

CITY OF ARMADALE

MINUTES

OF THE **TECHNICAL SERVICES COMMITTEE** HELD IN THE **FUNCTION ROOM**,
ADMINISTRATION CENTRE, 7 ORCHARD AVENUE, ARMADALE ON **MONDAY**,
7 SEPTEMBER 2020 AT 7.00PM.

PRESENT: Cr G Nixon (Chair)
Cr M Silver (Deputy Chair)
Cr R Butterfield
Cr E J Flynn
Cr M S Northcott
Cr S Peter JP
Cr G J Smith

APOLOGIES: Nil

OBSERVERS: Cr D M Shaw

IN ATTENDANCE: Ms J Abbiss Chief Executive Officer
Mr K Ketterer Executive Director Technical Services
Mr T Naude Executive Manager Technical Services
Mr M Tapscott Manager Engineering Design
Mrs A Owen-Brown Senior Administration Officer

PUBLIC: Nil

*“For details of Councillor Membership on this Committee, please refer to the City’s website
– www.armadale.wa.gov.au/your_council/councillors.”*

DISCLAIMER

The Disclaimer for protecting Councillors and staff from liability of information and advice given at Committee meetings was not read as there were no members of the public present.

DECLARATION OF MEMBERS' INTERESTS

Nil.

QUESTION TIME

Nil.

DEPUTATION

Nil.

CONFIRMATION OF MINUTES

RECOMMEND

Minutes of the Technical Services Committee Meeting held on 3 August 2020 be confirmed.

**Moved Cr M S Northcott
MOTION CARRIED**

(7/0)

ITEMS REFERRED FROM INFORMATION BULLETIN

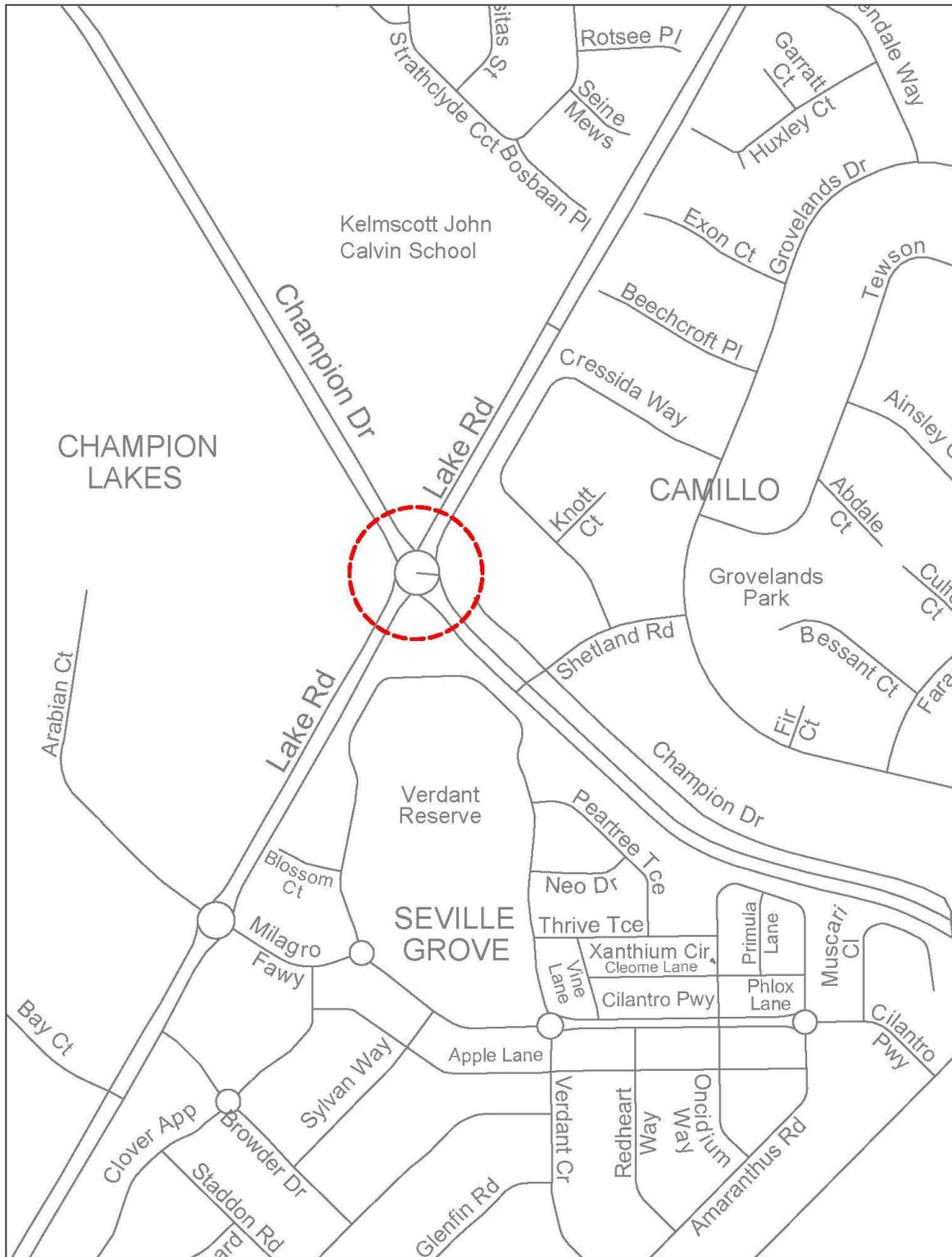
Committee noted the information and no further items were raised for discussion and/or further report purposes.

CONTENTS

TECHNICAL SERVICES COMMITTEE

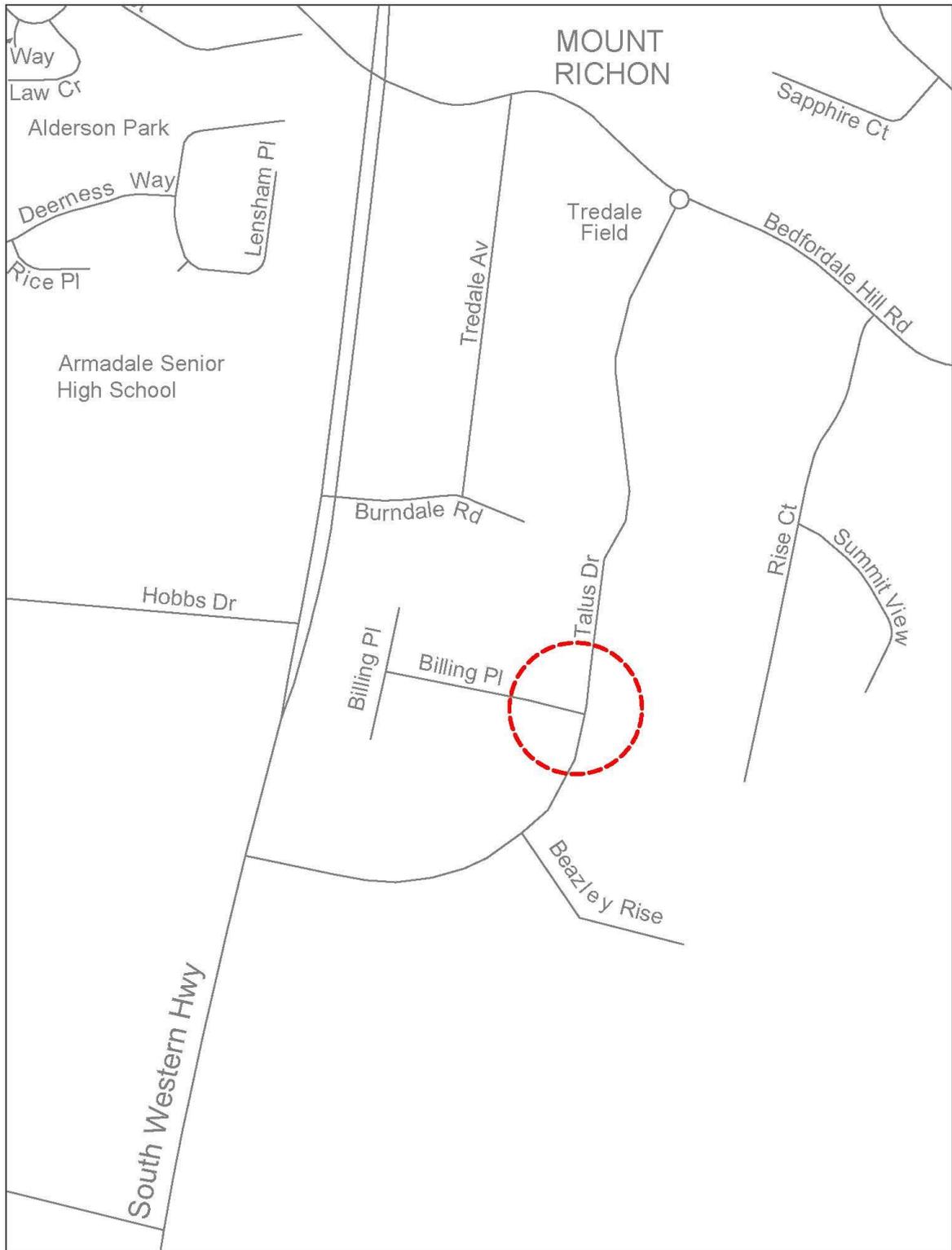
7 SEPTEMBER 2020

- 1. **BUDGET**
 - 1.1 **VARIATION TO 2020/21 STATE BLACK SPOT PROJECT GRANTS - BUDGET AMENDMENT.....4
- 2. **TENDERS**
 - 2.1 TENDER 20/20 - WILLIAM SKEET OVAL IRRIGATION AND LIGHTING UPGRADE10
- 3. **MISCELLANEOUS**
 - 3.1 URBAN FOREST STRATEGY - UPDATE (REFERRAL ITEM)14
 - 3.2 INSURANCE CLAIMS - STREET TREES (REFERRAL ITEM)15
 - 3.3 STREETSAPES (REFERRAL ITEM).....18
- 4. **COUNCILLORS' ITEMS**
 - 1. UPGRADING OF EXISTING PARKS TO INCLUDE SKATE PARK ELEMENTS 19
 - 2. INFORMATION ON BIRDS AND OTHER FAUNA AT CHAMPION LAKES..... 19
- 5. **EXECUTIVE DIRECTOR TECHNICAL SERVICES REPORT**
 - NIL. 19
- SUMMARY OF ATTACHMENTS 20**



Champion Drive / Lake Road
Proposed Roundabout Predeflection
CHAMPION LAKES
Location Plan





Talus Drive / Billing Place
Proposed Intersection Modifications
MOUNT RICHON
Location Plan



***1.1 - VARIATION TO 2020/21 STATE BLACK SPOT PROJECT GRANTS - BUDGET
AMENDMENT***

WARD : ALL
FILE No. : M/512/20
DATE : 18 August 2020
REF : TN/MT
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- Main Roads WA has offered the City two reserve State Black Spot projects for the intersections of Champion Drive and Lake Road; and Talus Drive and Billing Place.
- Both projects will address road safety issues at these intersections. This offer requires the City to contribute one-third of the funding for both projects.
- This report recommends that the City accept the offer for reserve State Black Spot funding, with the one-third municipal funding provided through a short term deficit incurred in the 2020/21 Budget until the 2019/20 year end position is reported at the end of September 2020.

Tabled Items

Nil.

Decision Type

- Legislative** The decision relates to general local government legislative functions such as adopting/changing local laws, town planning schemes, rates exemptions, City policies and delegations etc.
- Executive** The decision relates to the direction setting and oversight role of Council.
- Quasi-judicial** The decision directly affects a person's rights or interests and requires Councillors at the time of making the decision to adhere to the principles of natural justice.

Officer Interest Declaration

Nil.

Strategic Implications

- 2.3 Well Managed Infrastructure
- 2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure
- 2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure

Legislative Implications

Assessment of legislation indicates that the following is applicable:

- *Local Government Act 1995* (as amended) – Section 6.8 – Expenditure from the Municipal Fund not included in Annual Budget

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

The two blackspot projects the subject of this report require municipal funds of \$76,100. The recommendation proposes that funding for the projects can be considered in conjunction with the final 2019/20 year-end position, which is due to be reported to Council at the end of September 2020.

In the meantime, given the relatively small amount of funds required, the project can be approved and the budget amended accordingly.

Consultation

- Inter Directorate.

BACKGROUND

Main Roads WA (MRWA) has recently advised the City that funds will become available in the Metropolitan Regional Road Group (MRRG) State Black Spot reallocation account to fund approved reserve projects. MRWA offered funding for a number of projects of which two are located in the City:

- Lake Road and Champion Drive Intersection - pre-deflection on the western leg of Champion Drive together with signs and line marking improvements.
- Talus Drive and Billing Place Intersection - provision of a median island on Talus Drive and Billing Place as well as sign and pavement marking improvements.

Both projects were nominated by the City for the 2020/21 State Black Spot program, however no funding was allocated to these two projects at the initial assessment.

Under the State Black Spot program, the State Government funds two-thirds of the project funding and requires that the City fund the remaining one-third of the total project cost. All projects are required to be fully delivered and acquitted during the 2020/21 financial year.

DETAILS OF PROPOSAL

Lake Road and Champion Drive Intersection

Assessment of crash data and collected traffic monitoring data shows a high approach speed on the east bound leg of the intersection approach on Champion Drive. This creates conditions for higher frequency and severity of vehicle crashes. Over the period from 2014 to 2018, the intersection had 18 total crashes, with two casualty crashes (crashes that result in either fatality, hospitalisation or medical treatment required). Furthermore, the intersection is significantly over represented in sideswipe accidents compared to other metropolitan intersections.

The proposed treatment is for an approach pre-deflection on the western leg of Champion Drive as shown in plan E19-36-1 (Attachment1). Additionally, it is proposed to update all line markings and signage to current MRWA standards.

The total cost of works for the Lake Road and Champion Drive intersection Black Spot project is \$111,100, of which the City's one-third contribution would be \$37,033.

Talus Drive and Billing Place Intersection

A Road Safety Audit (RSA) completed for the intersection of Talus Drive and Billing Place identified limited sight distance for drivers caused by the road's vertical geometry. As shown in plan E20-129-1-A, the proposed treatment consists of the installation of median island treatments on both Billing Place and Talus Drive to eliminate corner cutting and to allow easy driver identification of the intersection. Additionally, line markings and signage will provide better visual cues for drivers on approach to the intersection.

The total cost of works for the Talus Drive and Billing Place intersection Black Spot project is \$117,200, of which the City's one-third contribution would be \$39,067.

OPTIONS

The City can either accept the offer of reserve funding for each project and identify the source of municipal funding or reject the offer.

Funding of the City's one-third contribution for both projects is \$76,100 which can be accommodated by either:

- a. cancelling the Lensham Place resurface project from the 2020/21 capital works budget (\$85,847), or
- b. accepting a deficit of \$76,100 in the current 2020/21 Budget for the short term until the 2019/20 year end position is reported at the end of September 2020. It is proposed that that should there be a surplus when the year end position is reported, this would then be used to fund both projects.

Both projects have been resubmitted for the 2021/22 State Black Spot project should either project not be funded under the current offer of 2020/21 reserve State Black Spot funding.

RECOMMENDATION

It is recommended that City accept MRWA’s offer for 2020/21 Reserve State Black Spot funding for both the Champion Drive/Lake Road intersection and Talus Drive/Billing Place intersection projects. Funding the project within the 2020/21 Budget can be considered in conjunction with the final year-end position, which is due to be reported to Council at the end of September. In the meantime, given the relatively small amount of funds required, the project can be approved and the budget amended accordingly.

ATTACHMENTS

- 1.↓ Plan E19-36-1 Lake Road/Champion Drive
- 2.↓ Plan E20-129-1-A Talus Drive/Billing Place

Committee Discussion

*Committee discussed the Lensham Place project in detail and agreed this project be deferred rather than cancelled and reconsidered after the year end position is finalised.
Committee agreed to add a third point to include the Lensham Place project, as detailed in the updated recommendation.*

RECOMMEND

T41/9/20

That Council, pursuant of Section 6.8 of the Local Government Act 1995 (as amended):

1. Authorise the following additional capital project expenditure for 2020/21:

Champion Drive	\$111,100
Talus Drive	\$117,200

2. Amend the 2020/21 Annual Budget as follows

EXPENDITURE

Champion Drive	\$111,100
Talus Drive	\$117,200
TOTAL	\$228,300

REVENUE

MRWA Black Spot Grant - Champion Drive	\$74,067
MRWA Black Spot Grant - Talus Drive	\$78,133
TOTAL	\$152,200

Amended at
14
September
2020
Ordinary
Council
Meeting

3. Defer the implementation of the Lensham Place resurfacing project and that this project be reconsidered when the 2019/20 financial year end position is reported to Council.

ABSOLUTE MAJORITY RESOLUTION REQUIRED

Moved Cr S Peter

MOTION CARRIED

(7/0)

**2.1 - TENDER 20/20 - WILLIAM SKEET OVAL IRRIGATION AND LIGHTING
UPGRADE**

WARD : ALL
FILE No. :
DATE : 11 October 2017
REF : DH/JA
RESPONSIBLE MANAGER : Executive Director
Technical Services

In Brief:

- Tender 20/20 was recently advertised for William Skeet Oval Irrigation and Lighting Upgrade.
- Eight (8) tenders were received by the specified closing time and evaluated against compliance criteria.
- Two (2) tenders were found to be non-compliant.
- This report recommends that Council accept the tender from Albra Investments Pty Ltd T/A Horizon West Landscape Constructions.

Tabled Items

Nil.

Decision Type

- Legislative** The decision relates to general local government legislative functions such as adopting/changing local laws, town planning schemes, rates exemptions, City policies and delegations etc.
- Executive** The decision relates to the direction setting and oversight role of Council.
- Quasi-judicial** The decision directly affects a person's rights or interests and requires Councillors at the time of making the decision to adhere to the principles of natural justice.

Officer Interest Declaration

Nil.

Strategic Implications

- 2.2 Attractive and Functional Public Places
- 2.2.1 Deliver attractive and functional streetscapes, open spaces, City buildings and facilities
- 2.2.1.1 Deliver new and upgraded facilities that are multi-purpose where appropriate

Legal Implications

Assessment of legislation indicates that the following is applicable:

- Section 3.57 *Local Government Act 1995* – Tenders for providing goods or services
- Division 2 *Local Government (Functions and General) Regulations 1996* – Tenders for providing goods or services

Council Policy/Local Law Implications

Assessment of Policy/Local Law indicates that the following is applicable:

- Council Policy ADM 19 – Procurement of Goods and Services

Budget/Financial Implications

The project is funded from a combination of the North Forrestdale (Piara Waters and Harrisdale) Developer Contribution Scheme and Department of Local Government, Sport and Cultural Industries funding. The proposed expenditure is included in the 2020/21 Budget and Long Term Financial Plan estimates.

Consultation

- Intra Directorate.
- Inter Directorate.

BACKGROUND

Tender 20/20 for William Skeet Oval Irrigation and Lighting Upgrade was advertised in the 4 July 2020 edition of the West Australian newspaper, Vendor Panel website and in a notice which was displayed on the Administration Centre, Kelmscott and Seville Grove Libraries public notice boards.

This project involves the redevelopment of the sports playing field, including the resizing of the AFL oval to a senior playing field, turf improvement works, fencing, sporting infrastructure, irrigation and lighting upgrade.

DETAILS OF PROPOSAL

Council approval is sought to award the tender for William Skeet Oval Irrigation and Lighting Upgrade for a proposed construction period of six (6) months with a thirteen (13) week consolidation period.

COMMENT

Analysis

The advertising period closed at 2.00pm on Wednesday, 22 July 2020. Tenders were received from:

	Tenderer's Name
1.	Environmental Industries Pty Ltd
2.	GAS Assets Pty Ltd T/A Gecko Contracting Turf and Landscape Maintenance
3.	Albra Investments Pty Ltd T/A Horizon West Landscape Constructions
4.	D.B. Cunningham Pty Ltd T/A Advantearing Civil Engineers
5	Menchetti Consolidated Pty Ltd T/A MG Group WA
6	Phase 3 Landscape Construction
7	Gridlock Electrical
8	Industrial Automation Group Pty Ltd

All of the tenders were assessed against the compliance criteria and two (2) were found to be non-conforming on the basis that they did not satisfactorily meet the compliance criteria, namely they did not cost in accordance with the specification and pricing schedule. The two (2) non-compliant tenders were not further assessed.

No tenders were received after the close of deadline.

An evaluation of the six (6) compliant tenders was undertaken having specific regard to the following Qualitative Criteria:

Criteria	Weighting
Relevant Skills	20%
Key Personnel Skills, Experience and Resources	20%
Methodology	35%
Sustainable Impacts	5%
Price	20%

Upon completion of the evaluation, final scores and pricing were entered into the Evaluation Matrix as shown in the confidential attachment, where a final analysis took place to determine the most suitable tenderer.

CONCLUSION

Tenders for William Skeet Oval Irrigation and Lighting Upgrade were recently invited with eight (8) tenders received and assessed by an evaluation panel.

The result was that the tender received from Albra Investments Pty Ltd T/A Horizon West Landscape Constructions represented the most advantageous tender to the City.

The evaluation panel therefore recommends that the contract be awarded to Albra Investments Pty Ltd T/as Horizon West Landscape Constructions.

NB: The Confidential Attachment to this report detailing the recommended tenderer's price/consideration will be made public when Council has accepted the successful tender.

ATTACHMENTS

1. Pricing Schedule - Tender 20/20 - *This matter is considered to be confidential under Section 5.23(2) (c) of the Local Government Act, as it deals with the matter relates to a contract entered into or which may be entered into by the City of Armadale*
2. Evaluation Report - Tender 20/20 - *This matter is considered to be confidential under Section 5.23(2) (c) of the Local Government Act, as it deals with the matter relates to a contract entered into or which may be entered into by the City of Armadale*

RECOMMEND

T42/9/20

That Council, in regard to Tender 20/20 - William Skeet Oval Irrigation and Lighting Upgrade accept the tender from Albra Investments Pty Ltd T/as Horizon West Landscape Constructions in accordance with:

- **The tenderer's submitted Lump Sum as presented in Confidential Attachment 1**
- **Council's contract documentation, Budget and Long Term Financial Plan estimates.**

Moved Cr Silver

MOTION CARRIED

(7/0)

3.1 - URBAN FOREST STRATEGY - UPDATE (REFERRAL ITEM)

At the Council meeting held on 27 July 2020, Cr Ruth Butterfield referred the following matter to the Technical Services Committee.

That the matter of an update of the Urban Forest Strategy be referred to the Technical Services Committee.

Comment from Cr Ruth Butterfield

As the Urban Forest Strategy has been implemented for several years now, it would be timely to have an update and assessment of the program.

Officer Comment

An accurate and up to date overview on the City's Urban Forest Strategy is to be undertaken following the 2020 (current) winter planting program which is scheduled to be completed by the end of September 2020. It is anticipated that a report will be presented to the Technical Services Committee on this matter in November 2020. The report will include details of the number of trees planted and their species, their current status, and details of the percentage of tree coverage within the City (excluding the Hills and Bush areas). The November 2020 update will also include details of the forthcoming planting program.

ATTACHMENTS

There are no attachments for this report.

RECOMMEND

T43/9/20

That Council note a detailed update on the City's Urban Forest Strategy is anticipated to be present to Council in November 2020.

**Moved Cr R Butterfield
MOTION CARRIED**

(7/0)

3.2 - INSURANCE CLAIMS - STREET TREES (REFERRAL ITEM)

At the Council meeting held on 10 August 2020, Cr Donna Shaw referred the following matter to the Technical Services Committee.

That the matter of an update of insurance claims relating to street trees be referred to the Technical Services Committee.

Comment from Cr Donna Shaw

As the City continues its street tree planting as part of the Urban Forest Strategy, matters relating to insurance where trees cause damage to property will arise as trees reach maturity.

Information regarding the following matters is requested:

- How the City is maintaining its street trees to avoid damages in the first instance
- Details on the City's proposal to manage this issue in the future
- Parameters in which the City's insurers will pay for claims.

Officer Comment

Trees are an integral part of the City's urban landscape contributing significantly to the local character of the community, and Council has approved significant budget allocations towards the planting and ongoing maintenance of street trees by the City.

At its meeting of 12 August 2019, Council considered a report on Citywide Tree Management. Following consideration of the report, Council resolved as follows (T54/8/19 refers):

“That Council note the information provided regarding the City's tree safety and risk assessment practices, is aligned with the City's Street Tree Policy and associated Management Practice (ENG 6 - Street Trees) which guides the management of trees on street verges.”

Residents who have concerns regarding a tree on the verge are encouraged to contact the City so the tree can be assessed.

Insurance Parameters

For the purpose of categorising parameters for which an insurance claim is likely to result in a payout cannot be defined as this is determined on a case by case basis and in confidence by the City's insurer under the City's public liability policy. The City's insurer is responsible for determining parameters when making an assessment for any claims submitted and will take into consideration whether any negligence by the City occurred and if so, contributed to the loss or damage suffered.

The confidential attachment associated with this report details information regarding insurance claims received by the City relating to street trees during the last five financial years.

Management of Existing Trees

The City has a streetscapes maintenance program to manage established trees using best practice methods by routinely undertaking maintenance and care of trees through the following:

- Periodically checking for dead, dying, diseased, spreading roots, extended branches and structural integrity of trees.
- Undertaking the removal of limbs and pruning to reduce weight, should a tree be determined as an identified risk.
- Ongoing monitoring of a tree's health and for any decline, and if identified as an unacceptable risk, remove the tree. Where possible, a new tree will be planted in an appropriate place as a replacement.

Management of New Trees

- Selecting tree species that are suitable for the urban environment.
- Once an appropriate species has been selected, consideration is given to its location, planting and maintenance, taking into account the suitability of the tree species in the specific suburban landscape.

Risk Assessment Methods

The streetscapes team proactively manages tree risk assessment using the methods below.

Quantified Tree Risk Assessment (QTRA)

The City's Streetscapes Team's process for assessing trees uses the Quantified Tree Risk Assessment (QTRA) method which is recognised worldwide as the leading tree assessment method. Tree safety management is a matter of limiting the risk of harm from tree failure while maintaining the benefits conferred by trees.

The QTRA method applies established and accepted risk management principles to tree safety management. The City's Streetscapes Team are fully trained in the QTRA method, having undertaken Advance User Training and attending regular update training sessions. The team also has extensive experience using the QTRA method and confidently provides advice and recommendations in relation to tree risk assessment.

QTRA informs tree safety management by providing a framework within which trees can be assessed at all levels of detail, from an overview of a municipality to the detailed appraisal of a single tree.

The City's Streetscape Team uses a systematic process for managing tree risk and makes informed decisions about the degree of risk a tree poses, the tree's health or structural integrity, suggesting appropriate methods of treatment or prevention; and safely prune, maintain and remove trees.

All trees are managed in accordance with the City's policy *ENG 6 – Street Trees* and the *Urban Forest Strategy*.

Some of the tasks undertaken in managing the City's trees include:

- Visual tree assessments and reports
- Detailed assessments (consultant)
- Tree pruning works
- Tree removal works
- Power line and utility clearance pruning
- General tree monitoring and treatment
- Hazard reduction/management

The suggested officer recommendation is as follows:

That Council note the officer's comments on the matter of insurance claims relating to street trees and the City's tree safety and risk assessment practices.

ATTACHMENTS

1. Street Tree Insurance Claims - *This matter is considered to be confidential under Section 5.23(2) (d) of the Local Government Act, as it deals with the matter involves legal advice obtained or which may be obtained by the City of Armadale*

Committee Discussion

Committee discussed the item in detail and agreed that a fact sheet be made available on the City's website to inform residents of the importance of tree maintenance and include the environmental and amenity value of trees to the community. The recommendation was amended to include this.

RECOMMEND

T44/9/20

That Council:

1. **Note the officer's comments on the matter of insurance claims relating to street trees and the City's tree safety and risk assessment practices.**
2. **Note that a fact sheet will be included on the City's website to inform the public of the City's tree maintenance practices, the value of trees to the community and environment; the procedure for reporting requests for tree maintenance to the City.**

**Moved Cr G Nixon
MOTION CARRIED**

(7/0)

3.3 - STREETSCAPES (REFERRAL ITEM)

At the Council meeting held on 24 August 2020, Cr Donna Shaw referred the following matter to the Technical Services Committee.

That the matter of streetscape beautification and maintenance be referred to the Technical Services Committee.

Comment from Cr Donna Shaw

The streetscapes within the City Centre are maintained to a high standard, however the standard of many of the streetscapes in existing suburbs could be revisited so that these are improved. In particular, roundabouts and neighbourhood connector roads throughout the City could be improved to increase the amenity of the area and instil a sense of place and pride. It is requested that a report be prepared identifying areas where improvements can be made and implemented.

Officer Comment

The matter will be investigated and a detailed report will be presented at a future Technical Services Committee meeting during the 2020 calendar year.

ATTACHMENTS

There are no attachments for this report.

RECOMMEND

T45/9/20

That a report on the matter of streetscape beautification be provided at a future Technical Services Committee meeting during the 2020 calendar year.

**Moved Cr R Butterfield
MOTION CARRIED**

(7/0)

COUNCILLORS' ITEMS

1. Upgrading of Existing Parks to Include Skate Park Elements (Cr Melissa Northcott)

Cr Northcott raised the matter of upgrading existing parks to include the installation of small skate park elements.

2. Information on Birds and Other Fauna at Champion Lakes (Cr Emma Flynn)

Cr Flynn requested information regarding birds and other fauna that are found at Champion Lakes.

RECOMMEND

T46/9/20

That Council refers the following Councillor Items:

- **Upgrading of Existing Parks to Include Skate Park Elements**
- **Information on Birds and Other Fauna at Champion Lakes**

To the relevant Directorate for action and/or report to the appropriate Committee.

**Moved Cr G Nixon
MOTION CARRIED**

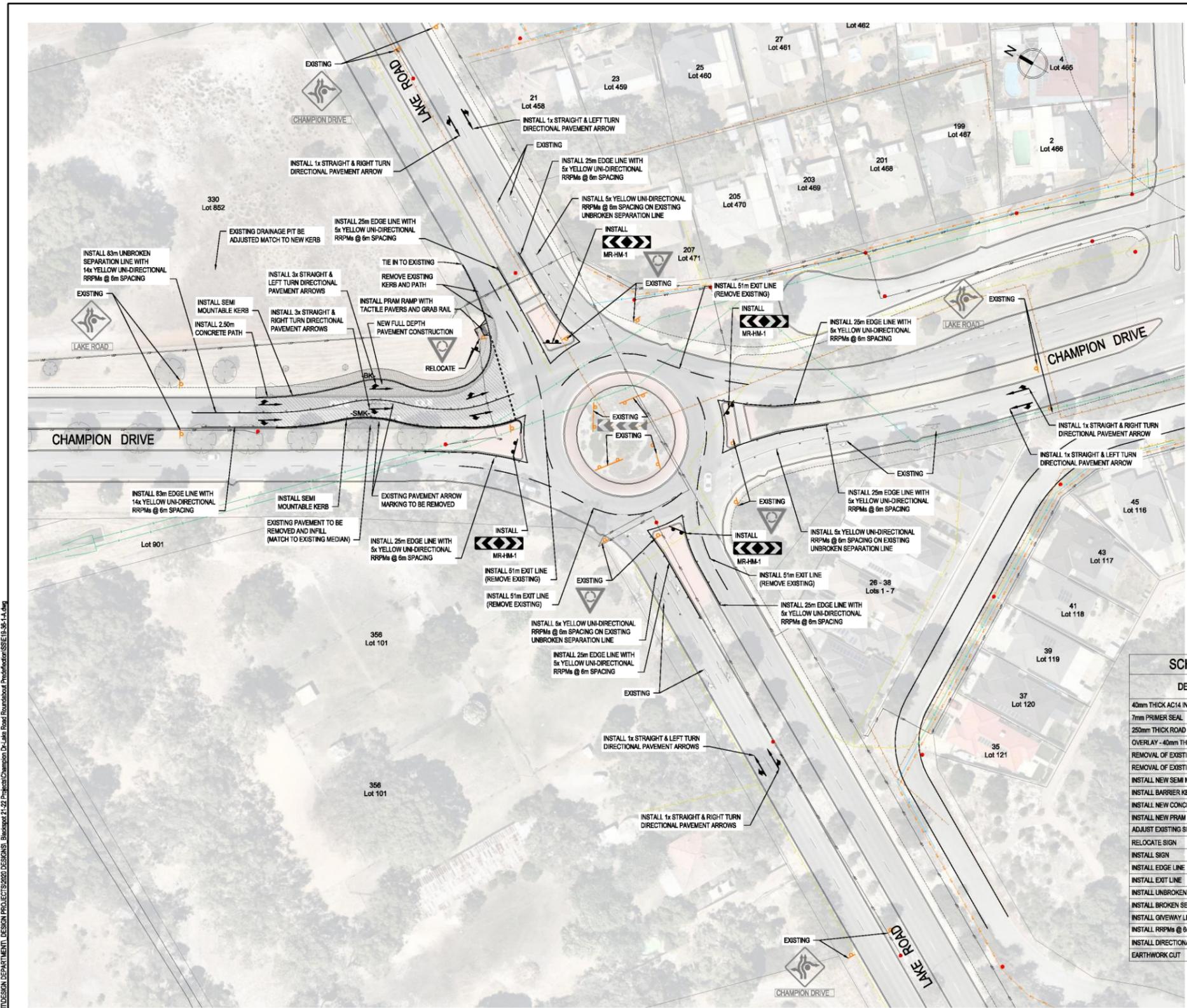
(7/0)

EXECUTIVE DIRECTOR TECHNICAL SERVICES REPORT

Nil.

MEETING DECLARED CLOSED AT 7.44PM

TECHNICAL SERVICES COMMITTEE		
SUMMARY OF ATTACHMENTS		
7 SEPTEMBER 2020		
ATT NO.	SUBJECT	PAGE
1.1 VARIATION TO 2020/21 STATE BLACK SPOT PROJECT GRANTS - BUDGET AMENDMENT		
1.1.1	Plan E19-36-1 Lake Road/Champion Drive	21
1.1.2	Plan E20-129-1-A Talus Drive/Billing Place	22



PLAN VIEW
SCALE 1:500

GENERAL NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING No(s): E19-09-1 TO E19-09-08.
- ALL DIMENSIONS AND LEVELS ARE IN METERS (m) UNLESS OTHERWISE SHOWN. PIPE AND CONDUIT DIAMETERS/DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE SHOWN.
- ALL DIMENSIONS AND LEVELS SHALL BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR ORDERING OF MATERIAL AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION IMMEDIATELY.
- ALL WORK TO BE IN ACCORDANCE WITH THE CITY OF ARMADALE STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
- SAFETY ON WORK SITE(S) TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ACT 1984 AND REGULATIONS.
- ALL TRAFFIC MANAGEMENT TO COMPLY WITH MAIN ROADS WA DOCUMENT TITLED: "TRAFFIC MANAGEMENT FOR WORKS ON ROADS - CODE OF PRACTICE".
- EXISTING SERVICES ARE SHOWN ACCORDING TO LATEST "DIAL BEFORE YOU DIG" INFORMATION. CONTRACTOR TO CONFIRM EXACT LOCATION AND DEPTHS OF SERVICES BY HAND EXCAVATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION IMMEDIATELY.
- EXISTING SERVICES / INFRASTRUCTURE / PRIVATE PROPERTY SHALL BE ADEQUATELY PROTECTED / SUPPORTED DURING CONSTRUCTION.
- EXISTING SERVICES/INFRASTRUCTURE/PROPERTY SHALL BE REINSTATED TO ORIGINAL STATE AND TO THE SATISFACTION OF THE CITY OF ARMADALE MANAGER CIVIL WORKS.
- EARTHWORKS:
 - SUB-GRADE SHALL BE COMPACTED TO 95% MDDO (MIN) AS TESTED IN ACCORDANCE WITH AS 1288.
 - ROADBASE SHALL BE USED FOR SUB-BASE AND BASECOURSE, COMPACTED TO 98% MDDO (MIN) AS TESTED IN ACCORDANCE WITH AS 1289.
- MATERIALS:
 - WHERE APPLICABLE, ALL MANUFACTURED MATERIALS SHALL BEAR THE RELEVANT AUSTRALIAN STANDARDS OR SIMILAR APPROVED STAMP.
 - STORMWATER DRAINAGE PIPES SHALL BE:
 - 300mm Ø RCP CLASS 2 IN VERGES (CLASS 4 UNDER ROAD CARRIAGE WAY) UNLESS OTHERWISE NOTIFIED OR APPROVED IN WRITING BY THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION.
- BACKFILL:
 - ALL BACKFILL SHALL BE SOURCED FROM SUITABLE MATERIAL APPROVED BY THE CITY OF ARMADALE MANAGER CIVIL WORKS AND IN LAYERS NOT EXCEEDING 150mm THICK, COMPACTED TO:
 - NON-TRAFFICABLE AREAS - 95% MDDO (MIN)
 - TRAFFICABLE AREAS - 98% MDDO (MIN)
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, MANUFACTURER'S SPECIFICATIONS AND GOOD BUILDING PRACTICE.

LEGEND

- NEW SEMI MOUNTABLE KERB
- MOUNTABLE KERB
- BARRIER KERB
- EXISTING KERB
- NEW CONCRETE PATH
- NEW FULL DEPTH PAVEMENT & SEAL
- OVERLAY EXISTING ROAD 40mm THICK AC14 INTERSECTION MIX
- EXISTING PAVEMENT REMOVAL
- NEW PRAM RAMP/TACTILE HANDRAIL
- EXISTING KERB REMOVAL
- EXISTING FOOTPATH REMOVAL
- PROPOSED DRAINAGE PIPE (Ø300 RCP)
- EXISTING Ø225 RCP TO BE UPGRADED TO Ø300 RCP
- EXISTING OVERHEAD POWER LINE/POLE
- EXISTING LOW VOLTAGE UNDERGROUND DISTRIBUTION CABLE
- EXISTING TELSTRA CABLE / COMMUNICATIONS PIT
- EXISTING WATER LINE
- EXISTING MANHOLE
- EXISTING DRAINAGE
- EXISTING MEDIUM PRESSURE GAS LINE
- EXISTING SEWER LINE
- EXISTING SIGN
- PROPOSED SIGN

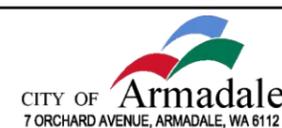
SCHEDULE OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY
40mm THICK AC14 INTERSECTION MIX	m ²	140
7mm PRIMER SEAL	m ²	190
250mm THICK ROAD BASE	m ²	48
OVERLAY - 40mm THICK AC14 INTERSECTION MIX	m ²	542
REMOVAL OF EXISTING KERB	m	160
REMOVAL OF EXISTING PATH	m ²	150
INSTALL NEW SEMI MOUNTABLE KERB	m	70
INSTALL BARRIER KERB	m	90
INSTALL NEW CONCRETE PATH	m ²	180
INSTALL NEW PRAM RAMP WITH TACTILE PAVERS	#	1
ADJUST EXISTING SIDE ENTRY PIT (IF REQUIRED)	#	1
RELOCATE SIGN	#	1
INSTALL SIGN	#	4
INSTALL EDGE LINE	m	303
INSTALL EXIT LINE	m	204
INSTALL UNBROKEN SEPARATION LINE	m	83
INSTALL BROKEN SEPARATION LINE	m	24
INSTALL GIVEWAY LINE	m	20
INSTALL RRPMS @ 6m SPACING	#	80
INSTALL DIRECTIONAL PAVEMENT ARROW	#	12
EARTHWORK CUT	m ²	80

ENGINEERING & DESIGN DEPARTMENT DESIGN PROJECT 19200 DESIGNS Blackspot 1-22 Project/Champion Dr-Lake Road Roundabout/Predeflection/E19-36-1-A

No	Date	Revision	By	Approved
A	13/06/19	DESIGN CONCEPT FOR BLACKSPOT APPLICATION 19/20	BV	M.C

Scale:	AS SHOWN
Datum:	Grid
Surveyed:	Date



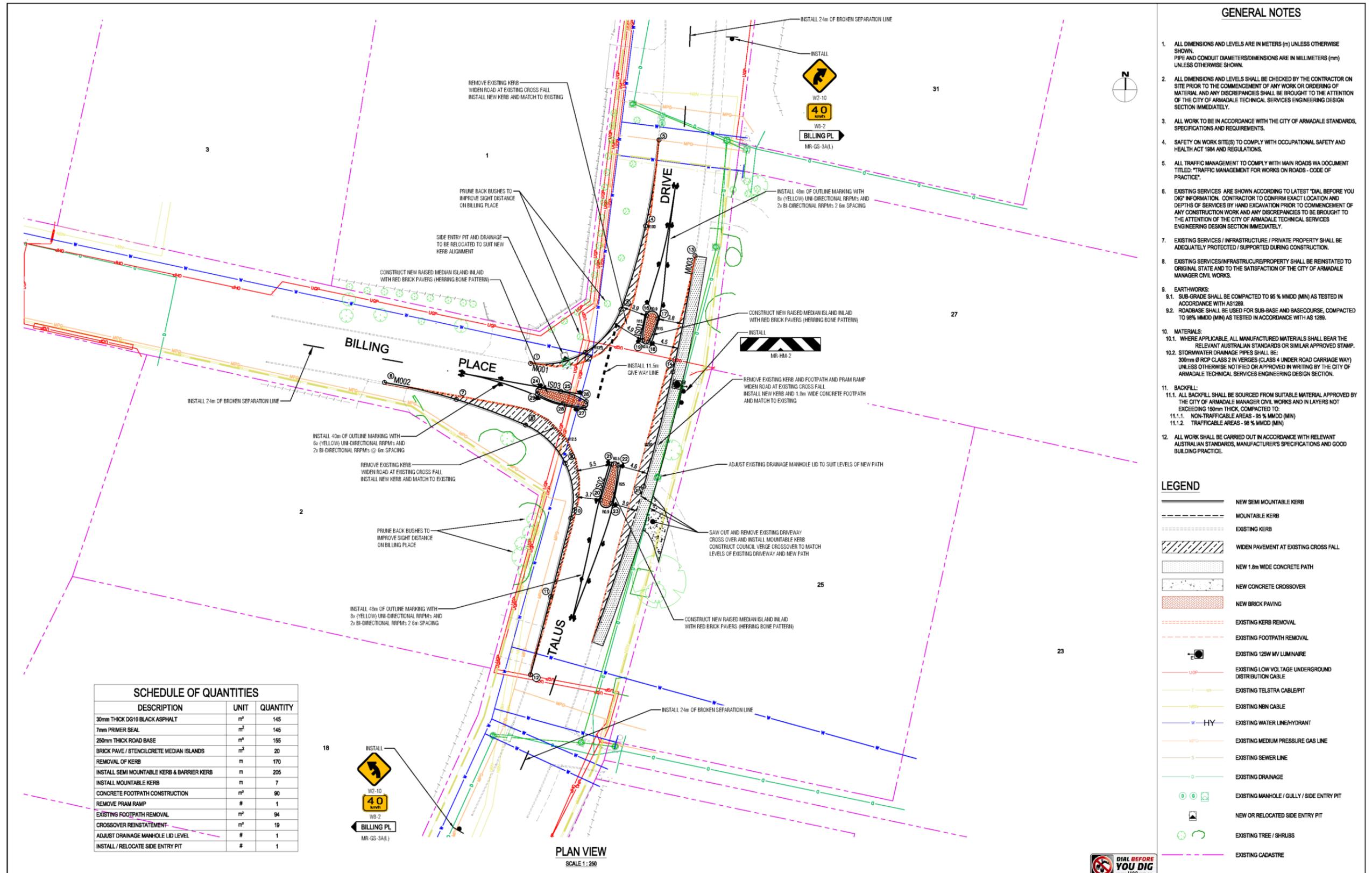
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Drawn:	BV	Date:	13/06/19	Signed:	
Design:	BV	Date:	13/06/19	Signed:	
Checked:	M.C	Date:		Signed:	
Manager Engineering & Design:					

Project: CHAMPION DRIVE / LAKE ROAD ROUNDABOUT
Title: PROPOSED PREDEFLECTION ON CHAMPION DRIVE (EASTBOUND)

PC No:	
CMV No:	
Sheet No:	1 of 1
Revision No:	A
DWG No:	E19-36-1





GENERAL NOTES

1. ALL DIMENSIONS AND LEVELS ARE IN METERS (m) UNLESS OTHERWISE SHOWN. PIPE AND CONDUIT DIAMETERS/DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE SHOWN.
2. ALL DIMENSIONS AND LEVELS SHALL BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORK OR ORDERING OF MATERIAL AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION IMMEDIATELY.
3. ALL WORK TO BE IN ACCORDANCE WITH THE CITY OF ARMADALE STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
4. SAFETY ON WORK SITE(S) TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ACT 1984 AND REGULATIONS.
5. ALL TRAFFIC MANAGEMENT TO COMPLY WITH MAIN ROADS WA DOCUMENT TITLED: "TRAFFIC MANAGEMENT FOR WORKS ON ROADS - CODE OF PRACTICE".
6. EXISTING SERVICES ARE SHOWN ACCORDING TO LATEST "DIAL BEFORE YOU DIG" INFORMATION. CONTRACTOR TO CONFIRM EXACT LOCATION AND DEPTHS OF SERVICES BY HAND EXCAVATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION IMMEDIATELY.
7. EXISTING SERVICES / INFRASTRUCTURE / PRIVATE PROPERTY SHALL BE ADEQUATELY PROTECTED / SUPPORTED DURING CONSTRUCTION.
8. EXISTING SERVICES/INFRASTRUCTURE/PROPERTY SHALL BE REINSTATED TO ORIGINAL STATE AND TO THE SATISFACTION OF THE CITY OF ARMADALE MANAGER CIVIL WORKS.
9. EARTHWORKS:
 - 9.1. SUB-GRADE SHALL BE COMPACTED TO 95 % MDDO (MIN) AS TESTED IN ACCORDANCE WITH AS1289
 - 9.2. ROADBASE SHALL BE USED FOR SUB-BASE AND BASECOURSE, COMPACTED TO 98% MDDO (MIN) AS TESTED IN ACCORDANCE WITH AS 1289.
10. MATERIALS:
 - 10.1. WHERE APPLICABLE, ALL MANUFACTURED MATERIALS SHALL BEAR THE RELEVANT AUSTRALIAN STANDARDS OR SIMILAR APPROVED STAMP.
 - 10.2. STORMWATER DRAINAGE PIPES SHALL BE: 300mm Ø RCP CLASS 2 IN VERGES (CLASS 4 UNDER ROAD CARRIAGE WAY) UNLESS OTHERWISE NOTIFIED OR APPROVED IN WRITING BY THE CITY OF ARMADALE TECHNICAL SERVICES ENGINEERING DESIGN SECTION.
11. BACKFILL:
 - 11.1. ALL BACKFILL SHALL BE SOURCED FROM SUITABLE MATERIAL APPROVED BY THE CITY OF ARMADALE MANAGER CIVIL WORKS AND IN LAYERS NOT EXCEEDING 150mm THICK, COMPACTED TO:
 - 11.1.1. NON-TRAFFICABLE AREAS - 95 % MDDO (MIN)
 - 11.1.2. TRAFFICABLE AREAS - 98 % MDDO (MIN)
12. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, MANUFACTURER'S SPECIFICATIONS AND GOOD BUILDING PRACTICE.

LEGEND

- NEW SEMI MOUNTABLE KERB
- MOUNTABLE KERB
- EXISTING KERB
- WIDEN PAVEMENT AT EXISTING CROSS FALL
- NEW 1.8m WIDE CONCRETE PATH
- NEW CONCRETE CROSSOVER
- NEW BRICK PAVING
- EXISTING KERB REMOVAL
- EXISTING FOOTPATH REMOVAL
- EXISTING 125W MV LUMINAIRE
- EXISTING LOW VOLTAGE UNDERGROUND DISTRIBUTION CABLE
- EXISTING TELSTRA CABLE/PIT
- EXISTING NBN CABLE
- EXISTING WATER LINE/HYDRANT
- EXISTING MEDIUM PRESSURE GAS LINE
- EXISTING SEWER LINE
- EXISTING DRAINAGE
- EXISTING MANHOLE / GULLY / SIDE ENTRY PIT
- NEW OR RELOCATED SIDE ENTRY PIT
- EXISTING TREE / SHRUBS
- EXISTING CADASTRE

SCHEDULE OF QUANTITIES		
DESCRIPTION	UNIT	QUANTITY
30mm THICK DG10 BLACK ASPHALT	m ²	145
7mm PRIMER SEAL	m ²	145
250mm THICK ROAD BASE	m ²	155
BRICK PAVE / STENCILCRETE MEDIAN ISLANDS	m ²	20
REMOVAL OF KERB	m	170
INSTALL SEMI MOUNTABLE KERBS & BARRIER KERB	m	205
INSTALL MOUNTABLE KERB	m	7
CONCRETE FOOTPATH CONSTRUCTION	m ²	90
REMOVE PRAM RAMP	#	1
EXISTING FOOTPATH REMOVAL	m ²	94
CROSSOVER REINSTATEMENT	m ²	19
ADJUST DRAINAGE MANHOLE LID LEVEL	#	1
INSTALL / RELOCATE SIDE ENTRY PIT	#	1

PLAN VIEW
SCALE 1 : 250

<p>Attachments</p> <table border="1"> <tr> <th>No</th> <th>Date</th> <th>Description</th> <th>By</th> <th>Approved</th> </tr> <tr> <td>A</td> <td>24/6/2019</td> <td>ISSUED FOR REVIEW</td> <td>C.P.L.</td> <td>V.B.</td> </tr> </table>	No	Date	Description	By	Approved	A	24/6/2019	ISSUED FOR REVIEW	C.P.L.	V.B.	<p>Scale: AS SHOWN</p> <p>Drawn: Gid</p> <p>Checked: AHD POG84</p> <p>Surveiled: VERIS</p> <p>Date: 14/10/2019</p>	<p>CITY OF Armadale 7 ORCHARD AVENUE, ARMADALE, WA 6112</p>	<p>THIS DRAWING REMAINS THE PROPERTY OF THE CITY OF ARMADALE AND SHALL NOT BE RETAINED, COPIED, OR USED, WITHOUT WRITTEN APPROVAL FROM THE DIRECTOR ENGINEERING SERVICES</p> <table border="1"> <tr> <td>Drawn:</td> <td>C.P.L.</td> <td>Date:</td> <td>24/6/2019</td> <td>Sign:</td> <td></td> </tr> <tr> <td>Designed:</td> <td>C.P.L.</td> <td>Date:</td> <td>24/6/2019</td> <td>Sign:</td> <td></td> </tr> <tr> <td>Checked:</td> <td>B.B.</td> <td>Date:</td> <td></td> <td>Sign:</td> <td></td> </tr> <tr> <td>Manager Engineering Design:</td> <td></td> <td>Date:</td> <td></td> <td>Sign:</td> <td></td> </tr> </table>	Drawn:	C.P.L.	Date:	24/6/2019	Sign:		Designed:	C.P.L.	Date:	24/6/2019	Sign:		Checked:	B.B.	Date:		Sign:		Manager Engineering Design:		Date:		Sign:		<p>Project: TALUS DRIVE / BILLING PLACE MOUNT RICHON</p> <p>PROPOSED BLACKSPOT INTERSECTION MODIFICATIONS</p> <p>PC No: CMP No: Sheet No: 1 of 2 Revision No: A DWG No: E20-129-1-A</p>
No	Date	Description	By	Approved																																		
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