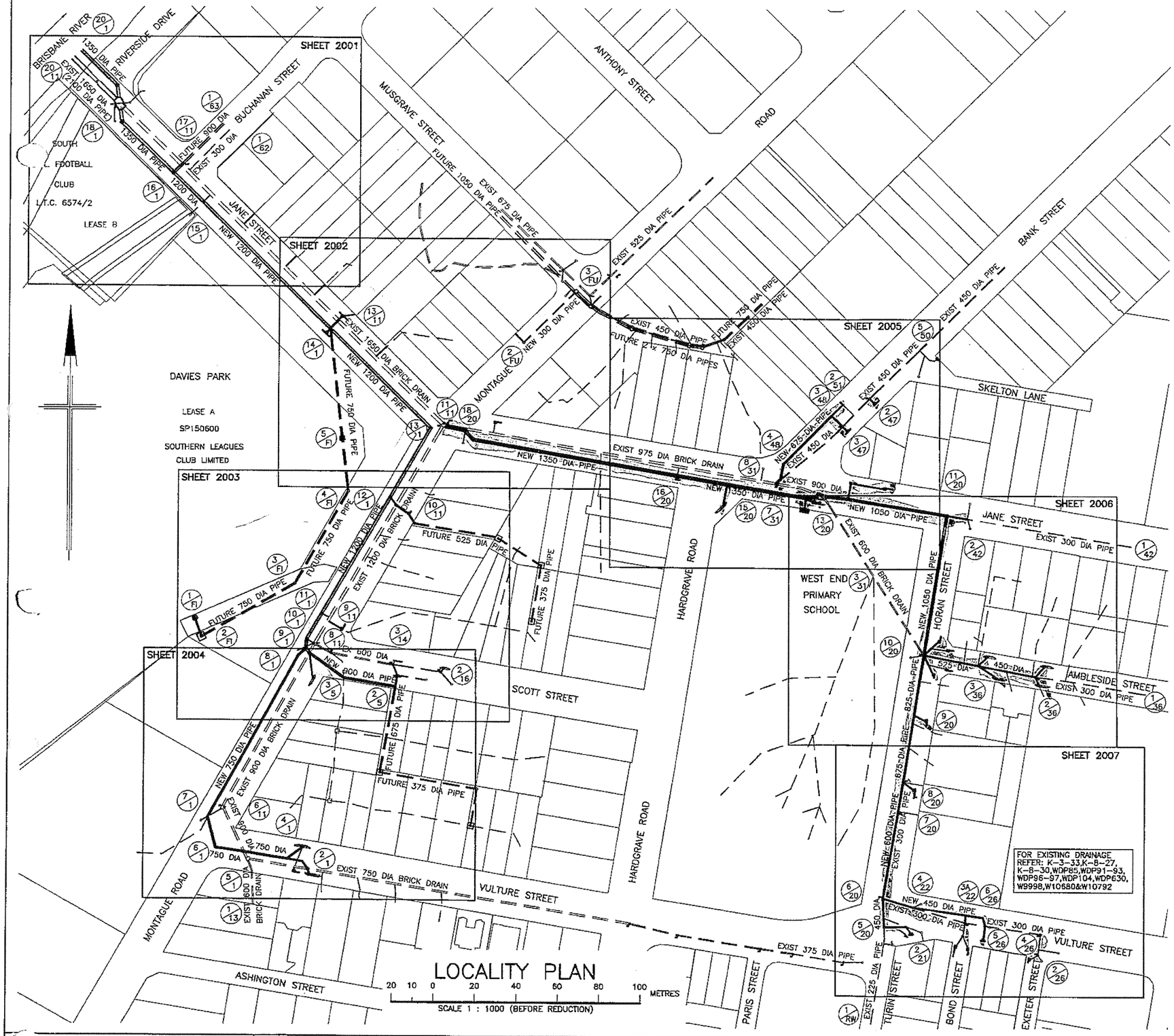
JANE STREET

MONTAGUE ROAD

| | | |

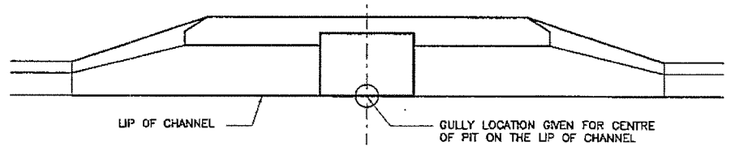
BCC.129.0719

| STRUCTURE NAME | | |



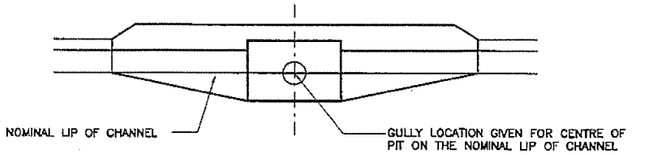
DRAWING SHEET INDEX

STAGE No.	SHEET No.	DRAWING DESCRIPTION
1 – 3	2000	LOCALITY PLAN AND DRAWING INDEX
1	2001	PLAN BRISBANE RIVER – JANE STREET
1 & 3	2002	PLAN MONTAGUE ROAD AND JANE STREET
1 & 2	2003	PLAN MONTAGUE ROAD AND SCOTT STREET
1 & 2	2004	PLAN SCOTT STREET – VULTURE STREET
3	2005	PLAN JANE STREET AND BANK STREET
3	2006	PLAN HORAN STREET & AMBLESIDE STREET
3	2007	PLAN HORAN STREET AND VULTURE STREET
1 & 2	2008	LONGITUDINAL SECTIONS LINES 0,FI,FU&1a
1 & 2	2009	LONGITUDINAL SECTION LINE 1b
1 & 2	2010	LONGITUDINAL SECTIONS LINES 1c – 10
1 & 2	2011	LONGITUDINAL SECTION LINE 11a
2	2012	LONGITUDINAL SECTIONS LINES 11b – 19
3	2013	LONGITUDINAL SECTION LINE 20a
3	2014	LONGITUDINAL SECTIONS LINES 20b – 25
3	2015	LONGITUDINAL SECTIONS LINES 26 – 31a
3	2016	LONGITUDINAL SECTIONS LINES 31b – 40
3	2017	LONGITUDINAL SECTIONS LINES 41 – 49
1 & 3	2018	LONGITUDINAL SECTIONS LINES 50 – 62
1 – 3	2019	LONGITUDINAL SECTIONS LINES 63–67 & BORELOGS
1	2020 & 4001	MANHOLE CHAMBER 18/1 DETAILS
3	2021 & 4002	MANHOLE CHAMBER 13/20 DETAILS



GULLY PIT SETOUT DETAIL – LIP IN LINE GULLY (LIL)

NTS



GULLY PIT SETOUT DETAIL – KERB IN LINE GULLY (KIL)

NTS

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' LIP IN LINE GULLIES WITH AN 'S' LINTEL (REFER UMS 330). A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER UMS 311. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. ALL WORKS TO BE IN ACCORDANCE WITH AN APPROVED ENVIRONMENTAL MANAGEMENT PLAN.
5. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
6. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 900x600 AND INCORPORATE A TYPE 2 GRATE AND FRAME (REFER UMS 337).
7. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

UBD REF. : 159 G15
4CH. MAP : 104
ORTHO NO.: M14

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGES 1 - 3
LOCALITY PLAN
AND INDEX TABLE
BRISBANE RIVER -
VULTURE STREET

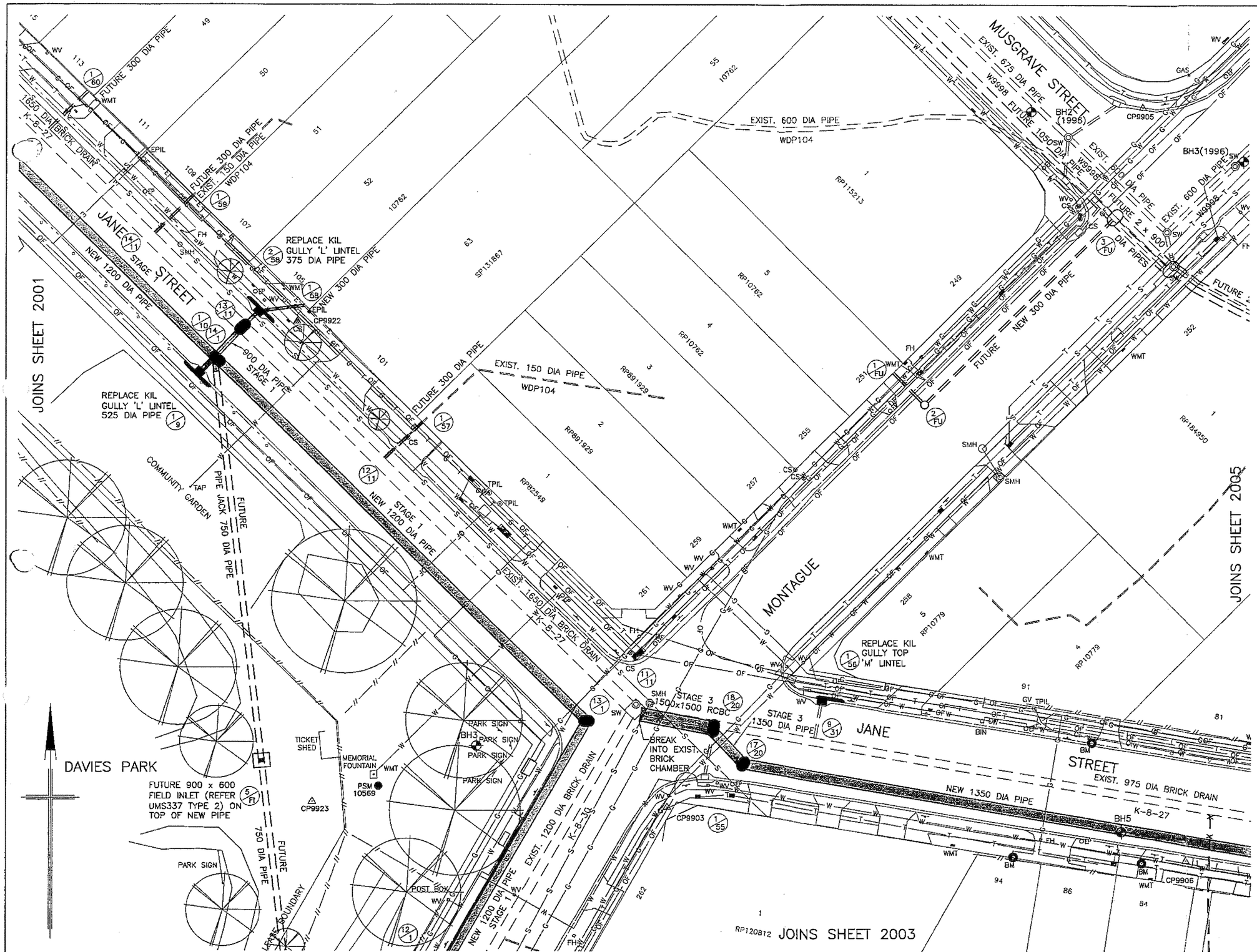
Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.	Scale
	1:1000(A1)

Drawing no.	Sheet	Issue
CD 050607	2000	A



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9903	50639.177	157795.303	6.384
CP9905	50702.154	157888.478	4.895
CP9906	50707.721	157788.219	7.404
CP9922	50590.464	157859.830	4.837
CP9923	50592.391	157795.957	5.576

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
13/1	50628.510	157807.291	1500ext600
14/1,1/10	50579.724	157855.080	1500ext900
1/9	50577.766	157853.048	KIL GULLY 'L'
11/11	50634.529	157808.173	EX CHAMBER
13/11	50583.341	157859.028	1500ext900
17/20	50649.197	157801.069	1500ext600
18/20	50645.367	157806.299	1500ext900
2/58	50585.412	157861.158	KIL GULLY 'L'
2/FU	50673.350	157848.842	1050 DIA MH
3/FU	50698.123	157873.535	EXIST PIPE
5/FI	50586.046	157801.400	FIELD INLET
1/56	50659.620	157809.364	KIL GULLY 'S'

NOTE: THESE WORKS BORDER AN ENVIRONMENTALLY SIGNIFICANT AREA. ALL CARE SHOULD BE TAKEN TO LIMIT DISTURBANCE TO THIS AREA.

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

WARNING – GAS MAINS

GAS MAINS IN THIS AREA OPERATE AT HIGH PRESSURE. AN INSPECTOR IS REQUIRED TELEPHONE 3426 1605 TWO WORKING DAYS PRIOR TO COMMENCEMENT OF WORK TO ARRANGE A SITE INSPECTION AND MAINS LOCATION.

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGES 1 & 3
PLAN AND TABLES
MONTAGUE ROAD
MUSGRAVE STREET
- JANE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.

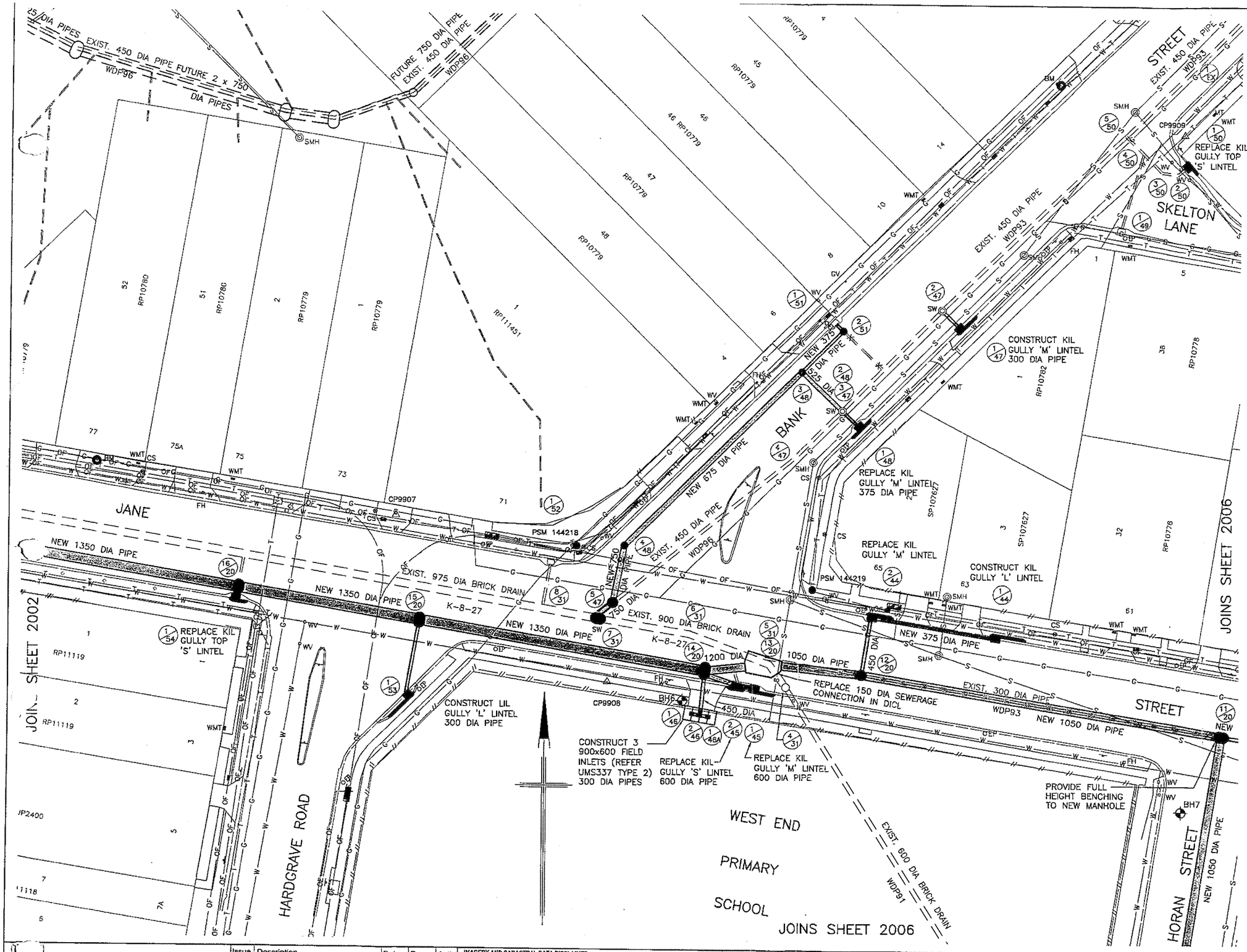
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2002

Issue A

BCC.129.0686



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9907	50768.887	157793.923	7.313
CP9908	50797.118	157771.785	6.862
CP9909	50873.781	157846.070	6.758

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
11/20	50879.208	157765.091	1500ext600
12/20	50831.128	157773.016	1500 DIA MH
13/20,5/31	50818.783	157774.304	MH CHAMBER
14/20	50810.148	157773.373	1500ext900
15/20	50772.110	157779.810	1500ext600
16/20	50748.093	157783.964	1500ext600
7/31	50795.886	157780.264	1500ext600
1/44	50849.050	157777.998	KIL GULLY 'L'
2/44	50832.388	157780.727	KIL GULLY 'M'
1/45	50816.815	157771.086	KIL GULLY 'M'
2/45	50814.553	157771.475	KIL GULLY 'S'
1/46	50808.481	157767.590	FIELD INLET
2/46	50809.549	157767.402	FIELD INLET
1/46A	50810.617	157767.214	FIELD INLET
1/47	50843.890	157819.940	KIL GULLY 'M'
5/47	50797.781	157782.418	1500 DIA MH
1/48	50830.434	157806.516	KIL GULLY 'M'
3/48	50822.951	157813.765	1050 DIA MH
4/48	50799.288	157790.126	1050 DIA MH
1/50	50874.046	157841.761	KIL GULLY 'S'
2/51	50828.471	157819.279	1050 DIA MH
1/53	50770.369	157770.028	LIL GULLY 'L'

FIELD INLET TABLE

No	T.O.G. EL.	U/S I.L.	D/S I.L.	CONNECTION SIZE	TYPE
1/46	6.700	5.750	5.700	300 DIA	900 x 600
2/46	6.700	5.200	5.100	450 DIA	900 x 600
1/46A	6.700	5.750	5.700	300 DIA	900 x 600

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

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Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
PLAN AND TABLES
JANE STREET
HARDGRAVE ROAD
- HORAN STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.

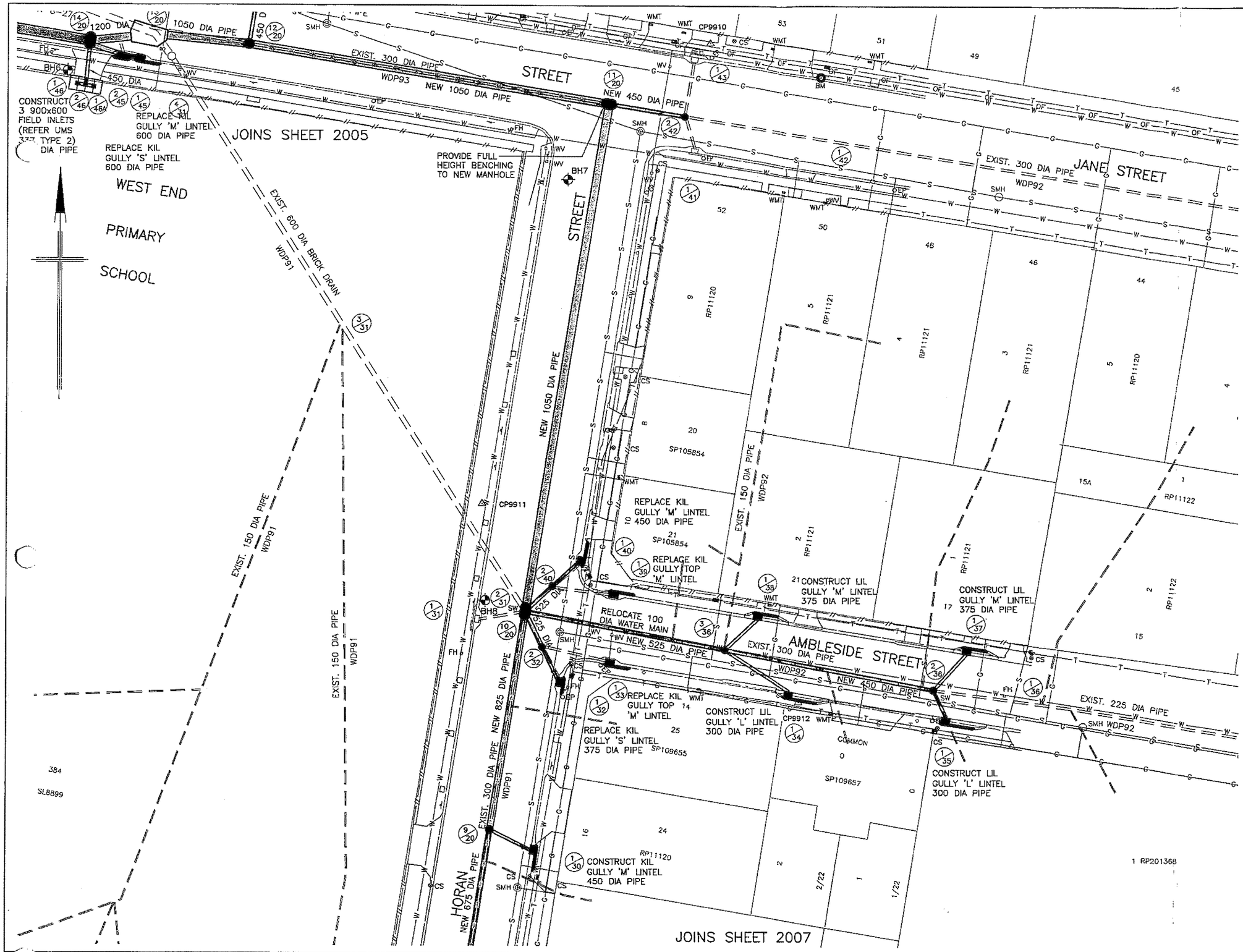
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2005

Issue A

BCC.129.0687



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9910	50892.667	157773.305	10.683
CP9911	50862.404	157711.270	9.380
CP9912	50904.707	157684.735	10.650

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
9/20	50863.461	157667.520	1200 DIA MH
10/20,2/31	50868.184	157696.787	1500ext900
11/20	50879.208	157765.091	1500ext600
12/20	50831.128	157773.016	1500 DIA MH
13/20,5/31	50818.783	157774.304	MH CHAMBER
14/20	50810.148	157773.373	1500ext900
1/30	50868.965	157664.764	KIL GULLY 'M'
1/32	50872.703	157687.214	KIL GULLY 'S'
2/32	50870.444	157692.000	1050 DIA MH
1/33	50879.299	157690.104	KIL GULLY 'M'
1/34	50903.394	157686.136	LIL GULLY 'L'
1/35	50924.334	157682.714	LIL GULLY 'L'
2/36	50922.635	157686.386	1050 DIA MH
3/36	50894.681	157691.726	1200 DIA MH
1/37	50927.016	157691.214	LIL GULLY 'M'
1/38	50899.114	157695.798	LIL GULLY 'M'
1/39	50879.794	157698.933	KIL GULLY 'M'
1/40	50875.447	157703.585	KIL GULLY 'M'
2/40	50871.815	157700.186	1050 DIA MH
2/42	50889.308	157763.426	1050 DIA MH
1/45	50816.815	157771.086	KIL GULLY 'M'
2/45	50814.553	157771.475	KIL GULLY 'S'
1/46	50808.481	157767.590	FIELD INLET
2/46	50809.549	157767.402	FIELD INLET
1/46A	50810.617	157767.214	FIELD INLET

FIELD INLET TABLE

No	T.O.G. EL	U/S I.L	D/S I.L	CONNECTION SIZE	TYPE
1/46	6.700	5.750	5.700	300 DIA	900 x 600
2/46	6.700	5.200	5.100	450 DIA	900 x 600
1/46A	6.700	5.750	5.700	300 DIA	900 x 600

SERVICES LEGEND

S	SEWERAGE
T	TELECOMMUNICATIONS
OF	OPTIC FIBRE
G	GAS MAIN
W	WATER MAIN
E	U/G ELECTRICITY
	EXIST. STORMWATER
BH1	BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

City Design
Brisbane City Council
Level 3
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315 Brunswick St Mall,
Fortitude Valley Qld 4006
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Telephone: 07-3403 8649
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e-mail: citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

IMAGERY AND CADASTRAL DATA DISCLAIMER
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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
PLAN AND TABLES
HORAN STREET
JANE STREET -
AMBLESIDE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	
BTD DEC 06	BTD DEC 06	DRC DEC 06	A

R.P.E.Q. No. 1411

Reference no.

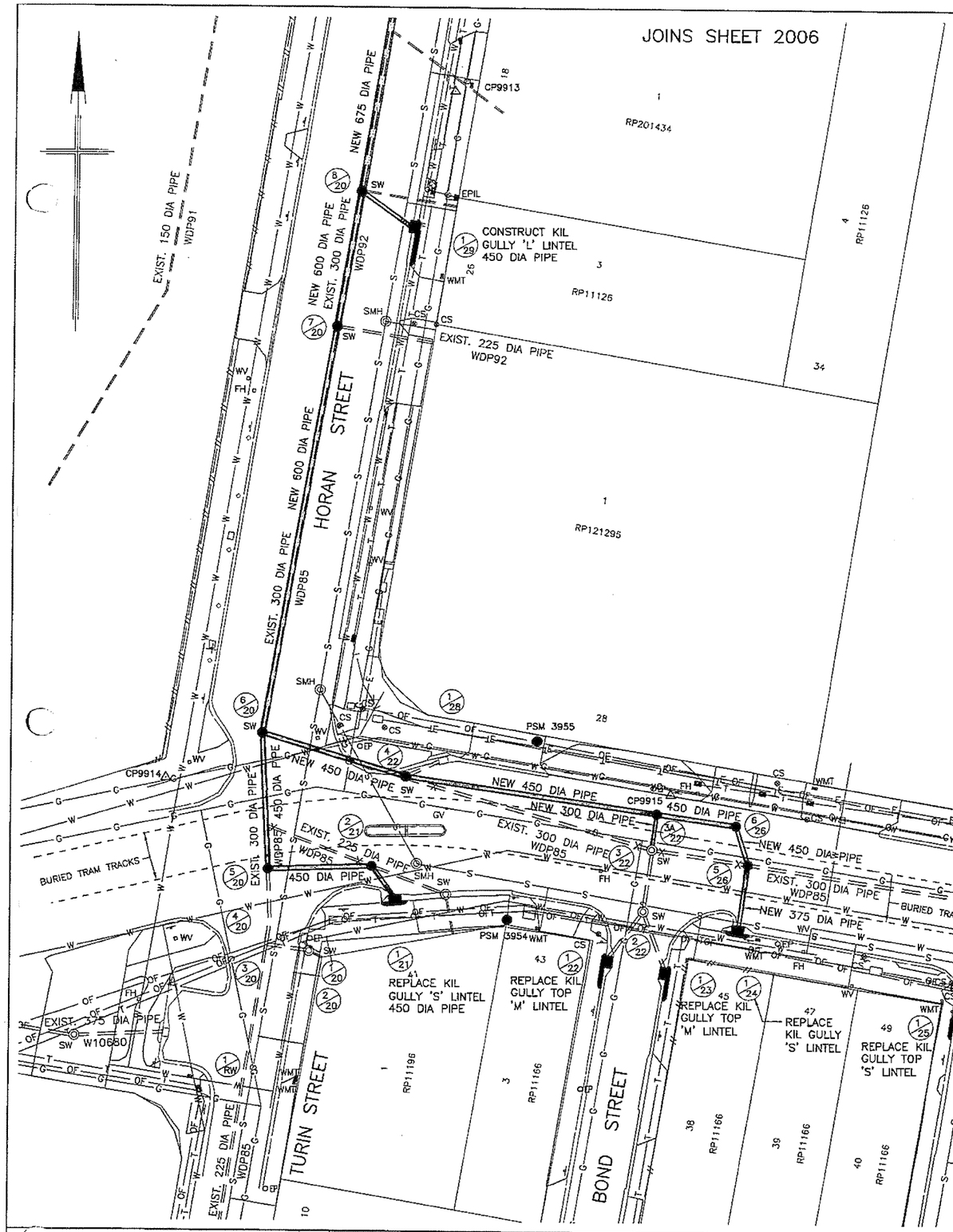
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2006

Issue A

BCC.129.0688



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9913	50867.738	157645.235	10.176
CP9914	50838.632	157573.471	14.335
CP9915	50890.510	157572.050	14.928
CP9916	50938.465	157563.894	16.368

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
5/20	50849.258	157564.044	1050 DIA MH
6/20	50848.595	157578.191	1050 DIA MH
7/20	50855.904	157620.586	1050 DIA MH
8/20	50858.243	157634.707	1050 DIA MH
1/21	50862.277	157561.031	KIL GULLY 'S'
2/21	50859.873	157564.408	1050 DIA MH
1/22	50884.172	157554.835	KIL GULLY 'S'
3A/22	50889.085	157570.038	1050 DIA MH
4/22	50863.276	157573.745	1050 DIA MH
1/23	50889.907	157553.572	KIL GULLY 'S'
1/24	50897.519	157558.065	KIL GULLY 'S'
1/25	50920.220	157548.675	KIL GULLY 'S'
5/26	50898.482	157564.837	1050 DIA MH
6/26	50897.261	157568.864	1050 DIA MH
1/29	50863.438	157630.980	KIL GULLY 'L'

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

SCALE 1 : 250 (BEFORE REDUCTION)

5 0 5 10 15 20 25 METRES

City Design
Brisbane City Council
BRISBANE CITY BUSINESS
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315 Brunswick St Mall,
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Survey Information

P.S.M. 10589 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
PLAN AND TABLES
HORAN STREET
AMBLESIDE STREET
- VULTURE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

R.P.E.Q. No. ...

Reference no.

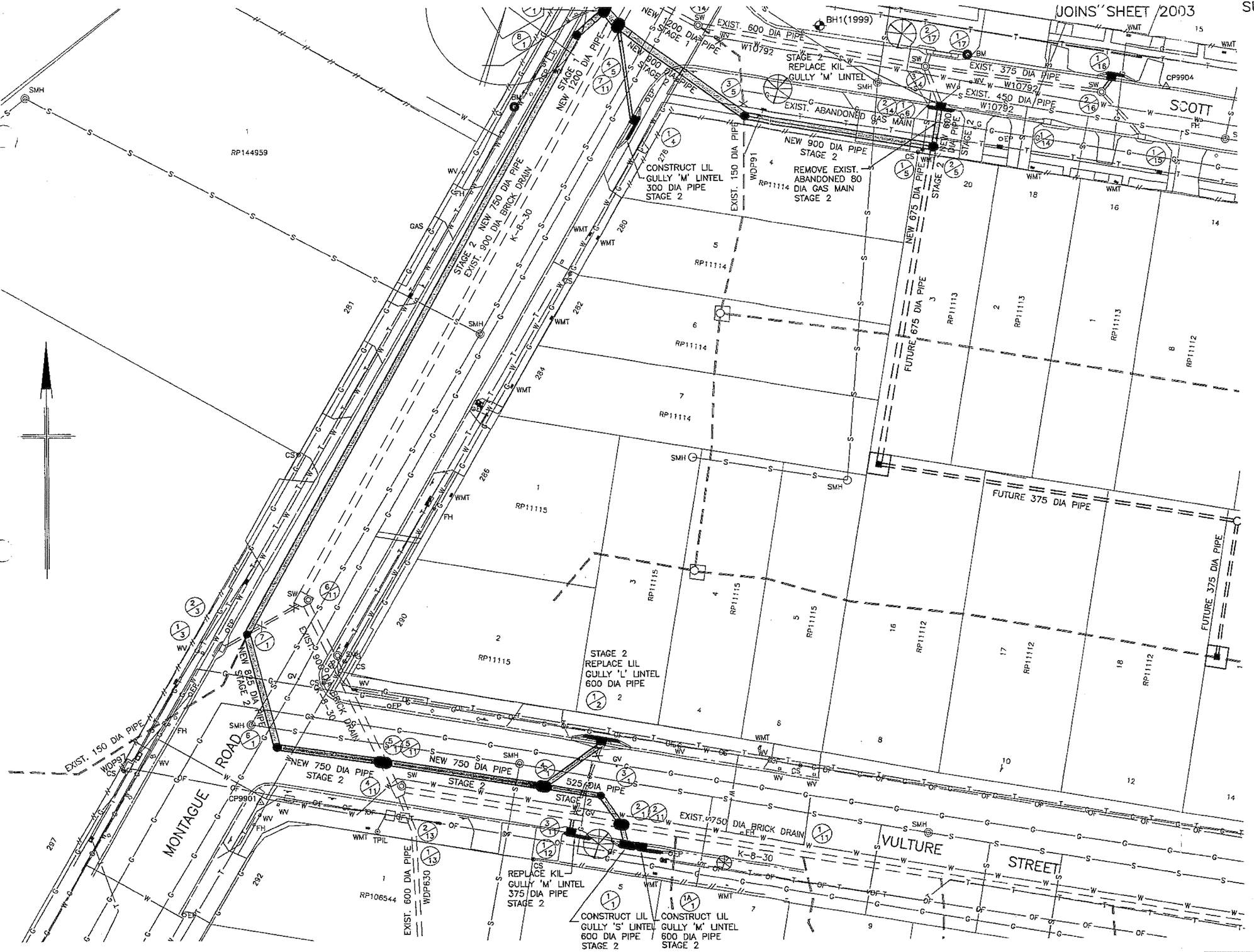
Scale 1:250(A1)

Drawing no. CD 050607

Sheet 2007

Issue A

BCC.129.0689



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9901	50523.240	157593.825	7.867
CP9904	50642.348	157687.857	5.016

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
1A/1	50573.053	157588.292	LIL GULLY 'M'
1/1	50570.712	157588.718	LIL GULLY 'S'
2/1,2/11	50570.235	157590.770	1500ext600
3/1	50567.540	157594.563	1050 DIA MH
4/1	50560.604	157595.801	1500ext600
5/1,5/11	50539.135	157598.993	1500ext900
6/1	50525.477	157601.075	1200 DIA MH
7/1	50521.616	157615.944	1050 DIA MH
8/1	50565.083	157695.036	1500ext600
9/1	50568.698	157698.359	1500ext600
1/2	50567.547	157601.259	LIL GULLY 'L'
1/4	50572.152	157683.987	LIL GULLY 'M'
2/5	50611.960	157680.050	1500 DIA MH
3/5	50587.028	157684.240	1200 DIA MH
1/6,2/14	50612.862	157685.546	KIL GULLY 'M'
3/11	50563.886	157591.809	EXIST PIPE
7/11,4/5	50570.459	157696.282	1500ext600
1/12	50563.550	157589.886	KIL GULLY 'M'
1/16	50635.043	157688.735	LIL GULLY 'S'

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- OF — OPTIC FIBRE
- G — GAS MAIN
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

WARNING — GAS MAINS

GAS MAINS IN THIS AREA OPERATE AT HIGH PRESSURE. AN INSPECTOR IS REQUIRED TELEPHONE 3426 1605 TWO WORKING DAYS PRIOR TO COMMENCEMENT OF WORK TO ARRANGE A SITE INSPECTION AND MAINS LOCATION.

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1 : 250 (BEFORE REDUCTION)

City Design
Brisbane City Council
Level 3
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315 Brunswick St Mall,
Fortitude Valley Qld 4006
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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title: STAGES 1 & 2 PLAN AND TABLES MONTAGUE ROAD SCOTT STREET - VULTURE STREET

Project: DRAINAGE JANE STREET WEST END BRISBANE RIVER - VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no. | Scale 1:250(A1)

Drawing no. CD 050607 | Sheet 2004 | Issue A

BCC.129.0690

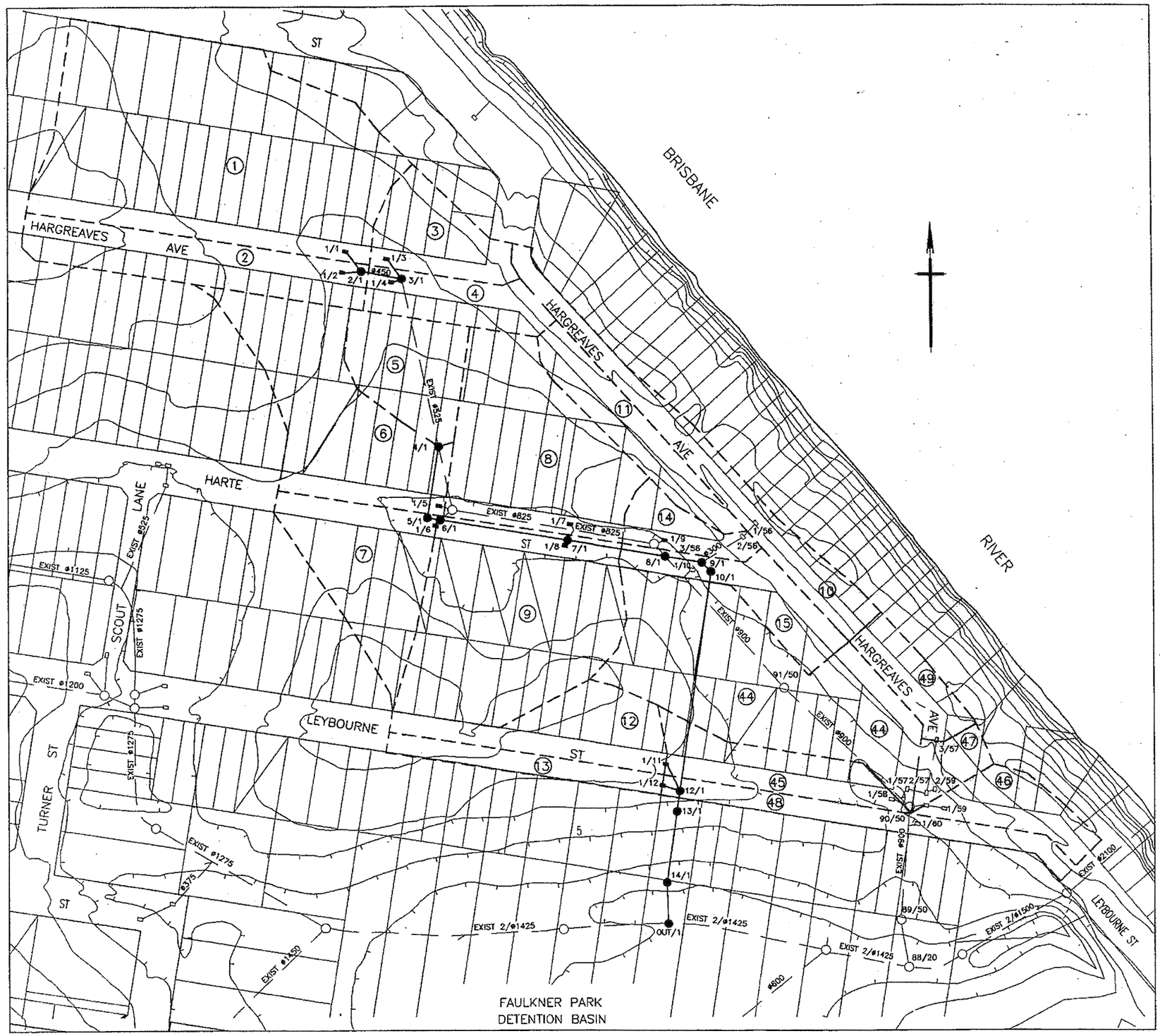

TABLE OF CATCHMENTS

LINE	CATCHMENTS CONTRIBUTING	AREA ha.	DRAINAGE PROVIDED
1/1–2/1	1	1.431	NEW 525 DIA RCP
1/2–2/1	2	0.369	NEW 375 DIA RCP
2/1–3/1	1,2	1.800	NEW 600 DIA RCP
1/3–3/1	3	0.232	NEW 450 DIA RCP
1/4–3/1	4	0.193	NEW 525 DIA RCP
3/1–4/1	1,2,3,4	2.225	EXIST 525 DIA RCP
4/1–6/1	1,2,3,4,5	2.485	EXIST 525 AND NEW 600/675 DIA RCP
1/5–6/1	6	0.592	NEW 600 DIA RCP
1/6–6/1	7	0.397	NEW 375 DIA RCP
6/1–7/1	1–7	3.484	EXIST 825 AND NEW 825 DIA RCP
1/7–7/1	8	0.632	NEW 525 DIA RCP
1/8–7/1	9	0.817	NEW 525 DIA RCP
7/1–8/1	1–9	4.933	NEW 300 DIA RCP
1/9–8/1	14	0.128	NEW 450 DIA RCP
8/1–9/1	1–9,14	5.061	EXIST 900 AND NEW 825 DIA RCP
1/56–2/56	10	0.345	EXIST 300 DIA RCP
2/56–9/1	10,11	0.579	EXIST 300 DIA RCP
9/1–12/1	1–11,14	5.640	NEW 825 DIA RCP *
1/11–12/1	12	0.300	NEW 825 DIA RCP *
1/12–12/1	13	0.130	NEW 825 DIA RCP *
12/1–OUT/1	1–14	8.070	NEW 825 DIA RCP *

* Q10 FLOWS DOWNSTREAM OF MH 8/1 HAVE BEEN REDUCED BY 900 L/s DUE TO FLOWS ENTERING THE EXISTING 900 DIA DRAIN

DRAWING INDEX

SHEET NO.	DESCRIPTION
1	CATCHMENT PLAN, CATCHMENT TABLE AND DRAWING INDEX
2	PLAN – Sheet 1 of 2
3	PLAN – Sheet 2 of 2
4	LONGITUDINAL SECTIONS – Sheet 1 of 3
5	LONGITUDINAL SECTIONS – Sheet 2 of 3
6	LONGITUDINAL SECTIONS – Sheet 3 of 3
7	MANHOLE CHAMBER DETAILS

CATCHMENT PLAN

20 10 0 20 40 60 80 100 METRES

SCALE 1:1000 (BEFORE REDUCTION)

UBD REF. : 178 N11
4CH. MAP : 140
ORTHO NO.: P12

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Brisbane City Council

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
CATCHMENT PLAN
CATCHMENT TABLE
AND DRAWING INDEX

Design	Drawn	Checked	Authorised for Issue

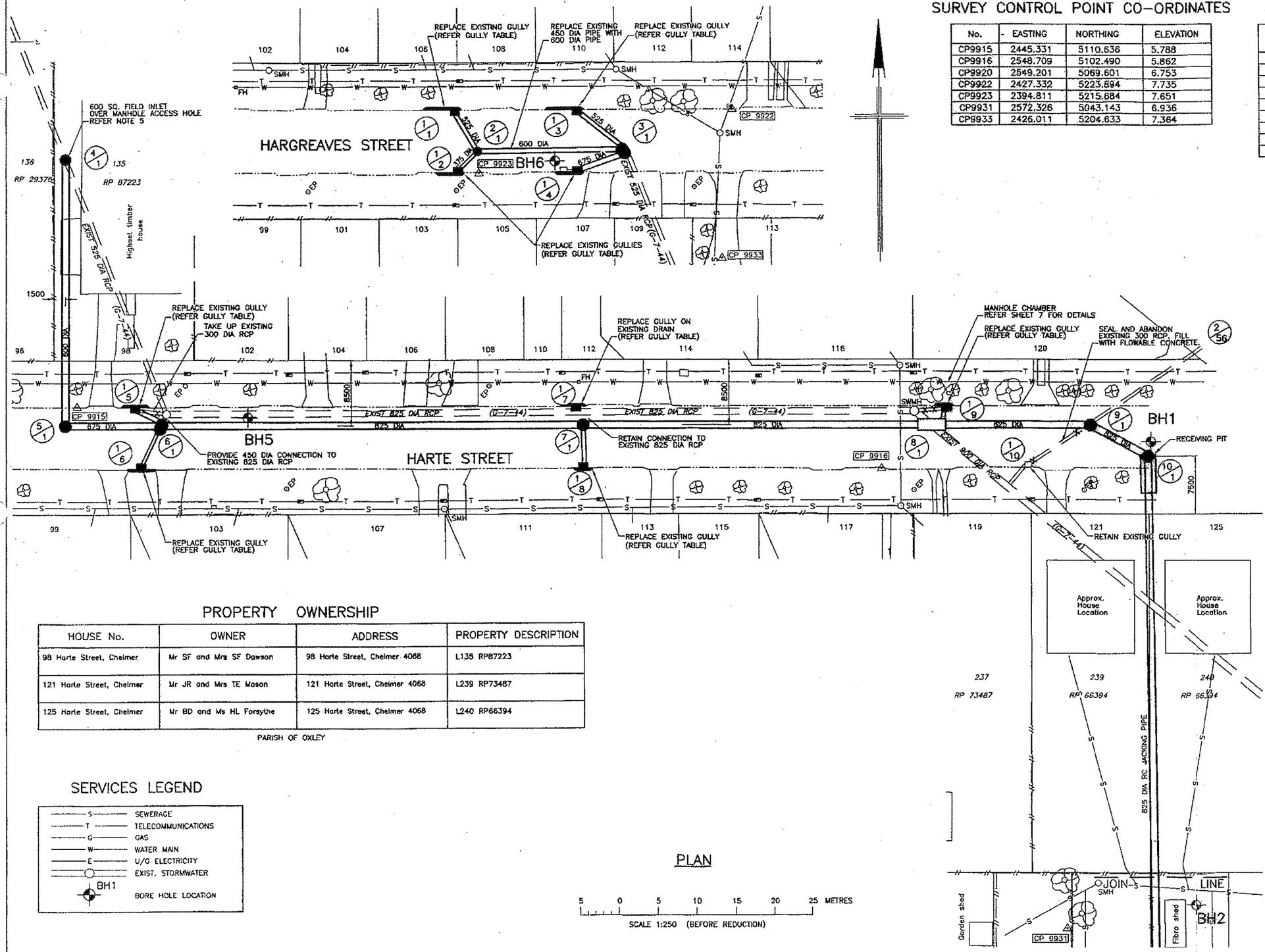
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-1/7

Issue

BCC.129.0691



SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9915	2445.331	5110.636	5.788
CP9916	2548.709	5102.490	5.862
CP9920	2549.201	5069.601	6.753
CP9922	2427.332	5223.894	7.735
CP9923	2394.811	5215.684	7.651
CP9931	2572.326	5043.143	6.936
CP9933	2426.011	5204.633	7.364

GULLY TABLE

No.	T.O.K. EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/1	7.700	6.300	6.175	525 DIA	'L' LINTEL
1/2	7.680	6.500	6.325	375 DIA	'M' LINTEL
1/3	7.510	6.100	5.705	525 DIA	'L' LINTEL
1/4	7.495	5.900	5.705	675 DIA	'M' LINTEL
1/5	5.760	4.275	4.225	600 DIA	'M' LINTEL
1/6	5.880	4.550	4.450	375 DIA	'M' LINTEL
1/7	5.635	4.250	4.150	525 DIA	'S' LINTEL
1/8	5.770	4.350	4.150	525 DIA	'S' LINTEL
1/9	5.975	4.600	4.500	450 DIA	'S' LINTEL

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
2/1	2394.645	5218.488	1050 DIA MH
3/1	2413.764	5218.627	1500 MH EXT 600
4/1	2443.837	5142.727	1350 DIA MH, FI
5/1	2443.817	5108.166	1500 DIA MH
6/1	2456.198	5108.159	1500 MH EXT 600
7/1	2510.261	5108.130	1500 DIA MH
8/1	2555.131	5108.107	CHAMBER
9/1	2575.547	5108.096	1500 DIA MH
10/1	2582.952	5104.051	1500 DIA MH

JOB NOTE

1. THE DRAWINGS ASSUME THAT THE SECTION OF DRAINLINE BETWEEN 13/1 AND 10/1 IS TO BE MICROTUNELLED TO THE EXTENT OF THE JACKING PITS SHOWN. TENDERS FOR PIPE BORING IN LARGER DIAMETER PIPES WILL BE CONSIDERED DEPENDING ON COST.

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 600 x 600 WITH 150 THICK INSITU CONCRETE WALLS AND FLOOR AND INCORPORATE A WELDLOK PC 6060A GRATE AND FRAME. THE GRATE IS TO BE DEPRESSED 50 BELOW NATURAL SURFACE WITH A 200 WIDE CONCRETE PERIMETER TRANSITION STRIP. A 300 DIA PIPE CONNECTION IS TO BE USED.
6. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
7. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

PROPERTY OWNERSHIP

HOUSE No.	OWNER	ADDRESS	PROPERTY DESCRIPTION
98 Harte Street, Chelmer	Mr SF and Mrs SF Dawson	98 Harte Street, Chelmer 4068	L135 RP87223
121 Harte Street, Chelmer	Mr JR and Mrs TE Mason	121 Harte Street, Chelmer 4068	L239 RP73487
125 Harte Street, Chelmer	Mr BD and Ms HL Forsythe	125 Harte Street, Chelmer 4068	L240 RP66394

PARISH OF OXLEY

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- G — GAS
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

City Design
Brisbane City Council
Level 3
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315 Brunswick St Mall,
Fortitude Valley, Q 4006
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Facsimile 07 3403 0447
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Issue	Description	Date	Drawn	Auth.

Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

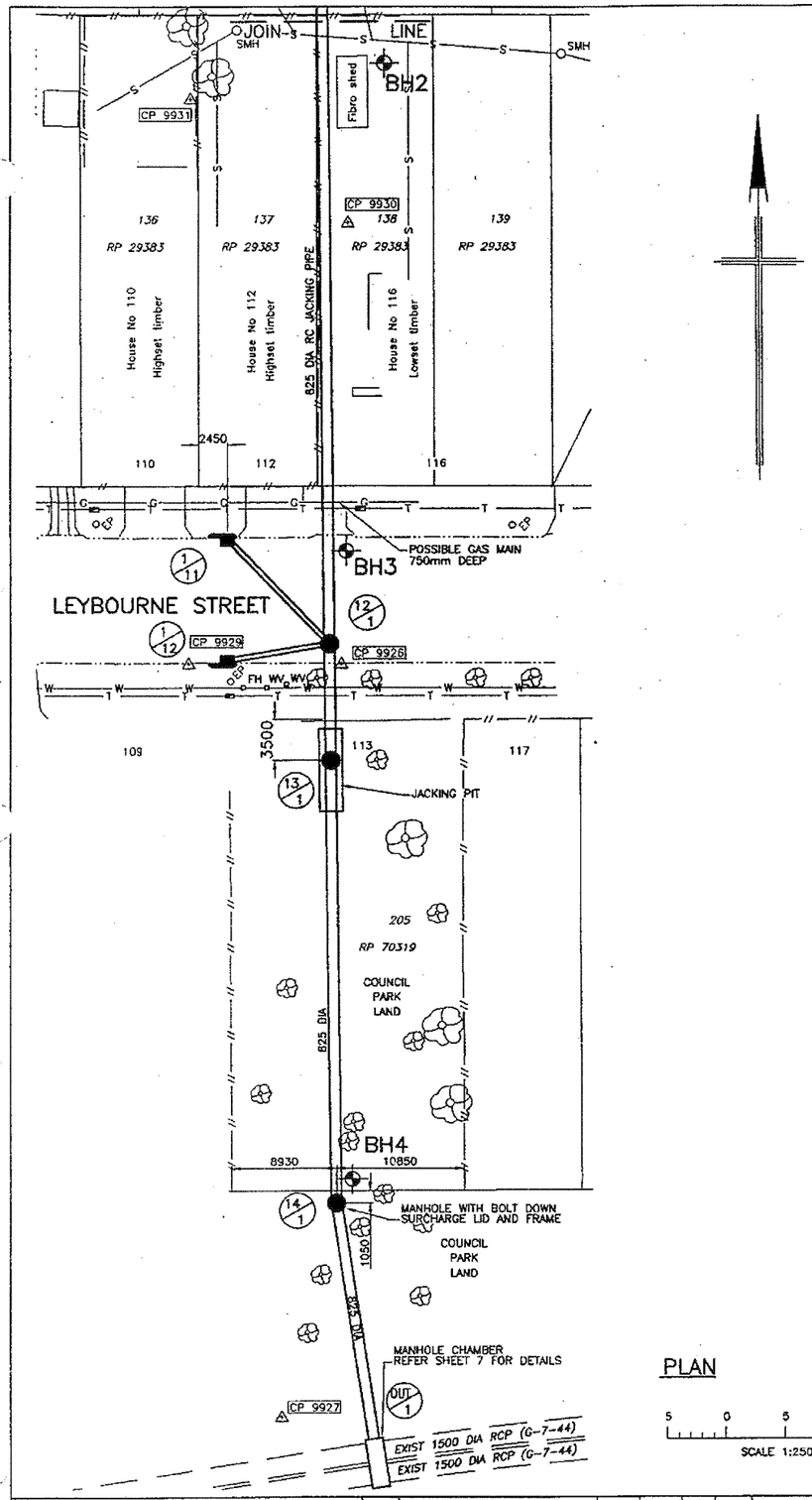
Title
PLAN
Sheet 1 of 2

Design	Drawn	Checked	Authorised for Issue

Reference no.
W11308

Drawing no. CD-0184292
Sheet W2-2/7
Issue

BCC.129.0692



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

DRAINLINE SETOUT CO-ORDINATES

No.	EASTING	NORTHING	DESCRIPTION
12/1	2584.194	4996.382	1500 DIA MH
14/1	2584.746	4948.493	1500 DIA MH
out/1	2588.182	4926.350	* CHAMBER

* EXACT LOCATION OF EXISTING 2/1500 DIA DRAIN TO BE CONFIRMED PRIOR TO COMMENCEMENT OF WORKS.

GULLY TABLE

No.	T.O.K. EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/11	6.780	5.500	5.000	375 DIA	'S' LINTEL
1/12	6.455	5.200	4.700	375 DIA	'S' LINTEL

PROPERTY OWNERSHIP

HOUSE No.	OWNER	ADDRESS	PROPERTY DESCRIPTION
116 Leybourne St, Chelmer	Mrs Clare Foster	116 Leybourne Street, Chelmer 4068	L138/139 RP29383
113 Leybourne St, Graceville	Brisbane City Council Community and Economic Development Division	69 Anne Street, Brisbane 4000	L205 RP70319

PARISH OF OXLEY

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9926	2585.225	4994.629	6.387
CP9927	2580.012	4930.271	2.922
CP9929	2572.180	4994.634	6.624
CP9930	2585.755	5032.594	6.585
CP9931	2572.326	5043.143	6.936

SERVICES LEGEND

- S — SEWERAGE
- T — TELECOMMUNICATIONS
- G — GAS
- W — WATER MAIN
- E — U/G ELECTRICITY
- EXIST. STORMWATER
- BH1 — BORE HOLE LOCATION

JOB NOTE

1. THE DRAWINGS ASSUME THAT THE SECTION OF DRAINLINE BETWEEN 13/1 AND 10/1 IS TO BE MICROTUNELLED TO THE EXTENT OF THE JACKING PITS SHOWN. TENDERS FOR PIPE BORING IN LARGER DIAMETER PIPES WILL BE CONSIDERED DEPENDING ON COST.

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 600 x 600 WITH 150 THICK INSITU CONCRETE WALLS AND FLOOR AND INCORPORATE A WELDLOK PC 6060A GRATE AND FRAME. THE GRATE IS TO BE DEPRESSED 50 BELOW NATURAL SURFACE WITH A 200 WIDE CONCRETE PERIMETER TRANSITION STRIP. A 300 DIA PIPE CONNECTION IS TO BE USED.
6. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
7. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

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Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP8003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER
HARGREAVES ST-FAULKNER PK

Title
PLAN
Sheet 2 of 2

Design | Drawn | Checked | Authorised for Issue

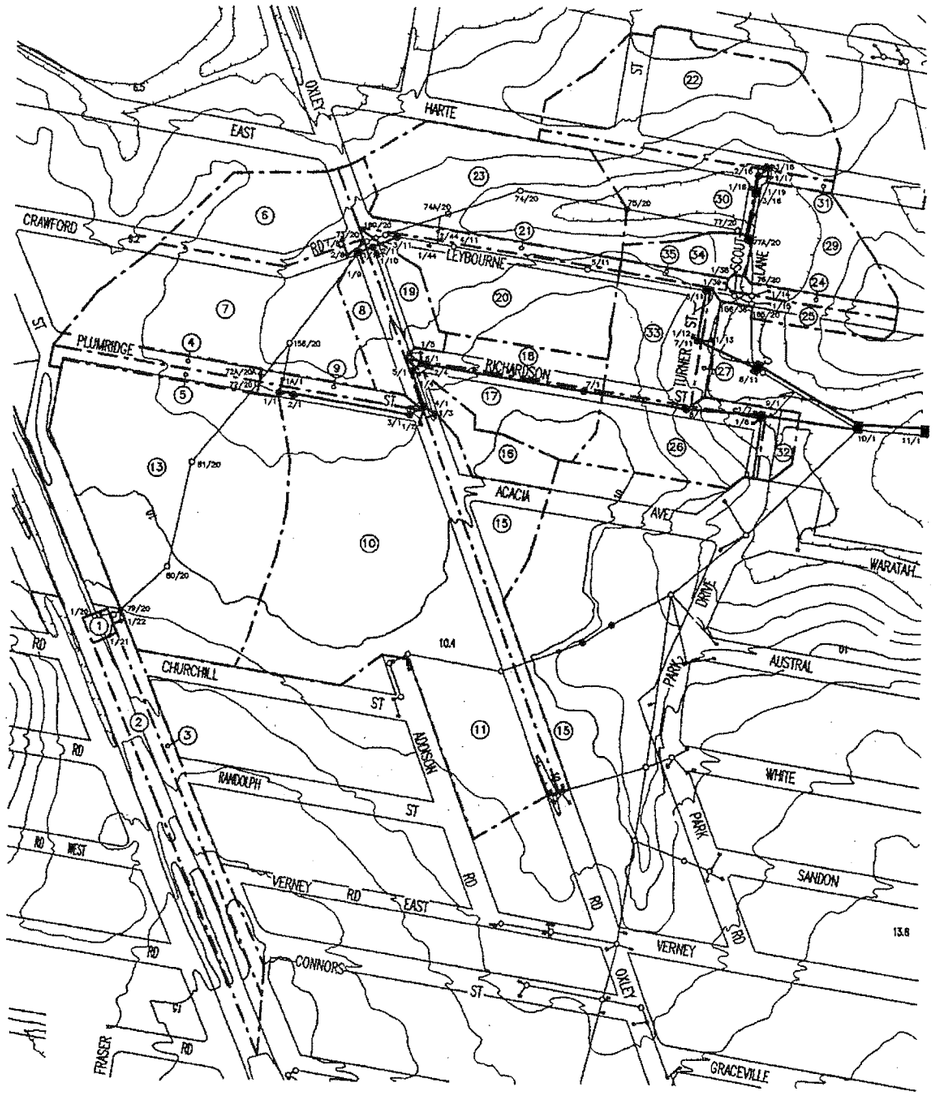
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-3/7

Issue

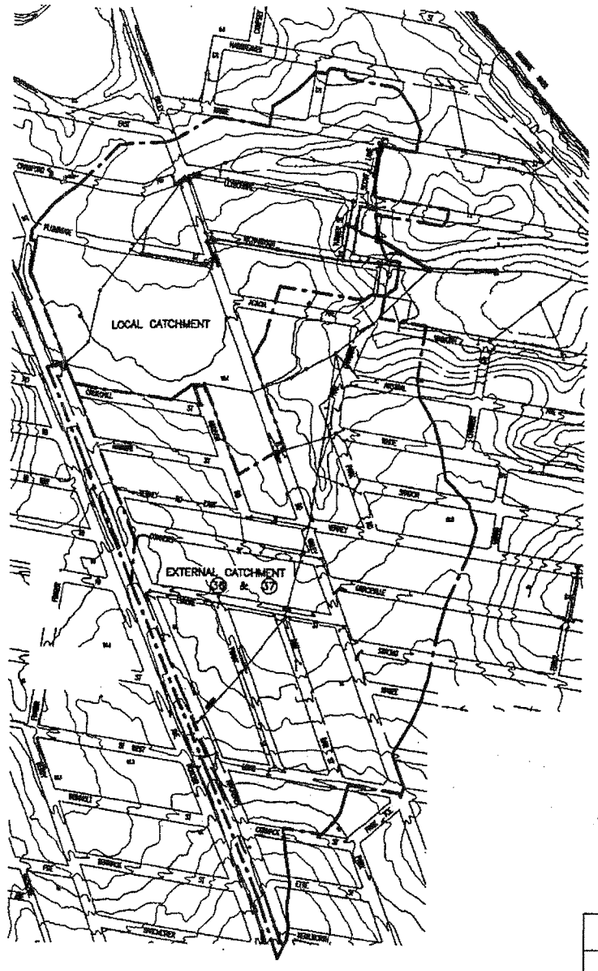
BCC.129.0693



LOCAL CATCHMENT PLAN

50 0 50 100 150 200 250 METRES

SCALE 1:2500 (BEFORE REDUCTION)



OVERALL CATCHMENT PLAN

1:5000

TABLE OF CATCHMENTS

LINE	CATCHMENTS CONTRIBUTING	AREA ha	DRAINAGE PROVIDED
1A/1 – 1/1	9	0.13	525 DIA. RCP
1/1 – 2/1	9,13	3.789	1350 DIA. RCP
2/1 – 4/1	9,10,13	7.598	1350 DIA. RCP / 1500 DIA RCP
1/2 – 4/1	11	0.947	375 DIA.RCP
1/3 – 4/1	15	0.825	450 DIA. RCP
4/1 – 6/1	9–11,13,15	9.370	1500 DIA. RCP
1/4 – 2/4	16	0.406	EXIST. 300 DIA. RCP
2/4 – 6/1	16,17	1.125	450 DIA. RCP
1/5 – 6/1	18	0.374	375 DIA. RCP
6/1 – 9/1	9–11,13,15–18	10.869	1350 / 1200 DIA. RCP
1/6 – 9/1	26	0.894	600 DIA. RCP
1/7 – 9/1	32	0.213	375 DIA. RCP
EXT – 9/1	37	38.880	FUTURE 1500 DIA. RCP
9/1 – 10/1	9–11,13,15–18,26,32,37	50.638	1650 DIA. RCP
1/9 – 1/11	8	0.331	EXIST. 375 DIA. RCP
1/11 – 2/11	1–5,8	1.722	1200 DIA. RCP
1/10 – 2/11	19	0.331	EXIST. 600 DIA. RCP
2/11 – 4/11	1–5,8,19	2.053	EXIST. / NEW 1200 DIA. RCP
1/44 – 4/11	20	1.244	EXIST. 375 DIA. RCP
2/44 – 4/11	21	0.307	EXIST. 375 DIA. RCP
4/11 – 7/11	1–5,8,19–21	3.604	EXIST. / NEW 1200 DIA. RCP
1/12 – 7/11	33	0.785	375 DIA. RCP
1/13 – 7/11	27	0.090	300 DIA. RCP
7/11 – 8/11	1–5,8,19–21,27,33	4.479	1200 DIA. RCP
1/8 – 2/8	6	0.898	600 DIA. RCP
2/8 – 73/20	6,7	2.804	825 DIA. RCP / EXIST. 1125 DIA. RCP
73/20 – 75/20	6,7	2.804	EXIST. 1125 DIA. RCP
75/20 – 77/20	6,7,23	4.448	EXIST. 1125 DIA. RCP
1/16 – 2/16	22	1.925	750 DIA. RCP
1/17 – 2/16	31	0.054	375 DIA. RCP
2/16 – 3/16	22,31	1.979	825 DIA. RCP
1/18 – 3/16	30	0.900	525 DIA. RCP
1/19 – 3/16	29	0.883	525 DIA. RCP
3/16 – 77A/20	22,29–31	3.762	1050 DIA. RCP
77A/20 – 78/20	6,7,22,23,29–31	8.210	EXIST. 1275 DIA. RCP
1/38 – 166/36	34	0.250	EXIST. 375 DIA. RCP
1/39 – 166/36	35	0.086	EXIST. 375 DIA. RCP
166/36 – 76/20	34,35	0.336	EXIST. 1200 DIA. RCP
1/14 – 165/20	24	0.148	EXIST. 375 DIA. RCP
1/15 – 165/20	25	0.563	EXIST. 375 DIA. RCP
165/20 – 8/11	6,7,22–25,29–31,34,35	9.357	EXIST. 1275 DIA. RCP
8/11 – 10/1	1–8,19–25,27,29–31,33–35	13.836	EXIST. 1275 AND NEW 1500 DIA. RCP
10/1 – 11/1	1–11,13,15–27,29,37	84.473	EXIST. 2/1500 AND NEW 2/1650 DIA. RCP

DRAWING INDEX

DRAWING No.	DESCRIPTION
W11103–1	CATCHMENT PLANS AND DRAWING INDEX
W11103–2	PLAN SHEET 1 OF 6
W11103–3	PLAN SHEET 2 OF 6
W11103–4	PLAN SHEET 3 OF 6
W11103–5	PLAN SHEET 4 OF 6
W11103–6	PLAN SHEET 5 OF 6
W11103–7	PLAN SHEET 6 OF 6
W11103–8	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 1 OF 5
W11103–9	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 2 OF 5
W11103–10	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 3 OF 5
W11103–11	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 4 OF 5
W11103–12	LONGITUDINAL SECTIONS AND BORE LOGS SHEET 5 OF 5
W11103–13	MANHOLE CHAMBERS 8/1, 9/1 AND 10/1 PLAN AND SECTIONS
W11103–14	MANHOLE CHAMBERS 1/1, 2/1 AND 11/1 PLAN AND SECTIONS
W11103–15	CROSS SECTIONS FAULKNER PARK
W11103–16	LANDSCAPE PLAN – FAULKNER PARK

UBD REF : 178 M12
4 CHN MAP NO : 140
ORTHO NO : P12

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK 9181–1 | FILE NAME 0081517
REFERENCE:– B.M. PSM 7661 BCC 140/120 EL. 8.659 (OP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

CADD REFERENCE
0081517
CATCH
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN		26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. --
SERVICES FILE NO. --
ACQUISITION FILE NO. --
SUR PLAN NO. --

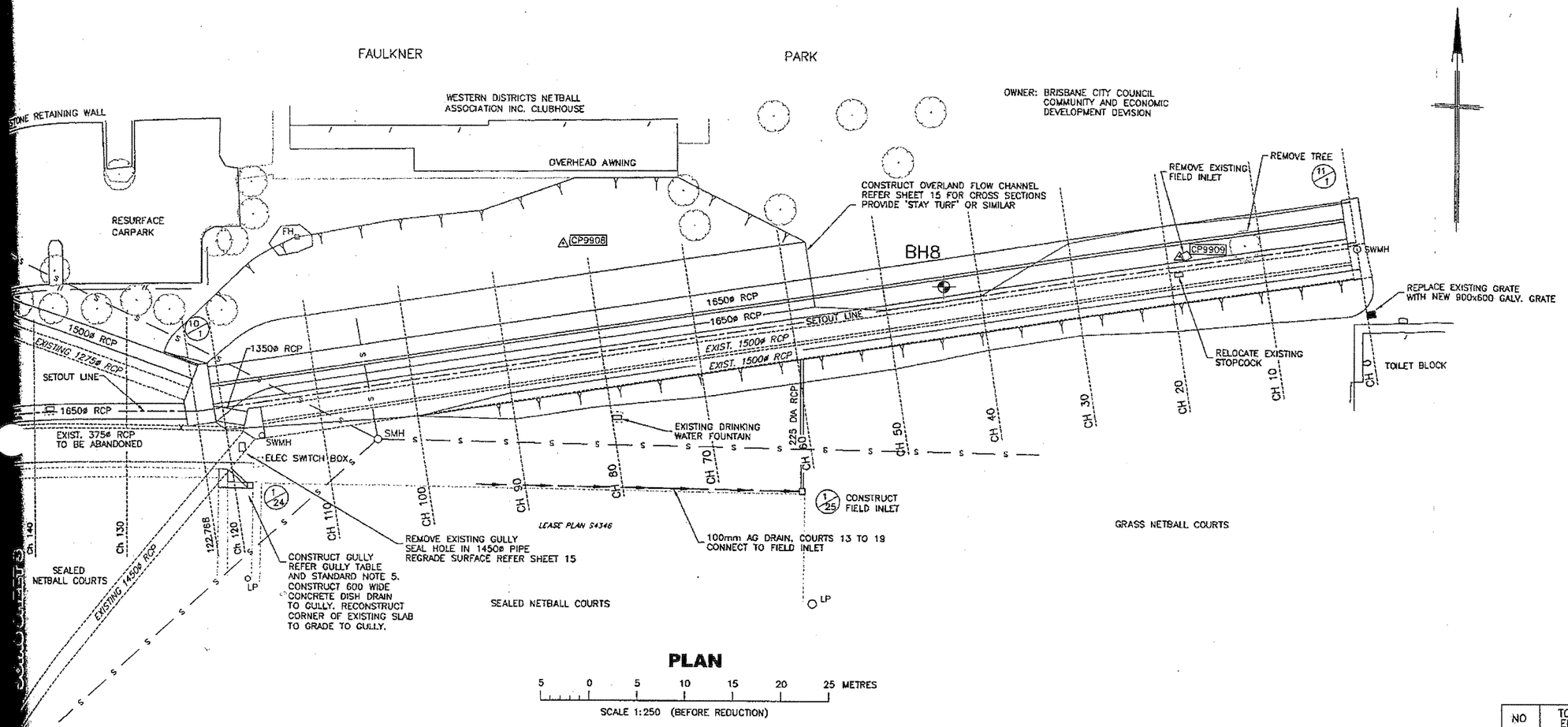
Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 1 OF 16 | ISSUE No. 1
DRAWING No. W11103 | SHEET No. 1 | AMEND.

BCC.129.0694



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

STANDARD NOTES

1. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
2. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50–1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
3. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
4. UNLESS NOTED OTHERWISE, FIELD INLETS ARE TO BE 600 x 600 WITH 150 THICK INSITU CONCRETE WALLS AND FLOOR AND INCORPORATE A WELDLOK PC 6060A GRATE AND FRAME. THE GRATE IS TO BE DEPRESSED 50 BELOW NATURAL SURFACE WITH A 200 WIDE CONCRETE PERIMETER TRANSITION STRIP. A 300 DIA PIPE CONNECTION IS TO BE USED.
5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
6. UNLESS NOTED OTHERWISE, ALL ABANDONED PIPES TO BE FILLED WITH FLOWABLE CONCRETE FILL.

SERVICES LEGEND

- SEWERAGE
- EXIST. STORMWATER
- BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	IL AT EX PIPE	CONNECTION SIZE	TYPE
1/24	4.435	3.800	2.800	300	600 x 600 FIELD INLET
1/25	3.635	3.135	2.800	225	600 x 600 FIELD INLET

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
10/1	2418.400	4901.963	MANHOLE CHAMBER
11/1	TO SUIT EXISTING		MANHOLE CHAMBER

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9908	2456.565	4920.064	4.540
CP9909	2521.053	4919.139	3.065

FOR EXISTING DRAINAGE REFER: C–13–13, G–7–44 I–7–37 & W10902

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.
DRAIN AT COURTS 13–19 ADDED	21/8/01			

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK: 9181–1 | FILE NAME: 0081517

REFERENCE:– B.M. PSM #7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
ORIGINALLY SIGNED N.J.GIBSON DATE 26/4/00
PRINCIPAL ENGINEER – DRAINAGE DESIGN

CADD REFERENCE: 0081517 PLAN1

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	BD	26/4/00
CHECKED	BJD	26/4/00
DRAWN	BD	26/4/00
PASSED	CMA	26/4/00

FILE NO. --
SERVICES FILE NO. --
ACQUISITION FILE NO. --
SUR PLAN NO. --

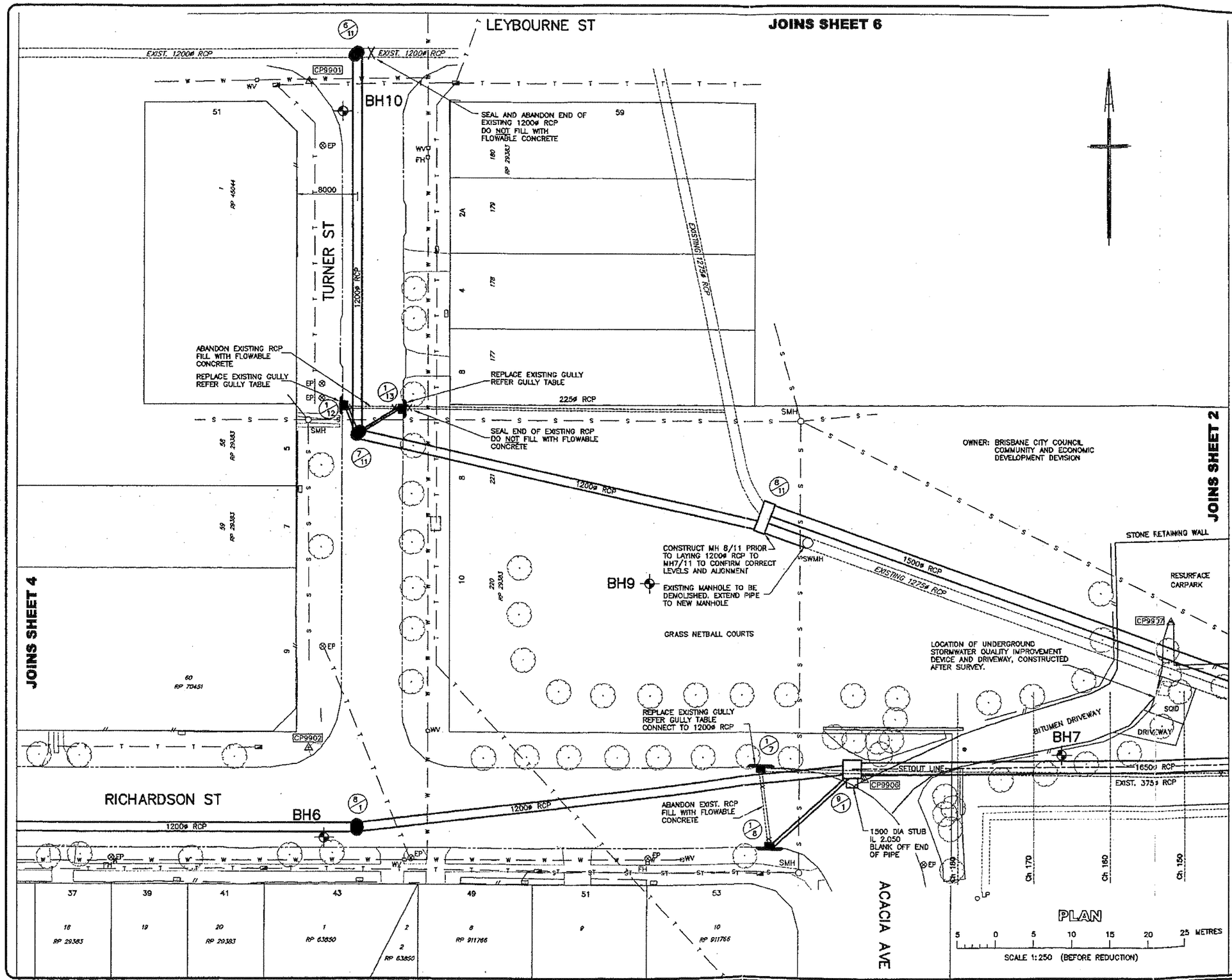
Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 2 OF 16 | ISSUE No. 1

DRAWING No. W11103 | SHEET No. 2 | AMEND. A



STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.
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SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
6/11	TO SUIT EXISTING RCP		1500 DIA MH. EXT. 600
7/11	2281.691	4945.813	1500 DIA MH. EXT. 600
8/11	TO SUIT EXISTING RCP		MANHOLE CHAMBER
8/1	2281.902	4893.737	1500 DIA MH. EXT. 600
9/1	2347.230	4901.521	MANHOLE CHAMBER

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9901	2275.590	4892.767	7.297
CP9902	2275.564	4904.236	7.451
CP9906	2348.851	4900.139	4.991
CP9907	2389.272	4921.029	5.001

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/6	4.875	3.525	3.350	600	'M' LINTEL
1/7	5.075	3.800	PIPE	375	'M' LINTEL
1/12	5.150	5.100	5.050	375	'S' LINTEL
1/13	5.975	5.000	4.900	300	'S' LINTEL

FOR EXISTING DRAINAGE REFER: C-13-13, I-7-37 W9365 & W10902

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK 9181-1 | FILE NAME 0081517
REFERENCE:- B.M. PSM #7661 BCC 140/120 EL. 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 26/4/00
PRINCIPAL ENGINEER - DRAINAGE DESIGN

CADD REFERENCE
0081517 PLAN2
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

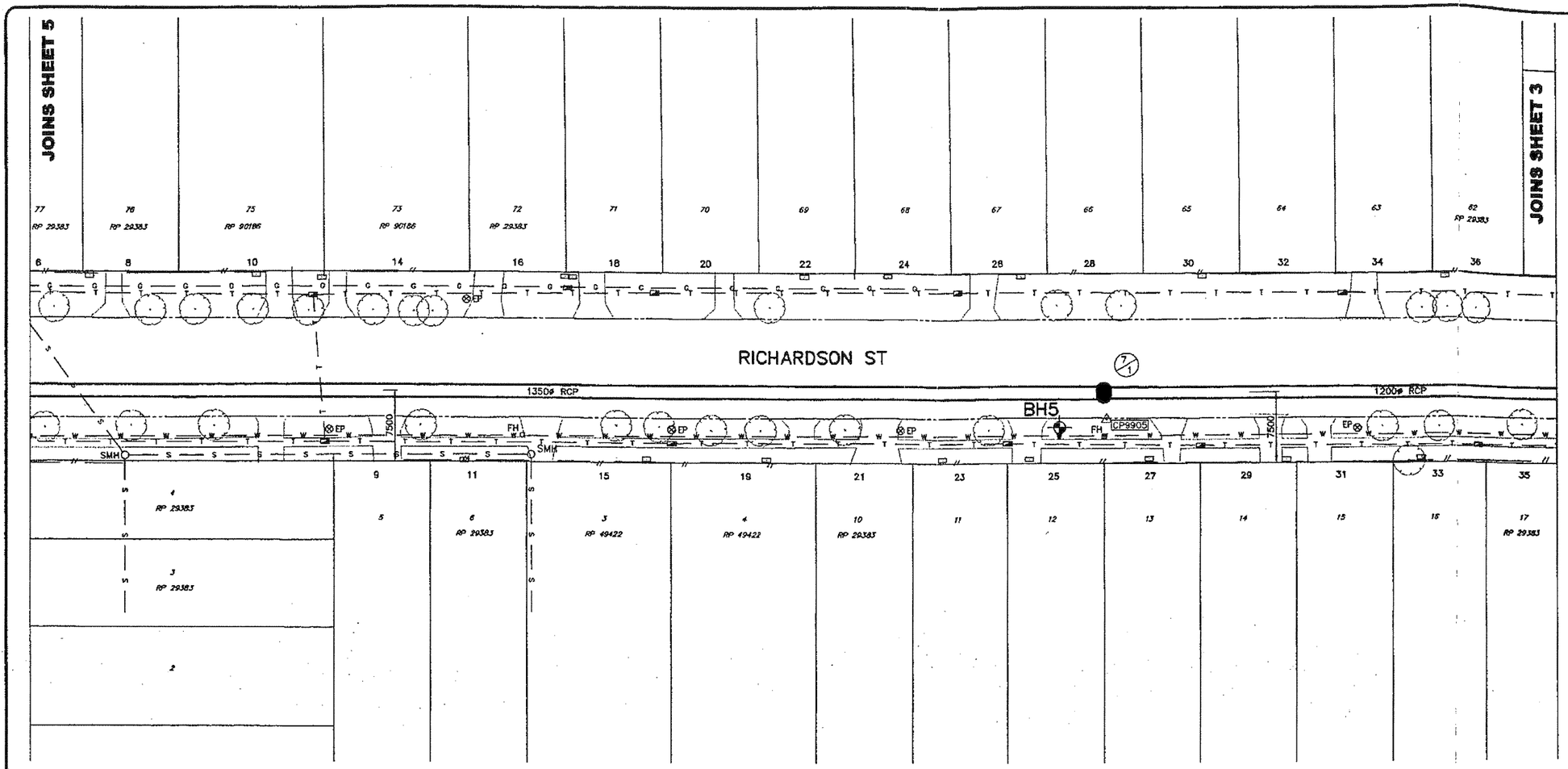
Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 3 OF 10 | ISSUE No. 1
DRAWING No. W11103 | SHEET No. 3 | AMEND.

BCC 129.059



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

STANDARD NOTES

1. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- BORE HOLE LOCATION

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
7/1	2189.260	4893.861	1500 DIA MH. EXT. 800

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9905	2189.522	4891.129	[illegible]

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK 9181-1 | FILE NAME 0081517

REFERENCE:- B.M. PSM #7661 BCC 140/120 EL 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

[redacted] DATE 26/4/00 AGE DESIGN

CADD REFERENCE 0081517 PLAN3

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. —

SERVICES FILE NO. —

ACQUISITION FILE NO. —

SUR PLAN NO. —

Brisbane City

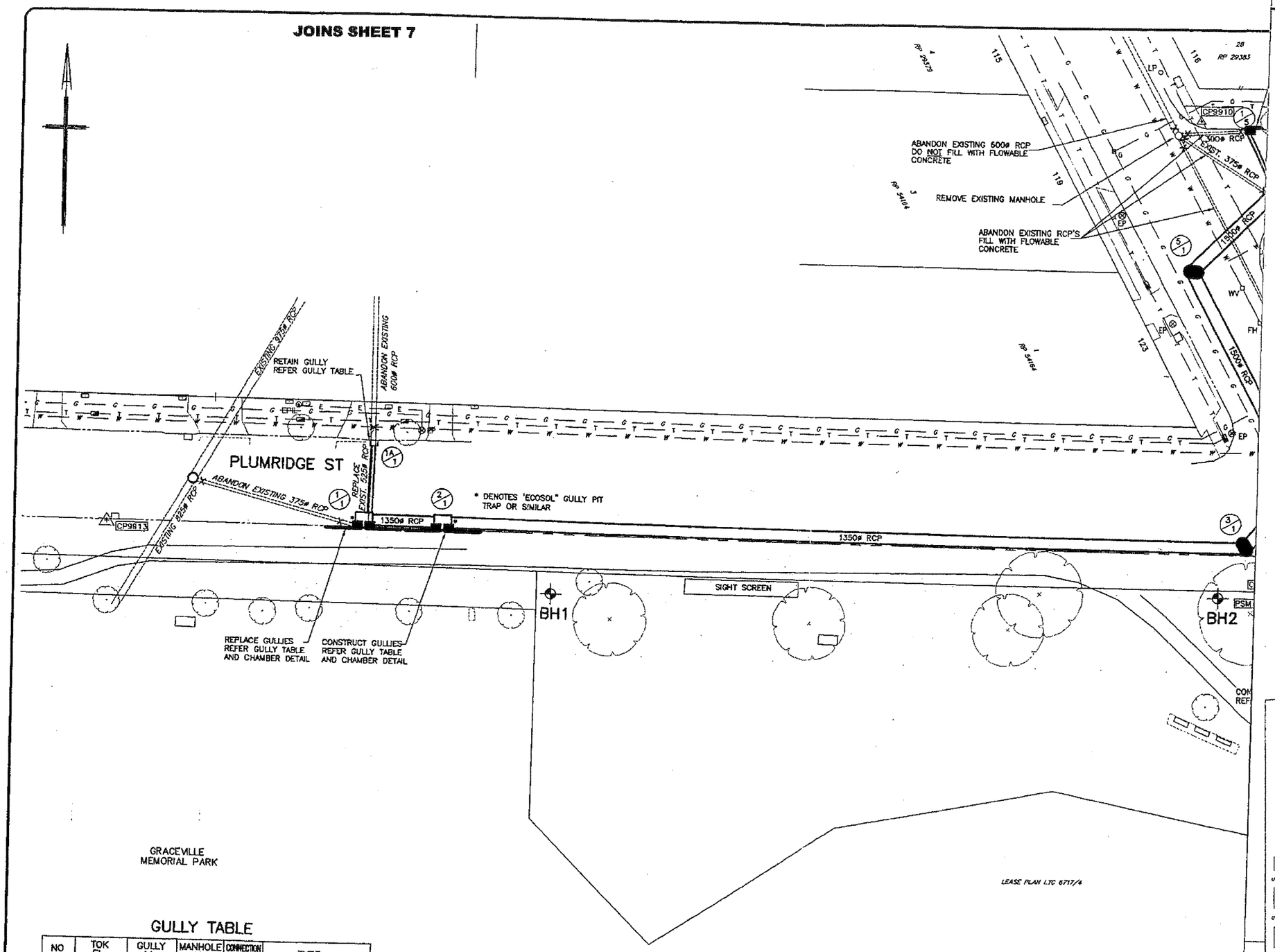
RELIEF DRAINAGE

RICHARDSON STREET

CHELMER

PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY [illegible]



STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52--1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
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5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1996.

SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/8	7.535	6.000	5.880	600	'S' LINTEL
2/8	7.355	5.720	5.670	825	'L' LINTEL 'Q-105'

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9911	1169.141	4878.026	7.404

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
1/11	TO SUIT EXISTING		1800ø MH EXT 900
2/11	TO SUIT EXISTING		1800ø MH EXT 900
3/11	TO SUIT EXISTING		1800ø MH EXT 900

FOR EXISTING DRAINAGE REFER I-7-37, WORKS & WATER

GULLY TABLE

NO	TOK EL.	GULLY I.L	MANHOLE I.L	CONNECTION SIZE	TYPE
1A/1	7.845	6.524	6.300	525	EXISTING GULLY
1/1	7.930	5.550	5.500	1350	2 / 'L' LINTEL/CHAMBER
2/1	7.985	5.500	5.250	1350	2 / 'L' LINTEL/CHAMBER
1/2	8.780	7.100	6.700	375	'L' LINTEL
1/3	8.810	7.300	7.000	450	'M' LINTEL
2/4	8.355	7.000	6.600	450	ADDITIONAL 'S' LINTEL
1/5	8.300	7.200	6.600	375	'S' LINTEL

PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
3/1	2053.198	4850.319	1500 DIA. MH. EXT. 900
4/1	2059.872	4858.092	1500 DIA MH. EXT. 900
5/1	2046.167	4884.188	1500 DIA MH. EXT. 900
6/1	2056.104	4894.087	1500 DIA MH. EXT. 900

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK | 9181-1 | FILE NAME | 0081517
REFERENCE:- B.M. PSM #7861 BCC 140/120 EL 8.659 (CP9912)

DESIGN ACCEPTED AND [redacted] FOR ISSUE
DATE 26/4/00
MANAGER DESIGN

CADD REFERENCE
0081517
PLAN4

PLAN CUSTODIAN
REGISTERED
MICROFILM

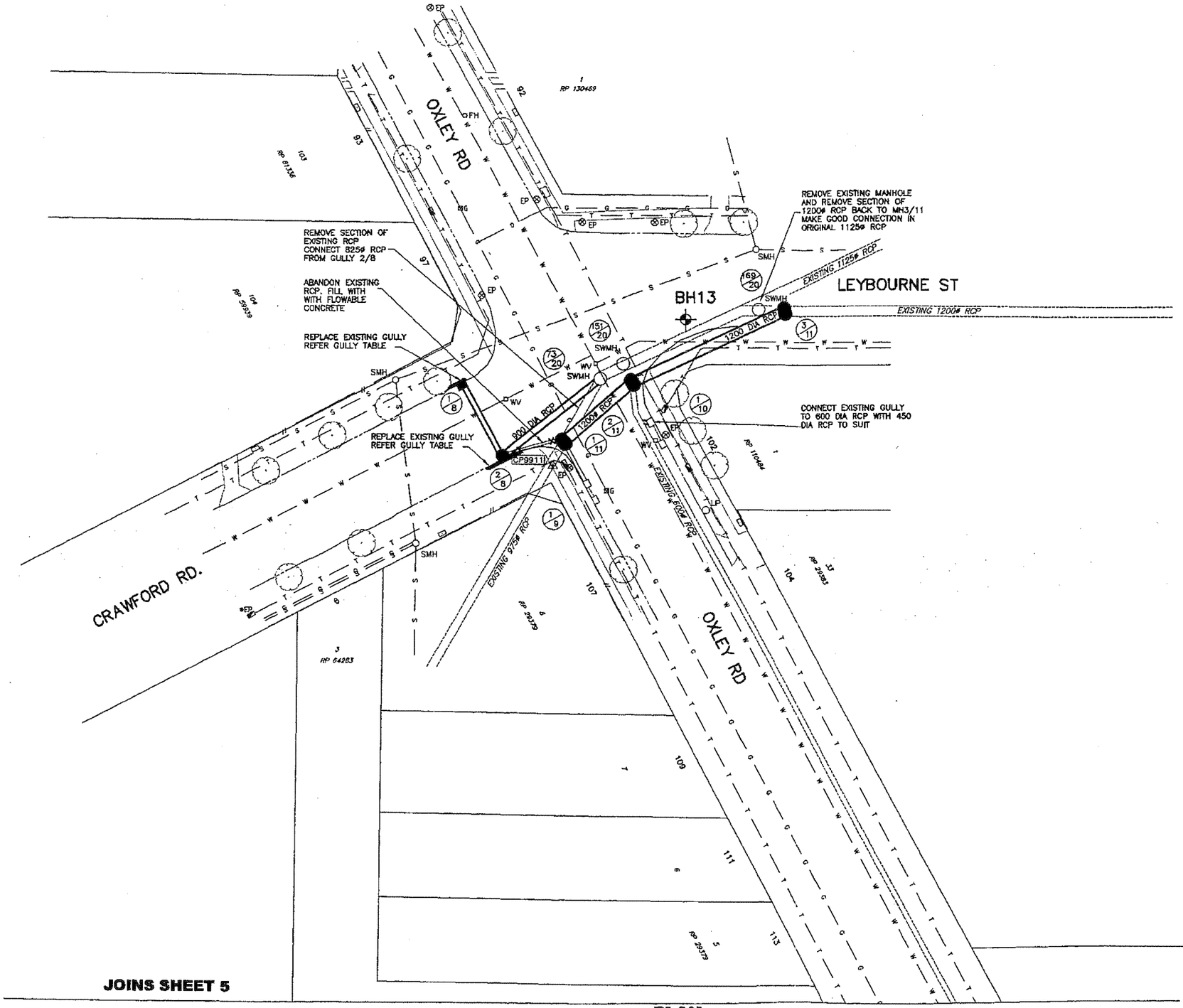
	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

Brisbane City Council

RICHARDSON STREET CHELMER
RELIEF DRAINAGE
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN
DRAWING SHEET 7 OF 12
DRAWING No. W11103



PLAN

5 0 5 10 15 20 25 METRES

SCALE 1:250 (BEFORE REDUCTION)

JOINS SHEET 4

STANDARD NOTES

1. UNLESS NOTED OTHERWISE, GULLIES ARE TO BE TYPE 'A' WITH AN 'S' LINTEL. (REFER WS 52-1) A 375 DIA PIPE CONNECTION IS TO BE USED.
2. GULLIES AND CONNECTIONS HAVE BEEN ALLOWED FOR IN THE SCHEDULE AS SHOWN ON THE PLANS, BUT THE ACTUAL POSITION OF GULLIES AND EXTENT OF CONNECTIONS WILL BE DETERMINED BY THE SUPERINTENDENT ON SITE.
3. FOR REINFORCED CONCRETE PIPE TRENCH WIDTHS REFER WS 50-1. MINIMUM COVER TO PIPES IN ROADWAY TO BE 600mm.
4. NOTWITHSTANDING THAT THE PRESENT AND / OR PROPOSED POSITION OF PUBLIC UTILITIES, FITTINGS, PIPES, POLES, MANHOLES ETC. MAY BE INDICATED ON THE DRAWINGS, NO RESPONSIBILITY WILL BE ACCEPTED BY THE PRINCIPAL FOR THE ACCURACY OF THE REPRESENTATION OR THE OMISSION THEREOF.
5. ALL WORKS TO BE IN ACCORDANCE WITH THE B.C.C. ENVIRONMENT BEST MANAGEMENT PRACTICES 1998.

SERVICES LEGEND

- SEWERAGE
- TELECOMMUNICATIONS
- GAS
- WATER MAIN
- EXIST. STORMWATER
- BORE HOLE LOCATION

GULLY TABLE

NO	TOK EL.	GULLY I.L.	MANHOLE I.L.	CONNECTION SIZE	TYPE
1/8	7.535	6.000	5.850	600	'S' LINTEL
2/8	7.355	5.720	5.670	825	'L' LINTEL 'O-KIS'

SURVEY CONTROL POINT CO-ORDINATES

No.	EASTING	NORTHING	ELEVATION
CP9911	1189.141	4978.026	7.404

DRAINLINE SETOUT TABLE

No.	EASTING	NORTHING	DESCRIPTION
1/11	TO SUIT EXISTING		1500ø MH EXT 600
2/11	TO SUIT EXISTING		1500ø MH EXT 600
3/11	TO SUIT EXISTING		1500ø MH EXT 600

FOR EXISTING DRAINAGE REFER: 1-7-37, W8824 & W8365

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS

DATE: A.H.D. | FIELD BOOK: 9181-1 | FILE NAME: 00B1517

REFERENCE:- B.M. PSM #7661 BCC 140/120 EL 8.659 (CP9912)

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

[redacted] DATE [redacted] DRAINAGE DESIGN

CADD REFERENCE 00B1517 PLANS

PLAN CUSTODIAN

REGISTERED

MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	-4-00
CHECKED		-4-00
DRAWN		-4-00
PASSED		-4-00

FILE NO. --

SERVICES FILE NO. --

ACQUISITION FILE NO. --

SUR PLAN NO. --

Brisbane City

RELIEF DRAINAGE

RICHARDSON STREET

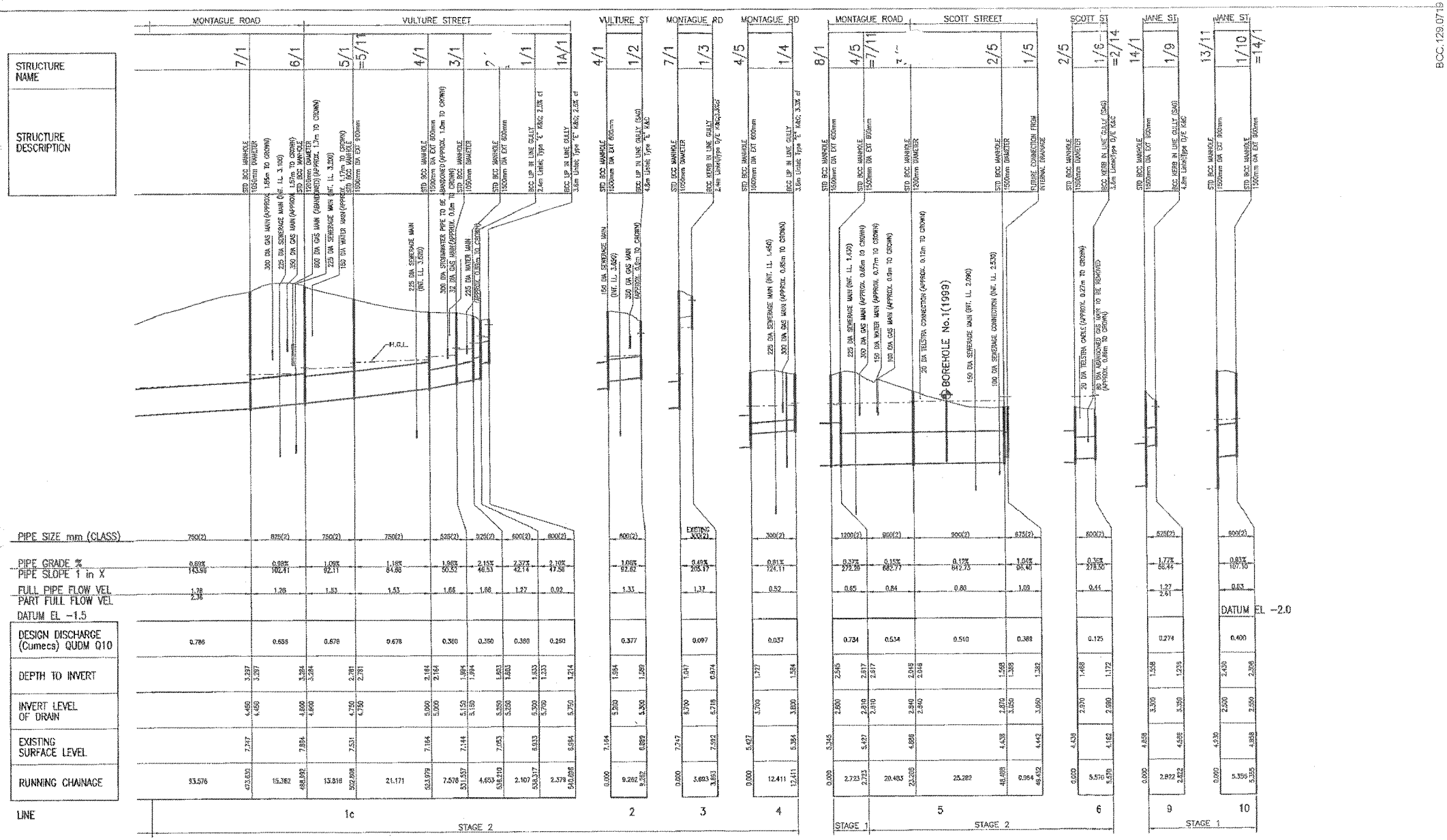
CHELMER

PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING SHEET 7 OF 16 | ISSUE No. 1

DRAWING No. W11103 | SHEET No. 7 | AMEND.



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

City Design
Brisbane City Council
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e-mail: citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information
P.S.M. 10563 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

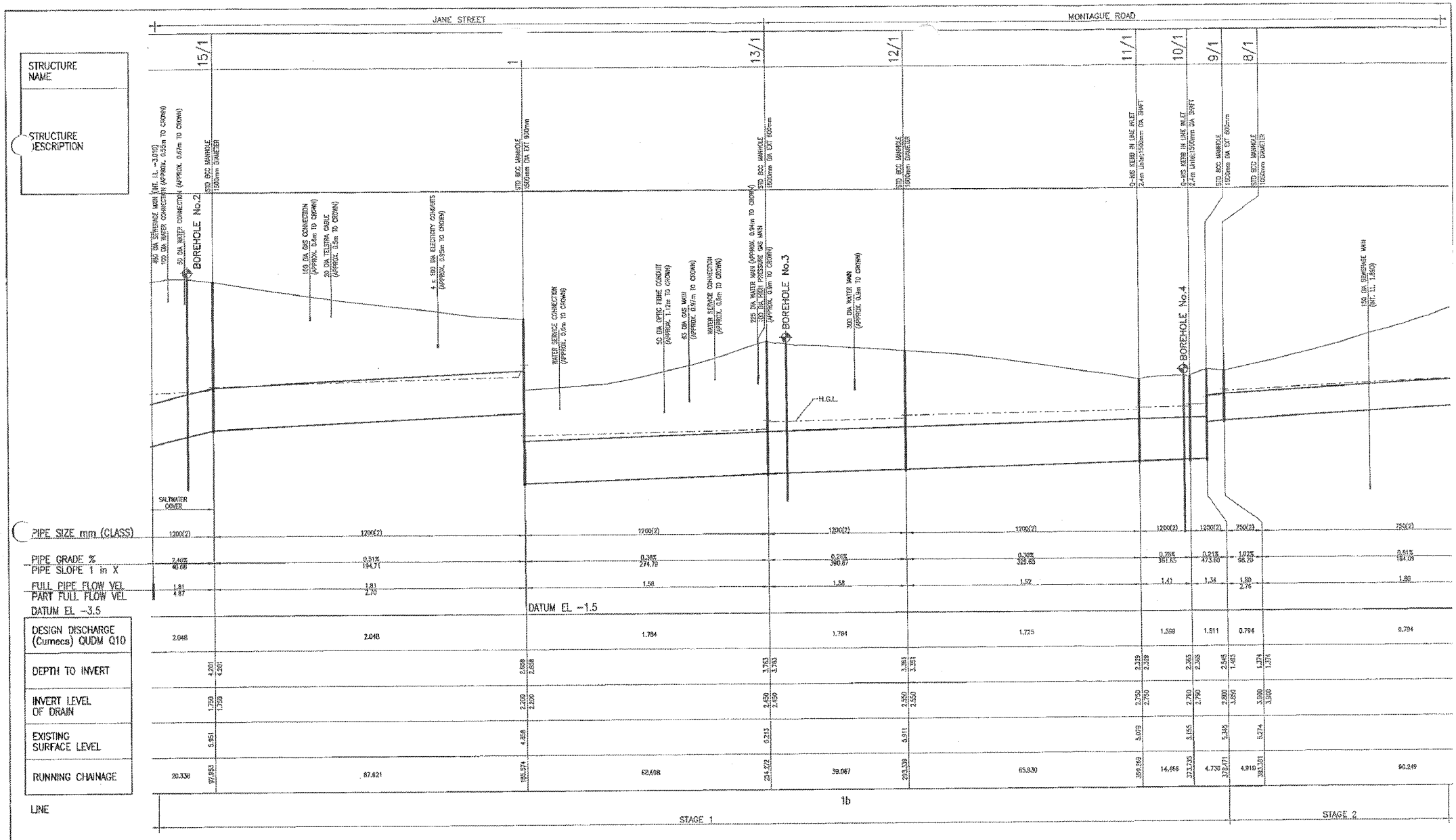
Title
STAGES 1 & 2
LONGITUDINAL SECTIONS
LINES 1c - 10
JANE STREET -
VULTURE STREET

Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked
BTD DEC 06	BTD DEC 06	DRC DEC 06

Reference no
Scale: AS SHOW
Drawing no.: CD 050607
Sheet: 2010
Issue: A

BCC.129.0719



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information

P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGES 1 & 2
LONGITUDINAL SECTION
LINE 1b
JANE STREET -
MOTAGUE ROAD

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.

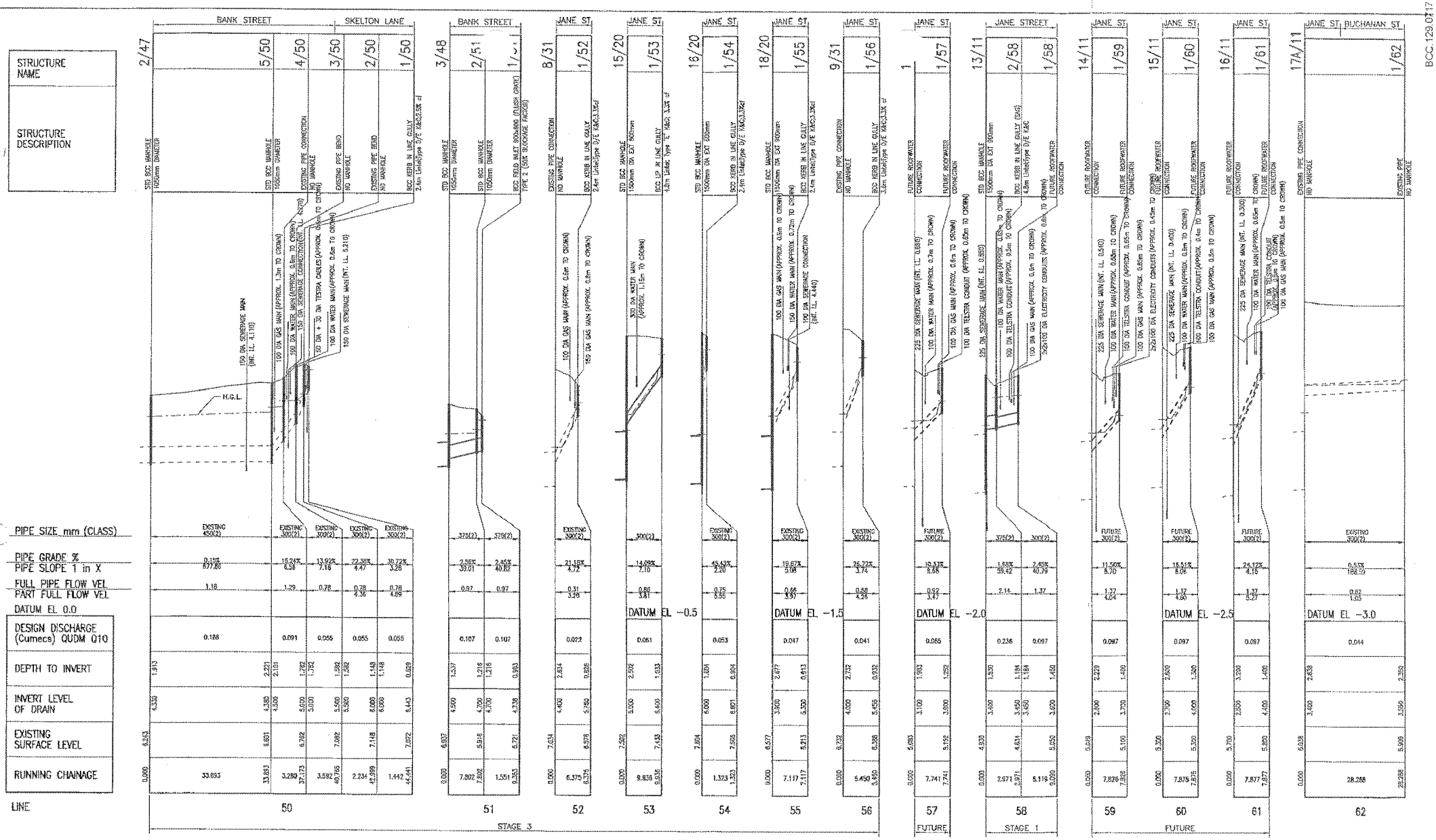
Scale: AS SHOWN

Drawing no.: CD 050607

Sheet: 2009

Issue: A

BCC.129.0718



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

City Design
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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information
P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title
STAGES 1 & 3
LONGITUDINAL SECTIONS
LINES 50 - 62
JANE STREET -
BANK STREET

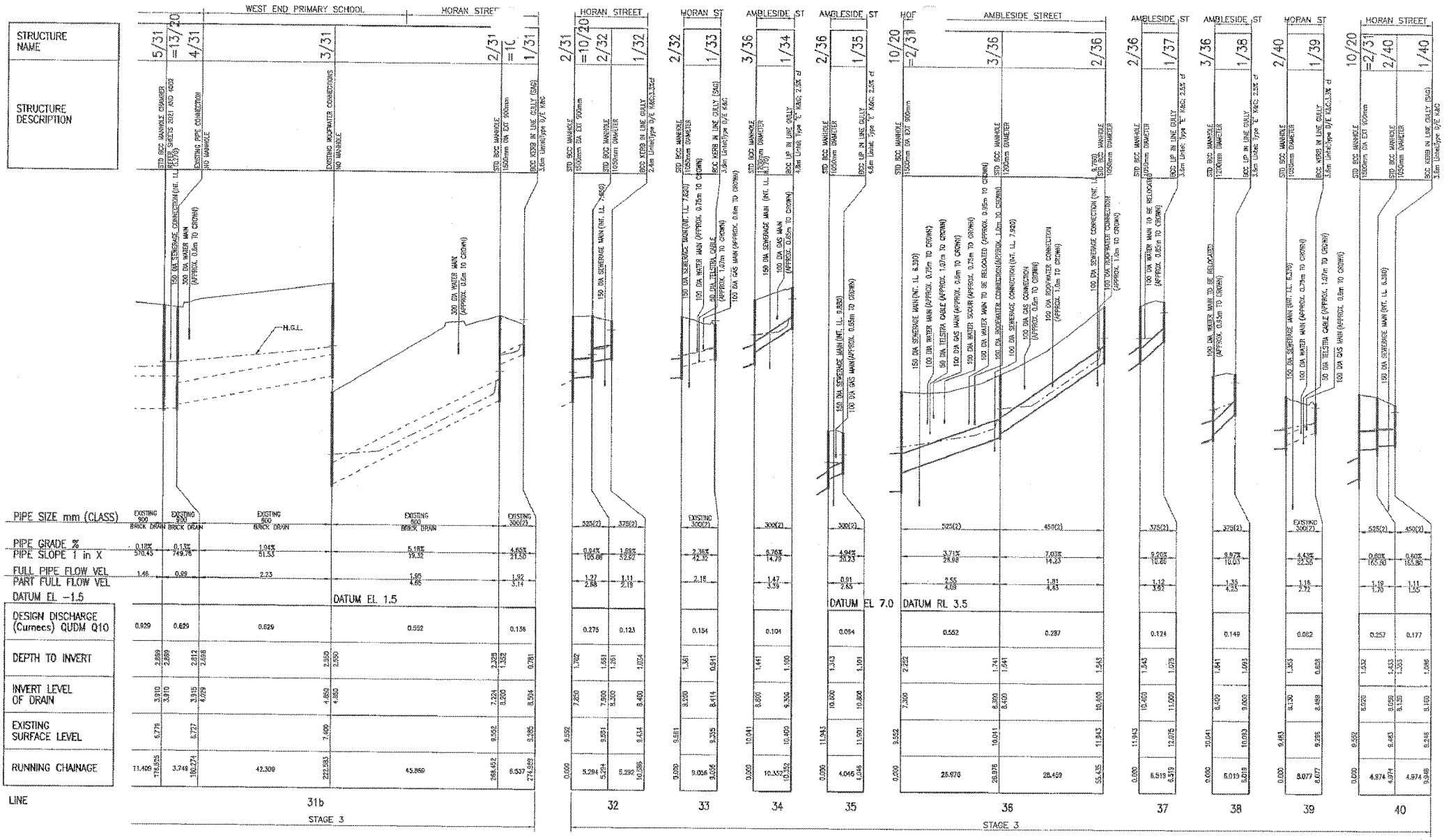
Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for issue
BTD DEC 06	BTD DEC 06	BRC DEC 06	

Reference no.
AS SHOWN

Drawing no.	Sheet	Issue
CD 050607	2018	A

BCC.129.0717



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

City Design
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Telephone: 07- 3403 0848 Facsimile: 07- 3403 0551
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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BID	

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Survey Information
P.S.M. 10969 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD, EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title
STAGE 3
LONGITUDINAL SECTIONS
LINES 31b - 40
JANE STREET -
AMBLESIDE STREET

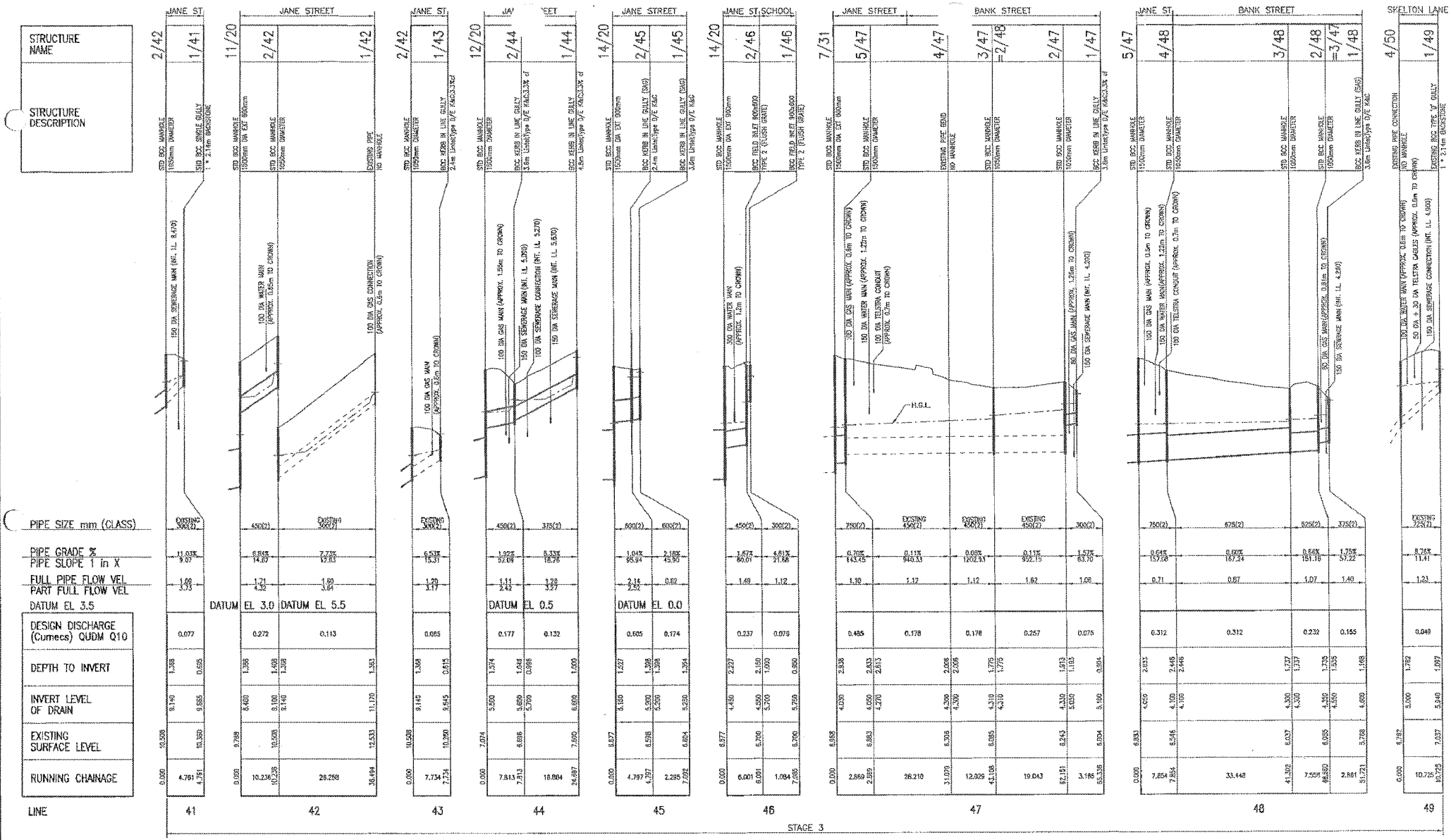
Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BID DEC 06	BID DEC 06	DRC DEC 06	

Reference no.
AS SHOWN

Drawing no.	Sheet	Issue
CD 050607	2016	A

BCC.129.0716



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

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Issue	Description	Date	Drawn	Auth
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Survey Information
P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title
STAGE 3
LONGITUDINAL SECTIONS
LINES 41 - 49
JANE STREET -
BANK STREET

Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

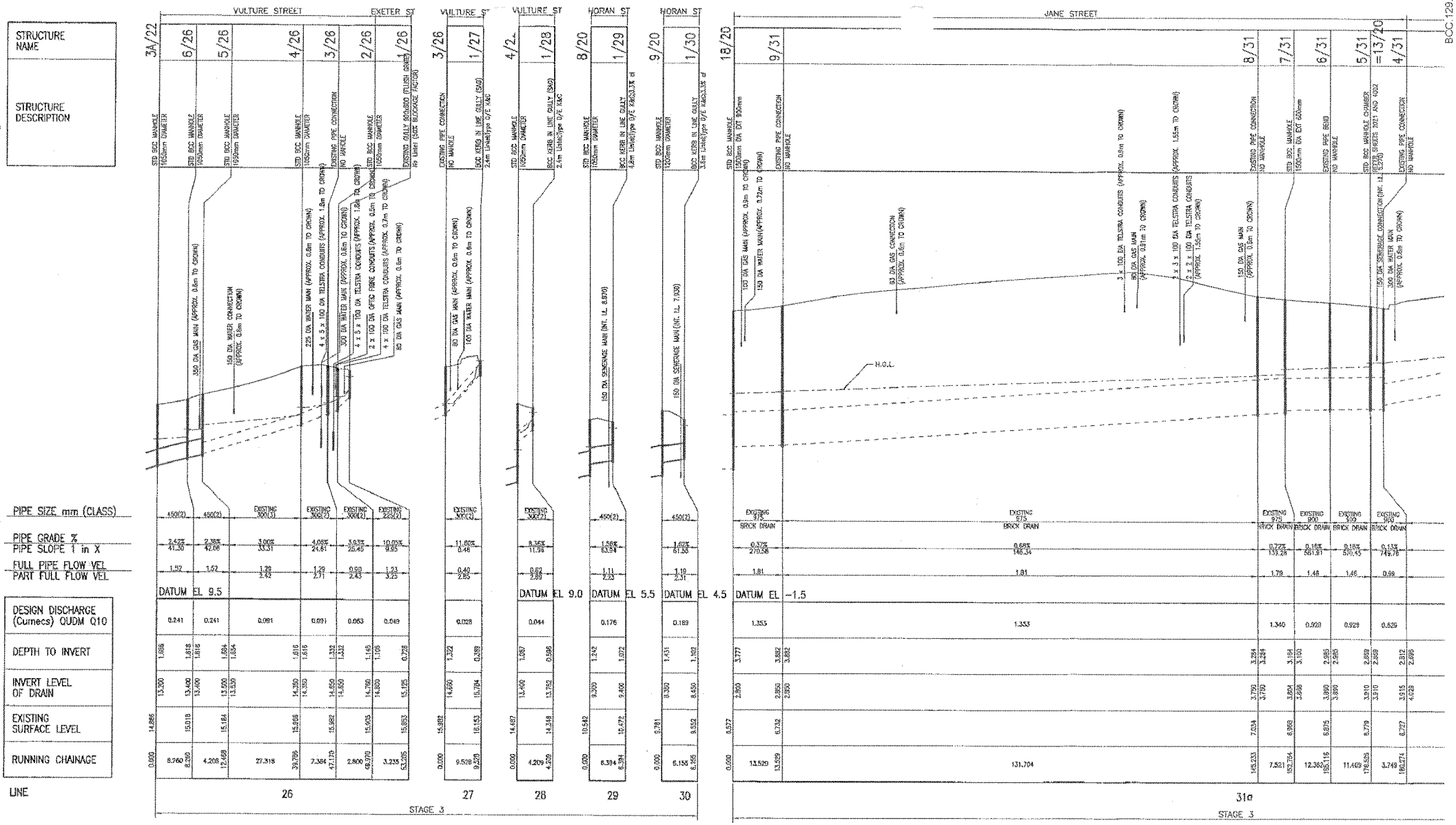
Design	Drawn	Checked	A
BTD DEC 06	BTD DEC 06	DRC DEC 06	

Reference no.

SCALE AS SHOWN

Drawing no.	Sheet	Issue
CD 050607	2017	A

BCC 129.07.15



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

BCC.129.07.14

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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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P.S.M. 16969 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD. RL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10067

Title
STAGE 3
LONGITUDINAL SECTIONS
LINES 26 - 31a
JANE STREET -
VULTURE STREET

Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked	Authorised for Issue
BTD DEC 06	BTD DEC 06	BRC DEC 06	

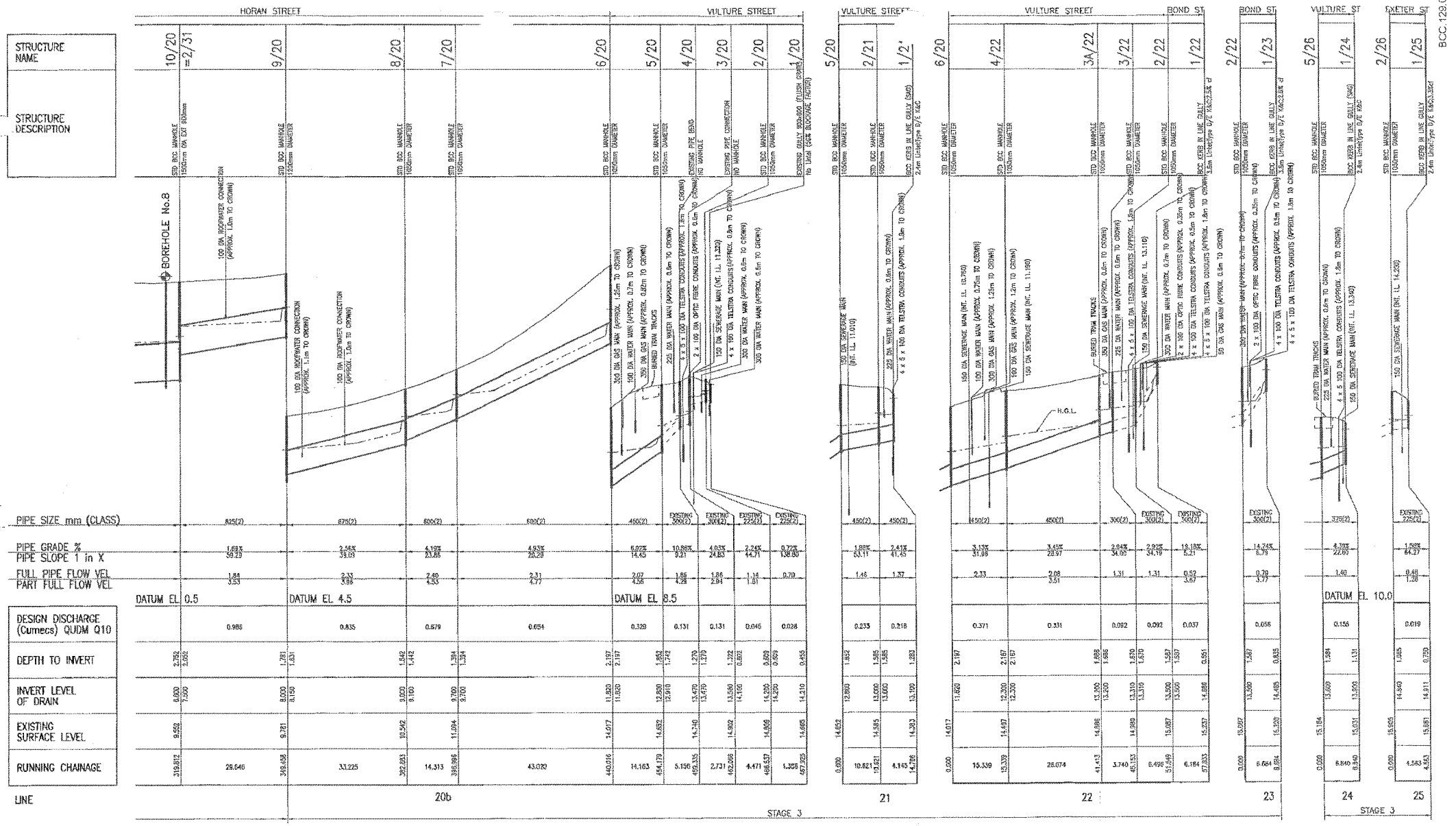
Reference no.

Scale: AS SHOWN

Drawing no.: CD 050607

Sheet: 2015

Issue: A



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

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Brisbane City Council

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Issue	Description	Date	Drawn	Auth.
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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P.S.M. 10569 STANDARD BRASS PLAQUE ON SOUTH WEST CORNER OF JANE STREET & MONTAGUE ROAD, EL. 5.713

Datum	Filename	Field Book
A.H.D.	050607	10057

Title

STAGE 3
LONGITUDINAL SECTIONS
LINES 20b - 25
HORAN STREET -
VULTURE STREET

Project

DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked
BTD DEC 06	BTD DEC 06	DRC DEC 06

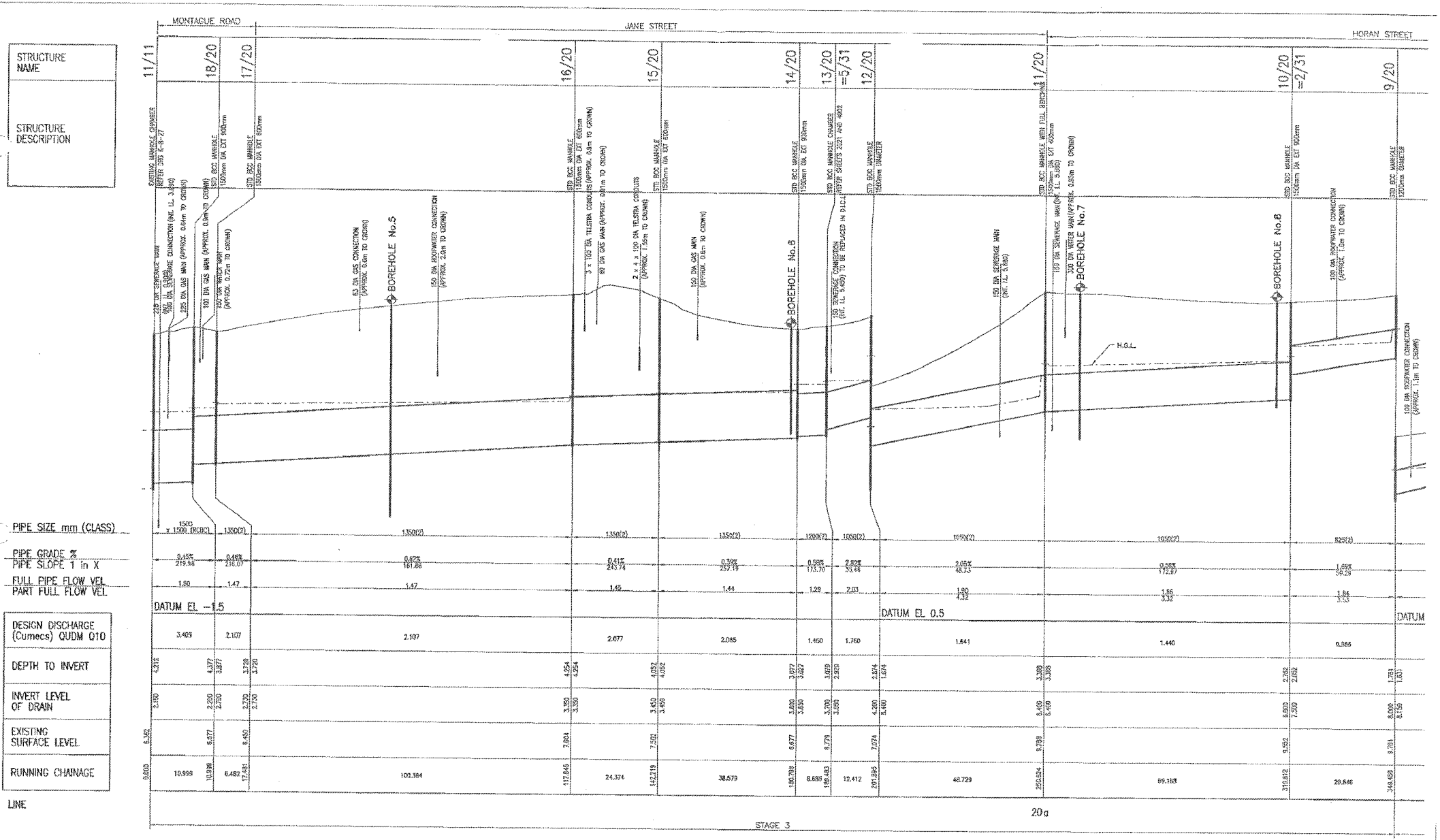
Reference no.

Scale: AS SHOWN

Drawing no.: CD 050607

Sheet: 2014

Issue: A



LONGITUDINAL SECTION

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1 : 500 (BEFORE REDUCTION)

VERTICAL 1 0 1 2 3 4 5 METRES SCALE 1 : 50

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Issue	Description	Date	Drawn	Auth
A	ISSUE FOR CONSTRUCTION	DEC 06	BTD	

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Datum	Filename	Field Book
A.H.D.	050607	10067

Title
STAGE 3
LONGITUDINAL SECTION
LINE 20a
JANE STREET -
HORAN STREET

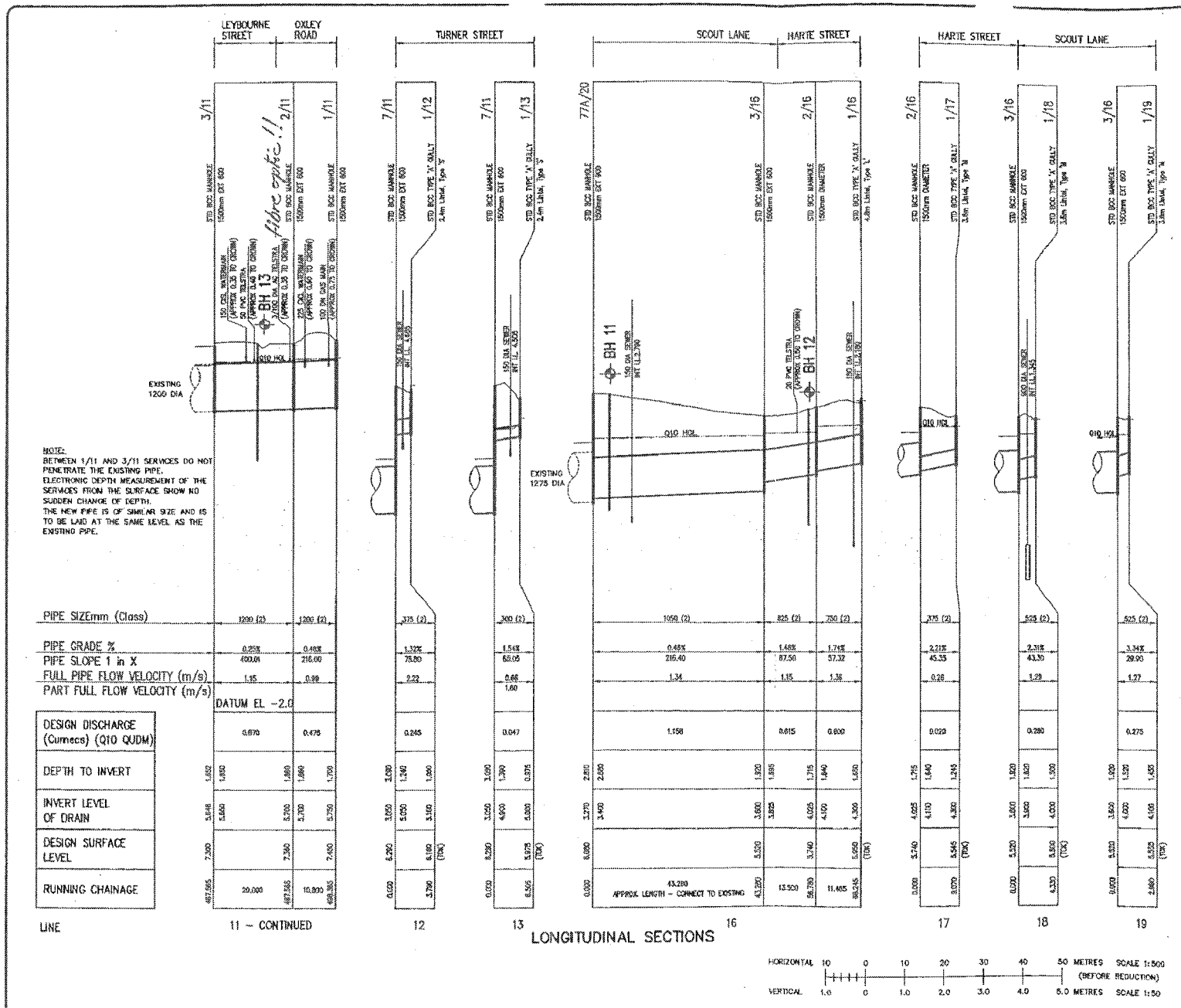
Project
DRAINAGE
JANE STREET
WEST END
BRISBANE RIVER -
VULTURE STREET

Design	Drawn	Checked
BTD DEC 06	BTD DEC 06	DRC DEC 06

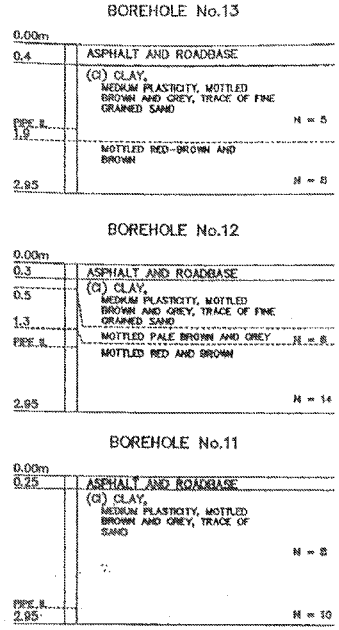
Reference no. AS SHOWN

Drawing no.	Sheet	Issue
CD 050607	2013	A

BCC.129.0712



LONGITUDINAL SECTIONS



BORE LOGS
SCALE 1 : 50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. FIELD BOOK — FILE NAME —
REFERENCE:– B.M.

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 5/5/00
MANAGER DESIGN

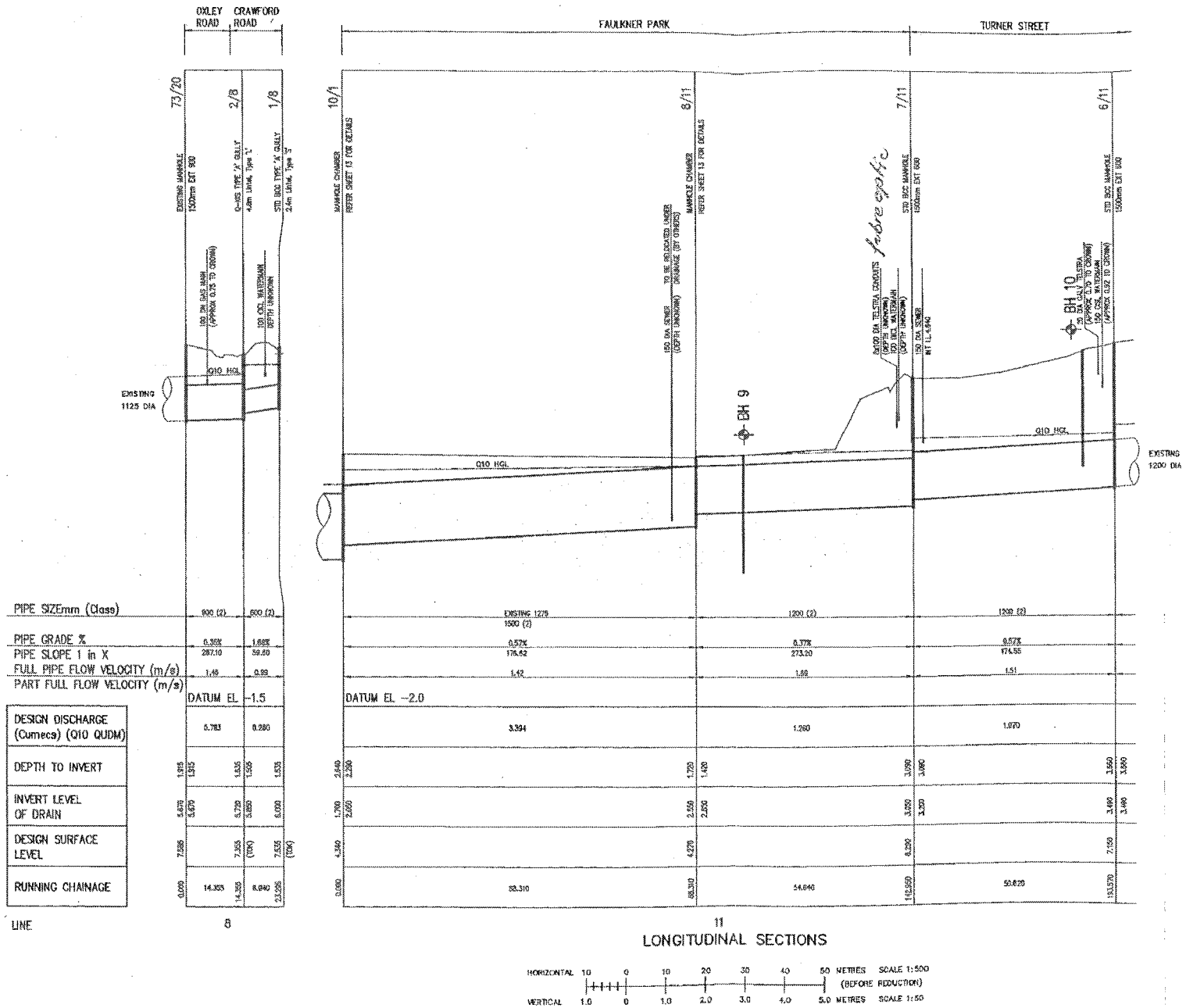
CADD REFERENCE 00061517 LONG5
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED	[redacted]	26-4-00
DRAWN	[redacted]	26-4-00
PASSED	[redacted]	26-4-00

FILE NO. —
SERVICES FILE NO. —
ACQUISITION FILE NO. —
SUR PLAN NO. —

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER [illegible]



BOREHOLE No.10

0.00m		
0.3	ASPHALT AND ROADBASE	
0.9	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND RED-BROWN, TRACE OF SAND	
2.3	(CI) SANDY CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY, 15% TO 25% FINE TO MEDIUM GRAINED SAND	N = 10
2.95	(SC) CLAYEY SAND, FINE TO COARSE GRAINED, BROWN, 15% TO 20% MEDIUM PLASTICITY CLAY	N = 12
	PIPE 8.	

BOREHOLE No.9

0.00m		
0.1	FILL (SM) SILTY SAND, FINE TO MEDIUM GRAINED, BROWN	
0.8	FILL-ASH (SC) CLAYEY SAND, FINE TO MEDIUM GRAINED, GREY, 15% TO 20% LOW PLASTICITY CLAY	
PIPE 8.		
2.3	(CI) CLAY, MEDIUM TO HIGH PLASTICITY, MOTTLED BROWN AND PALE BROWN, SOME SAND	N = 11
2.95	TRACE OF FINE GRAINED GRAVEL	N = 13

BORE LOGS
SCALE 1 : 50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING DISTURBED PERMANENT SURVEY MARKS
DATE: A.N.D. | FIELD BOOK: -- | FILE NAME: --
REFERENCE:- B.N.

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE

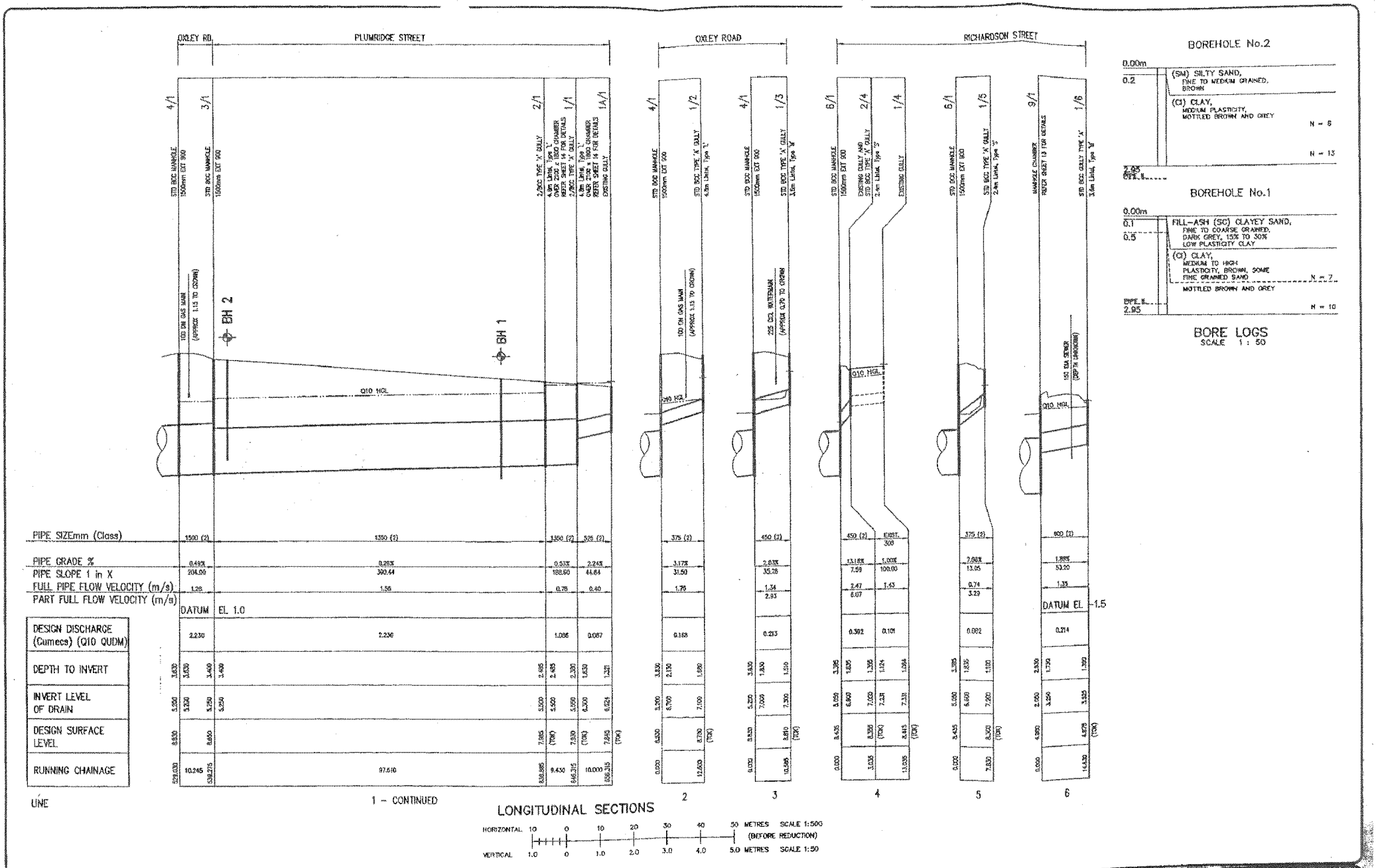
CADD REFERENCE: D081517 LONG4
PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN		26-4-00
CHECKED		26-9-00
DRAWN		26-6-00
PASSED		26-6-00

FILE NO. --
SERVICES FILE NO. --
ACQUISITION FILE NO. --
SUR PLAN NO. --

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET CHELMER
PLUMRIDGE STREET TO FAULKNER PARK



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)

VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50

BOREHOLE No.2

0.00m
0.2 (SM) SILTY SAND, FINE TO MEDIUM GRAINED, BROWN
(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY
N = 6
N = 13
2.95 BPEL

BOREHOLE No.1

0.00m
0.1 FILL-ASH (SC) CLAYEY SAND, FINE TO COARSE GRAINED, DARK GREY, 15% TO 30% LOW PLASTICITY CLAY
0.5 (CI) CLAY, MEDIUM TO HIGH PLASTICITY, BROWN, SOME FINE GRAINED SAND N = 7
MOTTLED BROWN AND GREY
2.95 BPEL N = 10

BORE LOGS

SCALE 1 : 50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. FIELD BOOK --- FILE NAME ---
REFERENCE:- B.M.

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE
BRANCH MANAGER

CADD REFERENCE
0001517
LONG3

PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	
CHECKED		
DRAWN		
PASSED		

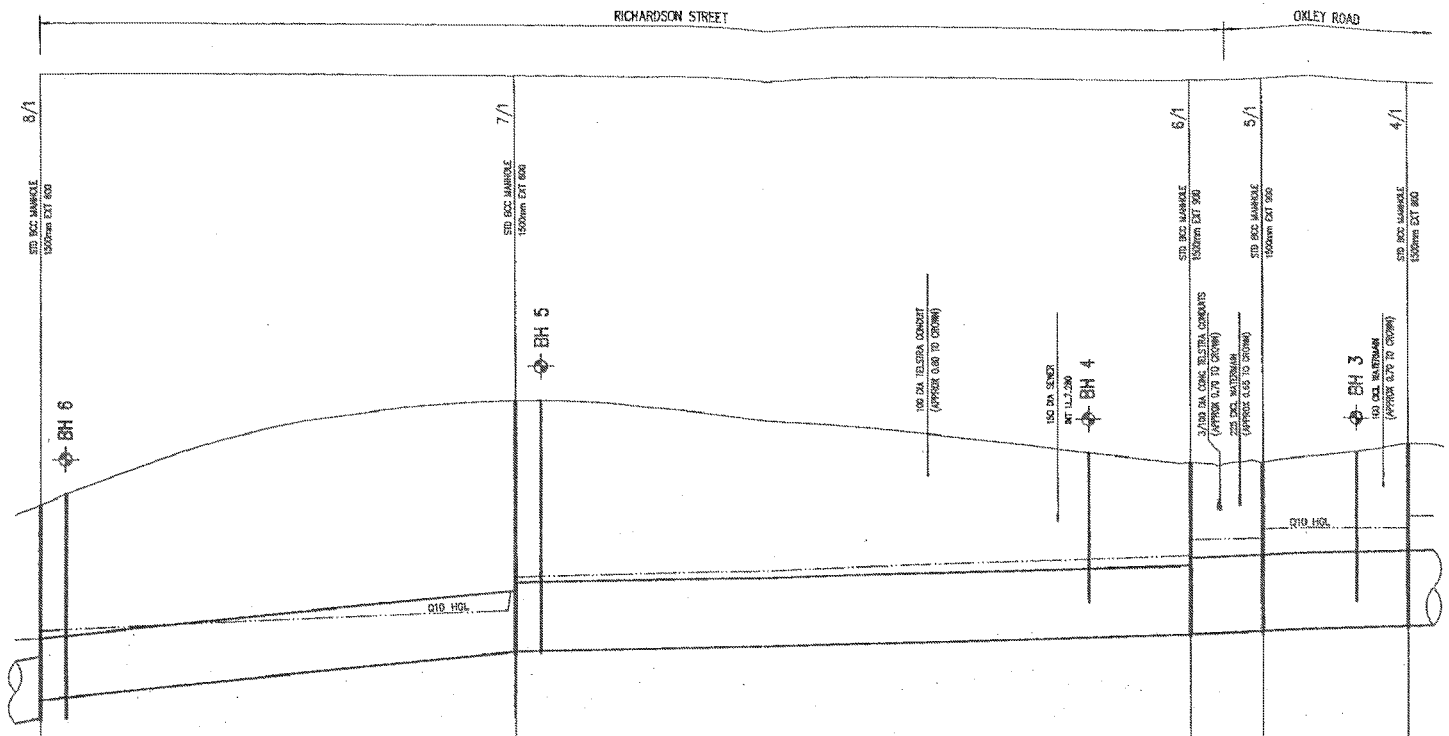
FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

DRAWING NO. W11103
SHEET NO. 10
ISSUE



PIPE SIZEmm (Class)		1200 (2)			1350 (2)			1500 (2)			1500 (2)			
PIPE GRADE %		1.08%			0.260			0.35%			0.34%			
PIPE SLOPE 1 in X		92.65			380.44			280.50			294.75			
FULL PIPE FLOW VELOCITY (m/s)		2.43			2.14			1.48			1.48			
PART FULL FLOW VELOCITY (m/s)		3.85												
DATUM EL 0.0														
DESIGN DISCHARGE (Cumecs) (Q10 QUDM)		3.070			3.070			2.817			2.817			
DEPTH TO INVERT	4.165	3.815	4.925	4.925			3.385	3.385	3.320	3.320			3.830	3.830
INVERT LEVEL OF DRAIN	3.350	3.700	4.700	4.700			5.050	5.050	5.100	5.100			5.200	5.200
DESIGN SURFACE LEVEL	7.515		9.625				8.435		8.420				8.830	
RUNNING CHAINAGE	298.730	92.845	352.375		133.155		485.530	14.025	499.555		28.475		529.030	

LINE

1
LONGITUDINAL SECTION

BOREHOLE No.6

Depth	Description	Notes
0.00m		
0.25	ASPHALT AND ROADBASE	
0.8	(CI) CLAY, MEDIUM PLASTICITY, GREY, TRACE OF FINE GRAINED SAND	
	MOTTLED PALE GREY, BROWN AND RED-BROWN	N = 8
1.9	(CI) SANDY CLAY, MEDIUM PLASTICITY, MOTTLED YELLOW-BROWN AND GREY, 15% TO 25% FINE TO MEDIUM GRAINED SAND	
2.6	(SC) CLAYEY SAND, FINE TO MEDIUM GRAINED, MOTTLED PALE BROWN AND BROWN, 15% TO 30% LOW PLASTICITY CLAY	N = 20
PIPE IL 4.37		

BOREHOLE No.5

Depth	Description	Notes
0.00m		
0.3	ASPHALT AND ROADBASE	
	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND GREY	N = 8
3.1	MOTTLED BROWN, GREY AND RED-BROWN	N = 12
4.95 PIPE IL		

BOREHOLE No.4

Depth	Description	Notes
0.00m		
0.2	ASPHALT AND ROADBASE	
	(CI) CLAY MEDIUM PLASTICITY, MOTTLED BROWN AND GREY, SOME SAND	N = 5
2.95		N = 9
PIPE IL		

BOREHOLE No.3

Depth	Description	Notes
0.00m		
0.35	ASPHALT AND ROADBASE	
0.8	(CI) CLAY MEDIUM PLASTICITY, MOTTLED PALE BROWN AND BROWN, SOME SAND	
	MOTTLED PALE BROWN AND GREY	N = 3
2.95		N = 11
PIPE IL		

BORE LOGS
SCALE 1 : 50

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)
VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENDANGERED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK --- | FILE NAME --
REFERENCE:- B.M.

DESIGN ACCEPTED AND AUTHORISED FOR ISSUE
[redacted] DATE 26/4/00 CADD DESIGN

CADD REFERENCE 0081517 LONG2
PLAN CUSTODIAN
REGISTERED
MICROFILM

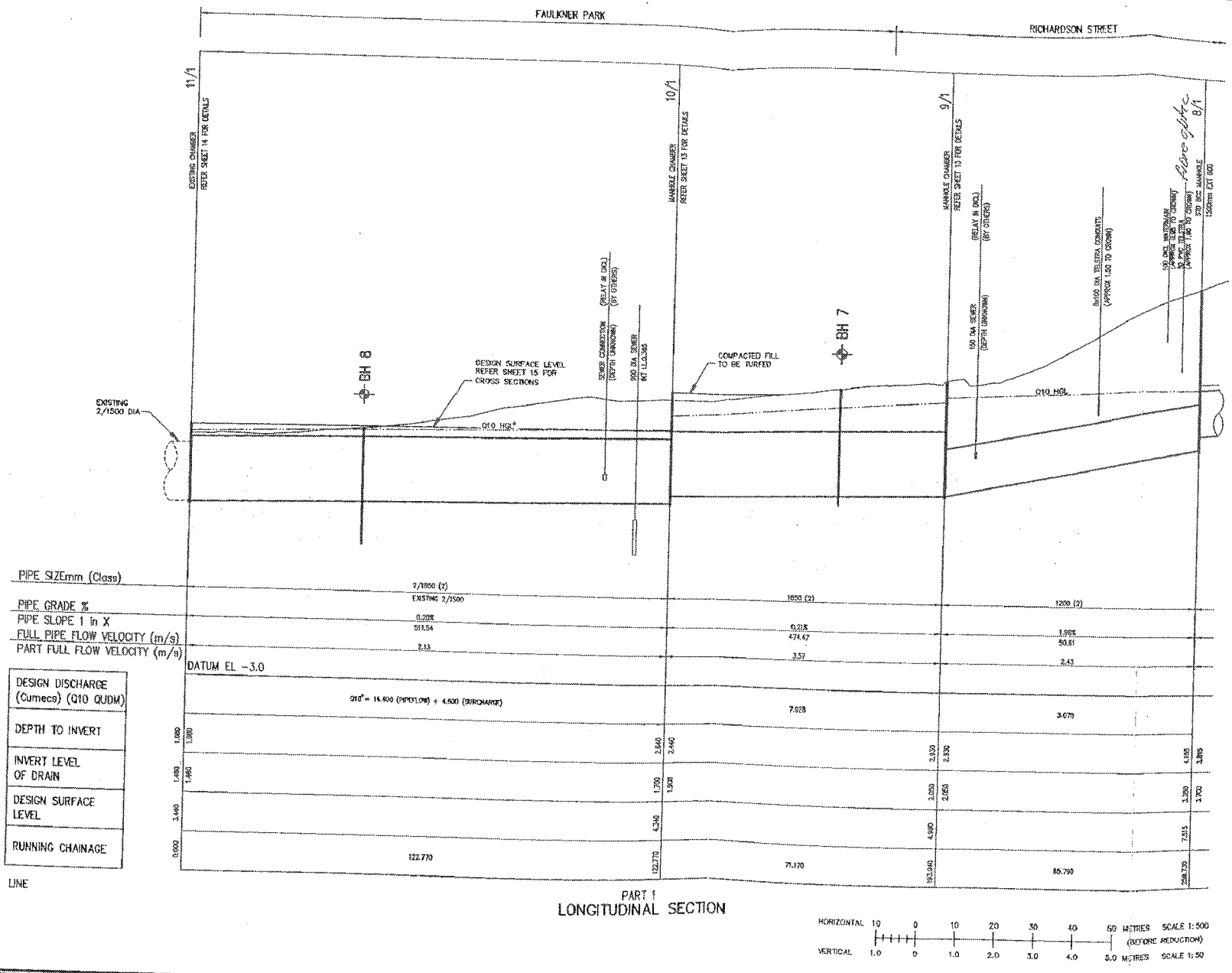
	INITIALS	DATE
DESIGN	[redacted]	26-4-00
CHECKED		26-4-00
DRAWN		26-4-00
PASSED		26-4-00

FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN
DRAWING SHEET 9 OF 10 | SCALE No. 1
DRAWING No. W11103 | SHEET No. 9



PART 1
LONGITUDINAL SECTION

BOREHOLE No.8

0.00m		
0.1	FILL (SM) SILTY SAND, FINE TO MEDIUM GRAINED, BROWN	
0.8	FILL–ASH (SC) CLAYEY SAND, FINE TO MEDIUM GRAINED, BLACK, 15% TO 20% LOW PLASTICITY CLAY	
1.3	(CI) CLAY, MEDIUM TO HIGH PLASTICITY, MOTTLED BROWN AND PALE BROWN, SOME SAND	N = 3
PIPE IS	GREY	GWD
2.6	(CI) SANDY CLAY, LOW TO MEDIUM PLASTICITY, GREY, 15% TO 30% FINE GRAINED SAND	N = 3
2.95		

BOREHOLE No.7

0.00m		
0.1	FILL (SM) SILTY SAND, FINE TO MEDIUM GRAINED, BROWN	
0.8	FILL–ASH (SC) CLAYEY SAND, FINE TO MEDIUM GRAINED, DARK GREY, 15% TO 20% LOW PLASTICITY CLAY	
1.8	(CI) CLAY, MEDIUM PLASTICITY, MOTTLED BROWN AND PALE BROWN, SOME SAND	N = 6
PIPE IS	SOME FINE TO COARSE GRAINED GRAVEL	N = 19
2.95		

BORE LOGS
SCALE 1 : 50

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)
VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50

AMENDMENT	DATE	CHECKED	AUTHORISED	MICRO.

CONTACT SURVEYOR-IN-CHARGE CONCERNING ENCROACHED PERMANENT SURVEY MARKS
DATE: A.H.D. | FIELD BOOK --- | FILE NAME ---
REFERENCE:- R.M.

DESIGN ACCEPTED AND [redacted] FOR ISSUE

CADD REFERENCE
0081117
LON21

PLAN CUSTODIAN
REGISTERED
MICROFILM

	INITIALS	DATE
DESIGN	[redacted]	26-4-05
CHECKED		26-4-05
DRAWN		26-4-05
PASSED		26-4-05

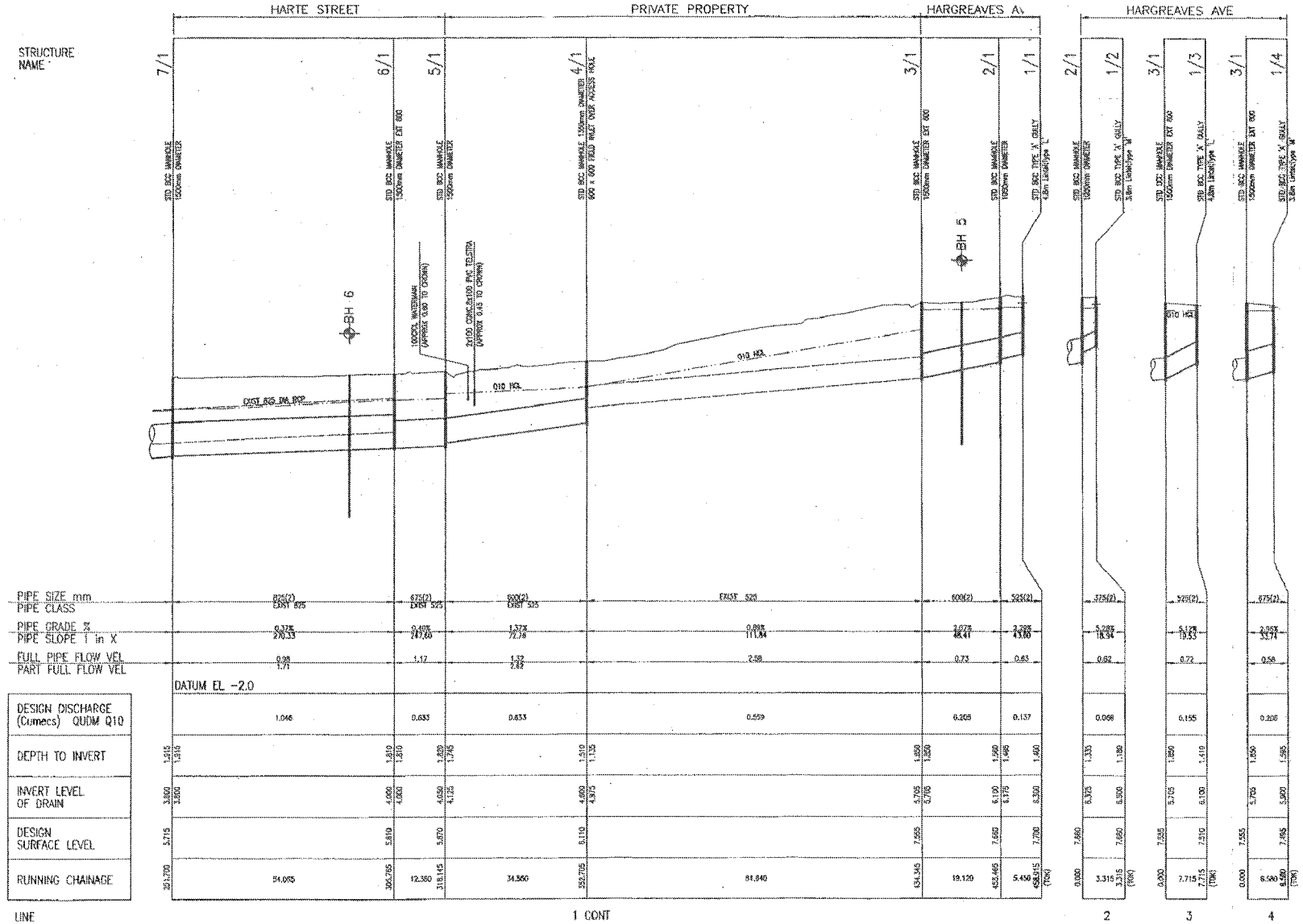
FILE NO. ---
SERVICES FILE NO. ---
ACQUISITION FILE NO. ---
SUR PLAN NO. ---

Brisbane City

RELIEF DRAINAGE
RICHARDSON STREET
CHELMER
PLUMRIDGE STREET TO FAULKNER PARK

BRISBANE CITY COUNCIL
CITY BUSINESS DIVISION
CITY DESIGN

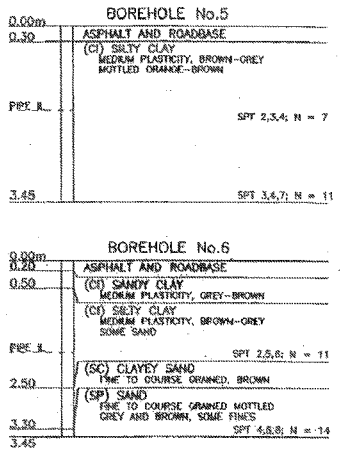
DRAWING SHEET 8 OF 15
DRAWING No. W11103
ISSUE No. 8



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)

VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50



BORE LOGS

SCALE 1 : 50

City Design
Brisbane City Council

Level 3
TC Beirne Centre
315 Brunswick St MAIL
Fortitude Valley, Q 4006
Telephone 07 3403 3849
Facsimile 07 3403 0447
e-mail cityd-design@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.053
CP9004 - EL 6.028

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
LONGITUDINAL SECTIONS
Sheet 2 of 3

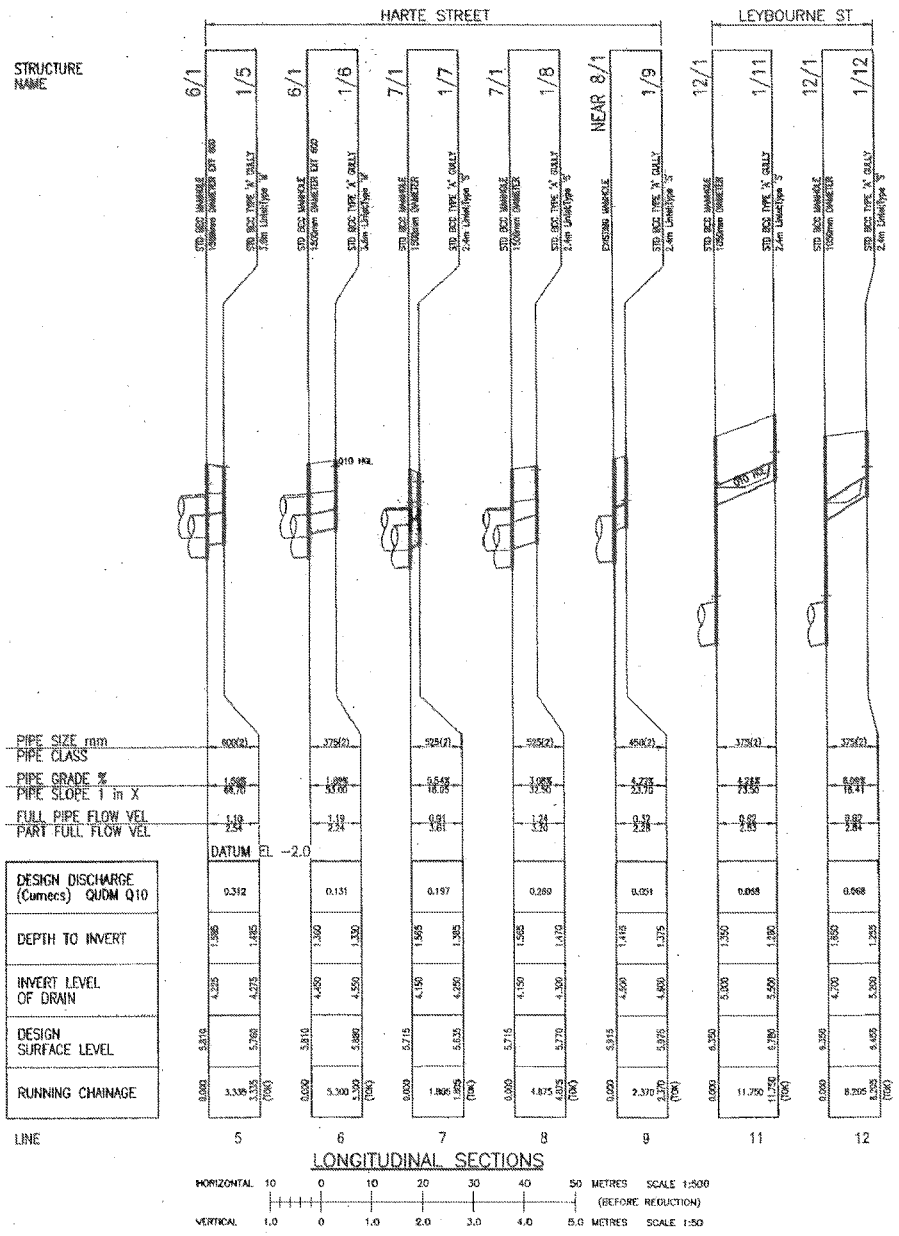
Reference no. W11306

Drawing no. CD-0184292

Sheet W2-5/7

Issue

BCC.129.0706



City Design
Brisbane City Council

Level 3
TC Beirne Centre
315 Brunswick Street
Fortitude Valley, Q 4006

Telephone 07-3403 8888
Facsimile 07-3403 8447
e-mail cityclearance@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
PB 9181 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.063
CP9004 - EL 6.028

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
LONGITUDINAL SECTIONS
Sheet 3 of 3

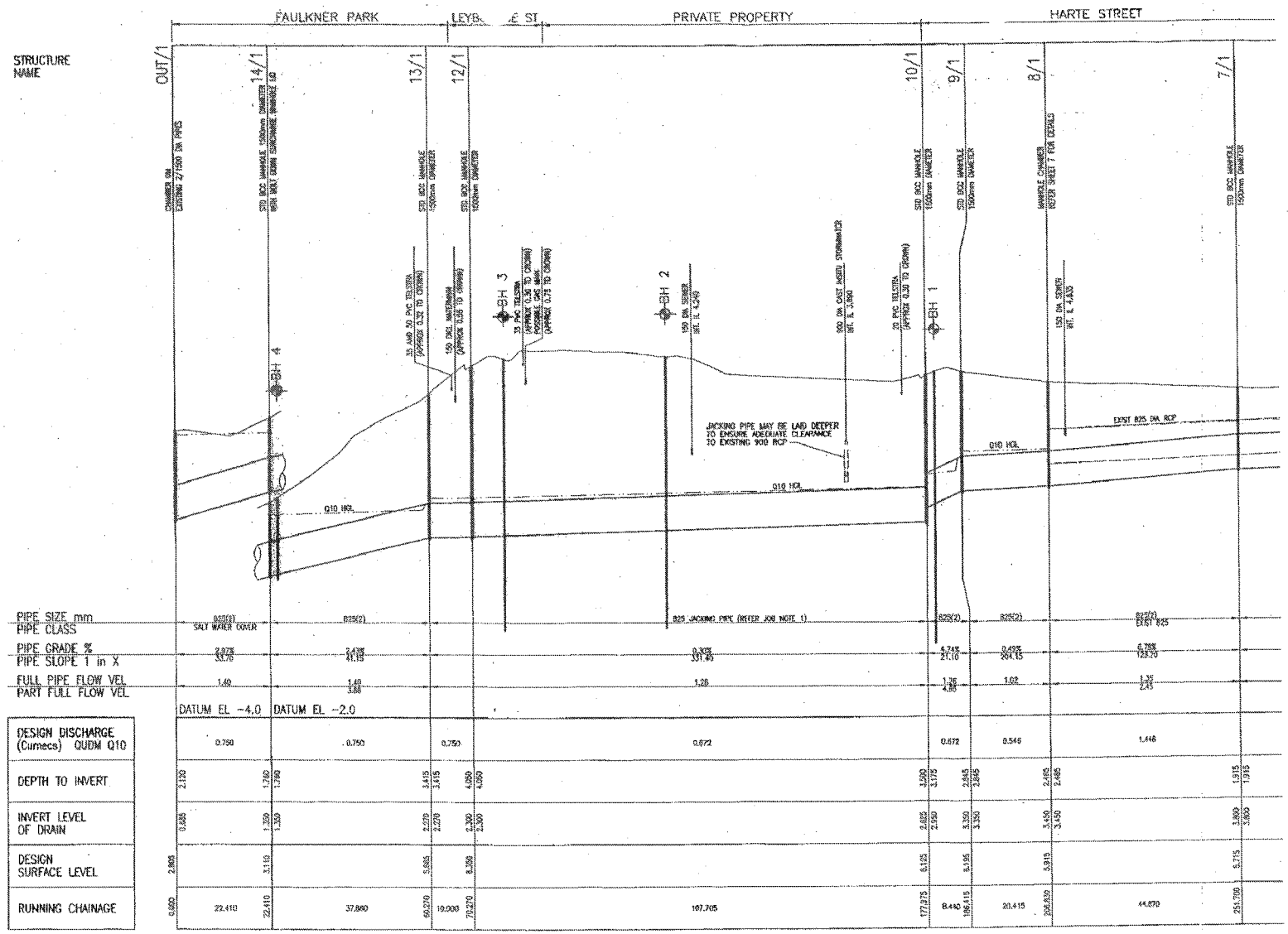
Reference no.
W11308

Drawing no.
CD-0184292

Sheet
W2-6/7

Issue

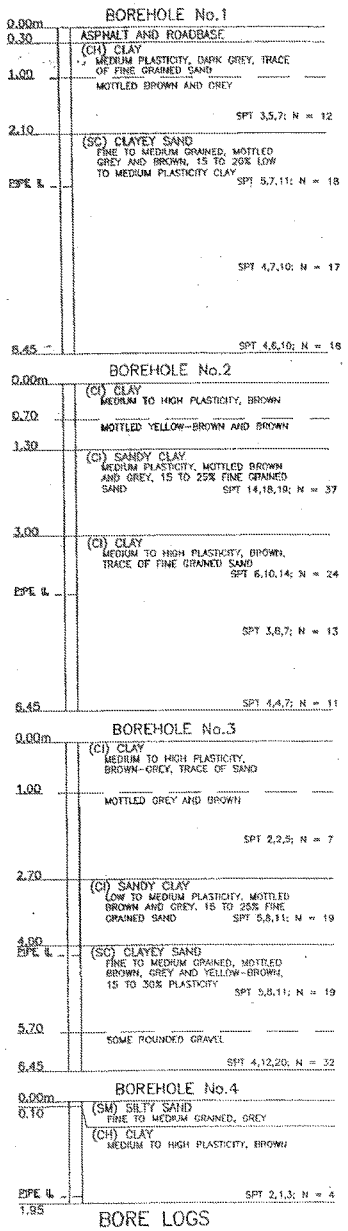
BCC.129.0705



LONGITUDINAL SECTIONS

HORIZONTAL 10 0 10 20 30 40 50 METRES SCALE 1:500 (BEFORE REDUCTION)

VERTICAL 1.0 0 1.0 2.0 3.0 4.0 5.0 METRES SCALE 1:50



BORE LOGS

SCALE 1 : 50

City Design
Brisbane City Council

Level 5
TC Beirne Centre
315 Brunswick St Mall,
Fortitude Valley, Q 4006

Telephone 07- 3403 3846
Facsimile 07- 3403 0447
email citydesign@brisbane.qld.gov.au

Issue	Description	Date	Drawn	Auth.	Issue	Description	Date	Drawn	Auth.

Survey Information
REFERENCE BM:
FB 9151 Folio 1
CP9003 AND CP9004 - SCREWS IN SCOUT LANE
CP9003 - EL 6.053
CP9004 - EL 6.038

Datum	Filename	Field Book
A.H.D.	HARTE1	9371/1

Project
RELIEF DRAINAGE
HARTE STREET
CHELMER

HARGREAVES ST-FAULKNER PK

Title
LONGITUDINAL SECTIONS
Sheet 1 of 3

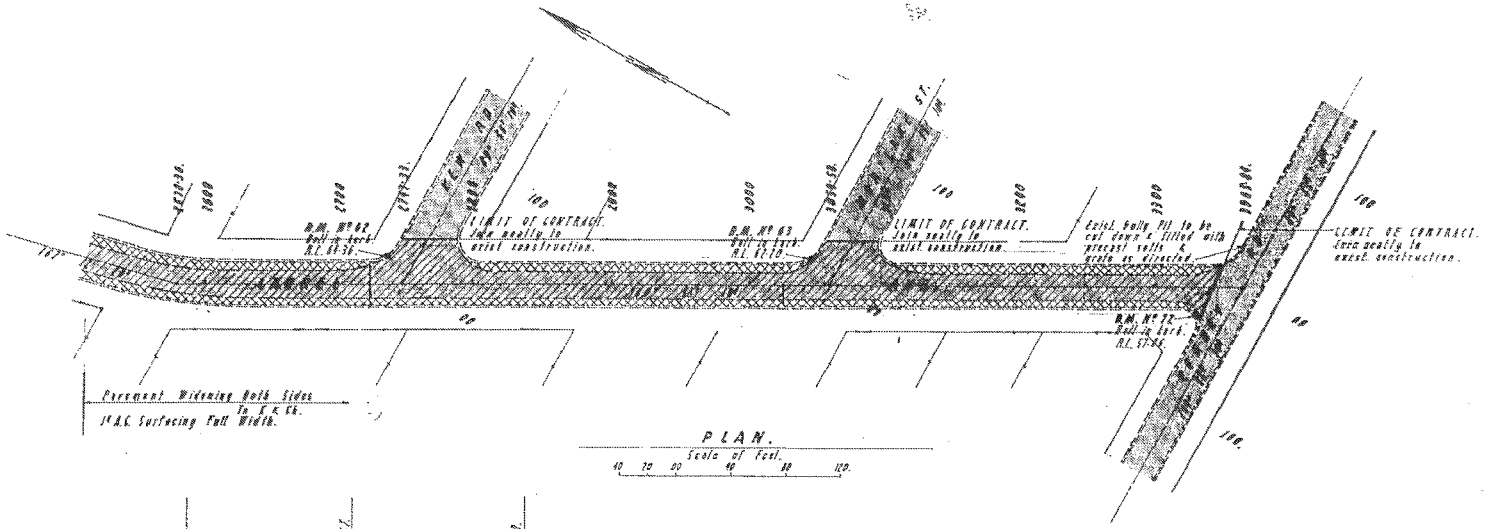
Reference no.
W11308

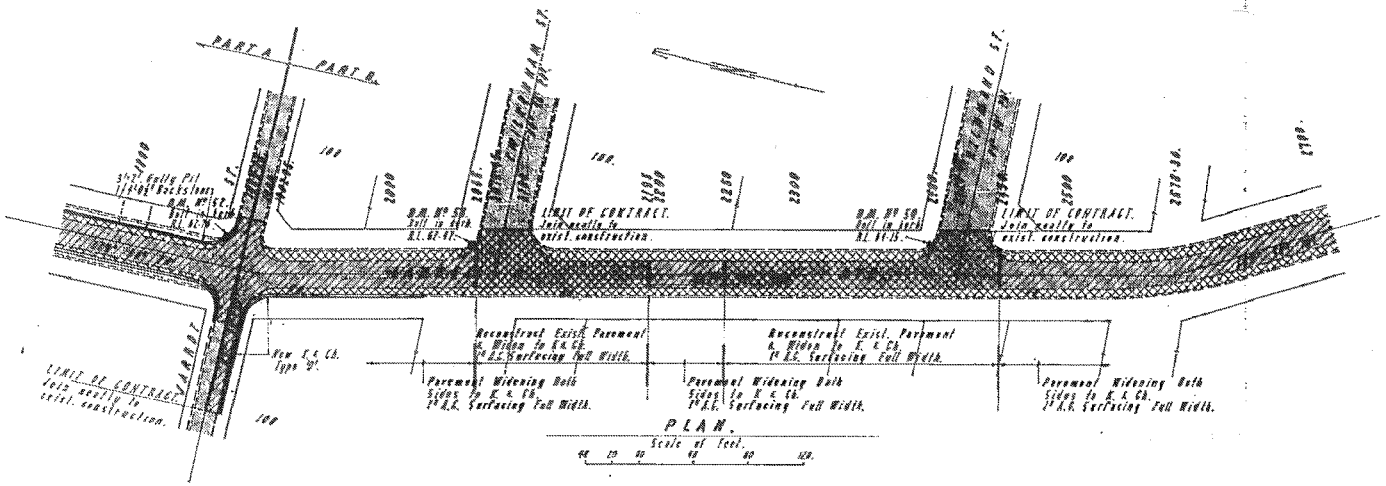
Drawing no. CD-0184292

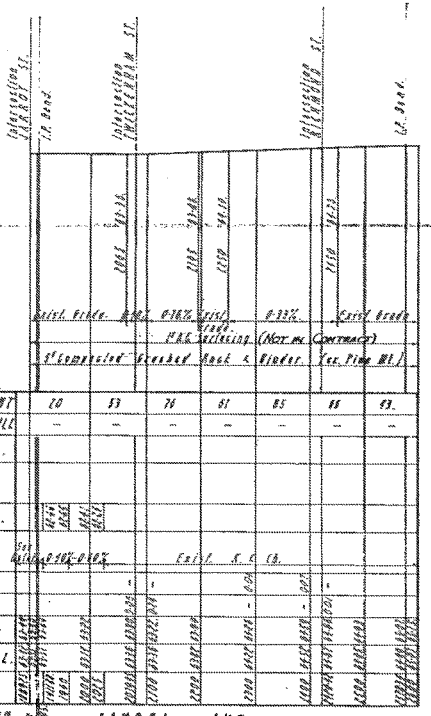
Sheet W2-4/7

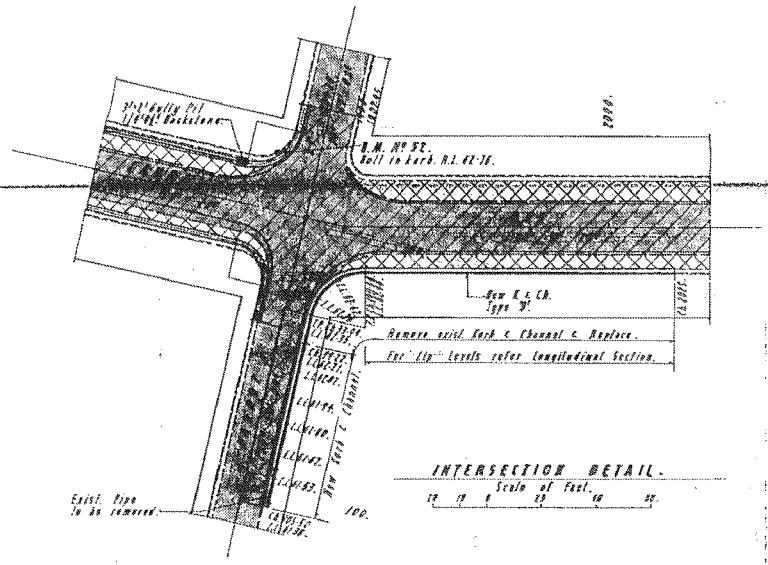
Issue

BCC.129.0704


R.C.W. No 2
R.C.W. No 1
R.C.W. No 3
R.C.W. No 4
R.C.W. No 5
R.C.W. No 6
R.C.W. No 7
R.C.W. No 8
R.C.W. No 9
R.C.W. No 10
R.C.W. No 11
R.C.W. No 12
R.C.W. No 13
R.C.W. No 14
R.C.W. No 15
R.C.W. No







A.C. SURFACING NOT IN CONTRACT.

NOTE
For Notes & Legend refer dwg. W 4675/1.

Levels Datum is B.C.C. Datum
REFERENCE TO B.M.
S.M. No 57. Cor. Laurel Ave. & Laurel St. R.L. 42-76.
S.M. No 58. Cor. Laurel Ave. & Twickenham St. R.L. 42-91.
S.M. No 59. Cor. Laurel Ave. & Richmond St. R.C. 44-15.

McINTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA

SUFFIX	AMENDMENT	DATE	E. for D.	D/E E & M	F.C.N.S.E.	ISSUED

Passed [redacted]
Date [redacted]

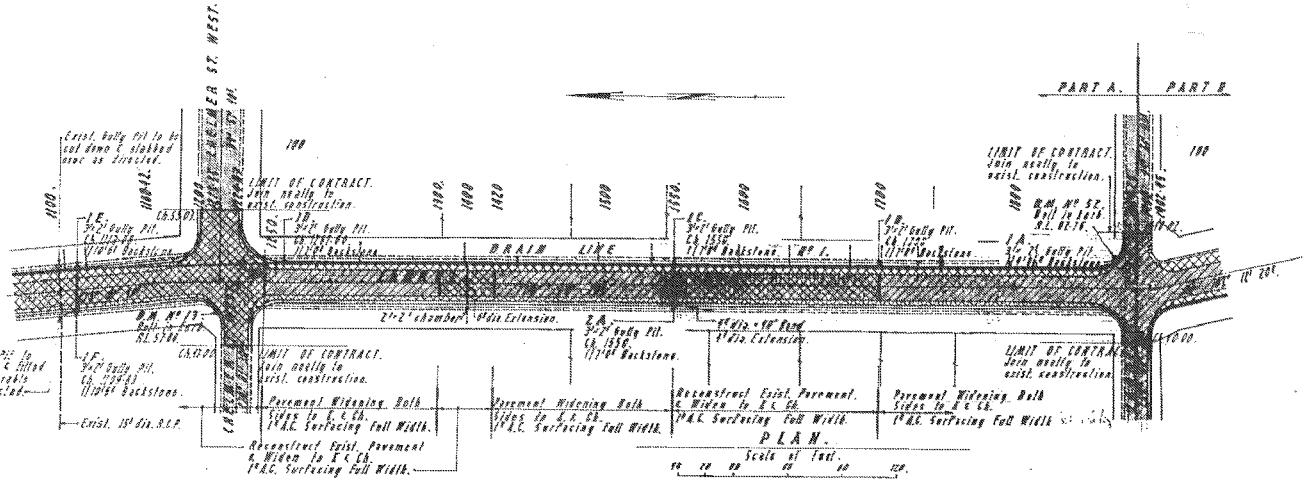
DISTR. ENGINEER AND MANAGER [redacted]
DATE
WORKS ORDER No.
ENGINEER FOR DESIGN [redacted]

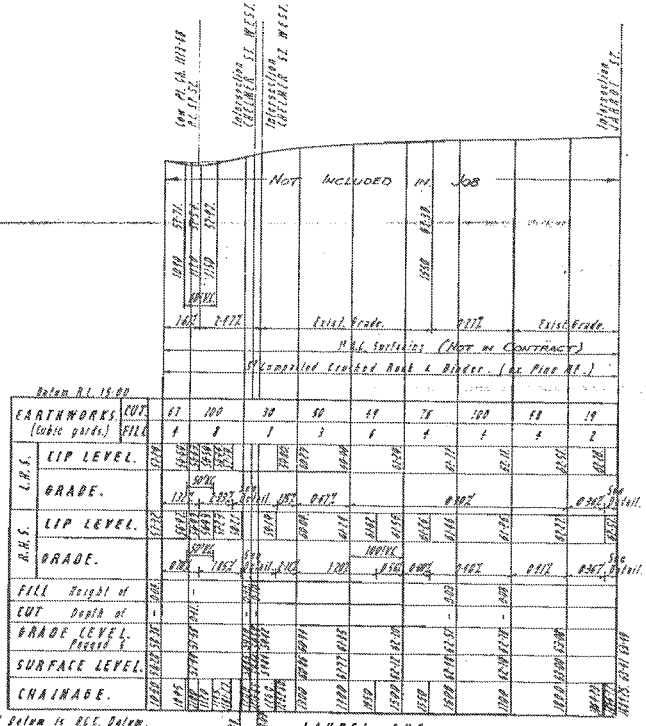
PLOTTED		FIELD BK.	1004, 1007,
DRAWN		LEVEL BK.	673, 677,
TRACED		REGISTERED	4 PAGE
CHECKED		D.O.D.R.s	
PASSED		EST. HR.	

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
ROADWORKS AND DRAINAGE
LAUREL AVENUE
GHELMER
PLAN AND LONGITUDINAL SECTION
R.L.P.FILE. W 1723 & 1/1.
SCALES AS SHOWN.
W 4675
3
No. OF DWGS. 10

SCHEDULE PAGE Harvey St to Wickham Rd 81738 Alterations W 2.2000 JDL

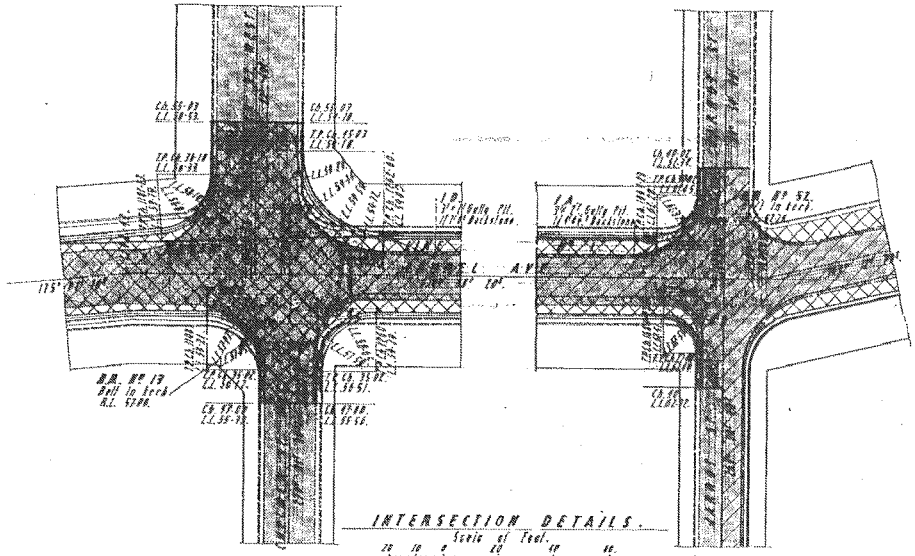
BCC.129.0702





EARTHWORKS (Cubic yards)	CUT	67	100	38	50	49	75	100	68	19
	FILL	1	1	1	3	6	4	1	4	2
L.H.S.	KERB & CHANNEL LIP LEVEL.									
	GRADE.									
R.H.S.	KERB & CHANNEL LIP LEVEL.									
	GRADE.									
FILL Height of										
CUT Depth of										
GRADE LEVEL Pegged at										
SURFACE LEVEL.										
CHAINAGE.										

Level Datum is B.C.C. Datum.
REFERENCE TO S.M.
- B.M. No 13. Cast Copper Rivet in Kerb at Eastmere St West. R.L. 9.068
- B.M. No 52. Cast Copper Rivet. R.L. 10.216.



A.C. SURFACING NOT IN CONTRACT.

NOTE.
- For Notes & Legend refer dwg. W 4675/1.

SURVEY	AMENDMENT	DATE	E. for D.	D/C E. & N.	F.C.M.S.E.	ISSUED.

McIMTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA
Person [redacted]
Date

CHIEF ENGINEER AND MANAGER. DATE.
WORKS ORDER No.
DEP. CHIEF ENGINEER & MANAGER. DATE.
ENGINEER FOR DESIGN [redacted]

PLOTTED [redacted]
DRAWN.
TRACED.
CHECKED.
PASSED.

FIELD BK.
LEVEL BK.
REGISTERED
D.O.C.No.
EST.No.

BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
ROADWORKS AND DRAINAGE
LAUREL AVENUE
GUELMER
PLAN AND LONGITUDINAL SECTION

R.L. FILE. W 11728/11.
SCALES AS SHOWN
W 4675
2
No. OF DRGS. 10

1 Pc.

BCC.129.0701

HURSTON ST.
LONGMAN TCE.
LAUREL AVE.
PLAN.
Scale of Feet.
B.C.C. STANDARD NOTES.
- The designed pavement thickness and supporting values shown on the drawings may be varied at direction in writing of the Engineer after the excavation has been completed and/or testing of the road bed material has been carried out by the contractor, which in all cases governs minimum pavement thickness between pavement edges.
- The earthwork quantities shown on the longitudinal section are built out an allowance of ten percent (10%) for subsidence of bulk and have been made when calculating the quantities of fill required.
- The earthwork quantities shown on the longitudinal section are exclusive of the requirements for shoring, trenching, pumps and "spares".
- The schedule notes for "Earthworks to spoil" shall include the carriage and tipping to that within a radial distance of 1 mile from the place of excavation. The quantity given is considered to be the volume in the solid before excavation.
- If directed the footpath is to be excavated an additional 6 inches below designed profile and refilled with topsoil of sufficient depth to maintain respective levels. See Clause 10.00 of "Specification for Road Formation". A quantity of 270 cubic yards for this excavation has been allowed in the schedule and included in Item #3A.
- Notwithstanding that the present and/or proposed positions of public utilities, fittings, pipes, poles, manholes etc. may be indicated on the drawings, no responsibility will be accepted by the Brisbane City Council for the accuracy of the representation or the omission thereof.
NOT INCLUDED IN JOB
LONGITUDINAL SECTION.
Scale of Feet.
Horizontal.
Vertical.
EARTHWORKS (Cubic yards) CUT / FILL
L.H.S. LIP LEVEL. GRADE.
A.H.S. LIP LEVEL. GRADE.
FILL Height of.
CUT Depth of.
GRADE LEVEL Proposed C.
SURFACE LEVEL.
CHAINAGE.
Datum R.L. 10.00.
Level Datum is A.C.C. Datum.
REFERABLE TO B.M.
- B.M. No 8. Cor. Central Ave. & Longman Ter. RL. 17.43.
- B.M. No 10. Cor. Central Ave. & Hurston St. R.L. 19.97.
INTERSECTION DETAILS.
Scale of Feet.
NOTES.
- All Extensions to connect to existing drainage pipes discharging into K. & Ch. 9" dia. unless otherwise specified.
LEGEND.
Exist. Bitumen Surfacing.
Exist. Bitumen Resurfaced.
Proposed Pavement & A.C. Surfacing. (Widening.)
Proposed Pavement & A.C. Surfacing. (Reconstruction)
Exist. Kerb & Channel. (Type 'A')
Proposed Kerb & Channel. (Type 'A' Layback.)
Exist. S/W. Drainage & Gully Pits.
Proposed S/W. Drainage & Gully Pits.
Proposed S/W. Drainage & Manholes.
Connections to S/W. of exist. drainage pipes discharging into K. & Ch. (Refer detail W dwg. W 4678 (1))
A.C. SURFACING NOT IN CONTRACT.
McINTYRE & ASSOCIATES
CONSULTING ENGINEERS
QUEENSLAND - AUSTRALIA
Passed
Date
WORKS ORDER No.
BRISBANE CITY COUNCIL — DEPARTMENT OF WORKS
ROADWORKS AND DRAINAGE
LAUREL AVENUE
CHELMER
PLAN AND LONGITUDINAL SECTION
W 4678
1
SUFFIX AMENDMENT DATE E. for D. D/C.E.& M. F.C.M.S.E. ISSUED.
FIELD BK. LEVEL BK. REGISTERED D.O.D.B.H. EST. No.
BCC.129.0700

WORKS DESIGN BRANCH MEMORANDUM

RHA:rha

copies to
SDH
SELDP
SEPR
SEFM
AH 31/10

TO : PETER BORROWS
MANAGER - DEPARTMENT OF WORKS

FROM : ENGINEER FOR DESIGN

FILE : (6)255/6(108)

DATE : 23 October 1995

POLICY ISSUE : **DRAINAGE DESIGN STANDARDS AND PRIORITISING RELIEF DRAINAGE SCHEMES**

The purpose of this memorandum is to advise you of current design standards for both new and relief drainage systems and of a revised method of prioritising relief drainage schemes.

DESIGN STANDARDS FOR NEW WORK

Since the adoption of QUDM in June 1994, the drainage standard for residential subdivisions is:

- underground (minor flow) - 2 year ARI for minor roads and 10 year ARI for major roads.
- combined overland and underground (major flow) - 50 year ARI for all roads.

DESIGN STANDARDS FOR RELIEF SCHEMES

Before QUDM, the underground relief drainage standard was 10 year ARI, with flow calculations based on the BCC Stormwater Drainage Design Manual. The rainfall runoff coefficients in QUDM are significantly greater than those in the old standard and result in greater calculated runoff for the same storm. i.e. Q10 (old)$\approx$Q2 (new).

In adopting QUDM, Council empowered the Department of Works to put into place conditions and guidelines to comply with the philosophy of QUDM.

For relief drainage design, we are now calculating the flood immunity of an area by taking into account the combined existing overland flow capacity as well as the pipe capacity for a 10 year ARI storm. The minimum capacity of the underground system is approximately 2 year ARI with the overland flow limited to prevent flooding of utility areas. The size of the pipes will in most cases be the same as calculated by the previous method where an adequate overland flow path has been provided, however where overland flow is restricted the new method requires an increase in pipe capacity of up to 60%. In these circumstances, staging of relief works would be considered. This method maintains the previous 10 year ARI standard.

PRIORITISING RELIEF DRAINAGE SCHEMES

The superseded method, described in a memo (folio 2) approved by the previous Manager on 2nd May 1991, only recognised properties with flooded habitable floors as having drainage problems and did not consider the damage to other parts of properties such as laundries and garages etc. This has resulted in decisions which gave a low priority to constructing drainage

BCC.093.0002

12

schemes which may have relieved frequent flooding to utility areas and yards of other properties. The cost of preventing one flooding occurrence for a habitable floor area in a house during an average 10 year period was calculated.

We now break up the flooded areas into habitable, utility and yards with a corresponding weighting assigned to each area reflecting the relative cost of flooding, recognising both financial and social aspects.

ie 1 flooded habitable floor area = 5 flooded utility areas = 50 flooded yards.

The relative flooding costs are reflected in the formula used to set priorities, see folio 1 for details. Only residential properties are considered, as in the superseded method, because of the high social cost of flooding these properties. The cost of preventing one flooding occurrence for an equivalent habitable floor area in a house during an average 10 year period is calculated. This cost is ranked with the cost of similar projects to find its priority. The lowest cost is given the highest priority.

The standards of design applied to new and relief drainage schemes and the method of evaluating and prioritising relief drainage schemes have been outlined above for your information.

Engineer For Design

Noted

Copy to DPDW
DMW
DCW

Sent on
25/10/95

$$PRI = \frac{COST}{\text{Nº OF FLOODS SAVED FROM OVER 10 YRS} \times \left(\frac{\text{Nº LIVING}}{X5} + \text{Nº UTILITIES} + \frac{\text{Nº YARDS}}{10.} \right)}$$

BCC.093.0003

SCHEDULE 72 - MAJOR DRAINAGE

Funding Basis

Priority Formula

The cost/benefit analysis is determined by dividing the cost of Relief Measures by: i/ N°. of properties which have flooding to habitable areas, and ii/ N°. of floods to be saved from in a *ten year* period. The lower the cost/benefit, the higher the priority of the Relief Measures.

Habitable Areas Now called "living"

Any property which has flooding through the following areas:

* Lounge
* Bedroom
* Family
* General Living Areas
* Kitchen
* Sleep-out
* Rumpus

In the case of a High-set dwelling, if sufficient head clearance currently exists underneath to allow for the development of any of the above list of areas, it is also to be considered as a habitable area.

Non-habitable Areas Now called "Utilities"

The following areas are not to be considered habitable:

* Laundry
* Garage
* Office
* Out-door Entertainment Areas
* Storage
* Car-port
* Yards

Brisbane City

DEPARTMENT OF WORKS
DESIGN BRANCH
HYDRAULICS SECTION
BRISBANE ADMINISTRATION CENTRE
FLOOR 12, 69 ANN STREET, BRISBANE

ENGINEER IN CHARGE	225 4860
ADMINISTRATION	225 6681
DEVELOPMENT ASSESS	225 5191
FLOODPLAIN MGMT	225 4089
CATCHMENT MGMT	225 4447
SPECIAL PROJECTS	225 4861
LOCAL DRAINAGE	225 4862
BIMAP & RECORDS	225 6108
FACSIMILE	225 5573

MEMORANDUM

DC:LMB

TO : ENGINEER FOR DESIGN

FROM : D CARROLL
ACTING ENGINEER IN CHARGE, HYDRAULICS

DATE : 27 October 1994

SUBJECT : **RELIEF DRAINAGE STANDARDS**

Currently we are designing for a QUDM Q2 "pipe" drainage system to relieve properties of flooding from inadequate local drainage. The QUDM Q2 is approximately equal to our previous BCC Q10 pipe drainage relief standard.

Setting priorities for relief works is based upon reducing property and above floor flooding to a desired level of immunity. This level is currently set at BCC Q10. Priority setting based on QUDM Q2 is impractical (and misleading) as often the affected properties are not subject to flooding on average more than once every two years.

Currently there is a mismatch between priority setting and design on two accounts (i) differing BCC/QUDM stormwater drainage standards and (ii) the designed "piped" relief system may not reflect the true immunity offered to residents. This is because relief drainage design is based on a "piped" system, rather than one based on keeping stormwater off properties for a chosen level of immunity. The differing design standards and prioritisation methodology is also difficult to explain to the lay person.

A case in point is the Kaloma Street relief drainage scheme. This scheme has been prioritised based on a "piped" relief scheme. However, on investigating further there is ample room for surcharged stormwater to be conveyed over-ground via the most downstream street, obviating the need for an expensive upgrade in underground pipe drainage in this area.

This latter proposal would reduce the scheme cost by 40% and consequently affect its priority (favourably) - and yet deliver the same level of service in terms of property flooding immunity to affected residents. However, in fairness to other ranked schemes, similar adjustments would also have to be made.

The problem is one of focussing too much on a pipe standard, rather than endeavouring to achieve a desired level or standard of property immunity from stormwater flooding.

The problem can be simply solved by adopting a relief drainage design standard of QUDM Q10 (approx BCC Q30). This design standard sets the level of flooding immunity for affected properties. How best to convey flood waters from a Q10 storm away from affected residents' properties is left to the creativity and innovation of the designer, beit via underground pipes or overland via existing roads/reserves.

This approach should result in less use of pipe drainage where there is ample room to convey stormwaters safely overground, and putting in more pipe drainage where it counts ie where overland flow paths are not available and stormwaters enter nearby properties.

The approach should on average result in cheaper and better prioritised schemes, through a reduction in underground pipe work and better matching costs to benefits. Furthermore the approach will be seen to be fairer and more readily understood by affected residents and Councillors.

Recommendation

1. That a change in approach for the design of relief schemes from one based on pipe capacity to one based on providing a desired level of immunity for property flooding be adopted in principle. OK

2. That scheme prioritisation be based on providing a QUDM Q10 level of immunity for property flooding.

3. That the 3 highest priorities schemes be revisited to assess the affects of this approach on scheme costs and priorities based on the QUDM Q10 standard.

4. That the level of flooding immunity offered be re-assessed in the light of the results of the above analyses.

[redacted]

D Carroll
Acting Engineer in Charge, Hydraulics
DEPARTMENT OF WORKS

ECH

For comment.

31/10

BCC - Asset Support Group
12131
2460
557 REL

BRISBANE CITY COUNCIL
DEPARTMENT OF WORKS
HYDRAULICS SECTION

RELIEF DRAINAGE STRATEGIC PLANNING

STUDY REPORT

BORNHORST+WARD

Stormwater
(General)

BCC.133.1605

BRISBANE CITY COUNCIL
DEPARTMENT OF WORKS
HYDRAULICS SECTION

RELIEF DRAINAGE STRATEGIC PLANNING

EXECUTIVE SUMMARY

JANUARY 1997

Initial Issue

Prepared by:

Bornhorst & Ward Pty. Ltd
Consulting Engineers
Level 4, 67 Astor Terrace
SPRING HILL Q 4000

BCC.133.1606

1 Introduction

The Department of Works is responsible for the management of the City's stormwater drainage assets including the upgrading of the drainage network to reduce the frequency and severity of flooding. Future relief drainage works are to be scheduled on a priority basis after Relief Drainage Catchment Investigations have been carried out. Council's Corporate Plan provides for Relief Drainage Catchment Investigations to be completed for all flood prone areas by the year 2000

Bornhorst and Ward were commissioned in May 1996 to identify and prioritise investigation of catchments experiencing local flooding and to develop a program to complete all investigations by the year 2000.

2 Methodology

A brief outline of the study methodology provides an overview of the various data sources considered and activities undertaken.

At the beginning of the project, base plans covering Brisbane were produced from the Bimap system. Produced in colour and in black and white, the maps show the street system, suburb boundaries, contours (10m interval) and the stormwater system at a scale of 1:20000.

Catchments were identified from the 10m contours on the base plans. The extent of the project was defined to be those areas developed prior to the implementation of the BCC 'Blue Book' stormwater drainage design standard in 1972. Study units have been identified as being one or more catchments to give a size suitable for investigation by a small consultancy team. A total of 59 Study Units have been defined. Bimap has produced quality, larger scale plans to cover all Study Units.

A report was obtained from the database of Works Investigation (WE) files held by the Plan Custodian section covering drainage problems. More than 1500 records were extracted from the database and will be referred to as WE records to differentiate them from the actual WE folders stored by the Plan Custodian. In excess of 1000 relevant WE records were plotted on base plans, coloured according to class (type of problem). Location on lengthy or long streets was determined using contours and pipe locations.

Each District Engineer was contacted and a meeting arranged with them and/or the Asset Officers. The aims of the study were discussed and a base plan supplied for markup of known problem areas.

The relevancy of WE records was checked to ensure that recent works had not addressed the problems reported. A comparison of WE record locations with the results of Flooding Surveys was undertaken to prove the usefulness of WE records as an indicator of flooding. WE records were assigned to Study Units for use as a variable in setting priority of investigation.

Town Planning issues of development potential and Local Area Plan development were identified early in the project as being important factors in determining priority of catchment

investigations. The locations and extent of proposed LAP's were obtained and current LAP's noted. The area of current town planning zonings were measured for each study unit and possible development estimated.

As community consultation is part of the brief for the detailed Relief Drainage Catchment Investigation, consultations with Councillors to determine their priorities for catchment investigations within their ward were undertaken.

In order to prepare a program of detailed studies, the cost of future studies has been estimated by reference to the cost of investigations nearing completion. Such costs have been used to fit investigation of study units into the target annual budget.

Data sources selected for use in setting investigation priority are :

1. WE record density
2. District Engineers advice
3. LAP activity
4. Development potential
5. Councillor priority

Each variable has been assigned a weighting factor that represents its importance. In determining the weighting to be applied to each variable, a number of factors have been considered. Extent of coverage, completeness of information, confidence that it represents the problem and how much it contributes to knowledge of current and potential flooding caused by stormwater runoff were all considered in the weighting process. As such, the weighting factor is a subjective assessment made by the study team.

WE Record Density : Weighting 40
The 'WE Record Density' has been considered to contain the most information regarding flood problems within an area and should be complete in its coverage. The weighting applied to the variable recognises the study team's confidence that this variable correctly represents the level of flooding problems in a study unit, as evidenced by the checks with recent Flood Survey results. The weighting is applied linearly with respect to the variable value.

District Engineer Advice : Weighting 10
Advice from District Engineers has been assigned a lower weighting as it is a supplement to the 'WE Record Density' variable. All major problems known by the District Engineer will have warranted a WE investigation and some districts reported that all known problems have been subject to a WE investigation. District officers supplied information separating problems into flooding of Habitable, Utility and Yard areas; the flooding relief priority ratios have been applied to this variable. The weighting is applied linearly with respect to the variable value.

LAP Activity : Weighting 20
This variable is important as it gives weighting to those areas subject to Town Planning study and possible Town Plan amendment. It is considered to be important that flooding relief and general drainage issues be addressed when determining Town Plan issues and these are best addressed during the LAP formulation stage. This variable will require updating as future LAP areas are identified. LAP activity is given full weighting for LAP's under development, 50% weighting for LAP's released.

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Development Potential : Weighting 20
It is well known that development of land may have an adverse effect on stormwater runoff. As such, development potential is a major factor in determining catchment investigation priority. While having little effect on relief of current problems, knowledge of the catchment and its stormwater drainage characteristics will allow adequate conditions to be readily placed on future development applications to ensure no increase in flooding occurs. The weighting is applied linearly with respect to the variable value.

Councillor Priority : Weighting 10
The Councillors are often the first points of contact for ratepayers suffering stormwater flooding. Their knowledge of the Ward and residents are important in addressing flooding problems and educating residents as to causes and practical solutions to local flooding. The weighting is applied linearly with respect to the variable value.

3 Outcomes

Study Units have been sorted in descending order of weighted priority. In considering the number of study units identified, investigation of the lowest ranked units is difficult to justify at this point in time. Those study units in the lower quartile (the lowest 25%) have been excluded from the current program as the weighting of these is less than 1/3 of the highest priority study unit.

An average study cost of $82,000 is estimated with on-costs of field survey and study supervision anticipated to average $26,000 for each study.

With the exclusion of the lower quartile study units, a total budget of $4.9 million is estimated.

The brief stated that Council's Corporate Plan (3.5.1) provides for Relief Drainage Investigations to be completed by the year 2000 and that a program of study be prepared for completion by the year 2000. Thus an annual budget of $1.6 million would be required.

The program has been prepared on the basis that no increase in funding ,over the current allocation of $600,000 per annum, was provided for these studies. With the average total study cost of $108,000 , only 5 or 6 studies can be programed for each year to meet this budget. Thus the program covers a 9 year period.

On completion of the upper quartile studies, a re-evaluation of the remaining study units should be undertaken to use updated information and priorities.

The proposed program is presented below. The study units have been programed in order of weighted priority with some reordering of the lowest ranked units in a year to suit the proposed budget.

PROGRAM OF STUDY

Annual target Budget $600,000

Year	Unit Id	Study unit name	Priority Ranking	Study Cost	On-Costs	Total	Running Total	
1997	35	Coorparoo	1	$108,600	$26,000	$134,600	$134,600	
1998	83	Clayfield	2	$79,500	$26,000	$105,500	$240,100	
	1	Chelmer/Graceville	3	$83,600	$26,000	$109,600	$349,700	
	88	Nundah	4	$96,500	$26,000	$122,500	$472,200	
	7	Alderley	5	$84,800	$26,000	$110,800	$583,000	
								$583,000
1998	81	Albion	6	$97,000	$26,000	$123,000	$123,000	
1999	34	Greenslopes	7	$95,300	$26,000	$121,300	$244,300	
	39	Yeronga	8	$112,000	$26,000	$138,000	$382,300	
	6	Ashgrove	9	$71,700	$26,000	$97,700	$480,000	
	93	Gordon Park	10	$79,900	$26,000	$105,900	$585,900	
								$585,900
1999	8	Mitchelton	11	$85,100	$26,000	$111,100	$111,100	
2000	92	Kedron	12	$85,800	$26,000	$111,800	$222,900	
	13	Sherwood/Corinda	13	$84,600	$26,000	$110,600	$333,500	
	9	Newmarket	14	$94,800	$26,000	$120,800	$454,300	
	40	Moorooka	15	$97,600	$26,000	$123,600	$577,900	
								$577,900
2000	5	Bardon	16	$71,100	$26,000	$97,100	$97,100	
2001	2	Kenmore	17	$66,000	$26,000	$92,000	$189,100	
	4	Toowong	18	$82,700	$26,000	$108,700	$297,800	
	37	Holland Park West	19	$73,500	$26,000	$99,500	$397,300	
	32	South Brisbane	20	$109,500	$26,000	$135,500	$532,800	
								$532,800
2001	64	Norman Park	21	$111,900	$26,000	$137,900	$137,900	
2002	86	Chermside	22	$83,100	$26,000	$109,100	$247,000	
	12	St Lucia	23	$80,400	$26,000	$106,400	$353,400	
	31	West End	24	$108,300	$26,000	$134,300	$487,700	
	71	Wynnum	25	$69,400	$26,000	$95,400	$583,100	
								$583,100
2002	11	Grange	26	$95,100	$26,000	$121,100	$121,100	
2003	67	Perrin Creek	27	$60,200	$26,000	$86,200	$207,300	
	47	Inala	28	$60,600	$26,000	$86,600	$293,900	
	36	Tarragindi	29	$95,900	$26,000	$121,900	$415,800	
	89	Northgate	30	$70,600	$26,000	$96,600	$512,400	
	43	Robertson	35	$59,500	$26,000	$85,500	$597,900	$597,900
2003	33	Wooloongabba	31	$108,800	$26,000	$134,800	$134,800	
2004	38	Holland Park	32	$97,400	$26,000	$123,400	$258,200	
	65	Bulimba	33	$77,100	$26,000	$103,100	$361,300	
	87	Wavell Heights	34	$95,300	$26,000	$121,300	$482,600	
	70	Manly/Lota	36	$83,400	$26,000	$109,400	$592,000	
								$592,000
2004	62	Camp Hill	37	$98,700	$26,000	$124,700	$124,700	
2005	42	Nathan	38	$72,600	$26,000	$98,600	$223,300	
	3	Chapel Hill	39	$59,000	$26,000	$85,000	$308,300	
	49	Oxley	40	$85,400	$26,000	$111,400	$419,700	
	41	Salisbury	41	$86,100	$26,000	$112,100	$531,800	
								$531,800
2005	94	Everton Park	42	$83,600	$26,000	$109,600	$109,600	
2006	44	Coopers Plains	43	$72,900	$26,000	$98,900	$208,500	
	14	The Gap	44	$58,400	$26,000	$84,400	$292,900	
								$292,900

— cutoff at lower quartile —

TOTAL $4,877,300

BCC.133.1610

BRISBANE CITY COUNCIL
DEPARTMENT OF WORKS
HYDRAULICS SECTION

RELIEF DRAINAGE STRATEGIC PLANNING

STUDY REPORT

JANUARY 1997

Initial Issue

Prepared by:

Bornhorst & Ward Pty. Ltd
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Level 4, 67 Astor Terrace
SPRING HILL Q 4000

BCC Ref: WDH72015
B&W Ref: 96526

BCC.133.1

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1 INTRODUCTION

1.1 Brief

The Department of Works is responsible for the management of the City's stormwater drainage assets including the upgrading of the drainage network to reduce the frequency and severity of flooding. Future relief drainage works are to be scheduled on a priority basis after Relief Drainage Catchment Investigations have been carried out. Council's Corporate Plan provides for Relief Drainage Catchment Investigations to be completed for all flood prone areas by the year 2000.

Bornhorst and Ward were commissioned in May 1996 to identify and prioritise investigation of catchments experiencing local flooding and to develop a program to complete all investigations by the year 2000.

2 METHODOLOGY

A brief outline of the study methodology provides an overview of the various data sources considered and activities undertaken.

At the beginning of the project, base plans covering Brisbane were produced from the Bimap system. Produced in colour and in black and white, the maps show the street system, suburb boundaries, contours (10m interval) and the stormwater system at a scale of 1:20000. These maps have been used as the working base plans for the majority of the project.

Catchments were identified from the 10m contours on the base plans. The extent of the project was defined and study units identified as being one or more catchments to give a size suitable for investigation by a small consultancy team. A total of 59 Study Units have been defined. Bimap has produced quality, larger scale plans to cover all Study Units.

A report was obtained from the database of Works Investigation (WE) files held by the Plan Custodian section covering drainage problems. More than 1500 records were extracted from the database and will be referred to as WE records to differentiate them from the actual WE folders stored by the Plan Custodian.

Each District Engineer was contacted and a meeting arranged with them and/or the Asset Officers. The aims of the study were discussed and a base plan supplied for markup of known problem areas.

In excess of 1000 relevant WE records were plotted on base plans, coloured according to class (type of problem). Location on lengthy or long streets was determined using contours and pipe locations.

The relevancy of WE records was checked to ensure that recent works had not addressed the problems reported. A comparison of WE record locations with the results of Flooding

Surveys were undertaken to prove the usefulness of WE records as an indicator of flooding. WE records were assigned to Study Units for use as a variable in setting priority of investigation.

Town Planning issues of development potential and Local Area Plan development were identified early in the project as being important factors in determining priority of catchment investigations. The locations and extent of proposed LAP's were obtained and current LAP's noted. The area of current town planning zonings were measured for each study unit and possible development estimated.

In order to prepare a program of detailed studies, the cost of future studies has been estimated by reference to the cost of investigations nearing completion. Such costs have been used to fit investigation of study units into the target annual budget.

As community consultation is part of the brief for the detailed Relief Drainage Catchment Investigations, consultations with Councillors to determine their priorities for catchment investigations within their ward were the extent of 'community survey' undertaken for this project.

From this process, a mathematical relationship was determined between variables to produce a weighted priority for Study Units (Refer Section 6). This priority has been used to develop the program of study as desired in the project brief.

3 STUDY UNIT IDENTIFICATION

At the beginning of the project, maps covering Brisbane were produced from the Bimap system. Produced in colour and in black and white, the maps show the street system, suburb boundaries, contours (10m interval) and the stormwater system at a scale of 1:20000. From these plans, Catchments have been identified for those areas of Brisbane covered by the project brief; i.e. flood prone areas.

In consultation with the project officer, the extent of study was been determined to be those areas constructed prior to the implementation of the BCC 'Blue Book' stormwater design standard. This standard increased the runoff coefficient from 0.46 to a minimum of 0.50. Provision for overland flow was also required. Design plans held by the Plan Custodian were checked, confirming the design change was implemented around March 1972. (Design Plan W5050). A useful indicator of the age of an area is that in newer developments, the stormwater system follows the road system. Outer areas of development under consideration were checked on Bimap to determine when construction took place, using the indicated Works Plan number to estimate construction time. Those near W5050 were then individually checked for runoff coefficient from microfiche plans held by the Plan Custodian Section.

Study Units have been formed from one or more geographically related catchments to be of a size suitable for investigation by a small consultancy team with a budget of less than $100,000.

4 DATA SOURCES

The Bimap system was used extensively to check stormwater locations and other details in conjunction with plans held by the Plan Custodian Section.

4.1 WE Records and Folders

4.1.1 Overview

The Works Department, Plan Custodian Section holds folders in which the results of all Works Estimates (WE) investigations are presented. These folders usually indicate the source and reason for the investigation, a report on conclusions, sketch designs and costing for any remedial works recommended. A catalogue of the folders has been computerised; the resulting database records Folder Number, Suburb and Street among other details. A report was produced from this database, listing WE folder numbers, ordered by Suburb and by Street (Refer Appendix B1). The report runs to 59 A4 pages; more than 1500 records. Also listed was the Class identifier for that folder. The aim of this "Class" identifier is to indicate the reason for the investigation.

The classes and their meaning are listed below:

DRGP -	Drainage affecting property.
DRGE -	Drainage.
DRGS -	Drainage affecting streets only.
STRC -	Structural investigation.
R&DP -	Roads and drainage affecting property.
R&DS -	Roads and drainage affecting street only.
SUBD -	Subdivision application checking.
CULV -	Culvert investigation

Of these, STRC and SUBD were discarded as being irrelevant to this study. The others were grouped into P: Affecting property (DRGP, R&DP), S: Streets only (DRGS, R&DS) and E: General (DRGE, CULV).

The aim of this grouping was to allow matching with Council's drainage problem weighting factors; 5 for habitable areas flooded, 1 for flooding of utility areas and 0.1 for flooding of yards only.
The flooding investigation was located using the Suburb & Street fields of the WE record and reference to the UBD for Brisbane. Together, suburb and street, along with the stormwater drainlines shown on the base plans, allowed a good estimate to be made of the location of the flooding without reference to the WE folder itself. To do so would have been very time consuming with little gain. Just over 1000 records were plotted by group (coloured red for P, blue for E, green for S) onto the four base plans.

4.1.2 Checking of WE Records

An exercise was undertaken to compare the WE records with Flood Survey results recently obtained as part of current detailed investigations. The aim was to show that the number

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of WE records was a reasonable indicator of flooding problems and that the grouping of WE records correlated with the flooding of habitable, utility and yard areas. Thus the priority weighting by flooding severity could be applied. The comparison of WE records and Flood Survey results was carried out for the Merthyr, Woolcock Park and Doomben Catchments. All WE records have been considered in the comparison as the Flood Survey forms request the householder to estimate flood frequency up to one every ten years.

Comparison of WE Records and Flood Survey Results

WE Records		Flood Survey		Ratio
		Sydney Street, Merthyr		
P	2	Habitable	6	3.0
E	2	Utility	13	6.5
S	3	Yard	36	12.0
	7		55	7.8
		Woolcock Park		
P	8	Habitable	23	2.9
E	2	Utility	35	17.5
S	2	Yard	29	14.5
	12		87	7.3
		Doomben		
P	20	Habitable	9	0.5
E	3	Utility	84	28.0
S	3	Yard	53	17.7
	26		146	5.6
		TOTAL		
P	30	Habitable	38	1.3
E	7	Utility	132	18.9
S	8	Yard	118	14.8
	45		288	6.4

Some correlation can be seen to exist between the total number of WE records and the total number of flooding reports in an area, confirming use of WE records as a suitable indicator of flooding problems. However, no correlation exists between the various classes (P, E, S) and flooding categories. Investigation of selected WE folders has shown that the

assigned class does not always correctly represent the type of flooding and some WE folders are to do with easements and road closures.

Discussion within the study team concluded that due to differences in interpretation by different investigations or filing staff, the classification of WE records cannot be used to determine type of flooding occurring. Thus the priority ratios assigned to habitable, utility, yard areas cannot be applied. Further study of the just over 1000 WE folders was considered unnecessary as the occurrence of totally irrelevant investigations is believed to be small.

4.1.3 Relevancy of WE Records

The WE records contained in the Plan Custodian's database include all those carried out and filed with the Plan Custodian. In many cases, works will have been constructed to address problems identified by the investigation. Each WE locality was viewed on Bimap to determine if a completed works plan covered the location. If it did, and was later than W5050 (the cutoff for implementation of the 'Blue Book'), that WE record has been removed from consideration in the prioritisation. If a works plan earlier than W5050 was indicated, the age and extent of the WE investigation was considered in deciding to retain or remove the investigation from the study. Removal for this case was rare.
It should be noted that some of the WE investigations that remain may have recommended minor works. Such works may have been fully or partially carried out by Maintenance without a full design being produced or as-constructed information being submitted. In either of these two cases no information is available on Bimap.

4.1.4 Works Schedules

Current works schedules no. 68 and no. 72 show works currently scheduled for construction. These works usually have designs and estimates already completed. In any case, they are being constructed to provide improved drainage. The extent of proposed work in 96/97 has been identified and the relevant WE records removed from further consideration.

4.1.5 Relief Drainage Investigations

Areas covered by recent or current detailed studies will not require further study and have been excluded from the scope of this project. All or parts of the following suburbs have recently been, or are currently under investigation and have been removed from the scope o this study; Woolowin/Clayfield, Ascot/Doomben, Auchenflower, Milton, Red Hill/Paddington, Lutwyche/Windsor, Kelvin Grove, Hawthorne, Bowen Hills/Fortitude Valley, New Farm, Newstead, East Brisbane (Norman Creek), Indooroopilly/Taringa. Current localised designs for drainage relief have also been excluded where known.

4.1.6 Priority Variable

The density of relevant WE files in a Study Unit (number of WE/Unit Area) forms a study priority variable. This allows for variations in Study Unit size and provides an indicator both of the number of complaints (generating WE investigations) and of the amount of flooding being experienced.

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4.2 Local Flooding Register

Some time ago a procedure for filing reports of local flooding was agreed between the Maintenance Districts and the Hydraulics Section. However, the procedure is currently under review and the register has not been kept up to date by all districts and complete information could not be located. Where such flooding is considered serious, a WE investigation is likely to have been undertaken.

4.3 District Markups

Meetings were held with District Engineers and/or their Asset Officers. The aim of the project was discussed and any ideas sought. Each district was requested to markup a plan of their district showing area of flooding problems, particularly those not noted on WE files. Plans were received back from East, West and Central Districts with others advising that all flooding problems were covered by WE investigations. (South noted that the continued use of old foul water lines causes problems when a line is blocked by downstream development, causing upstream properties to have problems).

The markups also noted the number of properties and type of flooding experienced. The flooding priority weighting has been applied and the resultant total forms one of the study priority variables.

4.4 Town Planning

The extent to which current land use is likely or probable to change has been considered as most redevelopment is to greater density and greater site coverage leading to increased runoff and obstruction of overland flow paths. It is also important as a considerable portion of installed underground drainage is below current standards and is not contained within road reserves or drainage easements. Higher density land use may restrict options for drainage augmentation unless such augmentation can be made a condition of development and/or included in Local Area Plans.

4.4.1 Local Area Planning

The presence of, and more particularly the development of, local area plans was recognised as being an important factor when considering the priority of which catchments should be investigated.

Current LAP's (95/96)	-	Kuraby	
(Released or in discussion)	-	Sandgate	
	-	Stevens	*
	-	Bulimba	*
	-	Moorooka	*
	-	East Brisbane/Coorparoo	*
	-	Chermside	*
Proposed LAP's (96/97)	-	Ashgrove	*
	-	Walter Taylor South	*
	-	Wooloowin/Clayfield	*
	-	Inala (Part)	*

Those marked * cover areas that fall within this study. For use in setting priority for catchment study, those LAP's currently or proposed to be developed have been given twice the rating as those LAP's already released. The delineation of overland flow paths and setting of minimum floor levels are major outcomes from Relief Drainage Investigations and most benefit can be gained by incorporating these into Local Area Plans. The timing of LAP's is shown in Table 1 and Table 2 as being financial year ending. (ie 95/96 shown as 96)

4.4.2 Land Use

For each study unit, zoning proportions have been measured for Residential A (Res A), Residential B (Res B), Inner Urban and Future Urban. These were taken from 1995 Zoning Plans provided by the Strategic Planning Section, Department of Development and Planning. Included in the plan set for each sector of Brisbane are plans showing Land Availability 1991. These plans show areas where it is expected that urban development will occur, graded as follows:

Dead Ripe: - Zoned Future Urban, Sewerage connection available, Flood free, No overall environmental value.

Category A:
- Zoned Future Urban, Future Industry, Other Industry.
- Significant cost of sewerage connection.
- Flood free.
- No overall environmental value.

Category B:
- May or may not require rezoning.
- Significant cost for sewerage connections.
- Localised flooding (fill less than 1m).
- No environmental value.

Category C: - Requires rezoning.

Unsuitable: - Unsuitable for development. Flood prone or has environmental value.

Dead Ripe, Category A and Category B have been investigated to determine their possible impacts. Where the above categories have not been in Future Urban Zoning, they have been recorded as Likely Res.

While originally conceived as being a satisfactory indicator, current zoning does not indicate the current level of development, particularly for Residential B zones. Upon investigation it was apparent that an indicator was required to better represent the amount of development that could take place in a Study Unit as opposed to current zoning.

It has been assumed that Residential A and Inner Urban zones are fully developed. While this does not allow for the redevelopment of 32 perch Residential A blocks into 16 perch blocks, measurement of possible infill would have been extremely difficult. Inner Urban zoned blocks are likely to have very high existing site coverage; development is unlikely to increase site coverage or runoff. For Residential B zoning, aerial photos held by the

Hydraulics Section have been used to estimate the proportion of high density development that is in place. Such estimates are indicative only as they were done by eye with no measurements being made. Development of Future Urban or Likely Res areas, where they are of significant parcel size, will require the developer to prepare a Local Area Outline Plan or Development Control Plan. Both of these will require a drainage investigation to ascertain impacts on the existing drainage system and design features that will ensure no adverse effects occur. Thus only the small pockets of Future Urban or Likely Res are of interest to this study. All other areas have been moved to the Major Development field.

The Percent Developable field of Table 1 is based upon the following formula:

$$\%Dev = (RB * (1 - CurRB) + FU + LR) / Total\ Area * 100$$

where

RB	area of Residential B zoning (km^2)
FU	area of Future Urban zoning (km^2)
LR	area of 'Likely Res' zoning (km^2)
CurRB	proportion of Residential B zoning currently developed as such
TotalArea	area of Study Unit (km^2)

This forms the Development Potential variable.

5 COUNCILLOR CONSULTATION

The project team considered that consultation with Councillors regarding flooding problems in their ward was the extent of 'community survey' warranted for this prioritisation study. Full community consultation is part of the brief for the detailed Relief Drainage Investigations.

In order to facilitate the easy location of Study units and sub-catchments, Bimap produced plans at the same scale as foldout UBD maps; 1:33333. A trial overlay was produced whereupon a 50% increase in scale was considered necessary to improve readability.

Transparent overlays were produced to cover each ward, with ward boundaries, study units and sub-catchments marked. The base plan, taken from maps help by the Plan Custodian, was marked to highlight major roads to provide reference points for the reader.
Sub-catchments were shown to enable greater distinction to be made between study units when they straddle ward boundaries. Sub-catchment priorities will also be useful if subdivision of a study unit is desired for either budget or time-constraint reasons.

5.1 Meetings

Short meetings were held with all Councillors with the exceptions of Central, Bracken Ridge and Deagon wards which cover little or no part of a Study unit. Councillors were requested to provide a priority for investigation of Study Units in their ward only.

All meetings were well received and the need for prioritisation of investigation was supported. Many Councillors reported only one or two Study Units that they considered important, with no reason to rank other Study Units that are covered by the ward. (These other Study Units have been assigned a ranking of 5) The majority of the complaints received regarding stormwater were the result of creeks or channelised streams flooding.

In addition to ranking streams, individual catchments causing complaints or concern were identified and any comments noted. Areas of concern are catchments centred on the streets noted with the study unit in brackets. Individual problems are not indicated as they are addressed by the Local Drainage Unit.

Acacia Ridge Cr. K. Bianci
Comments : No problems reported regarding local drainage. Some areas experiencing creek backup

Chandler Cr. M. Caltabiano
S.U. Ranking : 1 - Pine Mountain, 2 - Camp Hill , 3 - Mansfield
Special concern : Gaffrey (62), Maranoa St (62)
Comments : Some areas of Carindale (outside study extent) are experiencing minor problems. Found large scale plan useful and requested a copy of Sheet 7.

Doboy Cr. J. Campbell
S.U. Ranking : 1 - Wynnum West, 2 - Carina , 3 - Camp Hill , 4 - Perrin Ck
Special concern : Adelaide St (62)
Comments : Acknowledged that significant work has just been completed. Most stormwater problems are creek related issues, particularly older areas of Tingalpa.

Dutton Park Cr. T. Quinn
S.U. Ranking : 1- Yeronga, 2 - south Brisbane, 3 - West End
Special concern : Manson Pde (39), Glouster St (32) , Boundary St (31)
Comments : Yeronga and South Brisbane have significant flooding of habitable areas.

East Brisbane Cr. R. Twell
Comments : No problems known due to extended dry weather during period of office. Complaints following recent storm are being investigated by Maintenance but appear to be creek related. Community perception is that creek system is the major problem and getting worse.

Enoggera Cr. A. Bennison
S.U. Ranking : 1- Alderley , 2 - Mitchelton
Special concern : Kooya St (8)
Comments : An area of Ferny Grove (outside study extent) has significant problems due to townhouse development.

Grange Cr. M. Hayes
S.U. Ranking : 1 - Gordon Park, 2 - Grange
Special concern : Barron St (93), Turner Rd (93)
Comments : Kedron Brook and Breakfast Creek cause problems but is aware that little can be done, particularly with Breakfast Creek.

Hamilton Cr. G. Clay
S.U. Ranking : 1- Clayfield, 2 - Albion , 3 - Hamilton
Special concern : Macintyre St (83), Elize St (83)
Comments : Breakfast Creek causes backup problems in stormwater pipes. Requested a copy of Study Unit plot Sheet 3.

Holland Park Cr. G. Chiconi
S.U. Ranking : 1- Holland Park
Comments : No major problem areas

Jamboree Cr. C. Watson
S.U. Ranking : 1- Oxley
Special concern : Cook St (49), Stanfeld St (49)
Comments : Some areas of Jindalee do have minor problems. Concern was raised regarding drainage upstream of the Mt. Ommaney Shopping Centre

Marchant Cr. T. Hampson
S.U. Ranking : 1- Chermside, 2 - Aspley
Comments : Chermside Shopping Centre is quite old and drainage is inadequate. Proposed redevelopment may address issue.

McDowell Cr. J. Wilding
S.U. Ranking : 1- Gordon Park, 2 - Stafford , 3 - Everton Park
Special concern : Hickey Pk (93)

Moorooka Cr. M. Bailey
S.U. Ranking : 1- Moorooka, 2 - Coopers Plains
Comments : Backup from Stable Swamp creek causes most problems. Rocklea area has had some problems and Cr. queried why it wasn't included. *(Very small catchments. Could be handled by Local Drainage Unit if required)*

Morningside Cr. S. Humphreys
S.U. Ranking : 1- Perrin Creek, 2 - Norman Park
Comments : Some problems with creek flooding but most concern is with stormwater entering sewer system causing overflows.

Northgate Cr. P. Vaughan
S.U. Ranking : 1- Nundah, 2 - Northgate
Comments : Some problems are reported of houses built over old stormwater pipes settling. A problem with creek flooding appears to have been addressed by recent works.

Pullenvale Cr. R. Mills
S.U. Ranking : 1 - Kenmore , 2 - Chapel Hill
Special concern : Dumfries St (2)
Comments : Cr. considers both catchments have considerable problems and ranked almost equally. Areas lower in the catchments are felt to be older and suffering from more recent developments higher in the catchments.

Richlands Cr. L. Bryant
S.U. Ranking : 1- Durack, 2 - Inala
Special concern : Durelae St (47) , Japonica St (48)
Comments : The capacity of the open watercourses in the area gives rise to considerable complaints. All the watercourses are man made. Some concern indicated regarding flows from Forest Lake development along Wedgetail St., both of which are outside the study extent.

Runcorn Cr. G. MacPherson
S.U. Ranking : 1- Robinson, 2 - Macgregor, 3 - Sunnybank Hills
Special concern : Mandarin St (43), Alkira St (46)

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The Gap Cr. B. Hallinan
S.U. Ranking : 1- Ashgrove, 2 - The Gap
Special concern : Holmesbrook St (6)
Comments : Problem being noticed in drainline parallel to Holmesbrook St., Ashgrove. Relief drainage has been constructed to augment system but Cr. suspects that old pipe is blocked or collapsed. Inadequate downstream pipes at Woorama Rd/Kaloma St. intersection cause manhole covers to lift and local flooding. Cr. Hallinan indicated that there is extensive community involvement in waterway preservation and maintenance in the area.

Toowong Cr. J. Magub
S.U. Ranking : 1- Toowong, 2 - St. Lucia, 3 - Bardon

Walter Taylor Cr. J. O'Connell
S.U. Ranking : 1- Chapel Hill, 2 - Chelmer/Graceville, 3- Sherwood, 4 - St. Lucia
Special concern : Shirley St (3), Leybourne St (1)
Comments : Significant works are under construction or design but problems still exist because much of Chelmer/ Graceville is very flat. RB4 development behind Indooroopilly Shopping Centre is causing problems.

Wishart Cr. G. Quirk
S.U. Ranking : 1- Macgregor
Special concern : Logan Rd, northeast side of South East Freeway (66)
Comments : No real local drainage problems known. Some concerns regarding creek flooding

Wynnum Manly Cr. P. Cummings
S.U. Ranking : 1- Wynnum, 2 - Manly/Lota
Special concern : Agnes St (71), Alastair St (70)
Comments : Areas in Wynnum West are of concern as many are acreage and are being subject to increased overland flow following residential development along the ridge.

5.2 Rankings for Study Units

Where a Study Unit covers two or more wards, it is necessary to apportion rankings by each Ward Councillor. This has been achieved by estimating the proportion of study unit area within a ward and using this proportion to modify the ranking.

i.e. 30% of Ward A ranking + 70% of Ward B ranking

The resultant average ranking is shown in Table 1 and has been used as a priority variable.

6 PRIORITISATION

Variables selected for use in setting investigation priority were :

1. WE record density
2. District Engineers advice
3. LAP activity
4. Development potential
5. Councillor priority

6.1 Weighting

Each variable has been assigned a weighting factor that represents its importance. In determining the weighting to be applied to each variable, a number of factors have been considered. Extent of coverage, completeness of information, confidence that it represents the problem and how much it contributes to knowledge of current and potential flooding caused by stormwater runoff were all considered in the weighting process. As such, the weighting factor is a subjective assessment made by the study team.

WE Record Density : Weighting 40
The 'WE Record Density' has been considered to contain the most information regarding flood problems within an area and should be complete in its coverage. The weighting applied to the variable recognises the study team's confidence that this variable correctly represents the level of flooding problems in a study unit, as evidenced by the checks with recent Flood Survey results. The weighting is applied linearly with respect to the variable value.

District Engineer Advice : Weighting 10
Advice from District Engineers has been assigned a lower weighting as it is a supplement to the 'WE Record Density' variable. All major problems known by the District Engineer will have warranted a WE investigation and some districts reported that all known problems have been subject to a WE investigation. District officers supplied information separating problems into flooding of Habitable, Utility and Yard areas; the flooding relief priority ratios have been applied to this variable. The weighting is applied linearly with respect to the variable value.

LAP Activity : Weighting 20
This variable is important as it gives weighting to those areas subject to Town Planning study and possible Town Plan amendment. It is considered to be important that flooding relief and general drainage issues be addressed when determining Town Plan issues and these are best addressed during the LAP formulation stage. This variable will require updating as future LAP areas are identified. LAP activity is given full weighting for LAP's under development, 50% weighting for LAP's released.

Development Potential : Weighting 20
It is well known that development of land may have an adverse effect on stormwater runoff. As such, development potential is a major factor in determining catchment investigation priority. While having little effect on relief of current problems, knowledge of the catchment and its stormwater drainage characteristics will allow adequate conditions to be readily placed on future development applications to ensure no increase in flooding

occurs. The weighting is applied linearly with respect to the variable value.

Councillor Priority : Weighting 10
The Councillors are often the first points of contact for ratepayers suffering stormwater flooding. Their knowledge of the Ward and residents are important in addressing flooding problems and educating residents as to causes and practical solutions to local flooding. The weighting is applied linearly with respect to the variable value.

6.2 Outcomes

The prioritisation table (Table 2) shows all study units ordered by weighted priority. The table has been setup to allow for priority weighting to be modified as the need arises.

A sensitivity analysis was carried out on the weightings. Modifying each variable in turn showed little change in the priority of most study units. Only those units in the upper quartile experienced any noticeable change. Changing the weighting for 'LAP Activity' was the only one to change a study units' ranking by more than 2 or 3 positions.

7 PROGRAM OF STUDY

The brief stated that Corporate Goal 3.5.1 was to complete Relief Drainage Investigations by the year 2000.

7.1 Cost Estimates

Cost estimates for individual study units have been derived from a regression analysis of anticipated costs of Relief Drainage Catchment Investigations currently nearing completion. A total of 12 investigations were available, with two being dropped from analysis due to differences in scope. The other studies cover a range of sizes and terrain types.

The initial trial used only Area (and derivatives such as $Area^2$, $\sqrt{Area}$, 1/Area) as a variable in estimating total study cost; only a moderate correlation was noted. (std error = $20,000, correlation coefficient 0.74[1]). Total Study Costs include survey cost which is treated as an additional cost for work undertaken by Council.

Discussions with the project officer resolved to exclude the highly variable survey cost from the analysis and proposed a Catchment Complexity variable for inclusion.

Each of the catchments were assigned a Complexity rating between 1 and 5 by the project officer based on knowledge of the catchment and discussions at meetings with the relevant consultants.

The resulting regression analysis produced a much better correlation (std error = $9,100, correlation coefficient 0.87) and has been adopted.

The formula is as follows: [2]

Est. Study Cost = 130,000 - 1/Area (km^2) * 28,050 - Complexity * 12,950

Each Study Unit has been scanned and a complexity rating assigned by comparison to current studies.

As noted above, survey costs have been excluded from the cost estimates. The reasoning is that survey costs are highly variable and are generally carried out by other BCC sections with the actual study performed by a consultant organisation.

For budgeting purposes, survey costs will be treated as a fixed on-cost in addition to study supervision. Two types of survey may be required; field survey to establish ground levels for overland flow paths and detention areas; and pipe survey to establish size and condition

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1 The Correlation Coefficient (known as r^2) is an indicator of how well estimated data matches the actual data used in the regression analysis. A coefficient of 1 indicates a perfect match between real and modelled data.

2 Full details of the analysis and data used are contained on the Est Cost sheet of the Lotus 1-2-3 workbook SYDUNITS.WK4.

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of existing stormwater assets. The following costs are averages from completed investigations.

On-Costs (for each study unit)

Field Survey	$ 13,000
Pipe Survey	$ 5,000
Study Supervision	$ 8,000
	$ 26,000

7.2 Program of Study

Study Units have been sorted in descending order of weighted priority in Table 2. In considering the number of study units identified, investigation of the lowest ranked units is difficult to justify at this point in time. Those study units in the lower quartile (the lowest 25%) have been excluded from the current program as the weighting of these is less than 1/3 of the highest priority study unit. (Refer Figure 1)

With the exclusion of the lower quartile study units, a total budget of $4.9 million is estimated.

The study brief was to provide a program of study for completion by the year 2000. Thus an annual budget of $1.6 million would be required.

The program has been prepared on the basis that no increase in funding ,over the current allocation of $600,000 per annum, was provided for these studies. With the average total study cost of $108,000 , only 5 or 6 studies can be programed for each year to meet this budget. Thus the program covers a 9 year period. Changes to this target budget can easily be accommodated using Table 3 of the worksheet. (Refer Appendix E)

On completion of the upper quartile studies, a re-evaluation of the remaining study units should be undertaken to use updated information and priorities.

The proposed program is presented below in Table 3. The study units have been programed in order of weighted priority with some reordering of the lowest ranked units in a year to suit the proposed budget.

APPENDIX A - Tables & Figures

Table 1	Study Unit data
Table 2	Prioritisation data
Figure 1	Study Unit Ranking
Table 3	Programme of Study
Table 4	Study Unit - Ward Relationships

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TABLE 1 -- STUDY UNIT DATA

Unit Id	Name	All WE records P	E	S	Total	WE removed P	E	S	Total	Relevant WE P	E	S	Total	Area (km²)	WE / km²	Ranking	District Engineer's Flooding Advice Habitable 10.0	Utility 1.0	Yards 0.1	Total	LAP coverage	Year	Area of Zoning (km²) ResA	ResB	InnerRes	FutureUrb	LikelyRes	Major develop	Current ResB	Percent Developable	Councillor Priority	Catchment complexity	Est. Study Cost
1	Chelmer/Graceville	16	4	7	27	6	0	1	7	10	4	6	20	3.7	5.4	*****	2	1	1	21	Walt. Taylor Sth	97	3.2	0.0	0.0	0.0	0.0	0.0	0%	0%	2	3	$83,600
2	Kenmore	6	8	3	17	1	3	0	4	5	5	3	13	2.3	5.7	*****	0	0	0	0			2.0	0.0	0.0	0.0	0.0	0.0	30%	1%	1	4	$66,000
3	Chapel Hill	14	7	1	22	4	3	0	7	10	4	1	15	4.5	3.3	***	0	0	0	0			2.4	0.1	0.0	0.0	0.0	0.0	0%	0%	1.5	5	$59,000
4	Toowong	10	10	1	21	4	3	0	7	6	7	1	14	3.3	4.2	****	0	0	5	1			0.6	1.1	0.0	0.0	0.0	0.0	40%	13%	1	3	$82,700
5	Bardon	9	4	0	13	2	3	0	5	7	1	0	8	1.4	5.7	*****	1	0	1	10			1.0	0.1	0.0	0.0	0.0	0.0	20%	1%	4	3	$71,100
6	Ashgrove	14	5	0	19	7	2	0	9	7	3	0	10	4.3	2.3	**	2	1	9	22	Ashgrove	97	2.5	0.5	0.0	0.0	0.0	0.0	30%	3%	1	4	$71,700
7	Alderley	18	5	4	27	7	3	1	11	11	2	3	16	4.4	3.6	***	1	1	8	12	Ashgrove (part)	97	2.3	0.3	0.0	0.1	0.0	0.0	50%	6%	2.4	3	$84,800
8	Mitchelton	22	7	8	37	7	1	0	8	15	6	8	29	4.6	6.3	******	1	1	13	12			1.9	0.4	0.0	0.1	0.0	0.5	30%	5%	2	3	$85,100
9	Newmarket	15	5	2	22	7	1	0	8	8	4	2	14	3.0	4.7	****	3	0	6	31			1.2	0.6	0.1	0.0	0.0	0.0	30%	6%	5	2	$94,800
10	Wilston	8	1	2	11	7	0	2	9	1	1	0	2	1.9	1.1	*	2	0	9	21			0.3	0.4	0.4	0.0	0.0	0.0	10%	2%	5	3	$76,400
11	Grange	13	3	3	19	6	0	1	7	7	3	2	12	3.1	3.9	***	2	0	4	20			1.8	0.5	0.0	0.0	0.0	0.0	10%	2%	2	2	$95,100
12	St Lucia	8	4	1	13	2	2	0	4	6	2	1	9	2.6	3.5	***	0	0	2	0			1.2	0.7	0.0	0.0	0.0	0.0	70%	19%	2.2	3	$80,400
13	Sherwood/Corinda	10	3	5	18	3	0	3	6	7	3	2	12	4.3	2.8	**	0	1	2	1	Walt. Taylor Sth	97	1.9	0.6	0.0	0.0	0.0	0.0	20%	3%	3.1	3	$84,600
14	The Gap	7	4	2	13	1	0	1	2	6	4	1	11	4.1	2.7	**	0	0	0	0			2.6	0.0	0.0	0.1	0.0	0.0	0%	2%	2.2	5	$58,400
15	Keperra	6	3	2	11	1	0	0	1	5	3	2	10	3.8	2.6	**	0	0	2	0			1.8	0.0	0.0	0.1	0.0	0.2	0%	3%	5	3	$83,800
31	West End	8	7	3	18	0	1	0	1	8	6	3	17	3.2	5.3	*****	0	0	0	0			0.1	1.9	0.0	0.0	0.0	0.0	5%	3%	3	1	$108,300
32	South Brisbane	6	6	4	16	1	0	0	1	5	6	4	15	3.7	4.1	****	0	0	0	0	E.Bris (part)	96	0.1	0.8	0.6	0.0	0.0	0.0	10%	2%	3.8	1	$109,500
33	Wooloongabba	7	5	3	15	5	1	1	7	2	4	2	8	3.4	2.4	**	0	0	2	0	E.Bris (part)	96	0.4	1.1	0.2	0.0	0.0	0.0	10%	3%	3	1	$108,800
34	Greenslopes	7	8	2	17	1	2	1	4	6	6	1	13	3.2	4.1	****	0	0	4	0	Stephens & E.Bris (part)	96	0.1	1.6	0.0	0.0	0.0	0.0	50%	25%	5	2	$95,300
35	Coorparoo	18	8	1	27	3	2	0	5	15	6	1	22	3.3	6.7	******	0	0	4	0	E.Bris (part)	96	1.7	1.3	0.0	0.0	0.0	0.0	60%	23%	5	1	$108,600
36	Tarragindi	9	2	1	12	1	0	1	2	8	2	0	10	3.4	2.9	**	0	0	0	0	Moorooka,Stephens	96	2.1	0.6	0.0	0.0	0.0	0.0	10%	2%	5	2	$95,900
37	Holland Park West	24	9	5	38	6	2	4	12	18	7	1	26	6.0	4.3	****	0	1	2	1	Moorooka (part)	96	3.5	0.2	0.0	0.1	0.0	0.0	5%	1%	5	4	$73,500
38	Holland Park	8	5	2	15	0	0	0	0	8	5	2	15	4.2	3.6	***	0	0	0	0			2.1	1.2	0.0	0.0	0.0	0.0	5%	1%	1	2	$97,400
39	Yeronga	24	3	2	29	2	1	0	3	22	2	2	26	5.5	4.7	****	0	0	0	0	Moorooka,Stephens	96	1.6	2.0	0.0	0.0	0.0	0.0	30%	11%	1	1	$112,000
40	Moorooka	17	6	6	29	5	5	2	12	12	1	4	17	4.3	4.0	***	0	0	0	0	Moorooka,Stephens	96	1.6	1.1	0.0	0.0	0.0	0.0	20%	5%	1.8	2	$97,600
41	Salisbury	6	6	0	12	0	1	0	1	6	5	0	11	5.5	2.0	**	0	0	0	0	Moorooka	96	1.9	0.3	0.0	0.0	0.0	0.0	10%	1%	5	3	$86,100
42	Nathan	6	1	4	11	1	1	0	2	5	0	4	9	5.0	1.8	*	0	0	0	0	Moorooka (part)	96	2.2	0.0	0.0	0.2	0.0	0.0	0%	4%	5	4	$72,600
43	Robertson	5	5	1	11	3	0	1	4	2	5	0	7	4.9	1.4	*	0	0	0	0	Moorooka (part)	96	2.8	0.0	0.0	0.3	0.0	0.0	0%	6%	2.2	5	$59,500
44	Coopers Plains	11	0	0	11	5	0	0	5	6	0	0	6	5.3	1.1	*	0	0	0	0	Moorooka	96	1.8	0.0	0.0	0.1	0.0	0.0	0%	2%	2.6	4	$72,900
45	Acacia Ridge	14	6	9	29	4	3	3	10	10	3	6	19	8.2	2.3	**	0	0	0	0			2.2	0.0	0.0	0.2	0.0	0.0	0%	2%	5	4	$74,800
46	Sunnybank Hills	5	3	2	10	3	0	1	4	2	3	1	6	4.1	1.5	*	0	0	0	0			2.5	0.0	0.0	0.0	0.0	0.6	0%	0%	4	5	$58,400
47	Inala	1	6	1	8	1	0	1	2	0	6	0	6	6.0	1.0	*	0	0	0	0	Inala	97	3.3	0.1	0.0	0.2	0.0	0.7	80%	4%	2	5	$60,600
48	Durack	13	5	1	19	6	2	1	9	7	3	0	10	6.0	1.7	*	0	0	0	0			2.7	0.0	0.0	0.2	0.0	0.6	0%	3%	1.4	3	$86,500
49	Oxley	8	6	4	18	0	2	1	3	8	4	3	15	4.9	3.1	***	0	0	0	0			2.2	0.0	0.0	0.0	0.2	1.0	0%	2%	1.4	3	$85,400
60	Mansfield/Mt Gravatt	8	9	1	18	3	6	1	10	5	3	0	8	3.4	2.4	**	0	0	0	0			1.9	0.3	0.0	0.0	0.0	0.0	10%	1%	4.8	3	$82,900
61	Pine Mountain	7	2	1	10	0	1	1	2	7	1	0	8	5.9	1.4	*	0	0	0	0			3.1	0.1	0.0	0.3	0.0	0.0	50%	6%	3.8	3	$86,400
62	Camp Hill	16	9	2	27	8	1	0	9	8	8	2	18	5.2	3.5	***	0	0	0	0			1.8	1.0	0.0	0.0	0.0	0.0	10%	3%	2.5	2	$98,700
63	Carina	6	2	2	10	3	1	0	4	3	1	2	6	3.0	2.0	**	0	0	0	0			2.1	0.1	0.0	0.1	0.0	0.2	10%	4%	2.6	3	$81,800
64	Norman Park	9	11	6	26	2	4	2	8	7	7	4	18	5.4	3.3	***	0	1	6	2	E.Bris (part)	96	1.6	1.7	0.3	0.0	0.0	0.0	20%	6%	2.9	1	$111,900
65	Bulimba	4	4	2	10	0	1	1	2	4	3	1	8	2.0	4.0	****	0	0	0	0			0.9	0.4	0.0	0.0	0.0	0.0	20%	4%	5	3	$77,100
66	Macgregor	19	3	2	24	7	2	1	10	12	1	1	14	6.2	2.3	**	0	0	0	0			4.4	0.0	0.0	0.1	0.0	0.0	0%	2%	1.4	5	$60,700
67	Perrin Creek	19	9	1	29	3	0	0	3	16	9	1	26	5.6	4.6	****	0	0	4	0			3.6	1.0	0.0	0.0	0.0	0.0	20%	4%	1.75	5	$60,200
70	Manly/Lota	6	4	3	13	0	1	2	3	6	3	1	10	3.6	2.8	**	0	5	1	5			2.0	0.1	0.0	0.2	0.0	0.0	20%	6%	2	3	$83,400
71	Wynnum	8	3	5	16	5	1	0	6	3	2	5	10	3.2	3.1	***	3	3	0	33			2.0	0.2	0.0	0.0	0.0	0.0	20%	1%	1	4	$69,400
72	Wynnum West	8	3	0	11	2	1	0	3	6	2	0	8	6.0	1.3	*	0	0	5	1			4.0	0.3	0.0	0.3	0.0	0.0	30%	6%	3.4	5	$60,600
81	Albion	8	5	0	13	1	1	0	2	7	4	0	11	1.4	7.9	*******	0	0	0	0			0.4	0.1	0.0	0.0	0.0	0.0	40%	3%	2	1	$97,000
82	Hamilton	2	3	0	5	0	1	0	1	2	2	0	4	2.6	1.5	*	0	0	0	0			0.1	0.8	0.0	0.0	0.0	0.0	10%	3%	3	5	$54,500
83	Clayfield	10	5	3	18	4	1	0	5	6	4	3	13	2.4	5.4	*****	0	0	0	0	Clayfield (part)	97	0.7	0.6	0.0	0.0	0.0	0.0	40%	10%	1	3	$79,500
84	Stafford	4	7	0	11	2	2	0	4	2	5	0	7	3.8	1.8	*	0	0	0	0			2.4	0.0	0.0	0.0	0.0	0.0	0%	0%	2	5	$57,900
85	Chermside West	4	5	0	9	3	0	0	3	1	5	0	6	3.0	2.0	**	0	0	0	0			1.6	0.1	0.0	0.0	0.0	0.0	20%	1%	5	4	$68,900
86	Chermside	8	7	3	18	4	2	0	6	4	5	3	12	3.5	3.4	***	0	0	0	0	Chermside (part)	96	1.2	0.6	0.0	0.0	0.0	0.0	50%	8%	4.6	3	$83,100
87	Wavell Heights	16	3	3	22	6	1	1	8	10	2	2	14	3.2	4.4	****	0	0	0	0			3.1	0.0	0.0	0.0	0.0	0.0	0%	0%	5	2	$95,300
88	Nundah	22	3	4	29	3	0	2	5	19	3	2	24	3.7	6.5	******	0	0	0	0			0.4	2.1	0.0	0.0	0.0	0.0	40%	23%	1	2	$96,500
89	Northgate	14	4	1	19	2	1	0	3	12	3	1	16	3.7	4.3	****	0	0	0	0			1.7	0.0	0.0	0.0	0.0	0.0	0%	0%	2	4	$70,600
90	Aspley	4	3	3	10	3	2	0	5	1	1	3	5	2.7	1.9	*	0	0	0	0			2.3	0.0	0.0	0.0	0.0	0.0	0%	0%	2	3	$80,800
91	Zillmere	7	2	1	10	4	1	0	5	3	1	1	5	2.2	2.3	**	0	0	0	0			1.2	0.0	0.0	0.0	0.0	0.0	0%	0%	5	4	$65,500
92	Kedron	34	16	4	54	8	8	3	19	26	8	1	35	5.2	6.7	******	0	0	0	0			2.5	0.3	0.0	0.0	0.0	0.0	80%	5%	5	3	$85,800
93	Gordon Park	5	3	2	10	0	0	0	0	5	3	2	10	2.5	4.0	****	0	0	0	0			1.0	1.1	0.0	0.0	0.0	0.0	70%	30%	1	3	$79,900
94	Everton Park	13	5	4	22	6	3	1	10	7	2	3	12	3.7	3.2	***	0	0	0	0			2.1	0.2	0.0	0.0	0.0	0.0	50%	3%	4.8	3	$83,600
59	TOTALS	634	300	145	1079	191	86	41	318	443	214	104	761	234.5	3.4					20			110	28	2	3	0		21%	4%			$4,813,200

NOTES: P - DrgP (Drainage affecting properties), R&DP (Road & Drge affecting property)
E - DrgE (Drainage)
S - DrgS (Drainage affecting streets only)

WE Records removed is the number of records removed following relevancy check for recent work.

Cost Estimates from Current Studies Cost Regression

min	$54,500
max	$112,000
avg	$81,580

TABLE 2 -- STUDY UNIT PRIORITIZATION

Unit Id	Name	Area (km²)	WE / km²		District Eng. Advice		LAP activity		Development Potential		Councillor Priority		Weighted Value	Priority rank	Est. Cost k$
	WEIGHTING			40		10		20		20		10	100		
35	Coorparoo	3.3	6.7	33	0	0	96	10	23%	16	5.0	6	65	1	109
83	Clayfield	2.4	5.4	26	0	0	97	20	10%	7	1.0	10	63	2	80
1	Chelmer/Graceville	3.7	5.4	26	21	6	97	20	0%	1	2.0	9	62	3	84
88	Nundah	3.7	6.5	32	0	0	0	0	23%	15	1.0	10	57	4	97
7	Alderley	4.4	3.6	16	12	4	97	20	6%	5	2.4	9	53	5	85
81	Albion	1.4	7.9	40	0	0	0	0	3%	3	2.0	9	52	6	97
34	Greenslopes	3.2	4.1	18	0	0	96	10	25%	17	5.0	6	51	7	95
39	Yeronga	5.5	4.7	22	0	0	96	10	11%	8	1.0	10	50	8	112
6	Ashgrove	4.3	2.3	9	22	7	97	20	3%	3	1.0	10	48	9	72
93	Gordon Park	2.5	4.0	18	0	0	0	0	30%	20	1.0	10	48	10	80
8	Mitchelton	4.6	6.3	31	12	4	0	0	5%	4	2.0	9	48	11	85
92	Kedron	5.2	6.7	34	0	0	0	0	5%	4	5.0	6	44	12	86
13	Sherwood/Corinda	4.3	2.8	11	1	0	97	20	3%	3	3.1	8	42	13	85
9	Newmarket	3.0	4.7	22	31	9	0	0	6%	5	5.0	6	42	14	95
40	Moorooka	4.3	4.0	18	0	0	96	10	5%	4	1.8	9	41	15	98
5	Bardon	1.4	5.7	28	10	3	0	0	1%	2	4.0	7	40	16	71
2	Kenmore	2.3	5.7	27	0	0	0	0	1%	2	1.0	10	39	17	66
4	Toowong	3.3	4.2	19	1	0	0	0	13%	9	1.0	10	39	18	83
37	Holland Park West	6.0	4.3	20	1	0	96	10	1%	2	5.0	6	38	19	74
32	South Brisbane	3.7	4.1	18	0	0	96	10	2%	2	3.8	7	38	20	110
64	Norman Park	5.4	3.3	14	2	0	96	10	6%	5	2.9	8	38	21	112
86	Chermside	3.5	3.4	15	0	0	96	10	8%	6	4.6	6	37	22	83
12	St Lucia	2.6	3.5	15	0	0	0	0	19%	13	2.2	9	37	23	80
31	West End	3.2	5.3	26	0	0	0	0	3%	3	3.0	8	36	24	108
71	Wynnum	3.2	3.1	13	33	10	0	0	1%	2	1.0	10	35	25	69
11	Grange	3.1	3.9	17	20	6	0	0	2%	2	2.0	9	35	26	95
67	Perrin Creek	5.6	4.6	22	0	0	0	0	4%	3	1.8	9	34	27	60
47	Inala	6.0	1.0	1	0	0	97	20	4%	4	2.0	9	34	28	61
36	Tarragindi	3.4	2.9	12	0	0	96	10	2%	2	5.0	6	30	29	96
89	Northgate	3.7	4.3	20	0	0	0	0	0%	1	2.0	9	30	30	71
33	Wooloongabba	3.4	2.4	9	0	0	96	10	3%	3	3.0	8	30	31	109
38	Holland Park	4.2	3.6	16	0	0	0	0	1%	2	1.0	10	27	32	97
65	Bulimba	2	4.0	18	0	0	0	0	4%	3	5.0	6	27	33	77
87	Wavell Heights	3.2	4.4	20	0	0	0	0	0%	1	5.0	6	27	34	95
43	Robertson	4.9	1.4	3	0	0	96	10	6%	5	2.2	9	27	35	60
70	Manly/Lota	3.6	2.8	11	5	2	0	0	6%	5	2.0	9	26	36	83
62	Camp Hill	5.2	3.5	15	0	0	0	0	3%	3	2.5	9	26	37	99
42	Nathan	5.0	1.8	6	0	0	96	10	4%	4	5.0	6	25	38	73
3	Chapel Hill	4.5	3.3	14	0	0	0	0	0%	1	1.5	10	25	39	59
49	Oxley	4.9	3.1	13	0	0	0	0	2%	2	1.4	10	25	40	85
41	Salisbury	5.5	2.0	7	0	0	96	10	1%	1	5.0	6	24	41	86
94	Everton Park	3.7	3.2	14	0	0	0	0	3%	3	4.8	6	23	42	84
44	Coopers Plains	5.3	1.1	2	0	0	96	10	2%	2	2.6	8	22	43	73
14	The Gap	4.1	2.7	11	0	0	0	0	2%	2	2.2	9	22	44	58
66	Macgregor	6.2	2.3	8	0	0	0	0	2%	2	1.4	10	20	45	61
15	Keperra	3.8	2.6	10	0	0	0	0	3%	3	5.0	6	19	46	84
63	Carina	3.0	2.0	7	0	0	0	0	4%	3	2.6	8	18	47	82
48	Durack	6.0	1.7	5	0	0	0	0	3%	3	1.4	10	17	48	87
45	Acacia Ridge	8.2	2.3	8	0	0	0	0	2%	3	5.0	6	17	49	75
60	Mansfield/Mt Gravatt	3.4	2.4	9	0	0	0	0	1%	2	4.8	6	16	50	83
90	Aspley	2.7	1.9	6	0	0	0	0	0%	1	2.0	9	16	51	81
10	Wilston	1.9	1.1	1	21	6	0	0	2%	2	5.0	6	16	52	76
84	Stafford	3.8	1.8	6	0	0	0	0	0%	1	2.0	9	16	53	58
72	Wynnum West	6.0	1.3	3	1	0	0	0	6%	5	3.4	8	16	54	61
91	Zillmere	2.2	2.3	8	0	0	0	0	0%	1	5.0	6	15	55	66
82	Hamilton	2.6	1.5	4	0	0	0	0	3%	3	3.0	8	15	56	55
61	Pine Mountain	5.9	1.4	3	0	0	0	0	6%	5	3.8	7	15	57	86
85	Chermside West	3.0	2.0	7	0	0	0	0	1%	1	5.0	6	14	58	69
46	Sunnybank Hills	4.1	1.5	4	0	0	0	0	0%	1	4.0	7	12	59	58
59	TOTALS	234.5									EXCLUDES ON-COSTS				$4,813,200
	max	8.2	7.9	40.0	33.0	10.0	97.0	20.0	30%	20.0	5.0	10.0	65.0		$112
	avg	4.0	3.4	14.7	3.3	1.0	32.6	4.4	5%	4.1	3.0	8.0	32.3		$82
	min	1.4	1.0	1.0	0.0	0.0	0.0	0.0	0%	1.0	1.0	6.0	11.6		$55

LAP's are complete if year 96 or earlier

Upper Quartile 41
Lower Quartile 20

Table 3 : PROGRAM OF STUDY

Annual target Budget $600,000

Year	Unit Id	Study unit name	Priority Ranking	Study Cost	On-Costs	Total	Running Total	
1997	35	Coorparoo	1	$108,600	$26,000	$134,600	$134,600	
1998	83	Clayfield	2	$79,500	$26,000	$105,500	$240,100	
	1	Chelmer/Graceville	3	$83,600	$26,000	$109,600	$349,700	
	88	Nundah	4	$96,500	$26,000	$122,500	$472,200	
	7	Alderley	5	$84,800	$26,000	$110,800	$583,000	
								$583,000
1998	81	Albion	6	$97,000	$26,000	$123,000	$123,000	
1999	34	Greenslopes	7	$95,300	$26,000	$121,300	$244,300	
	39	Yeronga	8	$112,000	$26,000	$138,000	$382,300	
	6	Ashgrove	9	$71,700	$26,000	$97,700	$480,000	
	93	Gordon Park	10	$79,900	$26,000	$105,900	$585,900	
								$585,900
1999	8	Mitchelton	11	$85,100	$26,000	$111,100	$111,100	
2000	92	Kedron	12	$85,800	$26,000	$111,800	$222,900	
	13	Sherwood/Corinda	13	$84,600	$26,000	$110,600	$333,500	
	9	Newmarket	14	$94,800	$26,000	$120,800	$454,300	
	40	Moorooka	15	$97,600	$26,000	$123,600	$577,900	
								$577,900
2000	5	Bardon	16	$71,100	$26,000	$97,100	$97,100	
2001	2	Kenmore	17	$66,000	$26,000	$92,000	$189,100	
	4	Toowong	18	$82,700	$26,000	$108,700	$297,800	
	37	Holland Park West	19	$73,500	$26,000	$99,500	$397,300	
	32	South Brisbane	20	$109,500	$26,000	$135,500	$532,800	
								$532,800
2001	64	Norman Park	21	$111,900	$26,000	$137,900	$137,900	
2002	86	Chermside	22	$83,100	$26,000	$109,100	$247,000	
	12	St Lucia	23	$80,400	$26,000	$106,400	$353,400	
	31	West End	24	$108,300	$26,000	$134,300	$487,700	
	71	Wynnum	25	$69,400	$26,000	$95,400	$583,100	
								$583,100
2002	11	Grange	26	$95,100	$26,000	$121,100	$121,100	
2003	67	Perrin Creek	27	$60,200	$26,000	$86,200	$207,300	
	47	Inala	28	$60,600	$26,000	$86,600	$293,900	
	36	Tarragindi	29	$95,900	$26,000	$121,900	$415,800	
	89	Northgate	30	$70,600	$26,000	$96,600	$512,400	
	43	Robertson	35	$59,500	$26,000	$85,500	$597,900	$597,900
2003	33	Wooloongabba	31	$108,800	$26,000	$134,800	$134,800	
2004	38	Holland Park	32	$97,400	$26,000	$123,400	$258,200	
	65	Bulimba	33	$77,100	$26,000	$103,100	$361,300	
	87	Wavell Heights	34	$95,300	$26,000	$121,300	$482,600	
	70	Manly/Lota	36	$83,400	$26,000	$109,400	$592,000	
								$592,000
2004	62	Camp Hill	37	$98,700	$26,000	$124,700	$124,700	
2005	42	Nathan	38	$72,600	$26,000	$98,600	$223,300	
	3	Chapel Hill	39	$59,000	$26,000	$85,000	$308,300	
	49	Oxley	40	$85,400	$26,000	$111,400	$419,700	
	41	Salisbury	41	$86,100	$26,000	$112,100	$531,800	
								$531,800
2005	94	Everton Park	42	$83,600	$26,000	$109,600	$109,600	
2006	44	Coopers Plains	43	$72,900	$26,000	$98,900	$208,500	
	14	The Gap	44	$58,400	$26,000	$84,400	$292,900	
								$292,900

--- cutoff at lower quartile --

TOTAL **$4,877,300**

Table 4 - STUDY UNIT -- WARD RELATIONSHIPS

SORTED BY STUDY UNIT

Unit Id	SU Name	Ward	Area % in Ward	Cr. Rank	Weighted	Average	Study Priority
1	Chelmer/Graceville	Walter Taylor	100	2	200	2	3
2	Kenmore	Pullenvale	100	1	100	1	17
3	Chapel Hill	Pullenvale	50	2	100		
3	Chapel Hill	Walter Taylor	50	1	50	1.5	39
4	Toowong	Toowong	100	1	100	1	18
5	Bardon	The Gap	50	5	250		
5	Bardon	Toowong	50	3	150	4	16
6	Ashgrove	The Gap	100	1	100	1	9
7	Alderley	Enoggera	65	1	65		
7	Alderley	Grange	10	5	50		
7	Alderley	The Gap	25	5	125	2.4	5
8	Mitchelton	Enoggera	100	2	200	2	11
9	Newmarket	Enoggera	40	5	200		
9	Newmarket	Grange	60	5	300	5	14
10	Windsor	Grange	100	5	500	5	52
11	Grange	Grange	100	2	200	2	26
12	St Lucia	Toowong	90	2	180		
12	St Lucia	Walter Taylor	10	4	40	2.2	23
13	Sherwood/Corinda	Jamboree	5	5	25		
13	Sherwood/Corinda	Walter Taylor	95	3	285	3.1	13
14	The Gap	The Gap	95	2	190		
14	The Gap	Toowong	5	5	25	2.2	44
15	Keperra	Enoggera	100	5	500	5	46
31	West End	Dutton Park	100	3	300	3	24
32	South Brisbane	Central	30	5	150		
32	South Brisbane	Dutton Park	40	2	80		
32	South Brisbane	East Brisbane	30	5	150	3.8	20
33	Wooloongabba	Dutton Park	40	5	200		
33	Wooloongabba	East Brisbane	60	5	300	3	31
34	Greenslopes	Dutton Park	10	5	50		
34	Greenslopes	East Brisbane	90	5	450	5	7
35	Coorparoo	East Brisbane	100	5	500	5	1
36	Tarragindi	Moorooka	100	5	500	5	29
37	Holland Park West	Holland Pk	50	5	250		
37	Holland Park West	Moorooka	50	5	250	5	19
38	Holland Park	Holland Pk	100	1	100	1	32
39	Yeronga	Dutton Park	100	1	100	1	8
40	Moorooka	Dutton Park	20	5	100		
40	Moorooka	Moorooka	80	1	80	1.8	15
41	Salisbury	Moorooka	100	5	500	5	41
42	Nathan	Holland Pk	10	5	50		
42	Nathan	Moorooka	50	5	250		
42	Nathan	Wishart	40	5	200	5	38
43	Robertson	Moorooka	30	5	150		
43	Robertson	Runcorn	70	1	70	2.2	35
44	Coopers Plains	Acacia Ridge	20	5	100		
44	Coopers Plains	Moorooka	80	2	160	2.6	43
45	Acacia Ridge	Acacia Ridge	80	5	400		
45	Acacia Ridge	Moorooka	10	5	50		
45	Acacia Ridge	Runcorn	10	5	50	5	49
46	Sunnybank Hills	Acacia Ridge	50	5	250		
46	Sunnybank Hills	Runcorn	50	3	150	4	59
47	Inala	Richlands	100	2	200	2	28
48	Durack	Jamboree	10	5	50		
48	Durack	Richlands	90	1	90	1.4	48
49	Oxley	Jamboree	90	1	90		
49	Oxley	Richlands	10	5	50	1.4	40
60	Mansfield/Mt Gravatt	Chandler	10	3	30		
60	Mansfield/Mt Gravatt	Holland Pk	90	5	450	4.8	50
61	Pine Mountain	Chandler	30	1	30		
61	Pine Mountain	Holland Pk	70	5	350	3.8	57
62	Camp Hill	Chandler	70	2	140		
62	Camp Hill	Doboy	20	3	60		
62	Camp Hill	East Brisbane	10	5	50	2.5	37
63	Carina	Doboy	80	2	160		
63	Carina	Morningside	20	5	100	2.6	47
64	Norman Park	East Brisbane	30	5	150		
64	Norman Park	Morningside	70	2	140	2.9	21
65	Bulimba	Morningside	100	5	500	5	33
66	Macgregor	Runcorn	40	2	80		
66	Macgregor	Wishart	60	1	60	1.4	45
67	Perrin Ck	Doboy	25	4	100		
67	Perrin Ck	Morningside	75	1	75	1.8	27
70	Manly/Lota	Wynnum Manly	100	2	200	2	36
71	Wynnum	Wynnum Manly	100	1	100	1	25
72	Wynnum West	Doboy	40	1	40		
72	Wynnum West	Wynnum Manly	60	5	300	3.4	54
81	Albion	Hamilton	100	2	200	2	6
82	Hamilton	Hamilton	100	3	300	3	56
83	Clayfield	Hamilton	100	1	100	1	2
84	Stafford	McDowall	100	2	200	2	53
85	Chermside West	Marchant	75	5	375		
85	Chermside West	McDowall	25	5	125	5	58
86	Chermside	Marchant	50	5	250		
86	Chermside	McDowall	10	1	10		
86	Chermside	Grange	40	5	200	4.6	22
87	Wavell Heights	Northgate	80	5	400		
87	Wavell Heights	Marchant	20	5	100	5	34
88	Nundah	Northgate	100	1	100	1	4
89	Northgate	Northgate	100	2	200	2	30
90	Aspley	Marchant	100	2	200	2	51
91	Zillmere	Marchant	100	5	500	5	55
92	Kedron	McDowall	10	5	50		
92	Kedron	Grange	50	5	250		
92	Kedron	Northgate	40	5	200	5	12
93	Gordon Park	Grange	60	1	60		
93	Gordon Park	McDowall	40	1	40	1	10
94	Everton Park	McDowall	90	5	450		
94	Everton Park	Ennogerra	10	3	30	4.8	42
99	TOTALS	99	59.6				

SORTED BY WARD

Unit Id	Ward	SU Name	Area % in Ward	Num in Ward	Cr. Rank	Study Priority
45	Acacia Ridge	Acacia Ridge	80		5	49
44	Acacia Ridge	Coopers Plains	20	3	5	43
46	Acacia Ridge	Sunnybank Hills	50		5	59
32	Central	South Brisbane	30	1	5	20
62	Chandler	Camp Hill	70		2	37
60	Chandler	Mansfield/Mt Gravatt	10		3	50
61	Chandler	Pine Mountain	30	3	1	57
62	Doboy	Camp Hill	20		3	37
63	Doboy	Carina	80	4	2	47
67	Doboy	Perrin Ck	25		4	27
72	Doboy	Wynnum West	40		1	54
34	Dutton Park	Greenslopes	10		5	7
40	Dutton Park	Moorooka	20		5	15
32	Dutton Park	South Brisbane	40		2	20
31	Dutton Park	West End	100		3	24
33	Dutton Park	Wooloongabba	40		5	31
39	Dutton Park	Yeronga	100	6	1	8
62	East Brisbane	Camp Hill	10		5	37
35	East Brisbane	Coorparoo	100		5	1
34	East Brisbane	Greenslopes	90		5	7
64	East Brisbane	Norman Park	30		5	21
32	East Brisbane	South Brisbane	30	6	5	20
33	East Brisbane	Wooloongabba	60		5	31
94	Enogerra	Everton Park	10		5	42
7	Enoggera	Alderley	65	5	1	5
15	Enoggera	Keperra	100		5	46
8	Enoggera	Mitchelton	100		2	11
9	Enoggera	Newmarket	40		5	14
7	Grange	Alderley	10		5	5
86	Grange	Chermside	40		5	22
93	Grange	Gordon Park	60		1	10
11	Grange	Grange	100	7	2	26
92	Grange	Kedron	50		5	12
9	Grange	Newmarket	60		5	14
10	Grange	Windsor	100		5	52
81	Hamilton	Albion	100	3	2	6
83	Hamilton	Clayfield	100		1	2
82	Hamilton	Hamilton	100		3	56
38	Holland Pk	Holland Park	100		1	32
37	Holland Pk	Holland Park West	50		5	19
60	Holland Pk	Mansfield/Mt Gravatt	90		5	50
42	Holland Pk	Nathan	10	5	5	38
61	Holland Pk	Pine Mountain	70		5	57
48	Jamboree	Durack	10	3	5	48
49	Jamboree	Oxley	90		1	40
13	Jamboree	Sherwood/Corinda	5		5	13
90	Marchant	Aspley	100		2	51
86	Marchant	Chermside	50		1	22
85	Marchant	Chermside West	75	5	5	58
87	Marchant	Wavell Heights	20		5	34
91	Marchant	Zillmere	100		5	55
86	McDowall	Chermside	10		5	22
85	McDowall	Chermside West	25		5	58
94	McDowall	Everton Park	90		3	42
93	McDowall	Gordon Park	40		1	10
92	McDowall	Kedron	10		5	12
84	McDowall	Stafford	100	6	2	53
45	Moorooka	Acacia Ridge	10		5	49
44	Moorooka	Coopers Plains	80		2	43
37	Moorooka	Holland Park West	50		5	19
40	Moorooka	Moorooka	80		1	15
42	Moorooka	Nathan	50		5	38
43	Moorooka	Robertson	30		5	35
41	Moorooka	Salisbury	100		5	41
36	Moorooka	Tarragindi	100	8	5	29
65	Morningside	Bulimba	100		5	33
63	Morningside	Carina	20	4	5	47
64	Morningside	Norman Park	70		2	21
67	Morningside	Perrin Ck	75		1	27
92	Northgate	Kedron	40	4	5	12
89	Northgate	Northgate	100		2	30
88	Northgate	Nundah	100		1	4
87	Northgate	Wavell Heights	80		5	34
3	Pullenvale	Chapel Hill	50	2	2	39
2	Pullenvale	Kenmore	100		1	17
48	Richlands	Durack	90		1	48
47	Richlands	Inala	100	3	2	28
49	Richlands	Oxley	10		5	40
45	Runcorn	Acacia Ridge	10		5	49
66	Runcorn	Macgregor	40	4	2	45
43	Runcorn	Robertson	70		1	35
46	Runcorn	Sunnybank Hills	50		3	59
7	The Gap	Alderley	25	4	5	5
6	The Gap	Ashgrove	100		1	9
5	The Gap	Bardon	50		5	16
14	The Gap	The Gap	95		2	44
5	Toowong	Bardon	50	4	3	16
12	Toowong	St Lucia	90		2	23
14	Toowong	The Gap	5		5	44
4	Toowong	Toowong	100		1	18
3	Walter Taylor	Chapel Hill	50		1	39
1	Walter Taylor	Chelmer/Graceville	100		2	3
13	Walter Taylor	Sherwood/Corinda	95	4	3	13
12	Walter Taylor	St Lucia	10		4	23
66	Wishart	Macgregor	60	2	1	45
42	Wishart	Nathan	40		5	38
70	Wynnum Manly	Manly/Lota	100		2	36
71	Wynnum Manly	Wynnum	100		1	25
72	Wynnum Manly	Wynnum West	60	3	5	54
99	0	TOTALS	59.6	99		
			min	1		
			max	8		
			avg	4.3		

NOTES : 'Area % in ward' is the percentage of a study unit's area within the ward
'Cr. Rank' is the priority rank of study unit advised by the Councillor. Value of 5 used when not advised.

APPENDIX B - Sample WE Record listing

BCC.133.163

Brisbane City Council
Works Department
Work Estimate Folders by Suburb

Suburb	Street	Folder No	Class
EAST BRISBANE	EDGAR ST	WE 3607	DRGS
EAST BRISBANE	GRESHAM ST	WE 3917	STRC
EAST BRISBANE	LAIDLAW PDE	WE 4018	DRGP
EAST BRISBANE	LAIDLAW PDE	WE 4119	STRC
EAST BRISBANE	LATROBE ST	WE 2736	DRGS
EAST BRISBANE	LYTTON RD	WE 2735	DRGS
EAST BRISBANE	LYTTON RD	WE 3994	DRGP
EAST BRISBANE	MOWBRAY TCE	WE 507	DRGE
EAST BRISBANE	OAKLANDS PDE	WE 1752	STRC
EAST BRISBANE	STAFFORD ST	WE 1807	DRGP
EAST BRISBANE	STAFFORD ST	WE 2083	DRGP
EAST BRISBANE	STANLEY ST EAST	WE 1024	STRC
EAST BRISBANE	STANLEY ST EAST	WE 1213	DRGP
E[illegible] BRISBANE	STANLEY ST EAST	WE 2660	DRGP
EAST BRISBANE	WELLINGTON RD	WE 1670	DRGP
EIGHT MILE PLAINS	BULIMBA CREEK	WE 3886	R&DP
EIGHT MILE PLNS	ALLARA PL	WE 3947	DRGP
EIGHT MILE PLNS	BLEASBY RD	WE 512	CULV
EIGHT MILE PLNS	BOLTON ST	WE 1061	DRGE
EIGHT MILE PLNS	BORDEAUX ST	WE 2374	DRGP
EIGHT MILE PLNS	BORDEAUX ST	WE 2985	DRGP
EIGHT MILE PLNS	BRAMPTON ST	WE 3785	DRGP
EIGHT MILE PLNS	BRAMWELL ST	WE 1317	DRGP
EIGHT MILE PLNS	CRESSBROOK ST	WE 2339	DRGP
EIGHT MILE PLNS	DEVONLEA ST	WE 3037	STRC
EIGHT MILE PLNS	GAGARRA ST	WE 3089	DRGS
EIGHT MILE PLNS	GAGARRA ST	WE 3129	SUBD
EIGHT MILE PLNS	GAGARRA ST	WE 3991	DRGP
EIGHT MILE PLNS	GASKELL ST	WE 2704	CULV
E[illegible] [illegible] MILE PLNS	LOGAN RD	WE 486	CULV
EIGHT MILE PLNS	PADSTOW RD	WE 1480	CULV
EIGHT MILE PLNS	PADSTOW RD	WE 2375	DRGP
EIGHT MILE PLNS	PUMICE ST	WE 1236	DRGP
EIGHT MILE PLNS	TAPIOCA ST	WE 3049	SUBD
EIGHT MILE PLNS	UNDERWOOD RD	WE 1040	CULV
EIGHT MILE PLNS	UNDERWOOD RD	WE 3047	SUBD
EIGHT MILE PLNS	WARRIGAL RD	WE 1147	DRGP
EIGHT MILE PLNS	WARRIGAL RD	WE 2251	DRGP
ELLEN GROVE	BAGNALL ST	WE 805	CULV
ELLEN GROVE	BAGNALL ST	WE 2856	DRGE
ELLEN GROVE	CONSIDINE ST	WE 2880	DRGP
ELLEN GROVE	CONSIDINE ST	WE 4169	CULV
ELLEN GROVE	WOOGAROO ST	WE 4141	SUBD
ENOGGERA	ALDINGA ST	WE 1948	DRGP
ENOGGERA	BELLEVUE AVE	WE 548	CULV
ENOGGERA	BOND ST	WE 2935	DRGP

APPENDIX C - Study Brief

DEPARTMENT OF WORKS
HYDRAULICS SECTION

BRIEF FOR RELIEF DRAINAGE STRATEGIC PLANNING

1.0 INTRODUCTION

1.1 Numerous areas of Brisbane experience nuisance flooding resulting from undersized local stormwater drainage systems which do not comply with Council's current design standards.

1.2 It is a responsibility of the Department of Works to undertake the construction of relief stormwater drainage to reduce the frequency and severity of local flooding. Future relief drainage works are scheduled on a priority basis after Relief Drainage Catchment Investigations have been carried out. Council's Corporate Plan provides for Relief Drainage Catchment Investigations to be completed for all flood prone areas across Brisbane by the year 2000. To achieve this target, a consultancy is required to identify and prioritise those flood prone catchments experiencing local flooding and to develop a program to complete all investigations by 2000.

2.0 GENERAL

2.1 This brief is to be read in conjunction with the Brisbane City Council's *General Conditions for Consultancy Services* as attached as Appendix A.

2.2 The commission for this work shall be initiated by a letter of acceptance from the Manager, Department of Works and completed by return of duplicate consultancy agreements of the type included in Appendix B, duly executed by the Consultant's representative.

3.0 PERSONNEL

3.1 Only personnel with extensive experience and proven ability in relief drainage investigations, community survey and stakeholder participation processes shall undertake the work of the consultancy.

3.2 The ability and experience of personnel offered by Consultants for the commission will be an important consideration in assessment of submissions.

4.0 GENERAL REQUIREMENTS

4.1 Under direction from the consultant, Council's Bimap Section shall prepare plans showing major catchment boundaries for all trunk drainage systems in older flood prone areas of Brisbane.

4.2 The consultant shall determine the extent of local flooding in catchments and the level of complaints from residents. These shall be determined by a range of methods including searching of Council records, consultation with Councillors and officers from the Department's Design, Planning and Maintenance Branches and community surveys as appropriate.

4.3 The consultant shall then develop a methodology to prioritise catchments requiring detailed engineering investigations using criteria of benefit/cost and social aspects.

4.4 The consultant shall determine a schedule which will achieve the completion of future catchment investigations by 2000. Using costing information supplied by Council of recent investigations, the consultant shall advise on projected expenditures to enable future budget bids to be prepared.

4.5 At the conclusion of the consultancy, a Final Report shall be prepared by the consultant suitable for use in preparing budget bids for undertaking a program of detailed relief drainage catchment investigations up to the year 2000. The report shall list all catchments identified with local drainage problems, the extent of complaint, the cost of investigation and a priority ranking for investigation based on appropriate methodology.

4.6 It is important that the Final Report is completed not later than six months after the commencement of the consultancy. The consultant shall advise at fortnightly intervals of the anticipated level of resourcing required to complete the program on time.

7 The Project Officer shall evaluate offers received from consulting engineers in accordance with the *ACEA Guidelines for Value Selection of Consulting Engineers* and prepare recommendations and submissions to Council for the engagement of the consultant to undertake the design.

The following weightings for the attributes referred to in the ACEA Guidelines will be applied:-

Attribute	Weighting
Relevant experience	10%
Track Record	10%
Technical Skills	20%
Management Skills	15%
Methodology	15%
Time	10%
Price	20%
Totals	**100%**

The consultant should briefly address each of the above attributes in the submission. The abilities of the key personnel offered will be our important consideration in assessing offers.

The Project Officer will be available to assist consultants with regard to Council requirements but will not be responsible for day to day decisions for consultants.

All work shall be undertaken to comply with the requirements of the *Design Branch Quality System.*

5.0 TIMING

Timing will be important and the consultant's ability to meet agreed time scales will be an important consideration in assessing submissions.

6.0 PAYMENTS

6.1 Payment for the consultant's service will be on an hourly rate basis for nominated personnel.

6.2 Payment will be made on the basis of work completed each month. Payment will be effected 14 days after receipt of the consultant's invoice.

7.0 ASSISTANCE FROM COUNCIL

7.1 Council will provide a suitably equipped working area in the Hydraulics Section within the Brisbane Administration Centre building. Equipment such as furniture, telephone, fax machine, photocopier, plan printing, mainframe computer connection, and carpool vehicle for official usage will be provided. Word processing and report preparation services would be provided by Council.

Under the direction of the consultant, Hydraulics' Bimap Section will prepare catchment plans throughout the study for use in investigations and for inclusion in the Final Report.

8.0 WORKERS COMPENSATION, PUBLIC LIABILITY AND PROFESSIONAL LIABILITY INSURANCES

8.1 The consultant is to provide in writing, confirmation of current worker's compensation coverage and public liability and professional indemnity insurances quoting the policy numbers and details of the amount of coverage. This advice is to accompany the letter of offer and failure to provide this information may result in no further consideration being given to the offer.

9.0 WORKPLACE HEALTH AND SAFETY

9.1 The consultant shall accept appointment under the Workplace Health and Safety Act as principal contractor for all work. The consultant shall give all notification required and pay all fees payable under the provisions of the Workplace Health and Safety Act and shall produce to the Council evidence of such notification and payment prior to commencing work of the commission.

APPENDIX D - Council Contacts

COUNCIL CONTACTS

Name	Off.Code	Information
	SEH	Project Officer ; current study details
		results of current studies; current cost estimates
	SDH	Flooding register; completed studies
	DSH	Schedule 68 & 72 works
		Plan Custodian section; WE record extraction
		Plan preparation
	DEW	District markups - West
	DEE	District markups - East
		District markups - East
		District markups - East
	TPMC5	District markups - Central
	DES	District markups - South
	ACS5	District markups - South
	TSN2	District markups - North
	TSN3	District markups - North
	STPLAP	future Local Area planning details
	POLAP8	details of current LAP's
	PO1SP	Strategic planning maps showing zoning and land availability

BCC.133.16

APPENDIX E - Updating the Data

BCC.133.1643

Updating the data

All data has been stored in a single Lotus 1-2-3 workbook : SDYUNITS.WK4 utilising several worksheets , some linked together.
The workbook has been setup in a manner to make updating of data possible. The updates anticipated are LAP preparation and Town Plan changes. All other data can be modified just as easily if required.
Table 1 (Study Unit data) & Table 2 (Prioritisation) are linked by the Study Unit Id field and it must be noted that inserting additional columns into Table 1 will require changes to formulae in Table 2.

Program of Study
Table 3 (Program of Study) is also linked to Tables 1 & 2 for Unit Names and Estimated Costs. To alter the program, simply replace the Id field with a new Id number; Name , Ranking and Estimated Cost should update. Their is provision for up to 6 studies per year if budget allows. Additional studies can be included by inserting a row above the bottom one of a year and copying formulae from the row below.

LAP Preparation
The year field is the financial year ending (ie 96/97 = 97) that LAP development is proposed for. This value can be any year. The Prioritisation table (Table 2) includes a cell at the bottom. LAP's are complete if before 96 or earlier. The 96 value is used to determine if an LAP has been completed or is only proposed, varying the weighting applied. This cell should be updated to be the current year ending as necessary.

Town Plan changes
If the Town Plan is amended, the areas of zoning can be amended to match. While this may seem a large task, the expansion of Residential B zoning is the only one to have much effect.

Cost Estimates
Full details of the analysis and data used are contained on the Est Cost sheet of the Lotus 1-2-3 workbook SYDUNITS.WK4.

APPENDIX F - Plans

The Bimap section of Works Hydraulics has prepared a series of plans covering the extent of the Study showing Study Unit boundaries, sub-catchments, the stormwater drainage network , the street system and contours. Included are A3 reductions of the 1:10000 A1 size plans.

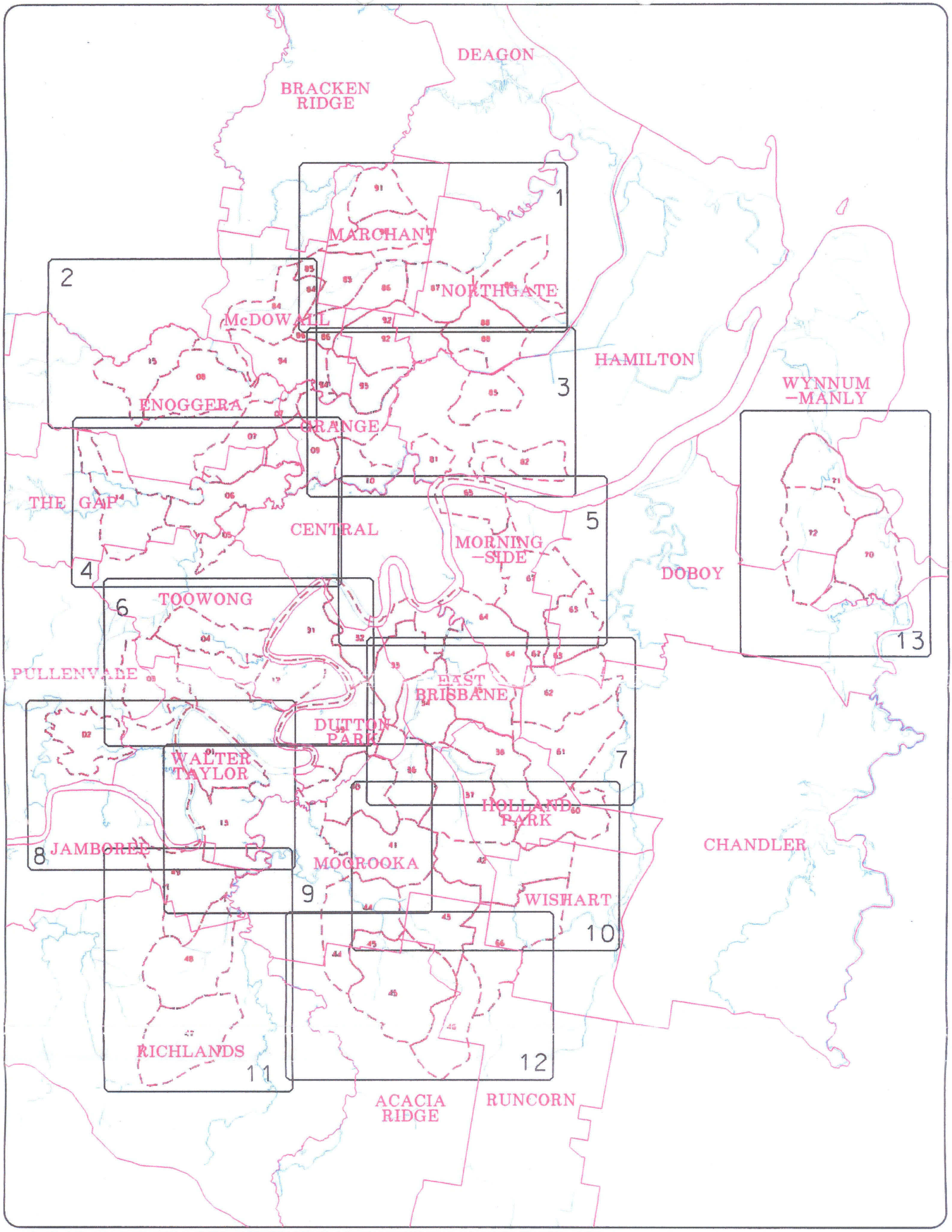
PLANS

Index Sheet
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13

Numerous other plans have been produced for use in the study including overlays for Strategic Planning maps and plans showing the geographical relationship between Study Units and Ward boundaries.

For Councillor consultation, overlays were prepared to suit large scale UBD plans. The advantage being that the UBD plans show parks and schools as handy reference points for discussions.

BCC.133.164



Bimap WORKS DEPARTMENT
Brisbane City

Considerable care has been taken to avoid errors and omissions and the lastest information has been sought out and included. The Brisbane City Council does not accept any responsibility for any errors, omissions or inaccuracies for information on this map.

The cadastral information has been supplied in conjunction with the Department of Natural Resources.

Prepared by
Contact No.
Plot Date : 16-DEC-1996
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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS INDEX SHEET

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SCALE 1:50000

N

LEGEND
09 Study Unit Number
Study Unit Boundaries
8 Sheet Number
Sheet Boundaries
Ward Boundary
DOBOY Ward Name

Printed by wrk09 on Monday December 16 1996 at 09:48:50 SST

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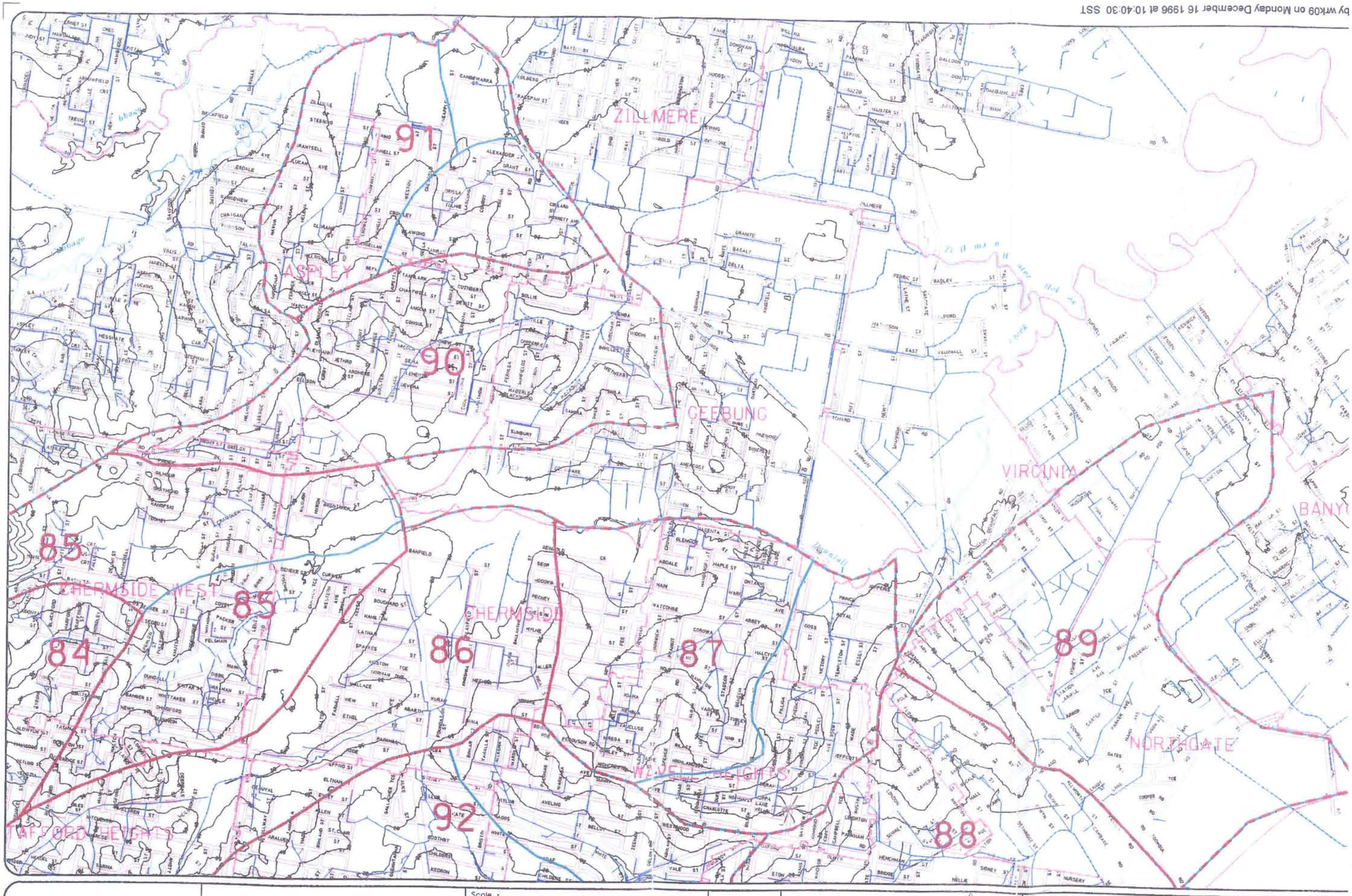
BCC.133.1617

by wrk09 on Monday December 16 1996 at 10:40:30 SST



BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 1

Bimap — Works Department — Brisbane City

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SCALE 1:10,000

Prepared by
Contract No.
Plot Date
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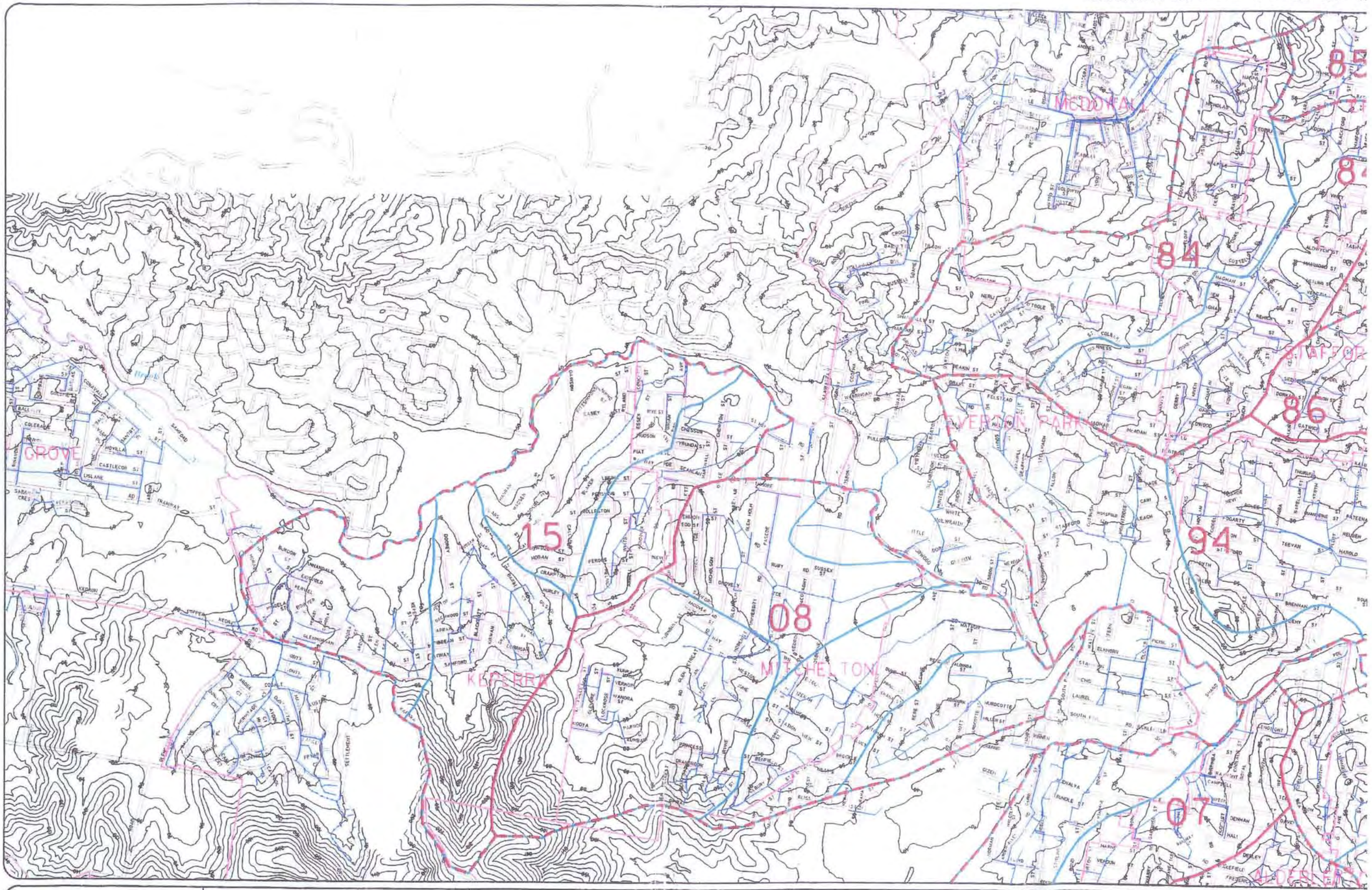
Pen Table : h:\pen\studunit.pen
Design File : y:\work.plt\study_units\study.dgn

LEGEND
- Roads
- River and Creeks
- Storm Water Drainage
- 20 Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

BCC.133.1648

by wrk09 on Monday December 16 1996 at 10:56:56 SST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84
85
86
87
GROVE
15
08
94
07
MITCHELTON
KEDRON
ST LUCIA
ASCOT
HAMILTON
ALDERLEY
RIVERTON PARK
SCARBOROUGH
COLERAIDGE
HOYILLA
CASTLECOR
LISLANE
SARAH CRES
TRAFALGAR
BURDON
KEDRON
SHIPPEN
ANNANDALE
EXCELSIOR
HERVEY
WHEELER
GLENHOLME
COSBY
ANDOA
CLAYFIELD
SETTLEMENT
HOSKEN
CASEY
ESSEX
HUDSON
PIAT
CHEVRON
TYRUNDA
SCANLAN
PERSONG
ROLLESTON
HORAN
CRAMPTON
FERGAS
THEW
MOORE
GLEN HOLM
HOWLSON
RUBY
SUSSEX
DRAYLEY
ANDOA
ABRAM
BRADLEY
MARSDEN
CORRIGAN
KILLARNEY
WANDRA
KODYA
PRINCESS
DRAINMORE
BEIRNE
ELKHORN
LAUREL
SOUTH
HURDCOTTE
HALLEN
ELVALYA
RUNDLE
CAMPBELL
DENMAN
DERLEY
HALL
HARVEY
VERDON
AKEFIELD
FREDERICK
TEEVAN
HAROLD
BRENHAN
CEHY
BOURKE
HOGARTY
ALTEENA
REILDEN
WHITE
WILLWRAITH
LEACH
CAIRN
HOSPITAL
ITTLEE
GOODWIN
MEADOWBANK
NICHOLAS
EDDRA
BLACKWOOD
ALLMAN
GOLDWIN
CROOKS
BAZLEY
DUNSTAN
DUSSELL
PEARL
CASTLETON
NERIL
CALLEMONDAH
COLLINS
GOSNESS
NOVAR
HEARN
DRUCE
FELSTEAD
FULLERTON
WARNHAM
GLENWOOD
GATWICK
MACADAM
HACHAM
COLLETON
TASMAN
ALLOWICH
DONALDSON
WARNOCK
VENETIA
NEMBO
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GLENELG
ROSEMOUNT
ROSEMOUNT
ROSEMOUNT

BCC.133.1649

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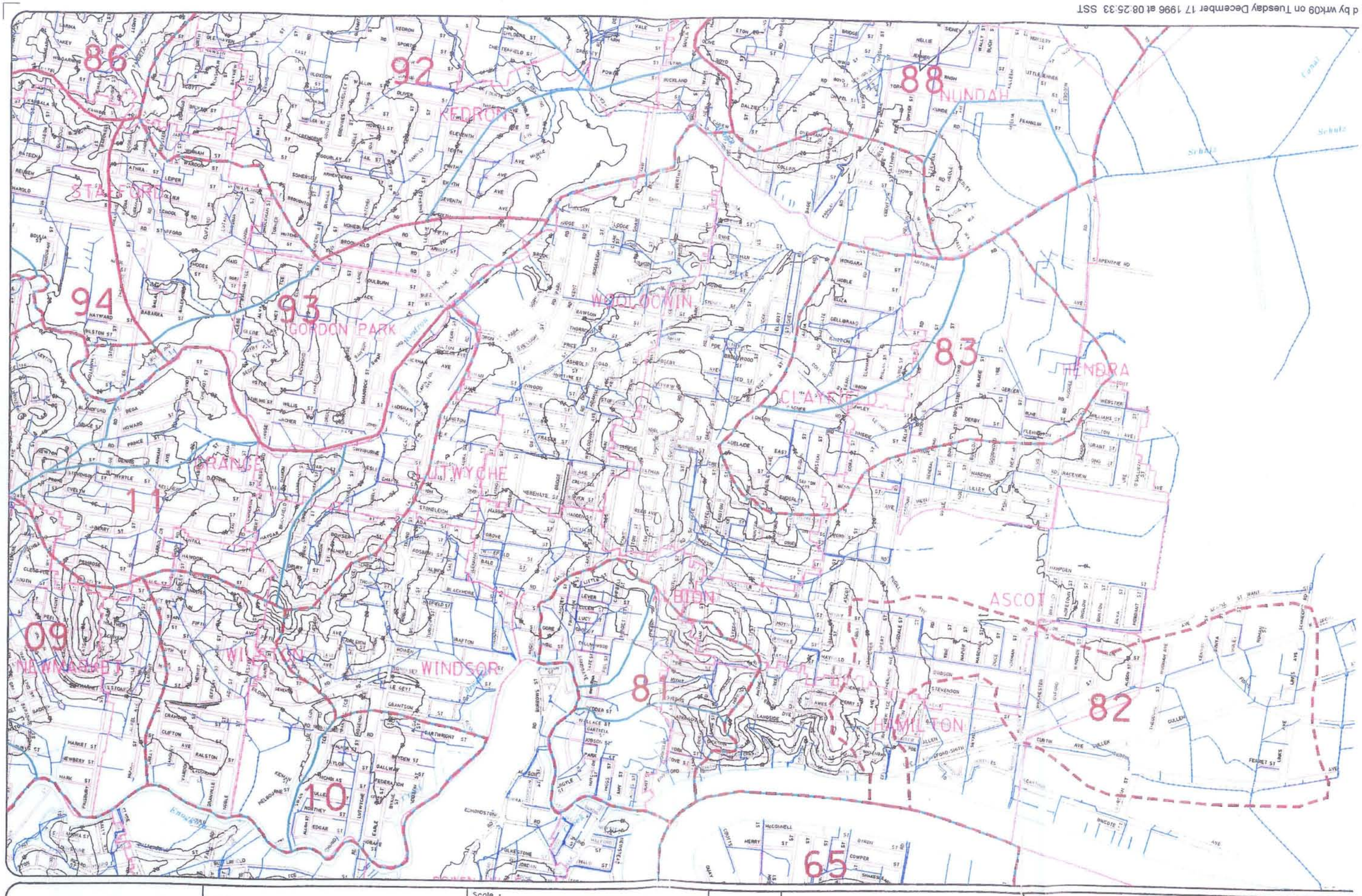

Bimap WORKS DEPARTMENT
Brisbane City

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Prepared by
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Plot Date : 17-DEC-1996
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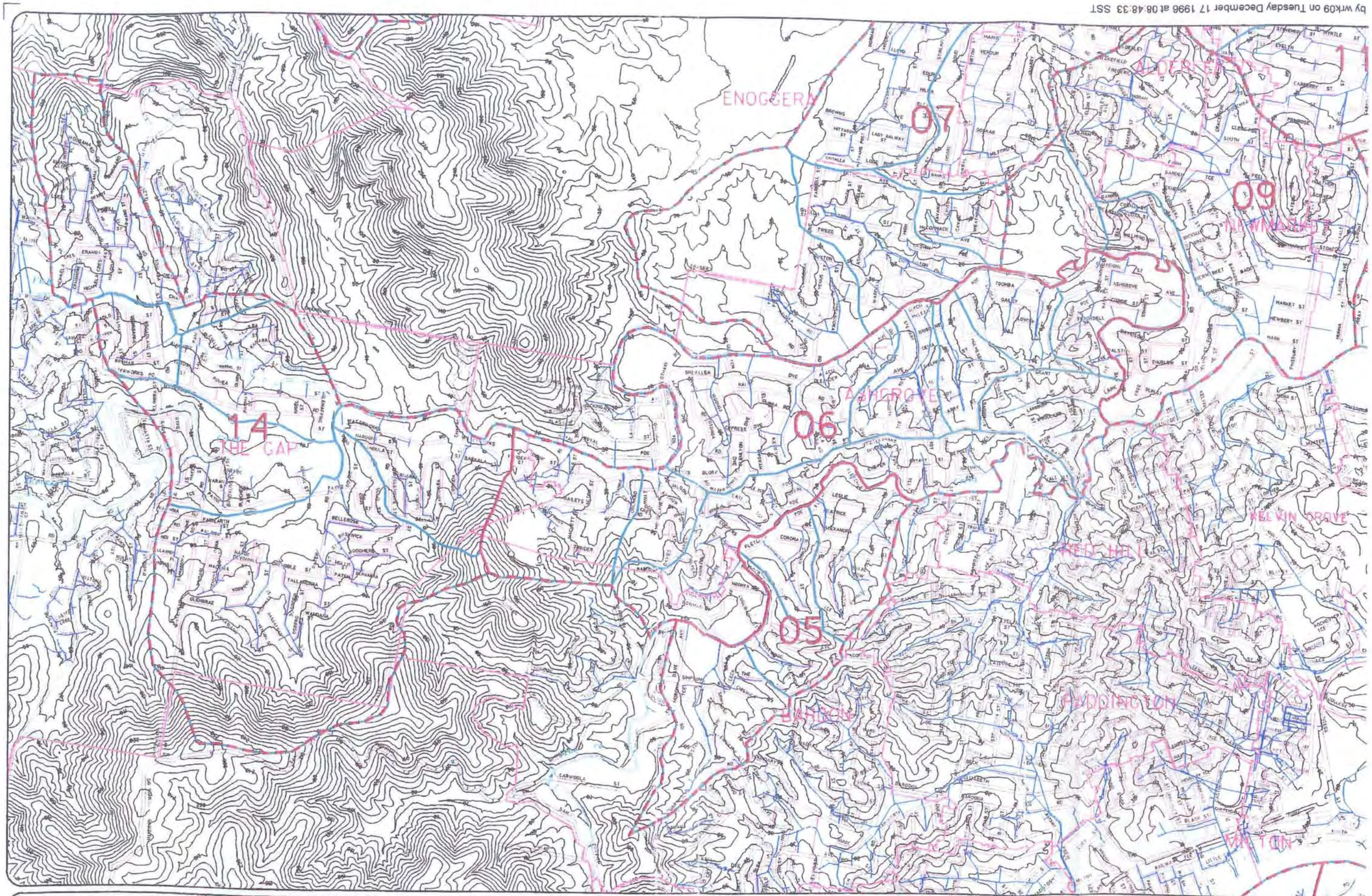
Design File : y:\work_plot\study_units\study_3.dgn

N

BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 3

LEGEND
- Roads
- River and Creeks
- Storm Water Drainage
- Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

by wrk09 on Tuesday December 17 1996 at 08:48:33 SST



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Scale :
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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 4

LEGEND
- Roads
- River and Creeks
- Storm Water Drainage
- 20 Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

BCC.133.1650

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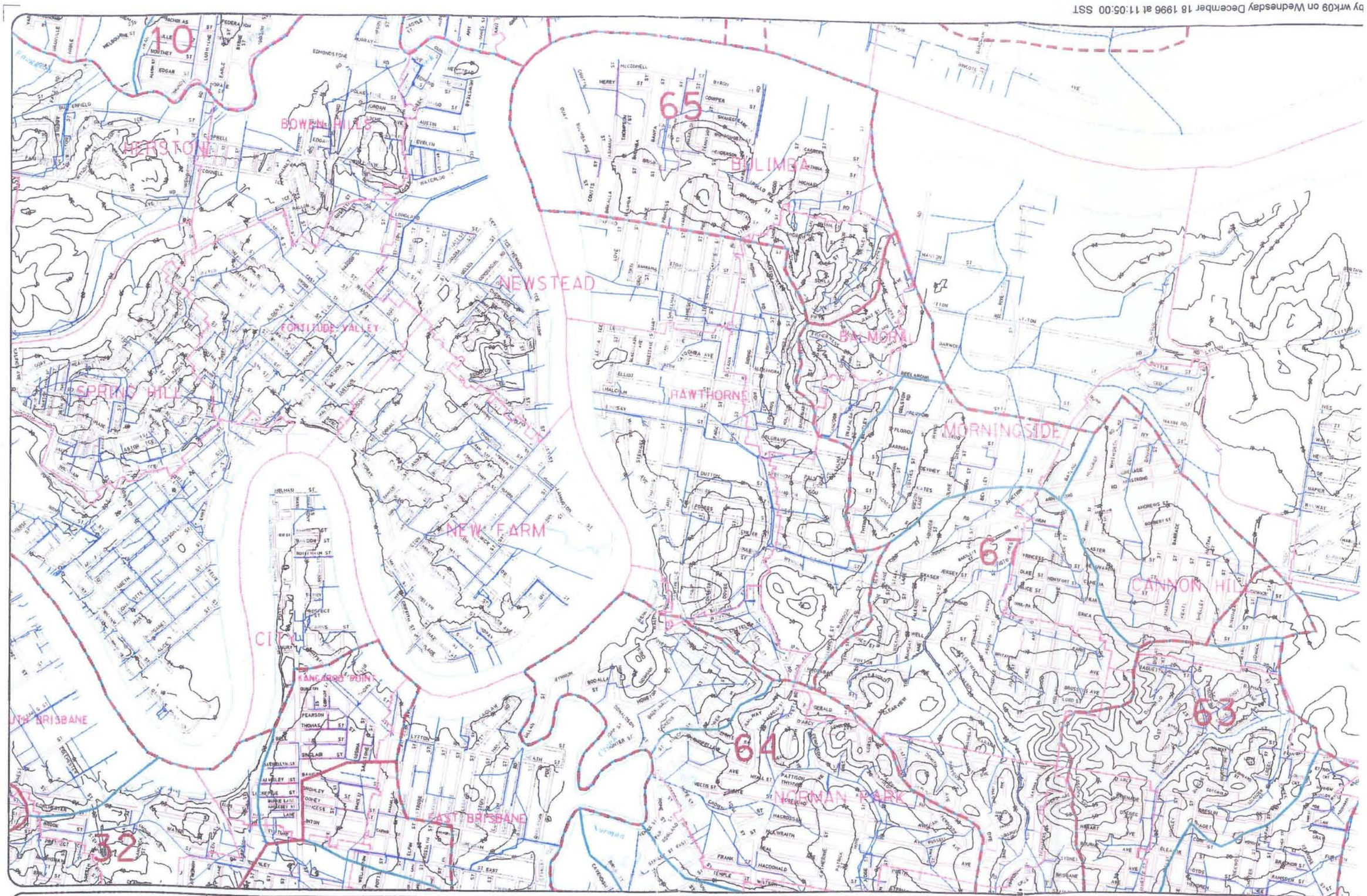
by wrk09 on Wednesday December 18 1996 at 11:05:00 SST



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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 5

LEGEND

- Roads
- River and Creeks
- Storm Water Drainage
- 20 Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundarie
- Suburb Boundaries
- CORINDA Suburb Names

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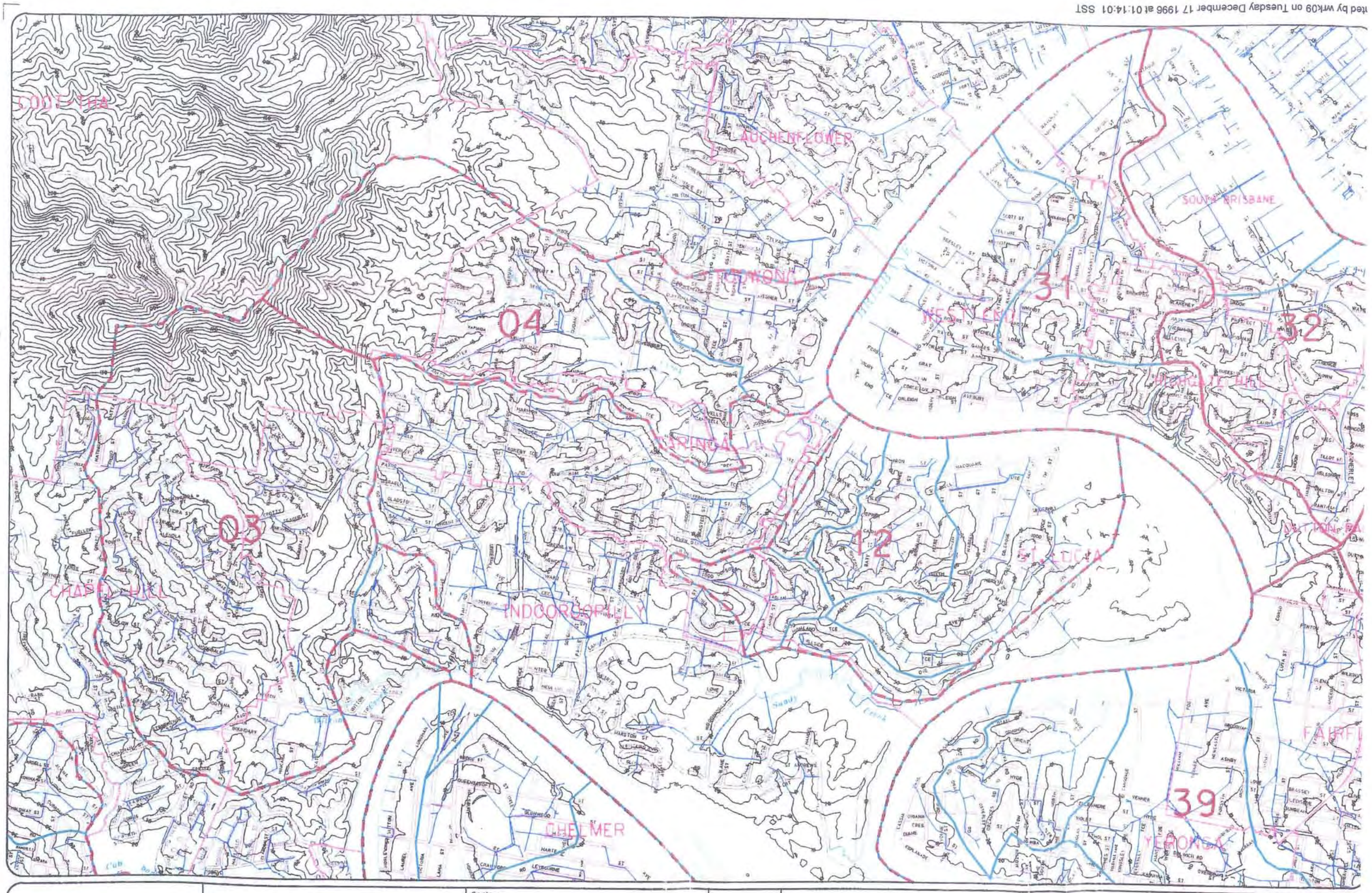

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 6

LEGEND
- Roads
- River and Creeks
- Storm Water Drainage
- 20 Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

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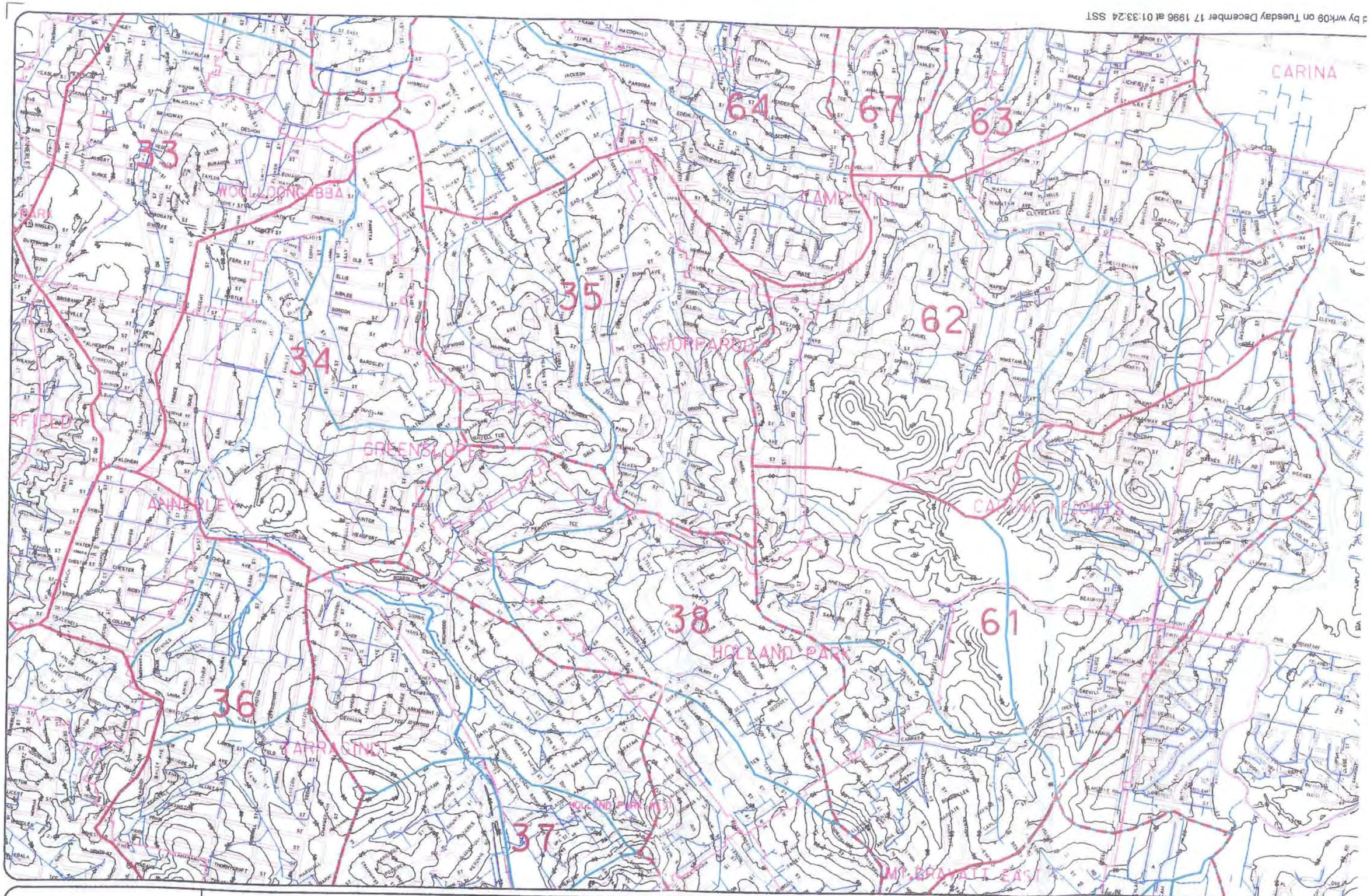

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Brisbane City

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 7

LEGEND
Roads
River and Creeks
Storm Water Drainage
Contours
09 Study Unit Number
Study Unit Boundaries
Study Sub-Unit Boundaries
Suburb Boundaries
CORINDA Suburb Names

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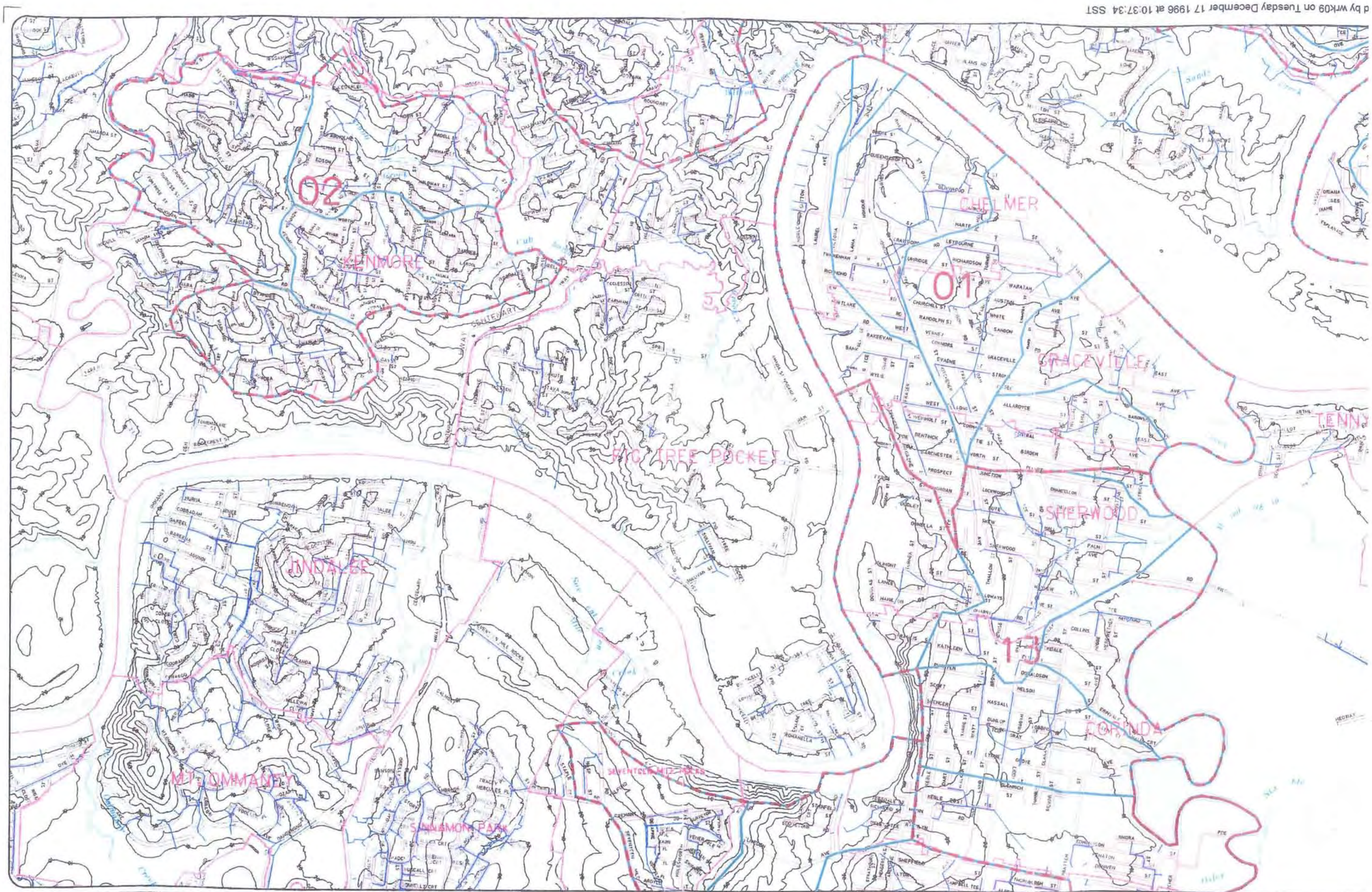

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 8

LEGEND
Roads
River and Creeks
Storm Water Drainage
20 Contours
09 Study Unit Number
Study Unit Boundaries
Study Sub-Unit Boundaries
Suburb Boundaries
CORINDA Suburb Names

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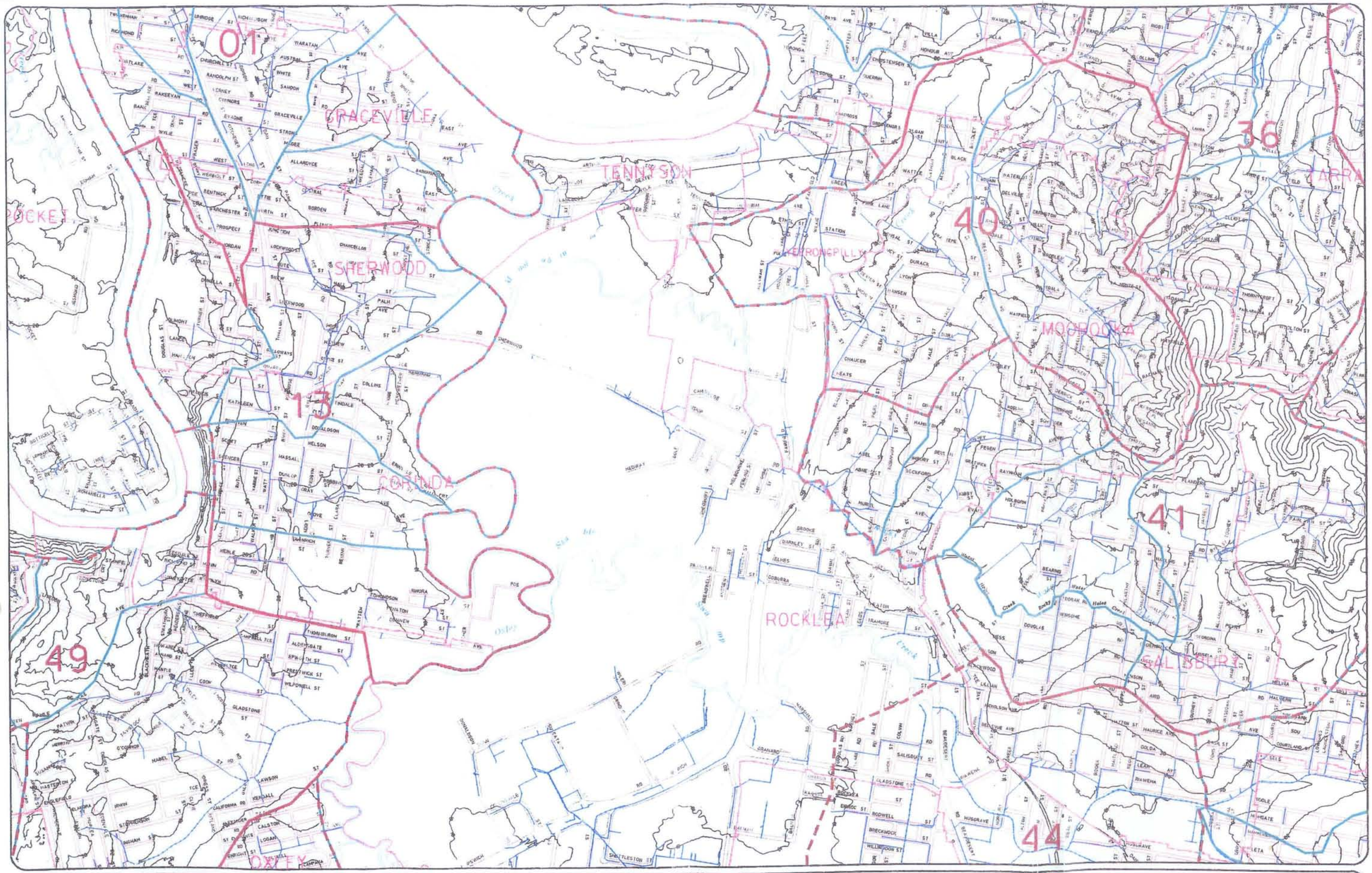

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Brisbane City
WORKS DEPARTMENT

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 9

LEGEND
Roads
River and Creeks
Storm Water Drainage
Contours
09 Study Unit Number
Study Unit Boundaries
Study Sub-Unit Boundaries
Suburb Boundaries
CORINDA Suburb Names

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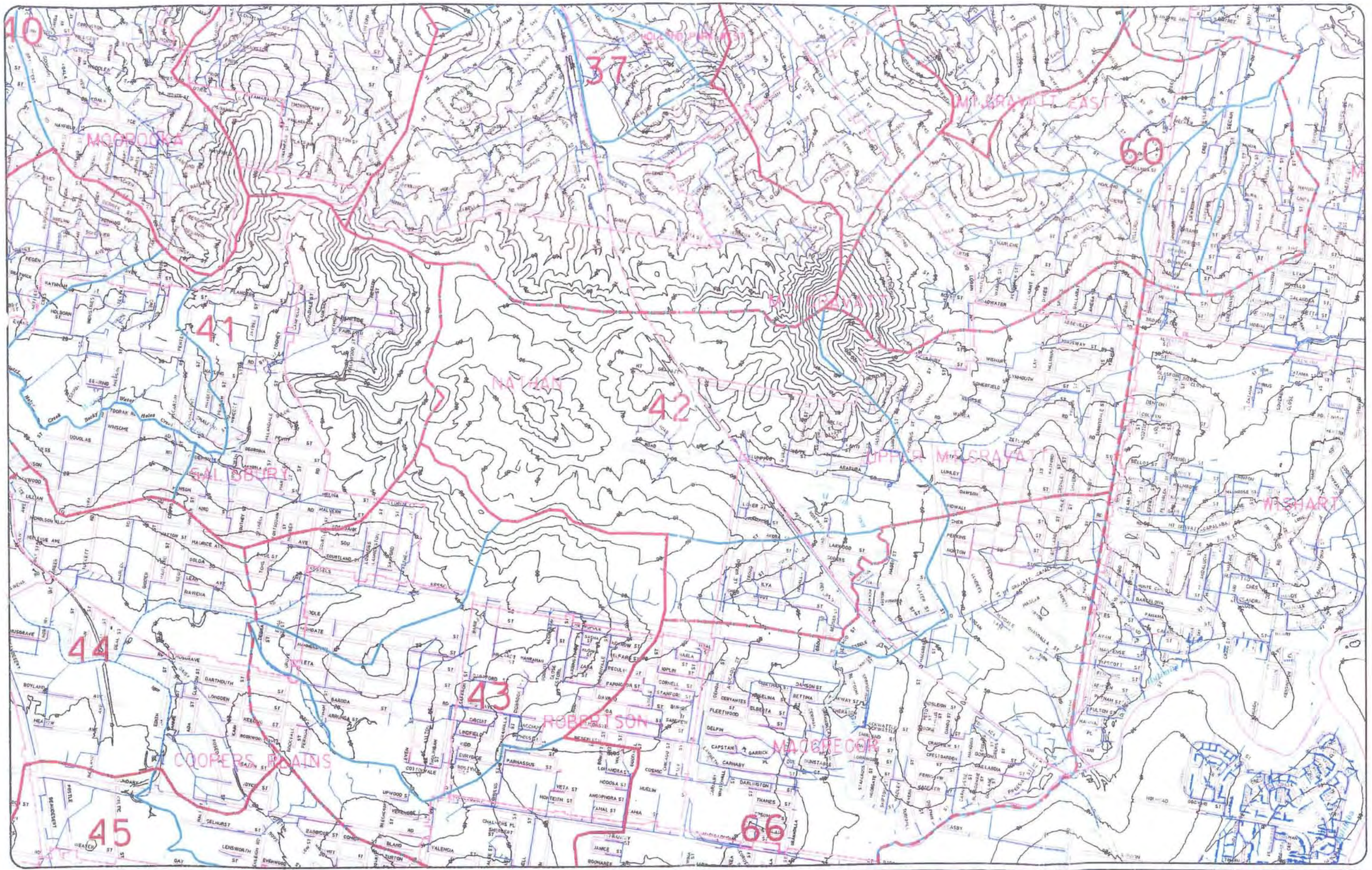

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS

SHEET 10

LEGEND

- Roads
- River and Creeks
- Storm Water Drainage
- —20— Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

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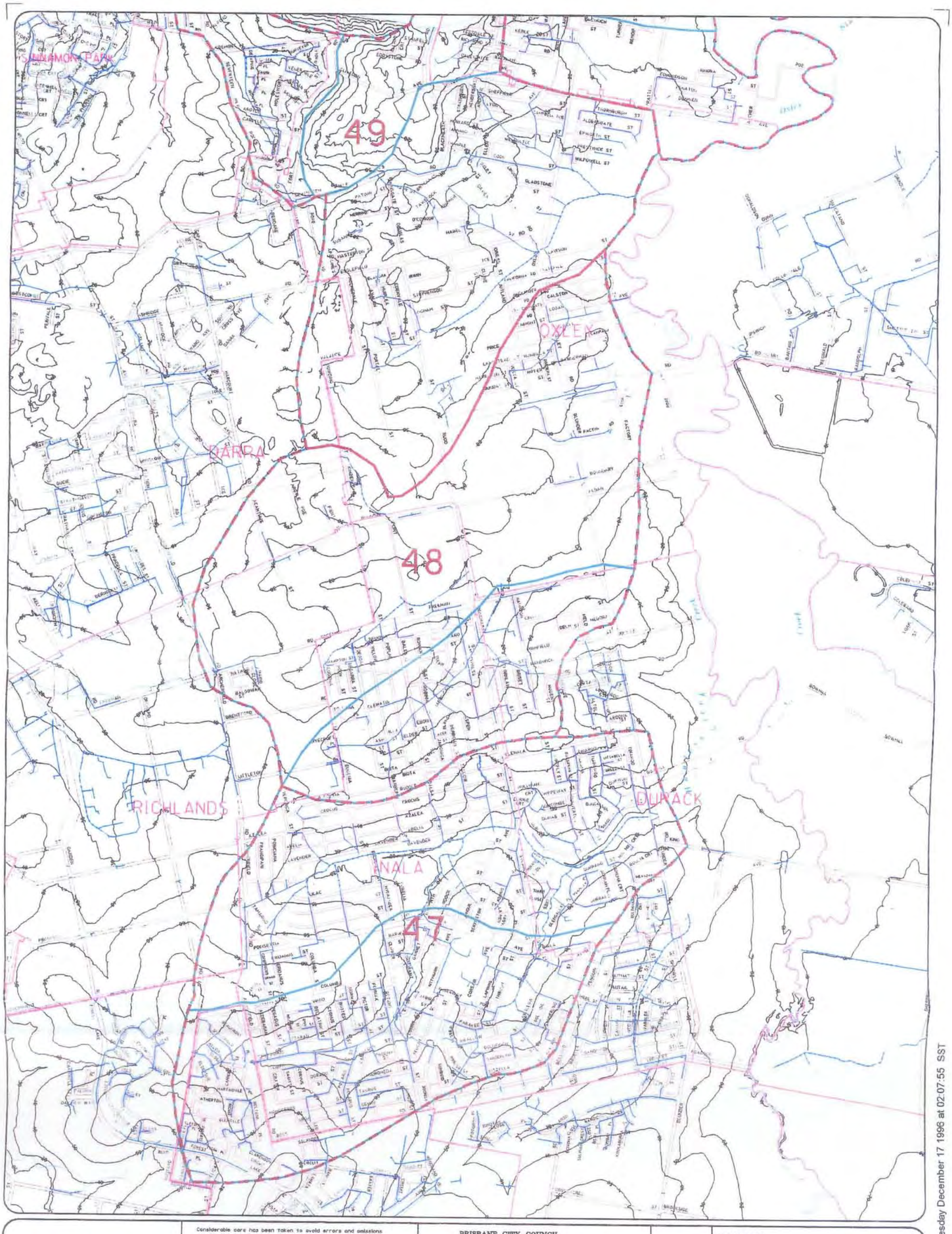

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Brisbane City

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS SHEET 11

Scale : 100 0 200 400 600 800 1000 M
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LEGEND
Roads
Rivers and Creeks
Storm Water Drainage
Contours
09 Study Unit Number
Study Unit Boundaries
Study Sub-Unit Boundaries
Suburb Boundaries
CORINDA Suburb Name

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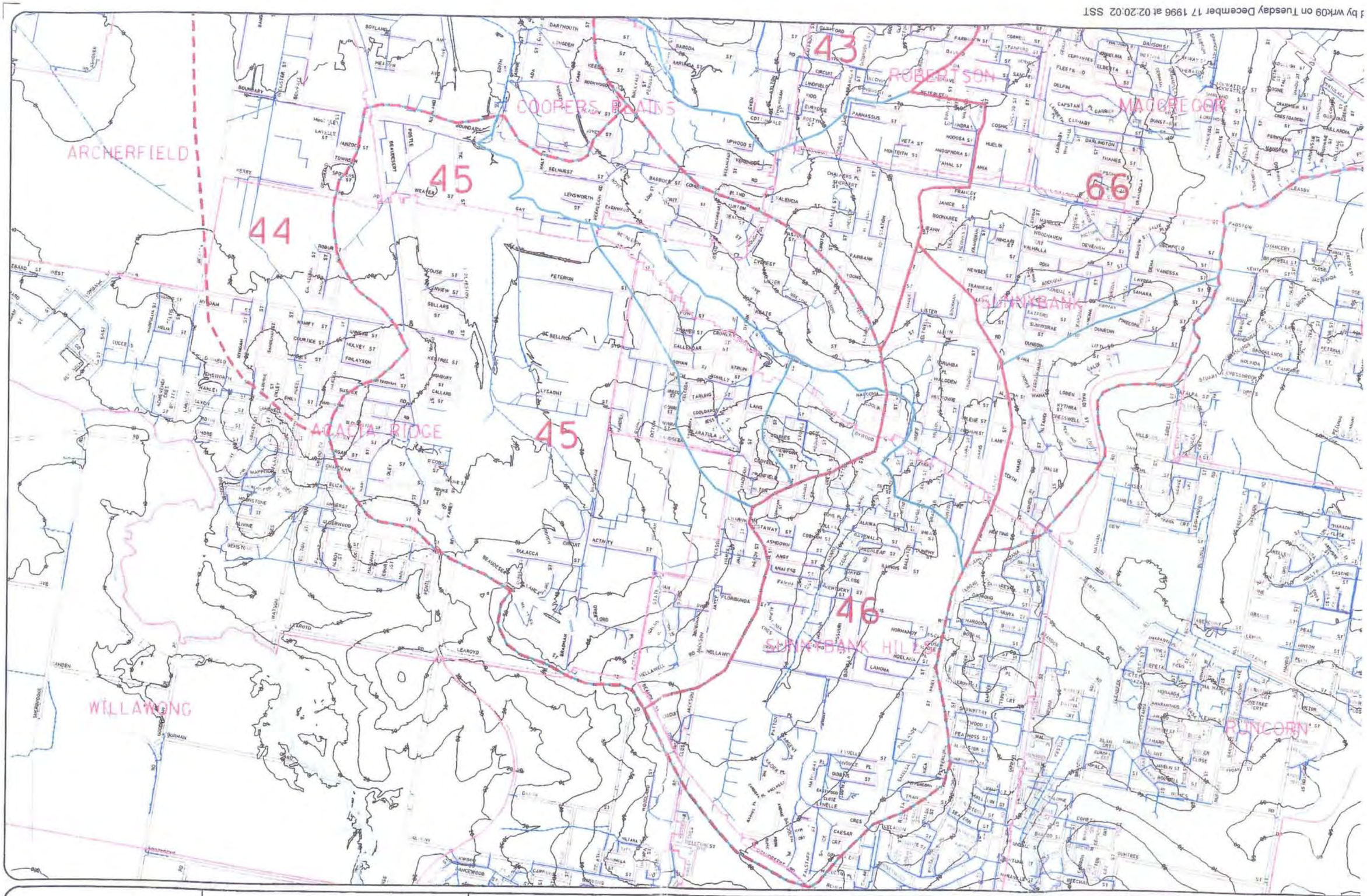

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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS
SHEET 12

LEGEND
- Roads
- River and Creeks
- Storm Water Drainage
- 20 Contours
- 09 Study Unit Number
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- CORINDA Suburb Names

BCC.133.1659



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BRISBANE CITY COUNCIL
RELIEF DRAINAGE
STRATEGIC PLANNING
STUDY UNIT PLOTS SHEET 13

Scale : 100 0 200 400 600 800 1000 M

LEGEND
- Roads
- Rivers and Creeks
- Storm Water Drainage
- Contours
- Study Unit Boundaries
- Study Sub-Unit Boundaries
- Suburb Boundaries
- Suburb Name

d by wrk09 on Tuesday December 17 1996 at 03:00:33 SST

PROPOSED MAJOR DRAINAGE WORKS FOR RESIDENTIAL AREAS - CITYWIDE

PRIORITY FORMULA - COST OF SCHEME / {HOUSES AFFECTED x FREQUENCY OF FLOODING}

Priority updated on 24-Jun-2010

PRIORITY	LOCATION	SUBURB	EXISTING DRGE CAPACITY AS PERCENTAGE OF Q10	CONSTRUCTION ESTIMATE	ESTIMATE UPDATE	LIVING	UTILITY	YARD	Cost Benefit Ratio	COMMENTS
1	CASTLEMAIN-CAXTON STS CTMTS-BLACK ST	MILTON	61.3	8,185,150	30-Jan-04	24	117	173	4,347	LSMP
2	CANOPUS ST Stage 1	COORPAROO	49	1,355,184	1-Feb-11	4	6	6	5,661	Flood damage survey completed Feb 2011. Refer CDW5110694/sk1
3	MORETON ST (Brentnell St)	NORMAN PARK	26	864,902	1-Nov-07	1	10	4	6,240	Ref Norman Park C'ment #64 due 2001/02
4	GERLER RD CLAYFIELD C'MENT - ALEXANDRA RD(ESS36665)	CLAYFIELD	50	12,785,771	30-Jan-04	30	70	57	6,294	LSMP
5	STRATTON STREET C'ment Study	NEWSTEAD / VALLEY	68.4	21,281,184	1-Nov-07	139	58	99	6,613	Best Stage CBR=$4,259 - stage 2 dependent on stage 1 CBR $7,739)
6	Bellatta Street The Gap	THE GAP	16	1,542,841	29-Oct-09	5	0	1	6,830	Relief drainage as per CDW5100319
7	KADINA ST	THE GAP	34	2,520,000	9-Nov-09	7	3	9	7,198	Relief as per CDw5100111/sk1
8	Gordon Road Bardon	BARDON	44	1,755,500	15-Feb-10	3	10	11	7,473	Drainage Investigation W5-100657
9	TRENTON ST	KENMORE	32	2,067,235	11-Dec-08	5	4	12	7,606	FLOOD DAMAGE SURVEY COMPLETED SEPT 08
10	GREENSLOPES LSMP North - 3 STAGES	GREENSLOPES	50	5,092,708	1-Nov-07	5	41	48	7,992	LSMP - 7 STAGES WR.109533
11	WOOLCOCK PARK C'ment Study - Grove St Scheme A	Paddington	50	1,168,218	1-Nov-07	2	3	22	8,540	Scheme A is a stand alone stage with it's own outlet to Ithaca Ck.
12	ROUEN ROAD	BARDON	29	912,130	2-Mar-09	1	6	4	8,890	Drainage Investigation cd/W5-090804
13	ANNANDALE ST Purchase Option	KEPERRA	56	500,000	4-Sep-09	1	1	1	9,107	Purchase #17 Annandale St, remove house and cut overland flow path for Q50. Construct new field inlet over existing Q10 pipes under QR
14	ARINYA RD	ASHGROVE	39	1,684,000	14-Jul-10	3	4	2	9,745	Drainage Investigation W5-091007
15	WESTERHAM STREET C'ment Study - Indooroopilly Rd	TARINGA	50	11,867,630	30-Jan-04	14	56	74	9,885	LSMP
16	PINKENBA DRAINAGE	PINKENBA	50	1,615,650	1-Nov-07	1	7	61	9,918	No C'ment Study
17	NAROO STREET / DEVONHILL STREET	THE GAP	46	4,630,179	31-Aug-09	8	6	8	10,993	Releif as per CDW5100071/sk1
18	FAULKNER PARK C'MENT - NETWORK 1 - HARTE	GRACEVILLE	48	10,763,954	30-Jan-04	9	50	80	11,612	FAULKNER PARK - GRACEVILLE - CATCHMENT STUDY - STAGES 1, 2 & 3 (STG 3 ~ OXLEY RD #20950)
19	SANDY CREEK LSMP STG 6	INDOOROOPILLY	69	730,835	1-Nov-07	3	0	4	11,795	SANDY CREEK LSMP Stg 6 is a stand alone section. 3 units with flooding on 1 property.
20	McFADDEN ST (STG+C83 1&2)	WYNNUM	69	4,520,000	13-Dec-10	14	20	12	12,318	Ref C'ment #71 due 2001/02
21	WEST END LSMP-HOCKINGS ST OUTLET 21	WEST END	38	23,638,941	30-Jan-04	5	158	274	12,484	WEST END LSMP 2002
22	VENUS ST	ASHGROVE	28	1,545,820	5-Feb-10	2	3	4	12,818	Relief Drainage as per CDW5100577/sk1
23	HAMILTON RD (Prince Charles to Gympie Rd)	CHERMSIDE	38	3,143,961	1-Nov-07	3	10	11	13,384	Investigation completed Aug 1998 - PLUS 5 Commercial Properties
24	LANGSVILLE CREEK C'ment Study	TOOWONG	59.6	25,217,901	1-Nov-07	14	138	79	13,743	LSMP
25	DOBELL ST	INDOOROOPILLY	50	2,390,685	1-Nov-07	1	13	10	13,981	FDS COMPLETED October 2003
26	ASCOT/CLAYFIELD DGN	ASCOT	40	20,356,027	1-Nov-07	21	53	24	14,101	10 STAGES REF W 10237 FILES: #19457, #19456, #2880, #36524, #19452, #36527, #19455, #19450, #36564, #197183
27	ARGYLE ST (37521) & MASON ST (20989) (Combined)	RED HILL	27	2,029,486	1-Nov-07	2	4	13	14,738	Argylie ($386,000 2 liv 2 ute 7 yds) and Mason ($453,000 0 liv 2 ute 6 yds)
28	WOOLCOCK PARK C'ment Study - Grove St (WO36643)	Paddington	59.7	15,002,046	1-Nov-07	10	45	309	15,378	LSMP
29	PASHEN CREEK HAWTHORNE C'MENT STUDY	HAWTHORNE	50	49,398,508	1-Nov-07	24	223	203	15,108	LSMP
30	KEMBLE ST - HENDRA - C'ment Study	HENDRA	50	21,822,905	30-Jan-04	9	104	68	15,563	LSMP (plus THORROLD ST #35538)
31	ALDERLEY NORTH LSMP	ALDERLEY	50	16,407,214	1-Nov-07	3	97	42	15,689	LSMP-Networks 11 &2 are in Northern District, Networks 4,5,6,9,13,14 & 15 are in Western District
32	MARNE RD	ALBION	39	1,643,297	1-Nov-07	1	6	2	16,303	FLOOD DAMAGE Completed Mar2001 - WE4951
33	WESTHOFF RD	NORTHGATE	50	2,300,000	1-Nov-09	0	13	26	16,382	Piped drainage down Parker Ave to Cannery Creek
34	CROCUS ST	INALA	50	888,699	1-Nov-07	0	6	0	16,457	FLOOD DAMAGE SURVEY REQUIRED (FIGURES SHOWN ARE ONLY A GUESS)
35	BONEMILL RD	RUNCORN	41	799,035	1-Nov-07	1	0	2	17,073	REFER DESIGN DRAWINGS W10807 - ESTIMATE $238,341 Aug 1999 REALISTIC CONSTRUCTION ESTIMATE
36	RAMSAY ST (KEDRON LSMP AREA 'B')	KEDRON	60	12,869,146	1-Nov-07	0	76	110	17,981	Refer Kedron LSMP Area 'B'
37	KIRBY RD	ASPLEY	50	1,354,211	1-Nov-07	1	2	13	18,129	STAGE 2 & 3 NOT CONSTRUCTED - STAGE 1 DONE UNDER SCH68
38	COORPAROO CREEK - COORPAROO - CATCHMENT	COOPAROO	29	39,164,865	1-Nov-07	12	171	82	18,193	LSMP - RESIDENTIAL ONLY - PLUS $3,406,320 STAGE 9 (COMMERCIAL AREA)
39	WEST END LSMP-ROGERS ST OUTLET 5	WEST END	56	2,596,695	1-Nov-07	0	9	67	18,377	WEST END LSMP 2002
40	JARRAH ST	KEPERRA	28	5,794,411	20-Oct-09	6	4	3	18,770	Releif Drainage as per CDw5100112
41	CARTWRIGHT ST	WINDSOR	55	937,765	1-Nov-07	1	0	5	18,945	Ref C'ment #10 Not programmed
42	SIR FRED SCHONELL DR	St Lucia	50	3,115,114	10-Jul-03	3	2	7	19,555	Rather than duplicating exist Drge system-cut off part catchment near Boomerang St by tunnelling to river
43	ALBION C'MENT - TOTAL LSMP STG1	ALBION	50	3,931,818	30-Jan-04	3	6	13	19,591	FOX AND ROYAL TCE SUBCATCHMENTS
44	LOUISA ST	HIGHGATE HILL	52	2,383,568	6-Jun-01	0	11	24	19,764	WE5441 July 2010 ESTIMATE
45	PALM AVE	SHORCLIFFE	50	1,826,000	1-Nov-07	1	4	12	19,891	Refer investiagtion CDW2060976/SK!
46	WESTERN CREEK LSMP - Basin + Relief Drainage Option	MILTON	50	40,554,513	15-Sep-05	5	118	49	20,569	Option 3 Recommended - Incorporates Option 1. House numbers represent only the number benefiting. There are many more that don't
47	YERONGA LSMP - EAST CATCHMENT ONLY	YERONGA	50	10,976,193	31-Dec-05	2	41	82	20,601	LSMP COMPLETED AUG 2001 - EAST CATCHMENT ONLY
48	CARRARA ST	HOLLAND PARK	45	1,488,525	1-Nov-07	1	2	8	21,204	#61 C'ment Not programme - Q2 design/estimate only - FDS comp. 13-8-98 (WE4387/SK4)
49	BENT ST - STGs 1, 2 & 3	TOOWONG	50	1,606,426	1-Nov-07	1	2	13	21,505	FLOOD DAMAGE SURV Completed Mar2001 - RELATED FILES #31251 #31250 #31234 (Soudan St)
50	HEMMANT-TINGALPA RD	HEMMANT	50	1,475,226	1-Nov-07	1	2	4	22,151	No C'ment Study - RELATED FILE #24912
51	GLOUCESTER RD (17 Ridge)	DUTTON PARK	50	4,205,840	21-Sep-09	2	9	14	22,908	Liaise with LAS South regarding interim works as required
52	ALBION C'MENT - NETWORK 1 - BOGAN ST -NET1	ALBION	50	4,705,830		3	6	13	23,447	ALBION CATCHMENT STUDY - STAGE - NETWORK 1 OF 3 RESIDENTAL ONLY (PLUS $3.5MIL COMMERCIAL)
53	ANNANDALE ST Releif Option	KEPERRA	56	1,330,000	4-Sep-09	1	1	1	24,226	Relief Drainage option
54	GREENSLOPES LSMP South - 4 STAGES	GREENSLOPES	69	6,646,311	1-Nov-07	3	47	32	25,335	LSMP - 7 STAGES WR.109533
55	WEST END LSMP-KURILPA ST OUTLETS 6 & 7	WEST END	54	3,180,256	1-Nov-07	0	8	59	25,422	WEST END LSMP 2002
56	ROSE ST - REF KEMBLE ST C'MENT STUDY WO33580	WOOLOOWIN		717,482	1-Jan-99	0	3	1	25,716	REF KEMBLE ST C'MENT STUDY

57	ALBION C'MENT - NETWORK 2 - COLLINGWOOD ST	ALBION	50	2,017,248		1	2	16	26,063	ALBION CATCHMENT STUDY - STAGE - NETWORK 1 OF 3 RESIDENTAL ONLY (PLUS $3.5MIL COMMERCIAL)
58	TENTH AVE	SANDGATE	25	3,099,251	15-Sep-09	1	6	16	27,330	Investiagtation revised in nov 2009. Damage survey compited.
59	NORWICH ST (Both Stages)	WAVELL HEIGHTS	50	3,854,411	1-Nov-07	2	4	14	27,810	#87 C'ment due2003/04
60	KEDRON DRAINAGE - (KITCHENER RD)(KEDRON LSMP AREA 'A')	KEDRON	70	19,089,120	1-Nov-07	3	143	164	29,434	1st C'ment study done 1990 McWilliam P/L (2nd Refer Kedron LSMP Area 'A')
61	WESTERN CREEK LSMP - Pipe Only Option	MILTON	50	40,554,513	15-Sep-05	5	118	49	30,467	Option 3 Recommended - Incorporates Option 1. House numbers represent only the number benefiting. There are many more that don't
62	YERONGA LSMP - WEST CATCHMENT ONLY	YERONGA	50	7,130,058	1-Nov-07	1	15	60	30,470	LSMP COMPLETED AUG 2001 - WEST CATCHMENT ONLY
63	ARONIA ST	KENMORE	50	717,593	1-Nov-07	0	2	6	30,666	INVESTIGATED 24/10
64	QUEENS RD	CLAYFIELD	50	581,649	1-Nov-07	0	2	1	30,775	SCH68 CHANGED TO SCH72 13-02-03
65	KEDRON LSMP - AREA 'C'	KEDRON	70	2,994,612	1-Nov-07	0	24	19	31,092	REFER KEDRON LSMP AREA 'C'
66	BARRON ST - JACK ST	GORDON PARK	48	5,058,628	1-Nov-07	1	10	15	34,065	Ref Gordon Park C'ment #93 due 1998/99 (Added 10% Services)
67	ROBINSON RD - (KINMOND AVE)	WAVELL HEIGHTS	70	2,218,873	1-Nov-07	0	16	8	35,517	Stage 1 constructed, immunity increased to Q2, Stg 2 works provide full Q10.
68	WEST END LSMP-PIDGEON CLOSE OUTLET16	WEST END	37	2,663,547	1-Nov-07	0	5	32	36,091	WEST END LSMP 2002
69	ALBION C'MENT - NETWORK 3 - COOKSLEY ST	ALBION	50	1,960,413		0	5	10	36,304	ALBION CATCHMENT STUDY - STAGE - NETWORK 1 OF 3 RESIDENTAL ONLY (PLUS $3.5MIL COMMERCIAL)
70	HENDERSON RD	BULIMBA	62.3	925,272	1-Nov-07	0	3	4	39,822	Ref C'ment #65 due 2003/04
71	CROMER ST	SUNNYBANK HILLS	60	994,799	1-Nov-07	0	2	10	40,308	FLOOD DAMAGE SURV Completed Mar2001 (CSPS Est done)Interim Works Designed April 1999 -
72	BOWEN ST (ALBION/WINSOR DRGE STGs 1,2,3)	WINDSOR	45	6,737,944	1-Nov-07	0	15	28	42,060	No C'ment Study
73	FOLEY RD.	HEMMANT	30	1,647,233	1-Nov-07	0	4	3	42,564	No C'ment Study
74	GARDE ST	STAFFORD	35	2,176,970	1-Nov-07	0	5	6	43,194	Ref C'ment #94 due 2005/06
75	WILRUNA ST	WACOL	50	9,741,363	1-Nov-07	4	3	15	44,179	Investigated 1997 - Pre-Assessment completed 31 Jan 2001 - this project on hold - Possible Voluntary Buy Back Option
76	ALBION C'MENT - TOTAL LSMP STG2	ALBION	50	3,470,357	30-Jan-04	1	2	16	44,837	CROSBY RD SAG SUB CATCHMENT - INCLUDES SOME COMMERCIAL
77	ZILLMERE RD	ZILLMERE	50	692,554	1-Nov-07	0	1	7	45,265	FLOOD DAMAGE SURVEY COMPLETED JULY 2001
78	TURLEY ST	FAIRFIELD	50	797,093	1-Nov-07	0	1	9	46,614	
79	THIRD ST	CAMP HILL	60	28,931,699	30-Jan-04	9	25	36	47,783	New Flood Damage Survey Jul 2002 - Estimate from Feasiblity Study completed 5/12/06. Requires estimate for purchase of properties.
80	MOULTON ST	ASHGROVE	35	698,465	1-Nov-07	0	1	6	48,505	INVESTIGATION CARRIED OUT DEC 1998 - FDS CARRIED OUT JULY 2003
81	TARPON ST	THE GAP	80	2,000,000	21-Aug-09	5	0	0	48,789	DAMAGE SURVEY ESTIMATE NUMBERS SUPPLIED BY LAS WEST BASED ON THEIR INTERVIEWS WITH RESIDENTS
82	SECOND AVE	SANDGATE	50	885,346	1-Nov-07	0	2	0	49,186	No C'ment Study
83	HOOD ST	SHERWOOD	47	1,337,909	1-Nov-07	0	3	0	49,552	FLOOD DAMAGE SURV Completed Mar2001 - WE4589/SK3
84	WATER-CAMPBELL ST LSMP	SPRING HILL	63.7	11,247,191	30-Jan-04	3	18	37	50,141	VICTORIA ST C'MENT ONLY - PART OF WATER/CAMPBELL LSMP
85	EDMONSTONE ST - Stg 1	NEWMARKET	50	1,054,675	1-Nov-07	0	2	2	53,266	New Investigation req. last review 1988 (Ref #09 due 1999/00)
86	ADA ST	WILSTON	42	7,143,635	1-Nov-07	1	9	9	53,271	DESIGN PLANS COMPL. W10099/1-14 (No Pink File)
87	WEST END LSMP-BRERETON ST OUTLETS 23	WEST END	53	2,064,959	1-Nov-07	0	0	42	54,629	WEST END LSMP 2002
88	LANSBURY PDE (Stages 1 & 2) WOs 35531 & 136203	ASHGROVE	37	2,176,215	1-Nov-07	0	4	3	56,233	Ref C'ment #06 due 1998/99
89	MOGGILL RD (#2070)	KENMORE	61	957,247	22-Dec-09	0	2	1	60,085	discharge from Moggill Rd through Our Lady of Rosary School flooding Fallbrook St properties. CDW5100410/SK1
90	PLAYFIELD ST	CHERMSIDE	60	8,983,229	1-Nov-07	0	18	0	60,665	Ref C'ment #86 due 2001/02
91	KEDRON LSMP - AREA 'F'	KEDRON	70	15,339,950	1-Nov-07	0	58	95	61,112	REFER KEDRON LSMP AREA 'F'
92	ENSIGN AVE	ANNERLEY	37	2,068,397	1-Nov-07	0	3	7	62,114	FLOOD DAMAGE SURV Completed Mar2001 Req Ref C'ment #39 due 1998/99
93	BAMBOO ST	INALA	67	2,833,947	1-Nov-07	1	4	3	64,709	Ref C'ment #48 Not programmed
94	WATER ST (PART OF WATER/CAMPBELL C'MENT)	SPRING HILL	63.7	24,960,643	30-Jan-04	1	55	19	65,975	REVISED SEPT 2000 - SITE VISIT CARRIED OUT ALL PROPERTIES CHECKED
95	ALBION C'MENT - TOTAL LSMP STG3	ALBION	50	3,567,278	30-Jan-04	0	5	10	66,061	COOKSLEY ST SUB CATCHMENT
96	ALBION C'MENT - TOTAL LSMP total	ALBION	50	13,552,889	31-Dec-05	3	6	13	67,528	ALBION CATCHMENT STUDY - TOTAL SCHEME
97	ABBEVILLE ST, UPP MT GRAVATT	UPP MT GRAVATT	35	747,394	1-Nov-07	0	1	2	69,203	Relief as per WE5420/SK1
98	FERNDALE ST	ANNERLEY	54	4,922,000	27-Apr-09	0	7	8	70,114	Relief Drainage as per CDW5091133/SK1
99	DUDLEY RD - IPSWICH RD	ANNERLEY	47	716,930	1-Nov-07	0	1	1	72,417	FLOOD DAMAGE SURV Completed Mar2001 - WE4893/SK2 - SCH68 -ESS34363
100	ALLBUTT ST WOs 35596 & 35597	KURABY	50	1,222,152	1-Nov-07	0	1	8	75,441	FLOOD DAMAGE SURV Completed Mar2001
101	BRIDGEWATER CREEK CATCHMENT	COOPAROO	68.5	53,904,792	30-Jan-04	15	69	235	76,899	LSMP Related Files - Derby St Coorparoo #16978
102	CORONATION ST.	BARDON	65	1,662,868	1-Nov-07	0	3	9	77,331	Ref C'ment #05 due 2000/01
103	ALTANDI ST	SUNNYBANK HILLS	84	4,053,175	1-Nov-07	9	0	0	79,362	Estimate for purchase of 9 properties + legals
104	EMPRESS TCE (Alexandra St)	BARDON	28	1,440,000	2-Sep-09	0	2	0	80,000	Relief Drainage AS PER dcw5100072/sk2 relieve flooding in Alexandra St.
105	FAULKNER PARK C'MENT - NETWORK 2 - PARK DRV WO134853	GRACEVILLE	58	8,742,656	31-Dec-05	0	9	16	91,642	FAULKNER PARK - GRACEVILLE - CATCHMENT STUDY - STAGE 4 - NETWORK 2 OF 2
106	STANLEY RD	CARINA	50	772,245	1-Nov-07	0	0	9	95,339	Ref C'ment #62 due 2004/05
107	WESTERN CREEK LSMP - Basin Option	MILTON	50	40,554,513	15-Sep-05	0	10	22	96,539	Option 3 Recommended - Incorporates Option 1. House numbers represent only the number benefiting. There are many more that don't
108	MANNING ST.(Stages 1 &2) WO14215 & 136194	MILTON	60	3,195,095	1-Nov-07	0	2	10	129,462	No C'ment Study
109	YERONGA LSMP - EAST CATCHMENT Stg 2	YERONGA	50	14,467,785	30-Jan-04	0	10	22	131,765	LSMP COMPLETED AUG 2001 - EAST CATCHMENT ONLY stg 2 is stand alone with separate outlet to river.
110	WEBSTER RD	STAFFORD	65	1,752,522	1-Nov-07	0	2	1	151,357	WE3483 - STAFFORD STATE SCHOOL (Ref #93 due 1998/99)
111	ANDREWS ST WO81732	CANNON HILL	50	2,770,138	1-Nov-07	0	2	0	153,897	Very infrequent-flooding of utility areas of 39 x 41 Andrews St
112	HELLES ST	MOOROOKA	50	1,295,227	1-Nov-07	0	0	9	159,905	FDS COMPLETED MARCH 2002
113	LONG ST EAST GRACEVILLE C'MENT STUDY- STAGES 2 &3	GRACEVILLE	92	2,213,573	1-Nov-07	2	15	27	182,774	Stage 1 is 10 minor sects - List as Sch 68 District advised Sept 1998 (Next best 20k) therefore changing FDS Figs..
114	FINNEY RD WO 3084 With R Welch	INDOOROOPILLY	50	1,340,604	1-Nov-07	0	0	7	212,794	IN OFFICE FLOOD DAMAGE SURVEY (No Complaints since 1989) Req Ref C'ment #3 due 2004/2005
115	BOTHWELL ST	MT. GRAVATT	70	2,548,313	30-Jan-04	0	3	1	221,054	Ref C'ment #60 Not programmed)Revised Refer CD/W2-0288098 Investigation
116	ALLEN ST	HAMILTON	50	628,458	1-Nov-07	0	0	3	232,762	could be const. by developers. (No C'ment)
117	NOVAK ST	EVERTON PARK	80	825,584	1-Nov-07	0	2	1	239,757	Needs revised investigation WE2080 - Road Closure blocks overland flow path - C'ment #84 not proposed
118	WYNNUM RD (near Crossley Rd)	TINGALPA	44	911,214	1-Nov-07	0	0	4	253,115	No C'ment Study (near Crossley Rd)
119	SANDY CREEK IND'PILLY PIPED C'ment Study	INDOOROOPILLY	75.55	21,840,570	30-Jan-04	1	20	62	293,392	Lowest CBR=$10,218 (Construction Rank 2)
120	MORDEN RD	SUNNYBANK HILLS	50	954,744	1-Nov-07	0	0	3	353,609	L3/5/98-MTCE TO UPGRADE SWGT'S,2 YARDS A

121	GLEDSON ST	ZILLMERE	50	350,363	30-Jan-04	0	0	1	389,292	(No C'ment Study) No complaints since Minor improvements done in 1991 - On Hold
122	BOSTON RD (Pt 2 & 3)	CHANDLER	50	3,586,325	1-Nov-07	0	0	8	498,101	FLOOD DAMAGE REQUIRED - WE4223 - Open Drain Option (RCBC Opt $1,250,000)
123	OSTERLEY RD STGs 2A,2B,3A,3B	CARINA HEIGHTS	70	1,594,042	1-Nov-07	0	0	8	535,818	FLOOD DAMAGE SURV Completed Mar2001 W10963 - REALISTIC CONSTRUCTION ESTIMATE NOT DOUBLED
124	INVICTA ST - CD/W2-0286814 STAGE 2 Only of Wishart Rd	WISHART	50	508,771	31-Dec-05	0	0	1	3,413,665	INVESTIGATION CARRIED OUT AUG 2001 - FDS REQUIRED - FLOODs #321 WISHART ST,WISHART STATE SCHOOL & R'DWAY DEBRIS
125	DEIGHTON ST - Stage 2	DUTTON PARK	50	567,619	7-Jun-01	0	0	1	1,978,198	Doing Stage 2 first may cause problems downstream (#32 C'ment Not Programmed)(WE5441)
126	WAU RD	DARRA	80	196,472	1-Feb-00	0	0	1	1,198,200	ONE YARD FLOODED - COULD PURCHASE THE PROPERTY - CHEAPEST OPTION
127	McAULAY ST	COORPAROO	50	1,207,807	1-Oct-98	0	0	1	1,342,007	Stage 1 Completed - Ref C'ment #35 was due 1997/98 not programed - FDS not required
128	BLACKWOOD RD	MITCHELTON	50	1,680,809	1-Nov-07	0	0	1	1,867,565	FLOOD DAMAGE REQUIRED (ON HOLD JAN 2001)
129	Wishart Rd St Wishart R/Drainage Both Stages Total	WISHART	50	1,758,762	1-Nov-07	0	0	1	1,954,180	2 W.O.'s ONE IS TO BE CHANGED TO A Safety Issue
130	BLACKWOOD RD	MITCHELTON	50	3,100,888	1-Nov-07	0	0	1	3,445,431	FLOOD DAMAGE REQUIRED - OPEN DRAIN AND EASEMENT (ON HOLD JAN2001)
131	BRISBANE ST	BULIMBA	85	890,486	1-Nov-07	0	0	0	#DIV/0!	FLOOD DAMAGE SURV Completed Mar2001 - No recorded Flooding
132	DOUGLAS ST (Stages 1B & 2) WO 35060 & 16840	ST LUCIA	50	1,175,581	1-Nov-07	0	0	0	#DIV/0!	STG 1B CREATED (this file) ROCK HALTED CONSTRUCTION WORK NO FDS REQUIRED
133	SYDNEY ST WO72050	NEW FARM	50	2,987,198	30-Jan-04	0	0	0	#DIV/0!	FULL DESIGN COMPLETE - W11310 - 0184288 JAN 2001
	TOTAL			**875,302,634**		**490**	**2,631**	**3,642**		

PROPOSED MAJOR DRAINAGE WORKS FOR RESIDENTIAL AREAS - RELEVANT SUBURBS DESCRIBED IN QCol

PRIORITY FORMULA - COST OF SCHEME / {HOUSES AFFECTED x FREQUENCY OF FLOODING}

Priority updated on 24-Jun-2010

PRIORITY	LOCATION	SUBURB	EXISTING DRGE CAPACITY AS PERCENTAGE OF Q10	CONSTRUCTION ESTIMATE	ESTIMATE UPDATE	LIVING	UTILITY	YARD	Cost Benefit Ratio	COMMENTS
1	CASTLEMAIN-CAXTON STS CTMTS-BLACK ST	MILTON	61	8,185,150	30-Jan-04	24	117	173	4,347	Castlemaine -Caxton Sts Catchment Relief Drainage Investigation
3	MORETON ST (Brentnell St)	NORMAN PARK	26	864,902	1-Nov-07	1	10	4	6,240	Flooding & Drainage Investigation
5	STRATTON STREET Catchment Study	NEWSTEAD / VALLEY	68	21,281,184	1-Nov-07	139	58	99	6,613	Stratton Street Catchment Relief Drainage Study
18	FAULKNER PARK C'MENT - NETWORK 1 - HARTE	GRACEVILLE	48	10,763,954	30-Jan-04	9	50	80	11,612	Faulkner Park, Graceville Local Stormwater Management Plan (LSMP)
21	WEST END LSMP-HOCKINGS ST OUTLET 21	WEST END	38	23,638,941	30-Jan-04	5	158	274	12,484	West End LSMP
24	LANGSVILLE CREEK Catchment Study	TOOWONG	60	25,217,901	1-Nov-07	14	138	79	13,743	Langsville Creek Catchment Relief Drainage Study
29	PASHEN CREEK HAWTHORNE C'MENT STUDY	HAWTHORNE	50	49,398,508	1-Nov-07	24	223	203	15,108	Local Stormwater Management Plan for
38	COORPAROO CREEK - COORPAROO - CATCHMENT	COOPAROO	29	39,164,865	1-Nov-07	12	171	82	18,193	Pashen Creek, Hawthorne LSMP
39	WEST END LSMP-ROGERS ST OUTLET 5	WEST END	56	2,596,695	1-Nov-07	0	9	67	18,377	West End LSMP
42	SIR FRED SCHONELL DR	ST LUCIA	50	3,115,114	10-Jul-03	3	2	7	19,555	Flooding & Drainage Investigation
44	LOUISA ST	HIGHGATE HILL	52	2,383,568	6-Jun-01	0	11	24	19,764	Flooding & Drainage Investigation
46	WESTERN CREEK LSMP - Basin + Relief Drainage Option	MILTON	50	40,554,513	15-Sep-05	5	118	49	20,569	Western Creek, Milton LSMP
47	YERONGA LSMP - EAST CATCHMENT ONLY	YERONGA	50	10,976,193	31-Dec-05	2	41	82	20,601	Yeronga LSMP
49	BENT ST - STGs 1, 2 & 3	TOOWONG	50	1,606,426	1-Nov-07	1	2	13	21,505	Flooding & Drainage Investigation
51	GLOUCESTER RD (17 Ridge)	HIGHGATE HILL	50	4,205,840	21-Sep-09	2	9	14	22,908	Flooding & Drainage Investigation
55	WEST END LSMP-KURILPA ST OUTLETS 6 & 7	WEST END	54	3,180,256	1-Nov-07	0	8	59	25,422	West End LSMP
61	WESTERN CREEK LSMP - Pipe Only Option	MILTON	50	40,554,513	15-Sep-05	5	118	49	30,467	Western Creek, Milton LSMP
62	YERONGA LSMP - WEST CATCHMENT ONLY	YERONGA	50	7,130,058	1-Nov-07	1	15	60	30,470	Yeronga LSMP
68	WEST END LSMP-PIDGEON CLOSE OUTLET16	WEST END	37	2,663,547	1-Nov-07	0	5	32	36,091	West End LSMP
70	HENDERSON RD	BULIMBA	62	925,272	1-Nov-07	0	3	4	39,822	Flooding & Drainage Investigation
78	TURLEY ST	FAIRFIELD	50	797,093	1-Nov-07	0	1	9	46,614	Flooding & Drainage Investigation
87	WEST END LSMP-BRERETON ST OUTLETS 23	WEST END	53	2,064,959	1-Nov-07	0	0	42	54,629	West End LSMP
105	FAULKNER PARK C'MENT - NETWORK 2 - PARK DRVE	GRACEVILLE	58	8,742,656	31-Dec-05	0	9	16	91,642	Faulkner Park, Graceville LSMP
107	WESTERN CREEK LSMP - Basin Option	MILTON	50	40,554,513	15-Sep-05	0	10	22	96,539	Western Creek, Milton LSMP
108	MANNING ST.(Stages 1 &2) WO14215 & 136194	MILTON	60	3,195,095	1-Nov-07	0	2	10	129,462	Milton Railway Precinct Stormwater Management Plan
109	YERONGA LSMP - EAST CATCHMENT Stg 2	YERONGA	50	14,467,785	30-Jan-04	0	10	22	131,765	Yeronga LSMP
113	LONG ST EAST GRACEVILLE C'MENT STUDY- STAGES 2 &3	GRACEVILLE	92	2,213,573	1-Nov-07	2	15	27	182,774	Long Street East, Graceville LSMP
125	DEIGHTON ST - Stage 2	DUTTON PARK	50	567,619	7-Jun-01	0	0	1	1,978,198	Flooding & Drainage Investigation
131	BRISBANE ST	BULIMBA	85	890,486	1-Nov-07	0	0	0	#DIV/0!	Flooding & Drainage Investigation
132	DOUGLAS ST (Stages 1B & 2) WO 35060 & 16840	ST LUCIA	50	1,175,581	1-Nov-07	0	0	0	#DIV/0!	Flooding & Drainage Investigation
133	SYDNEY ST WO72050	NEW FARM	50	2,987,198	30-Jan-04	0	0	0	#DIV/0!	Sydney Street Merthyr Catchment Relief Drainage Study
	TOTAL			**376,063,955**		**249**	**1313**	**1603**		

Program 2 - WaterSmart City 5 Year Capital Investment Plan 2011/2012 - 2015/2016

NOTE Proposed Project cost are in 2010/11 $'s With CPI

Forward projections for capital funding in future years are continually undergoing optimisation and refinement based on future funding approvals and detail designs.

SERVICE 2.3.1.4: Schedule 68 - Local Drainage Construction

Priorty	Project Name	Stage	Affected Streets	Suburb	Ward	District	Description of Works (Reasons)	Planning Study Catchement (LSMP / ICP)	2011/12 Proposed $,000	2012/13 Proposed $,000	2013/14 Proposed $,000	2014/15 Proposed $,000	2015/16 Proposed $,000	2016/17 Onwards Proposed $,000	Total All Years $,000
	Canopus Street		Canopus and Crucis Street	Coorparoo	Holland Park	E5	Local flooding from overland flow and roadway inundating utility rooms and yards of properties. The proposed works consists of additional connections, gullies and pipework to optimise the existing system.		130						130
	Carter Street		Carter Street	Northgate	Northgate	N3	Construction of retaining wall / earth embankment and fencing, earthworks and turfing along the properties 55 Carter St and 2 Elson Rd.		375						375
	Commercial Road		Commercial Road	Newstead	Hamilton	W2	Construction of stormwater drainage system to improve the flood immunity of the unit complex basement on the corner of Commercial Road & Skyring Terrace, Newstead.		200						200
	Dawson Pde		Dawson Pde	Keperra	Enoggera	W3	Replace the existing drainage pipes with larger 1200 dia. pipes from Dawson Pde to discharge flood water into open drain to minimise flooding affecting TAFE College in Ryland Street.		515						515
	Deodar Street		Deodar Street	Inala	Richlands	S6	Construct new 2.4m Lintel gully to existing manhole and construct missing link of 153m x 525mm dia. pipe from property at 37 Deodar Street to Ash Street.		270						270
	Gordon Circuit		Gordon Circuit	Seventeen Mile Rocks	Jamboree	W4	Existing developer constructed swale is not functioning properly and causing safety concerns for road users. Proposed work involves regrading road pavement, modifying inlet arrangement and reconstructing grass swales.		210						210
	Idonia street		Idonia Street	Bridgeman Downs	McDowall	N2	Removal of illegal fill which increased frequent flooding to residential properties. The proposed works will restore the waterway corridor to pre-illegal fill stage.		450						450
	Kemble Street		Kemble Street	Clayfield	Hamilton	N2	Compensation payment for easement acquisition carried out part of drainage works previously.		10						10
	Lydia Street		Lydia Street	Wooloowin	Hamilton	N2	Construct 1200 mm dia. pipe from Dawson St to Nursing Home at Lydia St. Proposed work also include construction of two new gullies and three stormwater manholes.		212						212
	McCawley Street		McCawley Street	Stafford	McDowall	N2	Construct 2.4mtr Lintel Gully outside property no.14 at McCawley St; Proposed work also includes construction of a manhole, gully at the intersection of McCawley and Webb Sts with 375dia. Pipes. This work to be carried out prior to road resurfacing.		230						230
	Milton Road		Milton Road	Milton	Toowong	W3	Replace exist pipe with 375dia and construct & upgrade existing gully on outbound side close to Western Creek. This proposed work will relieve road flooding during any moderate rain event.		55						55
	Norman Street		Norman Street	Ascot	Hamilton	N2	Construction of a new 750dia. pipe down Norman St from Lancaster Rd to connect with existing drainage at Beatrice St. Proposed works also include construction of four new gullies in Norman St.		643						643
	Paradise Street		Paradise Street	Highgate Hill	The Gabba	C6	Construction of stormwater gullies to protect the water sheeting over intersection which enters into residential properties and increasing nuisance flooding.		140						140
	Patrick Street		Patrick Street	Norman Park	Morningside	E5	Stormwater entered to property Nos 19 to 25 from road and flooding yards and utility areas of those houses; The proposed works include extending a 375mm pipe, 50m up from gully at No 17 to a newly proposed gully and grate at No 25.		95						95
	Penson Street		Penson Street	Stretton	Karawatha	S6	Modification to the drainage system at the end of Penson St to improve the flooding of road and overland flow affecting residents yard.		80						80
	Rawson Street		Rawson Street	Wooloowin	Hamilton	N2	Construct new drainage with additional gullies, manholes and stormwater pipe from Kent Rd to No 27 Rawson Street. Deepen existing shallow gully (in Southwest Corner) and reconnect to manhole at Rose St.		345						345
	Skyring Terrace		Skyring Terrace	Newstead	Hamilton	N2	Construction of stormwater drainage to improve the flooding at residential units at Skyring Terrace, Newstead.		475						475
	Various Locations - Emergent Rehabilitation Works		Various Streets	Various Suburbs	Various	Various	To fund emergent works identified through out the year due to various developer works.		395	480	480	480	480	480	2,795
	Beaconsfield Tce		Beaconsfield Tce	Gordon Park	Marchant		Construction and upgrade of two gullies and connecting pipe drainage to relieve flooding two residential properties.			100					100
	Brickfield St		Brickfield St	Windsor	Marchant		Construction of two gullies and connecting pipe drainage to relieve flooding two residential properties.			175					175

	Buller St		Buller St	Everton Park	McDowall		Two gullies to be upgraded with pipe connection to relieve flooding to two downstream properties			90					90
	Hants Street		Hants Street	Hamilton	Hamilton	N2	Raise and reconstruct Concrete Kerb & Channel (CKC); Construct new drainage; Profile and resheet intersection of Hants and Windsor Sts.			230					230
	Kangaroo Gully Rd		Kangaroo Gully Road	Bellbowrie	Pullenvale	W4	During rain water flows down the road along ckc and causing traffic hazard.			437					437
	Klumpp Road		Klumpp Road	Upper Mt Gravatt	Wishart	E5	Ponding on Klumpp Road. Safety issue.			975					975
	Mirrabooka Rd		Mirrabooka Rd	Ashgrove	The Gap		Construct grated chamber. Flooding caused from blocked field inlets.			250					250
	Morant Cl		Morant Cl	Seventeen Mile Rocks	Jamboree		Proposed work involves regrading road pavement, modifying inlet arrangement and reconstructing grass swales.			210					210
	Murphy Road		Murphy Road	Zillmere	Deagon	N3	Eliminate under and over outlet flooding at Crowley Street. Improve safety for cyclists and motorists.			130					130
	Porter Street		Porter Street	Hemmant	Doboy	E6	Inadequate stormwater drainage flooding industrial buildings. Overland flow path nearly non-existent. Works include easements and drainage works.			250	650				900
	Royal Esplanade		Royal Esplanade	Manly	Wynnum - Manly	E6	Stormwater from Valetta St depositing soil and debris on Royal Esp. Existing pipe at Valetta St suffering from severe collapse and degradation. Work includes replacement of pipe above ground on embankment and under the road.			100					100
	Sim St		Sim Street	Everton Park	McDowall		Four gullies to be upgraded with pipe connection to relieve flooding to two downstream properties			170					170
	Affleck Street		Affleck Street	Alderley	Enoggera	W3	Gullies and Pipe construction to reduce flooding in residential areas.				400				400
	Byambee Street		Byambee Street	Kenmore	Pullenvale	W4	Exsiting drainage line; Suffering numerous defects: Most joints displaced or misaligned, Lining pipe or re-construct pipe along roadway.				365				365
	Clarina Street		Clarina Street	Chapel Hill	Walter Taylor	W4	Park playground flooding, Water flows off road washing mulch away from playground equipment. Investigate if extra gully and line would effective deal with the run off.				117				117
	Colwyn Street		Colwyn Street	Wishart	Wishart	E6	Road intersection flooding - Safety issue for traffic.				420				420
	Cross Street		Cross Street	Toowong	Toowong	W3	Redirect Stormwater to Elizabeth St, reconstruct gullies. Pipe blocked previously. Too small for number of properties connected to it.				110				110
	Dover Street		Dover Street	Hawthorne	Morningside	E5	Relief flooding to residential properties. Scope of works to be defined once the investigation completed.				284				284
	Kenmore Road		Kenmore Road	Kenmore	Pullenvale	W4	Relief flooding to residential properties. Scope of works to be defined once the investigation completed.				175				175
	Kenny Street		Kenny Street	Fig Tree Pocket	Walter Taylor	W4	Drainage works to be done with road widening				35				35
	Kingsford Smith Drive		Kingsford Smith Drive	Hamilton	Hamilton	N2	Flooding of commercial property and road.				280				280
	Maidencombe Street		Maidencombe St	Geebung	Marchant	N2	Construct pipe drainage, Gully construction.				135				135
	Manly Road		Manly Road	Manly West	Wynnum - Manly	E6	Relief flooding to residential properties. Scope of works to be defined once the investigation completed.				250				250
	Primrose Street		Primrose Street	Grange	Central	W3	Flooding occurs outside number 10 Primrose St Grange at the lolipop crossing				45				45
	Zetland Street		Zetland Street	Upper Mt Gravatt	Wishart	E5	Surcharging gullies causing flooding to utiliy areas of no.109					300			300
	Marana Street		Marana Street	The Gap	The Gap	W3	Construct new gully & pipework. Flooding to #1 Marana St to utility area & yard.						125		125
	SERVICE 2.3.1.4 - Local Drainage Construction Total								**4,830**	**3,597**	**3,746**	**780**	**605**	**480**	**14,038**

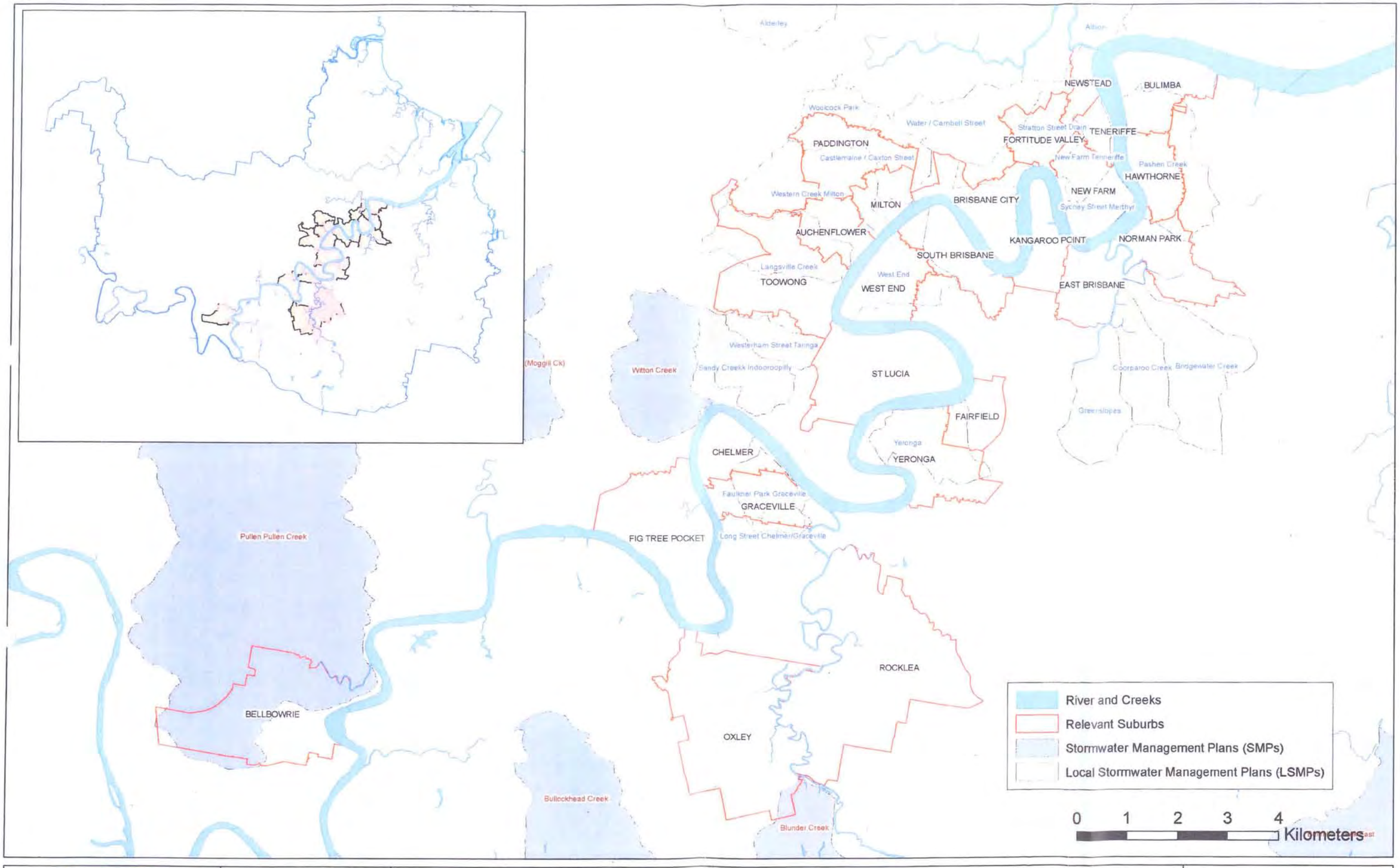
NOTE: **Please note that this local drainage construction program is reactive schedule of works and the future year projects are being selected annually based on localised flooding events and customer complaints. Council is currently working to compile projects beyond 2012 /13 FY.**

Service 2.3.1.5: Schedule 72 - Major Drainage Construction

Priorty	Project Name	Stage	Affected Streets	Suburb	Ward	District	Description of Works	Planning Study Catchement (LSMP / ICP)	2011/12 Proposed $,000	2012/13 Proposed $,000	2013/14 Proposed $,000	2014/15 Proposed $,000	2015/16 Proposed $,000	2016/17 Onwards Proposed $,000	Total All Years $,000
	Arthur Tce	A	Lizzie Street to Arthur Tce	Bardon	The Gap	W	Stage1 of proposed relief drainage works to reduce flooding of residential properties.	Woolcock Pk Catchment Study	1,555	1,310					2,865
	Bellatta Street		Bellatta Street	The Gap	The Gap	W	Proceed with easement acquisition to carry out future construction works which expects to commence in 2012/13.		50	1,715					1,765
	Brentnall Street		Moreton St, Brentnall Street	Norman Park	The Gabba	E	Stage 1 of the proposed relief drainage works to reduce stormwater flooding to one living, ten utility and four yard areas of residential properties.		1700	1,880					3,580
	Carwoola Street		Carwoola Street	Bardon	Toowong	W	Proposed works include stage 1 of creek mitigation works to minimise the flood impact on the new development at Carwoola St along Ithaca Creek.		1,150	1,250					2,400
	Cornwall Street (LINE W)	1	Cornwall St, Logan Rd	Greenslopes	Holland Park	E	Continue 2010/11 relief drainage works to connect to the existing drainage.	Greenslopes LSMP	300						300

	Dandaloo Street		Dandaloo Street	The Gap	The Gap	W	Stage 2 works continue from 2010/11 FY. The proposed works to mitigate flooding residential properties. Proposed relief drainage works from Whitehead St / Payne St intersection to creek via Dandaloo St		800						800
	Lizzie Street	A	Lizzie Street to Ithaca Ck	Bardon	The Gap	W	Stage 2 works continue from 2010/11 FY. Proposed relief drainage works to reduce flooding of residential properties.	Woolcock Pk Catchment Study	700						700
	Logan Road (Line W3)	1B	Logan Road- Julliet Street	Greenslopes	The Gabba	E	Relief drainage works to minimise the impacts of flooding in upstream residential properties. This works will be carried out using Council's pipe jacking equipment.	Greenslopes LSMP	2,400						2,400
	Martha Street	5c	Martha to Great George	Paddington	Toowong	C	Proposed stage 2 relief drainage works continue from 2010/11 FY to improve the flooding in residential properties.	Castlemaine-Caxton Relief Drainage Study	2,340						2,340
	Park Lane		Park Lane, Dixon Street	Auchenflower	Toowong	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Langsville Creek LSMP	150					3,800	3,950
	Princess Street	5b	Princess to Martha Sts	Paddington	Toowong	C	Complete the stage 2 relief drainage works from 2010/11 FY to provide higher immunity for local flooding in the vicinity.	Castlemaine-Caxton Relief Drainage Study	580						580
	Great George Street	5d	Great George to Charlotte	Paddington	Toowong	C	Acquisitions and Easements & Relief Drge Works (10/11)	Castlemaine-Caxton Relief Drainage Study		2,000	2,480				4,480
	Trenton Street		Trenton, Bejimba Sts through to end of Edson Street	Kenmore	Pullenvale	W	Construction of relief drainage as shown on CDW5080830/SK1. Construction through private property. Damage survey completed: 3L,2U & 6Y Easements required.			275	2,100				2,375
	Moreton Street		Moreton St, Brentnall Street	Norman Park	The Gabba	E	Relief drainage works.1 utility and 4 yards flooding.								-
	Plunket Street	6	Haywood, Plunkett, Charteris, Cairns, Cochrane	Paddington	Toowong	C	Acquisitions and Easements & Relief Drge Works	Castlemaine-Caxton Relief Drainage Study			213	850	1,850		2,913
	McIntyre Street	5B	Newmarket to McIntyre	Clayfield	Hamilton	N	Completes the proposed relief drainage works.	Gerler Road Catchment				1,203	1,500	1,450	4,153
	Bardsley Ave	2	Bardsley, Rialto, Dansie, Thruston, Douglas	Greenslopes	Holland Park	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP			120	1,725			1,845
	Denman St (Line T)		Denman St	Greenslopes	Holland Park	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP						1,500	1,500
	Drummond St (Line U)		Drummond St	Greenslopes	Holland Park	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP						2,000	2,000
	Julliet Street (Line W)	1B	Logan Road- Julliet Street	Greenslopes	The Gabba	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP		2,045					2,045
	Old Cleveland Rd (LINE S)	3	Ellis, Old Cleveland Rd, Paniya	Greenslopes	The Gabba	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP				331	1,250	1,350	2,931
	Ridge St & Cedar St (Line V & U1)		Ridge St, Cedar St	Greenslopes	Holland Park	E	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Greenslopes LSMP						2,500	2,500
	Dyne Street	G	Dyne, Kent, Dover, Momington, Thorsby Sts	Red Hill	The Gap	C	Acquisitions and Easements & Relief Drge Works	Woolcock Pk Catchment Study				800	1,330		2,130
	Stafford Street	E1	Rockbourne to Stafford Sts	Paddington	Toowong	C	Relief Drainage works to mitigate flooding in residential properties.	Woolcock Pk Catchment Study				265	2,050		2,315
	Argyle and Masons Sts		Argyle, Mason Sts	Kelvin Grove	Toowong	C	Acquisitions and Easements & Relief Drge Works					166	1,890		2,056
	Gaily Road	2A	Gailey, Dengate Rds	Taringa	Walter Taylor	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Westerham St, Taringa						615	615
	Lucinda Street	2D	Lucinda, Norman, Beatrice, Adsett, Princess Sts	Taringa	Walter Taylor	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Westerham St, Taringa				375		1,600	1,975
	Overend Street		Brentnall, Overend Sts	Norman Park	The Gabba	E	Stage proposed relief drainage works to reduce stormwater flooding to one living, ten utility and four yard areas of residential properties.				1260				1,260
	Moreton Street (Brentnall St)		Moreton, Overend Sts	Norman Park	The Gabba	E	Stage of the proposed relief drainage works to reduce stormwater flooding to one living, ten utility and four yard areas of residential properties.				660			1200	1,860
	Marmion Pde	2F	Moggil Rd, Harrys Rd, Marmion Pde, Federick Rd, Moorak Road	Taringa	Walter Taylor	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Westerham St, Taringa						2,165	2,165
	Kitchener Road	1	Kitchener Rd - Eagle Farm Racecourse open drain	Clayfield	Hamilton	N	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Ascot/Clayfield Drainage						1,765	1,765
	Nudgee Road	1A	Eagle Farm Racecourse - Nudgee Rd	Clayfield	Hamilton	N	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Ascot/Clayfield Drainage						3,050	3,050
	Rouen Road		Rouen Rd	Bardon		W	Relief Drainage Works to minimise the impacts of flooding in residential properties.							918	918
	Crocus Street		Crocus St - Kev Hooper Park	Inala	Richlands	S	Relief Drainage Works to minimise the impacts of flooding in residential properties.							890	890
	Harte Street	2	Hart to Faulkner Park	Graceville	Tennyson	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Faulkner Park LSMP						950	950
	Richardson St	1-1	Plumridge, Oxley, Richardson,Acacia, Turner, Crawford, Leybourne Roads	Graceville	Walter Taylor	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Faulkner Park LSMP						2,115	2,115

	Hamilton Road		Wallace, Norman, Kidston, Sparkes, Latham, Hamilton, Gympie Roads	Chermside	Marchant	N	Acquisitions and easements & relief drainage works	Chermside SW Investigation						3,160	3,160
	Glenalva Tce	7	Glenalva, Bowling, Hawthorne, Pratt Sts	Enoggera	Enoggera	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Alderley North LSMP						1,150	1,150
	Royal Parade		Royal, Conifer, Longsight Sts	Alderley	Enoggera	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Alderley North LSMP						750	750
	Fourteenth Aveune	1	Seabrook St to Edinburgh Castle Rd	Kedron	Marchant	N	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Kedron LSMP Area B						3,760	3,760
	Dobell Street		Harfield, Dobell, Clandon Sts	Indooroopilly	Walter Taylor	W	Relief Drainage Works to minimise the impacts of flooding in residential properties.							3,000	3,000
	Lydia Street	1	Lydia, Stewart, Kent Sts	Hendra	Hamilton	C	Relief Drainage Works to minimise the impacts of flooding in residential properties.	Hendra Doomben Relief Drge Study (Kemble St)						1,170	1,170
	Robinson Road		Robinson Rd, Sandgate Rd, Kinmond Ave	Wavel Heights	Northgate	N	Relief Drainage Works to minimise the impacts of flooding in residential properties.							1,743	1,743
	Third St		Prout, Abbott, Cambridge Sts	Camp Hill	Chandler	E	Relief Drainage works - Tunnel Option	Third St Drainage System						3,460	3,460
	Kadina Street		Kadina, Dajarra, Glenella Sts	The Gap	The Gap	W	Flooding of 7 livinig ,3 Utility and 9 yards.Original scope of work increased to include relief to properties in Glenella St as well.				617	1,985			2,602
	Gordon Rd		Gordon, Simpsons, Outlook Roads	Bardon	The Gap	W	Construction stage 1 ,2100 dia pipes from Outlook Cres + interim inlet capacity upgrade.3 living, 10 utility & 11 yards.				2,050	1,800			3,850
	Annandale Street		Annandale St	Keppera	Enoggera	W	Alternative option to purchase #17 to remove house and provide overland flow path through to railway embankment where new field inlt is required over both pipes in QR land.							500	500
	Arinya Rd		Park - Ithaca Ck	Ashgrove	The Gap	W								1,680	1,680
	Palm Avenue		Palm Ave, Kate St, Bevington St	Shorncliffe	Deagon	N	Relief Drainage works to mitigate flooding in residential properties.							1,840	1,840
	Beck Street		Beck Street	Milton	Toowong	W	Construction of detention basin in Norman Buckan Park. Milton flood improvement.	Western Creek LSMP						2,300	2,300
	Naroo / Devonhill		Pindari st, Maderia St, Devonhill St, Naroo St	The Gap	The Gap	W	7 living, 4 Utility, 10 yards Major drainage upgrade through private property and roadways.							4,630	4,630
	Service 2.3.1.5 - Major Drainage ConstructionTotal								**11,725**	**10,475**	**9,500**	**9,500**	**9,870**	**57,011**	**108,081**



BRISBANE CITY

Dedicated to a better Brisbane

Asset Management Branch

Brisbane Infrastructure
Brisbane City Council
Level 19
266 George Street
Brisbane QLD 4000

Brisbane City Council Stormwater Infrastructure

August 2011

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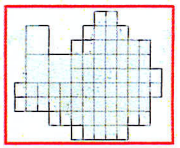
BCC.133.0003



Adopted Infrastructure Charges Resolution No.1 2011



Legend

- Individual Map Boundaries
- Brisbane LGA

Notes:

- Detailed infrastructure plans and cadastral information are included in each individual Plan for Trunk Infrastructure (PFTI) map.
- To determine the relevant Conveyance Standard refer to the Desired Standard of Service and the definition of a prescribed stormwater area.

NORTH

0 1,000 2,000 3,000 4,000 5,000 6,000 Metres

1 cm = 600 metres at A0 1:60,000

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Map Filename: Map9_StormwaterKey_20110608.mxd
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Map 9
Stormwater Network Area Key Map

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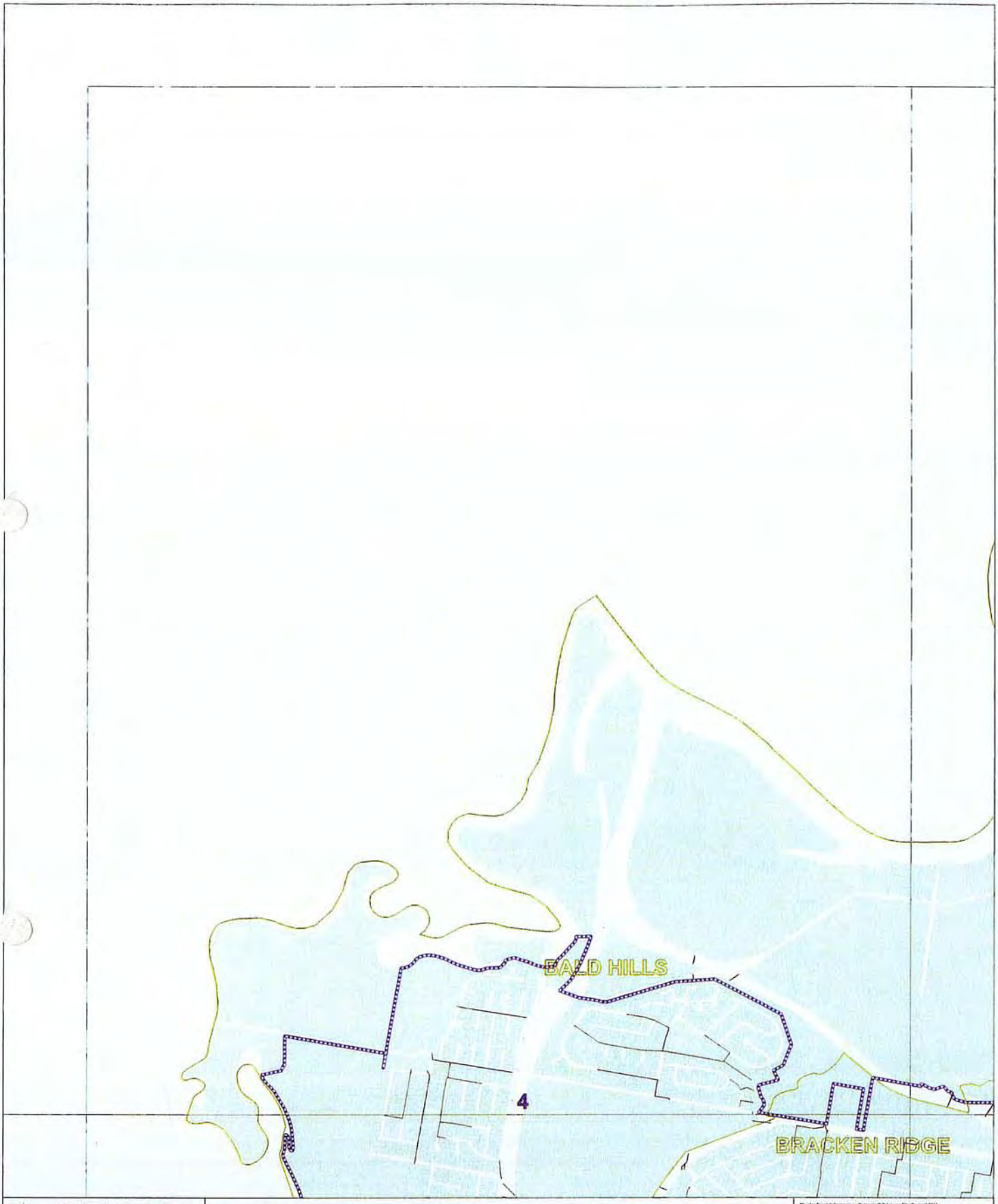

NORTH

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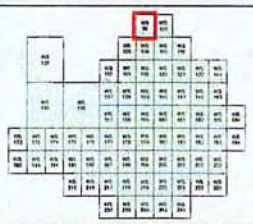
Metres

1 cm = 60 metres at A0

1:6,000



Existing Infrastructure

- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure

- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries

- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW99

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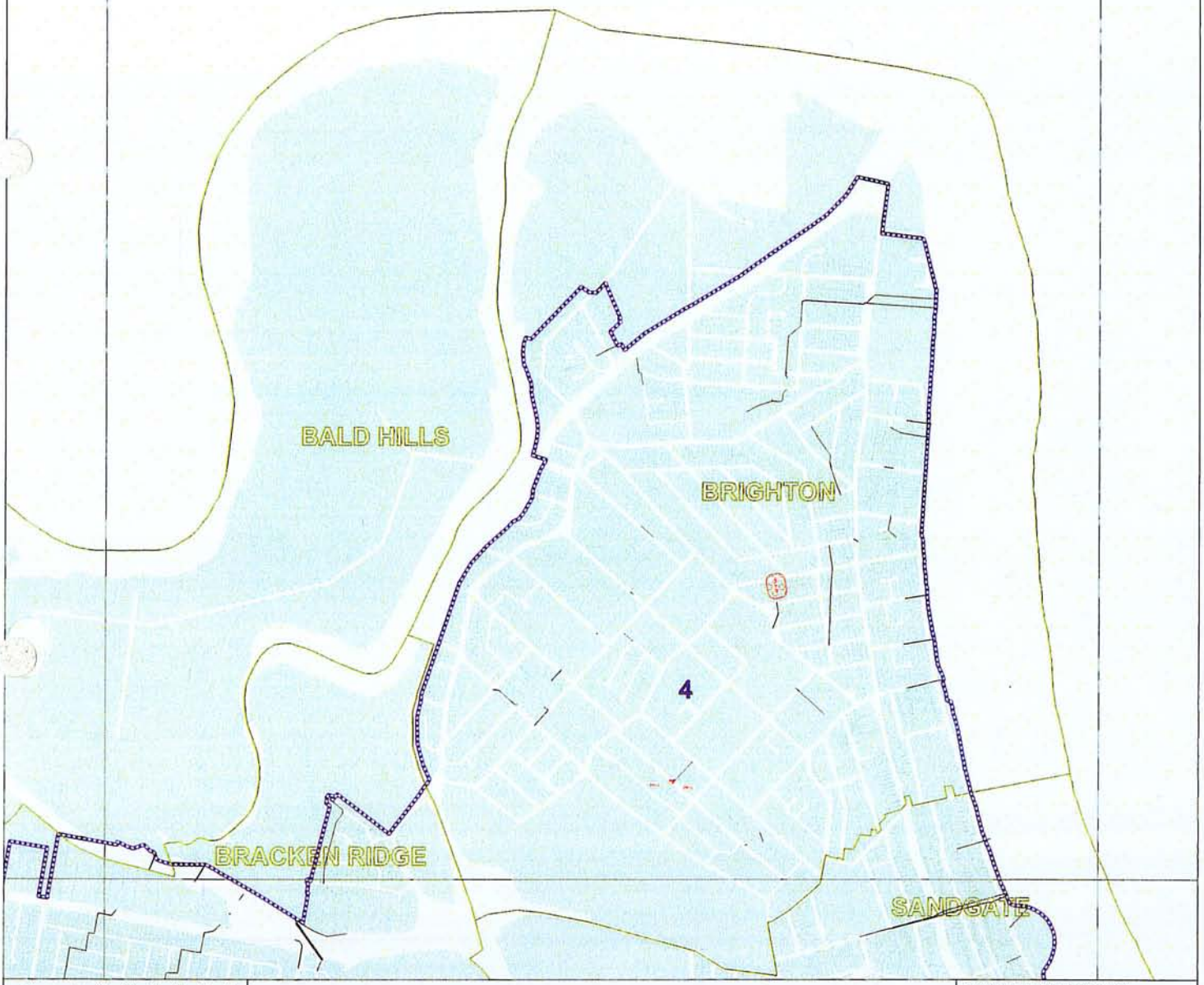

NORTH

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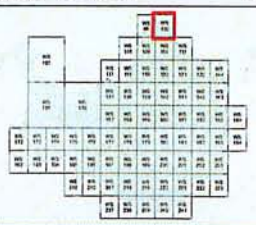
Metres

1 cm = 60 metres at A0

1:6 000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW100

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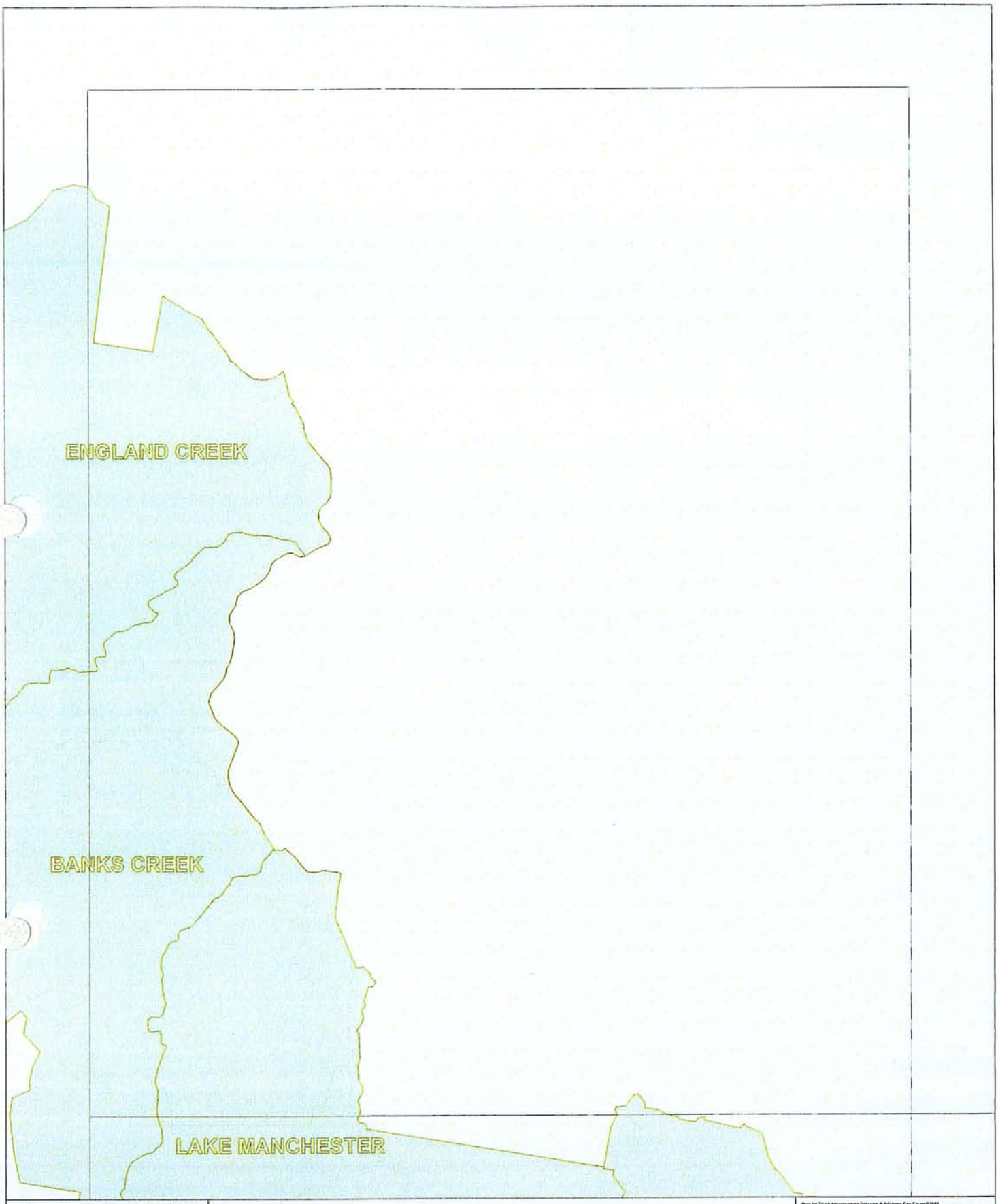

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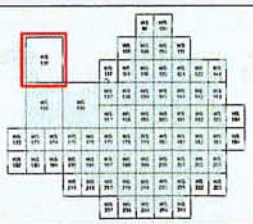

Existing Infrastructure

- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure

- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries

- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW105

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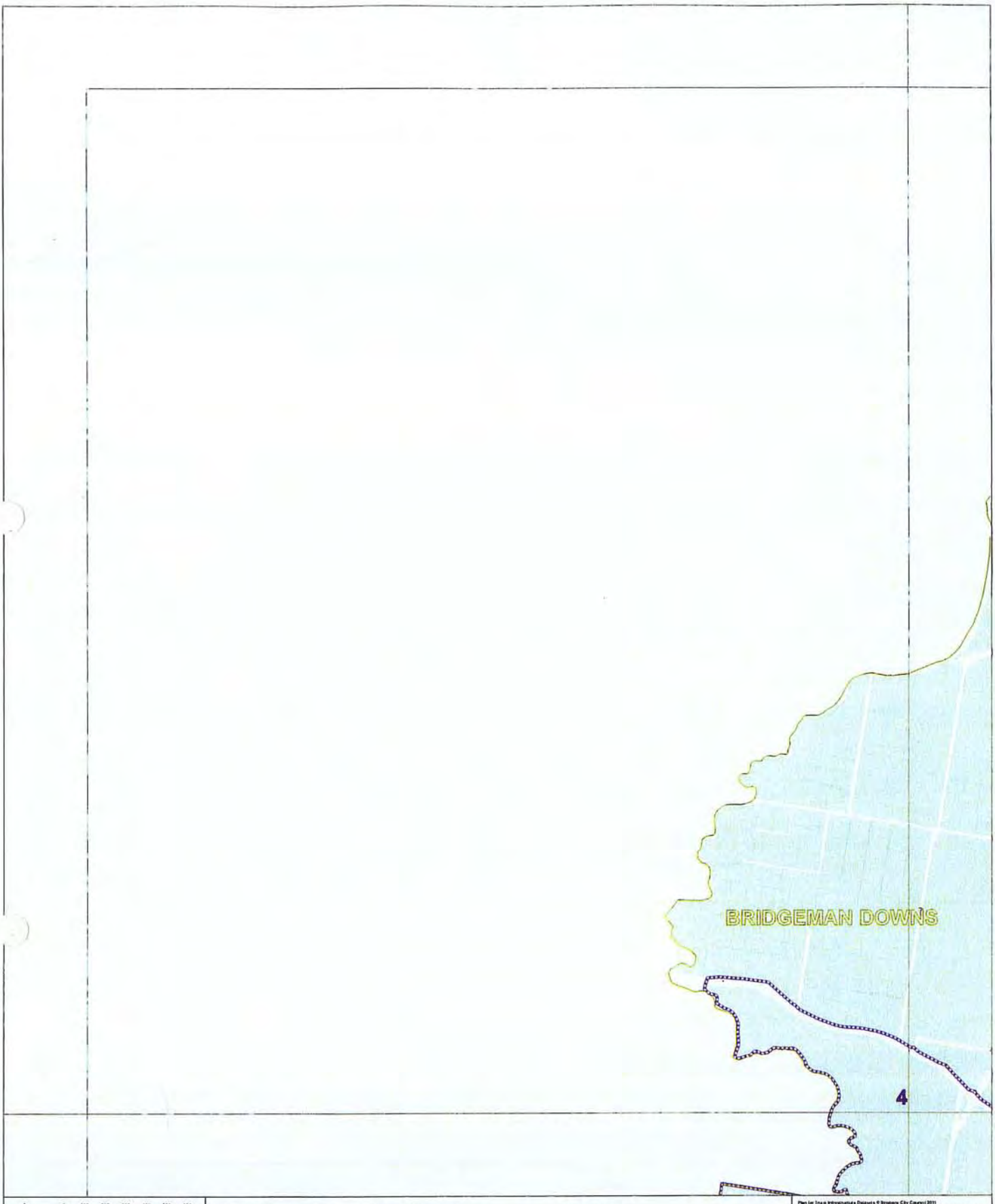

NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW108

Adopted Infrastructure Charges Resolution No.1 2011

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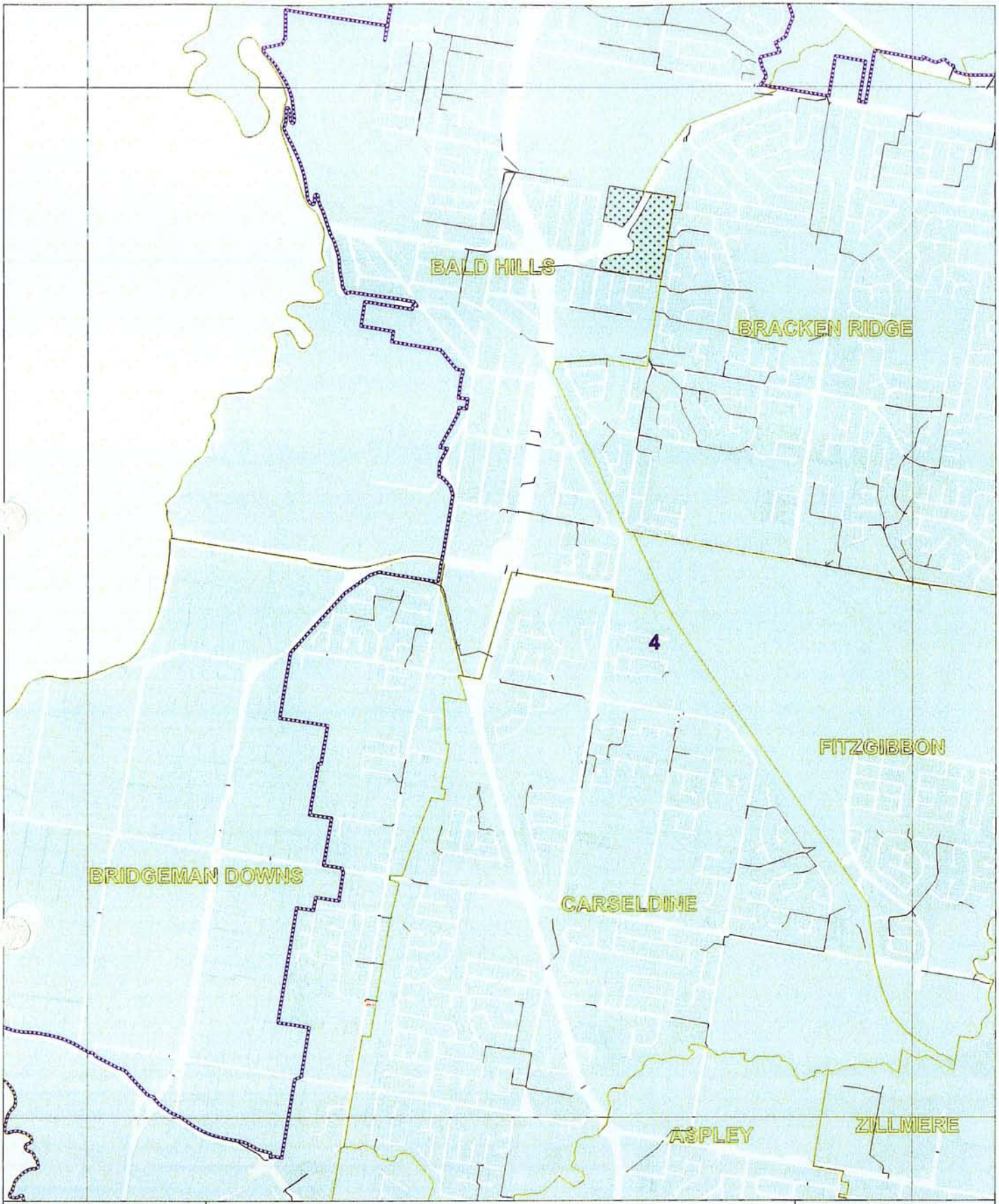

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
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Stormwater Network Trunk Infrastructure Plans

Map SW109

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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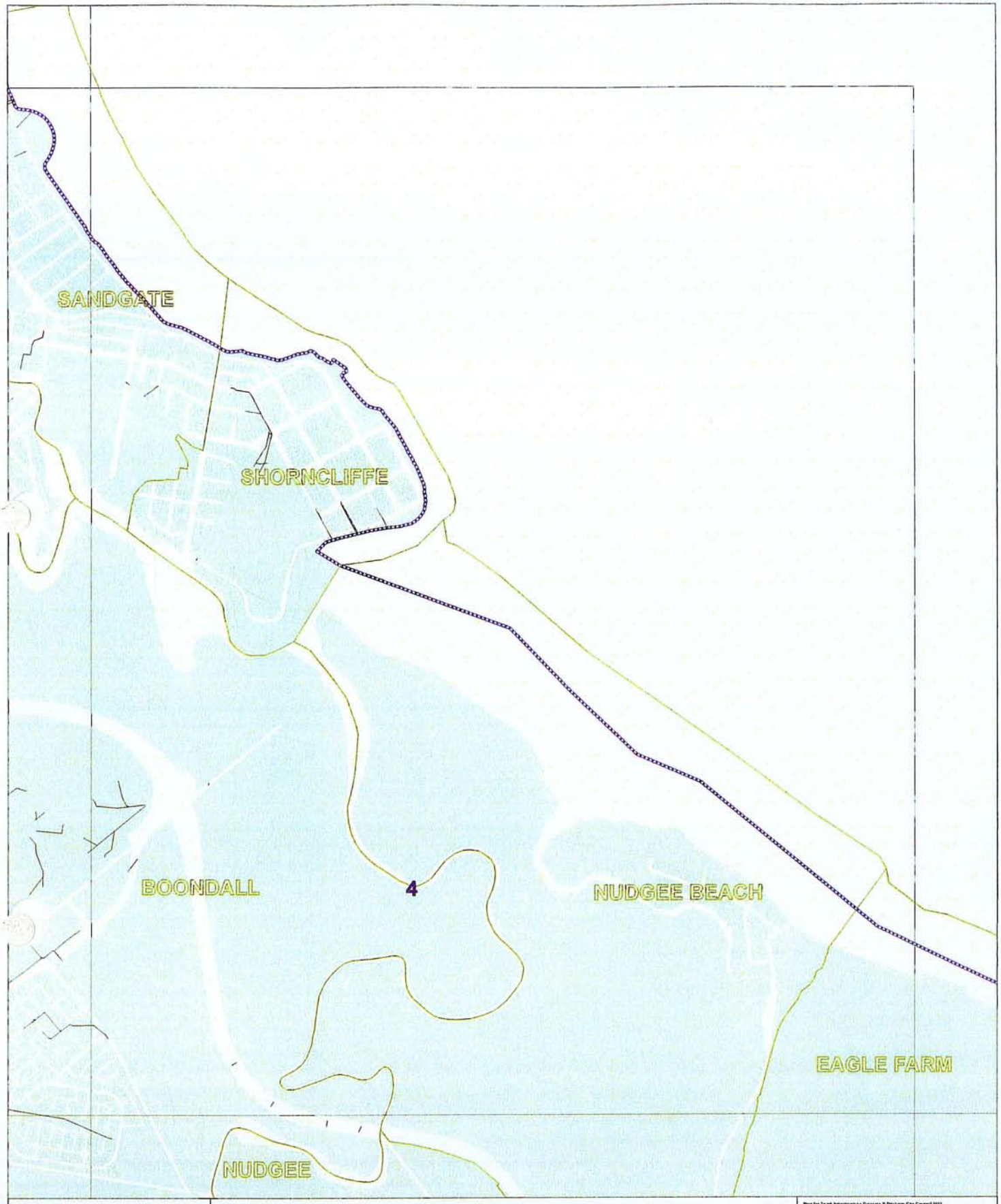
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW110

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
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Stormwater Network Trunk Infrastructure Plans

Map SW111

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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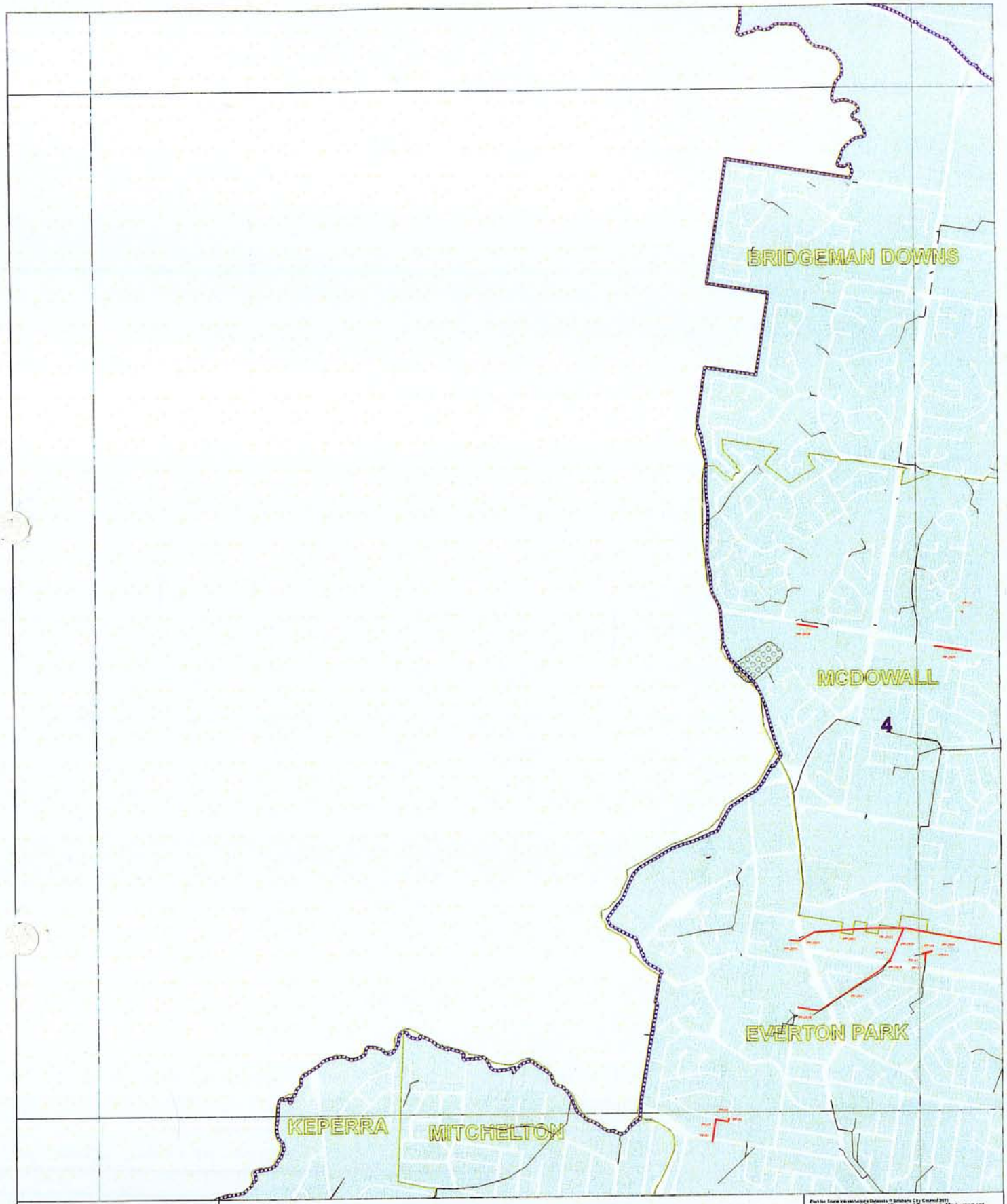
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW117

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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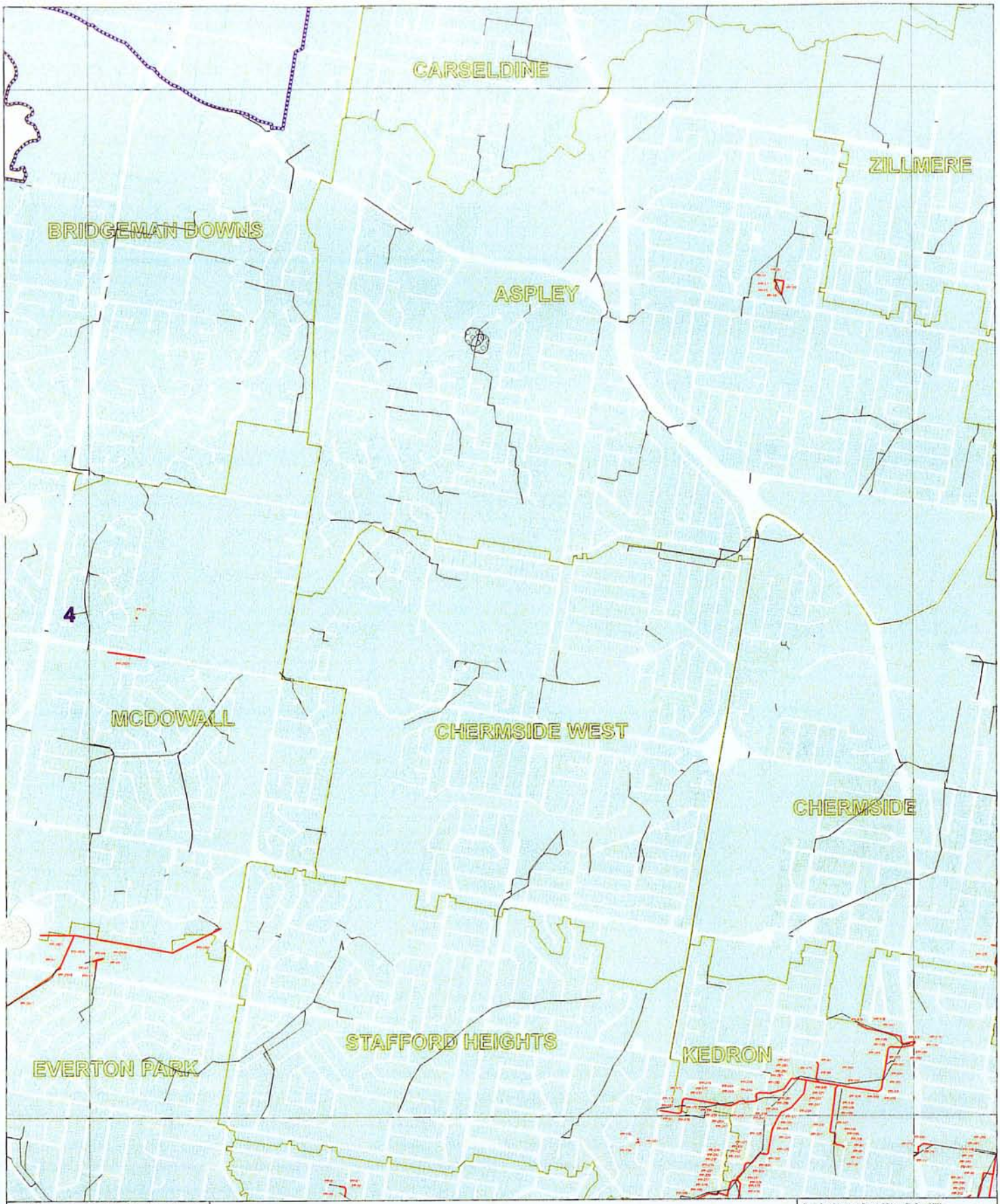
Stormwater Network Trunk Infrastructure Plans

Map SW118

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

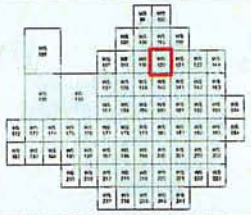
Stormwater Network Trunk Infrastructure Plans

Map SW119



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW120

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 80 metres at A0
1:8,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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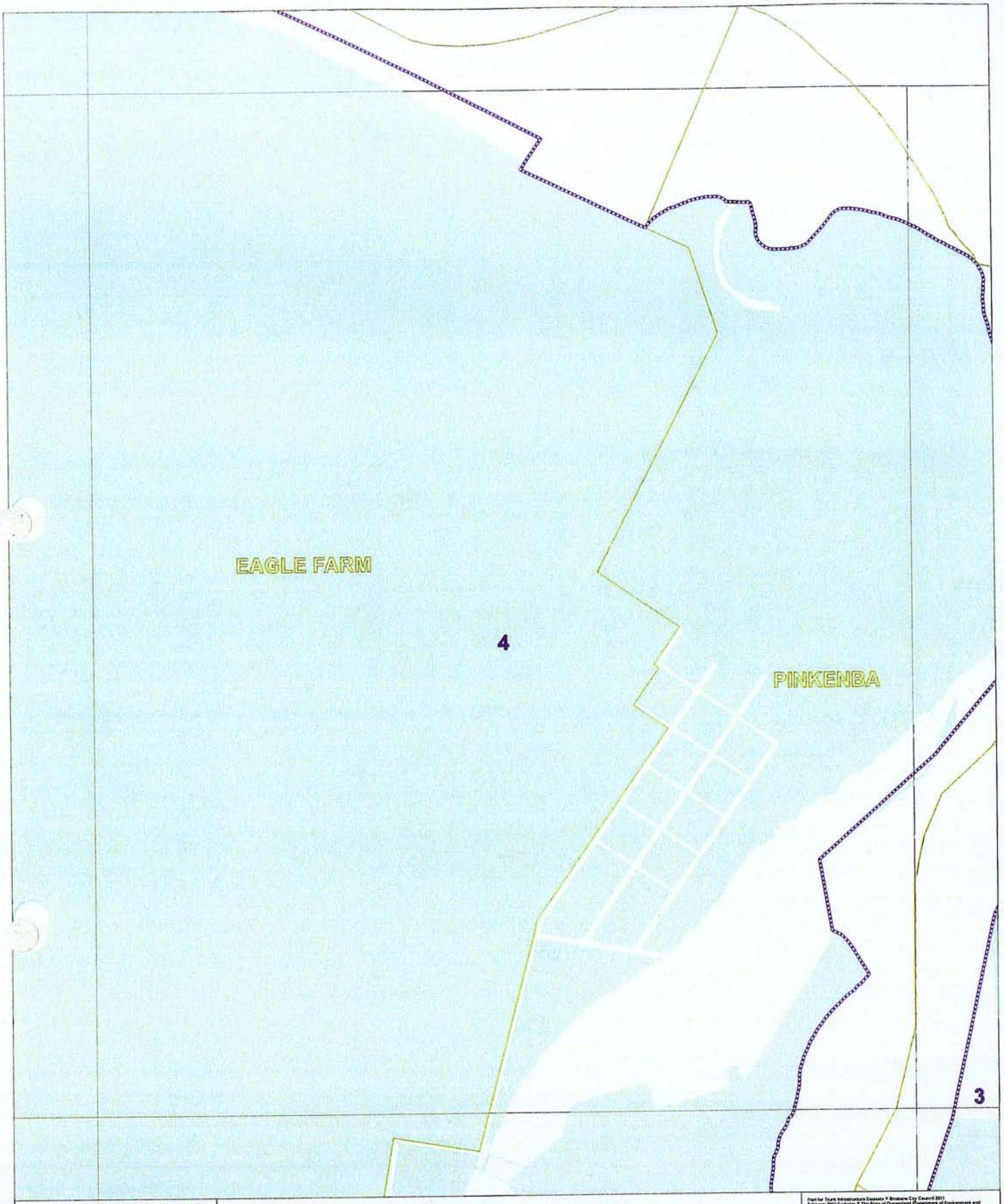
Stormwater Network Trunk Infrastructure Plans

Map SW121

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane

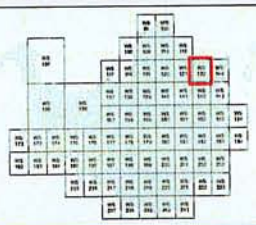


NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0

1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW122

Adopted Infrastructure Charges Resolution No.1 2011

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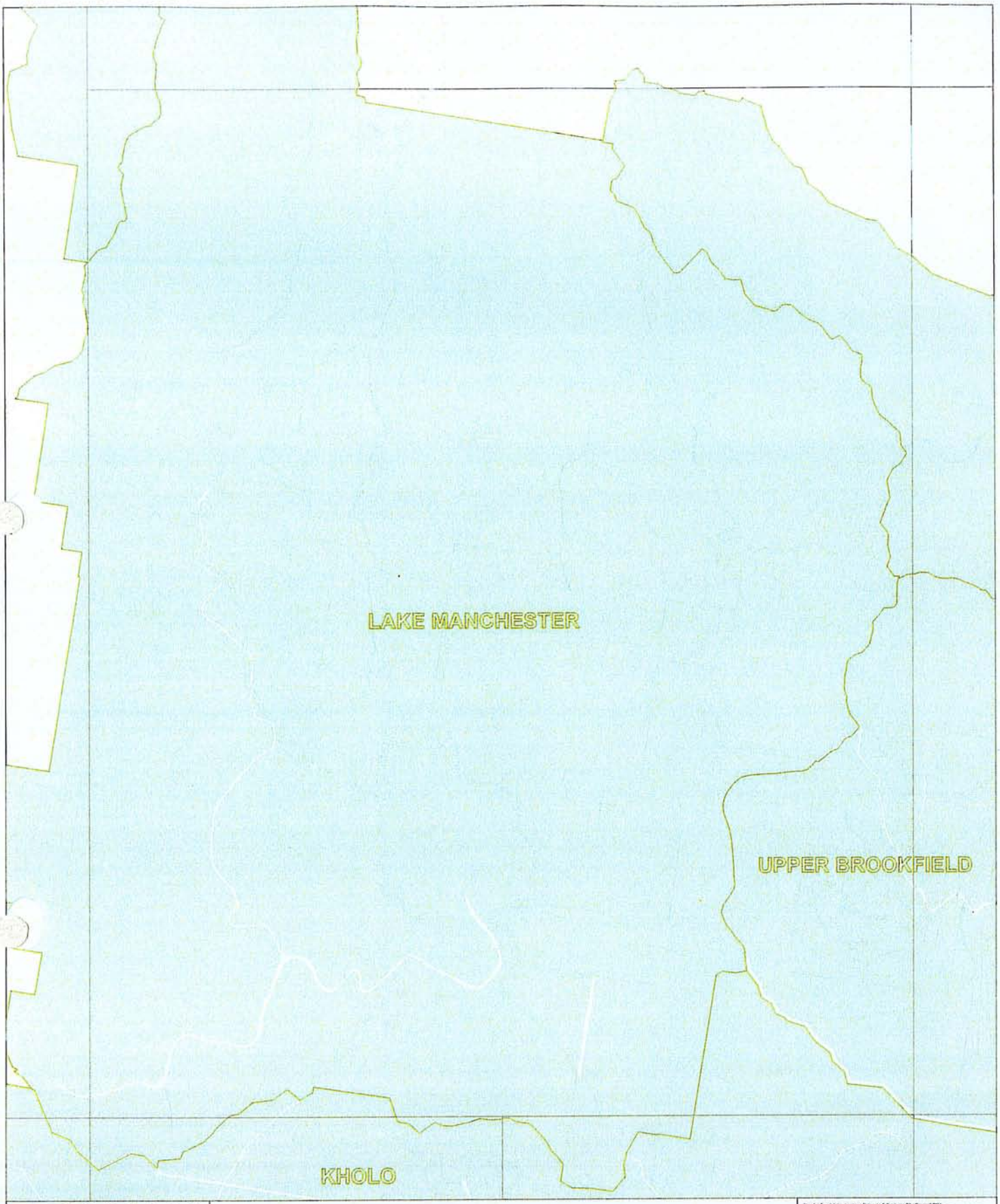

NORTH

0 200 400 600 800 1,000 1,200
Metres

1 cm = 120 metres at A0

1:12,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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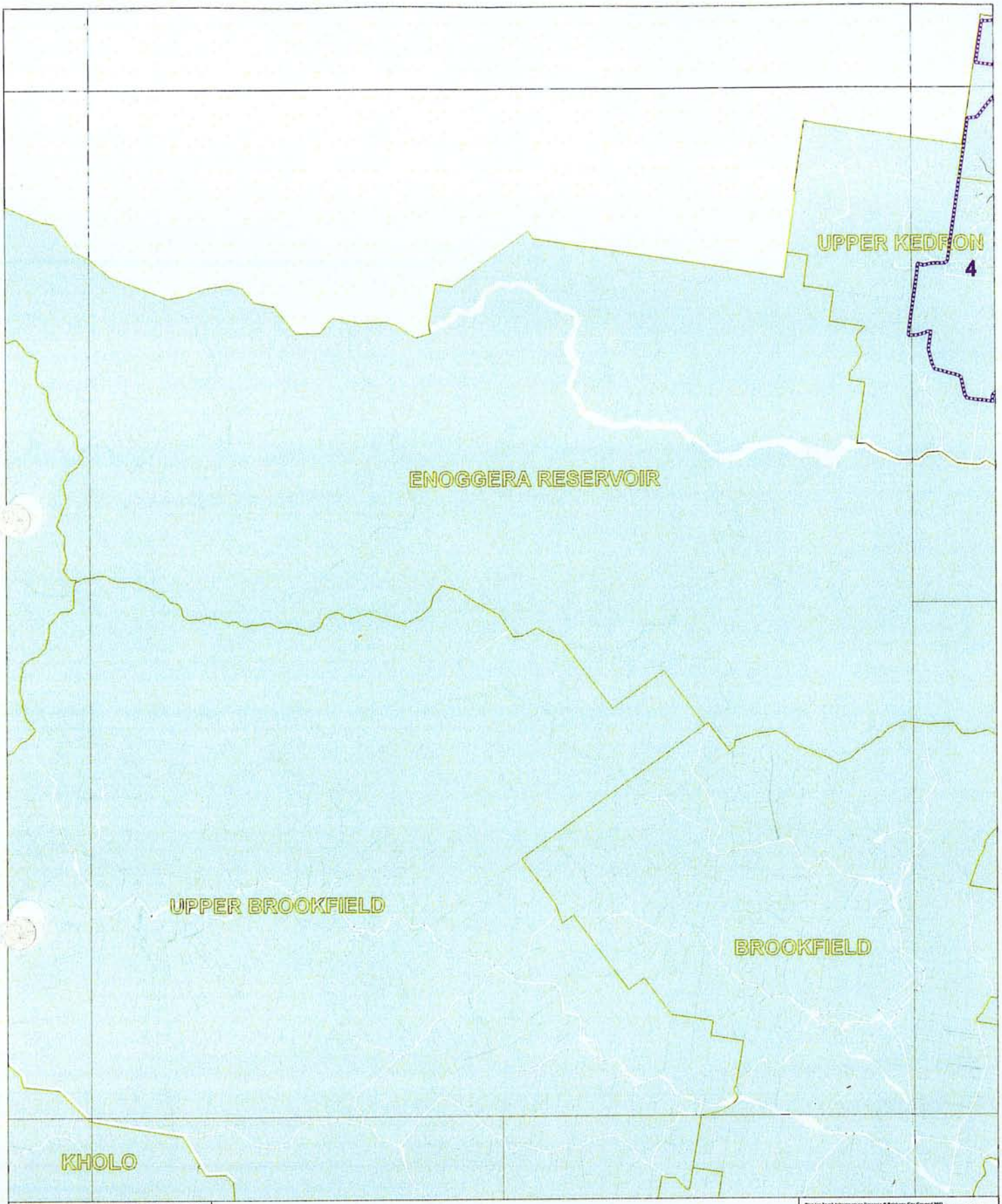
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW135

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 200 400 600 800 1,000 1,200
Metres

1 cm = 120 metres at A0

1:12,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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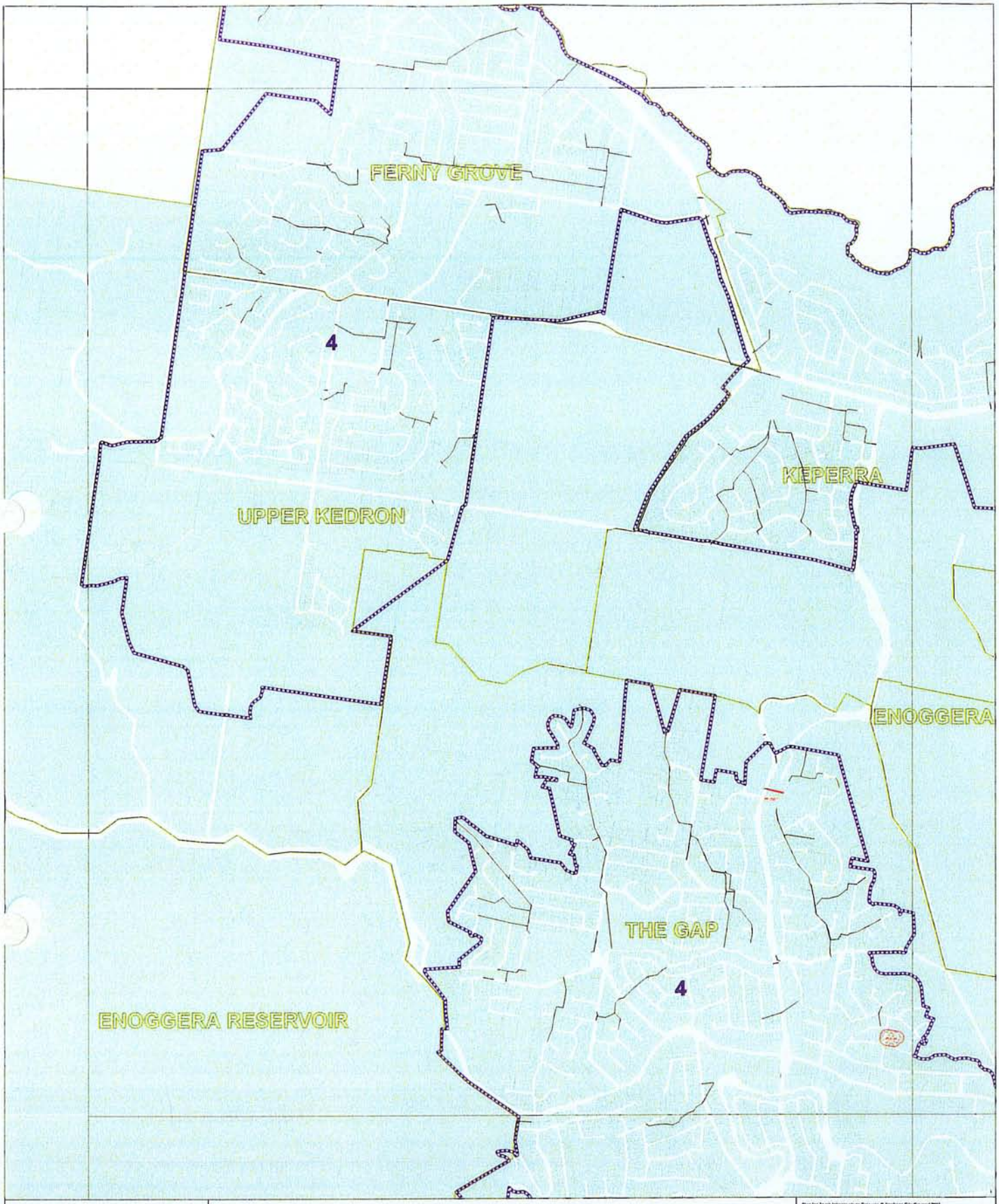
Map Filename: PFTI_Stormwater_20110627_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW136

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:8,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
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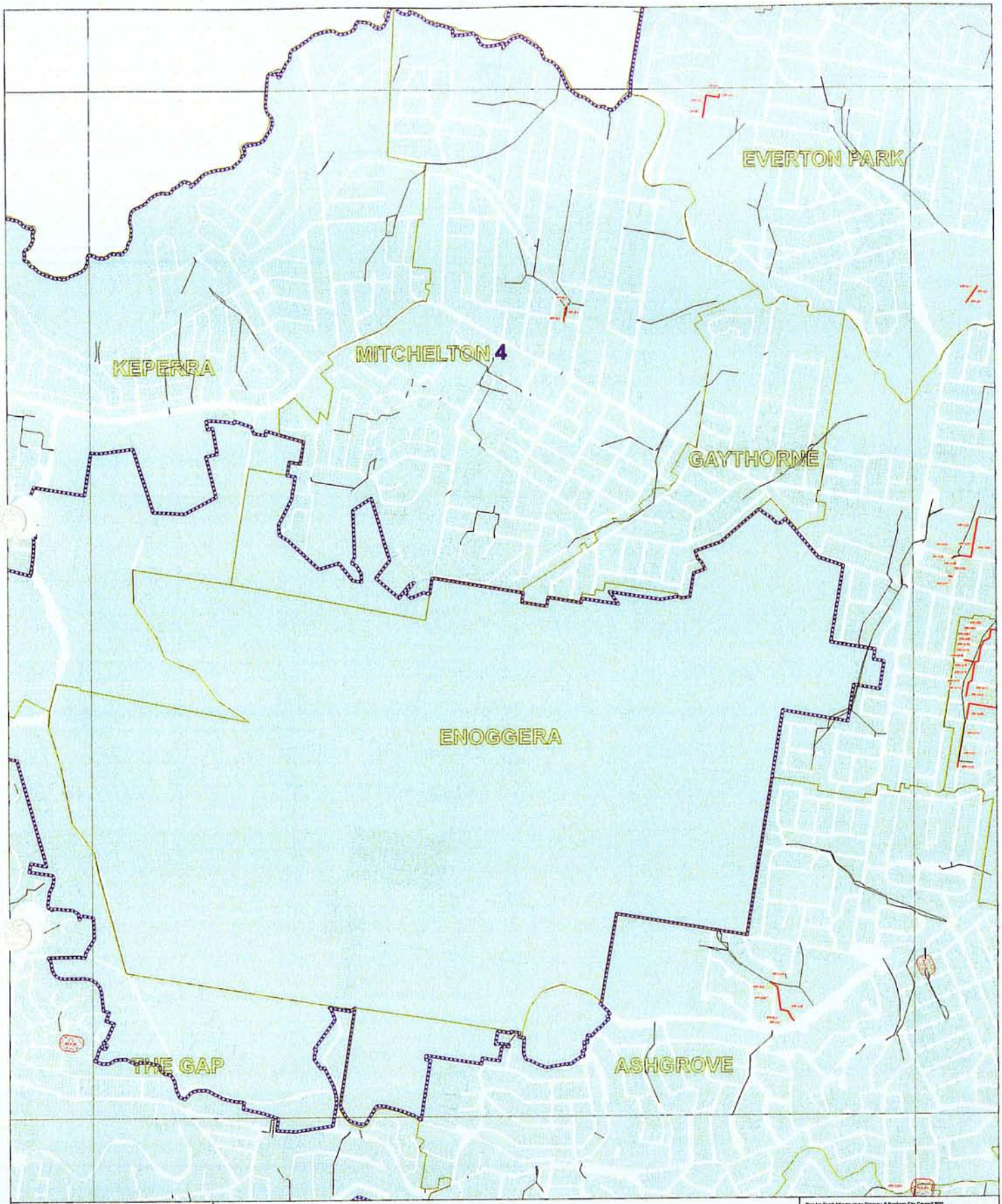
BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW137

Adopted Infrastructure Charges Resolution No.1 2011

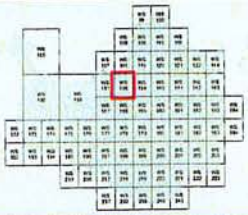
Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 80 metres at A0 1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Map Filename: PFTI_Stormwater_20110607_Series.mxd
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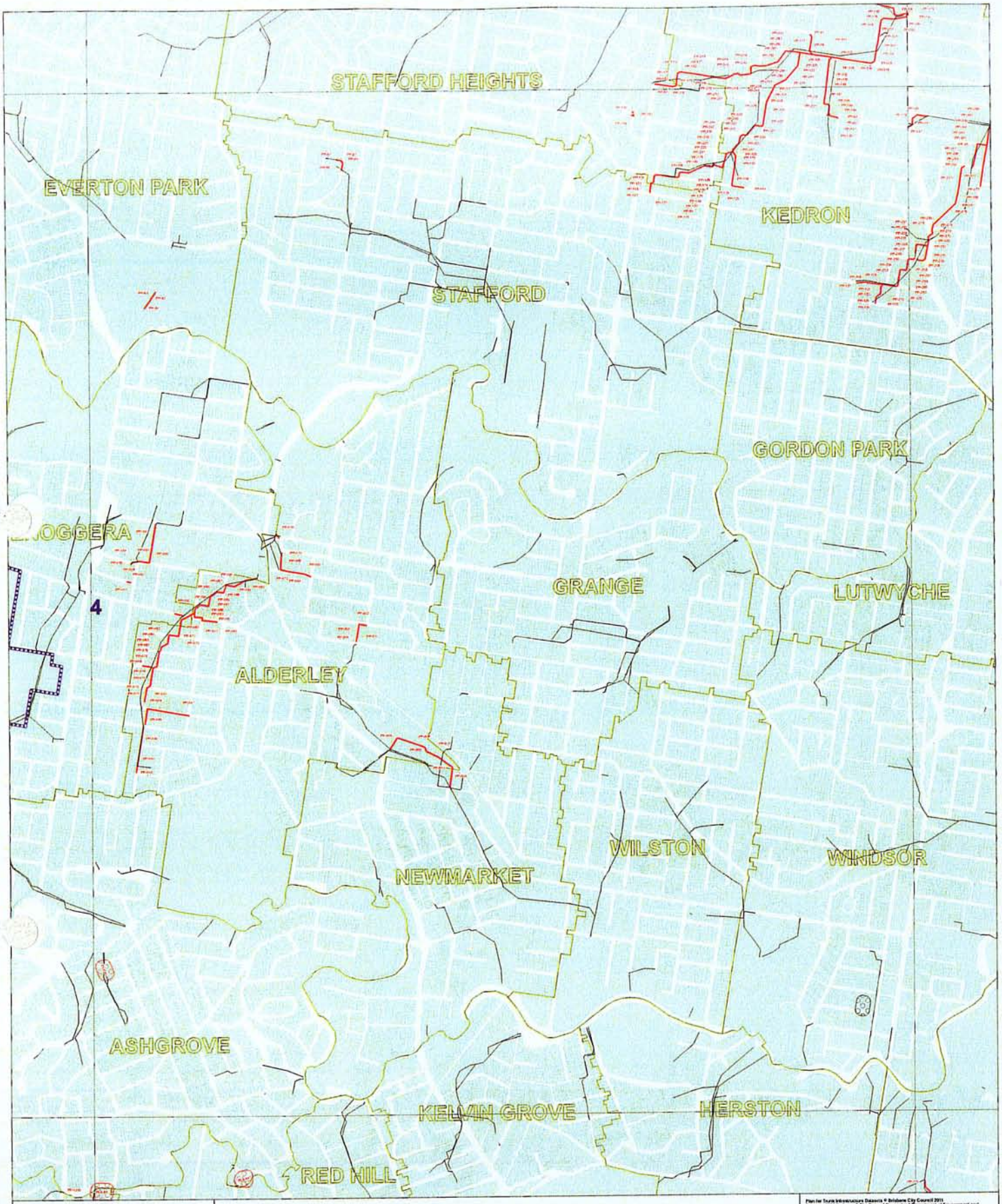
Stormwater Network Trunk Infrastructure Plans

Map SW138

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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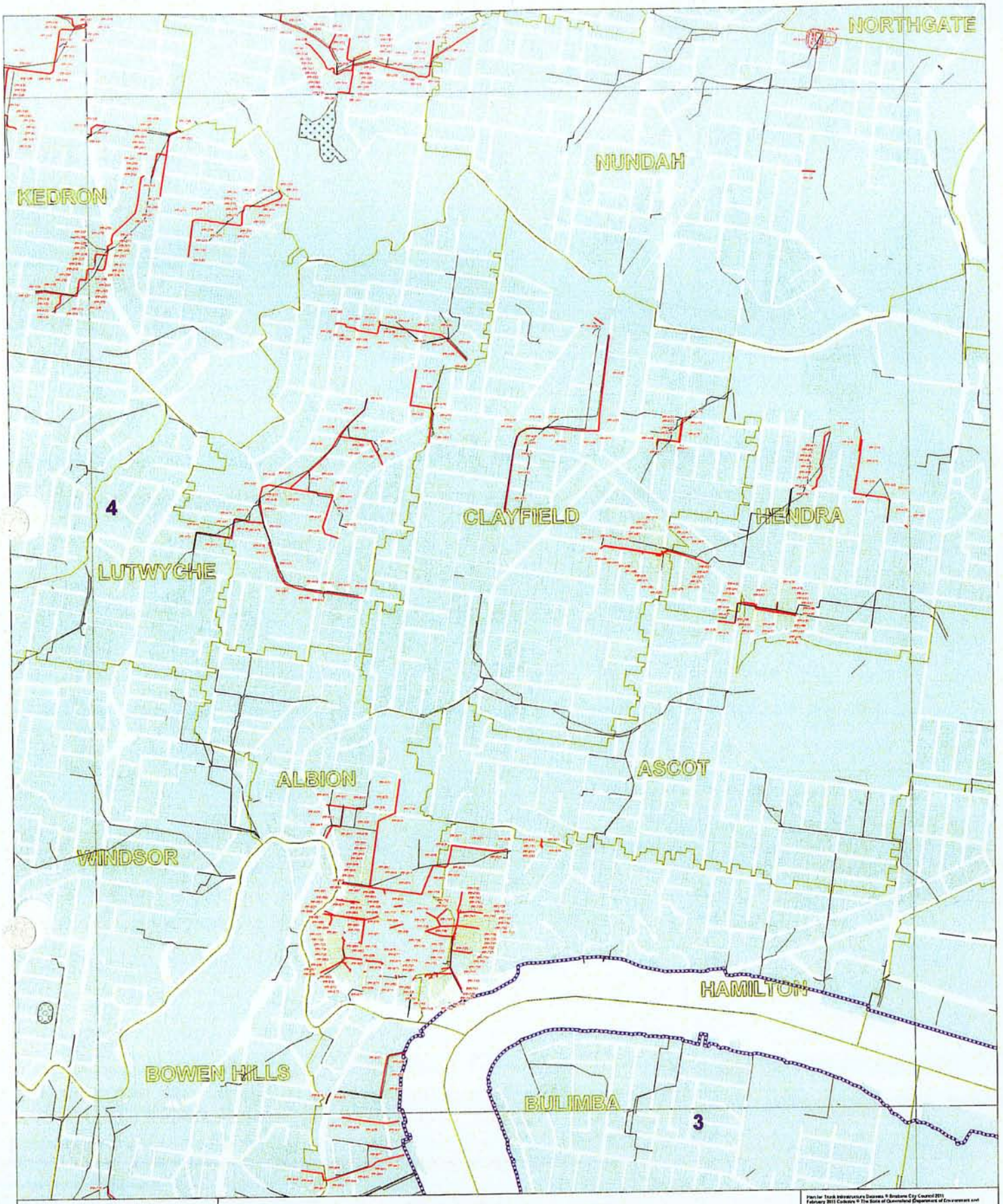
Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW139

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW140

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PIFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW141

Adopted Infrastructure Charges Resolution No.1 2011

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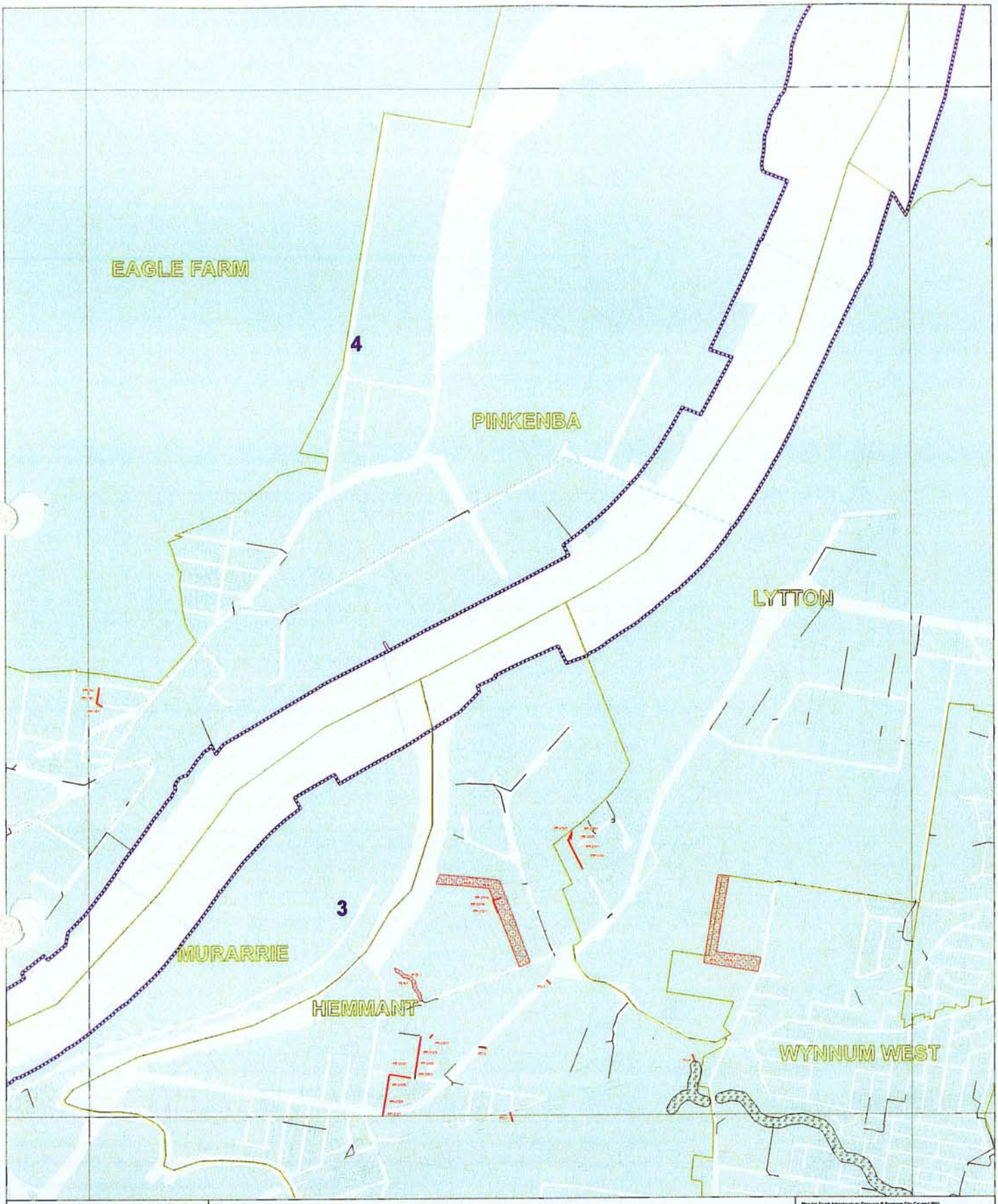

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW142

Adopted Infrastructure Charges Resolution No.1 2011

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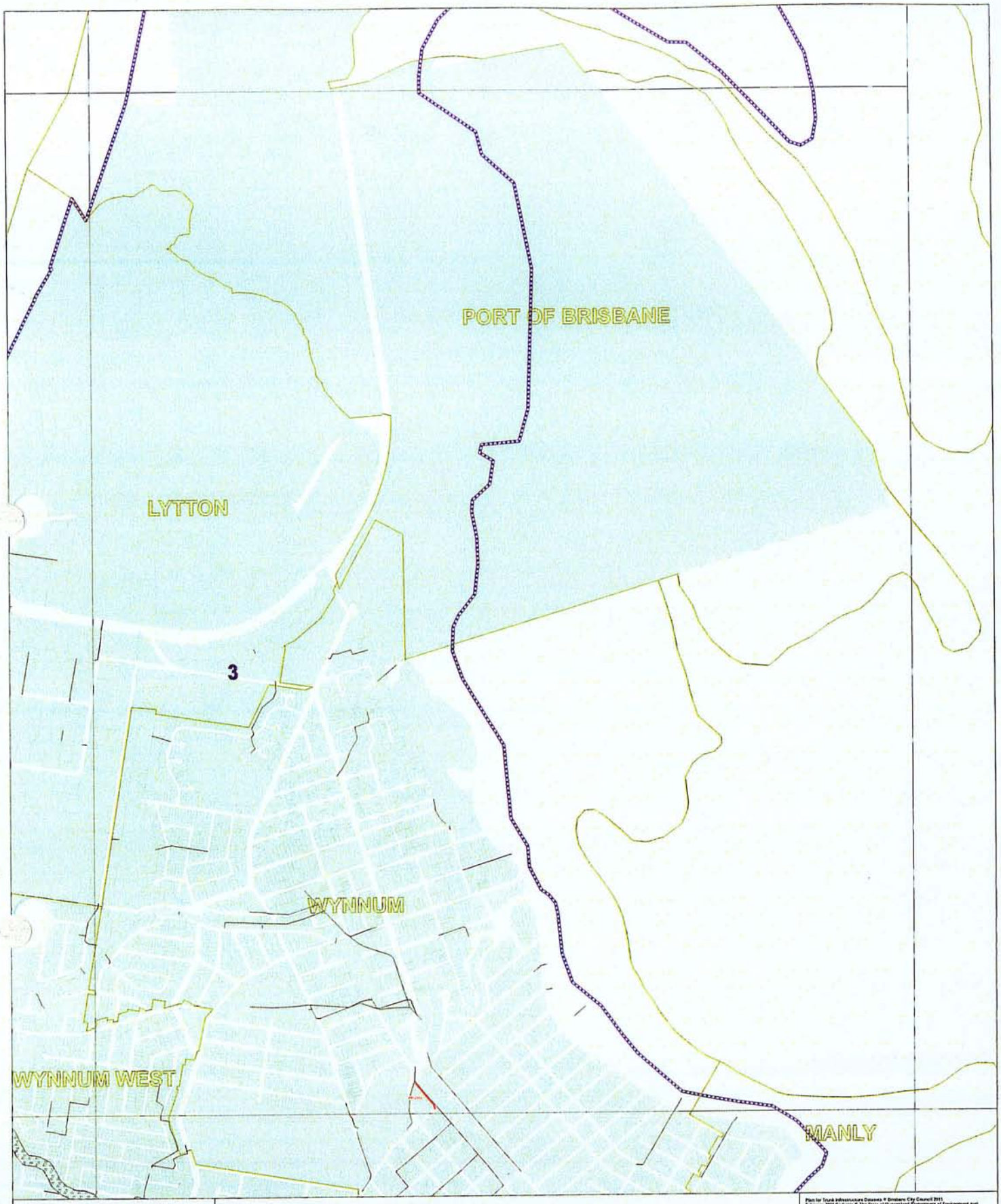

NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW143

Adopted Infrastructure Charges Resolution No.1 2011

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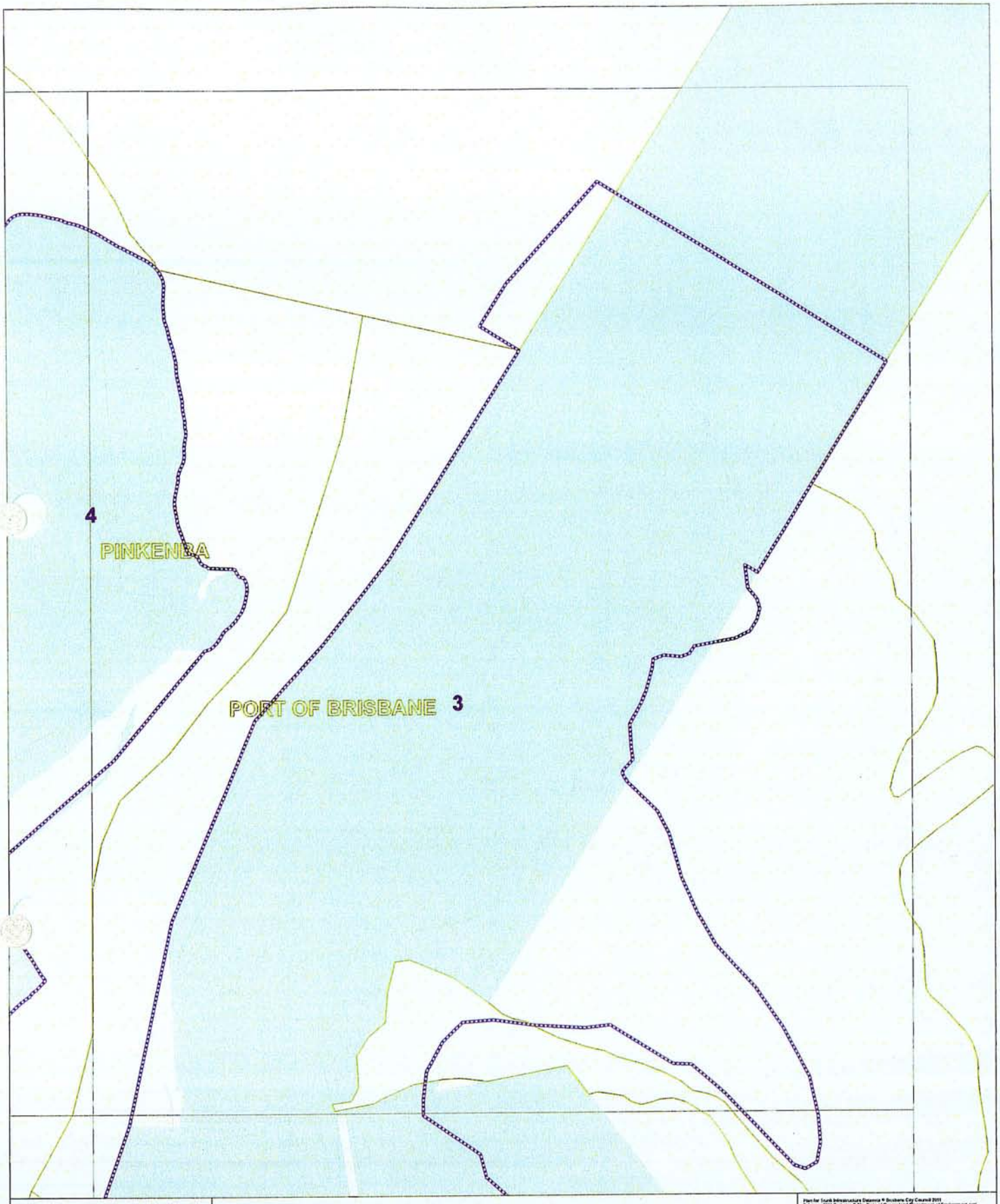

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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Projection: Map Grid of Australia, Zone 56
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Stormwater Network Trunk Infrastructure Plans

Map SW144

Adopted Infrastructure Charges Resolution No.1 2011

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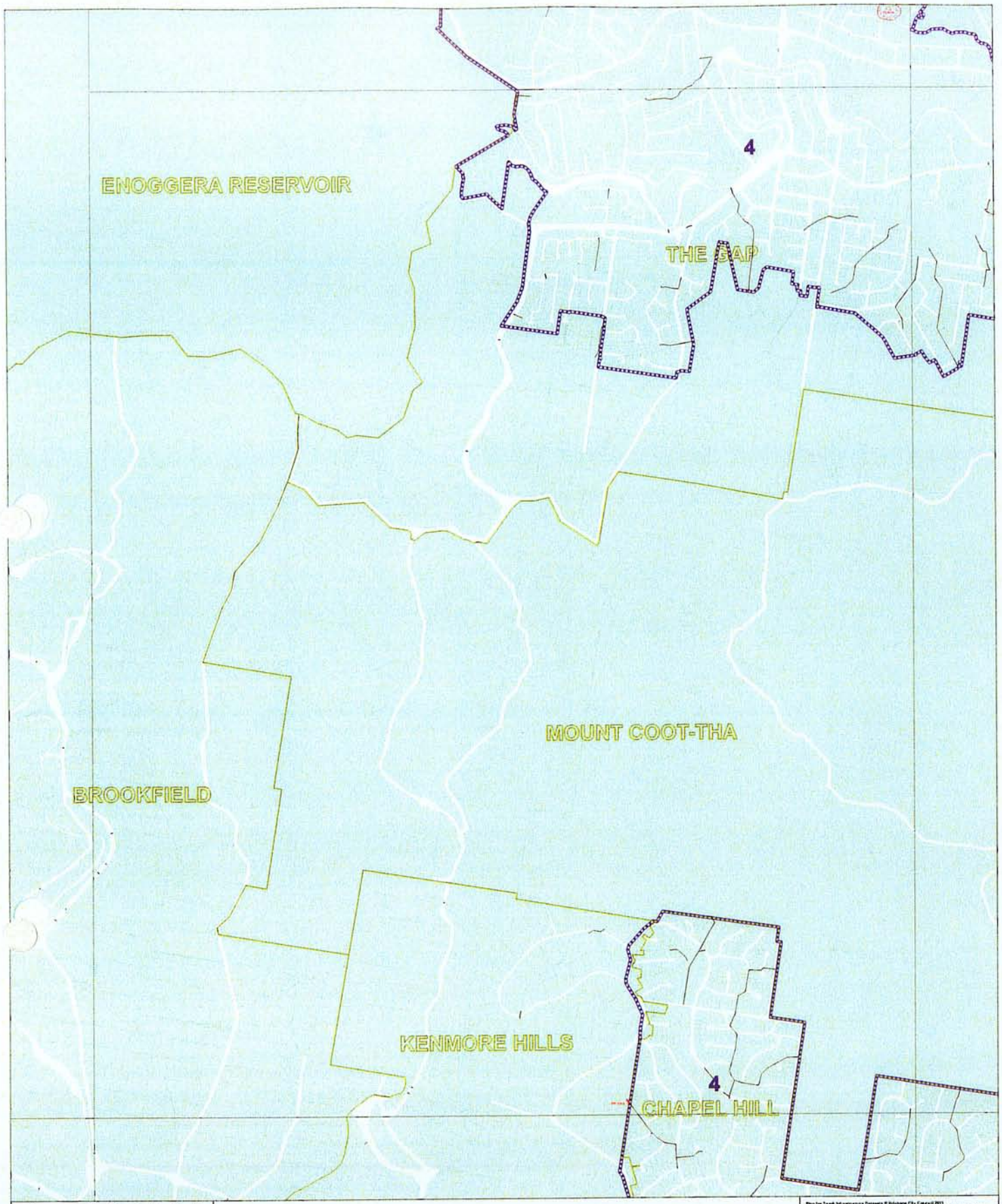

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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Projection: Map Grid of Australia, Zone 56
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Stormwater Network Trunk Infrastructure Plans

Map SW157

Adopted Infrastructure Charges Resolution No.1 2011

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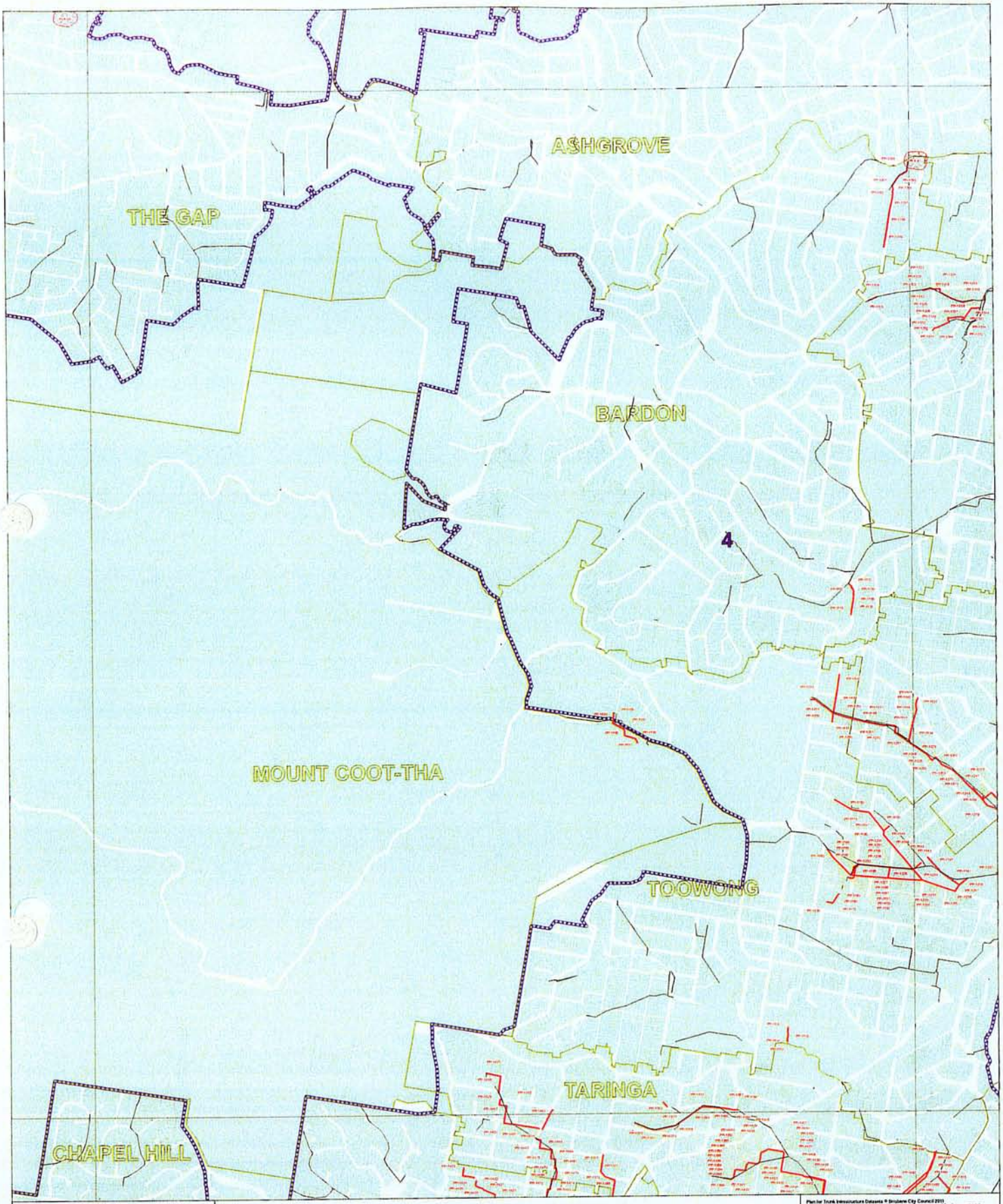

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW158

Adopted Infrastructure Charges Resolution No.1 2011

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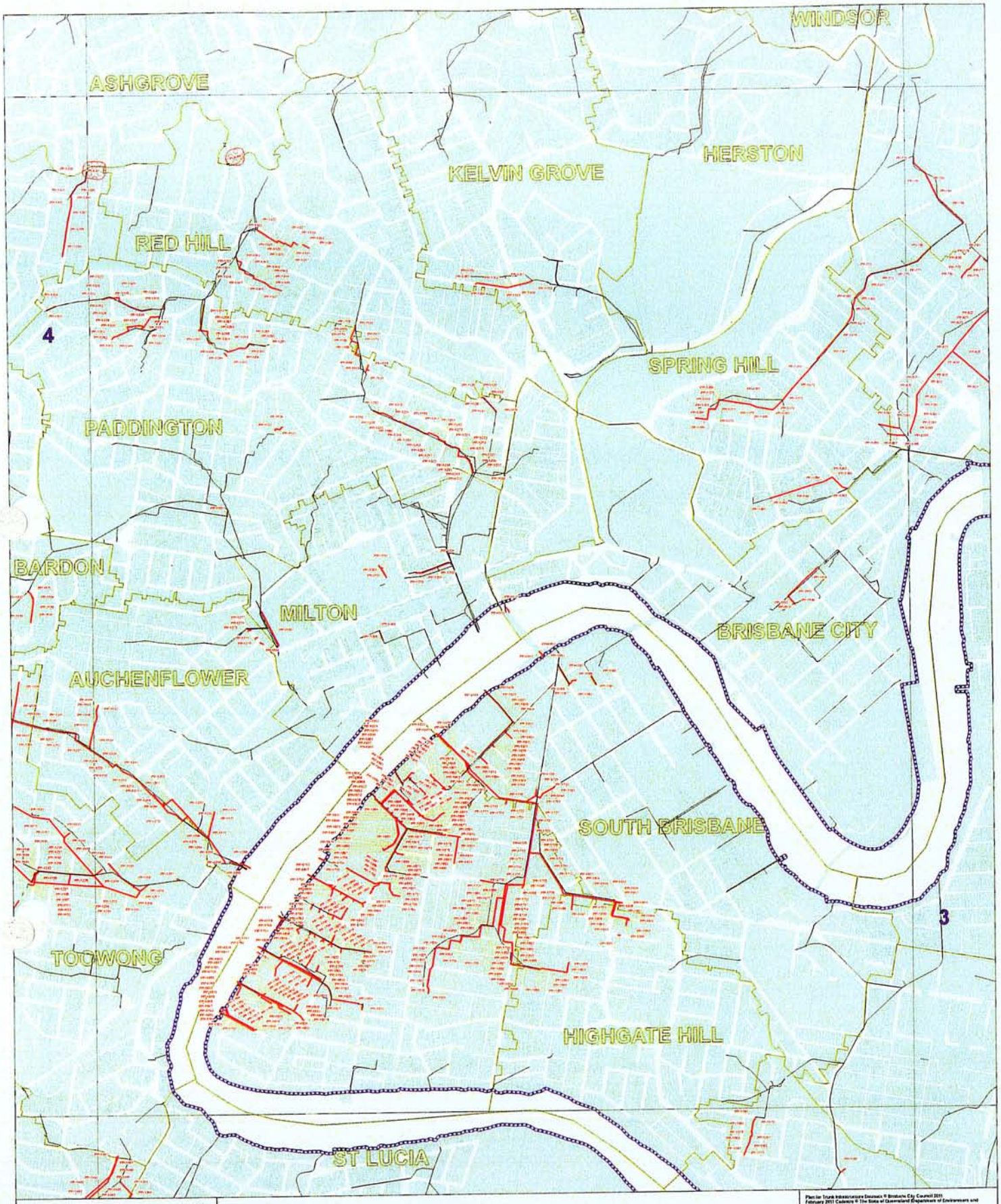
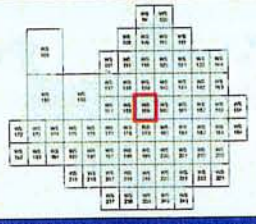


NORTH

0 100 200 300 400 500 800
Metres
1 cm = 80 metres at A0
1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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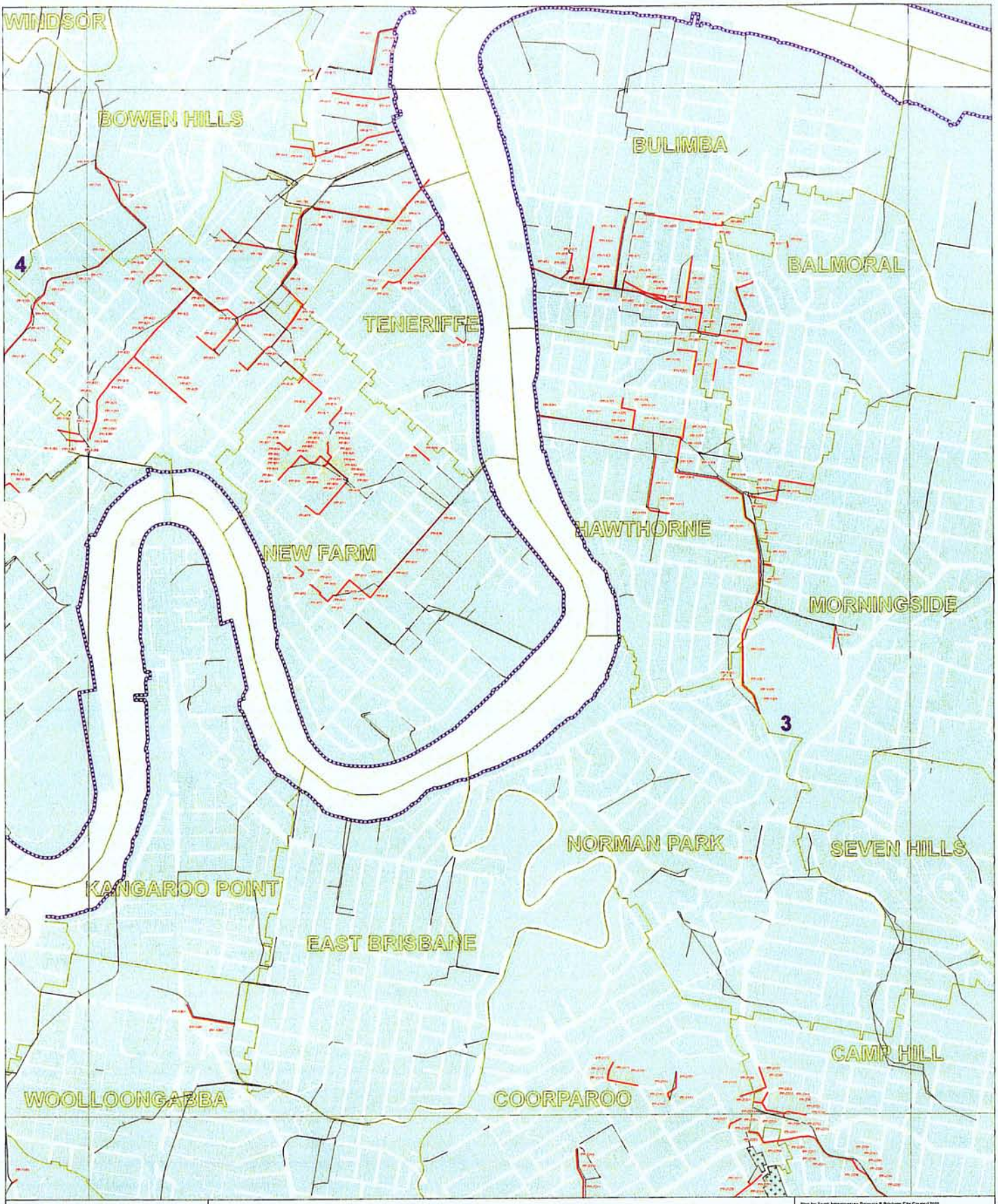
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW159

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW160

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
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Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW161

Adopted Infrastructure Charges Resolution No.1 2011

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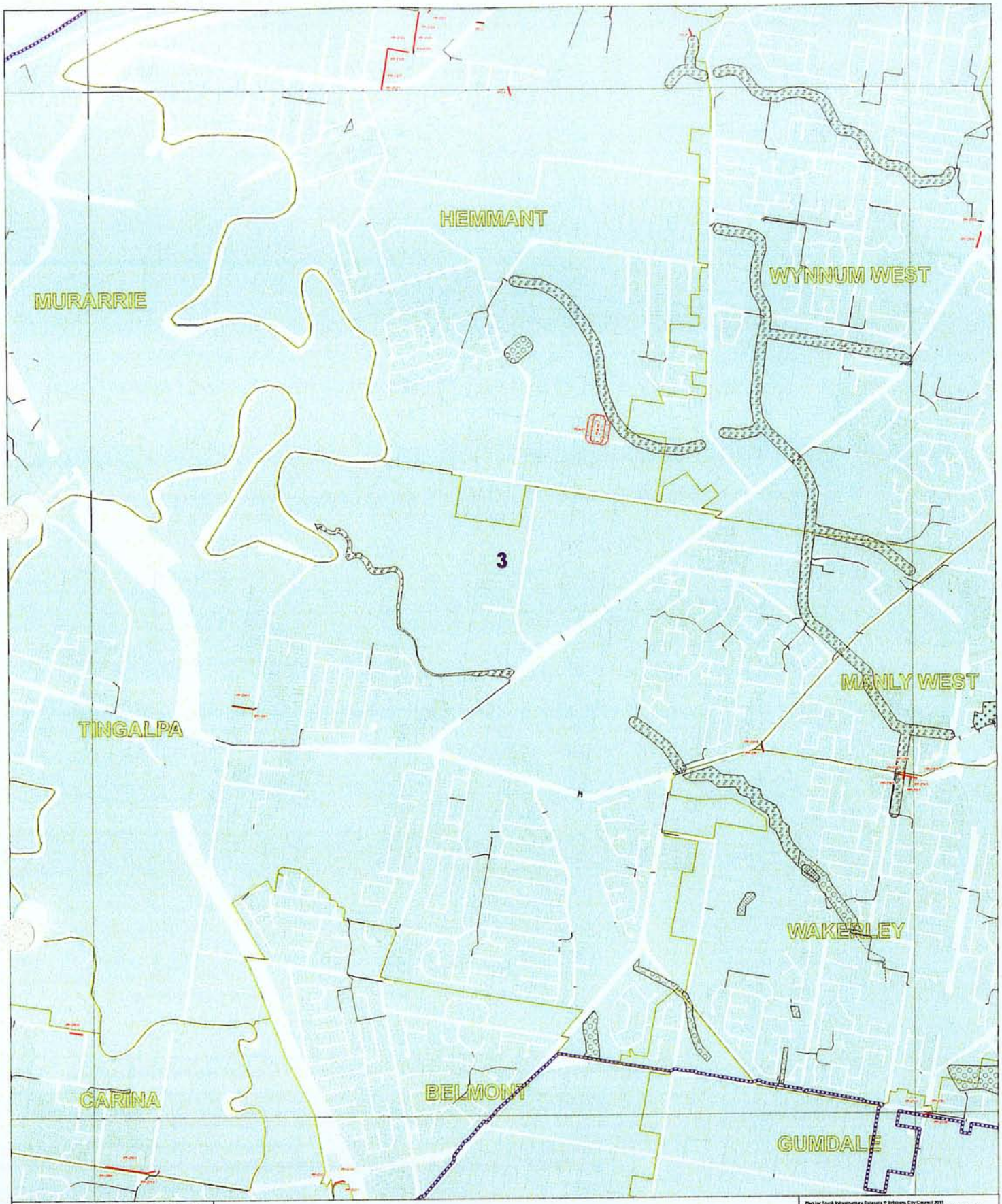
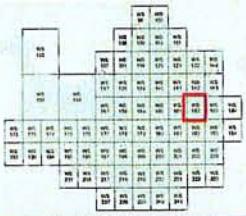


NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW162

Adopted Infrastructure Charges Resolution No.1 2011

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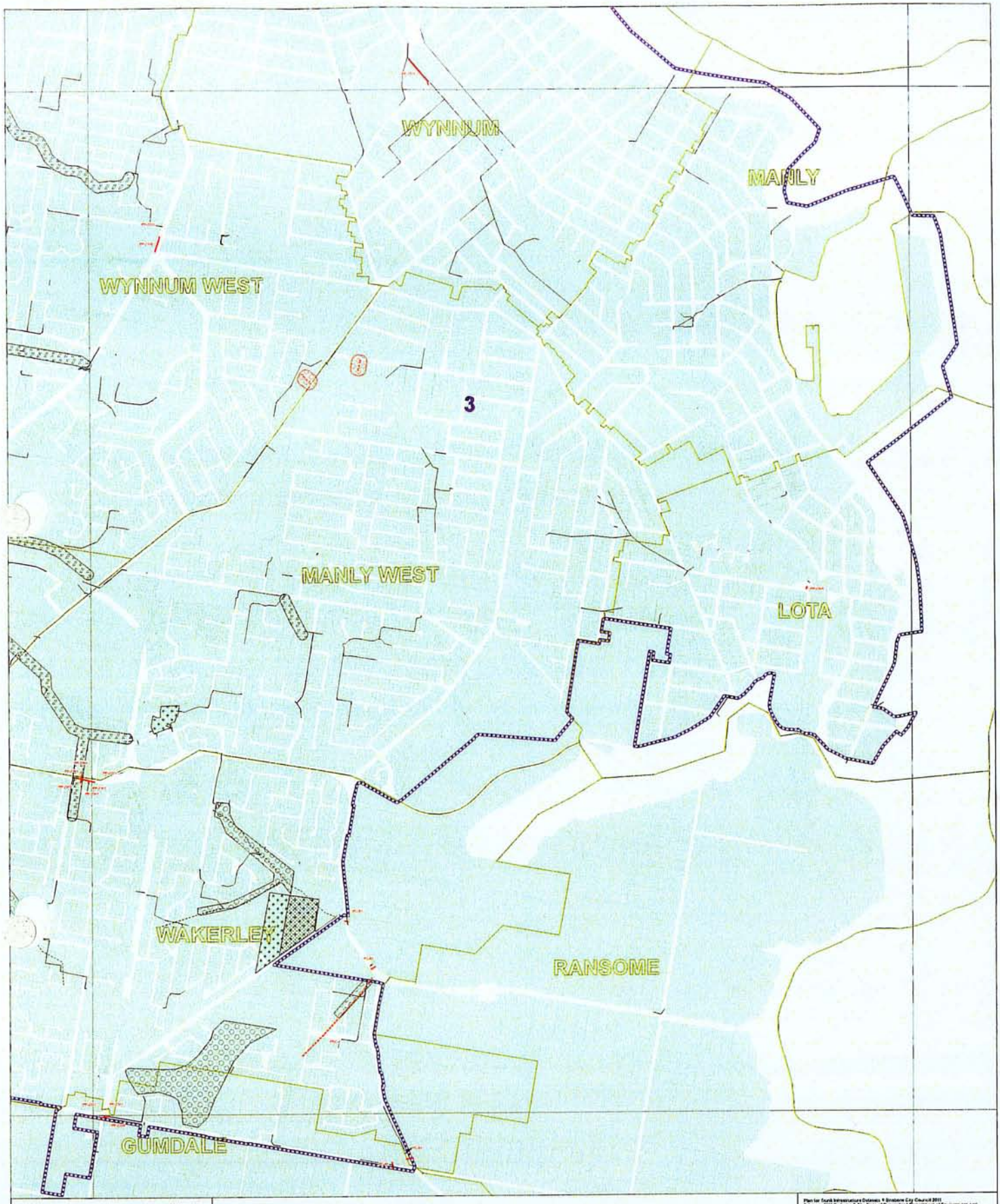

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
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Stormwater Network Trunk Infrastructure Plans

Map SW163

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6 000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW164

Adopted Infrastructure Charges Resolution No.1 2011

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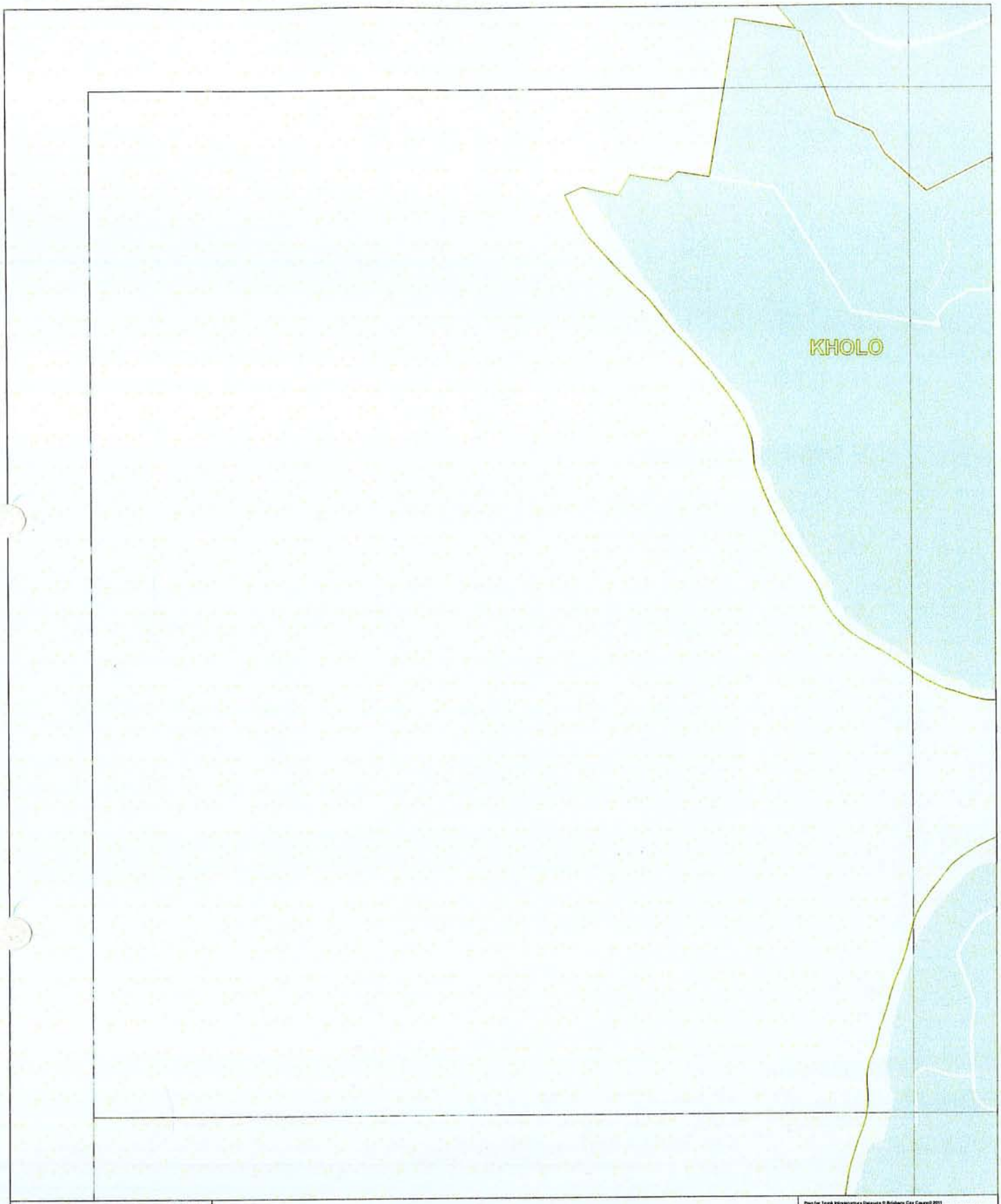
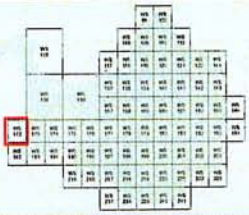


NORTH

0 100 200 300 400 500 600 800
Metres

1 cm = 80 metres at A0 1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW172

Adopted Infrastructure Charges Resolution No.1 2011

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NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 | 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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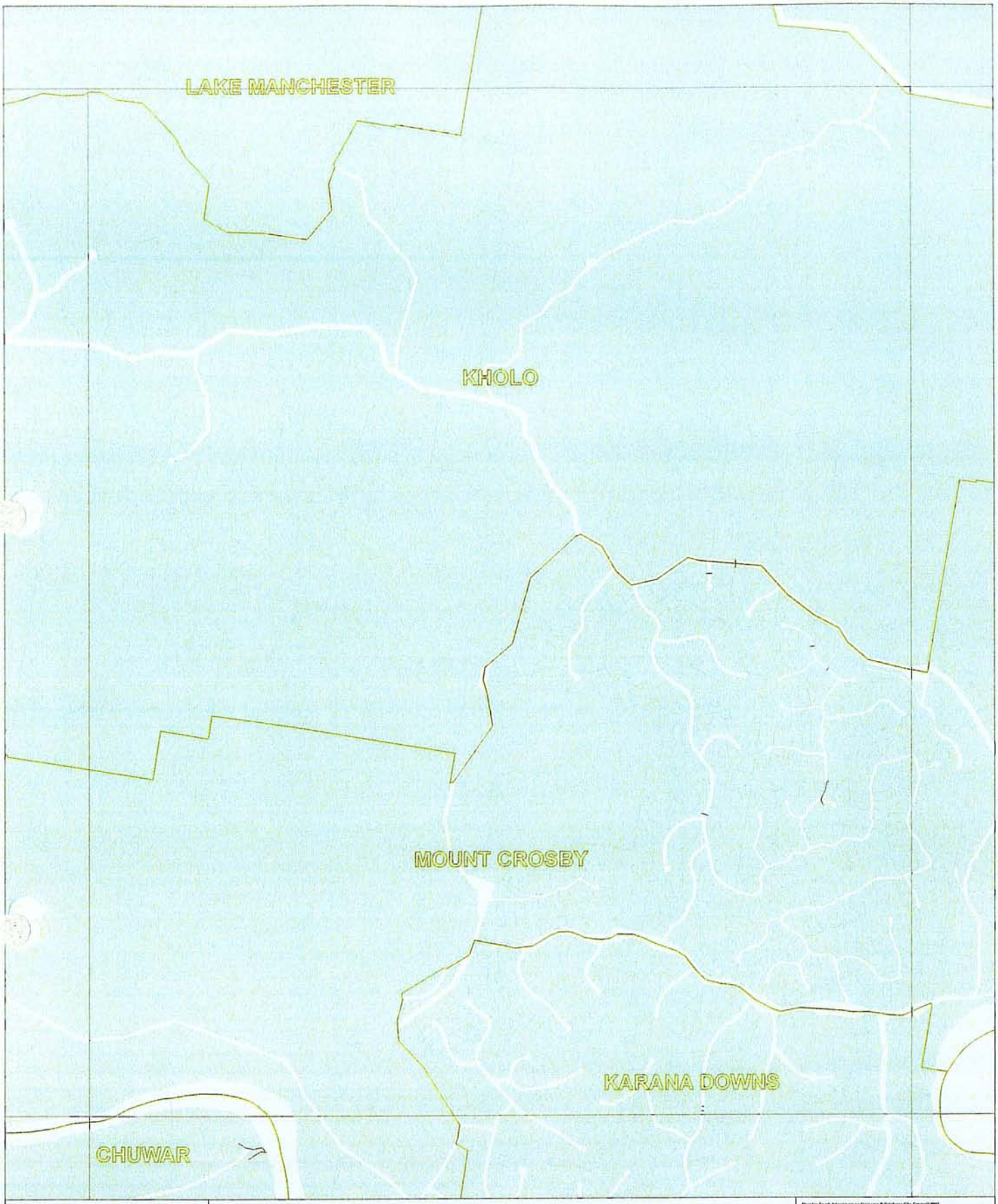
Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW173

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0

1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

Part for Trade Infrastructure Datasets © Brisbane City Council 2011
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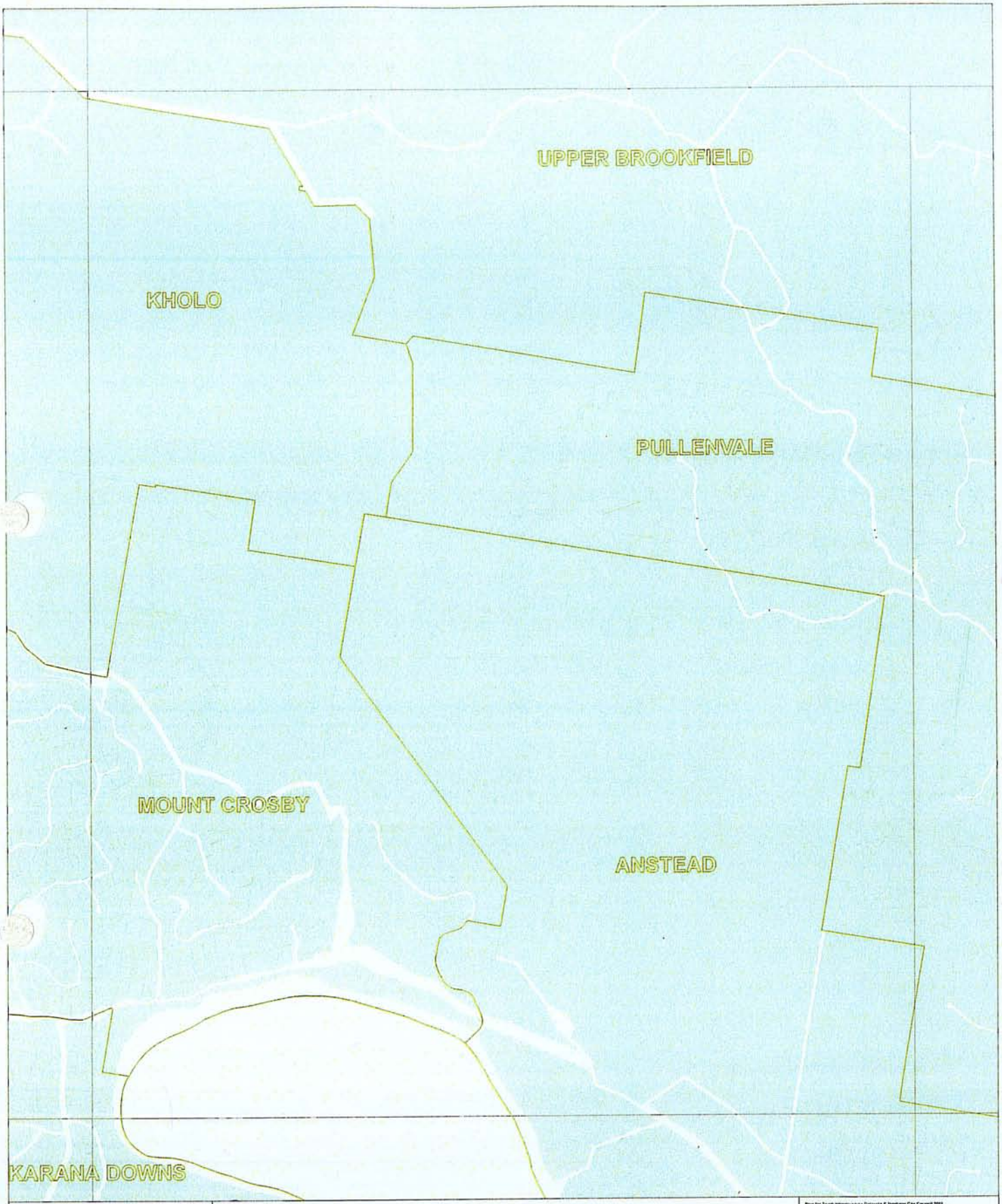
Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW174

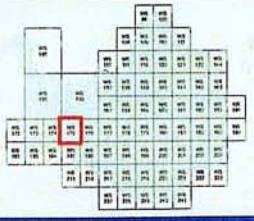
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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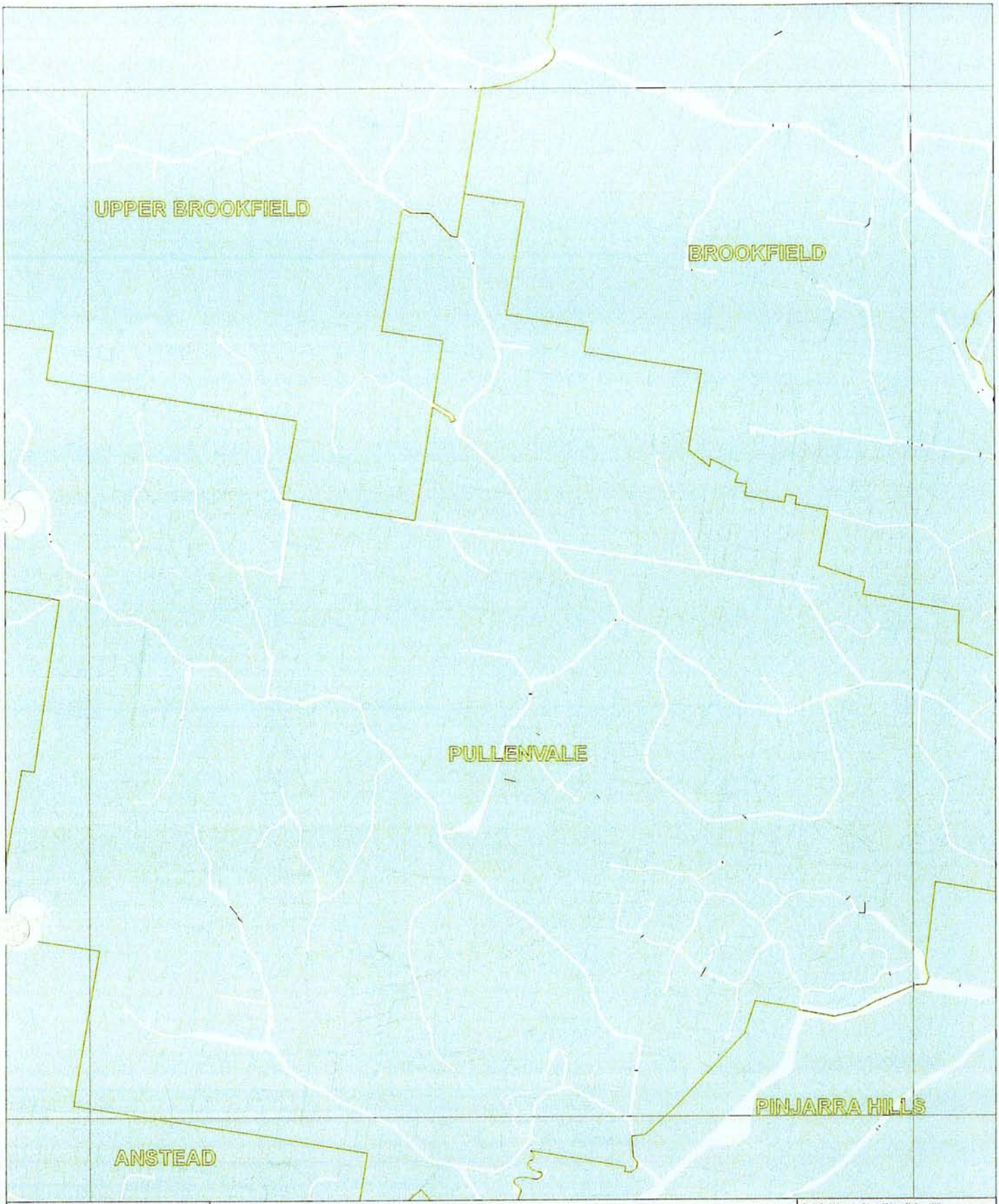
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW175

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

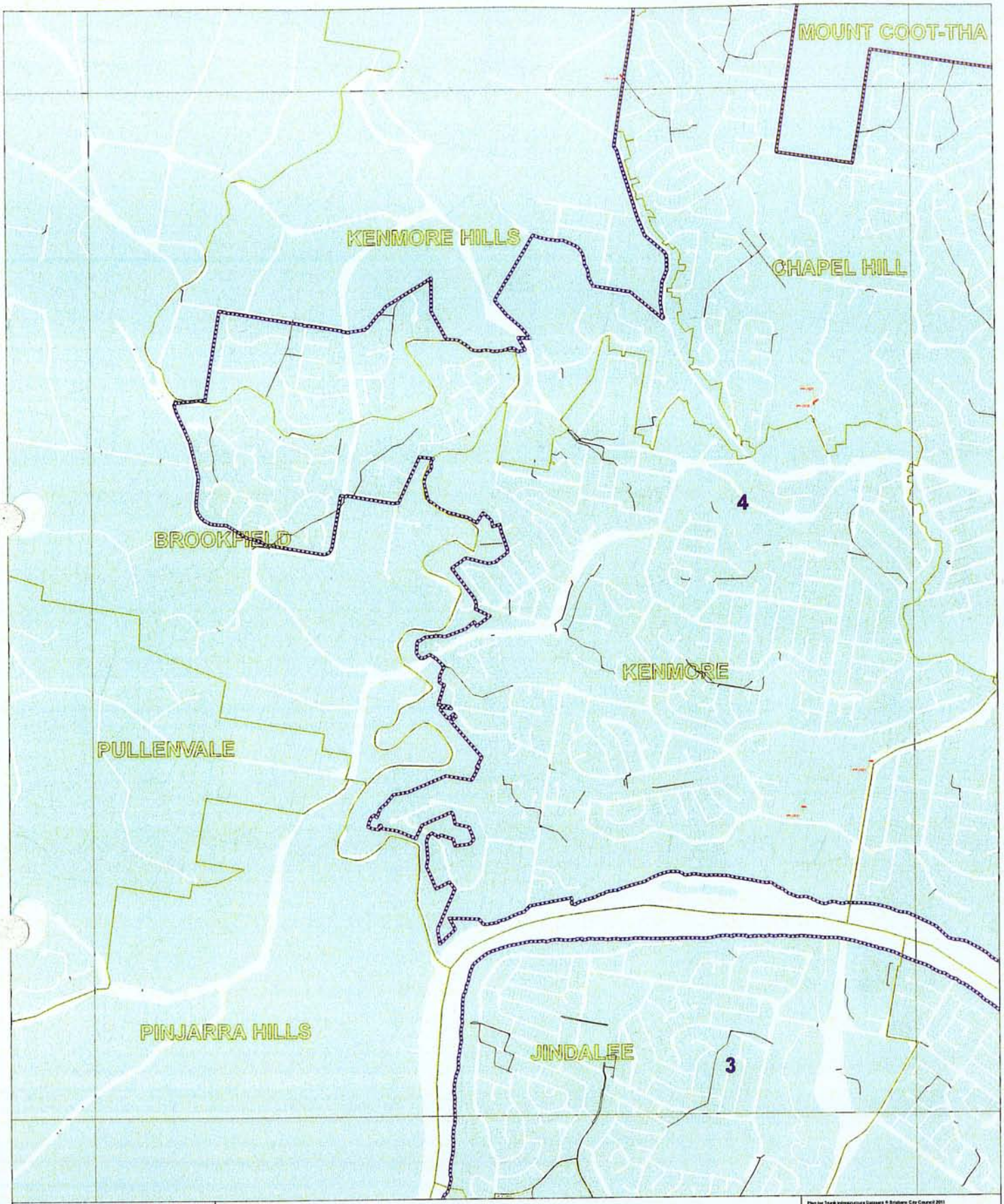
BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW176

Adopted Infrastructure Charges Resolution No.1 2011

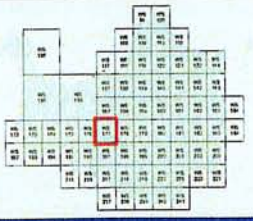
Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600 Metres

1 cm = 60 metres at A0 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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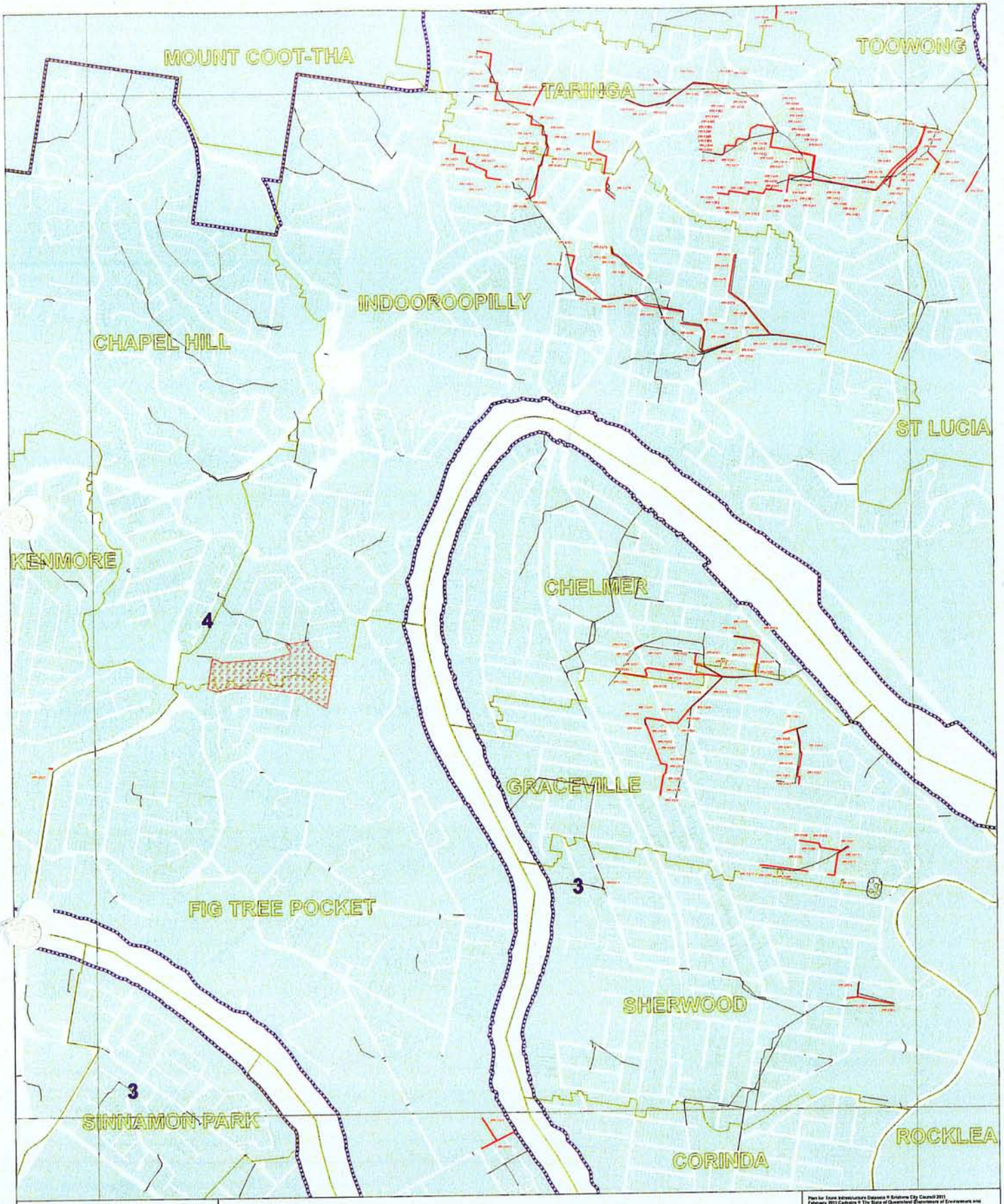
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_SeriesA.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW177

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600 Metres

1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW178

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Publication Date: 7 June 2011
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Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW179

Adopted Infrastructure Charges Resolution No.1 2011

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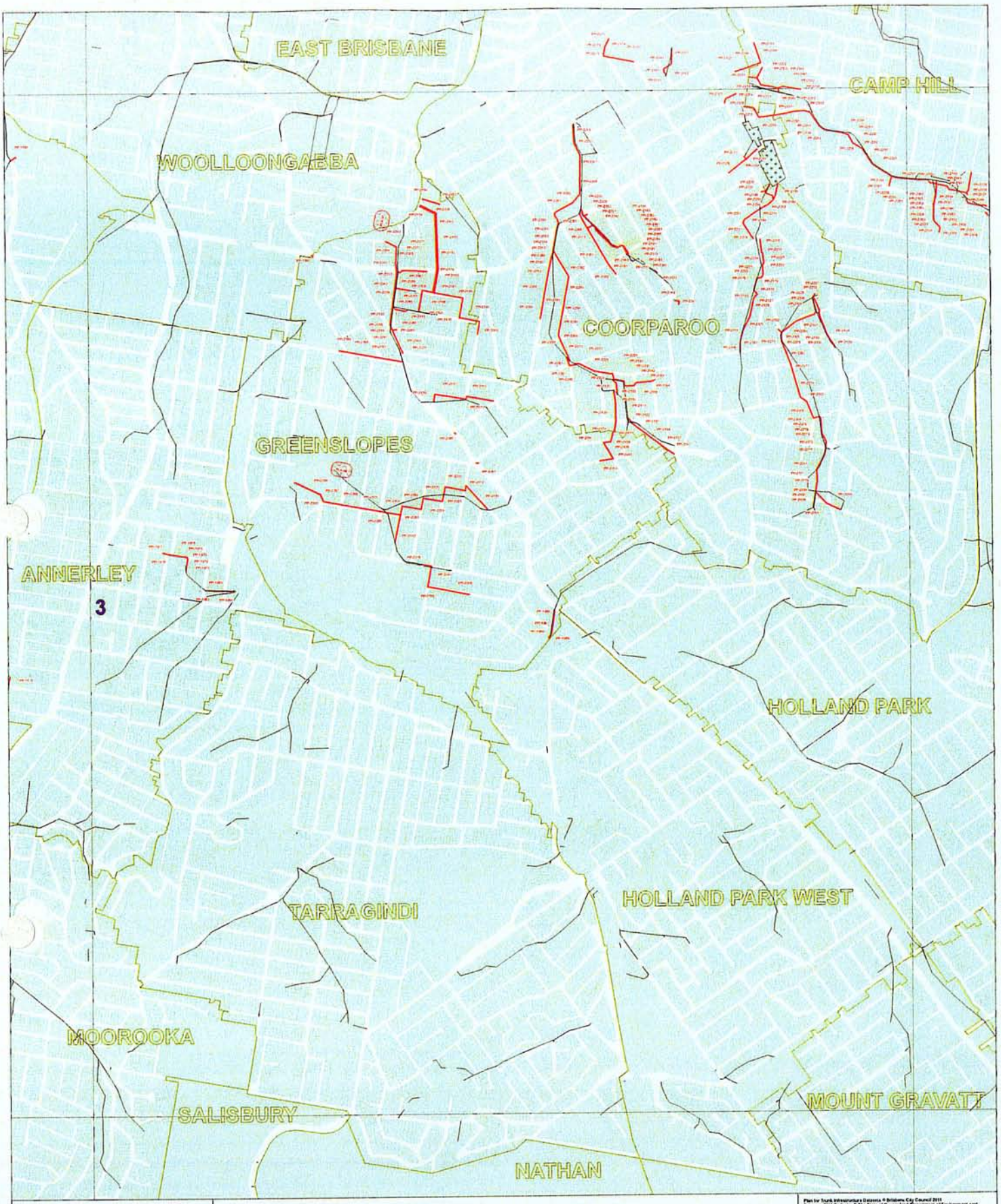

NORTH

0 100 200 300 400 500 600 Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW180

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 80 metres at A0 1:8 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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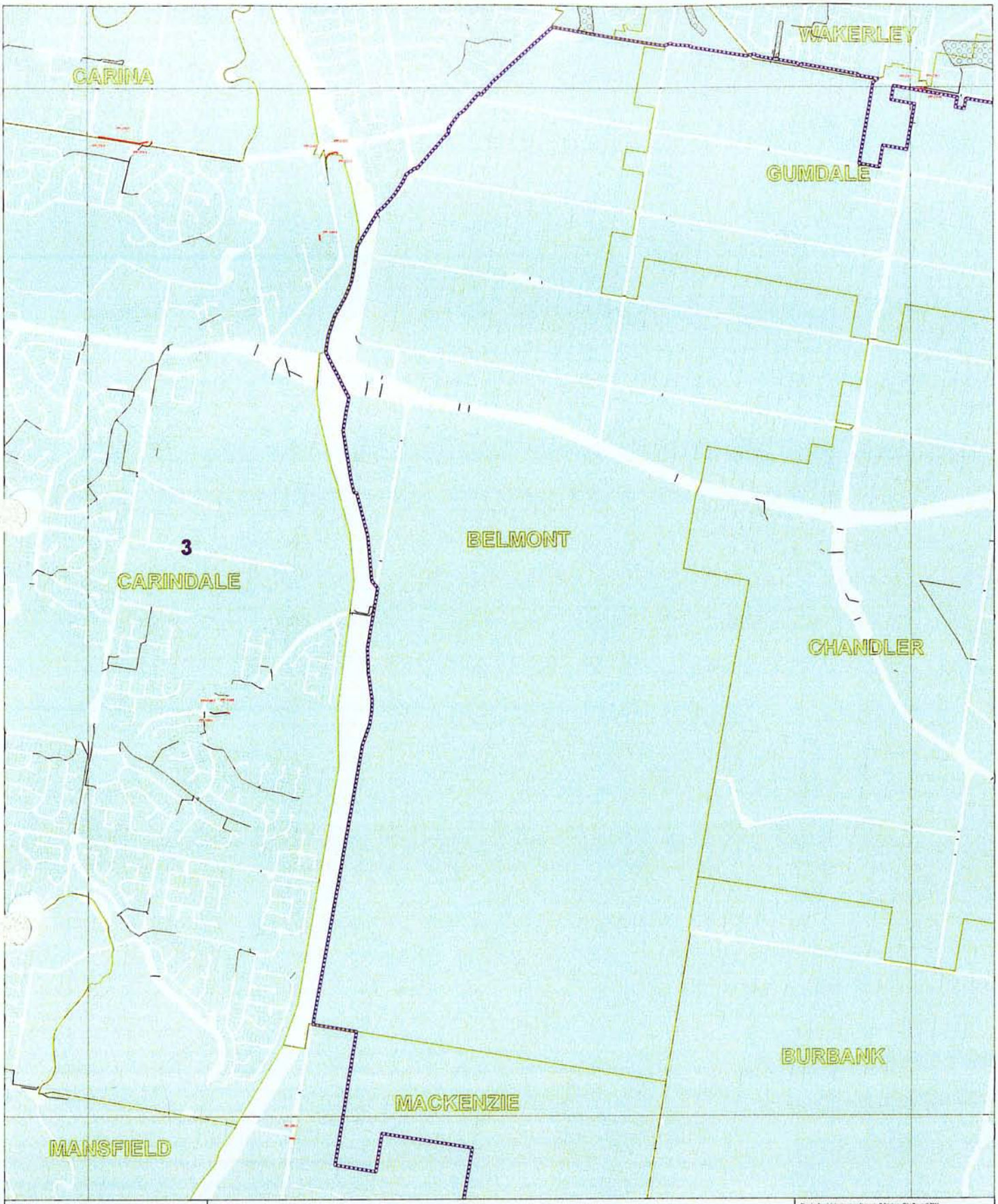
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_SerSw.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW181

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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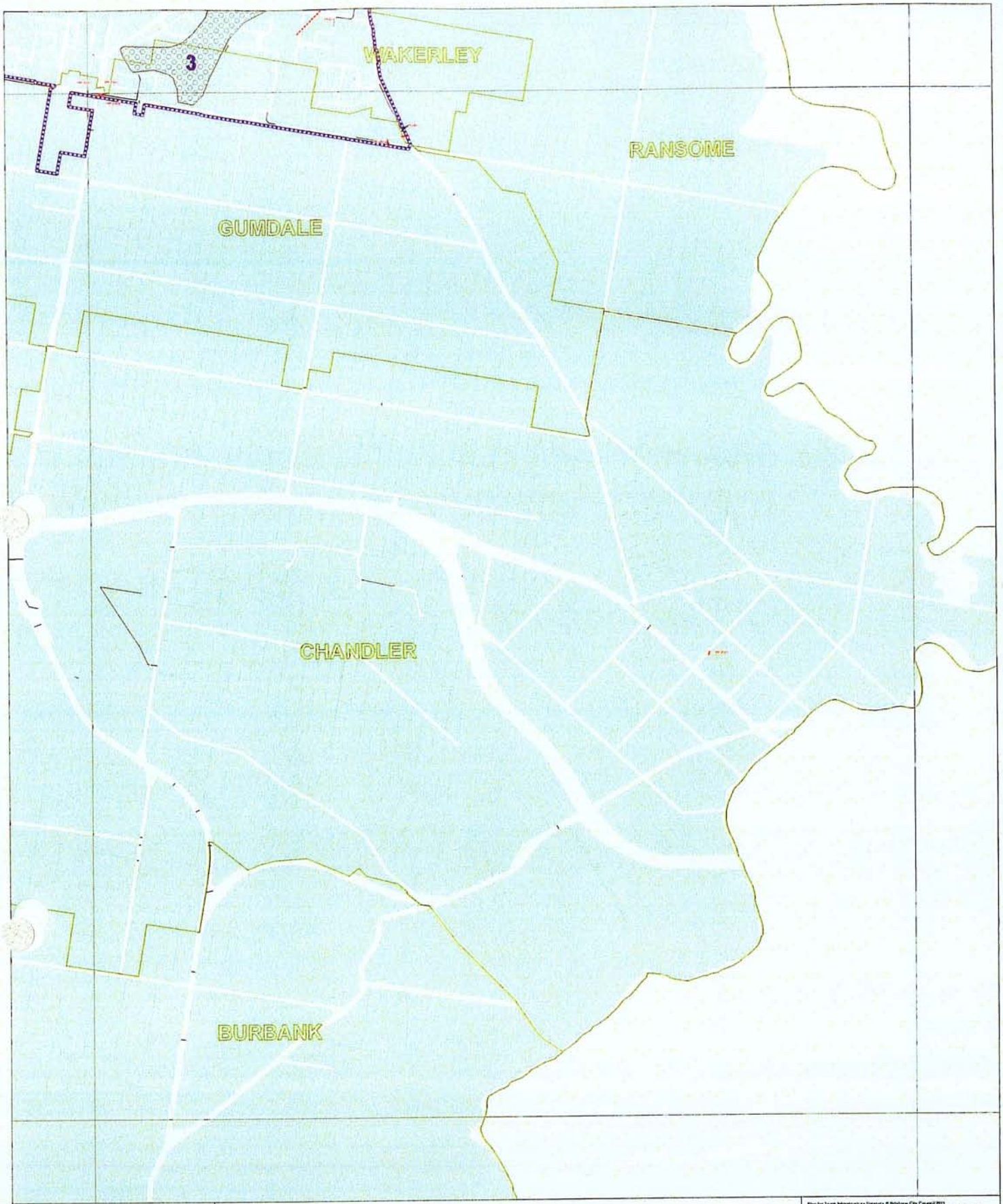
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW182

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600 800
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW183

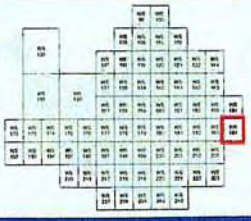
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW184

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 80 metres at A0
1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 22110607 PTI Mapping
Map Filename: PTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW192

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 600 800
Metres
1 cm = 80 metres at A0
1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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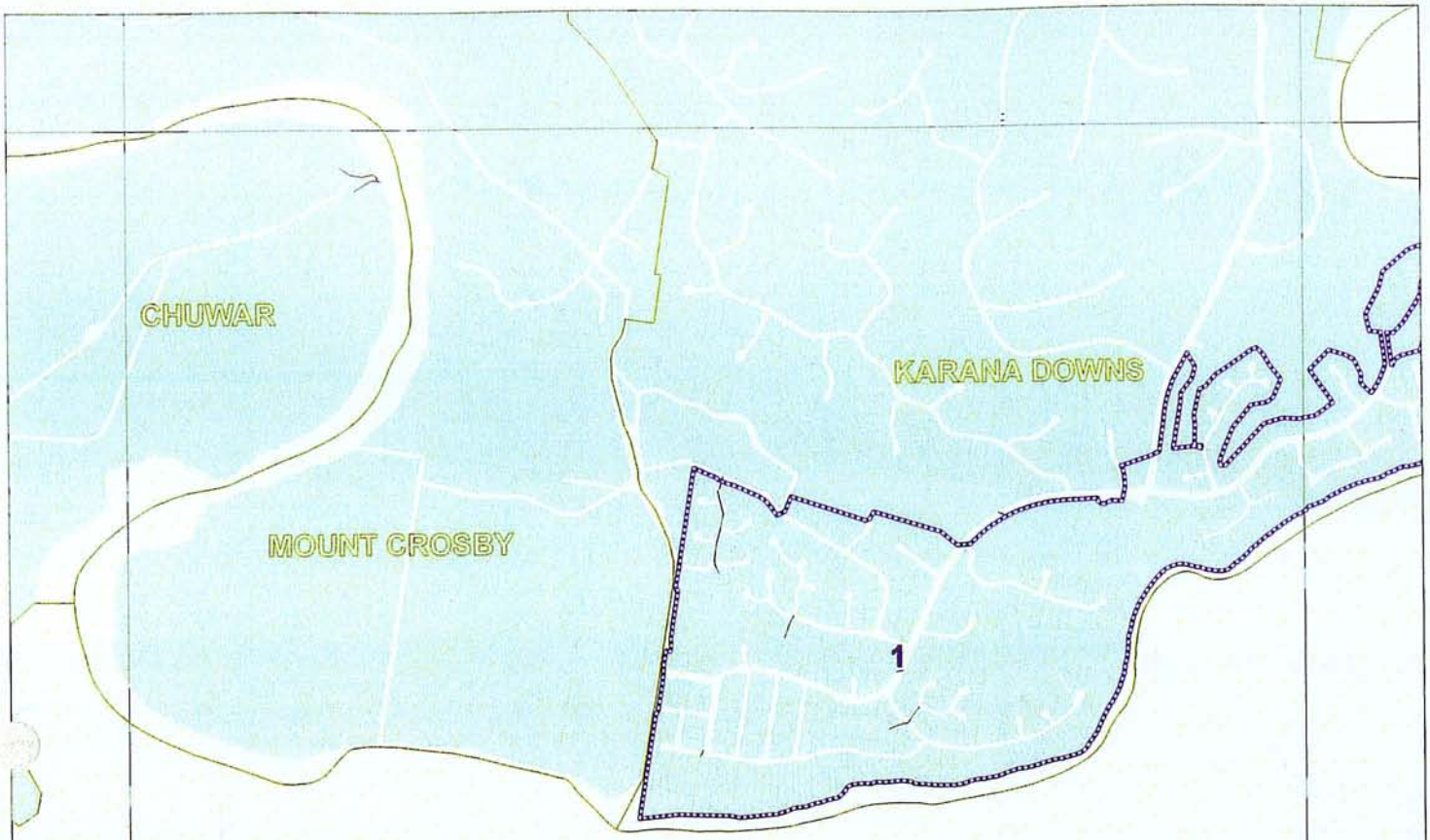
Publisher: Strategic Infrastructure Planning
Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW193

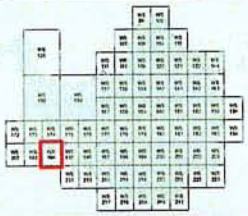
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 600 800
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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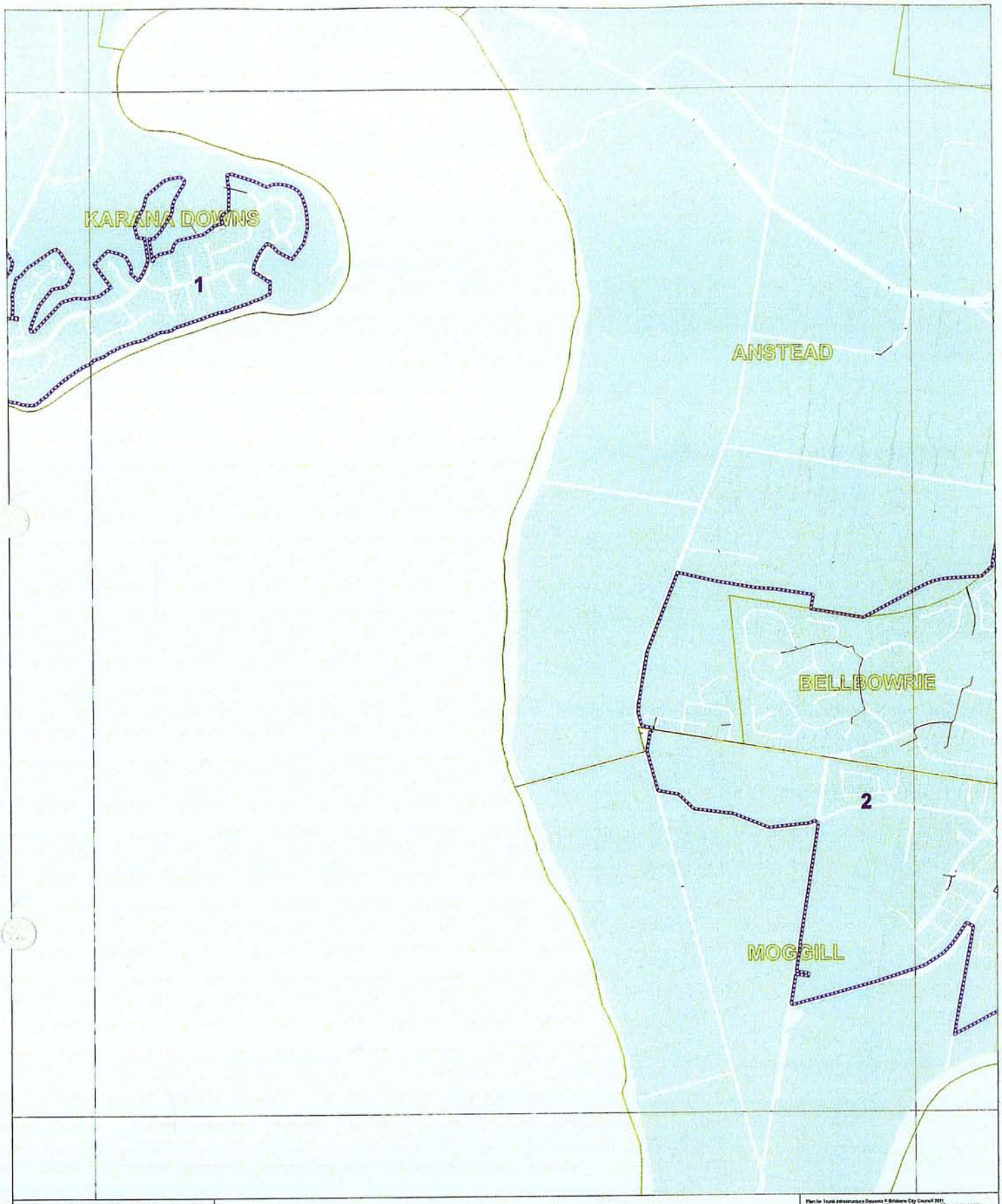
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW194

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 50 metres at A0
1:5,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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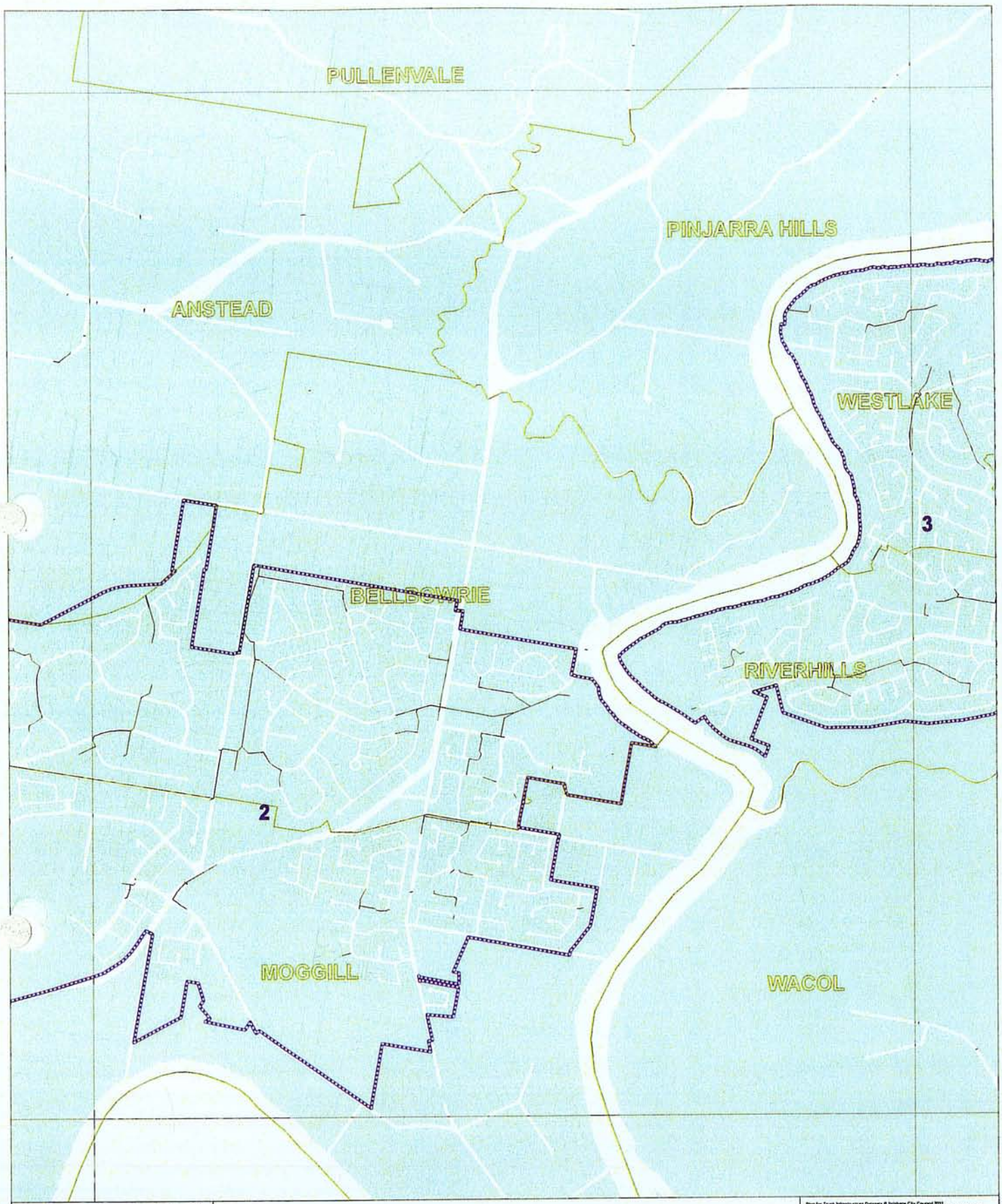
Map Filename: PFTI_Stormwater_20110607_Series.mxd
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW195

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 80 metres at A0
1:8 000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW196

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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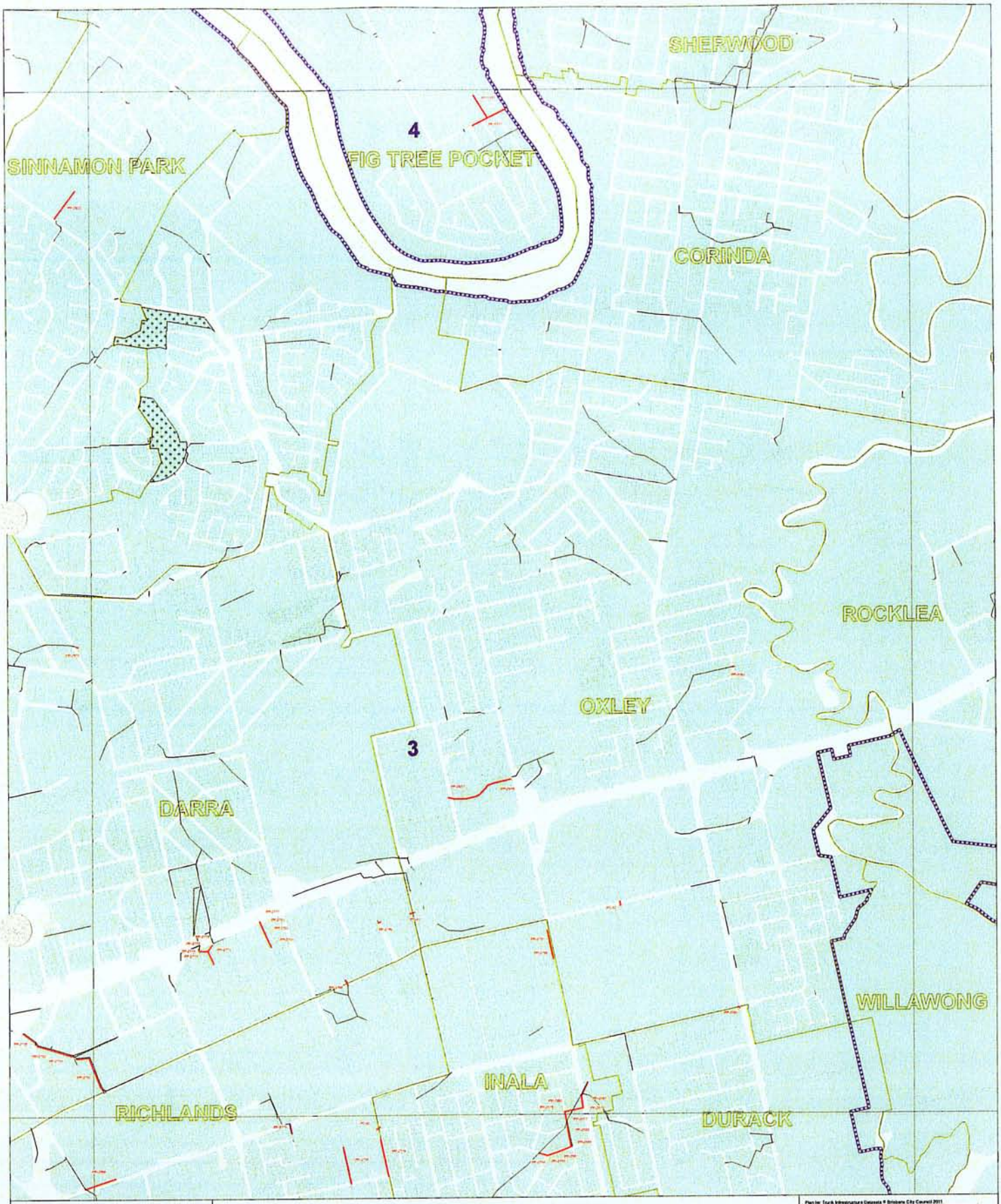
Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW197

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600 Metres

1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
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Map Filename: PFTI_Stormwater_20110607_Series.mxd
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BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW198

Adopted Infrastructure Charges Resolution No.1 2011

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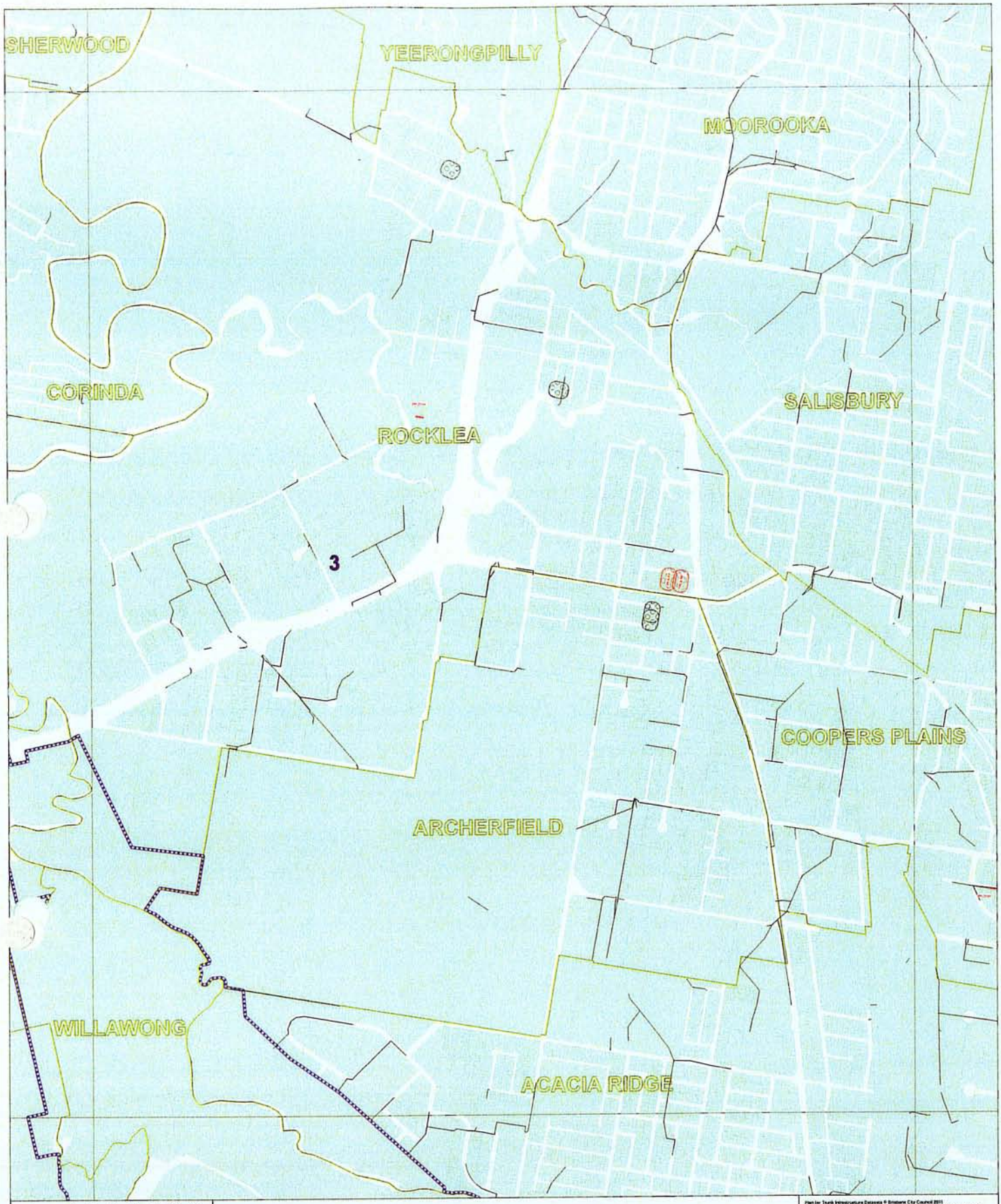

NORTH

0 100 200 300 400 500 800
Metres

1 cm = 60 metres at A0 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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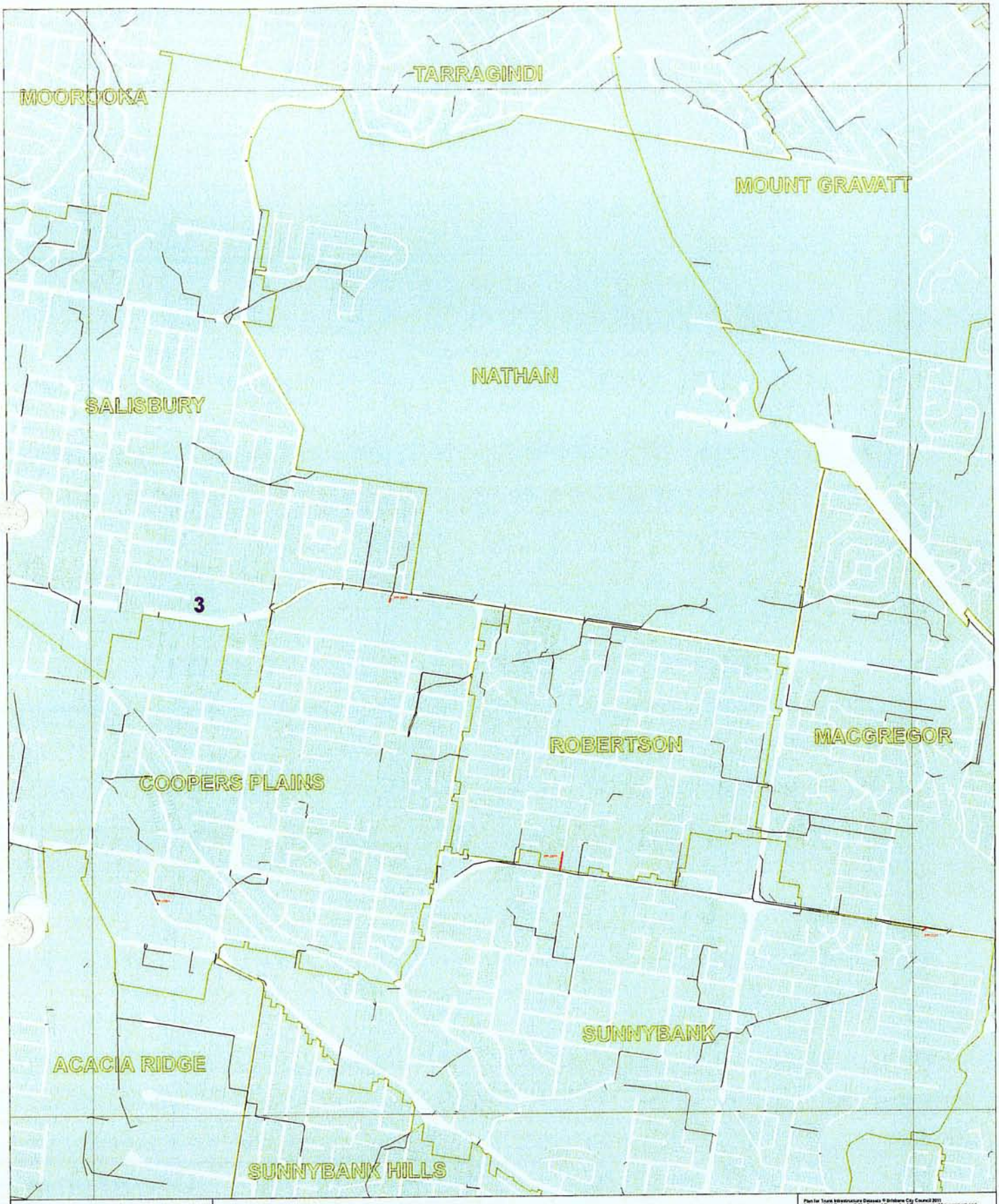
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW199

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 800
Metres

1 cm = 60 metres at A0 — 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_SeriesA.mxd
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BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW200

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600 Metres

1 cm = 60 metres at A0 — 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
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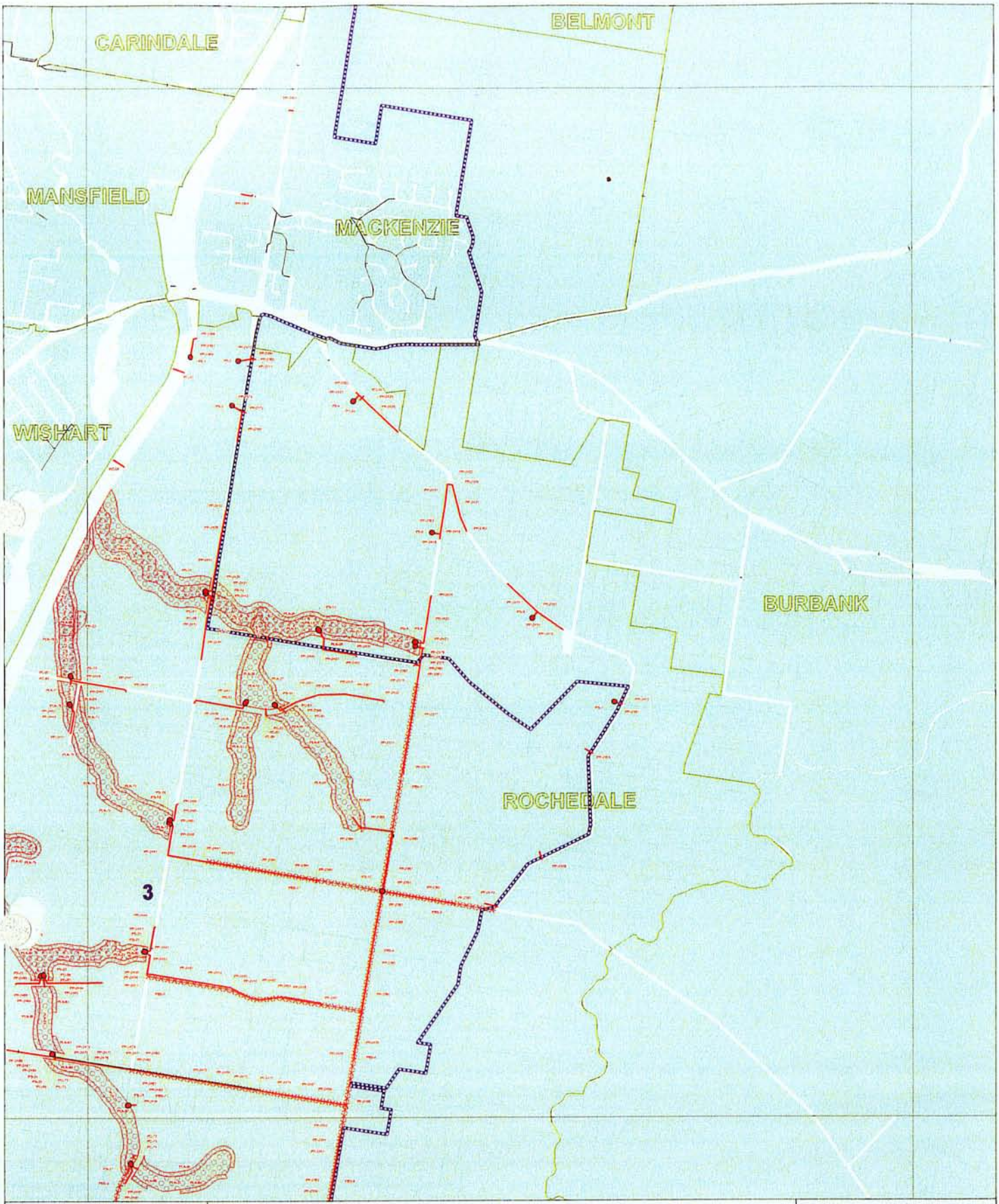
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW201

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publication Date: 7 June 2011
Reference: 20110607 PFTI Mapping
Map Filename: PFTI_Stormwater_20110607_Series.mxd
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Horizontal Datum: Geocentric Datum of Australia 1994

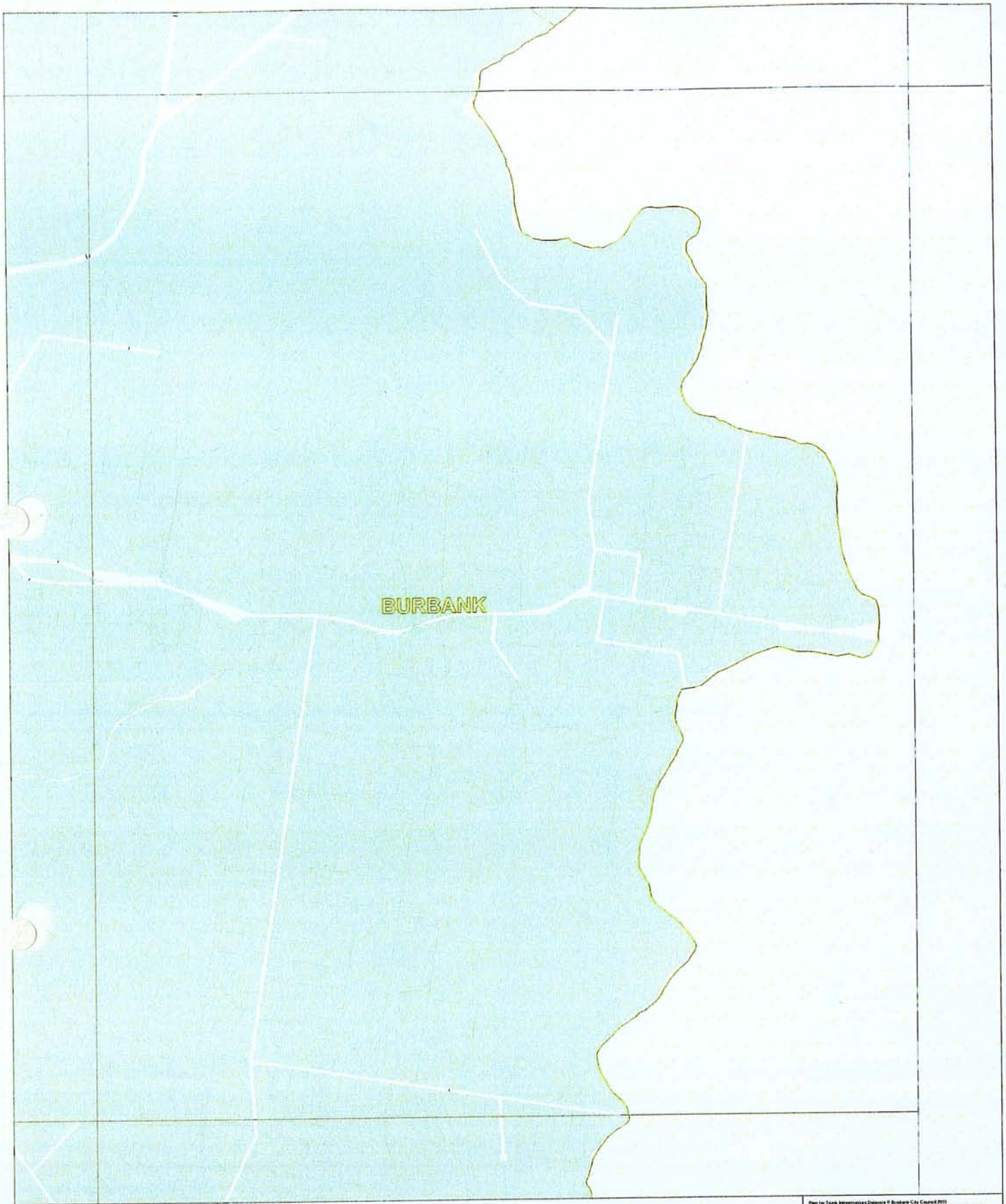
BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW202

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0

1:6,000

Existing Infrastructure

- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure

- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries

- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW203

Adopted Infrastructure Charges Resolution No.1 2011

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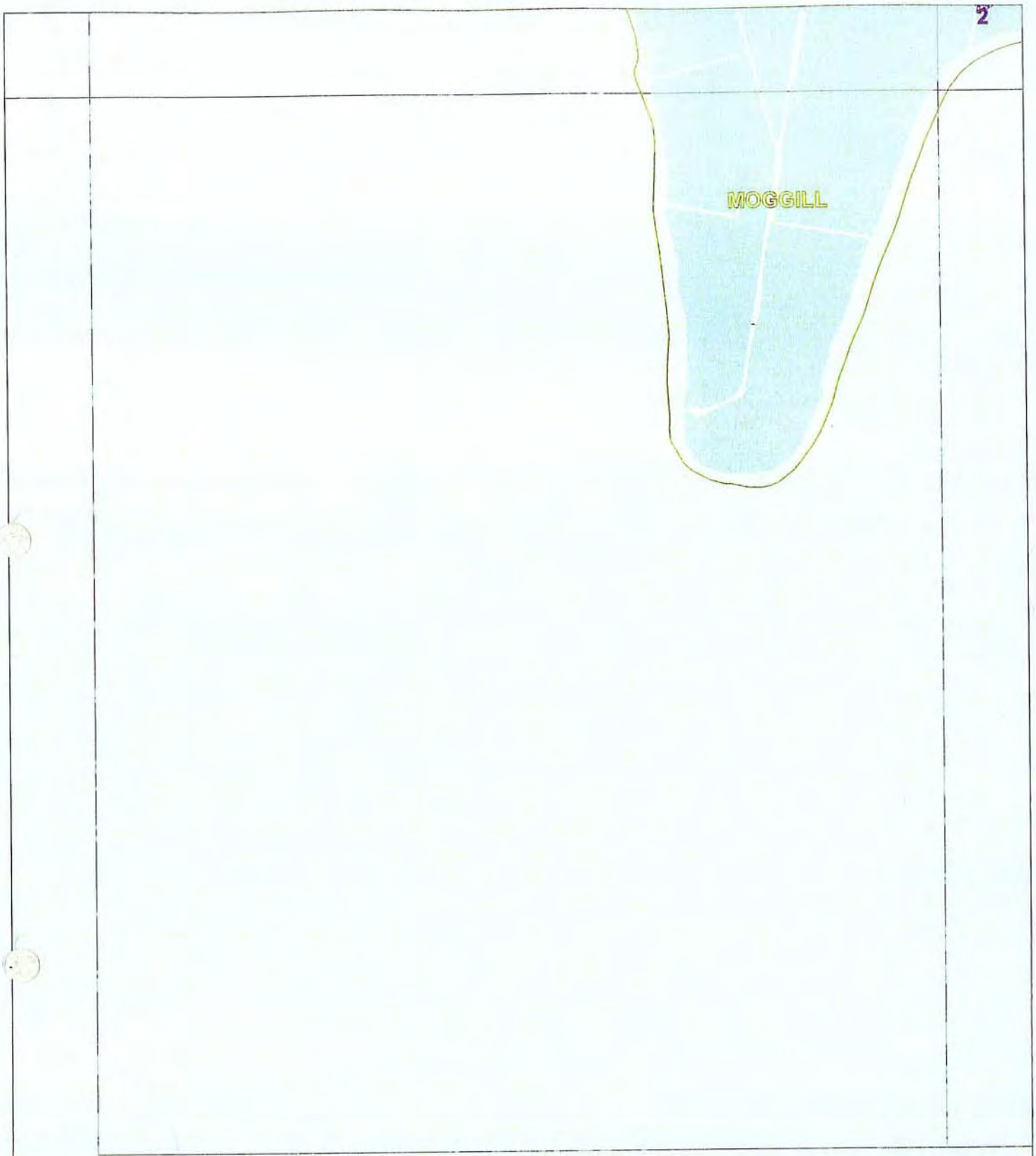
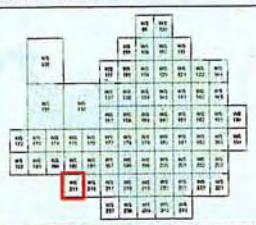


NORTH

0 100 200 300 400 500 800
Metres
1 cm = 80 metres at A0
1:8,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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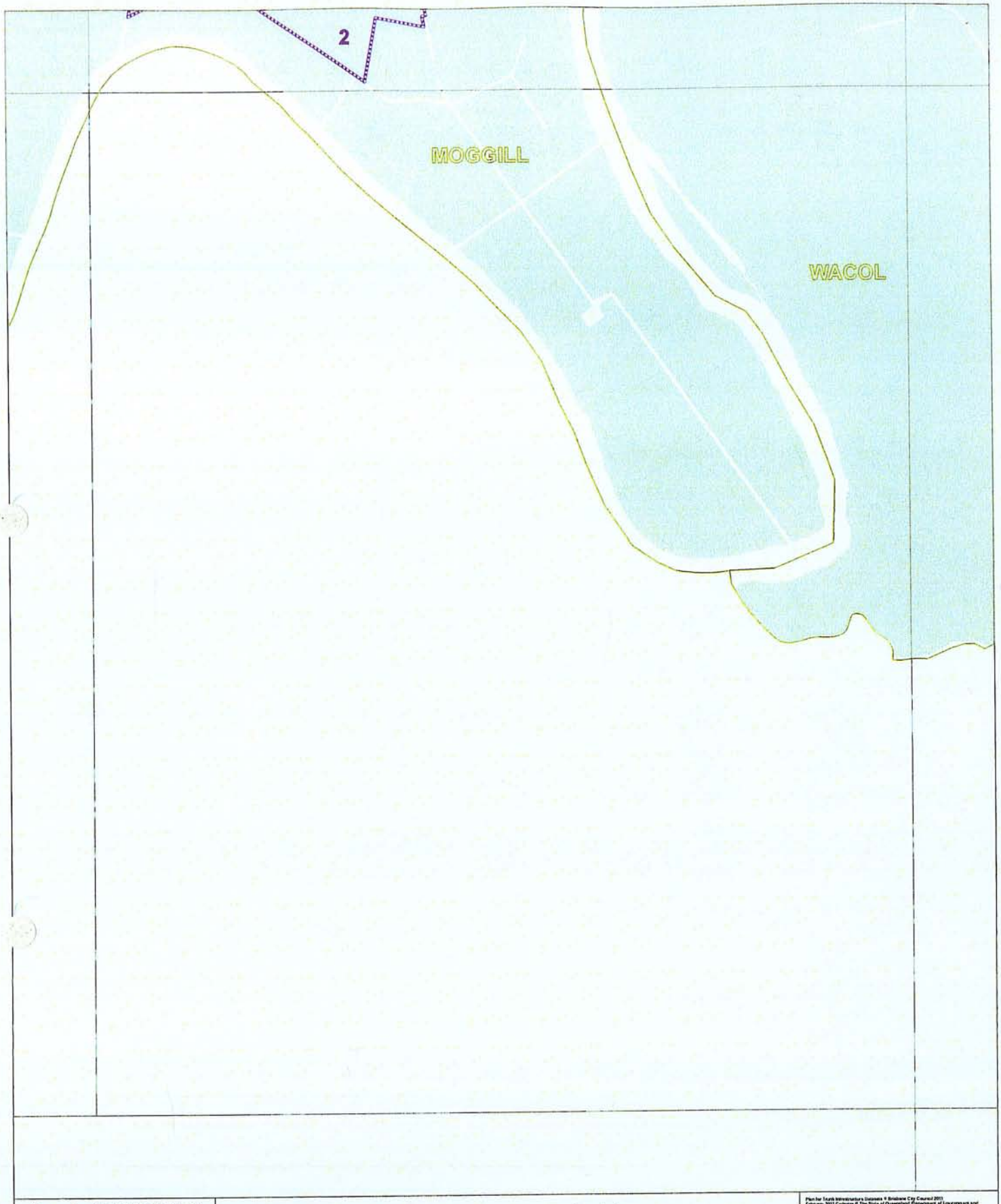
Stormwater Network
Trunk Infrastructure Plans
Map SW215

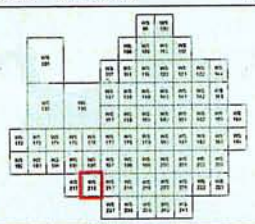
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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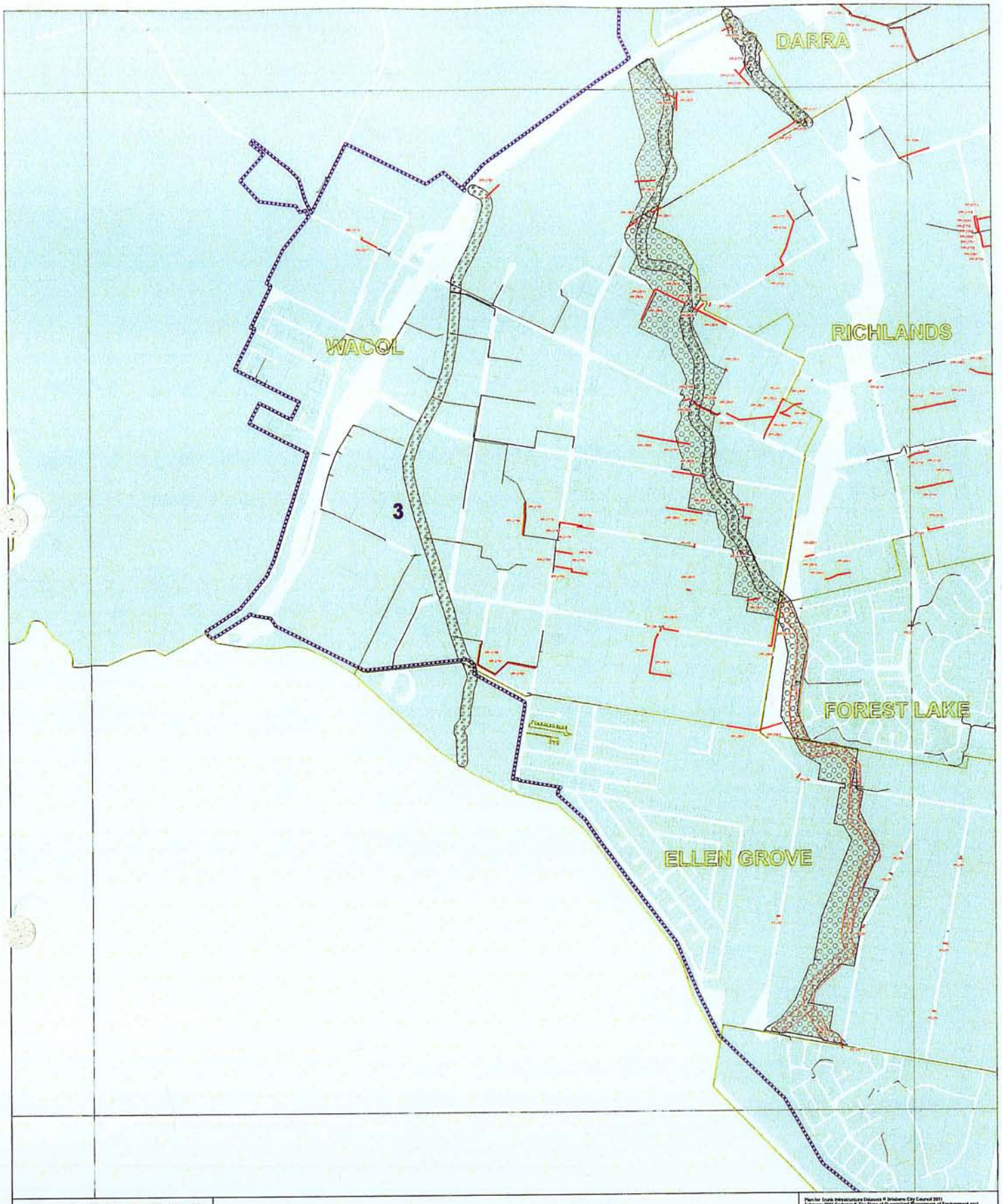
Stormwater Network Trunk Infrastructure Plans

Map SW216

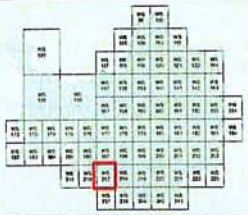
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW217

Adopted Infrastructure Charges Resolution No.1 2011

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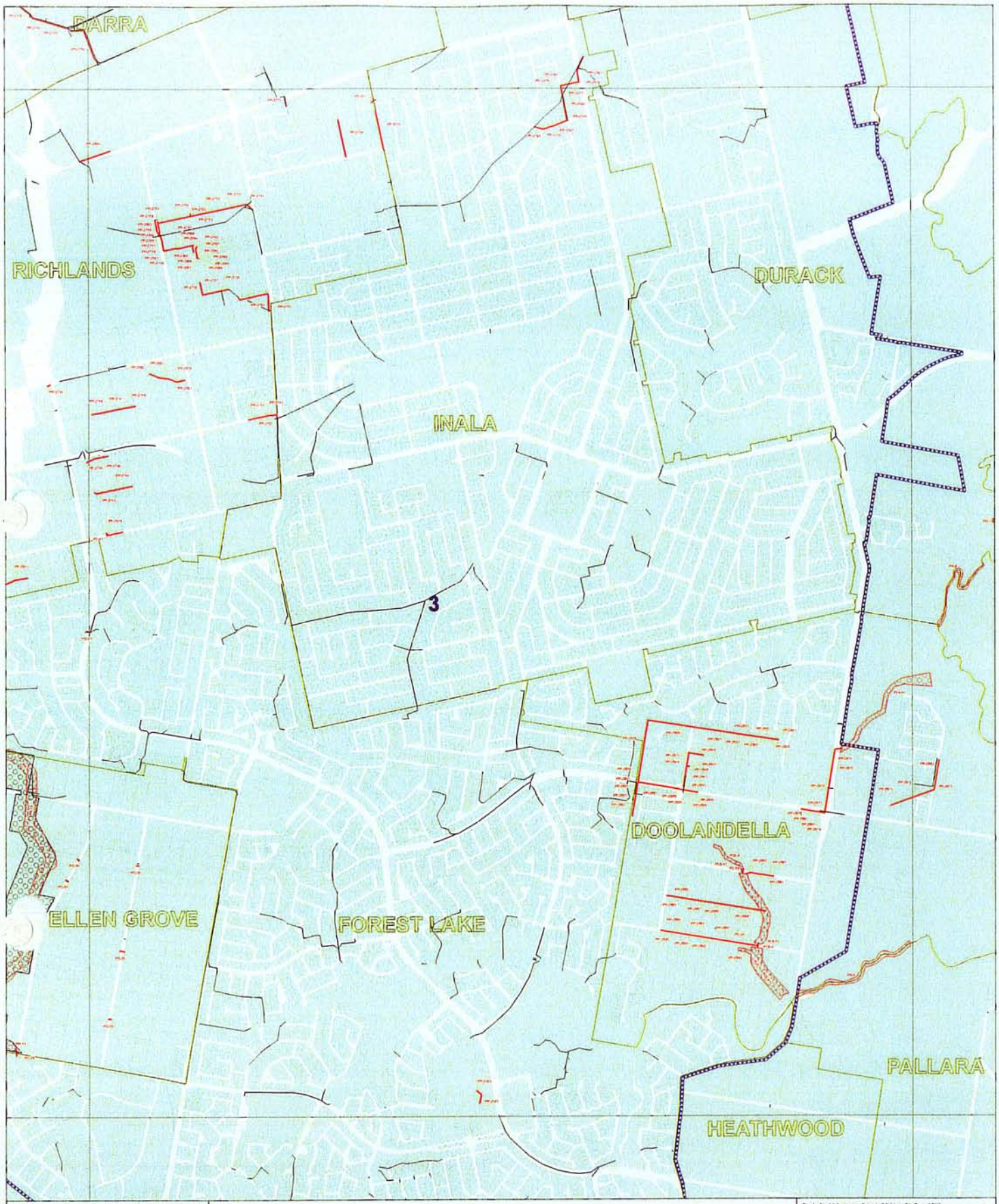

NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0

1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW218

Adopted Infrastructure Charges Resolution No.1 2011

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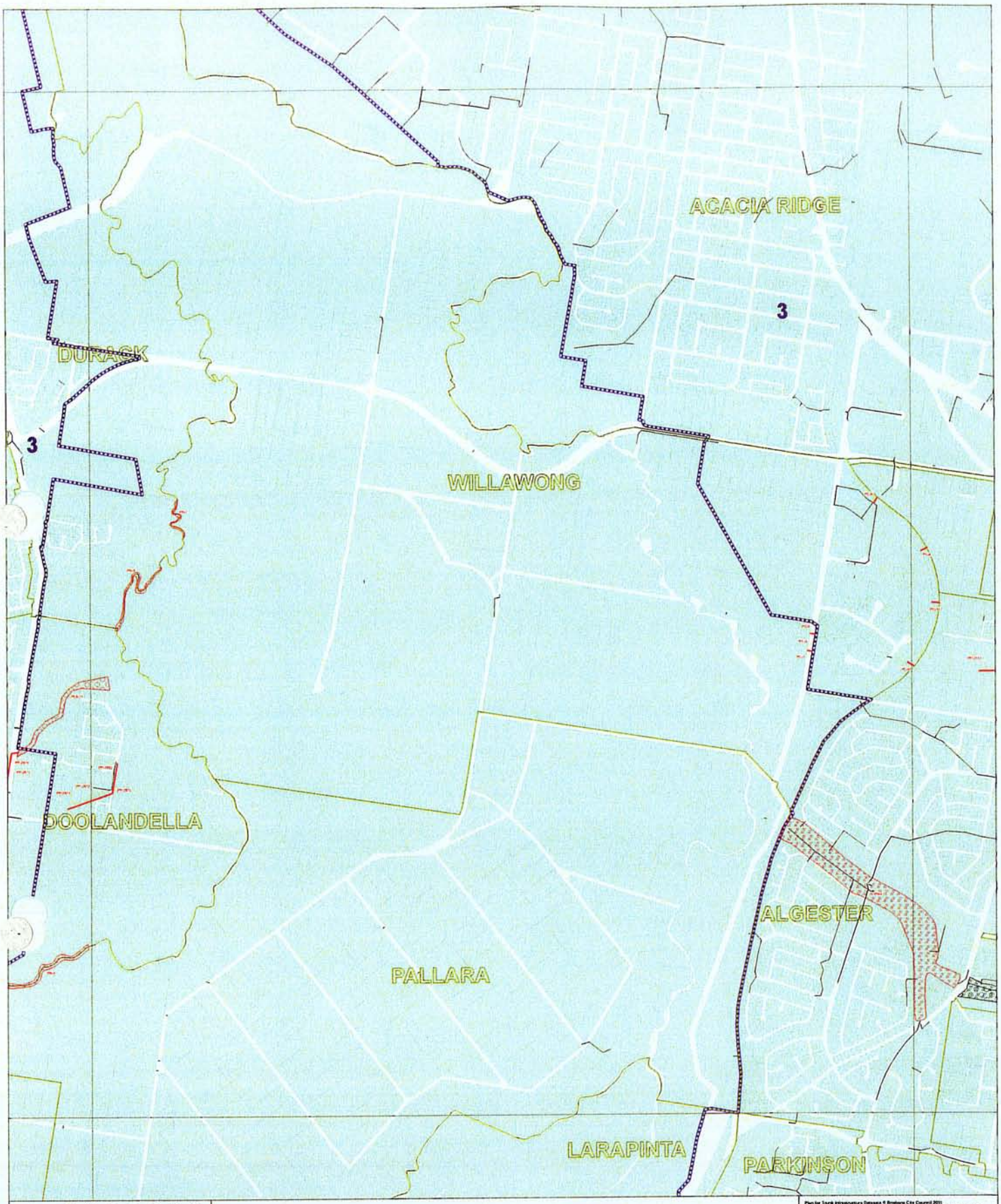

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary (ID)
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW219

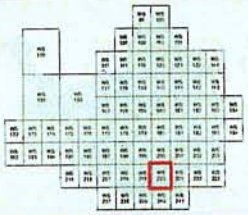
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 50 metres at A0
1:5,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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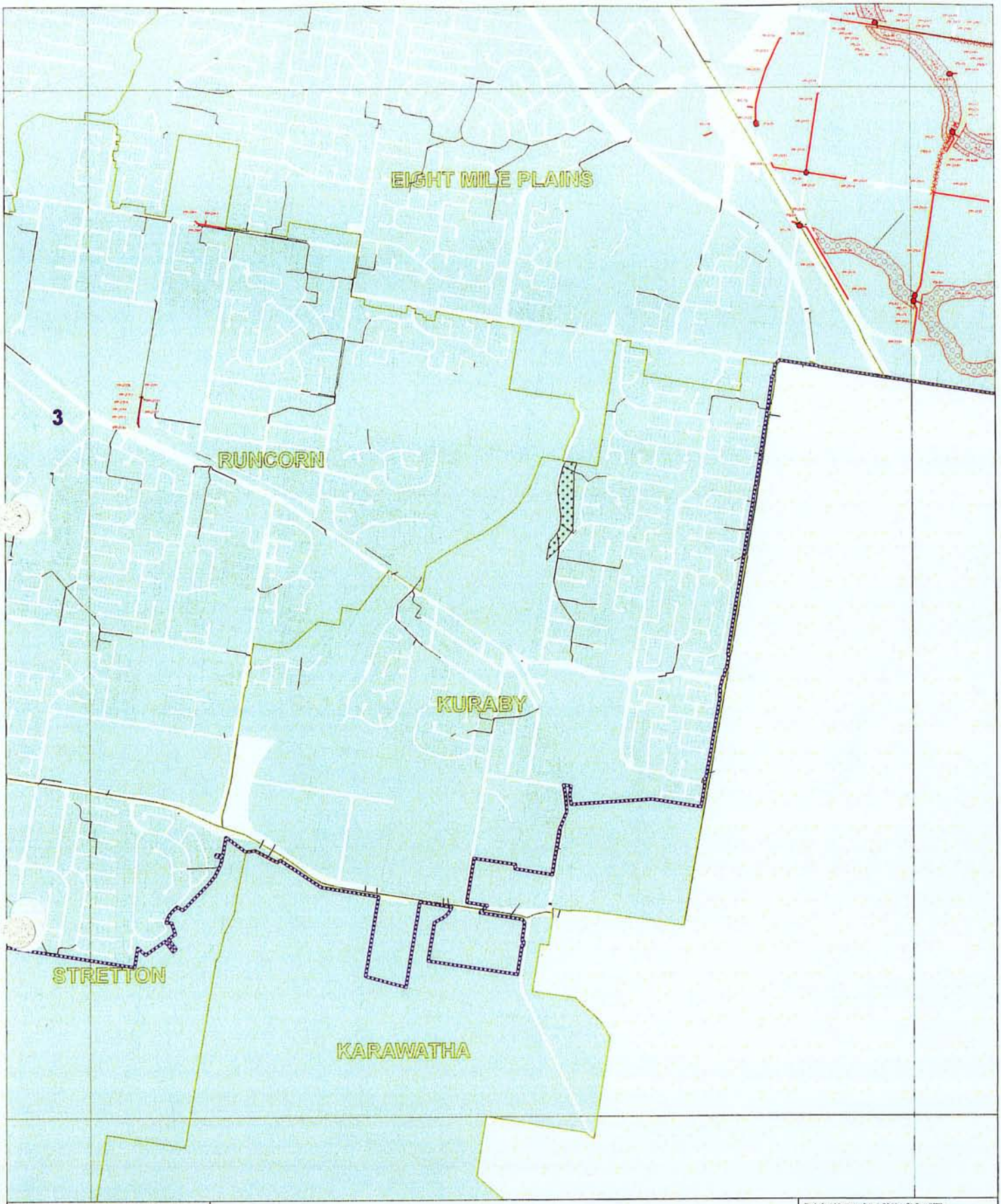
Stormwater Network Trunk Infrastructure Plans

Map SW220

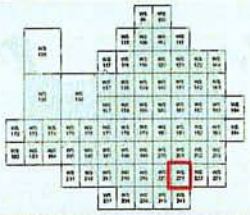
Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW221

Adopted Infrastructure Charges Resolution No.1 2011

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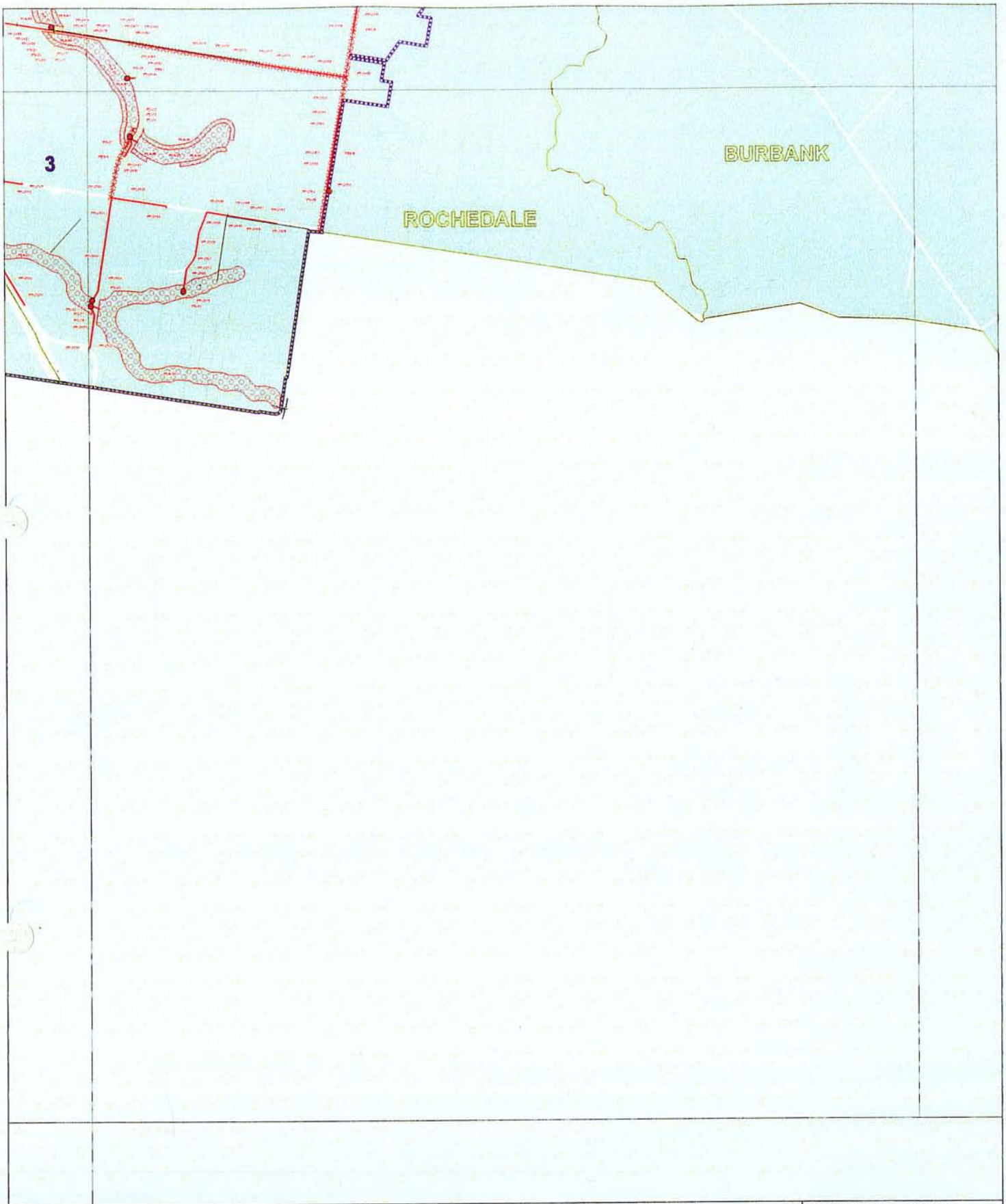

NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6 000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network
Trunk Infrastructure Plans
Map SW222

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Adopted Infrastructure Charges Resolution No.1 2011

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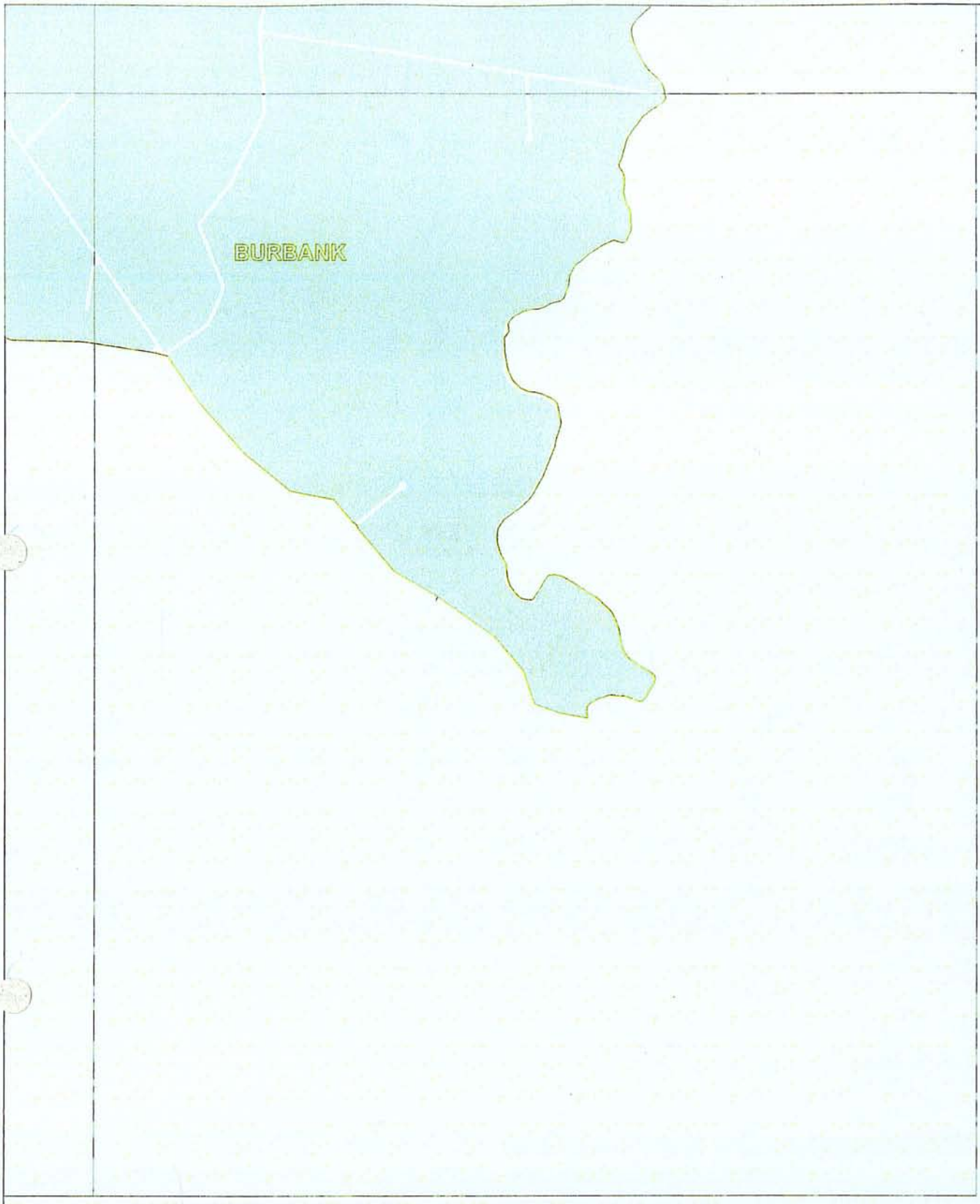
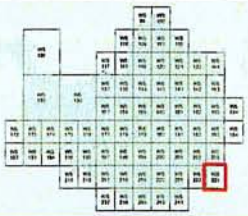


NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW223

Adopted Infrastructure Charges Resolution No.1 2011

Dedicated to a better Brisbane



NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0 1:6 000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW237

Adopted Infrastructure Charges Resolution No.1 2011

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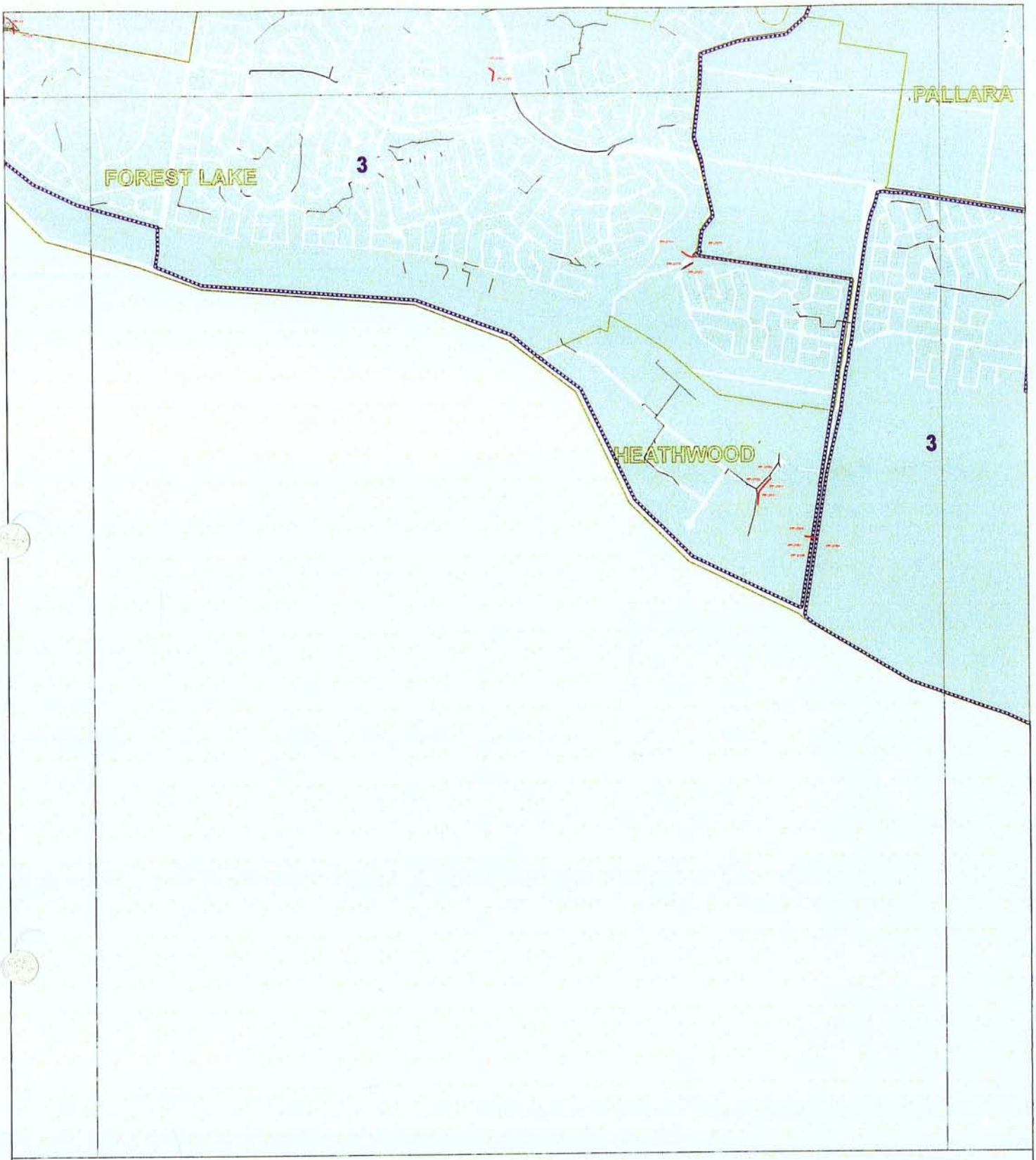
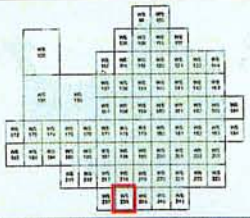


NORTH

0 100 200 300 400 500 600
Metres
1 cm = 60 metres at A0
1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW238

Adopted Infrastructure Charges Resolution No.1 2011

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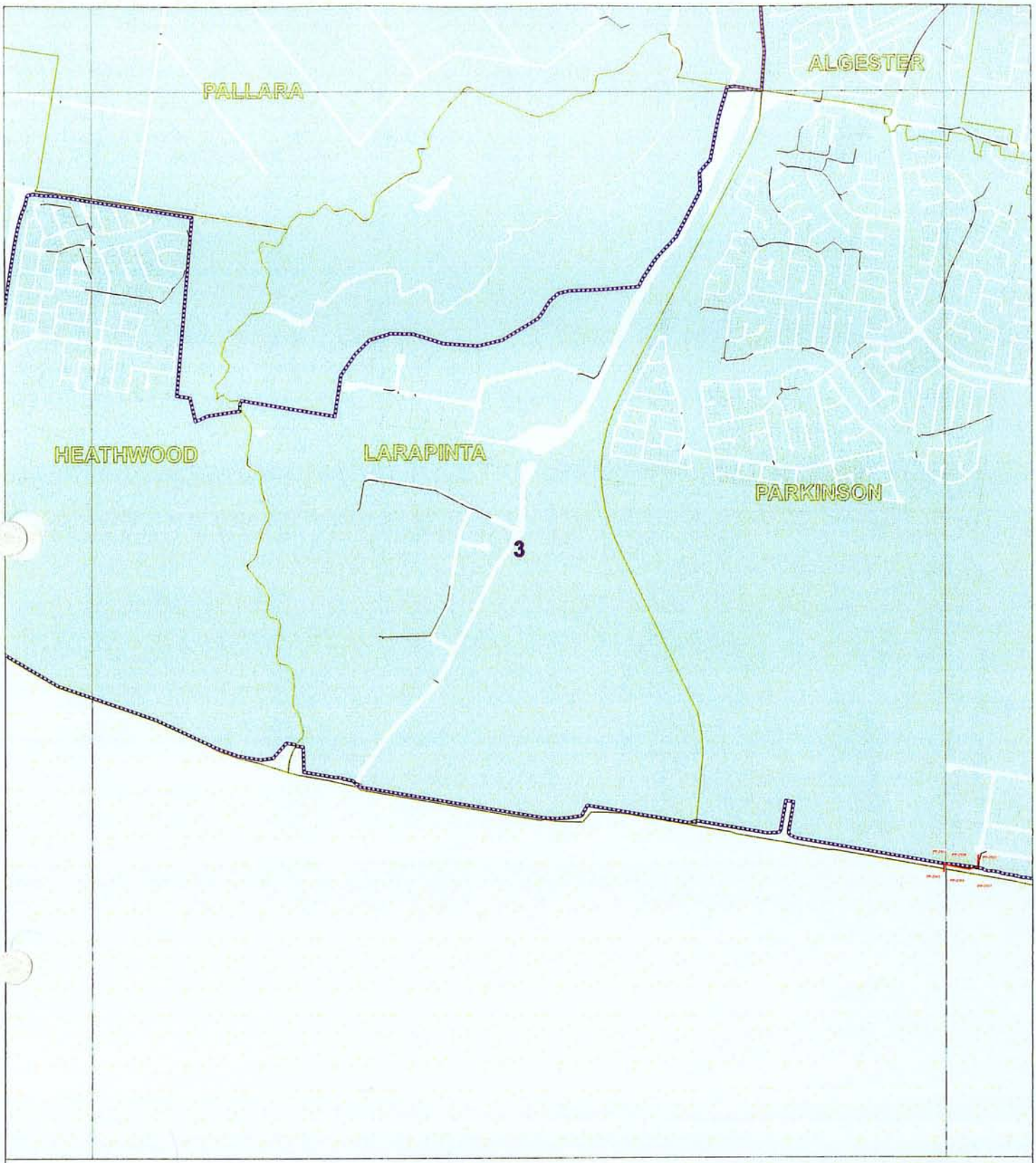
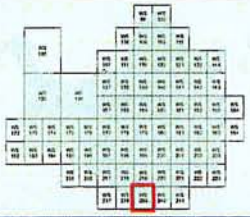


NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A5 — 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Stormwater Network Trunk Infrastructure Plans

Map SW239

Adopted Infrastructure Charges Resolution No.1 2011

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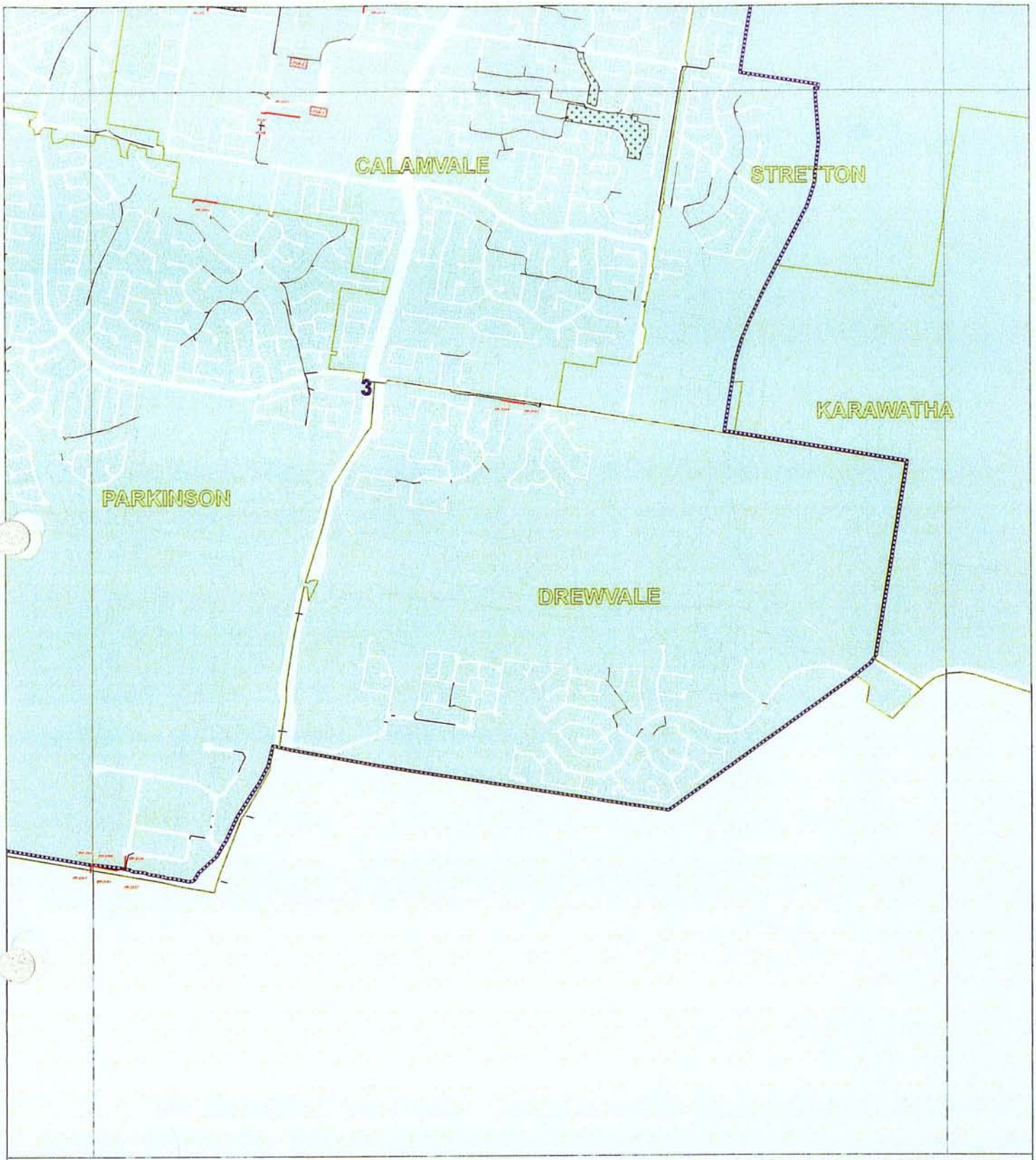

NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 1:6 000

Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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BRISBANE CITY

Stormwater Network Trunk Infrastructure Plans

Map SW240

Adopted Infrastructure Charges Resolution No.1 2011

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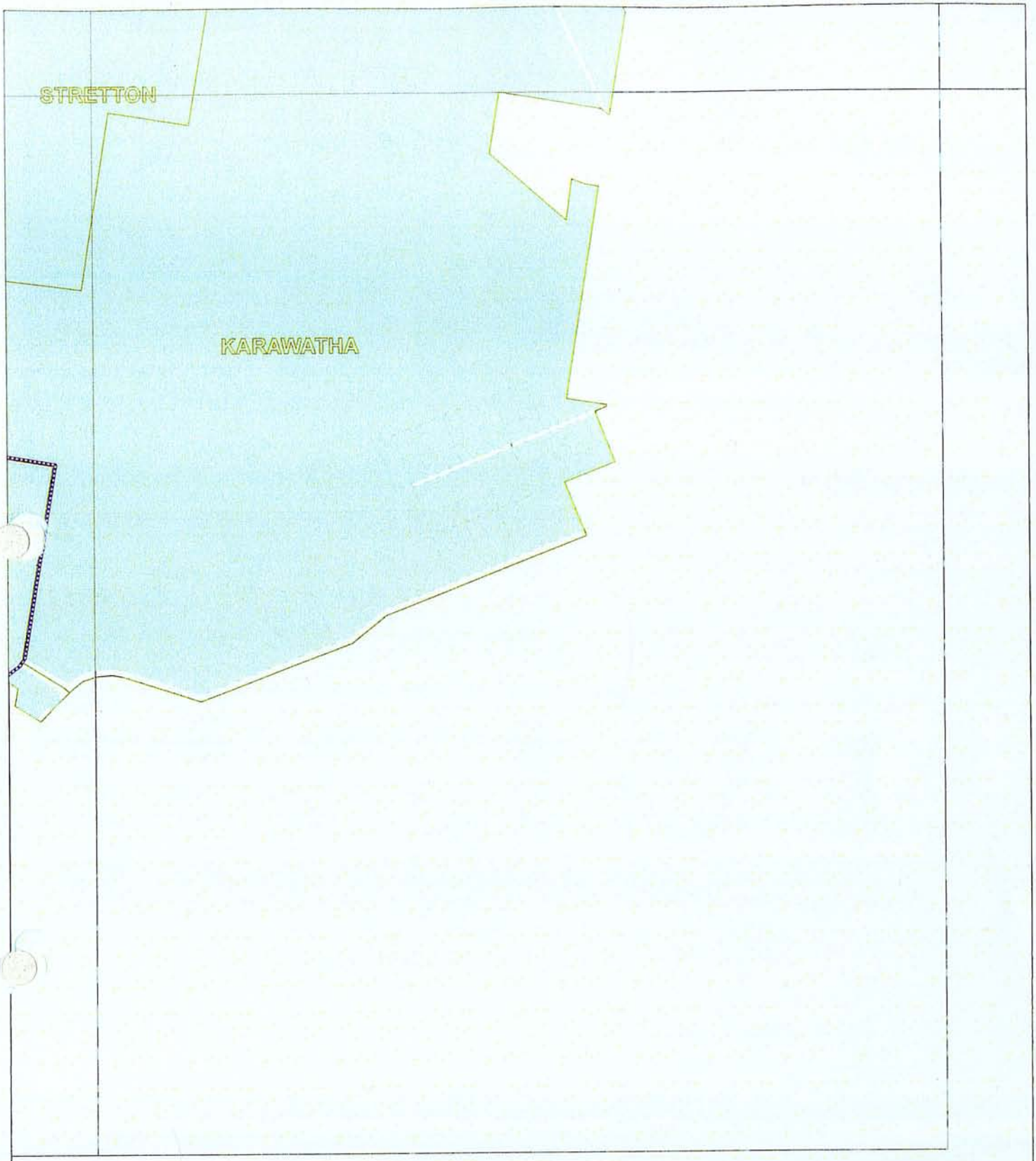
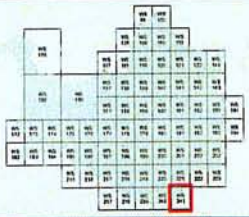


NORTH

0 100 200 300 400 500 600
Metres

1 cm = 60 metres at A0 — 1:6,000



Existing Infrastructure
- Pipe and Culvert
- Natural Channel
- Detention Basin
- Land Acquisition
- Rehabilitation
- Wetland

Future Infrastructure
- Pipe and Culvert (ID)
- Natural Channel (ID)
- Bioretention Swale (ID)
- SQID (ID)
- Channel Excavation (ID)
- Detention Basin (ID)
- Land Acquisition (ID)
- Rehabilitation (ID)
- Weirs (ID)

Boundaries
- Suburb Boundaries
- Priority Infrastructure Area Boundary **(ID)**
- Property Land Holdings

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Publisher: Strategic Infrastructure Planning
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Projection: Map Grid of Australia, Zone 56
Horizontal Datum: Geocentric Datum of Australia 1994

Stormwater Network Trunk Infrastructure Plans

Map SW241

Adopted Infrastructure Charges Resolution No.1 2011

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FG_ID	STREET	UBD	CHAMBER	INLET	OUTLET	MH_LID	MH_FRM	FG_NO	FG_SHP	REGION	COMMENTS
1	Henderson Rd, Deagon, opp #67	110, N11		1050						North	Creek
2	Henderson Rd, Deagon, opp #67	110, N11		525						North	Creek
3	Ashford St, Shorncliffe, end of street	111, A8	1600x2100	1000						North	Creek
4	Sinbad St, Shorncliffe, golfcourse outlet	111, B10		0						North	Ocean, No Access
5	Sinbad St, Shorncliffe, near fish co-op 1	111, C11		375						North	Ocean
6	Sinbad St, Shorncliffe, near fish co-op 2	111, D11		375						North	Ocean
7	Sinbad St, Shorncliffe, near boat ramp 3	111, D11		0						North	
8	Sinbad St, Shorncliffe, behind Sea Scouts	111, E10		800						North	Ocean
9	Allpass Pde, Shorncliffe, @ Friday St	111, E9		300						North	Ocean
10	Flinders Pde, Sandgate, @ 1st Ave	111, A4	900 Dia	0	375	600	Round	1	Round	North	
11	Flinders Pde, Sandgate, @ 2nd Ave	111, A4	1800x2000	600	525	600	Round	1	Round	North	Seal size 600
12	Flinders Pde, Sandgate, @ 3rd Ave	111, A4	1500x1350	600	600	600	Round	1	Round	North	
13	Third Ave, Sandgate, @ Flinders Pde, middle MH of 3 MH's	110, R4	2500x1100	600	600	600	Round	3	Round	North	
14	Flinders Pde, Sandgate, @ 4th Ave	110, R3		0			Round	1	Round	North	Manhole with Gully grate inside
15	Flinders Pde, Sandgate, @ 5th Ave	110, R3		0			Round	1	Round	North	Manhole with Gully grate inside
16	Flinders Pde, Sandgate, @ 5th Ave	110, R3	1200x?	625	650	600	Round	1	Round	North	
17	Flinders Pde, Sandgate, @ 6th Ave	110, R3	1200x?	450	450	600	Round	1	Round	North	
18	Flinders Pde, Sandgate, @ 7th Ave	110, R2	1200x?	600	600	600	Round	1	Round	North	
19	Flinders Pde, Sandgate, opp #284	100, Q20	1400x1400	900	850			1	Round	North	
20	Flinders Pde, Sandgate, @ 9th Ave	100, P19		0	750x900					North	Box Culvert
21	Flinders Pde, Sandgate, @ 10th Ave	100, P19	2400x1200	0			Round	2	Round	North	
22	Flinders Pde, Sandgate, @ 11th Ave	100, P18	1200x?	600	600					North	
23	Flinders Pde, Sandgate, @ 12th Ave, in SQID	100, P17		0			Rectangle		Rectangle	North	Box Culvert
24	O'Quinn St,Nudgee Beach, at road to Dynna Is.	111, I16	1200x600	0						North	Creek
25	Flinders Pde, Sandgate, @ 17th Ave, in MH	100, N14		0						North	
27	Flinders Pde, Sandgate, @ 18th Ave,	100, N13		900	825					North	
26	Flinders Pde, Sandgate, Between 17 & 18 Th Aves	100, N14		0	2x750					North	
28	Flinders Pde, Sandgate, @ 19 th Ave - Trash Rack	100, N13		0						North	
29	Flinders Pde, Sandgate, @ 13th Ave and S/W crn 13th Ave	100, N16		900	700					North	
30	Flinders Pde, Sandgate, @ 14 th Ave	100, N16		750	750					North	
31	Beaconsfield Tce, Brighton, Rubber valve in 15 - 16 th Aves, Open Drain MH	100, N15		0						North	
32	10th Ave, Sandgate, @ Brighton Roosters Club	100, P19		450	450					North	
33	Kingsford Smith Dr, Albion @ Agnes St	140, G19		0						North	
34	Bryden St, Windsor in Flynn Oval Parkland	139, L18		0						North	
35	Kedron Brook, Nundah Toombul Shops (lower carpark)	140, M5		0						North	
36	Sandgate Rd, Albion between Pedder St and Wallace St	140,E16		0						North	
37	Yulestar St, Hamilton manhole in northern footpath east of Hunt St	140,G18		0						North	
38	Kingsford Smith Dr, Albion @ Cooksley St	140.H18		1200	1200					North	
39	Collingwood St, Albion cnr Sandgate Rd at McDonalds	140,E15		0						North	
40	Sandgate Rd, Albion @ Hutcheson St under Bypass	140, F18		0						North	
41	56 Edmonstone Rd Bowen Hills at Virgin Airlines	140,D19		0						North	
42	15 Gordon St Newstead, in Manhole	160, F1		1200	1200			1	Round	North	
43	31 Barclay St, Deagon inside of concrete lined drain	110,P6		0						North	
44	Ferric St, Virginia inside bus depot	120,M5		0	2 x 1350					North	
45	Poppy St, Hemmant			0					Rectangle	East	
46	Hemmant Tingalpa Rd, Hemmant			0					Rectangle	East	
47	Esplanade, Lota			0						East	
48	Esplanade, Lota			0						East	
49	Esplanade, Lota			0						East	
50	Esplanade, Lota			0						East	
51	Esplanade, Lota			0						East	
52	Esplanade, Lota			0						East	

53	Esplanade, Lota	0			East	
54	Syndey St, New Farm	0			Central	
55	Welsby St, New Farm	0			Central	
56	Brisbane Corso, Yeronga	1650	4	Round	South	
57	Victoria Street, West End	1350	1	Round	Central	
58	Lutwyche Road, Windsor	0	1	Duckbill	North	Ownership could be confirmed (APL, CLEM7 or BCC?)

Project Brief

To investigate the feasibility of the installation of devices to prevent backflow from river flooding

7 July, 2011

Prepared by:

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Document Control								
Issue No	Date of Issue	Amendment	Prepared By Name	Prepared By Signature	Reviewed By Name	Reviewed By Signature	Approved By Name	Approved By Signature
01	07.07.11	Issue	Santina Pennisi	SP	Mike Brady	[redacted]		

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1. Introduction to Project

In January 2011, Brisbane experienced the second-highest flood in the past 100 years, after the January 1974 flood. There was major flooding through most of the Brisbane River catchment, most severely in the Lockyer and Bremer catchments where many flood height records were set. The flooding caused substantial loss of life in the Lockyer Valley and thousands of properties were inundated in metropolitan Brisbane.

1 The Lord Mayor of Brisbane, the Right Honourable Campbell Newman, 21 January 2011, appointed a Board of Enquiry to review the response to the flood event in Brisbane during the period Sunday 9 January to Saturday 22 January. The Board consisted of Major General Peter Arnison AC, CVO (Retd), Mr Robert Gotterson QC and Emeritus Professor Colin Apelt.

2 On Tuesday 24 May 2011, the Flood Response Review Board handed down their report, Brisbane Flood January 2011 – Independent Review of Brisbane City Council's Response, 9-22 January 2011 which identified 16 key recommendations including that Council investigate the feasibility of the installation of devices to prevent backflow from river flooding.

3 The BCC Flood Response Review Action Plan of 24 June 2011 provides Council's Plans in response to the Recommendations including the following regarding Backflow Prevention investigations.

The Board recommends that:
Council investigate the feasibility of the installation of devices to prevent backflow from river flooding in locations such as in parts of the Central Business District (CBD) and in high rise buildings which would not have been flooded otherwise, where all those potentially affected by backflow flooding have responsibility for oversight of the maintenance of the device in working order.
No backflow prevention device should be incorporated into the stormwater network system unless a complete risk based flood management analysis has confirmed that this is the best option.
Council's Plan
Delivery Date
• Scope project and gather data to inform the potential application of backflow prevention technology in three case study areas being the Central Business District, Rosalie/Milton and New Farm areas
July - August 2011
• Seek community input on backflow issues in the three case study areas via Talk to Council sessions, Living in Brisbane newsletter and direct mail
September 2011
• Conduct technical investigations to assess the risks, issues and opportunities associated with backflow prevention technology in the three case study areas. There will be further community consultation in each of the case study areas at the conclusion of the technical investigations.
October 2011- May 2012
• Concurrently, carry out a desktop review to identify other sites across the city that flooded in January 2011 which may warrant a more detailed investigation and analysis as detailed above. The desktop review will be followed by community consultation in identified areas.
August - December 2011

2. Project Objectives and Scope

The objectives and proposed scope of work for this project is for an independent consultant to lead the project and assist with the engagement of other experts as necessary, to investigate the feasibility of the installation of devices to prevent backflow from river flooding.

2.1. Objectives

The objectives of the project are as follows:

Objective 1: Scope project and gather data to inform the potential application of backflow prevention technology in three case study areas being the Central Business District, Rosalie/Milton and New Farm areas completed by 31st August 2011.

Objective 2: Seek community input on backflow issues in the three case study areas via Talk to Council sessions, Living in Brisbane newsletter and direct mail completed by 30th September 2011.

Objective 3: Conduct technical investigations to assess the risks, issues and opportunities associated with backflow prevention technology in the three case study areas. There will be further community consultation in each of the case study areas at the conclusion of the technical investigations completed by 31st May 2012

Objective 4: Concurrently, carry out a desktop review to identify other sites across the city that flooded in January 2011 which may warrant a more detailed investigation and analysis as detailed above. The desktop review will be followed by community consultation in identified areas completed by 31st December 2011.

2.2. Scope

The scope of work for this project is to investigate the feasibility of measures to prevent backflow from river flooding. The scope of the project is to be delivered as two investigations outlined below.

Investigation 1 – Brisbane River Review

Investigate areas along the Brisbane River (within Brisbane City Council's Local Government Area) affected by the January 2011 river flood (including river tidal affects), to identify and prioritise locations where the application of backflow prevention measures may warrant further detailed investigations.

The concurrent development of a framework in which options for backflow measures can be appraised, justified and prioritised.

Investigation 2 – Three case study areas

Concurrently with 1 above, investigate three case study locations, being Central Business District, Rosalie/Milton and New Farm, to determine whether the installation of backflow prevention measures might prevent river flooding and provide implementation options for each area. The investigation would include the assessment of risks, issues and opportunities associated with backflow prevention measures in the three case study areas. The investigation would include the assessment of whether they would have unacceptable impacts during other possible types of flood events and also consider maintenance requirements and cost/benefit analysis.

3. Project Staging

The project objectives and scope are to be delivered in 2 Stages.

3.1. Stage 1 – Prefeasibility Study and Community Engagement (July 2011 to September 2011)

Investigation 1 – Brisbane River Review

Carry out a desktop review to identify other sites across the city that flooded in January 2011 which may warrant a more detailed investigation and analysis (July 2011 – August 2011).

The desktop review will be followed by community consultation in identified areas (September 2011 – December 2011).

Investigation 2 – Three case study areas

Scope project and gather data to inform the potential application of backflow prevention technology in three case study areas being the Central Business District, Rosalie/Milton and New Farm areas (July 2011 - August 2011).

Seek community input on backflow issues in the three case study areas via Talk to Council sessions, Living in Brisbane newsletter and direct mail (September 2011).

3.2. Stage 2 – Feasibility Study and Community Engagement (October 2011 to May 2012)

Investigation 1 – Brisbane River Review

The results of the desktop review to identify other sites across the city that flooded in January 2011 which may warrant a more detailed investigation and analysis will lead on to:

- scoping and gathering data to inform the potential application of backflow prevention measures in other sites across the city.
- a level of community engagement in conjunction with Council to be conducted from October 2011 to May 2012.

Investigation 2 – Three case study areas

Conduct detailed technical investigations to assess the risks, issues and opportunities associated with backflow prevention technology in the three case study areas. There will be further community consultation in each of the case study areas, the Central Business District, Rosalie/Milton and New Farm, at the conclusion of the technical investigations (October 2011-May 2012).

4. Specific Inclusions

The consultant is to provide by Friday the 15th of July 2012:

- A Project Management Plan for the delivery of Stage 1 similar to the attached Brisbane City Council Project Management Plan template and a detailed Gantt Chart showing activities, timing and resourcing requirements.
- Detailed cost estimate of consultancy.

4.1. Stage 1 – Prefeasibility Study and Community Engagement (July 2011 to September 2011)

Specific inclusions for the two investigations required to deliver the Stage 1 are:

4.1.1 Investigation 1 – Brisbane River Review - Deliverables by 31 August 2011

Mapping:

For the January 2011 river flood, a series of maps showing:

- The areas throughout Brisbane affected by backwater flooding via stormwater drainage (river and creeks).
- Distinguish the areas throughout Brisbane affected by river flooding i.e. bank overtopping and not backwater flooding via the stormwater drainage network. Also the areas where both occurred.
- Include the stormwater network on the mapping.

Reporting

A report outlining mapping and data interrogation methodology, assumptions and limitations and a list of the areas throughout Brisbane affected by backwater flooding via stormwater drainage (river and creeks) including a list of streets and number of properties affected per area and their land use.

Delivery of Investigation 1 will achieve Objective 4 as outlined in the Scope of works above.

4.1.2 Investigation 2 – Three case study areas the Central Business District, Rosalie/Milton and New Farm - Deliverables by 31 August 2011

Mapping:

For the January 2011 river flood, a series of area specific maps showing:

- the three case study areas affected by backwater flooding via stormwater drainage.
- identify potential sites where backwater prevention measures could be applied to those areas affected by backwater flooding.
- include the stormwater network on the mapping.
- depth maps.

Spatial Data Interrogation and Reporting

For each case study area affected by backwater flooding from the January 2011 river flood via stormwater drainage:

- provide a list of streets and number of properties affected per area, depth of flooding and their land use.
- if required, conduct site visits to validate technical investigations.

Project Brief-To investigate the feasibility of the installation of devices to prevent backflow from river flooding

Reporting

A report outlining:

- mapping and data interrogation methodology, assumptions and limitations
- list of the potential sites and describe methodology applied to determine potential sites.

Delivery of Investigation 2 will firstly achieve Objective 1 and Objective 2, as outlined in the Scope of works above.

4.1.3 Community Engagement

A community engagement plan is to be prepared in conjunction with Council by 31 July 2011 for implementation commencement in September 2011. The consultant will provide technical support and advice as part of the community engagement process.

4.2. Stage 2 – Feasibility Study and Community Engagement (October 2011 to May 2012)

Stage 2 may be commenced following the delivery of Stage 1. This is to be confirmed with Council in writing for approval prior to proceeding.

4.3. Sub consultants

The proposed scope of work for this project is for an independent consultant to lead the project and assist with the engagement of other experts as necessary in accordance with the letter of engagement. Prior to engaging other experts, written approval from Council is required.

5. Specific Exclusions

Specific exclusions are:

- Areas affected by Jan 2011 flooding that are outside of BCCs Local Government Area.

6. Assumptions

The main assumptions are:

- That information for this review is available through the collation and analysis of existing information available both in the public realm and through key internal and external stakeholders.

7. Constraints

The main constraints are:

- An interim report must be completed and submitted to Council by 30 September 2011.
- If required, contact with all key stakeholders must be done with discretion and sensitively.
- There shall not be any indication given that Council is interested in purchasing any particular product, property or entering into any commercial arrangements with any individual or supplier

8. Dependencies

There are no specific dependencies at this stage of investigation. However, fortnightly Project Management Team meetings and weekly progress meetings with Water Resources Senior Officer – Engineer, will need to occur for the duration of the project.

9. Timing

An interim Report is to be completed and submitted to Council by close of business **30 September, 2011.**

10. Attachments

- Brisbane City Council Template - Project Management Plan Tier 3 PMT121

29 August 2011

FLOODING IN BRISBANE
Backflow flooding investigation fact sheet

Dedicated to a better Brisbane

Storms and flooding are a natural part of living in Brisbane. Brisbane's subtropical climate makes it prone to weather that can cause flooding from the rivers, creeks, storm tide and overland flow.

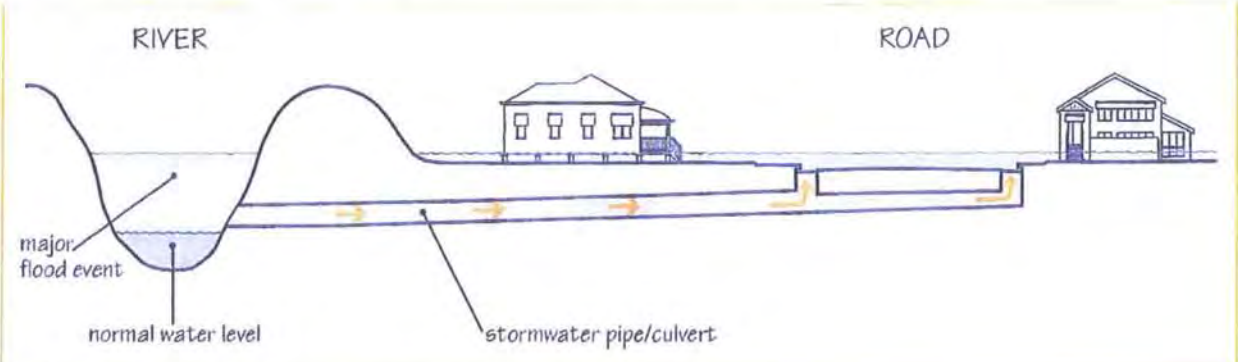
In January 2011 Brisbane experienced a severe flood event that had a significant impact on residents and businesses across our city.

Council has committed $129 million in the 2011–12 budget to manage the impact of flooding on people, property and infrastructure. This includes:

- improving the flood resilience of infrastructure
- regulating development
- enhancing and maintaining the stormwater drainage network
- raising community awareness, access to and understanding of flood information.

Backflow flooding

During the January 2011 flood, parts of Brisbane were affected by water which came up from the river through the drainage networks and into our streets. This is commonly referred to as backflow flooding.



Backflow flooding diagram

As part of Council's commitment to reduce the impact of flooding on the Brisbane community, and in response to the recommendations set out by the independent Flood Response Review Board appointed by Council (report released June 2011), investigations have commenced to assess the backflow flooding experienced in January 2011 and the feasibility of installing backflow prevention measures.

An independent consultant has been engaged by Council to investigate the issue and provide technical expertise and advice on the causes, impacts, and possible remediation of backflow. At this stage, no decision has been made on how backflow flooding might be managed in the future.

Backflow prevention measures

Backflow prevention measures would be designed to ensure water flows in one direction through piped stormwater systems and to prevent water from flowing back up stormwater pipes. While there may be a number of backflow prevention measures available, none will ever guarantee full protection from backflow and other sources of flooding.

Investigations into backflow

The feasibility investigations are planned to be completed by May 2012 and will use data gathered from the January 2011 flood to identify potential opportunities for the application of backflow prevention measures. There will be three stages to these investigations:

CASE STUDIES

The first stage of the feasibility investigation will focus on three case study areas—Milton (including Rosalie), New Farm and the Central Business District (CBD).

Community information sessions will be held in each case study area during September 2011.

Council has chosen the three case study areas because:

- these areas are believed to have been impacted by backflow flooding during the January 2011 flood event
- they have a diverse mix of land use such as industrial, commercial and high-density residential
- a large number of people were affected
- there was a high impact on public infrastructure (such as parks, power supply and streetscapes).

DESKTOP REVIEW

A desktop review will identify other sites across the city that flooded in January 2011 which may warrant more detailed investigation and analysis.

TECHNICAL INVESTIGATIONS

Technical investigations will be carried out to assess the risks, issues and opportunities associated with backflow prevention technology in the three case study areas and other identified areas.

For more information please visit www.brisbane.qld.gov.au/water or contact Council on (07) 3403 8888.

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Information
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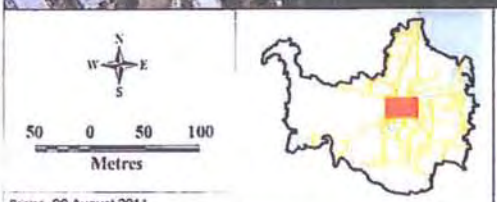
For more information
visit www.brisbane.qld.gov.au
or call (07) 3403 8888.





LEGEND

Property Holding

Backflow Area

Suggested Mail Out Region

Printed 09 August 2011

Project Number CD120019 | Revision 1 | Prepared NM | Checked DH

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City Projects Office
Brisbane City Council

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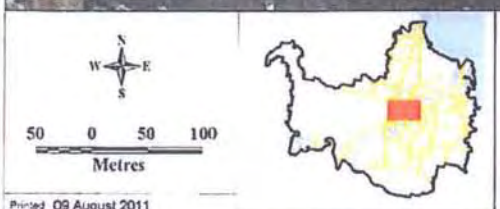
Project **Backflow Investigation**

Title **Properties Potentially Affected by Backflow in Brisbane CBD**

Figure 2

BCC.133.0012





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Backflow Area

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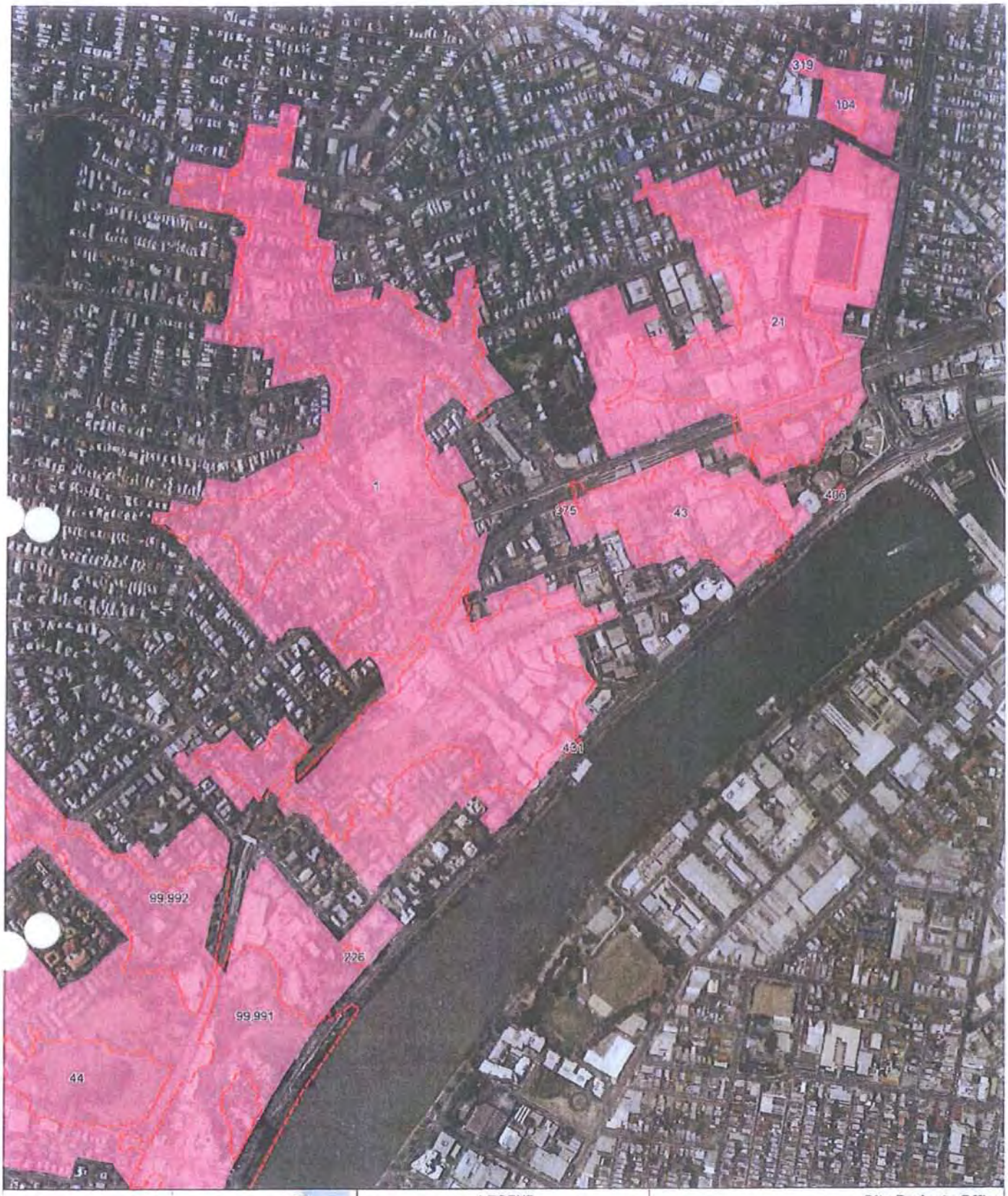
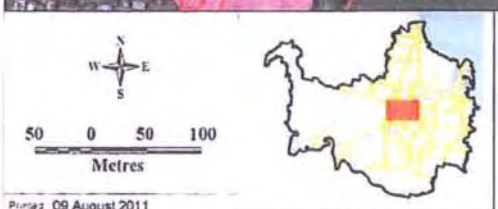
Project
Backflow Investigation

Title
Properties Potentially Affected by Backflow in New Farm

Figure 1

BCC.133.0013





LEGEND

Property Holding

Backflow Area

Suggested Mail Out Region

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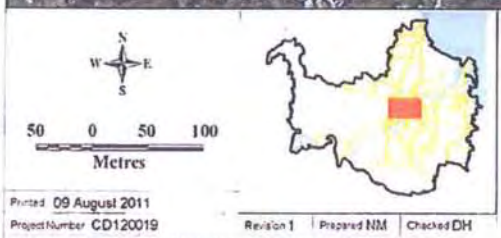
Project **Backflow Investigation**

Title **Properties Potentially Affected by Backflow in Milton/Rosalie**

Figure 3

BCC.133.0014





LEGEND

Property Holding

Backflow Area

Suggested Mail Out Region

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Project

Backflow Investigation

Title

Properties Potentially Affected by Backflow in Toowong/Auchenflower

Figure 3