

Byron Bay to Suffolk Park Cycleway Investigation

Final Report



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Document Control

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1 INTRODUCTION

1.1 Background

Byron Shire Council (BSC) has a vision as a part of the *Byron Shire Bike Strategy and Action Plan (2008)* for “more cycleways, more cycling”. In response to this document, BSC prepared a concept design for on-road cycle lanes along a 1.5km section of Bangalow Road from Browning Street in the north to Old Bangalow Road in the south. The preferred option included 1.5m wide cycle lanes on both the eastern and western sides of the road. To facilitate the design, the existing pedestrian refuge south of Wollumbin Street was proposed to be removed as was the majority of on-street parking along the corridor, with the exception of three dedicated parallel parking areas. It was acknowledged by BSC that Roads and Maritime Services (RMS) grant funding is typically not available for the construction of on-road cycleways and therefore such a facility would need to be funded by BSC. As a result, this design was not progressed further.

In 2016, BSC applied for grant funding to design and construct a 2.5m wide off-road shared path along Broken Head Road from the The Byron at Byron resort in the north to Clifford Street in the south. The majority of the path was proposed to be constructed on the eastern side of Broken Head Road with a new road crossing and short western section to be constructed to tie into the existing shared path on the western side. The funding application for this path was unsuccessful and existing constraints have been identified through survey undertaken on the eastern side of the corridor. As a result of the unsuccessful grant application and the constraints along the corridor, the design has not been progressed further.

BSC have engaged PSA Consulting (Australia) to review the current shared path and on-road cycleways along Bangalow Road and Broken Head Road, from Browning Street, Byron Bay to Clifford Street, Suffolk Park (the study corridor) (refer to Figure 1) and to provide recommendations on the most effective means of providing a complete link; which is cost effective, innovative, functional and incorporate best practice cycleway design.

This document provides a summary of the works undertaken, which includes:

- A review of existing walk and cycle infrastructure along the study corridor;
- A review of existing land use planning and demographics;
- Identification and description of the key existing and likely future users of the study corridor;
- The establishment of route objectives to guide the development and selection of route and treatment (intersection and road crossing) options;
- The development and evaluation of route and treatment options;
- Description of the preferred option, including drawings, cross-sections, cost estimates and staging; and
- Consideration of the alignment between the preferred option and RMS grant funding.

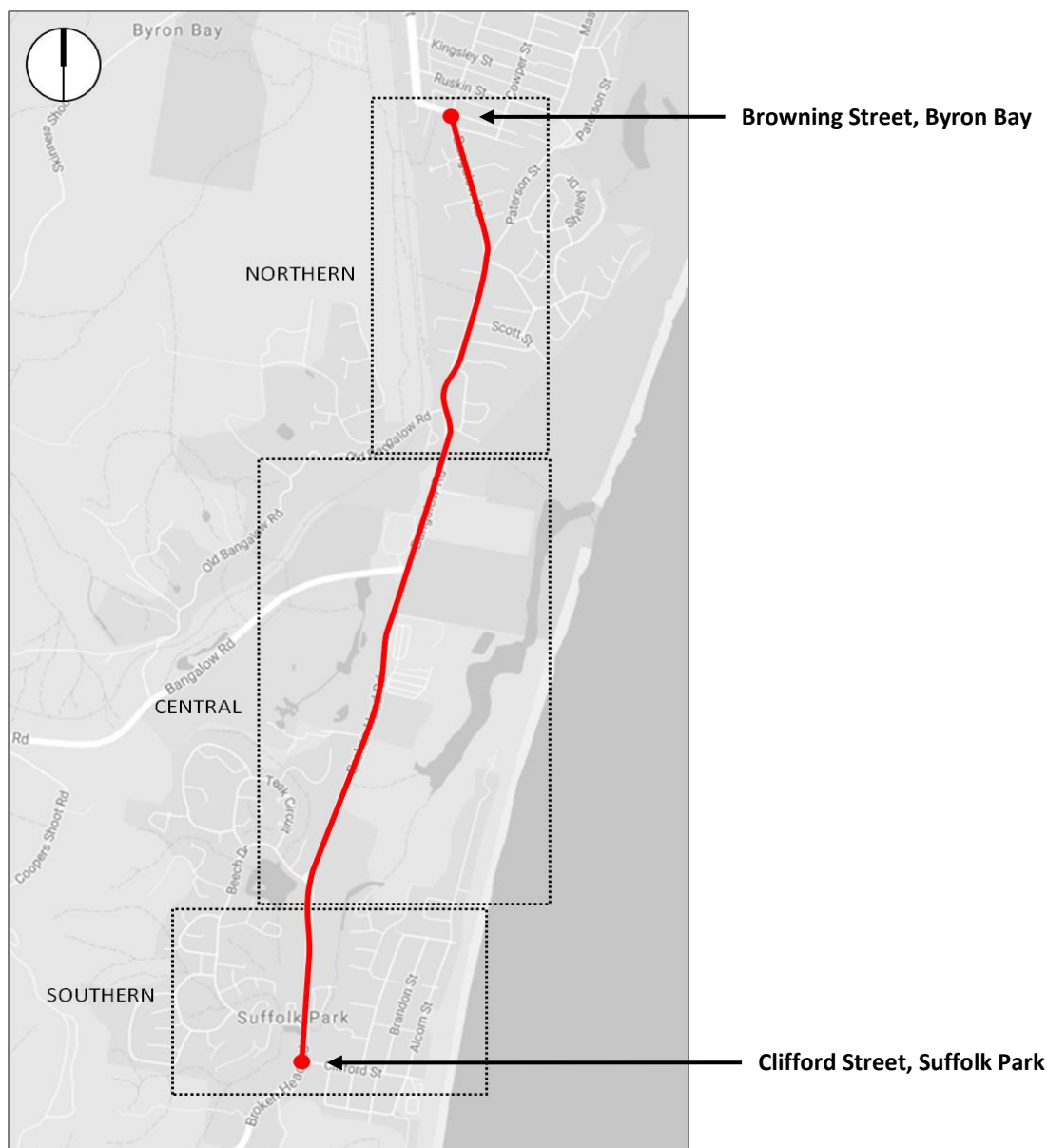


Figure 1: Cycleway extents

1.2 Project scope and objectives

As per the original scope of works and in light of subsequent discussions with BSC, the project scope included:

- Site inspections and investigations of the corridor as discussed in Section 1.1 and illustrated in Figure 1;
- Review of background information;
- Provision of a study report including drawings with typical cross-sections and costings; and
- Presentation of the study and findings to an extraordinary Transport and Infrastructure Advisory Committee (TIAC) meeting.

After the TIAC meeting on 2 November 2017, the Committee requested that additional investigations be undertaken on the northern section of the corridor (refer to Figure 1) to identify issues and determine the suitability of proposed options. These investigations also included a parking utilisation assessment for the entire northern section. This is discussed in greater detail in Section 2.2.3.

The objectives and outcomes of the study were:

- Review existing shared path and on-road cycleways on Broken Head Road and Bangalow Road, between Browning Street, Byron Bay and Clifford Street, Suffolk Park;
- Review existing infrastructure against current standards and advise where upgrades may be required as part of the project;
- Provide options including indicative costings which meet RMS warrants and would likely receive RMS approval for filling the missing links along the shared path and on-road cycleways between Browning Street and Clifford Street;
- Identify sections which may be eligible for grant funding under the RMS Walking and Cycling Grants Program; and
- Undertake critical analysis for any proposed works including swept path analysis and considerations for emergency services.

1.3 Report structure

This report is structured as follows:

Section 2: Data and network review – this section summarises the existing corridor, including opportunities, constraints and challenges, and presents the findings of a land use planning and demographic review. This section also includes a description of the existing and likely future user profile and establishes objectives for the route.

Section 3: Options development – this section presents the high-level route alignment, path type and location options.

Section 4: Options evaluation – this section provides a high-level evaluation of the options and a comparison of respective costs.

Section 5: Preferred option – this section presents and describes the preferred alignment and the different treatment options available. This section also provides an estimate of total cost and a discussion on staging and consultation.

Section 6: Alignment to Walking and Cycling Program funding application – this section outlines how the preferred option and any other recommendations align with RMS grant funding.

Section 7: Conclusions – this section provides a summary of the project.

2 DATA AND NETWORK REVIEW

2.1 Walking and Cycling Program

The ability to secure funding from the NSW Government is an important element of this project and one which influences the development of alignment options, the selection of a preferred option, and the treatments recommended in the final concept design.

The NSW Government currently provides grant funding through the Walking and Cycling Program for eligible walking and cycling projects that are identified as being of a high priority. In August 2017, the NSW Government released the *Walking and Cycling Program Guidelines 2018-19* which outlines the programs and associated priority weighting systems used to assess funding submissions for walking and cycling proposals. These programs are outlined below and their eligibility and relevance to this project is summarised in Table 1.

Walking Programs:

1. Walking Communities Council Partnership Program
2. Walking Communities Capital Program

Cycling Programs:

3. Connecting Centres Council Partnership Program
4. Priority Cycleways Program
5. Cycling Towns Program.

Table 1: Walking and Cycling Program funding eligibility and relevance

Funding program			Eligible projects	Relevance to project
Walking	Walking Communities	Council partnership funding	<p>Infrastructure projects: One or more projects that will improve pedestrian amenity. Eligible projects include: scramble crossings, raised crossings, marked zebra crossings, installation/realignment of kerb ramps, kerb blisters. (Footpaths are not eligible under this program).</p> <p>Non-infrastructure projects: Campaigns, social media, advertising, community engagement that breaks down barriers to walking.</p>	<p>The proposed project is for a cycleway. However, walking will be impacted if a shared path is proposed. Potential to apply for infrastructure funding to supplement any funding shortfall or address immediate issues and missing links. This funding source is not recommended for this project.</p> <p>Non-infrastructure projects not relevant to this project, unless required to support infrastructure funding</p>
		NSW Government priority funding	One or more projects to improve pedestrian amenity on state-owned assets (e.g. state roads). Eligible projects include: scramble crossings, raised crossings, marked zebra crossings, installation/realignment of kerb ramps, kerb blisters, signal timing changes, signalised crossings and removal of slip lanes.	<p>Funding available for State roads only. Key roads in the study corridor (Broken Head Road and Bangalow Road) are Local rather than State-owned. This funding source does not apply</p>

Cycling	Connecting Centres	Council partnership funding	<p>Infrastructure projects: Local bicycle infrastructure that connects local bicycle networks to key destinations. Projects include on road and off road bicycle infrastructure as defined in the Austroads Guidelines. Projects must be part of an identified transport network. Closed recreational circuits will not be considered.</p> <p>Non-infrastructure projects: Eligible projects include: bicycle network maps, campaigns, social media, advertising, community engagement, bicycle rider confidence courses and travel behaviour change programs.</p>	<p>Potential funding source for the project. Funding available for Local/Regional roads only. Maximum level of funding from State: 75% (development), 50% (construction), and 75% (evaluation)</p> <p>Non-infrastructure projects not relevant to this project, unless required to support infrastructure funding</p>
	Priority Cycleways	NSW Government priority funding	Projects that are identified in a NSW Government plan as a <i>Priority Cycleway</i> or cycleways on state owned assets. These routes connect major generators of bicycle traffic within each region e.g. universities, commercial centres and public transport interchanges. Priority cycleways will generally be under the care and control of councils when completed.	Study corridor is not a state-owned asset. Funding available for Local/Regional and State roads. Maximum level of funding from State: 100% (development, construction and evaluation). Possible but potentially difficult to acquire funding through this source.
	Cycling Towns	NSW Government priority funding	Bicycle infrastructure proposals that complete a primary safe network of cycleways to a range of destinations within a 5km catchment of the town centre. Project examples could include: construction to complete a bicycle network; bicycle parking facilities; construction of a bicycle end of trip facility or centre. Councils must demonstrate supporting complementary cycling promotion initiatives to encourage use of the infrastructure.	Potential funding source for the project. Funding available for Local/Regional and State roads. Maximum level of funding from State: 100% (development, construction and evaluation)

Source: Based on *Walking and Cycling Program Guidelines (Table 2)* (2017)

In light of the proposed cycleway project and the findings in Table 1, the proposed project could be eligible for funding from the following three programs:

- Connecting Centres;
- Priority Cycleways; and / or
- Cycling Towns.

A high-level summary is provided in Table 2 of the scoring range for each of the programs for which funding may be available. This summary outlines the program which would provide the opportunity for the highest priority weighting.

Table 2: Summary of relevant Walking and Cycling Program criteria and scoring

Criteria	Scoring range (max. to min.)		
	Connecting Centres	Priority Cycleways	Cycling Towns
Located within a 5km catchment of a major centre	8 to 0	8 to 0	8 to 0
Identified in Council plans*	5 to 0	5 to 0	5 to 0
Located on a State road	n/a	5 to 0	n/a
Connects to (or is) a <i>Priority Cycleway</i>	5 to 0	8 to 2	n/a
Directly connects to a public transport interchange	6 to 0	6 to 0	6 to 4
Increases accessibility to bicycle facilities*	n/a	n/a	4 to 2
Within 400m of other pedestrian generating land uses (e.g. university, TAFE, school, hospital)*	2 for each	2 for each	2 for each
Addresses major missing links, identified barriers or completes a cycle network*	3 to 2	3 to 1	10 to 2
Provides a direct route	4 to 1	4 to 1	n/a
Relies on a smaller percentage of State funds	5 to 3	n/a	n/a
Feasible with no major obstacles (e.g. no land acquisition) and has strong community support	5 to 1	5 to 1	5 to 1
Provision of an identified complementary non-infrastructure proposal	n/a	n/a	5 to 2

Source: *Walking and Cycling Program Guidelines* (2017)

*Potential for high scores if multiple sub-criteria are satisfied

For a proposal to secure program funding it must score highly against the associated priority weighting system. As can be seen in Table 2, however, these weightings are not equal, with some criteria receiving higher weightings than others. Although all are important, the key criteria in which the most points are potentially available for this project include:

- Whether the proposal is located within a 5km catchment of a major centre;
- Whether the proposal is identified in Council plans;
- Whether the proposal is within 400m of other pedestrian generating land uses; and
- Whether the proposal addresses major missing links, identified barriers or completes a cycle network.

The options developed, the preferred option selected, and the treatments recommended in the final concept design have been undertaken in light of the desire to secure funding from the NSW Government for the design and construction of the proposed cycleway. A discussion on the alignment of the preferred concept design with the Walking and Cycling Program is provided in Section 6.

Despite the significance of securing State funding, it should be acknowledged that this is not the only factor influencing the concept design of the cycleway. As outlined in the remainder of this section, the design is also influenced by the features, opportunities and constraints of the existing corridor; current land use planning and key attractors; demographic data; the identified user profile and travel behaviour; and the route objectives established for the future use of the corridor.

2.2 Existing corridor review

2.2.1 Existing corridor

The 4.5km study corridor along Bangalow Road and Broken Head Road stretches from Browning Street, Byron Bay to Clifford Street, Suffolk Park. The existing corridor provides a beneficial, though currently discontinuous, link for a range of users traveling between the two centres and to/from key attractors along the corridor.

On Wednesday 20 September 2017 PSA undertook a cycling site visit of the entire study corridor. The site visit, in conjunction with a desktop review of available data and previous studies, revealed a number of existing issues, challenges and opportunities for the corridor. The key issues, challenges and opportunities for the existing corridor are summarised in Table 3.

Table 3: Key existing issues, challenges and opportunities

Issues/challenges	Opportunities
<ul style="list-style-type: none"> Gaps in the existing footpath network, especially on the western side of the corridor between Cumbebin Park and Old Bangalow Road Existing infrastructure including power poles, a pump station and a narrow bridge Multiple intersections and driveway accesses Property boundaries close to road corridor in select locations Variable road corridor width Parking on both sides of road for the majority of the corridor Unsafe shared path alignment on western side of corridor near Bangalow Road/Old Bangalow Road intersection Poor access to public transport infrastructure along corridor, which is not compliant with the Disability Discrimination Act (DDA) Lack of signage/wayfinding, especially at key decision points and at existing path termini Discontinuous path and limited formal walk/cycle infrastructure between The Byron at Byron resort and Beach Break at Byron resort 	<ul style="list-style-type: none"> Existing low speed (50km/h) environment Existing separated cycle option from Browning Street to The Byron at Byron resort Wide road reserve south of The Byron at Byron resort Complete missing links to provide continuous walk/cycle corridor Improve access to public transport infrastructure Improve connections to surrounding walk/cycle network Improve cyclist safety, especially for school students Improve awareness of, and access to, key attractors Formalise parking, especially south of The Byron at Byron resort

2.2.2 Existing and forecast corridor usage

The corridor serves as the main route between Byron Bay and Suffolk Park. As the entire area is a tourist destination, traffic volumes are higher during the holiday seasons, particularly Easter and Christmas. Figure 2 graphically demonstrates the annual historic variation in the average daily traffic (ADT) for the holiday periods, as well as a small sample from standard (i.e. non-holiday) traffic demand conditions.

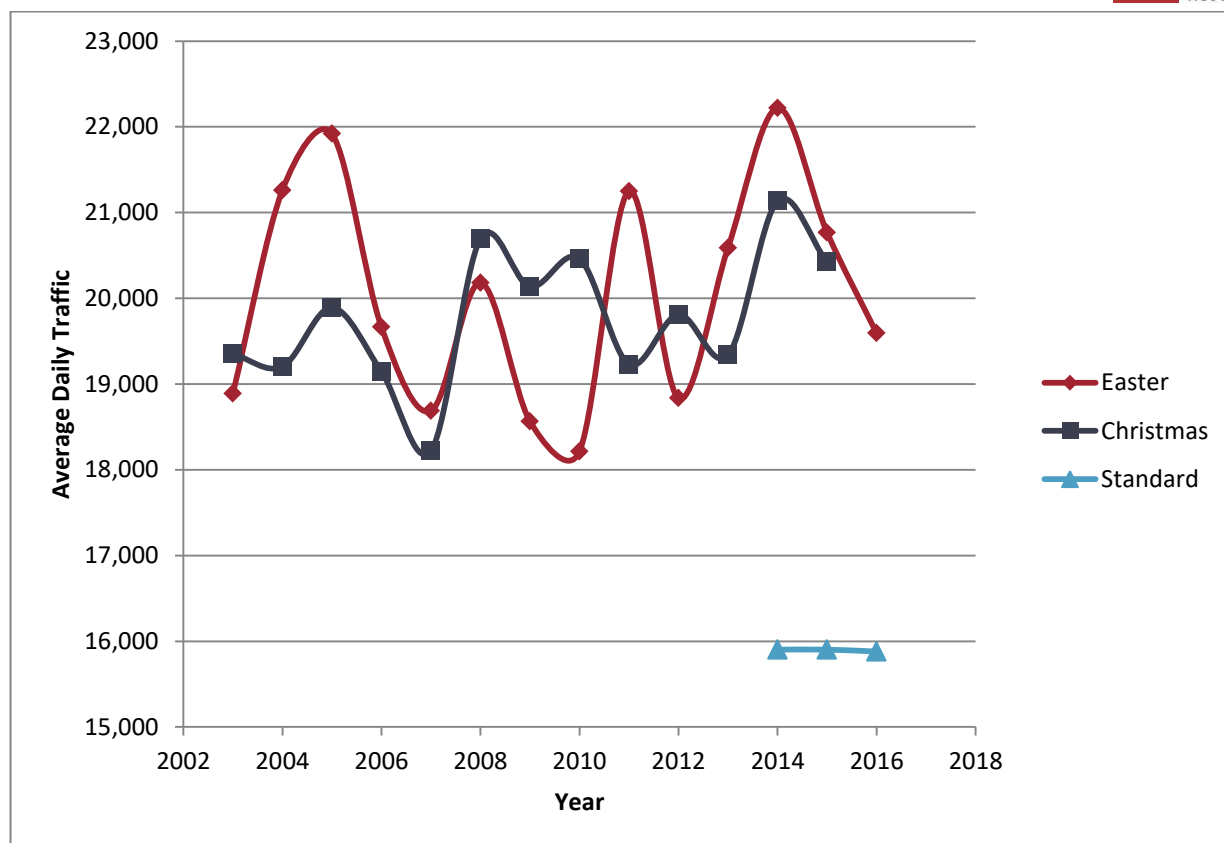


Figure 2: Study corridor traffic counts (Source: BSC, PSA)

As demonstrated in Figure 2, despite variation between years, ADT volumes during Easter and Christmas have generally trended upwards since 2003. Conversely, standard period ADT volumes have remained relatively consistent between 2014 and 2016. It is important that any future cycleway concept adequately considers the impact of the significant additional vehicle demand on the Bangalow Road/Broken Head Road corridor during holiday periods. It should also be acknowledged that this additional demand is also likely to include some motorists unfamiliar with the road corridor. It should be noted that during this increase in traffic demand, holiday periods are also expected to spark an increase in demand for cycling trips by tourists to the area.

The variation in demand between the holiday and standard periods can also be seen throughout the day. Figure 3 shows the average number of vehicles recorded on the corridor for each hour of the day during October 2010. In this standard period, there is a clear spike in the morning (AM) for traffic heading north. The spike is mirrored in the southbound direction during the afternoon (PM). This typically represents commuter and school pick-up/drop-off trips. Conversely, Figure 4 shows the average number of vehicles recorded for each hour of the day during January 2010. In this Christmas holiday period, the AM and PM spikes in demand are less discernible from the inter-peak demand. The AM peak occurs much later in the morning and the PM peak consists of only one spike in demand.

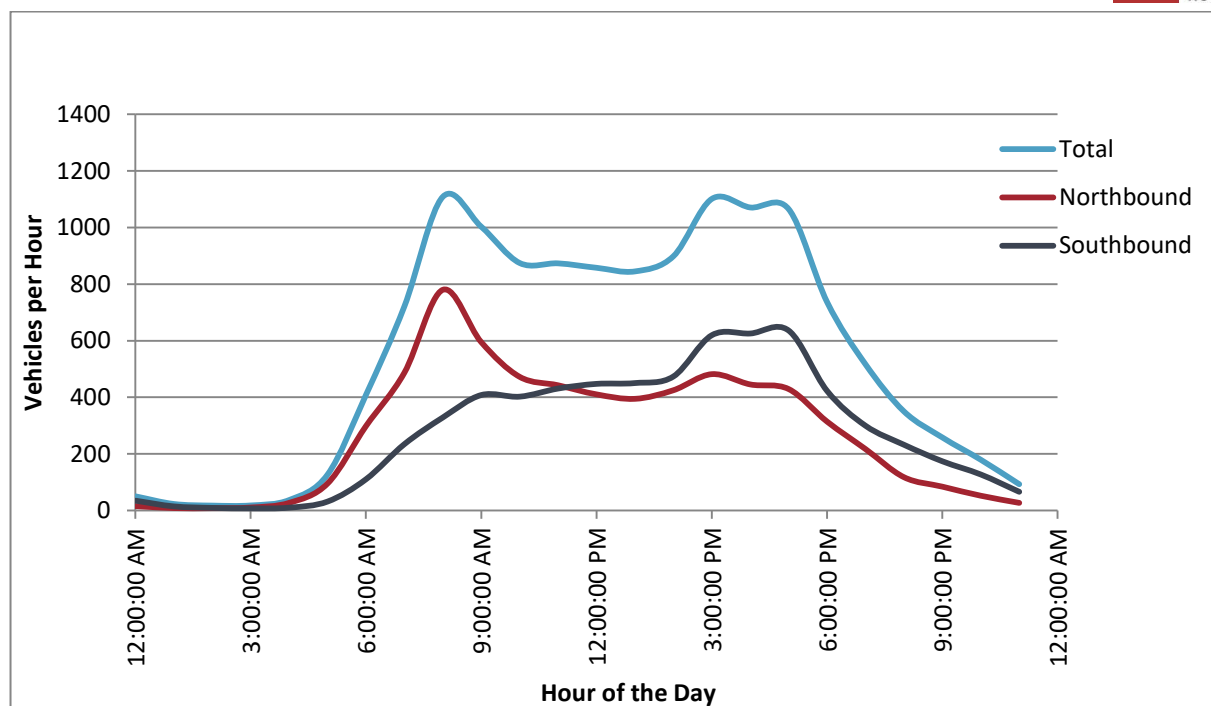


Figure 3: Vehicle flow distribution, October 2016 (Source: BSC, PSA)

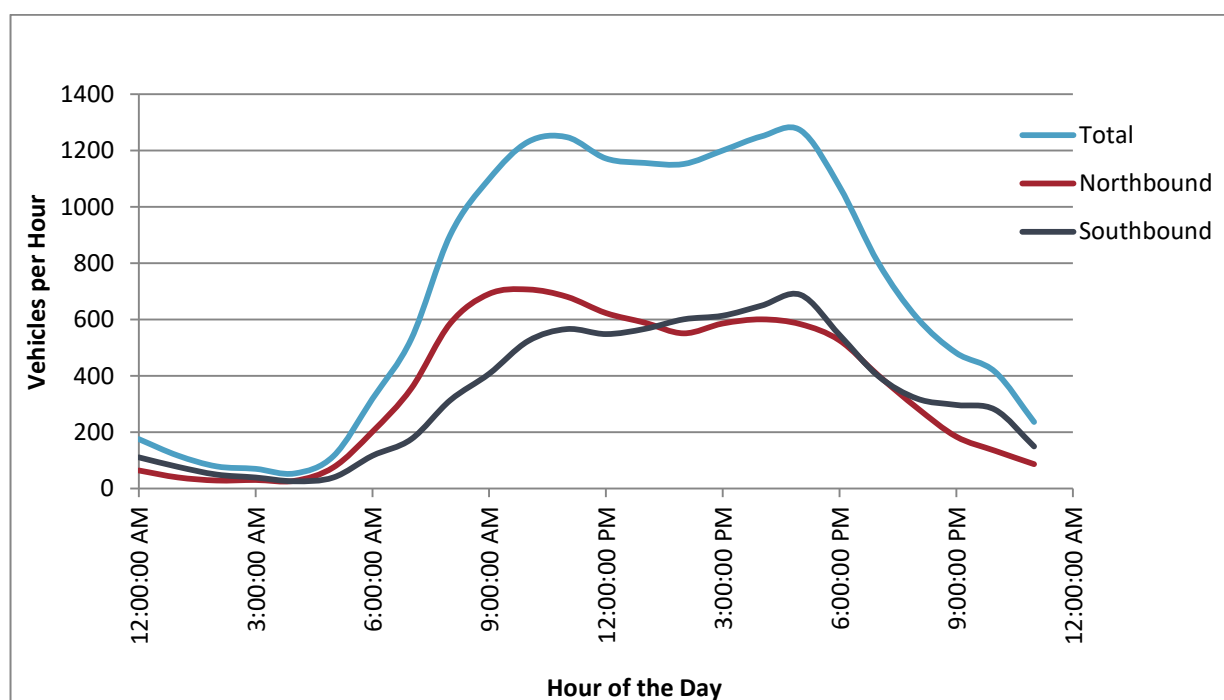


Figure 4: Vehicle flow distribution, January 2010 (Source: BSC, PSA)

Pedestrian and cyclist counts along the corridor are currently unavailable. However, Byron Shire Council have forecast that in alignment with population growth for the region, vehicle, pedestrian and cyclist volumes along the corridor are forecast to grow by 2% per year on average.

The posted speed for the corridor is 50km/h. The average operating speed recorded on the corridor, however, was 60.67km/h during holiday periods and 58.17km/h during standard periods. While this is within the acceptable range for operating speed in terms of road design, this is in excess of the current posted speed limit. On average, a high proportion of vehicles exceeded the posted speed limit (82.4% during holiday periods and 69.5% during standard periods). However, analysis of the 85th percentile speed profiles suggests that the majority of speeding vehicles on the corridor exceed the speed limit by less than 12km/h.

2.2.3 Parking utilisation assessment

A parking utilisation assessment was undertaken by BSC for the entire northern section of the study corridor. The assessment was undertaken over five days, between Wednesday 15 November and Sunday 19 November 2017, at 6:30AM, 11AM (Saturday only), 2PM and 7PM. The need for this assessment was identified in the TIAC meeting on 2 November 2017 and listed as an action item in order to better understand current parking utilisation on both sides of the northern section. This also provided a basis for quantifying potential impacts to car parking for the preferred option.

The key findings from the assessment include:

- More parking spaces currently provided on the eastern side of Bangalow Road
- Low parking utilisation overall
- Comparatively higher utilisation on the eastern side of Bangalow Road overall
- Utilisation generally the highest at 6.30AM.

The findings of the assessment are presented graphically in Figure 5, Figure 6 and Figure 7.

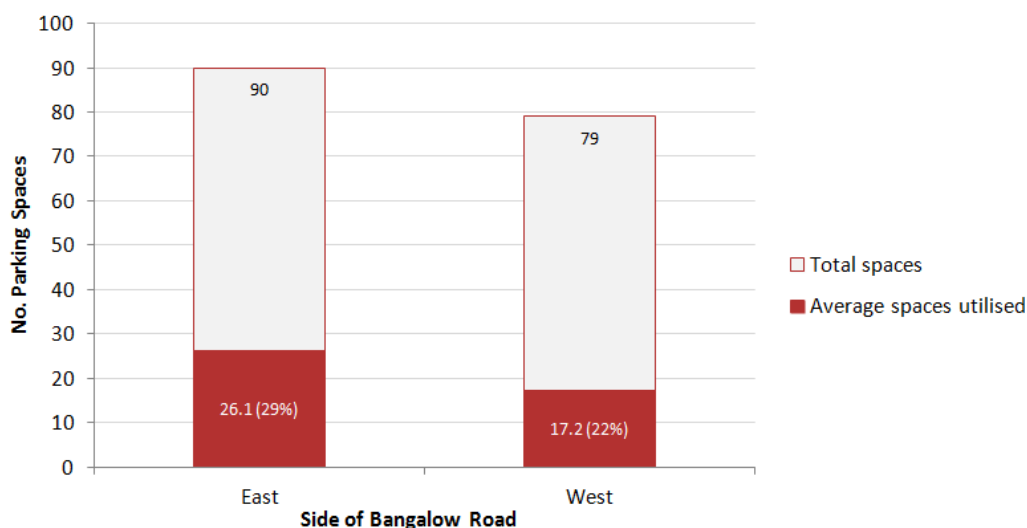


Figure 5: Parking spaces and average utilisation on northern section (Source: BSC)

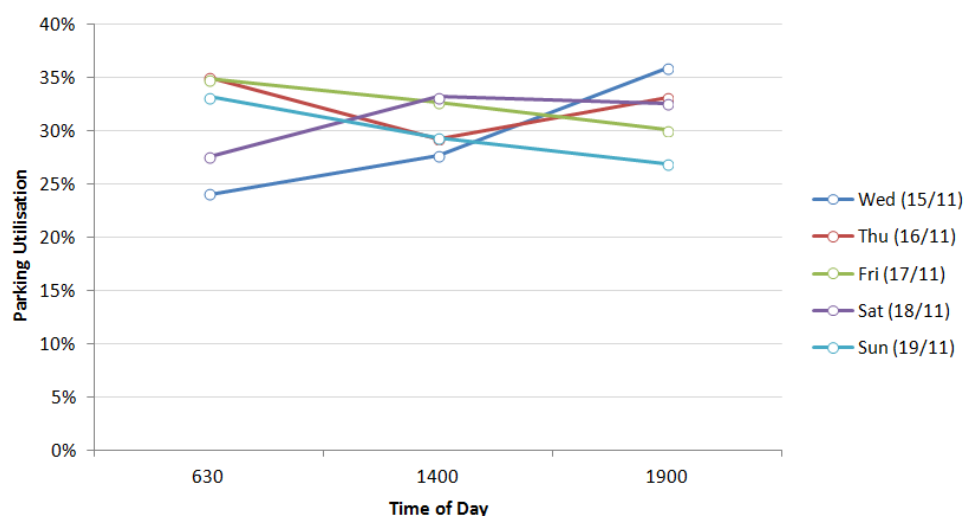


Figure 6: Parking utilisation by time of day on eastern side of Bangalow Road (Source: BSC)

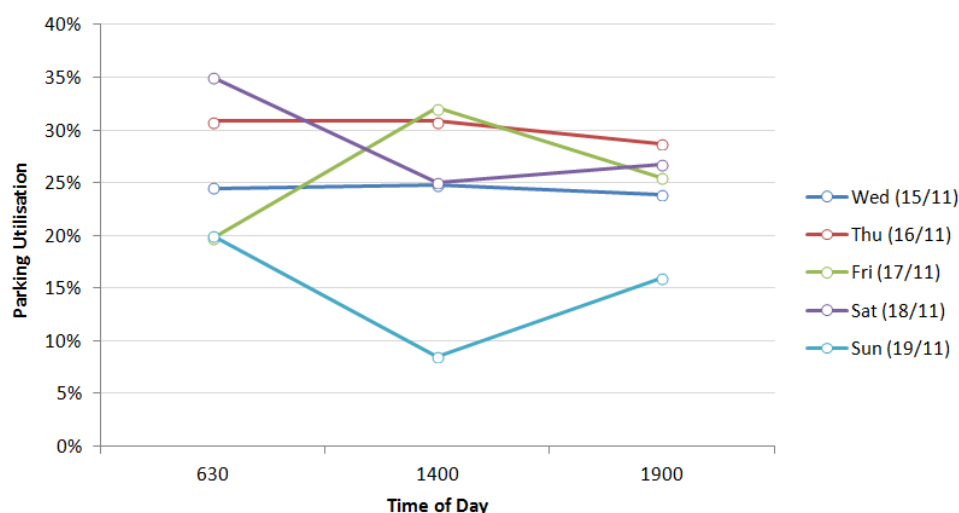


Figure 7: Parking utilisation by time of day on western side of Bangalow Road (Source: BSC)

2.2.4 Crash data analysis

A total of 57 crashes were recorded on the corridor between 2011 and 2016. While no fatalities were recorded, 37 crashes resulted in casualties and 20 resulted in the vehicle being towed from the scene with no casualties. The distribution of these crashes can be shown in Figure 8.

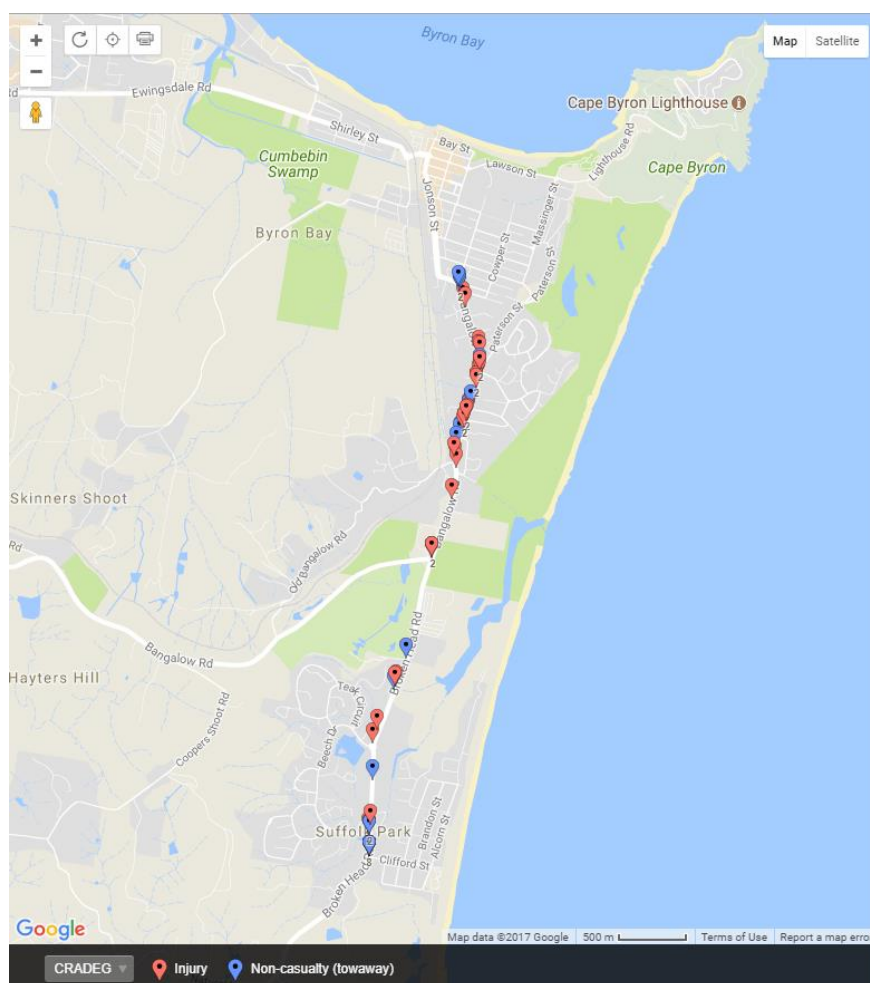


Figure 8: Study corridor crash data, 2011 to 2016 (Source: BSC, PSA, BatchGeo)

As can be seen in Figure 8, the majority of recorded crashes occurred on Bangalow Road between Old Bangalow Road and Mott Street. This is a two-lane, two-way, undivided section of roadway with on-street parking on both sides of the road and a number of intersecting streets along its length. There are no pedestrian or cyclist mid-block crossings in this section. The remaining crashes are distributed along the corridor. There were no crashes recorded in the vicinity of the three mid-block crossings along the corridor.

Between 2011 and 2016 there was one crash involving a pedestrian along the route. This crash occurred in 2015 at the intersection of Cumbebin Park and Bangalow Road to the north of the study corridor. Crash records show that the pedestrian was injured. A green on-road surface treatment has been applied across the Cumbebin Park leg of the intersection to indicate bicycle priority along Bangalow Road (western side). This treatment is not applied elsewhere along the corridor.

There were five crashes that occurred on weekdays between 7:30AM and 8:30AM and between 2:00PM and 4:00PM. These times are of interest to this study as they are the most likely times for school children to be commuting to and from school. Notwithstanding, none of these crashes occurred in the vicinity of the schools in the study area.

While there was evidence of speed non-compliance from the vehicle count data (refer to Section 2.2.2), only three crashes between 2011 and 2016 were recorded to be the result of excessive speed.

2.3 Land use planning

Byron Bay and surrounds are both desirable residential locations along with being regionally, nationally and internationally recognised tourist destinations due to the relaxed lifestyle, unique culture and attractive natural environment.

The northern end of the study corridor is less than 1km from Byron Bay town centre which is the dominant attractor in the area. The town centre includes a number of shops, restaurants, cafes, places of worship, accommodation, public and private recreation areas, schools and residential housing (including retirement villages). Surrounding the town centre are a number of national parks and nature reserves which encompass both parks and beaches. As shown in Figure 9, there are currently three educational facilities (two primary schools and an English learning centre), three churches and a number of sporting areas, parks and community centres located within 400m of the northern section of the corridor.

The 400m catchment of the central area of the corridor includes residential housing, sporting complexes, parks, two schools, and accommodation facilities. The major attractors in this section are the Byron Bay Golf Course and the Byron Bay Red Devils Rugby League field on the western side and the adjacent primary and secondary schools on the eastern side. Additional attractors also include beaches, park land and accommodation facilities.

The 400m catchment at the southern area of the corridor includes residential land uses (including retirement villages), sports fields, local shops, a skate park and accommodation facilities. Additional, major accommodation facilities (Suffolk Beachfront Holiday Park), community centres, parks and beaches are provided further east, beyond the 400m catchment.

As shown in Figure 9 and described above, there are a number of key land uses and attractors in the study area which have the potential to generate and attract pedestrian and cyclist traffic along the corridor.



Figure 9: Land use and attractors reference map (Source: PSA)

The Byron Bay Bypass is proposed to be located west of the Byron Bay town centre with the preferred alignment of this bypass connecting the Lawson Street/Butler Street intersection in the north to Browning Street in the south. The bypass is expected to enhance the efficiency on the road network within central Byron Bay and improve road safety by improving pedestrian and cyclist connectivity and reducing conflicts. While this is not expected to directly affect the study corridor, there is the potential for growth in cyclist volumes – especially longer distance cyclists – on the study corridor as it would provide an attractive connection from Byron Central Hospital in the west to Suffolk Park in the south.

The West Byron Urban Release Area is a 108 hectare site located 2.5km west of central Byron Bay. The proposed development, which is currently in the planning stage, includes housing, conservation, light industrial and community uses, and a vibrant connected community with parks, cycle ways, large conservation areas and neighbourhood facilities. A key objective of the proposal is to achieve walking distance to daily essentials in Byron Bay town centre. This further justifies that Byron Bay is, and will continue to be planned, as a major attractor for cycling trips.

2.4 Demographics

At the time of the 2016 Census, 5,524 people lived in Byron Bay and 3,754 people lived in Suffolk Park. The combined population in these two areas represents 30% of the entire Byron Shire Council local government area (LGA) (18% in Byron Bay and 12% in Suffolk Park). The population of the LGA has increased by 2,349 since the 2011 Census.

The LGA is predicted to experience continual population growth at a rate of approximately 2% per year until 2031. This represents an extra 7,348 people by 2031, taking the total future population to 38,865. At this time, Byron Bay and Suffolk Park are expected to comprise approximately 20% and 15% respectively, of the total LGA population. Based on these percentages, the estimated number of people living in Byron Bay and Suffolk Park by 2031 is expected to be 13,323. This represents an increase of 3,143 people.

Figure 10 shows the age of people in Byron Bay and Suffolk Park at the time of the 2016 Census. The graphs indicate that the 20-39 year old age category is the most popular in Byron Bay, closely followed by the 40-59 year old category. In Suffolk Park this is finding reversed with the 40-59 year old category containing the highest number of people, followed closely by the 20-39 year old category. Overall, these two age brackets (i.e. 20-59 years) are the most common ages in the study area.

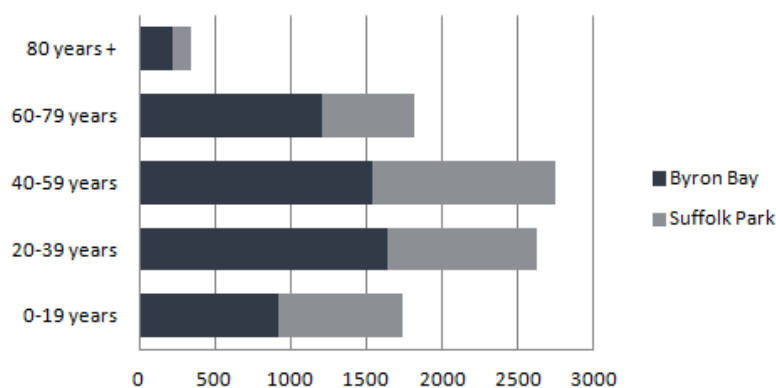


Figure 10: Age breakdown of people in Byron Bay and Suffolk Park (Source: ABS, PSA)

Figure 11 demonstrates the breakdown of the education level of Byron Bay residents. Excluding the large number of respondents that did not state their education in the 2016 Census, primary and secondary school students were the largest education categories in the Byron Bay/Suffolk Park area. This finding, especially the higher number of primary (531) rather than secondary (413) school students, is reasonable due to the greater quantity of primary schools in the area. In light of this and the close proximity of housing and schools in the area, there is a great opportunity to encourage walking and cycling for the journey to and from school.

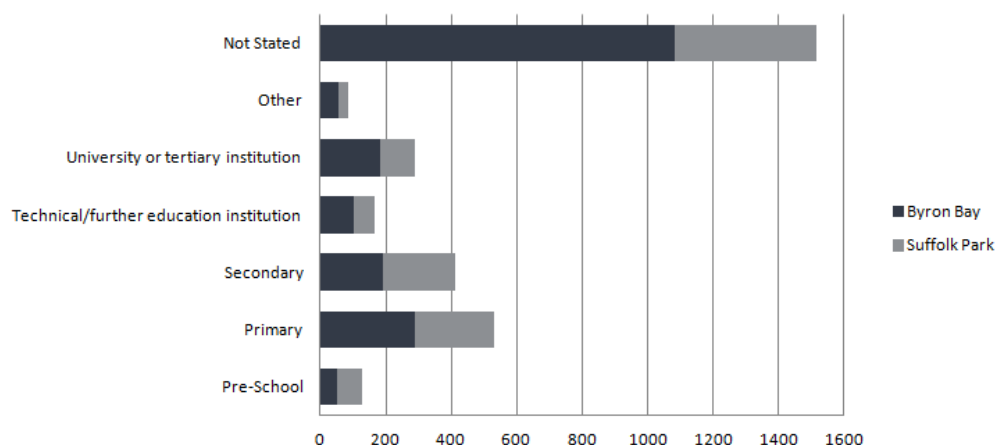


Figure 11: Breakdown of level of education of people in Byron Bay and Suffolk Park (Source: ABS, PSA)

Journey to work data from the 2016 Census was not available at the time of writing. As such, 2011 Census data has been used for the analysis of commuter trips in the study area. According to this data, 12% of people (198 people) in Byron Bay cycled to work while 5% (55 people) cycled to work in Suffolk Park. In comparison to the total responses for the LGA, more than half (54%) cycled to / from work in Byron Bay and 15% were cycling to / from work in Suffolk Park. As Byron Bay is the major attractor in the area, it is assumed that some people from Suffolk Park cycle to Byron Bay for work. A similar amount of people walked to work in Byron Bay (203 people) and Suffolk Park (46 people).

Public transport use is low as only 1% of respondents (20 people) stated that they use public transport to travel to / from work in Byron Bay and 2% (22) in Suffolk Park. The numbers above show a clear interest and usage of active transport in the study area and the broader LGA. This provides the opportunity to support and build on the relatively high rates of existing cycle activity through the implementation of better connected and safer pedestrian and cyclist infrastructure.

In recognition of the impact of tourism on the local economy, tourist data was investigated to understand the type, behaviour and travel patterns of people visiting the area. The following information was provided by Tourism Research Australia as part of the Destination Visitor Survey Program and The Byron Shire Visitor Profile and Satisfaction project. The survey was completed during April, May and June 2011 and applies to the entire LGA. The most outstanding findings were as follows:

- 80% of visits to the region were for holiday/leisure purposes, with 15% visiting friends and/or family;
- 39% of visitors were in the family life stage, 18% in the older working singles/couples life stage, 16% in the young/midlife singles with no children life stage, and 15% in the young/midlife couples with no kids life stage;
- 35% of visitors travelled with their partner, 30% with their friends and/or family, and 26% with their immediate families;
- 76% of visitors were travelling domestically – 44% of domestic visitors were from Queensland, 32% from New South Wales and 17% from Victoria;
- 24% of visitors were travelling internationally – 18% of international visitors were from New Zealand, 16% from North America, 10% from Scandinavia and 9% from Germany;
- 71% of visitors were not first time visitors;
- The median number of stops in the region was 2 – 90% of visitors stopped in Byron Bay;
- 23% stayed in a rented house/apartment, 21% in a commercial caravan or camping ground and 18% in backpackers accommodation; and
- The single most important reason people visited the Byron Shire was to visit specific attractions – 79% said their motivation to visit the region was for general sightseeing – i.e. to tour around and explore.

These findings assist in identifying the key groups who are likely to use the corridor and, subsequently, for whom the corridor should be primarily designed.

2.5 User profile

The Byron Bay/Suffolk Park localities are popular tourist destinations within comfortable cycling distance of one another. The terrain is generally flat and the climate is conducive to active transport travel all year round. Similarly, the area surrounding the study corridor includes a number of key attractors (schools, major accommodation, parks, reserves and sporting complexes) and is largely zoned for residential uses. Based on these findings and consideration of the broader context of the study corridor, five key future user groups of the corridor have been identified. These are:

- School students;
- Families;
- Recreational users;
- Tourists; and
- Confident cyclists.

A description of each user group, their respective needs and what this may mean for the design of the corridor is provided in Table 4.

Table 4: User profiles, needs and treatments

User group	User profile and needs	Example design factors/treatments
School students	<p>Primary and secondary school students from surrounding suburbs, walking or cycling alone or with others (e.g. with parents or friends).</p> <p>Needs include:</p> <ul style="list-style-type: none"> • safe and convenient crossing points with good sight lines; • clear understanding of priority; • sufficient path width; • connection to school paths; and • separation from vehicular traffic. 	<p>Safe crossing points – ‘bent-in’, ‘bent-out’ or ‘straight’ intersection crossings. 2-3m wide refuge for mid-block ped/cycle crossings</p> <p>Good sight lines – 20m min. for motorists on approach to crossing on 60km/h (85th percentile) road</p> <p>Sufficient width – 2.5-3.5m desirable minimum (shared path)</p> <p>Understanding of priority – raised crossing, signage, surface treatments</p>
Families	<p>Parents with children from surrounding suburbs, particularly within 400m of the corridor. Likely use of shorter sections of the corridor.</p> <p>Needs include:</p> <ul style="list-style-type: none"> • safe crossing points with good sight lines; • water stations along the corridor; • clear understanding of priority; • sufficient path width; • separation from vehicular traffic; • continuous route; and • high quality surface treatments. 	<p>As above</p> <p>High quality surface treatments</p>
Recreational users	<p>Needs include:</p> <ul style="list-style-type: none"> • attractive and pleasant environment; • water stations along the corridor; • safe crossing points with good sight 	As above

User group	User profile and needs	Example design factors/treatments
	lines; <ul style="list-style-type: none"> • sufficient path width; • connections to key attractors; and • separation from vehicular traffic. 	
Tourists	Needs include: <ul style="list-style-type: none"> • legible path network; • convenient, recognisable and easy to understand wayfinding; • markers indicating proximity, access and distance to key attractors; • attractive and pleasant environment; • water stations along the corridor; • safe and convenient crossing points with good sight lines; • sufficient path width; and • safe clearance from vehicle traffic (ideally separated path) 	As above Wayfinding at key decision points (e.g. crossing points, intersecting paths) Painted or sign-posted distance markers
Confident cyclists	Needs include: <ul style="list-style-type: none"> • direct and efficient route with limited interruptions or rapid direction changes; • separation from pedestrians; • good sightlines and visibility between road users; • safe and convenient road crossings 	As above Higher level of acceptance of on-road cycle lanes

2.6 Route objectives

Objectives for the route have been developed based on the findings of the existing data and network review and in light of the route user profiles. These route objectives, as listed below, influence the development of options, the selection of a preferred option, and the treatments recommended in the final concept design:

- To provide a safe, legible and connected walk/cycle corridor between Byron Bay and Suffolk Park;
- To complete missing links and gaps in the existing corridor;
- To connect and facilitate direct access to key attractors and the broader walk and cycle network; and
- To increase the convenience and attractiveness of walking and cycling in and between Byron Bay and Suffolk Park.

3 OPTIONS DEVELOPMENT

Four different route alignment options have been developed in response to the identified issues, challenges and opportunities and in light of the user profiles and route objectives established in Section 2.

The options were developed at a high level with the express purpose of considering a range of different route alignments, path types and locations. Specific treatments (e.g. intersection designs and surfaces) were not explicitly considered in this options development process. It should be noted that while the options have been presented as complete corridor solutions, they have been developed in sections (northern, central and southern) so that specific route alignments and path types can be combined as desired. The boundaries of these sections are presented in Figure 1.

A quantitative evaluation of the relative merits of each option was undertaken and is provided in Section 4. This evaluation forms the basis for the selection of the preferred option for progression to a more detailed concept design (refer to Section 5).

3.1 Improvements common to all options

Following the site visit and desktop review, a number of improvements are recommended regardless of the option selected in order to improve the safety and operation of the existing corridor. These improvements include:

- Undertake minor safety and surface improvements on existing paths where necessary;
- Improve crossings (intersection and road) where necessary;
- Implement kerb ramps and complete missing gaps in footpath network on western side of the corridor, where appropriate;
- Improve walk/cycle infrastructure across and surrounding Old Bangalow Road;
- Improve walk/cycle infrastructure across the existing road to/from St Finbarr's Catholic Primary School and Byron Bay High School, as appropriate; and
- Realign and improve the existing pedestrian crossing adjacent Byron Holiday Park.

In addition to these recommendations, two potential opportunities have been identified for further investigation. These are:

- Potential to move the existing crossing between Wollumbin Street and Keats Street to outside 'Macs Milkbar' and include kerb build outs and street scaping to improve amenity and safety;
- Potential to extend the shared path south of Clifford Street on the eastern side of Broken Head Road to service additional dwellings.

3.2 Option 1 – Continuous bi-directional path

Option 1 provides a continuous, off-road shared path along alternating sides of the entire corridor in order to enable a connection, fully separated from vehicles, for pedestrians and cyclists between Browning Street and Clifford Street. Existing road crossings are proposed to be upgraded to improve user safety and to facilitate the use of the shared path. With the addition of on-road cycle lanes, this option facilitates continuous travel along the entire corridor for southbound cyclists on the eastern side and uninterrupted travel between Beech Drive (northern roundabout) and Old Bangalow Road for northbound cyclists on the western side. The number of required crossings of the road have been minimised to provide the least interruption to through travel from south to north and north to south.

Option 1 is presented graphically in Appendix 1. Specific features of this option include:

- 770m (approx.) of new shared path;
- 2,650m (approx.) of widened shared path;
- 1,040m (approx.) of new footpath;
- 1,980m (approx.) of new on-road cycle lanes;

- Connect into surrounding walk/cycle network;
- Widen existing shared paths to 2.5m (desirable minimum);
- On-road cycle lane on western side, opposite to the shared path from the school crossing south of Old Bangalow Road to Beech Road (northern roundabout);
- New crossing south of The Byron at Byron resort;
- Improve access to existing bus stops;
- New shared path from The Byron at Byron resort to existing shared path at Beach Break at Byron resort;
- New footpath on western side between Beech Drive roundabouts; and
- New road crossing across Clifford Street.

3.3 Option 2 – Low-cost continuous mono-directional path

Option 2 utilises existing infrastructure and proposes lower cost and less invasive infrastructure interventions to facilitate continuous cycle travel along the entire corridor. With the addition of on-road cycle lanes, this option facilitates uninterrupted travel for northbound cyclists on the western side along the majority of the corridor (Browning Street to Beech Drive southern roundabout).

Option 2 is presented graphically in Appendix 2. Specific features of this option include:

- 55m (approx.) of new shared path;
- 620m (approx.) of widened shared path;
- 640m (approx.) of new footpath;
- 3,600m (approx.) of new on-road cycle lanes;
- 785m (approx.) of new bicycle awareness markings on local roads;
- Connect into surrounding walk/cycle network;
- Minor safety improvements to existing shared paths but widths to remain unchanged;
- On-road northbound cycle lane on western side to reduce demand on existing eastern shared path;
- No walk or cycle path provision between The Byron at Byron resort and Beech Road (northern roundabout). Cyclists to re-route on local roads (Redgum Place, Teak Circuit, Beech Drive); and
- On-road cycle lanes on both sides of the road between Beech Drive roundabouts.

3.4 Option 3 – Centre-running cycleway

Option 3 includes the construction of a central median to accommodate two-way separated cycle movements in the centre of the existing roadway. The centre-running cycleway is proposed for the northern section of the corridor only (between Browning Street and just north of Mahogany Drive) at which point it would connect into the existing network. The central and southern sections of this option are identical to Option 1. Option 3 facilitates continuous separated cycle travel along the entire corridor; however, road crossings are required.

Option 3 is presented graphically in Appendix 3. Specific features of this option include:

- 770m (approx.) of new shared path;
- 1,280m (approx.) of widened shared path;
- 1,040m (approx.) of new footpath;
- 3,150m (approx.) of new on-road cycle lanes;
- Connect into surrounding walk/cycle network;
- Opportunity to create tree-lined boulevard for section of central median;
- Minor safety improvements to existing shared path on eastern side but width to remain unchanged; and

- New crossing required at southern end of central median.

3.5 Option 4 – Off-road continuous scenic route

Option 4 looks beyond the Bangalow Road/Broken Head Road corridor to provide continuous cycle travel between Browning Street and Clifford Street. This option proposes to provide new or upgraded off-road shared paths on an alternative alignment to the study corridor, maximising the utilisation of existing path and road infrastructure where possible and appropriate.

Option 4 is presented graphically in Appendix 4. Specific features of this option include:

- 3,880m (approx.) of new shared path
- 250m (approx.) of widened shared path
- 2,185m (approx.) of new bicycle awareness markings on local roads
- Re-vitalisation of currently disused rail corridor, west of Bangalow Road which aligns with BSC plans to repurpose the railyards;
- Connections between rail corridor shared path and Bangalow Road;
- Aside from proposed footpath and road crossing works, limited works to study corridor proposed;
- Improved beach access; and
- Use of low speed, local roads for cycle movements (Bangalow Road/Broken Head Road intersection to Suffolk Park) suitable for user groups specified in Section 2.5.

4 OPTIONS EVALUATION

A three-step evaluation process has been applied to the options in order to assist in the identification of the preferred option. This process is comprised of:

1. Assessment matrix (excluding cost estimates)
2. Cost comparison
3. Cost/benefit assessment.

This three-step options evaluation process was undertaken for each corridor section (northern, central and southern) for each of the four options. This enabled a detailed comparison of each corridor section individually and also provided the opportunity to combine corridor sections from different route options in order to develop a preferred option which best aligns with the identified user profiles and route objectives. For example, this could include combining the northern section of Option 2 with the central section of Option 1 with the southern section of Option 4 to create the overall preferred option.

The options evaluation process is discussed in greater detail below.

4.1 Assessment matrix

4.1.1 Evaluation criteria and scoring

Six evaluation criteria were developed in order to provide a quantitative assessment of the options for each corridor section. High-level order of magnitude cost estimates for each section and option were not included as part of this first evaluation step. These costs represent the second step of the evaluation process and are presented in Section 4.2.

These criteria are:

- **Access & connectivity:** This criterion considers the ease of access to/from the proposed corridor and the level of connectivity to population areas, attractors and the surrounding path network
- **Safety:** This criterion considers user safety in accessing and using the proposed corridor. This could include the number and type of road crossings required, the type of intersection crossings, the quality and type of infrastructure proposed and CPTED concerns (lighting, passive surveillance, etc.)
- **Infrastructure impacts:** This criterion considers the impact on existing and required infrastructure. This could include parking removal, impact on known services (power poles, etc.), road work requirements (alignment, widening, etc.), signs and lines
- **Environmental impacts:** This criterion considers the impact on the existing environment. This could include the need for tree removal, water runoff/drainage, coastal impacts and environmental impacts during construction
- **Alignment with user profiles:** This criterion considers how well the option aligns with the needs of the identified key user groups (i.e. school students, families, recreational users, tourists, confident cyclists)
- **Funding application potential:** This criterion considers how well the option aligns with the Walking and Cycling Program and, therefore, how likely the project would be to receive State funding.

Each option for each corridor section was then assigned a score between one and five to represent their respective level of satisfaction of the six criteria. A score of one is the lowest possible score and it represents very limited levels of access to the corridor and connectivity to the surrounding network; major safety issues; significant infrastructure and environmental impacts; limited alignment with user profiles and limited potential for funding. Conversely, a score of five is the highest possible score and it represents very high levels of access to the corridor and connectivity to the surrounding network; limited safety issues; minimal infrastructure and environmental impacts; a high degree of alignment with user profiles and an option which is well-positioned for potential funding.

4.1.2 Assessment matrix results

The results of the first step of the options evaluation process for the northern, central and southern sections are presented in Table 5, Table 6 and Table 7 respectively.

In support of the below tables, an additional table has been prepared which provides a summary of the advantages and disadvantages of each option within each corridor to justify each of the assigned scores. This justification table is provided in Appendix 5.

Table 5: Assessment matrix – northern

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Northern	1	3	4	2	4	5	4	22
	2	5	4	2	4	3	3	21
	3	2	2	1	4	2	2	13
	4	3	4	4	2	5	2	20

Table 6: Assessment matrix – central

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Central	1	5	3	3	3	4	3	21
	2	4	3	4	5	2	2	20
	3	5	3	3	3	4	3	21
	4	4	3	3	4	4	3	21

Table 7: Assessment matrix – southern

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Southern	1	4	4	4	5	5	3	25
	2	4	2	3	5	2	1	17
	3	4	4	4	5	5	3	25
	4	5	3	4	4	4	3	23

As can be seen in the above tables, Option 1 scored the highest by a narrow margin for the northern section, Option 1 (Option 3) and Option 2 scored the highest for the central section while Option 1 (Option 3) scored the highest for the southern section. It should be noted that options 1 and 3 are the same for the central and southern sections.

4.2 Cost comparison

High-level order of magnitude cost estimates have been developed to provide an indication of the relative costs to construct each option for each of the corridor sections. This provides the opportunity to compare and combine each corridor section. It should be noted that these costs are order of magnitude only. It is recommended that a detailed survey, including the location of all underground services, be undertaken in order to provide a better understanding of costs.

These high-level cost estimates are summarised in Table 8.

Table 8: Cost estimates by corridor section and route option

Corridor section	Option	Cost estimate	Cost score for assessment
Northern	1	\$1,036,948.87*	4
	2	\$778,046.10	4
	3	\$1,369,050.20	3
	4	\$952,373.50	4
Central	1	\$1,342,035.51	3
	2	\$428,097.34	5
	3	\$1,342,035.51	3
	4	\$679,578.90	4
Southern	1	\$336,206.00	5
	2	\$1,035,235.50	3
	3	\$336,206.00	5
	4	\$303,007.90	5

Note: Cost estimates include an additional 30% price contingency

*This cost estimate does not include the cost to remove or relocate impacted power poles/street lights on the eastern side of the corridor

4.3 Cost/benefit assessment

A high-level cost/benefit assessment has been undertaken to assist in identifying the preferred option. This assessment is based on the 'non-cost' and 'cost' scores outlined in Section 4.1 and Section 4.2 respectively. The findings of the cost/benefit assessment are presented in Table 9.

The findings presented in Table 9 provide an allowance for a higher or lower weighting of cost (i.e. 30%, 50% and 70%) on the overall project. The remaining non-cost weighting is then distributed evenly across the six criteria presented in Section 4.1. For example, an assessment with a 70% weighting in favour of cost results in 30% for the non-cost component. This is then spread evenly across the six individual non-cost criteria which results in a 5% weighting for each.

Table 9: Cost/benefit assessment

Corridor Section	Option	Cost/Benefit Sensitivity (Non cost-Cost)		
		70-30	50-50	30-70
Northern	1	3.77	4.00	3.90
	2	3.65	3.85	3.85
	3	2.42	2.65	2.75
	4	3.53	3.83	3.80
Central	1	3.35	3.38	3.15
	2	3.83	4.23	4.50
	3	3.35	3.38	3.15
	4	3.65	3.88	3.85
Southern	1	4.42	4.75	4.75
	2	2.88	2.98	2.95
	3	4.42	4.75	4.75
	4	4.18	4.55	4.65

As can be seen in Table 9, Option 1 scored the highest for the northern and southern sections while Option 2 scored the highest for the central section despite different cost weightings.

5 PREFERRED OPTION

5.1 Draft preferred option

For the November 2017 TIAC meeting, *Option 1 – Continuous bi-directional path* was presented as the draft preferred option for the entire corridor. This was based on the findings of the cost/benefit assessment (refer to Section 4.3) in which Option 1 scored the highest for the northern and southern sections. Although Option 2 scored the highest for the central section, the implementation of this option was not recommended. This was primarily due to the circuitous and potentially unappealing diversion of this option onto the local road network (Redgum Place, Teak Circuit, Beech Drive) and its inconsistency with the intent of the remainder of the proposed cycleway.

As a result of the TIAC meeting, it was agreed that the practical implementation of Option 1 for the northern section was likely to be substantially impacted by the existing power poles which line the eastern side of Bangalow Road. It was acknowledged that any option requiring the wholesale removal of these power poles should be avoided if possible as it would have significant infrastructure and cost implications. TIAC requested that further investigation of the northern section be undertaken in order to inform the development of an alternative solution. These investigations included a parking utilisation assessment (refer to Section 2.2.3) as well as a site walkover with TIAC members.

5.2 Final preferred option

Following the site walkover on 6 December 2017, it was agreed that variations to Option 1 and Option 2 be developed for the northern section. These variations were:

- Option 1A – Kerb build-outs provided with existing poles moved to facilitate widening of the shared path
- Option 1B – Kerb build-outs provided around existing poles with the direction of the shared path splitting around the poles
- Option 2A – On-road cycle lanes on both sides of Bangalow Road with parking removed on eastern side
- Option 2B – On-road cycle lanes on both sides of Bangalow Road with parking removed on western side.

Following discussion with BSC it was agreed that Option 2B be progressed as the preferred option for the northern section of the corridor. This was primarily due to the potential to minimise the impact of parking loss on the community. A review of land uses along this section of the corridor found that the western side of Bangalow Road had a higher proportion of non-residential land uses with off-street parking and the parking assessment found that the western side of Bangalow Road had fewer parking spaces and comparatively lower utilisation. Based on these considerations, the final preferred option for the entire corridor was confirmed. The preferred option consists of:

- **Northern section:** Option 2B – On-road cycle lanes on both sides of Bangalow Road with parking removed on western side
- **Central section:** Option 1 – Continuous bi-directional path
- **Southern section:** Option 1 – Continuous bi-directional path.

The preferred option concept design and associated cross-sections are provided in Appendix 6.

For the northern section, Option 2B provides continuous, 1.5m wide on-road cycle lanes on each side of Bangalow Road between Browning Street and the southern extent of the section at the existing road crossing near St Finbarr's Catholic Primary School. The direction of travel on these cycle lanes will be as per vehicle travel in the adjacent lane. This option includes the removal of the existing pedestrian refuge currently between Wollumbin Street and Keats Street and the construction of a raised pedestrian zebra crossing on the pedestrian desire line immediately outside Macs Milkbar. A kerb build-out is proposed to be constructed on the western end of this crossing in order to improve pedestrian visibility, movements and general aesthetics at this key attractor. This option includes the removal of approximately 21 parking spaces on the eastern and 79 parking spaces on the western side of Bangalow Road. Additional information on parking loss is provided in Appendix 6.

This option also includes the construction of new footpaths on the western side of Bangalow Road in order to improve pedestrian safety and connectivity.

For the central section, Option 1 provides two travel options for cyclists along the corridor. The first is a continuous, off-road shared path on alternating sides of the corridor as required in order to utilise existing infrastructure and minimise unnecessary costs. This shared path runs the entire length of the central section, from the existing road crossing south of Old Bangalow Road to the southern extent of the section at Beech Drive (north). This includes widening of the existing shared path from 2.2m (approx.) to the desirable minimum width of 2.5m. On-road cycle lanes are proposed on the sides opposite to the shared path in order to provide secondary cycle travel options and to improve safe cycle continuity for more confident users. This option includes the removal of approximately 13 parking spaces on the western side of Broken Head Road. Additional information on parking loss is provided in Appendix 6.

For the southern section, Option 1 provides a continuous, off-road shared path on the eastern side of the corridor between Beech Drive (north) and the southern extent of the section at Clifford Street. This option includes the widening of the existing shared path from 2.2m (approx.) to the desirable minimum width of 2.5m. This option also includes the construction of new footpaths on the western side of Broken Head Road between the Beech Drive roundabouts in order to improve pedestrian safety and connectivity, especially for senior residents.

It is recommended that BSC consider the development of an active transport wayfinding strategy for the LGA and provide appropriate signage as part of the upgrade of the corridor. This is expected to significantly improve corridor use and legibility for future users, particularly tourists.

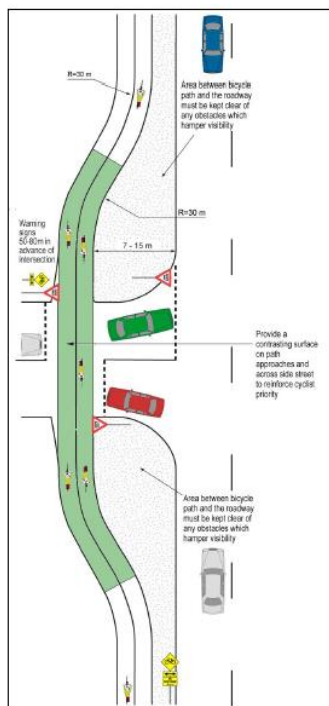
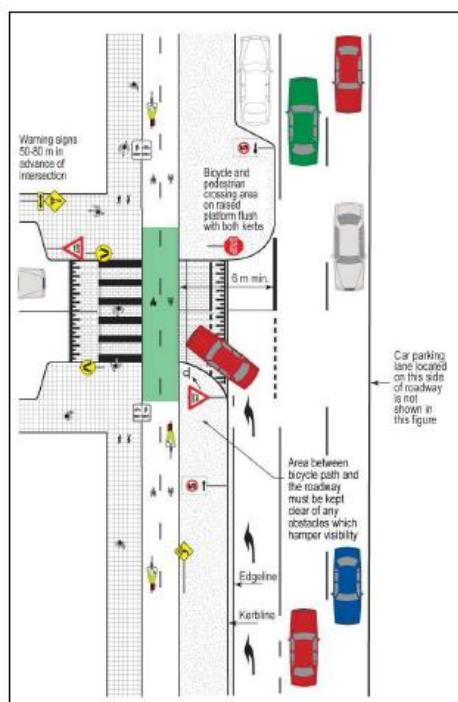
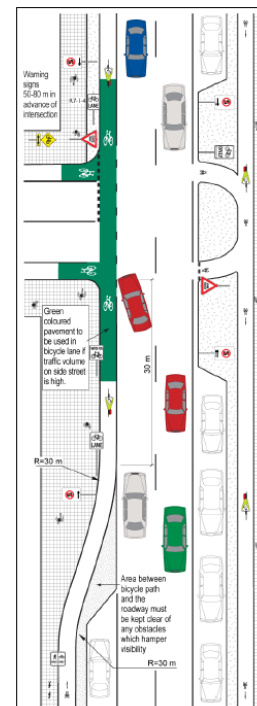
In addition to the preferred option, 'Option 4 – Off-road continuous cycle route' has been identified as a potential option for additional future works beyond the upgrade of the study corridor. This option provides continuous cycle travel between Browning Street and Clifford Street but proposes to provide new or upgraded off-road shared paths on an alternative alignment to the study corridor. This option includes the re-utilisation of the disused rail corridor in the northern section, an alignment through existing bushland in the southern section, and use of local roads for cycle travel in the southern section.

5.3 Intersection treatments

Where an off-road bicycle path or shared path is provided, cyclists using the path will often have to cross intersecting minor local roads. According to Austroads' *Guide to Road Design Part 4 – Intersections and Crossings General*, these crossings should be designed to ensure that motorists are aware of the existence of the crossing and the priority that applies; so that the location and design of the crossing, and the priority adopted, does not put motorists at risk of rear-end incidents when turning from the major road; and to encourage safe and correct use by cyclists and pedestrians.

This Guide also provides three types of treatment options for the design of path crossings of local access roads where the path approach is bent-out (i.e. is deviated away from the major road); the approach is straight; or where a one-way bicycle path is deviated to become an on-road bicycle lane. The preferred option includes, and will therefore need to accommodate, each of these three type crossing types where appropriate.

Examples of each of these crossings are provided in Figure 12. Additional information on these treatment types can be found in Austroads' *Guide to Road Design Part 4 – Intersections and Crossings General*, Austroads' *Guide to Road Design Part 6A – Paths for Walking Cycling*, and the Roads and Traffic Authority's *NSW Bicycle Guidelines*.

Bent-out**Straight****Bent-in (on-road cycle lane)****Figure 12: Shared path intersection crossing treatments**

The surface treatment, signage and linemarking proposed at each intersection will depend on the intersection type proposed. As per the *NSW Bicycle Guidelines*, green surface colouring has been adopted as the colour for use on bicycle facilities in order to improve the visibility of the bicycle path through complicated road environments and intersections. This treatment colour, however, is predominantly used for on-road paths and should not be used on shared paths as the colour can only be used to indicate exclusive use by cyclists.

According to Austroads' *Guide to Road Design Part 6A – Paths for Walking Cycling*, cycling at a consistent speed is significantly easier than cycling with frequent changes in speed. Therefore, cyclists prefer to keep moving and maintain their momentum unless there is a good reason for them to stop. As stated in the *NSW Bicycle Guidelines*, the provision of a consistent priority, be that to cyclists or to motorists, on any route for its entire length is critical to preserve the coherence of the network. The provision of clear priority along the route and across intersections also reduces the potential for safety conflicts. It is therefore proposed that the priority be given to cyclists at existing intersections along the corridor. Where on-road cycle lanes are proposed on the main road alignment, cyclists will also be prioritised over vehicles accessing intersecting side roads and the priority will be reinforced through appropriate surface treatment colouring, linemarking and signage. This is illustrated in the preferred option concept design in Appendix 6.

5.4 Road crossing treatments

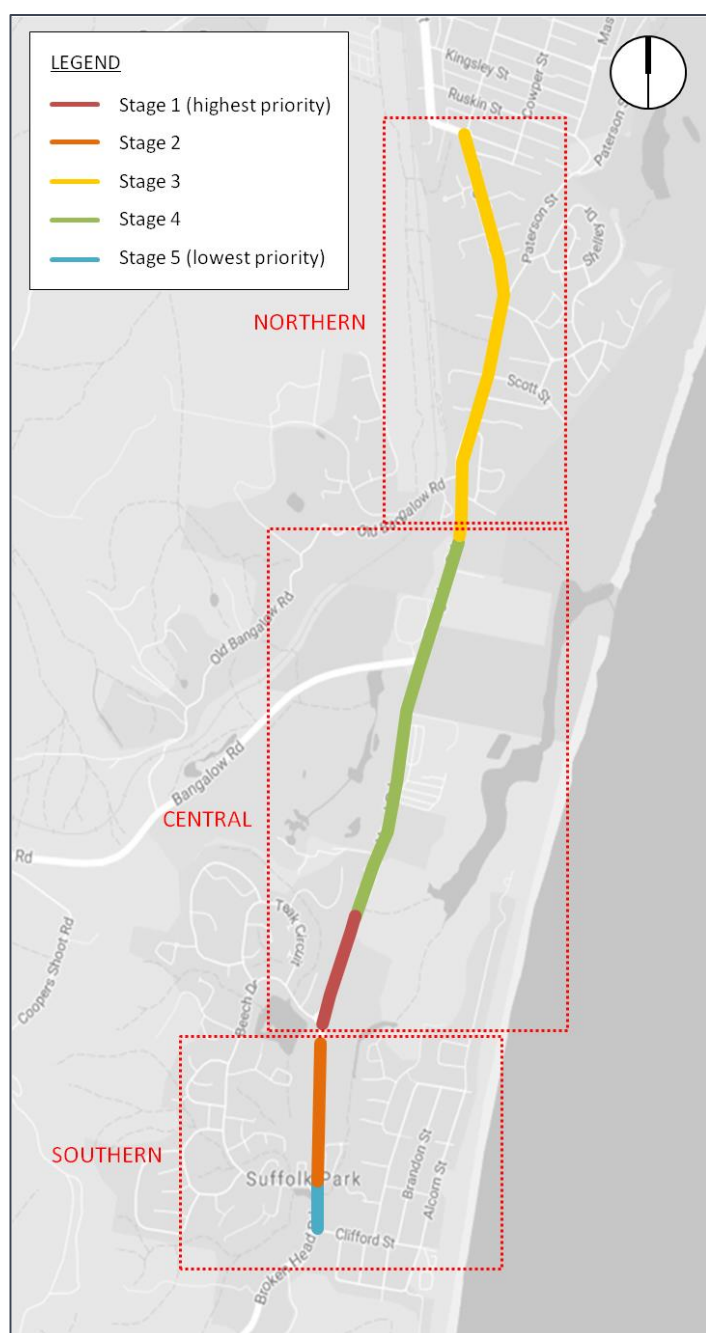
The preferred option includes a combination of new and upgraded road crossings for pedestrians and cyclists in order to improve user safety and cross-corridor accessibility as well as to provide continuity of the path network along the entire corridor.

Examples of three road crossing treatment options are provided in Figure 13. Additional information on these treatment types can be found in Austroads' *Cycling Aspects of Austroads Guides*, Austroads' *Guide to Traffic Management Part 8 – Local Area Traffic Management*, and the *NSW Bicycle Guidelines*.

Table 10: Cost estimates and proposed staging

Stage	Description	Cost estimate
Stage 1	The Byron at Byron resort to Beech Drive (north)	\$0.2M – \$0.25M
Stage 2	Beech Drive (north) to Beech Drive (south)	\$0.24M – \$0.32M
Stage 3	Browning Street to the existing pedestrian crossing near St Finbarr's Catholic Primary School	\$1M – \$1.2M
Stage 4	Existing pedestrian crossing near St Finbarr's Catholic Primary School to The Byron at Byron resort	\$0.4M – \$0.5M
Stage 5	Beech Drive (south) to Clifford Street.	\$0.06M – \$0.08M
Total		\$1.9M – \$2.35M

It should be noted that these costs are order of magnitude only. It is recommended that a detailed survey, including the location of all underground services, be undertaken in order to provide a better understanding of costs.

**Figure 14: Proposed corridor staging**

5.6 Consultation

Consultation with the community will need to be undertaken prior to implementation of each stage. However, it is recommended that consultation on the detail of each section and stage should only occur when funding is available, through either Council, Grant funding or a combination of the two. Once funding is secured, the community should be provided with the opportunity to provide feedback on the concept plans. This allows BSC to incorporate community feedback on any of the concepts within the detailed design and ultimate construction of the cycleway.

6 ALIGNMENT WITH WALKING AND CYCLING PROGRAM FUNDING APPLICATION

The preferred option was selected as it best aligns with the identified user profiles and route objectives and as it provides comparatively good alignment with the State Government's Walking and Cycling Program funding selection criteria and scoring system.

As discussed in Section 2.1, the following three cycling programs were identified as being suitable for funding eligibility:

- Connecting Centres;
- Priority Cycleways; and
- Cycling Towns.

An assessment has been undertaken to determine the potential scores that the preferred option could expect to receive based on the program selection criteria and scoring. The purpose of this assessment is to provide an indication as to the most appropriate program for which to apply. The results of the assessment are summarised in Table 11. These results relate to an assessment undertaken for the entire length of the cycleway. While the funding assessors will consider the entire route, they are also likely to consider the score for each section should applications for sections be submitted separately. The scores below have the potential to be improved should an application for funding be made for only the highest priority section of the cycleway as identified in Section 5.5.

Table 11: Estimated funding scores - preferred option

Funding program	Estimated score
Connecting Centres	62.7% (42 out of 67)
Priority Cycleways	50% (37 out of 74)
Cycling Towns	72.4% (55 out of 76)

As can be seen in Table 11, the preferred option scored highest for the Cycling Towns program, followed by the Connecting Centres and Priority Cycleways programs respectively. Additional details on this assessment, including the estimated scores for each selection criteria for each of the three programs, are provided in Appendix 7.

7 CONCLUSION

BSC engaged PSA Consulting (Australia) to review the current shared path and on-road cycleways along Bangalow Road and Broken Head Road, from Browning Street, Byron Bay to Clifford Street, Suffolk Park and to provide recommendations on the most effective means of providing a complete link; which are cost effective, innovative, functional and incorporate best practice cycleway design.

The existing walk and cycle infrastructure, land use planning and demographics, parking and traffic situations were reviewed in order to understand the current state of the study corridor and to determine the key user groups expected to use the corridor in future. In consultation with BSC, school students, families, recreational users, tourists and confident cyclists were identified as the key user groups of the corridor. This, in conjunction with identified route objectives and the eligibility for State Government funding, guided the development and evaluation of route alignment options.

Following an assessment of the each of the four options developed for each corridor section (i.e. northern, central and southern) and a consideration of relative costs and strategic function, Option 2B was selected as the preferred option for the northern section and Option 1 was selected as the preferred option for the central and southern sections. The preferred option provides a continuous pedestrian and cyclist connection between Browning Street and Clifford Street and accommodates the needs of a range of different users.

Based on high-level order of magnitude estimates, construction of the preferred option for the entire corridor is expected to cost between \$1.9M and \$2.35M. The delivery of the infrastructure and the associated cost can be sequenced based on the proposed staging plan in order to align with funding availability from both BSC and State Government sources.

Appendices

Appendix 1 – Option 1

Appendix 2 – Option 2

Appendix 3 – Option 3

Appendix 4 – Option 4

Appendix 5 – Evaluation Justification

Appendix 6 – Concept Design
(Preferred Option)

Appendix 7 – Estimated Funding
Scores (Preferred Option)

A01

A02

A03

A04

A05

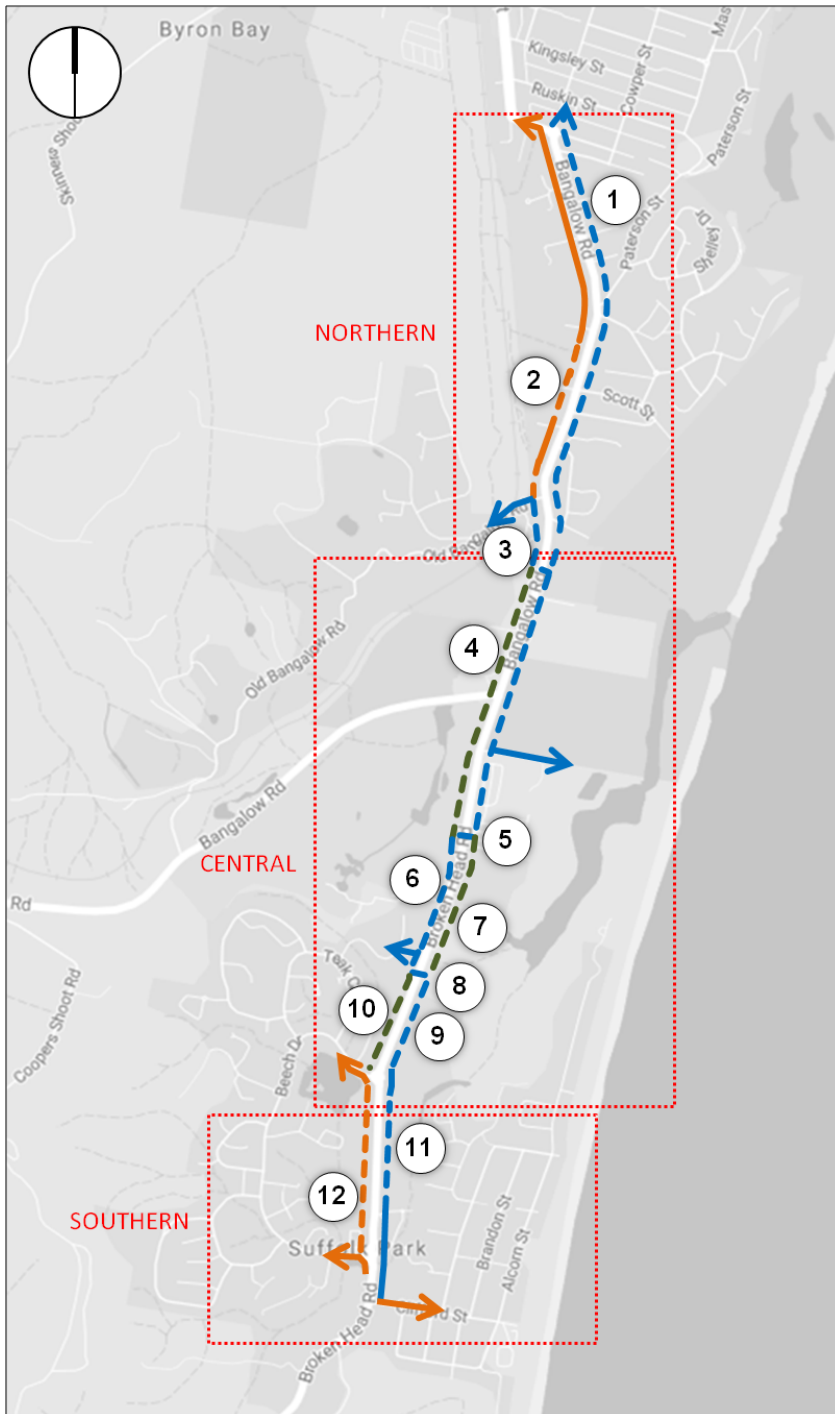
A06

A07

Appendix 1
Option 1

A01

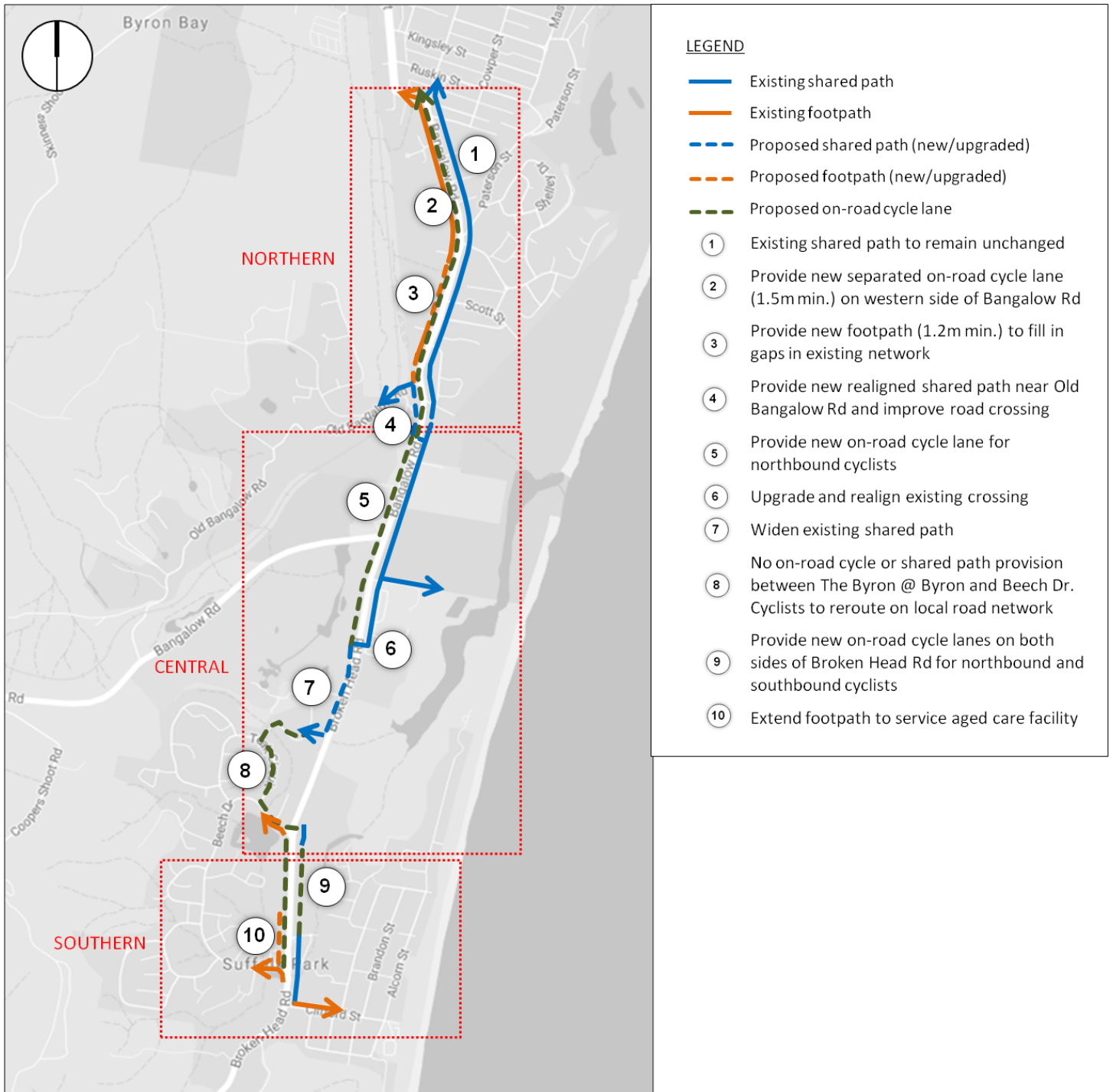
Appendix 1: Option 1 – Continuous bi-directional path



LEGEND

- Existing shared path
 - Existing footpath
 - - - Proposed shared path (new/upgraded)
 - - - Proposed footpath (new/upgraded)
 - - - Proposed on-road cycle lane
- ① Widen existing shared path to 2.5m (min.)
 - ② Provide new footpath (1.2m min.) to fill in gaps in existing network
 - ③ Provide new realigned shared path near Old Bangalow Rd and improve road crossing
 - ④ Provide new on-road cycle lane (1.5m min.) for northbound cyclists
 - ⑤ Upgrade and realign existing crossing
 - ⑥ Widen existing shared path
 - ⑦ Provide new on-road cycle lane for southbound cyclists
 - ⑧ Provide new shared path road crossing near The Byron @ Byron resort
 - ⑨ Provide new shared path to fill in gaps in existing network
 - ⑩ Provide new on-road cycle lane for northbound cyclists
 - ⑪ Provide new shared path to fill in gaps in existing network
 - ⑫ Provide new footpath to fill in gaps in existing network

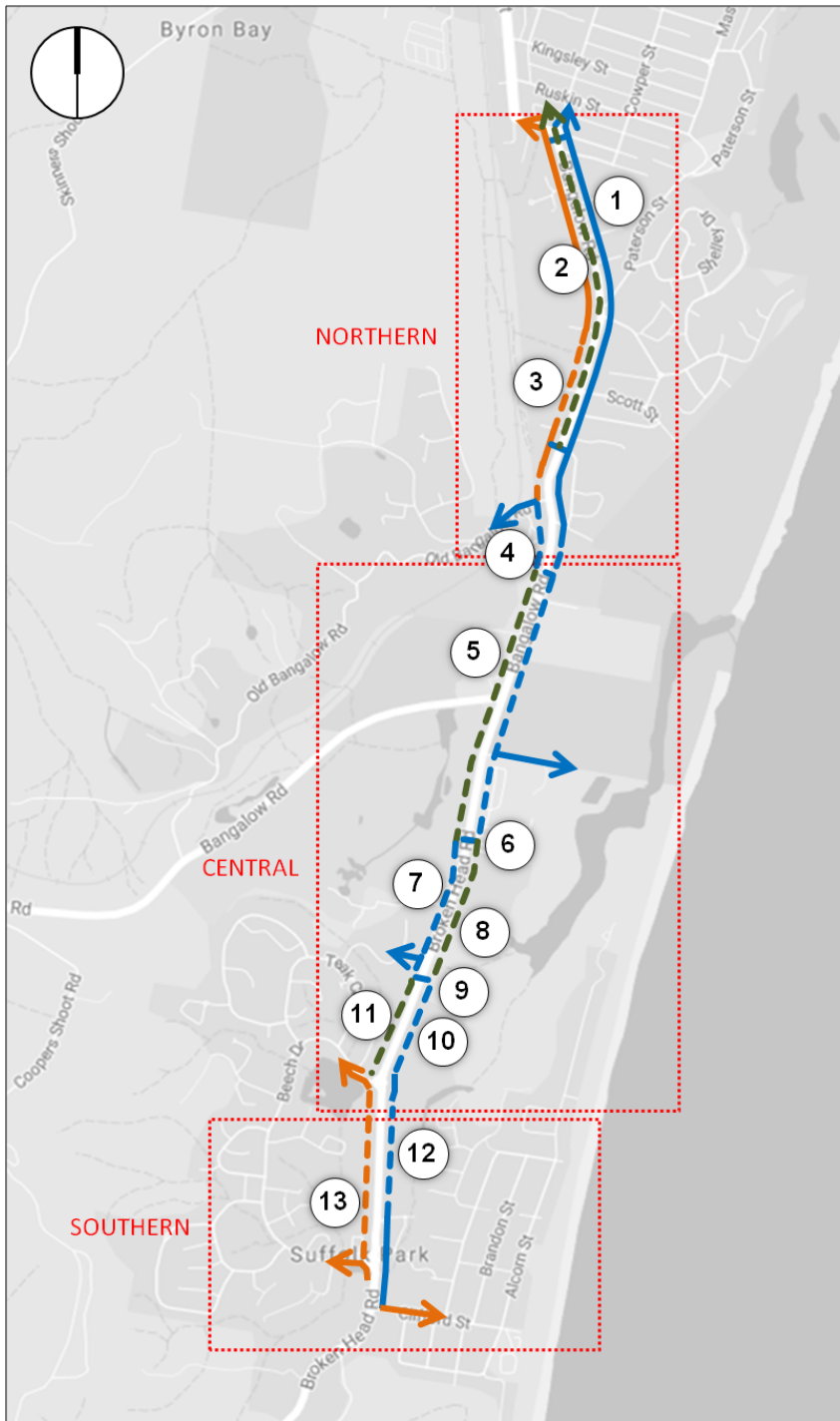
Appendix 2: Option 2 – Low-cost continuous mono-directional path



Appendix 3
Option 3

A03

Appendix 3: Option 3 – Centre-running cycleway



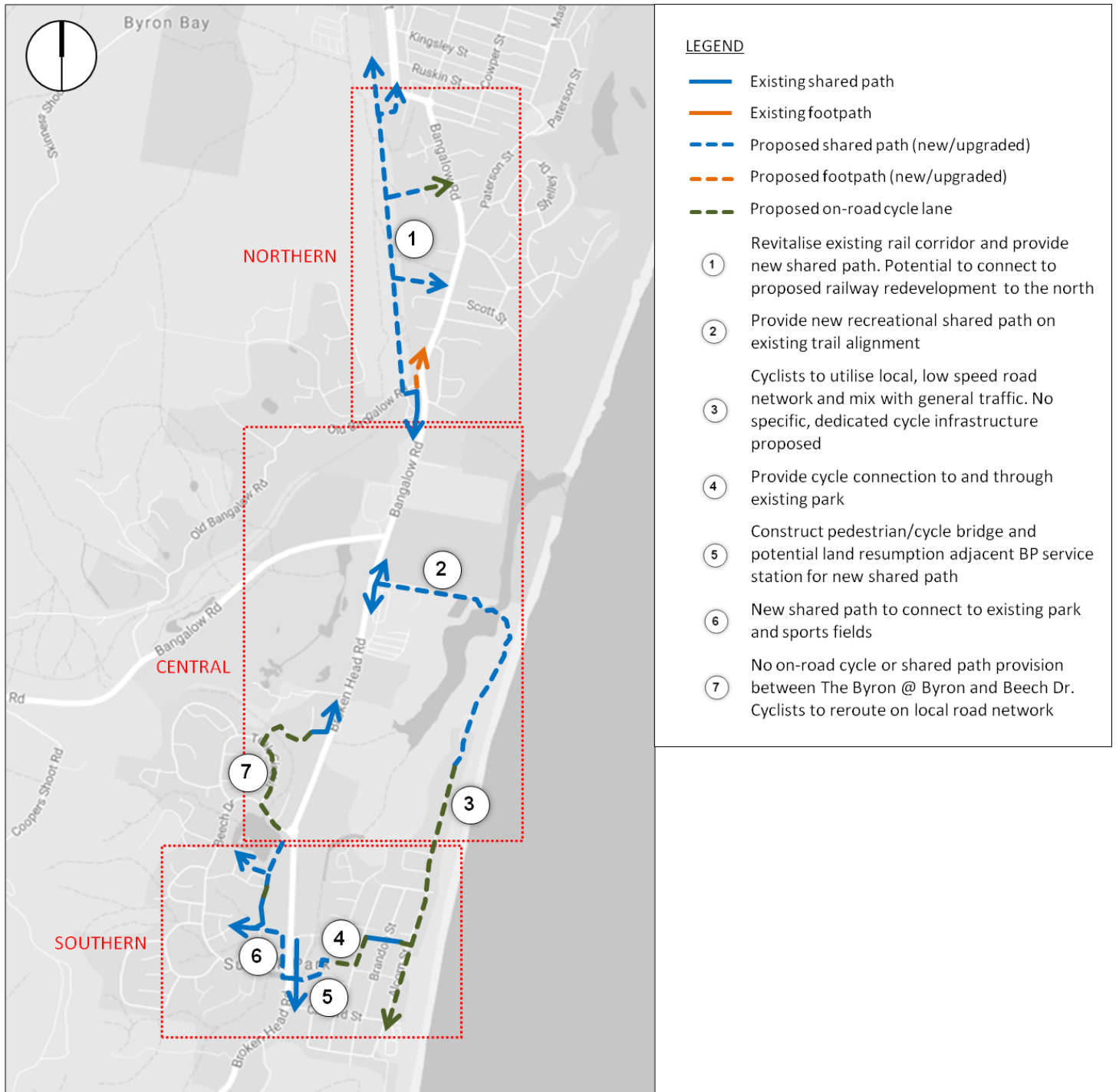
LEGEND

- Existing shared path
 - Existing footpath
 - - - Proposed shared path (new/upgraded)
 - - - Proposed footpath (new/upgraded)
 - - - Proposed on-road cycle lane
- ① Existing shared path to remain unchanged
 - ② Provide new centre-running, two-way, separated on-road cycle lane between Browning St and Mahogany Dr with new road crossings
 - ③ Provide new footpath (1.2m min.) to fill in gaps in existing network
 - ④ Provide new realigned shared path near Old Bangalow Rd and improve road crossing
 - ⑤ Provide new on-road cycle lane (1.5m min.) for northbound cyclists
 - ⑥ Upgrade and realign existing crossing
 - ⑦ Widen existing shared path
 - ⑧ Provide new on-road cycle lane for southbound cyclists
 - ⑨ Provide new shared path road crossing near The Byron @ Byron resort
 - ⑩ Provide new shared path to fill in gaps in existing network
 - ⑪ Provide new on-road cycle lane for northbound cyclists
 - ⑫ Provide new shared path to fill in gaps in existing network
 - ⑬ Provide new footpath to fill in gaps in existing network

Appendix 4
Option 4

A04

Appendix 4: Option 4 – Off-road continuous scenic route



Appendix 5
Evaluation Justification

A05

Appendix 5 - Evaluation Justification (Northern Section)

Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Northern	<ul style="list-style-type: none">- Good connectivity to surrounding paths- Poor accessibility to eastern shared path for cyclists on west (road crossing/s required)	<ul style="list-style-type: none">- Separation from vehicle traffic- Cyclists on west required to cross road to access shared path	<ul style="list-style-type: none">- Minor impact to parking on eastern side only- Impact to services on eastern side, especially power. Undergrounding may be required	<ul style="list-style-type: none">- Upgrade of existing path. Limited impact to environment- Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd	Good alignment with user profiles – separation from vehicle traffic; sufficient path width; legible and continuous path	Moderate-good funding potential – Connects local cycle network; forms a spine for network expansion; located on or adjacent to existing road; improves user safety; provides a direct route
2	Northern	<ul style="list-style-type: none">- Good connectivity to surrounding paths- Good accessibility as cycle provision on both sides of road	<ul style="list-style-type: none">- Cycle travel aligns with vehicle travel direction. Cyclists only required to cross if wanting to travel in opposite direction- Cycle separation from pedestrian and vehicle traffic- Improved pedestrian safety and reduce potential for conflict- Cyclists cross driveways and intersections but easy to establish cyclist priority- Potential issues with refuse collection if western cycle provision is on-road (as opposed to widening of existing verge)	<ul style="list-style-type: none">- Impact to parking on western side only- Existing eastern shared path not to be widened. Little to no impact to services- New western cycle provision east of existing footpaths and power poles to reduce infrastructure impacts	<ul style="list-style-type: none">- Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd- Some tree removal and earthworks required south of Old Bangalow Rd	Moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path Potential for physical separation (e.g. kerb) from vehicles. Legible and continuous path on both sides	Moderate funding potential – Complete gaps in existing network; connects local cycle network; connects residents/ tourists to attractors; forms a spine for network expansion; located on or adjacent to existing road; improves user safety overall but on-road cycle may affect cyclist safety; provides a direct route
3	Northern	<ul style="list-style-type: none">- Legible path with connectivity at either end of centre-running cycleway- Potential difficulty in accessing cycleway for cyclists on eastern or western side of road	<ul style="list-style-type: none">- Two-way separated cycleway in central median. Cyclists separated from pedestrians and vehicle traffic (generally). Vehicles to cross cycleway at road intersections- Relatively new concept. Potential for misuse. Requires education- Improved pedestrian safety and reduce potential for conflict- Improves pedestrian safety and ability to cross road informally (one lane at a time)- No impact on refuse collection	<ul style="list-style-type: none">- Impact to parking on both sides of road- Potential works required to improve road surface closer to kerbs if road re-linemarking/ alignment undertaken- Existing eastern shared path not to be widened. Little to no impact to services	<ul style="list-style-type: none">- Potential drainage works required on centre-running cycle lanes and adjacent roadway- Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd	Moderate-good alignment with user profiles – separation from vehicle traffic but with vehicle crossings as required; potential to reduce demand on shared path; legible path; sufficient path width. Significantly improves pedestrian ability to cross road informally	Poor-moderate funding potential – forms a spine for network but requires cyclists to cross road at each end of centre running section; located on or adjacent to existing road; improvements but offset by vehicle crossings; relatively new concept could be seen as risky
4	Northern	<ul style="list-style-type: none">- Path not located immediately adjacent existing dwellings. Limited direct connectivity- Links provided to connect to Bangalow Rd to the east- More convenient, direct and pleasant connection for travel between Byron Bay CBD and south	<ul style="list-style-type: none">- Shared path completely separate from vehicle traffic- Relatively isolated location. Potential issues with Crime Prevention Through Environmental Design (CPTED) (e.g. passive surveillance)	<ul style="list-style-type: none">- Infrastructure required to build new shared path but generally limited impact to existing infrastructure	<ul style="list-style-type: none">- Re-vitalisation of disused rail corridor- Surrounded by existing bushland. Potential for some environmental impacts, especially during construction	Good alignment with user profiles – separation from vehicle traffic; no conflict with driveways; sufficient path width; legible and continuous path; pleasant environment	Moderate funding potential – Strategic link; partially connects local cycle network; connects residents/ tourists to attractors; improves user safety; not located on or along road corridor; provides a direct route for travel between Byron Bay CBD and south; ties into future Byron Bay Bypass and proposed railway re-vitalisation further north. BSC controlled land means reduced funding potential

Appendix 5 - Evaluation Justification (Central Section)

Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Central	<ul style="list-style-type: none">- Provides (on-road) cycling options on side opposite to shared path- Improved formal connectivity to existing path network- New formal access for tourists and residents between The Byron @ Byron resort and Beech Dr (north)- New crossing provided near The Byron @ Byron resort	<ul style="list-style-type: none">- Separation from vehicle traffic- On-road cycle lanes not appropriate for all users- Improved and DDA-compliant access to bus infrastructure- Improved crossing near Byron Holiday Park- New crossing provided near The Byron @ Byron resort- Shared path users required to make additional road crossing to continue on new shared path	<ul style="list-style-type: none">- Widening of existing western shared path. Potential impact to a power pole near golf course. Undergrounding may be required- Potential requirement to widen road seal south of The Byron @ Byron resort- Limited impact to parking. Parking formalisation may be required between The Byron @ Byron resort and Beech Dr (north)	<ul style="list-style-type: none">- Potential impacts to vegetation due to on-road cycle lane on eastern side between golf club and The Byron @ Byron resort. Existence and extent of impacts subject to available road width	Moderate-good alignment with user profiles – separation from vehicle traffic; continuous path but with additional road crossing. On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path	Moderate funding potential – Complete gaps in existing network; forms a spine for network expansion; located on or adjacent to existing road; limited direct connection to attractors within section
2	Central	<ul style="list-style-type: none">- Provides (on-road) cycling option on western side south to Byron Holiday Park- Improved connection for cyclists from Bangalow Road (at Broken Head Rd/Bangalow Rd intersection)	<ul style="list-style-type: none">- Cyclists required to cross road from Bangalow Rd leg of Broken Head Rd/Bangalow Rd intersection to access shared path- Cyclists on western shared path redirected to local road network (Redgum Pl, Teak Cct, Beech Dr). Low speed local roads but mixing with vehicles required- No infrastructure provided between The Byron @ Byron resort and Beech Dr (north). Cyclists may decide to continue on-road regardless	<ul style="list-style-type: none">- Widening of existing western shared path. Potential impact to a power pole near golf course. Undergrounding may be required- Generally limited impact to infrastructure	<ul style="list-style-type: none">- Little to no impact to environment	Poor-moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path. Potential for physical separation (e.g. kerb) from vehicles. Mixing with vehicles could be seen as unfavourable, despite only on low speed local roads	Poor-moderate funding potential – Connects local cycle network; indirect route; limited connections to attractors; only minor improvements to user safety
3	Central	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1
4	Central	<ul style="list-style-type: none">- Less direct but more convenient and pleasant path- Provides direct access to beach and bushland- Improves connectivity and access for residents/tourists in Tallow Beach	<ul style="list-style-type: none">- Shared path completely separate from vehicle traffic- Relatively isolated location. Potential CPTED issues- Reduces need to travel on or adjacent to Broken Head Rd for residents/tourists in Tallow Beach- Cyclists required to mix with vehicles on low speed local roads – Redgum Pl, Teak Cct, Beech Dr to west and Alcorn St to east- No infrastructure provided between The Byron @ Byron resort and Beech Dr (north). Cyclists may decide to continue on-road regardless	<ul style="list-style-type: none">- Infrastructure required to build new eastern shared path but generally limited impact to existing infrastructure	<ul style="list-style-type: none">- Formalising existing eastern path. Surrounded by existing bushland. Potential for some environmental impacts, especially during construction	Moderate-good alignment with user profiles – separation from vehicle traffic (generally); shared path reduces conflict with driveways; sufficient path width; legible and continuous path; scenic and pleasant environment; access to key attractor (beach/ bushland). Mixing with vehicles could be seen as unfavourable	Moderate funding potential – Strategic link for access to Tallow Beach; connects local cycle network; connects residents/ tourists to attractors; some improvements to user safety; partially located on or along road corridor but only minor roads

Appendix 5 - Evaluation Justification (Southern Section)

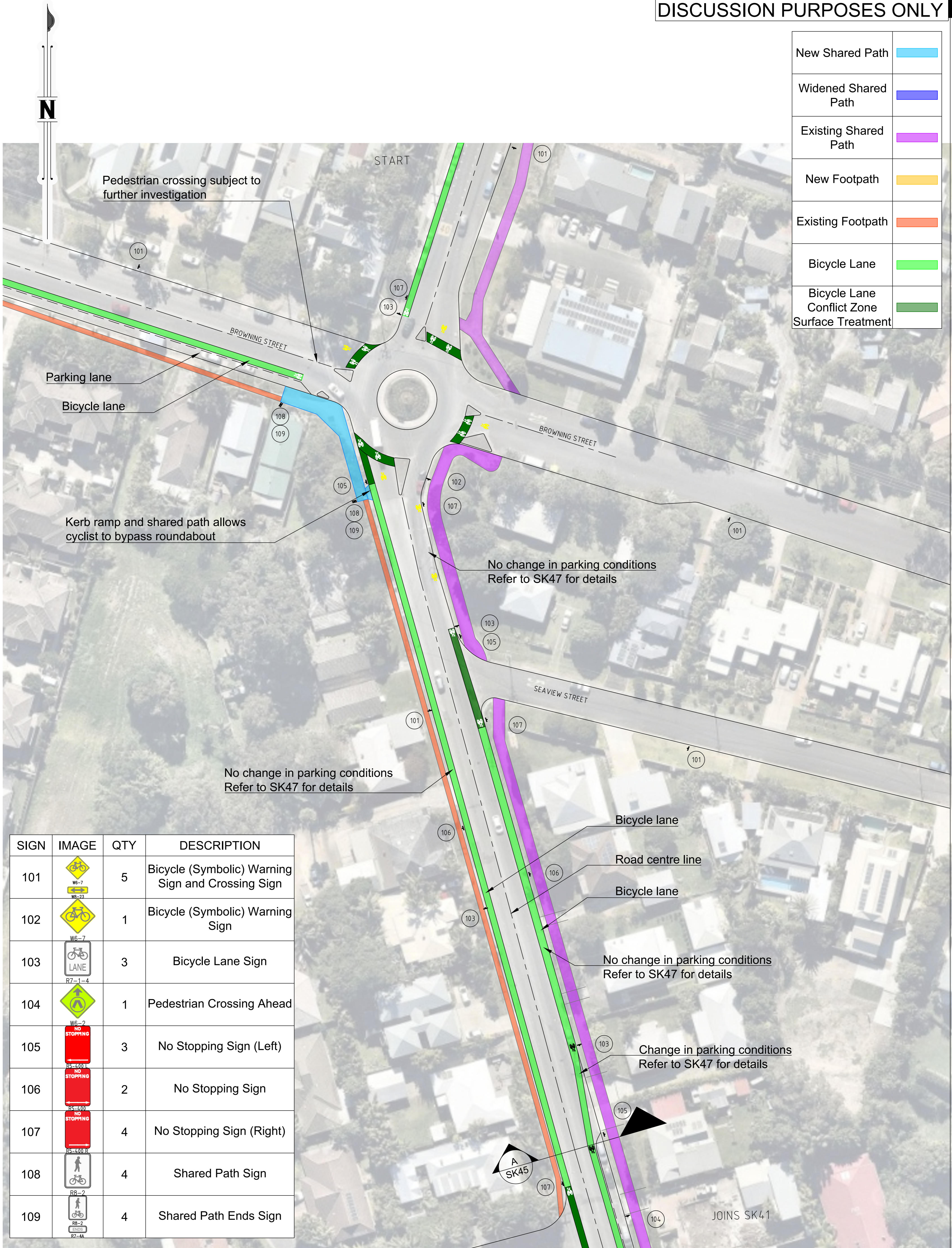
Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Southern	<div>- Complete gaps in existing network</div> <div>- Connects to surrounding paths</div> <div>- Poor accessibility to new eastern shared path for cyclists on west (road crossing/s required)</div> <div>- New formal access for tourists and residents between Beech Drive roundabouts</div> <div>- New/upgraded crossings to improve east-west connectivity</div> <div>- No mid-block crossings provided between Beech Dr intersections</div>	<div>- Separation from vehicle traffic</div> <div>- New/upgraded crossings at intersections to improve east-west connectivity</div> <div>- Shared path users required to make additional road crossing to continue on new shared path</div>	<div>- New shared path to be constructed on east. New footpath on west</div> <div>- Potential need to widen existing foot bridge to avoid impact to power pole near BP</div> <div>- Limited impact to parking. Parking formalisation may be required between Beech Drive roundabouts</div>	<div>- Little to no impact to environment</div>	<div>Good alignment with user profiles – separation from vehicle traffic; sufficient path width; legible and continuous path</div>	<div>Moderate funding potential – Complete gaps in existing network; connects local cycle network; forms a spine for network expansion; located on or adjacent to existing road; improves user safety; provides a direct route</div>
2	Southern	<div>- Good accessibility as cycle provision on both sides of road</div> <div>- Complete gaps in existing network</div> <div>- No mid-block crossings provided between Beech Dr intersections</div>	<div>- New/upgraded crossings at intersections to improve east-west connectivity</div> <div>- Cycle travel aligns with vehicle travel direction. Cyclists only required to cross road if wanting to travel in opposite direction</div> <div>- Potential issues with refuse collection</div>	<div>- Potential requirement to widen road seal to accommodate cycle lanes between Beech Dr intersections</div>	<div>- Little to no impact to environment</div>	<div>Poor-moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists. Potential for physical separation (e.g. kerb) from vehicles</div>	<div>Poor funding potential – Connects local cycle network; complete gaps in existing network; forms a spine for network expansion; located on or adjacent to existing road; relatively minor improvements to user safety</div>
3	Southern	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1
4	Southern	<div>- Good connectivity to surrounding paths with wider network benefits</div> <div>- Improves access for significant population on both sides of Broken Head Rd</div> <div>- Less direct network</div>	<div>- Substantial sections of shared path completely separate from vehicles</div> <div>- Cyclists required to mix with vehicles on low speed local roads</div> <div>- Road crossing of Broken Head Rd required but at existing intersection (crossing to be upgraded)</div>	<div>- New cycle bridge required to cross Tallow Creek near BP service station</div> <div>- Potential 3-4m land resumption of northern boundary of BP service station to construct shared path</div>	<div>- Potential environmental impact of new shared path through park east of BP service station and over Tallow Creek</div>	<div>Moderate-good alignment with user profiles – some separation from vehicle traffic; sufficient path width; continuous path with multiple route options; access to key attractor (beach/ bushland). Mixing with vehicles could be seen as unfavourable</div>	<div>Moderate funding potential – connects significant population areas; connects local cycle network; connects residents/ tourists to attractors; some improvements to user safety; partially located on or along road corridor but only minor roads</div>

Appendix 6
Concept Design (Preferred Option)

A06

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DISCUSSION PURPOSES ONLY

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	



SIGN	IMAGE	QTY	DESCRIPTION
101		5	Bicycle (Symbolic) Warning Sign and Crossing Sign
102		1	Bicycle (Symbolic) Warning Sign
103		3	Bicycle Lane Sign
104		1	Pedestrian Crossing Ahead
105		3	No Stopping Sign (Left)
106		2	No Stopping Sign
107		4	No Stopping Sign (Right)
108		4	Shared Path Sign
109		4	Shared Path Ends Sign

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	29.11.2017
2	ADDED SIGNAGE	R.T.	17.11.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	26.02.2018



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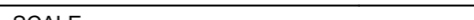
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270 Adelaide Street, Brisbane
PO Box 10824 Adelaide Street,
Brisbane Q 4000

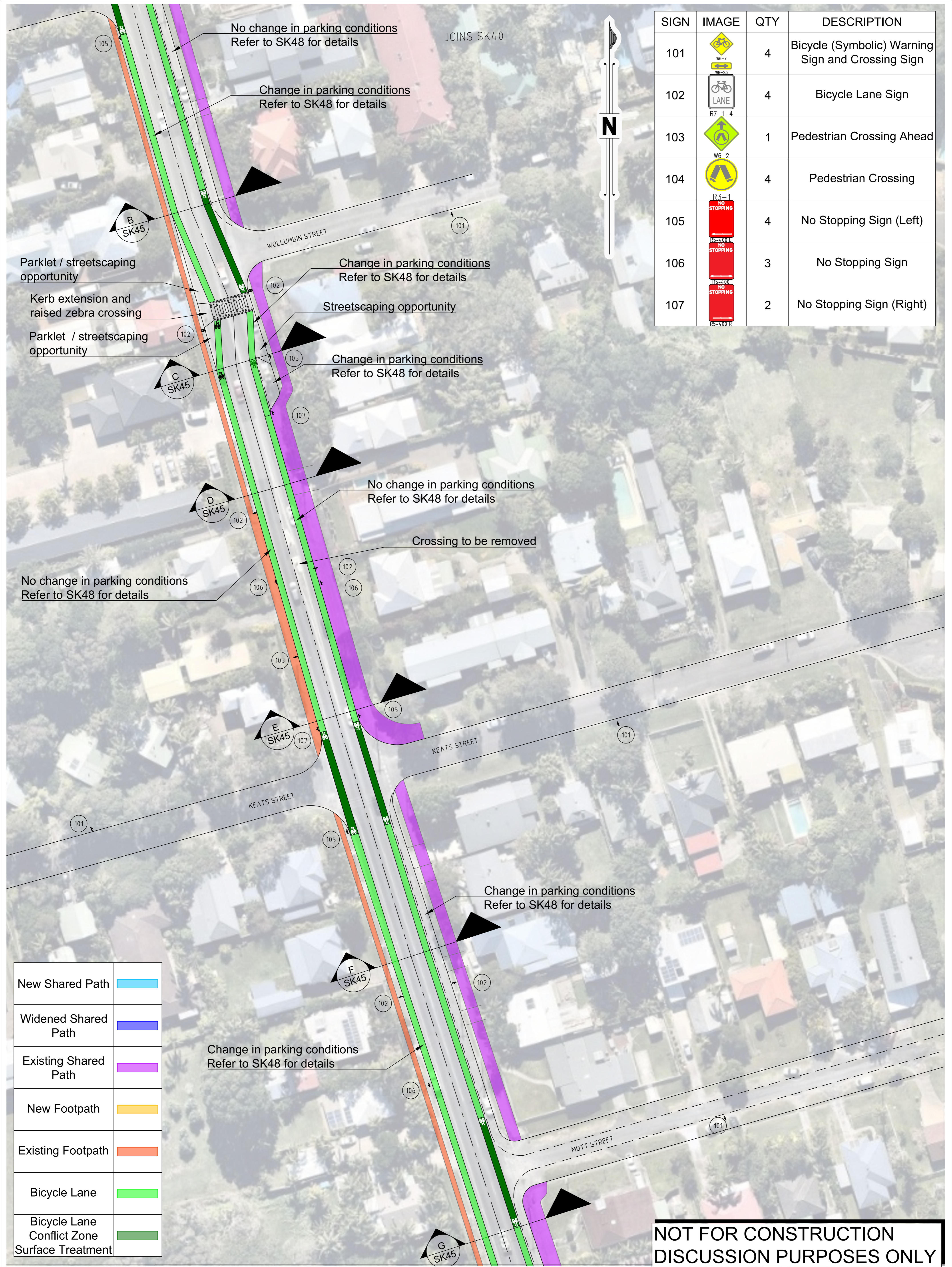
Address: Website: www.psaconsult.com.au

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PSA Consulting (Australia) Pty Ltd
ABN: 63 109 836 197

DRAWING TITLE
CLIENT
PROJECT
LOCATION

OPTION 2B - NORTHERN SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE		26 FEB 2018		DRAWN BY		R.T.			
ORIGINAL SIZE: A1				SCALE A3: 1:800		CHECKED BY		A.D.	
SCALE				APPROVED BY				A.D.	
				PROJECT NO.		DRAWING NO.		REV	
SCALE 1:400 (A1)				0734		SK40		4	



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102		4	Bicycle Lane Sign
103		1	Pedestrian Crossing Ahead
104		4	Pedestrian Crossing
105		4	No Stopping Sign (Left)
106		3	No Stopping Sign
107		2	No Stopping Sign (Right)

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	29.11.2017
2	ADDED SIGNAGE	R.T.	17.01.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	26.02.2018



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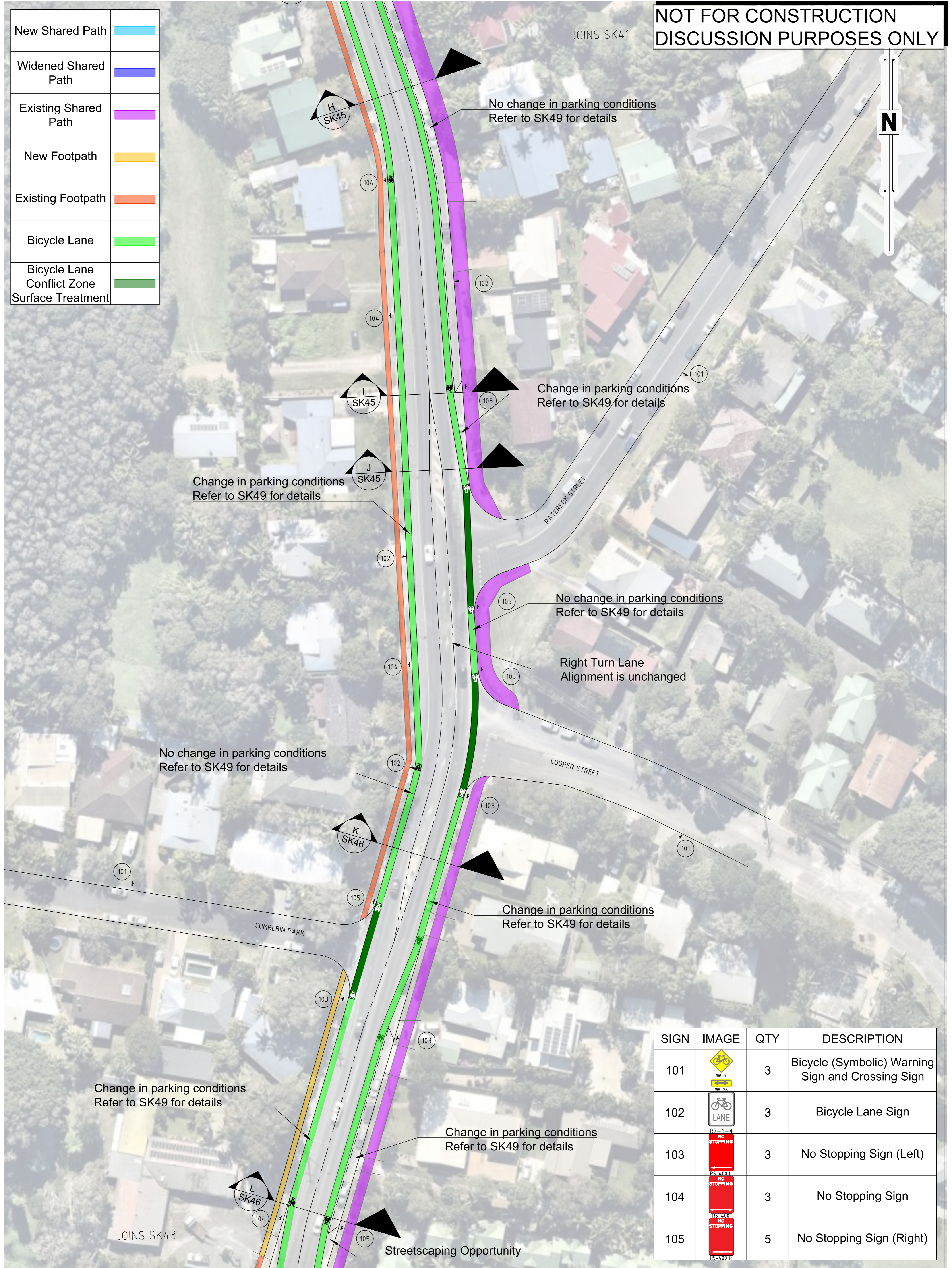
Telephone: +61 7 3220 0288
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270 Adelaide Street, Brisbane
PO Box 10824 Adelaide Street,
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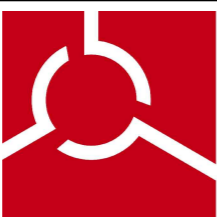
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LOCATION

OPTION 2B - NORTHERN SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 FEB 2018	DRAWN BY	R.T.
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SCALE		APPROVED BY	A.D.
	SCALE 1:400 (A1)	PROJECT NO.	DRAWING NO.
		0734	SK41
			REV
			4



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2	ADDED SIGNAGE	R.T.	17.01.2017
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	26.02.2018



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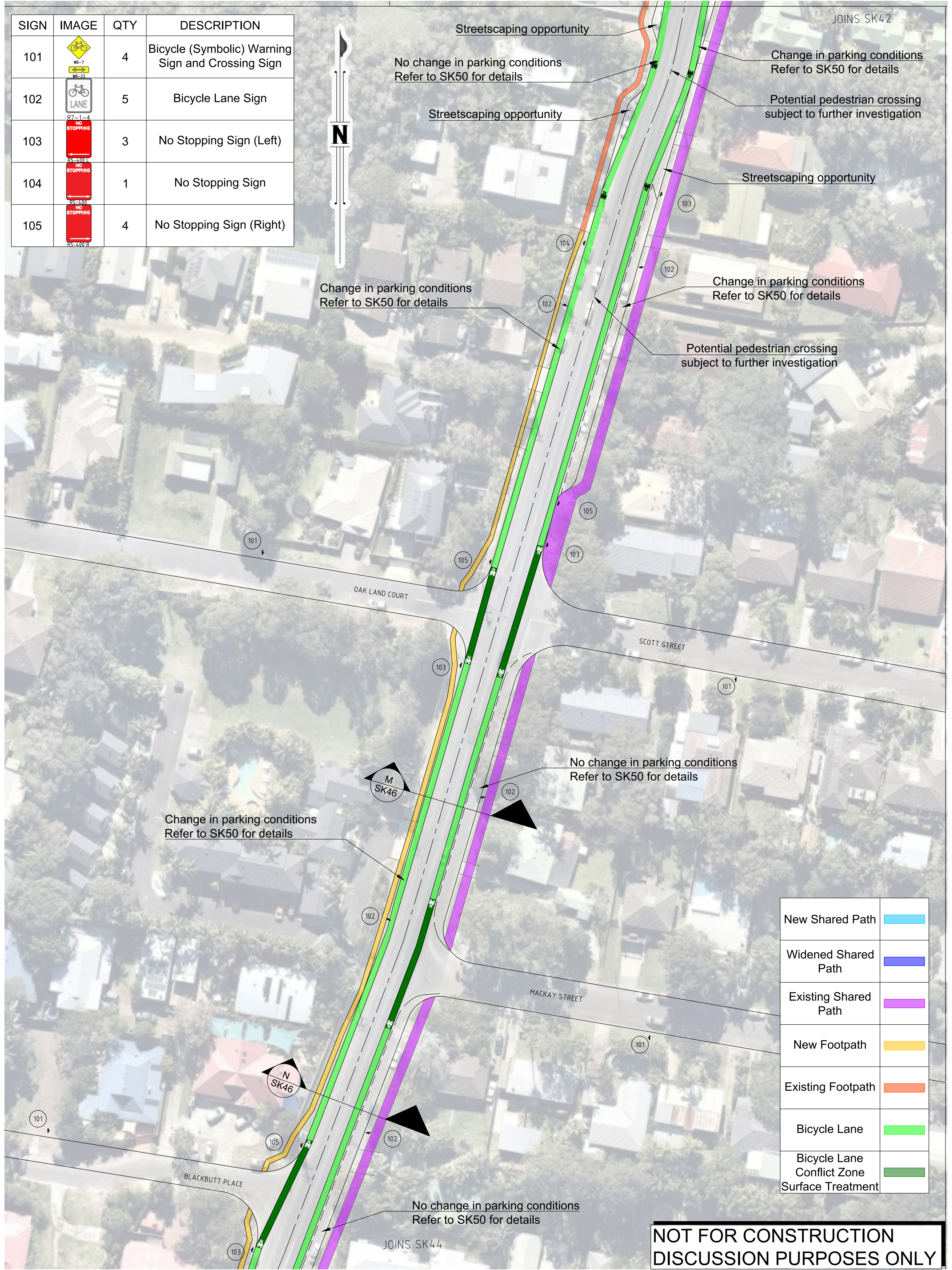
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ABN: 63 109 836 197

DRAWING
TITLE
CLIENT
PROJECT
LOCATION

OPTION 2B - NORTHERN SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 FEB 2018	DRAWN BY	R.T.
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PROJECT NO.	0734	DRAWING NO.	SK42
REV	4		

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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	29.11.2017
2	ADDED SIGNAGE	R.T.	17.01.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	26.02.2018



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ABN: 63 109 836 197

DRAWING TITLE
CLIENT
PROJECT
LOCATION

OPTION 2B - NORTHERN SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE
26 FEB 2018

ORIGINAL SIZE
A1

SCALE
A3: 1:800

SCALE
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SCALE 1:400 (A1)

DRAWN BY
R.T.

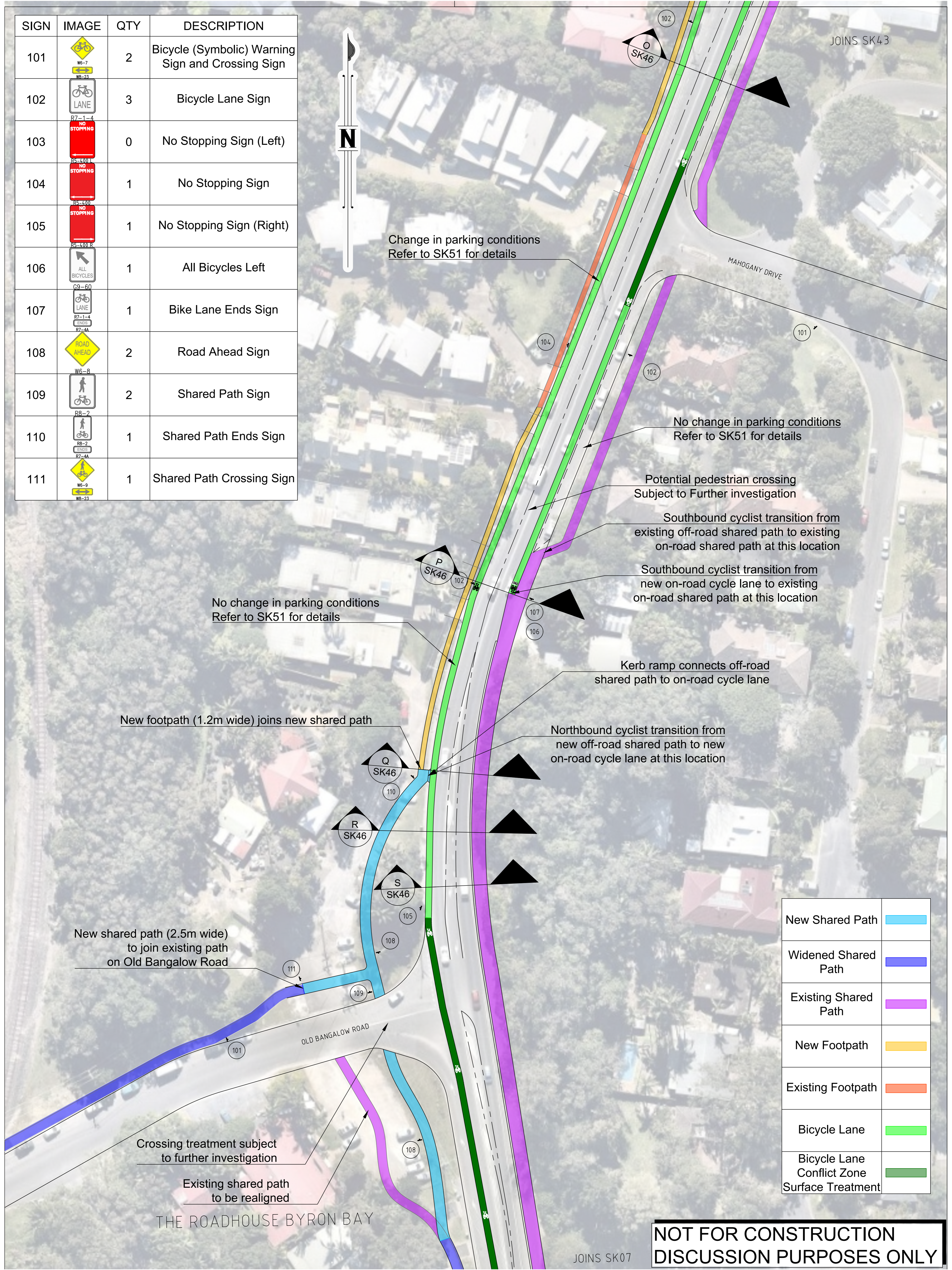
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A.D.

APPROVED BY
A.D.

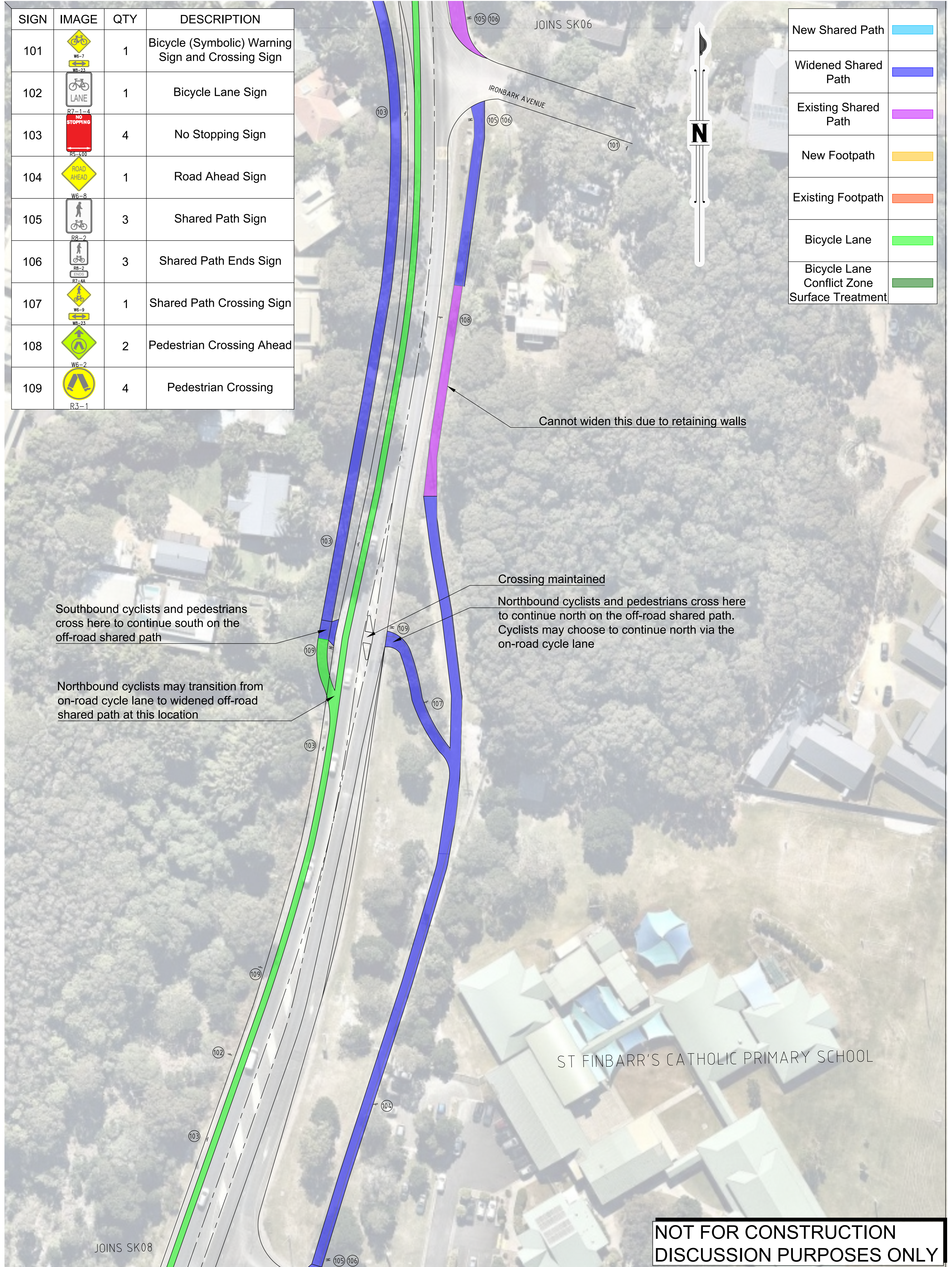
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0734

DRAWING NO.
SK43




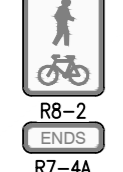
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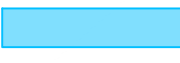








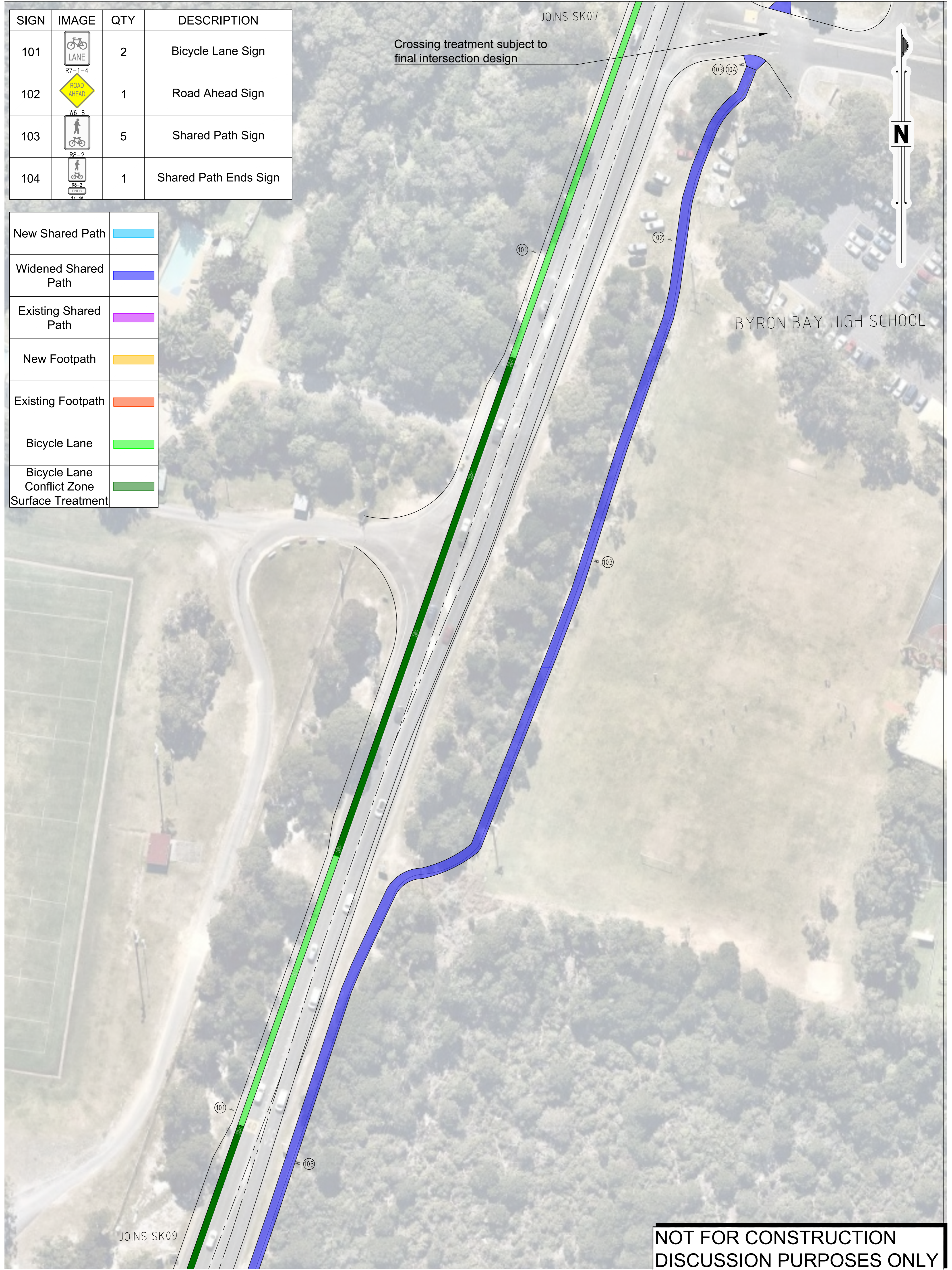
SIGN	IMAGE	QTY	DESCRIPTION
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102		3	Bicycle Lane Sign
103		0	No Stopping Sign (Left)
104		1	No Stopping Sign
105		1	No Stopping Sign (Right)
106		1	All Bicycles Left
107		1	Bike Lane Ends Sign
108		2	Road Ahead Sign
109		2	Shared Path Sign
110		1	Shared Path Ends Sign
111		1	Shared Path Crossing Sign



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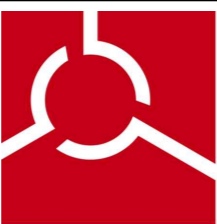
SIGN	IMAGE	QTY	DESCRIPTION
101		2	Bicycle Lane Sign
102		1	Road Ahead Sign
103		5	Shared Path Sign
104		1	Shared Path Ends Sign

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	



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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	27.02.2018



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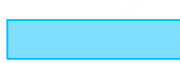






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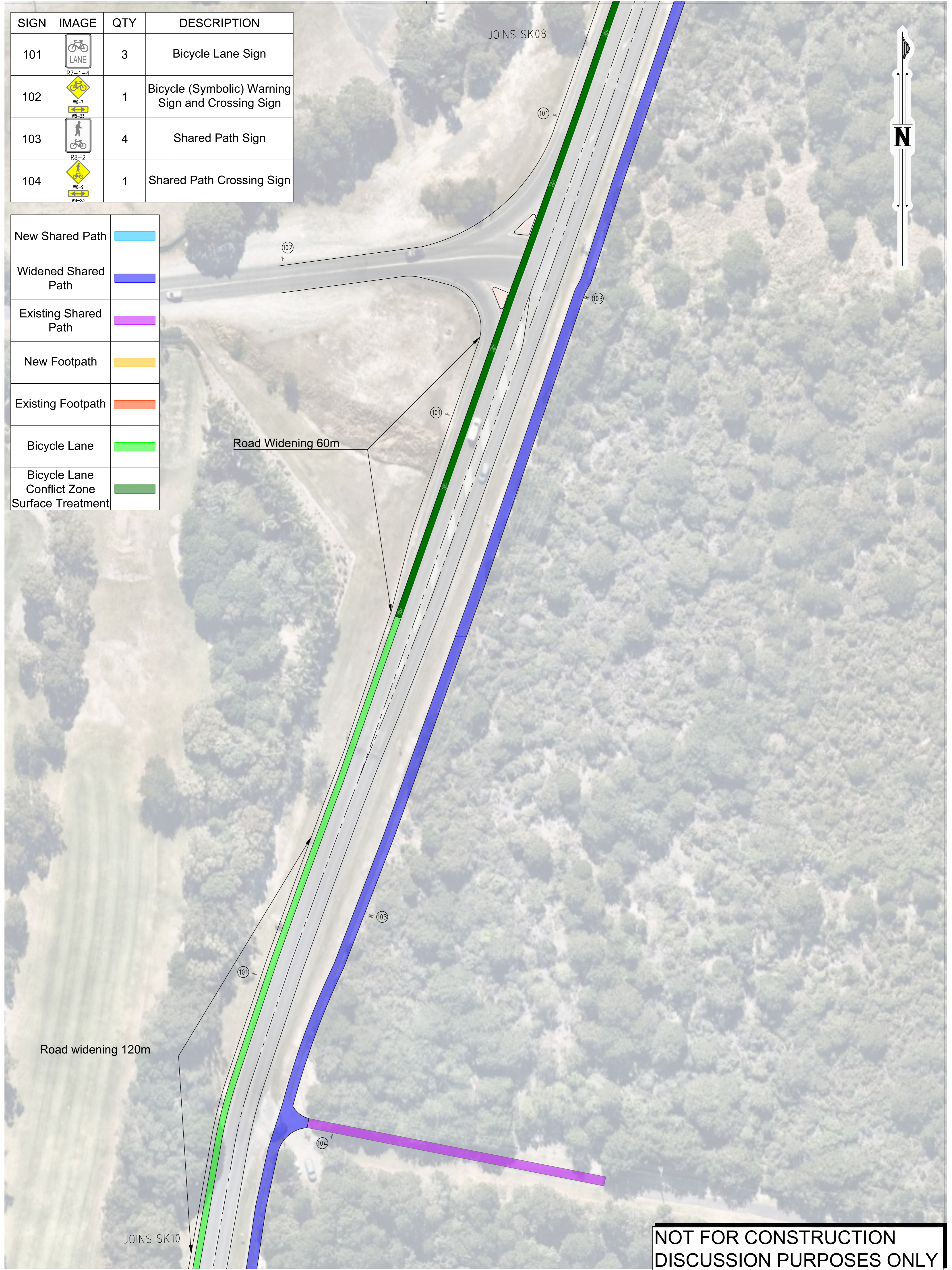
DRAWING TITLE
CLIENT
PROJECT
LOCATION

CENTRAL SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1 SCALE A3: 1:800	CHECKED BY	A.D.
SCALE		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK08
REV	4		

SIGN	IMAGE	QTY	DESCRIPTION
101	 R7-1-4	3	Bicycle Lane Sign
102	 WB-7 WB-21	1	Bicycle (Symbolic) Warning Sign and Crossing Sign
103	 R8-2	4	Shared Path Sign
104	 WB-9 WB-21	1	Shared Path Crossing Sign

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	



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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	27.02.2018



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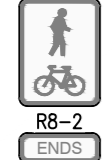


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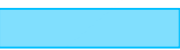






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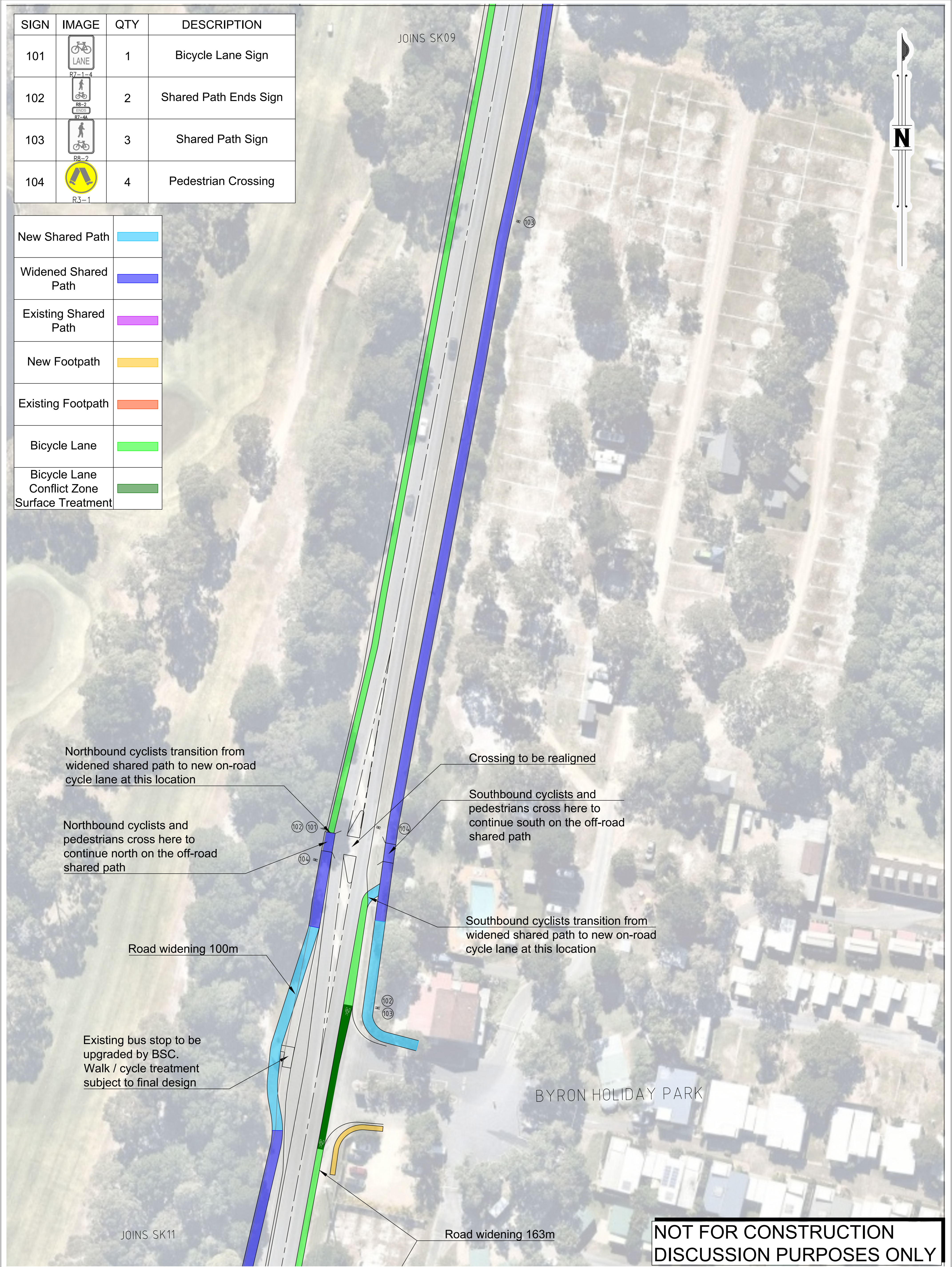
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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1	SCALE A3:	1:800
CHECKED BY	A.D.	APPROVED BY	A.D.
SCALE	 SCALE 1:4 00 (A1)		
PROJECT NO.	0734	DRAWING NO.	SK09
REV	4		

SIGN	IMAGE	QTY	DESCRIPTION
101	 R7-1-4	1	Bicycle Lane Sign
102	 R8-2 R7-4A	2	Shared Path Ends Sign
103	 R8-2	3	Shared Path Sign
104	 R3-1	4	Pedestrian Crossing

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	02.02.2018
4	ADDED PROPOSED BUS STOP HARDSTAND	R.T.	05.02.2018
5	INCORPORATED FEEDBACK	R.T.	27.02.2018



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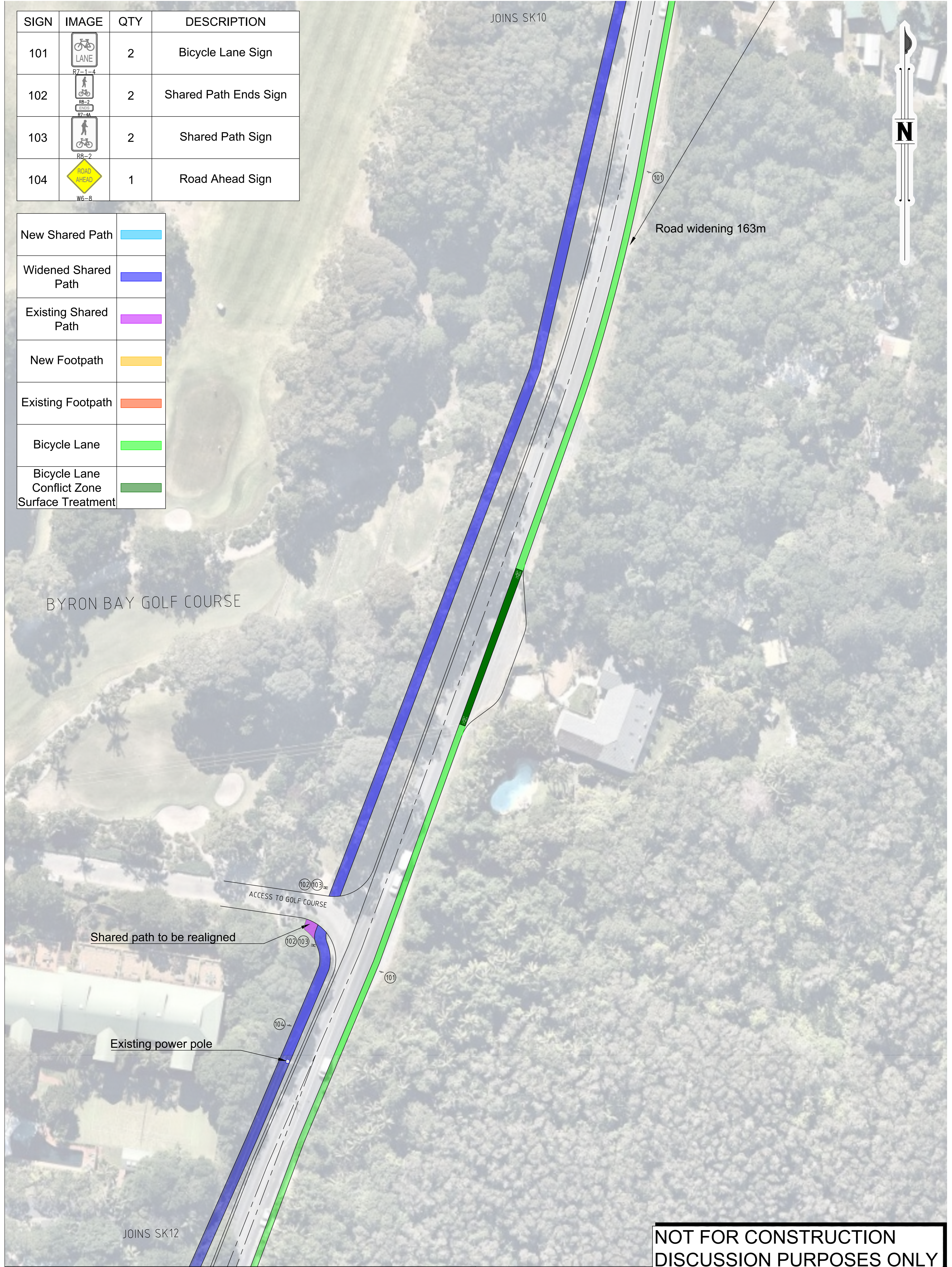
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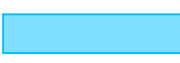






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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE		27 FEB 2018		DRAWN BY		K.P.			
ORIGINAL SIZE: A1				SCALE A3: 1:800		CHECKED BY		A.D.	
SCALE				APPROVED BY		A.D.			
				PROJECT NO.		DRAWING NO.		REV	
SCALE 1:400 (A1)				0734		SK10		5	



SIGN	IMAGE	QTY	DESCRIPTION
101		2	Bicycle Lane Sign
102		2	Shared Path Ends Sign
103		2	Shared Path Sign
104		1	Road Ahead Sign

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017
3	INCORPORATED FEEDBACK	R.T.	19.01.2018
4	INCORPORATED FEEDBACK	R.T.	05.02.2018
5	INCORPORATED FEEDBACK	R.T.	27.02.2018



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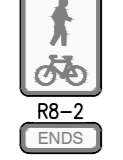
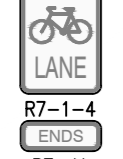


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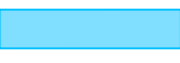






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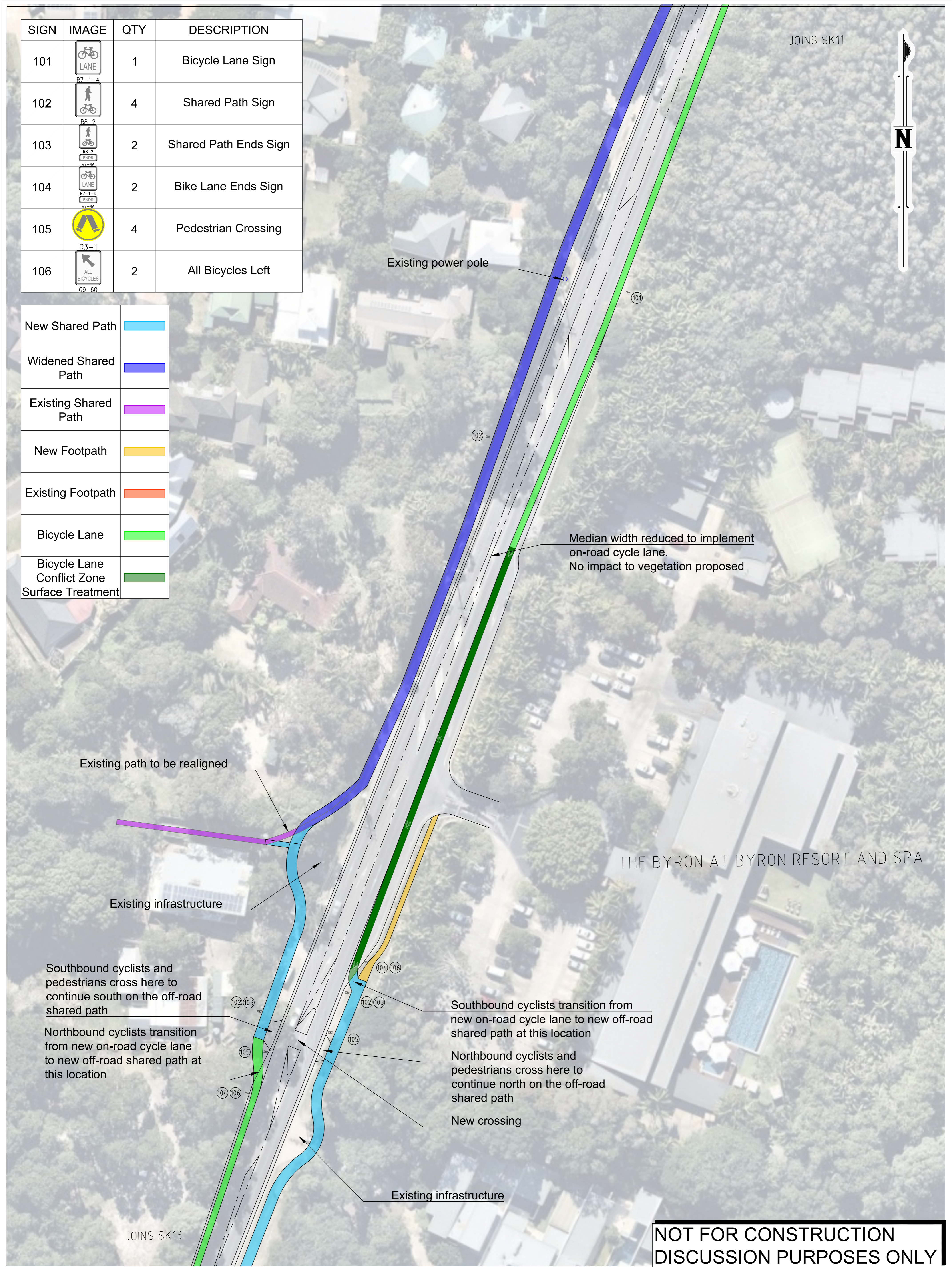
DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1 SCALE A3: 1:800	CHECKED BY	A.D.
SCALE		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK11
REV			5

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SIGN	IMAGE	QTY	DESCRIPTION
101	 R7-1-4	1	Bicycle Lane Sign
102	 R8-2	4	Shared Path Sign
103	 R8-2 R7-4A	2	Shared Path Ends Sign
104	 R7-1-4 R7-4A	2	Bike Lane Ends Sign
105	 R3-1	4	Pedestrian Crossing
106	 G9-60	2	All Bicycles Left

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	02.02.2018
4	INCORPORATED FEEDBACK	R.T.	05.02.2018
5	INCORPORATED FEEDBACK	R.T.	27.02.2018



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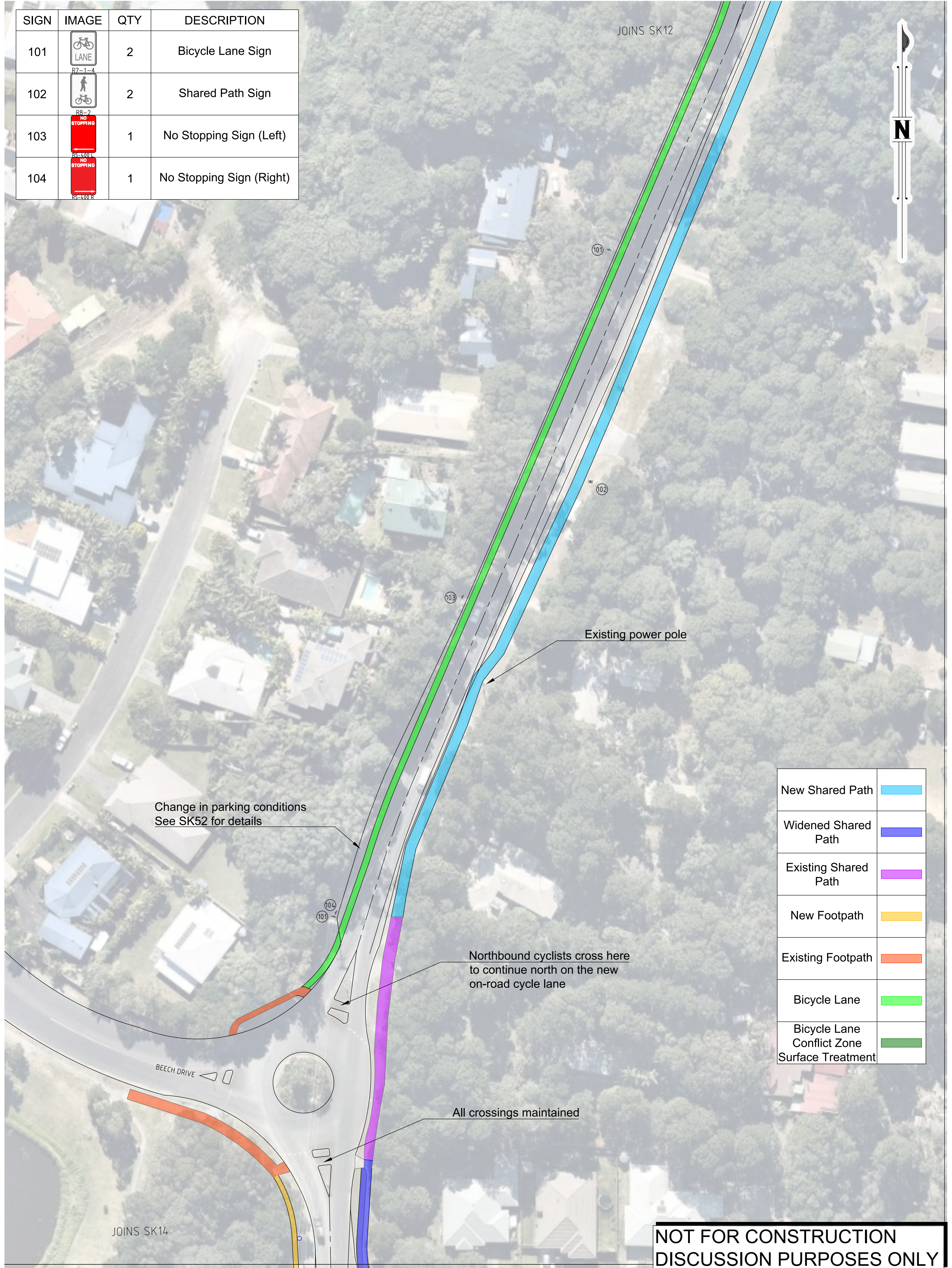
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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE	0 8 16 24m	APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK12
REV			5



SIGN	IMAGE	QTY	DESCRIPTION
101		2	Bicycle Lane Sign
102		2	Shared Path Sign
103		1	No Stopping Sign (Left)
104		1	No Stopping Sign (Right)

New Shared Path	
Widened Shared Path	
Existing Shared Path	
New Footpath	
Existing Footpath	
Bicycle Lane	
Bicycle Lane Conflict Zone Surface Treatment	

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DISCUSSION PURPOSES ONLY

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	05.02.2018
4	INCORPORATED FEEDBACK	R.T.	27.02.2018



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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK


DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE	0 8 16 24m	CHECKED BY	A.D.
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PROJECT NO.	0734	DRAWING NO.	SK13
REV	4		

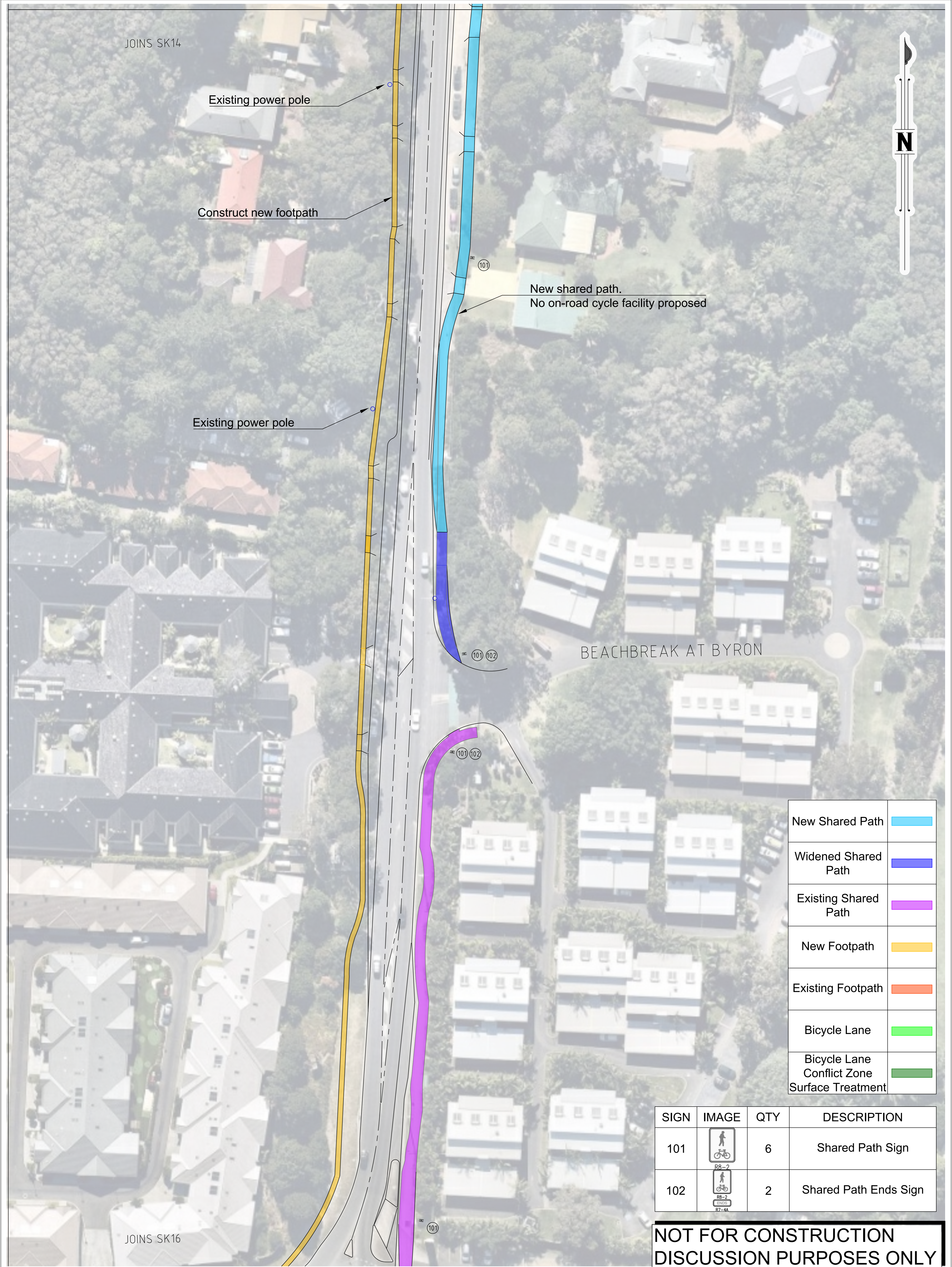


New Shared Path	<div></div>
Widened Shared Path	<div></div>
Existing Shared Path	<div></div>
New Footpath	<div></div>
Existing Footpath	<div></div>
Bicycle Lane	<div></div>
Bicycle Lane Conflict Zone Surface Treatment	<div></div>

SIGN	IMAGE	QTY	DESCRIPTION
101	<div> R8-2</div>	4	Shared Path Sign

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REV	DESCRIPTION	BY	DATE	<div><div><div>PSA</div><div>CONSULTING AUSTRALIA</div><div>TRANSPORT ENGINEERING TOWN PLANNING PROGRAM MANAGEMENT</div></div></div>	Telephone: +61 7 3220 0288 Office: Level 11 / ICON PLACE 270 Adelaide Street, Brisbane PO Box 10824 Adelaide Street, Brisbane Q 4000 Address: www.psaconsult.com.au Website:	DRAWING TITLE CLIENT PROJECT LOCATION	<div>SOUTHERN SECTION BYRON SHIRE COUNCIL CYCLEWAY INVESTIGATION BYRON BAY TO SUFFOLK PARK</div>	<div>DRAWING DATE 27 FEB 2018 ORIGINAL SIZE: A1 SCALE A3: 1:800 SCALE 0 8 16 24m SCALE 1:4 00 (A1)</div>	<div>DRAWN BY K.P. CHECKED BY A.D. APPROVED BY A.D. PROJECT NO. 0734 DRAWING NO. SK14 REV 6</div>
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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	INCORPORATED FEEDBACK	R.T.	19.01.2018
3	INCORPORATED FEEDBACK	R.T.	02.02.2018
4	INCORPORATED FEEDBACK	R.T.	05.02.2018
5	INCORPORATED FEEDBACK	R.T.	27.02.2018



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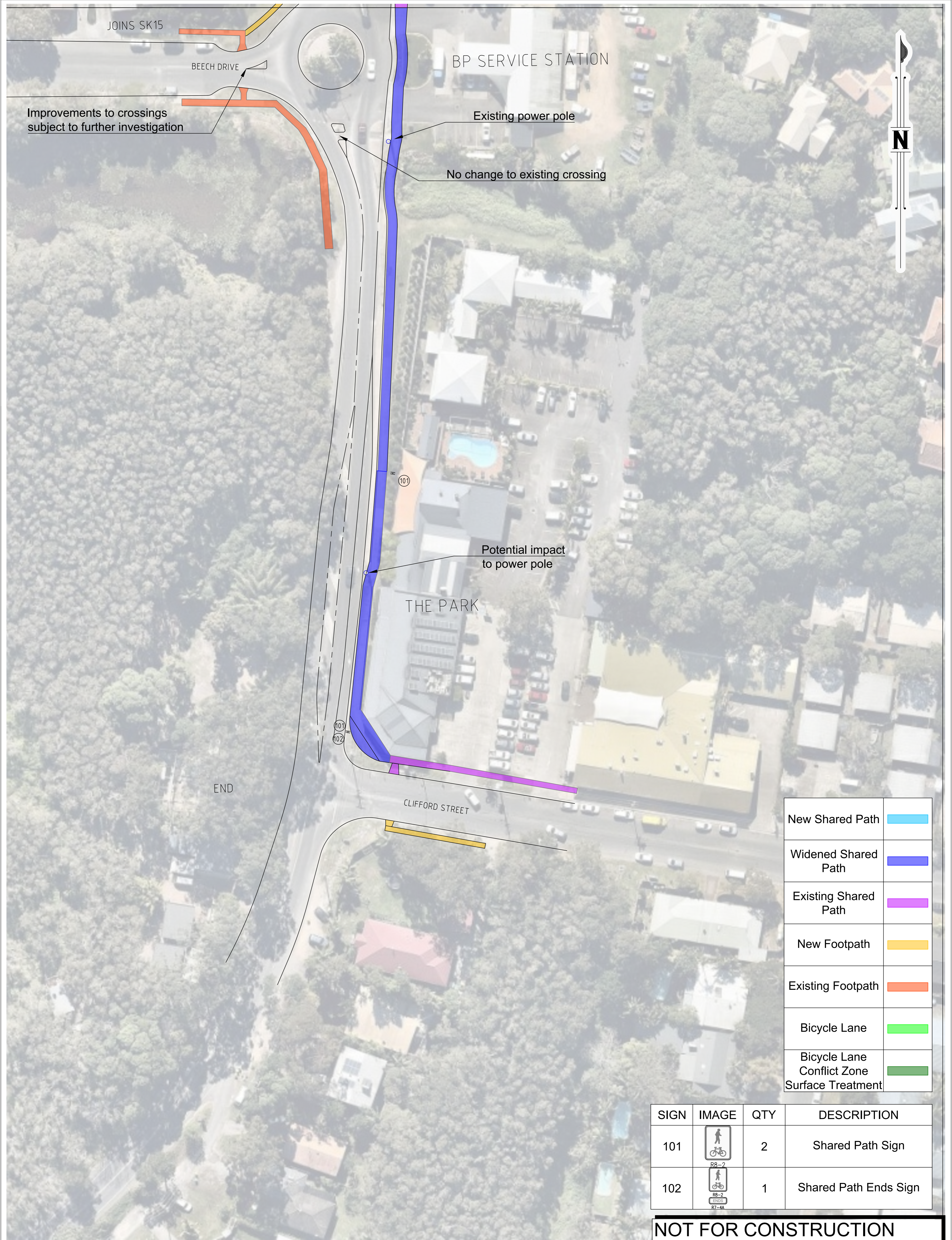
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DRAWING TITLE
CLIENT
PROJECT
LOCATION

SOUTHERN SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

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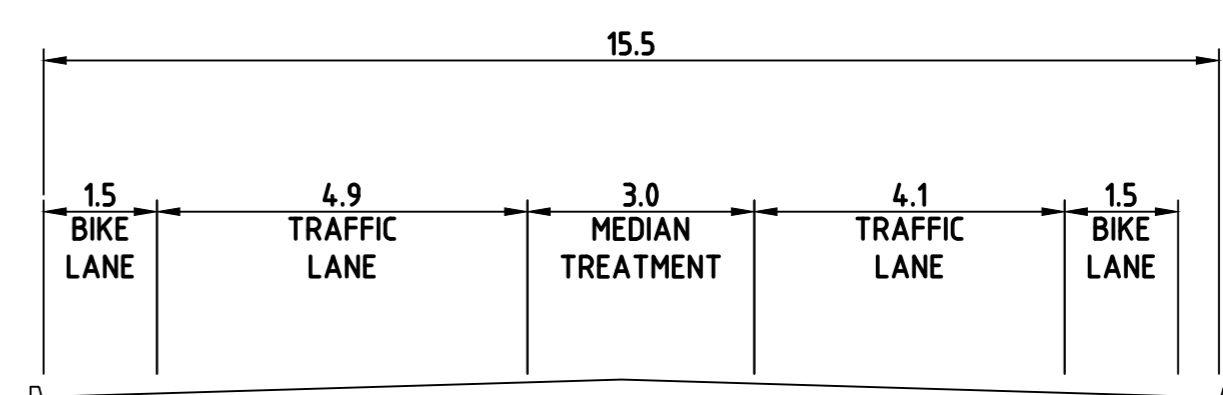
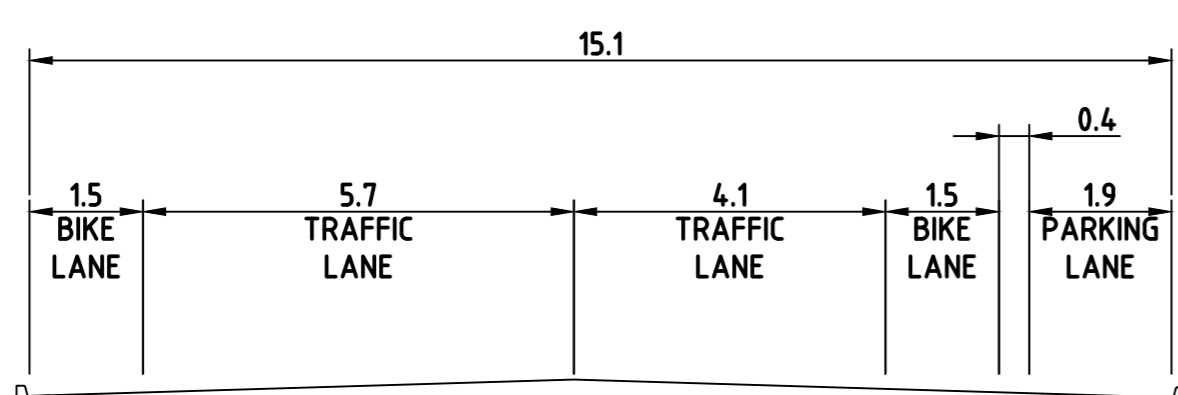
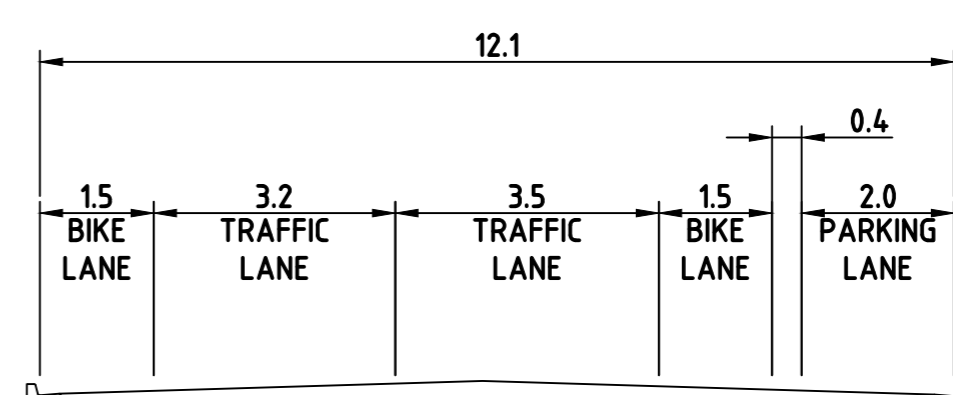
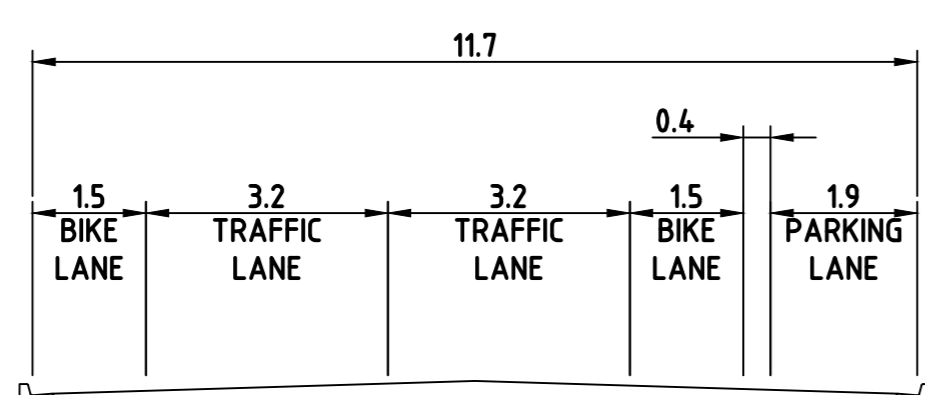
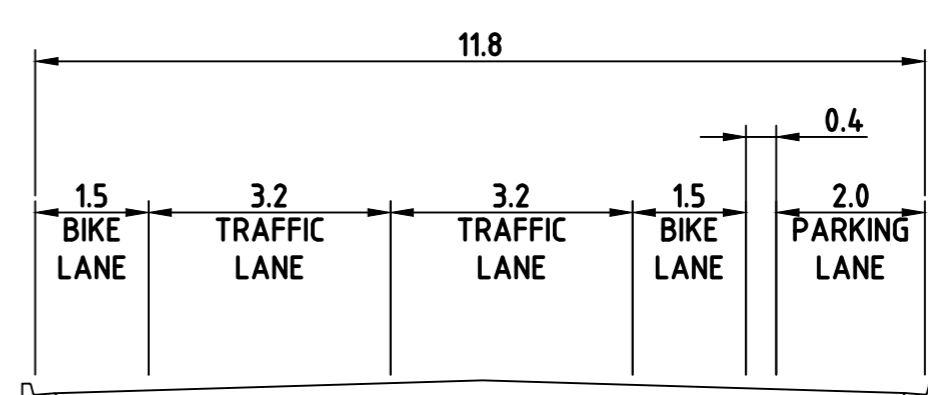
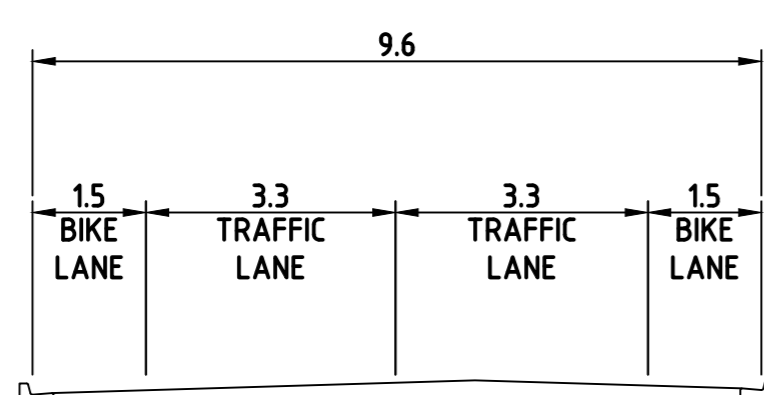
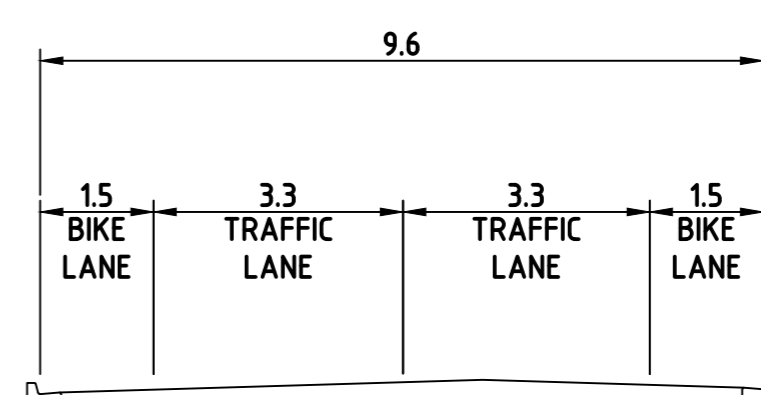
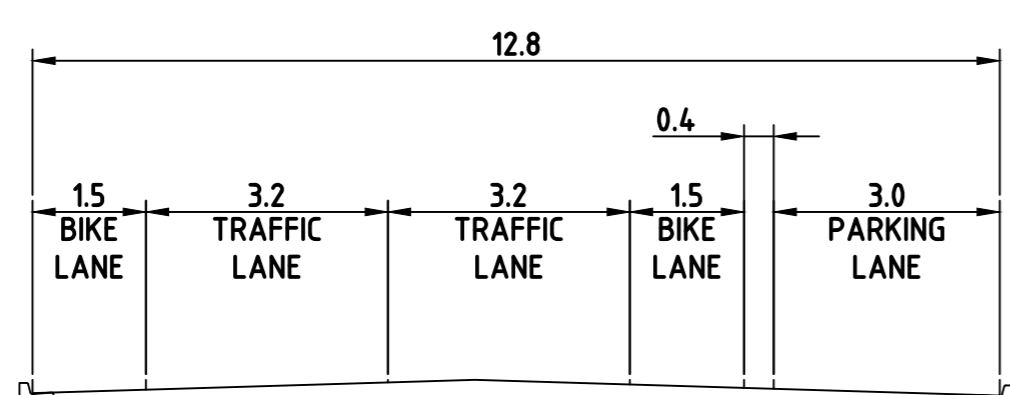
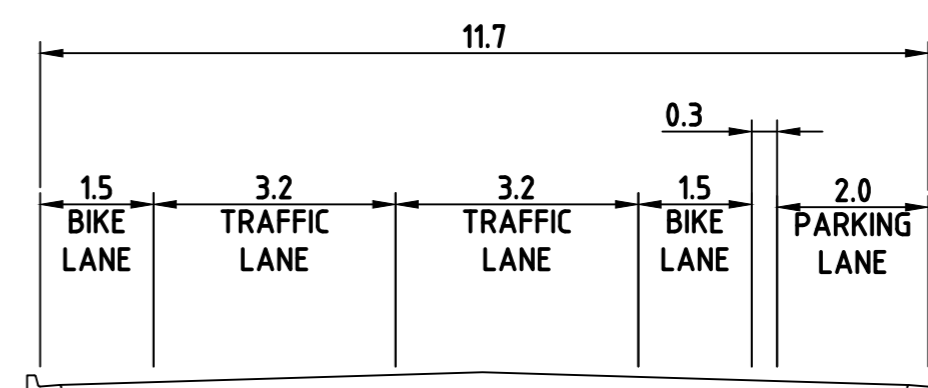
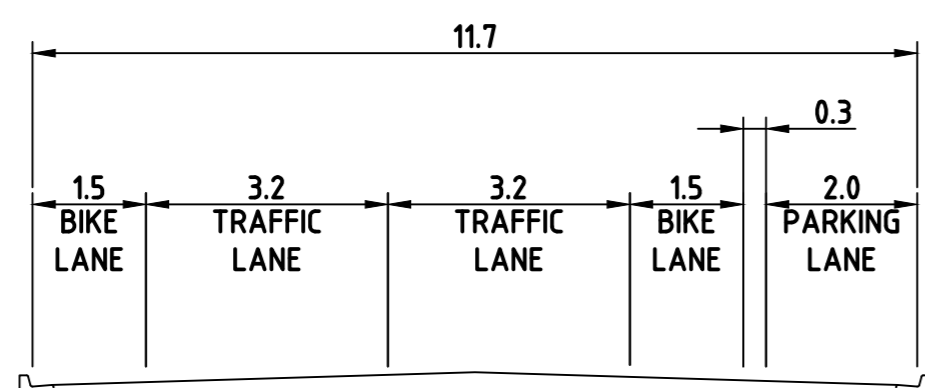
DRAWING DATE	27 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE	0 8 16 24m		
SCALE 1:4 00 (A1)		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK15
REV			5




New Shared Path	<div></div>
Widened Shared Path	<div></div>
Existing Shared Path	<div></div>
New Footpath	<div></div>
Existing Footpath	<div></div>
Bicycle Lane	<div></div>
Bicycle Lane Conflict Zone Surface Treatment	<div></div>

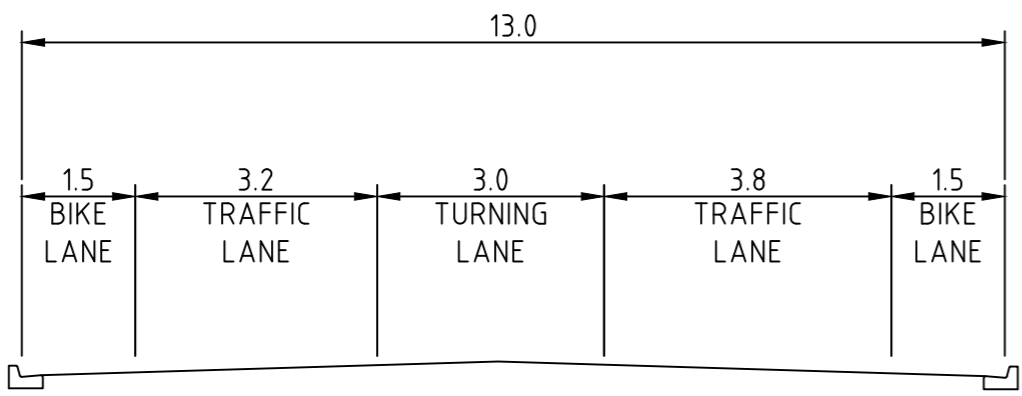
SIGN	IMAGE	QTY	DESCRIPTION
101	<div> R8-2</div>	2	Shared Path Sign
102	<div> R8-2 ENDS R7-4A</div>	1	Shared Path Ends Sign

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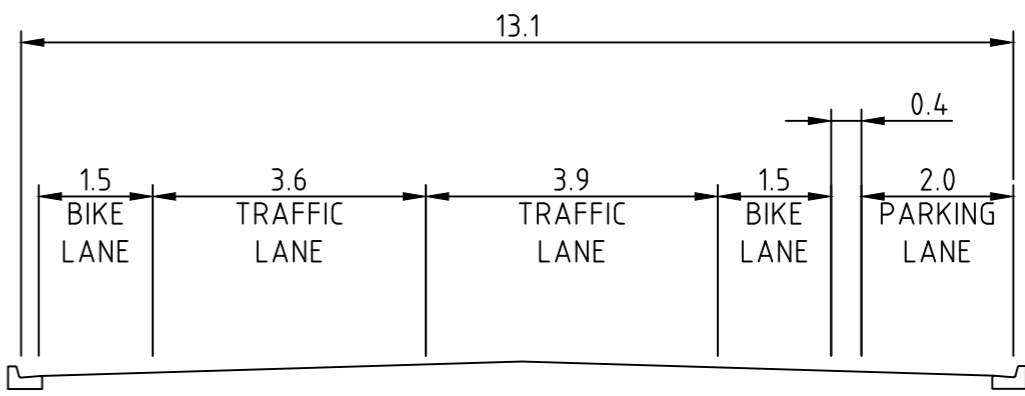


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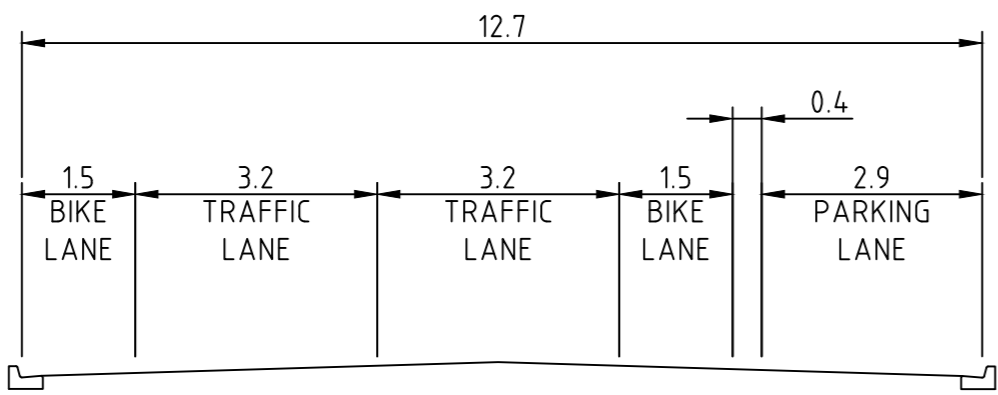
REV DESCRIPTION		BY	DATE	<div><div><div>PSA</div><div>CONSULTING AUSTRALIA</div></div><div>Telephone: +61 7 3220 0288 Office: Level 11 / ICON PLACE Address: 270 Adelaide Street, Brisbane PO Box 10824 Adelaide Street, Brisbane Q 4000 Website: www.psaconsult.com.au</div><div>TRANSPORT ENGINEERING TOWN PLANNING PROGRAM MANAGEMENT</div><div>PSA Consulting (Australia) Pty Ltd ABN: 83 109 836 197</div><div>© Copyright</div></div>	DRAWING DATE	29 NOV 2017		DRAWN BY	R.T.		
1	ORIGINAL ISSUE	R.T.	29.11.2017		DRAWING TITLE	OPTION 2B X-SECTIONS 1					
					CLIENT	BYRON SHIRE COUNCIL					
					PROJECT	CYCLEWAY INVESTIGATION					
					LOCATION	BYRON BAY TO SUFFOLK PARK					
					ORIGINAL SIZE: A1 SCALE A3: 1:200		CHECKED BY		A.D.		
					SCALE		APPROVED BY		A.D.		
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							0734	SK45	1		



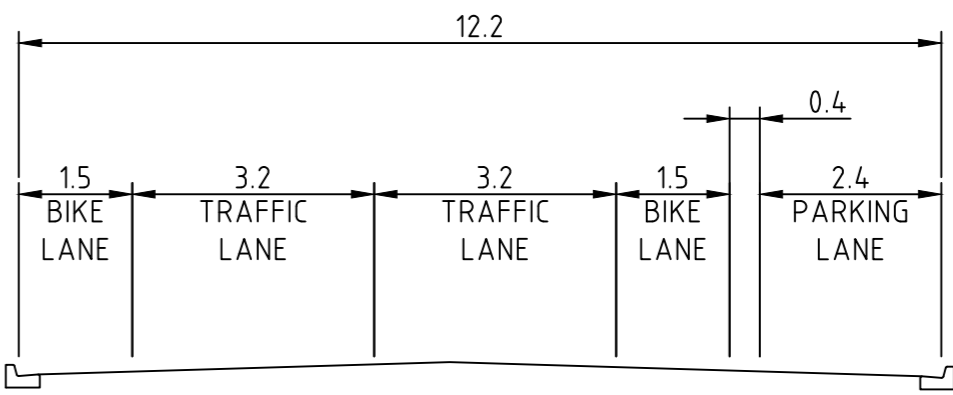
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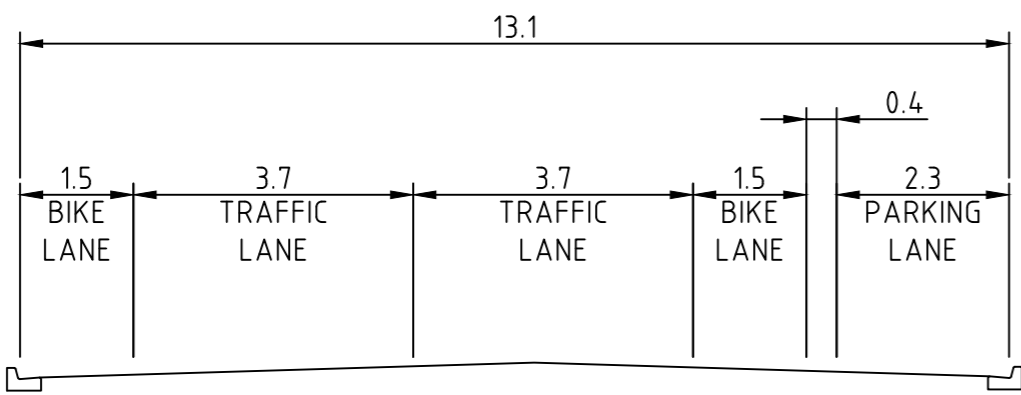
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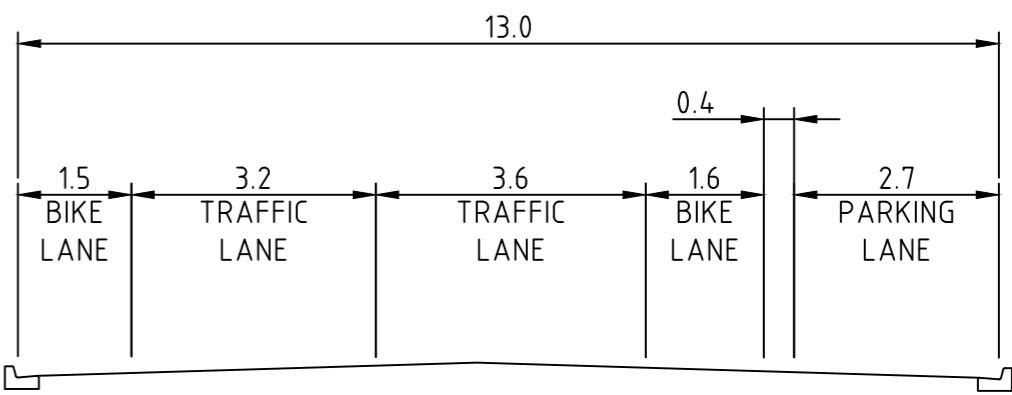
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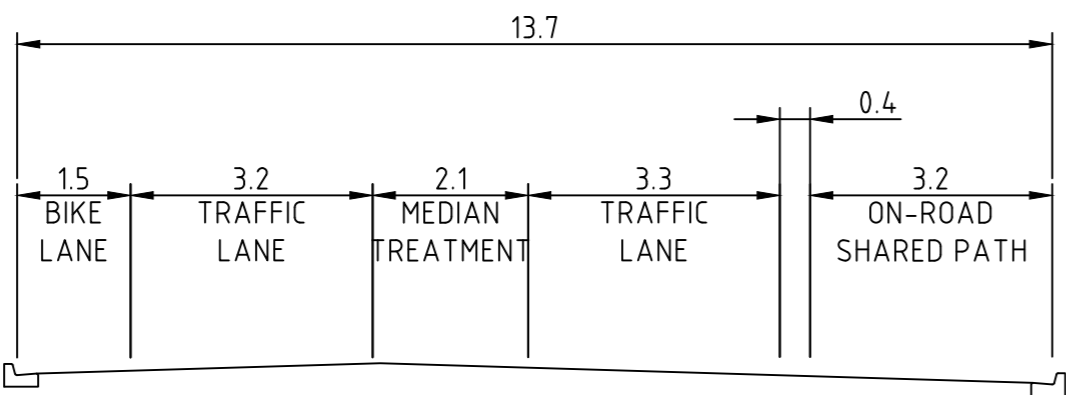
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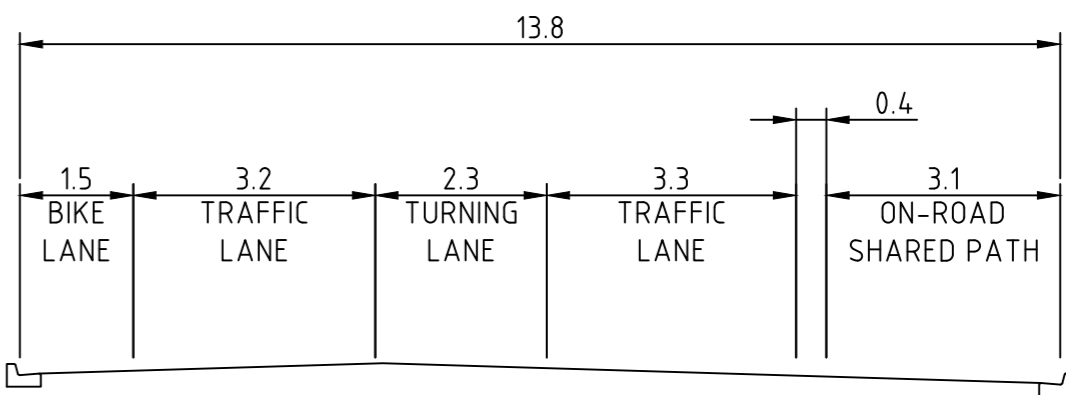
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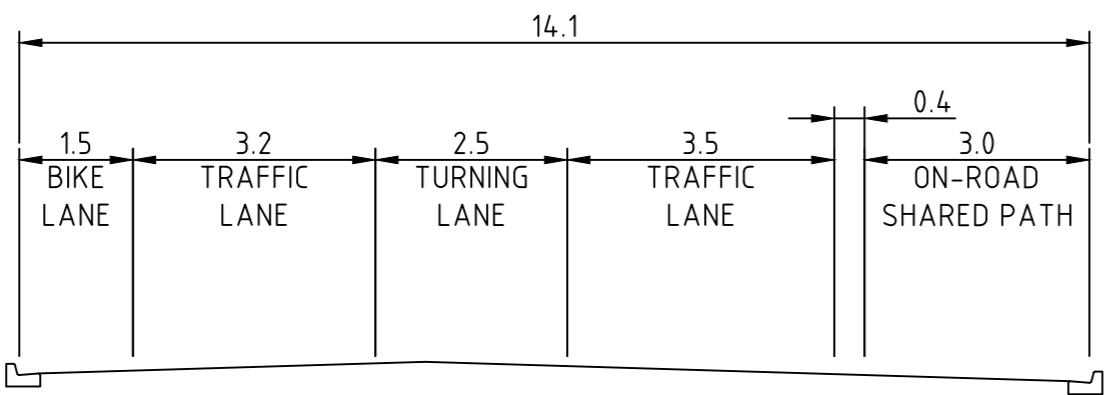
SECTION P-P



SECTION Q-Q



SECTION R-R



SECTION S-S

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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T	29.11.2017
2	ADDED DIVIDER DIMENSIONS	R.T	05.02.2018



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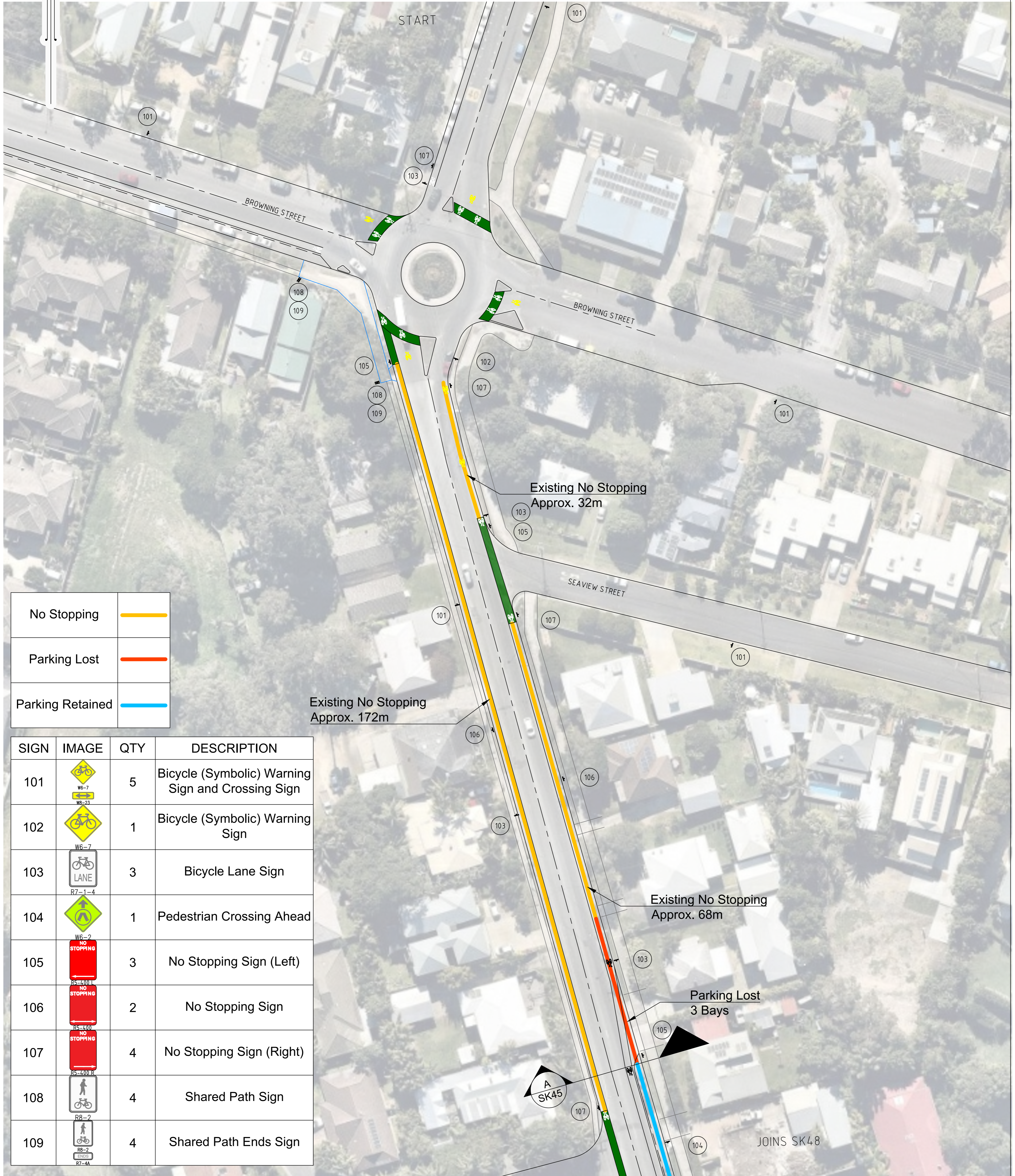
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DRAWING TITLE	OPTION 2B X-SECTIONS 2
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	05 FEB 2018	DRAWN BY	R.T
ORIGINAL SIZE	A1	CHECKED BY	A.D.
SCALE	0 2 4 6m	APPROVED BY	A.D.
SCALE 1:100 (A1)	0734	DRAWING NO.	SK46
		REV	2



No Stopping	
Parking Lost	
Parking Retained	

SIGN	IMAGE	QTY	DESCRIPTION
101		5	Bicycle (Symbolic) Warning Sign and Crossing Sign
102		1	Bicycle (Symbolic) Warning Sign
103		3	Bicycle Lane Sign
104		1	Pedestrian Crossing Ahead
105		3	No Stopping Sign (Left)
106		2	No Stopping Sign
107		4	No Stopping Sign (Right)
108		4	Shared Path Sign
109		4	Shared Path Ends Sign

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018
2	AMENDMENT TO SK REFERENCES	T.B.	02.11.2018



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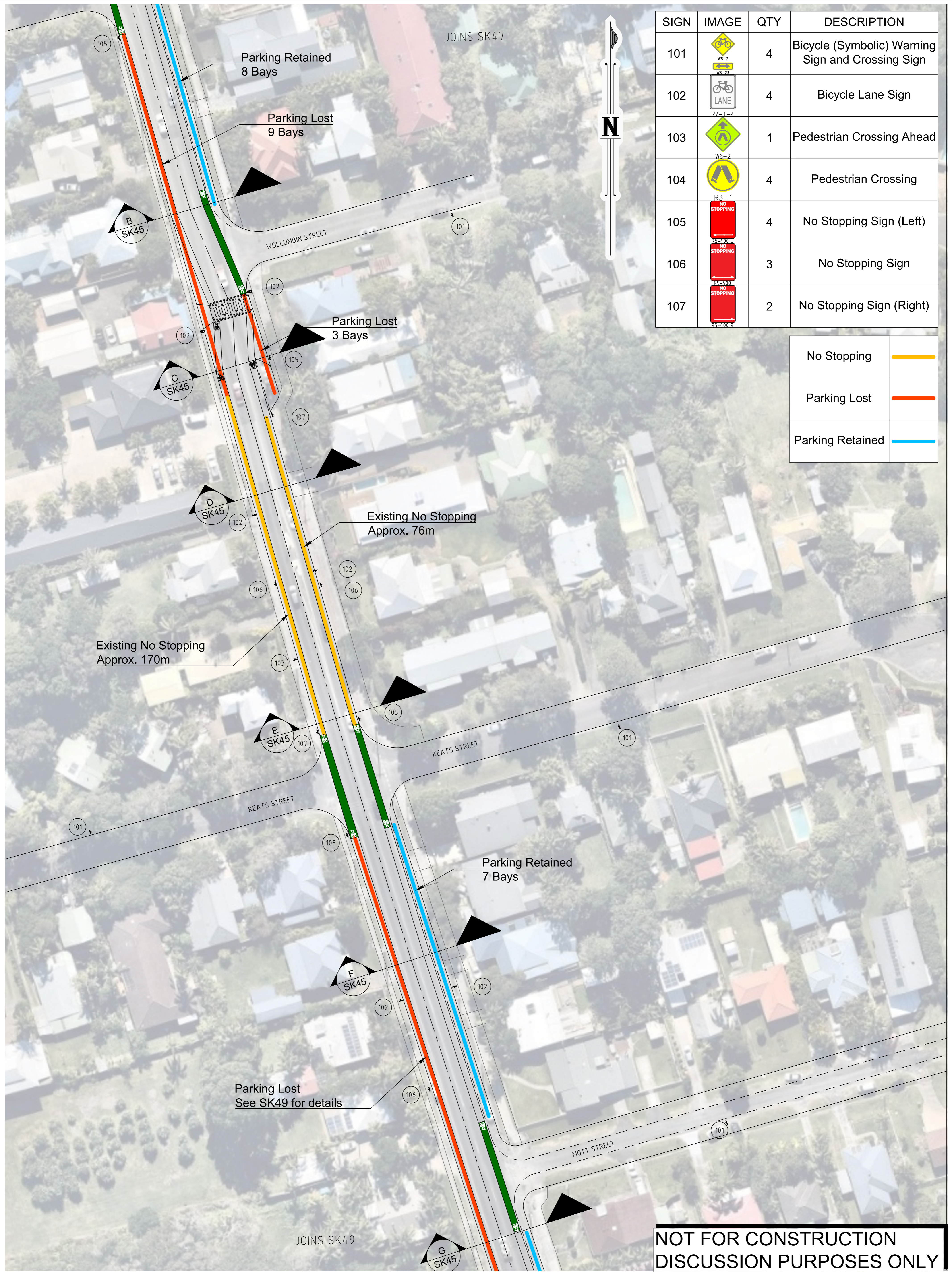
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DRAWING TITLE
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PROJECT
LOCATION

PARKING CONDITIONS
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	02 NOV 2018	DRAWN BY	T.B.
ORIGINAL SIZE	A1 SCALE A3: 1:800	CHECKED BY	A.D.
SCALE	0 8 16 24m SCALE 1:400 (A1)	APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK47
REV	2		



SIGN	IMAGE	QTY	DESCRIPTION
101		4	Bicycle (Symbolic) Warning Sign and Crossing Sign
102		4	Bicycle Lane Sign
103		1	Pedestrian Crossing Ahead
104		4	Pedestrian Crossing
105		4	No Stopping Sign (Left)
106		3	No Stopping Sign
107		2	No Stopping Sign (Right)

No Stopping	
Parking Lost	
Parking Retained	

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018
2	AMENDMENT TO PARKING IMPACTS	T.B.	02.11.2018



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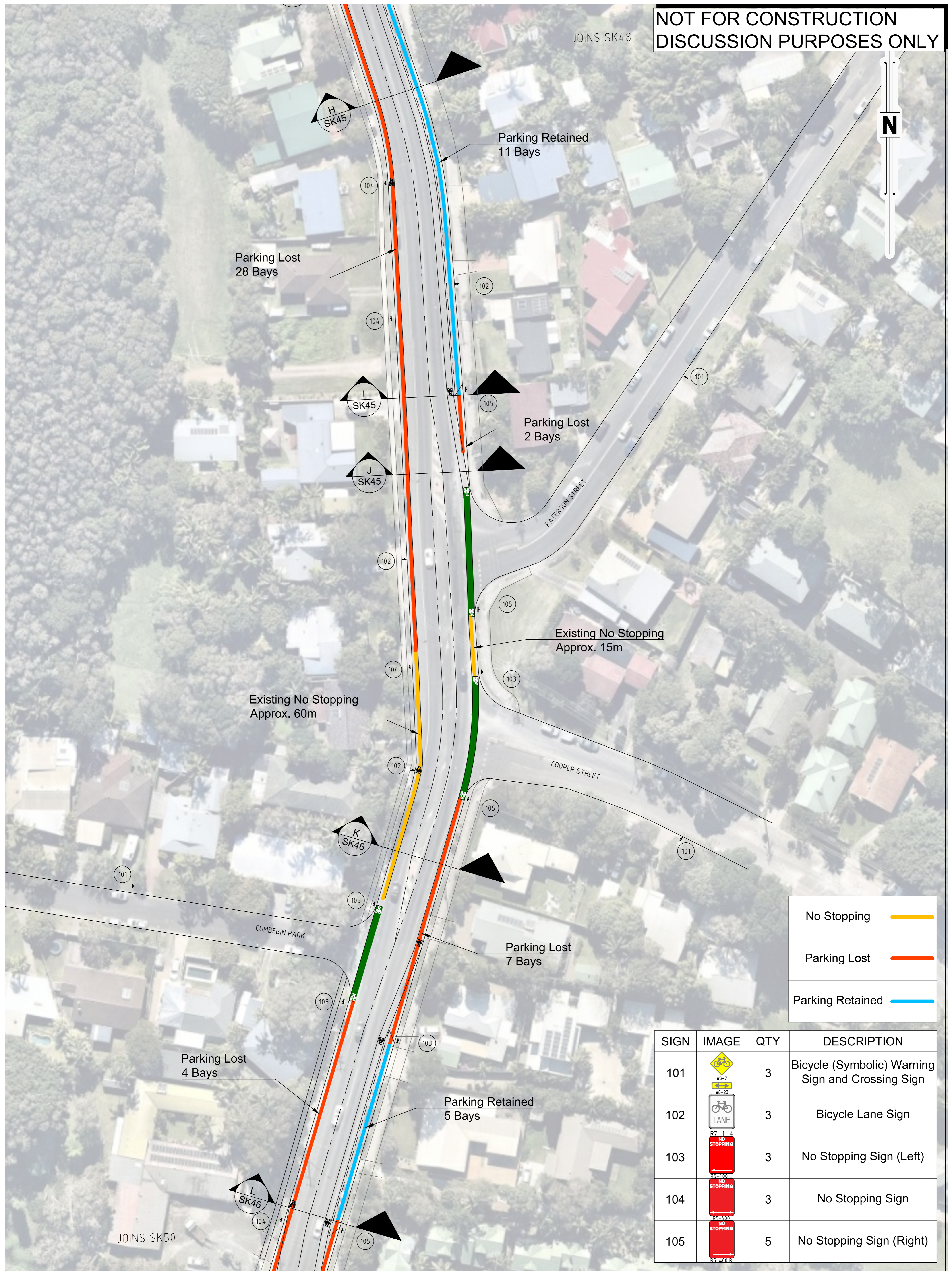
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270 Adelaide Street, Brisbane
PO Box 10824 Adelaide Street,
Brisbane Q 4000
Website: www.psaconsult.com.au

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DRAWING TITLE
CLIENT
PROJECT
LOCATION

PARKING CONDITIONS
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	2 NOV 2018	DRAWN BY	T.B.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE		CHECKED BY	A.D.
		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK48
REV	2		



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No Stopping	
Parking Lost	
Parking Retained	

SIGN	IMAGE	QTY	DESCRIPTION
101		3	Bicycle (Symbolic) Warning Sign and Crossing Sign
102		3	Bicycle Lane Sign
103		3	No Stopping Sign (Left)
104		3	No Stopping Sign
105		5	No Stopping Sign (Right)

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018
2	AMENDMENT TO PARKING IMPACTS	T.B.	02.11.2018

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PARKING CONDITIONS
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 02 NOV 2018

ORIGINAL SIZE: A1 SCALE A3: 1:800

SCALE: 0 8 16 24m

SCALE 1:400 (A1)

DRAWN BY: T.B.

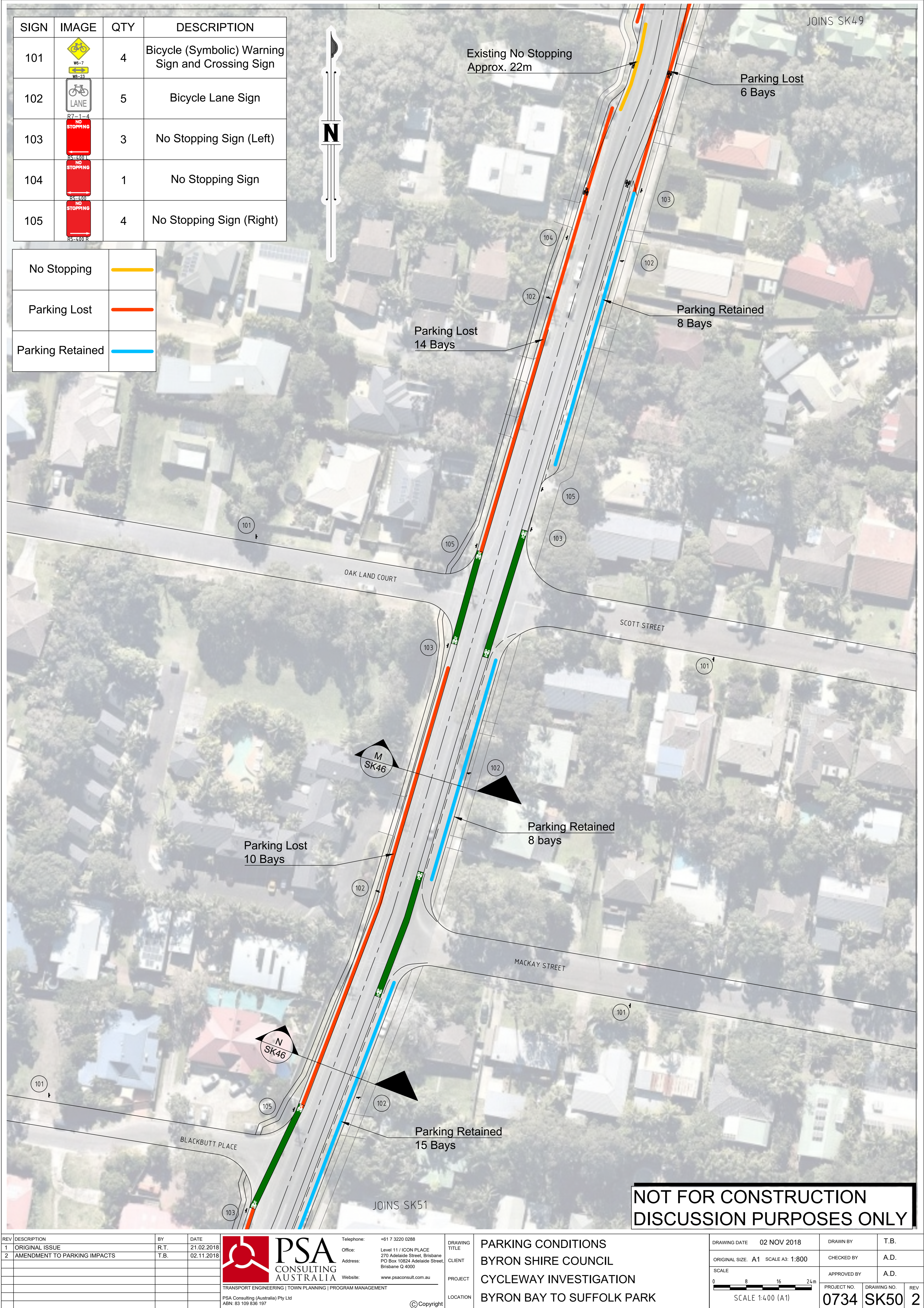
CHECKED BY: A.D.

APPROVED BY: A.D.

PROJECT NO: 0734

DRAWING NO: SK49

REV: 2



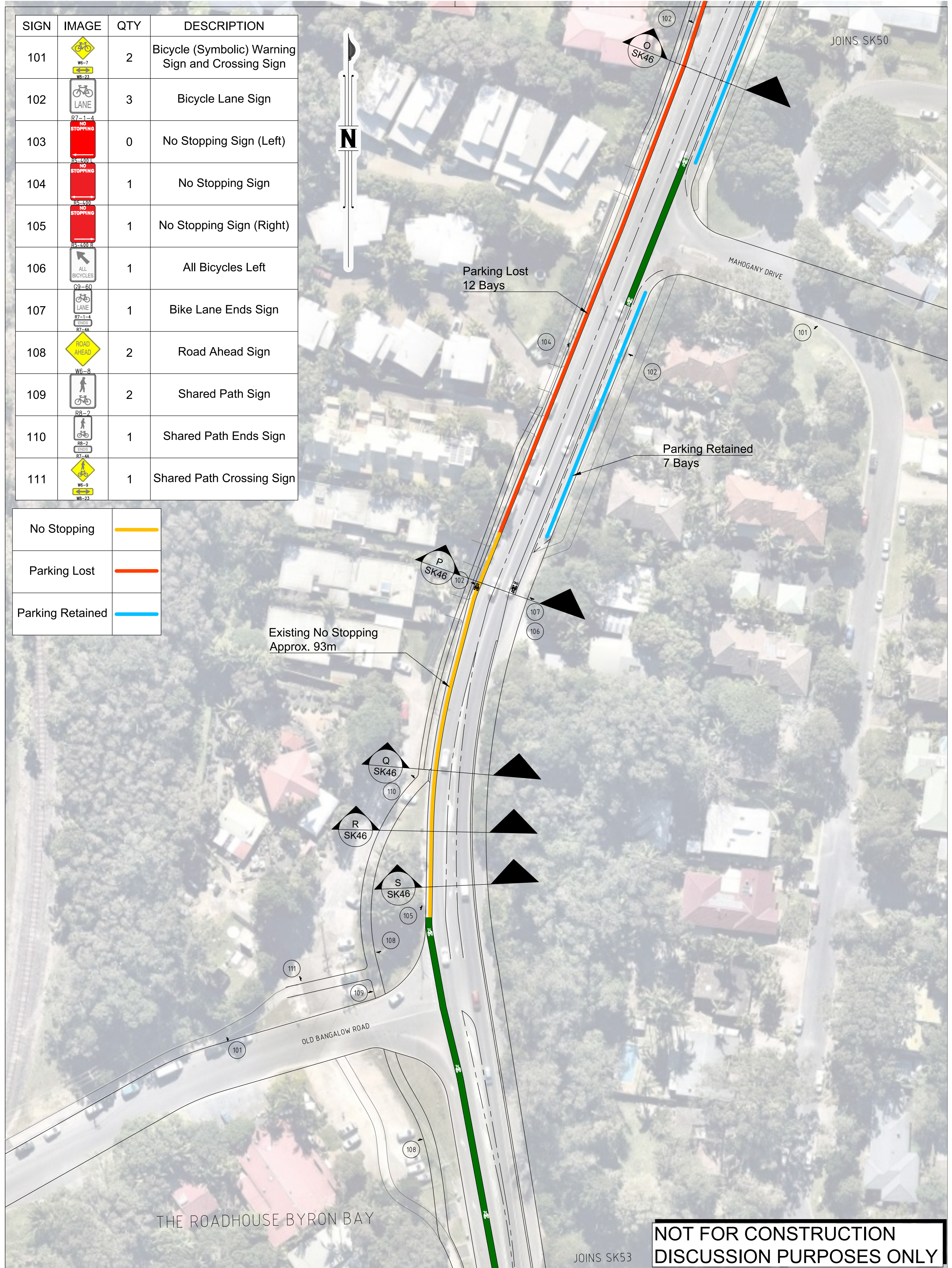
REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018
2	AMENDMENT TO PARKING IMPACTS	T.B.	02.11.2018

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DRAWING TITLE
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PROJECT
LOCATION

PARKING CONDITIONS
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	02 NOV 2018	DRAWN BY	T.B.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE			
SCALE 1:400 (A1)		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK50
REV	2		



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018
2	AMENDMENT TO PARKING IMPACTS	T.B.	02.11.2018



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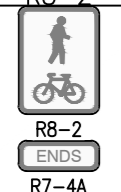



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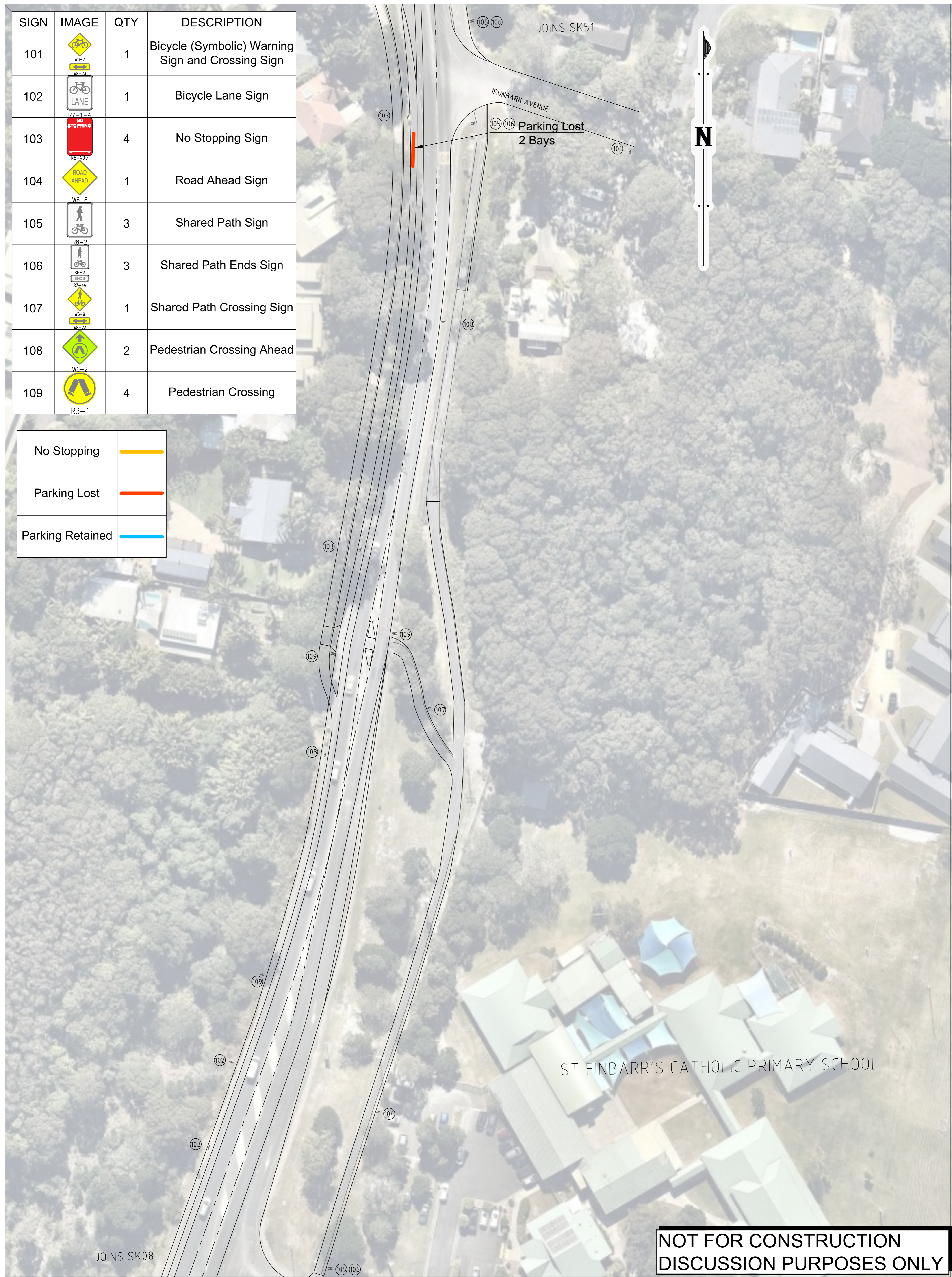
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DRAWING TITLE	PARKING CONDITIONS
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE		02 NOV 2018		DRAWN BY		T.B.			
ORIGINAL SIZE: A1				SCALE A3: 1:800		CHECKED BY		A.D.	
SCALE						APPROVED BY		A.D.	
SCALE 1:400 (A1)				PROJECT NO.		DRAWING NO.		REV	
				0734		SK51		2	

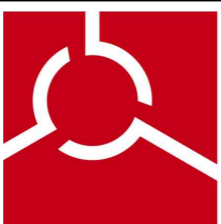
SIGN	IMAGE	QTY	DESCRIPTION
101		1	Bicycle (Symbolic) Warning Sign and Crossing Sign
102		1	Bicycle Lane Sign
103		4	No Stopping Sign
104		1	Road Ahead Sign
105		3	Shared Path Sign
106		3	Shared Path Ends Sign
107		1	Shared Path Crossing Sign
108		2	Pedestrian Crossing Ahead
109		4	Pedestrian Crossing

No Stopping	
Parking Lost	
Parking Retained	



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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	T.B.	02.11.2018




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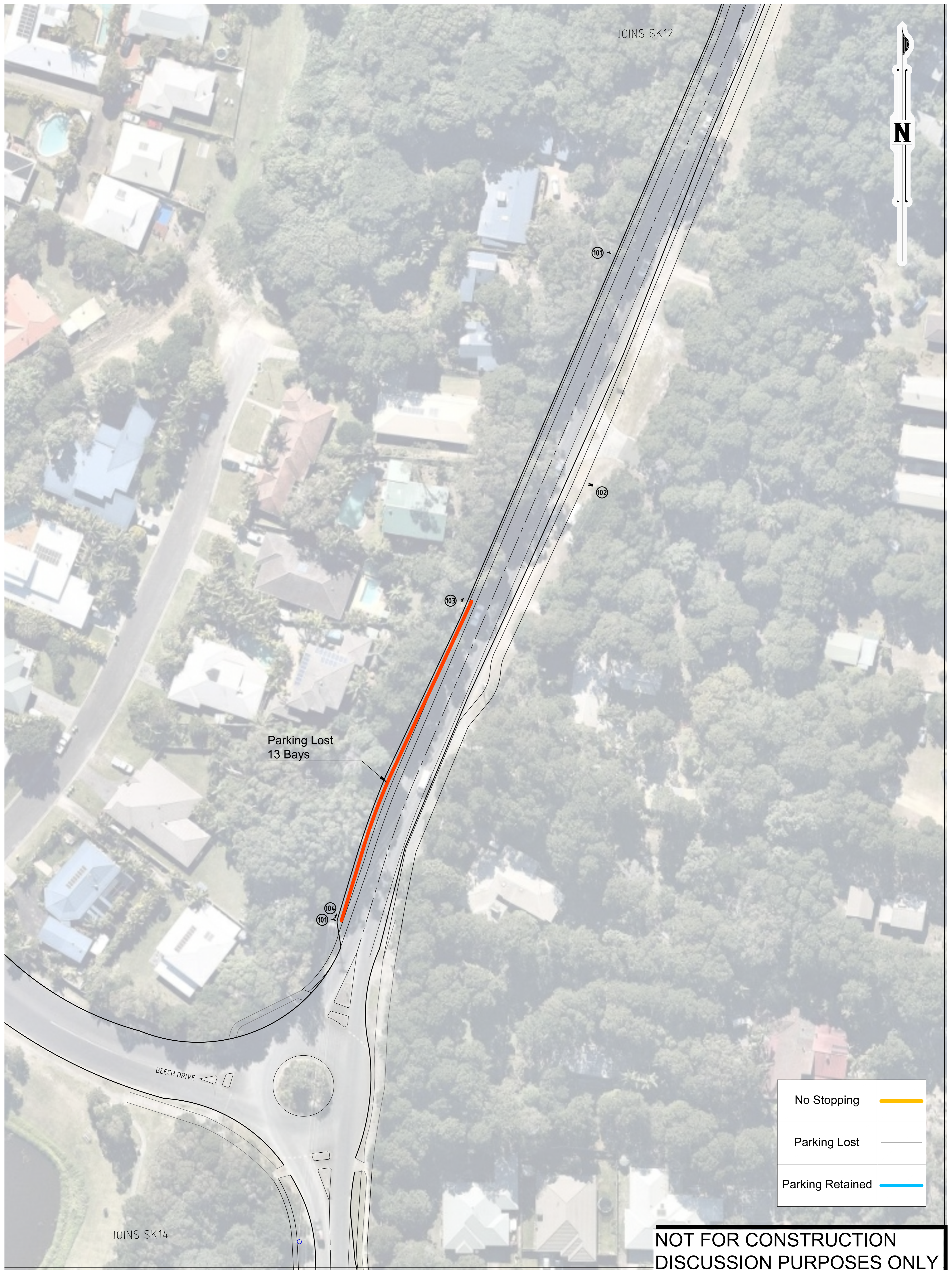
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DRAWING TITLE
CLIENT
PROJECT
LOCATION

PARKING CONDITIONS
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK

DRAWING DATE	02 NOV 2018	DRAWN BY	T.B.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE			
SCALE 1:400 (A1)		APPROVED BY	A.D.
PROJECT NO.	0734	DRAWING NO.	SK53
REV	1		



No Stopping	<div></div>
Parking Lost	<div></div>
Parking Retained	<div></div>

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REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	21.02.2018



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DRAWING TITLE	PARKING CONDITIONS
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	21 FEB 2018	DRAWN BY	K.P.
ORIGINAL SIZE	A1	SCALE A3:	1:800
SCALE	<div><div>081624m</div><div>SCALE 1:4 00 (A1)</div></div>		
APPROVED BY	A.D.	PROJECT NO.	0734
DRAWING NO.	SK52	REV	1

Appendix 7

Estimated Funding Scores (Preferred Option)

A07

Appendix 7 – Estimated Funding Scores

Estimated Funding Score - Connecting Centres Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Does the proposal connect to a <i>Priority Cycleway</i> ?			
Connects to a <i>Priority Cycleway</i>	5		
No connection to a <i>Priority Cycleway</i>	0	0	
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Within 400m of a public transport interchange	4		
Within 800m of a public transport interchange	2		
Within 400m of a local public transport stop	1	1	Improves access to four bus stops
Does not connect to a public transport interchange or local public transport stop	0		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Within 400m of other pedestrian generating land uses, e.g. university, TAFE, school, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool. 2 Points for each, e.g. 2 schools + 1 hospital = 6 points	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Proposal addresses major missing links or identified barriers (can receive multiple scores)			
Connects multiple routes in bicycle network or completes a major missing link in network	3	3	Completes major missing links south of The Byron at Byron resort
Provides new access beyond an existing major barrier	3		
Upgrades/widens an existing section of the bicycle network	2	2	Upgrades and widens existing shared path and upgrades on-road cycle lanes
Does the proposal provide a direct route?			
Most direct route	4	4	Follows existing road alignment
Slight detour compared to the road network (<500m)	3		
Moderate detour compared to the road network (500m to 1km)	2		
Large detour compared to the road network (>1km)	1		
What percentage of State Government Funding is required for your proposal?			
Development stage - State funding required < 50%	5		
Development stage - State funding required 50% - 75%	3		
Construction stage - State funding required < 25%	5		
Construction stage - State funding required 25% - 50%	3	3	
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires removal of parking on western side of Bangalow Rd (northern section only). No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	67	42	

Estimated Funding Score - Priority Cycleways Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Is the proposal located on a State Road?			
Proposal is completely (100%) on a State Road	5		
Proposal is predominantly on a State Road	4		
Proposal is predominantly on local roads	0		
Proposal is not on a State Road	0	0	
State <i>Priority Cycleway</i> proposals			
Proposal is one of the <i>Priority Cycleways</i> identified in a NSW Government Plan	8		n/a
Proposal is a <i>Priority Cycleway</i> (other than above)	4		n/a
Proposal is part of a Local Bicycle Route that connects a <i>Priority Cycleway</i>	2		n/a
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Within 400m of a public transport interchange	4		
Within 800m of a public transport interchange	2		
Within 400m of a local public transport stop	1	1	Improves access to four bus stops
Does not connect to a public transport interchange or local public transport stop	0		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Within 400m of other pedestrian generating land uses, e.g. university, TAFE, school, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool. 2 Points for each, e.g. 2 schools + 1 hospital = 6 points	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Proposal addresses major missing links or identified barriers (can receive multiple scores)			
Connects multiple routes or completes a missing link in a <i>Priority Cycleway</i>	3		
Upgrades/widens an existing section of <i>Priority Cycleway</i>	3		
Provides new access beyond an existing major barrier	3		
Connects two existing local routes in the cycle network	2	2	Completes major missing links between The Byron at Byron resort and Beech Dr (south)
Upgrades/widens an existing section of the local bicycle network	1	1	Upgrades and widens existing shared path and upgrades on-road cycle lanes
Does the proposal provide a direct route?			
Most direct route	4	4	Follows existing road alignment
Slight detour compared to the road network (<500m)	3		
Moderate detour compared to the road network (500m to 1km)	2		
Large detour compared to the road network (>1km)	1		
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires removal of parking on western side of Bangalow Rd (northern section only). No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	74	37	

Estimated Funding Score - Cycling Towns Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Does the proposal complete a cycle network and address major missing links? (can receive multiple scores)			
Connects multiple routes along strategic network links	10	10	Forms a continuous spine for the cycle network between Byron Bay and Suffolk Park. Improves connectivity with surrounding network
Completes major cycle link connecting to a town centre	8	8	Provides a continuous cycle link between Byron Bay and Suffolk Park
Provides new access beyond an existing major barrier or completes a missing link	6	6	Completes a number of missing links between Byron Bay and Suffolk Park
Upgrades/widens an existing section of the network	2	2	Upgrades and widens existing shared path and upgrades on-road cycle lanes
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Complete a missing link along the route that connects to a public transport interchange (within 400m)	4		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Cycleway connects to (within 400m radius of) trip attractors, e.g. a school, university, TAFE, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool (2 points for each). For example: 2 schools + 1 hospital = 6 points	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Does Council have an identified complementary non-infrastructure proposal(s)?			
Yes, the proposal(s) have been demonstrated to increase bicycle mode share	5		n/a
Yes, however there is no evidence that the proposal(s) increased bicycle mode share	2		n/a
No, Council has identified and confirmed funding for other proposal(s) with demonstrated links to this proposal	4		n/a
No, Council has identified other proposal(s) with demonstrated links to this proposal (although funding is not confirmed)	2		n/a
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires removal of parking on western side of Bangalow Rd (northern section only). No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	76	55	