

**Submission to the
Australian Human Rights Commission
Regarding the
Transport for NSW exemption application
for Birchgrove Wharf**



INNER WEST COUNCIL

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Inner West Council Submission on the TfNSW DSAPT exemption application for Birchgrove Ferry Wharf

1. Introduction

Inner West Council (IWC) was established through the amalgamation of Ashfield, Leichhardt and Marrickville Councils in May 2016. The first comprehensive and integrated strategy prepared and adopted by Council was the IWC Inclusion Action Plan for people with a disability 2017-2021. We are proud of that achievement and our unified history of championing initiatives to achieve accessible and inclusive communities.

Previous to amalgamation each Council had been active in advocating for improved accessibility. Access to Summer Hill railway station was championed by a representative complaint through Council in 1999. The Missed Business Guide continues to be a highly successful publication developed in 2004 through a partnership with Council and the Australian Human Rights Commission and has been taken up across the country. More recently the Balmain East Wharf upgrade in 2014-16 was the result of a number of years of advocacy, lobbying and Council working closely with the state government to recognise the need to achieve a continuous accessible pathway between a ferry service and a bus terminus. The NSW government access programs as a result began to recognise transport interchange facilities and include them in their project planning on access upgrades.

Council is keen to continue this approach to ensure the other remaining wharf on the Balmain peninsula serves all its users and achieves the stated objectives of both the NSW Transport Access Program (TAP) and the Birchgrove Wharf upgrade. Council have and will continue to advocate for the best possible outcomes regarding accessibility for all our community and negotiate with partnering agencies in a spirit of mutual respect and commitment to those outcomes.

At the Accessible Transport Advisory Committee (ATAC) members pointed out that ferries are regarded by people with disabilities as the most accessible form of transport. Council agrees and regards ferry transport as an important option for people with disability including those with reduced mobility.

Council have actively and consistently argued for full accessibility to be delivered as an outcome of the project. This was raised in each of the three meetings held between 2015 -2017 and communicated in responses including a letter of April 2017 where Council reinforced that a DDA compliant access solution should be part of the project rather than seeking deferment of the accessibility requirement.

2. Summary of Council position and response to AHRC questions

2.1 Council position on the exemption application

- Council does not support the application because we believe that an exemption is not necessary. An exemption is not needed in order to investigate new technologies or an effective application of existing ones in the context of Birchgrove. We have asked the applicant to pursue these actions for some time and the information returned has not persuaded us that it has been either extensive in the local context or has considered overseas operations. (See appendix A for examples of access via inclined lifts/inclined elevators).
- That more attention is needed on what performance based solutions could be approved to satisfy any strict interpretation of DSAPT specifications referenced and that would achieve the same outcome.
- An exemption is not needed to allow time to negotiate with Council. While it is appreciated that capitol works schedules and difficulties aligning them will arise Council strongly believes that the TAP should be

used first and foremost to deliver accessibility and not obfuscate program responsibility. Council staff will continue to welcome the opportunity to work with TfNSW to resolve the issue

- The potential to partner with Council to improve Yurulbin Park was suggested during discussions and we have not moved away from that invitation. However a thorough investigation into using inclinator as a means of addressing the DSAPT has far greater appeal and indeed benefit to other sites on Sydney Harbour that have equally difficult access yet are restricted as they do not have land based options such as a park adjacent to the wharf.
- The suggestion that Council is not in agreement on a solution is inaccurate, we are in agreement that the stairs which are on Council land require improvement works and that an inclinator could also be incorporated into the scope of works within that space. This would have less impact than a conventional vertical lift and pedestrian walk bridge. As highlighted it is also a more practical solution that can be applied elsewhere in the ferry network.
- Council is in agreement that there is potential to achieve an improved accessible path within Yurulbin Park. This may not be achievable to a strict and narrow interpretation of the relevant DSAPT compliance references to AS1428, however, there is scope to consider designs that would allow a performance based solution without adversely impacting on the heritage and bush like aesthetic of the park which is a valued and important aspect to the community. Our aim is to design pathways that allow people with a disability to enjoy this same landscape quality as fellow residents and ferry users who traverse the park as a safer option than the stairs.
- The landside components owned by Council are and have been open to negotiation with TfNSW “to reach a solution that meets the needs of people with a disability; compliance with the Transport Standards; offers a safe and reliable means of access; and has minimal visual and environmental impact to the area.” (Excerpt from the TfNSW application). If this is the critical fact needed for an exemption, we conclude that an exemption is not needed as it is already available.

2.2 What impact will granting an exemption have on people with disabilities who catch ferries to and from Birchgrove wharf?

- Council understands that there are existing limitations to the complaint based provisions of the DDA as a result of the DSAPT and that these restrictions conclude in 2022 when all aspects of a service are expected to be compliant. These limits extend to a person’s current ability to make a complaint against a provider if they have not met their obligations and benchmarks of progress. The exemption would extend this limit for a further year.
- Council believes through the development and adoption of its Inclusion Action Plan (IAP) that the rights of people with a disability should not be extinguished or reduced unduly. That it is a serious matter to extend or ‘quarantine’ rights unless doing so would generate a far greater and more productive benefit (under the DDA) to all the community concerned.
- Given that not all wharves have to be accessible for a further 4 years it does not seem justified to extend that timeframe for an additional year if the access objectives could reasonably be achieved within the 4 year period, particularly given the existing level of investigation and cooperation.
- People with disabilities who have difficulties with the existing access provisions will remain disadvantaged or excluded from using the ferry service until it is improved. The accessibility of public transport has been identified by the community in the statement of priorities that will inform the development of Councils Community Strategic Plan, see section 5 for details

In addition the community identified the lack of accessible public transport in the inner west (including ferries) as a major barrier to people with a disability and others. This is reflected in the actions of Councils Inclusion Action Plan (IAP), see section 6 for details.

2.3 If an exemption is granted, should it be subject to any conditions? If so, what conditions do you consider are appropriate?

If the Commission grants an exemption Council would recommend the following conditions:

1. That a comprehensive study of inclined lifts or similar mechanisms be conducted, including those used within Australia and overseas to develop applications for local conditions.
2. That the study be completed in time for the necessary planning and delivery schedules to also be achieved for the Birchgrove (and other) harbour locations within the DSAPT timeframe of 2022.
3. That TfNSW partner with Council and provide resources to undertake a full site assessment to enhance accessibility in the event that an inclinor is unachievable.
4. That in the interim the NSW Transport Access Program (TAP) focus on local priorities for accessible transport rather than be used in the area to fund projects that a) aren't priorities and b) don't contribute to the programs own aims, and
5. That Council and the community be consulted to confirm these priorities before commitments are finalised.

2.4 If an exemption is granted, how long should it be granted for?

Council does not believe there is sufficient cause to warrant an exemption in this instance. However if the Commission were to grant an exemption it is felt that 1 to 2 years is more than adequate to conduct the research and negotiations necessary. Council would be concerned if an exemption was granted in this instance that extended the compliance deadline beyond the legislated 2022 date and set a precedent.

3. Summary of the merits of preferred access options

3.1 Access via an inclined lift

Council believes that an inclined lift provides the best option for an accessibly pathway solution. More effort is warranted to explore how that may be incorporated into designs for Birchgrove Wharf. Our investigations have found that there are local manufacturers and suppliers of inclined lifts that have been installed in public spaces.

An inclined lift beside the current stairway provides the shortest access approach and does not alienate any part of the park. The proposed corridor hosts several high voltage power lines that cross the harbour from beside the wharf.

Issues such as vandalism are no more evident than could be expected in any other lift application and can be mitigated by extending the CCTV surveillance system being installed at the wharf.

The need to staff a lift has not been found either, however it is common that they are turned off outside the hours under which any associated facility operates. If this practice was found to be necessary in Birchgrove it could be replicated such that the lift is "on" during the hours that a ferry service operates.

There are numerous examples of this technology being used overseas, appendix A contains a variety of photos and locations of such use. It is noted that some are within the USA and would therefore need to be compliant with the Americans with Disabilities Act (ADA) which has often been used as a benchmark and to guide development of domestic Australian Standards related to access and mobility or the DDA.

The DSAPT does not specifically include nor exclude inclined lifts. It is suggested that this may be an oversight given the priorities at the time when the standards were written and something that might be reviewed during their next periodic review.

A contention appears to be if such a device complies with AS1735.12 (as opposed to AS1735.8 – inclined lifts). It is suggested that the components and dimensions required of Part 12 could either be incorporated into an inclined lift to meet local conditions or that the existing components of AS1735.8 as an Australian Standard are already sufficient for such a device to be considered satisfactory as an alternative solution or under Section 33.3 provision of the DSAPT.

Council has found an Australian supplier who confirmed they can deliver a product that meets the requirements of the DSAPT and in particular AS 1735.12 requirements can be met. (See appendix A for contact details) In addition attention is drawn to Section 33.3 of the DSAPT below:

33.3 Equivalent access

- (1) Compliance with these Standards may be achieved by:
 - (a) applying relevant specifications in these Standards before the target dates; or
 - (b) using methods, equipment and facilities that provide alternative means of access to the public transport service concerned (but not using separate or parallel services) with equivalence of amenity, availability, comfort, convenience, dignity, price and safety.
- (2) This may include direct assistance over and above that required simply to overcome discrimination.

Further, Division 1.11 of the DSAPT Guidelines 2004 (#3) encourages provides to adopt new technologies:

1.11 Innovation beyond the Disability Standards

The Disability Standards specify the minimum requirements for public transport. Operators and providers are free to exceed the Disability Standards in their services, premises, infrastructure and conveyances. Operators and providers are also encouraged to adopt new technologies that give improved access to public transport.

Recommendation

- That a comprehensive study of inclined lifts or similar mechanisms be conducted, including those used within Australia and overseas to develop applications suitable for local conditions.
- That the study be completed in time for the necessary planning and delivery schedules to also be achieved for the Birchgrove (and other) harbour locations within the DSAPT timeframe of 2022.

3.2 Access via Yurulbin Park

Yurulbin Park is a state significant park with rich heritage that includes Aboriginal middens, features of an earlier industrial working harbour era and an example of the 'Sydney Bush School' of Landscape Architecture pioneered by renowned landscape architect Bruce Mackenzie. The park's themes and features are described in Bruce Mackenzie's 2014 Renovation Plan which Council is funded to implement in the near future. The existing pathways in the park follow the pathways created for its previous industrial land uses, and do not comply with the DDA requirements for gradient, finishes, or aids.

The ramp option proposed by TfNSW was not supported because of the impact the design would have on the character and these key features of the park. Rather, Council preferred the alternative of an inclined elevator sited alongside the existing stairway. A contention has been whether such a path could or needs to be built with the sole aim of compliance with AS1428 as a pedestrian transport corridor if a sufficient pathway can be one that provides the least restrictive access, meets the broad intent of AS1428 albeit with a level of variance appropriate to the environmental and heritage context and with respect of all user needs.

The important elements we would like to preserve involve the natural setting and finishes, and believe, design needs to start with that perspective. Council and the park's original designer has set out these qualities in the park's Renovation Plan which any proposed works need to address. In addition Council is interested to open up the park experience to everyone so they can enjoy its unique qualities without compromising its essence. To this end a path designed sympathetic to the park's heritage and aesthetic character that also provides improved access to the ferry boarding level would be welcomed. Local residents have indicated in consultations that this would be appreciated.

Council has determined an option for locating a trench for an access ramp from the wharf deck into the park, providing a path which would rise into the middle lawn level of the park. Existing and upgraded paths would provide further access within the park and up to Louisa Road. Whilst this option may be technically feasible, it remains a challenging requirement to gain development approval for this intervention in the park.

Council does not have the resources to undertake this specific and involved piece of work however would welcome support from TfNSW to undertake this approach in partnership with us.

Recommendation

- That TfNSW partner with Council and provide resources to undertake a full site assessment to enhance accessibility in the event that an inclinor is unachievable.

4. NSW Transport Access Program

Council notes that the project was initiated as part of the Transport Access Program (TAP). In the 2017 year the IWC area had two Transport Access Program projects progressed. These were the Birchgrove wharf upgrade and a commuter carpark expansion in Ashfield.

Unfortunately neither project addressed key priorities for the inner west area or its residents. Furthermore neither project improved accessibility outcomes in a way that would enable people to engage in the local transport system beyond what they could arguably have achieved before the programs intervention.

Consequently for the inner west the TAP has not addressed community priorities in the projects it has progressed and neither project has substantially improved the accessibility outcomes for the area.

We feel that as a primary objective a TAP project should reflect the needs and priorities of the area and not be used as a default budget to upgrade transport infrastructure solely to enhance patronage or remediate any maintenance issues that are a part of ongoing core business of TfNSW.

Council notes that this outcome deviates from the publicly expressed intention of the TAP; to address accessibility, refer to articles below:

<http://www.smh.com.au/nsw/accessibility-issue-for-redfern-station-with-10000-new-commuters-due-in-2020-20180101-h0c3wb.html>

<http://www.smh.com.au/nsw/one-down-140-to-go-for-sydneys-rail-station-upgrade-program-20171228-h0ayrh.html>

In discussions it was raised that Council would prefer to be consulted on the broad program and contribute to priority setting to enrich our area and enable a more accessible transport system for residents. That if we were to consult with our community our desire would be to present the program in light of existing priorities that have yet to be resolved and remain unscheduled in the TAP.

Recommendation

- Should an exemption be granted, that in the interim the NSW Transport Access Program (TAP) focus on local priorities for accessible transport rather than be used in the area to fund projects that a) aren't priorities and b) don't contribute to the programs own aims, and
- That Council and the community be consulted to confirm these priorities before commitments are finalised.

5. Inner West Council Statement of Vision and Priorities

The Statement of vision and priorities was developed in close consultation with the inner west community and Council staff in 2016. It sets out strategic priorities that will provide high level guidance to Council until the development of a single Community Strategic Plan (CSP) for the inner west. In preparing the Statement we asked the community what the key issues and challenges are for the inner west and what Council needed to focus on in the next 12 to 18 months. These issues formed the basis of our eight high level priorities. They are:

1. Planning and development
2. Transport
3. Social vitality, creativity and quality of life
4. Sustainability and the environment
5. One council
6. Local industry and business
7. Advocacy for our community
8. Local democracy.

Accessibility and inclusion of transport needs are directly referenced in the priorities as actions on:

2. Improving accessibility and connectivity
3. Promoting inclusion, particularly for people with a disability
7. Improving access to key services e.g. public transport, education

6. Council Inclusion Action Plan; relevant community issues, strategies, actions and outcomes

In May 2017 Council adopted the Inclusion Action Plan 2017-21 for people with a disability. The plan is the result of extensive consultation with the community and staff and articulates how the vision and priorities will be delivered to ensure all people are included. The material below is included as it confirms the views of the community, the priority issues and Council agreed responses to address identified barriers.

In “IAP Action Area 4: Inclusive Planning (Infrastructure & Environment)” the community identified that:

- Accessible footpaths and facilities, pathways and transport are key to people with a disability being able to participate in their local community. Accessible public transport is an essential element to a liveable community

This has the following linked strategy and action:

- IAP Strategy 4.4: Continue to advocate for increased provision and improved local accessible public transport and mobility parking
- Action 4.4.1 Work with the NSW Government to improve accessibility of ferries, rail and light rail (stations, boarding and facilities).

These strategies and actions are aligned with the articles within the United Nations Convention on the Rights of Persons with Disabilities, the National Disability Strategy Policy Area 1: Inclusive and Accessible Communities and the NSW Inclusion Plan Focus Area 2: Creating liveable communities. The outcome Council seeks is:

- An accessible and liveable community where everyone is considered when planning a sustainable urban environment and infrastructure

Appendices

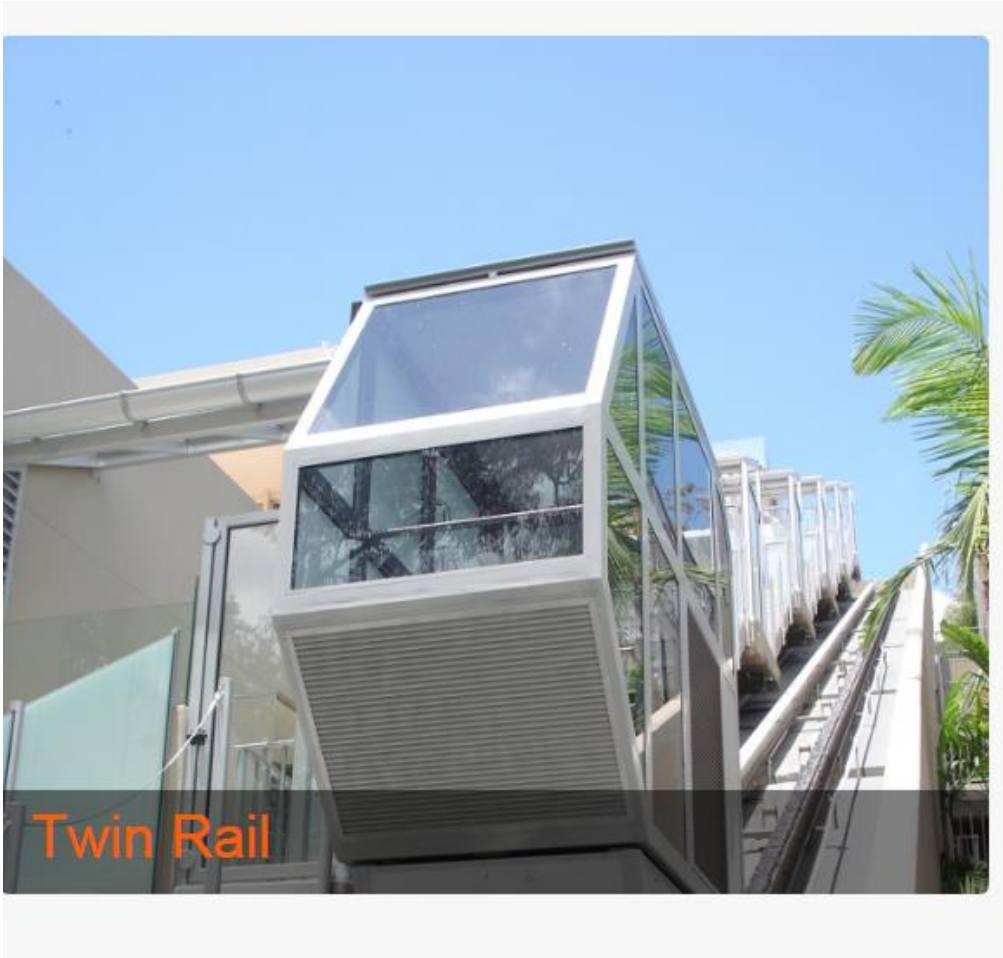
A. Examples of inclinators used elsewhere in a public environment



Lisgar Gardens, Hornsby

Local product installed on a steep grade in a public facility

Twin Rail external Inclinator – Australian manufacturer



From local manufacturer:

“Designed and manufactured in Australia by P. R. King & Sons, the inclined lifts are built to Australian Standards AS1735 and have been approved by all lift authorities in Australia.”

“All of our inclinators™ are built to the Australian standard AS 1735 Part 8 and have been approved by all lift authorities in Australia.”

They are built and used throughout Australia (600) are reliable, some in operation for 50 years, are BCA compliant (therefore meet AS1735 and DSAPT specs), they are also less costly than a lift.

Concern for vandalism has merit however it needs to be considered in respect to a documented history of vandalism and in similar context or location. The inclinator installed at the Hornsby Lisgar Botanic Gardens (see previous page) has no history of vandalism and the Birchgrove/Balmain Peninsula is not regarded as a high risk area.

Any risk can be further mitigated by the inclinator being turned off outside of ferry service hours

Another local supplier confirmed they can deliver a product that meets the requirements of the Disability Standards for Accessible Public Transport. In particular AS 1735.12 requirements can be met and in terms of operation the inclined lift is very similar to that of an elevator. See:

<https://www.doppelmayr.com/en/the-group/subsidiaries/australia/doppelmayr-australia-pty-ltd/>

Twin Rail external Inclinator – Australian manufacturer



Grand Coulee Dam, Washington, USA



Outdoor environments

San Diego Convention Center, San Diego, CA, USA



Old city of Langres, France



Manitoba, Canada



Stockholm Central Metro Station

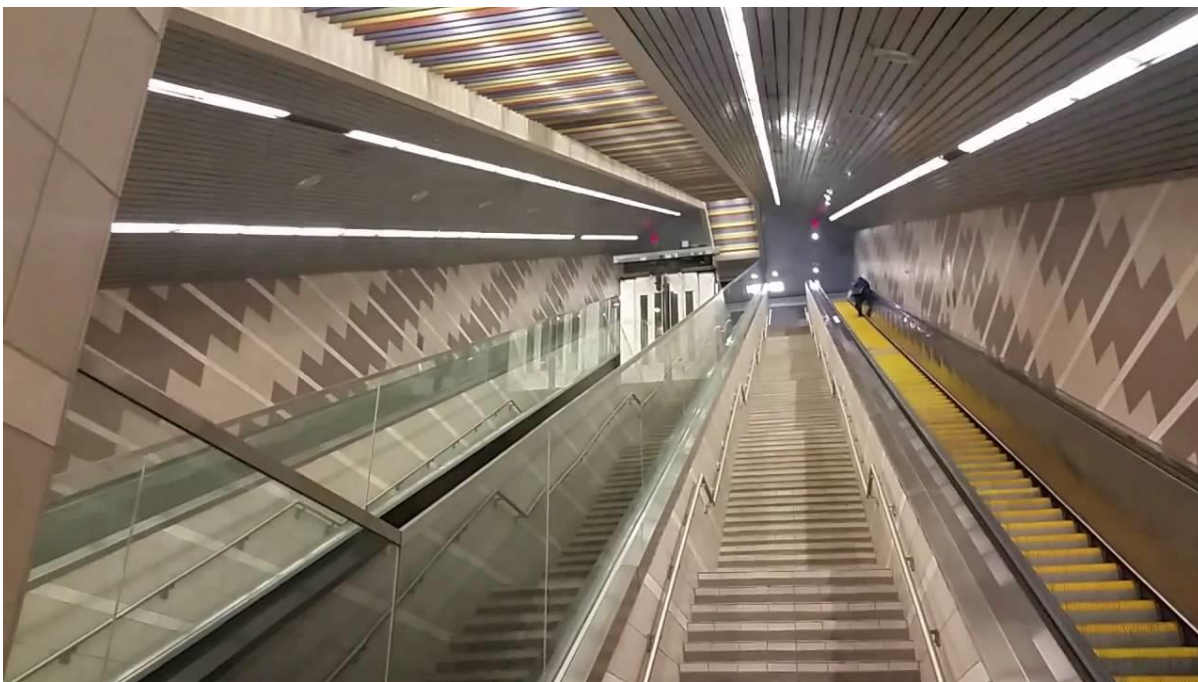
Inclinators are on the right side of escalator, at same grade.



Inclinators at Greenford Underground Station, London UK is similar.

Servicing a high use location

Millennium Bridge, London Picture: The Inclinator



Montgomery Inclinor @ Cityplace/Uptown DART Station, Dallas, Texas



Larger capacity indoor lift car

Montmartre Funicular



Larger capacity car in outdoor environment

Links to other examples of inclined lifts and their use:

<http://www.maspero.com/it/forte-di-bard/>

<http://www.accessauto.co.nz/commercial-inclined-elevators>

<https://www.seilbahnen.ch/en/Inclined-elevators/Beschrieb-Schraegaufzuege.php>

<http://www.vonrotz-seilbahnen.ch/produkte>

<https://hillhiker.com/commercial/>

<http://marineinnovations.com/commercial-industrial/incline-elevators/>

B. A track record of cooperation in improving ferry wharf facilities

The former Leichhardt Council was fully supportive of the wharf improvement program and assisted RMS project teams in the wharf replacements at Balmain Wharf (Thames Street) and Balmain East Wharf (Darling Street). The initial RMS project scope for Balmain East Wharf only replaced the gangway structure and stepped jetty platforms with a new pontoon and gangway. The works were confined to the water side from the sea wall. This left the existing land access and bus terminus as non-compliant to the access codes.

Acknowledging the inadequacy of the project, Leichhardt Council lobbied the NSW Government to complete the provision of a fully accessible transport terminal. A project was commenced by Transport for NSW Capital Projects Division to deliver a fully accessible transport interchange at Balmain East Wharf. Council was closely involved in the design processes and contributed to the project through

- the demolition of a public toilet facility on the foreshore and its replacement with a new facility on Council land adjacent to the site;
- the provision of an accessible public lift adjacent to the wharf to provide an alternate access option for ferry commuters;
- provision of foreshore parkland for construction of part of the access ramp;
- ongoing provision of regular maintenance of the interchange and its landscaping, as well as operation of the public area lighting.

These undertakings transferred to Inner West Council upon amalgamation, and are in place or continuing.

Council has similarly cooperated in the planning and design processes for Birchgrove Wharf. However, the access options floated as possible solutions to date do not deliver the required outcomes without unacceptable impacts. The site constraints limit the appropriate options, but are not unique to this wharf location. Similar narrow land approach corridors with substantial level changes are found at Kirribilli Wharf, Kurraba Point Wharf, Old Cremorne Wharf, South Mosman Wharf (Musgrave Street) and Greenwich Wharf. So there exists a potential to determine a common format solution applicable for all such sites.

Working relations between RMS officers and Council officers has at all times been cooperative, constructive and cordial. Council officers have a sound appreciation of the land side issues and access standard requirements, and appreciate the situation of RMS officers in identifying an acceptable design solution. It is appreciated that more time is required to research and develop an optimal solution.

References in RMS Submission relating to access design

The following references illustrate the design team's appreciation of the key issues and the difficulties in resolving an acceptable solution. From these one can conclude that the challenges of the project arise from locational constraints and were well understood. Furthermore, the development of understanding of the issues and the difficulty with the design of a suitable solution is evidenced progressing through these records, culminating in the deferral of the access problem whilst the new wharf construction proceeds.

Meeting Notes, Leichhardt Council Meeting No. 1, 24 April 2015 at Leichhardt

Item 1. Purpose of Meeting: The project was referred to as "Birchgrove Wharf and interchange"

Item 2. Program Overview: The program is to "improve customer experience including amenity, safety, and improving access for mobility impaired customers."

“the current package would also focus on the interchange and its land side elements including linkages with other modes of transport including buses, cycling, pedestrian linkages”.

Item 4. Birchgrove Wharf Project Overview: “Landside elements including pedestrian access from the wharf to the surrounding park will form part of this review.”

“It was noted that full compliance with the (DDA Standards) in relation to the landside elements would be hard to achieve in view of the geographical constraints of this area.”

The sketch designs presented at the initial consultation meeting included reconstruction of the existing stairway access, an accessible parking space and kiss and ride space, a 13 metre lift shaft and 20 metre suspended approach footbridge adjacent to the foreshore waiting shelter.

Birchgrove Feedback Session, 7 May 2015

Overview: “The preservation of heritage, the existing view, local ambiance and need to maintain Birchgrove ferry service were major concerns.”

“Accessibility of and at current location was the major issue and all considered major improvements eg footpaths/ramps are required.”

ATAC Presentation: Transport Access Program: Accessibility Challenges, 29 March 2017

Slide 5: Birchgrove Ferry Wharf: “Steep access to existing wharf – no DDA compliant path of access to the wharf – cost.”

“High value residential housing in close proximity – visual impact.”

A sketch of foreshore frontage 9 metre tall multi-storey structure providing 5 ramps in a switchback configuration was included to illustrate the issues.

Meeting Notes: “Birchgrove is a difficult one. Topography and access is not DDA compliant, combined with its limited usage and no landside transport connections.”

Meeting Notes, Inner West Council Meeting No. 3, 8 March 2017 at Leichhardt

Item 3: “RM noted previously the project had looked at different ways to create an accessible path from Louisa Road to the wharf, with a lift, inclinor and accessible path through Council owned Yurulbin Park considered due to the change in levels. None of these options have been included with the current scope of works due to the existing constraints involved, and impact of these proposed works on the existing park land.”

The presentation slides presented to the meeting listed the public feedback at slide 4: “Condition of existing stairs – uneven heights and in poor condition, railings difficult to use, poor lighting.”

Council’s letter to RMS of 13 April 2017

Following the meeting with RMS on 8 March 2017, in which the scaling back of the wharf upgrade was advised, Council wrote to reiterate its earlier advice provided in meetings with RMS, and noted in the meeting minutes.

As the existing stairway is the sole means of access, Council sought renewal of the existing stairway so that improved ambulant access was provided to the wharf during the pontoon installation to avoid further future interruption to access to the wharf.

Council further advised that a DDA compliant access solution should be part of the project rather than seeking deferment of the accessibility requirement.

C. The Brief for Renovation of Yurulbin Park

In 2014 Council engaged the original designer of Yurulbin Park, Bruce Mackenzie to prepare a Renovation Plan for the park. The project design retains the form and features of the original park and provides directions for improvements to the paths, better detailing of constructed elements, renovation of planting beds, and replanting of gardens to re-establish the selected native species. The renovation works are detailed in the document prepared by Bruce Mackenzie in June 2014. The former industrial use of the site is visible in the 1943 aerial photography from Six Maps.

Yurulbin Park contains features of pre-colonial use. There is also a pathway, remnant dock, and wharf frontage from colonial and later industrial occupation. The site has been a park since the early 1970's. The corridor of Louisa Road extends to the waterfront and contains a stairway to the wharf, forming the north-western boundary of the park. Also buried in the road corridor are numerous high voltage electricity cables that cross the harbour from this site.

The park is divided into three generally level zones separated by natural sandstone rock face or stone retaining walls. There is an upper lawn and carpark (generally 9.5m elevation), linking by a path to a middle level lawn (generally 5.5m elevation), and linking by paths with stairs to a foreshore level (about 2m elevation). The upper area paths are built of sandstone flagging, whilst paths at the middle and lower levels are gravel.

D. Opportunities for Improving Access in Yurulbin Park

Roads and Maritime Services sought Council's advice on the provision of a DDA Code compliant access path through Yurulbin Park. Council's advice was that a fully compliant access path would not be in keeping with the design aesthetic of Yurulbin Park and would require significant disruption through much of the park. That advice was based upon the considerations outlined below.

Options for ramp access from the top level to the middle level

The existing path from the top level to the mid-level uses a path hewn through the sandstone bedrock that is a remnant of the earlier industrial occupation of the site. The gradient varies but is generally 1:9. That path takes a U-turn at the middle level and runs at 1:10 grade down to the mostly level area, known as Snails Bay the foreshore seawall area. This area is gravel paved, backed in part by a picnic lawn and below the path, backed by a concrete retaining wall. The Renovation Plans propose the repair and upgrade of the path surface to be finished with sandstone paving, to be in keeping with the natural areas of exposed bedrock throughout the park.

On the north western side of the upper level, the paths linking to the wharf access stair are to be resurfaced with sandstone paving. The carpark has been resurfaced in the recent past.

Options for ramp access from the middle level lawn to the wharf

The wharf deck area and waiting shed is adjacent to the edge of the middle level lawn, and separated by a 1.6m high stone retaining wall. The pontoon to wharf deck gangway extends past and beyond the foreshore sea wall level area. In order to develop a ramp access from the wharf deck, the stone retaining wall must be breached. A ramp path between the wharf deck (1.5m elevation) and middle level lawn (5.5m elevation) would be graded about 1:8.

Alternatively a ramped path into the adjacent foreshore area, switching back to rise to the middle lawn may be graded about 1:14. Such a ramp would be sited in a trench for the lower section, following the line of an existing stone retaining wall. The path is likely to require substantial rock excavation and earth retaining structures.

Impacts of ramp access on the park

The ramp access path options proposed above provide a step free wheel-able route, but would not be DDA/AS1428 compliant. Any option to improve ramp access to the wharf from the park will result in the loss of mature trees. Excavation construction activity will also be deleterious to the park finishes and its vegetation. The resulting ramp access routes would not comply with the desirable 1:20 gradients, but do provide better access into the park.

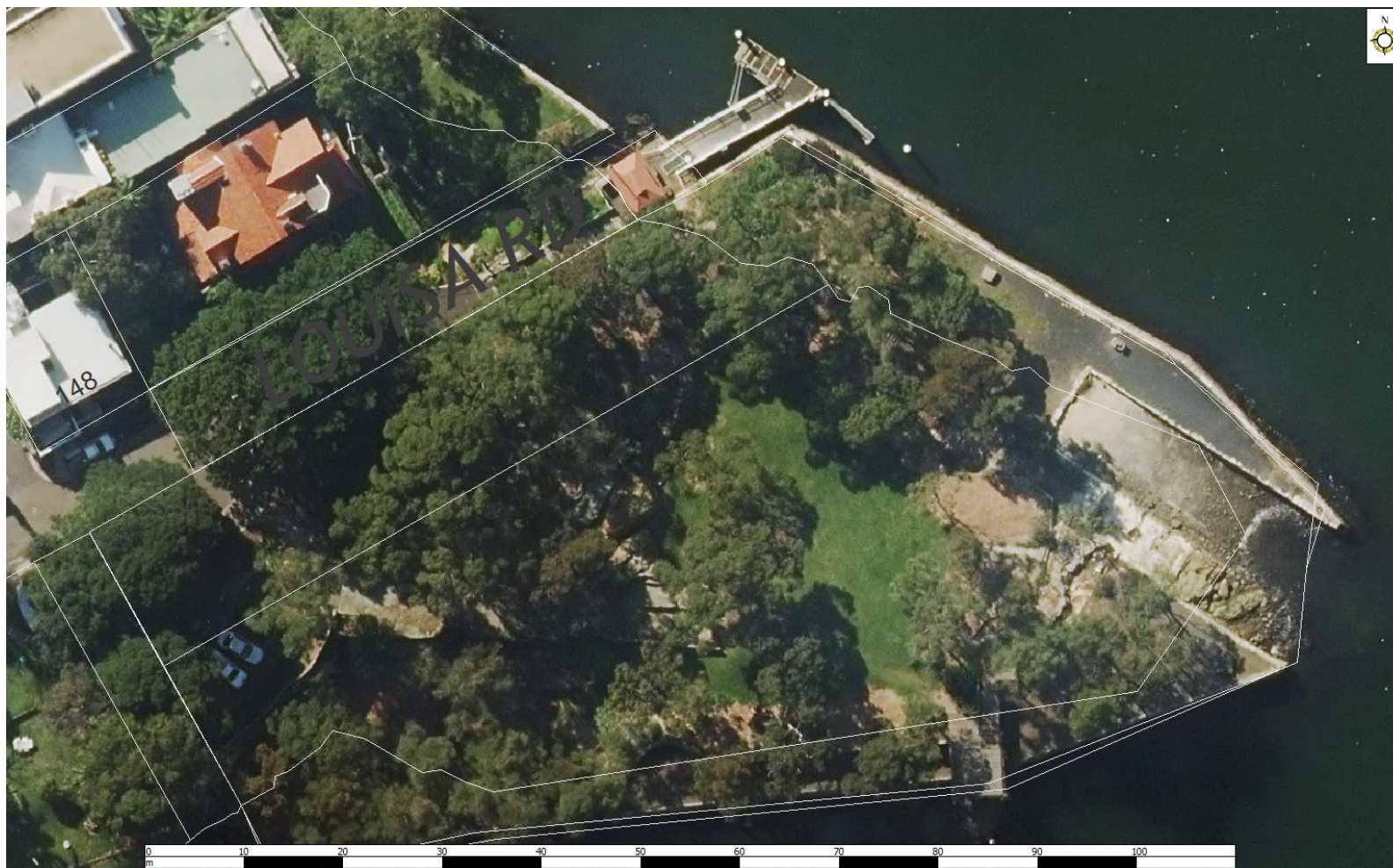
Providing other access features such as handrails and tactile surface markers would also not be in keeping with the native bush design theme of the park, however as a natural area there may be other design solutions that could be explored, offer sufficient and safe path access and suffice as an alternative solution. It is this level of investigation that would require additional support to complete.

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E. Photographic Essay on Yurulbin Park

YURULBIN PARK, and Birchgrove Wharf

Aerial photograph 2016



1943 aerial photograph illustrates wharf and park site with previous industrial uses



Access pathway options



Upper level lawn



Upper level, view up footpath leading to stairway to Birchgrove Wharf



Upper level pathway toward stairway to wharf



Upper level, footpath at 150 Louisa Road, view toward wharf



Upper level, Main pathway from upper level toward middle level of park



Main pathway toward middle level lawn



Middle level lawn, view up main pathway toward upper level



Middle level lawn, view down pathway toward Snails Bay foreshore lawn



Snails Bay foreshore level lawn, viewed from upper level



Snails Bay foreshore level and viewing platform



Dockside foreshore view to Snails Bay foreshore and Viewing Platform



Remnant marine dock and view toward Parramatta River foreshore



Middle level lawn, viewed from upper level. Lawn is currently occupied by wharf reconstruction project accommodations



Middle level lawn, viewed from upper level



New wharf platform with waiting shed footings viewed from stairway. Option for access ramp trench through retaining wall and garden to the right



Foreshore garden, site for access ramp option lower ramp trench from wharf

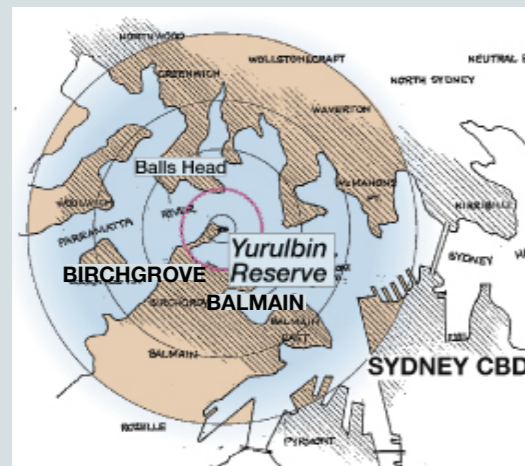


Middle level access to foreshore, location for switchback for access ramp option. Note bedrock level in foreground.



Middle level path toward foreshore, location for upper ramp of access ramp option





CONTENTS

1. Cover – A Plan for Restoration
2. Existing Site May 2014
3. Existing Site – 2 May 2014
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5. Park Images: Notes – 2
6. New Layout: Shapes and Paving
7. Planting Detail
8. Planting Layout
9. Restoration Plan – June 2014
10. Restoration Plan: Tree canopies

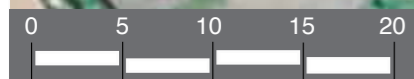




PARRAMATTA RIVER



Snails Bay

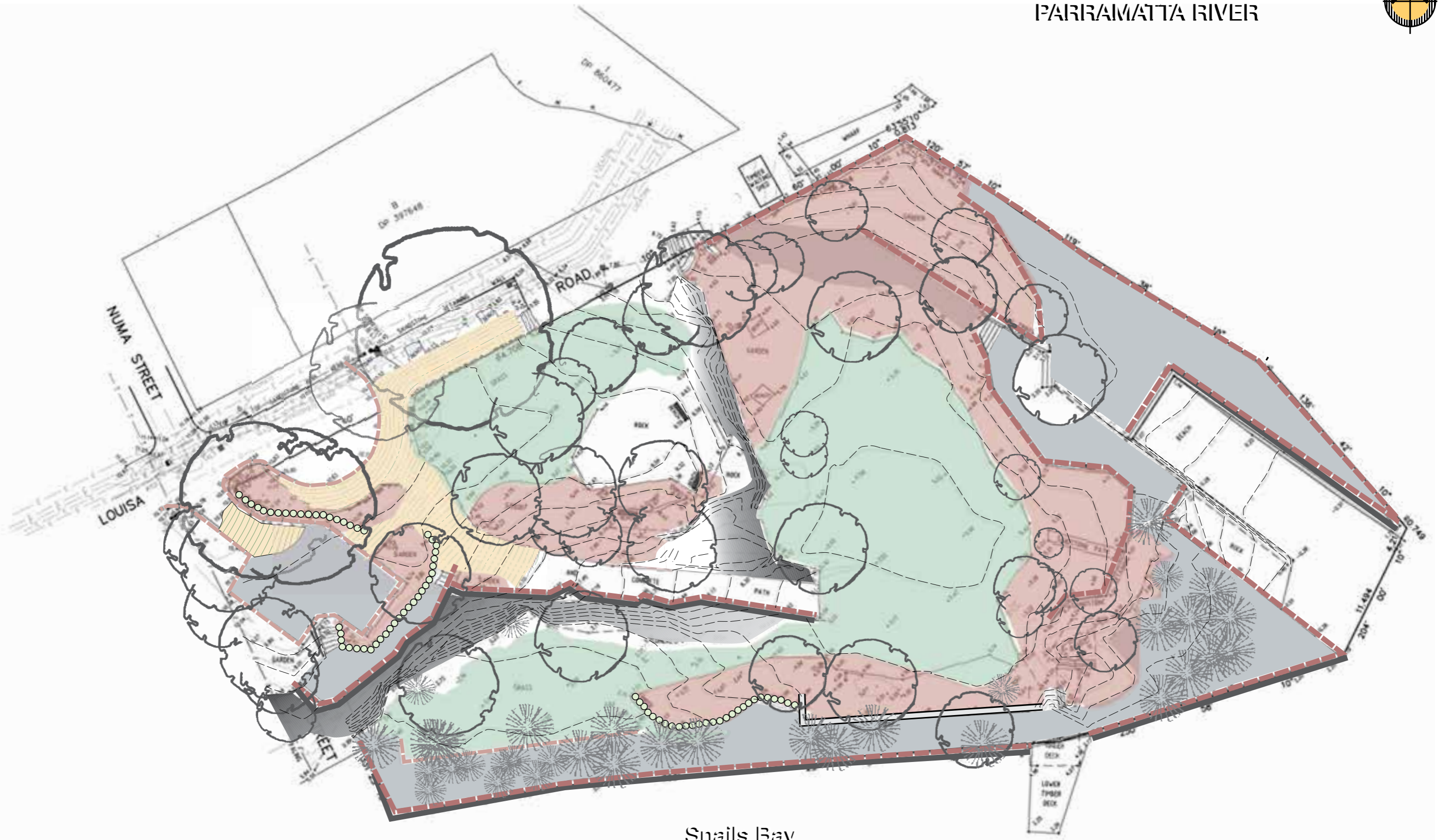


- STONE WALLS STONE EDGES
- GRASS
- GRAVEL
- STONE PAVE
- GARDEN AREAS - BACKGROUND

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YURULBIN RESERVE
 Leichhardt Municipal
 Council

EXISTING SITE
 MAY 2014



Snails Bay



| | | | | | | | |
|-------------|-------|--------|------------|---------------------------|--|--|------------------------------------|
| STONE WALLS | GRASS | GRAVEL | STONE PAVE | GARDEN AREAS - BACKGROUND | Bruce Mackenzie Design PO Box 601 Manly Australia 2095 Ph 02 9949 6260 bmla@bigpond.net.au | YURULBIN RESERVE Leichhardt Municipal Council | EXISTING SITE/2 MAY 2014 |
| STONE EDGES | | | | | | | |



1. The turnaround – Mobile bins need to be relocated (perhaps to the left of the path to the ferry) and preferably enclosed in a suitable surround. All furniture items should be painted/oiled grey or left to weather grey incl benches, table/seats and bollards.

Suggest bollards installed at entry with one removable for park vehicles access. The green vehicle barrier tends to obscure pedestrian entry to the main pathway.

2. Sign posting – can be reviewed, relocated and made more compact.

3. Carpark – is recommended for change to a coloured bitumen paving finish.

4. Timber Columns. New columns need capping – galvanised steel possibly on a re-sawn top detail.

5. West boundary requires screen planting.

6. Gravel paths require tidying and regravelling.

7. The main path approach to the park. The original paving stone, bare rock and infilled exposed aggregate patches could be done again but the recommendation is for a new stone paved path all the way and down to the lower lawn level. This should be made to carry council vehicles and be relatively permanent.

PARK IMAGES 1
May 2014



8. Concrete drain to be removed. Drainage detail to be re-worked over the new stone path to drain into surrounding areas evenly.

9. Lower lawn level as found. Needs some removal of existing trees to allow a safe pathway system to be established.

10. Casuarina glauca needs some revitalisation, fertilisation etc. A fertilizer system is proposed elsewhere.

11. The wharf structure is shown later, designed for visual strengthening of the balustrade.

12. The graveled fishing zone.

13. A typical stone-walled planting bed to be renewed and replanted.

14. A fine fishing area but the Casuarinas are looking a bit defeated. One treatment would be to encourage Casuarina suckers to develop and be reviewed at a later date. This would lead to a much greener base effect. Similar treatment could be applied to the regrowth of figtrees. A later review could determine where the regrowth can be accepted.

15. Lawn, gravel areas and mulched planting areas need to be laid out properly and agree with current levels that prevail. The table/seat furniture needs to be relocated and brought to a leveled base.

16. Planting and graveled areas need to be set out with stone edges to facilitate convenient mowing and edge trimming (for the sake of efficient and more economical maintenance).

17. The bank down to the ferry wharf needs a low height groundcover planting (dense and heavy) – the recommendation is to plant out a pure stand of Lomandra longifolia which will provide a bright green continuous cover.

18. Furniture renewal will be required.

19. Wharf column timbers need repair or replacement.





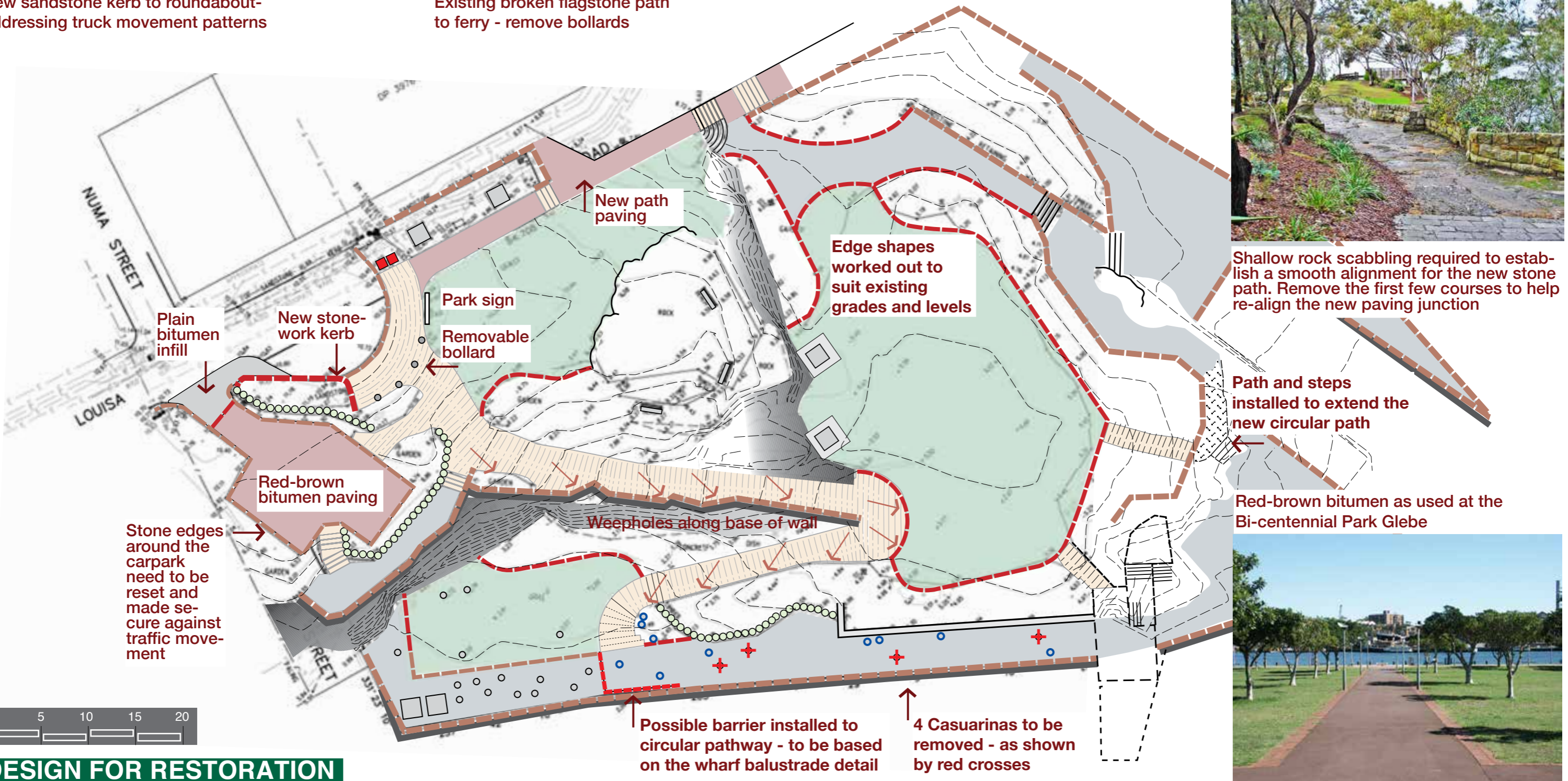
New sandstone kerb to roundabout-addressing truck movement patterns



Existing broken flagstone path to ferry - remove bollards



New path and stairs installed on site to extend the circular pathway



Shallow rock scabbling required to establish a smooth alignment for the new stone path. Remove the first few courses to help re-align the new paving junction

Path and steps installed to extend the new circular path

Red-brown bitumen as used at the Bi-centennial Park Glebe



DESIGN FOR RESTORATION

- STONE WALLS
- STONE EDGES
- GRASS
- GRAVEL
- STONE PAVE
- GARDEN AREAS - BACKGROUND

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YURULBIN RESERVE
 Leichhardt Municipal Council

NEW LAYOUT:
 Shapes and Paving

Small trees and Larger Shrubs Group

Acacia glaucescens
Angophora hispida
Banksia aspleniifolia
Banksia ericifolia
Banksia integrifolia
Banksia marginata
Banksia spinulosa
Callicoma serratifolia
Callistemon citrinus
Callistemon linearis
Callistemon salignus
Elaeocarpus reticulatus
Grevillea asplenifolia
Hakea salicifolia
Hakea sericea
Hakea teretifolia
Leptospermum grandiflorum
Leptospermum juniperinum
Leptospermum laevigatum
Leptospermum polygalifolium
Melaleuca armillaris
Melaleuca ericifolia
Melaleuca hypericifolia
Pittosporum undulatum

Medium Shrubs Group

Correa alba
Eriostemon australasius
Grevillea buxifolia
Kunzea ambigua
Lambertia formosa
Westringia fruticosa
Xanthorrhoea spp

Groundcovers and Small Shrubs Group

Dianella revoluta
Doryanthes excelsa
Hardenbergia violacea
Hibbertia volubilis
Isolepis nodosus
Kennedyia rubicunda
Lomandra longifolia

Coast Myall
Dwarf Apple
Fern-leaved Banksia
Heath-leaved Banksia
Coast Banksia
Silver Banksia
Spine-leaved Banksia
Black ‘Wattle’
Crimson Bottlebrush
Narrow leaved Bottlebrush
Pink-tip Bottlebrush
Blueberry Ash
Grevillea asplenifolia
Swamp Hakea
Needlebush
Dagger Hakea
Woolly Tea-Tree
Prickly Tea-Tree
Coast Tea-Tree
Swamp Tea-Tree
Bracelet Honey-myrtle
Swamp Paperbark
Red-flowering Paperbark
Sweet Pittosporum

White Correa
Wax Flower
Grey Spider Flower
Tick Bush
Mountain Devil
Coast Rosemary
Species from Sydney Harbour

Blue Flax-Lily
Gynea Lily
Purple Coral Pea
Climbing Guinea Flower
(syn. *Scirpus nodosa*) A rush
Dusky Coral Pea
Spiny-headed Mat-rush

A Planting Policy

Planting is meant to reproduce the previous mixture of Sydney Harbour species, not as a detail garden but more as a reliable mix that is easier for Council to maintain. The main principal is to cover surfaces with a continuous spread of foliage and reduce the exposure of raw ground and the development of weeds. The need for surface mulching, initially essential, would be gradually reduced.

Planting Detail

Carry out clearing and repeated cultivation removing all unwanted growth.

Fertilizer

Carry out fertilizing equivalent to the following: ‘Professional Landscape Formula Flora’ (EVERRIS – Derived from Osmacote)

16-1.3-9.1-6.5+1.8Mg, longevity: 8-9 months.
15kg bag.

Specifically developed for fertilizing planting in a landscape situation.

Nutrients are gradually and evenly released throughout the season using PACE technology. Ensuring balanced, healthy plant growth.

A single application for the entire growing season.

Low phosphorus formula suitable for Australian natives.

Suggested Application Rate: 80g/m²
(8kg/100m²)
Bag coverage: 375m²

Fertilizing to existing Casuarina specimens:

Apply fertilizer into holes made with a crowbar, or similar, approximately 100mm deep at 300mm centres around the dripline of the trees. Close up holes with local gravel.

Plant Spacing

Space according to size as in 0.5m to 1.0m, averaging 0.75m per plant for species such as *Lomandra longifolia* in the category **Groundcovers and Small Shrubs Group**.

Larger material, *Leptospermum* etc. at 0.5m to 1.5m spacing to average at 1.0m centres throughout – **Large and Medium Shrubs Groups**. Set out randomly so that no obvious uniformity can be observed.

Mulching

Mulch to a compacted depth of 75mm after planting is finished (uncoloured woodchip material).

Maintenance

Replace on a weekly basis any failed plant material during a maintenance period to be determined.

Fencing

Install light weight plastic fencing sufficient to deter random access during an establishment period of say 12 months.

Plant Locations

Plants should be located on site by a person experienced in native plants who has a reasonable understanding of their eventual shape and size. Not all plants listed need to be used but selections should be made from the list. Plants can be used in single and multiple groupings.

Lomandra is shown in two locations as a continuous cover without other plants included. Elsewhere it is used in combination with other species.

Define certain rock area zones where thin soil and weeds can be removed down to bare rock – finish with a water-blast treatment to establish a clean weed-free base.

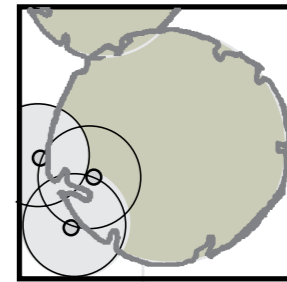
PLANTING DETAIL



A later prospect for Yurulbin Reserve



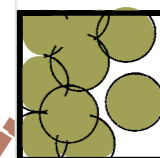
Lomandra groundcover (on another site)



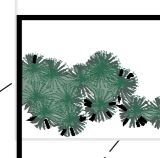
Existing Trees



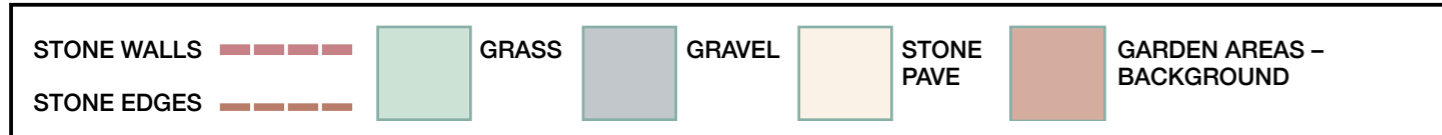
Small Trees and Large Shrubs Group



Medium Shrubs Group



Groundcover and Small Shrubs Group



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YURULBIN RESERVE
 Leichhardt Municipal Council

PLANTING LAYOUT



PARRAMATTA RIVER



Snails Bay

| | | | | | | | | | |
|-------------|--|-------|--|--------|--|------------|--|---------------------------|--|
| STONE WALLS | | GRASS | | GRAVEL | | STONE PAVE | | GARDEN AREAS - BACKGROUND | |
| STONE EDGES | | | | | | | | | |

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YURULBIN RESERVE
 Leichhardt Municipal
 Council

RESTORATION PLAN
 June 2014



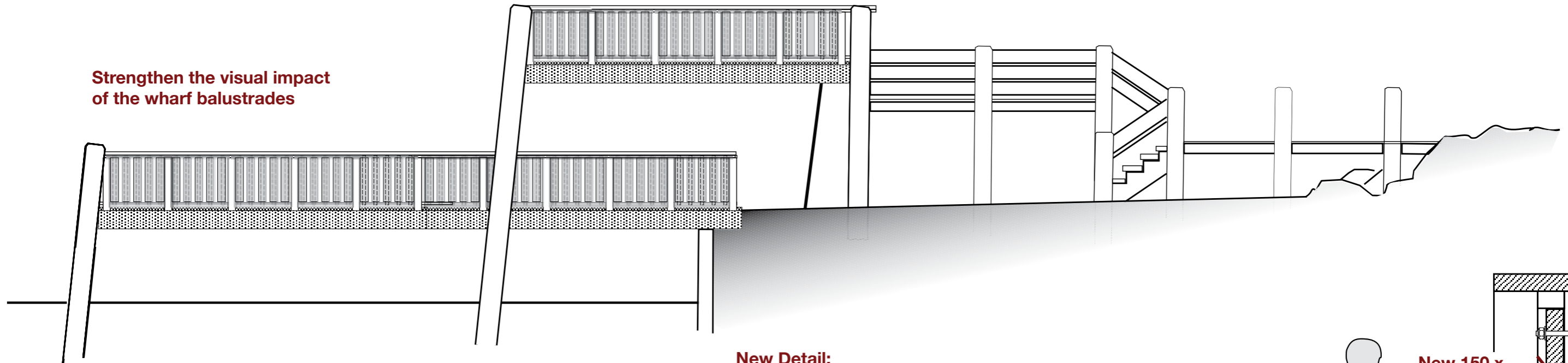
- STONE WALLS GRASS
- STONE EDGES GRAVEL
- STONE PAVE GARDEN AREAS - BACKGROUND

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YURULBIN RESERVE
 Leichhardt Municipal
 Council

RESTORATION PLAN –
 Canopies shown

Strengthen the visual impact of the wharf balustrades



Dimensions to be checked on site.

Timber sub-structure looks generally okay but needs checking.

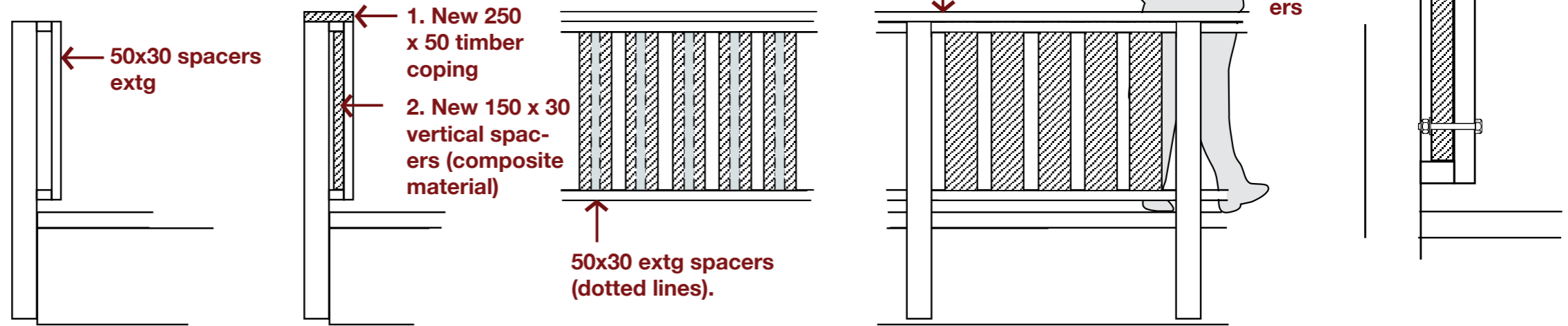
Timber columns need replacement or repair.

Extg balustrade situation:

1. Vertical posts
2. Top and bottom rails
3. 50 x 30 vertical spacers

New Detail:

Add 150 x 30 vertical spacers made up of a plastic composite material (to engineer's specification).



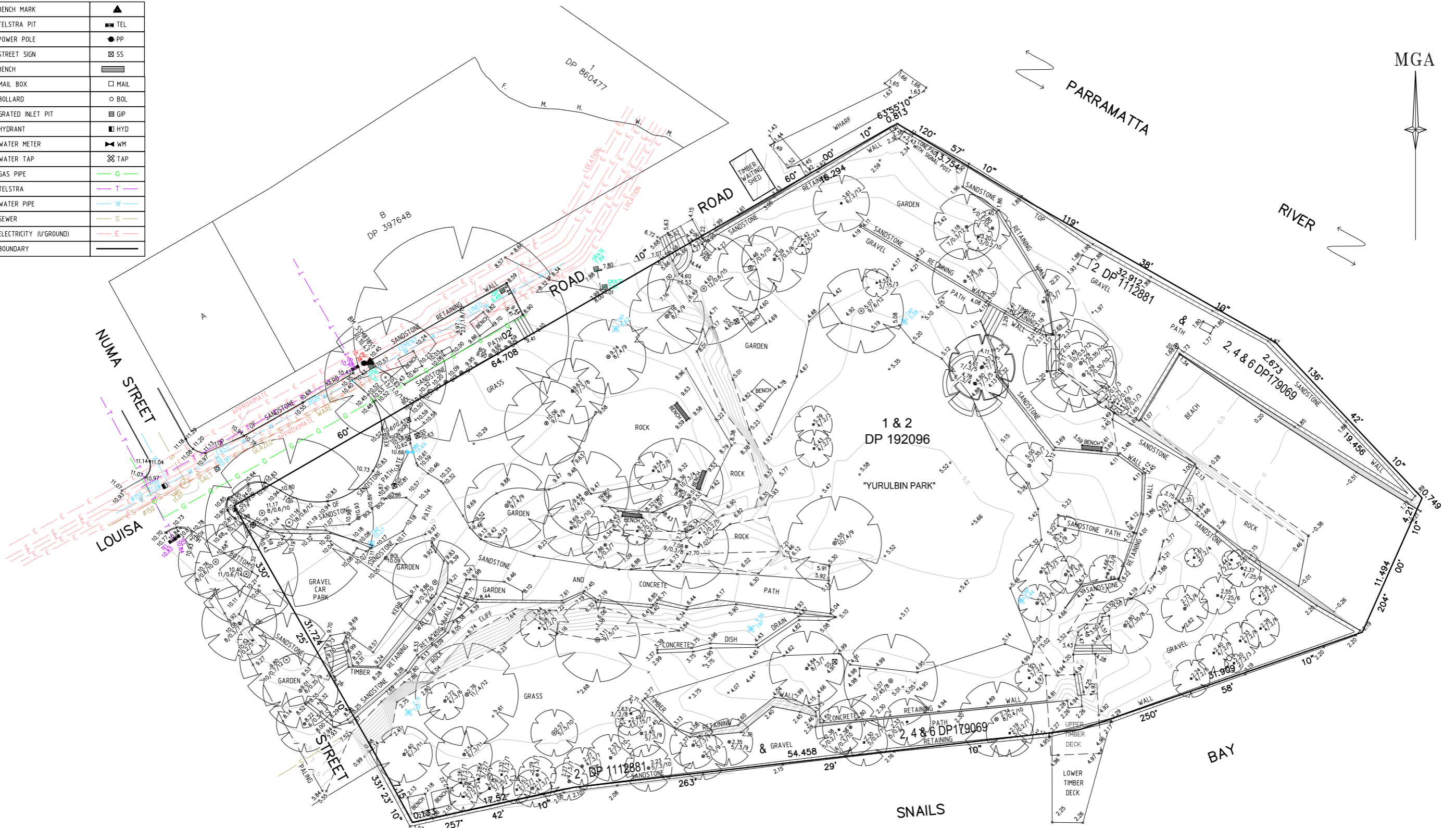
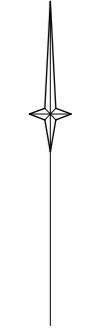
Existing wharf details



LEGEND

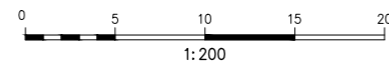
| | |
|------------------------|--------|
| BENCH MARK | ▲ |
| TELSTRA PIT | ■ TEL |
| POWER POLE | ● PP |
| STREET SIGN | ⊠ SS |
| BENCH | ▭ |
| MAIL BOX | □ MAIL |
| BOLLARD | ○ BOL |
| GRATED INLET PIT | ⊠ GIP |
| HYDRANT | ■ HYD |
| WATER METER | ⊠ WM |
| WATER TAP | ⊠ TAP |
| GAS PIPE | — G — |
| TELSTRA | — T — |
| WATER PIPE | — W — |
| SEWER | — S — |
| ELECTRICITY (U'GROUND) | — E — |
| BOUNDARY | — |

MGA



NOTES

- 1) THE BOUNDARIES HAVE NOT BEEN MARKED
- 2) ALL AREAS AND DIMENSIONS HAVE BEEN COMPILED FROM PLANS MADE AVAILABLE BY THE OFFICE OF LAND & PROPERTY INFORMATION (NSW) AND ARE SUBJECT TO FINAL SURVEY
- 3) ORIGIN OF LEVELS ON A.H.D. IS TAKEN FROM PM80031 R.L. 1.451 (A.H.D.) IN LONGNOSE POINT.
- 4) CONTOUR INTERVAL 0.5m
- 5) CONTOURS ARE INDICATIVE ONLY. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION
- 6) KERB LEVELS ARE TO THE TOP OF KERB UNLESS SHOWN OTHERWISE
- 7) NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. SERVICES HAVE BEEN PLOTTED FROM RELEVANT AUTHORITIES INFORMATION AND HAVE NOT BEEN SURVEYED. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE
- 8) 8/4/7 DENOTES TREE SPREAD OF 8m, TRUNK DIAMETER OF 0.4m & APPROX HEIGHT OF 7m
- 9) BEARINGS SHOWN ARE MGA (MAP GRID OF AUSTRALIA) ADD APPROX. 1" FOR TRUE NORTH BEARINGS



| Revision | Date | Description | Reference |
|----------|----------|-------------|-----------|
| D | 00/00/00 | - | 00 |
| C | 00/00/00 | - | 00 |
| B | 00/00/00 | - | 00 |
| A | 00/00/00 | - | 00 |

THIS IS THE PLAN REFERRED TO IN MY LETTER DATED:

 Registered Surveyor NSW

LTS
 LOCKLEY
 Registered Surveyors NSW
 www.lts.com.au

Suite 1, Level 1,
 810 Pacific Highway
 Gordon NSW 2072
 LOCKED BAG 5
 GORDON NSW 2072
 P 1300 587 000
 F 02 9499 7760

Client LEICHHARDT MUNICIPAL COUNCIL
 Drawing title
 PLAN OF DETAIL AND LEVELS OVER LOT 1 IN DP192096
 AND LOT 1 DP112881 & LOTS 1-6 DP179069 KNOWN
 AS "YURULBIN PARK" LOUISA ROAD, BIRCHGROVE.

| | | |
|--|----------------------|------------------------------|
| datum AHD | project number - | reference number 40396DT |
| site Area 5950m ² APPROX | scale 1:200 @A1 | date of survey 04/12/2013 |
| LGA LEICHHARDT | SHEET OF 1 SHEETS | 1 |

SURVEY PLAN

