VOLUNTARY PLANNING AGREEMENT

BETWEEN

RYDE CITY COUNCIL
("Council")

AND

LIPMAN PROPERTIES PTY LIMITED
ACN 099 443 535
("Developer")

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Plan of the Land

ATTACHMENT B

Environmental Planning and Assessment Regulation 2000 (Clause 25E)

SCHEDULE 1

Reference Schedule

SCHEDULE 2

Plan

SCHEDULE 3

Draft Public Domain Technical Manual

THIS AGREEMENT is made on 20

BETWEEN **RYDE CITY COUNCIL** of 1 Devlin Street, Ryde, NSW ("**Council**")

AND **LIPMAN PROPERTIES PTY LIMITED** ACN 099 443 535 ("**Developer**")

RECITALS

A. On, [ ], the Developer made a Development Application to the Council seeking Development Consent to carry out the Development on the Land.

B. The Development Application was accompanied by an offer by the Developer to enter into this Agreement to make Development Contributions.

C. The Developer proposes to carry out certain works in exchange for an FSR Bonus and in lieu of the monetary contributions otherwise payable under the Ryde Section 94 Contributions Plan and certain fees otherwise payable as outlined in this Agreement.

NOW IT IS AGREED as follows:

1. DEFINITIONS AND INTERPRETATION

1.1 In this Agreement the following definitions apply:

1.1.1 "**Act**" means the Environmental Planning and Assessment Act 1979 (NSW).

1.1.2 "**Bonus FSR**" means the additional [ ] of floor area which the Developer applies to utilise pursuant to the Development Application and which the Council may permit in the Development Consent, in exchange for the Developer providing streetscape amenities substantially exceeding those required under the Existing Consent.

1.1.3 "**Building**" means the part of the Development as described in the Development Application.

1.1.4 "**Completion**" means when an occupation certificate is issued which certifies that the physical works component of the Mandatory Elements are reasonably capable of immediate use for their intended purpose.

1.1.5 "**Commencement Date**" means the day the Construction Certificate for any aspect of the Development Consent is issued.

1.1.6 "**Construction Costs**" means the costs actually incurred, or directly attributable to, construction activity, including relevant site establishment costs, building material costs (including any fill, soil, landscape materials and plantings), tipping fees, wages, salaries or other costs of labour, shop drawings, costs of project management, and the administrative costs directly incurred in the construction process, but excluding project contingencies, design development fees, and other costs which are not directly related to the performance of construction.

1.1.7 "**Construction Certificate**" means a construction certificate issued pursuant to the Environmental Planning & Assessment Act authorizing construction works in respect of the Development Consent.

1.1.8 "**Council's Representative**" means a partner from an Independent Project Management firm agreed by the parties as one of the following:

(a) [ ]

1.1.9 "**Council's Section 94 Plan**" means the City of Ryde - Section 94 Contribution Plan No. 1 dated 2003 as in force at the date of this Agreement.

1.1.10 "**Dealing**", in relation to the Land, means, without limitation, selling, transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land.

1.1.11 "**Defect Liability Period**" means 1 year from issue of Occupation Certificate.

1.1.12 "**Developer's Contribution Obligation**" means the developer's legal obligation to provide the Development Contributions in accordance with the EP&A Act and this Agreement.

1.1.13 "**Development**" means the development described in the Development Application for the addition of two storeys to approved commercial development at 78 Waterloo Road and 7-9 Byfield Street, Macquarie Park to be completed in accordance with the Development Consent.

1.1.14 "**Development Application**" has the same meaning as in the Act and includes any amendment or modification of the Development Application.

1.1.15 "**Development Consent**" has, in respect of the Development, the same meaning as in the Act and includes any amendment or modification of the Development Consent.

1.1.16 "**Development Contribution**" means the Mandatory Elements.

1.1.17 "**GST**" has the same meaning as the GST Law.

1.1.18 "**GST Law**" has the meaning given to that term in *A New Tax System (Goods and Services Tax)* Act *1999* (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

1.1.19 "**Land**" means Item 3 in Schedule 1.

1.1.20 "**Mandatory Elements**" means either:

(a) streetscape works for which Construction Costs do not exceed $1,653,000 within the zone bordered in red on the plan attached and marked Schedule 2; or

(b) a cash contribution of $1,653,000.

For the avoidance of doubt, it is the Developer's preference to provide the Mandatory Elements in the nature of Clause 1.1.20(a). However, upon Council's request, the Developer will provide the Mandatory Elements in the nature of Clause 1.1.20(b).

1.1.21 Not Used

1.1.22 "**Notification**" means the public notification of the Development Consent effected in accordance with the EP&A Act and Regulations.

1.1.23 "**Occupation Certificate**" means an occupation certificate issued pursuant to the *Environmental Planning & Assessment* Act authorising occupation of the building or part of the building.

1.1.24 "**Developer's Works**" means all of the works described in the Development Consent and includes the Mandatory Elements.

1.1.25 "**Party**" means a party to this Agreement, including their successors and assigns.

1.1.26 "**Quantity Surveyor Assessment**" means an assessment by an independent quantity surveyor of the Construction Cost to the reasonable satisfaction of the Council.

1.1.27 "**Regulations**" means the *Environmental Planning and Assessment Regulation 2000.*

1.1.28 "**Relevant Australian Standards**" means the relevant Australian Standards for the nature of work and includes the standards identified in Schedule 2 (as amended, supplemented or replaced from time to time).

1.1.29 "**Section 96 Modification**" means any modification of the Development Consent pursuant to section 96 of the *Environmental Planning & Assessment Act*

1.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Agreement.

1.2.2 A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.

1.2.3 If the day on which any act, matter or thing is to be done under this Agreement is riot a business day, the act, matter or thing must be done on the next business day.

1.2.4 A reference in this Agreement to dollars or $ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.

1.2.5 A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or reenactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

1.2.6 A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.

1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.

1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.

1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phase has a corresponding meaning.

1.2.10 A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.

1.2.11 References to the word 'include' or 'including' are to be construed without limitation.

1.2.12 A reference to this Agreement includes the agreement recorded in this Agreement.

1.2.13 A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.

1.2.14 Any schedules and attachments form part of this Agreement

2. PLANNING AGREEMENT UNDER THE ACT

The Parties agree that this Agreement is a voluntary planning agreement governed by Subdivision 2 of Division 6 of Part 4 of the Act.

3. APPLICATION OF THIS AGREEMENT

This Agreement is made in respect of the Development Application and Development Consent that applies to the Land.

4. COMMENCEMENT

This Agreement is effective on and from the Commencement Date.

5. DEVELOPMENT CONTRIBUTIONS TO BE MADE UNDER THIS AGREEMENT

The Developer must provide the Development Contribution in accordance with clause 6.

6. APPLICATION OF THE DEVELOPMENT CONTRIBUTIONS

6.1 The Development Contribution provided pursuant to clause 5 must be given, provided for or carried out:

6.1.1 before the date of issue of an Occupation Certificate;

6.1.2 in the manner prescribed in the Draft Public Domain Technical Manual attached and marked Schedule 3, as amended; and

6.1.3 for the public purpose of providing adequate streetscape facilities.

7. NOT USED

8. APPROVAL OF DEVELOPER WORKS

8.1 Finalising the General Scope of Mandatory Elements

The parties acknowledge and agree that further design detail and refinement may be reasonably necessary and desirable before construction of the Mandatory Elements, having regard to the following:

8.1.1 the extent to which the design of any stage has been completed at the date of execution of this agreement;

8.1.2 the conditions of the Development Consent;

8.1.3 the Relevant Australian Standards;

8.1.4 a section 96 modification.

8.1.5 a Material Increase to the Construction Costs of the Mandatory Elements.

8.2 Design Amendment

The Developer will use all reasonable endeavours to promptly advise the Council in writing of any proposal to amend the design of the Mandatory Elements, identifying why the amendment, or alteration, is sought. The Developer must establish that any design alteration or amendment is generally consistent with the public purpose of providing adequate streetscape facilities.

8.3 Not Used

8.4 No Reduction of Mandatory Elements

The parties acknowledge and agree that nothing in this Agreement will be read or construed as permitting either the Developer or the Council to reduce the obligations of the Developer to provide the Mandatory Elements of the Development.

8.5 Council's Discretion

The Council must act promptly and reasonably in responding to a request for amendment made under clauses 8.2 and 8.3 of this Agreement. The Council may, in its discretion:

8.5.1 agree to the alteration, amendment, or adjustment as proposed by the Developer;

8.5.2 decline the amendment ;

8.5.3 Not used.

If the Council declines to permit an amendment under clause 8.5.2, then it must provide its reasons in writing. The Developer may refer the subject matter for dispute resolution in accordance with clause 14 of this Agreement.

9. INSURANCE OF DEVELOPER WORKS

9.1 Insurance

The Developer must:

9.1.1 maintain public liability insurance, with an insurer approved by the Council, with the Council nominated as an interested party, for an amount not less than the amount stated in Item 9 of Schedule 1 covering all aspects and staging of the Mandatory Elements and submit a copy of the certificate of insurance to the Council prior to the commencement of the construction of the Mandatory Elements and when otherwise required by the Council;

9.1.2 maintain all other necessary insurance policies in respect of the Mandatory Elements including, but not limited to, insurance of the Mandatory Elements and insurance against death or injury to persons employed in relation to the undertaking of the Mandatory Elements; and

9.1.3 maintain the insurances in clauses 9.1.1 and 9.1.2 until the expiration of the Defects Liability Period.

10. WORKS COMPLETION

10.1 Developer's Notice

When in the opinion of the Developer, any stage of the Mandatory Elements are nearing completion, the Developer must promptly notify the Council's Representative of that opinion and must attach to that notice copies of the following:

10.1.1 any certification relating to the relevant Mandatory Elements, including records of inspection;

10.1.2 any warranties, guarantees, maintenance information, or any other record held by or on behalf of the Developer and provided a manufacturer or

supplier (as the case may be) as to the quality, durability and/or maintenance requirements the relevant stage of the Mandatory Elements;

10.1.3 a set of the drawings (including any shop drawings) issued for construction, together with any "as built" drawings held by the Developer at the date of issue of the notice;

10.1.4 copies of a certificate of practical completion issued under any relevant building contract in respect of the relevant stage of construction, or (if no such certificate has or will be issued) a statement signed by either the Developer's Representative under the building contract or the Principal Certifying Authority that the relevant stage of the Mandatory Elements has been constructed as specified in the Development Consent, the Agreement, and the building contract.

10.2 **Inspection by Council**

Council may (but is not obliged to) inspect the relevant stage of the Mandatory Elements within 10 days of receipt of the notice issued in accordance with the preceding subclause. The Council must promptly (and in any event within 14 days of inspection) notify the Developer in writing that:

10.2.1 the relevant Mandatory Elements have been completed in a manner generally satisfactory to Council; or

10.2.2 subject to finalisation of aspects identified in that notice the relevant Mandatory Elements are being completed in a manner which is generally satisfactory to Council;

10.2.3 the Mandatory Elements are materially defective, or deficient in a matter which requires rectification.

If a notice is issued under clause 10.2.3, then the Council must identify the nature of the defect or deficiency and the manner in which this may be addressed. The Developer must consider in good faith any methodology put forward by the Council.

10.3 **Completion of the Works**

The Developer must ensure that the Mandatory Elements reach completion (having regard to the terms of any notice issued by the Council under clause 10.2.3) before the date of issue of an Occupation Certificate. Upon completion, the Developer must deliver to Council:

10.3.1 any additional or amended documents inducing a full set of the "as built" drawings;

10.3.2 a statement signed by a duly qualified quantity surveyor as to the costs actually incurred in respect of the completion of the relevant stage of Mandatory Elements.

10.3.3 a certificate of practical completion issued in respect of the relevant stage of construction or (if no such certificate has been issued), a statement signed by the Developer's representative under the building contract that the relevant stage of the Mandatory Elements has achieved practical completion; and

10.3.4 any list or other record relating to defects, errors or omissions relating to the relevant stage of the Mandatory Elements; and

10.3.5 a statement signed by the Developer as to the time and manner in which the Developer intends to rectify the defects, errors or omissions referred to in 10.3.4 above.

10.4 **Not Used**

11. DEFECTS LIABILITY PERIOD

11.1 Defects in the Mandatory Elements

If the Council notifies the Developer of a defect in the Mandatory Elements within the Defects Liability Period, the Developer must remedy that defect to the satisfaction of the Council's Representative, within a reasonable period and in any event prior to the expiration of the Defects Liability Period.

11.2 No Limitation

Clause 11.1 does not limit any other right, power or privilege of the Council whether arising under this Agreement, any other document or otherwise at law.

11.3 **Not Used**

11.4 **Not Used**

12. APPLICATION OF S94 AND S94A OF THE ACT TO THE DEVELOPMENT

12.1 The Council agrees that Development Contribution to be provided pursuant to this Agreement is the totality of the Developer's Contribution Obligation.

12.2 The Council warrants that it will not make any claim or demand for additional Development Contribution to that provided for in this Agreement with respect to the Development Consent.

12.3 The Council acknowledges that any monetary or other contribution provided in addition to the Development Contribution will be acknowledged by Council as a credit owing to the Developer or any related entity to be applied as an offset against contributions owing in respect of any future development in the Ryde Local Government Area.

13. REVIEW OF THIS AGREEMENT

13.1 This Agreement may be varied or amended only by the express written approval of both parties.

14. DISPUTE RESOLUTION

14.1 The Parties agree to deal with any dispute which may arise between them in relation to this Agreement in the following manner:

14.1.1 initially the Parties must negotiate in good faith to seek resolution of the dispute;

14.1.2 failing such resolution, the Parties must engage in mediation, through a process to be agreed or failing agreement as nominated by the President of the Law Society of New South Wales;

14.1.3 if not resolved by mediation, the dispute shall be referred for expert determination by an appropriately qualified expert selected by agreement between the Parties or failing agreement as appointed by the President of the Law Society of New South Wales.

14.2 The determination made pursuant to clause 14.1.3 shall be final and binding on the Parties, save in the case of manifest error, in which case either Party may have recourse to any available legal process.

14.3 The Council and Developer shall each bear their own costs of the process described in clause 14.1.1 and one-half of the costs of any mediator or expert who is appointed under clause 14.1.2 and 14.1.3.

15. REGISTRATION ON TITLE

15.1 Upon issue of the Development Consent, Council may register this Agreement on the title to the Land.

15.2 Upon completion of the Defect Liability Period the Developer may request the LPI, to remove the registration of this Agreement on title of the Land and Council must do all things reasonably necessary to enable the Developer to remove the notation of this Agreement on title to the Land.

16. TERMINATION

16.1 This Agreement terminates on the happening of any of the following events:

16.1.1 the lapse of the Development Consent;

16.1.2 a declaration by a Court of competent jurisdiction that the Development Consent is invalid;

16.1.3 surrender of the Development Consent.

17. NOTICES

17.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:

17.1.1 Delivered or posted to that Party at its address set out below.

17.1.2 Faxed to that Party at its fax -number set out below.

17.1.3 Emailed to that Party at its email address set out below.

Council

Attention:	Michael Whittaker
Address:	1 Devlin Street, Ryde, NSW
Fax Number:	9952 8070
Email:	mwhittaker@ryde.nsw.gov.au

Developer

Attention:	Wal Richardson
Address:	Level 6, 66 Berry Street, North Sydney, NSW 2060
Fax Number:	(02) 9955 3166
Email:	walr@lipman.com.au

17.2 If a Party gives the other Party 3 business days notice of a change of its address or fax number, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted or faxed to the latest address or fax number.

17.3 Any notice, consent, information, application or request is to be treated as given or made at the following time:

17.3.1 If it is delivered, when it is left at the relevant address.

17.3.2 If it is sent by post, 2 business days after it is posted.

17.3.3 If it is sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number.

17.3.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

18. APPROVALS AND CONSENT

Except as otherwise set out in this Agreement, and subject to any statutory obligations, a Party may give or withhold an approval or consent to be given under this Agreement in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

19. ASSIGNMENT AND DEALINGS

This Agreement may be assigned by the Developer in accordance with any dealings the Developer may have with respect to its interests in the Land without requiring the Developer to obtain Council's approval in respect of either the dealing or the assignment of this Agreement, but only if the Developer procures an executed deed of novation pursuant to which the assignee agrees to provide the Contributions under this Agreement.

20. COSTS

The Developer will pay $5,000.00 towards Council's costs of negotiating, preparing and executing this agreement.

21. ENTIRE AGREEMENT

This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as permitted by law.

22. FURTHER ACTS

Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to affect, perfect or complete this Agreement and all transactions incidental to it.

23. GOVERNING LAW AND JURISDICTION

This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

24. JOINT AND INDIVIDUAL LIABILITY AND BENEFITS

Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

25. NO FETTER

Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

26. REPRESENTATIONS AND WARRANTIES

The Parties represent and warrant that they have power to enter into this Agreement and comply with their obligations under the Agreement and that entry into this Agreement will not result in the breach of any law.

27. SEVERABILITY

If a clause or part of a clause of this Agreement can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this Agreement, but the rest of this Agreement is not affected.

28. MODIFICATION

No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement.

29. **WAIVER**

The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in writing. A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given it is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

30. **GST**

If any Party reasonably decides that it is liable to pay GST on a supply made to the other Party under this Agreement and the supply was not priced to include GST, then recipient of the supply must pay an additional amount equal to the GST on that supply.

31. **FORCE MAJEURE**

31.1 If a Party is unable by reason of Force Majeure to carry out wholly or in part its obligations under this deed it must:

31.1.1 give to the other Party prompt notice of the Force Majeure with reasonably full particulars; and

31.1.2 suggest an alternative method, if any, of satisfying its obligation under this deed.

31.2 If a Party is unable to satisfy its obligations under this deed by an alternative method, the obligations of the Parties so far as they are affected by the Force Majeure are then suspended during continuance of the Force Majeure and any further period as may be reasonable in the circumstances.

31.3 The Party giving such notice under this clause must use all reasonable efforts and diligence to remove the Force Majeure or ameliorate its effects as quickly as practicable.

31.4 The Parties agree that any costs associated in ameliorating a Force Majeure event will be apportioned, if necessary, in such manner as may be fair and reasonable.

31.5 **Not Used.**

31.6 If the Parties are unable to agree on the existence of an event of Force Majeure or the period during which the obligations of the Parties are suspended during the continuance of the Force Majeure, that dispute must be referred for determination under clause 14.

31.7 The Parties agree that a Force Majeure includes the actual commencement of any legal proceedings by any person challenging the validity of the Development Consent or any provision of this Agreement.

32. COMPLIANCE WITH LAWS

32.1 If a Law is changed or a new Law comes into force (both referred to as New Law) and the Developer is obliged by the New Law to:

32.1.1 do something or pay an amount which it is already contractually obliged to do or pay under this Agreement then, to the extent only that the relevant obligation is required under both the New Law and this Agreement, compliance with the Agreement will constitute compliance with the New Law; and

32.1.2 make a further contribution not contemplated by this Agreement, the Developer may require that the Development Contributions pursuant to this be taken into account in the assessment of that further contribution.

32.2 The Council agrees that the total value of the Contributions is a matter to be taken into consideration in calculating the Developer's Contribution Obligations in respect only of the Development Application.

EXECUTED as an Agreement

EXECUTED by **RYDE CITY COUNCIL**
~~in accordance with Section 127 of the~~
Corporations Act 2001:

*Director/*Company Secretary

Director

Name of *Director/*Company Secretary
(BLOCK LETTERS)
~~*please delete as appropriate~~

Name of Director
(BLOCK LETTERS)

By its authorised attorney, Michael Whittaker, pursuant to Power of Attorney Book 4523 No 726 in the presence of

Michael Whittaker

Witness Name: Angela Steinke

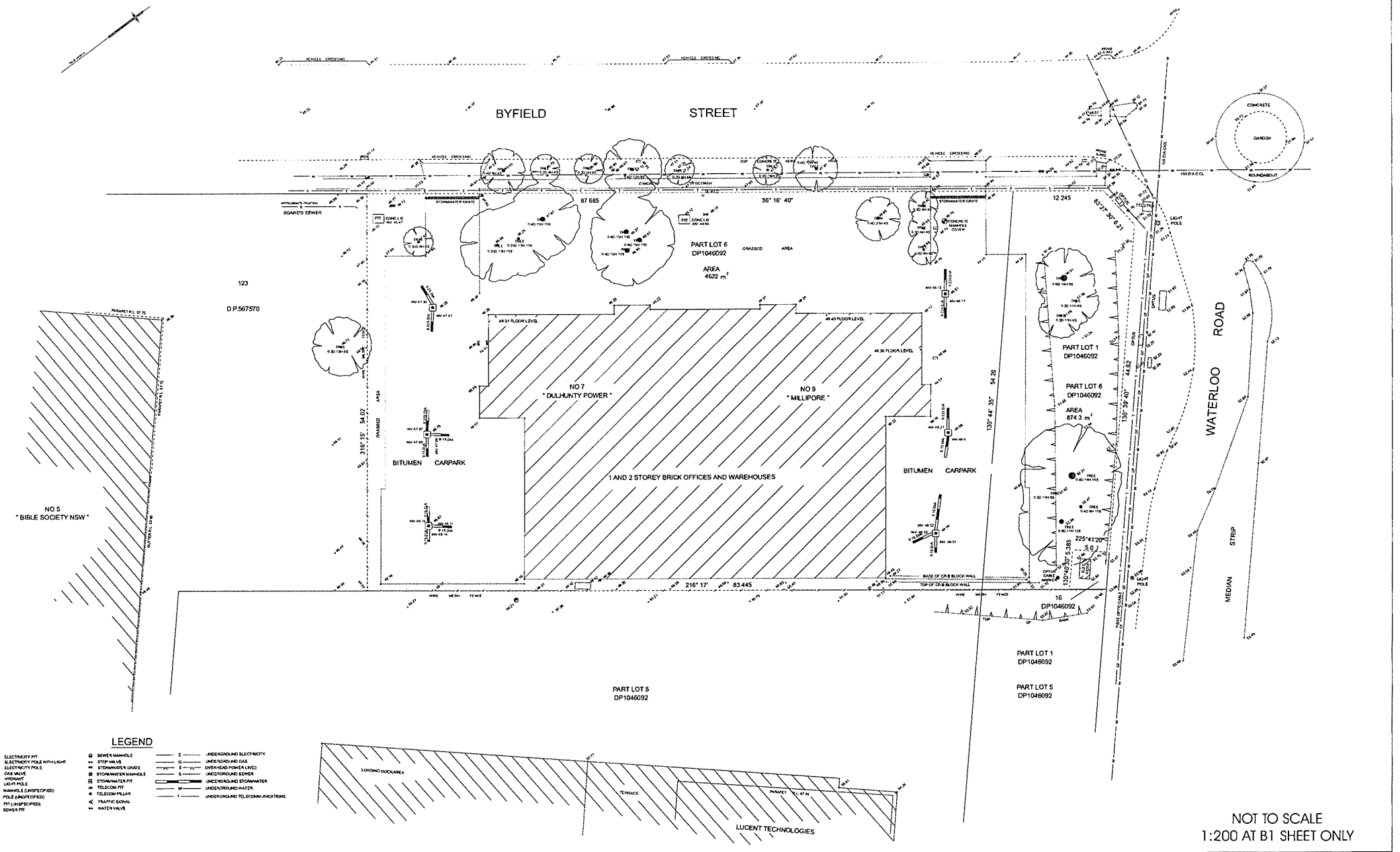
EXECUTED by **LIPMAN PROPERTIES PTY LIMITED**
ACN 099 443 535
in accordance with Section 127 of the
Corporations Act 2001:

Director/~~Company Secretary~~	Director
PAUL WATKINS	Ross Baynes
Name of *Director/*~~Company Secretary~~ (BLOCK LETTERS)	Name of Director (BLOCK LETTERS)

*please delete as appropriate

Attachment A

PLAN OF THE LAND



LEGEND

- ELECTRICITY PIT
- ELECTRICITY POLE WITH LIGHT
- ELECTRICITY POLE
- GAS VALVE
- HYDRANT
- LIGHT POLE
- MANHOLE (UNSPECIFIED)
- POLE (UNSPECIFIED)
- PIT (UNSPECIFIED)
- SEWER PIT
- SEWER MANHOLE
- STOP VALVE
- STORMWATER GRATE
- STORMWATER MANHOLE
- STORMWATER PIT
- TELECOM PIT
- TELECOM PILLAR
- TRAFFIC SIGNAL
- WATER VALVE
- UNDERGROUND ELECTRICITY
- UNDERGROUND GAS
- OVERHEAD POWER LINES
- UNDERGROUND SEWER
- UNDERGROUND STORMWATER
- UNDERGROUND WATER
- UNDERGROUND TELECOMMUNICATIONS

NOT TO SCALE
1:200 AT B1 SHEET ONLY

REV	DATE	AMENDMENTS

NOTES

LOT 1 IS A STRATUM LOT UNLIMITED IN DEPTH AND LIMITED IN HEIGHT TO RL 49.00 AHD

THAT PART OF LOT 6 ABOVE LOT 1 IS LIMITED IN DEPTH TO RL 45.00 AHD AND UNLIMITED IN HEIGHT

POSITION OF UNDERGROUND SERVICES PLOTTED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND MAY BE APPROXIMATE ONLY

0 20
REDUCTION RATIO 1:200 @ B1

DATUM AUSTRALIAN HEIGHT DATUM
CONTOUR INTERVAL NIL
ORIGIN OF LEVELS SSM 34945 RL 42.617 AHD1 VIDE DP1046092

RYGATE & COMPANY PTY. LIMITED
SURVEYORS, TOWN PLANNERS
ROAD & DRAINAGE ENGINEERS
81 YORK STREET, SYDNEY 2000
PHONE 9262 6630 ACN 001 294497 ABN 51 001 294497 FAX 9262 6843

SURVEYOR	DRAWN	CHECKED	APPROVED
SC	CAD	BFF	BFF

CLIENT: LIPMAN
LOCALITY: MACQUARIE PARK
L.G.A.: RYDE

PLAN
SHOWING DETAIL AND LEVELS
N)s. 7-9 BYFIELD STREET

REFERENCE No	PLAN No	DATE	SHEET No
70937		29/07/2004	OF SHEETS

Attachment B

Environmental Planning and Assessment Regulation 2000 (Clause 25E)

EXPLANATORY NOTE

Parties **Ryde City Council**
of 1 Devlin Street, Ryde, NSW
(Council)

Lipman Properties Pty Limited
ACN 099 443 535
(Developer)

1. DESCRIPTION OF SUBJECT LAND

1.1 Lot 6, DP 1046092, 78 Waterloo Road, Macquarie Park

2. DESCRIPTION OF PROPOSED CHANGE TO ENVIRONMENTAL PLANNING INSTRUMENT / DEVELOPMENT APPLICATION

2.1 Approved Development

Demolition of existing structures and construction of two 6 storey Technology Oriented Buildings with ground floor café and basement car parking was granted in October 2005 by Development Consent 116/2004 (**Existing Consent**), and was varied by S96 Approval 1166.2/2004 and 1166.3/2004 issued in May and December 2006 respectively. .

2.2 Proposed Development

This Development Application seeks development consent for the construction of two additional floors and associated minor works to provide required services and fire facilities on the approved commercial development currently under construction at No.78 Waterloo Road and 7-9 Byfield Street in Macquarie Park. The DA seeks consent for the construction of two additional "typical floors" and other minor works to provide services and meet BCA fire requirements within the approved commercial development currently under construction on the site. Specifically development consent will be sought for:

- The construction of two additional "typical floors" (same as existing floors 3, 4 and 5) between approved floors 5 and 6.

- Provision of 10 showers (5 male and 5 female) on the southern wall within the existing Basement No 1 to comply with the targeted 5 Star Greenstar and ABGR ratings.

- Provision of racks to accommodate 100 bicycles and 100 lockers on the southern wall within Basement No 1, also to comply with the targeted 5 Star Greenstar and ABGR ratings.

- Minor expansion of the garbage/recycling room and services room on Level 1.

- Minor increase in the size of the plant rooms on existing Levels 3, 4 and 5 to accommodate smoke exhaust risers now required under the BCA due to the increased height of the building proposed.

- Minor relocation of the southern wall of Building B to accommodate the required smoke exhaust and additional plant.

- Minor increase in the roof top plant room which will remain screened from any view from the streets by Building A roof.

3. SUMMARY OF OBJECTIVES, NATURE AND EFFECT OF THE DRAFT PLANNING AGREEMENT

3.1 Summarise the cost/benefit.

3.1.1 The Developer seeks to obtain an FSR bonus of [ ] for its commercial office building on the land. In exchange for the Bonus FSR, the Developer will provide the Development Contributions which consist of either:

(a) streetscape works for which Construction Costs do not exceed $1,653,000 within the zone bordered in red on the plan attached and marked Schedule 2; or

(b) a cash contribution of $1,653,000.

For the avoidance of doubt, it is the Developer's preference to provide the Mandatory Elements in the nature of Clause 3.1.1(a). However, upon Council's request, the Developer will provide the Mandatory Elements in the nature of Clause 3.1.1(b).

These Development Contributions will be a substantial addition to the streetscape works required under the Existing Consent, and constitute a generous addition to the Macquarie Bank Park Corridor.

The Developer is committed to maintaining a 5 Star Australian Building Greenhouse Rating Scheme rating and a 5 Green Star Accreditation from the Green Building Council of Australia ("**Ratings**") in respect of the Development. In pursuit of this commitment, the Developer is forgoing revenue generating spaces such as storage and car parking in exchange for environmentally sustainable community facilities. These facilities include showers, lockers and bicycle racks provided at the developer's expense.

4. ASSESSMENT OF THE MERITS OF THE DRAFT PLANNING AGREEMENT

4.1 The planning purposes served by the Draft Planning Agreement.

Identify relevant legislative/policy objectives and how the VPA achieve the objective.

The policy objectives are to enable the provision of community facilities in a manner which provides flexibility. In this development, the community will obtain streetscape facilities substantially exceeding those required under the Existing Consent which improve the amenity of adjoining lands in exchange for the increase in FSR.

4.2 How the Draft Planning Agreement promotes the objects of the *Environmental Planning and Assessment Act* 1979.

Environmental, Social and Economic Planning principles are observed by encouraging higher use of public transport, incorporating the principles of "Safer by Design" and adapting to the changing layout needs of commercial and high-tech industries.

4.3 How the Draft Planning Agreement promotes the public interest.

The additional FSR will facilitate the reduction in car parking spaces, provision of 100 bicycle storage spaces, retain the fully secure nature of the development and open plan flexible spaces.

4.4 For planning authorities:

4.4.1 **Councils - How the Draft Planning Agreement promotes the elements of the Council's charter.**

The following is a summary of the Planning Agreement in terms of the relevant elements of Council's Charter under the terms of Section 8 of the Local Government Act 1993.

A To provide adequate, equitable and appropriate services and facilities for the community and to ensure that those services and facilities are managed efficiently and effectively.

The Planning Agreement will result in the provision of Streetscape amenities unifying areas within the Macquarie Bank Park Corridor substantially exceeding those required under the Existing Consent.

B To exercise community leadership.

The Planning Agreement will enable Council to show leadership by facilitating the establishment of vital community infrastructure required for the planned intensification of development in the Macquarie Park Corridor in an efficient and cost effective manner.

C To promote and provide for children's needs.

[Not addressed]

D To properly manage, develop, enhance and conserve the environment in a manner consistent with and promoting the principles of ecologically sustainable development.

The building as proposed to be altered and as approved by successive historic Development Consent will achieve 5 star Greenstar and ABGR ratings and provide leadership in sustainable commercial development design.E To have regard to the long term and cumulative effects of Council's decisions.

The Planning Agreement is consistent with the approach taken by Council in relation to the establishment of the infrastructure planned and required to service the Macquarie Park Corridor in accordance with contemporary planning strategies that have been adopted by the State Government and Council for a greater intensity of development in the Corridor.

F To keep the local community informed about its activities.

Council is to conduct a community consultation program prior to entering into the Planning Agreement.

This will ensure that the community is well informed of the Agreement and will enable Council to consider any matters which may be raised during that program prior to entering into any Agreement.

G To ensure that Council acts consistently and without bias, particularly where an activity of Council is affected.

The Planning Agreement is consistent with the approach taken by Council in relation to the establishment of the infrastructure planned and required to service the Macquarie Park Corridor in accordance with contemporary planning strategies that have been adopted by the State Government and Council for a greater intensity of development in the Corridor.

4.4.2 **All Planning Authorities — Whether the Draft Planning Agreement conforms with the Authority's Capital Works Program.**

Council does not have a specific Capital Works Program for works to be carried out to provide the infrastructure planned and required to service the Macquarie Park Corridor in accordance with contemporary planning strategies that have been adopted by the State Government and Council for a greater intensity of development in the Corridor.

The works proposed in the Planning Agreement do not rely on any expenditure by Council on off-site works to facilitate them.

In this context, the proposed works resulting from the Planning Agreement:

- are self-contained in the redevelopment of the land; and
- would not effect Council's Capital Works Program.

5. THE IMPACT OF THE DRAFT PLANNING AGREEMENT ON THE PUBLIC OR ANY SECTION OF THE PUBLIC

5.1 The Planning Purposes Served by the Draft Planning Agreement

The planning purposes served by the Planning Agreement include:

- meeting the demands created by the development for new and enhanced public amenities and public facilities;
- securing on and off-site benefits for the wider community so that the development subject of the application delivers net community benefits in terms of:
- establishing part of an open space network in this locality to provide a linked open space system which will be in public ownership;
- embellishing the proposed public open space to meet community needs and standards; and

- Not Used;

- the revitalisation of development in this locality in accordance with the contemporary town planning principles incorporated into the Ryde Planning Scheme by virtue of Ryde Local Environmental Plan No.137 which was made on 20 January 2006;

- increasing local employment opportunities in proximity to the railway station to be established on the Epping Chatswood Rail Link at the intersection of Herring and Waterloo Roads; increasing potential public transport patronage and subsequently maximising the benefit of public expenditure on transport systems in the Macquarie Park Corridor; and

- promoting investment in the Macquarie Park Corridor in accordance with State and Local Government economic development goals and providing a catalyst for accelerated development in the Corridor.

5.2 **How the Draft Planning Agreement Promotes the Objects of the Environmental Planning and Assessment Act 1979**

The Planning Agreement will promote the following objects of the Act:

- The promotion and co-ordination of orderly economic development.

  The Planning Agreement contributes to the continued development of the Macquarie Park Corridor in accordance with State and Local Government economic development goals and the contemporary town planning principles incorporated into the Ryde Planning Scheme by virtue of Ryde Local Environmental Plan No.137.

  The Planning Agreement will enable the land to be developed in a timely and efficient manner to promote economic development and employment opportunities.

- Not Used

- Ecologically sustainable development

  The Planning Agreement will result in the construction of an employment complex with high Ecological Sustainability Initiatives which will minimise energy and water consumption in accordance with accepted community standards.

- Increased opportunity for public involvement and participation in planning

  The Planning Agreement is to be publicly exhibited with comments invited from the public. The -Agreement can only be entered into subject to public participation.

5.3 **How the Draft Planning Agreement Promotes the Public Interest**

The public interest is served by outcomes that deliver State and Local Government policy outcome including:

- delivery of public infrastructure in terms of components of open space and stormwater drainage networks free of cost to the local community;
- delivery of increased employment opportunities for local residents;
- delivery of increased patronage of public transport systems serving the Macquarie Park Corridor;
- delivery of the development outcomes sought by:
- the Ryde Planning Scheme;
- Ryde Local Environmental Plan No.137;
- the Macquarie Park Corridor Master Plan; and
- draft Development Control Plan No.55 Macquarie Park Corridor; and
- contribution to the delivery of elements of the NSW State Government's metropolitan strategy as enunciated in *City of Cities 2096.*

Signed and dated by all parties

Schedule 1

Reference Schedule

Item	Name	Description
1.	Developer's Name	Lipman Properties Pty Ltd
2.	Developer's Representative	Wal Richardson
3.	Land	Lot 6 DP 1046092 shown on the attached plan at Attachment A.
4.	Development	Not used.
5.	Monetary Contribution	Not used
6.	Dedicated Land	Not used
7.	Public Benefits	Not Used
8.	Guarantee Amount	Not Used
9.	Public Liability Insurance	Minimum $20 million
10.	Notices	
	Council	
	Attention	~~Troy Loveday~~ Michael Whittaker
	Address	1 Devlin Street, Ryde, NSW
	Fax Number	9952 8070
	Developer	
	Attention	Wal Richardson
	Address	Level 6, 66 Berry Street, North Sydney, NSW, 2060
	Fax Number	9955 3166

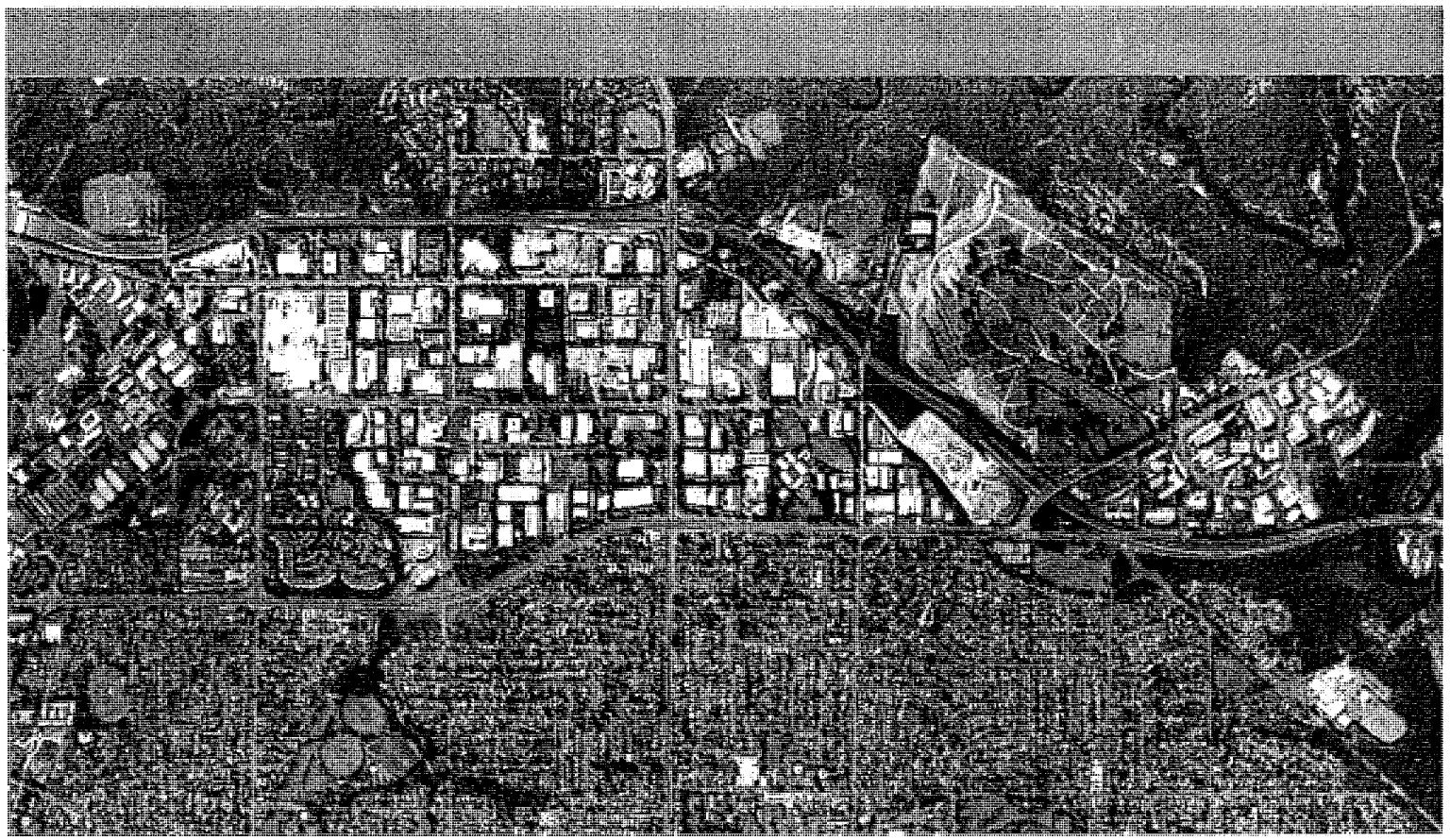
Schedule 2

Plan


HERRING RD
WATERLOO RD
PRIVATE RD
LACHLAN AV
PEACH TREE RD
COTTONWOOD CR
© RPData Lt

Schedule 3

Draft Public Domain Technical Manual



MACQUARIE PARK

Public Domain Technical Manual

City of Ryde

Draft

13th November2007

5.0 Technical details: lighting
5.1 Lighting type 1: overview
5.2 Lighting type 1: typical street lighting
5.3 Lighting type 2: typical street lighting
5.4 Lighting type 3: typical park and open space lighting

6.0 Technical details: signage
6.1 Typical signage: overview
6.2 Typical signage: types

7.0 Technical details: street trees and planting
7.1 WSUD pit with grate
7.2 WSUD pit with planting
7.3 Standard pit with planting
7.4 Turf/ planted verge
7.5 Central median
7.6 Linear swale: plan
7.7 Linear swale: section
7.8 Park tree planting

Above: Context plan

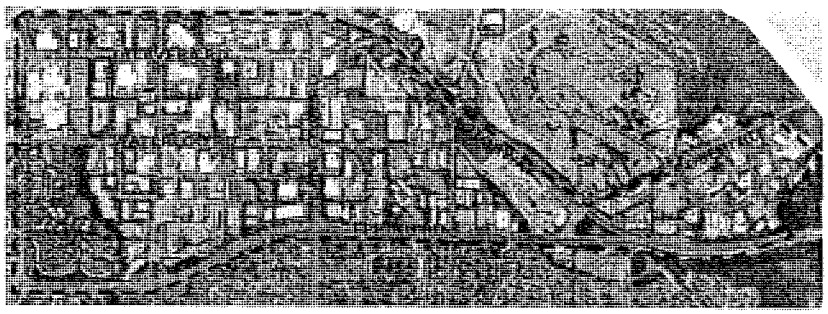
1.1 Purpose

This document has been produced in conjunction with the *Development Control Plan- Macquarie Park Corridor no. 55* prepared for the City of Ryde Council by Allen Jack and Cottier Architects in collaboration with Aspect Studios and Stephen Collier Architects.

The purpose of this manual is to provide urban design guidelines and information to assist developers and council in constructing public domain works.

This manual applies to all development in the area covered by the *Macquarie Park Corridor Development Control Plan No 55.*

1.2 Use of the manual



Above: Aerial photo: study area

The manual comprises the following sections;

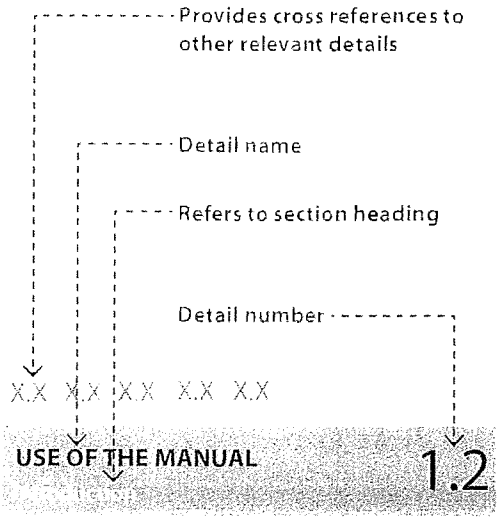
Section 1
Overview
Section 1 provides a general discussion of the public domain including key objectives and strategies for paving, street trees, furniture and fixtures.

Section 2:
Typical arrangement
Section 2 provides information regarding the typical arrangement of streets with reference to streetscape elements including lighting, furniture, signage and street trees.

Section 3
Technical details
Sections 4 through 8 provides technical details for all public domain elements including;

- 3.0 Hardworks
- 4.0 Furniture and fixtures
- 5.0 Lighting
- 6.0 Signage
- 7.0 Street trees and planting

These details are intended to be used as guidelines to assist in the specification and construction of public domain works.



1.3 Overview: Paving

A consistent palette of paving materials creates a seamless public domain. The strategy for materials is to create a clear coherent public domain structure that provides a unified, recognisable character. Priority roads and streets associated with public open spaces have been treated with paving treatments that reflect their role and significance. The paving treatment on streets responds to their specific character, location and scale. All paving materials have been selected for their durability, and are robust and easy to maintain.

Key objectives of the paving strategy is to;

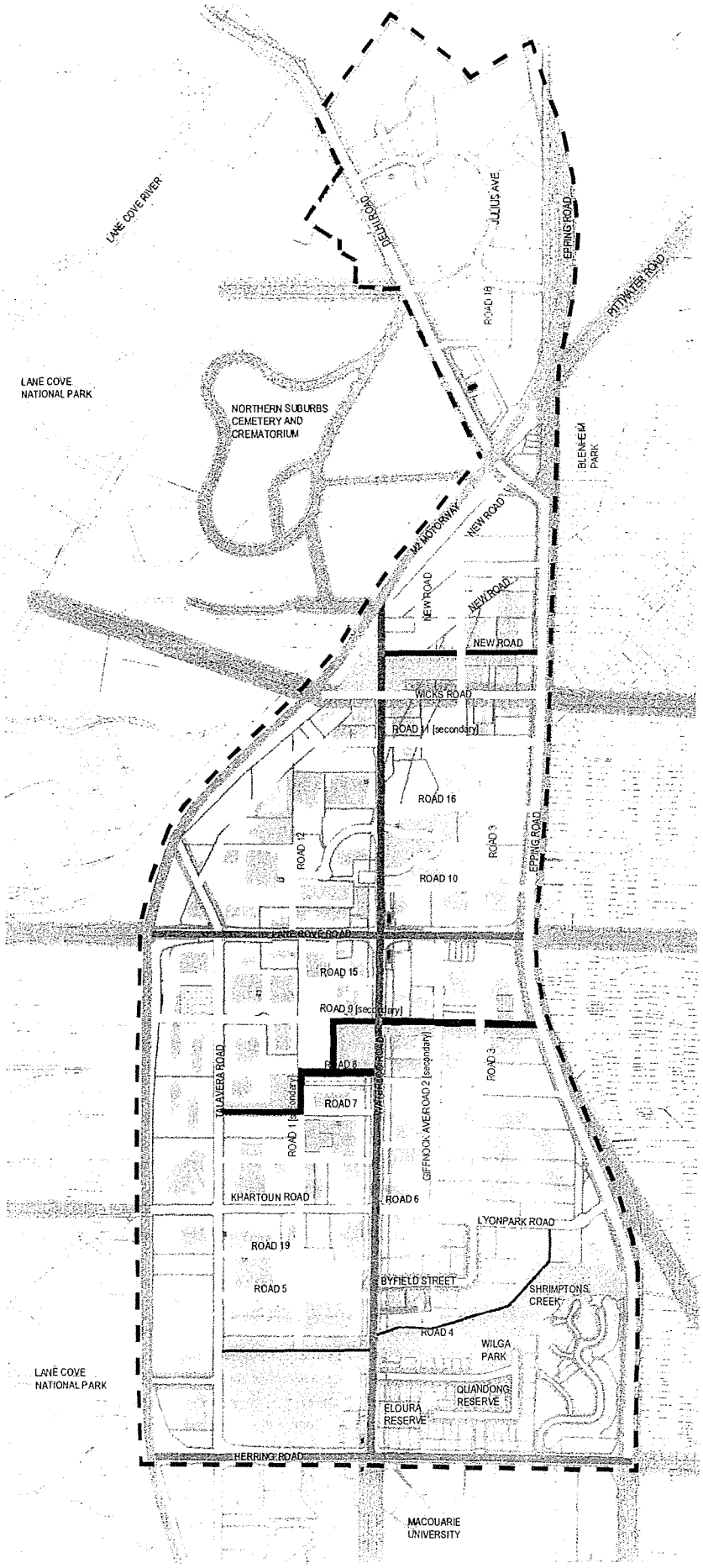
- Create a public domain that is visually seamless and unified
- Utilise materials with a consistent colour and finish to create a visually consistent ground plane
- Achieve environmental objectives in accordance with DCP 55
- Utilise robust and durable materials

The Public Domain Technical Manual identifies three paving types. These categories are;

- Paving Type A: Stone paving
  This paving is nominated on the central civic spine of Waterloo Road reflecting its scale and importance as a primary pedestrian route. This paving type is also nominated for Lane Cove Road and Herring Road.
- Paving Type 2 : AC + stone
  This paving treatment is nominated on internal roads and streets, reflecting their intimate scale, location or pedestrian use. The materials have been carefully selected to ensure that colours match adjoining Type A pavements. the objective is to create a seamless and visually coherent interface to adjoining pavements.
- Paving Type 3: Concrete unit paving
  This paving treatment is nominated for significant smaller streets adjacent to parks and to achieve environmental sustainability principles adopted for the town centre.

Paving and finishes: public open space
Finishes in parks and public open spaces should be consistent with streetscape materials. Continuity in materials is critical for internal park pathways that connect to external footpaths. Specific treatments for public open space can be incorporated, with an emphasis on durability and simplicity. Where possible, porous and permeable materials should be used.

Detailed descriptions of paving types are discussed in Section 3.0.



Above: Paving, materials and finishes key plan
N.T.S

Key>

Streetscape materials: Paving type A
2.2 Waterloo Road
2.6 Lane Cove Road
2.8 Herring Road

Streetscape materials: Paving type B
2.4 Local Road network
2.7 Epping Road

Streetscape materials: Paving type C
2.5 Roads adjacent to parks

3.0

1.4 Overview: Street tree planting

A overall strategy for new street tree planting is based on the endemic vegetation palette. The use of endemic tree species enables a 'reading' of the geology and topography. This strategy allows for creation of bio-links and canopy connections to existing vegetation communities and to Lane Cove National Park.

The existing vegetation in the corridor consists of remnant vegetation communities, trees in parks and street trees. The Lane Cove National Park supports the majority of the remnant vegetation. The communities include *Sydney Sandstone Gully Forest* to the lower areas on the river, and higher up the hillside, *Sydney Sandstone Ridge-top Woodland.*

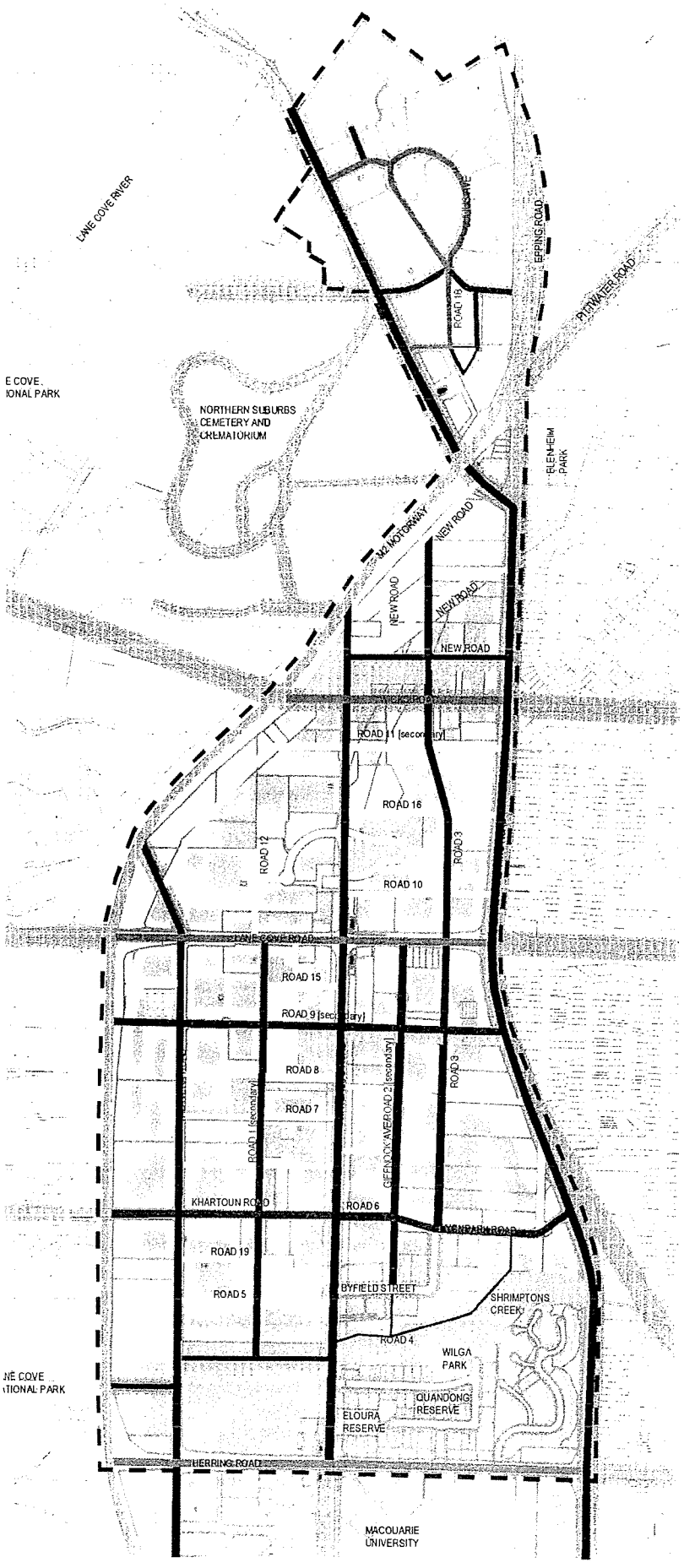
Planting strategies using endemic species aid in minimising weed infestation down-stream in the Lane Cove National Park.

Key objectives of the street tree planting strategy is to;

- Reflect and respond to the local environment through use of endemic species
- Utilise species that are of an appropriate scale and form and respond to their local context
- Recognise the role of street trees in habitat creation and provide bio-links and connections
- Create signature gateway planting on key streets by utilising large scale endemic or native tree species
- Utilise native and exotic species on smaller scale to streets to provide colour and variety

Street Trees from each community include;

Blue Gum High Forest
(Eucalyptus saligna, Eucalyptus pilularis)
Turpentine- Ironbark Forest
(Eucalyptus paniculata, Syncarpia glomulifera, Eucalyptus globoidea, Eucalyptus resinifera, Eucalyptus punctata, Angophora costata
Shale/ Sandstone Transition Forest
(Eucalyptus saligna, Angophora bakeri, Eucalyptus punctata, E. pilularis)
Sydney Sandstone Ridgetop Woodland
(Eucalyptus haemastoma, Eucalyptus racemosa)
Sydney Sandstone Gully Forest
(Eucalyptus pilularis, Eucalyptus saligna, Syncarpia glomulifera, Eucalyptus resinifera, Eucalyptus paniculata, Ceratopetalum apetalum)



Above: Street tree planting key plan
NTS

The following provides guidelines and suggested species for street tree planting. All street tree species are to be confirmed by council's arborist.

Key>

Waterloo Rd, Delhi Rd, Epping Rd, Talavera Rd
-Indigenous, evergreen species, high canopied, light/ white trunck, large scale to mark road as major boulevard
- Suggested species: *Corymbia maculata, Eucalyptus saligna*

Giffnock Ave, Roads 1, 2 and 3
-Indigenous, open canopied, evergreen tree.
- Suggested species: *Angophora floribunda, Angophora costata*

Khartoum Rd, Lyonpark Rd, Road 6, Road 9, Rivett Road, Newbigin Cl, Richardson Pl.
-Indigenous, high canopied, evergreen tree.
- Suggested species: *Eucalyptus punctata, Eucalyptus microcorys*

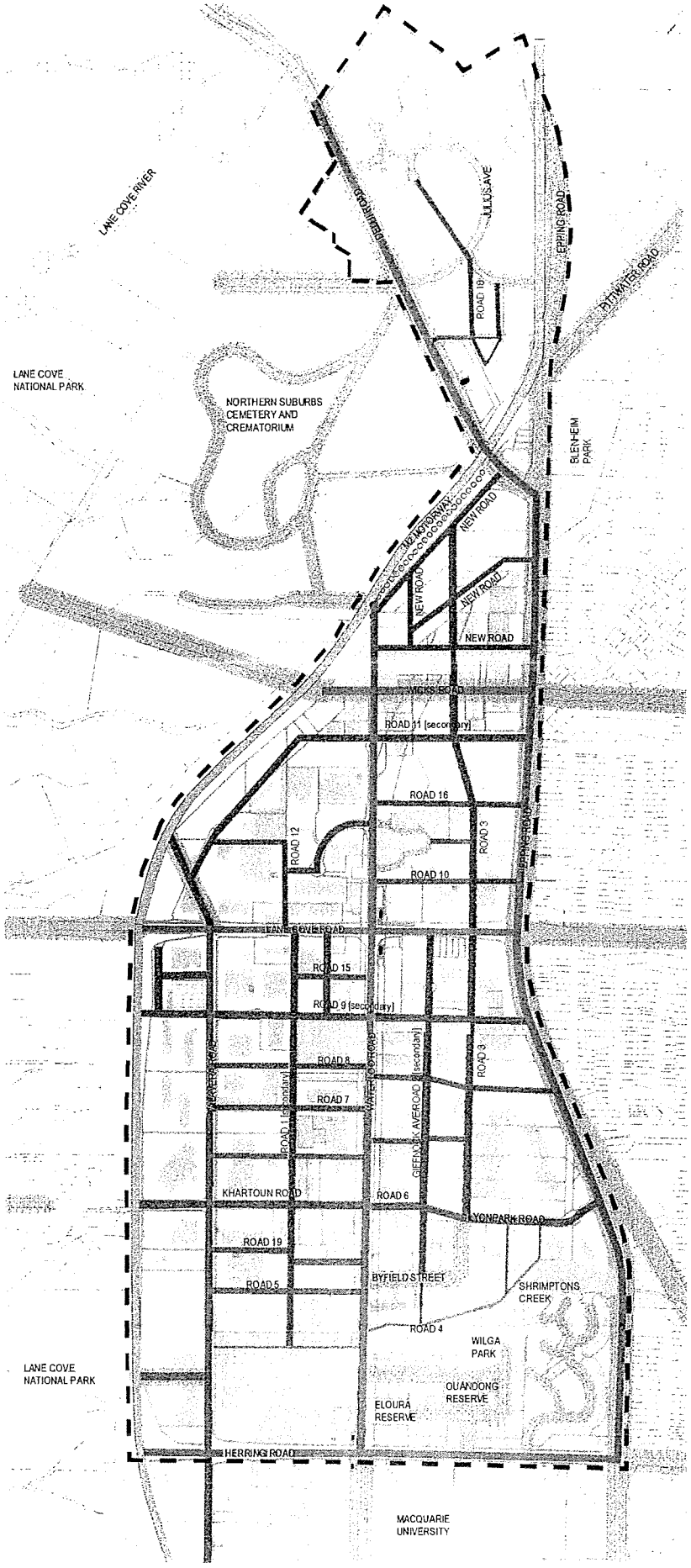
Herring Rd, Lane Cove Rd
-Native, hardy, evergreen tree.
- Suggested species:*Eucalyptus microcorys, Lophostemon confertus*

Roads 5, 7, 8, 10-16, 19, 'new roads', Byfield St, Cottonwood Cr, Lachlan Ave, Windsor Dr, Ivanhoe Pl, Peach Tree Rd, Wilcannia Way, Nyngan Way, Cobar Way, Narrowmine Way, Thomas Holt Dr
-Medium scale tree, mix native/ non-native, species should continue along the entire length of the street
- Suggested species:*Tristania laurina, Glochidion ferdinandii, Lophostemon confertus*

Road 4, Alma Rd
-Indigenous, broad branching, open canopied, evergreen tree.
- Suggested species:*Angophora floribunda*

Wicks Rd, Road 18, Julius Ave
-Indigenous, light canopied, evergreen tree.
- Suggested species:*Angophora costata*

7.0



Above: Lighting key plan
NTS

1.5 Overview: Lighting

Street lighting to streets incorporate signage and traffic control devices. Sustainable energy use is a key objective of the *Macquarie Park Corridor Development Control Plan 55.* Opportunities for installation of solar collectors on parkland infrastructure such as shade canopies and building roofs in public and private open space should be investigated and implemented. Energy generated should be directed into existing power grid in accordance with energy suppliers requirements, with contributions directed into public domain energy use.

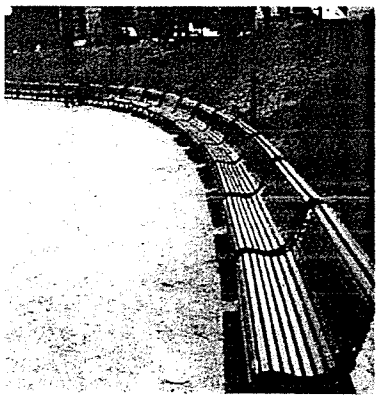
Key>

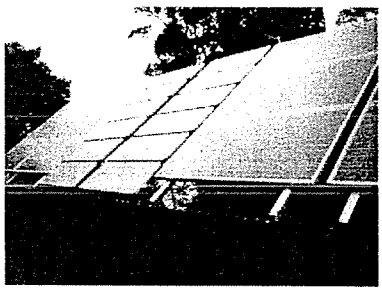
LT1 Smart Pole Type: S1A 9.6 high
Luminane category: V3 (main roads)
P3 Luminare type

LT2 Smart Pole Type: S1B 9.6 high
Luminane category: V5 (minor roads)
P2 Luminare type

LT3 Smart Pole Type: S2D 5.0 high
Luminane category: V5 (minor roads)
P3 Luminare type

5.0





1. Generous seating

2. Solar Panels

3. Smart Pole

1.6 Overview: Street furniture + fixtures

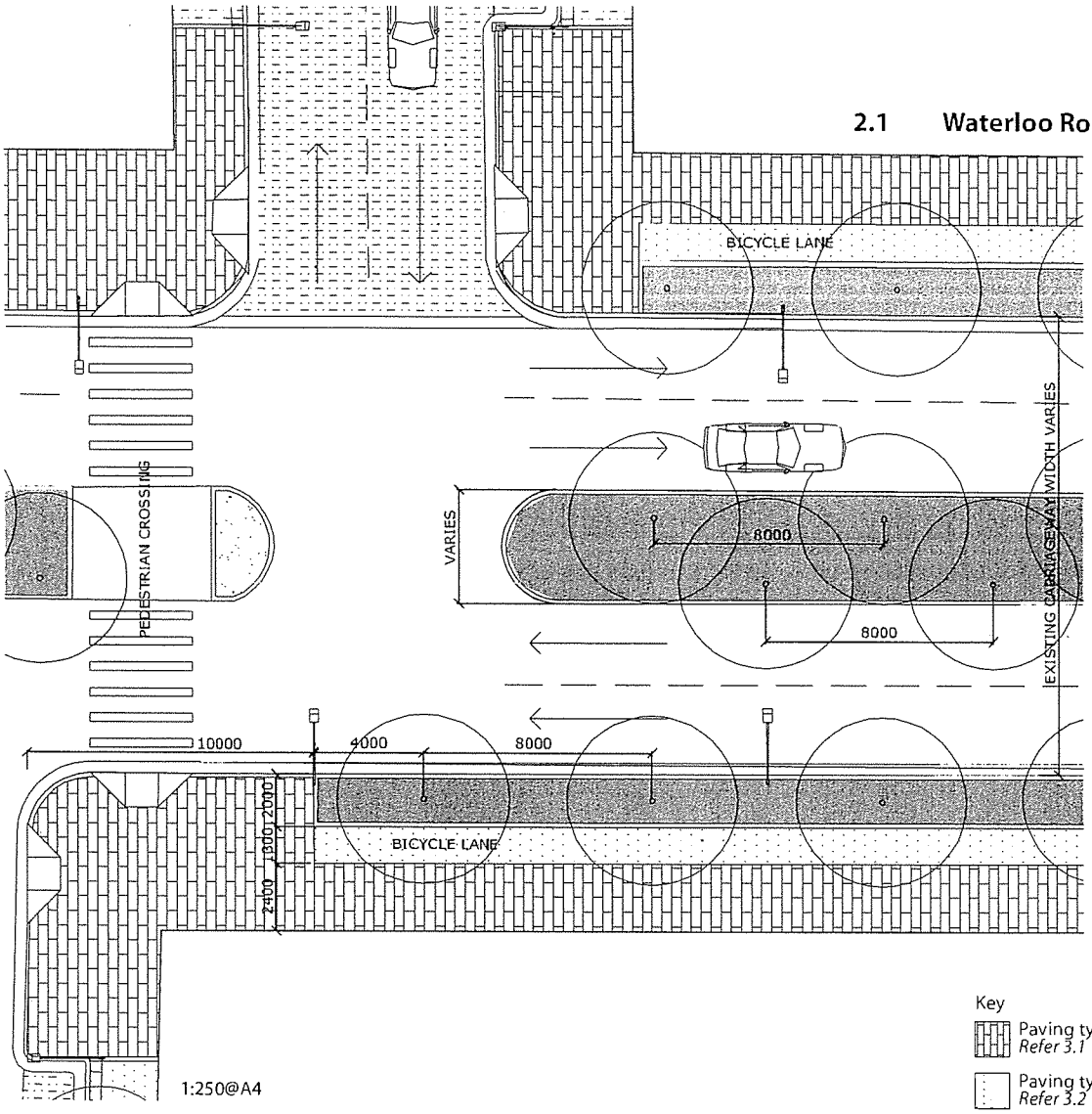
Street furniture has been located in strategic locations in accordance with high pedestrian activity zones. Street furniture should reflect the high quality and innovative industries located in Macquarie Park. The technical manual provides a specific range of furniture and lighting elements for the town centre. Consistent furniture types are to be installed regardless of the staging of developments or streetscape works.

Custom designed and site specific furniture should be incorporated where appropriate into key open spaces. These elements should be designed to be robust and with a simple uncluttered profile. Materials should be selected that respond to the palette of public domain materials

2.0
Typical arrangement

The following section provides guidelines for the correct placement and configuration of urban elements including street furniture, lighting and street trees in the public domain.

2.1 Waterloo Road



Key

- Paving type A: Stone paving *Refer 3.1*
- Paving type B: AC + Stone paving *Refer 3.2*
- Paving type C: Permeable unit paving *Refer 3.3*
- Planting *Refer 7.0- Street Trees + Planting*

Paving
- Minimum 2.4m wide footpath adjacent to property line.
- 1.3m wide off-road bicycle path located between footpath and carriageway.

Lighting
- Located with adequate clearance from street trees.
- Underground power cables to ensure adequate street tree canopy spread.
- Face of pole set back 600mm from back of kerb.
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating + Site furniture
- Location limited to entrances to train stations and at bus stops, and within park/ plaza boundaries.

Bins
- Bin location associated with seating and at entrances to community centres, parks, bus stops and train stations.

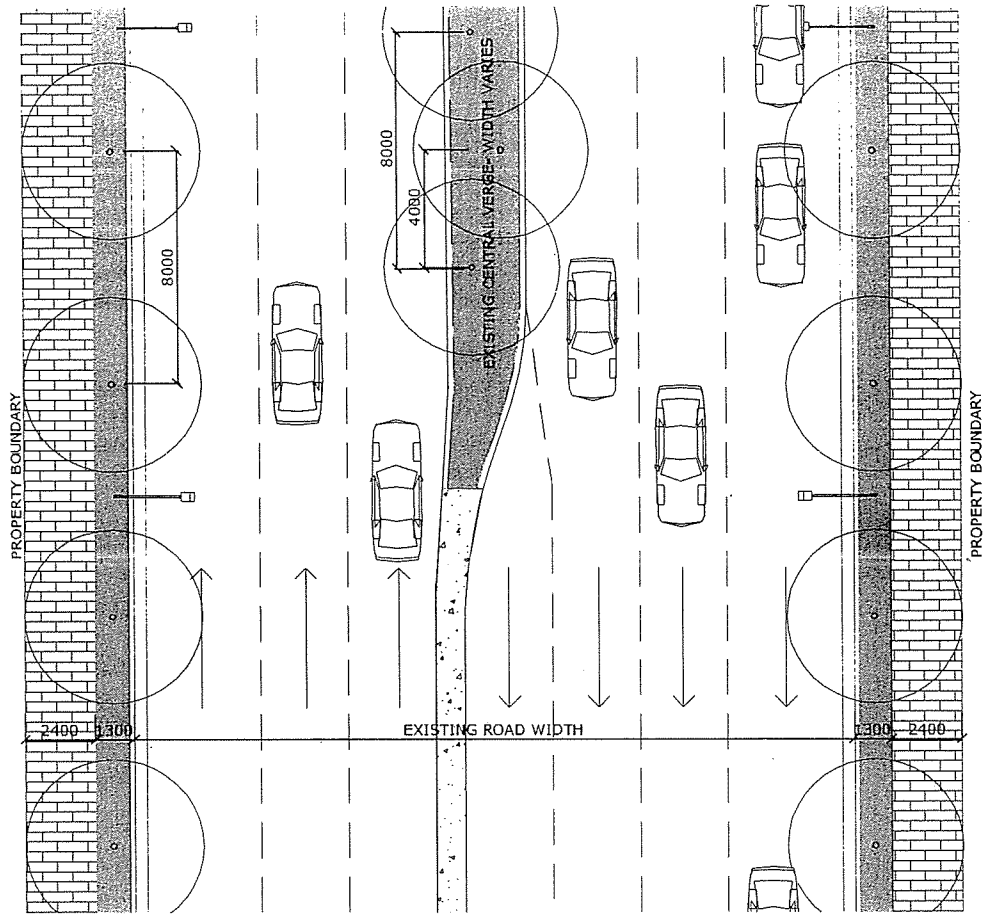
Bike racks
- Bike racks located at specific entries to facilities including bus stops, train stations, parks, community centres.

Signage
- Incorporate signage and traffic control devices into light columns.

Street trees
- Native species, located at equal spacings, centred in 2000mm wide street verge.
- Native species, double row, located within central verge.

Stormwater
- Inlet pits to street trees.

2.2 Lane Cove Road



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Key

Paving type A: Stone paving
Refer 3.1

Planting
Refer 7.0- Street Trees + Planting

Paving
- Minimum 2.4m wide footpath between carriageway and building properties.
- Provide 1.3m wide verge for street tree planting.

Lighting
- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating
- At bus stops only.

Bins
- Location associated with seating.

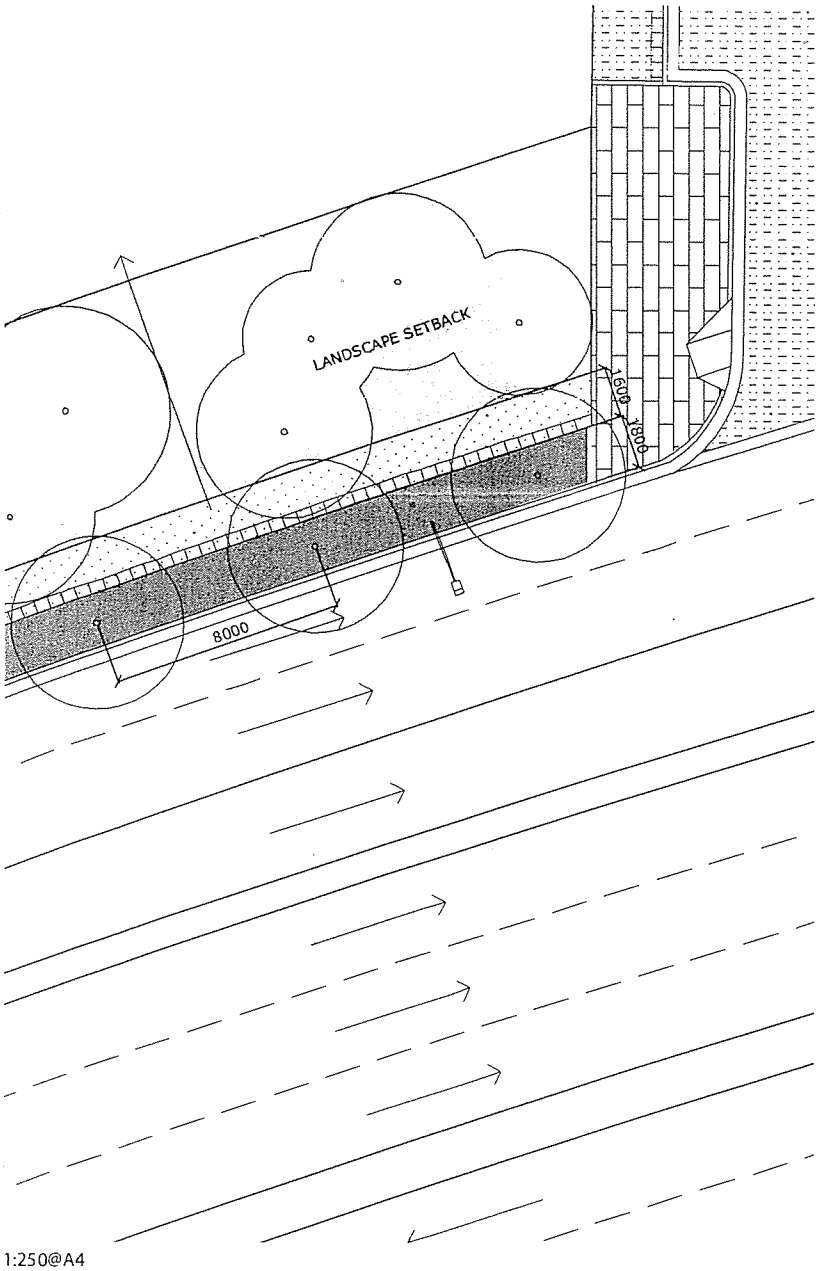
Signage
- Incorporate signage and traffic control devices into light columns.

Street trees + planting
- Native species, located at equal spacings, centred in 1.3m wide street verge.
- Native species, double row, located within central verge with mass planted understory; *subject to authority requirements.*

Stormwater
- Investigate opportunities for redirection, filtration and retention.

3.1 3.5 4.0 5.0 6.0 7.4 7.5

2.3 Epping Road



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Key

- Paving type A: Stone paving *Refer 3.1*
- Paving type B: AC + Stone paving *Refer 3.2*
- Paving type C: Permeable unit paving *Refer 3.3*
- Planting *Refer 7.0- Street Trees + Planting*

Layout principles

Epping road is a primary road, with high levels of traffic. Currently pockets of vegetation are evident at the Delhi Road junction, large trees are located sporadically along its length. A continuous set back and landscape planting treatment along Epping Road improves improved outlook and amenity to the perIphery of the town centre.

Paving
- Minimum 1.6m wide footpath between carriageway and building properties.
- Provide 1.8m wide verge for street tree planting.

Lighting
- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb.
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating
- At bus stops only.

Bins
- Location associated with bus stops.

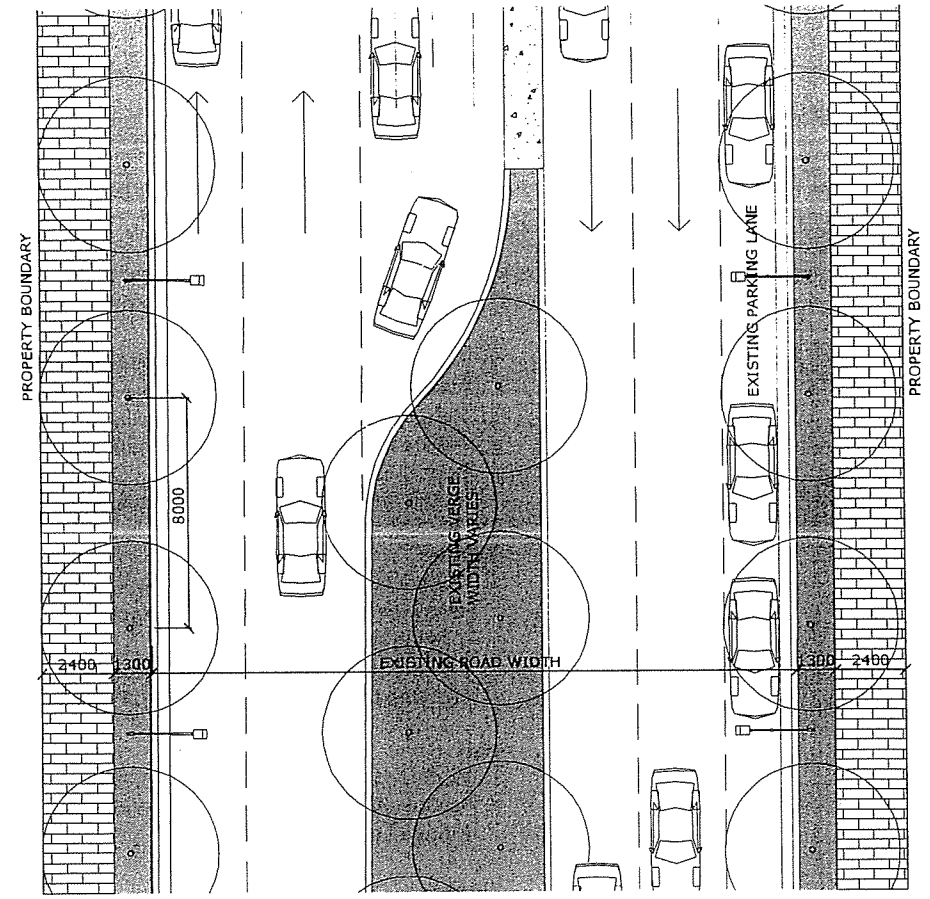
Signage
- Incorporate signage and traffic control devices into light columns.

Street trees
- Native species, located at equal spacings centred in 1.8m wide verge, continuous along street length.
- Landscape frontages with substantial tree planting of large endemic trees, achieving minimum mature height of 12m, planted in staggered arrangement at 6-8m centres.

Stormwater
- Investigate opportunities for redirection, filtration and retention.

3.2 3.5 4.0 5.0 6.0 7.4

2.4 Herring Road



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Key

Paving type A: Stone paving
Refer 3.1

Planting
Refer 7.0- Street Trees + Planting

Paving
- Minimum 2.4m wide footpath between carriageway and building properties.
- Provide 1.3m wide verge for street tree planting

Lighting
- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb.
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating
- At bus stops only.

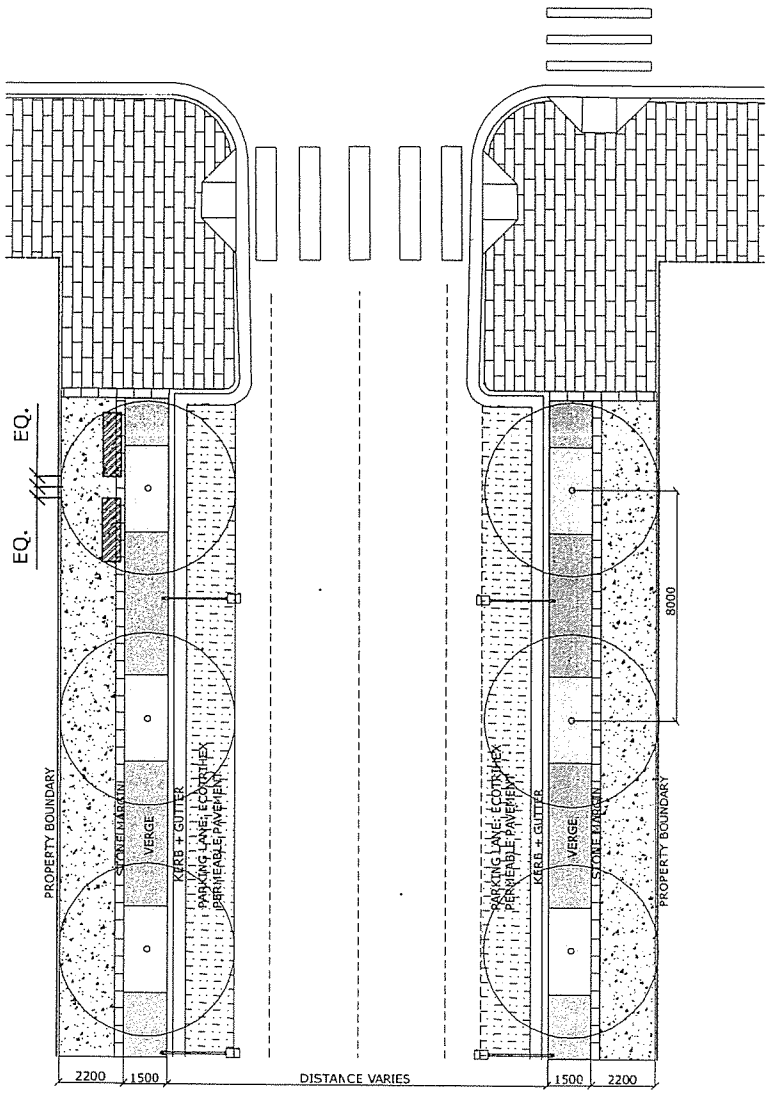
Bins
- Location associated with bus stops .

Signage
- Incorporate signage and traffic control devices into light columns.

Street trees
- Native species, located at equal spacings, centred in 1.3m wide verge.
- Native species, double row, located within central verge.

Stormwater
- Investigate opportunities for redirection, filtration and retention.

2.5 Secondary Streets



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Paving
- Minimum 2.2 m wide footpath between carriageway and lot boundaries.
- Paving type varies. Refer to paving plan for selected materials

Lighting
- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating
- Located in pairs on street either side of street tree with adequate clearance access from parking spaces.
- Seats located at minimum 200m intervals, at bus stops, train stations and drop off points.

Bins
- Location associated with seating and at entrances to community centres, parks, bus stops and train stations.

Signage
- Incorporate signage and traffic control devices into light columns.

Street trees
- Street trees, located at equal spacings, along street length.
- Street trees in verge

Stormwater
- WSUD inlet pits with planting on new streets
- WSUD inlet pits with grate on new streets

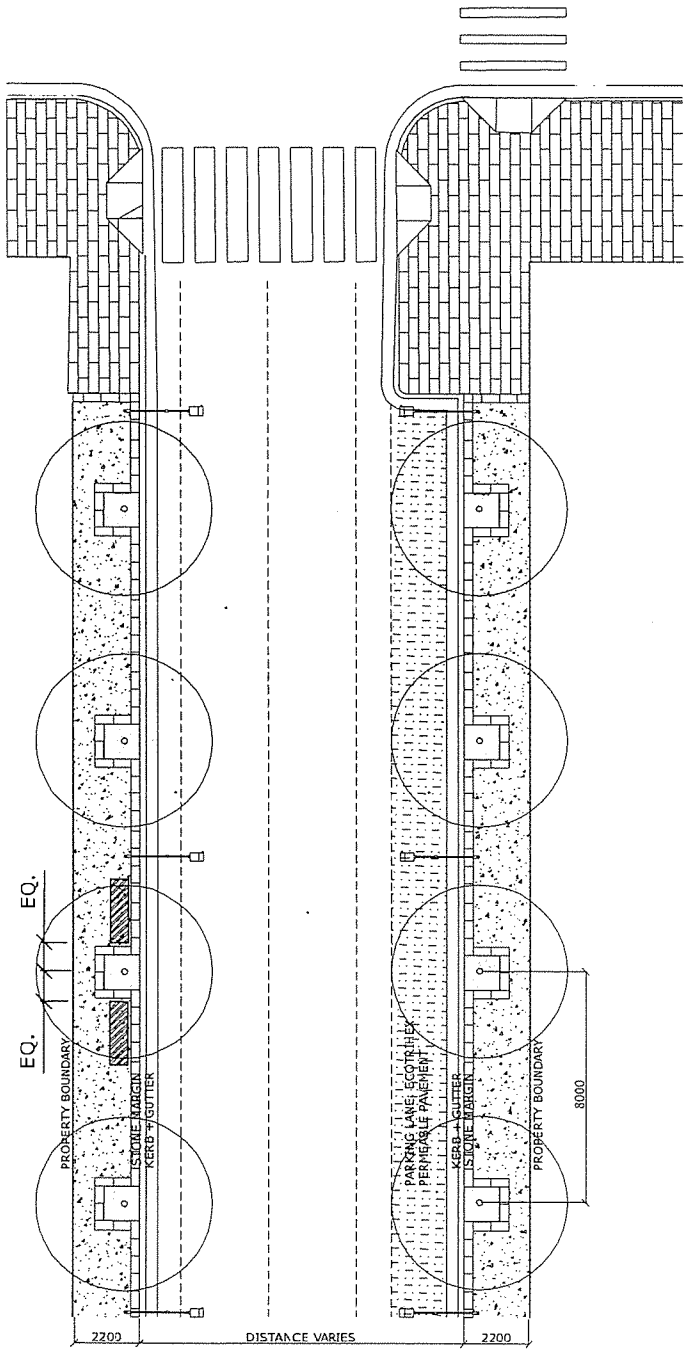
Key

Paving type A: Stone paving
refer 3.1

Paving type C: Permeable unit paving
refer 3.3

Pavement type varies
refer paving plan

Planting
refer 7.0- Street Trees + Planting



1:250@A4

Key

- Paving type A: Stone paving *refer 3.1*
- Paving type C: Permeable unit paving *refer 3.3*
- Pavement type varies *refer paving plan*
- Planting *refer 7.0- Street Trees + Planting*

2.6 Tertiary Streets

Paving

- Minimum 2.2m wide footpath between carriageway and building properties.
- Paving type varies. Refer to paving plan for selected materials

Lighting

- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb.
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating

- Located in pairs on street either side of street tree with adequate clearance access from parking spaces.
- Where street fronts parkland, seats to be located in linear groups of three to park edge.
- Seats located at minimum 200m intervals, at bus stops, train stations and drop off points.

Bins

- Location associated with seating and at entrances to community centres, parks, bus stops and train stations.

Signage

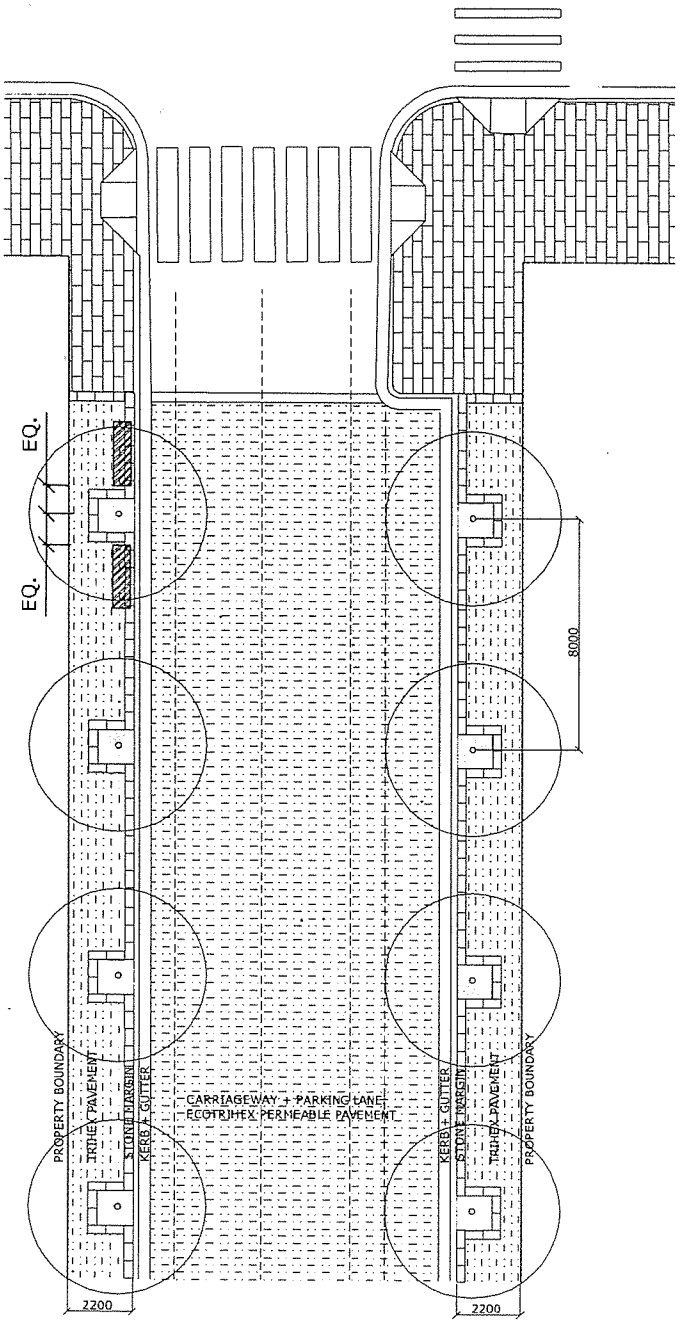
- Incorporate signage and traffic control devices into light columns.

Street trees

- Native species, located at equal spacings, and where possible align along street length.
- WSUD Inlet pits with planting on new streets
- WSUD Inlet pits with grate on new streets with high pedestrian volumes

Stormwater

- Inlet pits to street trees.
- Permeable paving on all parking bays and on carriageway for streets adjacent to parks (paving type 'C' streets)



1:250@A4

2.7 Small Streets

Paving
- Minimum 2.2m wide footpath between carriageway and building properties.

Lighting
- Located with adequate clearance from street trees.
- Underground cables to ensure good street tree canopy spread.
- Face of pole set back 600mm from back of kerb.
- Where possible, align light poles, and evenly space along length of street.
- Set out of lighting to authority requirements.

Seating
- Located in pairs on street either side of street tree with adequate clearance access from parking spaces.
- Where street fronts parkland, seats to be located in linear groups of three to park edge.
- Seats located at minimum 200m intervals, at bus stops, train stations and drop off points.

Bins
- Location associated with seating and at entrances to community centres, parks, bus stops and train stations.

Signage
- Incorporate signage and traffic control devices into light columns.

Street trees
- Native species, located at equal spacings, and where possible align along street length.
- WSUD inlet pits with planting on new streets
- WSUD inlet pits with grates on new streets with high pedestrian volumes

Stormwater
- Inlet pits to street trees.
- Permeable paving on carriageway, and parking bays.

Key

Paving type A: Stone paving
refer 3.1

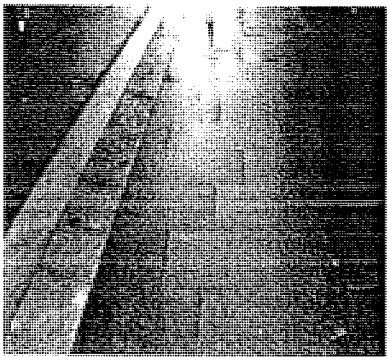
Paving type C: Permeable unit paving
refer 3.3

Pavement type varies
refer paving plan

Planting
refer 7.0- Street Trees + Planting

3.0
Technical details
Hardworks

The following section provides standard guidelines and specifications for all paving, stairs and wall designs for the public domain. This provides guidelines to direct the development of design and construction documentation.



1 2

3.1 Paving type A: Stone paving

General Overview + Specifications

Locations :
Waterloo Road
Herring Road
Lane Cove Road

Paving type
- Stone footpaths are to be utilised for selected roads signifying their prominence as key civic spaces and primary roads.
- AC concrete bicycle pathway along its length (Waterloo Road only)

Kerbs + gutters
- Precast concrete kerb + gutter
- Precast concrete kerb to traffic islands and traffic control elements
- Existing concrete kerbs and gutters to be upgraded with new works when existing kerb or gutter is in poor repair
- New pits to be installed as necessary

Material:
- Dark grey granite pavers- see list of suppliers below

Finish:
- Flame exfoliated finish
- Sealant to locations of high intensity cafe use (product) to manufacturer's specification

Unit/ Sizes:
- Refer to specific details.
- Thickness: 60mm

Installation/ construction:
- Pavers to be laid with mortar bedding on reinforced concrete slab.

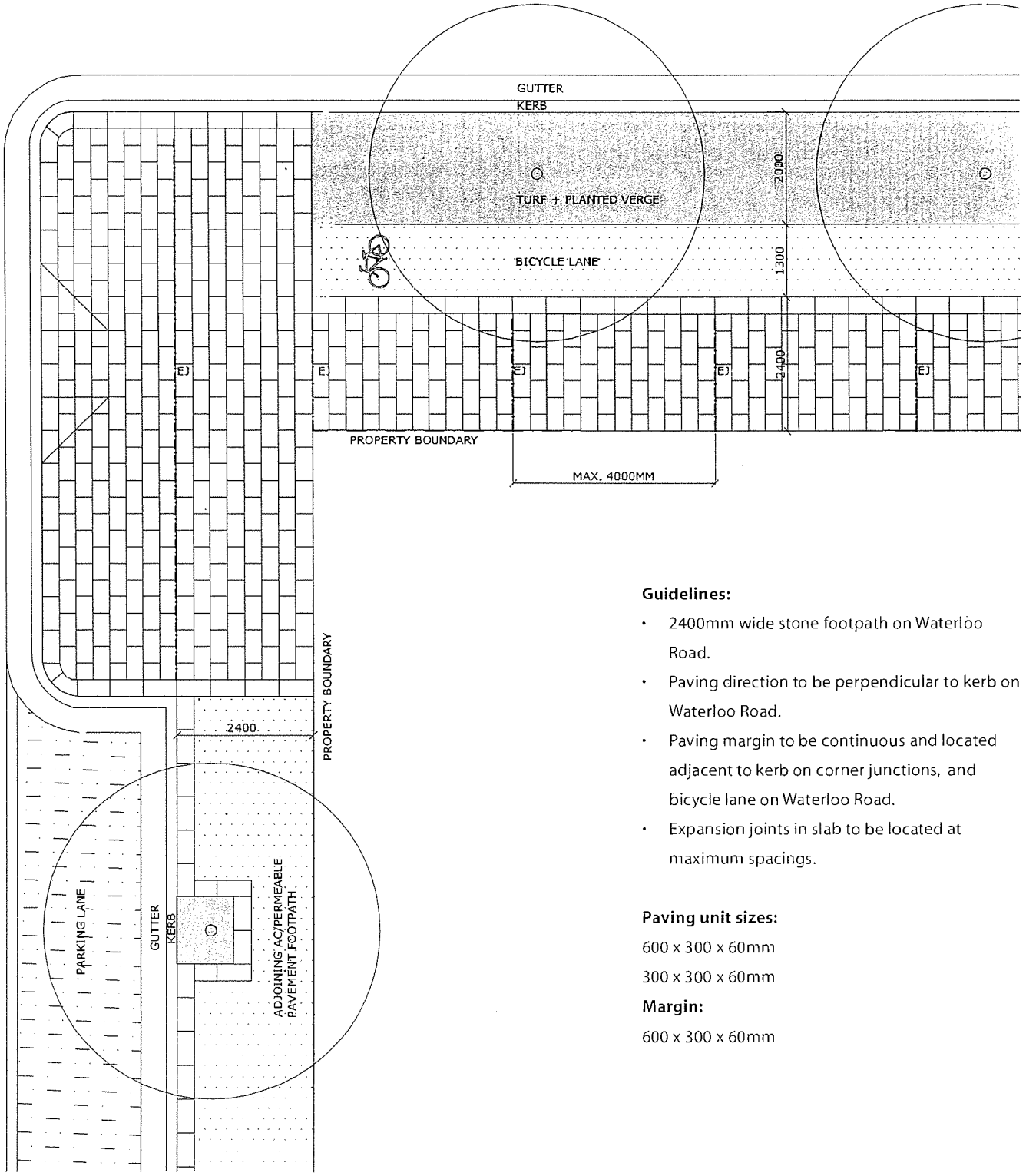
Maintenance:
- Clean as required. Re-exfoliate on site when required to maintain slip resistance.
- Replace broken stones and reinstate paving after works that require surface to be opened up. Match stone replacements with existing.

Suppliers:
- Cinajus: Jet Black (Basalt from China)
  ph 9521 1971- Scott
- United Stone: Diamond Black (Granite)
  ph 0417 240 319- Kevin Birks
- Sam the Paving Man: Raven Black (Granite)
  ph 9642 5666
- Granite Works: Nero or Aniseed (Granite)
  ph 02 6260 5755- Richard

1. Stone paving
(Sydney, Aspect Studios Image Library)
2. Stone paving and margin
(Waterloo, Aspect Studios Image Library)

3.1.1 Paving type A: Stone paving

General Arrangement: Waterloo Rd



Guidelines:

- 2400mm wide stone footpath on Waterloo Road.
- Paving direction to be perpendicular to kerb on Waterloo Road.
- Paving margin to be continuous and located adjacent to kerb on corner junctions, and bicycle lane on Waterloo Road.
- Expansion joints in slab to be located at maximum spacings.

Paving unit sizes:

600 x 300 x 60mm

300 x 300 x 60mm

Margin:

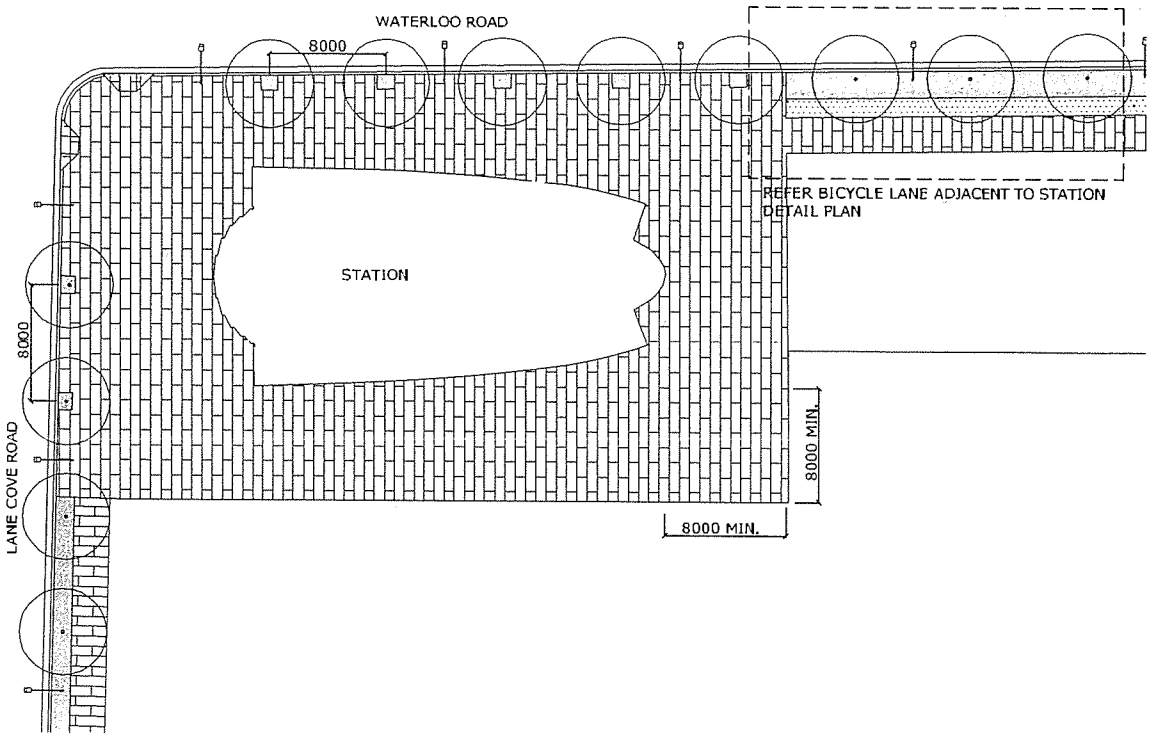
600 x 300 x 60mm

01- Typical overview
Plan 1:100

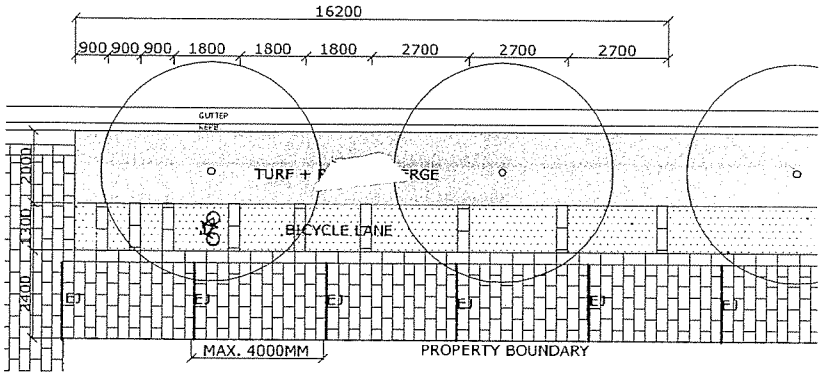
3.23 3.5 4.0 5.0 6.0 7.4

3.1.2 Paving type A: Stone paving

General Arrangement: Station entries



01- Station entry arrangement
Plan 1:500



02- Bicycle lane adjacent to station
Plan 1:200

Guidelines:

- 2400mm wide stone footpath on Waterloo Road.
- Paving direction to be perpendicular to kerb on Waterloo Road.
- Min 8m clearance around station. Bicycle lane and turf/ planted verge ends in line with 8m threshold.
- Street tree planting in tree pits adjacent to station.
- Provide bands of stone pavement in bicycle lane as shown to indicate bicycle lane at station precincts.

Paving unit sizes:

600 x 300 x 60mm

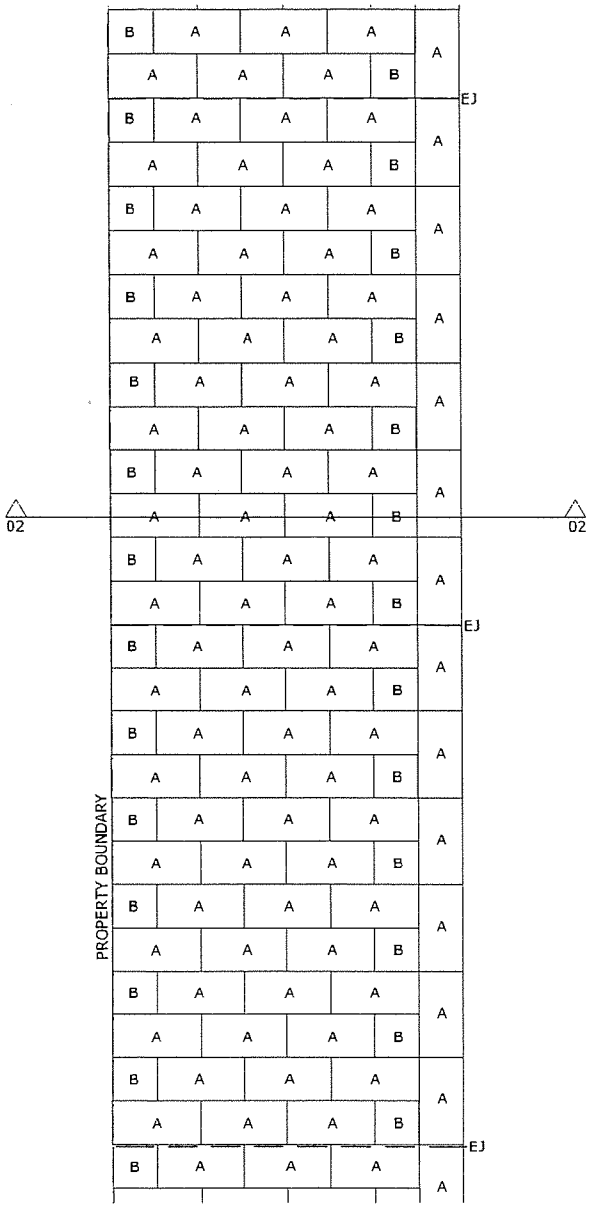
300 x 300 x 60mm

Margin:

600 x 300 x 60mm

EJ: Expansion joints- align with paving joints

3.23 3.5 4.0 5.0 6.0 7.1 7.4



01- Typical module layout
Plan 1:50

3.1.3 Paving type A: Stone paving

Typical paving layout

Guidelines:

- 2400mm wide footpath
- Expansion joints (EJ) to be located equally spaced in slab at max. 4m centres.
- Paving margin to run continuously adjacent to bicycle lane.

Paving unit sizes:

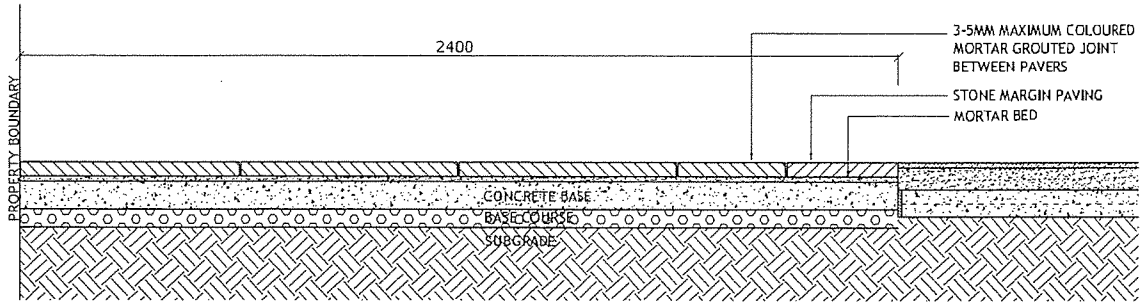
600 x 300 x 60mm

300 x 300 x 60mm

Margin:

600 x 300 x 60mm

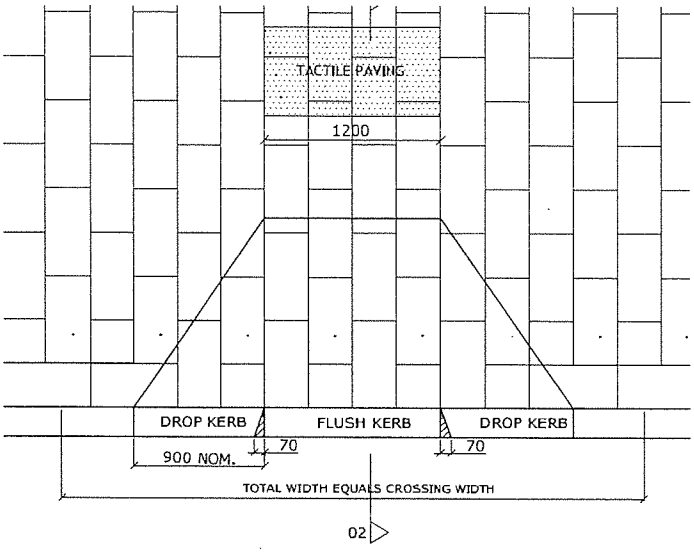
EJ: Expansion joints- align with paving joints



02- Typical module layout
Section 1:20

3.1.4 Paving type A: Stone paving

Pedestrian ramp



01- Stone paving pedestrian ramp
Plan 1:50

Guidelines:

- Nominal 900mm length to angled edges of ramp. Minimum 750mm where restricted by site conditions
- 1300mm length of ramp varies to site conditions. Maximum gradient 1:8.
- Chamfer edge of drop kerb to give smooth transition to flush kerb.
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.

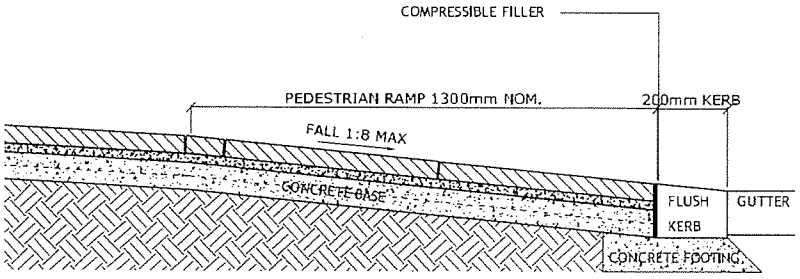
Paving unit sizes:

600 x 300 x 60mm

300 x 300 x 60mm

Margin:

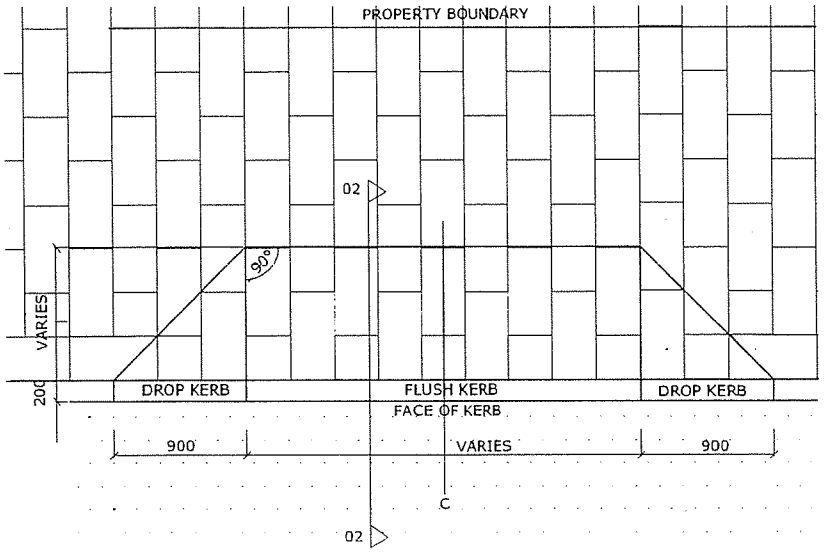
600 x 300 x 60mm



02- Stone paving pedestrian ramp
Section 1:20

3.1.5 Paving type A: Stone paving

Vehicular crossover



01- Stone vehicular ramp
Plan 1:50

Guidelines:

- Nominal 900mm length to angled wings of ramp. Minimum 750mm where restricted by site conditions
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.
- Extend pavement pattern through ramp.

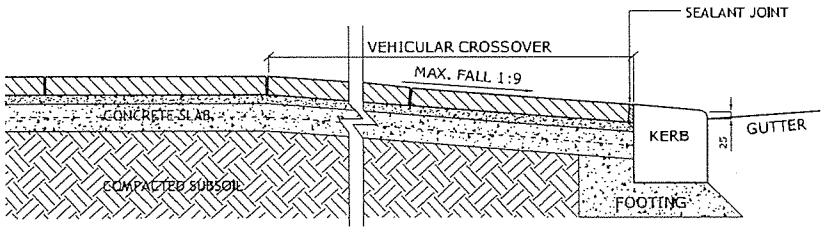
Paving unit sizes:

A- 600 x 300 x 60mm
(cut to fit where necessary)

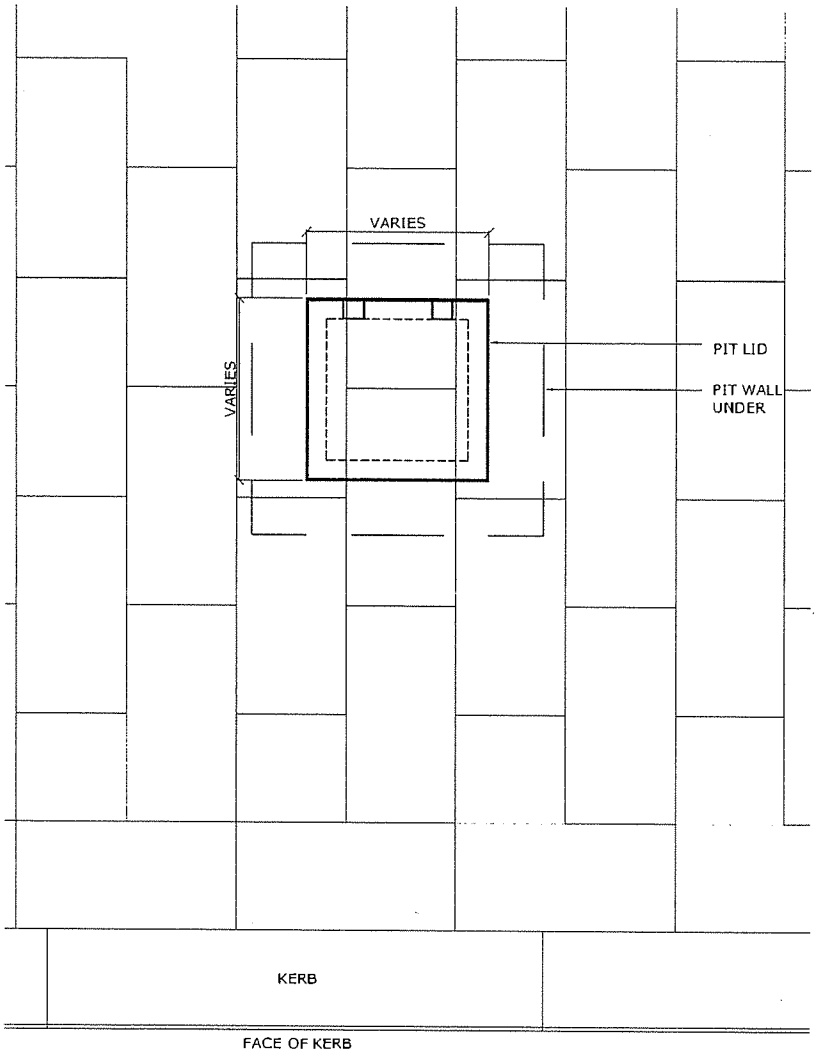
B- 300 x 300 x 60mm

Margin:

A- 600 x 300 x 60mm



02- Stone vehicular ramp
Section 1:20



01- Stone service pit infill lid
Plan 1:20

3.1.6 Paving type A: Stone paving

Service pit infill

Guidelines:

- Cut pavers to fit into metal lid to continue paving pattern.
- Location of pit cover in relation to paving pattern varies. Locate lid where possible to minimise small sections of paving.
- Pit lid size varies. Align frame with paving infill.

Above and right: AC footpaths at Pyrmont Point

3.2 Paving type B: AC + stone

General overview + specifications

Locations:
Epping Road, Talavera Road, Wicks Road, Lyon Park Road, Byfield Street, Khartoun Road, Delhi Road, Julius Avenue, Local road network

Paving type
- Asphalt with stone margin

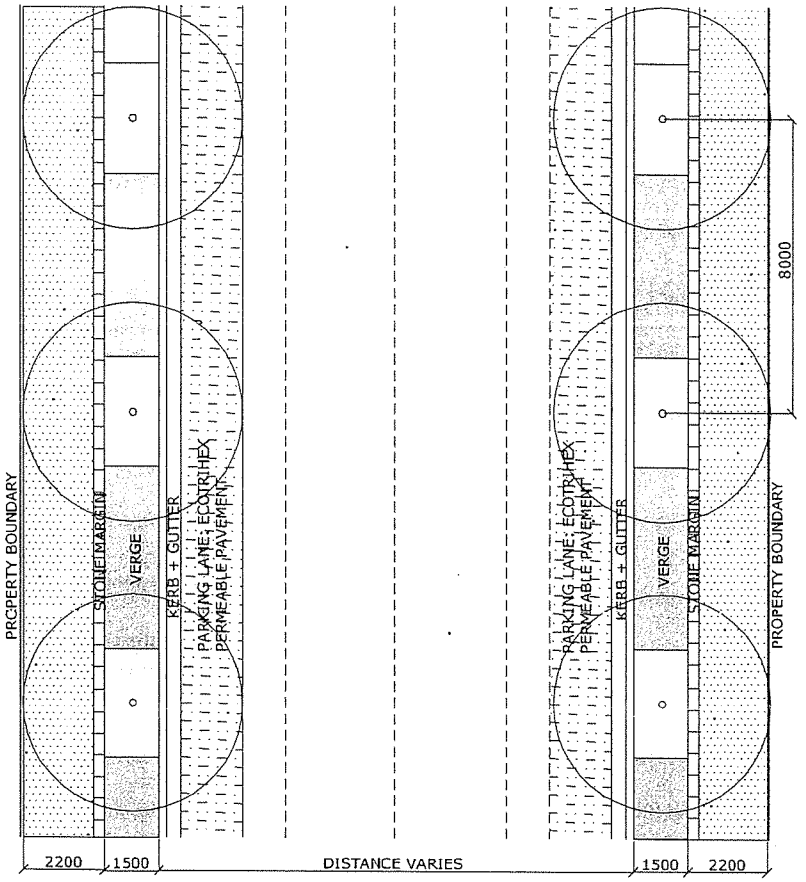
Kerbs + gutters
- Precast concrete kerb + gutter.
- Precast concrete kerb to traffic islands and traffic control elements.
- Existing concrete kerbs and gutters to be upgraded with new works when existing kerb or gutter is in poor repair.
- New pits to be installed as necessary.

Material:
- Black asphaltic concrete.
- 600 x 300 x 60mm black granite.

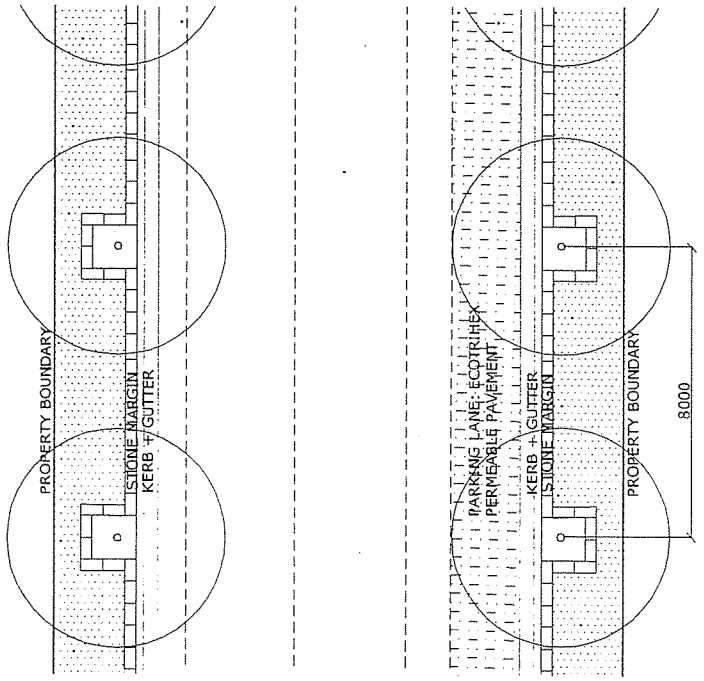
Finish:
- 30mm AC10 DG intermediate course.
- 15mm AC5 DG wearing course with 2.5% carborundum.

Installation/ construction:
- Compact sub-grade, form and place concrete base course. Provide expansion/ contraction joints equally spaced at required centres. Place AC10 intermediate course over cleaned base. Place 10mm wide, 25-30mm deep sawcut in AC wearing course over concrete base course expansion joints.

Maintenance:
- Clean as necessary. Use hot mix for replacement footpath where works require footpath surface to be opened up.
- Where areas of AC are to be replaced due to defects or construction works, the area shall be saw cut to the edge of the kerb and replaced in full section. Avoid localised infill and patching.



NEW SECONDARY STREETS
1:200 @ A4



NEW TERTIARY STREETS
1:200 @ A4

3.2.1 Paving type B :AC + Stone

General arrangement

Guidelines:

- 2200mm wide AC footpath adjacent to property boundary
- Stone margin adjacent to kerb and surrounding tree pits
- Expansion joints in concrete slab under pavement to be at appropriate centres
- Ecotrihex pavement to parking lane

3.2.2 Paving type B: AC + Stone

Typical footpath

Guidelines:

- 2200mm wide AC footpath.
- Stone margin 600x 300x 60mm units, laid parallel to kerb and tree surrounds.
- 30mm AC10 DG intermediate course.
- 15mm AC5 DG wearing course with 2.5% carborundum
- Footpath cross fall 2.5%.
- Galvanised steel edge to boundary.

Paving unit sizes:

600 x 300 x 60mm

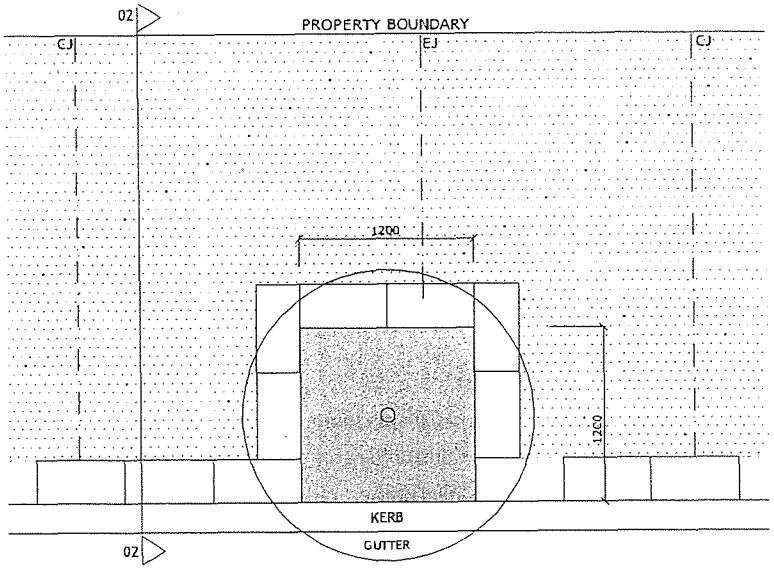
300 x 300 x 60mm

Margin:

600 x 300 x 60mm

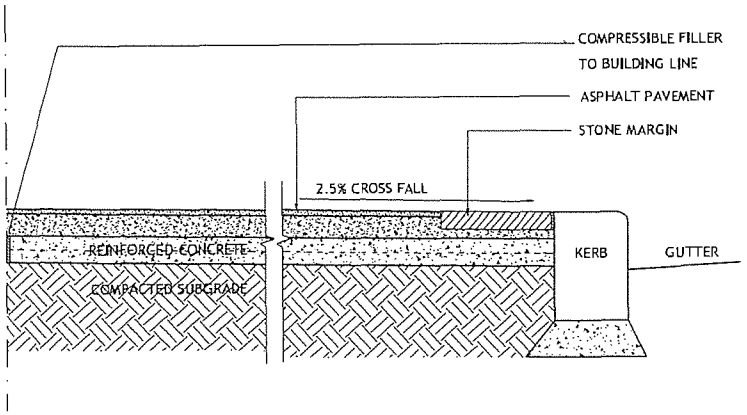
EJ- Expansion joint

CJ- Control joint



01- Typical AC+stone footpath

Plan 1:50



02- Typical AC+stone footpath

Section 1:20

3.2.3 Paving type B: AC + Stone

Typical off-road bicycle lane

Guidelines:

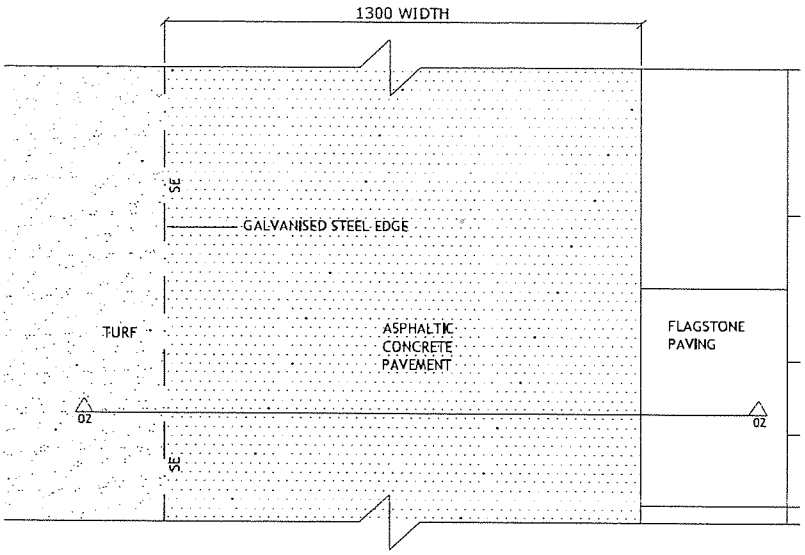
- Located on Waterloo Rd only.
- 1300mm wide asphalt bicycle lane.
- Galvanised steel edge between bicycle lane and verge
- Expansion joint in slab; spacing max. 6000mm.
- Control joint in slab; spacing max. 6000mm.

Key:

EJ Expansion joint

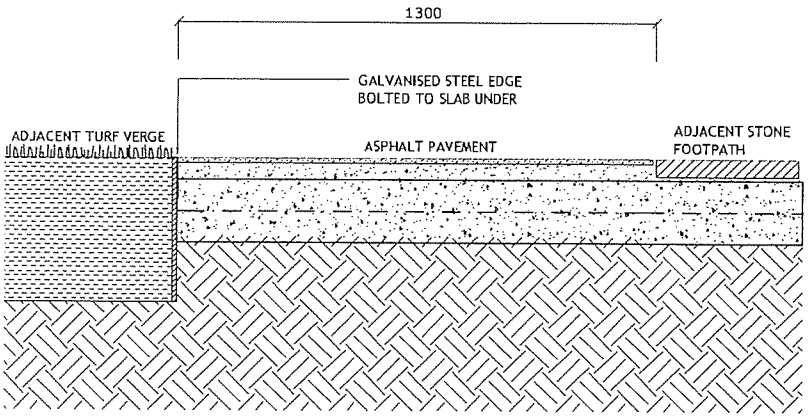
CJ Control joint

SE Steel edge



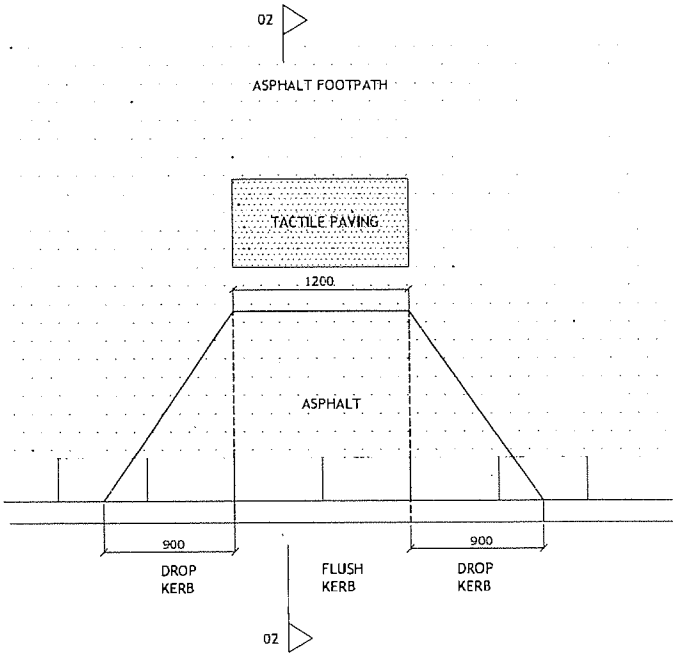
01- Typical off-road bicycle lane

Plan 1:20

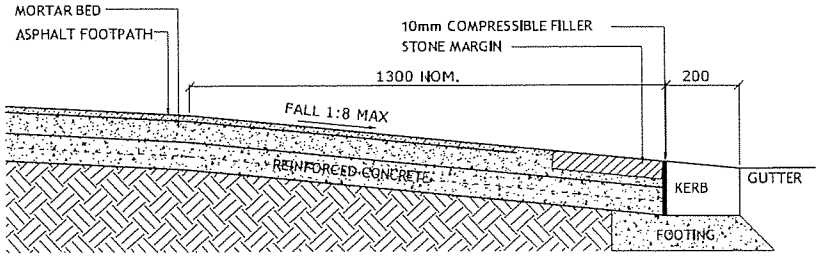


02- Typical off-road bicycle lane

Section 1:20



01- Typical AC + Stone pedestrian ramp
Plan1:50



02- Typical AC + stone pedestrian ramp
Section 1:20

3.2.4 Paving type B: AC + Stone Pedestrian ramp

Guidelines:

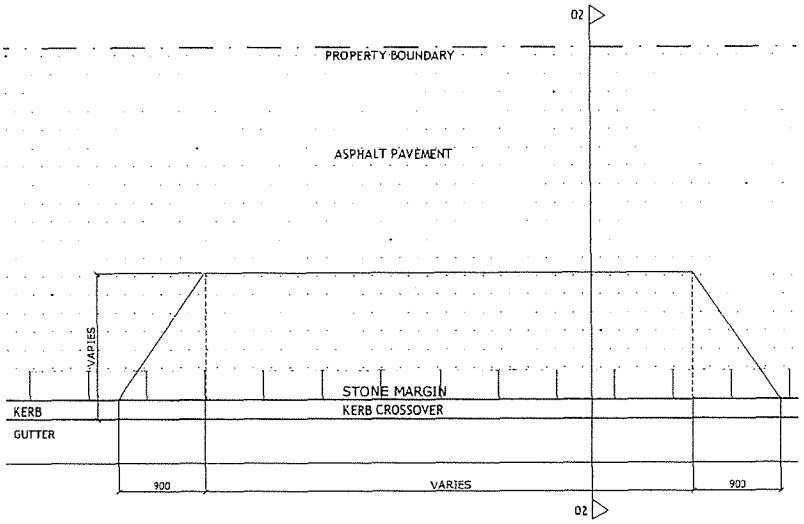
- Nominal 1200mm length to angled edges of ramp. Minimum 750mm where restricted by site conditions
- Ramp varies to site conditions. Maximum gradient 1:8.
- Chamfer edge of drop kerb to give smooth transition to flush kerb.
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.
- Level change arrangement on ramp typical.
- Margin: 600 x 300 x 60mm stone pavers

Margin:

600 x 300 x 60mm

3.2.5 Paving type B: AC + Stone

Vehicular crossover



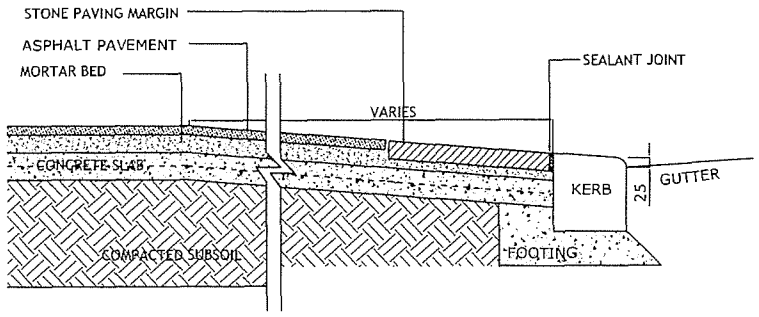
01- Typical AC + Stone vehicular crossover
Plan 1:75

Guidelines:

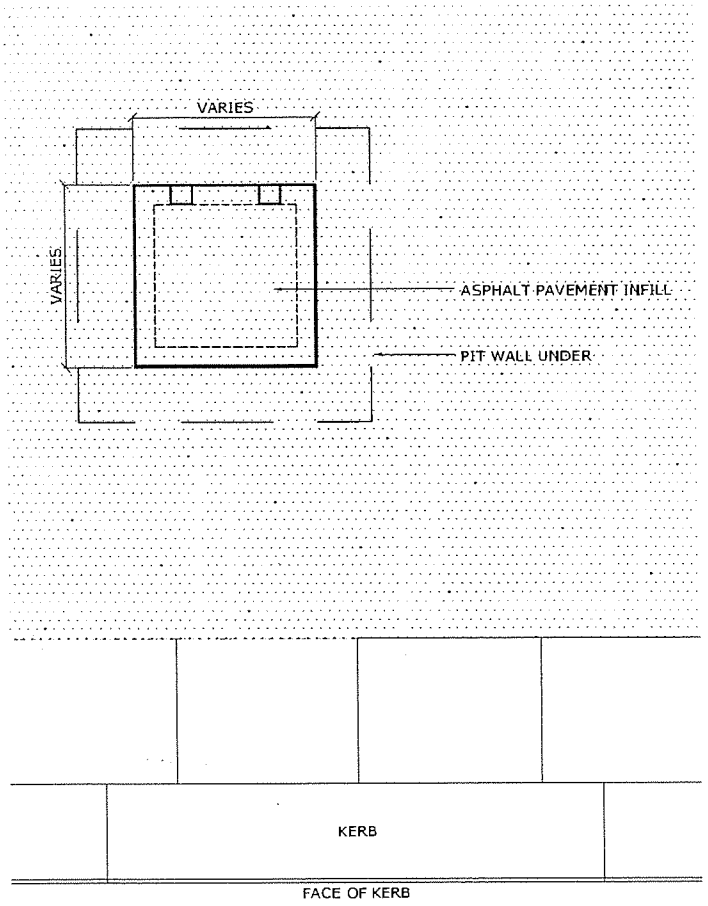
- Nominal 900mm length to angled edges of ramp. Minimum 750mm where restricted by site conditions
- Chamfer edge of drop kerb to give smooth transition to flush kerb.
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.
- Extend stone margin through ramp.

Margin:

600 x 300 x 60mm



02- Typical AC + stone vehicular crossover
Section 1:20

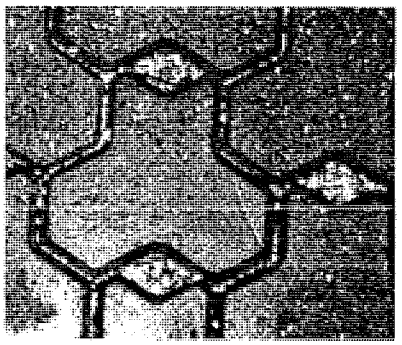


01- AC + stone infill pit lid
Plan 1:20

3.2.6 Paving type B: AC + Stone Service pit infill

Guidelines:

- Pit lid size varies. Align frame with paving infill.
- Where new service pit lids are to be installed in existing pavement, cut extent of AC surfacing to expansion/control joint extent. Infill paving to integrate with existing.
- Locate service pit lids clear of stone margins.
- Infill pit size and class varies. Confirm in accordance with specialist engineering advice.



Above: Permeable pavements at Fox Studios, Sydney

3.3 Paving type C: Permeable unit paving

General Overview + Specifications

Locations :
All park edge roads including;
Road 4, Road 7 (part), Road 1 (part), Road 9 (part), New road adjacent to Porters Creek

Paving type
- Ecotrihex permeable pavement to carriageway and trihex to footpaths on selected roads signifying gateways to parks and their role in water management.
- Stone margin adjacent to kerb, corner junctions and pedestrian/ vehicular crossovers.

Kerbs + gutters
- Precast concrete.

Material
- 80mm depth concrete Ecotrihex interlocking segmental permeable pavers- colour Ebony, honed basalt.
- 80mm depth concrete Trihex interlocking segmental pavers- colour Ebony, honed basalt.
- Stone margin.

Units/ sizes/ format
- 92 x 188 x 80mm Trihex/ Ecotrihex.
- 600 x 300 x 60mm black granite.

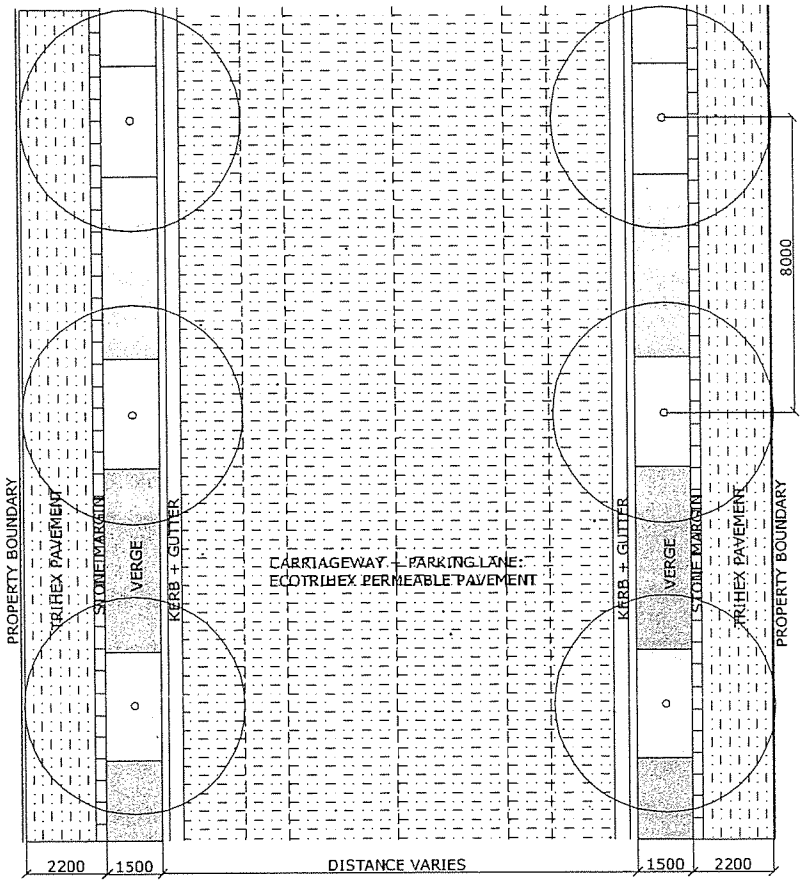
Installation/ construction
- Install to manufacturer's instructions and engineers specification.
- Lay paving to required falls and levels.
- Pavers abutting fixed objects to have 10mm sealant joints (colour to match surrounding paving).
- Paving courses to be at 90 degrees to kerb.
- Pavers to be set out from kerb and cut to the property boundary.
- Saw-cut units must not be less than 30% of original paver size.
- Where pavers are required to follow a curve, pavers should be cut curved and not faceted.
- Pavers abutting fixed objects require 10mm sealant joints.
- Paving courses 90 degrees to kerb unless otherwise noted.

Maintenance
- Vacuum sweep Ecotrihex surfaces to remove contamination from the drainage voids every 5 years.
- Refer to manufacturer's specification for further information.

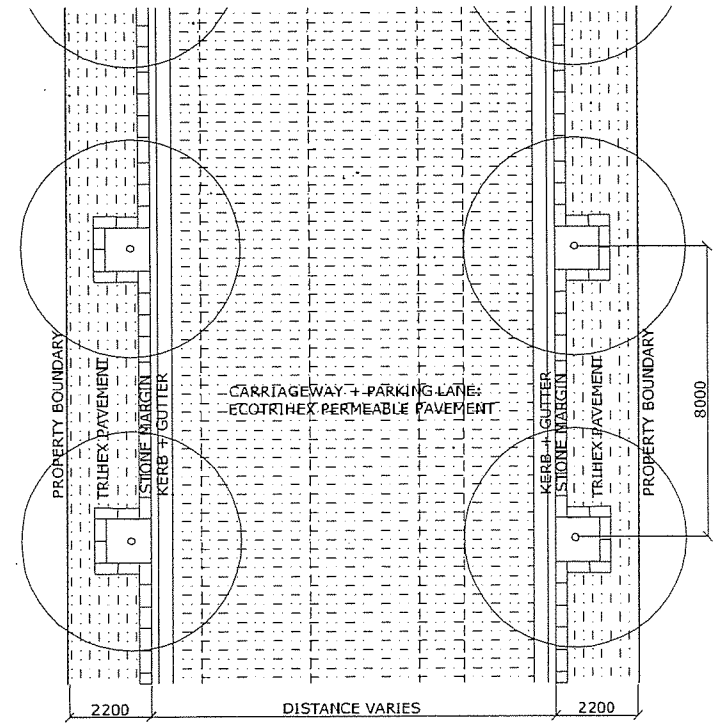
Manufacturer's details:
C and M Masonry
Ph: (02) 9822 6822

3.5 4.0 5.0 6.0 7.0

4.5



SECONDARY STREETS
1:200 @ A4



TERTIARY STREETS
1:200 @ A4

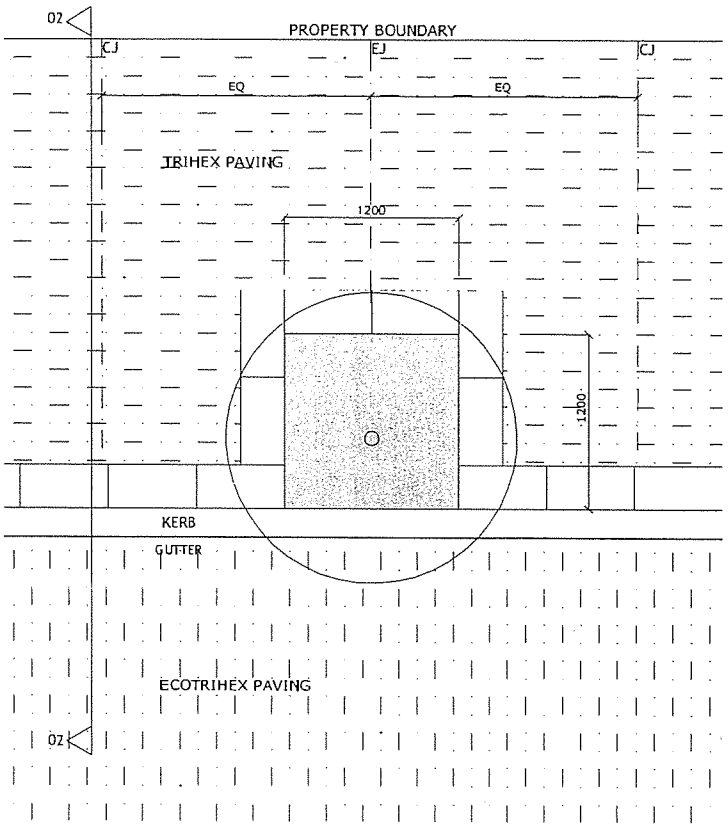
3.3.1 Paving type C: Permeable unit paving

General arrangement

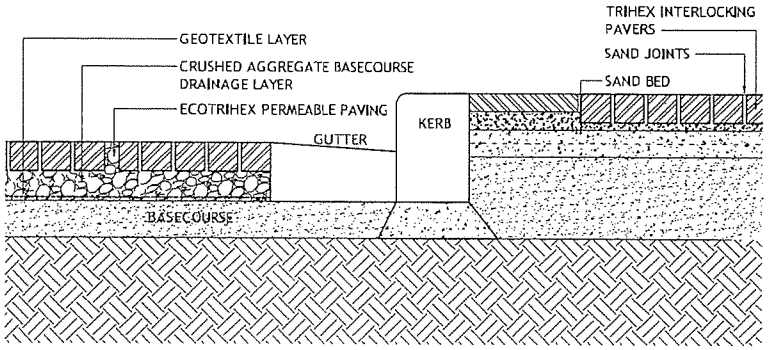
Guidelines:

- 2200mm wide footpath: Trihex pavement including 300mm wide stone margin to kerb.
- Ecotrihex pavement to carriageway pavement.
- Expansion joints under footpath as required.

3.5 4.0 5.0 6.0 7.1 7.2 7.4



01- Typical footpath
Plan 1:50



02- Typical footpath
Section 1:20

3.3.2 Paving type C: Permeable unit paving

Typical footpath detail

Guidelines:

- 2200mm wide footpath including Trihex pavement with 300mm wide stone margin.
- Ecotrihex pavement to carriageway.
- Expansion joint in slab; spacing max. 6000mm.
- Control joint in slab; equally spaced. max. 6000mm centres.

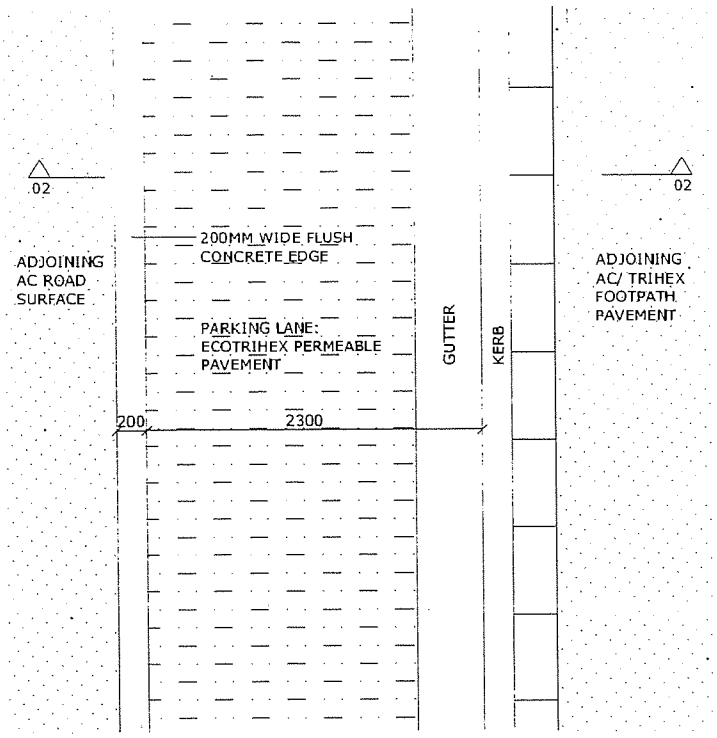
Key:

EJ Expansion joint (Align with paving joints)

CJ Control joint (Align with paving joints)

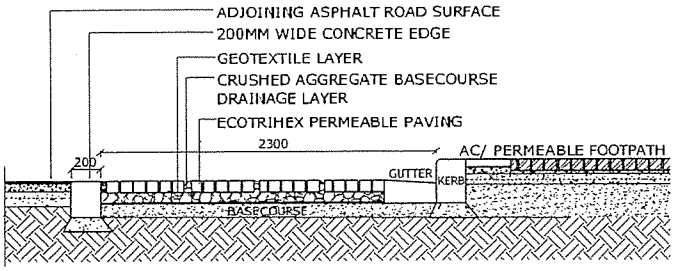
Margin:

600 x 300 x 60mm



01- Typical parking lane

Plan 1:50



02- Typical parking lane

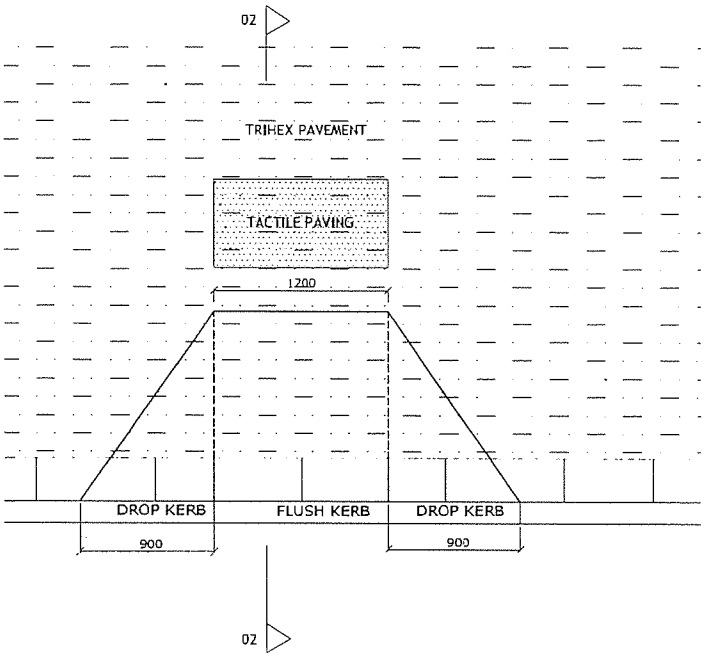
Section 1:50

3.3.3 Paving type C: Permeable unit paving

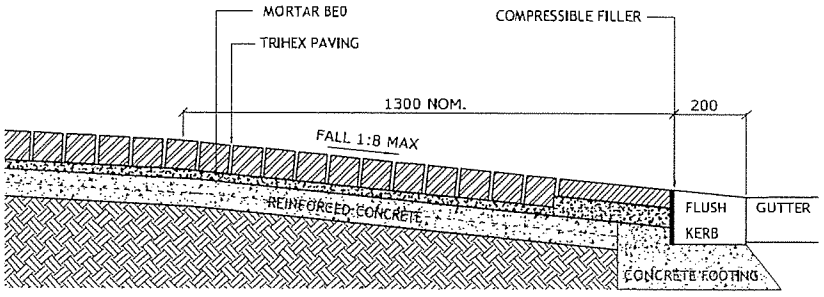
Typical parking lane

Guidelines:

- Permeable pavement to parking lanes on all local and park streets.
- Adjoining footpath material; Trihex paving or AC surfacing with stone margin.
- 2300mm wide parking lane paved with Ecotrihex pavers including 200mm wide flush concrete edge.
- AC pavement to carriageway.
- 200mm wide concrete edge to carriageway edge.



01- Typical pedestrian ramp
Plan 1:50



02- Typical pedestrian ramp
Section 1:20

3.3.4 Paving type C: Permeable unit paving

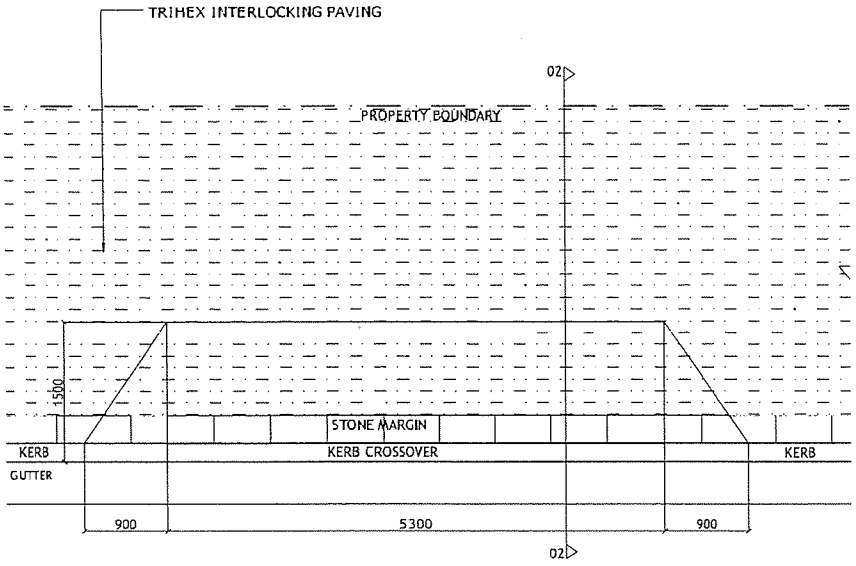
Typical pedestrian ramp

Guidelines:

- Nominal 900mm length to angled edges of ramp. Minimum 750mm where restricted by site conditions
- 1300mm length of ramp varies to site conditions. Maximum gradient 1:8.
- Chamfer edge of drop kerb to give smooth transition to flush kerb.
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.
- Level change arrangement on ramp typical.
- Margin: 600 x 300 x 60mm stone pavers

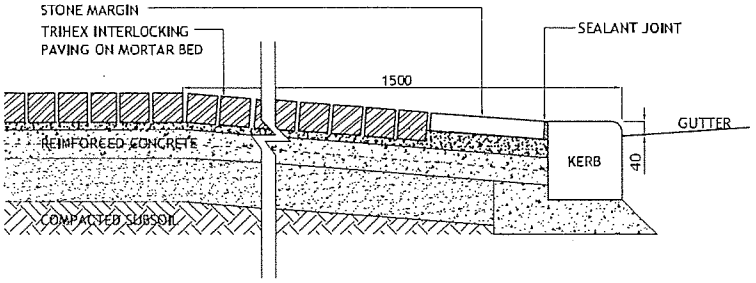
Margin:

600 x 300 x 60mm



01- Typical vehicular crossover

Plan 1:75



02- Typical vehicular crossover

Section 1:20

3.3.5 Paving type C: Permeable unit paving

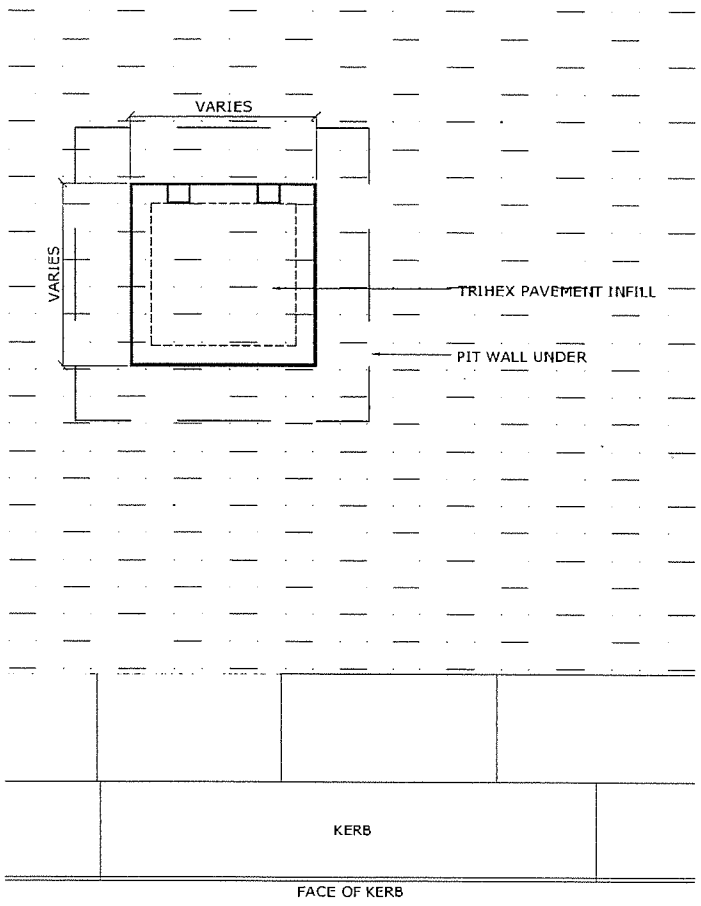
Typical vehicular crossover

Guidelines:

- Nominal 900mm length to angled wings of ramp. Minimum 750mm where restricted by site conditions
- Chamfer edge of drop kerb to give smooth transition to flush kerb.
- Flush kerb (no lip); chamfer or tilt flush kerb to match gradient of ramp.
- Extend stone margin through ramp.

Margin:

600 x 300 x 60mm



01- Trihex pavement infill pit lid

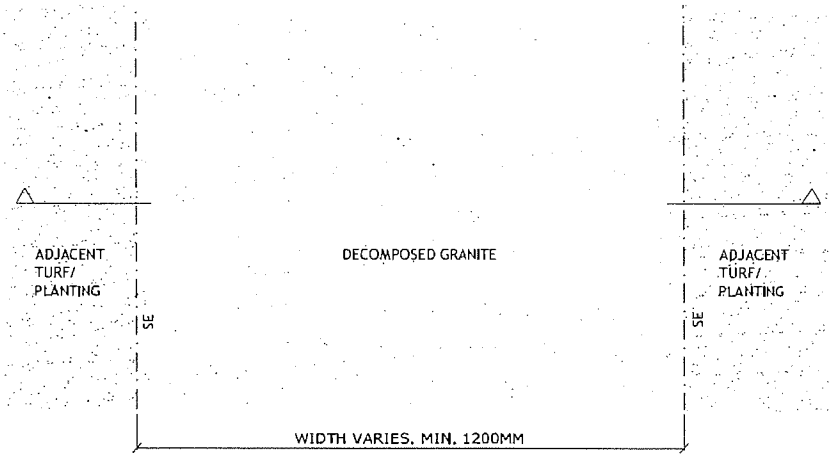
Plan 1:20

3.3.6 Paving type C: Permeable unit paving

Service pit infill

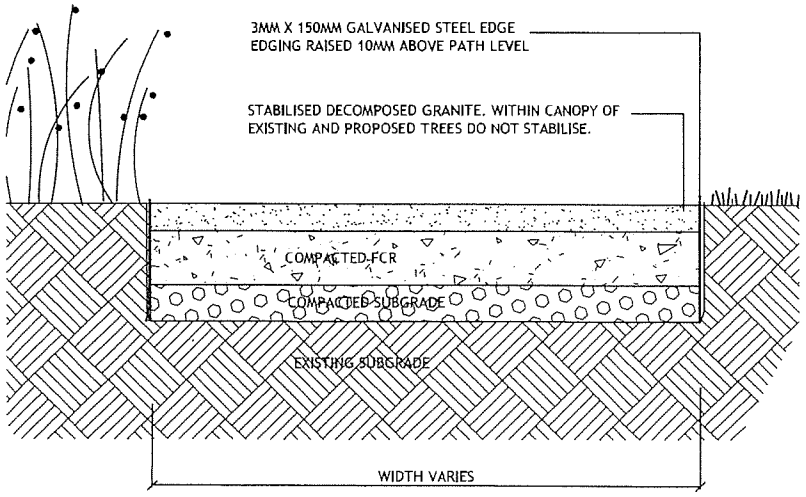
Guidelines:

- Pit lid size varies. Align frame with paving infill.
- Where new service pit lids are to be installed in existing pavement, cut extent of Trihex surfacing to expansion/control joint extent. Infill paving to integrate seamlessly with existing.
- Locate service pit lids clear of stone margins.



01 Decomposed granite path

Plan 1:25



02- Decomposed granite path

Section 1:25

3.4 Paving type D: Parks Decomposed granite

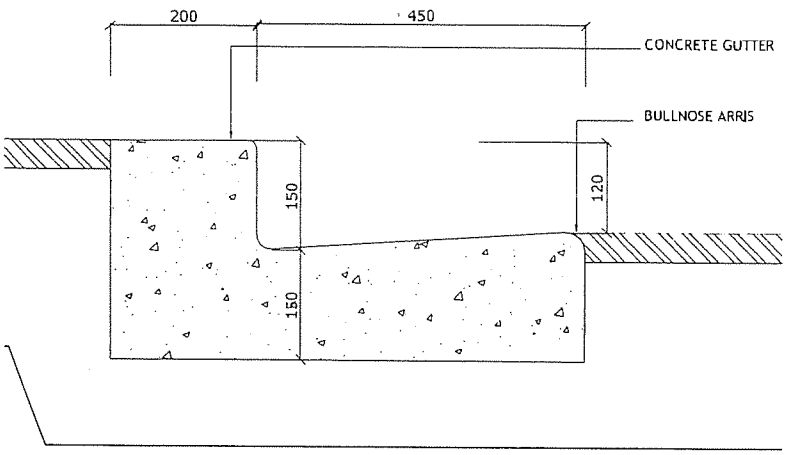
General overview + specifications

Locations :
Parks + open space corridors

Material/ product
- Decomposed granite/crushed sandstone

Installation/ construction
- 100mm depth compacted decomposed granite on cement stabilised consolidated FCR
- 100mm crushed sandstone cement stabilised as required.
- Max. fall across footpath 2%
- Design to specialist engineer's specification

Maintenance
- Maintain depths and regrade as required.
- Ensure paths are located with adequate clearance from flooding zones and minimal gradient variations.



01- Typical concrete gutter
Section 1:10

3.5 Kerb + Gutter
Insitu concrete kerb
Insitu concrete gutter

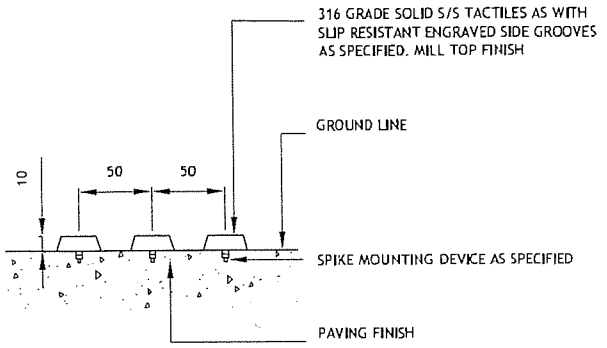
General overview + specifications

Locations :
All new streets

Paving type
- Concrete kerb and gutter

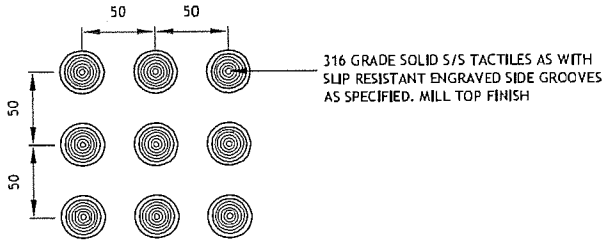
Unit/sizes/format:
1200 lengths

Installation/ construction:
- To engineer's specification. Placement and installation to manufacturer's specification.



01- Tactile indicators

Section 1:5



02- Tactile indicators

Plan 1:5

3.6 Tactile indicators

general overview + specifications

Locations :
as required in accordance with AS1428.4 and DDA

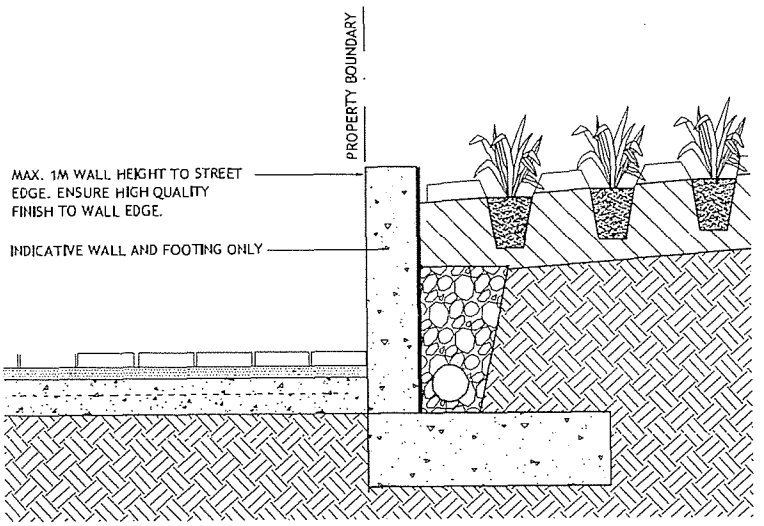
Material/ product
- Solid 316 stainless steel - CF-SS-Black discreet

Units/ sizes/ format
- 26mm diameter stainless steel. Luminance contrast to comply with AS1428.4

Installation/ construction
- To comply with AS1428.4 and DDA
- Fixed to substrate surface,

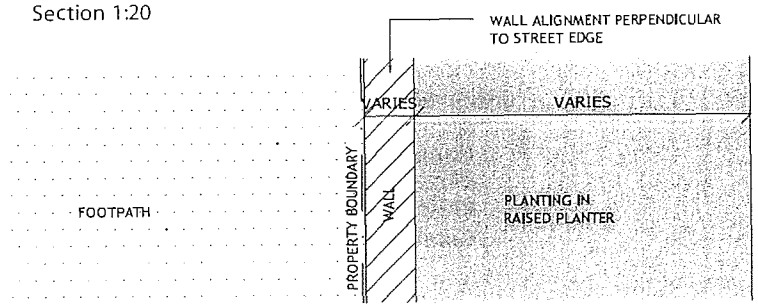
Maintenance
- Maintenance to manufacturer's requirements.

Manufacturer's details:
DTAC Pty Ltd
Ph: (03) 9553 1799
Fax: (03) 9553 1833



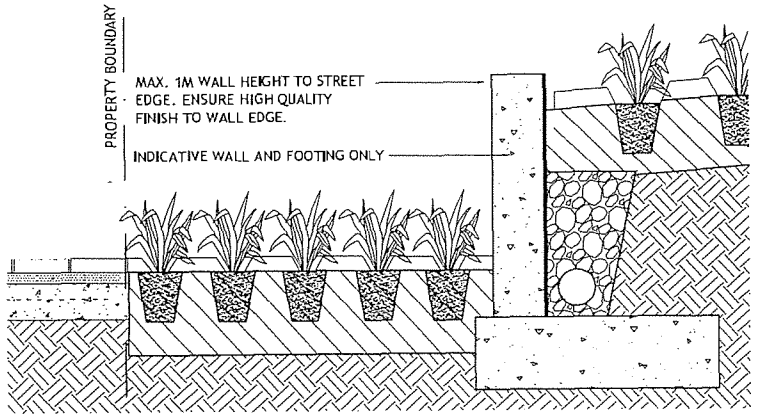
01- Typical retaining wall: Type 1

Section 1:20



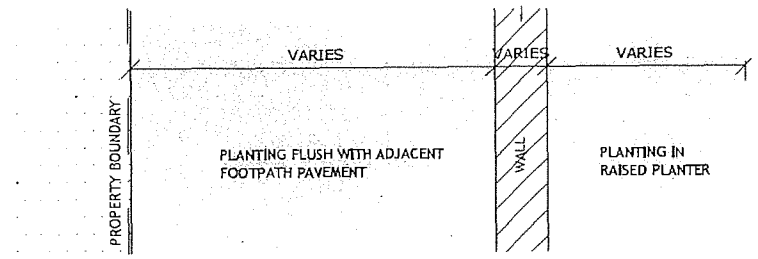
02- Typical retaining wall: Type 1

Plan 1:20



01- Typical retaining wall: Type 2

Section 1:20



02- Typical retaining wall: Type 2

Plan 1:20

3.7 Typical retaining wall: Adjacent to footpath

General overview + specifications

Locations :
as required

Material/ product
- Insitu concrete/precast concrete face.

Finish
- Ensure high quality finish: class 2.

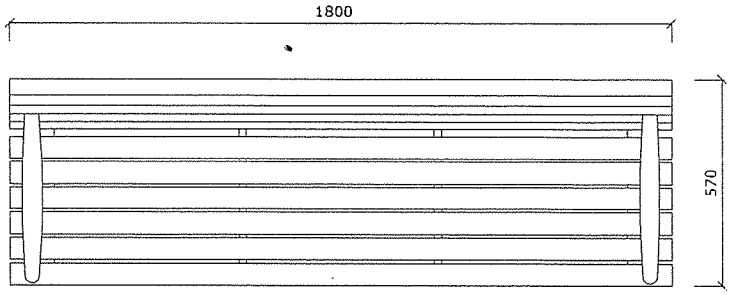
Installation/ construction
- To engineer's requirements
- Where possible, align retaining walls perpendicular to street edge.
- Where possible, allow for planting to edge of footpath (type 2)

4.0
Technical details: Furniture and fixtures

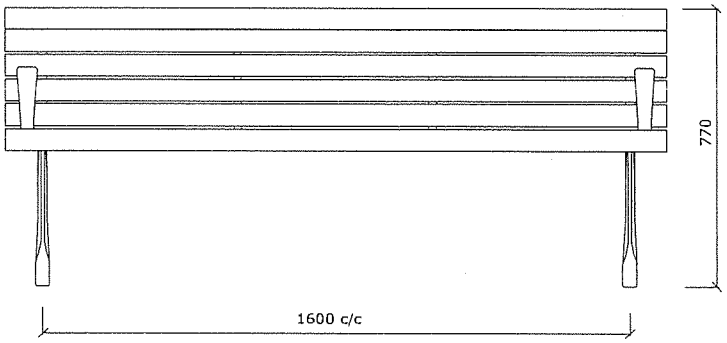
The following section provides guidelines to direct the specification for all furniture and fixtures.

4.1 Bench with backrest

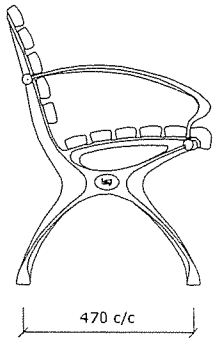
General overview + specifications



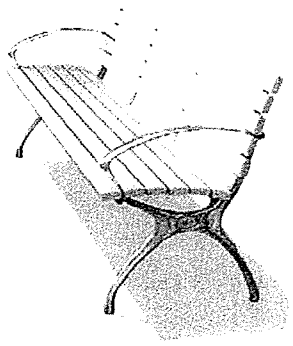
01- Street bench
Plan 1:20



02- Street bench
Elevation 1:20



03- Street bench
Elevation 1:20



04- Street bench
Image

Locations :
Existing and proposed streets.

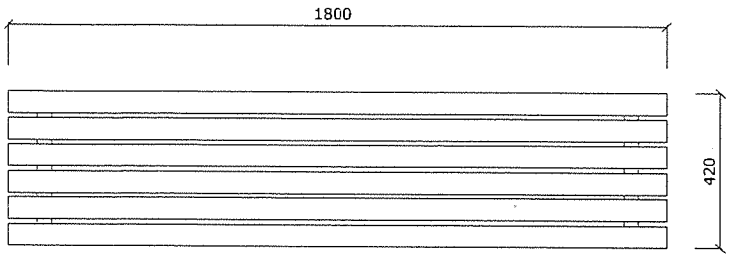
Product
- Botton & Gardiner Urban Seat US11 ALX

Finish
- Frame: cast aluminium, powder coat
- Body: aluminium

Substitutions
N/A

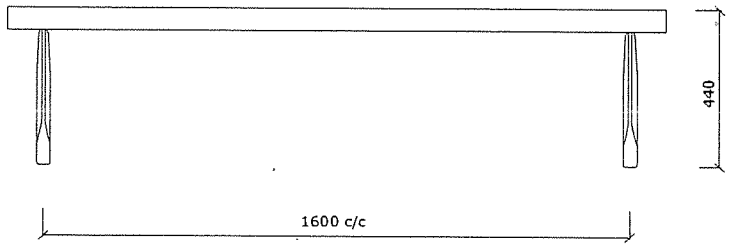
Installation/ construction
- Fixing: concealed fixing to suppliers detail

Maintenance
- Lightly sand rough areas of timber and apply one coat of Sikkens Cetrol HLS Mahogany within 3 months, then every 6 months or as required.



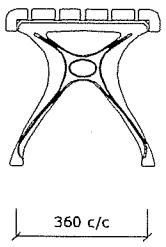
01- Street bench

Plan 1:20



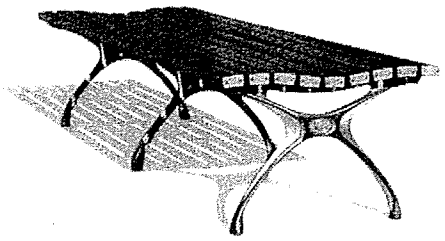
02- Street bench

Elevation 1:20



03- Street bench

Elevation 1:20



04- Street bench

Image

4.2 Bench without backrest

General overview + specifications

Locations :
Existing and proposed streets.

Material/ product
- Botton & Gardiner Urban Seat BS9 ALX

Finish
- Frame: cast aluminium, powder coat
- Body: aluminium

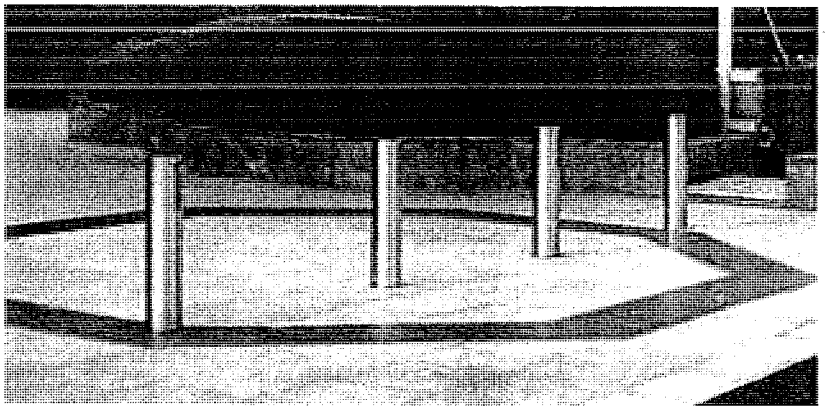
Substitutions
N/A

Installation/ construction
- Fixing: concealed fixing to suppliers detail

Maintenance
- Lightly sand rough areas of timber and apply one coat of Sikkens Cetrol HLS Mahogany within 3 months, then every 6 months or as required.

4.3 Fixed bollard

General overview + specifications



Image

Locations :
Open spaces; permanent pedestrian security required.

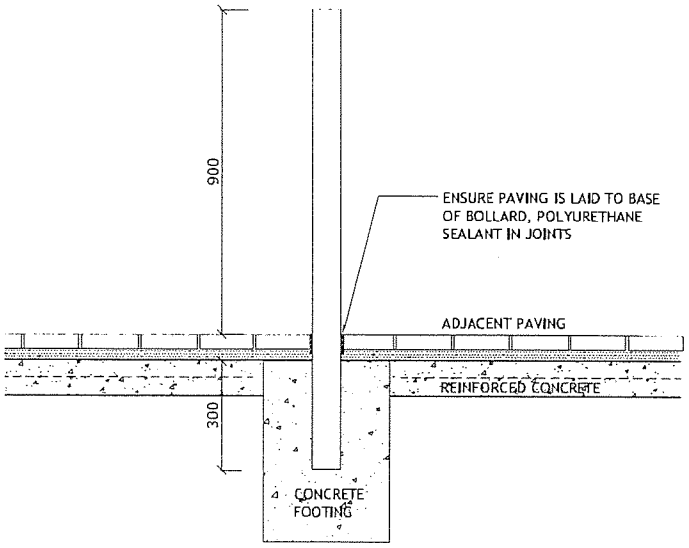
Material/ product
- LEDA SSP80F Fixed bollard, 80NB - (88.9mm) x 3.05 / 5.49 / 7.62mm Grade 304 Stainless Steel Pipe

Finish
- Linished or matt bead blasted.

Units/ sizes/ format
- 900mm high.

Installation/ construction
- To manufacturer's specification.
- Ensure pavement finishes flush with bollard collar.

Maintenance
- To manufacturer's specification.



01- Fixed bollard
Elevation 1:20

4.4 Retractable bollard

General overview + specifications

Locations :
Open spaces; temporary vehicular access required.

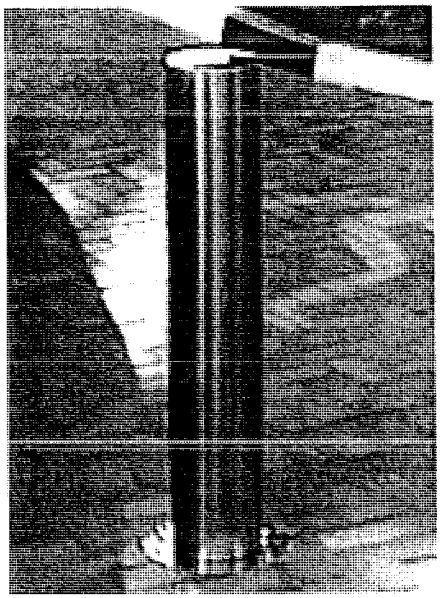
Material/ product
- LEDA SMRB90GS Retractable bollard, 80NB - (88.9mm) x 5.49 / 7.62mm Grade 304 Stainless Steel Pipe

Finish
- Heavy duty mild steel linepipe.

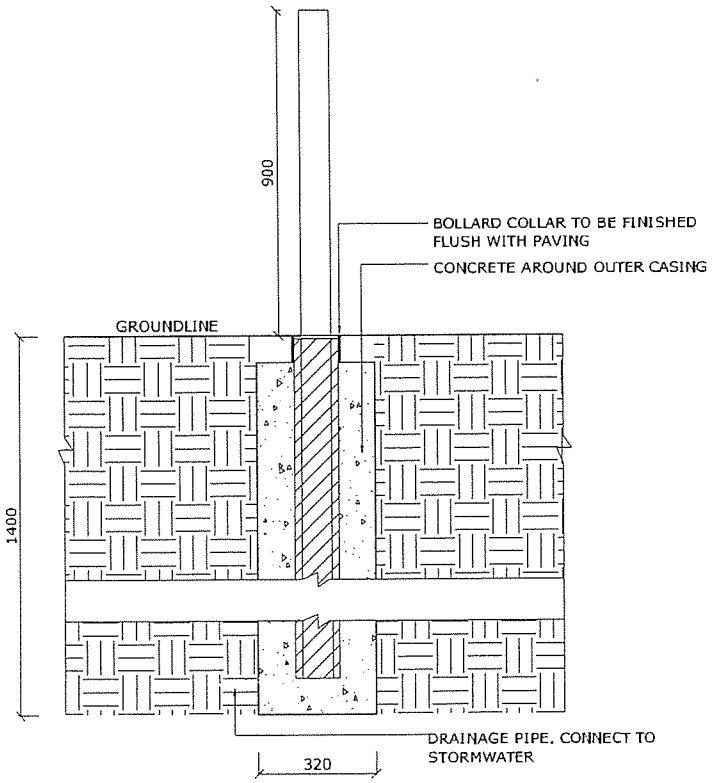
Units/ sizes/ format
- 900mm high.

Installation/ construction
- To manufacturer's specification.
- Ensure pavement finishes flush with bollard collar.

Maintenance
- To manufacturer's specification.

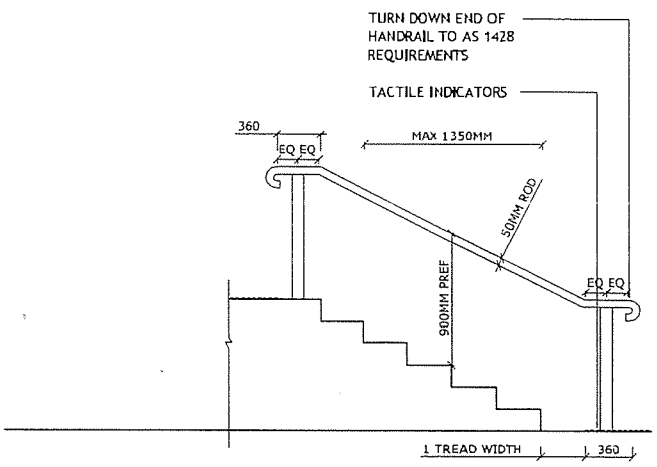


Image



01- Retractable bollard

Elevation 1:20



01- Typical handrail
Elevation 1:50

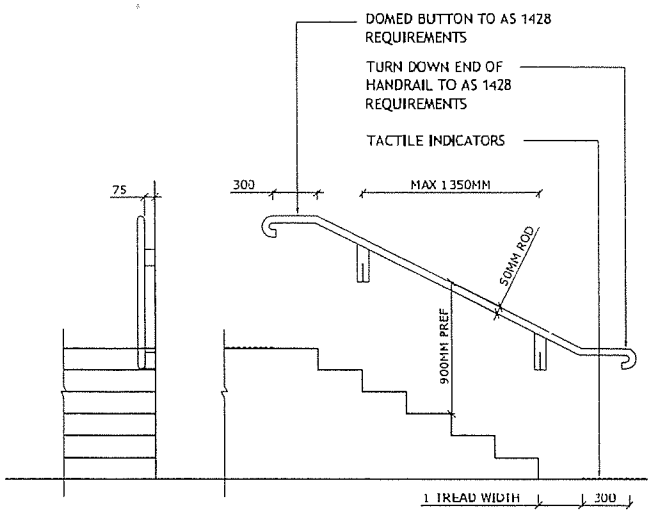
4.5 Handrail- type 1 Freestanding

General overview + specifications

Locations :
as required

Material/ product
- Mild steel hot dip galvanised

Installation/ construction
- Assembled from readily available standard steel plate and CHS and UC section.
- Handrail to comply with AS1428
- Tactile ground surface indicators to comply with AS1428.



01- Typical handrail
Elevation 1:50

4.6 Handrail- type 2 Wall mounted

General overview + specifications

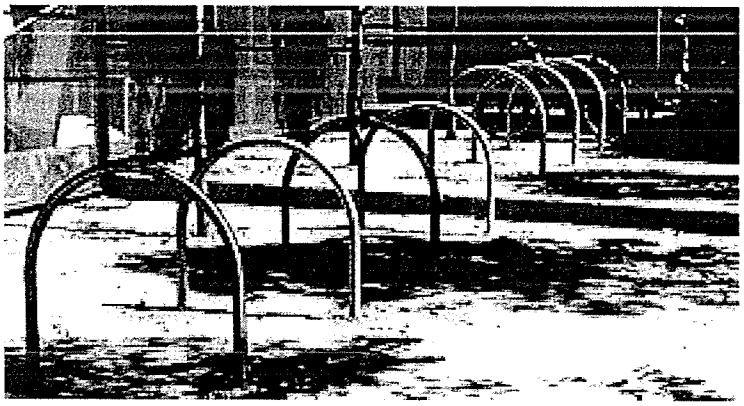
Locations :
as required

Material/ product
- Mild steel hot dip galvanised

Installation/ construction
- Assembled from readily available standard steel plate and CHS.
- Handrail to comply with AS1428
- Tactile ground surface indicators to comply with AS1428.
- Fixing to be recessed below surface level and paving to be finished to base of fixture

4.7 Bicycle rack

General overview + specifications



Image

Locations :
Parks and open space areas.
Adjacent to public transport nodes (bus stops, train stations)

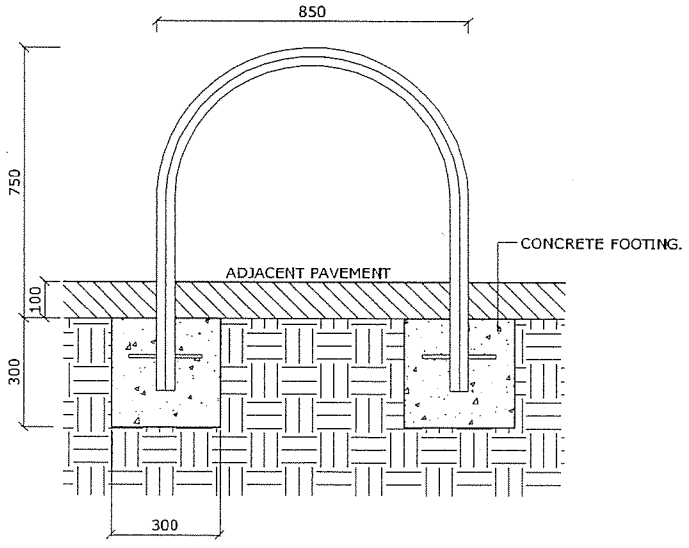
Material/ product
- LEDA BR85F Bike rail.

Finish
- Galvanised steel pipe, 40NB (48.3) x 3.2mm medium duty.

Units/ sizes/ format
- 850 x 1000mm (200 in ground).

Installation/ construction
- Stirrup rail, fixed insitu on all new and existing pavements.
- Lay paving over base course on compacted subgrade.
- Concrete footing to manufacturer's/engineer's specification.
- Fixing to be recessed below surface level and paving to be finished to base of fixture

Maintenance
- To manufacturer's requirements



01- Bicycle rack
Elevation 1:20

Note: Recycling bin pending confirmation by council.

4.8 Rubbish Bin

General overview + specifications

Locations :
Parks and open space areas
Key locations adjacent to major transport nodes (eg. bus stops, train stations, shopping centres)

Material/ product
- HUB Street Equipment S203 Wheelie Bin Enclosure.

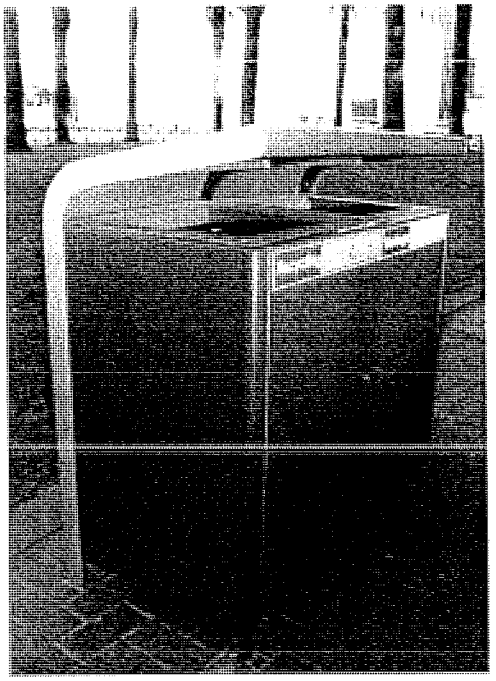
Finish
- L-frame: Stainless steel, glass bead blast.
- Chassis: Mild steel, zinc rich primed and powder coated.
- Skin: Mild steel, 2 pack paint finish.
- L-frame: Stainless steel.
- Shoot: Mild steel. Optional; coloured shoot to highlight recycling bin.
- Optional: anti-graffiti coating (eg Siloxane) if required.

Units/ sizes/ format
- Double or triple units; 80ltr, 120ltr or240ltr size as required by location.

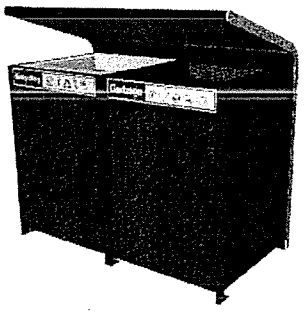
Installation/ construction
- Sub surface mounted to manufacturer's specification.

Signage/ logo
- Recycling and garbage logos (Environment NSW approved) attached to front upper edge of bin enclosure.
- Options for 'City of Ryde' logo to be engraved on lid edge of L-frame.

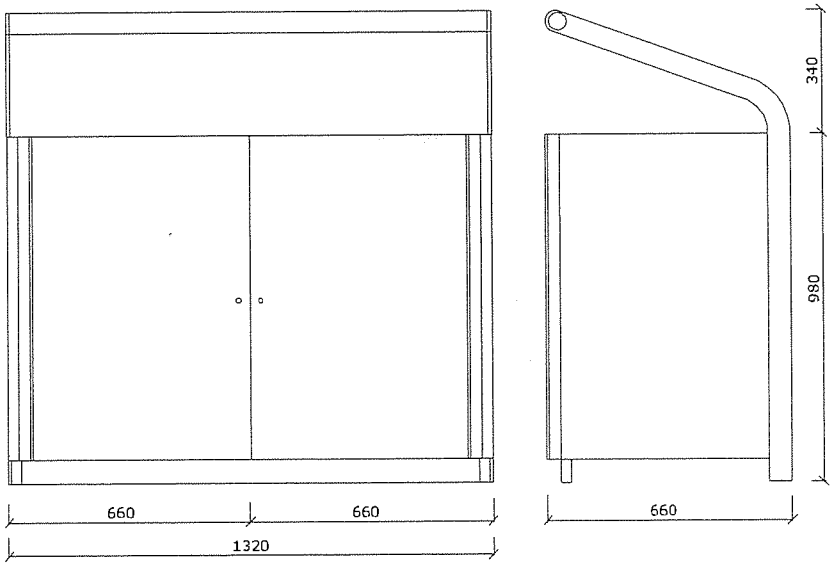
Maintenance
- Sub surface mounted to manufacturer's specification.
- Wash enclosure with high pressure water hose as required.



Image

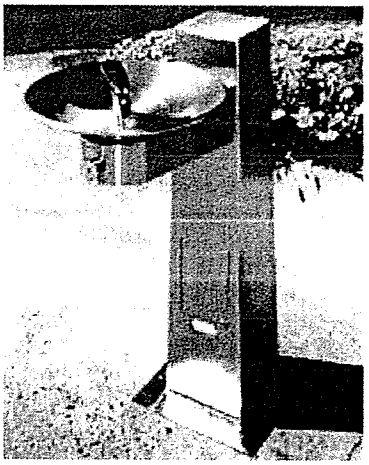


Optional- shoot colour

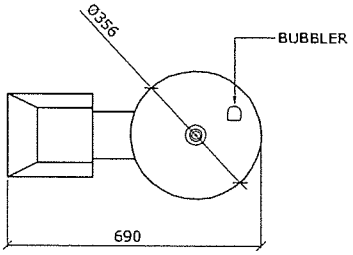


01- Rubbish bin

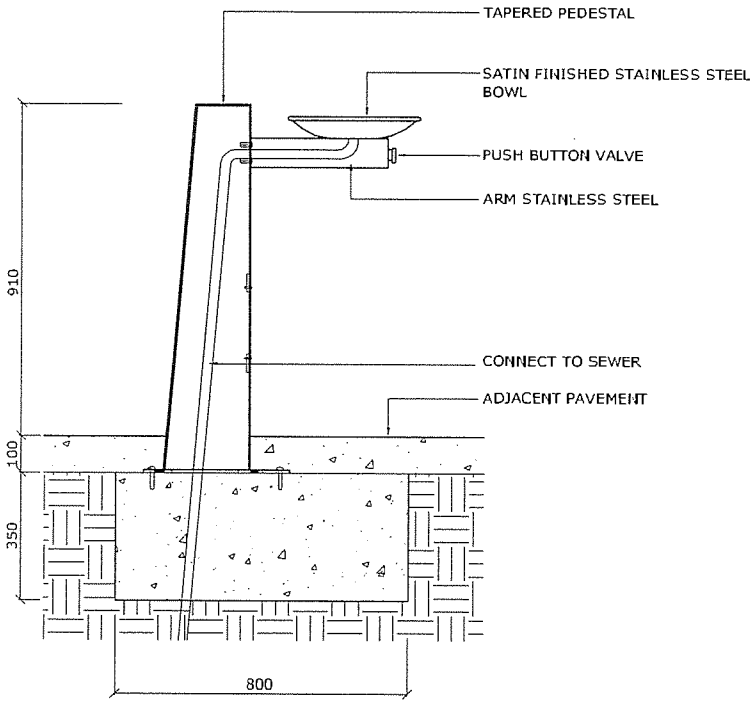
Elevation 1:20



Image



01- Drinking fountain
Plan 1:20



02- Drinking fountain
Elevation 1:20

4.9 Drinking Fountain

General overview + specifications

Locations :
Parks and open spaces; associated with seating areas.

Material/ product
- Drinking Fountain; Commercial Systems Australia DF 5001.

Finish
- Pedestal: 5mm mild steel plate body galvanised and powder coated.
- Bowl: Satin finished stainless steel bowl
- Arm: Stainless steel.
- Bubbler: Polished chrome plated.
- Inspection door: 5mm mild steel, tamper proof bolt fixed.

Installation/ construction
- Hole in plate base to allow plumbing pipes to pass through. Refer to manufacturer's specification.

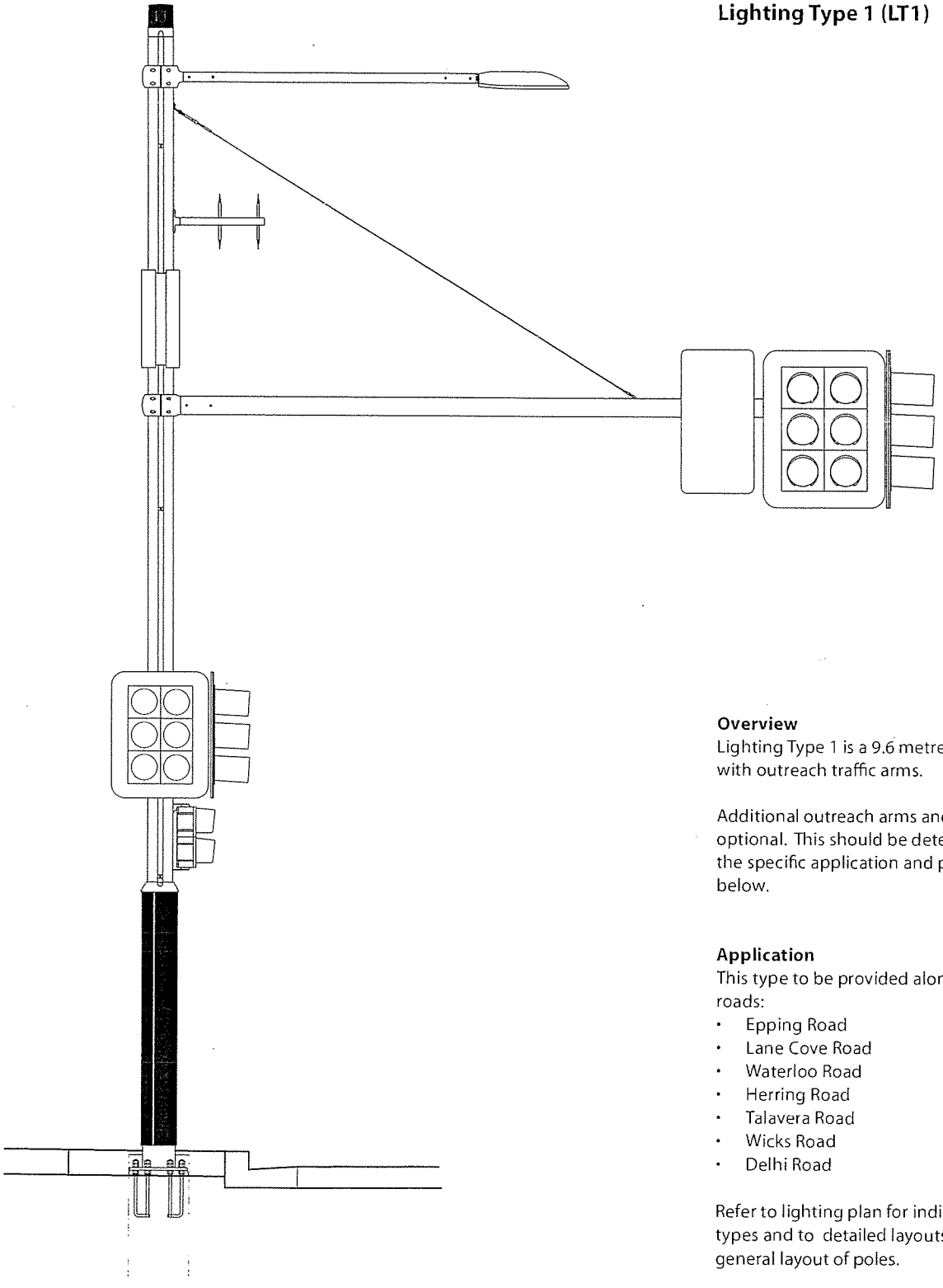
Maintenance
- to manufacturer's specification.

5.0
Technical Details
Lighting

The following section provides guidelines to direct the development of design and construction documentation for all public domain lighting.

5.1 Lighting type 1

Lighting Type 1 (LT1)



Overview
Lighting Type 1 is a 9.6 metre high Smartpole (S1A) with outreach traffic arms.

Additional outreach arms and higher pole sizes are optional. This should be determined with reference to the specific application and performance criteria listed below.

Application
This type to be provided along the following primary roads:

- Epping Road
- Lane Cove Road
- Waterloo Road
- Herring Road
- Talavera Road
- Wicks Road
- Delhi Road

Refer to lighting plan for individual street and park types and to detailed layouts of relevant streets for general layout of poles.

1

2

Smartpoles

Shows two possible applications and luminaire types of the Smartpole.

1. Street light located at transition of footpath and road carriageway

2. Smaller pole height and luminaire located in a public plaza

Examples taken from City of Sydney

5.2 Lighting type 1

Typical Street Lighting

Lighting Type 1 (LT1)

Performance Criteria

- All lighting to comply with Australian Standards (AS/NZS 1158) for road lighting.
- Smartpoles or similar to be installed to manufacturer's specification and footing design.
- Ensure underground cables
- Clear anodised or hot dipped galvanised finish to manufacturer's specification
- Where possible, align light poles, and evenly space along length of street.
- All lighting is to conform with the City of Ryde's lighting policy and standard fittings.

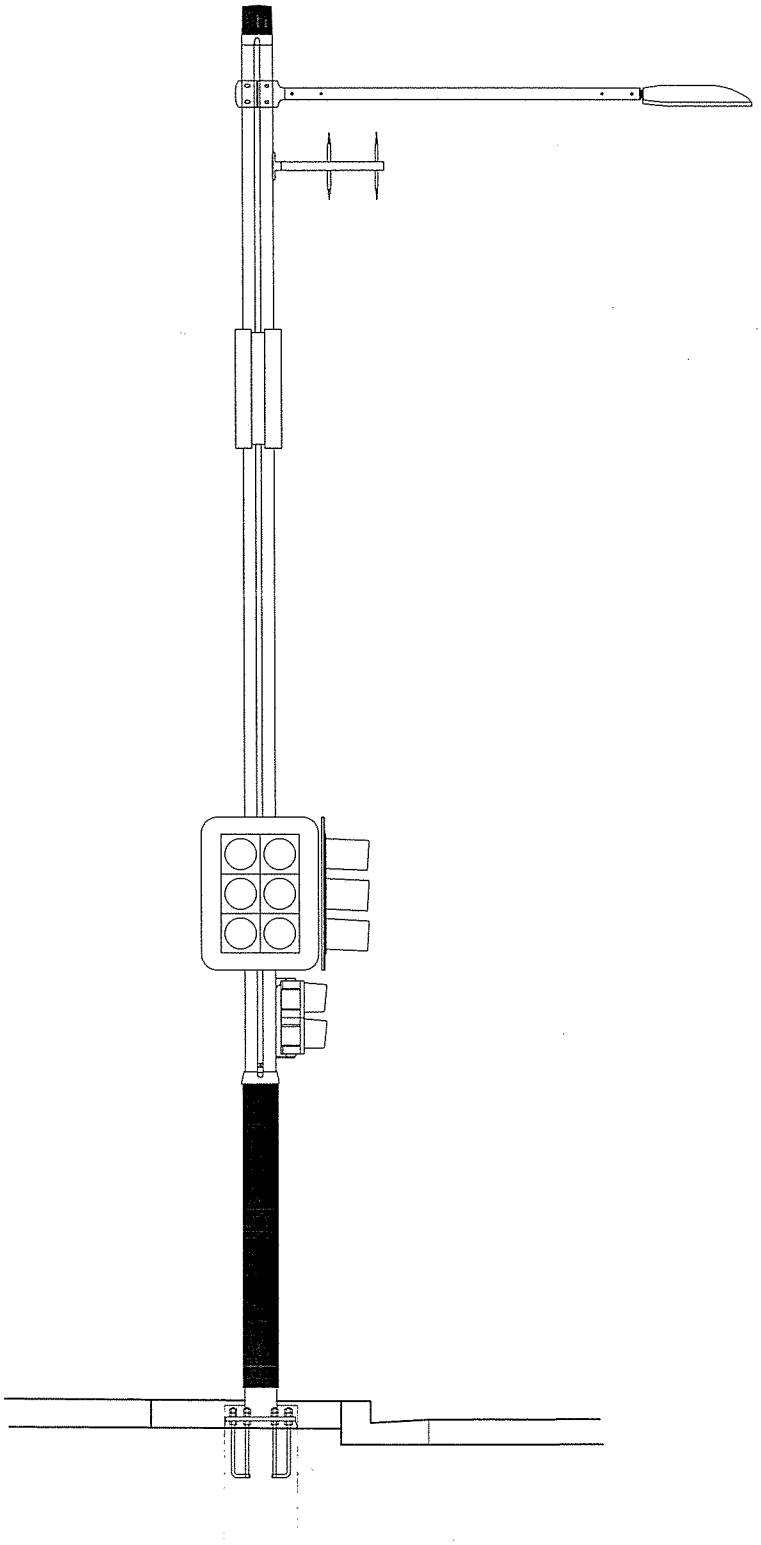
Luminance category

Vehicular luminance category: V3
Pedestrian luminance category: P2

Luminaire

Several luminaire types can be used. These are to be selected from the following fittings and with respect to City of Ryde and related Australian Standards and Energy Australia requirements:

Luminaire Type 1: Rexel Aeroscreen
Luminaire Type 2: to be confirmed



5.3 Lighting type 2

Typical Street Lighting

Lighting Type 2 (LT2)

Overview
Lighting Type 2 is a 9.6 metre high Smartpole (S1B) or equivalent.

Application to be along Primary, Local and Park streets as indicated on the location plan. Refer to individual street and park types for general layout of poles.

Performance Criteria
- All lighting to comply with Australian Standards (AS/NZS 1158) for road lighting.
- Smartpoles or equivalent to be installed to manufacturer's specification and footing design.
- Clear anodised or hot dipped galvanised finish to manufacturer's specification
- Ensure underground cables
- Where possible, align light poles, and evenly space along length of street.
- All lighting is to conform with the City of Ryde's requirements and standard fittings.

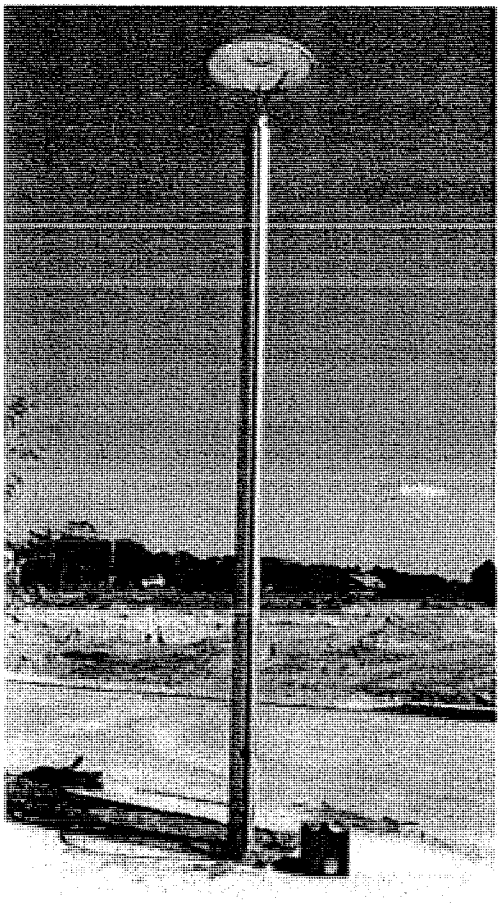
Luminance category
Vehicular luminance category: V5
Pedestrian luminance category: P2

Luminaire
Several luminaire types can be used. These are to be selected from the following fittings and with respect to City of Ryde and related Australian Standards and Energy Australia requirements:

Luminaire Type 1: Rexel Aeroscreen
Luminaire Type 2:

6.0
Technical Details
Signage

The following section provides guidelines to direct the development of design and construction documentation for all signage elements.



Smartpole (LT3)

Example provided by Streetscape Projects

5.4 Lighting type 3

Typical park and open space lighting

Lighting Type 3 (LT3)

Overview

Lighting Type 3 is a 5.0 metre high Smartpole or equivalent (S2D).

Application to be in parks and public spaces and small streets [Road 4] as indicated on the location plan. Refer to individual street and park types for general layout of poles.

Performance Criteria

- All lighting to comply with Australian Standards (AS/NZS 1158) for road lighting.
- Smartpoles or equivalent to be installed to manufacturer's specification and footing design.
- Clear anodised or hot dipped galvanised finish to manufacturer's specification
- Ensure underground cables
- Where possible, align light poles, and evenly space along length of street.
- All lighting is to conform with the City of Ryde's lighting policy and standard fittings.

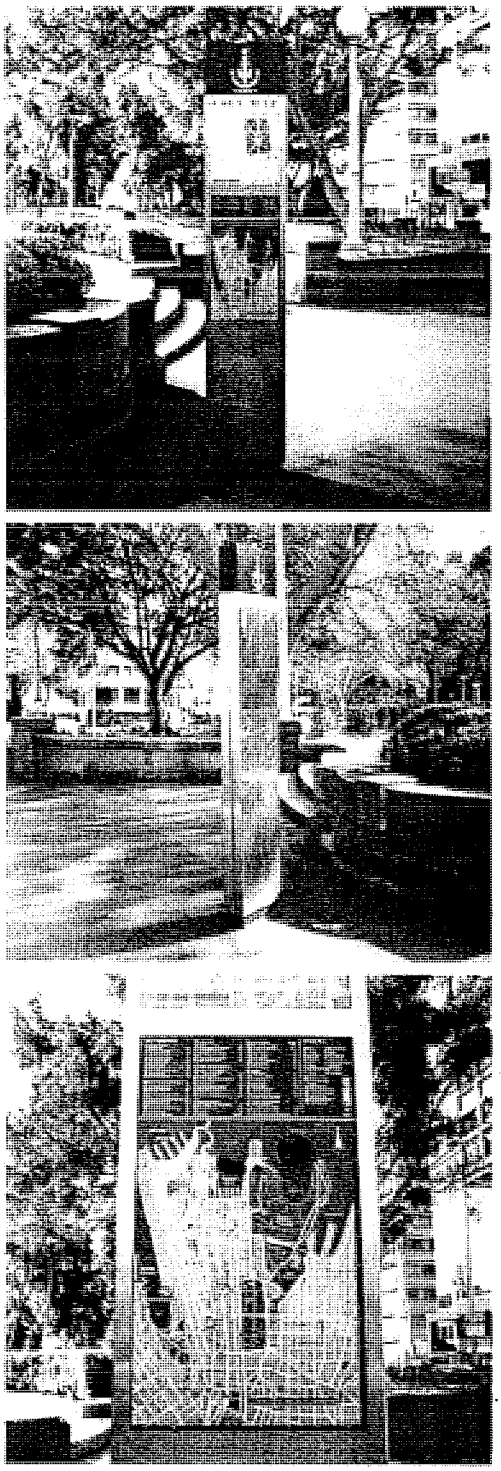
Luminance category

Vehicular luminance category: V5
Pedestrian luminance category: P2

Luminaire

Several luminaire types can be used. These are to be selected from the following fittings and with respect to City of Ryde Council lighting policies and related Australian Standards and Energy Australia requirements:

Luminaire Type 1: Thorn Avenue XL dia 600mm



Typical Signage Type 2: Freestanding Information & Directional signage

Example taken from City of Sydney

6.2 Signage types

Types
Two fixing / display types are proposed for meeting the signage requirements of City of Ryde Council and the RTA. These will provide a unified and legible set of alternative signage systems to cater for traffic and pedestrians alike.

Type 1: Smartpole
Incorporates traffic, road control systems and directional signage. Provides for existing and future City of Ryde signage boards [refer to the lighting strategy for smartpole types]. Several examples of existing signage boards and categories are described below and illustrated on a typical smartpole

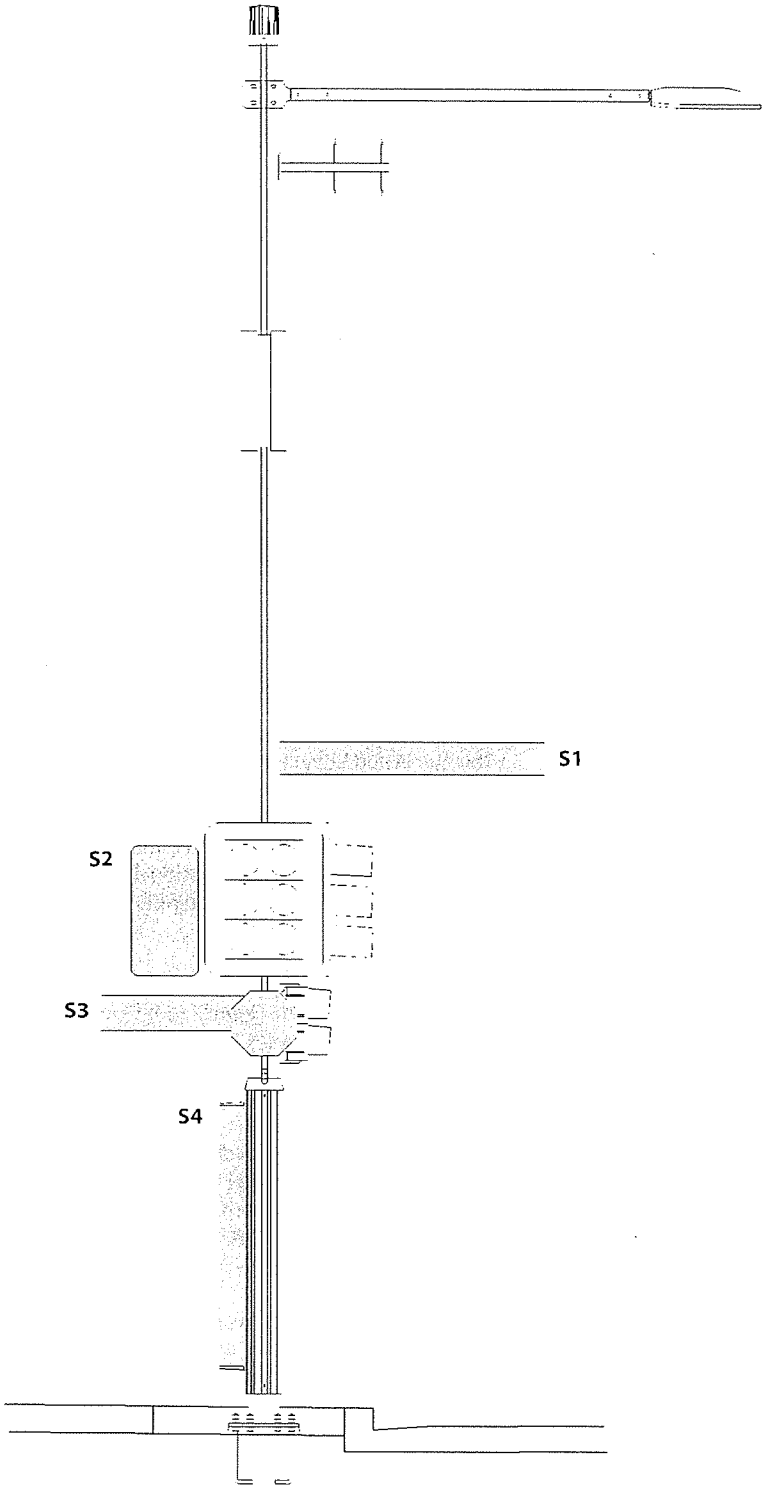
S1 Directional and wayfinding signage
S1 illustrates a standard City of Ryde sign measuring 1800 x 220 mm which can be adapted to suit the directional signage needs of the area. This can include directions relating to:
entrances from major roads
signal directions to major places of interest, for example Macquarie University, Macquarie Shopping Centre, Lane Cove National Park
identification of major parks and open spaces

S2 Traffic signs
Standard size and format traffic signs as nominated by RTA and City of Ryde Council to be incorporated as required on smartpoles (placement of traffic signs to be restricted to smartpoles only).

S3 Street name signs
Name signs should be provided for every street. This should be incorporated into the Smartpole system using graphic, lettering and material standards set by City of Ryde Council.

S4 Warning signage
S4 illustrates a standard City of Ryde sign measuring 1800 x 162 mm which contains information relating to risk management policies, public notices and other public warning signs. Because of the information being conveyed it needs to be located within easy and close visible range. This can be fitted vertically to the lower casement of the smartpole.

Type 2: Free standing
An independent free standing signage solution for parks and open space that incorporates directional, warning and way finding information. Fig [..] illustrates a well designed, durable and graphically legible example of this type.



Typical signage Type 1: Smartpole (S1B)
The same principles would apply to the application of signage on S1A

** Reference is made to the Department of Transport Best Practice Guidelines for NSW Transport Signage and Information Systems*

6.1 Typical signage

Overview
The manual provides guidelines on the use of different types of existing City of Ryde signage and principles for how they should be incorporated into the public domain. Smartpoles are proposed as the predominant fixing system. A free-standing signage system is also proposed for other situations where the use of smartpoles would be inappropriate.

However, to raise the profile of the area and be consistent with the objectives of land owners and stakeholders alike, it is recommended that a unified suite of signs, covering a range of directional and information signage, be developed for Macquarie Park. These signs should provide a specific identity for the area. At that stage it would also be appropriate to consider the design of a stand alone sign, for areas where the smartpole is inappropriate. The system could provide a comprehensive combination of the various signs listed below and could also be designed for use by private landowners to advertise and announce their building addresses.

We note that council is currently undertaking a comprehensive signage strategy. All signage is subject to confirmation by council.

Key Principals
- Provide a clear, unified signage system for the whole Macquarie Park corridor
- Minimise the amount of signage that is erected in the public domain to avoid clutter
- Signage should be designed to integrate into the overall character of street furniture and lighting systems, for example Smartpoles (where possible)
- All signage to conform to Australian Standards
- New signs should be made of hard wearing and durable quality finishes suitable for external applications, for example stainless steel
- Signage should be contemporary in design and graphic style

Design principles
All signs to conform to the following principles:
- Consistency: in terms of placement (distance and mounting locations) and height
- Clarity: text and graphic messages should be unambiguous
- Simplicity: provide simple instructions and shortest possible path
- Access: ensure signs are easily legible, conform to Australian Access codes and do not create barriers to movement

7.0
Technical details:
Street trees and planting

7.1 Street trees + planting: WSUD pit with grate

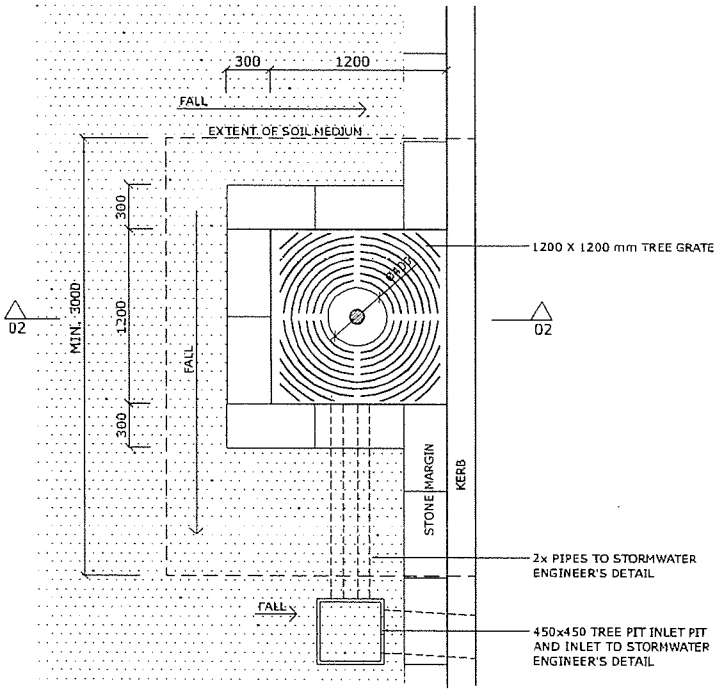
Locations :
All new streets with high pedestrian volumes where planted verge or WSUD pit with planting is not appropriate

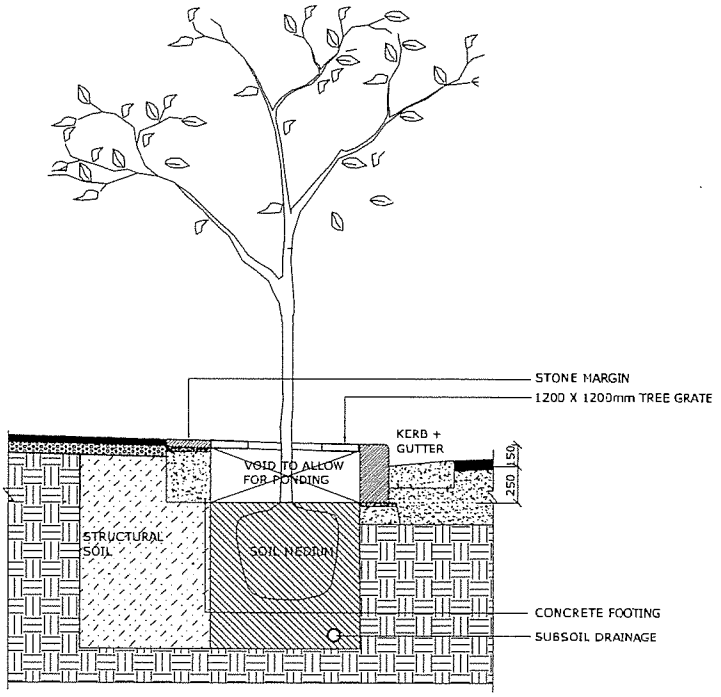
Design principles:

- Tree pit excavated to 3 x rootball width to allow for adequate soil volume.
- Steel edge to planted zone; 5mm galvanised steel.
- Tree grate 1200mm x 1200mm
  5mm gap to paving margin.
  Supplier: Moodie Outdoor Furniture
- Soils to arborists requirements. Ensure soil min 300mm/per hour of saturated conductivity.

Key:

SE 5mm Galvanised steel edge





7.2 Street trees + planting: WSUD pit with planting

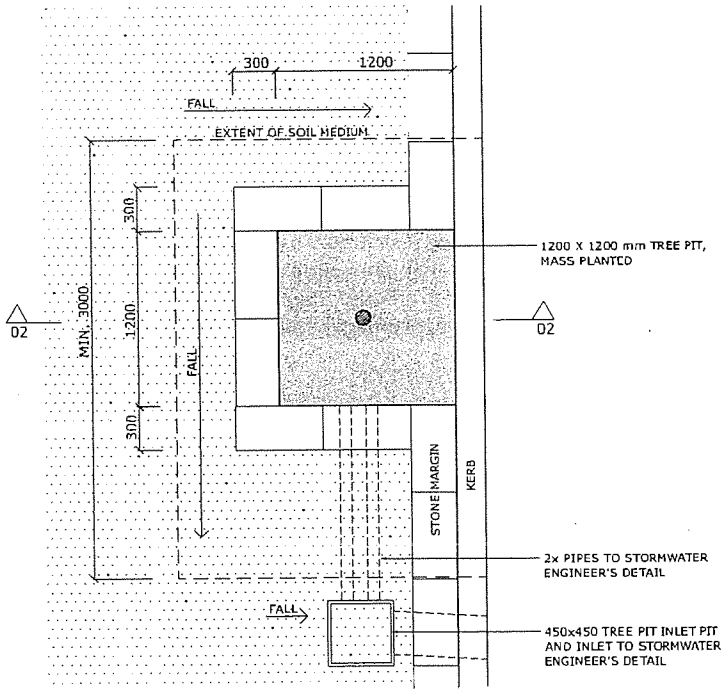
Locations :
All new tertiary and small streets with low pedestrian volumes.

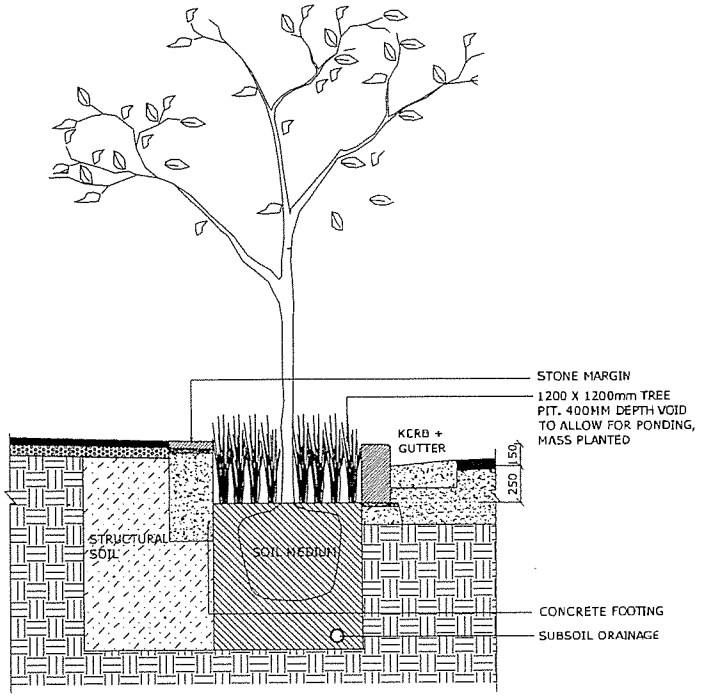
Design principles:

- Tree pit excavated to 3 x rootball width to allow for adequate soil volume.
- Steel edge to planted zone; 5mm galvanised steel.
- Understorey planting: Native grasses to tree pit
- Soils to arborists requirements. Ensure soil min 300mm/per hour of saturated conductivity.

Key:

SE 5mm Galvanised steel edge



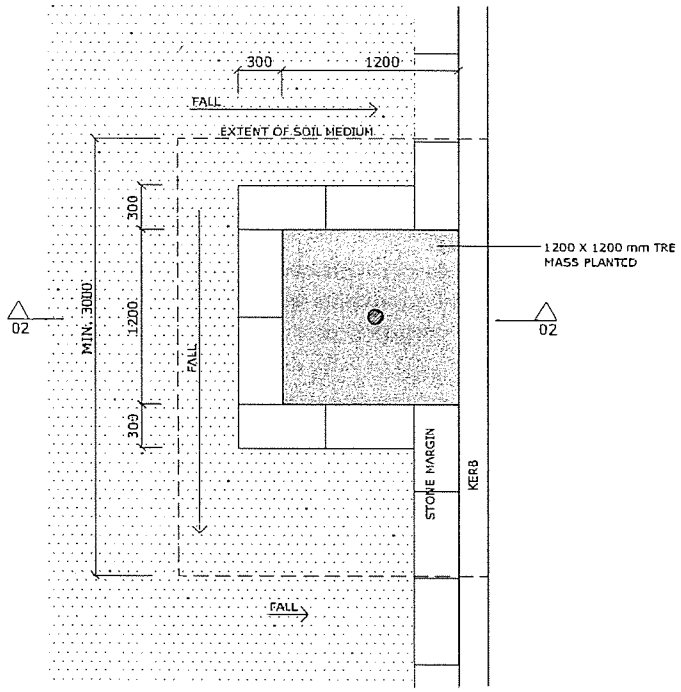


7.3 Street trees + planting: Standard pit with planting

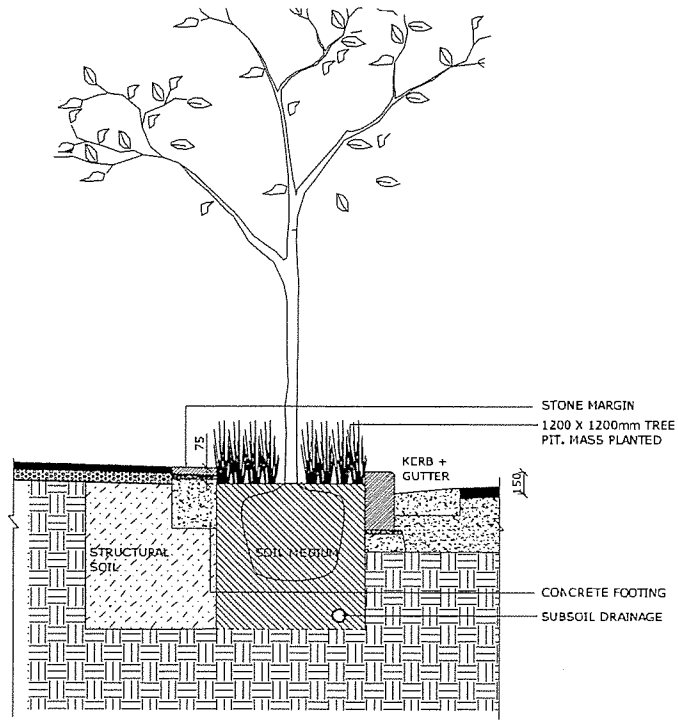
Locations :
On existing streets where WSUD treatments are not proposed

Design principles:

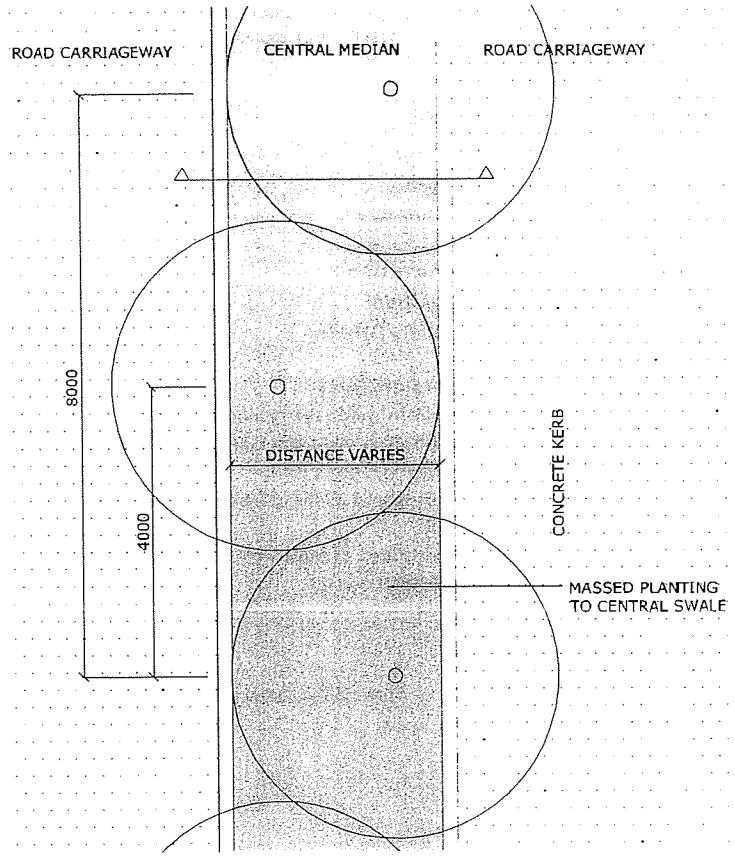
- Tree pit to existing streets.
- Tree pit excavated to 3 x rootball width to allow for adequate soil volume.
- Soil to arborist's requirements.
- Mass planting to tree pits: native grasses



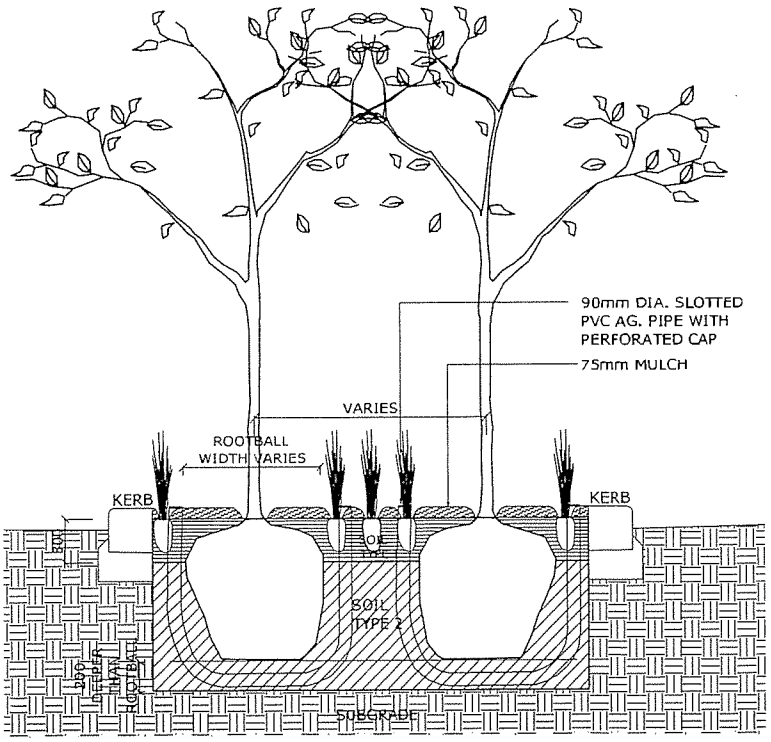
Plan
1:50



Section
1:50



01- Typical central median planting
Plan 1:100



02- Typical central median planting
Section 1:50

7.5 Street trees + planting: Central median

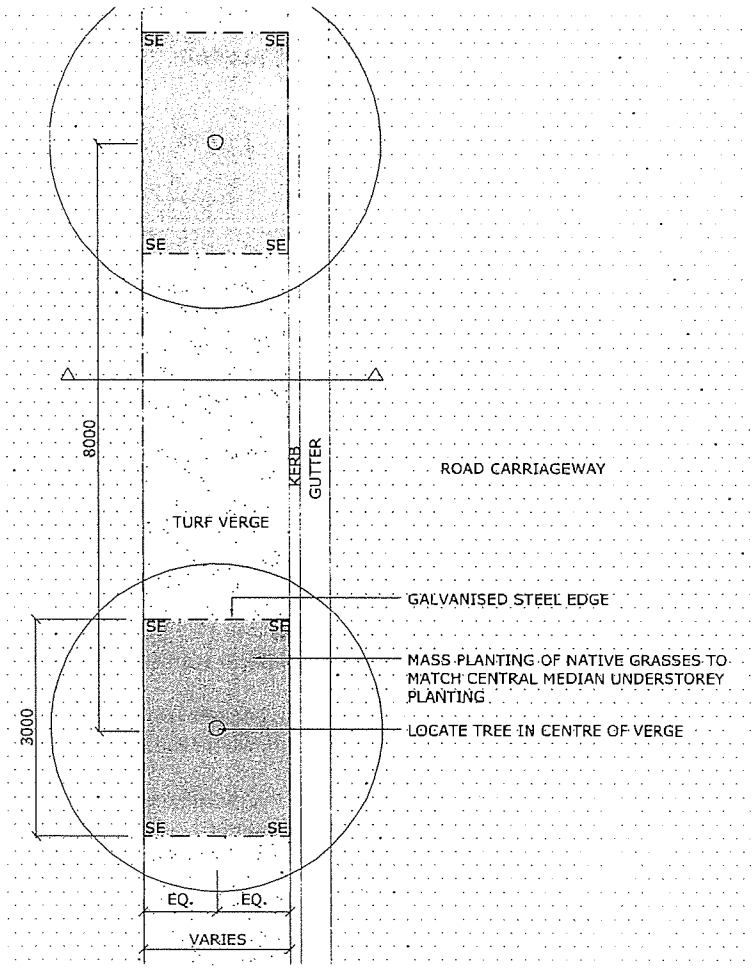
Locations :
Waterloo Road
Herring Road (where verge width allows)
Lane Cove Road (where verge width allows)

Overview:

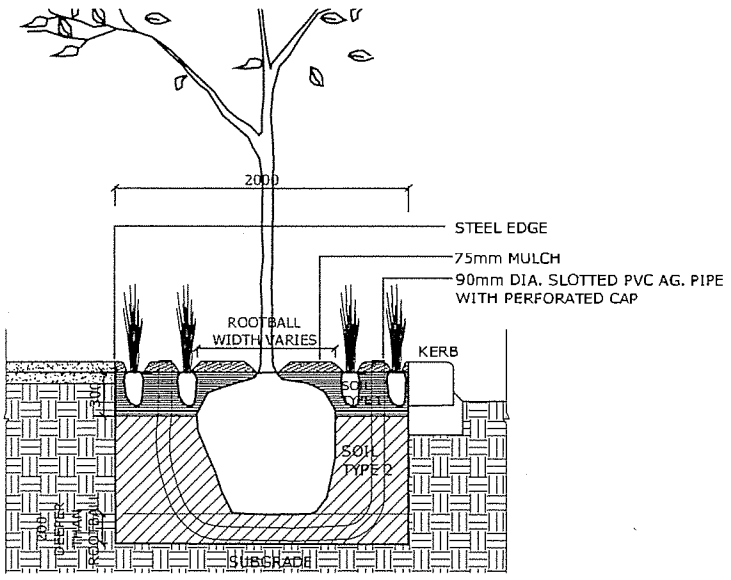
- A mass planted median with a double row (staggered) as a unique treatment
- Mass planted medians on Lane Cove Rd and Herring Road where existing central verge width allows (ie. greater than 1m wide), to signify their importance as main access roads to Macquarie Park.

Design principles:

- Mass planting species: Lomandra 'Tanika' or similar
- Tree planting at 8000mm centres. 2 x rows (staggered) where width of median accommodates.
- 90mm slotted PVC AG pipe with perforated cap to all trees as required.
- Soil to arborist's requirements.



01- Typical verge planting
Plan 1:100



02- Typical verge planting
Section 1:50

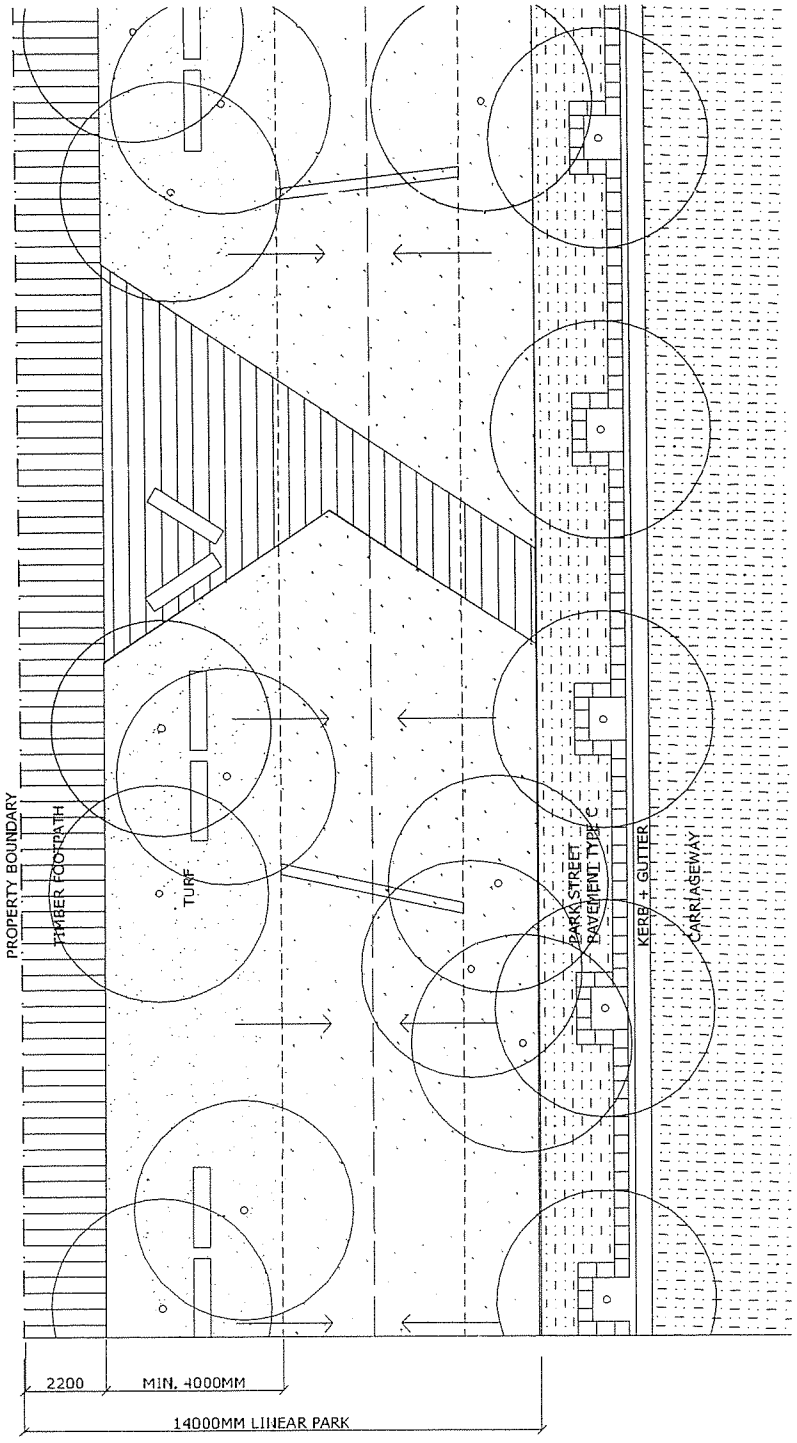
7.4 Street trees + planting: Turf/ planted verge

Locations :
Waterloo Road
Herring Road
Lane Cove Road
Epping Road
Secondary Streets

Design principles:
- 2000mm wide turf/planted verge.
- 3000mm x 2000mm wide planting beds along length to street trees
- Steel edge to planted zone; 5mm galvanised steel.
- Street trees at 8000mm spacing centrally located in verge.
- Soil to arborist's specification

Key:
SE 5mm Galvanised steel edge

7.6 Street trees + planting: Linear swale



01 - Typical linear swale planting
Plan 1:200

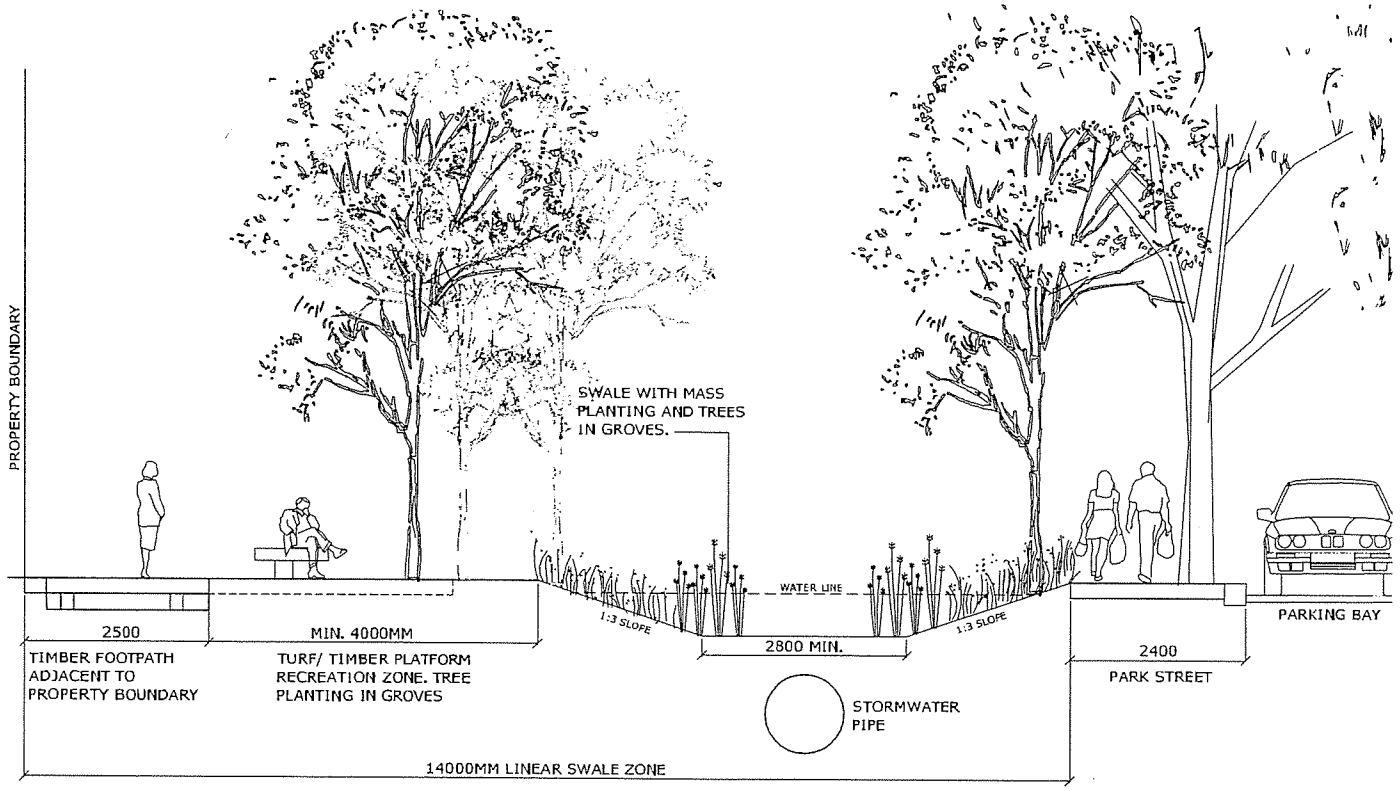
Locations :
Road 9 (south of Waterloo Rd)
Road 8 (between Waterloo Rd + Road 1)
Road 7 (north of Road 1)
New Road (adjacent to Porter's Creek open space)

Overview:
Linear swale open space/ drainage corridors are located adjacent to new streets on overland flow paths.

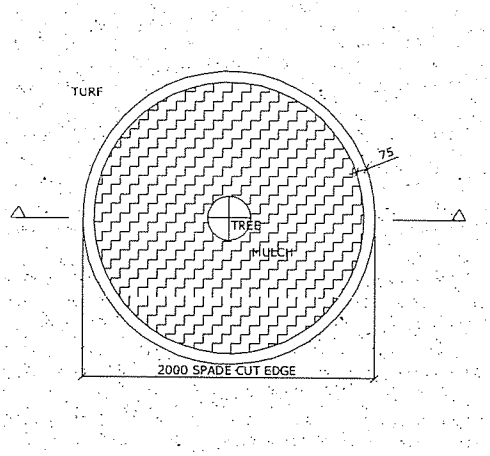
Design principles:
- Vegetated swale to convey stormwater is to be located within linear swales when located on overland flow path
- Minimum width of base of swale is 2800mm, with max. gradient 1:3 to battered sides.
- Ensure gradients allow adequate movement of stormwater, and water does not pond.
- Swale to be mass planted with appropriate wetland species (native).
- Tree planting to be appropriate native species, planted in groups of 3-4.
- When linear swale is not located on stormwater overland flow path, the entire space should be a soft (turf) landscape space for passive recreation uses.
- Ensure soil specified to allow for adequate saturated conductivity.
- Install weirs to allow for ponding and ground water infiltration in small rainfall events.

Maintenance:
- Clean swale periodically, removing debris and sediment buildup.

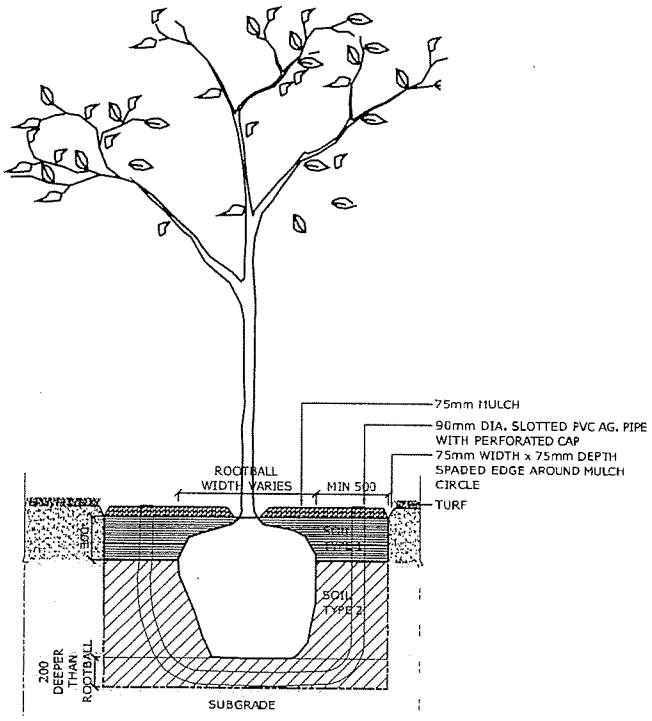
7.7 Street trees + planting: Linear swale



02- Typical linear swale
Section 1:100



01- Typical tree planting in parks/ open space
Plan 1:20



02- Typical tree planting in parks/ open space
Section 1:20

7.8 Street trees + planting: Park tree planting

Locations :
Parks

Design principles:

- Minimum 75mm width x 75mm depth spade edge at 2000mm diam. around trunk of tree.
- Tree species predominantly endemic species, although some feature planting of exotic deciduous species where appropriate.
- Where required install 90mm slotted PVC AG pipe with perforated cap to all trees.
- Trees in turf park areas mulched with spade edge to reduce water evaporation and ease maintenance.
- Soil to arborist's requirements.

Maintenance:

- Replace mulch as required.