EP/4             Netball Grounds and Facilities Response

Minute Book Attachments
Locations for additional netball courts in the Mosman LGA

13 February 2019 | 19-03
Contents

Contents ......................................................................................................................... 2
Document control ............................................................................................................... 3
1 Introduction .................................................................................................................... 4
2 Existing nominated sites and associated court proposals .............................................. 5
   2.1 Allan Border Oval .................................................................................................. 5
   2.2 Rawson Oval ........................................................................................................ 7
   2.3 Middle Head Oval .................................................................................................. 9
   2.4 Balmoral Oval ....................................................................................................... 11
   2.5 Rawson Park ......................................................................................................... 12
   2.6 Reid Park ............................................................................................................. 14
   2.7 Spit West Reserve ................................................................................................. 16
   2.8 Clifton Gardens Reserve ...................................................................................... 18
   2.9 Sydney Harbour Federation Trust (SHFT) tennis courts and car park .............. 19
   2.9 Taronga Zoo car park ......................................................................................... 22
3 Conclusion .................................................................................................................. 25

Locations for additional netball courts in the Mosman LGA
13 February 2019 | 17-229
Document control

<table>
<thead>
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1 Introduction

Mosman Municipal Council is looking at possible locations within their Local Government Area to accommodate netball courts for use during the winter season. A standard sized netball court is 30.5m x 15.25m and possible locations include:

- Allan Border Oval
- Rawson Oval
- Middle Head Oval
- Balmain Oval
- Rawson Park
- Reid Park
- Spit West Reserve
- Clifton Gardens Reserve
- Sydney Harbour Federation Trust land
- Taronga Zoo car park

This report has been prepared to document the feasibility and potential civil engineering issues associated with introducing netball courts at the nominated locations. Site inspections were undertaken on 22 January and 7 February 2018 to assess the existing conditions at each location, with the findings detailed in the following sections of the report.
2 Existing nominated sites and associated court proposals

2.1 Allan Border Oval

Allan Border Oval is located between Myahgah Road and The Crescent, within 100m from Mosman Square. The oval is currently fully utilised, accommodating a range of sports including:

- Cricket
- Football
- AFL little league

The grounds are kept in good condition, with the irrigation system playing a key role. As with many established ovals, the surface drains away from the centre of the oval to the outer boundary, with a subsurface drainage system that allows for minimal ponding issues in minor rain events. Refer Figure 1 for existing ground conditions.

![Allan Border Oval]

Figure 1 – Allan Border Oval

The oval contains flood lights which currently allows the various club training sessions that are held on weekday evenings. These training sessions usually occupy the entire oval, therefore allocating a section for a netball court would need to suit this current demand.

It is proposed that one netball court could be positioned on the eastern side of the oval, north of Memorial Park. Refer Figure 2 for location.
As the various sporting clubs congregate adjacent the club house, located on the western side of the oval, positioning the netball court along the eastern boundary would pose the least disruption. With existing cricket nets located along the southern boundary, and football posts located adjacent the northern boundary, additional netball courts would cause disruptions to the other sporting clubs.

An estimated cost of $2,500 - $3,000 is required for installing a grass netball court, which includes supply and installation of netball posts and line marking. We believe maintenance of the netball court would form part of the existing oval maintenance schedule.

Two hour daytime street parking is available on The Crescent, Gouldsberry Street and Myahgah Road, with unrestricted parking after 6pm, therefore parking, although limited, is not an issue.
2.2 Rawson Oval

Rawson Oval is located on Cross Street, adjacent Mosman Drill Hall and the Marie Bashir Mosman Sports Centre. The Drill Hall consists of three established outdoor netball hardcourts, and the Sports Centre has one indoor multi-purpose court. The oval is currently at full capacity, accommodating a range of sports including:

- Cricket
- Touch Rugby
- Rugby

The grounds are kept in good condition, with the irrigation system playing a key role. The surface drains away from the centre of the oval to the outer boundary, with a subsurface drainage system that allows for minimal ponding issues in minor rain events. Refer Figure 3 for existing ground conditions.

![Figure 3 – Rawson Oval](image)

The oval contains flood lights which currently allows for twilight / night sporting fixtures, including the various club training sessions that are held on weekday evenings. These training sessions usually occupy the entire oval at times, therefore allocating space for a netball court/s is only available on a Wednesday night during winter.
A maximum of two netball courts could be positioned at the western and eastern ends of the oval, which will still allow for two full size touch rugby fields. Refer Figure 4 for location.

![Figure 4 – Location of proposed netball courts (red) and touch rugby fields (blue)](image)

An estimated cost of $5,000 - $6,000 is required for installing two grass netball courts, which includes supply and installation of netball posts and line marking. We believe maintenance of the courts would form part of the existing oval maintenance schedule.

As the area is currently used for all proposed activities, parking is not considered an issue. It is noted also that Council has recently implemented several carpark improvements in the prescient and added lighting to stairs that link Alexander Avenue and Rawson Oval.
2.3 Middle Head Oval

Middle Head Oval is located on Middle Head Road, adjacent HMAS Penguin Royal Australian Navy base. The oval is currently fully utilised, accommodating a range of sports including:

- AFL
- Football

The playing surface is currently undergoing a $430,000 upgrade as part of a renewal project to improve playing surface quality. Once the upgrade is complete, it is anticipated that the oval will have some minor increase in capacity.

Similar to the previous mentioned ovals, there is an existing irrigation system which should maintain the high quality surface. The oval drains away from the centre, to the outer boundary, with a subsurface drainage system that allows for minimal ponding issues in minor rain events. Refer Figure 5 for existing ground conditions.

![Image of Middle Head Oval]

**Figure 5 – Middle Head Oval**

The oval contains flood lights which currently allows for twilight / night sporting fixtures, including the various club training sessions that are held on weekday evenings. These training sessions usually
occupy the entire oval at times, therefore allocating a section for a netball court would need to suit this current demand.

It is proposed that one netball court could be positioned on the southern side of the oval, adjacent the tiered concrete seating. Refer Figure 6 for location.

![Figure 6 - Location of proposed netball court (red)](image)

Positioning the netball court along the southern boundary would pose the least disruption to the other sporting clubs, whilst providing a suitable viewing platform with the existing tiered seating.

An estimated cost of $2,500 - $3,000 is required for installing a grass netball court, which includes supply and installation of netball posts and line marking. We believe maintenance of the netball court would form part of the existing oval maintenance schedule.

Public parking is available on the corner of Middle Head Road and Chowder Bay Road, which accommodates approximately 80 spaces. Given this is metered parking and there is no on-street parking available, this may be an issue.
2.4 Balmoral Oval

Balmoral Oval is located at the end of The Esplanade at Balmoral Beach. The oval is currently at full capacity, accommodating a range of sports including:

- Rugby
- Football
- Cricket
- Athletics

With the athletics track and field events spread across the entire oval, along with existing cricket nets located at the southern end, there is only one possible location along the western side that could house a netball court. However, on inspection of the oval, it was identified that a formed grassed drainage swale occupies the western side, therefore a netball court could not be located at the oval. Refer Figure 7 and Figure 8 for site location and existing grassed swale.

![Figure 7 – Balmoral Oval](image-url)
2.5 Rawson Park

Rawson Park is located on Cross Street, adjacent Rawson Oval. The area is currently used as a dog off-leash area and is in close proximity to Mosman Drill Hall and the Marie Bashir Mosman Sports Centre, which as mentioned previously, provides four established netball hardcourts.

The current ground condition is unsatisfactory and would require maintenance including; top dressing, filling of divots and turfing. There is no existing irrigation, as the system only extends to adjacent Rawson Oval. There does not appear to be any major concerns with drainage, as the overland flow travels east, downstream to Georges Heights Oval. Refer Figure 9 for existing ground conditions.
A maximum of two grass netball courts could be positioned within the park, however as there is no lighting, training would need to be played during daytime hours. Refer Figure 10 for location.
Ongoing maintenance would be required, as dog walkers will still be able to access the park at all times outside of scheduled netball events. A cost of $50,000 - $80,000 is estimated to prepare the surface fit for netball events, which would include extending the irrigation from adjacent Rawson Oval, turf renovation, line marking, and supply and install of the netball posts.

As the area is currently used for all proposed activities, parking is not considered an issue. It is noted also that Council has recently implemented several carpark improvements in the prescient and added lighting to stairs that link Alexander Avenue and Rawson Oval.

2.6 Reid Park

Reid Park is located between Centenary Drive and Harnett Avenue, approximately 200m north of Mosman Rovers. The area is currently used predominantly by dog owners.

The current ground condition is unsatisfactory and would require maintenance including; tree pruning, top dressing, filling of divots and turfing. An existing drainage culvert runs through the park from west to east, and it appears the concrete top of the culvert is exposed. This is to be maintained. A disused concrete cricket pitch occupies the area to the north of the drainage culvert, which would need to be removed, backfilled and turfed. The park contains no irrigation.

There does not appear to be any major concerns with drainage in the minor storm events, as the upstream catchment is captured within the creek adjacent Avenue Road, with the surface draining to each side of the park. Refer Figure 11 for existing ground conditions.

Figure 11 – Reid Park
A maximum of 4 grass netball courts could be positioned within the park, three to the south and one to the north of the existing drainage culvert crossing. As there is no lighting, training would need to be played during daytime hours. Refer Figure 12 for location.

![Map showing proposed netball courts](image.jpg)

**Figure 12 – Location of proposed netball courts (red)**

Ongoing maintenance would be required, as dog walkers will still be able to access the park at all times outside of scheduled netball events. A cost of $50,000 - $80,000 is estimated to prepare the surface fit for netball events, which would include installing an irrigation system, line marking, and supply and install of the netball posts.

Locations for additional netball courts in the Mosman LGA
13 February 2019 | 17-229

15 of 28
Although parking is limited to two hour and four hour daytime street parking on Avenue Road, Centenary Drive and Harnett Avenue (unrestricted parking after 6pm), we believe parking would not pose an issue.

2.7 Spit West Reserve

Spit West Reserve is located on Spit Road, just south of the Spit Bridge. The area is currently used for football, where four mini fields occupy the entire space. An existing construction compound is situated along the western side of the south section of the carpark and is likely to remain for a further two years.

The current ground condition is satisfactory in most parts, however, it requires maintenance including; top dressing and localised filling of divots. An existing cricket pitch is located to the south and is to be maintained, therefore any proposal to introduce a netball court in this section of the reserve would need to suit the pitch. The park contains irrigation.

There does not appear to be any major concerns with drainage, given the close proximity to the harbour. Refer Figure 13 for existing ground conditions.

Figure 13 – Spit West Reserve

Locations for additional netball courts in the Mosman LGA
13 February 2019 | 17:229
A maximum of five grass netball courts could be positioned within the reserve, three of which would be located on the existing football fields (running east to west). As there is no lighting, training would need to be played during daytime hours and would need to be coordinated with the existing football schedule. Refer Figure 14 for location.

Figure 14 – Location of proposed netball courts (red)

We do not believe the addition of the grass netball courts would incur large increases in maintenance costs, however regular mowing would be required, as our site inspection revealed areas of overgrown grass throughout. Supply and install of the netball posts and line marking would also add to the overall cost. Approximately $20,000 - $30,000 is estimated to prepare the surface fit for netball events, which would include ongoing maintenance.

Public parking is available at the reserve, however, is metered and shared with the Marina and restaurant patrons. As there is no on-street parking available, this may be an issue for non-residents.
2.8 Clifton Gardens Reserve

Clifton Gardens Reserve is located between Morella Road and Chowder Bay Road, Chowder Bay. Open space picnic areas currently occupy the reserve, with no formal events allocated the space.

The current ground condition is satisfactory in most parts, however, would require maintenance including; fertilising and top dressing. The park contains no irrigation.

There does not appear to be any major concerns with drainage given the close proximity to the harbour, however in larger storm events, the adjacent creek surcharges onto the grass area. To mitigate this, some creek-line restoration work is required to improve channel flow and prevent overflow onto the reserve. Refer Figure 15 for existing ground conditions.

Figure 15 – Clifton Gardens Reserve

A maximum of four grass netball courts could be positioned within the reserve, north west of the existing concrete footpath, however as there is no lighting, matches would need to be played during daytime hours. Refer Figure 16 for location.
Ongoing maintenance would be required, with an estimated cost of $60,000 - $80,000 that includes preparation of the surface fit for netball events, installation of an irrigation system, line marking, and supply and install of the netball posts.

Ample public parking is available at the reserve, therefore would not pose an issue.

2.9 Sydney Harbour Federation Trust (SHFT) tennis courts and car park

Various sites within the SHFT land was identified as potential locations to house either grass or hardstand netball courts. One area located at the end of Middle Head Road contains three areas; A large carpark, a disused tennis court, and a grassed area to the north of the old naval base. A second tennis court located adjacent Gunners Barracks was also identified. Refer Figure 17 and Figure 18 for locations.

On inspection, it was concluded that the tennis courts are insufficient in size and the carpark would require reconstruction works due to the unsatisfactory condition of the existing asphaltic concrete pavement. The removal of car space line-o-dots and reconfiguration of parking would also need to occur. The area north of the old naval base also has insufficient space, with a large level difference that would require major earthworks. Refer Figure 19 and Figure 20 for existing ground conditions.
The SHFT advised that the existing Plan of Management (POM) allows for tennis use only on existing courts. Changes to existing footprint, relocating existing fence to ensure adequate area for netball courts would require change to POM.

Figure 17 – Location of proposed netball courts (red)
Figure 18 – Location of proposed netball court (red) at Gunners Barracks

Figure 19 – Existing SHFT car park conditions
2.9 Taronga Zoo car park

Located on Bradleys Head Road, the existing three story car park at Taronga Zoo was investigated as the roof top offers a large space with lighting that could potentially fit a series of netball courts - with some minor adjustments to wheel stops and line marking.

Although the length of the car park was sufficient, the width would not allow for any clearance between edge of court and existing car park balustrades. We believe this to be a safety concern and do not recommend this option. Refer Figure 21 and Figure 22 for location and existing conditions.
Figure 21 – Location of proposed netball courts (red)
Figure 22 – Existing conditions at Taronga Zoo roof top car park
3 Conclusion

On review of each nominated site, the following was considered to assist with the feasibility of introducing additional netball courts:

- Existing ground conditions
- Drainage issues
- Approximate set-up costs
- Ongoing / additional maintenance costs
- Number of courts
- Proximity to other facilities
- Scheduling of use

Allan Border Oval and Middle Head Oval provide an established base for the set-up of grass courts, with little additional maintenance costs, as well as the option to schedule night time training. However, housing only one court at each site is not practical, given they are not in close proximity to each other.

Reid Park and Clifton Gardens Reserve have available space to accommodate four courts each, however, would incur the largest set-up and ongoing maintenance costs. Training would only be feasible during daytime hours.

Spit West Reserve has the most available space, allowing five courts. Maintenance costs would be low considering existing sporting events occupy the space and a regime is currently in place. Training would only be feasible during daytime hours and would need to be scheduled around the existing training and matches of other sporting user groups.

Rawson Oval and Rawson Park has available space for four courts combined. It is in close proximity to Mosman Drill Hall and the Marie Bashir Mosman Sports Centre that currently provides four established netball hardcourts. A lighting upgrade for the established outdoor hardcourts is proposed, therefore the potential to have five courts available for night-time training and seven for daytime training is a positive. The set-up costs and competing use with other sporting user groups and dog owners for Rawson Park would be the only negative aspect.

With regards to civil engineering implications, we believe the proposed works will not negatively impact the existing site conditions for the following reasons:

- The courts will retain existing grassed surface, therefore will not increase stormwater runoff
- Overland flow will match existing conditions
- Existing levels will be maintained, therefore no earthworks are required.

Until Construction Certificate has occurred, it is proposed in the short term to establish two courts on Rawson Oval. Both senior and junior rugby have been advised, with no objections.
In regard to SHFT lands, there is ample space available for both hardstand and grass netball courts. Neither court type is a short-term solution as both court types require significant civil works and the current Plan of Management for the sites would need to be amended.

Refer to table 3.1 for a summary of the potential locations investigated.
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*Cost to install lighting at four netball courts is estimated at $200,000*
EP/5 Raglan West Car Park Development Options - Update

Minute Book Attachments
report;

Proposed Development Raglan Street Car Park
For Mosman Council
19 February 2019
Document Control

Proposed Development Raglan Street Car Park, Report

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Contents

1. Introduction .......................... 1
2. The Site .................................. 2
3. Site Constraints ......................... 4
4. Impact on businesses and the local area .......................... 7
5. High level options ......................... 8
   5.1 Option 1 .......................... 8
   5.2 Option 2 .......................... 10
   5.3 Additional Option (Custom Configuration) ......................... 12
   5.4 Construction over the Laneway .......................... 13
   5.5 Summary .......................... 13
6. Examples of Aesthetic Treatments ......................... 14
7. Costing and Probable Construction Timeline ......................... 16
8. Other Prefabricated or Modular Car Park Systems ......................... 20

Figure 1 - Site Location and Road Network ......................... 2
Figure 2 - Site Location .......................... 3
Figure 3 - Eastern Car Park Row .......................... 4
Figure 4 - Proposed Access/Egress Arrangements ......................... 5
Figure 5 - Lot Boundaries and Labels (source: maps.nsw.gov.au) ......................... 6
Figure 6 - High Level Concept Footprint of Multi-Storey Modular Car Park (Option 1) ......................... 8
Figure 7 - 3D Layout of Option 1 .......................... 9
Figure 8 - High Level Footprint of Multi-Storey Modular Car Park (Option 1) ......................... 10
Figure 9 - 3D Layout of Option 2 .......................... 11
Figure 10 - Layout Ground and Level 1 - Custom Configuration of the Modular System ......................... 12
Figure 11 - Module extending Above the Laneway ......................... 13
Figure 12 - Examples of Car Parks with Aesthetic Treatments ......................... 16
Figure 13 - Examples of Car Parks without Aesthetic Treatment ......................... 17
Table 1 - Options Summary ......................... 13
Table 2 - Estimated construction costs ......................... 18
Table 3 - Details of other Australian suppliers ......................... 20
Table 4 - Details of other Overseas suppliers ......................... 20

Proposed Development Raglan Street Car Park
Mosman Council 18 February 2019
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1. Introduction

Mosman Council (Council) has resolved not to proceed with the development of the Raglan Street Car Park but rather

"investigate costing and income constructing a pre-constructed single storey carpark with a view to charge for parking to help recoup the cost."

ptc has been engaged to provide a commentary on some of the options available to Council with particular focus on the following:

- site constraints
- impacts to businesses and the local area; and
- high level costing and timing for construction.
2. The Site

The Reglan Street West Car Park (the site) is located in the commercial core of Mosman and is served by a road network comprising local roads; Reglan Street and Avenue Road and a regional road; Military Road.

The site location and road network is illustrated in Figure 1.

Figure 1 - Site Location and Road Network

The site currently accommodates 52 at-grade car parking spaces with single lane access [Figure 2] (blue arrow) on Reglan Street near Military Road and single lane egress [Figure 2] (red arrow) to Reglan Street or Avenue Road (via a one way laneway which also serves the back of house for the shops fronting Military Road).
Figure 2 - Site Location
3. Site Constraints

A number of constraints were identified in relation to the site as itemised below:

a) **Size;** the existing laneway servicing the rear of the businesses on Military Road would need to be retained thus restricting the available construction area. The laneway also provides manoeuvring room for vehicles parking in the first aisle of the at grade car park. This arrangement would no longer exist if a single level car park was constructed as illustrated in Figure 3.

![Figure 3 - Eastern Car Park Row](image)

b) **Access / Egress;** the intersection of Raglan Street with Military Road experiences heavy traffic during peak hours. It is envisaged that the access to the car park would remain via Raglan Street, and egress restricted to Avenue Road (left only) to alleviate pressure on the intersections of Raglan Street and Military Road, and Avenue Road and Military Road as illustrated in Figure 4. This will likely impact the traffic flows in neighbouring streets e.g. Avenue Road and Gladstone Avenue. A detailed traffic impact assessment would need to be undertaken should Council resolve to proceed with construction.
c) **Current amenity:** there are a considerable number of trees which would need to be removed as a result of the construction and it is assumed the existing structure (public toilet) to the south would be retained impacting the available construction footprint. Should it be removed to increase the footprint, relocation costs would be incurred;

d) **Site ownership:** as illustrated in Figure 5, the site is made up of numerous DP lots. This may or may not complicate construction depending on easements and underground services in the laneway;
e) Civil works; upgrades would be required to kerbs and islands, etc. and resurfacing of bitumen surfaces.
4. Impact on businesses and the local area

The identified impacts on businesses and the local area are itemised below:

a) The construction of the multi-storey involves the temporary decommissioning of the existing car park. This will temporarily affect the businesses in the surrounding area and access to the rear of the buildings in Military Road, albeit to a lesser extent than a total redevelopment of the site (refer Section [6] with regards to timing);

b) There will be some aesthetic impact to the local residential community, in particular the residential buildings to the west and north of the site. Some treatments may be considered to mitigate this (see Section [6] for examples);

c) There may be an impact to the pedestrian access (temporary or permanent) to the residential building located at 167-169 Avenue Road, as there is an existing pedestrian gate located at the north-west corner of the car park. Similarly access to the business at the rear of the 20-20 Dry Cleaners (The Mosman Wash House) may also be impacted.
5. High level options

Four concept layouts have been prepared with reference to the *Economical Car Park Design Guide* prepared by OneSteel, an Australian based supplier of modular pre-fabricated car parks. To demonstrate the probable footprint of the proposed car park, the "modular scheme 1A" was adopted, where columns are typically spaced at 3 car spaces apart. This scheme accommodates 6 cars per module, and is believed to be the optimum scheme given the constraints of the site.

5.1 Option 1

The first layout option adopts a "horizontal" arrangement for parking. This involves re-configuring and re-orienting the car spaces on the ground level to align with the proposed single storey orientation. This option results in a split level arrangement which reduces the required ramp lengths. This option accommodates approximately 72 spaces vs. the current capacity of 52 spaces; net gain of 20 spaces. This arrangement is illustrated in Figure 6 and Figure 7.

![Diagram of parking layout](image-url)

Figure 6 - High Level Concept Footprint of Multi-Storey Modular Car Park (Option 1)
Figure 7 - 3D Layout of Option 1
5.2 Option 2

The second layout option adopts a “vertical” arrangement for parking in line with the current at grade parking configuration. This involves a full height car park ramp at the side of the structure. Due to the difference in height between the ground and level 1, the ramp will have to be elongated to achieve the height, while providing a compliant grade. This option accommodates approximately 69 spaces for a 1 storey car park, including 5 existing spaces outside the footprint (assumed to be retained), net gain of 17 spaces. This arrangement is illustrated in Figure 8 and Figure 9.

Figure 8 - High Level Footprint of Multi-Storey Modular Car Park (Option 1)
Figure 9 - 3D Layout of Option 2

The existing toilet structure at the south of the site is assumed to be retained therefore constraining the footprint. Should the structure be removed and relocated, an additional 12 spaces (6 spaces on each level) would be achieved under this option – net gain 29 spaces, providing 81 spaces in total.
5.3 Additional Option (Custom Configuration)

If a custom configuration is considered, an alternative design is achievable by utilising different modules and different alignments as illustrated in Figure 10. This option provides approximately 72 spaces for a 1 storey car park; net gain 20 spaces.

Figure 10 – Layout: Ground and Level 1 - Custom Configuration of the Modular System

The viability of this configuration needs to be confirmed with the supplier and the builder as the configuration involves customisation of the modular system which if possible would likely be more expensive.
5.4 Construction over the Laneway

We have considered extending the footprint of level 1 over the laneway for all options. As the laneway is being used by refuse collection vehicles, which need a 4.5m height clearance, level 1 of the car park would have to be raised significantly from 2.2m (likely at an increased cost); hence a longer ramp would be required. In addition, the footprint of level 1 (as a result of the module size) encroaches onto the structures to the east. Therefore this arrangement is not considered viable. This is illustrated in Figure 11.

![Diagram showing construction over the laneway](image)

Figure 11 – Module extending Above the Laneway

5.5 Summary

A modular/prefabricated single storey car park under the various options would achieve the following:

Table 1 - Options Summary

<table>
<thead>
<tr>
<th>Option</th>
<th>Net Gain</th>
<th>Total Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>20</td>
<td>72</td>
</tr>
<tr>
<td>Option 2</td>
<td>17</td>
<td>69</td>
</tr>
<tr>
<td>(if toilet is relocated)</td>
<td></td>
<td>81 (if toilet is relocated)</td>
</tr>
<tr>
<td>Additional Option (Custom)</td>
<td>20</td>
<td>72</td>
</tr>
<tr>
<td>Construction Over the Laneway</td>
<td>Not considered viable as this would involve alterations to existing structures</td>
<td></td>
</tr>
</tbody>
</table>

It is important to note that the incorporation of a ramp arrangement poses a design challenge which affects the efficient utilisation of space.

To achieve a significant increase in car park capacity, additional levels would be required. Option 1 and Option 2 will accommodate approximately 36 and 30 spaces per level, respectively.

Proposed Development Raglan Street Car Park, Mosman Council 19 February 2019
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6. Examples of Aesthetic Treatments

To lessen the aesthetic impacts of the car park, some façade treatments may be considered. Examples of treatments are illustrated below.
Figure 12 - Examples of Car parks with Aesthetic Treatments
Without treatments the car park facades would be similar to the following:

Figure 13 – Examples of Car Parks without Aesthetic Treatment
7. Costing and Probable Construction Timeline

One of the main advantages proposed by suppliers of the steel modular / pre-fabricated car parks (in contrast with the construction of a concrete structure) is the construction/installation timeline. Since all steel beams and columns and other materials are fabricated off-site, the existing car park will still be available for use during the fabrication stage. The car park will only then be decommissioned when the fabrications are ready for delivery and installation on site.

We were advised by OneSteel that it is very hard to determine the construction timeline and costing for a steel modular / pre-fabricated car park as it will heavily depend on the nominated contractor, the site constraints and aesthetic finishes. The erection of pre-fabricated steel structures is fairly rapid (from a couple of weeks to a couple of months) compared to the construction of a concrete structure, which can take 12 months or more. This timeframe excludes any early works, changes to service provisions and required changes to access arrangements for properties backing onto the rear lane way.

Indicative construction costs for such a car park, based on a similar construction to the proposed development, would be as follows:

<table>
<thead>
<tr>
<th></th>
<th>Approximate cost $</th>
<th>Approximate cost per additional bay $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary design, detailed traffic assessment, detailed design &amp; DA submission etc.</td>
<td>$250,000</td>
<td></td>
</tr>
<tr>
<td>Construction cost (simple construction)</td>
<td>$1,200,000</td>
<td></td>
</tr>
<tr>
<td>Assumed standard site conditions and pre-fabricated steel framed car park construction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetic and acoustic treatment &amp; maintenance – Raglan Street frontage only.</td>
<td>$350,000</td>
<td></td>
</tr>
<tr>
<td>Subject to selection of materials used.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relocation of toilet block including design etc. Varies per site conditions, service locations and design intent.</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td><strong>Indicative construction cost only</strong></td>
<td>$2,200,000</td>
<td>$75,900/4</td>
</tr>
</tbody>
</table>

1 Approximate timeline - Construction will heavily depend on the supplier, builder, and constraints of the site.
2 Manly Vale car park constructed by Transport for NSW (information provided by Mosman Council).
3 Based on OneSteel simple construction costs 2004 ($240 per m² + inflation) plus earthworks, site preparation and management fees.
4 $2,200,000/29/bay/Option 2
In addition to the car park construction and installation costs there would be capital costs for:

- the installation of access control equipment (approximately $140,000 for a ticketed system, single lane in and out and one automatic paystation; dependent upon the final system selected),

- the installation of a parking guidance system similar to that installed in other Mosman off-street car parks (approximately $700 per bay) and,

- ongoing operating, maintenance and security costs.

More accurate costings would require the suppliers to carry out a site visit to understand site specific issues (e.g. trees, toilet block, access, etc.)
8. Other Prefabricated or Modular Car Park Systems

Information on other suppliers of prefabricated or modular car park systems both in Australia and overseas are summarised below.

Table 3 - Details of other Australian suppliers

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Operations</th>
<th>Sites</th>
<th>Estimated Timing</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park'd</td>
<td>based in WA</td>
<td>Baywater Mazda, WA, (three-level car park and two-level showroom, $2 million) Subaru Dealership, WA (two-level, $900,000)</td>
<td>Example of project timing: Subaru Dealership, WA: 4 months duration (3 weeks on site assembly)</td>
<td>Claim to be 35% cheaper than traditional car parks</td>
</tr>
<tr>
<td>Capital Car Parks</td>
<td>based in WA</td>
<td>None available</td>
<td>2-3 weeks per 100 bays</td>
<td>None available</td>
</tr>
</tbody>
</table>

Table 4 - Details of other Overseas suppliers

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Operations</th>
<th>Sites</th>
<th>Estimated Timing</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duplipark</td>
<td></td>
<td>France, Belgium, UK, Ireland, United Arab Emirates, Oman, Lebanon</td>
<td>2-3 months Example of project timing for 200-space car park using staged approach: site impacted for a 2 month period however 75% of the existing spaces available at all times.</td>
<td>Claim to be 30% cheaper than traditional car parks</td>
</tr>
<tr>
<td>Website:</td>
<td></td>
<td>University of Aix-en-Provence, France (400 spaces - Ground floor + 3 Levels) Town hall of Auriol - Bouches du Rhône, France (80 spaces - Ground Floor + 1 level) MAWAKSF, Department of Transport, UAE (500 spaces - Ground Floor + 1 Level) Dhwan of Royal Court Affairs, Oman (250 spaces - Ground Floor + 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td>Operations</td>
<td>Sites</td>
<td>Estimated Timing</td>
<td>Estimated Cost</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Siderpark / Morepark</td>
<td>USA, Canada, South America</td>
<td>USA, Canada, Germany, Belgium, Italy, Spain, China</td>
<td>10 weeks</td>
<td>30% to 40% cheaper than traditional car parks</td>
</tr>
<tr>
<td></td>
<td>(Morepark) Europe and UK</td>
<td>(100 spaces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Siderpark)</td>
<td>Designer Outlet, Barcelone del Mugello (Fl), Italy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Holiday Inn, Revenne, Italy, Parking Genuanese, Mano, Spain (140</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>spaces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park’up</td>
<td>France and Other</td>
<td>None available</td>
<td>100 spaces installed per week</td>
<td>Rent and Purchase options - Cost not available</td>
</tr>
<tr>
<td></td>
<td>countries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park4All</td>
<td>Mainly Europe</td>
<td>Residential, Abu Dhabi, UAE, 4 parking houses, Trade Firm,</td>
<td>8 weeks</td>
<td>Rent from €5 per day per bay</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capetown, South Africa (250 spaces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pension Fund, Utrecht, Netherlands (4 parking decks)</td>
<td></td>
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</tbody>
</table>