Albany Motorsport Park – Development Application

Construction Management Plan

City of Albany

27 July 2021

→ The Power of Commitment

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Executive summary

The purpose of this Construction Management Plan is to outline objectives, broad strategies and actions required to minimise environmental impacts associated with construction of the Albany Motorsport Park (AMP) at Lot 5780 Down Road South, Drome (Figure 1, Appendix A).

This Construction Management Plan is appended to the overarching Environmental Management Plan (EMP) which has been developed for construction works associated with Stage 1A and 1B of the proposed AMP development.

This Construction Management Plan applies to the City of Albany (CoA), Great Southern Motorplex Group (GSMG) and all appointed contractors during the construction of the AMP.

It is recommended that a site-specific Construction Environmental Management Plan (CEMP) is developed by the appointed contractor. The CEMP will expand on the outlined management measures and identify measures for the works to comply with environmental laws and regulations.

The main objectives of this construction management plan, for Stage 1A and 1B of the AMP, include the following:

– Comply with all environmental legislation, statutory and development approval obligations
– Minimise environmental impact on ecological values within the Protected Exclusion Area
– Minimise offsite environmental and social impacts as a result of construction of the AMP.

Construction of the AMP has the potential to result in the following:

– Impacts on native vegetation communities and flora due to changes in surface hydrology, hydrogeological changes, erosion or sedimentation
– Impacts on native vegetation communities and flora due to “dust smothering” leading to decreased photosynthetic capacity
– Impact of native vegetation communities due to spread of *Phytophthora* dieback and weeds
– Disturbance of fauna from construction related noise, dust and uncontrolled fires
– Loss of fauna due to vehicle strike
– Impact on surface water quality including the Conservation Category Wetland (CCW) Marbelup Flats (which ultimately leads to the Marbelup Brook) located within the Protected Exclusion Area
– Impact on groundwater quality in a Priority 2 Public Drinking Water Source Area (PDWSA) – Marbelup Brook Catchment Area
– Visual impact.

It is the responsibility of CoA to implement this Construction Management Plan during construction of the AMP.

This report is subject to, and must be read in conjunction with, the limitations set out in section 1.4 and the assumptions and qualifications contained throughout the Report.

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1. Introduction

1.1 Purpose of this report

The purpose of this Construction Management Plan is to outline objectives, broad strategies and actions required to minimise environmental impacts associated with construction of the Albany Motorsport Park (AMP) at Lot 5780 Down Road South, Drome (Figure 1, Appendix A).

This Construction Management Plan applies to the CoA, GSMG and all appointed contractors during the construction of the AMP.

It is recommended that a site-specific Construction Environmental Management Plan (CEMP) is developed by the appointed contractor. The CEMP will expand on the outlined management measures and identify measures for the works to comply with environmental laws and regulations. The CEMP will provide site specific information for works undertaken during construction such as laydown areas for materials, erosion control infrastructure including soil stabilisation spray and silt fences etc.

Construction works are due to commence as soon as all relevant approvals and permits are obtained and are expected to occur over an 18 to 24 month period.

Construction activities expected to be undertaken include earthworks, road and racetrack construction, building construction, waste removal and materials transfer.

1.2 Objectives

The main objectives of this construction management plan, for Stage 1A and 1B of the AMP, include the following:

– Comply with all environmental legislation, statutory and development approval obligations
– Minimise environmental impact on ecological values within the Protected Exclusion Area
– Minimise offsite environmental and social impacts as a result of construction of the AMP.

1.3 Legislation and guidelines

Legislation and guidelines associated with construction activities include, but may not be limited to the following:

– *Aboriginal Heritage Act 1972*
– *AS 1940:2004 – The Storage and Handling of Combustible Liquids*
– *AS 2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites* (AS 2436-2010)
– *Biosecurity and Agriculture Management Act 2007*
– *Biodiversity Conservation Act 2016*
– *Environmental Protection Act 1986*
– *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth)
– *Environmental Protection and Biodiversity Conservation Regulations 2000* (Commonwealth)
– *Environmental Protection (Noise) Regulations 1997*
– *Environmental Protection Regulations 1987*
– *Contaminated Sites Act 2003*
– *Dangerous Goods Safety Act 2004*
– *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*
– *Heritage of Western Australia Act 1990*
– *Rights in Water and Irrigation Act 1914*
– *Waste Reduction and Recycling Act 2011*
– *Waste Avoidance and Resource Recovery Act 2007*

– Water Quality Protection Note (WQPN) 100: Motor sport facilities near sensitive waters (DoW, 2007)
– *Wildlife Conservation Act 1950.*

1.4 Limitations

This report: has been prepared by GHD for City of Albany and may only be used and relied on by City of Albany for the purpose agreed between GHD and City of Albany as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than City of Albany arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by City of Albany and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Potential environmental impacts

Construction of the AMP has the potential to result in the following:

– Impacts on native vegetation communities and flora due to changes in surface hydrology, hydrogeological changes, erosion or sedimentation
– Impacts on native vegetation communities and flora due to “dust smothering” leading to decreased photosynthetic capacity
– Impact of native vegetation communities due to spread of *Phytophthora* dieback and weeds
– Disturbance of fauna from construction related noise, dust and uncontrolled fires
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– Impact on surface water quality including the Conservation Category Wetland (CCW) Marbelup Flats (which ultimately leads to the Marbelup Brook) located within the Protected Exclusion Area
– Impact on groundwater quality in a Priority 2 Public Drinking Water Source Area (PDWSA) – Marbelup Brook Catchment Area
– Visual impact.

3. Management strategies, actions, timeframes and responsibilities

Broad management strategies have been developed to minimise potential impacts associated with construction of Stage 1A and 1B of the AMP. The management strategies, timing and responsibilities are outlined in Table 1.

Table 1 Construction management strategies, actions, timeframes and responsibilities

Management Strategies	Actions	Timeframes	Responsibility
Site induction	All site workers will undertake an induction, which includes information about this CMP and the CEMP including environmental management requirements, for construction of the AMP.	On site entry	CoA/ GSMG/ contractors
Minimise impact on native vegetation	Demarcate approved clearing area to restrict clearing of native vegetation to the approved clearing area only. Any clearing outside the approved area to be recorded in the AMP Incident Register and reported to DWER as required.	Construction period	CoA/ GSMG/ contractors
	Surface water drains and discharge locations to be positioned so that they have minimal impact on native vegetation.	Detailed design phase	CoA/ GSMG/ contractors
	Implement hygiene management measures to minimise risk of spread of dieback.	Construction period	CoA/ GSMG/ contractors
	Ensure weeds do not establish on stockpiles or are moved around site, particularly when in seed.	Construction period	CoA/ GSMG/ contractors
Minimise impact on native fauna	Demarcate approved clearing area to restrict clearing of native vegetation to the approved clearing area only.	Construction period	CoA/ GSMG/ contractors
	Undertake a fauna clearance survey, by a suitably qualified person, to check for fauna prior to clearing vegetation. If animals are located within the construction area, stop works and allow them to move on before recommencing works. Any native fauna injured as a result of the AMP construction will be taken to a designated veterinary clinic or a DBCA nominated wildlife carer. All native fauna injuries and deaths to be recorded in the AMP Incident Register and reported as required.		
	Wherever practical clearing should be undertaken on one front only to provide an opportunity for fauna to move out of the construction area		
	Clearing to be timed to minimise impacts on native fauna, particularly Black Cockatoos (i.e. clearing will be avoided during spring).		
	If native fauna is disturbed during clearing it should be allowed to make its own way to adjacent vegetation.		
	Should trenches be constructed, which native fauna are unable to escape from, they will be inspected by a “fauna spotter” on a regular basis (dawn, midday and prior to sunset). If trenches are left open overnight, ramps will be established to permit native fauna to escape.		
	No pets, such as dogs or cats, permitted on site.		
	All putrescible waste bins to be lidded so as to avoid encouraging vermin.		
	Install and maintain fencing around Development Exclusion Buffer.		

Management Strategies	Actions	Timeframes	Responsibility
Minimise risk of contamination from waste to the surrounding environment and detrimental impacts on human health	Apply the waste management hierarchy (avoidance, recovery, disposal) to manage waste streams.	Construction period	CoA/ GSMG/ contractors
	All putrescible waste bins to be lidded so as to avoid windblown waste. Regular checks within and off site for windblown waste and removal as required.		
	Refuelling or servicing of plant and equipment on site will be undertaken on a designated bunded area. All minor spills shall be remediated immediately by using a Spill Kit and disposing of contaminated material to an appropriately licensed facility. In the event of a serious/ major spill, it will be contained using appropriate Spill Kit and relevant specialists contacted regarding soil and ground water testing/ determine if further remediation is required.		
	Where waste cannot be reused or recycled it will be removed offsite and disposed of to an appropriately licensed facility.		
	Chemical, hydrocarbon and other hazardous waste will be collected in an appropriate manner to minimise risk of contamination and disposed of to an appropriately licensed facility.		
Minimise disturbance of ASS	No dewatering or disposal of dewatering effluent onsite due to draw down of groundwater and ASS “moderate to low” risk area in the Protected Exclusion Area. Construction will be undertaken during a period when water table will not be intercepted i.e. summer months. An ASS management plan will be required if greater than 100 m^3 of soil is disturbed and/ or dewatering is required.	Construction period	CoA/ GSMG/ contractors
Manage dust emissions such that they result in the lowest practicable impact to sensitive receptors	The extent of disturbed surfaces will be kept to the minimum possible by: – Only clearing where required for construction operation – Conducting vegetation clearing, levelling and rehabilitation in stages when required – Clearly marking or fencing off any natural vegetation not to be cleared to prevent accidental clearing – Revegetating exposed soil as soon as practicable	Construction period	CoA/ GSMG/ contractors
	Time the works to minimise dust emissions by: – If possible, scheduling major works that produce high levels of dust outside of the dust season (dust season is October to March) – If this is not possible dust monitoring may be required as per the requirements of the Dust Management Plan (Appendix G) – Monitoring wind and weather forecasts and delaying dust generating activities when conditions are unfavourable		
	Maintaining natural wind and dust barriers by avoiding the removal of tree/vegetation shelter belts alongside boundaries whilst major clearing works are underway at the site.		
	Managing earth moving activities by: – Not clearing areas unless they are able to be levelled and stabilised immediately – Observing weather conditions and not commencing or continuing works during unsuitable conditions		
	Managing stockpiles by locating stockpiles in sheltered areas and cover when they are to be left for longer than 24 hours		

Management Strategies	Actions	Timeframes	Responsibility
	Apply water/dust suppressant to: – Exposed areas when strong winds are expected – Areas scheduled for disturbance		
	Hydromulch or chemically stabilise any cleared areas or stockpiles which may be left for a substantial period of time	Construction period	CoA/ GSMG/ contractors
	Maintaining dust management should be undertaken by: – Nominating one person to be responsible for dust management at the site – Educating all site workers on how dust is generated and methods of reducing dust generation		
Manage noise emissions such that they result in the lowest practicable impact to sensitive receptors	Construction activities will occur during normal construction hours (7.00 am and 7.00 pm Monday to Saturday). Work outside these times would only occur if required for special tasks or to recover lost time due to project delays. Where possible, activities that could result in elevated noise levels will be scheduled during normal construction hours.	Construction period	CoA/ GSMG/ contractors
	Selection of alternate equipment or process – Where a particular item of equipment or activity is found to generate noise levels that exceed the assigned noise levels, it may be possible to select alternate equipment or approaches to reduce noise levels. For example, smaller, quieter front-end loaders will be used onsite rather than larger equipment, where operationally practicable. Wherever practicable, oscillating rollers will be used in preference to vibrating rollers as these cause significantly less vibration to surrounding sensitive receptors.		
	Acoustic barriers – Barriers or screens may be effective in reducing noise levels from work sites, when located at either the source or receptors. Barriers at the source generally only reduce noise levels from static equipment. The extent of noise reduction achieved is dependent on the degree to which the line of sight is blocked. If receptor is totally shielded, noise reduction of up 15 dBA is possible, whereas partial obstruction may only achieve noise reduction of 7 to 10 dBA.		
	Silencing – Where processes or equipment are noisy, the use of additional silencing may be possible, pending availability. This can be in the form of engine shrouding or residential grade exhaust silencers. Due to the distance to the nearest sensitive receptors, this measure is considered unlikely to be required.		
	Establishment of site practices involves formulation of work practices to reduce noise exposure to nearby sensitive receptors. The following management and mitigation measures are available to ameliorate noise impacts as far as practicable: – All plant and equipment should be selected to minimise noise emissions, maintained in good repair and operated in accordance with the manufacturer's instructions. All engine covers should be kept closed while equipment is operating. – All combustion engine plant, such as generators, compressors and welders should be checked to ensure they produce minimal noise with particular attention to residential grade exhaust silencers. – Fixed equipment (i.e. pumps, generators and air compressors) should be located as far as practicable from noise sensitive receptors and locations of equipment rotated to provide respite to receptors.		

Management Strategies	Actions	Timeframes	Responsibility
	– Where practical, machines will be operated at low speed or power and will be switched off when not being used rather than left idling for prolonged periods. – Machines found to produce excessive noise compared to industry best practice will be removed from the site or stood down until repairs or modifications can be made. – Where practical, impact wrenches will be used sparingly within close proximity to sensitive receptors, with hand tools or quiet hydraulic torque units preferred. Metal to metal contact on material should be avoided where practical. – Whenever possible, loading and unloading areas should be located as far as practicable from the noise sensitive receptors. – Materials dropped from heights into or out of trucks should be minimised. Care will be taken when loading or unloading to avoid noise resulting from material being dropped or thrown into the tray of trucks. – Vehicles will be kept properly serviced and fitted with appropriate mufflers. The use of exhaust brakes will be eliminated, where practicable. – Minimise reversing. The preference will be for broadband (croaker) reversing alarms to be installed onsite equipment, subject to meeting occupational health and safety requirements. – Where practical, vehicular movements to and from the construction site should be undertaken during normal working hours. Information to be provided to truck drivers outlining designated vehicle routes, parking locations and delivery hours. – Vehicle routes to and from site will be selected to minimise impact to neighbours, by following major roads where possible. Truck drivers will also be advised of using good techniques when driving through residential areas, in particular to limit engine braking.	Construction period	CoA/ GSMG/ contractors
Minimise detrimental impacts of surface water runoff	Areas of high-risk erosion to be identified prior to construction works and the following measures, or similar, implemented as required: – Measures such as temporary bunds, coir logs and silt fences, to be put in place to prevent erosion and sedimentation down slope of areas under construction to prevent erosion and silt runoff into the drainage system. – Temporary silt fences to be to place around the Development Exclusion Zone, at likely sedimentation points, to trap sediment prior to entering the Protected Exclusion Area. – Silt fences to be inspected and cleaned out regularly and after large rainfall events to ensure they are working adequately. – Hay/ straw bales are not recommended for use as silt traps due to risk of spreading weeds to the Protected Exclusion Area. – If soil is stockpiled ensure areas downslope are protected from potential run off and sedimentation.	Construction period	CoA/ GSMG/ contractors
	Litter and waste storage bins to prevent litter to be blown by wind or washed by rainfall.		
	Establishing a washing-down area behind the bund or silt fence.		
	Provide a stabilised entry and exit point to prevent vehicle tracking of soil from the building site onto roads.		

Management Strategies	Actions	Timeframes	Responsibility
	Position stockpiles of sand and soil stockpiles to prevent material being tracked, washed, of blown into roads, and then into existing surface drainage or constructed stormwater systems.		
Minimise risk of bushfire	Maintain 50 m wide, low fuel Development Exclusion Buffer around the Protected Exclusion Area (Figure 2, Appendix A). Undertake maintenance activities within the AMP and implement recommendations for Stage 1A and 1B: – Albany Motorsport Park, Lot 5780 Down Road, Drome, Bushfire Management Plan, Addendum Report (Bio Diverse Solutions, 2021)	Construction period	CoA/ GSMG/ contractors
Undertake strategies for construction traffic management as per the Works on Roads Traffic Management Plan (Shawmac, 2021)	Implement and adhere to the Works on Roads Traffic Management Plan (Shawmac, 2021) prepared for construction works during development of the AMP included in Appendix B.	Construction period	CoA/ GSMG/ contractors

4. Monitoring

Monitoring of the Site will be undertaken during the construction phase, by the appointed contractor, so as to meet the following performance criteria:

– All non-hazardous, recyclable, hazardous and liquid wastes removed offsite to appropriately approved disposal locations on an as required basis
– Presence of litter and windblown waste around the Site cleaned up on a weekly basis
– No impact on ecological values within the Protected Exclusion Area – implement a vegetation and flora and weed monitoring program to identify any decline or loss of native vegetation and spread of weeds and Phytophthora dieback
– No clearing to occur outside approved clearing areas
– No native fauna deaths
– No impact on surface water and groundwater levels and quality compared to baseline monitoring levels
– No erosion within the AMP area and sediment run-off to the Protected Exclusion Area
– No dewatering or disposal of dewatering effluent onsite due to drawn down of groundwater in the Protected Exclusion Area/ ASS moderate risk area
– No uncontrolled bushfires caused by the appointed contractors
– No complaints received regarding construction activities.

All environmental incidents are to be reported in the construction contractor Incident Register held at the site offices and suitable corrective actions undertaken, and recorded, as required. All incidents and corrective actions will be reported to the CoA representative.

5. Management plan aspects

The following environmental management plan aspects which apply to this Construction Management Plan have been included in the overarching Environmental Management Plan for the Site:

– Roles and responsibilities
– Environmental incidents, non-conformances and complaints
– Environmental training
– Reporting and control of environmental records.

6. Review

This Construction Management Plan will be reviewed and updated no later than annually, until construction of Stage 1A and 1B is complete. A review may occur sooner if there is a material change in risk, legal requirements or an incident relevant to construction management. Management strategies will be reviewed for effectiveness and any corrective actions will be implemented.

7. References

Bio Diverse Solutions. (2021). *Albany Motorsport Park, Lot 5780 Down Road, Drome, Bushfire Management Plan, Addendum Report.* Unpublished report prepared for GHD.

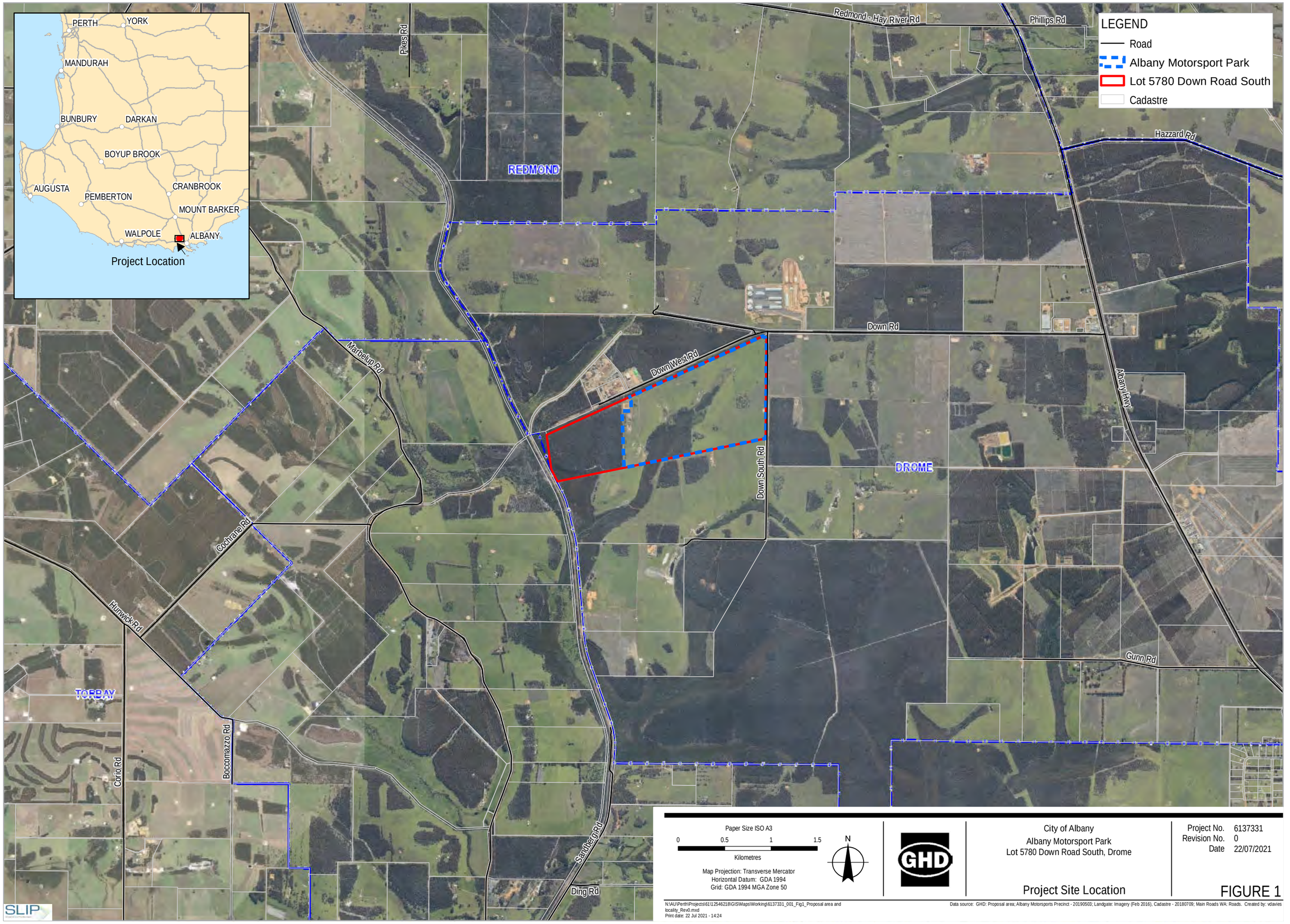
DoW. (2007). *Water Quality Protection Note 100: Motor sport facilities near sensitive water.* Perth: Department of Water.

Roberts Gardiner Architects . (2021). *Albany Motorsport Park Masterplan - Stage 1.* Unpublished masterplan for City of Albany.

Shawmac. (2021). *Albany Motorsport Park Development Works on Roads Traffic Management Plan.* Unpublished report prepared for GHD.

Appendix A

Figures



Paper Size ISO A3

0 0.5 1 1.5

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

GHD

City of Albany
Albany Motorsport Park
Lot 5780 Down Road South, Drome

Project Site Location

Project No.	6137331
Revision No.	0
Date	22/07/2021

FIGURE 1

N:\AU\Perth\Projects\61\12546218\GIS\Maps\Working\6137331_001_Fig1_Proposal area and locality_Rev0.mxd
Print date: 22 Jul 2021 - 14:24

Data source: GHD: Proposal area; Albany Motorsports Precinct - 20190503; Landgate: Imagery (Feb 2016), Cadastre - 20180709; Main Roads WA: Roads. Created by: vdavies

LEGEND

STAGE 1A

STAGE 1B

MB - MONITORING BORE

DMB - DEEP MONITORING BORE

DOWN ROAD

RT ROAD 7m GRAVEL WITH 2m WIDE VERGES

BOUNDARY AND PRECINCT FENCING - 1.8m HIGH

PROPOSED LEFT TURN LANE OFF DOWN ROAD

ENTRY / EXIT TO PARK

SECURE GATE

SECURITY FENCE

FUTURE RACE TRACK GATEHOUSE

7m WIDE GRAVEL EMERGENCY EXIT (GATED 8m)

POTENTIAL LOCATION WATER SUPPLY FOR FIRE FIGHTING - 110,000L / OR SIMILAR SUITABLE SOURCE

7m WIDE GRAVEL EMERGENCY EXIT (GATED 8m)

POTENTIAL EFFLUENT SYSTEM LOCATION

TRIALS TRACK

BUNDED CONCRETE RE-FUELING & WASHDOWN AREA WITH WASTE WATER TRAP & WATER TANK

AREA FOR SELF-CONTAINED TEMPORARY FOOD VANS

TRANSPORTABLE TOILETS ZONE

PROPOSED SINGLE STOREY MULTIPURPOSE BUILDING (FIRST AID, SCRUTINEERING & STORAGE) BUILDING (~250m² - WOODLAND GREY) WITH WATER TANK & ADJACENT DISABLED BAYS AS REQUIRED

EXISTING DAM

JUNIOR MOTOCROSS AREA

GATE

COVERED CONCRETE BUNDED AREAS FOR GENERATOR (FUEL)

OPEN AIR EMERGENCY MUSTER AREA

NATIVE BUSH

EXISTING FENCE

FENCE - 1.8m HIGH

4WD DRIVER TRAINING & ATV PRECINCT

4m FIRE ACCESS TRACK (GRAVEL) WITH 1m HARDENED SHOULDERS

BOUNDARY

PEDESTRIAN ACCESS

OVERFLOW PARKING SPECTATOR ZONE

MOTOCROSS TRACK 2.1km x 8m WIDE

MOTOCROSS PRECINCT

FENCE - 1.8m HIGH

GRASSED AREA - LOW FUEL MAINTAINED

WETLAND FENCING - 1.2m HIGH

50m WIDE LOW FUEL BUFFER

PROTECTED EXCLUSION AREA

EXISTING VEGETATED CREEK ZONE NO PROPOSED WORK

FUTURE MOTOCROSS GATEHOUSE

4m FIRE ACCESS TRACK (GRAVEL) WITH 1m HARDENED SHOULDERS

WETLAND FENCED IN STAGE 1A

4m FIRE ACCESS TRACK (GRAVEL) WITH 1m HARDENED SHOULDERS

RE-VEGETATED CREEK ZONE

PROTECTED EXCLUSION AREA

GRASSED AREA - LOW FUEL MAINTAINED

GRASSED AREA - LOW FUEL MAINTAINED

RACE TRACK PRECINCT

3.5km x 12m RACE TRACK

TURN 1

TURN 2

TURN 3

TURN 4

TURN 5

TURN 6

TURN 7

TURN 8

TURN 9

TURN 10

TURN 11

SECTION DETAIL REFER A-02

SEALED RECOVERY AREA

GRAVEL BED RUN-OFF

GRAVEL BED RUN-OFF

CONCRETE BARRIER & SAFETY FENCE

SPECTATOR VIEWING AREA (GRASSED & TREES - LOW FUEL)

SPECTATOR PARKING HARDSTAND (250 BAYS) AND FUTURE OVERFLOW PARKING AREA

OVERFLOW PARKING

BOUNDARY (FENCE)

DOWN ROAD SOUTH (GRAVEL)

TRANSPORTABLE SINGLE STOREY CLUBROOMS & TOILETS ~350m²

POTENTIAL EFFLUENT SYSTEM LOCATION

EMERGENCY MUSTER AREA (BITUMEN)

DRIFT TRAINING AREA

COVERED PIT LANE STRUCTURE & HARD STAND

EXISTING WESTERN POWER AERIAL POWER LINE

TRANSPORTABLE FIRST AID / AMBULANCE CONTROL ROOM ~50m²

COMPETITOR PARKING / MARSHALLING

EXISTING GRAVEL ROAD

FUTURE STORAGE SHEDS - NO FUEL OR COMBUSTIBLE MATERIALS STORAGE

WATER SUPPLY FOR FIRE FIGHTING - 110,000L

WATER BORE

TREES ONLY STAGE 1A

EARTH BACKED TYRE / CONCRETE BARRIER AND TREE LINED SHELTER BELT

4m FIRE ACCESS TRACK (GRAVEL) WITH 1m HARDENED SHOULDERS

7m WIDE GRAVEL EMERGENCY EXIT (GATED 8m)

MB

DMB

MASTERPLAN

SCALE 1:2500 @ A1

SCALE 1:5000 @ A3

rev	date	description
A	15-04-2021	ISSUED FOR CLIENT REVIEW
B	27-04-2021	ISSUED FOR CLIENT REVIEW
C	12-05-2021	ISSUED FOR CLIENT REVIEW
D	26-05-2021	ISSUED FOR CLIENT REVIEW
E	05-07-2021	ISSUED FOR DA

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project
Albany Motorsport Park
Lot 5780 Down Rd, Drome, WA 6330
client
City of Albany

Masterplan - Stage 1

cad file

drawn CB

project number 21-002

scale 1:2500 @A1

date JULY 2021

dwg no. A-01

rev. E

Appendix B

Works on Roads Traffic Management Plan (Shawmac, 2021)

WORKS ON ROADS
TRAFFIC MANAGEMENT PLAN

ALBANY MOTORSPORT PARK DEVELOPMENT

PREPARED FOR

GHD

I, YUYANG KE (AUS AWTM-19-6370-02), that I have designed this Traffic Management Plan following a site inspection on 18/03/2021 The Traffic Management Plan has been prepared, subject to the variations approved, in accordance with the Main Roads Traffic Management for Works on Roads Code of Practice, Austroads Guide to Temporary Traffic Management and AS 1742.3 2019.

	Name/Company	Accreditation Details	Date	Signature
TMP designed by:	ANTHONY ANASTAS Shawmac Consulting Civil and Traffic Engineers	AUS AWTM-20-4573-02	14/04/2021	
TMP Reviewed by:	YUYANG KE Shawmac Consulting Civil and Traffic Engineers	AUS AWTM-19-6370-02	14/04/2021	
RTM Reviewed and Endorsed by:				
Compliance Audit to be undertaken by:				
Road Authority Review by:				
Road Authority Authorisation:	Road authority authorisation of the implementation of traffic signs and devices is given for Traffic Management Plan No. 2103019 **Signed By:** ..... **Date:** ..... **Signature:** ..... **Position:**			

TMP No.	2103019	**Revision No.**	1	**Date**	14/04/2021

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DOCUMENT STATUS

Version	Date	Prepared	Approved	Comments
1	14/04/21	A. Anastas	Yuyang Ke	Issued for clients review

Revision <1> Changes:		
Page Number	**Header Reference**	**Description**

CONTENTS

Figures

TABLES

Glossary

Table 1: Glossary

Acronym	Definition
AGTTM	Austroads Guide to Temporary Traffic Management
AS	Australian Standard
AS/NZS	Australian and New Zealand Standard
AWTM	Advanced Worksite Traffic Management / Manager
CoP	Traffic Management for Works on Roads Code of Practice (MRWA)
MRWA	Main Roads Western Australia
OS&H	Occupational Safety and Health
RTM	Roadworks Traffic Manager (accredited by MRWA)
SRSA	Senior Road Safety Auditor
TGS	Traffic Guidance Schemes
TMP	Traffic Management Plan
TCP	Traffic Control Plan

1. Introduction

1.1. Purpose and Scope

This Traffic Management Plan (TMP) outlines the traffic control and traffic management procedures to be implemented by the Project Manager and Project Contractors to manage potential hazards associated with the traffic environment during the project.

The proposed project is for the development of a multipurpose motorsport park in Albany on Lot 5780 Down Road, Drome.

1.2. Objectives and Strategies

The objectives of the Traffic Management Plan is to ensure:

- The safety of the road workers.
- All road users, including vulnerable road users, are safely guided around, through or past the work site.
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works.
- Impacts on users of the road reserve and adjacent properties and facilities are minimised.

In an effort to meet these objectives the Traffic Management Plan will incorporate the following strategies:

- Providing a sufficient number of traffic lanes to accommodate vehicle volumes.
- Ensuring delays are minimised.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport.
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams shall be in accordance with the requirements of safe working practices.

2. Project Overview

2.1. Project Location

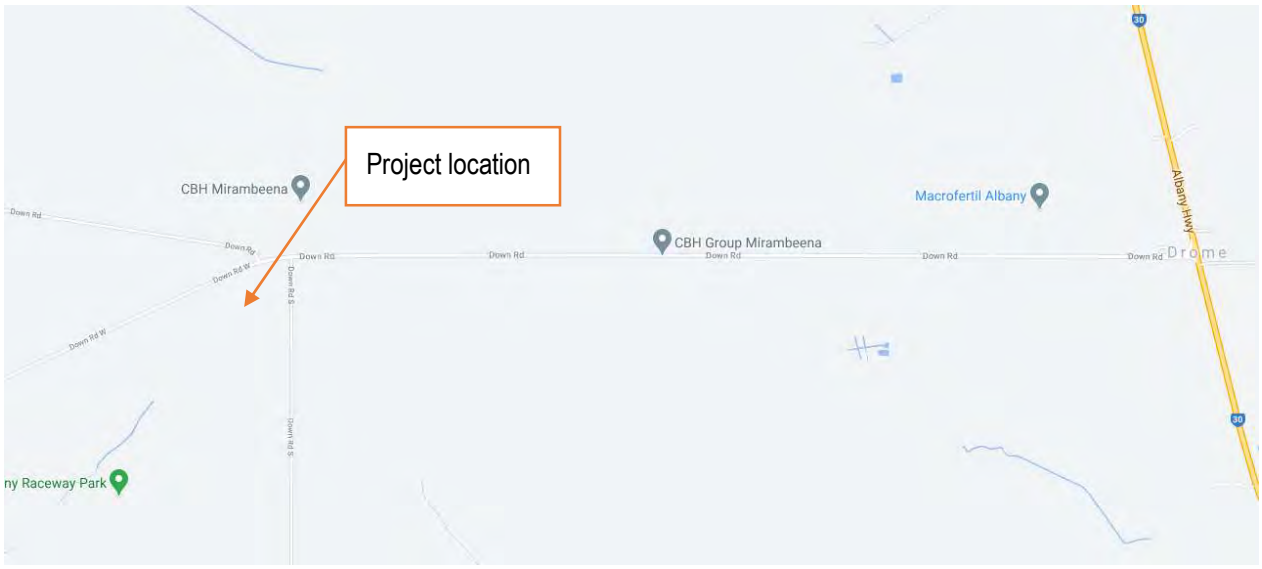


Figure 1: Location of Works

2.2. Project Details and Site Constraints/Impacts

Table 2: Project Details and Site Constraints/Impacts

Item	Description
Project Title:	Albany Motorsport Park Development
Location:	Lot 5780 Down Road, Drome, WA 6330
Road Classification & Existing Speed Limit:	Down Road – Access Road: 110km/h Down Road South - local access road (Gravel):
Road Authority:	City of Albany
Local Government:	City of Albany
Prime Contractor:	GHD
Scope of Works:	Construction of Albany Motorsport Park including earth works, car park construction, utilities installation and pavement construction.
Staging of Works:	Stage 1: western development construction Stage 2: eastern development construction
Project Date:	TBA
Hours/Days of Work:	9am to 7pm / 7 days a week
Duration of Works	8 months
Other Constraints:	Ongoing events during the construction of stage 2
Concurrent/Adjacent Works	N/A

or Projects	

2.3. Existing Traffic and Road Environment

Item	Description
Traffic Volume and Composition	Down Road: 844 vpd(2017) Down Road South: no data
Existing Road Configuration	Down Road: single carriageway with one lane in each direction approximately 9m wide. Down Road South: Gravel approximately 5m wide.
Existing Pedestrian / Cyclists Facilities	N/A

2.4. Overview of Proposed Temporary Traffic Management

Item	Description
Temporary Traffic Management Descriptions:	Verge works with various speed reductions depending on the clearance between edge of traffic and work site is required.
Speed Zone Dates and Times	40km/h to 80km/h speed reduction during work shift and 80km/h for after care Dates: TBC
Lane Closures Dates and Times	N/A
Road Closures Dates and Times	N/A
Signal Modifications Description	N/A
Proposed Lane Widths	Minimum 3.2m lane width is required.
Road Safety Barrier	N/A

2.5. Project Representatives

Table 3: Project Representatives

Position	Name	Contact Details
Road Authority Representative	City of Albany	Phone: (08) 6820 3000 Email: staff@albany.wa.gov.au Post: PO Box 484, ALBANY, WA 6331
Local Government	City of Albany	Phone: (08) 6820 3000 Email: staff@albany.wa.gov.au Post: PO Box 484, ALBANY, WA 6331
Project Manager / Prime Contractor	TBC	
Site Supervisor/Manager	TBC	

TMP Design	Yuyang Ke Shawmac Pty Ltd	Email: yyke@shawmac.com.au mob: 0421591428
TMP Implementation	TBC	

GHD have engaged Shawmac Pty Ltd to prepare this Traffic Management Plan and associated controls for the works.

The TMP will be implemented by TBC.

3. Risk Management

The following details the preliminary assessment of site hazards likely to be encountered, the level of risk associated with each and the control proposed. Note that the risk level is the level of assessed risk without the controls in place. The controls listed have been determined as being appropriate in reducing the risk to a level that is acceptable.

The hierarchy of control has been utilised to ensure that the highest practicable level of protection and safety is selected:

- Elimination
- Substitution
- Isolation
- Engineering
- Administration
- Personal Protection Equipment

In evaluating the options, a key consideration is whether the option takes traffic around, through or past the worksite.

3.1. Risk Classification Tables

3.1.1. QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Table 4: Risk Classification Damage/Impact

Level	Consequence	Description
1	Insignificant	• Mid-block hourly traffic flow per lane is equal to or less than the allowable lane capacity detailed in AGTTM. No impact to the performance of the network. • Affected intersection leg operates at a Level of Service (LoS) of A or B. • No property damage.
2	Minor	• Mid-block hourly traffic flow per lane is greater than the allowable road capacity and less than 110% of the allowable road capacity as detailed in AGTTM. Minor impact to the performance of the network. • Intersection performance operates at a Level of Service (LoS) of C. • Minor property damage.
3	Moderate	• Midblock hourly traffic flow per lane is equal to and greater than 110% and less than 135% of allowable road capacity as detailed in AGTTM. Moderate impact to the performance of the network. • Intersection performance operates at a Level of Service (LoS) of D. • Moderate property damage.
4	Major	• Midblock hourly traffic flow per lane is equal to and greater than 135% and less than 170% of allowable road capacity as detailed in AGTTM. Major impact to the performance of the network. • Intersection performance operates at a Level of Service (LoS) of E. • Major property damage.
5	Catastrophic	• Midblock hourly traffic flow per lane is equal to and greater than 170% of allowable road capacity as detailed in AGTTM. Unacceptable impact to the performance of the network. • Intersection performance operates at a Level of Service (LoS) of F. • Total property damage

3.1.2. OSH QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Table 5: Risk Classification Damage OSH

Level	Consequence	Description
1	Insignificant	No treatment required.
2	Minor	First aid treatment required.
3	Moderate	Medical treatment required or Lost Time Injury.
4	Major	Single fatality or major injuries or severe permanent disablement.
5	Catastrophic	Multiple fatalities.

3.1.3. QUALITATIVE MEASURES OF LIKELIHOOD

Table 6: Risk Classification Rarity

Level	Likelihood	Description
A	Almost certain	The event or hazard: • is expected to occur in most circumstances, • will probably occur with a frequency more than 10 times per year.
B	Likely	The event or hazard: • will probably occur in most circumstances, • will probably occur with a frequency of between 1 and 10 times per year.
C	Possible	The event or hazard: • might occur at some time, • will probably occur with a frequency of 0.1 to 1 times per year (i.e. once in 1 to 10 years).
D	Unlikely	The event or hazard: • could occur at some time, • will probably occur with a frequency of 0.02 to 0.1 times per year (i.e. once in 10 to 50 years).
E	Rare	The event or hazard: • may occur only in exceptional circumstances, • will probably occur with a frequency of less than 0.02 times per year (i.e. less than once in 50 years).

IMPORTANT NOTE: The likelihood of an event or hazard occurring shall first be assessed over the duration of the activity (i.e. "period of exposure"). For risk assessment purposes the assessed likelihood shall then be proportioned for a "period of exposure" of one year.

Example: An activity has a duration of 6 weeks (i.e. "period of exposure" = 6 weeks). The event or hazard being considered is assessed as likely to occur once every 20 times the activity occurs (i.e. likelihood or frequency = 1 event/20 times activity occurs = 0.05 times per activity). Assessed annual likelihood or frequency = 0.05 times per activity x 52 weeks/6 weeks = 0.4 times per year. Assessed likelihood = Possible.

3.1.4. QUALITATIVE RISK ANALYSIS MATRIX – RISK RATING

Table 7: Risk Classification Severity

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain.)	Low 5	High 10	High 15	Very High 20	Very High 25

B (Likely)	Low 4	Medium 8	High 12	Very High 16	Very High 20
C (Possible)	Low 3	Low 6	Medium 9	High 12	High 15
D (Unlikely)	Low 2	Low 4	Low 6	Medium 8	High 10
E (Rare)	Low 1	Low 2	Low 3	Low 4	Medium 7

3.1.5. MANAGEMENT APPROACH FOR RESIDUAL RISK RATING

Table: 8: Residual Risk Rating

Residual Risk Rating	Required Treatment
Very High	Unacceptable risk. **HOLD POINT**. Work cannot proceed until risk has been reduced.
High	High priority, OSH MR and Roadworks Traffic Manager (RTM) must review the risk assessment and approve the treatment and endorse the TGS prior to its implementation.
Medium	Medium Risk, standard traffic control and work practices subject to review by accredited AWTM personnel prior to implementation.
Low	Managed in accordance with the approved management procedures and traffic control practices.

3.2. Risk Register

Table 9: Risk Register

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
3.2.1 Environmental									
3.2.1.1	Sun glare causing decreased visibility of traffic control delineation and signage for motorists resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Where sun glare is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk from glare. Where traffic control is adversely affected by glare at sunset and sunrise, traffic controllers may need to assist in maintaining low traffic speeds. All changes are to be noted in the daily diary.	D	4	M8
3.2.1.2	Headlight glare from night works causing decreased visibility of traffic control delineation and signage for motorists resulting in serious injury or fatality.	Serious injury or fatality.	C	3	M9	Traffic control personnel and site supervisor to conduct site drive assessments of temporarily installed signage and delineation to ensure devices are visible for all motorists. Where traffic control is adversely affected by head light glare from night works, traffic controllers may move or angle devices. All changes are to be noted in the daily diary.	D	3	L6
3.2.1.3	Reduced motorist's visibility of worksite due to night works causing an increase of interactions between workers and live traffic resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Traffic control and workers to wear High Visibility Retroreflective Vests at all time and to use night work batons. All traffic controller signs to be Class 1 Retro-reflective material. Temporary speed zones to be implemented where required for advanced warning of the worksite. Contractor to install temporary lighting towers through poorly illuminated sections of worksite if required.	D	4	M8
3.2.1.4	Inclement weather causing hazardous environments through the worksite or	Serious injury or fatality.	C	4	H12	Where adverse weather conditions are encountered during the works, the following may	D	4	M8

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
	reduced visibility of implemented traffic control resulting in serious injury or fatality.					be implemented: 1. Signage and tapers extended by 25%. 2. 'Slippery When Wet' signs may be implemented. 3. Where the road becomes impassable work may cease and traffic control implemented. Any adjustments to the plan shall be risk assessed and approved by someone holding a WTM or AWTM accreditation.			
3.2.1.5	Crests and curves causing reduced visibility of the worksite and implemented traffic control resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Sign locations can be staggered to assist driver's visibility, in accordance with Australian Standards and under the supervision of an accredited AWTM. All signs shall be regularly inspected and re-positioned as required to reduce the effects of shadows. All changes shall be recorded in the daily diary.	D	4	M8
3.2.1.6	Vegetation causing reduced visibility of the worksite and implemented traffic control resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Where vegetation impacts on the effectiveness of the traffic management, signage may be extended by 25% or reduced by 10% in order to increase visibility. Vegetation may be pruned to increase visibility as required and approved by LGA. All signage adjustments will be recorded within the daily diary.	D	4	M8
3.2.1.7	Temporary lighting installed adjacent to residential properties causing adverse environmental impacts for locals resulting in adverse public reaction.	Adverse public reaction.	C	3	M9	Lights to be positioned where illumination doesn't adversely affect residents. Temporary lights to be used only as required to light the worksite and temporary delineation.	D	3	L6
3.2.2 Temporary Speed Zones									
3.2.2.1	Traffic speed on affected routes in traffic lanes adjacent to the worksite creating hazardous worksites and unsafe worksite access.	Potential injury or fatality to road users, project personnel or sub-contractors.	C	4	H12	Introduction of temporary speed zones will be implemented where required to reduce risk to motorists, workers and plant. Temporary speed zones and adequate delineation will be implemented as per the Traffic Guidance	D	4	M8

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
						Schemes and in accordance with AS 1742.3 and MRWA CoP.			
3.2.2.2	Traffic not adhering to proposed temporary speed zones causing an increase potential for conflicts between workers and motorists resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Repeater signage and VMS boards to be implemented through the worksite as required. Speed zones should follow the minimum and maximum lengths provided in AS1742.3 and MRWA CoP.	D	4	M8
3.2.3 Excavations									
3.2.3.1	Excavations associated with the works being inadequately protected causing an increase of property damage resulting in adverse public reaction and serious injury.	Serious injury and adverse public reaction.	B	3	H12	Delineation and devices to be provided as per the Traffic Guidance Schemes and in accordance with AGTTM and MRWA CoP. Where standard delineation cannot adequately protect the work site, close delineation or safety barrier may be required. Edge clearances and protection to be installed as per Table 6.1, Page 101 of AGTTM – Part 3.	C	3	M9
3.2.4 Traffic Control/Construction Plant & Workers/Traffic Management Design									
3.2.4.1	Incorrect implementation of temporary signage and linemarkings causing an increase of interactions between traffic control and live traffic resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Before work commences, signs and devices at approaches to the work area shall be erected in accordance with the adopted TGS, in the following order: 1. Advanced warning signs. 2. All intermediate advanced warning and regulatory signs and devices required in advance of the taper or start of the work area. 3. All delineating devices required to form a taper including flashing arrow signs or temporary hazard markers where required. 4. Delineation past the work area or into a side track. 5. Other warning signs or regulatory signs. Delineation devices such as cones and bollards	D	4	M8

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
						should be placed in the same sequence, i.e. those furthest in advance of the work placed first.			
3.2.4.2	Incorrect design of temporary signage and linemarkings causing an increase of speed and errant vehicles through the worksite resulting in serious injury or fatality.	Serious injury and fatality.	C	4	H12	Traffic Management Plan and associated Traffic Guidance Schemes to be designed and endorsed by suitably accredited AWTM and RTM as required for the proposed works. Plans to be reviewed and approved by relevant LGA and road authorities prior to the implementation of the works.	D	4	M8
3.2.4.3	The interaction of work personnel with through traffic may causing an increase of conflicts resulting in serious injury or fatality.	Serious injury or fatality	C	4	H12	Traffic control and delineation to be installed as per the Traffic Guidance Schemes in accordance with AS 1742.3 and MRWA CoP. Edge clearance spacing to be provided between live traffic and workers per the posted or implemented speed zones. Temporary speed zones, lane closures, road closures or reversible flow may be provided to maintain edge clearances. A TMA may be provided for where workers are within 1.2m of live traffic to protect them from oncoming vehicles. TMA's to be installed 20m prior to the work area and 40m where site entrances are required. Workers to be within 100m of TMA for protection to be affective. Daily toolbox meetings to ensure that workers are educated on the dangers of working around live traffic.	D	4	M8
3.2.4.4	Construction traffic entering and leaving the construction site causing an increase of rear end crashes through the worksite resulting in serious injury.	Serious injury.	B	3	H12	Site entry and exit points will be provided for construction traffic at strategic locations. Vehicles shall: 1. Decelerate slowly and signal their intention by indicator to leave the traffic stream; 2. Activate the vehicle's rotating yellow lamp, where fitted, once a speed of 20 km/h. has been reached and at least 50m prior to the	C	3	M9

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
						exit location. 3. Switch on the vehicle hazard lights once the vehicle is stationary. 4. Where risks associated with unassisted exit or entry to or from the traffic stream are high, Traffic Controllers should be used to assist entry and exit movements. Spotters may be used to assist drivers enter the traffic stream. Restrictions may be put in place to restrict truck movements entering traffic flows during periods of high traffic flows from site			
3.2.4.5	Parking of construction plant causing an increase of crashes through the worksite resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Work practices will be developed to outline provisions for: 1. Short term parking of work plant. 2. Long term parking of work plant. 3. Short term parking for workers and LV's. Construction access have been shown on the Traffic Guidance Schemes.	D	4	M8
3.2.4.6	Workmen may be hit by vehicles during the setting out of traffic management control devices resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	No work shall commence until the approved traffic management has been implemented. Traffic management to be setup prior to arrival of workers to site and taken down after they leave to avoid excessive congestion.	D	4	M8
3.2.5 Lane Closures (N/A)									
3.2.6 Reversible Flow/Stop Control/Contra-flow N/A									
3.2.7 Temporary/Existing Barrier									
3.2.8 Temporary Linemarking/Ultimate Design/Existing Road Environment									
3.2.8.1	A road user may misread the proposed temporary alignment causing through	Serious injury or fatality.	C	4	H12	Traffic planning requires traffic controls to be installed to direct traffic around the work site and	D	4	M8

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
	vehicles colliding with work personnel or work vehicles resulting in serious injury or fatality.					a reduction in the speed zone of the carriageways approaching and passing the works. Temporary alignments to be installed as per the TGS and in accordance with AS 1742.3 and MRWA CoP. Temporary controls, advanced warning and directional signage to be installed as per the TGS and in accordance with the requirements of AS 1742.3 and MRWA CoP. All lane closures to use a Flashing Arrow Boards at end of taper as per TGSs. Traffic control personnel shall conduct a drive through assessment of devices to evaluate the effectiveness following initial opening, any changes to be recorded in the daily diary. Temporary alignment to be designed to meet speed requirements.			
3.2.9 Temporary/Existing Signage and Structures									
3.2.9.1	Existing signage and structures causing reduced visibility of the worksite and temporary traffic control resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	All existing signage that is contradictory to the temporary signage implemented in the TGS's are to be covered with opaque material for the duration of the works. Regular drive throughs should ensure the integrity of the worksite and all traffic management. Where signs cannot be covered and conflict with the temporary signage, it will be removed. Temporary devices may be extended 25% to accommodate for road side structures, all changes to the signage will be recorded in the daily diary.	D	4	M8
3.2.9.2	Defective temporary signage causing inadequate advanced warning of proposed works resulting in serious injury or fatality.	Serious injury or fatality.	C	4	H12	Regular site inspections of signs to be conducted by Traffic Controllers and site supervisor to ensure integrity of proposed signage. All signs to be made of retroreflective material to ensure signs can be seen during night works.	D	4	M8
3.2.10 Road Closures									

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
3.2.11 Heavy Vehicles Network									
3.2.11.1	Restrictions placed on traffic lane widths and corner geometries by temporary traffic management impacting heavy haulage traffic routes resulting in adverse public reaction and property damage.	Property damage and adverse public reaction.	C	3	M9	Details and impacts to the heavy haulage route to be communicated to MRWA HVO prior to the implementation of any works. Where corner geometry or lane widths cannot accommodate heavy vehicles, detours or provisions to escort trucks through site may be provided. Where large or oversized vehicles are moving through the worksite, traffic controllers shall be used to ensure sufficient carriageway width is provided and any workers adjacent to the traffic lanes or within a hazardous area are instructed to move clear of the traffic. Temporary alignment swept paths to be checks. Existing RAV network to be accommodated where possible.	D	3	L6
3.2.12 Public Transport Authority (N/A)									
3.2.13 Emergency Services/Emergency Arrangements and Contingencies									
3.2.13.1	Restrictions and delays associated with the traffic control causing a failure to respond for emergency services resulting in an increase severity in emergency situations.	Failure to respond to emergency situations.	C	4	H12	Pre-communication to be given to all emergency services prior to the implementation of any works in the form of the Notification of Roadworks. Details to be provided for any proposed detours, predicted increases in congestion and any works that may increase delays to the emergency network. Where safe, workers and Traffic Control to respond to emergency services to facilitate an unhindered passage through or around the worksite.	D	4	M8
3.2.13.2	Dangerous goods, damage to services or failure of services causing restricted access through the worksite resulting in adverse	Adverse public reaction.	B	3	H12	Should any incident arise involving vehicles transporting dangerous goods, damage or failure of services; all work shall cease immediately, machinery and vehicles turned off	C	3	M9

Item	Risk Event	Consequence	Pre - treatment Risk			Treatment	Residual Risk		
			L	C	RR		L	C	RR
	public reaction.					and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area. All site personnel shall be briefed on evacuation and control procedures.			
3.2.14 Public Interactions and Impacts									
3.2.14.1	Temporary traffic management devices restricting access to local properties and commercial premises resulting in an adverse public reaction.	Adverse public reaction	C	3	M9	Local and commercial access to be maintained where possible. Pre-communication to be provided where adverse impacts may restrict access with the associated works. Provisions including; temporary tracks, temporary closures and local access may be provided to maintain access.	D	3	L6
3.2.15 Pedestrians and Cyclists									
3.2.16 Variations to the Standards									

4. Traffic Management Planning and Assessment

4.1. Traffic Assessment and Analysis

4.1.1. Traffic and Speed data

4.1.1.1 Summarised Traffic Counts

A summary of recent traffic data is provided below:

Table 10: Summarised Traffic Volumes

Location	Average weekday (vpd)	Trucks	Average weekend (vpd)	Trucks
Down Road	844 vpd (2017)	34%	419 vpd (2017)	40%
Albany Highway	4,950 vpd (2017)	20%	3,520 vpd (2017)	16%

Volumes used in the above summary can be found in *Appendix D – Volumes.*

4.1.2. Traffic Flow Analysis

General Comments

Volumes used in this report are based on average traffic figures derived from historical counts. AGTTM - Part 2, Section 3.2.3 (refer to Table 3.1) indicates that the mid-block capacity of multi-lane roadways is 1,000 vehicles per lane per hour (vpl/ph) and 500 vehicles per hour within 200m of an intersection for each lane. These design lane capacities have been used when analysing the effects of associated with the works. Where a departure from the AGTTM regarding lane capacities is required for the works to proceed a variation form will be filled out and attached to the close of this document.

Due to expected traffic volumes (see above) it is anticipated there will only be minor delays provided the Traffic Management setup follows the instructions set out in this document.

Traffic flow should be maintained wherever possible. Traffic volumes and movements will be analysed against the requirements detailed in AGTTM - Part 2, Section 3.2.3 (refer to Table 3.1) and Section 3.3.4 (refer to table 3.4).and MRWA CoP risk tables (see section 6) to ensure levels of service are acceptable to the Road Authority. The works are expected to have very minor impacts on the impacted roads.

4.1.2.1 Traffic Impacts and Assessment:

The impact will be minor as all of the works will be completed within the verge with various speed reduction and reduced lane width on Down Road.

4.1.3. Temporary Speed Zones

A worksite speed limit of 40km/h, 60km/h and 80km/h will be implemented at Down Road due to for the property access construction.

After work hours the posted speed will be 80km/h and the road will be left clean and free of debris.

4.1.4. Existing Traffic Signals

N/A

4.1.5. Impact to Adjoining Network

There is no impact to adjoining network during the construction.

4.1.5.1 Road Closure Traffic Distribution

N/A

4.1.6. End of Queue Treatment

N/A

4.1.7. Temporary Traffic Signals

N/A

4.2. Road Users

4.2.1. Pedestrians

There are no pedestrian facilities.

4.2.2. Cyclists

There are no cyclists' facilities.

4.2.3. Public Transport

There are no public transport facilities.

4.2.4. Heavy and Oversized Vehicles

There are no impacts to the heavy and oversized vehicles.

4.2.5. Existing Parking Facilities

There are no impacts to existing parking facilities.

4.2.6. Access to Adjoining Properties/Business

There are no impacts to adjoining properties.

4.2.7. Rail Crossings

There are no impacts to railway crossings.

4.2.8. School Crossings

There are no school crossings.

4.2.9. Special Events and Other Works

There are no special event and other works.

4.2.10. Emergency Vehicle Access

Emergency vehicle access will be maintained for the duration of the works.

4.2.11. Night Work Provisions

There is no provision for night shift works.

4.2.12. Road Safety Barriers

N/A

4.3. Consultation and Communication / Notification

Contractor to liaise with stakeholders for public consultation and communication for the duration of the work shift.

4.3.1. Other Agencies

All relevant authorities to be notified prior to the commencement of any works via; email, phone or Notification of Roadworks. This includes: City of Albany, Main Roads Western Australia (MRWA), MRWA Traffic Operations Centre, MRWA Heavy Vehicle Services, Public Transport Authority.

Emergency services to be notified prior to the commencement of any works via the Notification of Roadworks.

4.3.2. Public

The public shall be notified of the works and traffic management arrangements which will affect journey times via:

- Notice to motorists in the weekend West Australian placed two weeks in advanced, one week in advance and at the commencement of works;
- Letter drop to all residents and businesses within the traffic control zone one week ahead of the scheduled works;
- VMS boards during the works; and
- Significant works may require radio advertising.

5. Site Assessment

5.1. Provision to Address Environmental Conditions

5.1.1. Adverse Weather

Weather is not expected to adversely impact on the effectiveness of the traffic control detailed on the attached TGS's. Notwithstanding this, should adverse weather conditions be encountered during the works, the following contingency plans should be activated. Note: any adjustments to the plan shall be risk assessed and approved by someone holding a WTM or AWTM accreditation. Major changes will require road authority approval.

5.1.1.1 Rain

In the event of rain, an on-site assessment shall be made and sign spacing and tapers may be extended by 25% to account for increased stopping distances. Slippery (T3-3) signs may be placed as required and all changes shall be recorded in the daily diary.

If rain occurs, Traffic Management Personnel shall inspect the site and where signage and / or devices are not clearly visible, signage may need to be adjusted to improve visibility or if necessary, provide additional signage and delineation. Where stopping distances are adversely affected by wet surfaces, spacing between signs may need to be adjusted to provide increased reaction time for drives. In cases where it is determined that the rain is so heavy that the risk is considered unacceptable, all work shall cease until rain has cleared. All changes shall be noted in the daily diary.

5.1.1.2 Floods

Should works be affected by flooding to the extent that the worksite becomes impassable or risk is considered unacceptable, all work shall cease immediately and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site and direct traffic around the flooded area (under the direction of the project manager or traffic manager). Emergency services and the Road Authority shall be notified immediately and Traffic Controllers shall remain onsite until emergency services and the Road Authority personnel arrive and take control of the site.

5.1.1.3 Other Adverse Weather (strong winds, thunder storms etc.)

Should strong winds or thunder storms occur, all signs are to be weighted down to prevent blowing over or debris entering the roadway causing hazards for motorists. Periodically site inspections to be conducted during storms to ensure integrity of all Traffic Management devices.

5.1.2. Sun Glare

Where sun glare is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk from glare. Additionally, in the event that traffic control is adversely affected by glare at sunset and sunrise,

traffic controllers may need to assist in maintaining low traffic speeds.

All changes are to be noted in the daily diary.

5.1.3. Fog/Dust/Smoke

Where fog, dust or smoke is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk. All changes are to be noted in the daily diary.

Should works be affected by fog, dust or smoke to the extent that risk is considered unacceptable, all work shall cease immediately and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site.

5.1.4. Road Geometry, Terrain, Vegetation and Structures

5.1.4.1 Road Geometry

There is a curve on the approaching to the project site on Down Road towards Down Road south and straight after Down Road south.

Sign locations can be staggered to assist driver's visibility, in accordance with Australian Standards and under the supervision of an accredited AWTM. All signs shall be regularly inspected and re-positioned as required to reduce the effects of shadows. All changes shall be recorded in the daily diary.

5.1.4.2 Terrain

The vertical geometry through the site is flat.

Sign locations can be staggered to assist driver's visibility, in accordance with Australian Standards and under the supervision of an accredited AWTM. All signs shall be regularly inspected and re-positioned as required to reduce the effects of shadows. All changes shall be recorded in the daily diary.

5.1.4.3 Vegetation

Where vegetation impacts on the effectiveness of the traffic management, signage may be extended by 25% or reduced by 10% in order to increase visibility. Where this occurs, it should be recorded within the daily diary.

5.1.4.4 Structures

Where structures impede on the temporary signage it should be moved to accommodate under the supervision of an accredited AWTM and recorded in the daily diary.

5.2. Existing Traffic and Adverting Signs

All existing signage that is contradictory to the temporary signage implemented in the TGS's are to be covered with opaque material for the duration of the works. Regular drive throughs should ensure the integrity of the worksite and all traffic management. Where signs cannot be covered and conflict with the temporary signage, it

is to be removed.

6. Safety Plan

6.1. Occupational Safety and Health

All persons and organisations undertaking these works or using the roadwork site have a duty of care under statute and common law to themselves, their employees and all site users, lawfully using the site, to take all reasonable measures to prevent accident or injury.

This TMP forms part of the overall project Safety Management Plan, and provides details on how all road users considered likely to pass through, past, or around the worksite will be safely and efficiently managed for the full duration of the site occupancy and works.

6.2. Roles and Responsibilities

6.2.1. Responsibilities

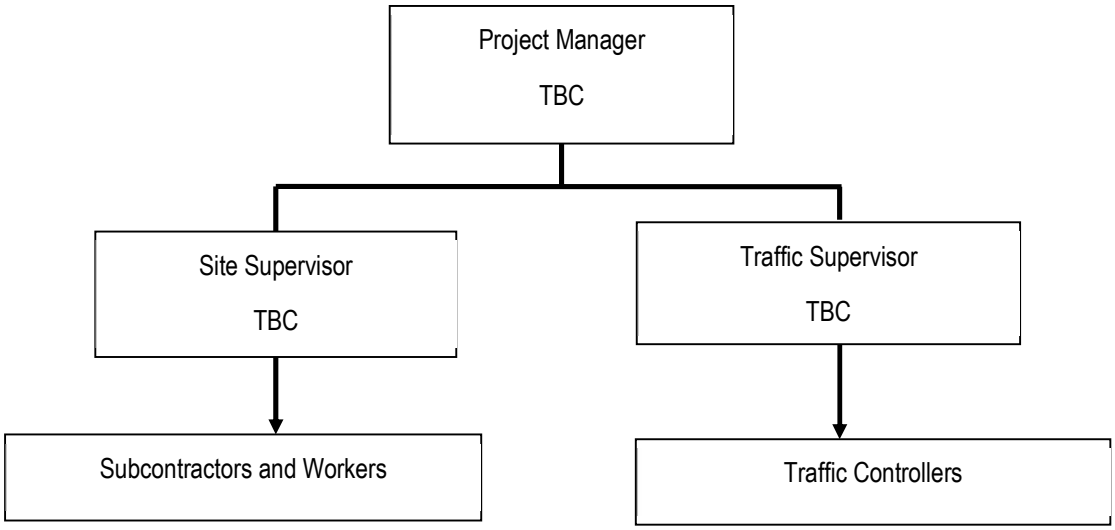
The Project Manager has the ultimate responsibility to ensure the TMP is implemented for the prevention of injury and property damage to employees, contractors, sub-contractors, road users and all members of the public. The Project Manager will ensure all site personnel are fully aware of their responsibilities, and that Traffic Controllers are appropriately trained and accredited and that sufficient controllers are available to ensure appropriate breaks are taken.

All personnel engaged in the field activities will follow the correct work practices as required by the CoP, AGTTM and AS1742.3. All personnel will not commence or continue work until all signs, devices and barricades are in place and operational in accordance with the requirements of the TMP.

All personnel responsible for temporary traffic management shall ensure that the number, type and location of signs, devices and barricades are to a standard not less than Appendix F of this plan, CoP, AGTTM and AS1742.3 (except where specifically detailed in this TMP with reasons for the variations). Should a situation arise that is not covered by this TMP, CoP, AGTTM or AS1742.3, the Road Authority Representative shall be notified.

6.2.2. Roles

The following diagram outlines the responsibility hierarchy of this contact.



6.2.2.1 Project Manager

The project manager shall:

- Ensure all traffic control measures of this TMP are placed and maintained in accordance with this plan and the relevant Acts, Codes, Standards and Guidelines
- Ensure suitable communication and consultation with the affected stakeholders is maintained at all times
- Ensure inspections of the temporary traffic management are undertaken in accordance with the TMP, and results recorded. Any variations shall be detailed together with reasons
- Review feedback from field inspections, worksite personnel and members of the public, and take action to amend the traffic control measures as appropriate following approval from the Road Authority's Representative
- Arrange and/or undertake any necessary audits and incident investigations

6.2.2.2 Site Supervisor

The site supervisor is responsible for overseeing the day-to-day activities, and is therefore responsible for the practical application of the TMP, and shall:

- Instruct workers on the relevant safety standards, including the correct wearing of high visibility safety vests
- Ensure traffic control measures are implemented and maintained in accordance with the TMP
- Undertake and submit the required inspection and evaluation reports to management
- Render assistance to road users and stakeholders when incidences arising out of the works affect the network performance or the safety of road users and workers
- Take appropriate action to correct unsafe conditions, including any necessary modifications to the TMP.

6.2.2.3 Traffic Management Personnel

- At least one person on site shall be accredited in Basic Worksite Traffic Management, and shall have the responsibility of ensuring the traffic management devices are set out in accordance with the TMP

- At least one person accredited in Advanced Worksite Traffic Management shall be available to attend the site at short notice at all times to manage variations, contingencies and emergencies, and to take overall responsibility for traffic management.

6.2.2.4 Traffic Controllers

Traffic Controllers shall be used to control road users to avoid conflict with plant, workers, traffic and pedestrians, and to stop and direct traffic in emergency situations.

Traffic Controllers shall:

- Operate in accordance with AGTTM Part 7: Traffic Controllers
- Be accredited in Basic Worksite Traffic Management
- Hold a current Traffic Controller's accreditation
- Be relieved from their duty after not more than 2 hours for a period of rest or "other duties" of at least 15 minutes as required by AGTTM and/or OS&H Regulations.
- Shall be site specific inducted (If Required)

6.2.2.5 Workers and Subcontractors

Workers and Subcontractors shall

- Correctly wear high visibility vests, in addition to other protective equipment required (e.g. footwear, eye protection, helmet sun protection etc.), at all times whilst on the worksite
- Comply with the requirements of the TMP and ensure no activity is undertaken that will endanger the safety of other workers or the general public
- Enter and leave the site by approved routes and in accordance with safe work practices

6.3. Personal Protective Equipment (PPE)

All personnel entering the work site shall correctly wear high visibility vests to AS/NZS 4602, in addition to other protective equipment required on a site-by-site basis (e.g. protective footwear, eye protection, helmet, sun protection, respiratory devices etc.) at all times whilst on the worksite.

6.4. Plant and Equipment

All plant and equipment at the workplace shall meet statutory requirements and have the required registration, licences or certification where required. All mobile equipment shall be fitted with suitable reversing alarms. All mobile plant and vehicles shall be fitted with a pair of rotating flashing yellow lamps in accordance with AS1742.3 clause 4.14. All workers will be made aware of the safe work practice at the time of the site induction.

6.5. Trip Hazards

The worksite and its immediate surroundings shall be suitably protected and free of hazards, which could result in tripping by cyclists or pedestrians. Hazards, which cannot be removed, shall be suitably protected to prevent injury to road users, including those with sight impairment. Where level differences are significant, suitable barriers, which preclude pedestrian access shall be used.

Where works extend beyond daylight hours and adjacent lighting is insufficient to illuminate hazards to cyclists or pedestrians, appropriate temporary lighting shall be installed.

The worksite shall be kept tidy to reduce the risk to workers.

7. Implementation

7.1. Traffic Guidance Schemes

The Traffic Guidance Scheme (TGS) outlined in Appendix "F" and listed below have been provided for the following stages to demonstrate the type of controls that will be implemented throughout the term of the contract. All sign and device requirements are shown on each TGS. Should the use of additional (not shown on the TGS or listing of devices) or reduced number of devices be required due to unforeseen needs, they shall be recorded within the Daily Diary as a variation to the TMP, following prior approval.

Table 11: Traffic Guidance Scheme Register

Staging	TGS Number & Revision	Details	Construction Works
Stage 1	2103019-TGS-01	Verge works at 40km/h	Main entry construction
	2103019-TGS-02	Verge works at 40km/h	Main entry construction
	2103019-TGS-03	Verge works at 60km/h	Main entry construction
	2103019-TGS-04	Verge works at 60km/h	Main entry construction
	2103019-TGS-05	Verge works after care at 60km/h	Main entry construction
	2103019-TGS-06	Verge works after care at 60km/h	Main entry construction
	2103019-TGS-07	Verge works at 80km/h	Main entry construction
	2103019-TGS-08	Verge works at 80km/h	Main entry construction
	2103019-TGS-09	Verge works after care at 80km/h	Main entry construction
	2103019-TGS-10	Verge works after care at 80km/h	Stage 1 exit construction
	2103019-TGS-11	Verge works at 40km/h	Stage 1 exit construction
	2103019-TGS-12	Verge works at 40km/h	Stage 1 exit construction
	2103019-TGS-17	Stage 1 internal works	Stage 1 internal works
Stage 2	2103019-TGS-13	Verge works	Down Road south exit construction
	2103019-TGS-14	Verge works temporary holding traffic with traffic controllers	Down Road south exit construction
	2103019-TGS-15	Verge works after care	Down Road south exit construction
	2103019-TGS-16	Stage 2 internal works	Stage 2 internal works

7.2. Sequence and Staging

The sequence of temporary traffic management installation, work activities and temporary traffic management removal are detailed below:

Table 12: Sequence and Staging

Step	Details
Pre-start	Contact 138 111 and advise of works.
Stage 1	Implement advanced warning signage.
Stage 2	Proceed construction works

Stage 3	Finish construction works and clear roadway.
Stage 4	Install after care signs
Stage 5	Pack up of TTM

7.3. Traffic Control Devices

7.3.1. Sign Requirements

All signs used shall conform to the designs and dimensions as shown in Australian Standard AS 1742.3, AGTTM and the CoP.

Prior to installation, all signs and devices shall be checked by the Site Supervisor or a suitably qualified person to ensure that they are in good condition and meet the following requirements:

- Mechanical condition - Items that are bent, broken or have surface damage shall not be used.
- Cleanliness - Items should be free from accumulated dirt, road grime or other contamination.
- Colour of fluorescent signs - Fluorescent signs whose colour has faded to a point where they have lost their daylight impact shall be replaced.
- Retroreflectivity. - Signs for night-time use whose retroreflectivity is degraded either from long use or surface damage and does not meet the requirements of AS 1906 shall be replaced.
- Battery operated devices - shall be checked for lamp operation and battery condition.

Where signs do not conform either to the requirements of AS 1742.3, AGTTM and the CoP, or would fail to pass any of the above checks, they shall be replaced on notice.

Signs and devices shall be positioned and erected in accordance with the locations and spacing's shown on the drawings. All signs shall be positioned and erected such that:

- They are properly displayed and securely mounted;
- They are within the driver's line of sight;
- They cannot be obscured from view;
- They do not obscure other devices from the driver's line of sight;
- They do not become a possible hazard to workers or vehicles; and
- They do not deflect traffic into an undesirable path.

Signs and devices that are erected before they are required shall be covered by a suitable opaque material. The cover shall be removed immediately prior to the commencement of work.

Where there is a potential for conflict of information between existing signage and temporary signage erected for the purpose of traffic control, the existing signs shall be covered. The material covering the sign shall ensure that the sign cannot be seen under all conditions i.e. day, night and wet weather. Care will be taken to ensure existing signs are not damaged by the covering material or by adhesive tape.

7.3.2. Tolerances on Positioning of Signs and Devices

Where a specific distance for the longitudinal positioning of signs or devices with respect to other items or features is stated, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances

may be applied: -

(a) Positioning of signs, length of tapers or markings:

(i) Minimum, 10% less than the distances or lengths given.

(ii) Maximum, 25% more than the distances or lengths given.

(b) Spacing of delineating devices:

(i) Maximum, 10% more than the spacing shown.

(ii) No minimum.

These tolerances shall not apply where a distance, length or spacing is already stated as a maximum, a minimum or a range.

7.3.3. Flashing Arrow Signs

Where flashing arrow signs are required to better delineate lane tapers, these signs will comprise a matrix of lamps or light emitting elements in the form of an arrow that is flashed in a cyclical manner to provide advance warning. The sign shall have a minimum dimension of 2400 mm. x 1200 mm. and conform to the requirements of AS/NZS 4192. The Project Site Supervisor shall ensure that all equipment used meets the Australian Standard.

7.3.4. Delineation

7.3.4.1 General

Cones shall be used for delineation unless other treatment is specified in the Traffic Management Plan or on the Traffic Guidance Schemes. All cones shall be at least 700 millimetres in height and constructed from fluorescent orange or red material that is resilient to impact and will not damage vehicles when hit at low speed. Cones will be fitted with suitable white retro-reflective tape placed in accordance with AS 1742.3, AS 1742.3, AGTTM and the CoP.

Cones shall be designed to be stable under reasonably expected wind conditions and air turbulence from passing traffic.

The base of the cones will be secured so that they are not dislodged by traffic. Cones will be inspected at intervals necessary to ensure any mis-alignment or displacement is identified and corrected prior to this causing disruption to traffic.

Where specified, temporary frangible or otherwise non-hazardous delineator posts or bollards may be used for edge protection and taper delineation. Posts or bollards shall have a maximum dimension of 60 millimetres when measured along the longest side of a square or rectangular section or across the diameter of a circular section. Base design shall permit easy fixing to either sealed or unsealed surfaces and not intrude into traffic lanes greater than 50 millimetres from the face of the post or bollard.

All posts or bollards shall be erected in accordance with the Traffic Guidance Schemes. Posts and bollards shall

be a minimum of 1000 mm. high, capable of being fixed to the road pavement by a suitable road adhesive or by fastening bolts or spikes. Fixing shall be in accordance with manufacturer's recommendations.

Posts and bollards shall be fitted with suitable white retro-reflective tape placed in accordance with AS 1742.3, AGTTM and the CoP.

All posts or bollards will be inspected daily and where displaced or missing made good immediately. All delineator posts are to be completely removed at the completion of all stages of construction and prior to the placement of asphalt surfacing. If adhesive is used to affix the posts this shall be completely removed from the road surface so that a flush surface is obtained.

7.3.4.2 Delineation Spacing

All cones and post type delineators shall be spaced according to Table 4.7 of AS 1742.3-2019 and the Traffic Guidance Schemes.

7.4. Site Access for Work Vehicles

Construction and/or traffic management vehicles entering and exiting the traffic stream shall be mindful of the conditions that may affect the safety of these movements.

Access points shall be noted on the TGS and traffic controllers, work personnel and suppliers notified. Traffic Controllers may assist work vehicles enter and exit the work area.

All entry and exit movements will be in accordance with the Road Traffic Code and shall be undertaken in the following manner:

Vehicles shall:

- Decelerate slowly and signal their intention by indicator to leave the traffic stream;
- Activate the vehicle's rotating yellow lamp, where fitted, once a speed of 20 km/h. has been reached and at least 50m prior to the exit location.
- Switch on the vehicle hazard lights once the vehicle is stationary.
- Where risks associated with unassisted exit or entry to or from the traffic stream are high, Traffic Controllers should be used to assist entry and exit movements.

Vehicles fitted with rotating amber lamps shall have the vehicle's rotating lamp activated prior to entering the traffic stream and shall undertake the following.

- Switch off the vehicle hazard lights;
- Indicate intention to enter the traffic stream using direction indicators;
- Ensure there is a suitable gap from oncoming traffic to allow for a safe entry manoeuvre; and,
- Turn off the rotating yellow lamp(s) once a speed of 40 km/h is reached.

Entry and exit manoeuvres shall be avoided in close proximity to intersections. Work personnel shall not cross traffic streams on foot unless absolutely necessary.

Construction or traffic management vehicles shall only be parked where indicated on the Traffic Guidance

Scheme. Vehicles shall not obstruct paths and be parked an adequate distance from intersections or driveways to ensure clear sight lines remain for all road users.

7.5. Communication TMP Requirements

Contractor to liaise with stakeholders and submit notification to City of Albany for each of the work stages.

8. Emergency Arrangements and Contingencies

8.1. Traffic Incident Procedures

In the event of an incident or accident, whether or not involving traffic or road users, all work shall cease and traffic shall be stopped as necessary to avoid further deterioration of the situation. First Aid shall be administered as necessary, and medical assistance shall be called for if required.

Road plant within the work area that may impact on any services requiring access to a crash site will be cleared from the area quickly as necessary.

8.1.1. Serious Injury or Fatality

In the case of serious injury or fatality occurring within the traffic management site all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.

An Ambulance and Police shall be called on telephone number 000 where life threatening injuries are apparent.

All road workers and traffic management personnel shall preserve the scene leaving everything in situ, until direction is given by Police or WorkSafe.

A site-specific detour route and/or road closure point will be determined, signed and controlled by traffic management personnel and advised to Police, who will take charge of the site upon arrival. Detour routes will be determined so as to cater for all types of vehicles required to use them. An example of how to manage an emergency can be found in AGTTM – Part 10, Section 5.

All site personnel shall be briefed on control procedures covering incidents and crashes that result in serious injury or fatalities.

8.1.2. Minor Incident or Vehicle Break Down within Site

Broken down vehicles and vehicles involved in minor non-injury crashes shall be temporarily moved to the verge as soon as possible after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles shall be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Suitable recovery systems shall be used to facilitate prompt removal of broken down or crashed vehicles. Assistance shall be rendered to ensure the impact of the incident on the network is minimised.

Any traffic crash resulting in non-life threatening injury shall be reported to the WA Police Service on 131 444.

Details of all incidents and accidents shall be reported to the Site Supervisor and Project Manager using the incident report form at Appendix “C” (or similar).

8.2. Emergency Services

Emergency services shall be notified of the proposed works nature, location, date and times as well as contact details for the site supervisor.

On-site traffic controllers will be equipped with mobile communications to advise and/or liaise with emergency services to ensure a prompt response should the need arise.

8.3. Dangerous Goods

Should any incident arise involving vehicles transporting dangerous goods, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.

Emergency services shall be notified of the proposed works nature, location, date and times as well as contact details for the site supervisor. All site personnel shall be briefed on evacuation and control procedures.

8.4. Damage to Services

In the event that gas services are damaged, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area. The Police Service and relevant supply authority shall be called immediately. Damage to any other services shall be treated in a similar manner except machinery may remain operational and access may be maintained where it is safe to do so.

All site personnel shall be briefed on evacuation and control procedures.

8.5. Failure of Services

8.5.1. Failure of Traffic Signal

In the event that traffic signal infrastructure near the worksite is damaged or fails to operate correctly, all work shall cease immediately and Main Roads WA Road Network Operation Centre (RNOC) shall be notified immediately (phone 138 111).

8.5.2. Failure of Street Lighting

In the event that street lighting is damaged and fails to operate or operates incorrectly, Traffic Controllers (and other personnel if necessary with appropriate temporary lighting) shall be deployed immediately if the lighting failure adversely affects road user safety to control traffic movements as required. Western Power shall be notified immediately.

8.5.3. Failure of Power

In the event that power infrastructure is damaged and poses a risk through live current, Traffic Controllers (and

other personnel if necessary) shall be deployed immediately to secure the site and prevent entry to the area affected by live power. Western Power shall be notified immediately (phone 13 13 51).

8.6. Emergency Contacts

In the event of an emergency the following relevant authorities must be contacted and advised of the nature of works, location, type of emergency and contact details for the site supervisor.

Emergency Service	E-mail/Website	Phone (Emergency)
WA Police Service	State.Traffic.Intelligence.Planning.&.Co-ordination.Unit@police.wa.gov.au	000
St John Ambulance	ambulanceoperations@stjohnambulance.com.au	000
DFES	dfes@dfes.wa.gov.au	000
Power	http://www.westernpower.com.au/customerservice/contactus/	13 13 51
Gas	enquiries@atcogas.com.au	13 13 52

9. Monitoring and Measurement

9.1. Daily Inspections

Prior to works commencing the Site Supervisor shall undertake to communicate the Traffic Management Plan to all key stakeholders and affected parties.

On completion of setting out the traffic control measures, the site is to be monitored for a suitable period of time. If traffic speeds on the approaches to the work site are assessed as being above the temporary posted speed zone for the work site, the Site Supervisor is to initiate action to modify the approach signage and tapers in accordance with the requirements of AS1742.3. All such actions are to be recorded in the Daily Diary. Should road users be observed to continue to travel in excess of the posted speed limit, the police may be requested to attend the site to enforce the temporary posted speed limit.

The Advanced Worksite Traffic Management accredited supervisory person at the worksite may conditionally approve changes made to a complex traffic management plan subject to review and endorsement of the change by an RTM as soon as practicably possible.

The Traffic Management Contractor shall ensure that all temporary signs, devices and controls are maintained at all times. To achieve this, procedures in line with the requirements outlined in AGTTM Part 6 will be instituted. The monitoring program shall incorporate inspections:

- Before the start of work activities on site,
- During the hours of work,
- Closing down at the end of the shift period, and
- After hours.

A daily record of the inspections shall be kept indicating

- When traffic controls where erected,
- When changes to controls occurred and why the changes were undertaken,
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

The Traffic Management Contractor shall ensure that personnel are assigned to monitor the traffic control scheme. Inspections shall at least satisfy the following requirements.

9.1.1. Before Works Start

- Confirm TMP and TGS are suitable for the day's activities;
- Inspect all signs and devices to ensure they are undamaged, clean and comply with the requirements depicted on the TGS;
- All lamps should be checked and cleaned as necessary;
- After any adjustments have been made to the signs and devices, conduct a drive through inspection to confirm effectiveness.

9.1.2. During Work Hours

- Designate and ensure that appropriate work personnel drive through the site periodically to inspect all signs and devices and ensure they are undamaged and comply with the requirements depicted on the Traffic Guidance Schemes;.
- Attend to minor problems as they occur;
- Conduct on the spot maintenance/repairs as required;
- When traffic controllers are on the job, ensure they remain in place at all times. Relieve controllers as necessary to ensure attentiveness is retained;
- During breaks or changes in work activities remove or cover any signs that do not apply (e.g. PREPARE TO STOP, Workers symbolic);
- Re-position signs and devices as required by work processes throughout the day and keep records of any changes.

9.1.3. Closing Down Each Day

- Conduct a pre-close down inspection, allowing time for any appropriate maintenance works;
- Remove any unnecessary signage (e.g. Prepare to Stop, Symbolic Workers);
- Replace any unnecessary signage with appropriate delineation;
- Install barriers and lights where required;
- Drive through site and confirm all signs and devices are operating correctly with no misleading visual cues;
- Record details of inspection and any changes made to layout.

9.1.4. After Hours

- Appoint personnel to conduct after dark checks. Replace any signs / devices not working, missing or damaged and record in diary.
- Appoint personnel to conduct checks on non-work days (e.g. weekends). Replace any signs / devices not working, missing or damaged and record in diary.
- The frequency of inspections needs to align with the amount of traffic management on site, weather conditions, vehicle types and volumes, road user behaviour and site specific risks.

9.2. TMP Audits and Inspections

One compliance audit (using the 'Compliance Audit Checklist for Traffic Management for Works on Roads' – found on the MRWA website) shall be conducted following setting up of the traffic management and prior to commencement of the works.

Audit findings, recommendations and actions taken shall be documented and copies forwarded to the Project Manager and the Road Authority's Representative

9.3. Records

A daily diary recording all inspections including variations to the approved TMP shall be kept using the Daily Diary.

The Traffic Supervisor is to record all inspections made on a daily basis and at those times prescribed by the Traffic Management Implementation Standards. Upon completion of each day the Traffic Supervisor shall provide copies of the daily diary record to the Project Manager.

The Traffic Supervisor is to record all variations made to the approved Traffic Management Plan on a daily basis

and indicate clearly the nature of the variations and the reason for the variations. Upon completion of each day the Traffic Supervisor shall provide copies of the variation record to the Project Manager.

9.4. Public Feedback

Contractor shall liaise with stakeholders for any public feedback.

10. Management Review and Approvals

10.1. TMP Review and Improvement

The Project Manager will ensure that the Traffic Management Plan is implemented and evaluated for effectiveness. The Supervisor shall inspect and monitor traffic movements around the site in conjunction with the personnel who have erected the control measures.

The Project Manager will implement a procedure that ensures comments and complaints received from the public are registered. The Supervisor shall be responsible for the monitoring of the Register on a daily basis.

TCP to be reviewed and updated every 3-6 months to ensure proposed long term Traffic Management complies with changing site environment.

10.2. Variations

There are no variations.

10.3. Approvals

Before to works commencing it is necessary to seek approval from the following:

- City of Albany;
- Utility Service Providers (e.g. Western Power, Water Corp, etc.)

Appendix A - Notification of Roadworks

To be completed by contractor

NOTIFICATION OF ROADWORKS

Notifications are to be distributed at least one (1) week in advance of works
Where the traffic management is to interfere with traffic signal operation, prior approval is required 3wks in advance via enquiries@mainroads.wa.gov.au.
Where the works will place restrictions on Oversize and/or Restricted Access Vehicles Main Roads HVS requires at least 2 weeks notice.

TMP reference		Communication plan sent to Main Roads	Yes ☐	No ☐	N/A ☐
Anticipated start date:		Anticipated finish date:			
Daily work hours:		Is weekend work applicable?:	Yes ☐	No ☐	
Location of works (Road/Street, Suburb):					
Description of works:					
Description of traffic management arrangements:	To accommodate the proposed works, traffic control are to install the following stages of work;				
Posted Speed Limit:		Worksite speed limit:		After hours speed limit:	

What is the anticipated effect on traffic flows?:				Will there be restricted width for oversize escorted vehicles?:		Yes ☐	No ☐
Are lanes closed at signals?:	Yes ☐	No ☐	N/A ☐	Are signal loops or hardware affected?:	Yes ☐	No ☐	N/A ☐
Will signal phases need time changes?	Yes ☐	No ☐	N/A ☐	Will signals need to revert automatically?:	Yes ☐	No ☐	N/A ☐
Date of signal 'black out':				Times of signal 'black out':			
Will Police attendance be required?:	Yes ☐	No ☐		Dates for Police attendance :			
Are bridges located in area of works, (inc detours)?:	Yes ☐	No ☐		Will changes to traffic flows/composition occur on bridges?:		Yes ☐	No ☐
Are the works located within a School Zone?:	Yes ☐	No ☐		Will children's crossings be altered during works?:		Yes ☐	No ☐

Oversize and/or Restricted Access Vehicle Roadwork Restrictions

Location of works (include – road name, nearest intersection or marked location and SLKs)					
Road Name(s) Bridge number if applicable					
Nearest Intersection / marked location / SLKs					
Additional information					
Will there be a width restriction for oversize vehicles exceeding 2.5m in width?	Yes ☐	No ☐	Will there be a height restriction for oversize vehicles exceeding 4.3m in height?	Yes ☐	No ☐
If yes, what width limit is to be imposed on oversize vehicles travelling through the site?					

Will the width restrictions be in place outside the daily work hours?	Yes ☐	No ☐	If yes, what is the minimum height of the structure causing the restriction?		
Can the width restrictions be removed if operators provide prior notice?	Yes ☐	No ☐	If the width restrictions are fixed in place, are operators able to have a wider oversize combination if a 1.2m ground clearance can be achieved? Do not complete if width restrictions can be removed.	Yes ☐	No ☐
If yes, how much notice will be required? (i.e. 24/48 hours' notice).			If yes, how much notice will be required? (i.e. 24/48 hours' notice).		
Please provide the name and phone number of the best contact for further details in relation to these works.	Name: Contact number (mobile):				
Please provide the name and phone number of the contact for prior notification of movements.	Name: Contact number (mobile):				
Will the work result in a road closure that will impact on Restricted Access Vehicles?	Yes ☐	No ☐	If yes, have discussions been held with Main Roads Heavy Vehicle Services (HVS) in regards to a suitably approved RAV network detour. If no, please contact HVS Route Assessments on 138 486 for assistance. Note: an assessment request for a proposed detour may take up to a week to be processed.	Yes ☐	No ☐

Road Authority:					
Postal Address:					
Telephone:		Email:		Facsimile:	
Contact:					
Telephone:		Email:		Mobile:	

Construction Contractor:					
Postal Address:					
Telephone:		Email:		Facsimile:	
Contact:					
Telephone:		Email:		Mobile:	
After hours contact:		Telephone:		Mobile:	

Traffic Management Contractor:					
Postal Address:					
Telephone:		Email:		Facsimile:	
Contact:					
Telephone:		Email:		Mobile:	
After hours contact:		Telephone:		Mobile:	

Distribution List	Email/Website
WA Police State Traffic Coordination	State.Traffic.Intelligence.Planning.&.Co-ordination.Unit.SMAIL@police.wa.gov.au
Children's Crossing Unit	childrenscrossingunitsmail@police.wa.gov.au mailto:student.pedestrian.policy.unit@police.wa.gov.au
Main Roads Customer Information Centre	enquiries@mainroads.wa.gov.au
Main Roads Road Network Operations Centre	RNOC.Control.Room.Information.Desk@mainroads.wa.gov.au
Main Roads Heavy Vehicle Services	hvs@mainroads.wa.gov.au
Main Roads Engineer Bridge Loading	DLSEHeavyLoadsGroup@mainroads.wa.gov.au
St John Ambulance	BusinessSupportServices@stjohnwa.com.au
Fire & Emergency Services	Dfes@dfes.wa.gov.au

Public Transport Authority	transperth.servicedisruptions@pta.wa.gov.au
Arc Infrastructure	thirdparty.notifications@arcinfra.com
Main Roads Digital Communications	communications@mainroads.wa.gov.au
Local Government	

Note: the above distribution list is an example and should be modified as required. See section 4.4 of the Code of Practice

Appendix B - Variation to Standards

NOT APPLICABLE

APPLICATION FOR APPROVAL TO VARY REQUIREMENTS OF AS1742.3, AGTTM OR MRWA TRAFFIC MANAGEMENT CODES OF PRACTICE

Form Instruction

1. **Section A** – Identify the Principal Agency / person commissioning the activity. (Does not include contractors, subcontractors or **traffic** management company/traffic planners etc).
2. **Section B** – Identify activity location, start / finish date and time, type of traffic management, description location of activity.
3. **Section C** – Identify the person that has prepared the Traffic Management Plan, this person shall have AWTM accreditation.
4. **Section D** – For Works undertaken on a State road or on behalf of Main Roads Western Australia the details of the risk assessment process identified in this application form must be documented and endorsed by an accredited Roadworks Traffic Manager[1].

   All applications to be addressed to the applicable Main Roads Regional office. For contact information please refer to the online Application kits and guidelines to undertake works. (www.mainroads.wa.gov.au >Technical & Commercial > Working on roads > Third Party Works).

   For all other applications the details of the risk assessment process identified in this application form must be documented and endorsed[1] by the person responsible for approving the traffic management plan.

   Contact with the appropriate road authority should be made prior to lodgement of this application to determine its suitability and for any additional requirements.
5. **Section E** - Risk implication, identification and assessment process must be undertaken in accordance with Risk Management – Principles and Guidelines AS/NZS ISO 31000. The likelihood and consequences should be rated after the application of any additional counter measures taken utilising Tables from Annexure's 202B and 203B, Main Roads WA - Specification 202 and 203 respectively.
6. **Incomplete or applications not signed** by the RTM[1] will not be processed.

A

Applicant (Principal for the Works)					
Postal address					
Suburb		State		Postcode	
Project Manager				Telephone	
Email					

B

Anticipated start date		Anticipated finish date			
Daily work hours; From		Weekend work applicable	Yes ☐ Sat ☐ Sun	No ☐	
Location of works (Road/Street Suburb),					
Road type (eg undivided, two lane)					
Description of works					
Are alterations to permanent traffic signals required?	Yes ☐	No ☐	N/A ☐		
Posted Speed Limit		Worksite speed limit		After hours speed limit	

C

TMP Designer					
Accreditation Number					
Postal address	Level 1 / 908 Albany Highway				
Suburb	East Victoria Park	State	WA	Postcode	6101
Email		Telephone	(08) 9355 1300	Facsimile	N/A

[1]A person with AWTM accreditation is permitted to endorse a variation of less than 135 % of the allowable lane capacity as outlined in table 4.10 of AS 1742.3. See section 4.5 of the Code of Practice.

	Endorsement Signature		Date	Click here to enter a date.

APPLICATION FOR APPROVAL TO VARY REQUIREMENTS OF AS1742.3, AGTTM OR MRWA TRAFFIC MANAGEMENT CODES OF PRACTICE

D	RTM Endorsing Variation					
	Accreditation Number					
	Postal address					
	Suburb		State		Postcode	
	Email		Telephone		Facsimile	
	Endorsement signature		Date			

For Internal Use Only							
Approving Road Authority							
Approving Officer Position							
Application Approved	Yes ☐ No ☐	If Not Why Not					
Additional Conditions							
Approved By: Signature		Title		Date		File Num	

E	Description of Variation Requested	Specify Point of Departure from Standard / Code of Practice (List section and page number)	Justification (Why is this necessary)	Additional Counter Measures to be Taken (Identify additional counter measures to be used to negate the lesser treatment)	Residual Risk*		
					L	C	RR

Appendix C - Record Forms

Daily Diary

Location: _____ **Client:** _____ **Date:** _____

TMP No: _____ **TGS No:** _____ **Weather Conditions:** _____ **Diary Sheet:** _____ **of** _____

Start Time at Depot: _____ **Time Arrive Onsite:** _____ **Commencement of Site Setup:** _____ **Site Setup and Operational:** _____

Site Pulled Down at: _____ **Time Aftercare signs setup:** _____ **TGS No:** _____ **Time left site:** _____ **Finish time at Depot:** _____

☐ **Day Works** ☐ **Night Works** ☐ **Emergency Response** **Site Setup as per TGS** ☐ **Yes** ☐ **No (if not comment on next page)**

☐ **Attendance at Pre-Start Meeting** **Did an incident occur (if yes complete incident report form)** ☐ **Yes** ☐ **No**

I confirm that the above times of 'setup' and 'pulldown' of traffic management signs and devices are a true and correct

Name (Site Supervisor): _____ Signed: _____

Drive Through Checks (Checks must be conducted at least every 2 hours)

Time of check entered. Rule off and leave blank if the check does not apply to the site. Make a note of any issues on the next page.

Traffic Management Site Checks	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Time										
Are signs upright, clean, visible, level & stable										
Are taper lengths correct										
Are speed limit signs correct and doubled up										
Are sign spacings correct										
Are cone/bollard alignments straight & spaced correctly										
Are devices operating correctly										
Are pedestrians, cyclists and other vulnerable road users catered for										
Are lane widths adequate										

Are vehicle queue lengths acceptable										
Is road surface condition adequate										
Is the work area clearly defined?										
Are the travel paths for both directions of traffic clearly defined? Is the work area appropriately separated from passing traffic? Check the transition at the interface of the modified alignment.										
Are centre lines/lane lines/edge lines clear and unambiguous?										
Are sight and stopping distances adequate at works, at intersections and driveways?										
Are traffic lanes clearly delineated?										
Are lighting for night-time controls operating correcting?										
Have other risks associated with traffic management at night been catered for, e.g. placement of lighting towers										

No. of TTM Vehicles Onsite: _____ **No. of TTM Personnel Onsite:** _____

TTM Personnel Names & Accreditations:

	Accreditation Details (tick)					Time of Break from Stop/Slow (Traffic controllers must have a 15 minute break every two hours of constant stop/slow operation)							
Name	**TC**	**BWTM**	**WTM**	**AWTM**	**OTMA**	On	Off	On	Off	On	Off	On	Off
						:	:	:	:	:	:	:	:
						:	:	:	:	:	:	:	:
						:	:	:	:	:	:	:	:
						:	:	:	:	:	:	:	:
						:	:	:	:	:	:	:	:
						:	:	:	:	:	:	:	:

Additional Comments _____

I confirm that the details contained herein are true and correct

Name: (TTM Leader): _____ Signed: _____

Incident Report Form.

Region: Contract No.:	Incident Report No.: Contractor:

Safety Incident Report No:

Major Incident Reports must be forwarded to the Superintendent within 48 hours of the incident occurring or becoming apparent.

Contractors shall use this Form for reporting of traffic Incidents on works under Contract and this form supplements the Safety Incident Report Form.

1.0 Details of Incident	Reported to:	☐ Supervisor	☐ TMR	☐ Other	
Date of incident		Time of Incident			
Work Being Undertaken					
Location (include direction and lane if applicable)					
Crash Type					
Incident type	Near Miss	Property Damage	Injury	Fatality	
Atmospheric Conditions	Clear	Overcast	Raining	Fog/Smoke/Dust	
Light Conditions	Day Light	Night Time	Dawn/Dusk		
Road Surface	Unsealed	Sealed			

Road Condition	Wet		Dry
Street Lighting	On	Off	Not provided
Police Attended Yes/No		Officer name/number	

Other relevant details, (Last maintenance grade, watering and dust conditions):

2.0 Details of Traffic Management in place:			
TMP/TGS No:		Name of individual that prepared the TGS	
Time last inspected:		Accreditation No:	

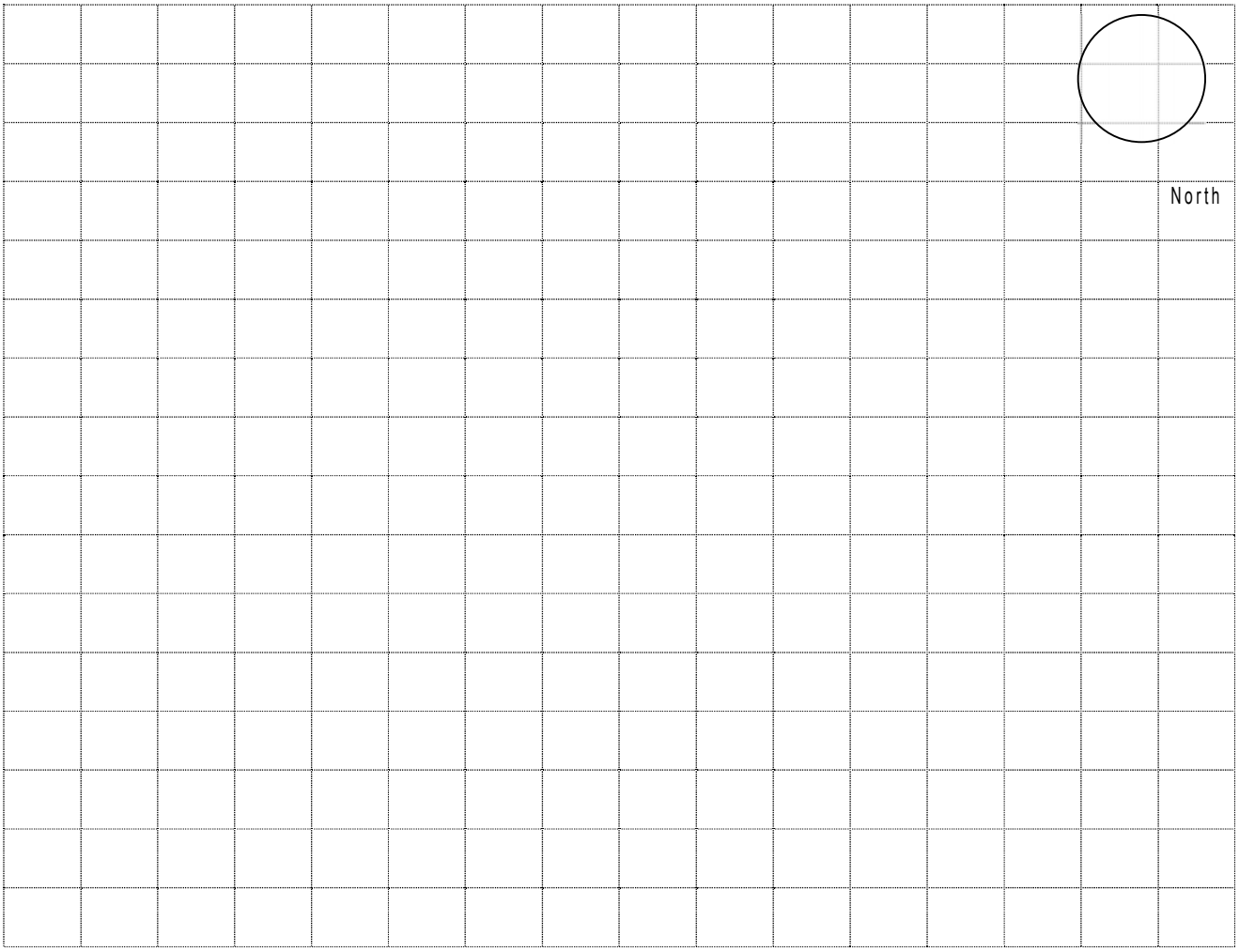
Date TGS Approved: .....

Date TMP Approved: .....

3.0	Descriptions of Vehicles:			
Detail (make, model/ped/cyclist/VRU)		Registration No	Direction of Travel	Age of Driver
3.1	Vehicle 1			
3.2	Vehicle 2			
3.3	Vehicle 3			
Comments:				

4.0	Description of Incident:

Draw the Incident including the direction of travel, traffic control signs, fixed structures and north point.



5.0	Attachments: The following copies MUST be submitted with this Incident Report.					
Approved TMP ☐	Approved TGS ☐	Approvals for temporary speed restrictions ☐	Daily Diary ☐			

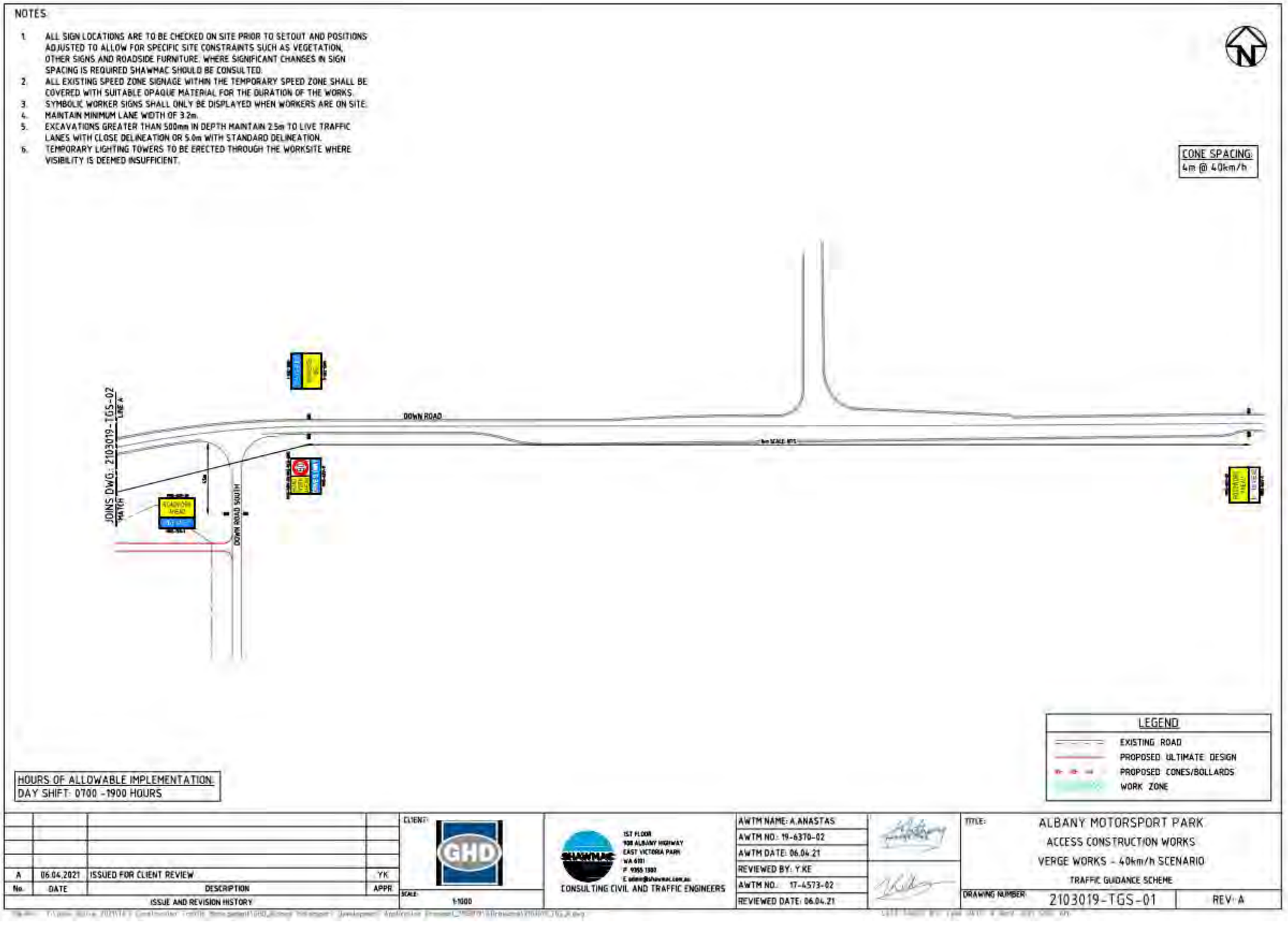
6.0	Police Report:				
Accident reported to Police:	☐ YES ☐ NO	Report made by	☐ Phone	☐ Fax	☐ Mail or E-mail
Date Report Made	Day Month Year	Police WA Reference Number			

7.0	Details of Person Completing this Incident Form:
Name:	Contractor Name:
Position:	
Date:	Signature:

Volumes

Location	Average weekday (vpd)	Trucks	Average weekend (vpd)	Trucks
Down Road	844 vpd (2017)	34%	419 vpd (2017)	40%
Albany Highway	4,950 vpd (2017)	20%	3,520 vpd (2017)	16%

Appendix E - Roadway Access Authorisation Permit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6. TEMPORARY LIGHTING TOWERS TO BE ERECTED THROUGH THE WORKSITE WHERE VISIBILITY IS DEEMED INSUFFICIENT.
CONE SPACING:
4m @ 40km/h
JOINS DWG.: 2103019-TGS-02
MATCH LINE A
DOWN ROAD
DOWN ROAD SOUTH
HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS
LEGEND
EXISTING ROAD
PROPOSED ULTIMATE DESIGN
PROPOSED CONES/BOLLARDS
WORK ZONE
A 06.04.2021 ISSUED FOR CLIENT REVIEW YK
No. DATE DESCRIPTION APPR
ISSUE AND REVISION HISTORY
CLIENT:
GHD
SCALE: 1:1000
1ST FLOOR
938 ALBANY HIGHWAY
EAST VICTORIA PARK
WA 6101
CONSULTING CIVIL AND TRAFFIC ENGINEERS
AWTM NAME: A.ANASTAS
AWTM NO.: 19-6370-02
AWTM DATE: 06.04.21
REVIEWED BY: Y.KE
AWTM NO.: 17-4573-02
REVIEWED DATE: 06.04.21
TITLE:
ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 40km/h SCENARIO
TRAFFIC GUIDANCE SCHEME
DRAWING NUMBER 2103019-TGS-01
REV: A

NOTES:

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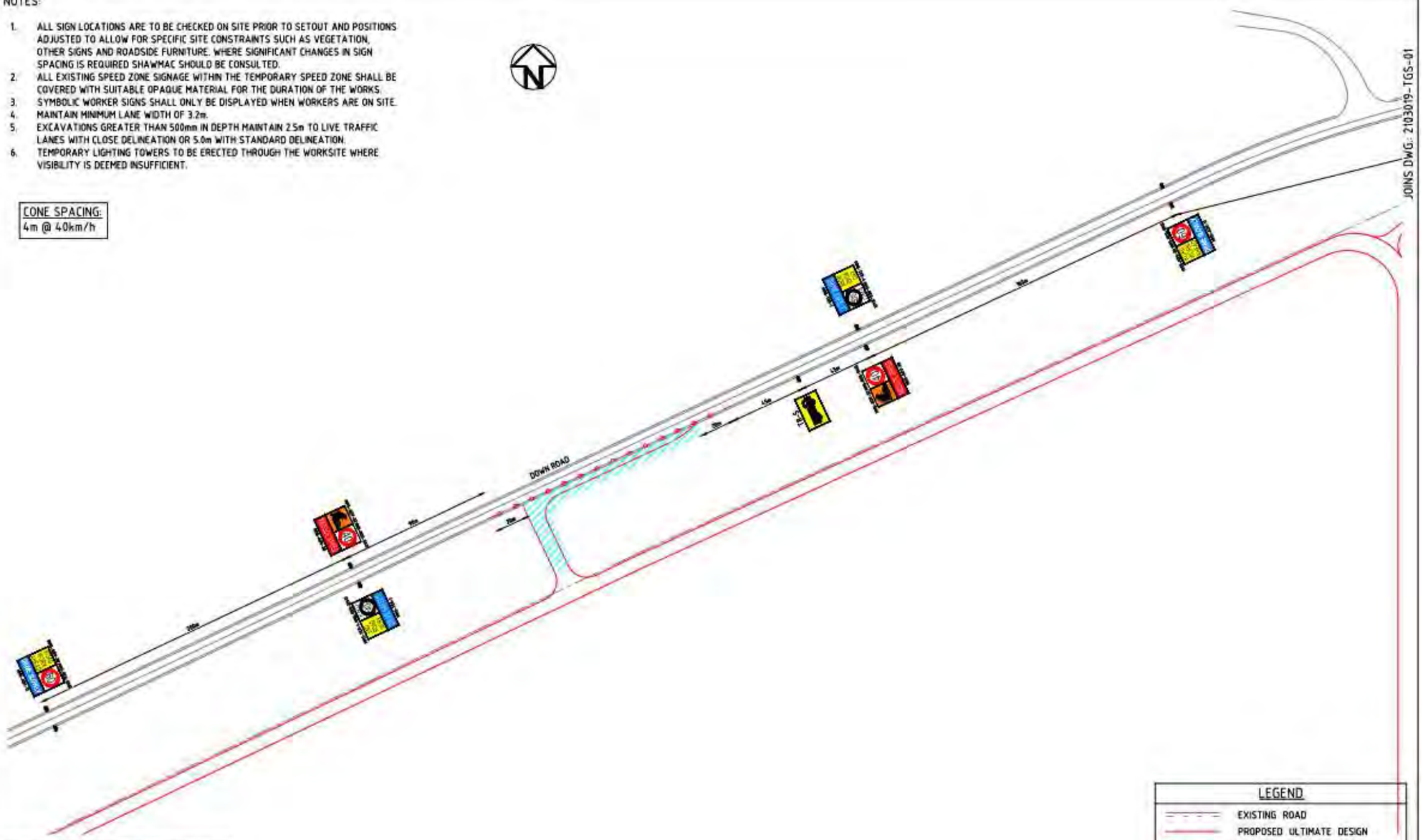
6. TEMPORARY LIGHTING TOWERS TO BE ERECTED THROUGH THE WORKSITE WHERE VISIBILITY IS DEEMED INSUFFICIENT.

CONE SPACING:
4m @ 40km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
A	06.04.2021	ISSUED FOR CLIENT REVIEW	YK

ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

SHAWMAC
1ST FLOOR
908 ALBANY HIGHWAY
EAST VICTORIA PARK
WA 6101
P 9355 1900
E admin@shawmac.com.au
CONSULTING CIVIL AND TRAFFIC ENGINEERS

AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 40km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-02 REV: A

NOTES:

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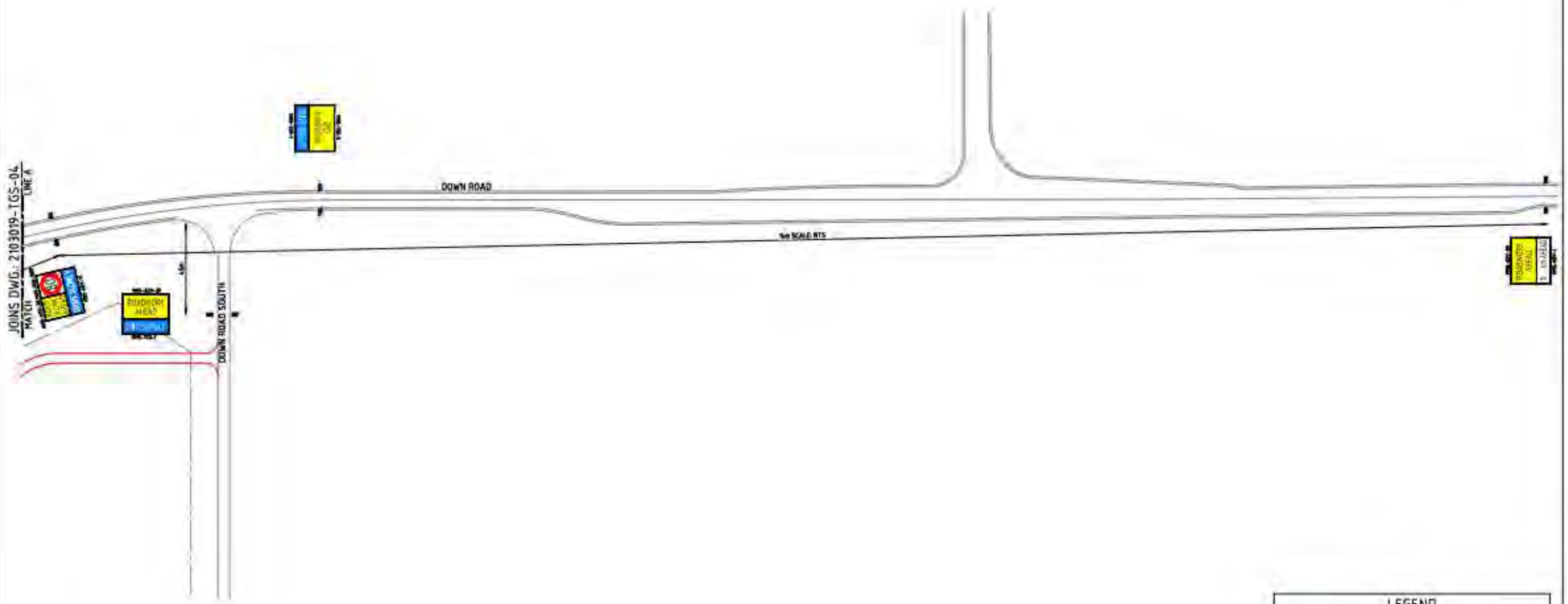
CONE SPACING:
4m @ 60km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 - 1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

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AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 60km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-03 REV: A

NOTES:

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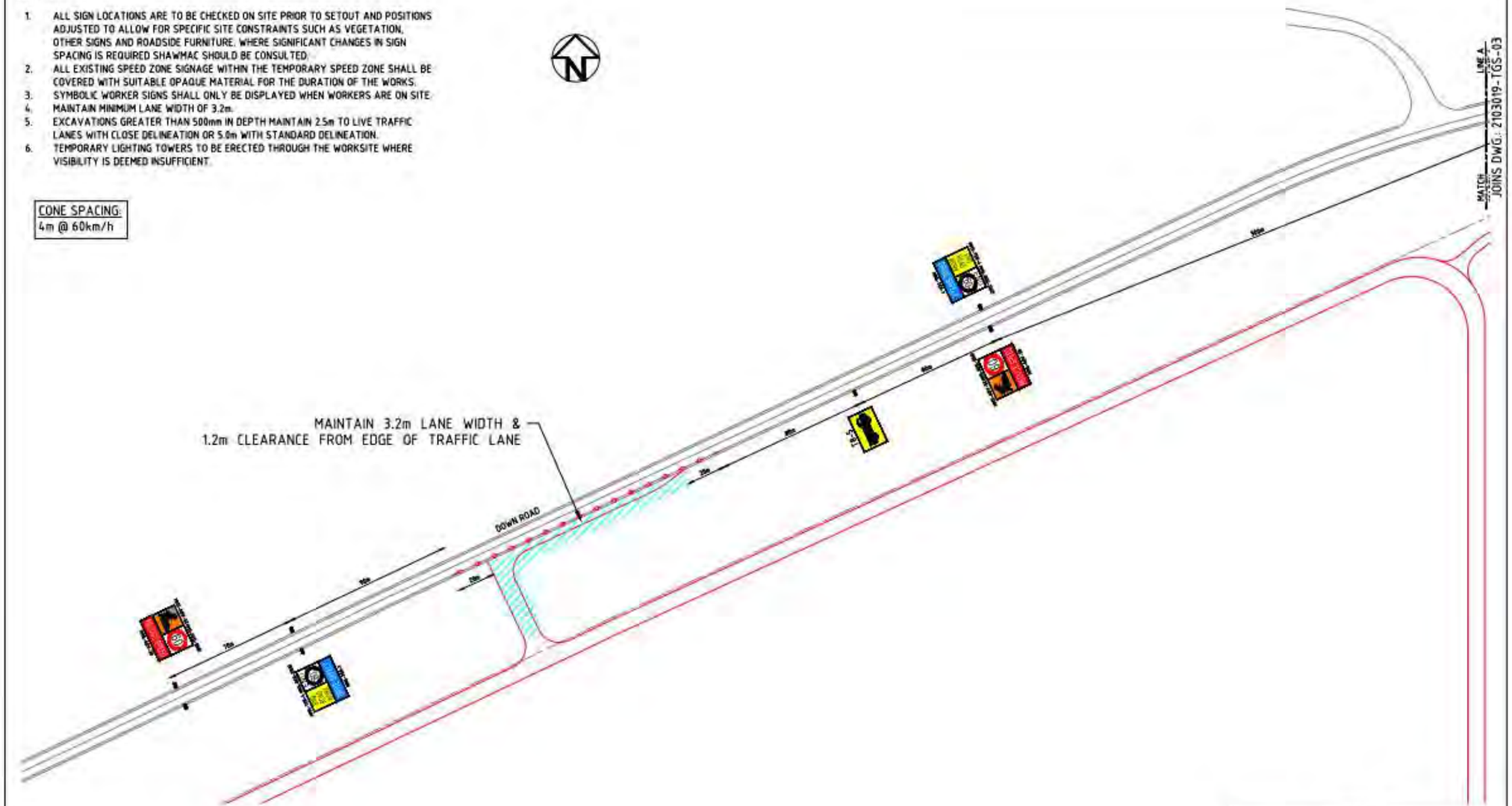
CONE SPACING:
4m @ 60km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
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- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
A	06.04.2021	ISSUED FOR CLIENT REVIEW	YK

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CLIENT: GHD

SCALE: 1:1000

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WA 6101
P: 9355 1900
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CONSULTING CIVIL AND TRAFFIC ENGINEERS

AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 60km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-04 REV: A

File No: Y:\Jobs Active 2021\CIET Construction Traffic Management\GHD_Albany Motorsport Development Application Proposal_2103019\3.Drawings\2103019_TGS_A.dwg

LAST SAVED BY: Yves DATE: 6 April 2021 9:30 AM

NOTES:

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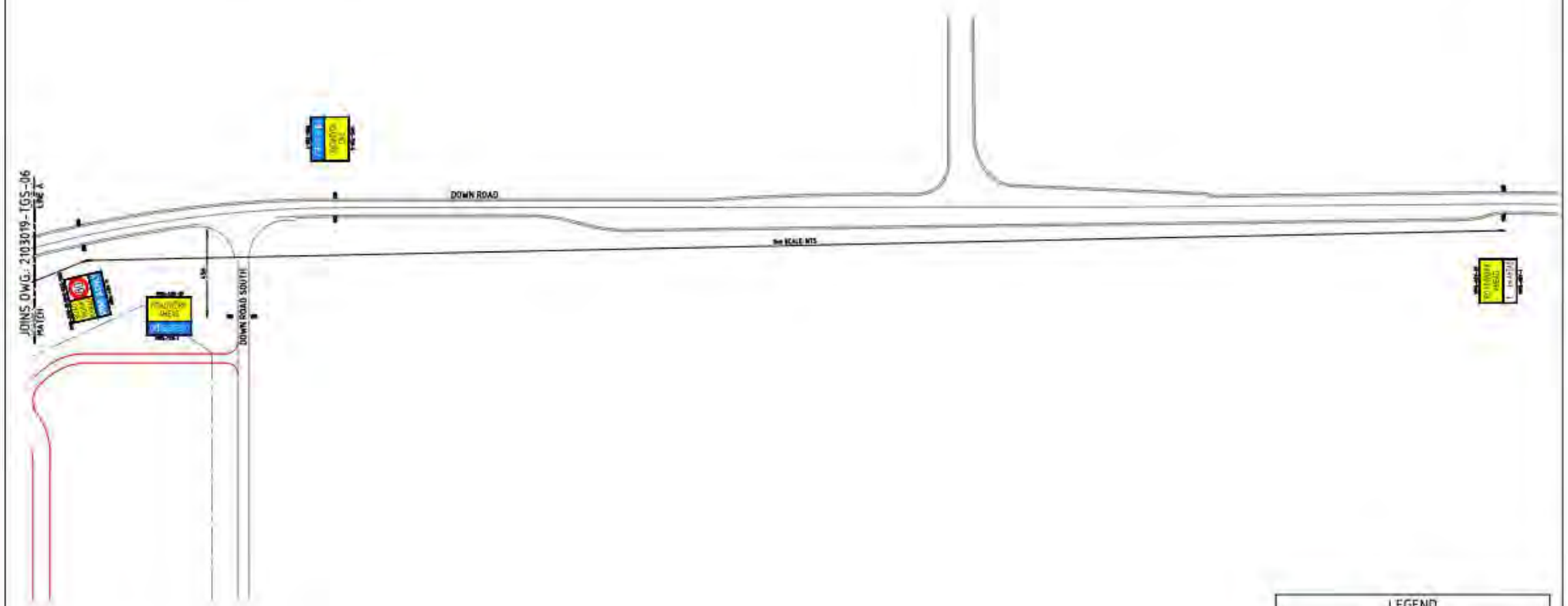
CONE SPACING:
4m @ 60km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
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- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
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1ST FLOOR
108 ALBANY HIGHWAY
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P 9355 1990
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CONSULTING CIVIL AND TRAFFIC ENGINEERS

AWTM NAME: A.ANASTAS
AWTM NO: 19-6370-02
AWTM DATE: 06.04.21
REVIEWED BY: Y.KE
AWTM NO. 17-4573-02
REVIEWED DATE: 06.04.21

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS AFTER CARE - 60km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-05 REV: A

NOTES:

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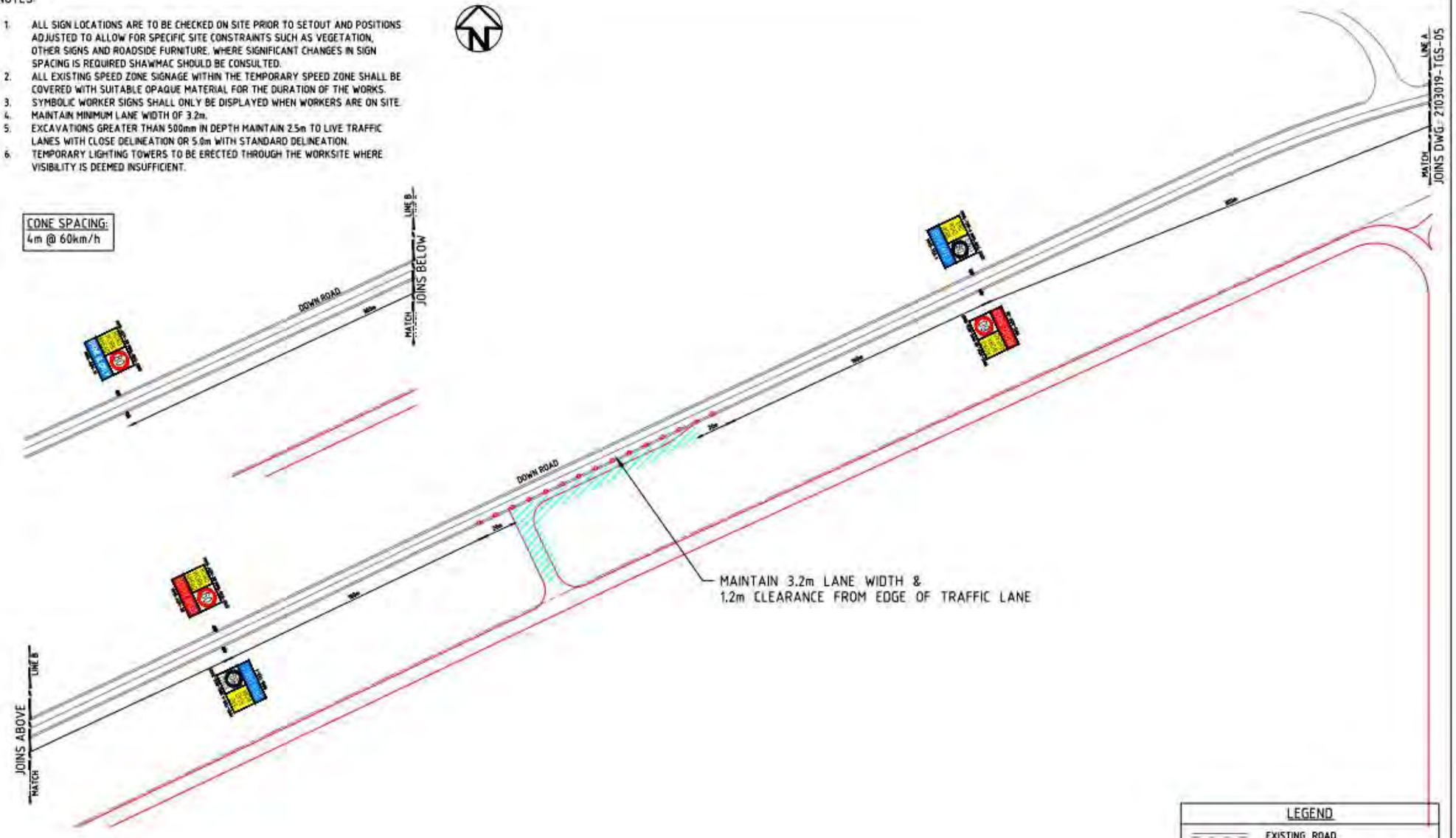
CONE SPACING:
4m @ 60km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
A	06.04.2021	ISSUED FOR CLIENT REVIEW	YK

ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

SHAWMAC
1ST FLOOR
908 ALBANY HIGHWAY
EAST VICTORIA PARK
WA 6101
P 9355 1900
E admin@shawmac.com.au
CONSULTING CIVIL AND TRAFFIC ENGINEERS

AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS AFTER CARE - 60km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-06 REV: A

NOTES:

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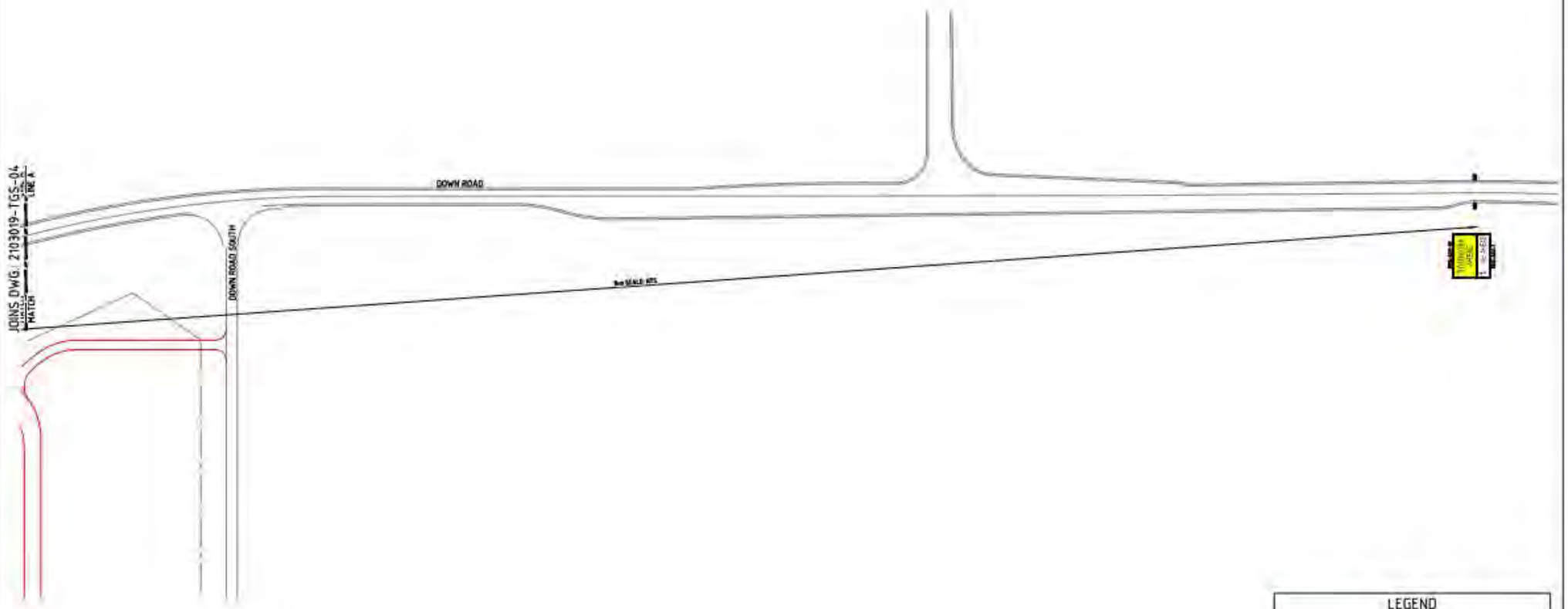
6. TEMPORARY LIGHTING TOWERS TO BE ERECTED THROUGH THE WORKSITE WHERE VISIBILITY IS DEEMED INSUFFICIENT.

CONE SPACING:
8m @ 80km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 - 1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
A	06.04.2021	ISSUED FOR CLIENT REVIEW	YK

ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

SHAWMAC
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CONSULTING CIVIL AND TRAFFIC ENGINEERS

AWTM NAME: A.ANASTAS
AWTM NO.: 19-6370-02
AWTM DATE: 06.04.21
REVIEWED BY: Y.KE
AWTM NO.: 17-4573-02
REVIEWED DATE: 06.04.21

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 80km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-07 REV: A

NOTES:

1. ALL SIGN LOCATIONS ARE TO BE CHECKED ON SITE PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS AND ROADSIDE FURNITURE. WHERE SIGNIFICANT CHANGES IN SIGN SPACING IS REQUIRED SHAWMAC SHOULD BE CONSULTED.
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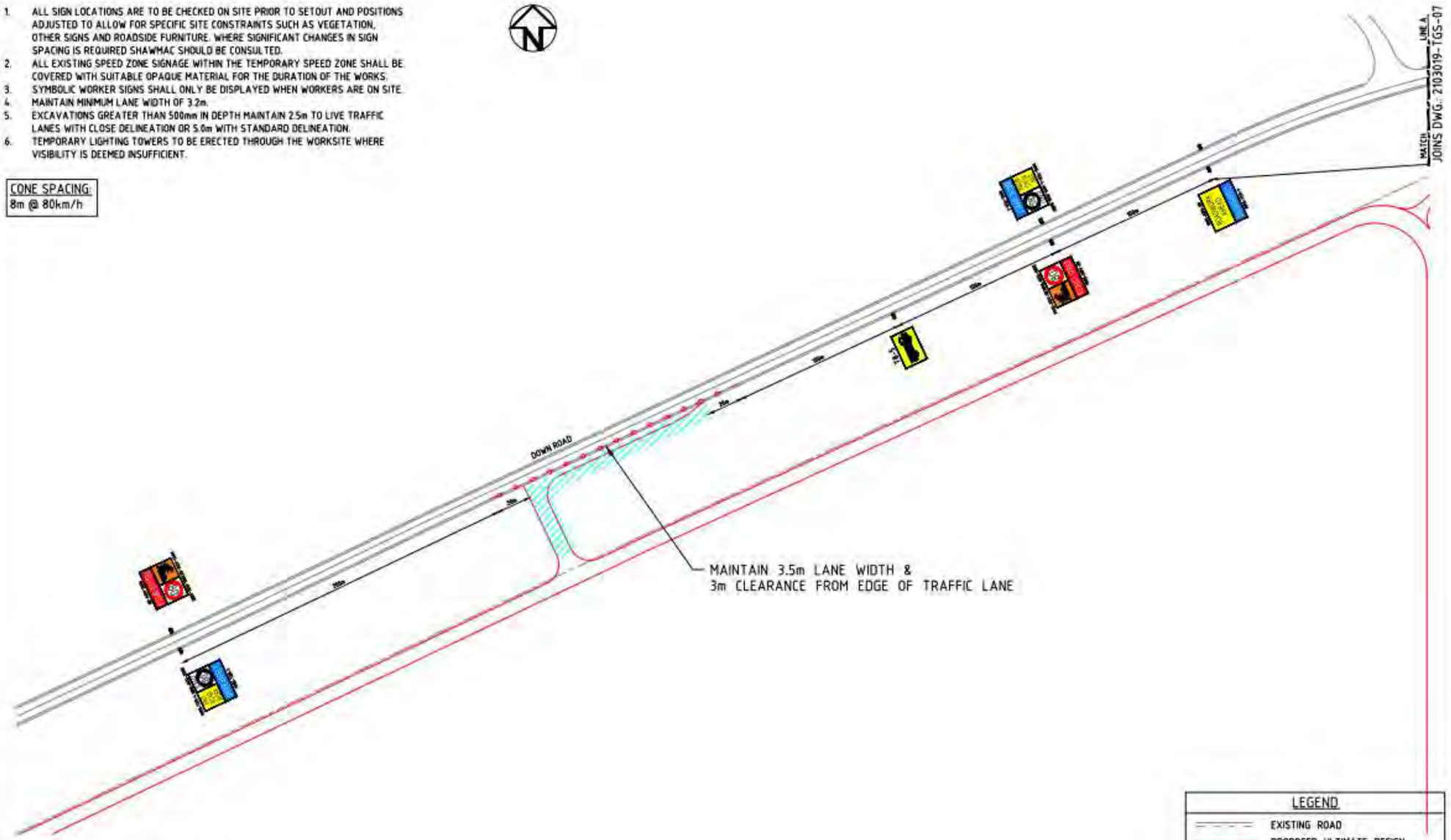
6. TEMPORARY LIGHTING TOWERS TO BE ERECTED THROUGH THE WORKSITE WHERE VISIBILITY IS DEEMED INSUFFICIENT.

CONE SPACING:
8m @ 80km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
A	06.04.2021	ISSUED FOR CLIENT REVIEW	YK

ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

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AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 80km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-08 REV: A

NOTES:

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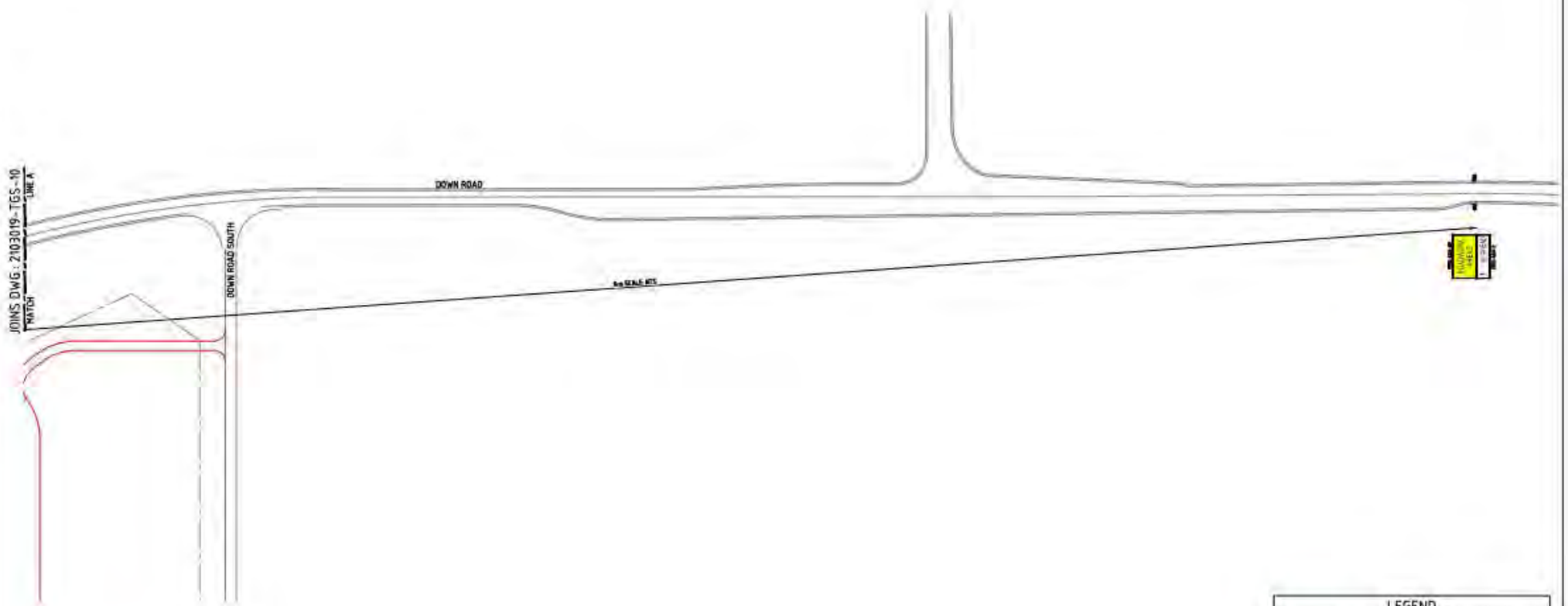
CONE SPACING:
8m @ 80km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
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AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS AFTER CARE - 80km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-09 | REV: A

NOTES:

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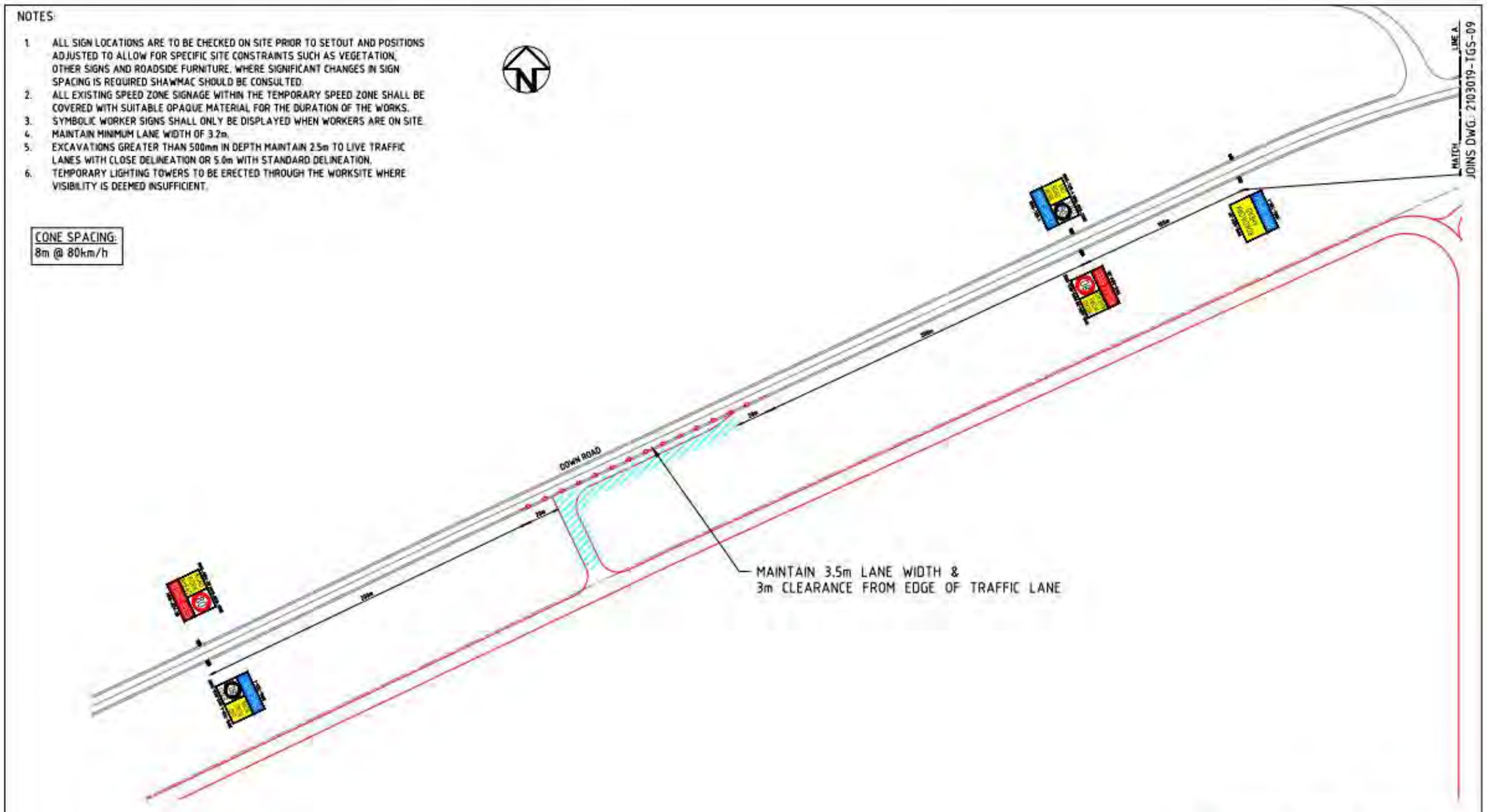
CONE SPACING:
8m @ 80km/h



HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

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REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE:
ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS AFTER CARE - 80km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-10 REV: A

NOTES:

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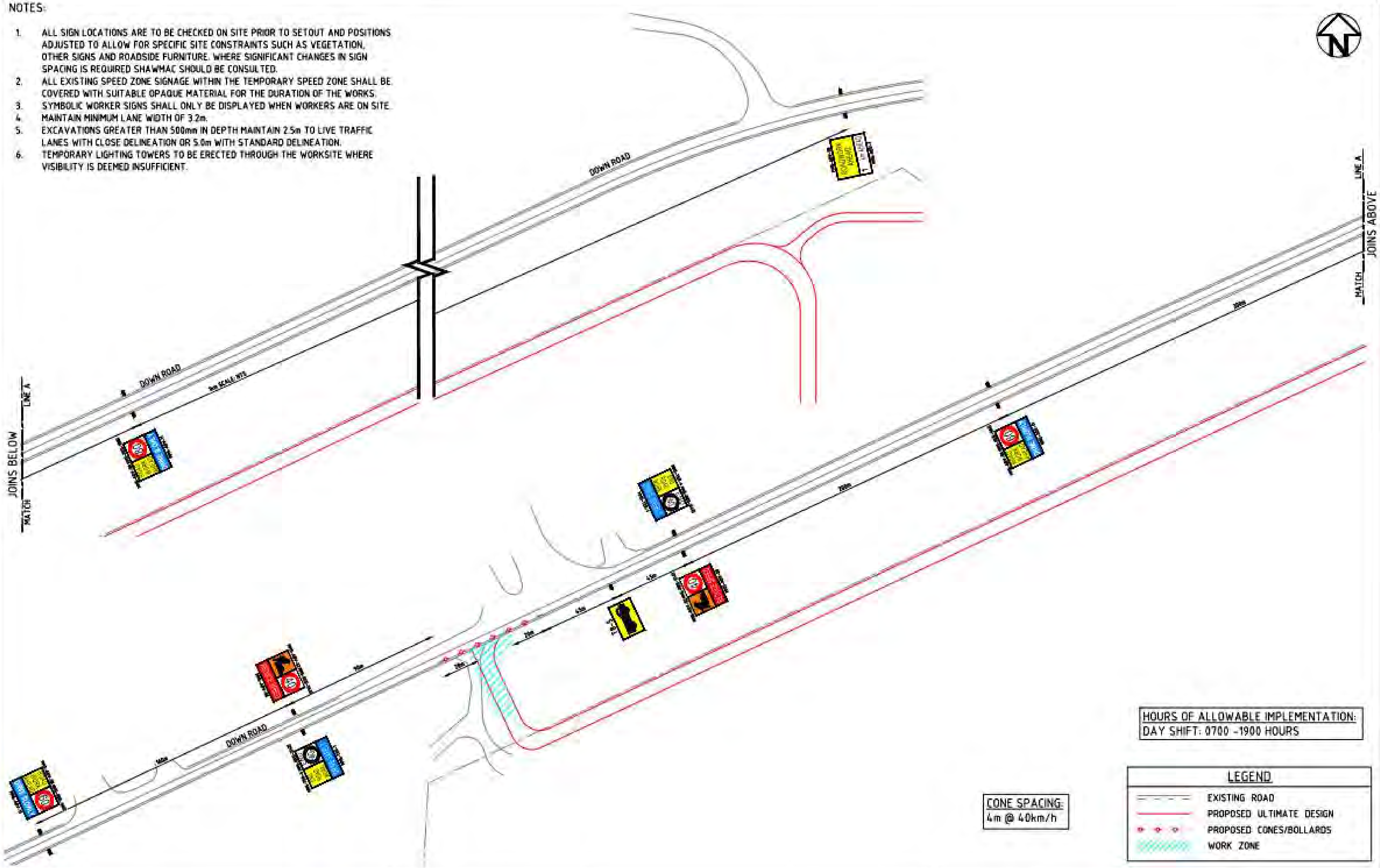

HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

CONE SPACING:
4m @ 40km/h

LEGEND

- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
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SCALE: 1:1000

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REVIEWED BY: Y.KE
AWTM NO.: 17-4573-02
REVIEWED DATE: 06.04.21

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 40km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-11 REV: A

NOTES:

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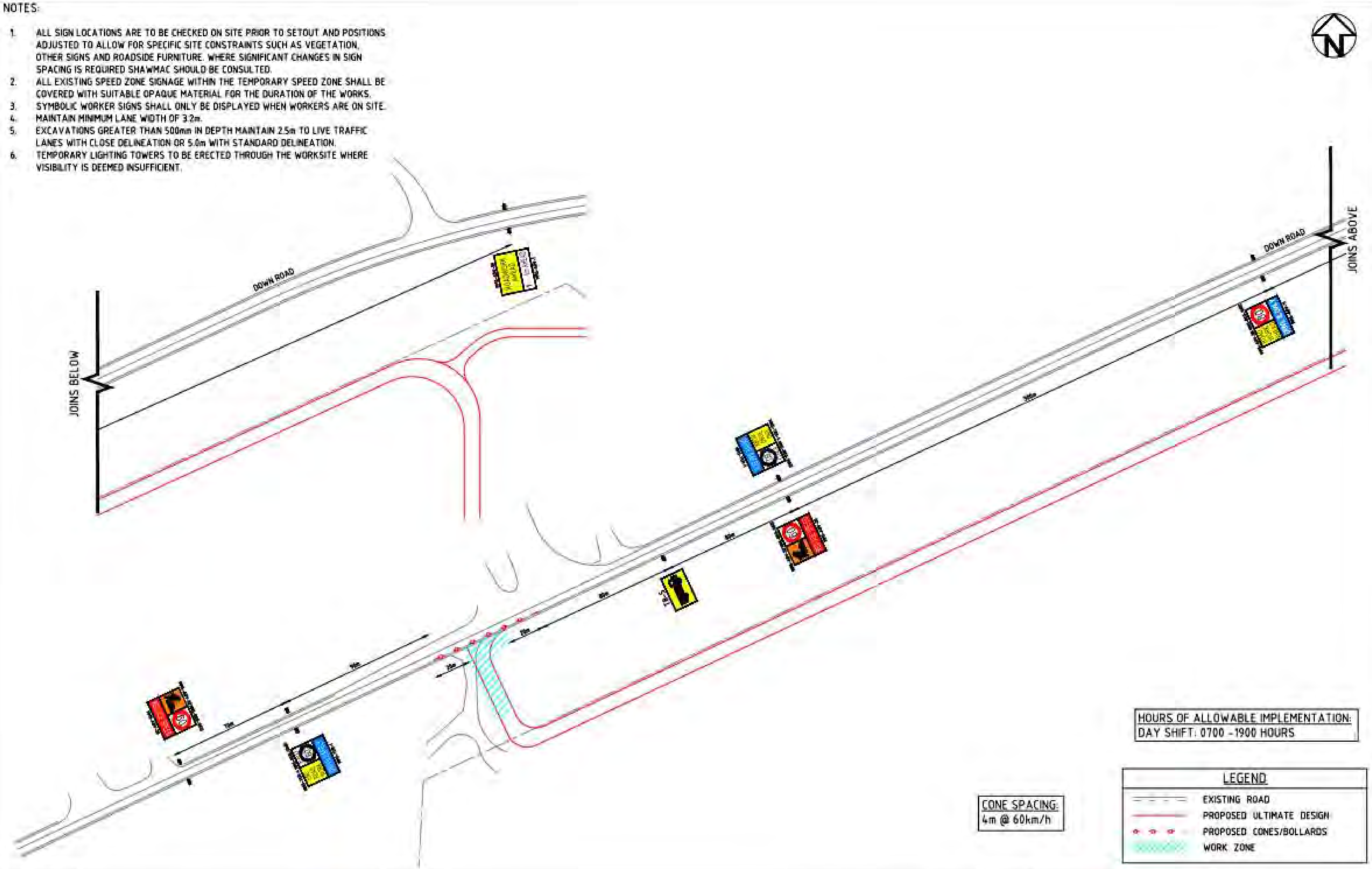

HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

CONE SPACING:
4m @ 60km/h

LEGEND

- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

No.	DATE	DESCRIPTION	APPR.
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SCALE: 1:1000

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AWTM DATE: 06.04.21
REVIEWED BY: Y.KE
AWTM NO.: 17-4573-02
REVIEWED DATE: 06.04.21

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 60km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-12 REV: A

NOTES:

1. ALL SIGN LOCATIONS ARE TO BE CHECKED ON SITE PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS AND ROADSIDE FURNITURE. WHERE SIGNIFICANT CHANGES IN SIGN SPACING IS REQUIRED SHAWMAC SHOULD BE CONSULTED.
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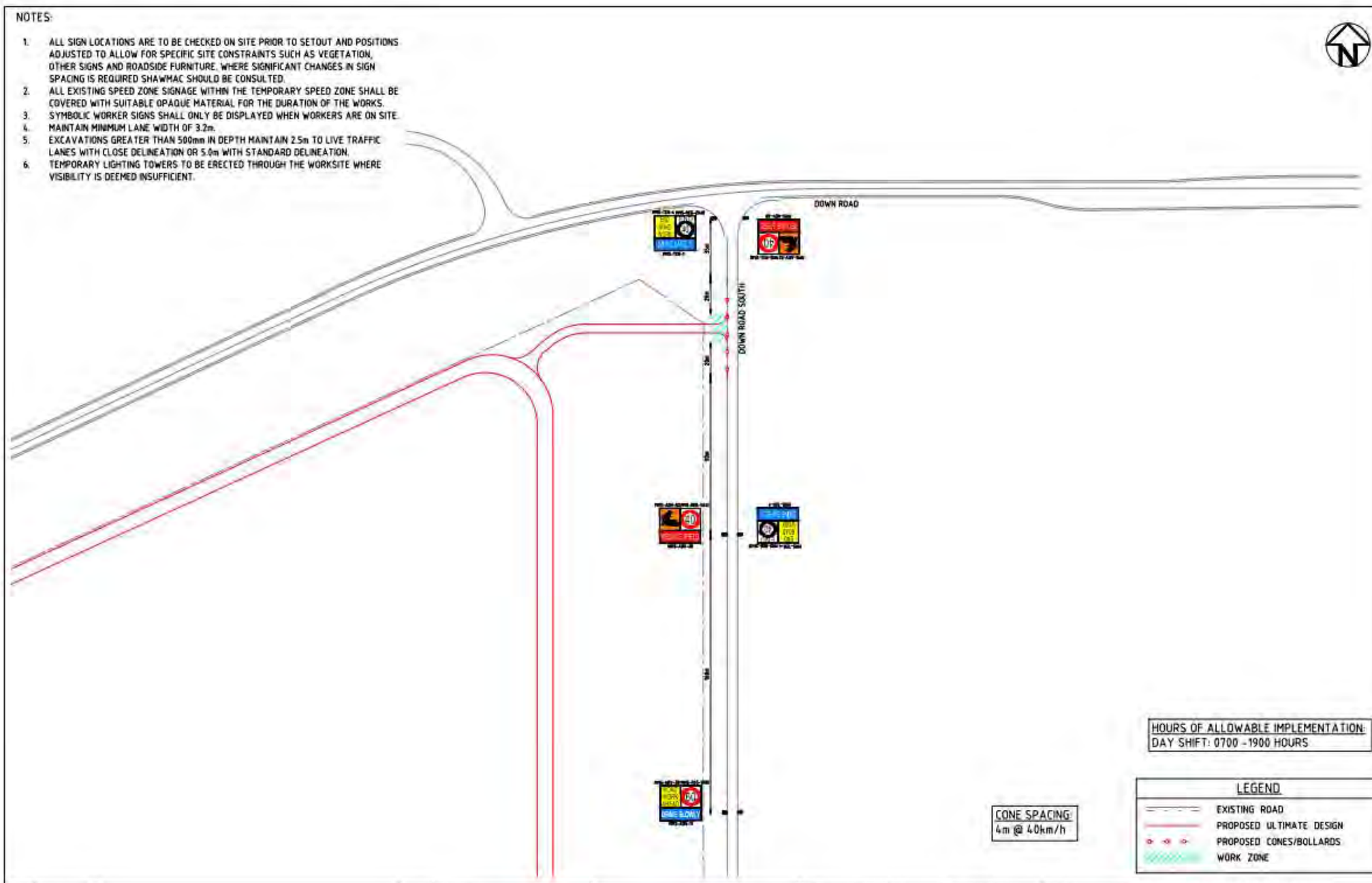

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ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

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AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
VERGE WORKS - 40km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-13 REV: A

NOTES:

1. ALL SIGN LOCATIONS ARE TO BE CHECKED ON SITE PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS AND ROADSIDE FURNITURE. WHERE SIGNIFICANT CHANGES IN SIGN SPACING IS REQUIRED SHAWMAC SHOULD BE CONSULTED.
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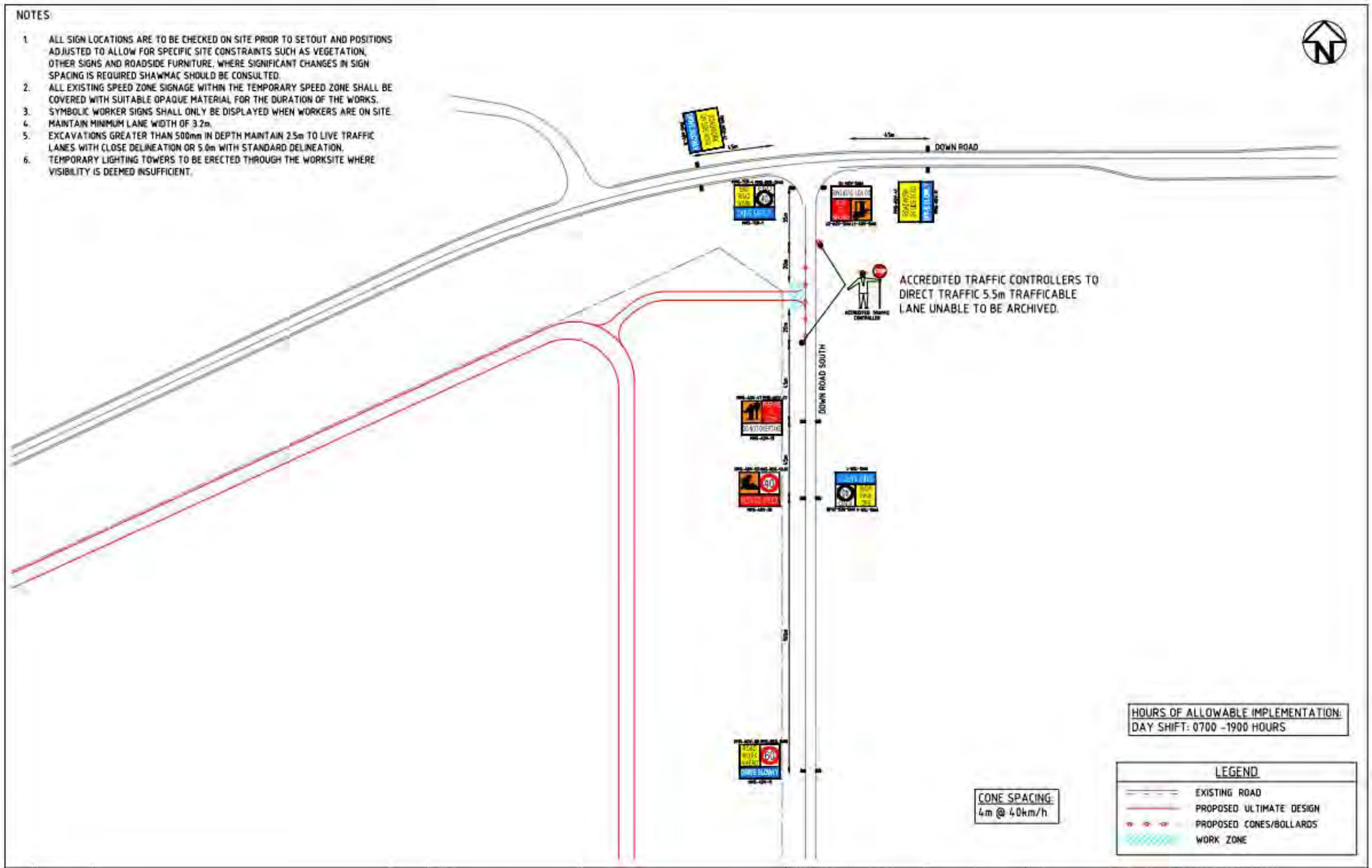

No.	DATE	DESCRIPTION	APPR.
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ISSUE AND REVISION HISTORY

CLIENT: GHD

SCALE: 1:1000

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AWTM NAME: A.ANASTAS	
AWTM NO.: 19-6370-02	
AWTM DATE: 06.04.21	
REVIEWED BY: Y.KE	
AWTM NO.: 17-4573-02	
REVIEWED DATE: 06.04.21	

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
TEMPORARY HOLDING TRAFFIC - 40km/h SCENARIO
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-14 REV: A

NOTES:

1. ALL SIGN LOCATIONS ARE TO BE CHECKED ON SITE PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS AND ROADSIDE FURNITURE. WHERE SIGNIFICANT CHANGES IN SIGN SPACING IS REQUIRED SHAWMAC SHOULD BE CONSULTED.
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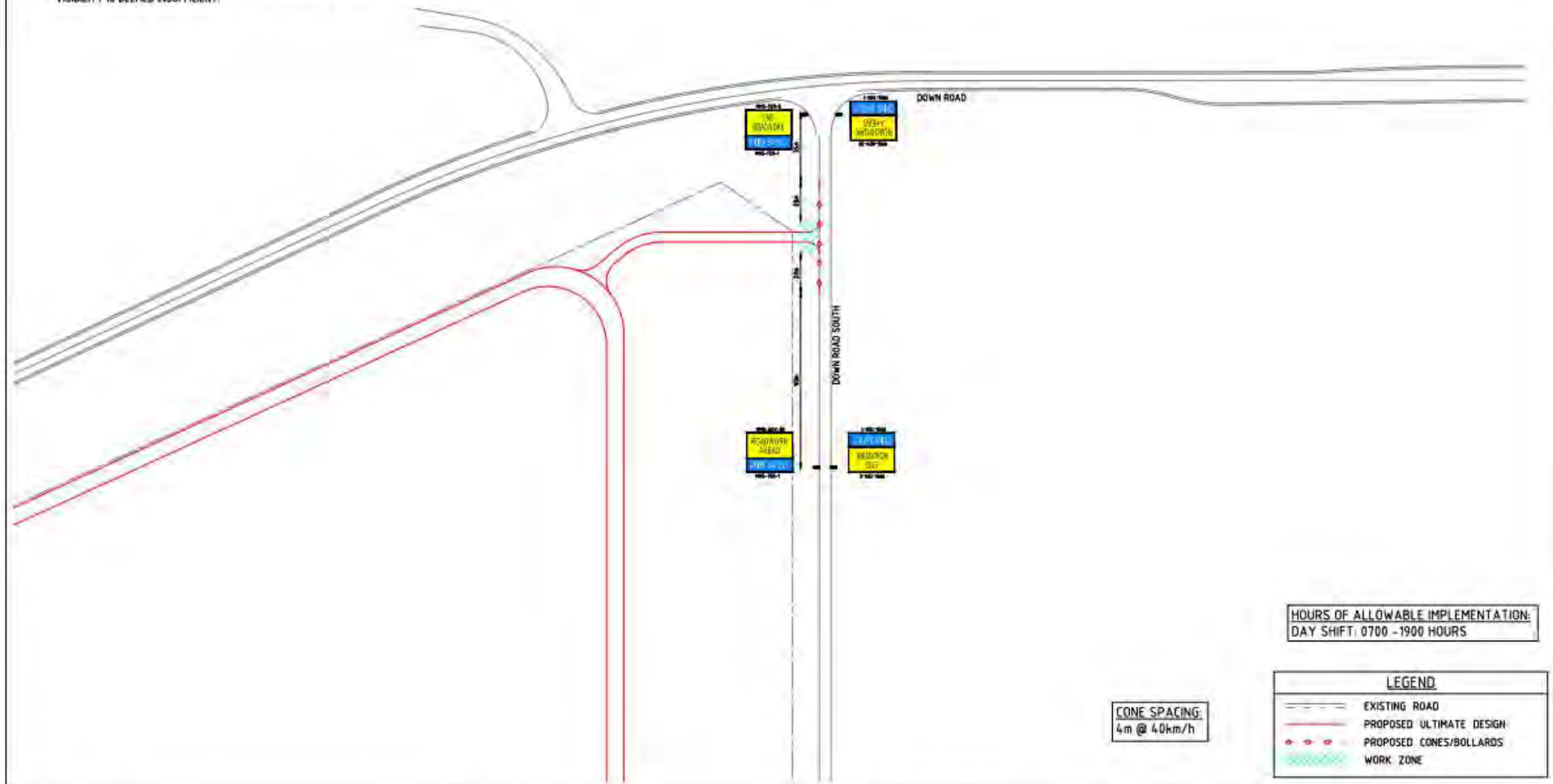

HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

CONE SPACING:
4m @ 40km/h

LEGEND
- EXISTING ROAD
- PROPOSED ULTIMATE DESIGN
- PROPOSED CONES/BOLLARDS
- WORK ZONE

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SCALE: 1:1000

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REVIEWED BY: Y.KE
AWTM NO.: 17-4573-02
REVIEWED DATE: 06.04.21

TITLE: ALBANY MOTORSPORT PARK
ACCESS CONSTRUCTION WORKS
AFTER CARE
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-15 REV: A

NOTES:

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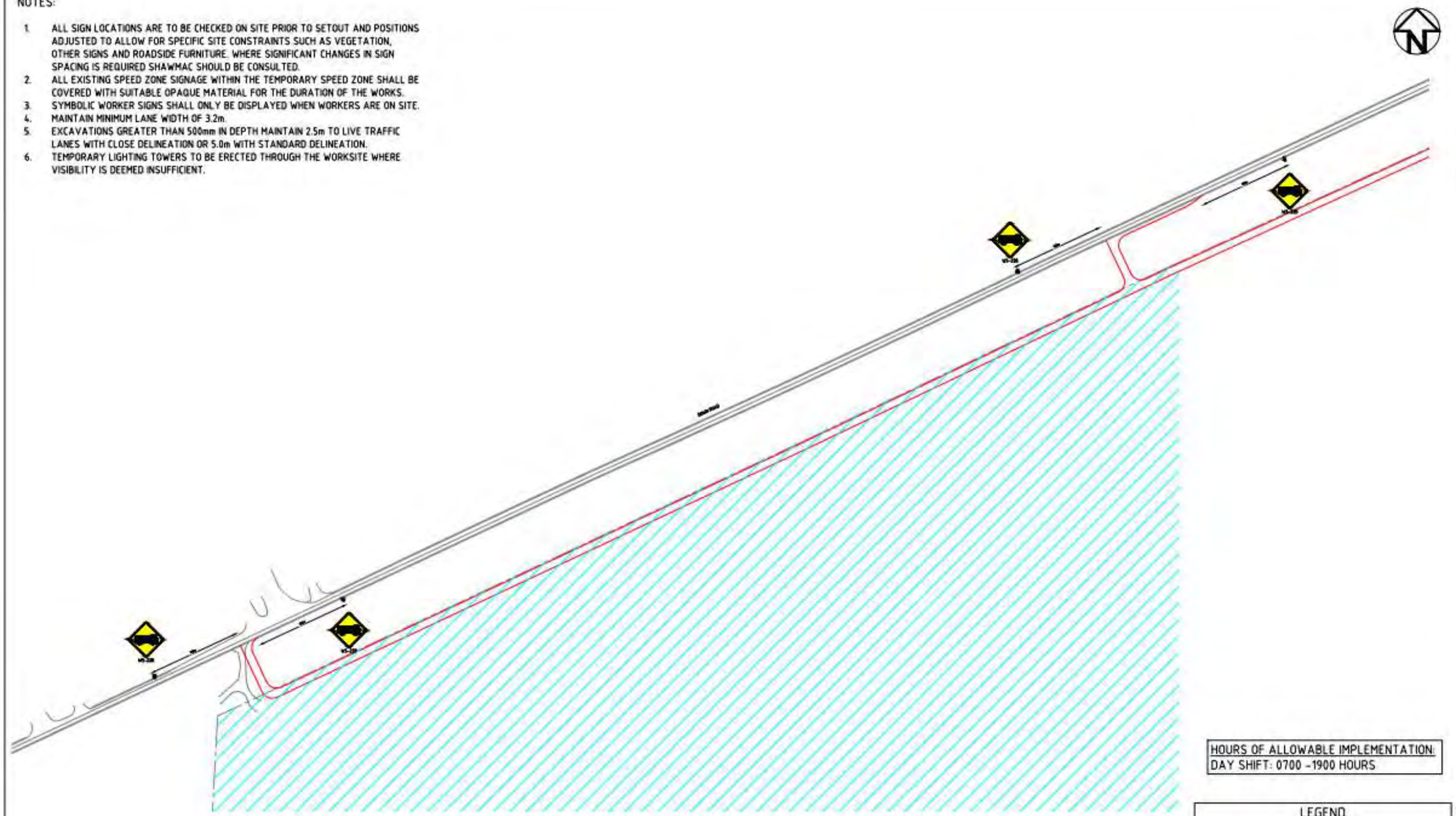

HOURS OF ALLOWABLE IMPLEMENTATION:
DAY SHIFT: 0700 -1900 HOURS

LEGEND
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- PROPOSED ULTIMATE DESIGN
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TITLE: ALBANY MOTORSPORT PARK
INTERNAL WORKS
ACCESS CONTROL LAYOUT
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-16 REV: A

File Ref: Y:\Jobs Active 2021\T&T Construction Traffic Management\GHD_Albany Motorsport Development Application Proposal_2103019\3.Drawings\2103019_TGS_A.dwg

LAST SAVED BY: Yyke DATE: 6 April 2021 12:55 AM

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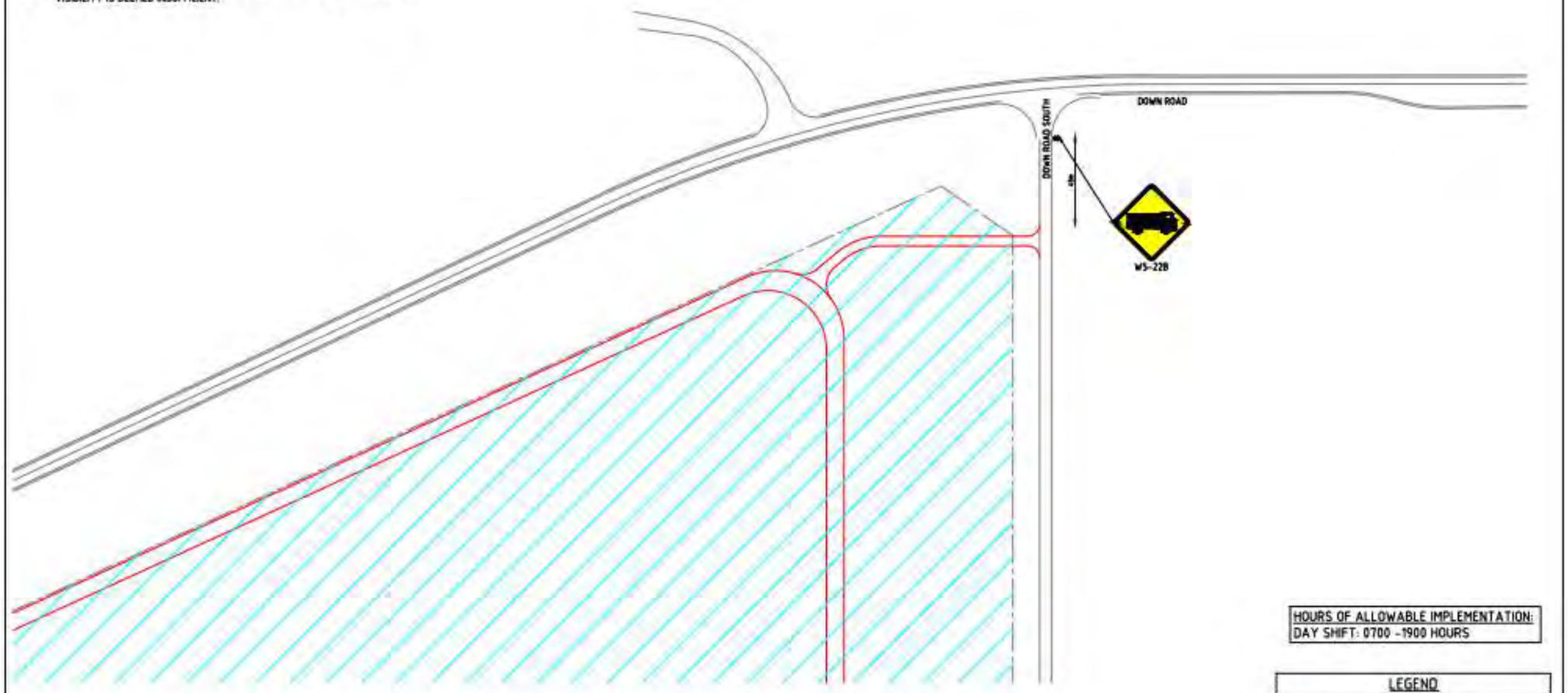

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INTERNAL WORKS
ACCESS CONTROL LAYOUT
TRAFFIC GUIDANCE SCHEME

DRAWING NUMBER: 2103019-TGS-17 | REV: A

File Ref: Y:\Jobs Active 2021\T&T Construction Traffic Management\GHD_Albany Motorsport Development Application Proposal_210319\3.Drawings\2103019_TGS_A.dwg

LAST SAVED BY: Yyke DATE: 6 April 2021 12:55 AM

N/A

Appendix H- Stakeholder Approval

ghd.com

→ The Power of Commitment