

NOTICE OF MEETING



LOCAL TRAFFIC COMMITTEE MEETING

A Local Traffic Committee Meeting of Byron Shire Council will be held as follows:

Venue	Electronic Meeting
Date	Friday, 15 March 2019
Time	Electronic Meeting
Committee Members	Katherine Boulton – Roads and Maritime Services Snr Constable Chris Davis – Police Cr Basil Cameron Tamara Smith MP

Phillip Holloway
Director Infrastructure Services

I2019/408
Distributed 08/03/19

BYRON SHIRE COUNCIL
LOCAL TRAFFIC COMMITTEE MEETING

BUSINESS OF MEETING

1. APOLOGIES

2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

3. ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1 Local Traffic Committee Meeting held on 12 March 2019

4. MATTERS ARISING

5. OUTSTANDING ISSUES/RESOLUTIONS

6. REGULATORY MATTERS

6.1 Events - Bangalow Billycart Derby 2019 - Byron Street Road Closure 19 May 20193

7. MATTERS FOR TRAFFIC ENGINEERING ADVICE

7.1 Parking at Nelson Lane, Brunswick Heads 11

7.2 Speed Zone Review - Main Arm Road 15

8. DEVELOPMENT APPLICATIONS

8.1 Events - 2019 Splendour in the Grass Music Festival.....17

8.2 Events - Byron Writers Festival 2019 - Road Closure.....108

8.3 Bus Stop & Street Signage Relocation - Bonanza Drive, Billinudgel.....121

REGULATORY MATTERS

**Report No. 6.1 Events - Bangalow Billycart Derby 2019 - Byron Street Road Closure
19 May 2019**

File No: I2018/1935

SUMMARY

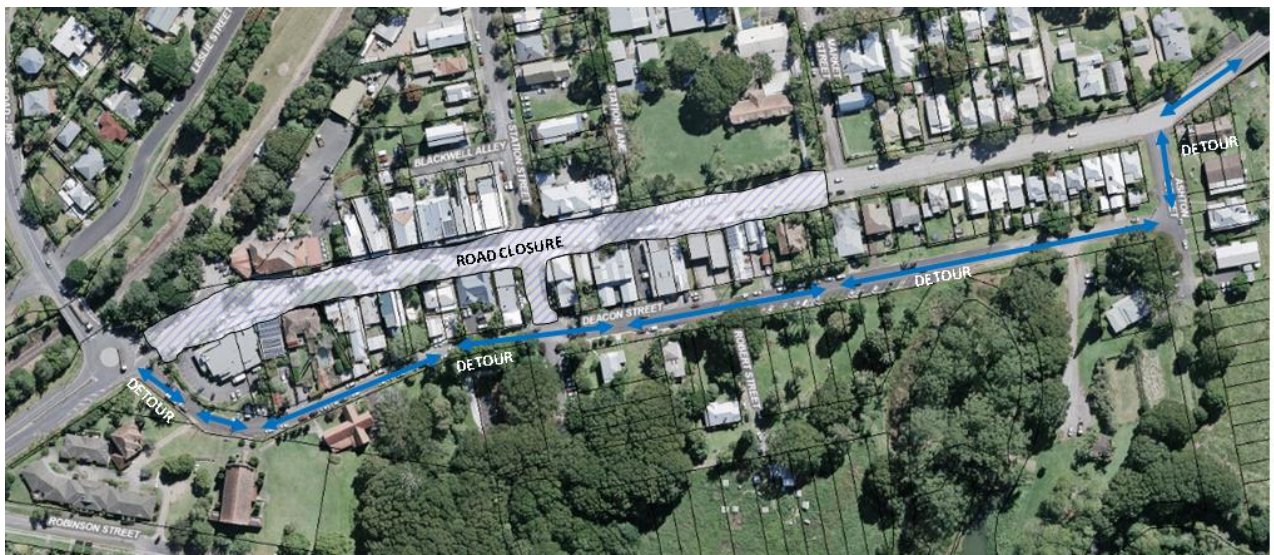
Council has received an event application from the Bangalow Lions Club for the 2019 Bangalow Billy Cart Derby to be held on Sunday 19 May 2019.

BACKGROUND

The format will be the same as previous years, with traffic diverted via Deacon Street. The event organisers have advised that they will engage Spinifex to carry out the TCP and will have assistance from the SES in relation to traffic management.

The event organisers have provided a TCP and TMP, refer to attachment.

The Figure below summarises the area of road closure and proposed detour around the road closure.



KEY ISSUES

1. The proposed TCP places signage on Lismore to Bangalow Road (B62) and RMS controlled Granuaille Road.
2. RMS Traffic Engineering Department requires separate approval of the TMP and TCP.
3. Deacon Street is not suitable to Heavy Vehicles as a detour to the Pacific Highway.
4. Heavy Vehicles from Lismore will have to use Granuaille Road to access the Pacific Highway.
5. Increase traffic congestion as vehicle use the Deacon Street detour.
6. Deacon Street is overgrown and will require Council to trim prior to the event.

COUNCIL IMPLICATIONS

▪ **Budget/Financial**

5 The event organisers have been invoiced \$356.00 for the relevant Approval of Road Events pursuant to s144 of the Roads Act fee as per the Fees & Charges 2018/19.

There will be a cost to Council to trim vegetation which will need to come from roadside maintenance budgets. The extent of trimming or cost has not been determined at this time.

10 ▪ **Asset Management**

Not applicable.

▪ **Policy or Regulation**

15 Speed Limit (as required) ROAD WORK (R4-212) - Delegated to council for authorisation in conjunction with NSW Road Rules 21 and AS 1742.4 (Speed Controls) Clause 3.1.2, AS 1742.3 (Roadworks).

▪ **Consultation**

20 A condition of the endorsement of this event is that appropriate consultation is undertaken, including:

1. Advertising the impact of the event in the local newspaper and on the Council website.
2. Informing community and business that are directly impacted.
3. Liaising with bus and taxi operators.
- 25 4. Consulting with emergency services.

▪ **Legal and Risk Management**

30 This road closure directly affects RMS controlled asset - Lismore to Bangalow Road (B62) and RMS controlled Granuaille Road. RMS Traffic Engineering Department requires to separately approve the TMP and TCP.

RECOMMENDATION:

1. **That Council endorse the Bangalow Billy Cart Derby to be held on Sunday 19 May 2019, that includes the temporary road closure below:**

a. **Byron Street, Bangalow between Ashton Street and Granuaille Road, between 6am and 4pm on Sunday 19 May 2019.**

2. **That the approval provided in Part 1 is subject to:**

a.separate approvals by NSW Police and RMS being obtained, noting that the event is on a state road or may impact the state road network;

b.implementation of the approved Traffic Management Plan and Traffic Control Plan, including the use of signed detours, as designed and implemented by those with appropriate accreditation;

c.that the impact of the event be advertised via a notice in the local weekly paper a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact


name and a telephone number for all event related enquiries or complaints.

d.the event be notified on Council's webpage.

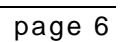
e.the event organiser:

- i. undertake consultation with community and affected businesses including adequate response/action to any raised concerns.**
- ii. undertake consultation with emergency services and any identified issues addressed.**
- iii. holding \$20m public liability insurance cover which is valid for the event.**
- iv. paying Council's Road Event Application Fee prior to the event.**

Attachments:

- 1 Documents from Richard Millyard - Bangalow Billycart Derby, S2019/1103 , page 6  

6.1 - ATTACHMENT 1



Traffic Management Plan

Bangalow Billycart Derby, 19th May 2019

- a. Description: The plan involves the temporary closure of Byron Street Bangalow between the hours of 6.00am to 4.00pm on Sunday 20th May 2018
- b. Impact of Proposed Measures: No significant traffic movement impact is expected in the village as traffic is diverted along Deacon Street.
- c. Measures to re-assign traffic: As in previous years the Bangalow Police change the signage for Deacon Street to restrict parking and make it two- way traffic for the period of the temporary closure. Barricades and signage is placed on Byron Street at the intersection of Granuaille Road and Market Street to direct traffic into Deacon Street.
- d. Public Transport Services: there is no impact on Public Transport Services.
- e. Emergency vehicles, heavy vehicles, cyclists and pedestrians: There is no impact on the movement of these instances along Deacon Street.
- f. Assessment of effect on existing and future developments: As far as existing developments are concerned there are no transport implications. Until they are advertised I have no ability to respond to future developments.
- g. Effects on Adjoining Council areas: there is no effect on traffic movements in adjoining council areas.
- h. Public consultation process: The proposed event has been organised for the past 12 years by either the Bangalow Lions Club or the Bangalow Chamber of Commerce with support from the local community. The proposed event dates have already been advertised on the Bangalow Chamber of Commerce web site and their Facebook page to alert businesses, residents and visitors. Signage is put up around Bangalow at least one month prior to the event. All the public schools in the shire are notified at least 3 months prior to the event. Since the event began there have been no adverse impacts on the village.

Yours sincerely

Richard Millyard

Bangalow Lions Club Co-ordinator

Bangalow Billycart Derby

Richard Millyard

From: Gilmore, Jess <jgilmore@byron.nsw.gov.au>
Sent: Friday, 18 January 2019 3:13 PM
To: 'Richard Millyard'
Cc: events; Heasman, Alice
Subject: RE: Billycart Derby 2019 - TMP & TCP

Importance: High

Hi Richard,

I'm just following up on Alice's email. We'd like to get your traffic application to the next LTC meeting so there's lots of time to get this finalised.

If you could get back to me that would be great.

Warm regards, and all the best for the start of another new year!

Jess

Jess Gilmore
 Byron Shire Council | P: 02 6626 7312 | M: 0408 053 498

I respectfully acknowledge the Arakwal Bundjalung People and the wider Bundjalung Nation as the Traditional Owners and Custodians of the land I work on and acknowledge the ongoing living culture of Aboriginal people.

From: Heasman, Alice
Sent: Friday, 16 November 2018 10:41 AM
To: 'Richard Millyard'
Cc: events
Subject: RE: Billycart Derby 2019 - TMP & TCP

Hi Richard,

Unfortunately I don't have access to Facebook.

It's the PDF of the Traffic Control Plan (attached) that we need a better copy of, Spinifex should be able to supply this for you.

This won't be able to go to the Local Traffic Committee until we have a legible copy.

Thanks,
 Alice

Alice Heasman | Events Support Officer | **Byron Shire Council**
 P: 02 6626 7070 | events@byron.nsw.gov.au | film@byron.nsw.gov.au | weddings@byron.nsw.gov.au

I respectfully acknowledge the Arakwal Bundjalung People and the wider Bundjalung Nation as the Traditional Owners and Custodians of the land I work on and acknowledge the ongoing living culture of Aboriginal people.

From: Richard Millyard [<mailto:richard@pegtron.com>]
Sent: Thursday, 15 November 2018 6:28 PM

To: Heasman, Alice
Subject: RE: Billycart Derby 2019 - TMP & TCP

Hi Alice.

Have you gone to the Billycart Derby Facebook page, where there are something like 30 photos to pick from. Unfortunately I do not have any high resolution shots on my computer.

Please get back to me if the Facebook shots are too pixilated and I will go to plan "B".

Regards

Richard Millyard.

From: Heasman, Alice <aheasman@byron.nsw.gov.au>
Sent: Tuesday, 13 November 2018 11:01 AM
To: 'Richard Millyard' <richard@pegtron.com>
Cc: events <events@byron.nsw.gov.au>
Subject: RE: Billycart Derby 2019 - TMP & TCP

Hi Richard,

The image on the PDF is too pixelated to read, can you send through a higher quality one please?

Thanks,
Alice

Alice Heasman | Events Support Officer | Byron Shire Council
P: 02 6626 7070 | events@byron.nsw.gov.au | film@byron.nsw.gov.au | weddings@byron.nsw.gov.au

I respectfully acknowledge the Arakwal Bundjalung People and the wider Bundjalung Nation as the Traditional Owners and Custodians of the land I work on and acknowledge the ongoing living culture of Aboriginal people.

From: Richard Millyard [<mailto:richard@pegtron.com>]
Sent: Tuesday, 30 October 2018 2:50 PM
To: Heasman, Alice
Subject: RE: Billycart Derby 2019 - TMP & TCP

Hi Alice.

Please find attached TCP and TMP for the 2019 Bangalow Billycart Derby.

Regards

Richard Millyard

Bangalow Lions Club

From: Heasman, Alice <aheasman@byron.nsw.gov.au>
Sent: Friday, 26 October 2018 3:26 PM
To: 'Richard Millyard' <richard@pegtron.com>
Subject: Billycart Derby 2019 - TMP & TCP

Hi Richard,

I hope your well.

How are you going with the Traffic Management Plan and Traffic Control Plan for next years event? Our Traffic Engineer has just let me know that we need them in by Tuesday next week in order to finalise them for the next Local Traffic Committee meeting.

If there not ready, let me know and I'll ask that you be moved to the next LTC meeting.

Thanks,

Alice

Alice Heasman | Events Support Officer | **Byron Shire Council**

P: 02 6626 7070 | **F: 02 6684 3018** | **E: alice.heasman@byron.nsw.gov.au**

events@byron.nsw.gov.au **film@byron.nsw.gov.au** **weddings@byron.nsw.gov.au**

PO Box 219, Mullumbimby NSW 2482 | **www.byron.nsw.gov.au**

Find us on Facebook **www.facebook.com/byronshire.council**

I respectfully acknowledge the Arakwal Bundjalung People and the wider Bundjalung Nation as the Traditional Owners and Custodians of the land I work on and acknowledge the ongoing living culture of Aboriginal people.

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MATTERS FOR TRAFFIC ENGINEERING ADVICE

Report No. 7.1 **Parking at Nelson Lane, Brunswick Heads**
File No: I2019/120

SUMMARY

A request has been submitted to Council to restrict parking along the length of Nelson Lane, Brunswick Heads on both sides.

BACKGROUND

Council has received a petition from local residents with boundaries on Nelson Lane, Brunswick Heads. Thirteen (13) residents signed the petition as shown below.

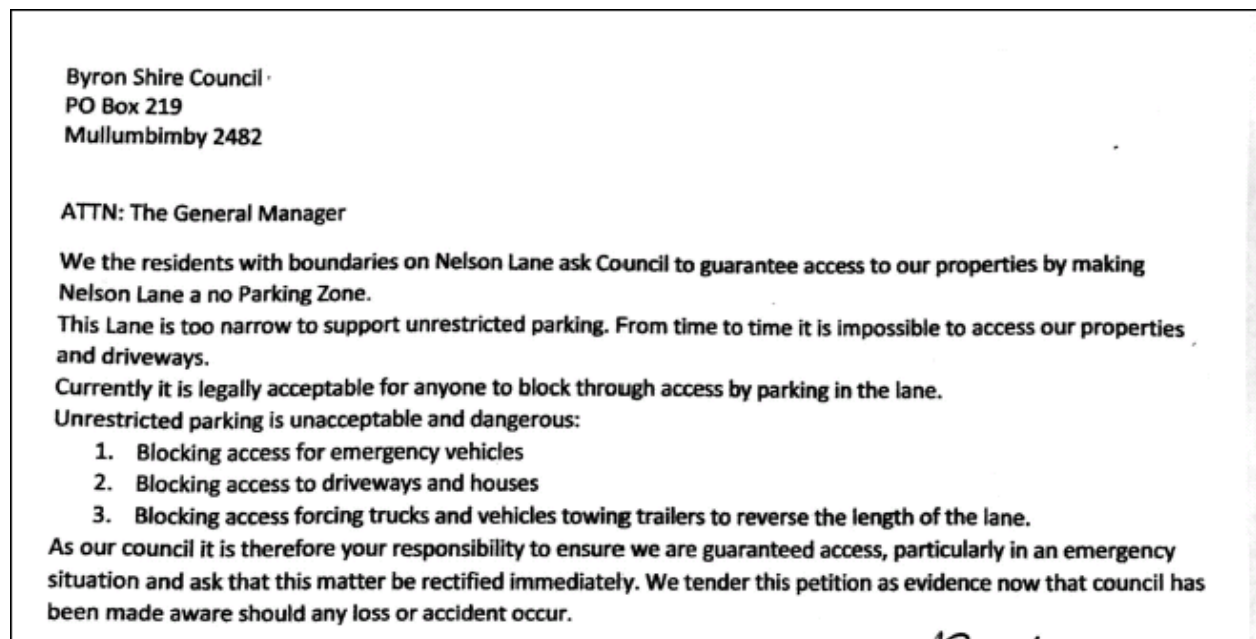


Figure 1. Petition from Residents

Currently Nelson Lane has unrestricted parking for its full length, has a road reserve width of 6m and pavement width varying between 3-4m. Road shoulder varies between deep swale, flat grass and concrete kerb and gutter.

The petition highlights problems caused when vehicles park within the lane, namely:-

- Difficulties accessing properties
- Blocking emergency vehicle access
- Blocking access forcing trucks and vehicles towing trailers to reverse the length of the lane.

The request is to install “No Stopping” yellow continuous lines along the length of Nelson Lane on both sides.

Council staff considers there are a number of options available to resolve the issue:-

- Encourage local’s residents to engage in communication with neighbours to resolve their concerns amicably.
- Request Police to enforce road rules

- Install No Stopping yellow lines along either one or both sides
- Install No Stopping signage along one or both sides
- Install a combination of No Stopping yellow lines and signage.

5 It is considered unlikely that the Police would patrol and enforce this area of Brunswick Heads given their limited time and resources.

10 Installing No Stopping yellow lines and / or No Stopping signage is considered unlikely to be effective without regular compliance team enforcement. Council does not have the resources and staffing available to enforce this area adequately and would therefore create an unrealistic expectation within the local community that lines, signs and Council would be able to prevent parking along this laneway.

15 Installing lines and signs would also help create an unrealistic expectation that Council would be willing and able to install similar lines and signs across all laneways within Brunswick Heads and / or the Shire. This is not a precedent Council wants to establish and creates a potentially significant strain to Council's budget.

20 Therefore, it is Council's recommendation to encourage the local community to engage in communication with all relevant neighbours to amicably resolve the concerns.



Figure 2: Google Street View 2010.



Figure 3: Location of Nelson St, Brunswick Heads.

KEY ISSUES

5 N/A

COUNCIL IMPLICATIONS

▪ Budget/Financial

10 Painting 430m (approx.) of yellow lines estimated to cost approximately \$2,500.
Parts and labour to install 8 No Stopping signs on both sides at 50m spacing costs \$1,500.
The works would be subject to Council identifying a budget noting that no current budget exists to undertake new lines and sign installation.

15 There is on going asset management costs of replacing signs as they are damaged or are graffiti tagged.

There is additional time and cost associated with enforcement or impacts on current enforcement activities if this area is included in existing time and budget allocations.

20
25
▪ **Asset Management**
On going maintenance as there is the ongoing issue of sign removal for drivers to then park without risk of compliance. This would be less a problem if signs were used in conjunction with yellow lines.

▪ Policy or Regulation

RTA Delineation – Section 13 Pavement markings for kerbside parking restrictions.
Road Rules 2014, Division 2 – No Stopping and no parking signs and road markings.

30 ▪ Consultation

Council's compliance team have not been consulted yet to determine the extent of the situation from their perspective.

It is recommended the local residents first engage with their neighbours to amicably resolve the issues raised.

- 5 **▪ Legal and Risk Management**
N/A

RECOMMENDATION:

1. **That Council's parking compliance team monitor Nelson Lane, Brunswick Heads and report their findings and recommendations back to Infrastructure Planning by 3rd June 2019.**
2. **That the petitioners be notified of the recommendation to monitor the situation and encourage them to engage in friendly communication with their neighbours to amicably resolve their concerns.**
3. **That, subject to the recommendations and outcomes of points 1 and 2 above and an appropriate budget being identified, install no stopping and/or yellow line marking on both sides of Nelson Lane, Brunswick Heads.**

Report No. 7.2
File No:

Speed Zone Review - Main Arm Road
I2019/236

SUMMARY

- 5 The residents of Main Arm are concerned with speeding through Main Arm Village, along Main Arm Road from the Palmwoods Rd intersection east towards Main Arm Village. The area under consideration is shown below.



- 10 Being a rural location with no street lighting and several bends installing traffic calming devices like speed humps is not considered safe due to the associated risk to drivers at night. In addition, given the rural nature of the area Police understandably do not have the resources to regularly patrol this area.

- 15 As a result, local residents intend to approach RMS and request a review the speed limit along this stretch of Main Arm Rd and request the speed be reduced to 60km/hr.

BACKGROUND

- 20 Council has received numerous requests during 2018 and 2019 from local Main Arm residents to install traffic calming devices or similar (such as LED Radar Speed Sign) to prevent cars from speeding along Main Arm Road.

- 25 Council reviewed traffic survey data undertaken between 2015-2017 at several locations from Main Arm Village and extending 5km west. This data reveals that between 2015-2017 approximately 75% of the traffic through Main Arm Village was generated by locals living within 5km of Main Arm Village. Therefore, this suggests any problems along Main Arm Road in the vicinity of Main Arm Village is predominately due to local traffic and local drivers. The resident's representative has been contacted and encouraged to highlight this at the next residents meeting.

- 30 Within the 10 year capital works plan Council has projects to upgrade 3 causeways in the vicinity of Main Arm School. When these causeways are upgraded there may be the corresponding concern that traffic speed will increase due to improved driving conditions.

- 35 In addition, residents are concerned about the state of the road west of Main Arm Village and have frequently requested Council to reconstruct a large stretch of Main arm Road at a location approximately 5km west of Main Arm Village. Upgrading the road would in turn raise the corresponding concern of increased traffic speed. However, there are currently no works planned to upgrade this section road.

Given the need to upgrade local infrastructure and limited ability to control speed through traffic calming devices and police patrols, a speed zone review is considered the most appropriate option.

5

RECOMMENDATION:

That LTC support the local residents request to RMS for a speed zone review of Main Arm Road extending from Main Arm Road / The Pocket Rd intersection through to Palmwoods Road.

10

DEVELOPMENT APPLICATIONS

Report No. 8.1

Events - 2019 Splendour in the Grass Music Festival

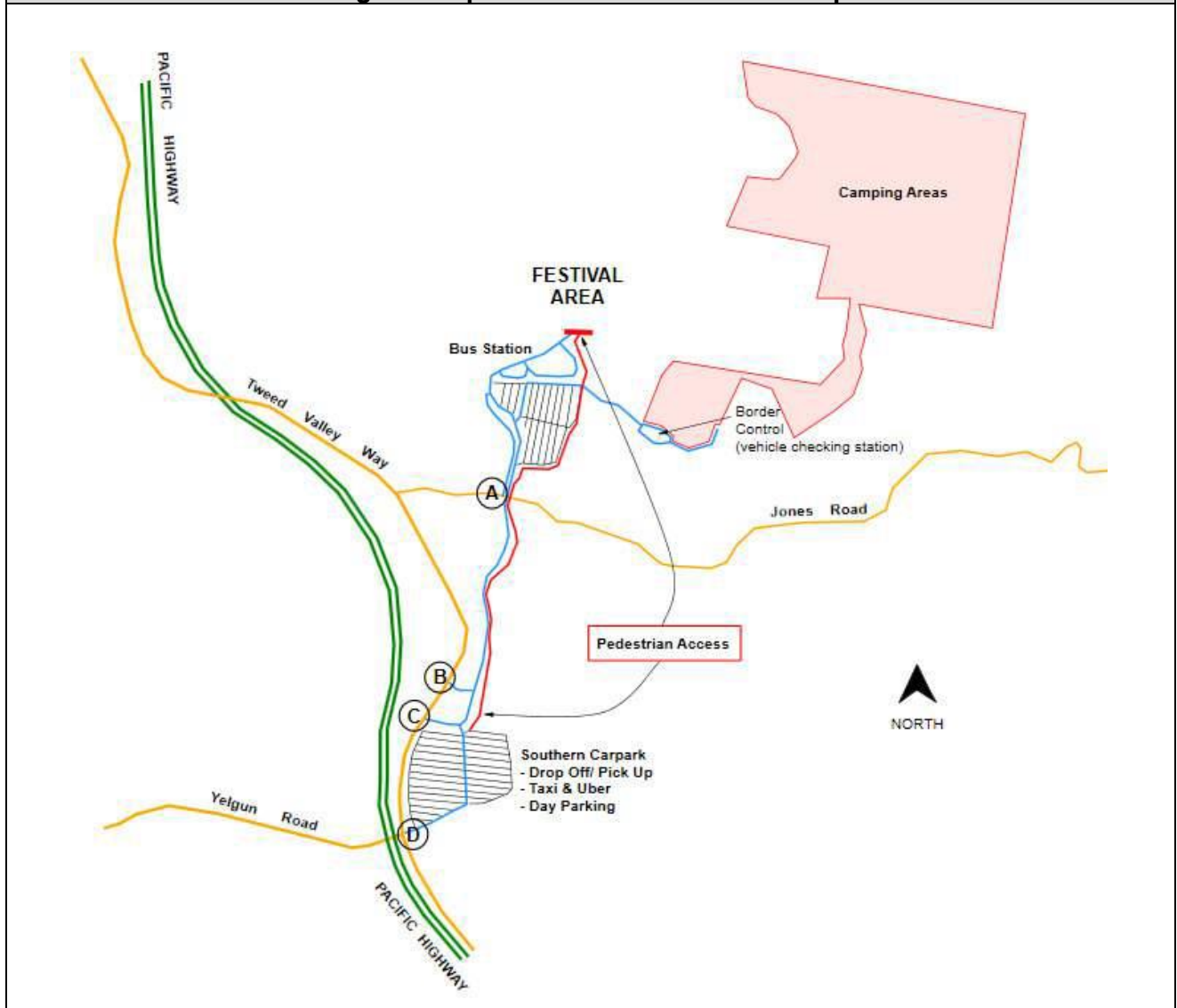
File No:

I2019/189

SUMMARY

Council has received a Traffic Management Plan (TMP) and Traffic Control Plan (TCP) for Splendour in the Grass (SITG) 2019 to be held 17 to 22 July 2019.

Figure 1. Splendour in the Grass site map



OFFICER RECOMMENDATION

That Council endorse the Traffic Management Plan and Traffic Control Plans for Splendour in the Grass to be held 17 to 22 July 2019, which includes the installation and enforcement of No Camping and No Stopping signs between 6am and 6pm, subject to conditions at:

- a) Tweed Valley Way
- b) Brunswick Valley Way

c) Yelgun Road

Council's Parking Enforcement be invited to assist the event in maintaining compliance of "no stopping" areas within the Road Reserve.

5

LINKAGE TO OUR COMMUNITY STRATEGIC PLAN

Theme	Economy	A sustainable and diverse economy which provides innovative employment and investment opportunities in harmony with our ecological and social aims.
Objective	EC1	A diverse economic base and support for local businesses.
Strategy	EC1.4	Support sporting and cultural events in Byron Shire.
Measures	EC1.B	Increase the sustainability of events in which Council is involved.

BACKGROUND

10

No concerns were raised after the 2018 event and no changes have been made for this year's event in regards to the TMP and TCP except for relocating a bus stop pick up / drop off in Brunswick Heads.

15 The previous Brunswick Heads Bus Pick up / Drop off zone was located in Park St in an existing Bus Zone. A business owner raised concerns about the number people blocking the front of her shop. Council recommended the applicant investigate an alternate bus pick up / drop off location. As a result, the applicant proposes an alternative bus pick up site adjacent to the Brunswick Heads War Memorial on the corner of Fawcett St and Mona Lane. The relocation of the Bus Stop is
20 subject to a separate Roads Act application but has been included in this report as it still forms part of the overall TMP. Figure 1 shows where the bus drop off / pick up is proposed to be located from and to.

KEY ISSUES

- 25 1. Congestion caused by the event may directly affect a RMS controlled asset – Pacific Highway.
2. RMS Traffic Engineering Department are required to separately approve the TMP and TCP.
- 30 3. Brunswick Heads bus stop is proposed to be relocated

COUNCIL IMPLICATIONS

- 35 ▪ **Budget/Financial**
The event organisers are required to pay for the relevant Approval of Road Events pursuant to s144 of the Roads Act fee as per the Fees & Charges 2018/19.
- 40 ▪ **Asset Management**
Not applicable.
- 45 ▪ **Policy or Regulation**
Speed Limit (as required) ROAD WORK (R4-212) - Delegated to council for authorisation in conjunction with NSW Road Rules 21 and AS 1742.4 (Speed Controls) Clause 3.1.2, AS 1742.3 (Roadworks).
- **Consultation**

A condition of the endorsement of this event is that appropriate consultation is undertaken, including:

1. Advertising the impact of the event in the local newspaper and on the Council website.
2. Informing community and business that are directly impacted.
3. Liaising with bus and taxi operators.
4. Consulting with emergency services.

Legal and Risk Management

Congestion caused by the event may directly affect a RMS controlled asset – Pacific Highway. RMS Traffic Engineering Department requires to separately approval of the TMP and TCP.

Figure 1 – The proposed location of the Brunswick Heads bus drop off / pick up.



RECOMMENDATION:

1. That Council approve the Splendour in the Grass 2019 TMP to be held between 17-22 July, 2019. This includes:
2.
 - a) The installation and enforcement of No Camping and No Stopping signs between 6am and 6pm, subject to conditions at Tweed Valley Way, Brunswick Valley Way

and Yelgun Road.



- b) The relocation of the Brunswick Heads pick up and drop off Bus Zone to Fawcett St, between Mona Lane and the War Memorial,
- c) The installation and enforcement of Brunswick Head Bus Zone signage and associated works within the Fawcett St road reserve as part of Roads Act application 51.2018.1029.1.

2. That the approval provided in Part 1 is subject to:

- a. separate approvals by NSW Police and RMS being obtained, noting that the event is on a state road or may impact the state road network;
- b. implementation of the approved Traffic Management Plan and Traffic Control Plans, including the use of signed detours, as designed and implemented by those with appropriate accreditation;
- c. that the impact of the event be advertised via a notice in the local weekly paper a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints.
- d. the event be notified on Council's webpage.
- e. the event organiser:
 - i. undertake consultation with community and affected businesses including adequate response/action to any raised concerns.
 - ii. undertake consultation with emergency services and any identified issues addressed.
 - iii. holding \$20m public liability insurance cover which is valid for the event.
 - iv. paying Council's Road Event Application Fee prior to the event.
 - v. the holding of an event debrief within a month following the festival which includes but not limited to Council, RMS and Police;

3. Councils Parking Enforcement be invited to assist the event in compliance of no stopping areas within the Road Reserve.

Attachments:

- 1 E2019 13582 Splendour In The Grass - Bus Stop Relocation, E2019/14422 , page 21 [↓](#) 
- 5 2 E2019 13585 Splendour In The Grass - TMP, E2019/14426 , page 30 [↓](#) 

Ingen Consulting
Alstonville NSW 2477
0417 264 987
michiel@ingenconsulting.com.au
www.ingenconsulting.com.au



Our Reference: J1055_BBB TMP

General Manager
Byron Shire Council
PO Box 219
Mullumbimby NSW 2482

15th February 2019

Attn: Andrew Pearce

Re: Splendour in the Grass 2019 – Traffic Management Plan for temporary bus stop in Brunswick Heads

Dear Andrew,

Splendour in the Grass have engaged our services to prepare a Traffic Management Plan (TMP) for the temporary bus stop in Brunswick Heads, to be in use for the 2019 Splendour in the Grass festival.

This TMP has been prepared after confirmation by Council that the Brunswick Heads Bus stop is to be moved from the Visitors Centre to Memorial Park in Brunswick Heads.

Attached is the Traffic Control Plan for the implementation of the bus stop. The TCP includes the following:

- Ensures the use of the adjacent PWD parking space is not interrupted
- Access to the field behind through the chained gate can be continued as needed by Council for maintenance purposes
- Sufficient space to park two buses simultaneously
- Festival patron waiting area formalised with crowd fencing
- Existing parking signs to be covered
- Temporary installation of R5-20 signs
- Plastic road barriers to clearly delineate start and finish of bus bay. These do not require to be filled as they are not a safety feature. Barriers will be marked as such

Civil | Traffic | Noise | Project Management | Contract Management

Brunswick Bus Stop SITG 2019
Traffic Management Plan



This arrangement is proposed to be in place from 17 to 22 July 2019.

If you have any questions, please do not hesitate to contact our office.

Yours sincerely,

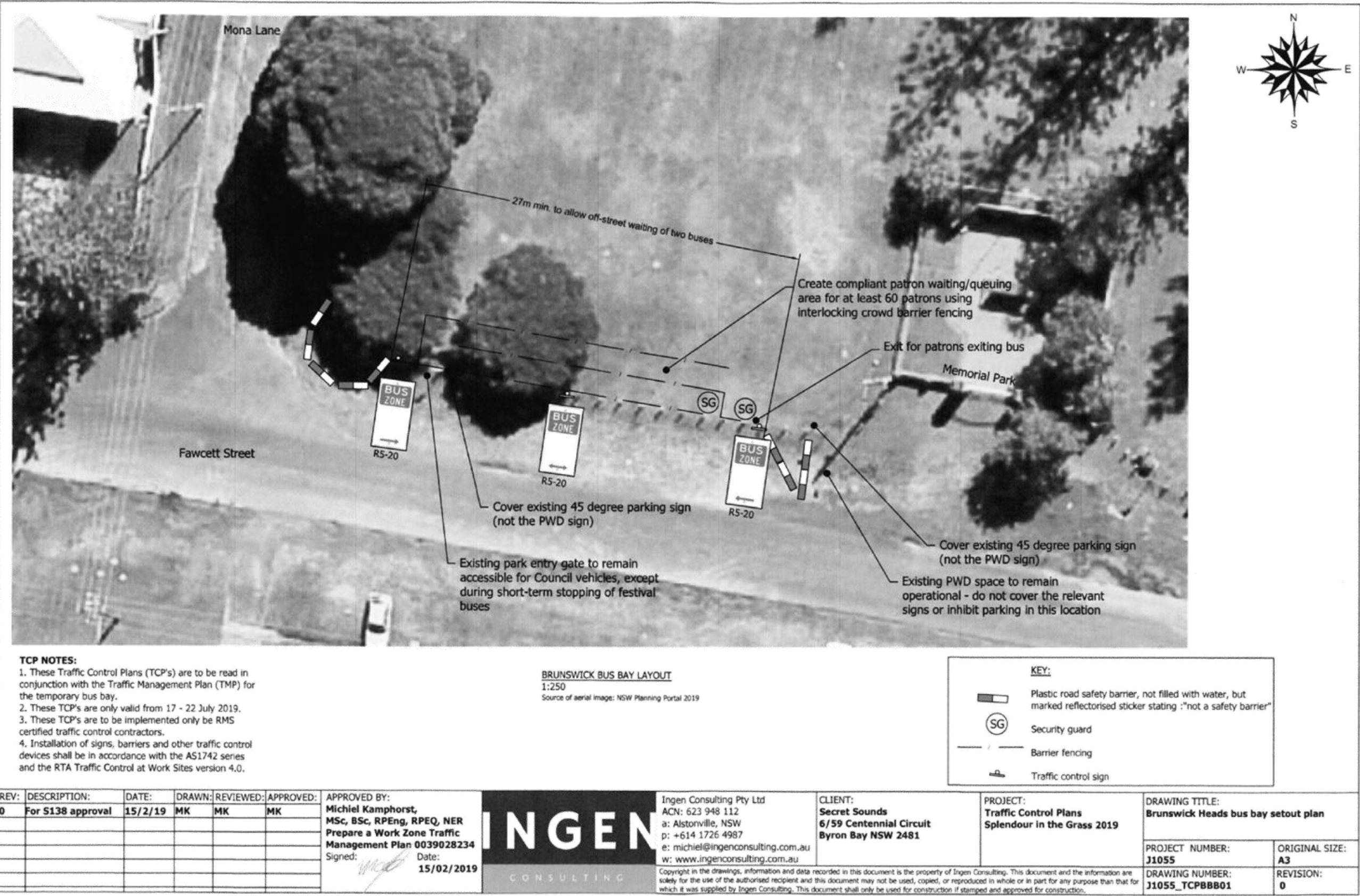
A handwritten signature in black ink, appearing to read "MICHEL", written over a light grey rectangular background.

Michiel Kamphorst

MSc, BSc, RPeng, RPEQ, NER (Civil)

Prepare a Work Zone Traffic Management Plan 0039028234

Attachments: Traffic Control Plans



Ingen Consulting
Alstonville NSW 2477
0417 264 987
michiel@ingenconsulting.com.au
www.ingenconsulting.com.au



Our Reference: J1055_BBB TMP

General Manager
Byron Shire Council
PO Box 219
Mullumbimby NSW 2482

15th February 2019

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Brunswick Bus Stop SITG 2019
Traffic Management Plan



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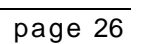
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Michiel Kamphorst

MSc, BSc, RPEng, RPEQ, NER (Civil)

Prepare a Work Zone Traffic Management Plan 0039028234

Attachments: Traffic Control Plans



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www.ingenconsulting.com.au



Our Reference: J1055_BBB TMP

General Manager
Byron Shire Council
PO Box 219
Mullumbimby NSW 2482

15th February 2019

Attn: Andrew Pearce

Re: Splendour in the Grass 2019 – Traffic Management Plan for temporary bus stop in Brunswick Heads

Dear Andrew,

Splendour in the Grass have engaged our services to prepare a Traffic Management Plan (TMP) for the temporary bus stop in Brunswick Heads, to be in use for the 2019 Splendour in the Grass festival.

This TMP has been prepared after confirmation by Council that the Brunswick Heads Bus stop is to be moved from the Visitors Centre to Memorial Park in Brunswick Heads.

Attached is the Traffic Control Plan for the implementation of the bus stop. The TCP includes the following:

- Ensures the use of the adjacent PWD parking space is not interrupted
- Access to the field behind through the chained gate can be continued as needed by Council for maintenance purposes
- Sufficient space to park two buses simultaneously
- Festival patron waiting area formalised with crowd fencing
- Existing parking signs to be covered
- Temporary installation of R5-20 signs
- Plastic road barriers to clearly delineate start and finish of bus bay. These do not require to be filled as they are not a safety feature. Barriers will be marked as such

Civil | Traffic | Noise | Project Management | Contract Management

Brunswick Bus Stop SITG 2019
Traffic Management Plan



This arrangement is proposed to be in place from 17 to 22 July 2019.

If you have any questions, please do not hesitate to contact our office.

Yours sincerely,

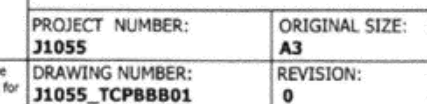
A handwritten signature in black ink, appearing to read "MK", written over a light grey rectangular background.

Michiel Kamphorst

MSc, BSc, RPeng, RPEQ, NER (Civil)

Prepare a Work Zone Traffic Management Plan 0039028234

Attachments: Traffic Control Plans





Splendour in the Grass 2019 Traffic Management Plan

20 February 2019
Revision 0

Ingen Consulting Pty Ltd | ABN 18 623 948 112
Astonville NSW 2477 | 0417 264 987
michiel@ingenconsulting.com.au
www.ingenconsulting.com.au

Splendour in the Grass 2019
Traffic Management Plan



DOCUMENT CONTROL

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Client name: Splendour in the Grass P/L
Client's representative: David Mullen

Approved for use by:**Name:** Michiel Kamphorst**Signature:**
Date: 20/02/2019**Ingen Consulting information**

Ingen Consulting Pty Ltd, ABN 18 623 948 112

Alstonville NSW 2477

+61 4 1726 4987

michiel@ingenconsulting.com.au

www.ingenconsulting.com.au

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Splendour in the Grass 2019
Traffic Management Plan



CONTENTS

Document control	2
Contents	3
Table of figures.....	4
Table of tables.....	4
1. Introduction	7
1.1. Scope	7
1.2. Site description	7
1.3. Event description	8
1.4. Abbreviations and definitions.....	8
1.5. Conditions of approval.....	10
2. Data summary from previous events.....	15
3. Traffic management methodology	17
3.1. Public Road management	17
3.2. On-site management	18
3.3. Private vehicles	19
3.4. Taxi's, Ubers and drop-offs	19
3.5. Buses.....	19
3.6. Cyclists	19
3.7. Pedestrians.....	20
3.8. Emergency vehicles.....	20
4. Intersection performance	21
4.1. Assessment scenario's	21
4.2. Turning movements	21
4.3. Intersection modelling results	24
5. Patron processing and parking.....	27
6. Contingencies and emergency evacuation.....	29
7. Traffic monitoring.....	30
7.1. Performance monitoring	30

Splendour in the Grass 2019
Traffic Management Plan



7.2. Hazard identification	30
7.3. Data collection	30
8. Risk assessment	32
9. Distribution of the TMP	33
10. Audit checklist	34
11. Emergency contacts	35
12. Chain of command	36
13. Consent reference table	37
14. Conclusions and recommendations	38
References	39
Appendix A – Regular traffic control plans	41
Appendix B – Contingency traffic control plans	42
Appendix C – Emergency evacuation traffic control plans	43
Appendix D – Risk matrix	44
Appendix E – TC audit checklist	45

TABLE OF FIGURES

Figure 1 Site location, <i>Source of map: Google Maps 2019</i>	8
Figure 2 New campers meeting point area	28
Figure 3 Chain of command	36

TABLE OF TABLES

Table 1 Data summary	15
Table 2 Gate D – Scenario 1	22
Table 3 Gate C – Scenario 2	22
Table 4 Gate D – Scenario 2	22
Table 5 Gate C – Scenario 3	23
Table 6 Gate D – Scenario 3	23
Table 7 Yelgun roundabout – Scenario 4	23
Table 8 Results Gate D – Scenario 1	24
Table 9 Results Gate C – Scenario 2	24
Table 10 Results Gate D – Scenario 2	25

Splendour in the Grass 2019
Traffic Management Plan



Table 11 Results Gate C – Scenario 3	25
Table 12 Results Gate D – Scenario 3	25
Table 13 Results Yelgun roundabout – Scenario 4	26
Table 14 Consent reference table.....	37

Splendour in the Grass 2019
Traffic Management Plan



Ingen Consulting

Page 6

J1055_TMP_0

Splendour in the Grass 2019
Traffic Management Plan



1. INTRODUCTION

Ingen Consulting P/L has been engaged by Splendour in the Grass P/L to prepare a Traffic Management Plan (TMP) for the 2019 Splendour in the Grass festival at North Byron Parklands, Yelgun, NSW. This TMP builds on previous documentation prepared for this festival.

1.1. Scope

This TMP is prepared for the 2019 Splendour in the Grass festival at North Byron Parklands (NBP), in Yelgun, NSW. The TMP is to address the legislative requirements as set out in the Project Approval by the Minister for Planning and Environment. The first approval for the use of NBP as an events site was issued in April 2012, and subsequent modifications have been sought and approved. The most recent modification to the approval (MOD 4) extends the trial period to 31 August 2019. Under this approval, a 35,000 patrons are permitted at Splendour in the Grass 2019.

This TMP comprises of a set of Traffic Control Plans that are to be implemented during the festival and a covering report, which provides justification to the methodology captured in the Traffic Control Plans. This TMP also addresses the relevant approval conditions.

This TMP has been prepared in accordance with the following standards, guidelines and policies:

- Austroads Guide to Traffic Management
- Guide to Traffic and Transport Management for Special Events (RMS)
- Traffic Control at Worksites manual V4.0 (RTA)
- Australian Standard 1742 Manual of Uniform Traffic Control Devices

1.2. Site description

North Byron Parklands is located adjacent Tweed Valley Way and Jones Road, at Yelgun, NSW, as shown in Figure 1 and comprises of the following land parcels:

Lots 46, 402-404 and 410 DP 755687
Lots 10, 12 and 14 DP 875112
Lots 2 and 12 DP 848618
Lot 101 DP 856767
Lots 30 and 31 DP 880376
Lots 101, 102 and 107 DP 1001878
Lot 1 DP 1145020

Splendour in the Grass 2019
Traffic Management Plan



Figure 1 | Site location, Source of map: Google Maps 2019

1.3. Event description

This year's Splendour in the Grass festival will comprise of the same number of patrons as last year's event. The approved numbers are 35,000 camping and day patrons, comprising of 20,000 campers and 15,000 day patrons. There will be additional volunteers, guests and staff, who will arrive prior to the event using a shuttle bus to the site from a location off-site.

1.4. Abbreviations and definitions

Commonly used abbreviations throughout this report are:

AADT – Average Annual Daily Traffic

ADT – Average Daily Traffic

Splendour in the Grass 2019
Traffic Management Plan



BVW – Brunswick Valley Way
LOS – Level of Service, refer to table below
KPI – Key Performance Indicator
NBP – North Byron Parklands
PWD – People With Disability
RWG – Regulatory Working Group
SITG – Splendour in the Grass
TCP – Traffic Control Plan
TMP – Traffic Management Plan
TVW – Tweed Valley Way

Level of Service	Uninterrupted flow facility definition (HCM 2010)	Interrupted flow facility definition (AGTMM3)
A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.	Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.	Describes reasonably unimpeded operation. The ability to manoeuvre within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.	Describes stable operation. The ability to manoeuvre and change lanes at mid segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.

Splendour in the Grass 2019
Traffic Management Plan



D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.	Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.	Characterised by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.	Characterised by a flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queueing. The travel speed is 30% or less of the base free-flow speed. LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections has a volume-to-capacity ratio greater than 1.0.

1.5. Conditions of approval

Below is an overview of the conditions of approval that are relevant to the operation of the traffic for the festival.

B4 – Traffic management and parking

1. A minimum Level of Service C is to be maintained at the Yelgun interchange and along Tweed Valley Way. (*current approval LOS for Tweed Valley Way is LOS, ref condition C10*)
2. Queue lengths on the link road between Tweed Valley Way and Yelgun Interchange are to be limited to a maximum of 70m.
3. Queue lengths on the northbound off-ramp must not extend more than 210m from the Give Way yield line.

Splendour in the Grass 2019
Traffic Management Plan



4. No car parking is to occur on the land to the South of Yelgun Creek. Should this area be required for car parking in the future to accommodate larger events, the proponent must demonstrate that patrons can access vehicles south of the creek line in a risk free manner for events up to and including 100-year ARI flood event for the Planning Secretary's approval.
5. The southern car park (South of Jones Road and north of Yelgun Creek) may only be used if the event is to cater for more than 20,000 patrons.

C9 – Traffic Management Plan

A Traffic Management Plan (TMP) having regard to the "Guide to Traffic and Transport Management for Special Events" and the *Environmental Health and Safety Management Manual* is to be prepared for each event at least 60 days prior to the event. The TMP must be submitted to the Local Traffic Committee for endorsement and then to the Planning Secretary and RWG prior to the commencement of each event. The TMP must include, but not be limited to:

- a) A copy of the approved Traffic Control Plan;
- b) Management of traffic during 'bump in' and 'bump out' and event days;
- c) Details of how local traffic movements past the site will be given priority and in particular, ensuring that residents of Jones Road can access their properties.
- d) Details of how substantial queuing capacity will be provided on-site, thus avoiding queuing on Tweed Valley Way and the Yelgun interchange off ramps;
- e) Details of how event organisers will facilitate efficient processing and inspection of event patron vehicles within the site.
- f) Details of the demand management strategies to reduce car dependence for attending events, such as promoting the use of public transport by providing suitable connectivity at adjacent townships, airports and railways, promoting use of bicycles, ticket pricing incentives for carpooling, management of parking supply and the like; and
- g) Measures to address and respond to the outcomes of a Performance report required under Condition B7 including updating Plans for subsequent events.

C10 – Traffic Control Plan

A Traffic Control Plan (TCP) for each event must be prepared by a suitably qualified and RMS accredited Work Site Traffic Controller, at least 60 days prior to the event. The TCP must be submitted to the Local Traffic Committee for endorsement and then to Council for approval prior to commencement of each event.

The TCP must address the following matters:

Splendour in the Grass 2019
Traffic Management Plan



- a) Be designed in accordance with the requirements of the RMS's Manual, Traffic Control at Work Sites version 2 (*Now updated to version 4.0*), and the current Australian Standards, Manual of Uniform Traffic Control Devices Part 3, 'Traffic Control Devices for Works on Roads'.
- b) The regulation of traffic must be authorised under the Roads Act 1993 and the use of traffic control devices authorised under the Road Transport (Safety & Traffic Management) Act 1999.
- c) Reduced speed zones approved by RMS.
- d) Special Event Clearways approved by the RMS.
- e) Appropriate signage to prohibit parking in the surrounding road network and in the Yelgun rest area.
- f) A Traffic Incident Management Plan that details a range of approved contingency measures capable of avoiding significant impacts on the level of service. The contingency plan must be fully documented and include emergency contact names and phone numbers.
- g) Measures to address and respond to the outcomes of the Performance report required under Conditions B7, including updating Plans for subsequent events.
- h) The TCP must be designed to achieve the following performance during bump in, bump out and event days:
 - a. All movements at the Yelgun interchange including merges and diverges need to operate at Level of Service C or better for delay;
 - b. The level of service for local traffic and through traffic on the Tweed Valley Way should not fall below Level of Service D;
 - c. Queue lengths on the link road between Tweed Valley Way and the Yelgun interchange must be limited to a maximum of 70 metres;
 - d. The end of traffic queues on the interchange ramps must not be within 210 metres of the start of the ramp;
 - e. On site queueing is not to extend onto the Pacific Highway or the Tweed Valley Way; and
 - f. There is to be no impact on through travel times of the Pacific Highway.

C12 – Traffic monitoring program

A Traffic Monitoring Program is to be prepared by a suitably qualified traffic engineer, in consultation with the Council and the RMS to measure the impact of increased traffic generation on the amenity of the area. The Program for each event is to be submitted for the approval of the Director-General at least 60 days prior to the commencement of the event. The Program is to be prepared having regard to the proponent's *Environmental Health and Safety Management Manual* and is to include, but not necessarily be limited to:

- a) Details of patron numbers for the event

Splendour in the Grass 2019
Traffic Management Plan



- b) Data collection relating to vehicle arrival and departure times, occupancy rates and directions of travel for staff, campers and day patrons
- c) Patronage of bus services, including bus occupancy rates, arrival and departure times and direction of bus travel
- d) Queue monitoring, background travel counts on the Pacific Highway and Tweed Valley Way and vehicle volumes on the Yelgun interchange
- e) Data on the impact of the event on the Yelgun rest area, in particular from unauthorised parking and unauthorised camping
- f) Locations (identified on a map) at which monitoring will be undertaken
- g) Monitoring of such other performance standards required by the Department in consultation with the RMS
- h) Procedures and protocols for the monitoring, including frequency
- i) Aerial photography of the site and surrounds at regular intervals before, during and after the event, including peak traffic and parking periods must be undertaken (where possible) and
- j) Procedures for the reporting of monitoring results to enable an assessment of the traffic performance of the event.

C45 – Car parking management

The proponent shall ensure that vehicles parking on the site are distributed in such a way that areas least affected by potential flood waters are utilised first.

C46 – Access for Emergency Vehicles

The proponent shall ensure that a satisfactory passage for emergency vehicles is provided to the site for all event types during the event, including bump-in and bump-out times.

C47 – Pedestrian Access from Day Parking Area

1. The pedestrian access way from the day parking area to the event site is to be appropriately illuminated to achieve at least 0.2 lux at ground level. The pedestrian access is to be patrolled regularly by security staff to ensure that patrons do not stray from the approved thoroughfare.
2. The pedestrian access way from the day parking area to the event site is to be clearly signed at regular intervals providing appropriate directions, detailing the remaining distance to the event site, and outlining the need for patrons to stay within the designated area.

C48 – Disabled Access

Splendour in the Grass 2019
Traffic Management Plan



Disabled access to, within and from the site must be in accordance with AS1428.1 (2009), or the most recent version.

C51 – Emergency Evacuations Plans

Emergency evacuation plans for flooding and bushfires must be available on site under the control of the site/event manager. This plan is to be located at each stage, at all exits from the site and at the site office. A copy is also to be given to all security personnel and patrons.

Splendour in the Grass 2019
Traffic Management Plan



2. DATA SUMMARY FROM PREVIOUS EVENTS

The Splendour in the Grass (SITG) festival has been held at the site since 2013. The first event had an approved patronage of 25,000 and most years the patronage has been increased by 2,500 patrons as approved. The 2018 Splendour in the Grass had an approved patronage of 35,000. This number will be the same for the 2019 festival. Given that from a traffic management perspective the 2018 SITG was a success, it can be concluded that the traffic management strategy at that event is suitable. Improvements have been made to resolve a number of issues during last year's event, including improved traffic controller safe escape routes and the division of the traffic control plans in 'regular' and 'contingency'.

A summary of data collected at previous SITG events at this site is provided below in Table 1.

Percentage ranges are provided for the origin distribution proportions to reflect variations in results between separate days.

Table 1 | Data summary

Parameter	Splendour in the Grass event					
Parameter	2013	2014	2015	2016	2017	2018
Approved patronage	25,000	27,500	30,000	32,500	32,500	35,000
Private vehicle occupancy	2.4-2.5 (campers) 2.7-3.2 (day patrons)	2.7 (campers) 3.0 (day patrons)	2.7 (campers)	2.6 (campers)	-	2.3 (campers) 3.0 (day patrons)
Number of camper car parks	6900 (incl. RV)	5529 (excl. RV)	-	-	-	-
Estimated number of day patron car parks	1500	1700	-	-	-	90% full
% patrons from south on Motorway at Yelgun	41-43% (campers)	40% (campers) 42% (day patrons)	5-17% (campers)	11-25% (campers)	20-24% (campers)	<u>Inbound:</u> 9-14% (campers)

BYRON SHIRE COUNCIL

DEVELOPMENT APPLICATIONS

8.1 - ATTACHMENT 2

Splendour in the Grass 2019
Traffic Management Plan



	51-53% (day patrons)				36-38% (day patrons)	23-29% (day patrons)
% Patrons from south on BVW	7-8% (campers) 7-11% (day patrons)	8% (campers) 29% (day patrons)	32-37% (campers)	35-43% (day patrons)	34-35% (campers) 35-37% (day patrons)	<u>Inbound:</u> 33-34% (campers) 34-40% (day patrons)
% Patrons from north on Motorway at Yelgun	37-44% (campers) 32-33% (day patrons)	47% (campers) 29% (day patrons)	12-18% (campers)	13-21% (campers)	12-16% (campers) 23-30% (day patrons)	<u>Inbound:</u> 25% (campers) 11-18% (day patrons)
% Patrons from north on TVW	6-12% (campers) 5-7% (day patrons)	5% (campers) 6% (day patrons)	35-45% (campers)	18-32% (campers)	26%-33% (campers) 19-24% (day patrons)	<u>Inbound:</u> 28-31% (campers) 16-26% (day patrons)
Average width of cars parked	2.8m	-	-	-	-	-
Peak arrival flow rate	610 vph (restricted due to queuing)	768 vph	648 vph (restricted due to queuing)	846 vph	801 vph	890 vph
Peak arrival day and time	Thursday 4pm-5pm	Thursday 2pm-3pm	Thursday 1pm-3pm	Sunday 2pm-3pm	Sunday 1pm-2pm	Sunday 3pm-4pm

Splendour in the Grass 2019
Traffic Management Plan



3. TRAFFIC MANAGEMENT METHODOLOGY

The traffic management methodology for the 2019 Splendour in the Grass festival is proposed to be similar to the methodology implemented during the 2018 festival, due to the success of the latter and the experience gained with events prior to 2018. This chapter thus provides justification of the Traffic Control Plans attached to this report.

3.1. Public Road management

In order to alleviate the pressure on the Yelgun interchange, patrons are encouraged to exit the Pacific Motorway at Brunswick Heads (northbound traffic) and Pottsville (southbound traffic). This strategy was first implemented during the 2014 Falls Festival and has given consistent results since. Table 1 shows that the origin distribution for campers and day patrons has remained similar since SITG 2015. VMS boards will be placed at 4km, 2km and 0km prior to the relevant off ramps to direct patrons onto these routes. Festival signage will be placed at intersections along the route to guide patrons to the site.

Previous events have shown that with the management measures in place, the public road intersections on the arrival route do not require traffic controllers to manage traffic flows. A contingency traffic control plan will however be in place for the roundabouts at Yelgun and the Pacific Motorway, in order to manage queue lengths in the event of a queue emanating from the site. These roundabouts will not be permanently manned, but traffic control staff and vehicles will be on call to implement this contingency measure if needed. The standard RTA Traffic Control Plan 84 would need to be implemented on approaches to traffic controllers.

SIDRA modelling of recent festival traffic data shows that Gate C has sufficient theoretical capacity to handle all inbound traffic, provided the directional split of traffic from previous years is continued. Therefore, the Regular Traffic Control Plans (Appendix A) will show all festival directed to Gate C. This will simplify external traffic management and reduce road user confusion on approach to Gate D.

The set of Contingency Traffic Control Plans (Appendix B) include traffic control plans to enact access into Gate D, using the 135m long temporary channelised right hand turn from previous years as well as associated directional signage. This contingency plan will be enacted at the discretion of the festival traffic manager, depending on the internal flow of traffic, need to enact the 'snake' in the southern car park (which requires Gate D to be open for inbound traffic) and external traffic conditions.

At Gate C, traffic controllers will manage turning manoeuvres if required. SIDRA modelling shows that no traffic control is required at this intersection, however experience from previous festivals shows that it is useful to have this intersection managed during peak arrival times.

Splendour in the Grass 2019
Traffic Management Plan



A traffic controller and security guard will be placed at the entrance to Jones Road as done in previous years. This is not required for performance purposes, but to ensure only local traffic and other accredited vehicles enter Jones Road. Traffic controllers will be in place at Yelgun and Billinudgel Roads, managing local vehicle access as in previous years.

A mix of 60km/h and 40km/h roadwork speed zones will be implemented on Tweed Valley Way from Billinudgel Road to Jones Road for the duration of the festival. 40 km/h zones will be implemented on approaches to traffic controlled intersections, and 60 km/h zones will be in place along stretches of Tweed Valley Way without traffic control and less risk of queuing.

No-stopping zones will be in place along Brunswick Valley Way and Tweed Valley Way from Shara Boulevard to the Tweed Shire boundary to the north of Jones Road. These will be enforced by Byron Shire rangers to ensure the no stopping is complied with.

During the 2018 SITG event, enforcement of the no-stopping zones was trialled by delineating the northbound TVW edge line using water filled barriers and cones. Water filled barriers were placed along areas with narrow verges, to protect any pedestrians. This system worked well and will be implemented again during the 2019 event.

Improved safe escape zones for traffic controllers at Gate C and D are included in the TCP's for the 2019 event.

3.2. On-site management

SITG 2017 was the first event where the taxi, Uber and drop-off area was moved to the southern car park. Prior to this event, this area was located in the northern car park, which caused congestion on the Spine Road during peak times. The relocation of the drop-off area to the southern car park successfully alleviated congestion on the Spine Road, but it did add a level of complexity to the management of traffic in the southern car park.

The same strategy was adopted during the 2018, but with additional taxi/uber/drop off ranks, which helped with managing congestion. The night-time pedestrian route to the southern car park was also altered in order to remove pedestrians from the conflict point at the intersection with the Spine Road. This was successful and will be implemented again during the 2019 event.

During the camper's departure period on Monday, traffic controllers will be placed at Gate C and Gate D in order to optimise the flow rate of exiting traffic. During the 2017 event it was found that the roundabouts at Yelgun can handle a large traffic volume. As northbound campers are sent to the north

Splendour in the Grass 2019
Traffic Management Plan



along Tweed Valley Way when exiting Gate C, the maximum theoretical capacity at Yelgun is not often achieved, due to gaps created by turning traffic. As a result, the natural flow of traffic does not congest the public road, and the traffic controllers are added at the gates to increase the festival discharge flow, in order to reduce the time it takes to vacate the camping areas on Monday. The traffic flow at the roundabout will be monitored during that time to make sure that the traffic remains at an acceptable Level of Service.

3.3. Private vehicles

Private patron vehicles comprise of vehicles that are parked on site by patrons or staff. Vehicles arriving from the north of the site along Tweed Valley Way will be directed into the site through Gate C, whereas vehicles arriving from the south will be directed into Gate D. Thus, the merging of these two flows occurs on site, rather than on the public road. This minimises queuing and delays on the public road. During the festival, there will be some flexibility in directing vehicles from the south to enter either Gate D or Gate C, depending on internal traffic movements and patron type. VMS boards along Tweed Valley Way will provide the accurate up to date direction to these vehicles.

Directional signage will be the same as the 2018 event, as well as the temporary channelization of the northbound Gate D approach. The temporary channelization at Gate D will be delineated with cones, in order to allow alterations to be made during the festival, to optimise the arrangements for the different day and night time scenario's. A detailed set-out schematic of the temporary right turn lane is provided in the traffic control plans.

Parking for people with disability (PWD) is provided close to the festival site entry gates in the northern car park, with adequate pathways connecting the parking space with the gates.

3.4. Taxi's, Ubers and drop-offs

The northern section of the southern car park is allocated for use by taxi's, Ubers and drop-offs. This was first implemented during the 2017 event and worked successfully. Minor alterations will be made to the available areas and pedestrian management to improve the effectiveness and capacity of this area, as reflected in the attached TCP's.

3.5. Buses

The bus bay near the northern car park works adequately and does not require alterations. Approaching buses can enter the site through Jones Road (Gate A) and exit the site through Gate C.

3.6. Cyclists

Splendour in the Grass 2019
Traffic Management Plan



There is occasional bicycle traffic to the site. The reduced speed zone along Tweed Valley Way greatly assists in ensuring the safety of cyclists. Once inside the site, the internal speed limit is such that cyclists can ride at the same speed as motorised vehicles.

3.7. Pedestrians

Pedestrian traffic external to the site is closely related to the success of the internal traffic management. When the parking and drop-off works well on site and there are sufficient buses, fewer patrons will use the Yelgun Rest Area for drop-offs, thus reducing the foot traffic along Tweed Valley Way. This trend of reduced pedestrian volumes along Tweed Valley Way has been noticeable during the most recent events at the site, as significant improvements have been made on site.

At night time there is still some pedestrian traffic leaving the site for pick ups along Tweed Valley Way. Increased police and ranger presence at night could assist to enforce the no-stopping zone along Tweed Valley Way, thus eliminating the pedestrian traffic.

The delineation devices installed along the edge line of the northbound lane on Tweed Valley Way between the Link Road and Gate D reduce the likelihood of pedestrians walking on the travel lane of the carriageway along this section of road.

The pedestrian path network internal to the site is well established and works efficiently. A wide path exists along the Spine Road, connecting the southern car park area to the festival site entrances. Adequate lighting is also provided along the footpath.

3.8. Emergency vehicles

Emergency vehicle access is available through the following points, depending on time of day and where the need for attention is:

- Gate D
- Gate C
- Jones Road (Gate A)
- Emergency Access Road off Wooyung Road

Splendour in the Grass 2019
Traffic Management Plan



4. INTERSECTION PERFORMANCE

The performance of crucial intersections is modelled in SIDRA Intersection 7, in order to demonstrate that the public road network with the proposed traffic management measures in place will be able to service the expected traffic volumes within the key performance indicators specified in the conditions of approval and in particular condition C10. The key performance indicators (KPI's) can be summarised as follows:

- Level of Service on Yelgun interchange including merges and diverges to operate at a Level of Service C or better for delay.
- Level of Service for through traffic on Tweed Valley Way to be Level of Service D or better.
- Queue lengths on the Link Road not to exceed 70 metres.
- End of queues on Pacific Motorway off ramps not to be within 210 metres of the start of the ramp.
- On-site queuing not to extend onto the Pacific Motorway or Tweed Valley Way.
- No impact on through travel times on the Pacific Motorway.

The analysis that was carried out for the 2018 event has been repeated below, which applies to several peak times, during which it is assumed the contingency TCP's are enacted for access to Gate D.

4.1. Assessment scenario's

In order to demonstrate compliance with these KPI's, the following scenario's will be assessed using SIDRA Intersection modelling:

- Scenario 1 – Gate D for peak camper's arrival (Thursday 2pm – 3pm)
- Scenario 2 – Gate C and D for peak day patron arrival (Sunday 1pm – 2pm)
- Scenario 3 – Gate C and D for peak day patron pick up (Saturday/Sunday night, midnight to 1am)
- Scenario 4 – Roundabout Tweed Valley Way, Brunswick Valley Way, Link Road for peak camper departure (Monday 9am – 10am)

SIDRA modelling is limited to the above scenario's as these are the critical scenario's. Experience from previous events shows that it is less likely that congestion would occur at other times and intersections, provided there are no queues extending from the site onto the public road.

4.2. Turning movements

Based on traffic survey data obtained during last year's event, turning movement volumes are calculated for the various scenario's. In order to establish turning movement volumes, the traffic flow is divided into three categories, being background traffic, event traffic and total traffic.

Splendour in the Grass 2019
Traffic Management Plan



The 2017 background traffic is determined by averaging the traffic volumes 2 weeks prior to the event and the volumes 2 weeks after the event. In order to calculate 2019 background traffic, a growth factor of 3% is applied to allow for compound background traffic growth.

Event traffic is assumed to be the same as last year's. A heavy vehicle percentage of 5% is applied to all turning movements, except those entering and exiting Gate D. Yelgun Road is not included in the intersection at Gate D due to the negligible traffic volume generated during peak times.

Overviews of the turning movement volumes per intersection and scenario are provided in Table 2 through to Table 7.

Table 2 | Gate D – Scenario 1

Leg	Movement definition	Background volume	Event volume	Total volume
Tweed Valley Way south	Straight	184	102	286
	Right	0	416	416
Tweed Valley Way north	Straight	164	122	286
	Left	0	17	17

Table 3 | Gate C – Scenario 2

Leg	Movement definition	Background volume	Event volume	Total volume
Tweed Valley Way south	Straight	183	0	183
	Right	0	231	231
Tweed Valley Way north	Left	0	189	189
	Straight	202	0	202
Gate C	Left	0	202	202
	Right	0	58	58

Table 4 | Gate D – Scenario 2

Splendour in the Grass 2019
Traffic Management Plan



Leg	Movement definition	Background volume	Event volume	Total volume
Tweed Valley	Straight	183	231	414
Way south	Right	0	421	421
Tweed Valley	Straight	202	209	411
Way north				
Gate D	Left	0	256	256

Table 5 | Gate C – Scenario 3

Leg	Movement definition	Background volume	Event volume	Total volume
Tweed Valley	Straight	67	0	67
Way south	Right	0	290	290
Tweed Valley	Left	0	70	70
Way north	Straight	41	0	41
Gate C	Left	0	361	361
	Right	0	120	120

Table 6 | Gate D – Scenario 3

Leg	Movement definition	Background volume	Event volume	Total volume
Tweed Valley	Straight	67	290	357
Way south	Right	0	32	32
Tweed Valley	Straight	41	361	402
Way north				
Gate D	Left	0	454	454

Table 7 | Yelgun roundabout – Scenario 4

Splendour in the Grass 2019
Traffic Management Plan



Leg	Movement definition	Background volume	Event volume	Total volume
Brunswick Valley Way	Left	151	0	151
	Straight	65	117	182
Tweed Valley Way	Straight	98	128	226
	Right	97	635	732
Link Road	Left	5	5	10
	Right	87	0	87

4.3. Intersection modelling results

The SIDRA modelling results are listed in Table 8 through to Table 13. These tables show excellent performance of the intersections at the critical times. These modelling results are consistent with site experience during previous events. No performance issues were identified during the Thursday afternoon peak. The northbound queuing observed during the night time departure peaks was due to on-site congestion and not related to the performance of the external intersections. The on-site congestion occurred at the intersection of the Spine Road and the access to the southern car park. This issue has been addressed and will be improved upon as discussed elsewhere in this report.

Table 8 | Results Gate D – Scenario 1

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Tweed Valley Way south	Straight	A	0	0
	Right	A	12	1.4
Tweed Valley Way north	Straight	A	0	0
Gate D	Left	A	0	1.0

Table 9 | Results Gate C – Scenario 2

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Tweed Valley Way south	Straight	A	0	0
	Right	A	7	5.3
Tweed Valley Way north	Left	A	0	3.5
	Straight	A	0	0
Gate C	Left	A	5	1.9

Splendour in the Grass 2019
Traffic Management Plan



	Right	A	4	8.4
--	-------	---	---	-----

Table 10 | Results Gate D – Scenario 2

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Tweed Valley	Straight	A	0	0
Way south	Right	A	17	2.6
Tweed Valley	Straight	A	0	0
Way north				
Gate D	Left	A	8	2.0

Table 11 | Results Gate C – Scenario 3

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Tweed Valley	Straight	A	0	0
Way south	Right	A	7	3.9
Tweed Valley	Left	A	0	3.4
Way north	Straight	A	0	0
Gate C	Left	A	9	1.2
	Right	A	6	5.1

Table 12 | Results Gate D – Scenario 3

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Tweed Valley	Straight	A	0	0
Way south	Right	A	1	1.5

Splendour in the Grass 2019
Traffic Management Plan



Tweed Valley Way north	Straight	A	0	0
Gate D	Left	A	20	2.9

Table 13 | Results Yelgun roundabout – Scenario 4

Leg	Movement definition	Level of Service	95%-ile queue length (metres)	Control delay (seconds)
Brunswick Valley Way	Left	B	12	10.6
	Straight	A	9	5.5
Tweed Valley Way	Straight	A	16	9.9
	Right	A	36	9.2
Link Road	Left	A	1	5.1
	Right	A	3	8.1

Splendour in the Grass 2019
Traffic Management Plan



5. PATRON PROCESSING AND PARKING

Day parking will occur in the southern car park, with overflow into the northern car park. It is encouraged to start with filling the southern car park when traffic is still building up and fill the northern car park with vehicles arriving from the north along Tweed Valley Way during peak times, in order to alleviate congestion around the southern car park. Campers will park their car next to their tents in a stacked parking arrangement, as has been successfully implemented during recent events at the site.

The distribution of parking shall be in such a way that areas least affected by potential flood waters are utilised first.

In order to encourage the use of buses, car parking fees will be charged. For those arriving by car, a higher occupancy rate is encouraged by offering free parking to camping cars with 3 occupants or more, and day parking cars with 4 occupants or more.

Border Control (the camping vehicle processing point) will be implemented in a similar fashion as during the 2016-2018 events, as it worked well and did not cause any queuing extending onto the Spine Road. The trigger point to activate a contingency plan to expedite vehicle processing through Border control will be implemented as required to assist in managing internal traffic flow. The contingency plan comprises of having a number of lanes through border control flow freely to the camping area and processing them in situ once the vehicles are parked. This year, the trigger point will be located approximately 80 metres west of Border Control.

The campers meeting point will be moved to the area shown in Figure 2. This area is off-line from the main flow of campers traffic and significantly larger than last year's meeting point.

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Traffic Management Plan



Figure 2 | New campers meeting point area

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6. CONTINGENCIES AND EMERGENCY EVACUATION

This TMP has been designed to ensure efficient operation during varying conditions and differing times of day. Contingencies should be in place to allow for the effects of adverse weather and altering traffic characteristics and suitable plans are to be in place for emergency evacuations.

In case of wet weather, it is likely that the traffic volume capacity of the internal road network reduces. Alternative routes are available into the camping areas to adequately manage internal congestion if needed. A tractor is also available to tow bogged vehicles. A haulage truck with road base and a bobcat will be on stand-by to repair any potholes that may appear during peak ingress periods.

Events that would potentially require emergency evacuations at this site are bush fires and flooding. Emergency evacuation plans for such event are in place and held on record by festival management. The NSW Police have the authority to take control of the site in case of an emergency.

Splendour in the Grass 2019
Traffic Management Plan



7. TRAFFIC MONITORING

Traffic monitoring by the traffic engineer will occur for a number reasons. Firstly, to record the performance of traffic during the festival and identify any non-compliance. Secondly, to identify any hazards on the road in addition to monitoring carried out by traffic controllers and police. Thirdly, monitoring will be carried out to collect data to review assumptions made, identify trends between festivals and assist in the planning of future events. Additional detail regarding traffic monitoring will be provided in a separate Traffic Monitoring Protocol, which will be developed on the basis of the approved Traffic Management Plan.

7.1. Performance monitoring

Performance monitoring is carried out both actively and passively. Active monitoring is carried out by a traffic engineer during peak traffic times. The purpose is to identify any queuing on the public road, monitor delays for through traffic and assess the effectiveness of the traffic management measures implemented. Passive monitoring is carried out by placing classified traffic counters in strategic locations, in order to provide data to review vehicle speeds, level of service and duration of any queuing.

7.2. Hazard identification

Whilst carrying out performance monitoring activities, the traffic engineer will also assess the safety of the road network. Any incidents and near-misses will be recorded to assist with improvements to the traffic management measures if needed. The traffic engineer may also be able to provide early warning to the traffic manager, with regards to incoming traffic, changes to anticipated traffic profiles and the build-up of queues.

7.3. Data collection

The following parameters are required to be monitored in order to address condition C12 of the consent:

- Traffic profiles
- Distinction between background traffic and event traffic
- Distribution between arrival and departure routes
- Vehicle occupancy
- Mode of transport
- Use of the Yelgun rest area

In order to achieve this, the following monitoring activities will be undertaken:

- Classified counter survey commencing 2 weeks prior and finishing 2 weeks after the event at the following locations:
 - Tweed Valley Way, south of the site
 - Yelgun northbound on ramp

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Traffic Management Plan



- Yelgun northbound off ramp
- Yelgun southbound on ramp
- Yelgun southbound off ramp
- Yelgun rest area access
- Classified counter survey during festival:
 - Tweed Valley Way, north of the site
 - Brunswick Valley Way, opposite rest area
 - Gate C
 - Gate D
- Vehicle occupancy surveys of campers upon departure and day patrons upon arrival or departure
- Vehicle counts at the Yelgun rest area, in addition to the analysis of the Yelgun rest area access counter data and inspections of the area.

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Traffic Management Plan



8. RISK ASSESSMENT

A risk assessment for the traffic and transport component of the festival is provided in Appendix D. Risks are classified in to two types of risk: health risks and project risks.

Health risks are those that result from personal injury due to crashes and other incidents. Assessment of consequence is thus based on the impact on personal health and wellbeing. Project risks are those that could affect the operation and scale of future festivals at the subject site. Although project risks such as traffic congestion could also result in health risks due to back of queue collisions, these project risk analyses do not consider health risk. The health risk considerations in themselves include consideration of traffic congestion, and thus implicitly cover the health aspect of project risks.

This risk assessment is provided as a guide, in the anticipation that individual parties (such as festival management, traffic controllers and emergency services) will establish their own risk assessment and mitigation methodologies.

The risk matrix is provided in Appendix D. The risk matrix shows that the traffic management measures proposed in this report result in acceptable risk scores of low to medium risks. Medium risks are considered tolerable with continual review, if exposure is mitigated to as low as is reasonably practicable. Splendour in the Grass is a once-a-year event, with strict monitoring protocols and traffic management measures, which are an appropriate approach to continue with the mitigated risk levels identified.

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Traffic Management Plan



9. DISTRIBUTION OF THE TMP

The approved Traffic Management Plan is to be distributed to a number of stakeholders, in order to facilitate the understanding of the proposed measures and outline emergency contacts. The list of stakeholders includes the following organisations:

- Roads and Maritime Services
- Byron Shire Council, including traffic committee
- Tweed Shire Council, including traffic committee
- NSW Ambulance service in Byron Bay
- NSW Police, Tweed Byron Local Area Command
- Rural Fire Service

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Traffic Management Plan



10. AUDIT CHECKLIST

Upon completion of the implementation of the Traffic Management Plan and prior to the end of the festival, the traffic control manager is to complete the TC Audit Checklist provided in Appendix E. A copy of the completed and signed checklist is to be provided to the traffic engineer.

Splendour in the Grass 2019
Traffic Management Plan



11. EMERGENCY CONTACTS

A list of emergency contacts is provided below.

SITG traffic manager

Matt Gillespie – 0417 454 426

NBP venue manager

Mat Morris – 0418 683 746

NSW Police

Snr Constable David Brigg

NSW Ambulance

Rural Fire Service

Matt Inwood – 0438 555 155

NSW Roads and Maritime Services

Alan Eichmann

Byron Shire Council

Evan Elford – 02 6626 7000

Tweed Shire Council

Ray Clark – 02 6670 2400

Emergency Evacuation Traffic Control Plans are provided in Appendix C.

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Traffic Management Plan



12. CHAIN OF COMMAND

A schematic of the chain of command for traffic issues is provided in Figure 3.

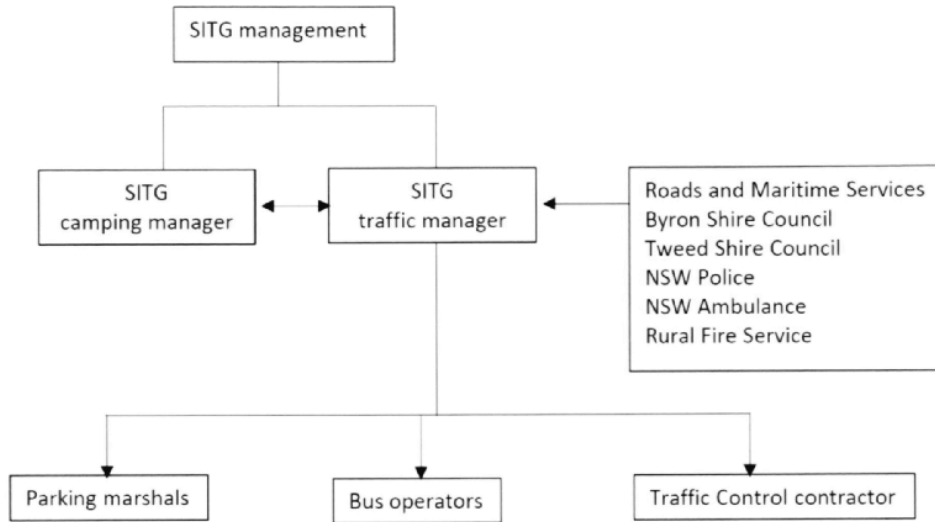


Figure 3 | Chain of command

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Traffic Management Plan



13. CONSENT REFERENCE TABLE

Table 14 provides an overview of where in this TMP each relevant condition has been addressed.

Table 14 | Consent reference table

Condition number	Location in TMP
B4 – Traffic Management and parking	Section 3.1 and chapter 4
C9 – Traffic Management Plan	Chapter 3
C10 – Traffic Control Plan	Chapter 3 and attached TCP's
C12 – Traffic Monitoring Protocol	Chapter 7
C45 – Parking Management	Chapter 5
C46 – Access for Emergency Vehicles	Section 3.8
C47 – Pedestrian access from day parking area	Section 3.7
C48 – Disabled access	Section 3.3
C51 – Emergency Evacuation Plans	Section 6

Splendour in the Grass 2019
Traffic Management Plan



14. CONCLUSIONS AND RECOMMENDATIONS

We conclude that the traffic and transport component of the 2019 Splendour in the Grass festival at North Byron Parklands can be carried out successfully and in compliance with the conditions of approval. Experience gained at previous events has been incorporated to optimise earlier TMP's and Traffic Control Plans.

We recommend that this TMP be approved and implemented as approved during the upcoming festival. However, flexibility exists to make minor changes on site, to suit changing conditions. Changes can be approved and recorded by an appropriately qualified and experienced traffic engineer.

Splendour in the Grass 2019
Traffic Management Plan



REFERENCES

Traffic Evaluation Report, Splendour in the Grass 2017, North Byron Parklands, Yelgun, Greg Alderson and Associates, Clunes, 19th of October 2017

Traffic Control at Worksites, Roads and Traffic Authority NSW, version 4.0, April 2011

Guide to Traffic and Transport Management for Special Events, RTA Transport Management Centre, August 2006

Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis, Austroads Inc., Sydney, November 2017

Highway Capacity Manual 2010, Transportation and Research Board of the National Academies, 2010

Splendour in the Grass 2019
Traffic Management Plan



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Page 40

J1055_TMP_0

Splendour in the Grass 2019
Traffic Management Plan



APPENDIX A – REGULAR TRAFFIC CONTROL PLANS



TRAFFIC CONTROL PLANS for SPLENDOUR IN THE GRASS 2019 at North Byron Parklands, Yelgun, NSW

DRAWING TABLE

DRAWING NUMBER	TITLE	REVISION
J1055_TCP01	Title page	0
J1055_TCP02	Camper arrival flows - south car park	0
J1055_TCP03	Camper arrival flows - north car park	0
J1055_TCP04	Camper and day patron arrival flows - south car park	0
J1055_TCP05	Camper and day patron arrival flows - north car park	0
J1055_TCP06	Day patron arrival flows - south car park	0
J1055_TCP07	Day patron arrival flows - north car park	0
J1055_TCP08	Day patron departure flows - south car park, night time	0
J1055_TCP09	Camper departure flows - north car park, Monday	0
J1055_TCP10	Camper departure flows - south car park, Monday	0
J1055_TCP11	Pacific Motorway VMS board locations	0
J1055_TCP12	Yelgun VMS board locations for advance warning	0
J1055_TCP13	Speed zone and no stopping zone overview map	0
J1055_TCP14	Tweed Valley Way edge line delineation	0
J1055_TCP15	Directional signage plan - Brunswick route	0
J1055_TCP16	Directional signage plan - Pottsville route	0
J1055_TCP17	TCP - Jones Road	0
J1055_TCP18	TCP - Gate C	0
J1055_TCP19	TCP - Gate D	0
J1055_TCP20	TCP - Yelgun Road and Billinudgel Road	0

Refer to sheets 11 and 16

Refer to sheets 1-14 and 17-20

Refer to sheets 11, 15 and 20

OVERVIEW PLAN
N.T.S.Source of map: Google Maps 2018
Mullumbimby

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: <i>Michiel Kamphorst</i> Date: 20/02/2019



Ingen Consulting Pty Ltd
ACN: 623 948 112
a: Alstonville, NSW
p: +614 1726 4987
e: michiel@ingenconsulting.com.au
w: www.ingenconsulting.com.au

CLIENT:
Secret Sounds
6/59 Centennial Circuit
Byron Bay NSW 2481

PROJECT:
Traffic Control Plans
Splendour in the Grass 2018

DRAWING TITLE:
Title Page

PROJECT NUMBER:
J1055

ORIGINAL SIZE:
A3

DRAWING NUMBER:
J1055_TCP01

REVISION:
0

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- TCP NOTES:**
- 1. These Traffic Control Plans (TCP's) are to be read in conjunction with the Traffic Management Plan (TMP) for Splendour in the Grass 2019 at North Byron Parklands.
 - 2. These TCP's are valid from 17 - 22 July 2019.
 - 3. These TCP's are to be implemented only by RMS certified traffic control contractors.
 - 4. Installation of signs, barriers and other traffic control devices shall be in accordance with the AS1742 series and the RTA Traffic Control at Work Sites version 4.0.
 - 5. Adequate implementation of these TCP's is to be certified by the supervising traffic engineer prior to operation of the festival.

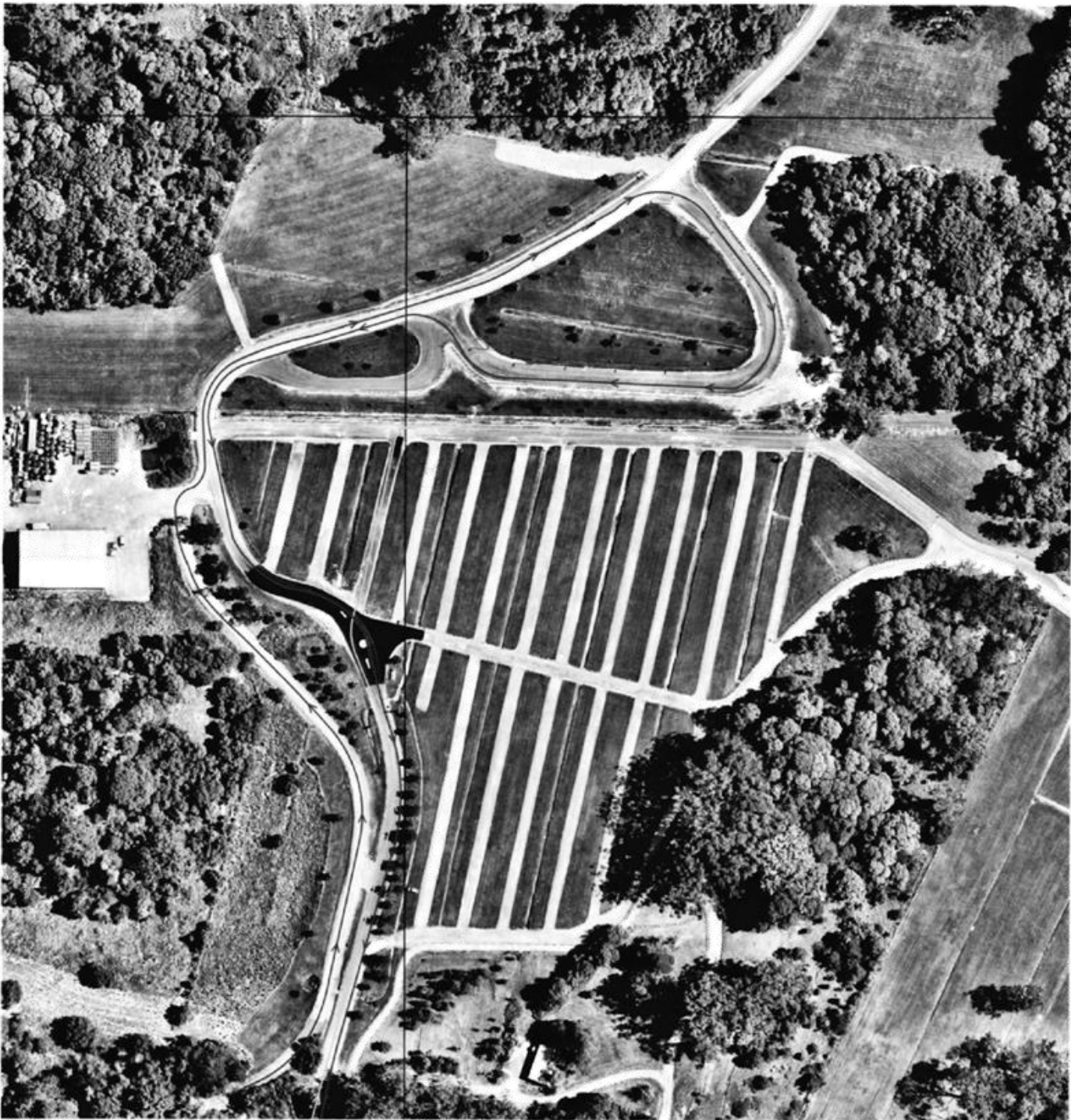


KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSC, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: Date: 20/02/2019		Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019	Camper arrival flows - south car park
										PROJECT NUMBER: J1055
										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_TCP02
										REVISION: 0

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KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: Date: 20/02/2019		Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019	Camper arrival flows - north car park
										PROJECT NUMBER: J1055
										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_TCP03
										REVISION: 0

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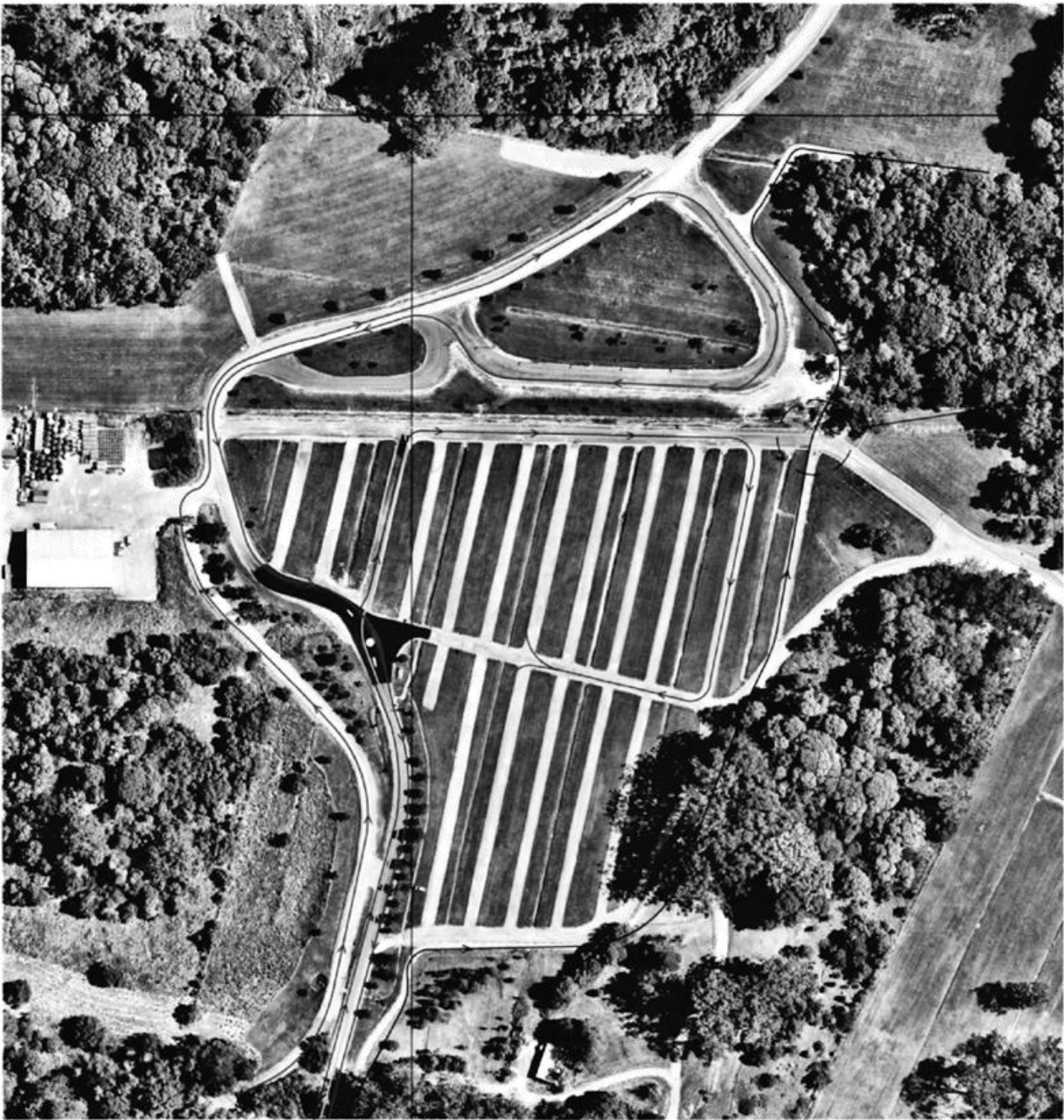


Conflict point managed
by traffic controllers during
peak time

KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: Date: 20/02/2019		Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019	Camper and day patron arrival flows - south car park
										PROJECT NUMBER: J1055
										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_TCP04
										REVISION: 0

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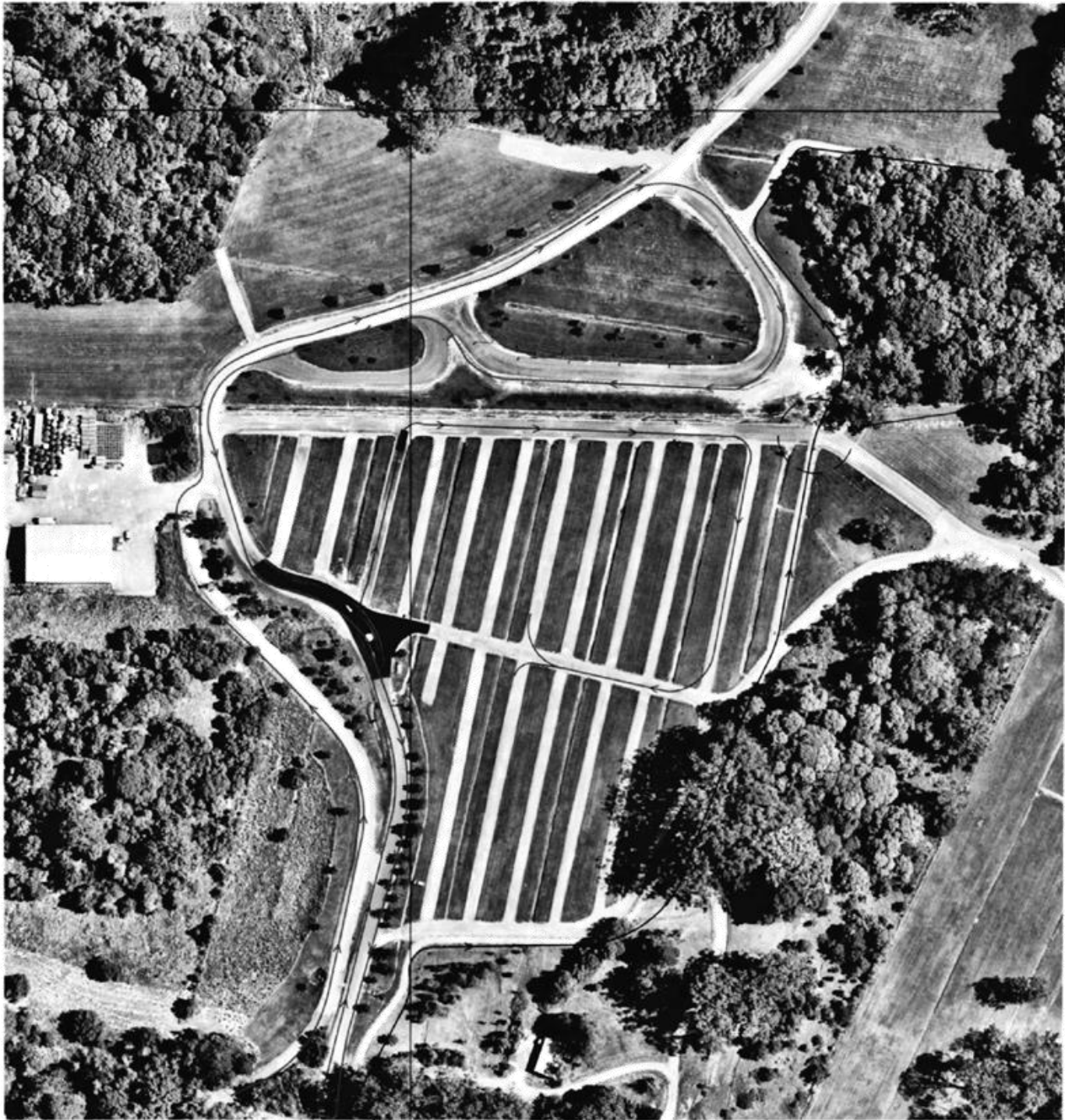


Managed pedestrian crossing

KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: Date: 20/02/2019		Ingen Consulting Pty Ltd ACN: 623 948 112 a: Alstonville, NSW p: +614 1726 4987 e: michiel@ingenconsulting.com.au w: www.ingenconsulting.com.au	Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019
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									DRAWING NUMBER: J1055_TCP05	REVISION: 0

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Managed pedestrian crossing

KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: Date: 20/02/2019		Ingen Consulting Pty Ltd ACN: 623 948 112 a: Alstonville, NSW p: +614 1726 4987 e: michiel@ingenconsulting.com.au w: www.ingenconsulting.com.au	Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019
									PROJECT NUMBER: J1055	ORIGINAL SIZE: A3
									DRAWING NUMBER: J1055_TCP07	REVISION: 0

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REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:
0	For Council approval	20/2/19	MK	MK	MK

APPROVED BY:
Michiel Kamphorst,
MSc, BSc, RPEng, RPEQ, NER
Prepare a Work Zone Traffic
Management Plan 0039028234
Signed: *[Signature]* Date: **20/02/2019**



Ingen Consulting Pty Ltd
ACN: 623 948 112
a: Alstonville, NSW
p: +614 1726 4987
e: michiel@ingenconsulting.com.au
w: www.ingenconsulting.com.au

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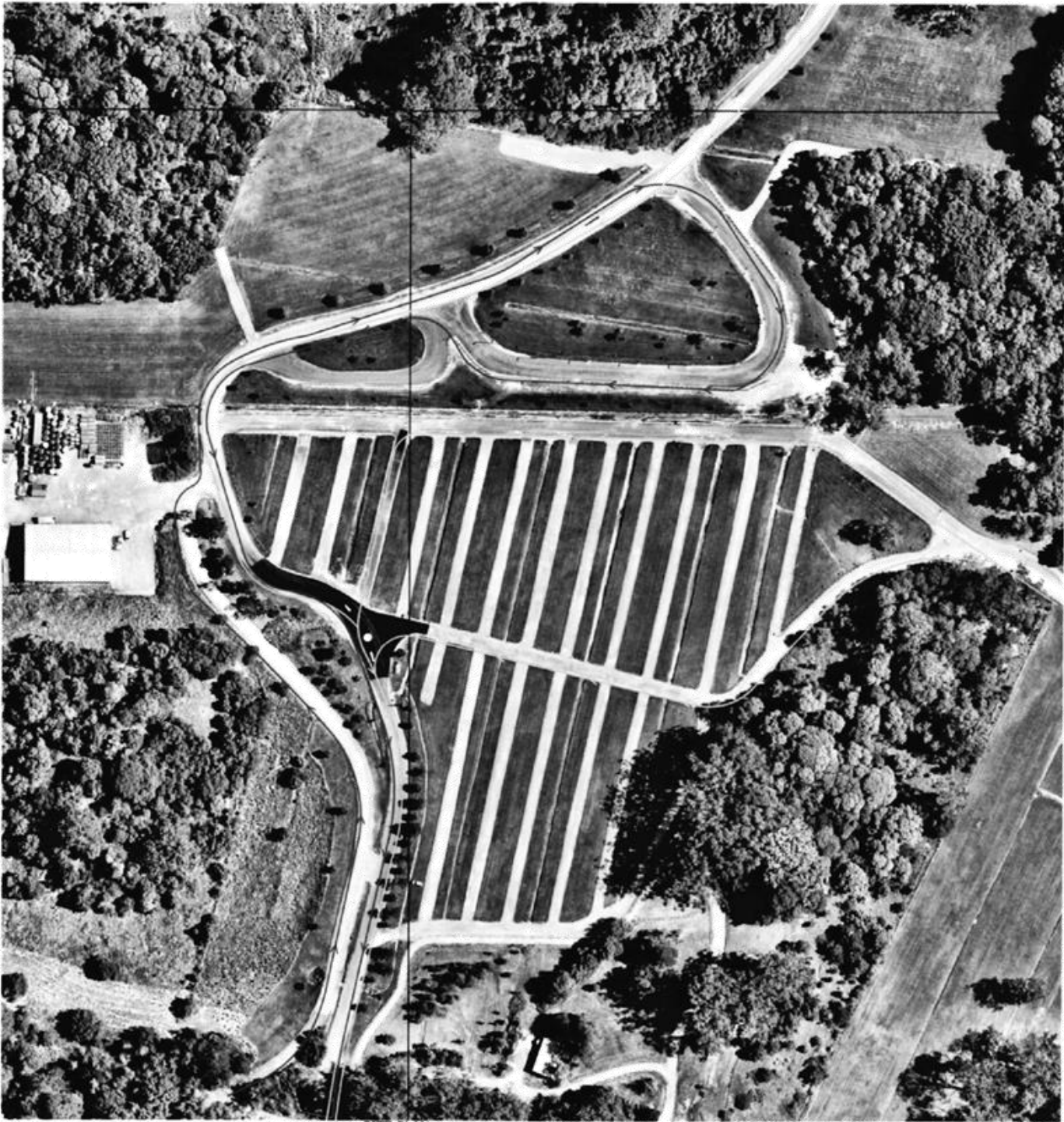
CLIENT:
Secret Sounds
6/59 Centennial Circuit
Byron Bay NSW 2481

PROJECT:
Traffic Control Plans
Splendour in the Grass 2019

DRAWING TITLE:
Day patron departure flows - south car park, night time

PROJECT NUMBER: J1055	ORIGINAL SIZE: A3
DRAWING NUMBER: J1055_TCP08	REVISION: 0


- TCP NOTES:**
- 1. These Traffic Control Plans (TCP's) are to be read in conjunction with the Traffic Management Plan (TMP) for Splendour in the Grass 2019 at North Byron Parklands.
 - 2. These TCP's are only valid from 17 - 22 July 2019.
 - 3. These TCP's are to be implemented only by RMS certified traffic control contractors.
 - 4. Installation of signs, barriers and other traffic control devices shall be in accordance with the AS1742 series and the RTA Traffic Control at Work Sites version 4.0.
 - 5. Adequate implementation of these TCP's is to be certified by the supervising traffic engineer prior to operation of the festival.



SITE PLAN
N.T.S.

KEY:	
	Campers
	Buses
	Day patrons
	Taxi/Uber/drop off
	Pedestrians

REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:
0	For Council approval	20/2/19	MK	MK	MK

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CLIENT:
Secret Sounds
6/59 Centennial Circuit
Byron Bay NSW 2481

PROJECT:
Traffic Control Plans
Splendour in the Grass 2019

DRAWING TITLE:
Camper departure flows - north car park, Monday

PROJECT NUMBER: J1055	ORIGINAL SIZE: A3
DRAWING NUMBER: J1055_TCP09	REVISION: 0

- TCP NOTES:**
- 1. These Traffic Control Plans (TCP's) are to be read in conjunction with the Traffic Management Plan (TMP) for Splendour in the Grass 2019 at North Byron Parklands.
 - 2. These TCP's are only valid from 17 - 22 July 2019.
 - 3. These TCP's are to be implemented only by RMS certified traffic control contractors.
 - 4. Installation of signs, barriers and other traffic control devices shall be in accordance with the AS1742 series and the RTA Traffic Control at Work Sites version 4.0.
 - 5. Adequate implementation of these TCP's is to be certified by the supervising traffic engineer prior to operation of the festival.



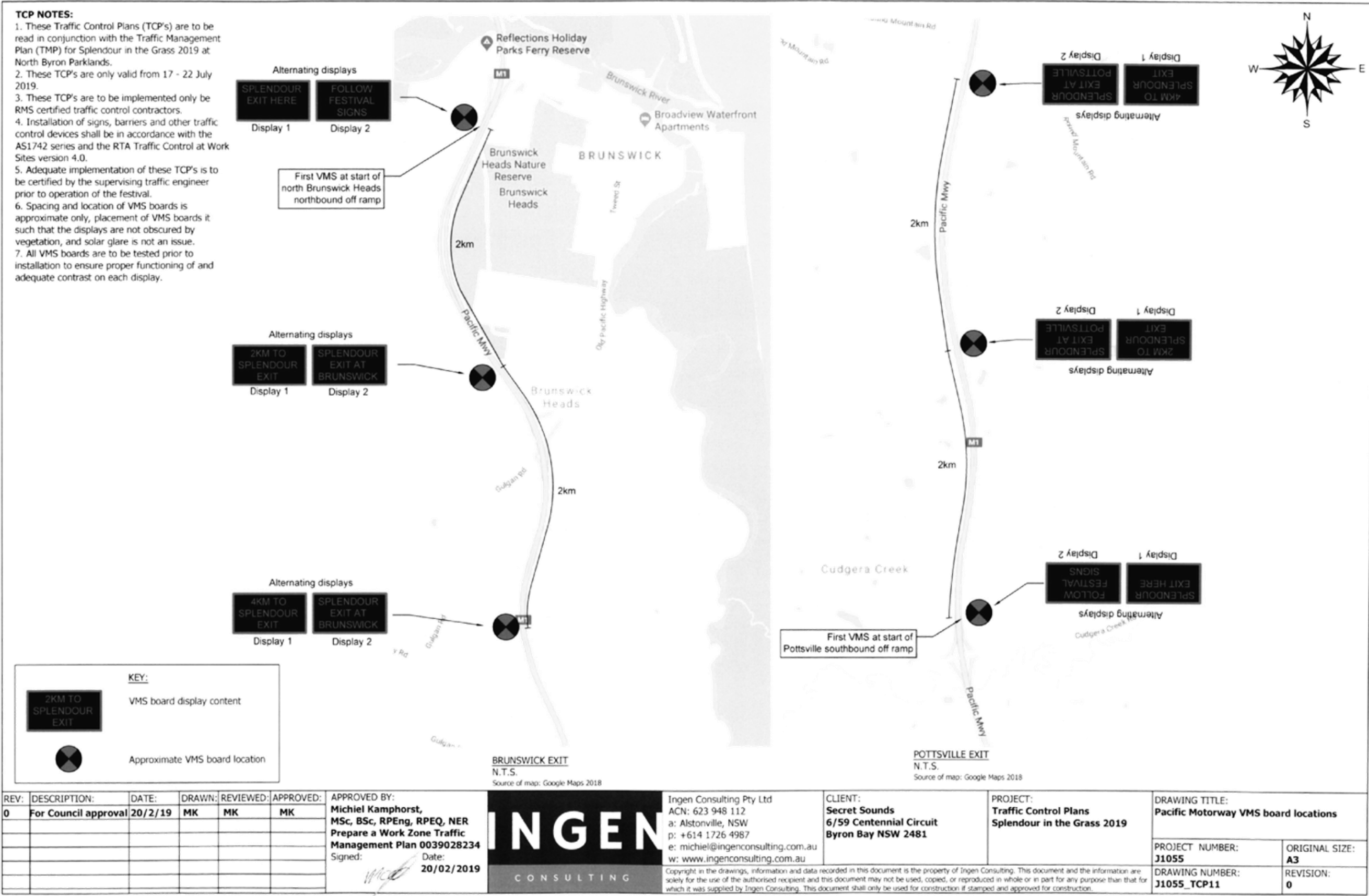
Alternate camper departure route to Gate D as required to alleviate pressure on Gate C and reduce delays

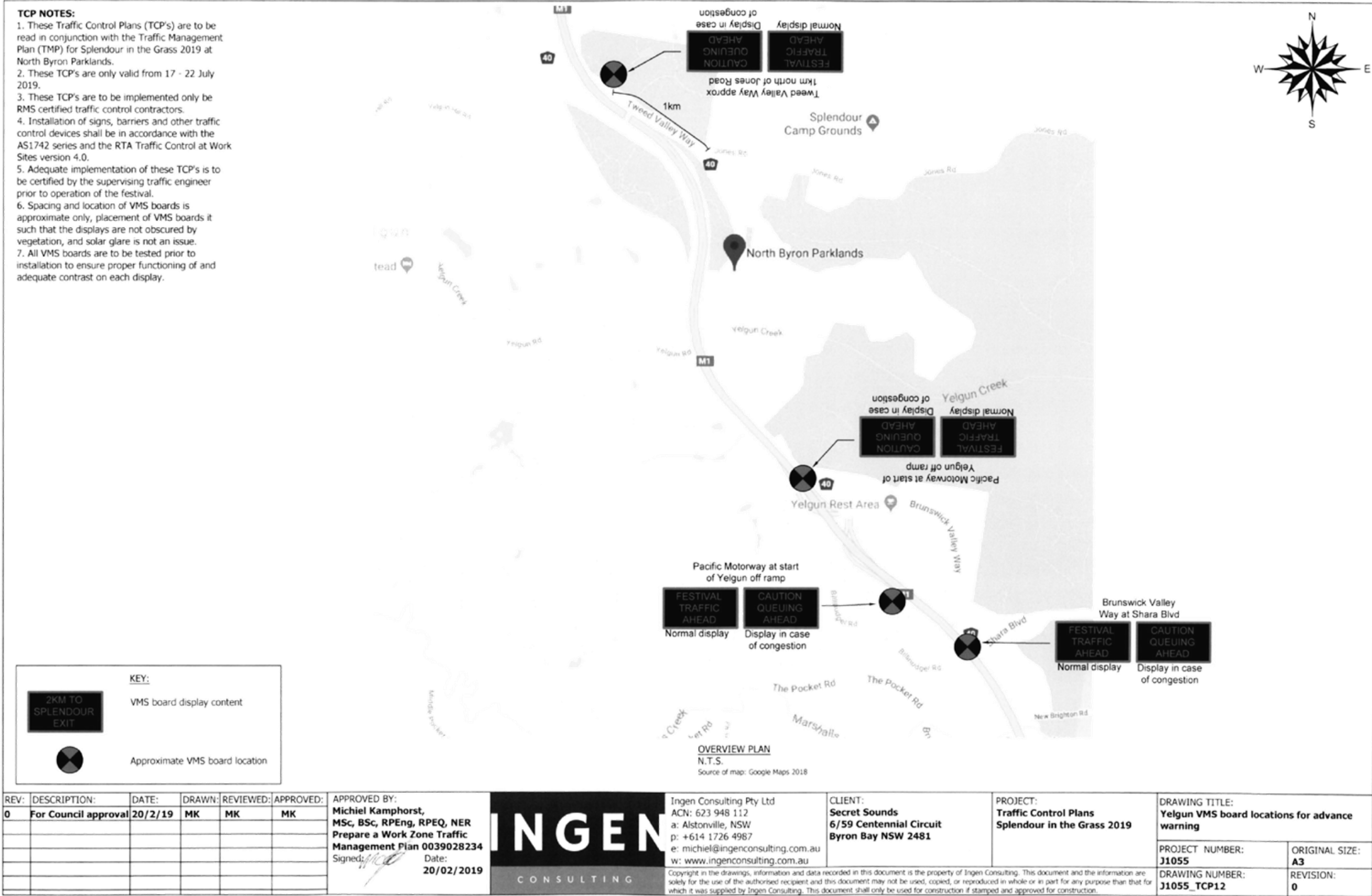
KEY:

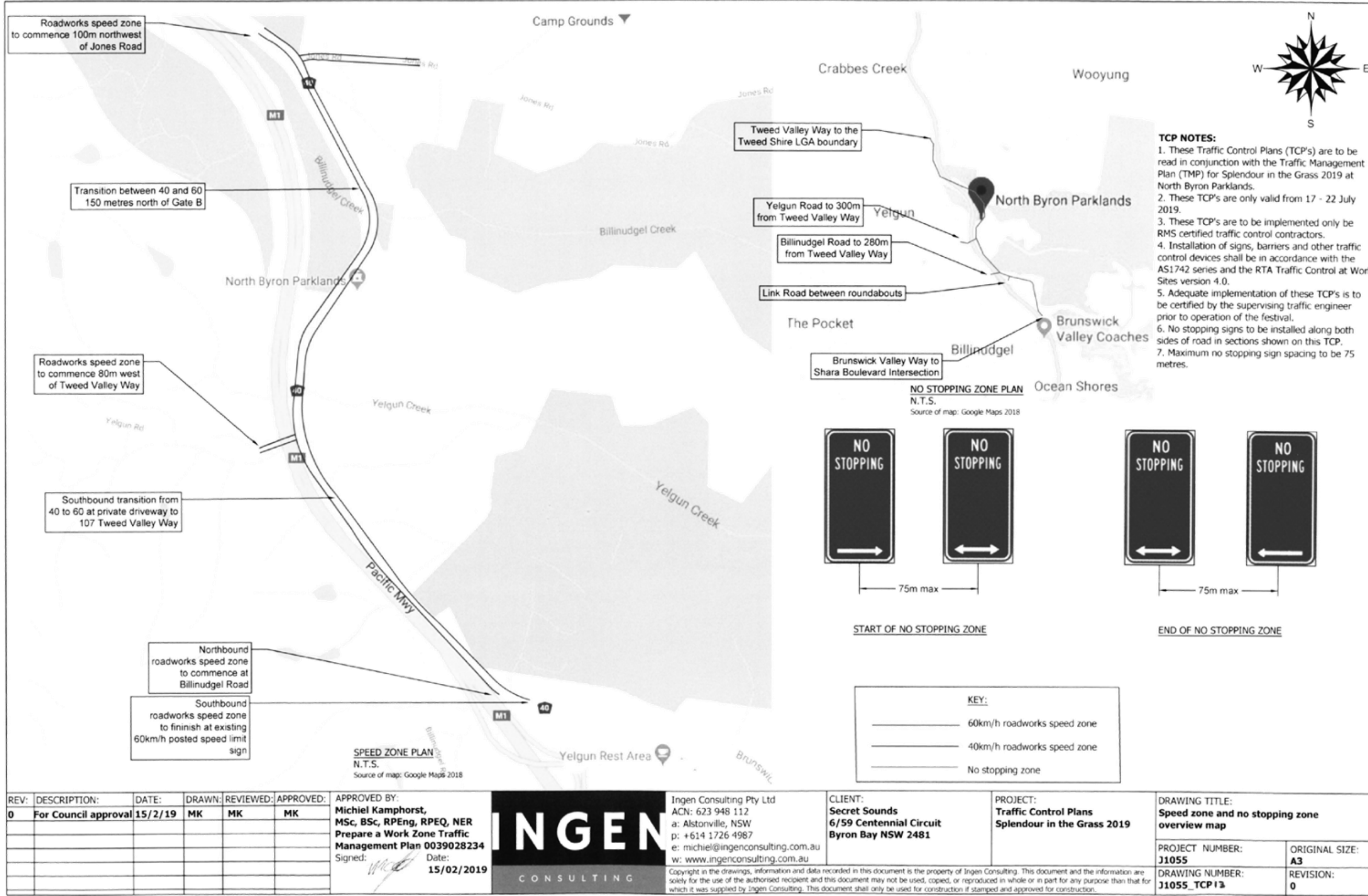
- Campers
- Buses
- Day patrons
- Taxi/Uber/drop off
- Pedestrians

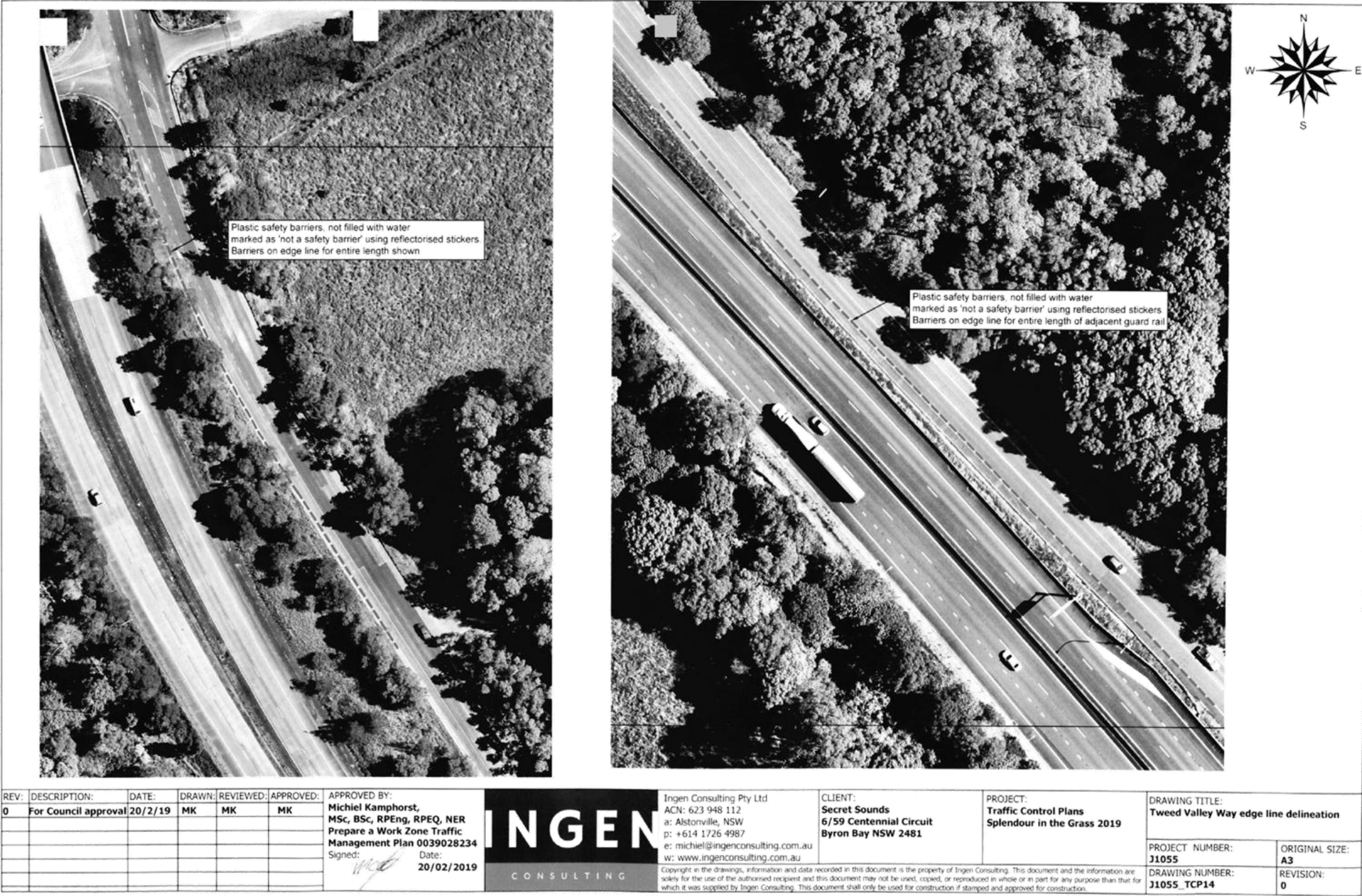
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0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: <i>[Signature]</i> Date: 20/02/2019		Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Traffic Control Plans Splendour in the Grass 2019	Camper departure flows - south car park, Monday
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										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_TCP10
										REVISION: 0

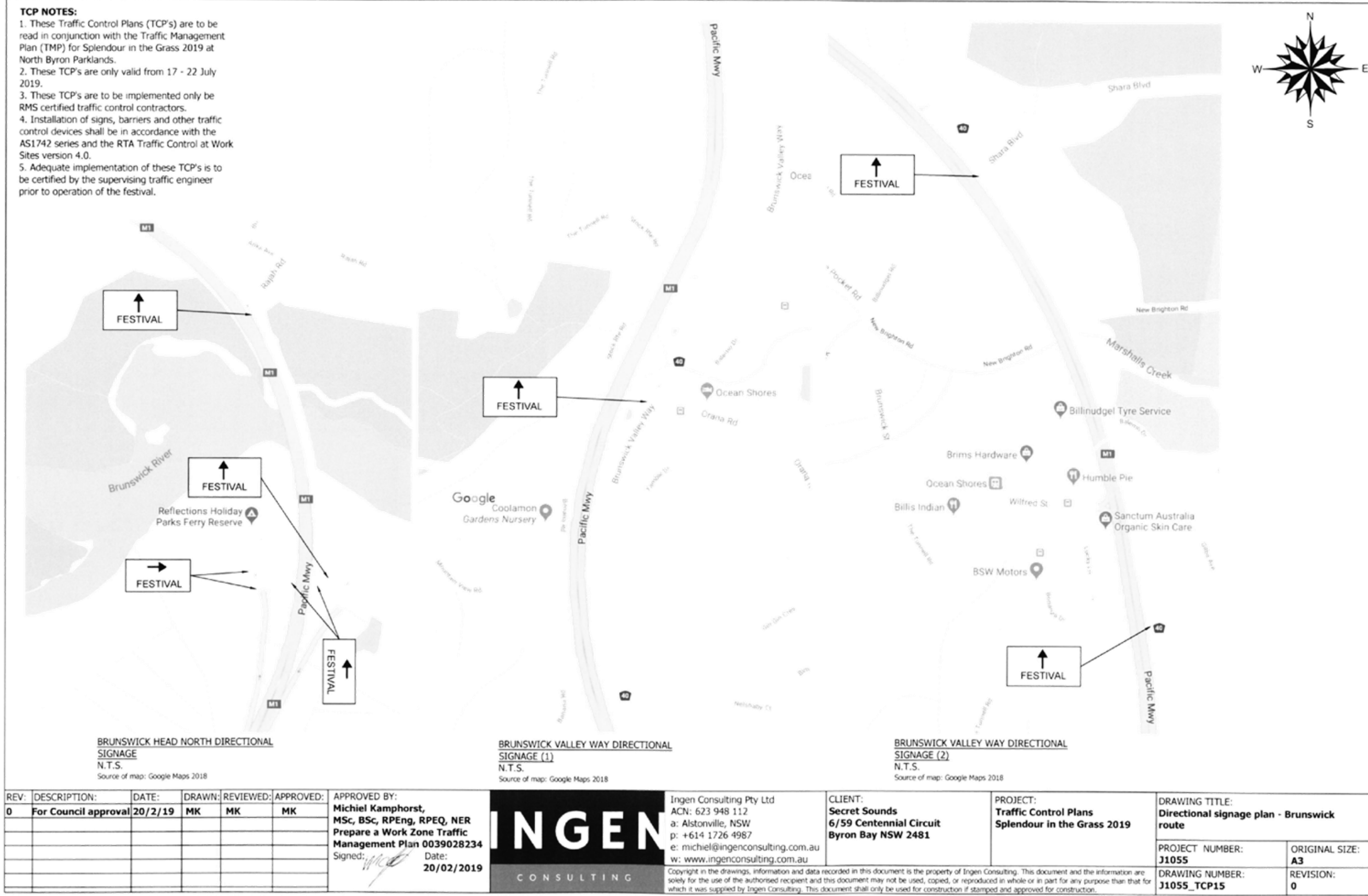
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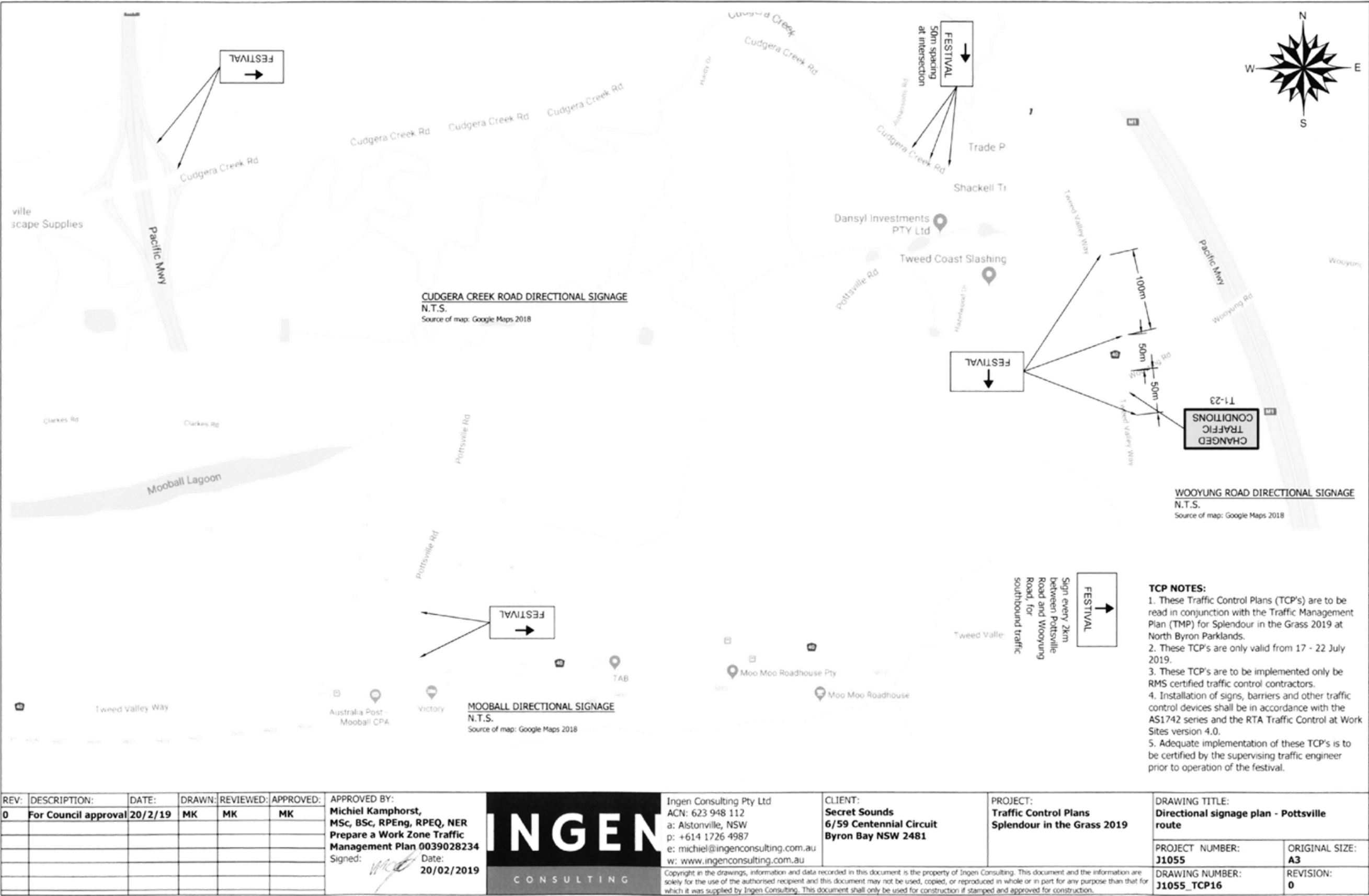




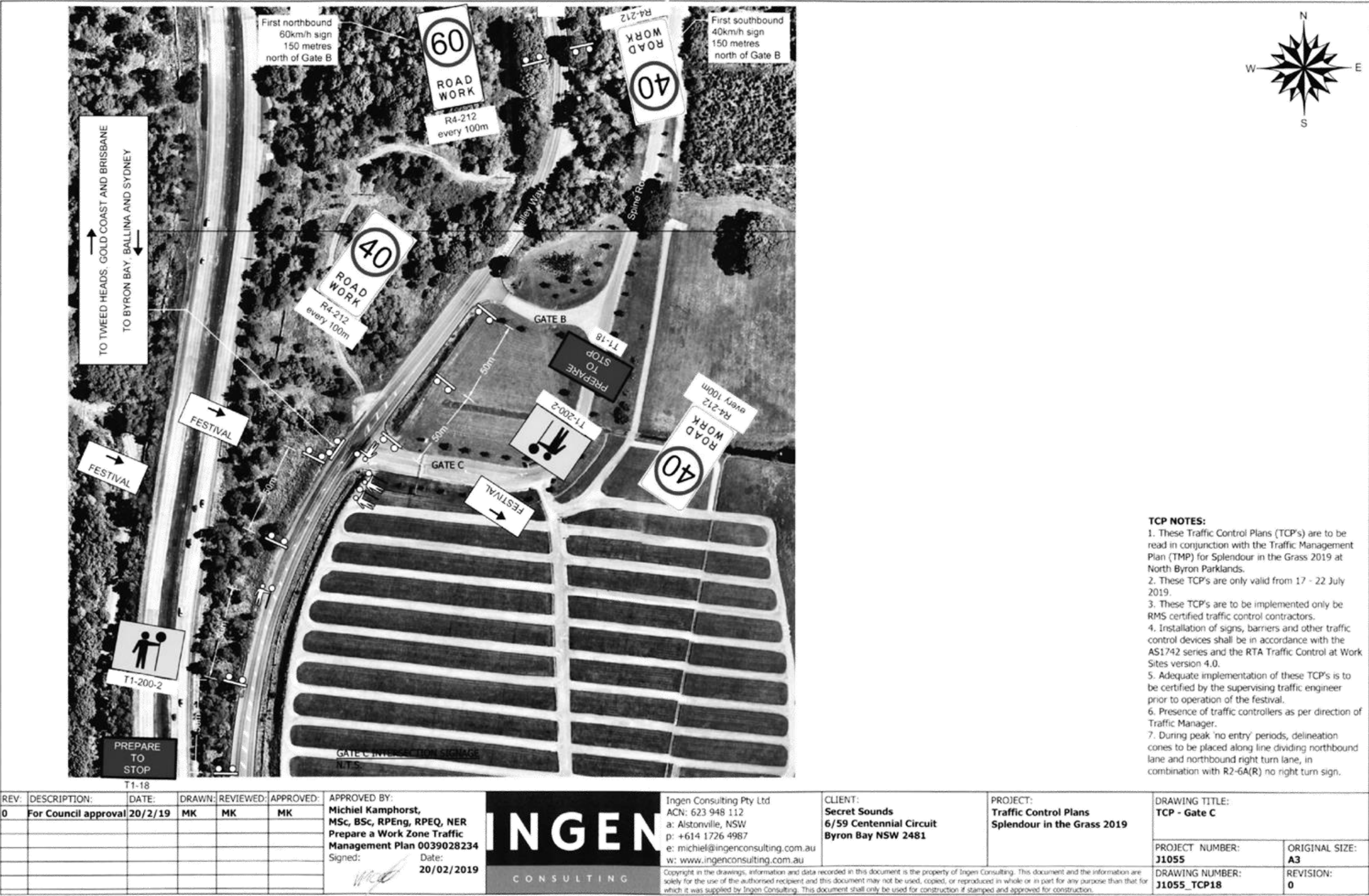


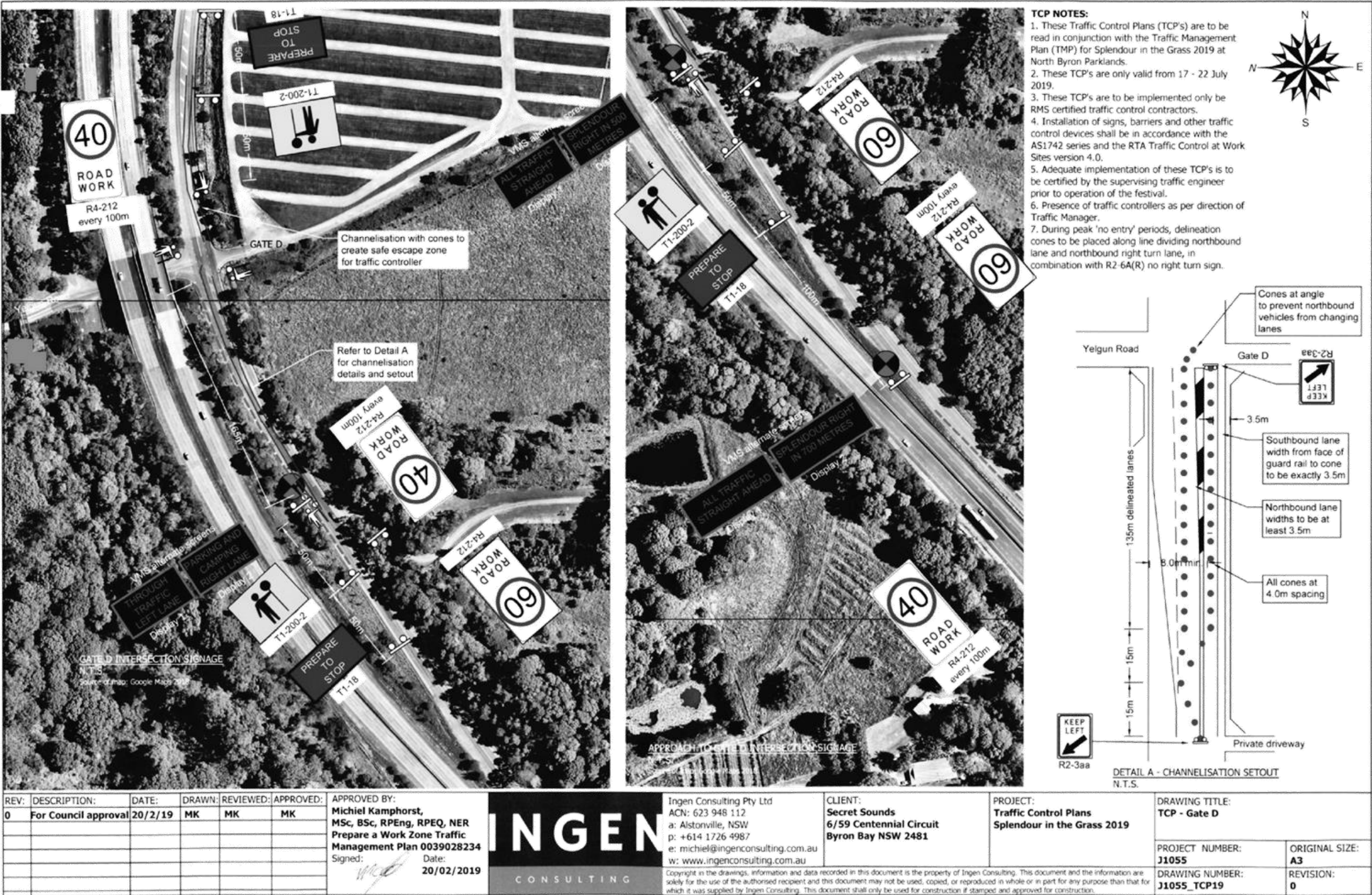


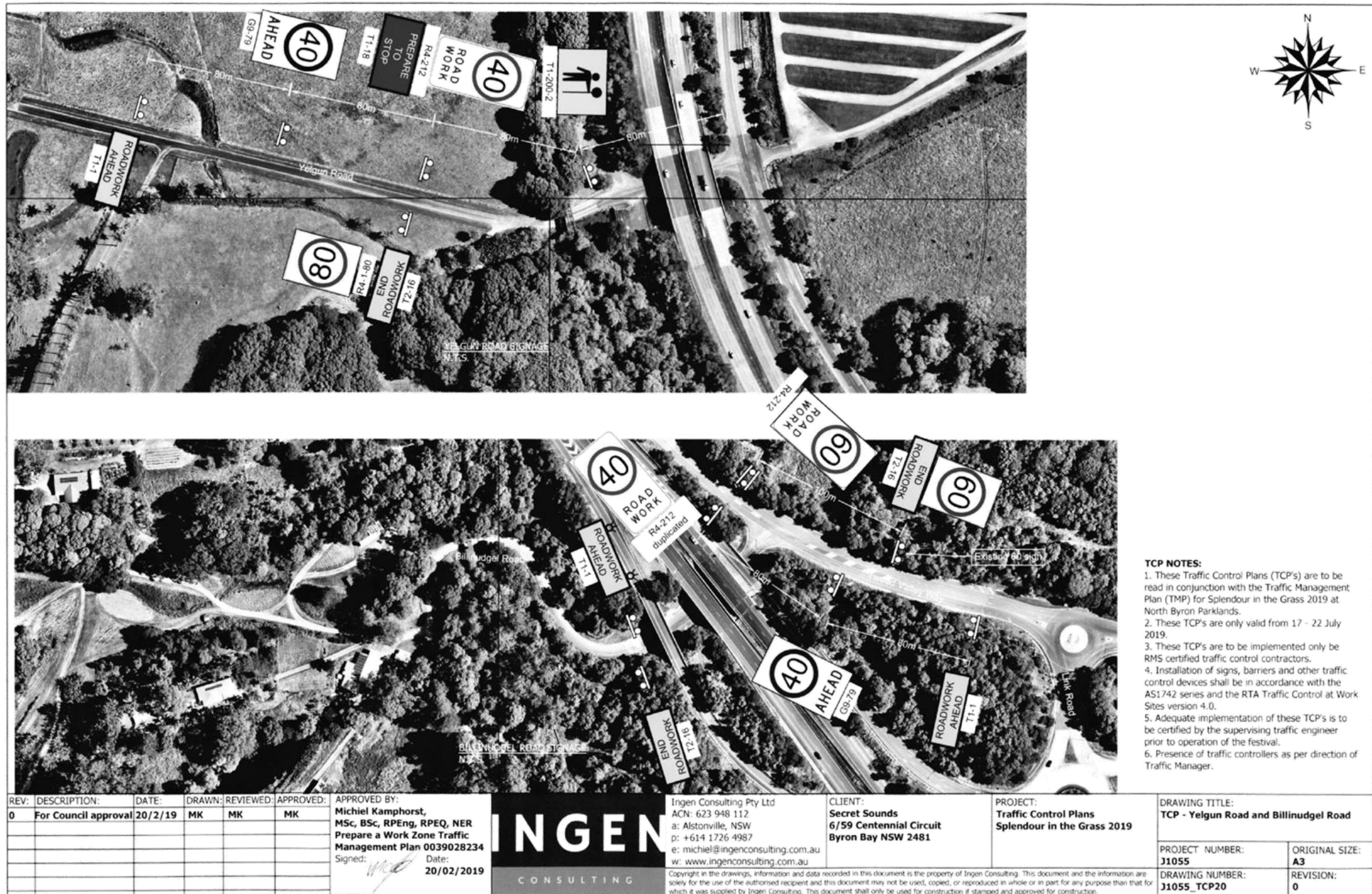








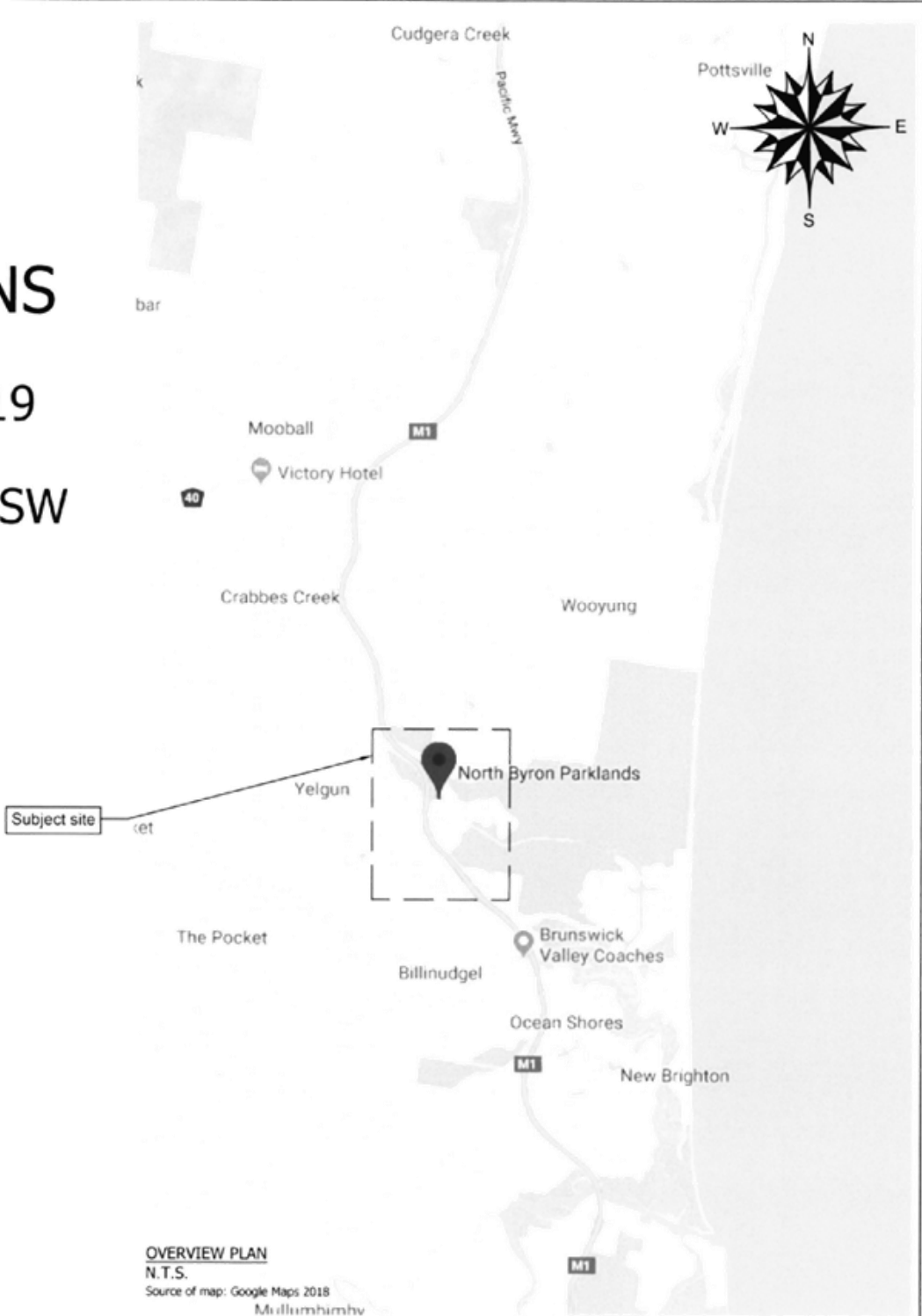






CONTINGENCY
TRAFFIC CONTROL PLANS
for
SPLENDOUR IN THE GRASS 2019
at
North Byron Parklands, Yelgun, NSW

DRAWING TABLE		
DRAWING NUMBER	TITLE	REVISION
J1001_CTCP01	Title page	0
J1001_CTCP02	TCP - Gate C	0
J1001_CTCP03	TCP - Gate D	0
J1001_CTCP04	TCP - Pacific Motorway contingency plan	0



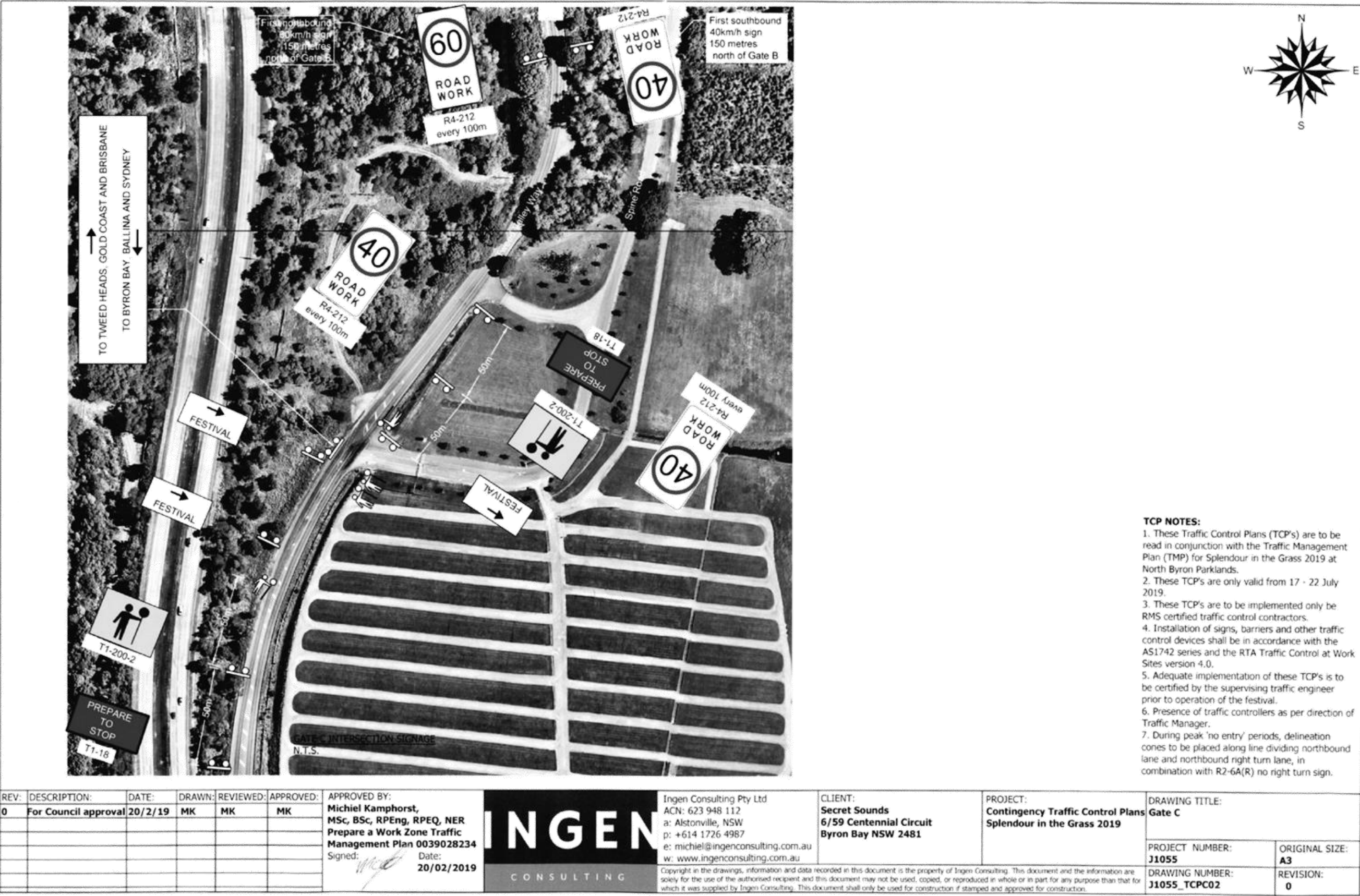
OVERVIEW PLAN
N.T.S.
Source of map: Google Maps 2018
Mullumhimbv

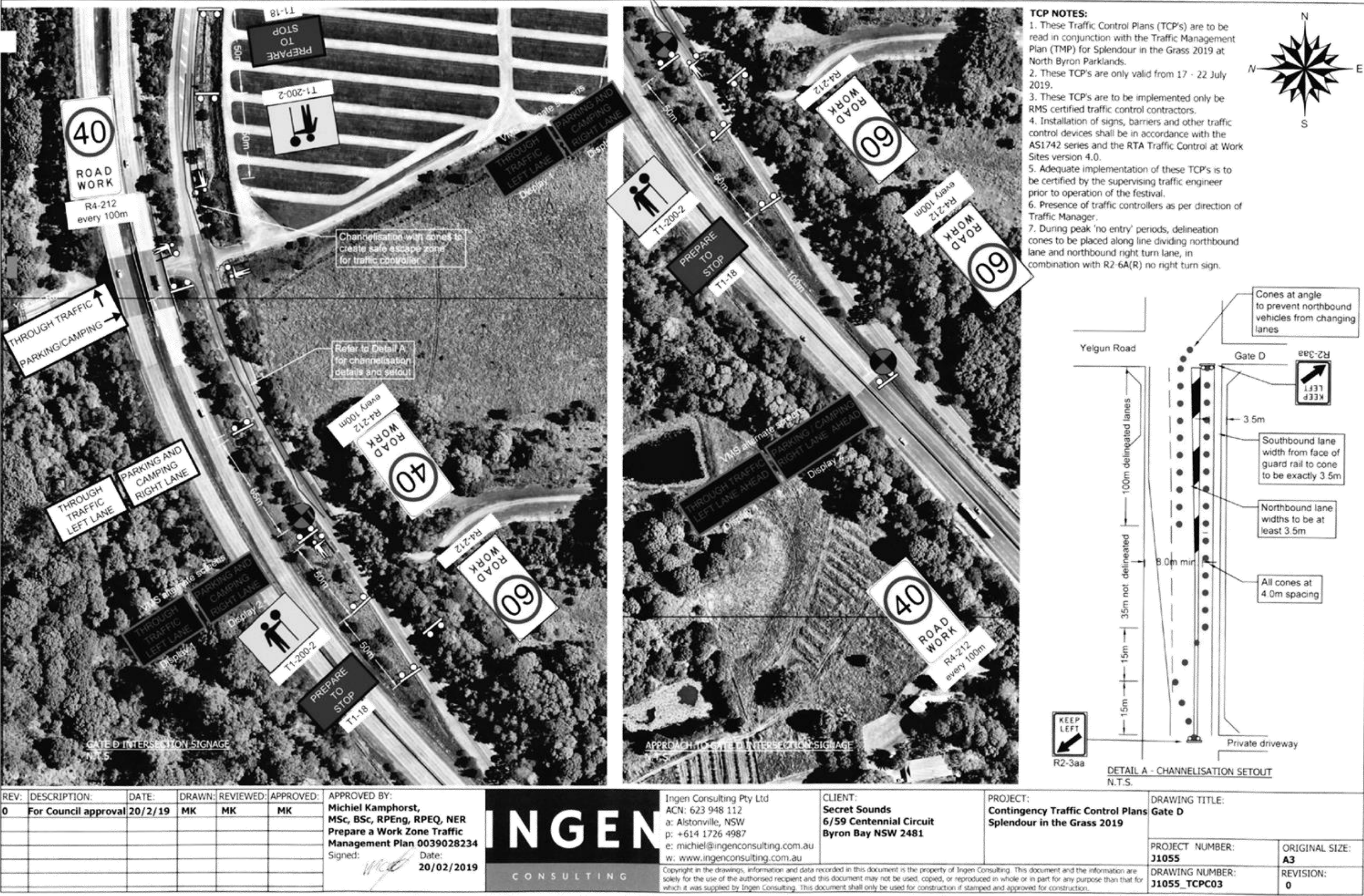
REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	For Council approval	20/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPeng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: <i>[Signature]</i> Date: 20/02/2019		Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Contingency Traffic Control Plans Splendour in the Grass 2019	Title Page
										PROJECT NUMBER: J1055
										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_TCPC01
										REVISION: 0

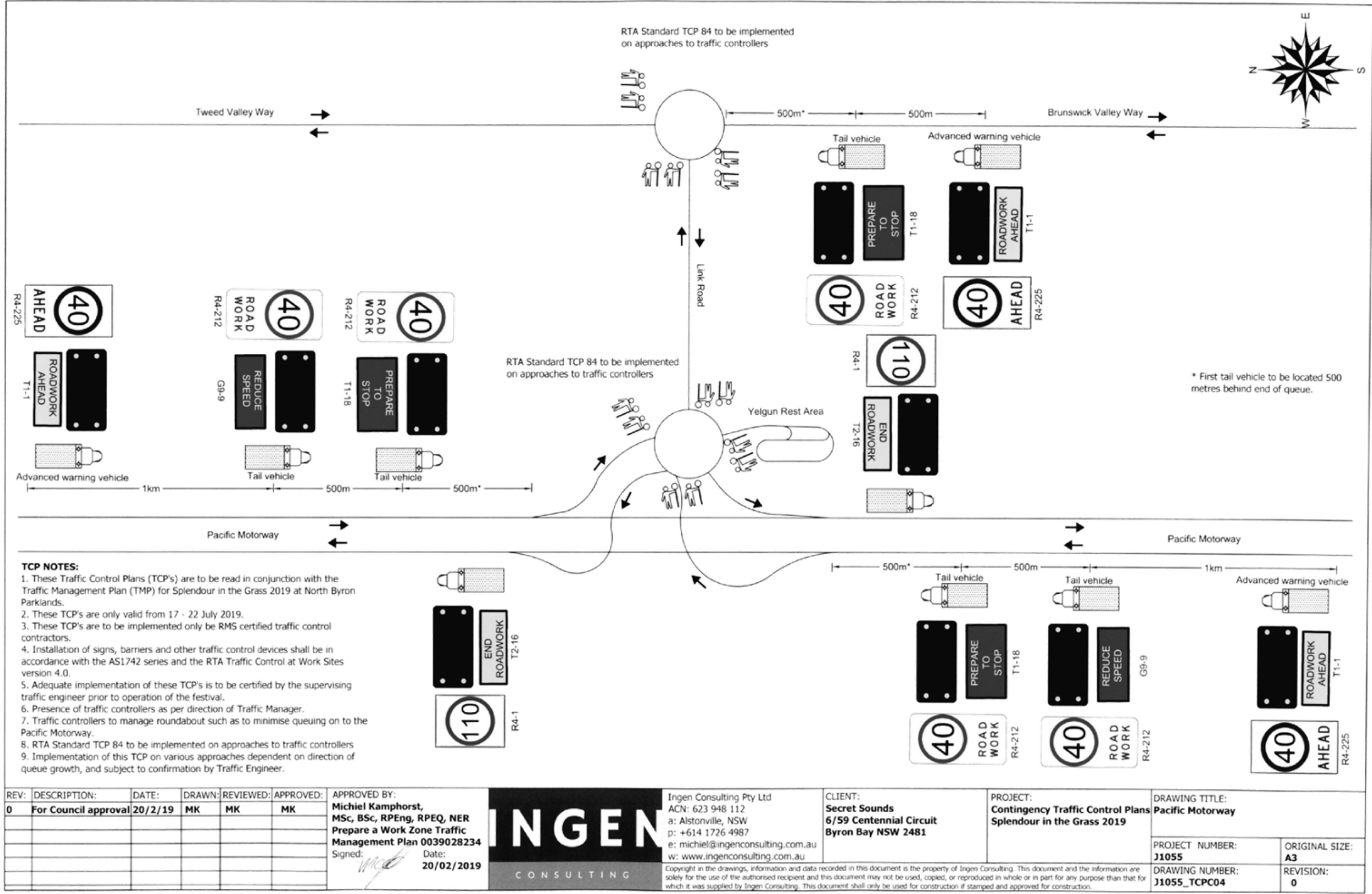
Splendour in the Grass 2019
Traffic Management Plan



APPENDIX B – CONTINGENCY TRAFFIC CONTROL PLANS



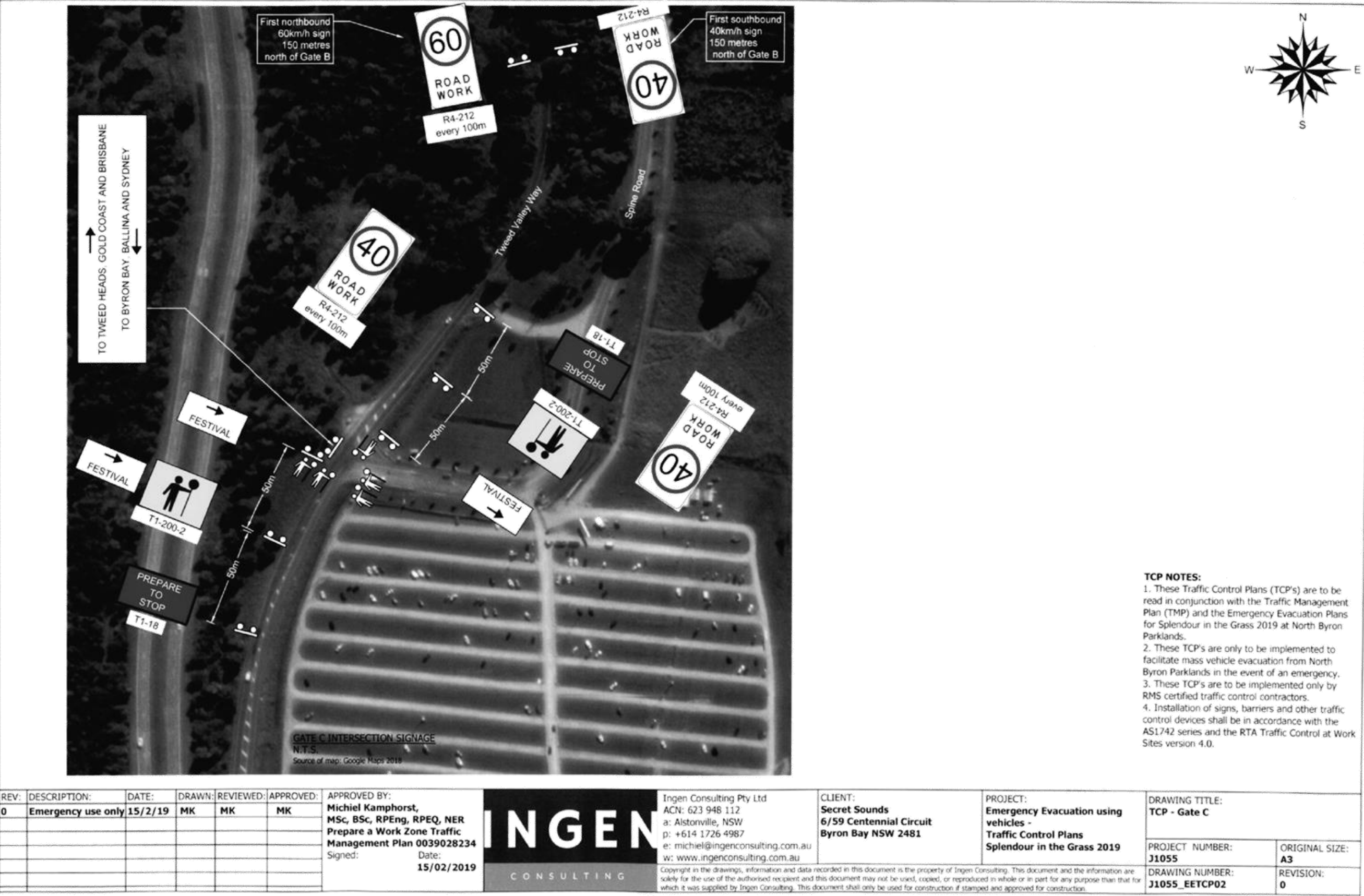




Splendour in the Grass 2019
Traffic Management Plan

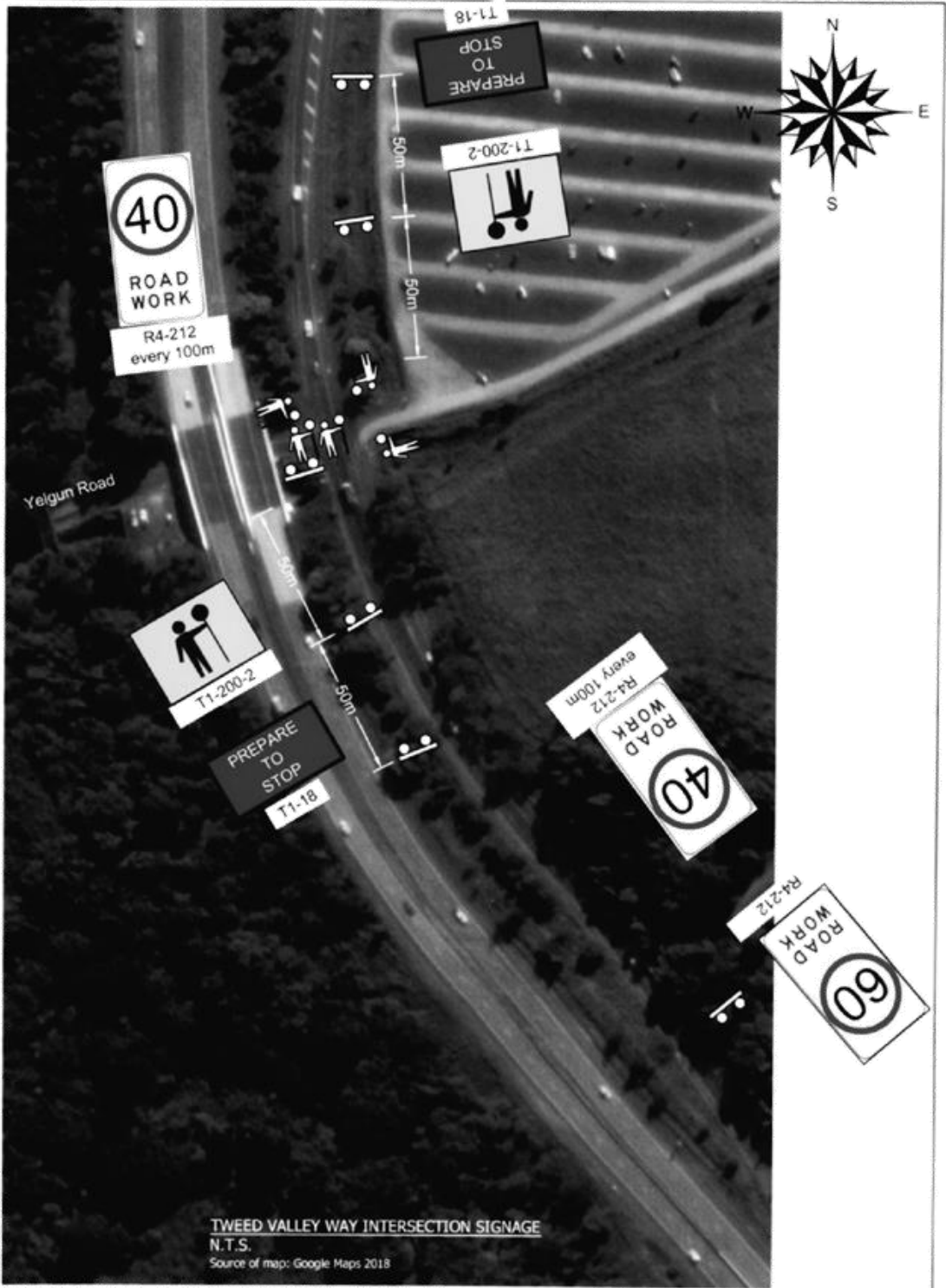
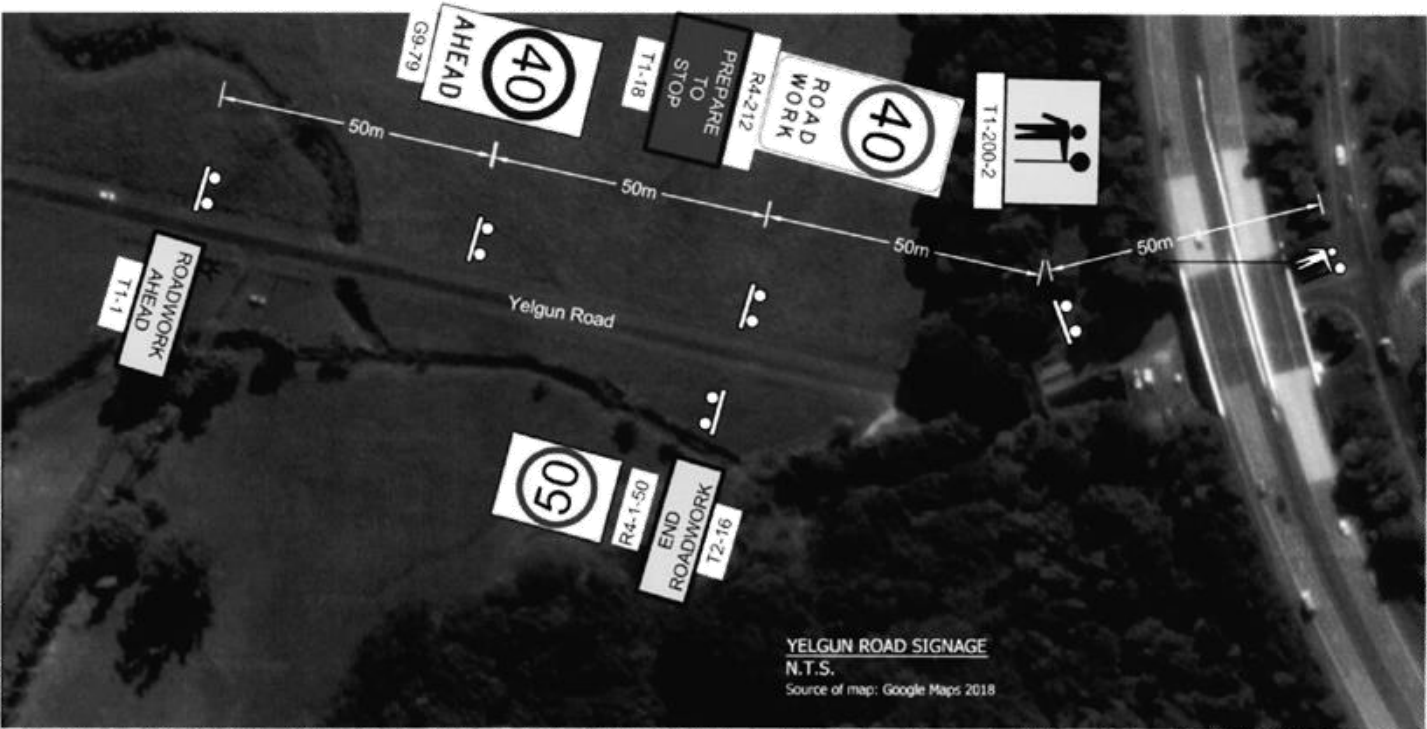


APPENDIX C – EMERGENCY EVACUATION TRAFFIC CONTROL PLANS

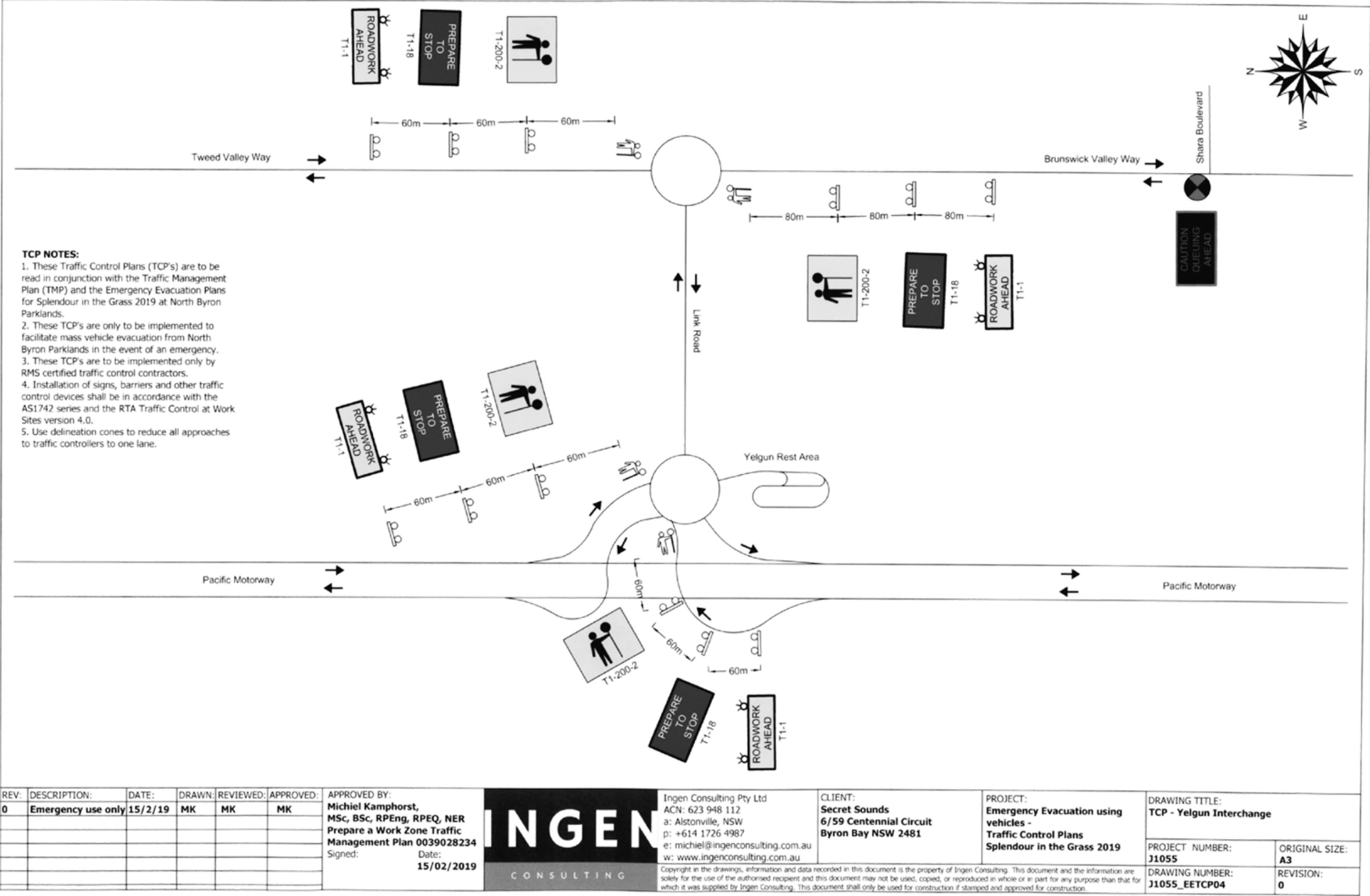


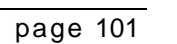
TCP NOTES:

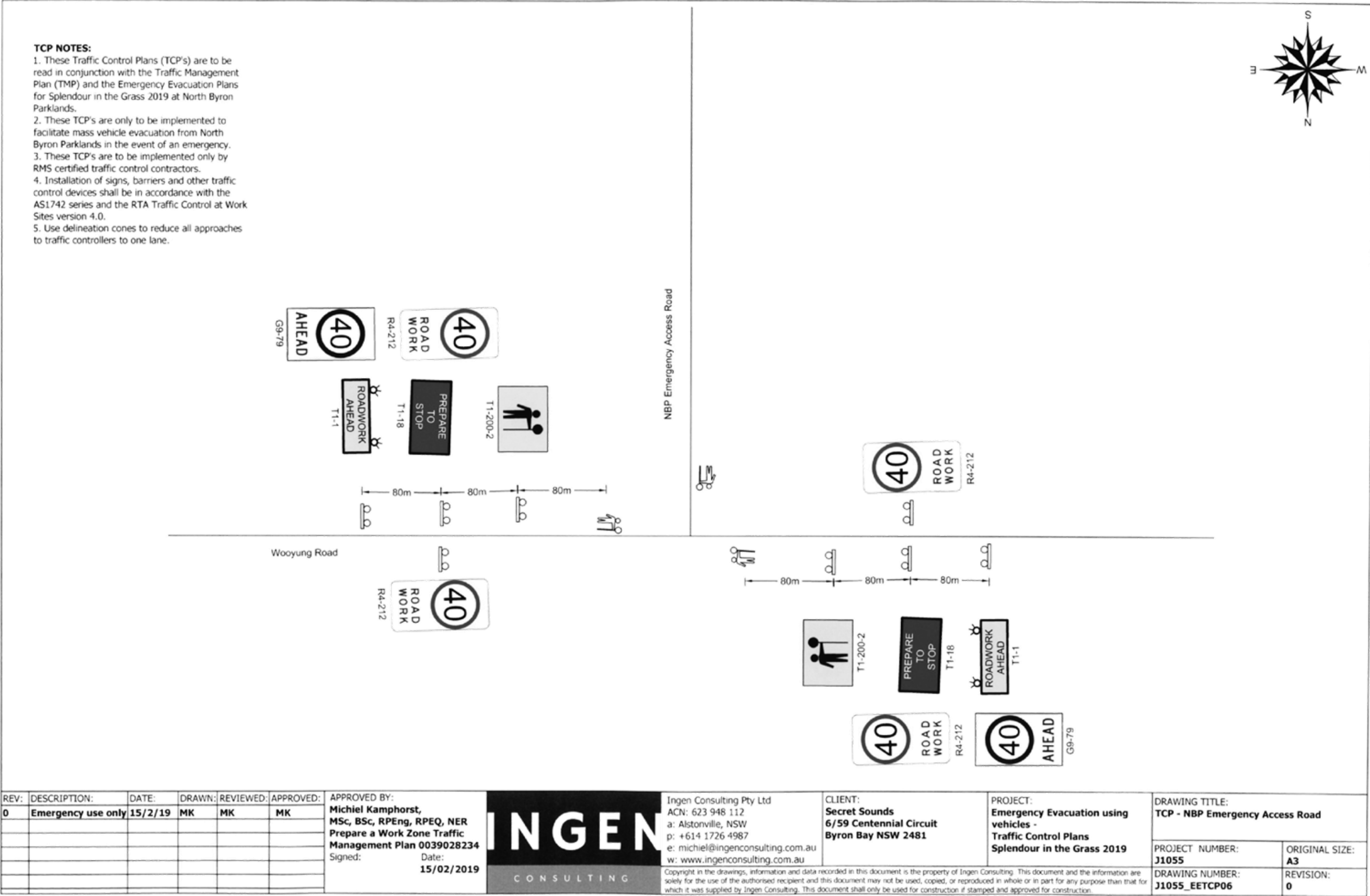
- 1. These Traffic Control Plans (TCP's) are to be read in conjunction with the Traffic Management Plan (TMP) and the Emergency Evacuation Plans for Splendour in the Grass 2019 at North Byron Parklands.
- 2. These TCP's are only to be implemented to facilitate mass vehicle evacuation from North Byron Parklands in the event of an emergency.
- 3. These TCP's are to be implemented only by RMS certified traffic control contractors.
- 4. Installation of signs, barriers and other traffic control devices shall be in accordance with the AS1742 series and the RTA Traffic Control at Work Sites version 4.0.



REV:	DESCRIPTION:	DATE:	DRAWN:	REVIEWED:	APPROVED:	APPROVED BY:	INGEN CONSULTING	CLIENT:	PROJECT:	DRAWING TITLE:
0	Emergency use only	15/2/19	MK	MK	MK	Michiel Kamphorst, MSc, BSc, RPEng, RPEQ, NER Prepare a Work Zone Traffic Management Plan 0039028234 Signed: 15/02/2019	INGEN CONSULTING	Secret Sounds 6/59 Centennial Circuit Byron Bay NSW 2481	Emergency Evacuation using vehicles - Traffic Control Plans Splendour in the Grass 2019	TCP - Gate D
										PROJECT NUMBER: J1055
										ORIGINAL SIZE: A3
										DRAWING NUMBER: J1055_EETCP03
										REVISION: 0







Splendour in the Grass 2019
Traffic Management Plan



APPENDIX D – RISK MATRIX

SPLENDOUR IN THE GRASS 2018

RISK ASSESSMENT



Project name:	Splendour in the Grass 2018
Job number:	11035
Relevant task:	Transport Management Plan
Assessment date:	Feb 19
Prepared by:	Michiel Kamphorst

RISK IDENTIFICATION		RISK ANALYSIS		INHERENT RISK SCORE			LIKELIHOOD REDUCTION			ADJUSTED RISK SCORE			CONSEQUENCE REDUCTION			Mitigation owner	RESIDUAL RISK SCORE		
Hazard	Primary risk type	Contributing Factors	Consequence	Consequence	Likelihood	Risk score	Mitigation to reduce likelihood	Consequence	Likelihood	Risk score	Mitigation to reduce consequence		Consequence	Likelihood	Risk score		Consequence	Likelihood	Risk score
Collision between vehicle and traffic controller	Health risk	vehicle speed, adverse weather conditions, traffic congestion, insufficient high vis clothing on traffic controller, no escape route for traffic controller, driver confusion, alcohol, drugs	Injury or death	C	P	20	Safety methodologies by traffic control company, experienced staff, implementation of approved Traffic Management Plan, compliant traffic control plans, adequate directional signage, RBT's, road works speed limits	C	R	9	Road works speed limits, ambulance on site, supervisor at each traffic control location to apply first aid	Traffic Control company manager	C	R	9		C	R	9
Vehicle crash on local roads outside traffic management zone	Health risk	Vehicle speed, traffic congestion, adverse weather, driver alertness	Injury or death	C	U	16	TMP designed to avoid queuing beyond limits of traffic management zone, VMS boards in critical locations and bump trucks on call to control back-of-queue	C	R	9	Emergency services are aware of festival and risks involved	Festival traffic manager, Traffic Control company manager	C	R	9		C	R	9
Vehicle crash on local road within traffic management zone	Health risk	Vehicle speed, traffic congestion, adverse weather, driver alertness	Injury or death	C	U	16	Road works speed limit, implementation of approved Traffic Management Plan, adequate directional signage, RBT's	C	R	9	Emergency services are aware of festival and risks involved	Festival traffic manager, emergency services, road authority, traffic control company manager	Ma	R	8		Ma	R	8
Vehicle crash on Pacific Motorway	Health risk	Vehicle speed, traffic congestion, adverse weather, driver alertness	Injury or death	C	U	16	TMP designed to avoid queuing beyond limits of traffic management zone, VMS boards in critical locations and bump trucks on call to control back-of-queue	C	R	9	Emergency services are aware of festival and risks involved	RMS, emergency services	C	R	9		C	R	9
Collision between vehicle and pedestrian on public road	Health risk	Vehicle speed, traffic congestion, adverse weather, driver alertness, pedestrian alertness	Injury or death	C	U	16	Traffic and transport planning such as to optimise internal drop off and bus services to minimise the need for pedestrians to walk along Tweed Valley Way.	C	R	9	Road works speed limits, ambulance on site, supervisor at each traffic control location to apply first aid	Festival traffic manager, Traffic Control company manager	C	R	9		C	R	9
Vehicle crash on site	Health risk	Vehicle speed, traffic congestion, adverse weather, driver alertness, driver confusion	Injury	Ma	U	15	Low speed environment, adequate lighting, traffic management to minimise congestion, directional signage	Mo	R	8	Site speed limit, ambulance on site, festival staff aware of risks	Festival management	Mo	R	8		Mo	R	8
Collision between vehicle and pedestrian on site	Health risk	Pedestrian alertness (alcohol, drugs, fatigue), driver alertness	Injury or death	C	P	19	Low speed environment, adequate lighting, traffic management to minimise congestion, directional signage, improved pedestrian barriers, drug dogs	Mo	U	13	Site speed limit, ambulance on site, festival staff aware of risks	Emergency services, festival management	Mo	U	13		Mo	U	13
Traffic congestion within festival site	Project risk	Limited processing facilities, limited parking available, conflict between various modes of transport	Internal delays	Mi	AC	17	Optimisation of traffic management and vehicle processing to reduce likelihood	Mi	L	12	Optimisation of traffic management and vehicle processing to reduce extent and duration	Festival traffic manager and festival parking marshals	I	L	11		I	L	11
Traffic congestion on the public road	Project risk	On-site queues extending past site gates	Delays for through traffic	Mo	AC	21	Optimisation of traffic management and vehicle processing to reduce likelihood	Mo	P	18	Optimisation of traffic management and vehicle processing to reduce extent and duration	Festival traffic manager	Mi	P	14		Mi	P	14
Increased car use due to insufficient charter buses	Project risk	Limited availability of buses and drivers	Traffic congestion	Mi	L	12	Early contact of charter companies and seek buses from a larger geographical area	Mi	U	6									

SPLENDOUR IN THE GRASS 2018

RISK MATRIX



		Consequence Descriptors									
		Insignificant (I)		Minor (Mi)		Moderate (Mo)		Major (Ma)		Catastrophic (Ca)	
Health risk consequence descriptors		Injuries or illness not requiring first aid treatment (notification only)		Minor (first aid treatable) injuries or disease		Single person sustains serious injury requiring hospitalisation, injury requiring medical treatment and/or lost time injury		Multiple persons sustain serious injury or illness requiring hospitalisation, injury requiring medical treatment and/or lost time injury		Loss of life, incurable fatal illness or permanent incapacitation (major disability)	
Project risk consequence descriptors		No additional restrictions for future festivals		Possible future restrictions to festival		Introduction of significant restrictions for future festivals		Significant impact on future festival viability		Future festivals are unviable, no permanent approvals at the site	
Likelihood Descriptors	Almost certain (AC)										
	The determined consequence is expected to occur in most circumstances when exposed to the hazard	It has been a common / very frequent occurrence in similar situations		M	10	M	17	H	21	E	25
	Likely (L)										
	The determined consequence will probably occur in most circumstances when exposed to the hazard	It is known to have frequently occurred / happened in similar situations		L	4	M	12	M	18	H	229
	Possible (P)										
	The determined consequence might occur occasionally when exposed to the hazard	Have heard of it happening regularly before in similar situations		L	3	M	11	M	14	H	19
	Unlikely (U)										
	The determined consequence could occur at some time when exposed to the hazard	Have heard of it happening occasionally in similar situations		L	2	L	6	M	13	M	15
	Rare (Ra)										
	The determined consequence may occur only in exceptional circumstances when exposed to the hazard	Unheard of in similar situations		L	1	L	4	L	7	M	8

Risk Hierarchy:

Extreme (23-25)	Intolerable. Exposure to these risks would normally be immediately discontinued except in extreme circumstances.
High (19-22)	Intolerable without treatment. Exposure to these risks should be discontinued as soon as reasonably practicable until approved control measures are implemented
Medium (8-18)	Tolerable with continual review. Exposure to these risks may continue provided it has been appropriately assessed and mitigated to as low as reasonably practicable (ALARP).
Low (1-7)	Broadly acceptable with periodic review. Exposure to these risks is acceptable by the relevant endorsing officer

Splendour in the Grass 2019
Traffic Management Plan



APPENDIX E – TC AUDIT CHECKLIST

TC AUDIT CHECKLIST					
Event:			Audit date:		
Traffic Control Contractor's company:					
Name of auditor:			Audit time:		
Name of site supervisor:					
Specific event or time period this checklist refers to:					
No	Description	Yes	No	N/A	Comment
1	<i>Provision for Activity</i>				
1.1	Has a TCP been provided				
1.2	Is the TCP signed by an accredited person and stamped by Council?				
1.3	Provide date of approval and stamp, and revision number of TCP				
2	<i>Implementation</i>				
2.1	Are all signs and devices installed in accordance with the TCP?				
2.2	Are all signs and devices installed in accordance with the relevant standards and regulations?				
2.3	Are signs placed suitably with regards to sight distance, vehicle speed, queue lengths and contrasting light (sun, shade, glare)				
2.4	Are all signs in suitable condition and free of damage and defects?				
2.5	Have all signs been displayed in a manner appropriate to the relevant conditions?				
2.6	Are sufficient escape routes available for traffic controllers?				
2.7	Have the needs for pedestrians and cyclists been considered?				

Splendour in the Grass 2019
Traffic Management Plan



2.8	Are additional safety barriers required?				
2.9	Have all safety barriers been installed correctly?				
2.10	Is adequate lighting available for night-time traffic controllers?				
2.11	Is there adequate access to amenities for traffic controllers?				
3	<i>Documentation sighted</i>				
3.1	Provide TCP drawing and revision numbers and list any modifications made on site.				
3.2	Direction to restrict (DTR)				
3.3	Traffic controller certification on site				
3.4	Has the signage been covered for non-RMS-controller operation as specified in the TCP?				
Additional comments and recommendations 					
Auditor signature: 			Site supervisor signature: 		

Report No. 8.2
File No:

Events - Byron Writers Festival 2019 - Road Closure
I2019/190

Summary

5 Council has received an event application and Traffic Management Plan (TMP) and Traffic Control Plan (TCP) for the 2019 Byron Writers Festival to be held between Friday 2nd August and Sunday 4th August 2019.

10 **OFFICER RECOMMENDATION**

That Council endorse the 2019 Byron Writers Festival to be held 2-4 August.

BACKGROUND

15 The event site is located on Bayshore Drive. The majority of traffic to the site will be via the Bayshore Drive Roundabout on Ewingsdale Road. See attached for the 2019 TCP and TMP, prepared by Ingen Consulting.

20 According to the event organiser's 2018 Writers festival Post Event Report, last year's festival saw 12 000 tickets sold with 55% of visitors staying for four days or more, and 12% for over seven days. The festival will therefore contribute to additional traffic in the lead up to, during and after the festival.

ISSUES

25 Ewingsdale Road is susceptible to queuing which can build up congestion on the Pacific Motorway leading up to the Byron Bay exit, particularly the southbound lane of the motorway.

This year the Byron Writers festival may coincide with the monthly Sunday Market at Butler Street car park on 4th August which may exacerbate the traffic issues on Ewingsdale Road. (Due to anticipated construction Commencing in July 2019, this may change)

Although not formalised in the TCP, the attached Traffic Management Plan proposes:

- 30
- The consultant liaise RMS to include the Writers Festival on the existing VMS sign messaging on the Motorway.

35 Previously, Council's post event report has suggested Thursday to Sunday traffic control. The current TMP does not specify the dates or times for traffic control. It is recommended that traffic control plans be implemented from Thursday to Sunday.

Pedestrian:

It is proposed to retain pedestrian traffic within the parking area as much as possible and provide a pedestrian road crossing over the existing drain opposite the site entry.

40 North of the car park entrance, Bayshore Drive is proposed to be a 10km/hr Shared Zone to increase pedestrian safety. Traffic controllers are proposed on Bayshore Dr at pedestrian crossings from the car park.

Parking:

No changes are proposed to car park entrance.

Bus drop off area is proposed at the end of Bayshore Dr within the cul-de-sac.

A dedicated taxi and Uber drop off area is proposed within the car park area located at the SE corner of the car park.

PWD parking is proposed within the Share Zone in the same location as last year.

5 With respect to the TCP, Council makes the following recommendations:

- Document who can change and approve the TCP on the day for unforeseen circumstances.
- Implement the traffic control plan between Thursday to Sunday as the minimum time frame.

Pacific Motorway

10 Given that congestion in the southbound lane of the Pacific Motorway leading up to the Byron Bay exit is a daily occurrence, the Byron Writers Festival is only a contributor of traffic on the Pacific Motorway. The Writer's Festival proposes to liaise with RMS to include the Writers Festival in the existing VMS sign messaging on the Motorway.

15 This will occur through liaison rather than formalising in the TCP's, as the VMS's are controlled by RMS, not Council. Placement of additional mobile VMS's on the Pacific Motorway is not considered justified and resulting decentralisation of VMS messaging would likely add to confusion amongst motorists.

Bayshore Drive roundabout

20 Bayshore Drive Roundabout is now completed and fully operational. This is expected to improve local traffic flow at this intersection compared to 2018.

The TCP directs traffic exiting the site and heading for Byron Town Centre to turn left into Sunrise Blvd. This helps to reduce congestion at the Bayshore Dr Roundabout.

25 Traffic heading west along Ewingsdale Rd from Byron Town Centre is directed to turn right at the Bayshore Dr Roundabout. As a contingency, it is recommended that if significant traffic congestion occurs at the Bayshore Drive Roundabout with east bound traffic backing up towards *The Farm* and the Motorway then west bound traffic arriving from Byron Town Centre is to be directed towards the event via Sunrise Blvd. This is expected to relieve some traffic congestion at the Bayshore Drive Roundabout.

Speed zones

30 Following Council's recommendations, a 40km/h speed zone from the rail crossing to the car park entrance on Bayshore Drive, and 10km/h from the car park entry to the end of Bayshore Drive will be implemented.

The latter is expected to improve the pedestrian safety on Bayshore Drive in the vicinity of the pedestrian crossing. These speed zones are depicted on the attached Traffic Control Plans.

35 Traffic Control Plans

The attached traffic control plans reflect the above discussions

COUNCIL IMPLICATIONS

5 ▪ **Budget/Financial**

The event organisers have a Council Memorandum of Understanding (Item 2.1 Councils role and responsibilities) which waives fees for the relevant Approval of Road Events pursuant to s144 of the Roads Act fee.

10 ▪ **Asset Management**

Not applicable.

15 ▪ **Policy or Regulation**

Delegated to council for authorisation in conjunction with:

- Actions required to control traffic- Part 8 (Sections 114 to 124) Roads Act, 1993.
- Prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) Road Transport (Safety and Traffic Management) Act, 1999.
- R5-1-3 Parking (Disable) – NSW Road Rules 203, \$541 fine
- R5-400 No Stopping - NSW Road Rules 167, \$253 fine
- R5-41 No Parking (specified times) - NSW Road Rules 168, \$108 fine.

20 ▪ **Consultation**

A condition of the endorsement of this event is that appropriate consultation is undertaken, including:

1. Advertising the impact of the event in the local newspaper and on the Council website.
2. Informing community and business that are directly impacted.
3. Liaising with bus and taxi operators.
4. Consulting with emergency services.

30 ▪ **Legal and Risk Management**

If vehicles cause congestion on Bayshore Drive then this could directly impact a Regional Road – Ewingsdale Road. RMS Traffic Engineering Department requires separate approval of the TMP and TCP.

RECOMMENDATION:

1. That Council endorse the Byron Bay Writers Festival 2-4 August 2019, that includes the installation of temporary regulatory signage including No Stopping, No Parking and Disability Parking Signs between 8am and 6pm, subject to:
 - a. The traffic control plan is to operate Thursday 1st August to Sunday 4th August.
 - b. West bound event traffic arriving from Byron Town Centre is to be directed down Sunrise Blvd, as a contingency, if east bound traffic on Ewingsdale Rd is queued back onto the Motorway.
 - c. Document who can change and approve the TCP on the day for unforeseen circumstances.
2. That the approval provided in Part 1 is subject to:
 - a. separate approvals by NSW Police and RMS being obtained
 - b. implementation of the approved Traffic Management Plan and Traffic Control

Plan, including the use of signed detours, as designed and implemented by those with appropriate accreditation

- c. that the impact of the event be advertised via a notice in the local weekly paper a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints**
- d. the event be notified on Council's webpage**
- e. the event organiser:**
 - i. undertake consultation with community and affected businesses including adequate response/action to any raised concerns**
 - ii. undertake consultation with emergency services and any identified issues addressed**
 - iii. hold \$20m public liability insurance cover which is valid for the event**

Attachments:

- 1 E2019/13546 2019 Writers Festival TMP and TCP, E2019/13546 , page 112  

Ingen Consulting
Alstonville NSW 2477
0417 264 987
michiel@ingenconsulting.com.au
www.ingenconsulting.com.au



Our Reference: J1057_TMP

General Manager
Byron Shire Council
PO Box 219
Mullumbimby NSW 2482

24th January 2019

Attn: Evan Elford

Re: Byron Writers Festival 2019 — Traffic Management Plan

Dear Evan,

The Byron Writers Festival have engaged our services to prepare a Traffic Management Plan (TMP) for the 2019 Byron Writers Festival, at Bayshore Drive in Byron Bay.

It is our understanding that Council have not provided feedback after last year's festival, and therefore this year's TMP is based on last year's TMP, with changes associated with the newly constructed Bayshore Drive roundabout on Ewingsdale Road.

Pacific Motorway

Given that congestion in the southbound lane of the Pacific Motorway leading up to the Byron Bay exit is a daily occurrence, the Byron Writers Festival should not be considered the cause of this congestion on festival days. It is recognised however that the festival is a contributor of traffic on the Pacific Motorway. We therefore propose to liaise with Council and RMS to include the Writers Festival in the existing VMS sign messaging on the Motorway and on Ewingsdale Road adjacent The Farm to give motorists a heads-up of the upcoming event a week before the event.

This will occur through liaison rather than formalising in the TCP's, as the VMS's are controlled by RMS, not Council. Placement of additional mobile VMS's on the Pacific Motorway would not be justified and

Civil | Traffic | Noise | Project Management | Contract Management

Byron Writers Festival 2019
Traffic Management Plan



resulting decentralisation of VMS messaging would likely add to confusion amongst motorists. It would be most effective if the Writers Festival is incorporated into RMS's messaging schedules.

Bayshore Drive roundabout

Last year, the Bayshore Drive roundabout was being constructed during the festival. Therefore 2018 departing traffic was directed to the Sunrise Boulevard roundabout. Since the Bayshore Drive roundabout is now completed, all departing traffic can be directed to the Bayshore Drive roundabout during the 2019 festival, thus reducing the impact on residents along Sunrise Boulevard. We still propose to install a VMS on Bayshore Drive at the Sunrise Boulevard intersection for southbound traffic, indicating to turn left here for Byron town centre. This would allow the patrons headed for Byron Bay CBD to avoid any congestion at the Bayshore Drive roundabout.

Speed zones

Similar to last year, we have included a 40km/h speed zone from the rail crossing to the car park entrance on Bayshore Drive, and 10km/h from the car park entry to the end of Bayshore Drive. The latter would improve the safety of any pedestrian-vehicle interactions that may occur on Bayshore Drive. These speed zones are depicted on the attached Traffic Control Plans.

Pedestrian crossing

We propose to retain the pedestrian crossing (from the car park to the footpath) at the same location as last year. We have also included the 10 km/h speed zone north of the car parking entry and pedestrian fencing along the western side of the swale. We conclude that this will result in a significant increase in pedestrian safety, as the likelihood of crossing is reduced due to the fencing, and the consequence of an unwanted pedestrian-vehicle interaction is reduced due to the low vehicle speed.

Bus and taxi movement plan

Similarly to last year, a bus and taxi movement plan is included in the set of drawings. With the increased use of drop offs by services such as Uber, a suitable and efficient drop off zone is allocated within the car parking area close to the entrance. The design and placement of internal signage to facilitate the vehicle flows as indicated in the bus and taxi movement plan is not included in this TMP (which is intended to describe signage in the public road only) and will be included in the festival's internal management documentation.

Byron Writers Festival 2019
Traffic Management Plan



Traffic Control Plans

The attached traffic control plans reflect the above descriptions. If you have any questions, please do not hesitate to contact our office.

Yours sincerely,

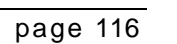
A handwritten signature in blue ink, appearing to read "MK", written over a light blue horizontal line.

Michiel Kamphorst

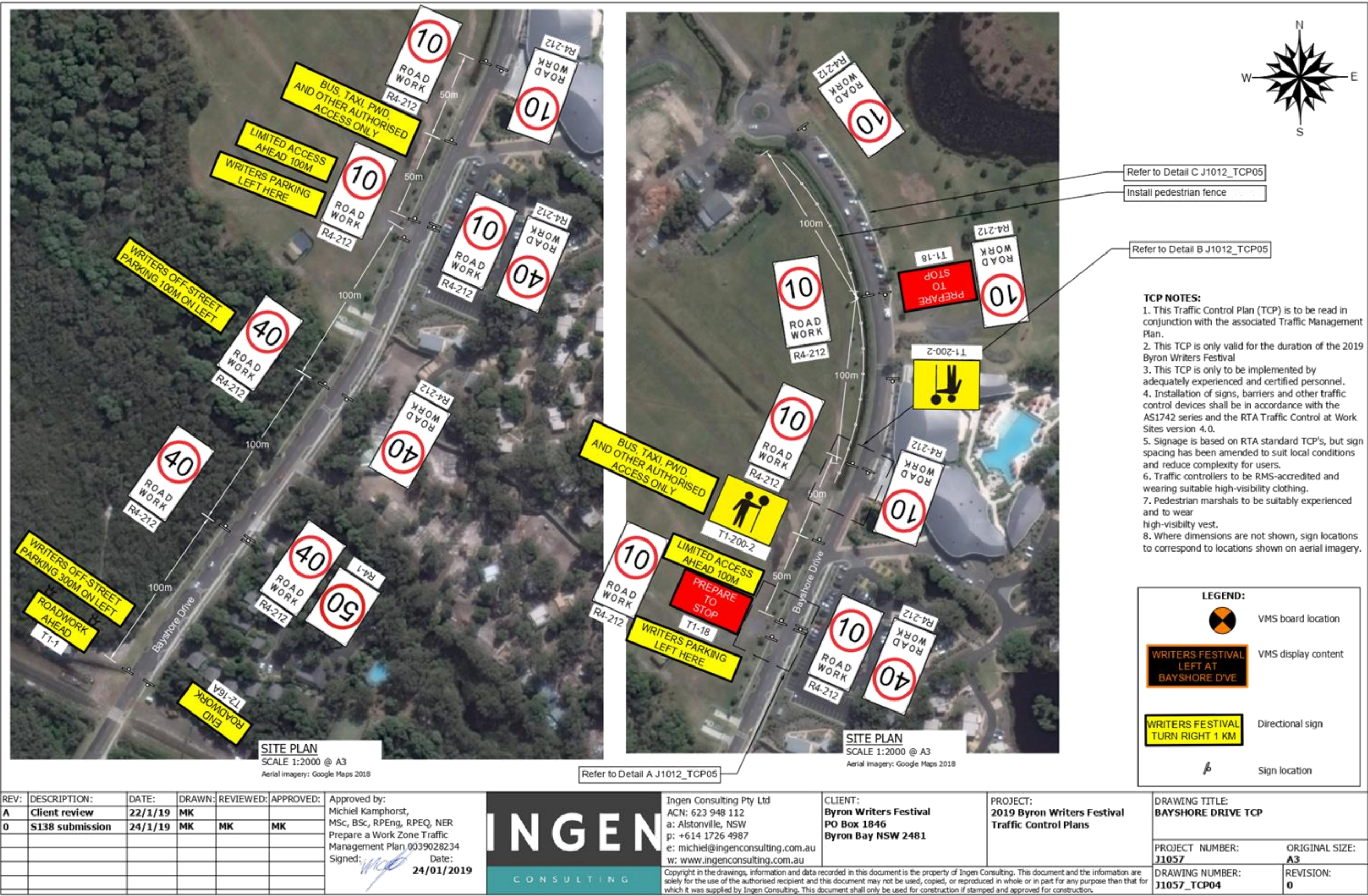
MSc, BSc, RPeng, RPEQ, NER (Civil)

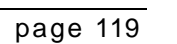
Prepare a Work Zone Traffic Management Plan 0039028234

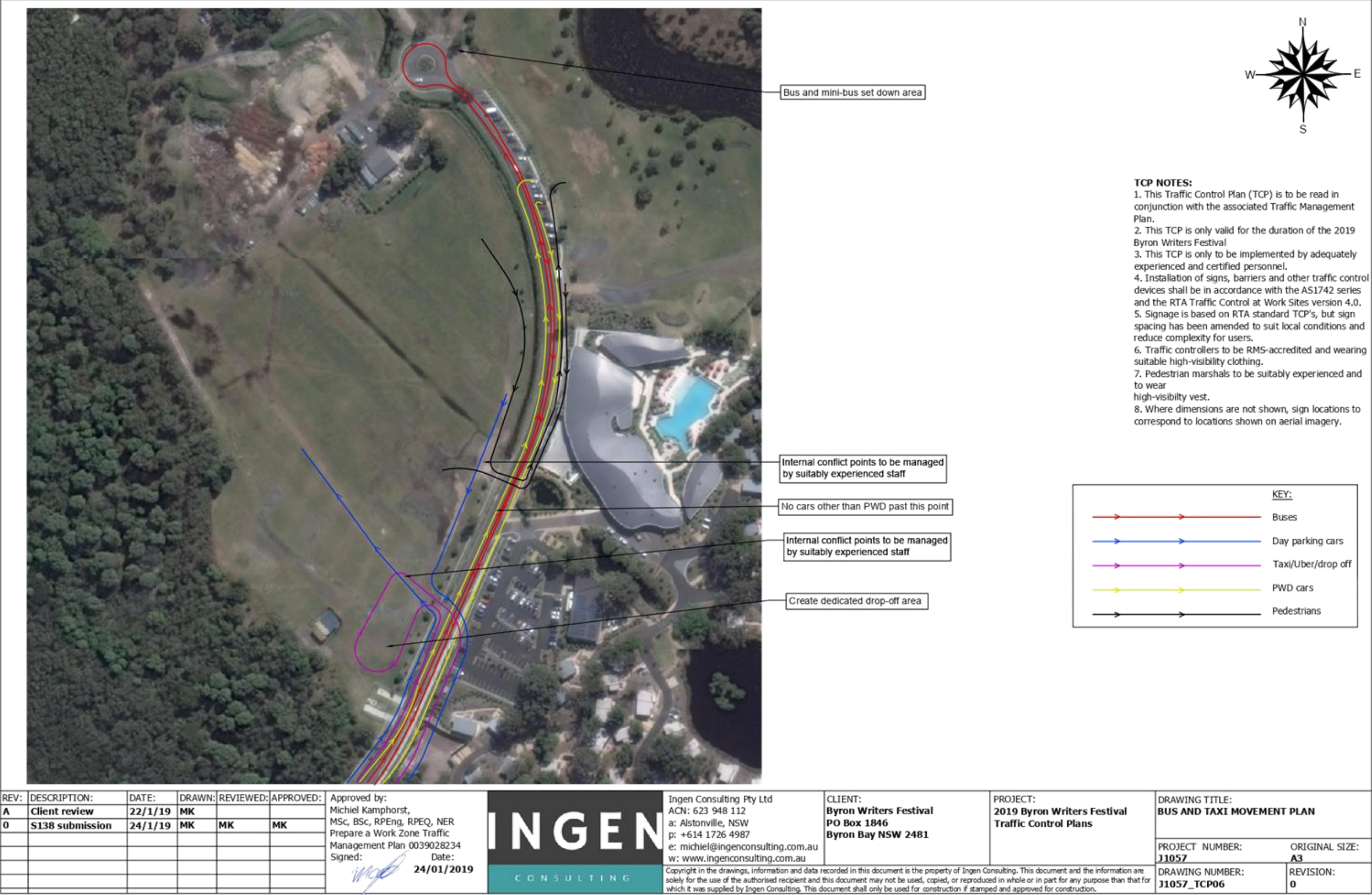
Attachments: Traffic Control Plans











Report No. 8.3
File No:

Bus Stop & Street Signage Relocation - Bonanza Drive, Billinudgel
I2019/198

UMMARY

- 5 Council has received an application to construct a driveway crossover at 6 Bonanza Drive Billinudgel. This driveway crossover conflicts with an existing Bus Stop used predominately by NSW Transport Trainlink. The applicant has applied to relocate this bus stop.

BACKGROUND

- 10 DA consent was granted for an industrial development at 6 Bonanza Drive, Billinudgel. The proposed driveway alignment conflicted with an existing Bus Stop and street signage. As a result conditions required the relocation of the Bus Stop and street signage to a location acceptable to Council and subject to the LTC recommendation.

- 15 The bus stop is currently used only by NSW Transport Trainlink. They have been contacted and informed the applicant and Council that LTC is responsible for installing/moving the bus stop. In addition, typically, if LTC approves the request the bus operator would submit a bus service adjustment to Transport for NSW.

Given NSW Transport is the bus operator they have already referred the matter to NSW regional trainlink for comment. To date, no feed back has been provided. Currently buses stop here approximately twice a day, once in the morning and once in the afternoon.

- 20 Figure 1 below shows the proposed driveway design and conflict with existing bus stop and street signs. The left driveway (this is the southern driveway) is proposed as one way in (entry only). The right driveway (the northern driveway) is proposed to be one way out (exit only). It is proposed to relocate the bus stop to the right of the northern driveway.

- 25 The cost of moving the Regional bus sign and the existing regulatory signage to the new location will be the responsibility of the developer.

- 30 It is anticipated a bus stopped at the relocated bus stop will overhang the northern driveway for a short period of time (approximately 5 minutes in the morning and the afternoon) and would cause minimal disruption to the proposed development. The bus would not prevent vehicles entering the site.

KEY ISSUES

- 35
- The relocation of the bus stop and street signage will be at the developer's expense.
 - The applicant has contacted Transport for NSW and is awaiting feedback.
 - The Bus Stop is currently only used by NSW Transport TrainLink.
 - The Bus Stop relocation will not alter bus or vehicle routes.
 - Proximity and setback to Wilfred St intersection.
- 40
- The developer is willing to accept minor temporary blockage of the proposed northern driveway.

COUNCIL IMPLICATIONS

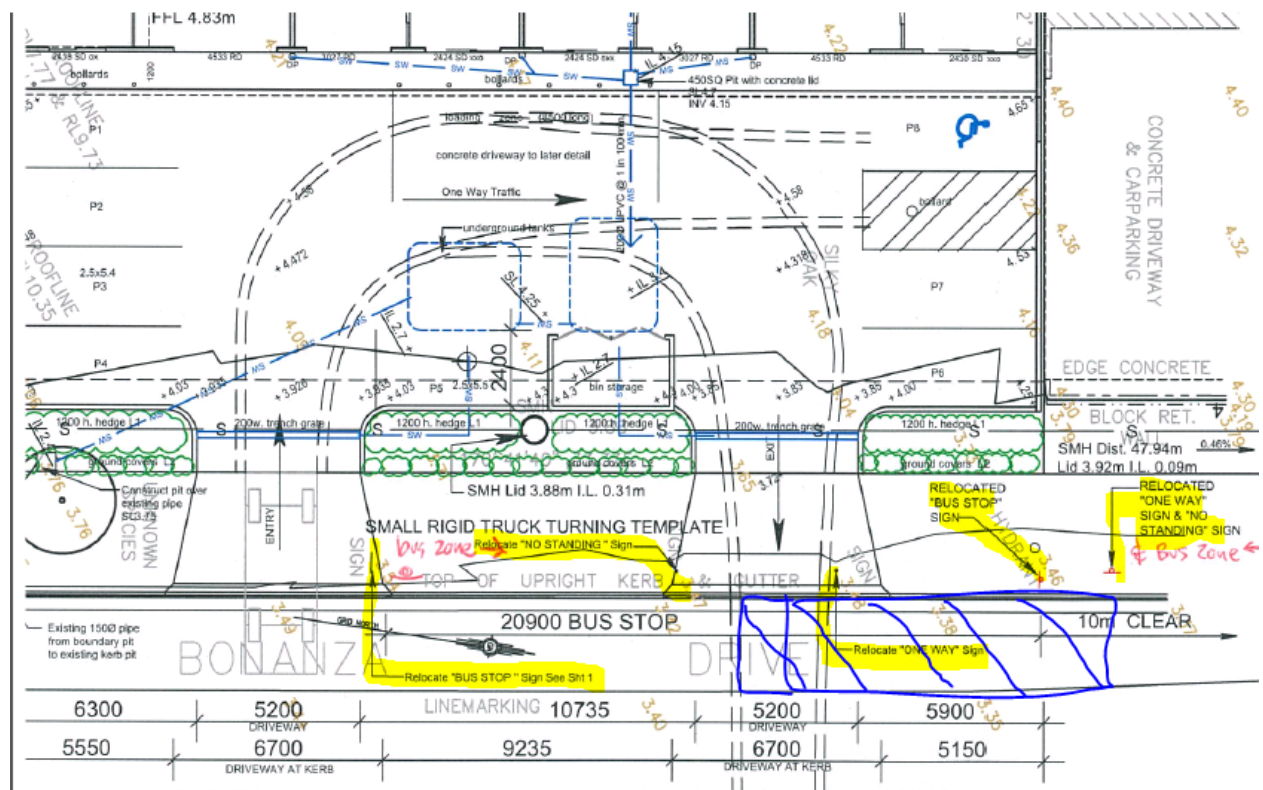
- 45
- **Budget/Financial**
Developer to pay for bus stop and street signage relocation..
 - **Asset Management**
Nil.
- 50

- **Policy or Regulation**
To comply with Australian Standards, Transport for NSW and RMS requirements.

- **Consultation**
The applicant is to consult with Transport for NSW and comply with Transport for NSW requirements.

- **Legal and Risk Management**
The relocation of the bus stop and street signage is to comply with Australian Standards, Transport for NSW and RMS requirements.

Figure 1: Concept plans showing the existing signage and proposed signage relocation highlighted in yellow.



RECOMMENDATION:

That Council supports the relocation of the existing bus stop and regulatory signage subject to:

- The cost of the works being the responsibility of the developers,
- Approval being obtained from Transport for NSW by the developer,
- The bus stop relocation to be in accordance with relevant Australian Standards, Transport for NSW and RMS requirements.