Shire of Derby / West Kimberley

AGENDA

Ordinary Council Meeting

Thursday, 11 December 2025

I hereby give notice that an Ordinary Meeting of Council will be held on:

Date: **Thursday, 11 December 2025**

Time: **5:30 PM**

Location: **Council Chambers,**
31 Clarendon Street, Derby

Tamara Clarkson **Chief Executive Officer**

Our Guiding Values

We are **PROUD** of who we are and where we live.

We will create a **POSITIVE LEGACY** for our children and children's children.

We will go about our business with **INTEGRITY, TRANSPARENCY and AUTHENTICITY.**

We value and **RESPECT** what our community has to say and will strive to make things happen.

We are **PROUD** of and value the **KNOWLEDGE** of our diverse and strong people and cultures.

We value our **RELATIONSHIPS** and will work with others to achieve common goals and gain maximum impact.

We are **PROUD** of and **COMMITTED** to the responsible preservation of our unique natural environment and making sure our built environment reflects our current and future needs.

We are open for and encourage business, industry and all aspects of **COMMUNITY DEVELOPMENT**, particularly our thriving arts and cultural scene.

Disclaimer

No responsibility whatsoever is implied or accepted by Shire of Derby/West Kimberley (the Shire) for any act, omission or statement or intimation occurring during Council or Committee meetings.

The Shire disclaims any liability for any loss whatsoever and howsoever caused arising out of reliance by any person or legal entity on any such act, omission or statement or intimation occurring during Council or Committee meetings. Any person or legal entity who acts or fails to act in reliance upon any statement, act or omission made in a Council or Committee meeting does so at that person's or legal entity's own risk.

In particular and without derogating in any way from the broad disclaimer above, in any discussion regarding any planning application or application for a licence, any statement or intimation of approval made by any Council Member or officer of the Shire during the course of any meeting is not intended to be and Is not taken as notice of approval from the Shire.

The Shire warns that anyone who has any application lodged with the Shire must obtain and should only rely on written confirmation of the outcome of the application and any conditions attaching to the decision made by the Shire in respect of the application.

Notes for Members of the Public

PUBLIC QUESTION TIME

Shire of Derby/West Kimberley extends a warm welcome to you attending a Shire meeting. The Shire is committed to involving the public in its decision-making processes whenever possible. The ability to ask questions during 'Public Question Time' is of critical importance in pursuing this objective. The Shire sets aside a period of 'Public Question Time' to enable a member of the public to put forward questions to Council. Questions should only relate to the business of the Shire and should not be a statement or personal opinion. Upon receipt of a question from a member of the public, the Presiding Member may either answer the question, direct it to an officer to answer or it will be taken on notice.

Any comments made by a member of the public become a matter of public record as they are minuted by Council. Members of the public are advised that they are deemed to be held personally responsible and legally liable for any comments made by them that might be construed as defamatory or otherwise considered offensive by any other party.

MEETING FORMALITIES

Local Government Council meetings are governed by legislation and regulations. During the meeting, no member of the public may interrupt proceedings or enter into conversation. Members of the public shall ensure that any electronic devices or audible pager are switched off and not used during any Shire meeting.

Members of the public are hereby advised that the use of any electronic, visual or audio recording device or instrument to record proceedings of the meeting is not permitted without permission of the Presiding Member.

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Notes for Council Members

NATURE OF COUNCIL'S ROLE IN DECISION MAKING

Advocacy:	When Council advocates on its own behalf or on behalf of its community to another level of government/body/agency.
Executive/Strategic:	The substantial direction setting and oversight role of the Council such as adopting plans and reports, accepting tenders, directing operations, grants, and setting and amending budgets.
Legislative:	Includes adopting local laws, town planning schemes and policies.
Administrative:	When Council administers legislation and applies the legislative regime to factual situations and circumstances that affect the rights of people. Examples include town planning applications, building licences and other decisions that may be appealable to the State Administrative Tribunal.
Review:	When Council reviews a decision made by Officers.
Information:	Includes items provided to Council for information purposed only that do not require a decision of Council (that is for 'noting').

ALTERNATIVE MOTIONS

Council Members wishing to make alternative motions to officer recommendations are requested to provide notice of such motions in written form to the Chief Executive Officer prior to the Council meeting.

DECLARATIONS OF INTERESTS

Council Members should fill in Disclosure of Interest forms for items in which they have a financial, proximity or impartiality interest and forward these to the Presiding Member before the meeting commences.

Council Members must disclose the nature of their interest in matters to be discussed at the meeting (Part 5 Division 6 of the *Local Government Act 1995*). Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting (Sections 5.70 and 5.71 of the *Local Government Act 1995*).

APPLICATION FOR LEAVE OF ABSENCE

In accordance with Section 2.25 of the *Local Government Act 1995*, an application for leave requires a Council resolution granting leave requested. Council may grant approval for Leave of Absence for a Council Member for ordinary Council meetings for up to but not more than six consecutive meetings. The approval of the Minister is required for leave of absence greater than six ordinary Council meetings.

This approval must be by Council resolution and differs from the situation where a Council Member records their apologies for the meeting. A failure to observe the requirements of the Act that relates to absence from meetings can lead to a Council Member being disqualified should they be absent without leave for three consecutive meetings.

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1 ACKNOWLEDGMENT OF COUNTRY

In the spirit of Reconciliation, the Shire of Derby/West Kimberley acknowledges the traditional custodians of country throughout the Shire and the continued connection to the land, waters and community.

The Shire would like to pay our respects to the people, the cultures and the Elders past and present and the continuation of cultural, spiritual and educational practices of Aboriginal people.

2 DISCLAIMER

This meeting will be video recorded and live-streamed on the Shire's Youtube channel, with the exception of confidential items and periods of adjournment as determined by the Presiding Member. By being present at this meeting, members of the public consent to the possibility that their voice and/or image may be live-streamed to the public. Recordings will also be made available on the Shire's Youtube channel and official website following the meeting. The official record of the meeting will be the written minutes kept in accordance with the *Local Government Act 1995* and any relevant regulations.

3 DECLARATION OF OPENING, ANNOUNCEMENT OF VISITORS

4 ATTENDANCE VIA ELECTRONIC MEANS

5 APPLICATIONS FOR LEAVE OF ABSENCE

6 RESPONSES TO PREVIOUS PUBLIC QUESTIONS TAKEN ON NOTICE

7 PUBLIC TIME

7.1 Public Question Time

7.2 Public Statements

8 DISCLOSURE OF INTERESTS

Division 6: Sub-Division 1 of the *Local Government Act 1995*. Care should be taken by Council Members to ensure that a financial/impartiality/proximity interests are declared

and that they refrain from voting on any matter, which is considered to come within the ambit of the Act.

8.1 Declaration of Financial Interests

8.2 Declaration of Proximity Interests

8.3 Declaration of Impartiality Interests

9 PETITIONS, DEPUTATIONS, PRESENTATIONS AND SUBMISSIONS

10 CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

RECOMMENDATION

That the Minutes of the Ordinary Council Meeting held Thursday, 27 November 2025 at the Karrayilli Adult Education Centre, Fitzroy Crossing be CONFIRMED.

11 ANNOUNCEMENTS BY PRESIDING PERSON WITHOUT DISCUSSION

12 RECOMMENDATIONS AND REPORTS OF COMMITTEES

12.1 LOCAL EMERGENCY MANAGEMENT COMMITTEE MEETING MINUTES

File Number: **4212**

Author: **Luke Lawrence, Director Community Planning**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Executive**

SUMMARY

This item is for Council to consider receiving the minutes of the Local Emergency Management Committee (LEMC) for the meeting held 4 November 2025.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

The Local Emergency Management Committee (LEMC) is established by Council under section 38 of the *Emergency Management Act 2005* (Act). In accordance with section 39 of the Act, the functions of the LEMC are:

a) To advise and assist the local government in assuring that local emergency management arrangements are established for its district;

b) To liaise with public authorities and other persons in the development, review and testing of local emergency management arrangements; and

c) To carry out other emergency management activities as directed by the State Emergency Management Committee, or prescribed by the *Emergency Management Regulations 2006*.

The Shire of Derby/West Kimberley Local Emergency Management Committee Terms of Reference were adopted at the Ordinary Council (Commissioner) Meeting held Thursday 31 July 2025 (CC077/25).

STATUTORY ENVIRONMENT

Local Government Act 2005

Emergency Management Act 2005

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

Nil.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
1. Leadership and Governance	1.1 Collaboration and partnership	1.1.2 Maximise local opportunities
	1.2 Capable, inclusive and effective organisation	1.2.4 Attract and effectively use resources to meet community needs
	1.3 Effective Communication	1.3.3 Use multiple channels to distribute information about services,programs, places and spaces

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Legal & Compliance: Council is unaware of issues discussed at the Local Emergency Management Committee	Almost Certain	Moderate	Medium	Endorsement of future Minutes of Meetings for Council increased awareness and transparency.

CONSULTATION

Nil.

COMMENT

To ensure that Council is adequately informed of the issues discussed and for transparency, the minutes of each LEMC meetings are to be presented to Council.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. Local Emergency Management Committee Meeting Minutes - 4 November 2025 ⇩

RECOMMENDATION

That Council RECEIVES the minutes of the Local Emergency Management Committee meeting held on 4 November 2025 as attached.

Shire of Derby / West Kimberley

Local Emergency Management Committee (LEMC) Meeting

Meeting Minutes – 04 November 2025

www.sdwk.wa.gov.au

LEMC Meeting Minutes: 04 November 2025

1. DECLARATION OF OPENING

1.1. The meeting was opened by Chair Person at 10:32am

2. ACKNOWLEDGEMENT OF COUNTRY

IN THE SPIRIT OF RECONCILIATION, THE SHIRE OF DERBY/WEST KIMBERLEY ACKNOWLEDGES THE TRADITIONAL CUSTODIANS OF COUNTRY THROUGHOUT THE SHIRE AND THE CONTINUED CONNECTION TO THE LAND, WATERS AND COMMUNITY. THE SHIRE OF DERBY/ WEST KIMBERLEY WOULD LIKE TO PAY OUR RESPECTS TO THE PEOPLE, THE CULTURES AND THE ELDERS PAST AND PRESENT AND THE CONTINUATION OF CULTURAL, SPIRITUAL AND EDUCATIONAL PRACTICES OF ABORIGINAL PEOPLE.

3. RECORD OF ATTENDANCE

3.1. Attendance

Attendees In Person	
Kevin Collard	Department of Communities
Matthew Reimer	Department of Fire and Emergency Services (DFES)
Sandra Ozies	Derby Aboriginal Health Services
Elliot Money	Derby District High School
Julia Wilson	Shire of Derby/West Kimberley Derby Volunteer Fire and Rescue (DVFRS)
Santana Rose	Shire of Derby/West Kimberley
Jo Bulsing	Shire of Derby/West Kimberley
Kylie Tame – Chair Person	Shire of Derby/West Kimberley
Tnika Harrington - Secretariat	Shire of Derby/West Kimberley
Tom Gryta	Western Australian Police Force – Derby
Attendees Online	
Debbie Heggs	Department of Justice-West Kimberley Regional Prison (WKRP)
Janette Hindmarsh	Fitzroy Valley District High School
Janine Morton	Guwardi Ngadu Residential Aged Care and Numbala Nunga
Sandra Gibson	Main Roads
Rhiannon Machin	Shire of Broome, Derby/West Kimberley, Halls Creek & Wyndham-East Kimberley Shires
Stuart Mcleod	Shire of Derby/West Kimberley
Tracey Hepi	Western Australian Country Health Service

3.2. Apologies

Andrew Boyle	National Indigenous Australians Agency
Benjamin Muller	Department of Fire and Emergency Services

LEMC Meeting Minutes: 04 November 2025

Lisa Smith	WACHS
Melanie Resuggan	Derby Holy Rosary
Robert Barnsley	Main Roads
Ana Bianco	One Tree

4. Confirmation of Minutes of previous meeting

Committee Decision: Carried / Not Carried	
Moved: Eliot Money	**Seconded:** Kylie Tame
That the Minutes of the Local Emergency Management Committee Meeting (attached) held on Tuesday, 29 July 2025, to be confirmed.	

5. Business arising from last meeting

Nil

6. New Business

6.1. 2028 Solar Eclipse Presentation – Brodie Ward, A/Director Regional Development, Kimberley Development Commission Cancelled

Brodie Ward was unable to attend this meeting, Manager Development Services Kylie Tame and Secretariat Tnika Harrington will work with Brodie to see if a presentation would be possible at the next meeting.

6.2. SDWK Bushfire Risk Management Plan – Rhiannon Machin, Bushfire Risk Planning Coordinator *for the Broome, Derby-West Kimberley, Halls Creek & Wyndham-East Kimberley Shires*

Rhiannon Machin, on behalf of the Shire of Derby/West Kimberley, drafted the Bushfire Risk Management Plan (BRMP) in line with the Department of Fire and Emergency Services (DFES) Guidelines for Preparing a Bushfire Risk Management Plan (2024).

The draft BRMP was presented to the Local Emergency Management Committee (LEMC) for review and feedback prior to submission to the Office of Bushfire Risk Management (OBRM) for endorsement. Once endorsed, the plan will proceed to Council for final adoption.

The BRMP forms part of the state wide Bushfire Risk Program, supporting local governments to identify, assess and mitigate bushfire risks. It promotes collaboration between government agencies, landholders and industry, and includes three key components: a strategic plan, asset risk registers, and a treatment schedule. The plan identifies vulnerable assets such as hospitals, schools, childcare centres and critical infrastructure.

The BRMP consolidates existing mitigation activities, clarifies stakeholder responsibilities and supports proactive prevention and preparedness. Once

LEMC Meeting Minutes: 04 November 2025

endorsed, the Shire will be eligible to apply for mitigation funding from February 2026. The plan will be reviewed every two years to maintain OBRM endorsement.

Committee Discussion:
Chairperson Kylie Tame asked whether to endorse the plan immediately or allow time for review. Members agreed to take two weeks to review the document and provide feedback. Rhiannon noted that OBRM endorsement takes approximately three weeks and that delays may affect inclusion in the December Council meeting agenda.

To expedite progress, Kylie proposed concurrent reviews by LEMC and OBRM. Rhiannon confirmed this was possible. It was agreed that:
LEMC members will complete their review and endorsement by Tuesday, 18 November 2025.
Rhiannon will submit the plan to OBRM for review and endorsement simultaneously.

Elliot Money queried whether the BRMP includes a flowchart outlining the chain of command during a bushfire event. Rhiannon advised that the plan aligns with DFES guidelines focused on consultation, risk assessment and treatment scheduling, and that operational response details fall under individual agency plans.

Kylie clarified that the BRMP addresses risk management before an event, while response procedures are covered under each organisation's operational plans. Rhiannon confirmed this and noted that, in the absence of a Bushfire Advisory Committee, the LEMC is the appropriate forum to review the BRMP. She also confirmed that any such flowchart would sit within the Local Emergency Management Arrangements (LEMA).

7. Standing Items

7.1 Review of LEMC Contact List – Update Given by Chair

The contact list is continuously being updated when receiving bounce back emails or notification of someone moving but if there are any changes in your organisation that will affect the list please let us know and we will update accordingly.

7.2 Bushfire and Fuel Reduction Inspection Update – Coordinator Rangers, Emergency Management and Community Safety

Stuart McLeod, Coordinator Rangers, Emergency Management and Community Safety, advised that property reinspection's are ongoing. A small number of properties remain non-compliant; however, these are now few and far between.

As noted at the previous meeting, most reported properties were simply overgrown, and recent rainfall has further improved conditions. Stuart continues to receive approximately one to two permit requests per week.

Verge-side collection is currently underway in Fitzroy Crossing, with Derby scheduled for later in the month as part of cyclone season preparations.

8. Reports from members

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8.1. SES –
Not Available

8.2. WAPOL –
Tom Gryta advised advised that Nathan Smith is the new Officer in Charge (OIC). Nathan is currently on leave and will commence in three weeks.
Tom highlighted the importance of maintaining an up to date contact list. Kylie suggested exploring a shared platform, such as OneDrive, to allow members to update details collaboratively.

8.3. WACHS –
Bushfire Risk Assessments have been completed at Fitzroy Crossing and Derby Hospital sites and Renal Hostels. Preseason cyclone preparedness activities will commence this month and occur monthly thereafter.

8.4. Department. of Communities –
Seasonal preparedness activities have been completed. The Department of Communities has procured several Meals Ready to Eat (MREs) and hygiene packs for distribution across the Kimberley and for use at evacuation centres if required.

8.5. Horizon Power –
Not Available

8.6. Water Corporation –
Not Available

8.7. RAAF –
Not Available

8.8. Main Roads –
New appointments include Robert Barnsley as Director Kimberley Region, Richard Brown-Fleming as Network Manager and Sandra Gibson as Network Operations Manager.

8.9. DVFS –
Not Available

8.10. DFES –
Preseason preparedness is underway. District Officer West Kimberley, Gareth Cornish, is visiting remote Aboriginal communities along the Gibb River Road and surrounding Fitzroy Crossing Valley to ensure readiness for the upcoming wet season.

8.11. SDWK –
Verge side collection is currently underway in Fitzroy Crossing, with Derby scheduled in the coming weeks as part of cyclone season preparations.

8.12. Education –
Derby District High School has received Solar Mobile Light Kits enabling the site as an identified place of refuge during emergencies, as they are able to operate at night without out sourcing lighting hire. Elliot Money
Fitzroy Valley District High School is currently updating its emergency plans - Janette Hindmarsh

8.13. WKRP –
Preparing the facility for wet season.

8.14. DAHS –

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Sandra Ozies raised concerns regarding communication during the Mowanjum Community bushfire in August 2025, noting that Derby Aboriginal Health Service (DAHS) and Kimberley Renal Services were not notified despite the event impacting their clients. Both organisations enacted emergency response protocols based on online information, resulting in unnecessary resource deployment.

Tom Gryta (WAPOL) advised that police were informed through the same public channels. DFES alerts were issued, but the risk remained minor, and the community was not cut off. DFES established an Incident Support Group (ISG) to coordinate stakeholder updates.

Matthew Reimer (DFES) confirmed that the incident was managed by DFES and that ISG meetings generally include relevant stakeholders. Sandra requested that DAHS and Kimberley Renal Services be added to the ISG distribution list to ensure future inclusion. Matthew explained that ISGs are extensions of the LEMC and emphasised the importance of maintaining accurate contact lists for effective communication.

8.15. Department of Transport –

Not Available

8.16. Services Australia (Centrelink) –

Not Available

8.17. Juniper –

Not Available

9. General Business

9.1. Any other business

Nothing raised

10. Closure

10.1. Date of Next Meeting

20 January 2026

10.2. Closure of Meeting

The meeting was closed by Chair Person at 11:18am

REPORTS

13 EXECUTIVE SERVICES

13.1 NGUNGA EARLY YEARS - LEASE OF LAND (AREA MODIFICATION)

File Number: **A100220**

Author: **Tamara Clarkson, Chief Executive Officer**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Executive**

SUMMARY

Council to amend the lease of Reserve Number 24904, 28 Ashley Street, Derby, to Ngunga Group Women's Aboriginal Corporation (Ngunga), for the establishment of a Derby Early Years Centre.

DISCLOSURE OF ANY INTEREST

Nil by Author and Responsible Officer.

BACKGROUND

At the Ordinary Council meeting held 30 May 2024 (77/24), Council agreed to lease a portion (1,300m²) of Reserve Number 24904, 28 Ashley Street, Derby, to Ngunga Group Women's Aboriginal Corporation (Ngunga), for the establishment of a Derby Early Years Centre.

Following additional review and investigation, a request to increase the lease area was received and Council, at its 31 October 2024 meeting (146/24), agreed that the lease area be 5,000m².

The Ngunga Group Women's Aboriginal Corporation is a not-for-profit indigenous community based charitable organisation, established in 1988 by a number of town-based Aboriginal women. It wishes to develop an Early Learning and Family Centre (The Ngunga Centre) on the site adjacent to the current One Tree Community Childcare Centre. The Ngunga Centre will offer playgroup, day care, afterschool care, school holiday activities, occasional care (creche) and family workshops, seminars, support and training.

STATUTORY ENVIRONMENT

Section 3.58 (Disposing of property) of the Local Government Act deals with how a local government can lease property. This generally requires a public auction or a public tender, or a local public notice inviting public submissions if a private bid is being considered.

Regulation 30 (Dispositions of property excluded from Act s. 3.58) of the Local Government (Functions and General) Regulations provides for exemptions (if the local government wishes to take that option) and one of those exemptions is where the land is disposed of under 30(2)(b) to:

> *(b) a body, whether incorporated or not —*
>
> *(i) the objects of which are of a charitable, benevolent, religious, cultural, educational, recreational, sporting or other like nature; and*
>
> *(ii) the members of which are not entitled or permitted to receive any pecuniary profit from the body's transactions.*

POLICY IMPLICATIONS

Council Policy ES2 - Establishment of Commercial Leases

FINANCIAL IMPLICATIONS

Nil.

STRATEGIC IMPLICATIONS

The proposed transfer aligns with the Shire's strategic objectives of supporting Aboriginal initiatives and enhancing community services. It demonstrates a commitment to empowering local Aboriginal organisations and fostering partnerships that benefit the wider community.

GOAL	OUR PRIORITIES	WE WILL
2. Community	1.1 Collaboration and partnership	1.1.2 Maximise local opportunities
2. Community	2.4 Sustainable Communities	2.2.4 Conduct and/or promote healthy lifestyle initiatives and living standards
2. Community	4.2 Liveable Communities	2.4.2 Collaborate with key agencies, groups and service providers to improve community services, programs and facilities

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Reputation: That the Shire doesn't support the expanded lease area for the project, which could lead to adverse media and community perceptions.	Possible	Minor	Medium	Council to support the expanded lease area.
Community: Not supporting the expanded lease area would likely adversely impact on the development potential of the project and consequently, its long term value to the community and its operational viability.	Almost Certain	Major	Extreme	Council to support the expanded lease area.

CONSULTATION

Consultation has been conducted with Ngunga Group Women's Aboriginal Corporation.

COMMENT

Following the progressing of the lease documentation, the longer-term tenure discussions of having this land excised from the Reserve and vested in Ngunga, and clarification on the development and operational area required for the proposed Ngunga Centre, it is now suggested that the lease area be larger, at 7,000m². This revised area will comfortably accommodate the current buildings/car parking/play areas, etc., but will also provide some additional space to accommodate the potential of the Centre's future growth.

If Ngunga can secure State Government support for an independent vesting of the area required for its Early Years Centre, then it is particularly important that the originally established lease area be of a suitable size so as to enable the effective original development, as well as the long-term operation (and hopefully its expansion) of the service.

The suggested reviewed lease area of 7,000m² will better accommodate a future independent land vesting; more comfortably accommodate the proposed Ngunga Early Years Centre buildings/car parking/play areas, etc.; provide some additional space for the potential of future growth of the centre and its services; and not unduly impinge on the relatively large 7.7414ha total area of Reserve 24904.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. **Original Lease Area - 5000sqm**
2. **Lease Area - 7000sqm - Site Plan**

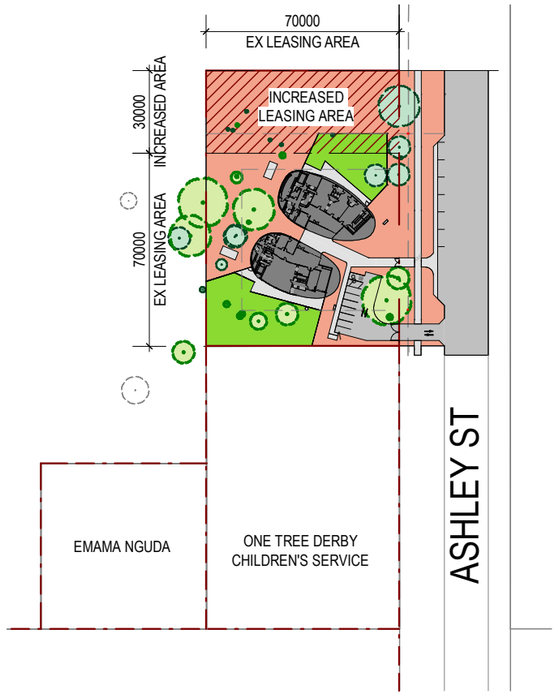
RECOMMENDATION

That Council ENDORSES the modification of the Ngunga Group Women's Aboriginal Corporation lease area (Reserve 24904, 28 Ashley St, Derby) to now be 7,000m².

Ngunga Group Women's Aboriginal Corporation Lease Area

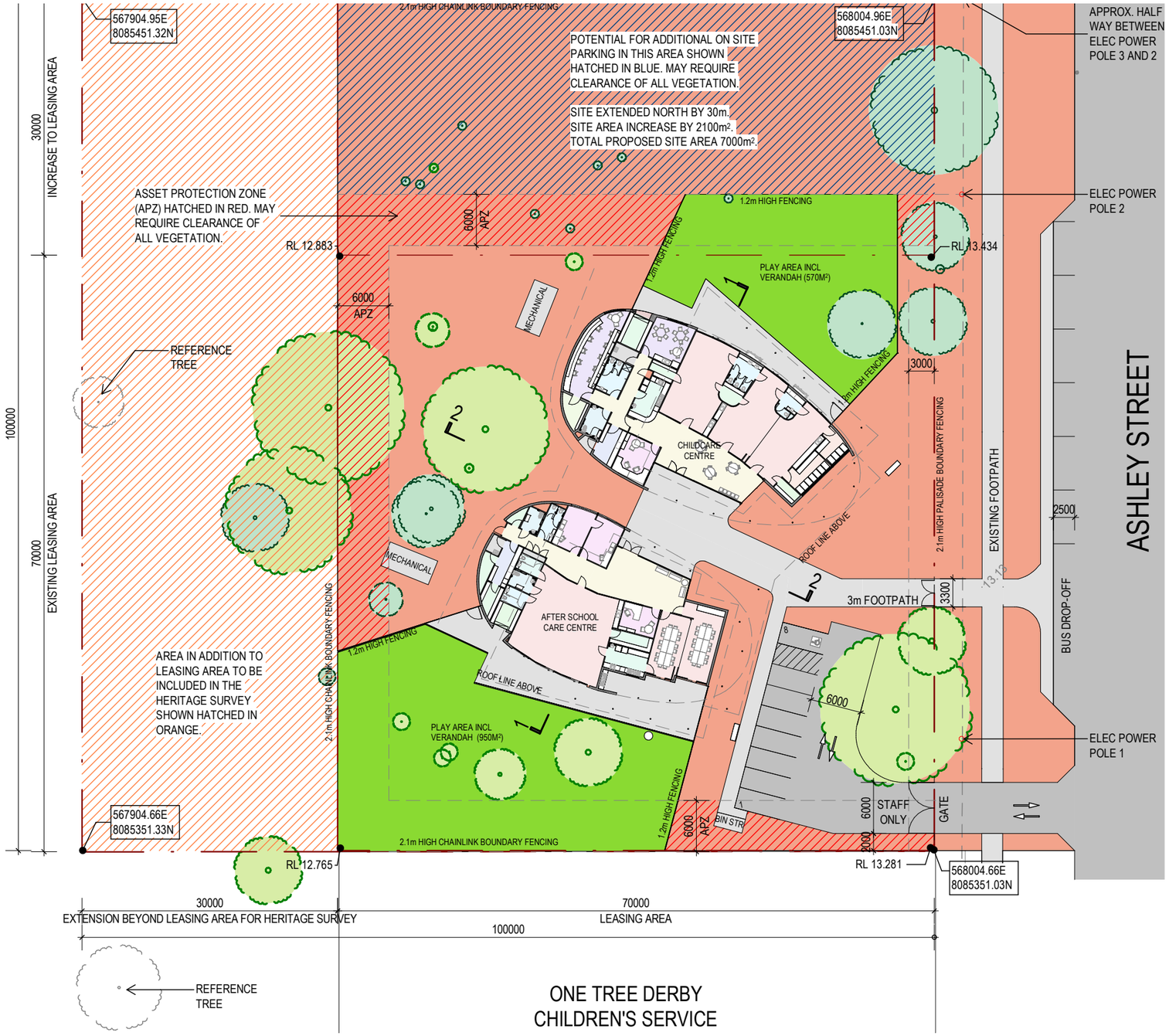
Ashley Street Option





LOCATION PLAN

SCALE 1 : 2000 @ A3



SITE PLAN

SCALE 1 : 500 @ A3

LEGEND

LARRKARDIY (BAOBAB TREE)

WARIMBA (JIGAL TREE)

TREES TO BE RETAINED UNLESS REQUIRED BY THE ASSET PROTECTION ZONE (APZ)

NGUNGA DERBY EARLY LEARNING & FAMILY CENTRE

SITE PLAN - SCENARIO 1

JOB No. 24025 25/11/25 SK01.1 REV: G

N

BATEMAN ARCHITECTS

13.2 RENAMING OF KING LEOPOLD RANGES TO BULURL DI WINAMI

File Number: **7060**

Author: **Tamara Clarkson, Chief Executive Officer**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Administrative**

SUMMARY

This report seeks Council endorsement for the King Leopold Ranges Locality renaming project final report.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

In 2020, the physical ranges called King Leopold Ranges were renamed Wunaamin Miliwundi Ranges. This name combines Ngarinyin and Bununba traditional names. The change of name aimed to remove the name of the historical tyrant who has no connection in Western Australia.

The locality retained the name King Leopold Ranges, and this caused confusion in emergency situations. The Minister for Emergency Services wrote to the Shire to request support for the name change.

Landgate engaged Nyikbar Consulting in 2023 to complete the King Leopold Ranges Locality project.

Mr Charles Prouse provided a briefing to Council on 5 December 2024 regarding the proposed name change to Bularl di Wunami.

The final report requires endorsement prior to be finalised by Landgate.

STATUTORY ENVIRONMENT

Nil.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

Nil.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
1. Leadership and Governance	1.3 Effective Communication	1.3.2 Listen to and respond to the needs of our communities

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
People Health & Safety: In an event of an emergency, confusion regarding the location to aid may occur if the clarification is not made.	Likely	Severe	High	Accept recommendation of consultant, and officers, to change the name of the locality.

CONSULTATION

Nyikbar Consulting undertook significant consultation in the project itself. This is contained within the final report (attached).

Minister for Emergency Services

Landgate

COMMENT

This final step in the project is provision of the Council endorsement to Landgate so the name can be changed officially.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. **Final Report - Bularl di Wunami**

RECOMMENDATION

That Council:

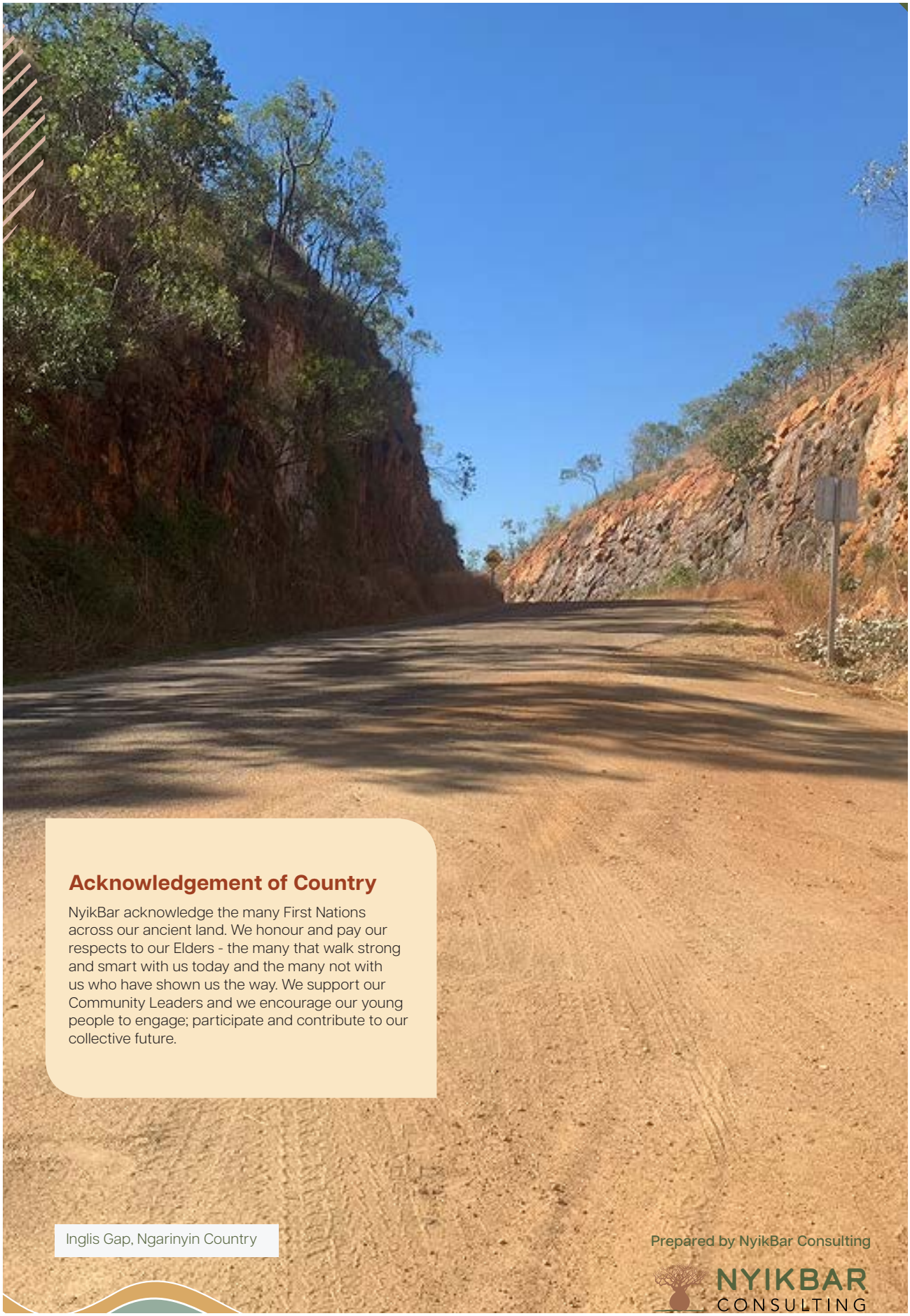
1. **ENDORSE the final report presented by Nyikbar Consulting to change the name of the King Leopold Ranges Locality to Bularl di Wunami; and**
2. **DIRECT the Chief Executive Officer to provide a copy of the Council Resolution to Landgate.**



Final report

King Leopold Ranges Renaming Project

December 2024



Acknowledgement of Country

NyikBar acknowledge the many First Nations across our ancient land. We honour and pay our respects to our Elders - the many that walk strong and smart with us today and the many not with us who have shown us the way. We support our Community Leaders and we encourage our young people to engage; participate and contribute to our collective future.

Inglis Gap, Ngarinyin Country

Prepared by NyikBar Consulting

NYIKBAR CONSULTING

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Executive Summary

In March of 2024, Landgate, acting on behalf of the Western Australian Minister for Lands, engaged NyikBar Consulting as a suitably qualified Aboriginal business to engage the Native Title Holders and other stakeholders to obtain a suitable, compliant new name for the King Leopold Ranges locality.

The search for a new locality name follows the official renaming of the physical King Leopold Mountain range in 2020 to the **Wunaamin Miliwundi Ranges**, a name chosen in consultation with the Wilinggin Aboriginal Corporation and Bunuba Native Title Corporation, the two primary Native Title holders. The King Leopold Ranges locality retained its name, causing confusion with emergency services.

This report tells the story of finding a new, culturally appropriate, policy-compliant name for the locality, endorsed by the Traditional Owners and presented to the Shire of Derby West Kimberley and Landgate for final approval and administration.

The challenge

The project involved a varied, geographically dispersed group of stakeholders with individual rights and requirements.

The locality includes the Traditional Lands of the Warrwa, Bunuba, Ngarinyin (through the Wanjina-Wunggur PBC) Yurriyangem Taam and Gooniyandi people who, through the Native Title Act (1993) have the right to consultation on renaming decisions. As the Traditional Owners, their knowledge of language and culture makes them uniquely suitable to rename the country again.

An approach was required to effectively engage the Native Title Stakeholders, fulfill their rights outlined in Native Title legislation and result in an endorsed name that met all regulatory policy criteria.

All this, within an ambitious timeframe and an ever-changing environment where the only constant was change.

The solution

To expedite a complex endorsement process, NyikBar developed a naming model that mirrored and supported the Native Title process used to rename the King Leopold Ranges and complied with Policy standards[1] and the Native Title Act (1993).

The model determined that the two Native Title Holding Prescribed Body Corporates (PBCs) with a majority interest in the locality have **locality naming** rights. The remaining PBCs could name two places within their areas that overlay the locality.

Other stakeholders listed below were crucial for effective community engagement:

- The Shire of Derby West Kimberley, the locality administrators who provided essential contact details at project commencement
- The Kimberley Land Council responsible for Native Title and conservation and final approval of names.
- The pastoral property holders/managers of Napier Downs and Fossil Downs facilitated access to Ngarinyin and Gooniyandi countries respectively.

The name

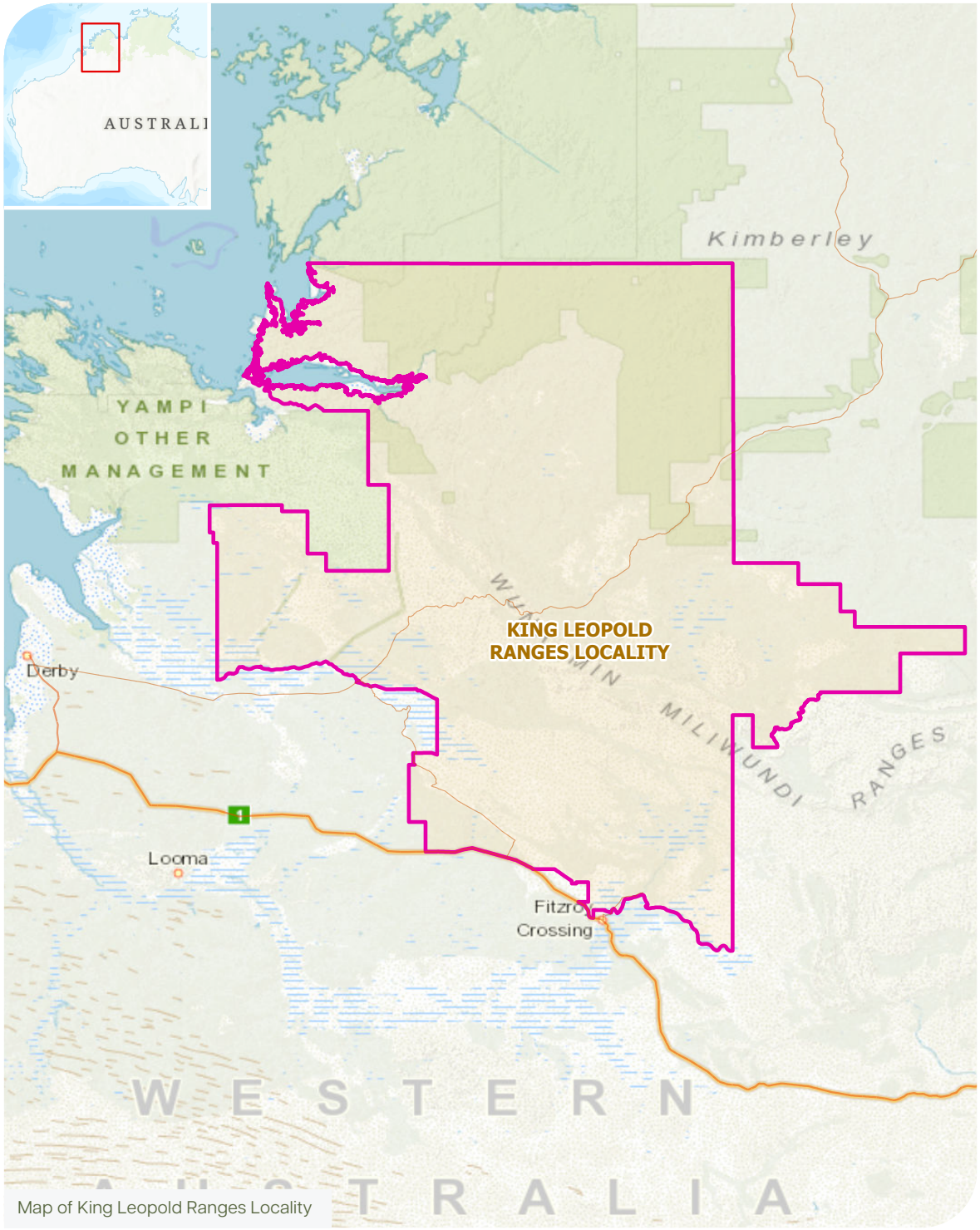
Following extensive engagement and consultation, the endorsed name **Bularl di Wunami (Buh-larl-dee - Wur-naa-mee)** is the proposed new name of the locality, made up of a Ngarinyin word from members of the Wilinggin Aboriginal Corporation and a Bunuba word approved by the Bunuba Dawangarri Aboriginal Corporation.

This project is just one of many renaming projects gathering momentum nationwide. All the Native Title stakeholders engaged were positive towards the project and genuinely desired involvement. Renaming is a powerful way for First Nations people to articulate and share their deep connection to country with the broader community.

Geographically contextual, ancient names for locations bestowed by the people who have lived there for thousands of generations make our nation genuinely Australian.

Further, it serves as a tangible demonstration of the Western Australian Government's commitment to the continued recognition and preservation of Aboriginal cultural heritage through the process of renaming, an essential way to progress reconciliation between Aboriginal and non-Aboriginal people in Western Australia.

1 The Policies and Standards for Geographical Naming in Western Australia



Map of King Leopold Ranges Locality

Scope

The high-level project scope is shown below, along with a list of related documentation submitted:

Phase	Description	References
Plan	Develop an approach to determine an Aboriginal name/s for the locality considering: • Identification of and engagement with Native Title and other stakeholders • Governance framework and risk analysis	Project Plan Project Brief GEO Datasets
Engage	Consult and engage with stakeholders via: • Attendance of key meetings • Field trips on country • Email, online meetings, written correspondence as required	Governance & Activity Tracking Project Brief
Capture data	Capture data including: • Potential names, their meanings, pronunciations and related stories • GPS data and any boundary mapping	Interim Field Trip: Field Trip 1 Final Field Trip Report (Trip 2 and 3) Customised Maps
Report	Report and manage feedback on: • Project progress • Variations to scope and governance • Recommended, endorsed locality and place name/s	Field Trip Reports Governance & Activity Tracking Final Project Report
Endorse	• Obtain final written endorsement of proposed locality and names • Project summary findings to Shire Council	In-person presentation Endorsement on Board Letterhead
Wrap up	Deliver a final report and video for the Shire of Derby West Kimberley and Landgate summarising all findings	Final Project Report Promotional Video

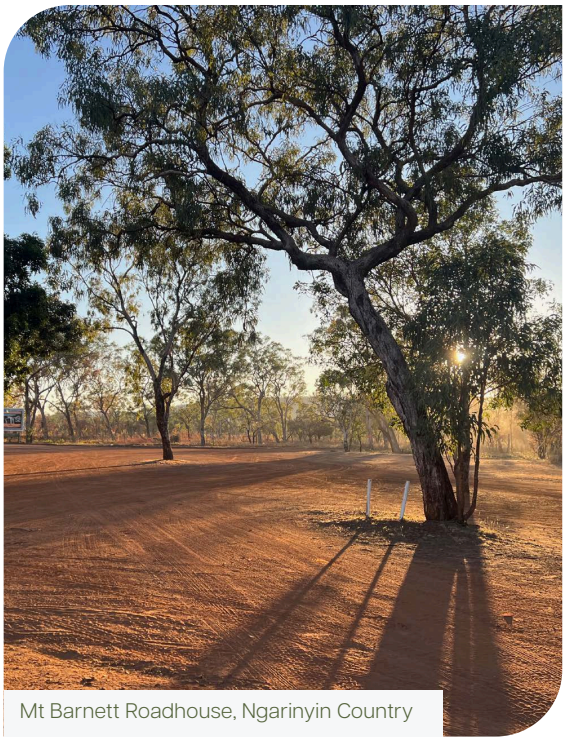
Scope Variation

Whilst the naming model remained a constant, a series of unforeseen circumstances necessitated changes to the project scope and governance model, requiring further consultation and engagement and additional field trips to achieve a result satisfactory to all stakeholders.

These included:

- PBC time frames and processes, including changes to board meeting schedules, causing delays in obtaining endorsement and approvals
- PBC resourcing and capacity constraints and clashes with current seasonal events
- One PBC with naming rights almost entering into administration then re-emerging,
- Multiple Sorry Business events and community trauma
- Car accident and hospitalisation of one cultural advisor
- Stolen car of another

See Appendix 01 VR01 Milestones Reset for the final enhanced governance model and the requested variation to scope. A breakdown of challenges and learnings can be found in the Challenges and Learnings section.



Mt Barnett Roadhouse, Ngarinyin Country



Nhillabublica Bore, Gooniyandi Country

Governance

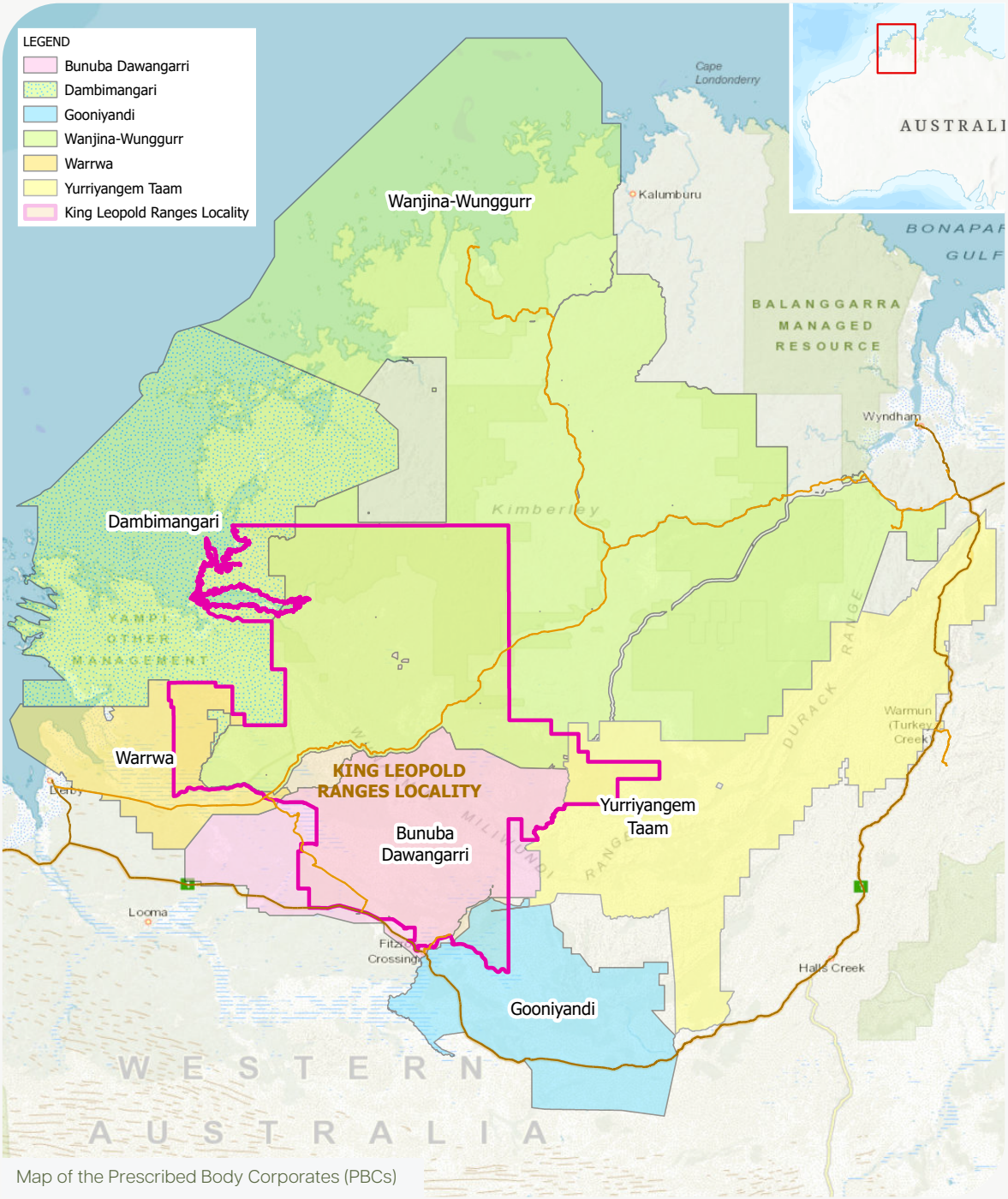
NyikBar sought to design a governance and related engagement process that recognised the Native Title process of the Traditional Owners, followed PBC board governance guidelines, captured relevant data and resulted in an endorsed locality and place names that met Policy criteria.

The final enhanced governance model implemented is summarised below.

Action	Description
1 **Identify stakeholders**	Identify correct stakeholders for consultation and engagement
2 **Initial engagement**	Begin the engagement process through distribution of the project brief and contact via phone, email, text or a combination
3 **Obtain initial endorsement**	Present to PBC Boards in-person to obtain agreement for field trips and identify language speakers
4 **Field trips**	Undertake field trips with language speakers to obtain required information including locality name(s), place name(s), audio, video, geospatial data and IP and Talent Release approval
5 **Report field trip findings**	Provide documented results of consultation, engagement and data captured at presentations and field trips
6 **Present findings**	Present all findings to date in person for stakeholders to provide feedback and/or voice concerns
7 **Obtain written approval**	Obtain written approval of names from PBC Boards via Board Meeting minutes, a formal letter of endorsement or both
8 **Deliver final report for endorsement**	Deliver a final report for the Shire of Derby, West Kimberley and Landgate for final endorsement and implementation

Native Title Mapping

Mapping the locality against Native Title boundaries was the first step to correctly identifying the Traditional Owners and PBCs requiring engagement. The size of each PBC area in the locality was the foundation of the Naming Model outlined below.



Map of the Prescribed Body Corporates (PBCs)

Table 1: Breakdown of Native Title footprint/interest over locality

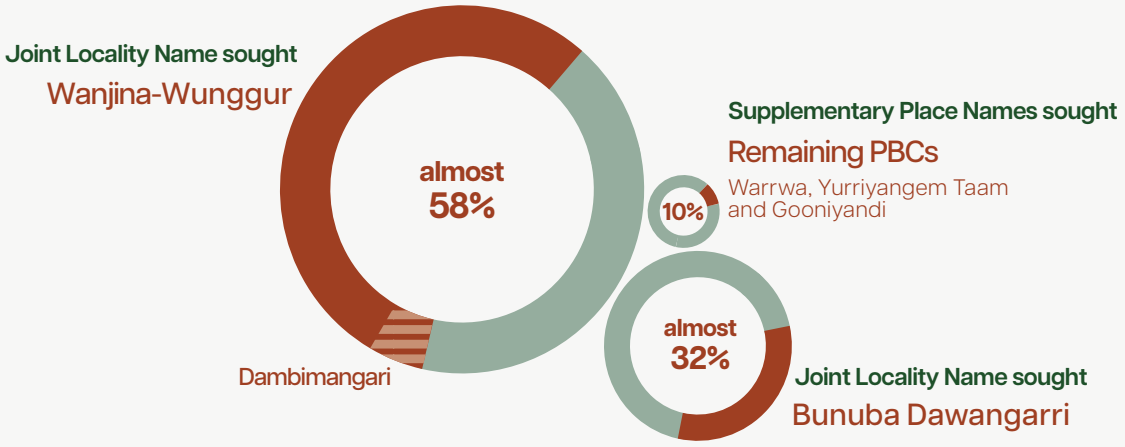
Prescribed Body Corporate (PBC)	Aboriginal Corporation	Area (km²)	Percentage
Bunuba Dawangarri	Bunuba	11265.4	32.5%
Gooniyandi	Gooniyandi	776.5	2.2%
Wanjina-Wunggur	Wilinggin Dambimangari	20059.9	57.8%
Warrwa	Warrwa	1555.8	4.5%
Yurriyangem Taam	Yurriyangem Taam	1022.1	2.9%
Total		**34679.8**	**100%**

The Naming Model

Wandjina Wunggur (almost 58%) and Bunuba Dawangarri (almost 32%), the PBCs with majority interest, were given joint locality naming rights.

The remaining PBCs, Warrwa, Yurriyangem Taam and Gooniyandi, were recognised by naming two places on their country that are within or near the locality boundary.

This approach simplified and expedited the endorsement process, and guaranteed a name that met policy criteria. Furthermore, it mirrored the renaming of the physical King Leopold mountain range in 2020 and fulfilled the Native Title rights of the Traditional Owners.





Bush medicine on Gooniyandi Country

Field Trips and Engagement

NyikBar completed three trips to consult, engage and obtain the necessary data and assets outlined in the governance process.

1. 15th May to 29th May (findings covered in Interim Field Trip Report, submitted 21st June)
2. 12th August to 28th September (findings covered in Post Additional Field Trips Final Report, submitted 22nd November)
3. 11th November to 24th November (findings covered in Post Additional Field Trips Final Report, submitted 22nd November)

A summary of field trip activity is outlined below.

Details of all engagements undertaken over the course of the project, including phone calls, online meetings and emails can be found in the Governance & Activity Tracking Spreadsheet submitted with the project materials.

Additional engagement

The Kimberley Land Council was directly engaged early in the project, providing essential contact details and valuable insight into the PBC landscape, consultation process and norms throughout the project.

The Shire of Derby West Kimberley became an important communication partner following the project award in April, providing overall support, assistance with stakeholder engagement, access to accommodation and administrative duties, including the printing of maps, which were invaluable to the consultation process.



Wapets Crossing, Warrwa Country



Yammera Gap, Ngarinyin Country

Field Trip 1:
15th May – 29th May

Summary

Warrwa, through the Chair and the CEO, provided early support for the naming model and participants for a field trip, where the first of the Traditional place names were given and drone footage captured. NyikBar took the opportunity to test the drone further and travel up the Gibb River Road to Mt Barnett Roadhouse, stopping at several locations in Ngarinyin Country specifically within the Wilinggin Aboriginal Corporation boundary, the traditional custodians.

Places Visited:

Warrwa

- May River
- Poulton Pool
- Wapets Crossing

Wilinggin / Ngarinyin

- Yammera Gap
- Inglis Gap
- The Bench
- Mt Barnett Roadhouse

Key outcomes

Warrwa

- Naming model and project endorsement achieved
- Field trip completed
- First place name given for Poulton Pool: Mumdamah (Munda-mah)

Wilingin / Ngarinyin

- Key locations visited
- Drone tested and footage captured

Gooniyandi

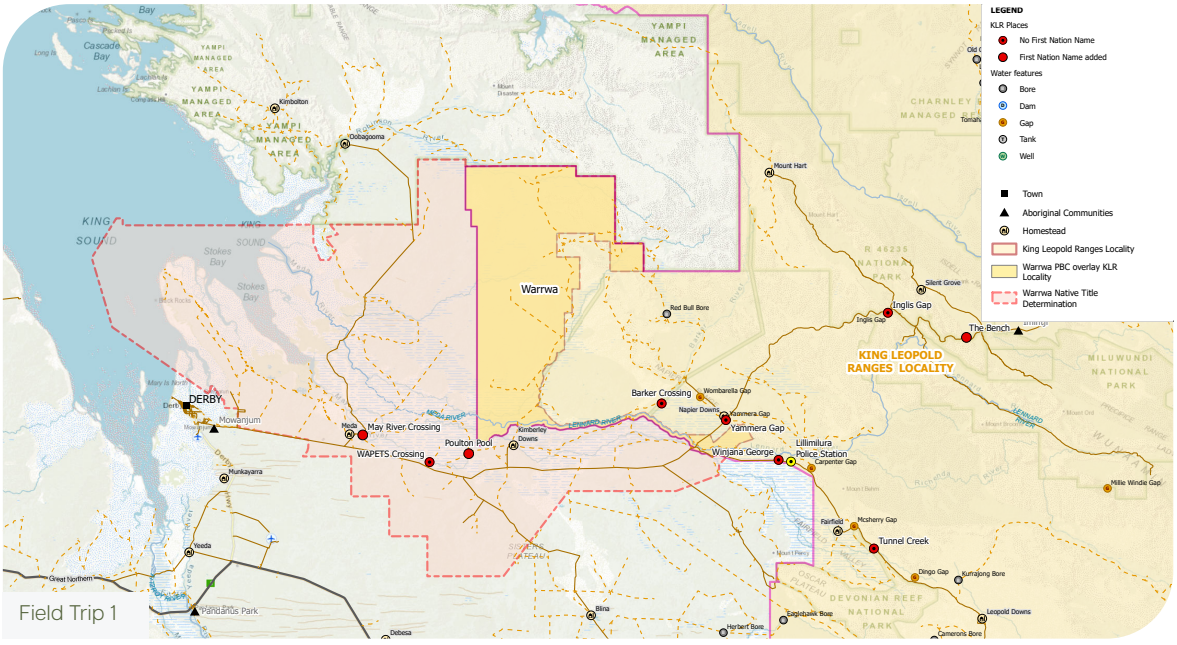
- Naming model and project endorsed
- Successful presentation of maps at the Gooniyandi Board Meeting

Yurriyangem Taam

- Naming model and project endorsed
- Chose not to participate this time, keen to confirm knowledge holders for future

Ngarinyin / Dambimangari

- Late notification of additional organisations represented by Wanjina Wunggurr, one of which, Dambimangari, requires engagement





Poulton Pool proposed to be Mumdamah, Warrwa Country



The Bench proposed to be Liymba, Ngarinyin Country

Field Trip 2:
12th August – 28th September

Summary

The Bunuba board confirmed support for the project and nominated knowledge holders to engage and seek an appropriate locality name. A Gooniyandi field trip resulted in two new place names and relevant data captured. The collection of endemic plants for bush medicine and fabric dye boosted the spirits of all participants.

Places Visited:

Gooniyandi

- Boab Creek
- Moon and Star
- Margaret River Crossing
- Nhilabublica Bore

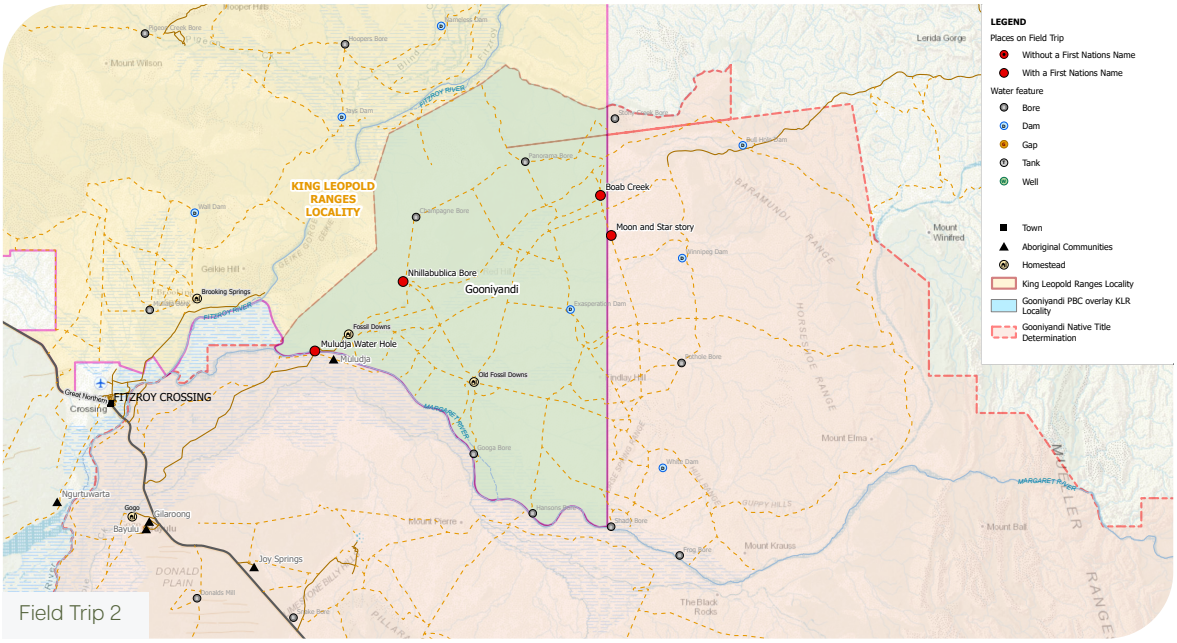
Key outcomes

Gooniyandi

- New place name proposed for Margaret River Crossing: Muludja Waterhole
- Additional places for renaming suggested: Moon and Star and Boab Creek
- Endemic plants harvested for bush medicine dying
- Moon and Star story audio captured

Bunuba

- Naming model and project endorsed at AGM
- Knowledge holders nominated to seek a Bunuba locality name



Field Trip 2



Margaret River Crossing proposed to be Muludga Waterhole, Gooniyandi Country



Moon and Star, Gooniyandi Country

Field Trip 3:
11th November – 24th November

Summary

The third and final field trip resulted in an endorsed new locality name.

Bularl di Wunami (Buh-larl-dee - Wur-naa-mee) combines a Ngarinyin word from members of the Wilinggin Aboriginal Corporation and a Bunuba word approved by the Bunuba Dawangarri Aboriginal Corporation. Other wins included a second Warrwa place name with relevant audio capture and a Ngarinyin word given for The Bench, Liymba meaning "Lookout".

Places Visited:

Bunuba

- Fitzroy Crossing
- Old Police Site
- Rocky Area
- Tunnel Creek
- Winjana Gorge

Key outcomes

Bunuba Dawangarri

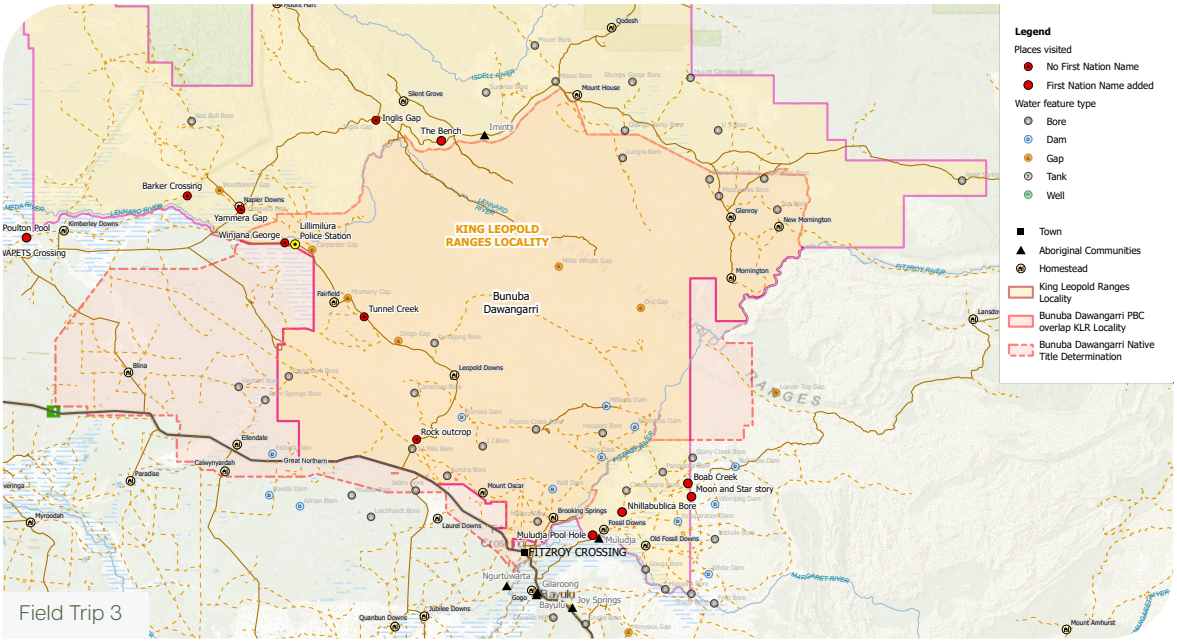
- New locality name endorsed: Wunami (Wur-naa-mee), meaning “Big Range Country”
- Field trip completed

Wilinggin

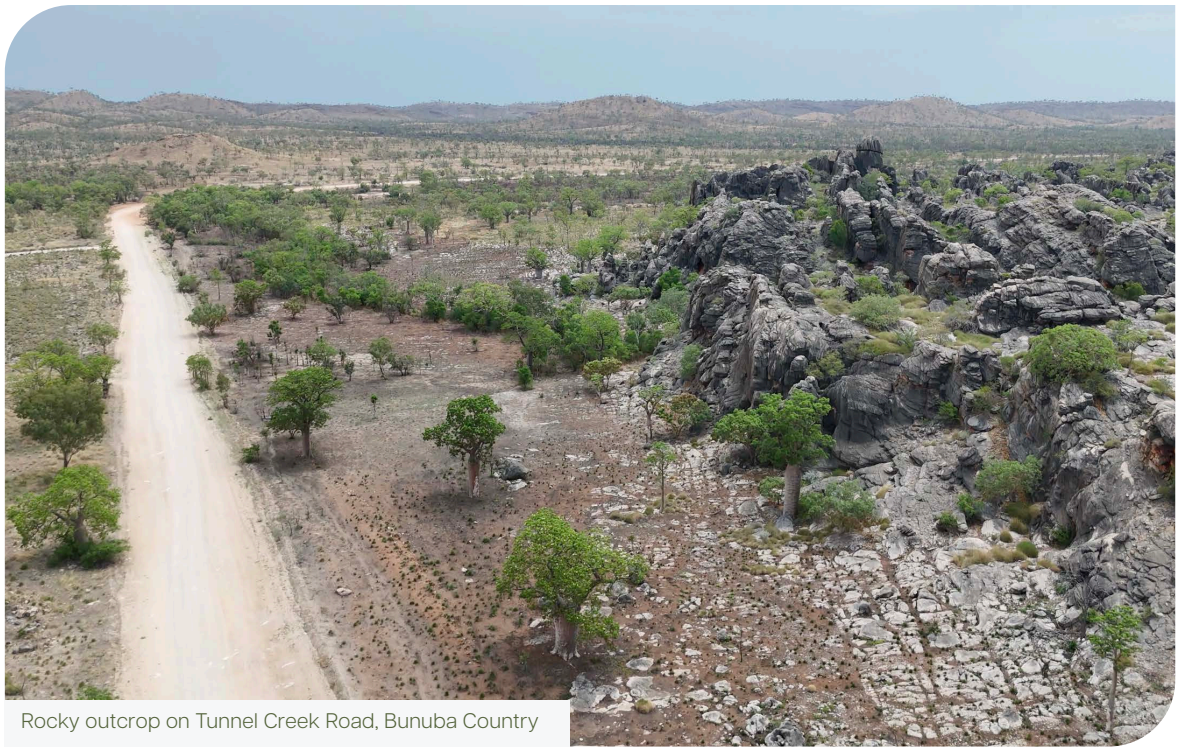
- Potential locality name, Dorron, proposed on 21st October, was shelved after the Cultural Programs Manager was hospitalised
- Alternative name Bularl di (Buh-larl-dee), proposed, meaning "Rocky Country", completing the new, proposed locality name: Bularl di Wunami (Buh-larl-dee - Wur-naa-mee)
- Dambimangari confirmed written permission for Wilinggin Aboriginal Corporation to provide a suitable name for their area within the locality

Warrwa

- Final name for May River Crossing provided: Goodarnung (Good-ar-nung)
- Additional place name given for “The Bench “or “Bell Creek Jump Up”: Liymba, the Ngarinyin word meaning "Look Out"



Field Trip 3



Rocky outcrop on Tunnel Creek Road, Bunuba Country



Old Police Site, Tunnel Creek Road, Bunuba Country

New Locality Name

After an extensive engagement, consultation and endorsement process, the PBCs with prevailing interest in the locality put forward the following endorsed names:

Bularl di (Buh-larl-dee), a Ngarinyin word from the Wilinggin Aboriginal Corporation meaning "rocky country."

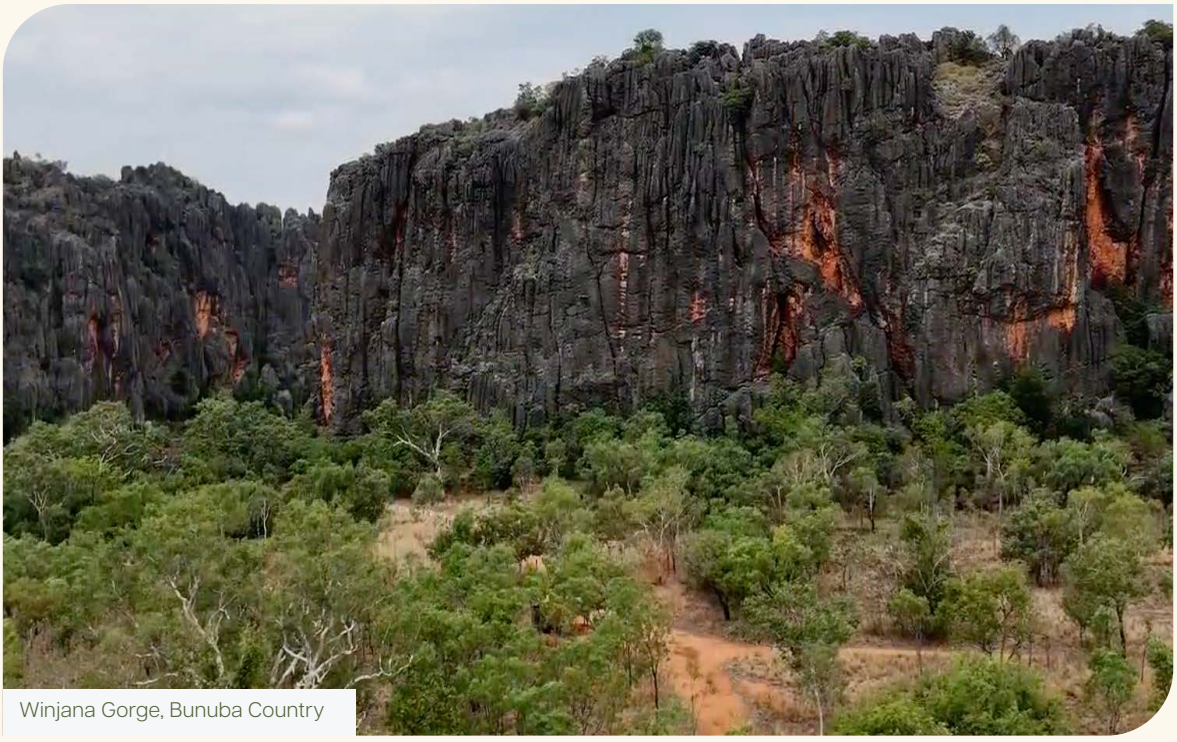
Wunami (Wur-naa-mee) a Bunuba word meaning "big range country."

Combining these two names results in **Bularl di Wunami (Buh-larl-dee - Wur-naa-mee)**, a culturally accepted and appropriate name for the locality.

Refer to the audio files submitted to Landgate, for the correct pronunciation and background, along with related data capture.

Aboriginal Corporation	Aboriginal Corporation
Wilinggin / Ngarinyin	Bunuba
Recommended name	Recommended name
Bularl di (Buh-larl-dee)	**Wunami** (Wur-naa-mee)
Meaning	Meaning
Rocky country	Big range country

Bularl di Wunami
(Buh-larl-dee - Wur-naa-mee)



Winjana Gorge, Bunuba Country


Gooniyandi Country - Plants for dyeing
21

New Place Names

There are seven endorsed place names provided by Warrwa, Wilinggin and Gooniyandi. These are recommended by NyikBar and outlined below:

PBC	Aboriginal Corporation	Current Name	Recommended Name
Warrwa	Warrwa	Poulton Pool	Mundamah
		May River Crossing	Goodarnung
Gooniyandi	Gooniyandi	Boab Creek*	Birndirrijga
		Margaret River Crossing	Muludja Waterhole
		No name	Waada Jarlingnyi (Moon and Star - Dreaming Story)
		Nhilabublica Bore**	Jirnyarroo
Wanjina-Wunggur	Wilinggin	The Bench or Bell Creek Jump Up	Liymba, meaning "Lookout"
Bununba	Bunuba	Lillimilura Police Station	Lillimooloora

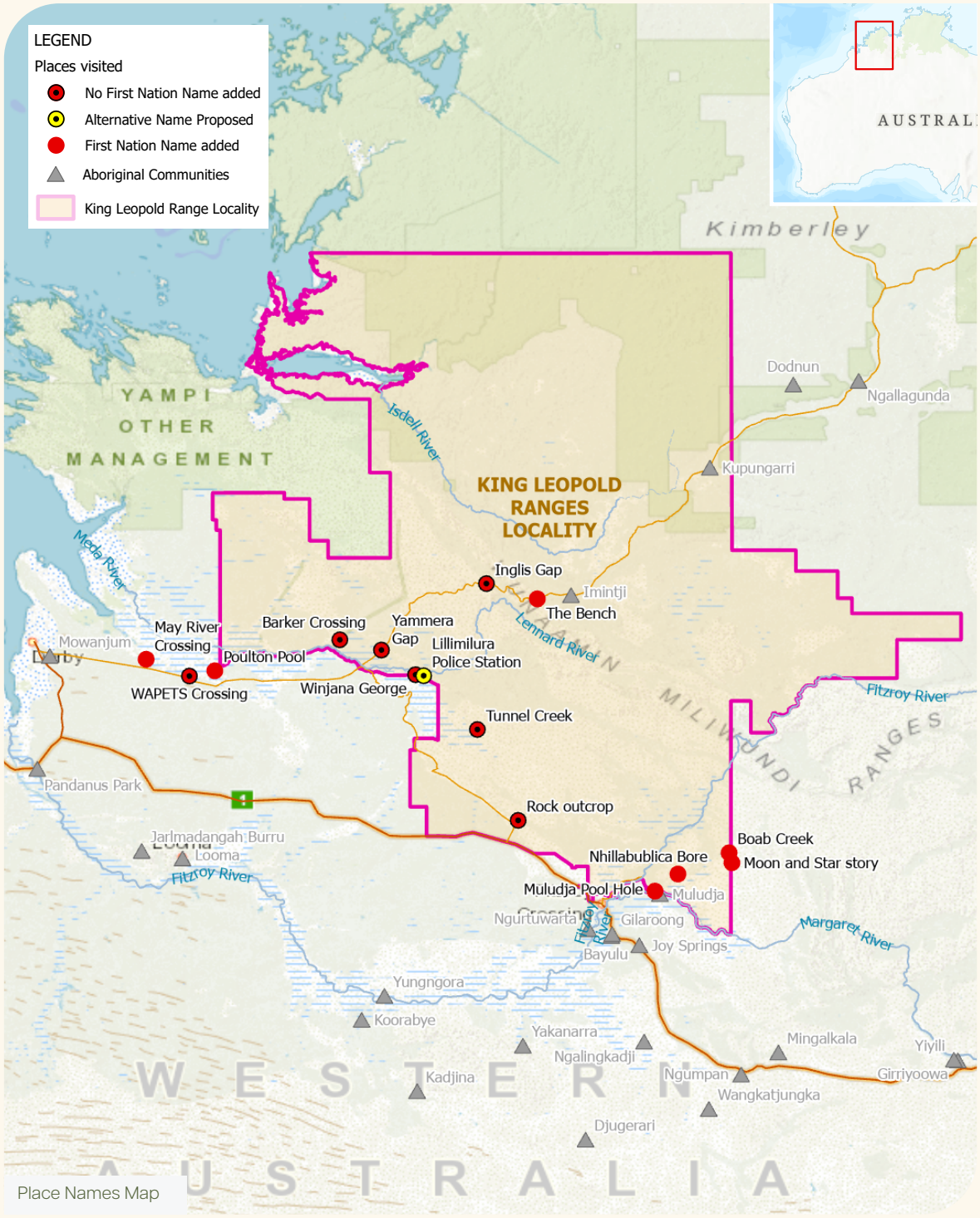
Notes

* GEONOMA also has Boabab Creek at the same location, it is also tagged as "Bore". Note: 400 metre discrepancy between NyikBar GPS location and Landgate's GEONOMA. NyikBar GPS location is on a Boab Creek crossing (based on Landgate's aerial/satellite imagery)

** Potential to explore and update other Nhillabublica locations with meanings in GEONOMA



Boab Creek proposed to be Birndirrijga, Gooniyandi Country


LEGEND
Places visited
No First Nation Name added
Alternative Name Proposed
First Nation Name added
Aboriginal Communities
King Leopold Range Locality
AUSTRALI
Kimberley
YAMPI
OTHER
MANAGEMENT
KING LEOPOLD
RANGES
LOCALITY
Isdell River
Meda River
Lennard River
Fitzroy River
MILIWUNDI
RANGES
Dodnun
Ngallagunda
Kupungarri
Inglis Gap
Imintji
The Bench
Barker Crossing
Yammera
Gap
Lillimilura
Police Station
May River
Crossing
Poulton Pool
WAPETS Crossing
Winjana George
Mowanjum
Tunnel Creek
Pandanus Park
Rock outcrop
Jarlmadangah Burru
Looma
Boab Creek
Moon and Star story
Nhillabublica Bore
Muludja Pool Hole
Muludja
Ngurtuwarta
Gilaroong
Bayulu
Joy Springs
Margaret River
Yungngora
Koorabye
Yakanarra
Ngalingkadji
Mingalkala
Yiyili
Girriyoowa
Kadjina
Ngumpan
Wangkatjungka
Djugerari
WESTERN
AUSTRALIA
Place Names Map

Delivery of Findings

In-Person Presentation

NyikBar delivered its findings at a community forum in Derby on Thursday, 12th December. Landgate Acting General Manager Peter Birkett and NyikBar MD Charles Prouse presented the findings and next steps in the process.

The findings were well receive by all attendees including the Shire of Derby West Kimberley President Peter McCumstie and management.

Importantly, representatives from the Traditional Owners of Bunuba, Gooniyandi and Warrwa were present as were local Nyikana people. Yurriyangem Taam and Willingin members sent their apologies. There were approximately 40 people present in total.

The proposed name Bulurl di Winami was presented as the key finding and was greeted with enthusiasm. The proposed place names were also presented alongside a draft showreel featuring drone and other project footage.

Bunuba, Gooniyandi and Warrwa members were filmed speaking to camera by Goolari media, who filmed the workshop. The resulting footage will go into the final project showreel.



Community forum in Derby



Community forum in Derby



Poulton Pool proposed to be Mumdamah, Warrwa Country

Challenges and Learnings

NyikBar encountered many challenges that required flexibility, persistence, and resourcefulness. Some were expected, considering the ambitious timelines and complex environment, but many were unforeseeable and impacted the scope and timeline.

Below is a list of learnings to inform future projects.

Stakeholder Engagement

Contact availability

Most challenges related to the complexity of the Native Title holder consultation process, causing ongoing delays and frustrations.

These included:

- Making initial contact with stakeholder representatives via email or phone or in-person
- Obtaining firm timing for AGMs and Board Meetings
- Obtaining a guaranteed place on the agenda for AGMs and Board Meetings
- A lack of response to emailed requests

The reasons for these obstacles varied and included:

- Sorry Business resulting in cancellation of scheduled engagements
- Inconsistent PBC resourcing and maturity levels impacting availability of key contacts, delays in response times, changes to key contacts
- High turnover of PBC staff resulting in changes to contacts
- Shifting PBC Governance priorities
- Challenges travelling to meet contacts from geographically dispersed PBCs
- Multiple demands from external stakeholders including government, the mining industry, community organisations, etc
- Timeline constrains due to seasonal / weather, i.e. the need to plan core activities in the dry season.

Recommendations

- Build additional time and contingency into initial project timeline to:
  - allow for deeper engagement with all stakeholders in the early phases of the project
  - map out PBC Board meeting dates, identify contacts and cultural advisors, organise field trips and obtain necessary data, content and sign off
- Ensure the relevant government agency is involved in make initial engagement and introductions with PBCs
- Stakeholder project brief jointly developed by government agency and consultant
- Government agency make initial contact and introduction with PBCs and consultant
- Include at least three key contacts from each PBC in the governance process, responsible for in-person consultation with their board on the following:
  - project background
  - buy in
  - permission for field trip(s)
  - presenting project findings including names for endorsement

Pastoral Properties

Pastoral property owners/managers were not initially identified as stakeholders requiring engagement, even though they are key in securing access to country and are potentially impacted by place name changes. While the owners of Napier Downs and Fossil Downs granted access to the property on short notice, accessing Kimberley Downs proved impossible without prior arrangement.

Recommendation

A formal letter and accompanying brief from the responsible administrative body (State or Local Government) to the relevant pastoral property owner/ manager would facilitate access to Traditional Lands and minimise the risk of delays. A meeting between relevant parties to discuss issues and agree on a date for access would improve the process further.

Engagement tools

The project brief prepared by NyikBar proved to be a crucial part of the initial engagement process, providing much-needed background, objectives, methods, and visual aids such as maps.

The use of maps during the consultation process proved invaluable in showing the physical location of places, features and regions and how they relate to Native Title.

Recommendation

- Provide a master brief, prepared by the consultant doing the work and the government entity requesting the work to give authority and enhance the engagement process.

ICIP, Payment and Guidelines

It is now accepted practice that Traditional Owners be appropriately reimbursed for participation in projects like this. Reimbursement can take the form of payment for time, travel, food, accommodation, and sharing traditional knowledge.

Indigenous Cultural Intellectual Property (ICIP) has cultural and commercial value and is essential to project success. Knowledge holders participate in field trips, provide place names and, where relevant, share stories in their language and English.

Recommendations

- Include clear payment guidelines for knowledge sharing and other types of participation in the Project Brief to manage expectations and any resulting financial impacts on the project and participants.
- Use a reimbursable payment model to manage unforeseen changes to stakeholder availability and keep costs in check.

Regulatory naming policy constraints

Wilinggin initially proposed a two-word name for the locality, **Dorron Mangunggu**. Combining this two-word name with a Bunuba word tipped it to three words, making it non-compliant.

Recommendations

- Provide upfront clarification of policy naming constraints to streamline the renaming process and eliminate the need for re-engagement.
- Include policy naming constraints in the Project Brief to ensure clarity at the beginning of the project.

Stakeholder identification

Nyikbar learned of two additional groups with Native Title claims represented by Wanjina-Wunggur PBC during the first field trip in May. One of these groups, Dambimingari, had an overlay on the locality and required consultation.

Recommendation

- Identifying and disclosing all relevant stakeholder groups at the beginning of a project reduces the need for additional engagement and the risk of delays.



Barker River, Ngarinyin Country

Promotional Video

NyikBar is proud to present a promotional video captured during field trips and the in-person presentation on the 12th of December. Goolarri Media, a wholly owned subsidiary of the Broome Aboriginal Media Association, produced the video telling the story of the renaming process in footage, stills and audio.

The video includes the endorsed names, their meaning, correct pronunciation and additional commentary from a NyikBar representative intimately associated with the project.

Information about the technology used to capture the footage is outlined in the Data section.

All video and audio files, along with IP, Talent Release forms and licence agreements are submitted with the final project findings.



Making the showreel

Welcome Additions

While the focus was renaming the King Leopold Ranges locality, the project yielded additional benefits in the form of traditional stories and plants.

Stories

Gooniyandi Traditional Owners shared a story during a field trip on the 11th of September explaining how the moon sang out to a star, which fell to earth and slid across the land, leaving a black soil plain, shaping the landscape and features of the area known as Moon and Star. The story is an essential reminder of the depth of First Nations culture and the role of projects like this in preserving it.

Refer to submitted project audio for the Moon and Star story in English and traditional language.

Plants

Different endemic plants were harvested and collected during the Gooniyandi field trip for medicinal use and fabric dying. The resulting products, including teas, soaps, scarves and fabrics, are sold at community events, offering a small but important financial benefit to the community's women.

These practices and the resulting benefits exemplify Indigenous Culture and Intellectual Property. They are a vehicle for sharing health and healing practices with the wider community and broader public, including international visitors travelling to the Kimberley to engage with First Nations people and culture.

First Nations Economic Impact

This project has generated direct economic impact to First Nations individuals and contractors. Cultural advisors, Goolari Media and other First Nations contractors received more than $48,000 in payments.

Other payments were made to local accommodation and vehicle hire providers.



Mrs Edna Cheryl collecting endemic plants

Data

Data generation, collection processes and technology

The map of the Prescribed Body Corporates (PBCs) in the Governance section was produced at project commencement and shows an overlay of PBC Native Title claims in the locality. It proved integral to the governance process and overall outcome, serving as the foundation and driving force behind the naming model embraced by all PBC stakeholders.

The Native Title boundaries shown in the map were created using two datasets from Data.wa.gov.au

- Native Title Determinations (LGATE 066) dataset; and
- Localities (LGATE 234) dataset.

The derived dataset was created by:

- Selecting the King Leopold Range Locality from the Localities (LGATE 234) dataset,
- Clipping the Native Title Determinations (LGATE 066) dataset to the King Leopold Range locality,
- Dissolving the clipped dataset based on the value in the “Register” field,
- Editing the value in the Register field so that only the name of the PBC remained in the “Register” field.

It should be noted that the Native Title boundaries shown on the map did not relate to the boundaries maintained in the Landgate SCDB.

The table on the following page shows all data and technology used for all maps.

Data dictionary

The data dictionary describes the structures and relationships of the data at a granular level. It’s designed to assist readers navigate the data and should be read prior to the data itself.

The dictionary lists field names, the type of data in each field (number, text, date, etc), a description of the content in each field and the data relationship – how one piece of data links to associated information including audio, stills and videos.

Submitted data

The range of audio and visual data collected relates to locality and place naming, phonetic spelling and pronunciation of the endorsed names per the project requirements.

GPS coordinates, geospatial data and still pictures were collected along with the data listed above.

All maps, Data and the Data Dictionary are submitted as part of the final project findings.

Type of data	Data generation and collection process	Technology
Still pictures	Manually collected during field trips Manually collected during Board Meetings	iPhone camera
Video footage	Manually collected during field trips Collected using Drone during field trips	iPhone camera DGI Drone
Audio recordings	Manually collected during field trips	iPhone camera fitted with microphone and voice memo
Latitude and longitude coordinates	Manually collected during field trips	iPhone inbuilt GPS technology (Compass) Garmin GPS 60 hand held unit*
Geospatial Data	Manually collected during field trips	Fulcrum Fulcrum is an online subscription basis platform that allows subscribers to configure applications to collect data in the field (including audio, video, photos along with latitude and longitude for this data) Fulcrum data collection apps run in IOS and Android and can run in off line mode
Phonetic spelling	Manually collected during field trips Manually collected during Board Meetings	Pen and paper Email
Stories associated with proposed name	Manually collected during field trips	iPhone camera fitted with microphone and voice memo
Maps	Custom maps were generated using data collected in the field as well as data sourced from DATA.WA.GOV.AU Geoscience Australia, and DATA.GOV.AU.	

* small discrepancies between GPS coordinates recorded using the iPhone Compass and the Garmin GS 60 were discovered. In these cases, the Garmin coordinates were found to be more accurate and used as default.

Conclusion

The governance process and subsequent naming model developed by NyikBar proved to be the bedrock of the project, shaping the engagement and consultation process and driving the proposed new locality and place names we now put forward for final approval and confirmation.

The names and related processes meet the rights of Traditional Owners outlined in the Native Title Act (1993) and adhere to the Policies and Standards for Geographical Naming in Western Australia.

Traditional stories, plant names, the naming of culturally significant places and plants gathered during field trips are welcome additions that make up a an important part of the project legacy.

At wrap-up, the positive social benefits exceed the initial renaming objective and are valid future drivers of programs of this type. Renaming is a way of capturing traditional language and stories for posterity.

The new names are linked to the traditions behind them and are the foundations of our nation's culture. Any project that assists in preserving this culture should be considered invaluable.

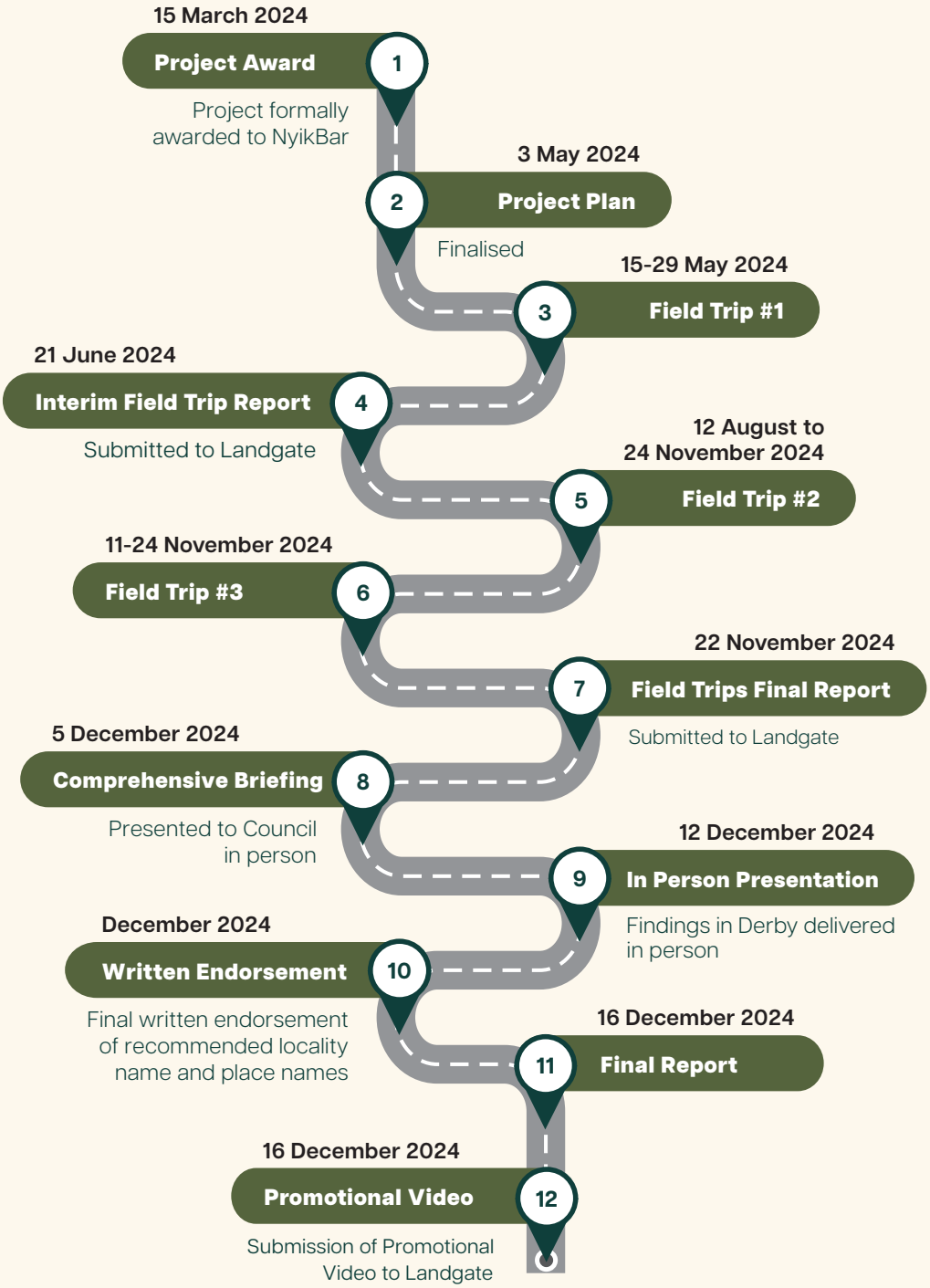
NyikBar would like to thank all project stakeholders – Landgate for their continued support and flexibility, the Shire of West Derby West Kimberley for printing invaluable project resources, the Kimberley Land Council for Native Title guidance and assistance contacting PBCs, Board members, managers and administrative staff of the various PBCs.

Special thanks go to the Traditional Owners, whose overwhelmingly positive reception, enthusiasm and willingness to share their culture was crucial to the successful outcomes and benefits gained.



The Bench proposed to be Liymba, Ngarinyin Country

Project Roadmap



33

Thank you

Gooniyandi

Helen Malo

Mervyn Street

Bobby Cheryl

Edna Cheryl

Gooniyandi Board

Mel Wiseman

Warrwa

Patricia Juboy

Valerie Lennard

Con Lenndard

Gail Williams

Bununba

June Oscar

Patsy Bedford

Dickie Bedford

Andrea Myers

Bunuba Board

Wilinggin

Matthew Martin

Sherika Duckhole

Rona Charles

Robbie Laylay

Gail Cairns

Wilinggin Board

Yurriyangem Taam

Zainel Bin Bisu

Dambimangari

Paul Morgan

Geofrey Doyle

Shire of Derby, West Kimberley

Peter McCumstie

Mark Chadwick

Jess Karlson

Dale Putland

Angie Dickinson

Kimberley Land Council

Jaime Parriman

Others

Doodie D'Antoine

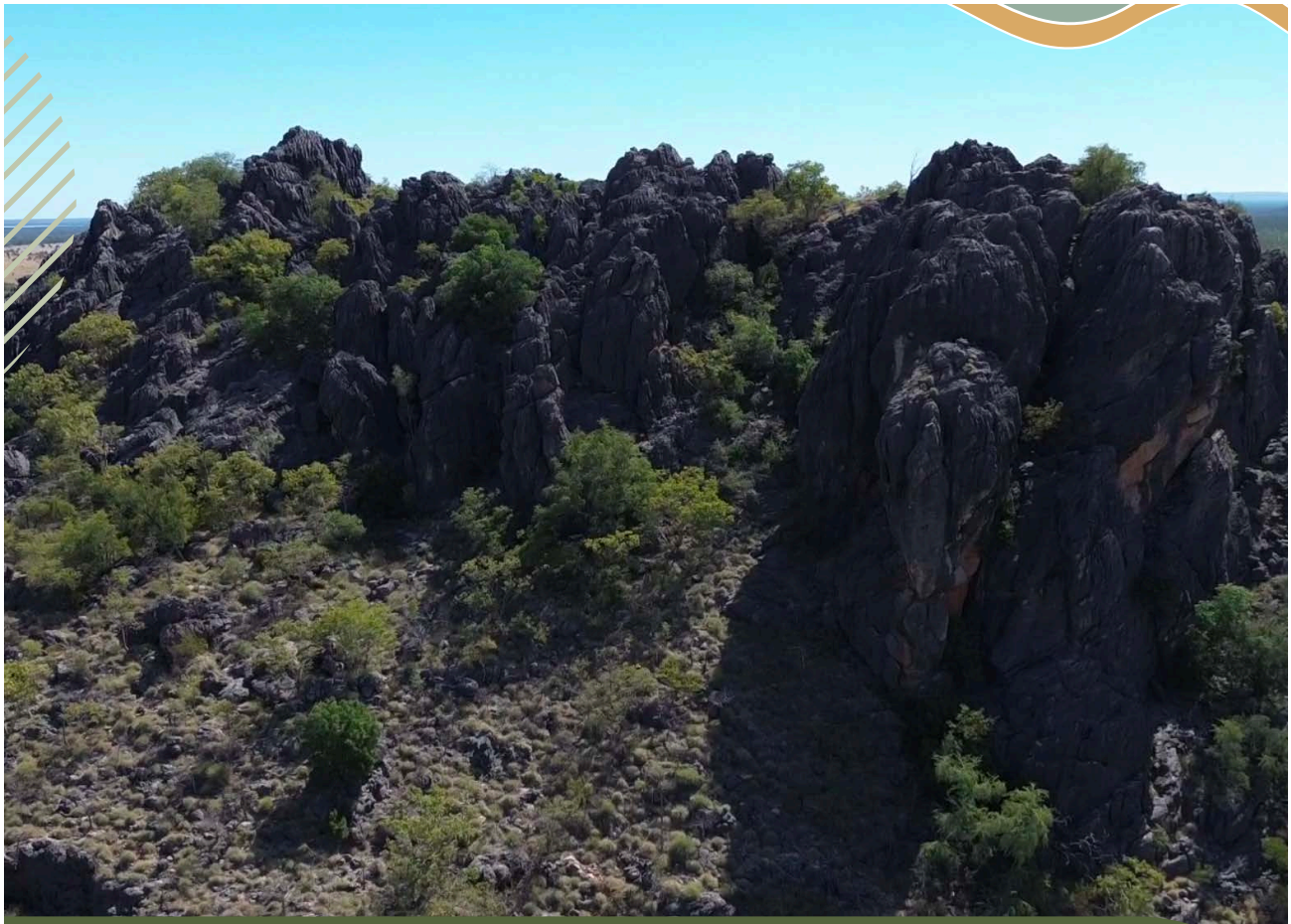
Gabriel Rose



Poulton Pool proposed to be Mumdamah, Warrwa Country



The Bench proposed to be Liymba, Ngarinyin Country



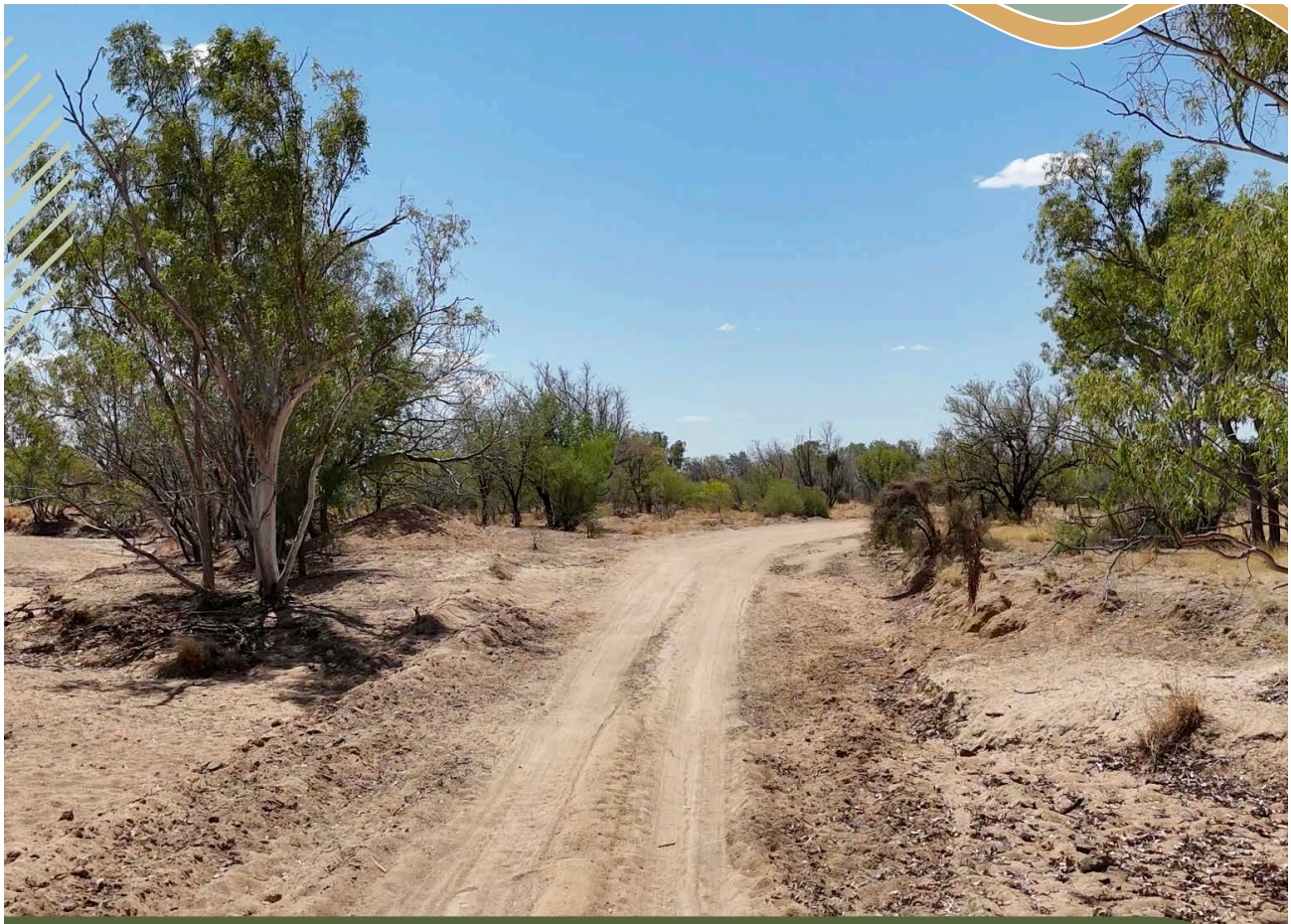
Reference Documentation

Appendices

01 VR01 Milestones Reset

Documents Submitted to Landgate

- Final Governance & Activity Tracking Spreadsheet
- Data & Data Dictionary
- IP & Talent Release Forms
- Written Endorsements – Locality Renaming
- Written Endorsements – Place Names
- Promotional Video



01

VR01 Milestones Reset

NYIKBAR CONSULTING

Landgate
1 Midland Square, Midland, WA 6056
26th June 2024

Attention: Emily Adudu – Contract Manager

Re: LG01592024 King Leopold Ranges Locality Renaming Project
VR01 Milestones Reset Rev 2

Dear Emily,

We are pleased to submit our revised variation claim VR01 for a reset of milestones including time and costs as outlined below.

This revision incorporates potential additional costs in Milestone 9 and proposed approach per our phone conversation yesterday.

Should you have any queries or require any additional information please do not hesitate to contact us.

Regards,

Charles Prouse & Linton Wright.

Appendix

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ABN: 30 650 890 823

NYIKBAR CONSULTING

Variation Description:

This revised variation outlines the basis, timeline changes and costs associated with a reset of contract milestones currently detailed in Landgate contract LG01592024 Attachment A.

The driver for this variation is a change to the governance process required to both obtain and validate necessary information to rename the King Leopold Ranges locality in a manner that yields an outcome satisfactory to the numerous parties involved.

Basis of Variation:

Under the original governance process outlined in the Project Plan the key steps can be summarised as;

1. Make contact with the nominated PBC's,
2. Conduct one field trip with language speakers to obtain required information (name(s), audio and video),
3. Compile post field trip report,
4. Present findings in person to stakeholders,
5. Provide final written endorsement of recommended name(s),
6. Prepare and deliver final written report for Shire of Derby West Kimberley to present to council for endorsement and Landgate to implement name change.

Appendix

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ABN: 30 650 890 823

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The table below shows current project status with respect to PBC Boards and link to the governance process. Project engagement has also been undertaken with the Shire of Derby, KLC and KLRC. Note that a full summary of work undertaken to date along with all engagements and background information will be provided in our Interim Report.

	Governance Link ->	**How we got the message across - initial engagement, project background & details - project brief**		**Approval**
Entity	**Role in Project**	**Initial Contact**	**Board Meeting #1**	**Board Meeting #2**
Warrwa Aboriginal Corporation	Place Naming Rights	Gail Williams Managing Director	TBC	TBC
Dambimangari Aboriginal Corporation	Place Naming Rights	CEO	24 August 2024	TBC
Wilinggin Aboriginal Corporation	Locality Naming Rights	CEO, Data Manager and two members	15 August 2024	15 November 2024
Bunuba Aboriginal Corporation	Locality Naming Rights	CEO & Governance officer. Meeting with NyikBar cancelled due to death in community	TBC	TBC
Gooniyandi	Place Naming Rights	Melissa Wiseman - Manager	Done - Charles & Neville attended board meeting 22nd May and presented - verbally, maps distributed, brief distributed	TBC
Yurriiyangem Taam	Place Naming Rights	Chair - Zainel Bin Busu	N/A	N/A

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The flow on effect of these factors is that to obtain a name(s) with genuine endorsement a governance process with the following key steps is required (in addition to work already conducted and Interim Report);

1. Make contact with balance of the nominated PBC's,
2. Presentation to PBC Boards (with the exception of Gooniyandi, presentation done) for agreement to participate and securing of dates for field trips,
3. Conduct additional three field trips (Gooniyandi, Wilinggan & Bunuba) with language speakers to obtain balance of required information (name(s), audio and video),
4. Compile post field trips Final Report,
5. Present findings in person to stakeholders,
6. Obtain approval from all PBC Boards of name(s),
7. Provide final written endorsement of recommended name(s),
8. Prepare and deliver final written report for Shire of Derby West Kimberley to present to council for endorsement and Landgate to implement name change.

Details on proposed integration of this revised governance process and associated costs (both fixed and variable) are shown in further detail below.

Milestones Reset – New Milestones and Fixed Costs Breakdown:

The table below shows new milestones in line with revised governance process alongside original timeline, original payment, variation timeline and variation fixed cost payment.

The post field trip report from the original milestones has been split into two components, an Interim Report (Milestone 5) and a Final Report (Milestone 8). The Payment has also been split into two components however there is no change to the total.

Milestone 6 represents the additional time on the ground in the Kimberley engaging with and presenting to Boards (excepting Gooniyandi which has been done). Listed as "Engagement and Presentations to Boards" in breakdown of costs claim at bottom.

Milestone 7 represents the additional three field trips.

At bottom are the original total payment and variation total payment. The difference between these two is the total fixed costs component of the variation amount claimed.

Note that NyikBar can foresee potential additional costs associated with Milestone 9. These are covered separately below under a different proposed payment model and do not form part of the fixed costs.

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Variation Milestone No.	Deliverables	Original Timeline	Original Payment (Incl. GST)	Variation Timeline	Variation Payment (Incl. GST)
1	Kick-off meeting	N/A - Complete		N/A – Complete	
2	Submission of draft Project Plan	N/A - Complete		N/A - Complete	
3	Submission of revised and final Project Plan	N/A - Complete		N/A - Complete	
4	Initial data collection field trip, consultation & engagement	Sunday 19th – Saturday 25th May (Complete)		Sunday 19th – Saturday 25th May (Complete)	
5	Post initial field trip Interim Report to Landgate	7th June 2024		19th June 2024	
6	Engaging with and presenting to remaining PBC boards for agreement to participate and securing dates for field trips. Warrwa Dambimangari Wilinggin Bunuba	N/A – New Milestone	N/A – New Milestone	August/September 2024	
7	Additional field trips (3 off) for Gooniyandi, Wilinggin & Bunuba	N/A – New Milestone	N/A – New Milestone	August 15th to October 1st 2024	
8	Post additional field trips Final Report to Landgate	N/A – New Milestone	N/A – New Milestone	October 2024	

Appendix

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ABN: 30 650 890 823

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9	Delivery of in-person presentation of findings to Landgate, the Shire of Derby/West Kimberley, Prescribed Body Corporate/s, Kimberley Language Resource Centre, and Kimberley Land Council to determine final recommended name/s and boundaries for locality	20th June 2024		October 2024	
10	Obtain and provide final written endorsement of the recommended name/s and boundaries from Prescribed Body Corporate/s to Landgate	12th July 2024		November 2024	
11	Prepare and deliver a final report suitable for the Shire of Derby/West Kimberley to present to Council for endorsement and Landgate to progress the formal naming and boundaries amendments	19th July 2024		9th December 2024	
12	Submission of promotional video	19th July 2024		9th December 2024	
TOTALS (Incl. GST)					

Appendix

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ABN: 30 650 890 823

14 CORPORATE SERVICES

14.1 DEPARTMENT OF TRANSPORT SERVICES - DERBY

File Number: **5085**

Author: **Jill Brazil, Director Corporate Services**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Administrative**

SUMMARY

To obtain Council endorsement to transfer Department of Transport (DoT) licencing services, currently provided by Shire of Derby/West Kimberley at the Derby Administration Centre, to a suitable alternate provider located in the area or for DoT employees to continue the service in its current location.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

Shire of Derby/West Kimberley is a licenced agent for the delivery of the State Government service DoT, and provides limited licencing services including new drivers licence applications, vehicle and plate registrations, vehicle transfers and computer theory tests. The current contract began 1 January 2023 and expires 31 December 2027. These services are available online and also in Broome.

Following a review, together with recent staffing challenges, the Shire has a reduced capacity to provide this service at the previous levels. The Shire recently engaged with Department of Transport Remote Services who currently service Fitzroy Crossing on an ad-hoc basis, but with the view to move to a regular service.

STATUTORY ENVIRONMENT

Road Traffic (Administration) Act 2008 Section 11

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

Minimal commission is received for the delivery of this service that does not adequately cover the cost incurred by the Shire to provide the State Government service.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	1.1 Collaboration and partnership	2.4.2 Collaborate with key agencies, groups and service providers to improve community services, programs and facilities

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Business Interruption: Risk of service interruption if alternative provider is not identified	Unlikely	Moderate	Low	If no alternative provider is identified, the Shire will continue to deliver the service at a reduced level.

CONSULTATION

Internal.

Department of Transport.

COMMENT

State Government is responsible for licencing services in Western Australia which is undertaken by DoT. In regional areas, local governments often deliver this on behalf of DoT to ensure the vital service continues understanding the direct benefit to local community.

The current agreement with DoT for the provision of licensing services in Derby is not transferrable. A new agreement between DoT and an alternate provider is necessary. DoT is required to consider any potentially suitable providers that may be located in the area. This may be done through an open and competitive process, if viable, or a limited process.

Officers have considered how best to ensure access for the community to this service, without detrimental impact on other core local government services.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

Nil

RECOMMENDATION

That Council:

1. **ENDORSES the transfer of the provision of licensing services to an alternative provider in Derby;**
2. **Should a suitable provider not be identified, DIRECT the Chief Executive Officer to negotiate a Memorandum of Understanding with the Department of Transport to provide counter space to continue the service; and**
3. **NOTES the Department of Transport's commitment to licensing services not being compromised or diminished in the community.**

14.2 STATEMENT OF FINANCIAL ACTIVITY NOVEMBER 2025

File Number: **5179**

Author: **Aaron Gloor, Acting Manager Corporate Services**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Legislative**

SUMMARY

This report provides a summary of Council's financial position for the period ending 30 November 2025.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

Local governments are required to prepare, on a monthly basis, a statement of financial activity that reports on the Shire's financial performance in relation to its adopted/amended budget.

The Shire's financial reporting framework provides Council, management and employees with a broad overview of the Shire's wide financial position.

STATUTORY ENVIRONMENT

In accordance with the *Local Government Act 1995* and *Local Government (Financial Management) Regulations 1996*, a Statement of Financial Activity is required to be presented to Council as a minimum requirement.

Section 6.4 of the *Local Government Act 1995* provides for the preparation of financial reports.

In accordance with Regulation 34 (5) of the *Local Government (Financial Management) Regulations 1996*, a report must be compiled on variances greater than the materiality threshold adopted by Council of $30,000 or 10% whichever is the greater. As this report is composed at a program level, variance commentary considers the most significant items that comprise the variance.

POLICY IMPLICATIONS

Policy F3 – Significant Accounting Policies

Policy F4 – Sundry Debtors Collection

Policy F5 – Outstanding Rates Collection

Policy F13 – Reserve Accounts

Policy F16 – Cash Flow Management

Policy F17 – Investments

FINANCIAL IMPLICATIONS

Expenditure for the period ending has been incurred in accordance with the 2024/25 Annual Budget as adopted by Council at its meeting held 27 June 2024 (Resolution No. 84/24). The budget is structured on financial viability and sustainability principles.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
1. Leadership and Governance	1.2 Capable, inclusive and effective organisation	1.2.2 Provide strong governance

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Financial: The Shire is exposed to a number of financial risks. Most of these risks exist in respect to recurrent revenue streams which are required to meet current service levels. Any reduction in these revenue stream into the future is likely to have an impact on the Shire's ability to meet service levels or asset renewal funding requirements, unless the Shire can replace this revenue or alternatively reduce costs.	Possible	Moderate	Medium	The completion of the Monthly Financial Activity Statement report is a control that monitors this risk.

CONSULTATION

Internal.

Moore Australia.

COMMENT

Financial integrity is essential to the operational viability of the Shire but also as the custodian of community assets and service provision. An ability to monitor and report on financial operations, activities and capital projects is imperative to ensure that financial risk is managed at acceptable levels. The ability for the Shire to remain financially sustainable is a significant strategy for a region that is continually under pressure from the pastoral industry, private enterprise and State Government obligations for the ongoing development of infrastructure and services. Any material variances are highlighted in the Operating Statement and included by way of note to the Operating Statement (as attached).

Priorities identified in the monthly report are addressed as follows:

Topic - Item	Explanation	Action Required	Shire Comment
Surplus as at year end	There is an estimate deficit between the budget surplus and the actual surplus as at 30 June 2025 of $414,206. Audit adjustments for accrued expenses, payroll liabilities and prepaid rates being recognised after the budget amendments were completed.	Once the annual financial statements have been completed a budget review is required and amendments to the forecast income and expenditure be made.	A budget amendment will be processed to address the early payment of the financial assistance grants.
Operating Expenditure - Insurance	Insurance expenditure of $117,265 has been made for Water Port management insurance and there is no budget allocation.	We recommend a budget amendment adopted by an absolute majority of Council will be required to authorise expenditure.	The budget will be amended during the budget review to rectify this.
Sundry Debtors	Sundry debtors aged trial balance includes invoices totalling $293,623 outstanding for over 90 days with some more than 200 days old.	We recommend reviewing overdue debtor's collection procedures to ensure debtors outstanding for over 30 days are subject to regular review and reminder notices are issued to improve the collection rate.	Debtors are regularly reviewed; this balance is largely comprised of a few large invoices that are subject to ongoing consultation and collection activity.
Operating Expenditure – Depreciation	Depreciation has not been processed in 2025/26	Process asset depreciation once 2024/25 Annual Financial Report has been finalised.	Asset depreciation has now been processed and this will be reflected in December's report.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. Monthly Financial Report - November 2025

RECOMMENDATION

That Council RECEIVE the Monthly Financial Management Reports incorporating the Statement of Financial Activity for the period ending 30 November 2025.

MOORE

Moore Australia

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2 The Esplanade, Perth, WA 6000

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3 December 2025

Ms Tamara Clarkson
Chief Executive Officer
Shire of Derby/West Kimberley
PO Box 94
DERBY WA 6728

Dear Tamara

COMPILATION REPORT TO SHIRE OF DERBY/WEST KIMBERLEY

We have compiled the accompanying special purpose financial report of Shire of Derby/West Kimberley which comprise the statement of financial position as at 30 November 2025, the statement of financial activity, notes providing statement of financial activity supporting information, explanation of material variances for the year then ended and a summary of material accounting policy information. These have been prepared in accordance with *Local Government Act 1995* and associated regulations as described in Note 1 to the financial report. The specific purpose for which the special purpose financial statements have been prepared is also set out in Note 1 of the financial report. We have provided the supplementary information of Shire of Derby/West Kimberley as at 30 November 2025 and for the period then ended based on the records of the Shire of Derby/West Kimberley.

THE RESPONSIBILITY OF SHIRE OF DERBY/WEST KIMBERLEY

The CEO of Shire of Derby/West Kimberley is solely responsible for information contained in the special purpose financial report and supplementary information, the reliability, accuracy and completeness of the information and for the determination that the basis of accounting used is appropriate to meet their needs and for the purpose that the financial report was prepared.

OUR RESPONSIBILITY

On the basis of information provided by Shire of Derby/West Kimberley we have compiled the accompanying special purpose financial report in accordance with the requirements of *APES 315 Compilation of Financial Information* and the *Local Government Act 1995*, associated regulations and to the extent that they are not inconsistent with the *Local Government Act 1995*, the Australian Accounting Standards.

We have applied our expertise in accounting and financial reporting to compile these financial statements in accordance with the basis of accounting described in Note 1 to the financial report except for the matters of non-compliance with the basis of preparation identified with Note 1 of the financial report. We have complied with the relevant ethical requirements of *APES 110 Code of Ethics for Professional Accountants.*

Supplementary information attached to the financial report has been extracted from the records of Shire of Derby/West Kimberley and information presented in the special purpose financial report.

ASSURANCE DISCLAIMER

Since a compilation engagement is not an assurance engagement, we are not required to verify the reliability, accuracy or completeness of the information provided to us by management to compile these financial statements. Accordingly, we do not express an audit opinion or a review conclusion on these financial statements.

The special purpose financial report was compiled exclusively for the benefit of Shire of Derby/West Kimberley who are responsible for the reliability, accuracy and completeness of the information used to compile them. Accordingly, the special purpose financial report may not be suitable for other purposes. We do not accept responsibility for the contents of the special purpose financial report.

NOTE REGARDING BASIS OF PREPARATION

We draw attention to Note 1 to the financial report where matters of non-compliance with the basis of preparation have been detailed. Supplementary information is provided for management information purposes and does not comply with the disclosure requirements of the Australian Accounting Standards.

Russell Barnes
Director
Moore Australia (WA) Pty Ltd

Moore Australia (WA) Pty Ltd trading as agent – ABN 99 433 544 961.
An independent member of Moore Global Network Limited - members in principal cities throughout the world.
Liability limited by a scheme approved under Professional Standards Legislation

SHIRE OF DERBY WEST/KIMBERLEY

MONTHLY FINANCIAL REPORT

(Containing the required statement of financial activity and statement of financial position)

For the period ended 30 November 2025

LOCAL GOVERNMENT ACT 1995
LOCAL GOVERNMENT (FINANCIAL MANAGEMENT) REGULATIONS 1996

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SHIRE OF DERBY WEST/KIMBERLEY
STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 30 NOVEMBER 2025

	Note	Amended Budget Estimates (a)	YTD Budget Estimates (b)	YTD Actual (c)	Variance* $ (c) - (b)	Variance* % ((c) - (b))/(b)	Var.
		$	$	$	$	%	
OPERATING ACTIVITIES							
Revenue from operating activities							
General rates		10,125,245	10,074,137	**10,043,560**	(30,577)	(0.30%)	▼
Grants, subsidies and contributions		8,358,084	4,545,535	**4,383,756**	(161,779)	(3.56%)	▼
Fees and charges		4,355,293	3,595,622	**3,993,700**	398,078	11.07%	▲
Interest revenue		165,240	68,850	**209,380**	140,530	204.11%	▲
Other revenue		2,636,240	1,150,932	**2,052,642**	901,710	78.35%	▲
Profit on asset disposals		24,055	0	**0**	0	0.00%	
		25,664,157	**19,435,076**	**20,683,038**	**1,247,962**	6.42%	
Expenditure from operating activities							
Employee costs		(10,885,727)	(5,200,957)	**(4,754,603)**	446,354	8.58%	▲
Materials and contracts		(14,019,862)	(5,662,817)	**(6,904,152)**	(1,241,335)	(21.92%)	▼
Utility charges		(883,650)	(369,648)	**(320,781)**	48,867	13.22%	▲
Depreciation		(8,029,276)	(3,219,414)	**0**	3,219,414	100.00%	▲
Finance costs		(331,226)	(60,335)	**(63,771)**	(3,436)	(5.69%)	
Insurance		(856,069)	(856,069)	**(859,660)**	(3,591)	(0.42%)	
Other expenditure		(743,405)	(535,314)	**(181,045)**	354,269	66.18%	▲
		(35,749,215)	**(15,904,554)**	**(13,084,012)**	**2,820,542**	17.73%	
Non cash amounts excluded from operating activities	2(c)	8,005,221	3,219,414	**0**	(3,219,414)	(100.00%)	▼
Amount attributable to operating activities		**(2,079,837)**	**6,749,936**	**7,599,026**	**849,090**	12.58%	
INVESTING ACTIVITIES							
Inflows from investing activities							
Proceeds from capital grants, subsidies and contributions		15,658,333	6,481,880	**2,119,912**	(4,361,968)	(67.29%)	▼
Proceeds from disposal of assets		53,000	0	**0**	0	0.00%	
		15,711,333	**6,481,880**	**2,119,912**	**(4,361,968)**	(67.29%)	
Outflows from investing activities							
Acquisition of property, plant and equipment		(2,138,674)	(891,115)	**(227,859)**	663,256	74.43%	▲
Acquisition of infrastructure		(15,348,334)	(6,395,140)	**(3,241,196)**	3,153,944	49.32%	▲
		(17,487,008)	**(7,286,255)**	**(3,469,055)**	**3,817,200**	52.39%	
Amount attributable to investing activities		**(1,775,675)**	**(804,375)**	**(1,349,143)**	**(544,768)**	(67.73%)	
FINANCING ACTIVITIES							
Inflows from financing activities							
Transfer from reserves		1,221,336	0	**0**	0	0.00%	
		1,221,336	**0**	**0**	**0**	0.00%	
Outflows from financing activities							
Repayment of borrowings		(993,636)	0	**(3,030,497)**	(3,030,497)	0.00%	▼
Transfer to reserves		(1,150,707)	0	**0**	0	0.00%	
		(2,144,343)	**0**	**(3,030,497)**	**(3,030,497)**	0.00%	
Amount attributable to financing activities		**(923,007)**	**0**	**(3,030,497)**	**(3,030,497)**	0.00%	
MOVEMENT IN SURPLUS OR DEFICIT							
Surplus or deficit at the start of the financial year	2(a)	4,778,519	4,778,519	**4,364,313**	(414,206)	(8.67%)	▼
Amount attributable to operating activities		(2,079,837)	6,749,936	**7,599,026**	849,090	12.58%	▲
Amount attributable to investing activities		(1,775,675)	(804,375)	**(1,349,143)**	(544,768)	(67.73%)	▼
Amount attributable to financing activities		(923,007)	0	**(3,030,497)**	(3,030,497)	0.00%	▼
Surplus or deficit after imposition of general rates		**0**	**10,724,080**	**7,583,699**	**(3,140,381)**	(29.28%)	▼

KEY INFORMATION

▲▼ Indicates a variance between Year to Date (YTD) Budget and YTD Actual data outside the adopted materiality threshold.
▲ Indicates a variance with a positive impact on the financial position.
▼ Indicates a variance with a negative impact on the financial position.
Refer to Note 3 for an explanation of the reasons for the variance.

This statement is to be read in conjunction with the accompanying notes.

SHIRE OF DERBY WEST/KIMBERLEY
STATEMENT OF FINANCIAL POSITION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

	Actual 30 June 2025	Actual as at 30 November 2025
	$	$
CURRENT ASSETS		
Cash and cash equivalents	8,449,148	8,956,810
Trade and other receivables	2,424,836	4,436,906
Other financial assets	975,801	975,801
Inventories	24,789	43,226
Other assets	135,982	0
TOTAL CURRENT ASSETS	12,010,556	14,412,743
NON-CURRENT ASSETS		
Trade and other receivables	130,611	130,611
Property, plant and equipment	48,578,807	48,806,666
Infrastructure	308,300,393	311,541,589
TOTAL NON-CURRENT ASSETS	357,009,811	360,478,866
TOTAL ASSETS	369,020,367	374,891,609
CURRENT LIABILITIES		
Trade and other payables	4,563,106	2,587,065
Contract liabilities	106,218	349,409
Capital grant/contributions liabilities	1,187,743	2,103,394
Borrowings	5,394,024	2,363,527
Employee related provisions	1,215,816	1,215,816
TOTAL CURRENT LIABILITIES	12,466,907	8,619,211
NON-CURRENT LIABILITIES		
Borrowings	1,514,354	1,514,354
Employee related provisions	214,776	214,776
Other provisions	14,154,261	14,154,261
TOTAL NON-CURRENT LIABILITIES	15,883,391	15,883,391
TOTAL LIABILITIES	28,350,298	24,502,602
NET ASSETS	**340,670,069**	**350,389,007**
EQUITY		
Retained surplus	60,425,322	70,144,260
Reserve accounts	975,801	975,801
Revaluation surplus	279,268,946	279,268,946
TOTAL EQUITY	**340,670,069**	**350,389,007**

This statement is to be read in conjunction with the accompanying notes.

SHIRE OF DERBY WEST/KIMBERLEY
NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 30 NOVEMBER 2025

1 BASIS OF PREPARATION AND MATERIAL ACCOUNTING POLICIES

BASIS OF PREPARATION

This prescribed financial report has been prepared in accordance with the *Local Government Act 1995* and accompanying regulations.

Local Government Act 1995 requirements
Section 6.4(2) of the Local Government Act 1995 read with the *Local Government (Financial Management) Regulations 1996,* prescribe that the financial report be prepared in accordance with the *Local Government Act 1995* and, to the extent that they are not inconsistent with the Act, the Australian Accounting Standards. The Australian Accounting Standards (as they apply to local governments and not-for-profit entities) and Interpretations of the Australian Accounting Standards Board were applied where no inconsistencies exist.

The *Local Government (Financial Management) Regulations 1996* specify that vested land is a right-of-use asset to be measured at cost, and is considered a zero cost concessionary lease. All right-of-use assets under zero cost concessionary leases are measured at zero cost rather than at fair value, except for vested improvements on concessionary land leases such as roads, buildings or other infrastructure which continue to be reported at fair value, as opposed to the vested land which is measured at zero cost. The measurement of vested improvements at fair value is a departure from AASB 16 which would have required the Shire to measure any vested improvements at zero cost.

Local Government (Financial Management) Regulations 1996, regulation 34 prescribes contents of the financial report. Supplementary information does not form part of the financial report.

Accounting policies which have been adopted in the preparation of this financial report have been consistently applied unless stated otherwise. Except for cash flow and rate setting information, the financial report has been prepared on the accrual basis and is based on historical costs, modified, where applicable, by the measurement at fair value of selected non-current assets, financial assets and liabilities.

PREPARATION TIMING AND REVIEW

Date prepared: All known transactions up to 02 December 2025

Matters of non-compliance with Basis of Preparation
1. Depreciation has not been raised during the current financial year.

THE LOCAL GOVERNMENT REPORTING ENTITY
All funds through which the Shire controls resources to carry on its functions have been included in the financial statements forming part of this financial report.

All monies held in the Trust Fund are excluded from the financial statements.

MATERIAL ACCOUNTING POLICES
Material accounting policies utilised in the preparation of these statements are as described within the 2025-26 Annual Budget. Please refer to the adopted budget document for details of these policies.

Critical accounting estimates and judgements
The preparation of a financial report in conformity with Australian Accounting Standards requires management to make judgements, estimates and assumptions that effect the application of policies and reported amounts of assets and liabilities, income and expenses.

The estimates and associated assumptions are based on historical experience and various other factors believed to be reasonable under the circumstances; the results of which form the basis of making the judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

As with all estimates, the use of different assumptions could lead to material changes in the amounts reported in the financial report.

The following are estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year and further information on their nature and impact can be found in the relevant note:
- Fair value measurement of assets carried at reportable value including:
  - Property, plant and equipment
  - Infrastructure
- Impairment losses of non-financial assets
- Measurement of employee benefits
- Measurement of provisions

SHIRE OF DERBY WEST/KIMBERLEY
NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 30 NOVEMBER 2025

2 NET CURRENT ASSETS INFORMATION

(a) Net current assets used in the Statement of Financial Activity

	Note	Amended Budget Opening 1 July 2025	Actual as at 30 June 2025	Actual as at 30 November 202
Current assets		$	$	$
Cash and cash equivalents		8,449,248	8,449,148	8,956,81
Trade and other receivables		2,474,369	2,424,836	4,436,90
Other financial assets		975,801	975,801	975,80
Inventories		24,789	24,789	43,22
Other assets		63,012	135,982	
		11,987,219	12,010,556	14,412,74
Less: current liabilities				
Trade and other payables		(4,127,685)	(4,563,106)	(2,587,065
Other liabilities		(1,293,961)	(1,293,961)	(2,452,803
Borrowings		(5,394,024)	(5,394,024)	(2,363,527
Employee related provisions		(1,213,694)	(1,215,816)	(1,215,816
		(12,029,364)	(12,466,907)	(8,619,21
Net current assets		(42,145)	(456,351)	5,793,53
Less: Total adjustments to net current assets	2(b)	4,820,664	4,820,664	1,790,16
Closing funding surplus / (deficit)		**4,778,519**	**4,364,313**	**7,583,69**

(b) Current assets and liabilities excluded from budgeted deficiency

Adjustments to net current assets				
Less: Reserve accounts		(975,801)	(975,801)	(975,80
Add: Current liabilities not expected to be cleared at the end of the year				
- Current portion of borrowings		5,394,024	5,394,024	2,363,52
- Current portion of employee benefit provisions held in reserve		402,441	402,441	402,44
Total adjustments to net current assets	2(a)	**4,820,664**	**4,820,664**	**1,790,16**

(c) Non-cash amounts excluded from operating activities

	Amended Budget Estimates 30 June 2026	YTD Budget Estimates 30 November 2025	YTD Actual 30 November 202
	$	$	$
Adjustments to operating activities			
Less: Profit on asset disposals	(24,055)	0	
Add: Depreciation	8,029,276	3,219,414	
Total non-cash amounts excluded from operating activities	**8,005,221**	**3,219,414**	

CURRENT AND NON-CURRENT CLASSIFICATION

In the determination of whether an asset or liability is current or non-current, consideration is given to the time when each asset or liability is expected to be settled. Unless otherwise stated assets or liabilities are classified as current if expected to be settled within the next 12 months, being the local governments' operational cycle.

SHIRE OF DERBY WEST/KIMBERLEY
NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 30 NOVEMBER 2025

3 EXPLANATION OF MATERIAL VARIANCES

The material variance thresholds are adopted annually by Council as an indicator of whether the actual expenditure or revenue varies from the year to date actual materially.
The material variance adopted by Council for the 2025-26 year is $30,000 or 10.00% whichever is the greater.

Description	Var. $	Var. %	
	$	%	
Revenue from operating activities			
General rates	**(30,577)**	**(0.30%)**	▼
Timing of interim rates to be raised		Timing	
Grants, subsidies and contributions	**(161,779)**	**(3.56%)**	▼
YTD Budget timing of Financial Assistance Grants is lower than YTD budget estimate . Unbudgeted grants and reimbursements received for AGRN 1044, Orphan Road and Aboriginal access roads.		Timing	
Fees and charges	**398,078**	**11.07%**	▲
Fees from domestic refuse collection raised with rates received more than budgeted.		Permanent	
Water fees and charges of $494,857 not budgeted.			
Commercial tipping fees $330,846 below YTD budget.		Timing	
Interest revenue	**140,530**	**204.11%**	▲
Penalty interest on rates lower than YTD budget.		Timing	
Interest earnings on municipal investments and sundry debtor penalties higher than budget.		Permanent	
Other revenue	**901,710**	**78.35%**	▲
Other recreation, other culture and water income received lower than YTD budget.		Timing	
Private works reimbursement received higher than YTD budget.			
Other income fire, welfare revenue and recreation other received higher than budget.		Permanent	
Expenditure from operating activities			
Employee costs	**446,354**	**8.58%**	▲
Expenditure savings due to vacant positions.		Timing	
Materials and contracts	**(1,241,335)**	**(21.92%)**	▼
Expenditure on private works is higher than budget		Permanent	
ROADM - Maintenance/Operations, Built Up Areas, waste collection, sanitation other YTD actual is lower than YTD budget.		Timing	
Utility charges	**48,867**	**13.22%**	▲
Public conveniences and port management higher than budget.		Permanent	
Staff housing, recreation facilities, and aerodrome YTD actual lower than YTD budget.		Timing	
Depreciation	**3,219,414**	**100.00%**	▲
Depreciation has not yet been run. Awaiting finalisation of prior year audit.		Timing	
Other expenditure	**354,269**	**66.18%**	▲
Member sitting fees and other recreation facilities higher than budget.		Permanent	
Member allowances, election expenditure, aerodrome, water and provate works YTD actual lower than YTD budget.		Timing	
Non cash amounts excluded from operating activities	**(3,219,414)**	**(100.00%)**	▼
Depreciation has not yet been run. Awaiting finalisation of prior year audit.			
Inflows from investing activities			
Proceeds from capital grants, subsidies and contributions	**(4,361,968)**	**(67.29%)**	▼
AGRN claims still to be approved. Infrastructure works to be undertaken before grants are recognised. RRG and RTR grants still to be received.			
Outflows from investing activities			
Acquisition of property, plant and equipment	**663,256**	**74.43%**	▲
Acquisition of property, plant and equipment not made yet.		Timing	
Acquisition of infrastructure	**3,153,944**	**49.32%**	▲
Infrastructure works on drainage and airports yet to be undertaken. Some roadworks jobs not yet started.		Timing	
Outflows from financing activities			
Repayment of borrowings	**(3,030,497)**	**0.00%**	▼
Borrowing repayments drawn from account to be redrawn.			
Surplus or deficit at the start of the financial year	**(414,206)**	**(8.67%)**	▼
2024-25 Audit adjustments.			
Surplus or deficit after imposition of general rates	**(3,140,381)**	**(29.28%)**	▼
Net adjustments described above.			

SHIRE OF DERBY WEST/KIMBERLEY

SUPPLEMENTARY INFORMATION

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BASIS OF PREPARATION - SUPPLEMENTARY INFORMATION

Supplementary information is presented for information purposes. The information does not comply with the disclosure requirements of the Australian Accounting Standards.

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

1 KEY INFORMATION

Funding Surplus or Deficit Components

Funding surplus / (deficit)

	Amended Budget	YTD Budget (a)	YTD Actual (b)	Var. $ (b)-(a)
Opening	$4.78 M	$4.78 M	$4.36 M	($0.41 M)
Closing	$0.00 M	$10.72 M	$7.58 M	($3.14 M)

Refer to Statement of Financial Activity

Cash and cash equivalents

	$9.93 M	% of total
Unrestricted Cash	$8.96 M	90.2%
Restricted Cash	$0.98 M	9.8%

Refer to 3 - Cash and Financial Assets

Payables

	$2.59 M	% Outstanding
Trade Payables	$1.66 M	
0 to 30 Days		59.7%
Over 30 Days		40.3%
Over 90 Days		2.7%

Refer to 9 - Payables

Receivables

	$1.53 M	% Collected
Rates Receivable	$2.91 M	71.7%
Trade Receivable	$1.53 M	% Outstanding
Over 30 Days		24.4%
Over 90 Days		20.0%

Refer to 7 - Receivables

Key Operating Activities

Amount attributable to operating activities

Amended Budget	YTD Budget (a)	YTD Actual (b)	Var. $ (b)-(a)
($2.08 M)	$6.75 M	$7.60 M	$0.85 M

Refer to Statement of Financial Activity

Rates Revenue

YTD Actual	$10.04 M	% Variance
YTD Budget	$10.07 M	(0.3%)

Grants and Contributions

YTD Actual	$4.38 M	% Variance
YTD Budget	$4.55 M	(3.6%)

Refer to 12 - Grants and Contributions

Fees and Charges

YTD Actual	$3.99 M	% Variance
YTD Budget	$3.60 M	11.1%

Refer to Statement of Financial Activity

Key Investing Activities

Amount attributable to investing activities

Amended Budget	YTD Budget (a)	YTD Actual (b)	Var. $ (b)-(a)
($1.78 M)	($0.80 M)	($1.35 M)	($0.54 M)

Refer to Statement of Financial Activity

Proceeds on sale

YTD Actual	$0.00 M	%
Amended Budget	$0.05 M	(100.0%)

Refer to 6 - Disposal of Assets

Asset Acquisition

YTD Actual	$3.24 M	% Spent
Amended Budget	$15.35 M	(78.9%)

Refer to 5 - Capital Acquisitions

Capital Grants

YTD Actual	$2.12 M	% Received
Amended Budget	$15.66 M	(86.5%)

Refer to 5 - Capital Acquisitions

Key Financing Activities

Amount attributable to financing activities

Amended Budget	YTD Budget (a)	YTD Actual (b)	Var. $ (b)-(a)
($0.92 M)	$0.00 M	($3.03 M)	($3.03 M)

Refer to Statement of Financial Activity

Borrowings

Principal repayments	($3.03 M)
Interest expense	$0.06 M
Principal due	$3.88 M

Refer to 10 - Borrowings

Reserves

Reserves balance	$0.98 M
Net Movement	$0.00 M

Refer to 4 - Cash Reserves

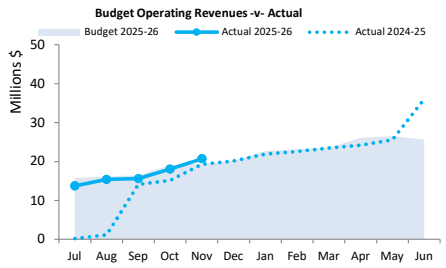
This information is to be read in conjunction with the accompanying Financial Statements and notes.

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

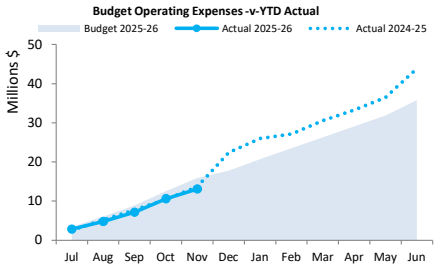
2 KEY INFORMATION - GRAPHICAL

OPERATING ACTIVITIES

OPERATING REVENUE

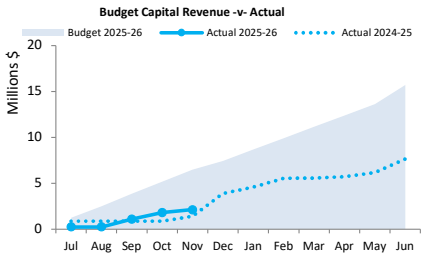


OPERATING EXPENSES

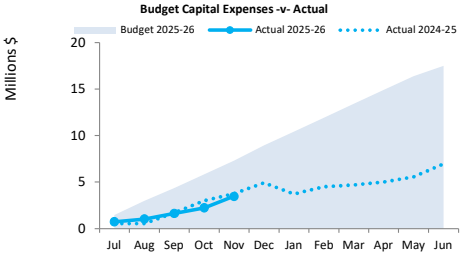


INVESTING ACTIVITIES

CAPITAL REVENUE

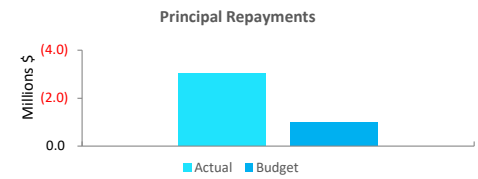


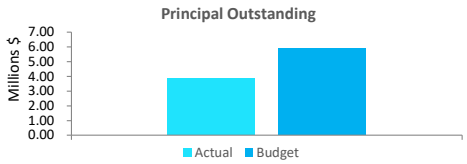
CAPITAL EXPENSES



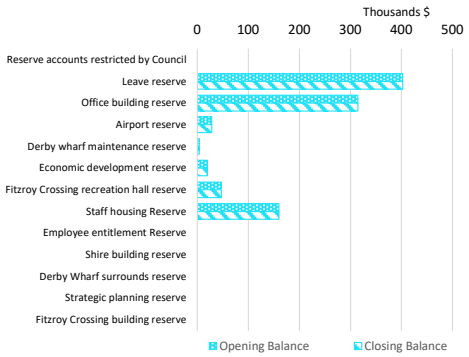
FINANCING ACTIVITIES

BORROWINGS

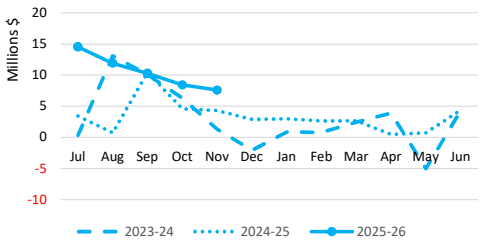




RESERVES



Closing funding surplus / (deficit)



This information is to be read in conjunction with the accompanying Financial Statements and Notes.

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

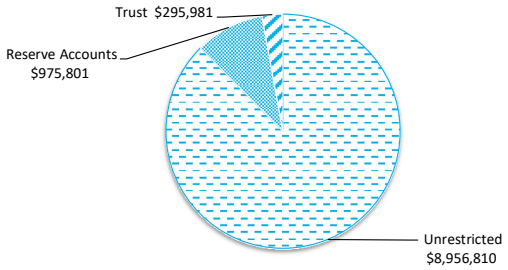
3 CASH AND FINANCIAL ASSETS AT AMORTISED COST

Description	Classification	Unrestricted	Reserve Accounts	Total	Trust	Institution	Interest Rate	Maturity Date
		$	$	$	$			
Cash On Hand	Cash and cash equivalents	900	0	900	0	Cash on Hand	Nil	Nil
Municipal Bank Account	Cash and cash equivalents	3,428,737	0	3,428,737	0	ANZ	Variable	Nil
CBA Bank Acc - Fitzroy Deposits	Cash and cash equivalents	174,100	0	174,100	0	CBA	Nil	Nil
Municipal Investment Account	Cash and cash equivalents	5,353,073	0	5,353,073	0	ANZ	Variable	Nil
Reserve Bank Account	Financial assets at amortised cost	0	975,801	975,801	0	ANZ	3.80%	07/2026
Trust Cash at Bank	Cash and cash equivalents	0	0	0	295,981	ANZ	Nil	Nil
Total		**8,956,810**	**975,801**	**9,932,611**	**295,981**			
Comprising								
Cash and cash equivalents		8,956,810	0	8,956,810	295,981			
Financial assets at amortised cost - Term Deposits		0	975,801	975,801	0			
		8,956,810	**975,801**	**9,932,611**	**295,981**			

KEY INFORMATION
Cash and cash equivalents include cash on hand, cash at bank, deposits available on demand with banks and other short term highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.
Bank overdrafts are reported as short term borrowings in current liabilities in the statement of net current assets.

The local government classifies financial assets at amortised cost if both of the following criteria are met:
- the asset is held within a business model whose objective is to collect the contractual cashflows, and
- the contractual terms give rise to cash flows that are solely payments of principal and interest.

Financial assets at amortised cost held with registered financial institutions are listed in this note other financial assets at amortised cost are provided in Note 8 - Other assets.



SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

4 RESERVE ACCOUNTS

	Budget				Actual			
Reserve account name	Opening Balance	Transfers In (+)	Transfers Out (-)	Closing Balance	Opening Balance	Transfers In (+)	Transfers Out (-)	Closing Balance
	$	$	$	$	$	$	$	$
Reserve accounts restricted by Council								
Leave reserve	402,441	0	(402,441)	0	402,441	0	0	402,44
Office building reserve	314,511	0	(314,511)	0	314,511	0	0	314,5
Airport reserve	28,456	0	(28,456)	0	28,456	0	0	28,45
Derby wharf maintenance reserve	3,721	0	(3,721)	0	3,721	0	0	3,72
Economic development reserve	19,935	0	(19,935)	0	19,935	0	0	19,93
Fitzroy Crossing recreation hall reserve	46,772	0	(46,772)	0	46,772	0	0	46,77
Staff housing Reserve	159,965	0	(75,500)	84,465	159,965	0	0	159,96
Employee entitlement Reserve	0	402,441	0	402,441	0	0	0	
Shire building reserve	0	314,511	(220,000)	94,511	0	0	0	
Derby Wharf surrounds reserve	0	3,721	0	3,721	0	0	0	
Strategic planning reserve	0	383,262	(90,000)	293,262	0	0	0	
Fitzroy Crossing building reserve	0	46,772	(20,000)	26,772	0	0	0	
	975,801	**1,150,707**	**(1,221,336)**	**905,172**	**975,801**	**0**	**0**	**975,8**

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

5 CAPITAL ACQUISITIONS

Capital acquisitions	Amended Budget	YTD Budget	YTD Actual	YTD Variance
	$	$	$	$
Buildings	1,859,042	774,602	223,840	(550,762
Plant & Equipment	279,632	116,513	4,019	(112,494
Acquisition of property, plant and equipment	**2,138,674**	**891,115**	**227,859**	**(663,256**
Infrastructure Roads	9,276,674	3,865,280	1,606,783	(2,258,497
Infrastructure Drainage	250,000	104,167	0	(104,167
Infrastructure Airports	200,000	83,333	0	(83,333
Infrastructure Other	5,621,660	2,342,360	1,634,413	(707,947
Acquisition of infrastructure	**15,348,334**	**6,395,140**	**3,241,196**	**(3,153,944**
Total capital acquisitions	**17,487,008**	**7,286,255**	**3,469,055**	**(3,817,200**
Capital Acquisitions Funded By:				
Capital grants and contributions	15,658,333	6,481,880	2,119,912	(4,361,968
Other (disposals & C/Fwd)	53,000	0	0	
Reserve accounts				
Staff housing Reserve	75,500	0	0	
Shire building reserve	220,000	0	0	
Strategic planning reserve	90,000	0	0	
Fitzroy Crossing building reserve	20,000	0	0	
Contribution - operations	1,370,175	804,375	1,349,143	544,76
Capital funding total	**17,487,008**	**7,286,255**	**3,469,055**	**(3,817,200**

KEY INFORMATION

Initial recognition

An item of property, plant and equipment or infrastructure that qualifies for recognition as an asset is measured at its cost.

Upon initial recognition, cost is determined as the amount paid (or other consideration given) to acquire the assets, plus costs incidental to the acquisition. The cost of non-current assets constructed by the Shire includes the cost of all materials used in construction, direct labour on the project and an appropriate proportion of variable and fixed overheads. For assets acquired at zero cost or otherwise significantly less than fair value, cost is determined as fair value at the date of acquisition.

Assets for which the fair value as at the date of acquisition is under $5,000 are not recognised as an asset in accordance with *Local Government (Financial Management) Regulation 17A(5)*. These assets are expensed immediately.

Where multiple individual low value assets are purchased together as part of a larger asset or collectively forming a larger asset exceeding the threshold, the individual assets are recognised as one asset and capitalised.

Individual assets that are land, buildings and infrastructure acquired between scheduled revaluation dates of the asset class in accordance with the Shire's revaluation policy, are recognised at cost and disclosed as being at reportable value.

Measurement after recognition

Plant and equipment including furniture and equipment and right-of-use assets (other than vested improvements) are measure using the cost model as required under *Local Government (Financial Management) Regulation 17A(2)*. Assets held under the cost model are carried at cost less accumulated depreciation and any impairment losses being their reportable value.

Reportable Value

In accordance with *Local Government (Financial Management) Regulation 17A(2),* the carrying amount of non-financial assets that are land and buildings classified as property, plant and equipment, investment properties, infrastructure or vested improvements that the local government controls.

Reportable value is for the purpose of *Local Government (Financial Management) Regulation 17A(4)* is the fair value of the asset at its last valuation date minus (to the extent applicable) the accumulated depreciation and any accumulated impairment losses in respect of the non-financial asset subsequent to its last valuation date.

SHIRE OF DERBY WEST/KIMBERLEY **INVESTING ACTIVITIES**
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

5 CAPITAL ACQUISITIONS (CONTINUED) - DETAILED

Capital expenditure total
Level of completion indicators

- 0%
- 20%
- 40%
- 60%
- 80%
- 100%
- Over 100%

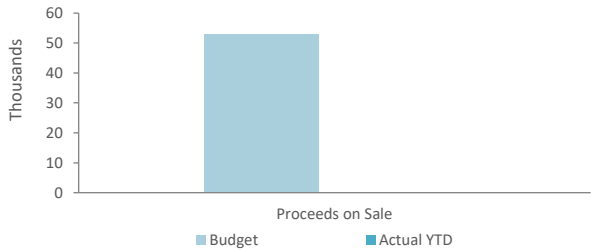
Percentage Year to Date Actual to Annual Budget expenditure where the expenditure over budget highlighted in red.

	Account Description	Amended Current Budget	Year to Date Budget	Year to Date Actual	Variance (Under)/Over
Capital Expenditure					
Buildings					
4040110	MEMBERS - Building (Capital)	22,500	9,376	0	(9,375
4090110	STF HOUSE - Building (Capital)	100,000	41,667	0	(41,667
4110310	REC - Other Rec Facilities Building (Capital)	1,686,542	702,726	223,840	(478,886
4140210	ADMIN - Building (Capital)	50,000	20,833	0	(20,833
Buildings Total		**1,859,042**	**774,602**	**223,840**	**(550,761**
Plant & Equipment					
4140330	PWO - Plant and Equipment (Capital)	279,632	116,513	4,019	(112,494
Plant & Equipment Total		**279,632**	**116,513**	**4,019**	**(112,494**
Infrastructure Roads					
4120140	ROADC - Roads Built Up Area	1,191,221	496,342	0	(496,342
4120142	ROADC - Roads Outside BUA - Gravel	2,972,049	1,238,353	547,804	(690,551
4120168	ROADC - Infrastructure Roads Other	0	0	18,306	18,30
4120172	ROADC - Road Project Grant (RPG)	915,000	381,250	0	(381,250
4120176	ROADC - EPAR Works AGRN 951 (Capital)	4,000,000	1,666,667	903,998	(762,669
4120179	ROADC - DBCA Funds Works (Capital)	198,404	82,668	136,675	54,00
Infrastructure Roads Total		**9,276,674**	**3,865,280**	**1,606,783**	**(2,258,499**
Infrastructure Drainage					
4120165	ROADC - Drainage Built Up Area (Capital)	250,000	104,167	0	(104,167
Infrastructure Drainage Total		**250,000**	**104,167**	**0**	**(104,167**
Infrastructure Airports					
4120690	AERO - Infrastructure Other (Capital)	200,000	83,333	0	(83,333
Infrastructure Airports Total		**200,000**	**83,333**	**0**	**(83,333**
Infrastructure Other					
4110190	HALLS - Infrastructure Other (Capital)	138,524	57,719	32,544	(25,175
4110390	REC - Infrastructure Other (Capital)	5,033,351	2,097,230	1,572,448	(524,782
4110790	OTH CUL - Infrastructure Other (Capital)	160,378	66,824	11,000	(55,824
4120190	ROADC - Infrastructure Other (Capital)	229,557	95,649	10,060	(85,589
4120790	WATER - Infrastructure Other (Capital)	30,000	12,500	8,361	(4,139
4140390	PWO - Infrastructure Other (Capital)	29,850	12,438	0	(12,438
Infrastructure Other Total		**5,621,660**	**2,342,360**	**1,634,413**	**(707,946**
Grand Total		**17,487,008**	**7,286,255**	**3,469,055**	**(3,817,199**

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

6 DISPOSAL OF ASSETS

Asset Ref.	Asset description	Budget Net Book Value	Budget Proceeds	Budget Profit	Budget (Loss)	YTD Actual Net Book Value	YTD Actual Proceeds	YTD Actual Profit	YTD Actual (Loss)
		$	$	$	$	$	$	$	$
	Plant and equipment								
5090	Toyota Hilux	16,620	25,000	8,380	0	0	0	0	
5043	Massey Ferguson 79HP	12,325	26,000	13,675	0	0	0	0	
4868	Howard Slasher - Derby	0	2,000	2,000	0	0	0	0	
		28,945	**53,000**	**24,055**	**0**	**0**	**0**	**0**	

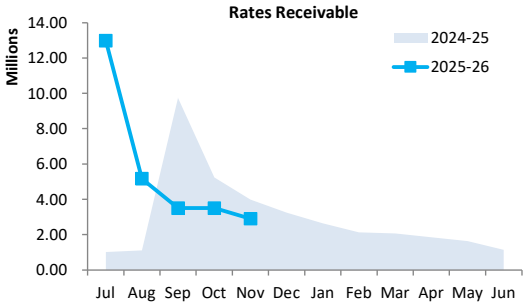


SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

OPERATING ACTIVITIES

7 RECEIVABLES

Rates receivable	30 Jun 2025	30 Nov 2025
	$	$
Opening arrears previous year	1,309,642	1,140,101
Levied this year	9,516,217	10,043,560
Less - collections to date	(9,429,144)	(8,018,282)
Gross rates collectable	**1,396,715**	**3,165,379**
Allowance for impairment of rates receivable	(256,614)	(256,614)
Net rates collectable	**1,140,101**	**2,908,765**
% Collected	87.1%	71.7%



Receivables - general	Credit	Current	30 Days	60 Days	90+ Days	Total
	$	$	$	$	$	$
Receivables - general	(2,528)	1,109,550	32,179	32,746	293,623	1,465,57(
Percentage	(0.2%)	75.7%	2.2%	2.2%	20.0%	
Balance per trial balance						
Trade receivables						1,465,57(
GST receivable						283,29
Allowance for impairment of receivables from contracts with customers						(220,727
Total receivables general outstanding						**1,528,14**

Amounts shown above include GST (where applicable)

KEY INFORMATION

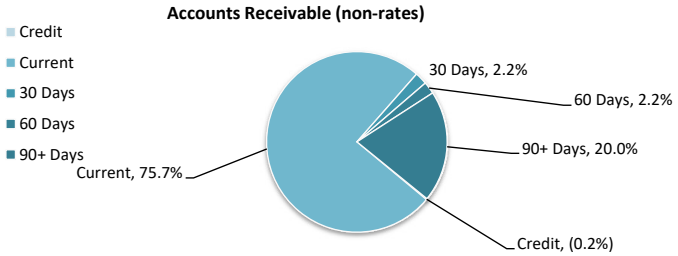
Trade and other receivables include amounts due from ratepayers for unpaid rates and service charges and other amounts due from third parties for goods sold and services performed in the ordinary course of business.

Trade receivables are recognised at original invoice amount less any allowances for uncollectable amounts (i.e. impairment). The carrying amount of net trade receivables is equivalent to fair value as it is due for settlement within 30 days.

Classification and subsequent measurement

Receivables which are generally due for settlement within 30 days except rates receivables which are expected to be collected within 12 months are classified as current assets. All other receivables such as, deferred pensioner rates receivable after the end of the reporting period are classified as non-current assets.

Trade and other receivables are held with the objective to collect the contractual cashflows and therefore the Shire measures them subsequently at amortised cost using the effective interest rate method.



SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

8 OTHER CURRENT ASSETS

Other current assets	Opening Balance 1 July 2025	Asset Increase	Asset Reduction	Closing Balance 30 November 2025
	$	$	$	$
Other financial assets at amortised cost				
Financial assets at amortised cost	975,801	0	0	975,80
Inventory				
Fuel	8,856	60,581	(42,144)	27,29
Stock on hand	15,933	0	0	15,93
Other assets				
Accrued income	135,982	0	(135,982)	
Total other current assets	**1,136,572**	**60,581**	**(178,126)**	**1,019,02**

Amounts shown above include GST (where applicable)

KEY INFORMATION

Other financial assets at amortised cost

The Shire classifies financial assets at amortised cost if both of the following criteria are met:
- the asset is held within a business model whose objective is to collect the contractual cashflows, and
- the contractual terms give rise to cash flows that are solely payments of principal and interest.

Inventory

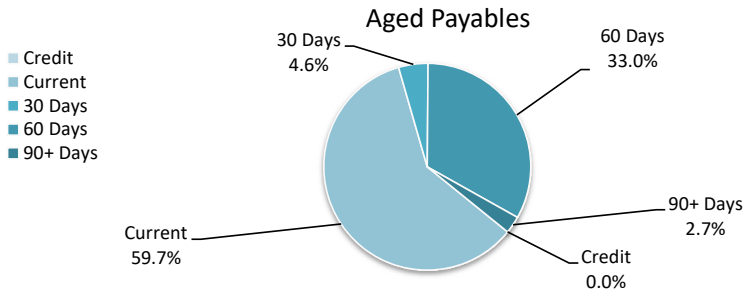
Inventories are measured at the lower of cost and net realisable value.
Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

SHIRE OF DERBY WEST/KIMBERLEY **OPERATING ACTIVITIES**
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

9 PAYABLES

Payables - general	Credit	Current	30 Days	60 Days	90+ Days	Total
	$	$	$	$	$	$
Payables - general	0	990,288	76,869	547,356	44,942	1,659,45
Percentage	0.0%	59.7%	4.6%	33.0%	2.7%	
Balance per trial balance						
Sundry creditors						1,659,45
ATO liabilities						182,98
Other payables						497,18
Payroll creditors						3,65
Prepaid rates						243,78
Total payables general outstanding						**2,587,06**
Amounts shown above include GST (where applicable)						

KEY INFORMATION
Trade and other payables represent liabilities for goods and services provided to the Shire prior to the end of the period that are unpaid and arise when the Shire becomes obliged to make future payments in respect of the purchase of these goods and services. The amounts are unsecured, are recognised as a current liability and are normally paid within 30 days of recognition.
The carrying amounts of trade and other payables are considered to be the same as their fair values, due to their short-term nature.



SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

10 BORROWINGS

Repayments - borrowings

Information on borrowings			New Loans		Principal Repayments		Principal Outstanding		Interest Repayments	
Particulars	Loan No.	1 July 2025	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
		$	$	$	$	$	$	$	$	$
Wharf fenders, boat ramp	145	73,342	0	0	0	(35,433)	73,342	37,909	0	(4,44
Staff Housing	146	352,282	0	0	(30,497)	(61,959)	321,785	290,323	5,212	(21,33
Staff Housing	148	181,570	0	0	0	(22,615)	181,570	158,955	0	(7,90
Derby Visitors Centre	149	226,962	0	0	0	(28,268)	226,962	198,694	0	(9,87
Derby Wharf Infrastructure	151	131,492	0	0	0	(42,524)	131,492	88,968	0	(3,65
Derby Airport & Wharf Infrastructure	152	942,730	0	0	0	(203,226)	942,730	739,504	0	(15,43
Disaster Recovery Flood Damage	Various	5,000,000	0	0	(3,000,000)	(599,611)	2,000,000	4,400,389	58,559	(268,58
Total		**6,908,378**	**0**	**0**	**(3,030,497)**	**(993,636)**	**3,877,881**	**5,914,742**	**63,771**	**(331,22**
Current borrowings		993,636					2,363,527			
Non-current borrowings		5,914,742					1,514,354			
		6,908,378					**3,877,881**			

All debenture repayments were financed by general purpose revenue.

KEY INFORMATION
The Shire has elected to recognise borrowing costs as an expense when incurred regardless of how the borrowings are applied.

Fair values of borrowings are not materially different to their carrying amounts, since the interest payable on those borrowings is either close to current market rates or the borrowings are of a short term nature.

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

11 OTHER CURRENT LIABILITIES

Other current liabilities	Note	Opening Balance 1 July 2025	Liability transferred from/(to) non current	Liability Increase	Liability Reduction	Closing Balance 0 November 20
		$	$	$	$	$
Other liabilities						
Contract liabilities		106,218	0	243,191	0	349,409
Capital grant/contributions liabilities		1,187,743	0	2,079,290	(1,163,639)	2,103,394
Total other liabilities		1,293,961	0	2,322,481	(1,163,639)	2,452,803
Employee Related Provisions						
Provision for annual leave		853,893	0	0	0	853,893
Provision for long service leave		361,923	0	0	0	361,923
Total Provisions		1,215,816	0	0	0	1,215,816
Total other current liabilities		**2,509,777**	**0**	**2,322,481**	**(1,163,639)**	**3,668,619**

Amounts shown above include GST (where applicable)

A breakdown of contract liabilities and associated movements is provided on the following pages at Note 12 and 13

KEY INFORMATION

Provisions

Provisions are recognised when the Shire has a present legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured.
Provisions are measured using the best estimate of the amounts required to settle the obligation at the end of the reporting period.

Employee Related Provisions

Short-term employee benefits

Provision is made for the Shire's obligations for short-term employee benefits. Short-term employee benefits are benefits (other than termination benefits) that are expected to be settled wholly before 12 months after the end of the annual reporting period in which the employees render the related service, including wages, salaries and sick leave. Short-term employee benefits are measured at the (undiscounted) amounts expected to be paid when the obligation is settled.
The Shire's obligations for short-term employee benefits such as wages, salaries and sick leave are recognised as a part of current trade and other payables in the calculation of net current assets.

Other long-term employee benefits

The Shire's obligations for employees' annual leave and long service leave entitlements are recognised as employee related provisions in the statement of financial position.

Long-term employee benefits are measured at the present value of the expected future payments to be made to employees. Expected future payments incorporate anticipated future wage and salary levels, durations of service and employee departures and are discounted at rates determined by reference to market yields at the end of the reporting period on government bonds that have maturity dates that approximate the terms of the obligations. Any remeasurements for changes in assumptions of obligations for other long-term employee benefits are recognised in profit or loss in the periods in which the changes occur. The Shire's obligations for long-term employee benefits are presented as non-current provisions in its statement of financial position, except where the Shire does not have an unconditional right to defer settlement for at least 12 months after the end of the reporting period, in which case the obligations are presented as current provisions.

Contract liabilities

An entity's obligation to transfer goods or services to a customer for which the entity has received consideration (or the amount is due) from the customer.

Capital grant/contribution liabilities

Grants to acquire or construct recognisable non-financial assets to identified specifications be constructed to be controlled by the Shire are recognised as a liability until such time as the Shire satisfies its obligations under the agreement.

SHIRE OF DERBY WEST/KIMBERLEY **OPERATING ACTIVITIES**
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

12 GRANTS, SUBSIDIES AND CONTRIBUTIONS

	Grants, subsidies and contributions revenue		
	Amended Budget Revenue	YTD Budget	YTD Revenue Actual
	$	$	$
Grants and subsidies			
GEN PUR - Financial Assistance Grant - General	4,972,038	3,900,000	2,486,019
MEMBERS - Reimbursements	150,000	150,000	0
OTH HEALTH - Grants	806,057	428,029	262,675
WELFARE - Grants	41,014	17,089	37,746
COM AMEN - Grants	0	0	4,700
LIBRARY - Other Grants	0	0	2,000
OTH CUL - Grants - Other Culture	0	0	5,000
ROADM - Street Lighting Subsidy	21,000	8,750	0
ROADM - Other Income	100,000	41,667	0
ECON DEV - Grants	0	0	4,544
PRIVATE - Private Works Income	0	0	994,231
AGRN 1044 - Recovery - DRAFWA	2,267,975	0	586,841
	8,358,084	**4,545,535**	**4,383,756**

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

13 CAPITAL GRANTS, SUBSIDIES AND CONTRIBUTIONS

	Capital grants, subsidies and contributions revenue		
	Amended Budget Revenue	YTD Budget	YTD Revenue Actual
	$	$	$
Capital grants and subsidies			
AERO - Grants - Aerodromes	800,000	290,908	0
ROADC - Other Grants -- Flood Damage	0	0	759,08
REC - Capital Grants	6,343,517	2,643,131	1,163,63
ROADC - Financial Assistance Grants -- Roads	37,500	15,625	0
ROADC - Regional Road Group Grants (MR WA)	2,602,187	1,084,245	0
ROADC - Roads to Recovery - Grants	1,775,129	739,637	0
ROADC - Other Grants -- Roads/Streets	100,000	41,667	0
ROADC - Other Grants -- Aboriginal Roads	0	0	197,18
ROADC - Grant AGRN 591 & 1044	4,000,000	1,666,667	0
Department of Infra, Transport, RD and Communications	0	0	0
	15,658,333	**6,481,880**	**2,119,91**

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

14 TRUST FUND

Funds held at balance date which are required by legislation to be credited to the trust fund and which are not included in the financial statements are as follows:

Description	Opening Balance 1 July 2025	Amount Received	Amount Paid	Closing Balance 30 November 2025
	$	$	$	$
Public open spaces	295,981	0	0	**295,981**
	295,981	**0**	**0**	**295,981**

SHIRE OF DERBY WEST/KIMBERLEY
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED 30 NOVEMBER 2025

15 BUDGET AMENDMENTS

Amendments to original budget since budget adoption. Surplus/(Deficit)

Description	Council Resolution	Classification	Non Cash Adjustment	Increase in Available Cash	Decrease in Available Cash	Amended Budget Running Balance
			$	$	$	$
Budget adoption						
Revised estimated opening surplus	CC088/25	Opening surplus(deficit)		2,732,969		2,732,9
Financial Assistance grants received in advance	CC088/25	Operating revenue			(4,246,331)	(1,513,36
Financial Assistance grants increase in 25/26 grant	CC088/25	Operating revenue		1,418,369		(94,99
Private works expenditure to be completed	CC088/25	Operating expenses			(615,317)	(710,31
Restructure of loan repayments	CC088/25	Capital revenue		993,637		283,3
Transfer to Strategic Planning reserve	CC088/25	Capital expenses			(283,327)	
Capital grant for project and design of Airstrip	CC074/25	Capital revenue		800,000		800,0
Materials and contracts	CC074/25	Operating expenses			(800,000)	
				5,944,975	**(5,944,975)**	

MOORE

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3 December 2025

Ms Tamara Clarkson
Chief Executive Officer
Shire of Derby/West Kimberley
PO Box 94
DERBY WA 6728

Dear Tamara

MATTERS IDENTIFIED DURING COMPILATION OF STATUTORY MONTHLY FINANCIAL REPORT FOR THE PERIOD ENDED 30 NOVEMBER 2025

We advise we have completed the compilation of your statutory monthly financial report for the period ended 30 November 2025 and identified certain matters additional to those identified in the compilation report we wish to bring to your attention.

We are required under APES 315 *Compilation of Financial Information* to report certain matters in our compilation report and we draw your attention to the note regarding basis of preparation. Other matters which arise during our compilation we wish to bring to your attention are raised in the following pages of this letter along with suggestions to resolve these issues.

It should be appreciated, our procedures are designed primarily to enable us to compile the monthly financial report and therefore may not bring to light all weaknesses in systems and procedures, or all financial matters of interest to management and council, which may exist. However, we aim to use our knowledge of the shire's financial operations gained during our work to make comments and suggestions, which, we hope, will be useful to you.

Should you wish to discuss any matter relating to our service or any other matter, please do not hesitate to contact us.

Yours sincerely

Russell Barnes
Director
Moore Australia (WA) Pty Ltd

MOORE

Shire of Derby/West Kimberley Period ended 30 November 202

Topic	Item	First Identified	Explanation	Action Required	Priority
Surplus as at year end	Surplus at beginning of year for budget	October 2025	There is an estimated deficit between the budget surplus and the actual surplus as at 30 June 2025 of $414,206. Audit adjustments for accrued expenses, payroll liabilities and prepaid rates being recognised after the budget amendments were completed.	Once the annual financial statements have been completed a budget review is required and amendments to the forecast income and expenditure be made.	High
Operating expenditure	Insurance	October 2025	Unbudgeted insurance expenditure of $117,265 has been incurred for Water Port management insurance.	We recommend a budget amendment adopted by an absolute majority of Council will be required to authorise expenditure.	High
Sundry debtors	Outstanding	November 2025	Sundry debtors aged trial balance includes invoices totalling $293,623 outstanding for over 90 days with some more than 200 days old.	We recommend reviewing overdue debtors collection procedures to ensure debtors outstanding for over 30 days are subject to regular review and reminder notices are issued to improve the collection rate.	Medium
Operating expenditure	Depreciation	July 2025	Depreciation has not been processed in 2025/26.	The 2024/25 Annual Financial Report has been finalised, depreciation can be processed.	Medium

14.3 ACCOUNTS FOR PAYMENT - NOVEMBER 2025

File Number: **5110 - Accounts Payable**

Author: **Aaron Gloor, Acting Manager Corporate Services**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Information**

SUMMARY

Council to receive the list of accounts paid under delegated authority during November 2025.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

Council has delegated to the Chief Executive Officer the exercise of its power to make payments from the Shire's municipal and trust funds. In accordance with regulation 13 of the *Local Government (Financial Management) Regulations 1996*, a list of accounts paid by the Chief Executive Office is to be provided to Council.

STATUTORY ENVIRONMENT

Local Government (Financial Management) Regulations 1996

12. Payments from municipal fund or trust fund, restrictions on making

12(1) A payment may only be made from the municipal fund or a trust fund

The Chief Executive Officer has delegated authority to make payments from the municipal and trust funds.

13. Payments from municipal fund or trust fund by CEO, CEO's duties as to etc.

(1) If the local government has delegated to the CEO the exercise of its power to make payments from the municipal fund or the trust fund, a list of accounts paid by the CEO is to be prepared each month showing for each account paid since the last such list was prepared —

(a) the payee's name; and

(b) the amount of the payment; and

(c) the date of the payment; and

(d) sufficient information to identify the transaction.

(2) A list of accounts for approval to be paid is to be prepared each month showing —

(a) for each account which requires Council authorisation in that month —

(i) the payee's name; and

(ii) the amount of the payment; and

(iii) sufficient information to identify the transaction; and

(b) the date of the meeting of the council to which the list is to be presented.

(3) A list prepared under sub regulation (1) or (2) is to be —

(a) presented to the council at the next ordinary meeting of the Council after the list is prepared; and

(b) recorded in the minutes of that meeting.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

All expenditure from the municipal fund was included in the annual budget as adopted or revised by Council.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
1. Leadership and Governance	1.2 Capable, inclusive and effective organisation	1.2.2 Provide strong governance

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Legal & Compliance: In accordance with section 6.8 of *the Local Government Act 1995*, a local government is not to incur expenditure from its municipal fund for an additional purpose except where the expenditure is authorised in advance by an absolute majority of Council.	Rare	Minor	Low	Expenditure to only be incurred in accordance with budget parameters, which have been structured on financial viability and sustainability principles.

CONSULTATION

Internal.

COMMENT

All municipal fund expenditure included in the list of payments is incurred in accordance with the 2025-26 Annual Budget as adopted by Council at its meeting held 18 June 2025 (Resolution CCO58/25).

The table below summarises the payments drawn on the funds during the month.

REPORT TO COUNCIL

November 2025

FUND	DETAILS	AMOUNT
MUNICIPAL ACCOUNT		
EFT Payments	EFT 63609 – EFT 63774	$2,645,526.22
Municipal Cheques	CHQ	$0.00
Direct Debits	Fees & Charges, Credit Card Payments, Payroll, Payroll Liabilities	$937,991.62
Manual Cheques	CHQ	$0.00
TRUST ACCOUNT		
EFT Payments		*$0.00*
Trust Cheques		*$0.00*
TOTAL		$3,583,517.84

Creditors Outstanding as at 30/11/2025 $1,659,455.43

VOTING REQUIREMENTS

Simple majority

ATTACHMENTS

1. **List of Accounts - November 2025**
2. **Credit Card Reconciliation - November 2025**

RECOMMENDATION

That Council ACCEPTS the List of Accounts for November 2025 paid under Delegated Authority in accordance with regulation 13(1) of the *Local Government (Financial Management) Regulations 1996*, totalling $3,583,517.84

REPORT TO COUNCIL – NOVEMBER 2025

EFT PAYMENTS – MUNI ACCOUNT

PAYMENT ID	DATES	CREDITOR / INVOICE DETAILS	AMOUNT
EFT63609	**04/11/2025**	**TANIA JANE WOOD-GUSH**	**6,282.85**
INV TAWGREIM041125	04/11/2025	REFUND OF PAYMENT MADE IN ERROR TO THE SHIRE FOR RATES	6,282.85
EFT63610	**07/11/2025**	**ASHLEE DOUST**	**187.76**
INV REIMB2910	29/10/2025	UTILITY SUBSIDY: POWER FOR 29/07/2025 TO 26/09/2025	187.76
EFT63611	**07/11/2025**	**ALTHAM CONTRACTING**	**1,264.68**
INV 2381	07/10/2025	REPLACE ISOLATION VALVE FOR RETIC SYSTEM – DERBY REC CENTRE	277.05
INV 2382	07/10/2025	REPLACE ISOLATION VALVE FOR RETIC SYSTEM – 3 KNOWSLEY STREET EAST	212.76
INV 2389	08/10/2025	EXCAVATE PLOT 778P	308.00
INV 2433	15/10/2025	INSTALL DUAL CHECK VALVE AT REAR OF COLEMAN CENTRE	466.87
EFT63612	**07/11/2025**	**AUSTRALIAN SERVICES UNION**	**212.00**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	212.00
EFT63613	**07/11/2025**	**BUCKLEYS EARTHWORKS & PAVING PTY LTD**	**2,422.75**
INV 2922	27/10/2025	SUPPLY 2X 205L DRUMS OF CATIONIC ASPHALT EMULSION	2,422.75
EFT63614	**07/11/2025**	**BROOME FLORIST**	**1,450.00**
INV 0369	31/10/2025	SUPPLY 6 WREATHS FOR REMEMBRANCE DAY SERVICE, FREIGHT	1,450.00
EFT63615	**07/11/2025**	**CATHERINE FEENEY**	**740.00**
INV 3-R-0022	23/10/2025	5/12 LOCH STREET FORTNIGHTLY RENT	740.00
EFT63616	**07/11/2025**	**CLEANING GARDENING & TREE SERVICES**	**30,253.65**
INV 10850	03/11/2025	CLEANING FX SHIRE BUILDINGS - OCTOBER 2025	30,127.15
INV 10851	03/11/2025	CLEANING FX SHORT STAY UNIT 10/10/2025	126.50
EFT63617	**07/11/2025**	**WA COUNTRY HEALTH SERVICE**	**782.00**
INV N3798633	29/10/2025	PRE-EMPLOYMENT MEDICAL FOR COORDINATOR RANGERS	391.00
INV N3798637	29/10/2025	PRE-EMPLOYMENT MEDICAL FOR MANAGER ASSETS & WORKS	391.00
EFT63618	**07/11/2025**	**CITY OF SOUTH PERTH**	**1,569.75**
INV 9995	15/10/2025	PLANNING CONSULTANCY FEES - SEPTEMBER 2025	1,569.75
EFT63619	**07/11/2025**	**CIVIC LEGAL**	**2,757.31**
INV 514946	30/09/2025	ADVICE ON EOI ON AREA 1 DERBY AIRPORT	2,757.31
EFT63620	**07/11/2025**	**SHIRE OF CARNARVON**	**21,401.50**
INV 49384	08/10/2025	LONG SERVICE LEAVE ENTITLEMENTS - A DEXTER	21,401.50

EFT63621	**07/11/2025**	**DEPUTY CHILD SUPPORT REGISTRAR**	**59.18**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	59.18
EFT63622	**07/11/2025**	**CAPTIVATE CONNECT**	**656.70**
INV 17692	15/10/2025	QUARTERLY CHARGE FOR SERVICES FROM 15/10/2025	656.70
EFT63623	**07/11/2025**	**CONWAY HIGHBURY PTY LTD**	**1,408.00**
INV 946	30/09/2025	REVIEW OF LOCAL LAWS TO MEET REGULATORY COMPLIANCE	1,408.00
EFT63624	**07/11/2025**	**DERBY BUILDING SUPPLIES**	**199.46**
INV 597462	20/10/2025	PLUMBING SUPPLIES	16.20
INV 597998	28/10/2025	SUPPLY PRIMING FLUID & CEMENT SOLVENT	16.50
INV 598007	28/10/2025	SUPPLY SCREWS	71.81
INV 598015	28/10/2025	SUPPLY SCREWS	61.83
INV 598065	29/10/2025	SUPPLY BAR & CUTTER LUBE	33.12
EFT63625	**07/11/2025**	**LANDGATE (WA LAND INFORMATION AUTHORITY)**	**25.84**
INV 76899377	28/10/2025	GRV INTERIM VALUATION	25.84
EFT63626	**07/11/2025**	**DERBY SPORTSMEN'S CLUB INC**	**13,750.00**
INV 2336	14/10/2025	3RD QUARTER 2025 GOLF COURSE MAINTENANCE	13,750.00
EFT63627	**07/11/2025**	**DERBY PROGRESSIVE SUPPLIES**	**687.80**
INV 118873	30/10/2025	SUPPLY ROAD SIDE LITTER BAGS	687.80
EFT63628	**07/11/2025**	**DERBY HARDWARE MITRE10**	**350.00**
INV 10637605	04/11/2025	SUPPLY LANDSCAPE TECHNOGUARD	350.00
EFT63629	**07/11/2025**	**DWAYNE BENN**	**459.03**
INV REIMB2910	29/10/2025	UTILITY SUBSIDY: POWER FOR 05/08/2025 TO 02/10/2025	459.03
EFT63630	**07/11/2025**	**ELDERS LIMITED (DERBY BRANCH)**	**1,018.60**
INV IY96681	29/10/2025	SUPPLY 5X 20L ROUNDUP ULTRAMAX	1,018.60
EFT63631	**07/11/2025**	**GEOFFREY ANDREW DAVIS**	**1,711.06**
INV TRAVEL3010	30/10/2025	TRAVEL CLAIM: FX TO DERBY RETURN - SWEARING IN & INDUCTION	1,140.71
INV TRAVEL3010-2	30/10/2025	TRAVEL CLAIM: FX TO DERBY RETURN 01/11/2025 OCM	570.35
EFT63632	**07/11/2025**	**GREENFIELD TECHNICAL SERVICES**	**34,854.38**
INV 4854	28/10/2025	AGRN 1044 - CONSTRUCTION MANAGEMENT 29/09 - 12/10/2025	12,335.95
INV 4816	28/10/2025	AGRN 1044 - FLOOD DAMAGE REINSTATEMENT - SEPTEMBER 2025	11,095.70
INV 4853	28/10/2025	AGRN 1044 - CONSTRUCTION MANAGEMENT PACKAGE 3 - 15-28/09/2025	11,422.73
EFT63633	**07/11/2025**	**INTEGRITY MANAGEMENT SOLUTIONS PTY LTD**	**9,350.00**
INV 0372	07/10/2025	ATTAIN 12 MONTH SUBSCRIPTION	9,350.00
EFT63634	**07/11/2025**	**TEAM GLOBAL EXPRESS PTY LTD**	**594.44**
INV P69069905	12/10/2025	FREIGHT - WATER SAMPLES DERBY TO PERTH – ENVIRONMENTAL HEALTH	594.44

EFT63635	**07/11/2025**	**NORTH REGIONAL TAFE**	**766.65**
INV I0027762	23/10/2025	COURSE FEES FOR CII COMMUNITY SERVICES	260.35
INV I0027814	29/10/2025	COURSE FEES FOR CIII IN SPORT & AQUATICS	506.30
EFT63636	**07/11/2025**	**K&M ELECTRICAL SERVICES**	**2,182.66**
INV 580	27/10/2025	ISOLATE & RECONNECT HWS – COUNCIL CHAMBERS	2,182.66
EFT63637	**07/11/2025**	**LAND ALLIANCE PTY LTD**	**89,925.00**
INV 2507	07/10/2025	FITZROY FIRE FORUM PROJECT - 2ND INSTALMENT	89,925.00
EFT63638	**07/11/2025**	**TAMARA CLARKSON**	**300.85**
INV REIMB2810	28/10/2025	REIMBURSE PARKING IN PERTH FOR KRG MEETINGS & CONFERENCE	26.25
INV REIMB2810-2	28/10/2025	REPLACEMENT NUMBER PLATES FOR 7KW & 13KW	274.60
EFT63639	**07/11/2025**	**THE PIER GROUP PTY LTD T/AS CS LEGAL**	**725.50**
INV 035223	31/10/2025	PROFESSIONAL FEES FOR DEBT RECOVERY	725.50
EFT63640	**07/11/2025**	**WESTERN AUSTRALIAN LOCAL GOVERNMENT ASSOCIATION**	**5,280.25**
INV SI-016254	16/10/2025	ETHICAL & ACCOUNTABLE BEHAVIOURS SESSION 4 19/09/2025	5,280.25
EFT63641	**07/11/2025**	**LAURIE SHAW**	**567.29**
INV TRAVEL3010	30/10/2025	TRAVEL CLAIM: GILLARONG TO DERBY RETURN 30/10/2025 OCM	567.29
EFT63642	**07/11/2025**	**KELSEY LAIRD**	**39.99**
INV REIMB2310	23/10/2025	REIMBURSE PURCHASE OF KEY SAFE FOR FX DONGAS	39.99
EFT63643	**07/11/2025**	**MAXXIA PTY LTD**	**8,534.34**
INV SDWK-ITC1025	31/10/2025	OCT-25 ITC REPATRIATED TO MAXXIA FOR EMPLOYEES	374.87
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	4,304.87
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	3,770.32
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	84.28
EFT63644	**07/11/2025**	**MANAGED IT PTY LTD**	**60,513.90**
INV 300325	01/10/2025	IT SERVICES FOR OCTOBER 2025	60,513.90
EFT63645	**07/11/2025**	**MCCARTAN AND GUNTRIP TRUST**	**964.52**
INV REIMB1510	15/10/2025	RATES REFUND - A900634 DUPLICATE PAYMENT MADE BY RATEPAYER IN ERROR	964.52
EFT63646	**07/11/2025**	**NORWESCOM TELECOMMUNICATIONS**	**404.80**
INV 58651	02/10/2025	ALARM MONITORING DERBY - OCT, NOV, DEC 2025	202.40
INV 58660	02/10/2025	ALARM MONITORING FITZROY - OCT, NOV, DEC 2025	202.40
EFT63647	**07/11/2025**	**FOUNDATION FOR INDIGENOUS SUSTAINABLE HEALTH LIMITED**	**143.90**
INV DER3263	03/11/2025	STAFF UNIFORMS FOR WORKS LABOURER	143.90
EFT63648	**07/11/2025**	**IXOM**	**416.02**
INV 85019588	30/09/2025	CHLORINE GAS CYLINDER HIRE FEE - SEPTEMBER 2025	204.60
INV 85033168	31/10/2025	CHLORINE GAS CYLINDER HIRE FEE - OCTOBER 2025	211.42

EFT63649	**07/11/2025**	**PEARL COAST DISTRIBUTORS**	**2,682.22**
INV SI159337	02/10/2025	FULL RESTOCK OF POOL FOOD & DRINKS	2,682.22
EFT63650	**07/11/2025**	**RAY WHITE DERBY**	**2,694.05**
INV 27986	03/11/2025	9 TOWER PLACE RENT 15/11 - 14/12/2025	2,694.05
EFT63651	**07/11/2025**	**RUSTYS IGA**	**5,058.80**
INV 016952	11/10/2025	SUPPLIES FOR JUNIOR SCHOOL HOLIDAY PROGRAM	32.73
INV 046424	19/10/2025	SUPPLIES FOR HEALTHY HYGIENE PACKS – AEHU PROGRAM	4,901.87
INV 046557	24/10/2025	SUPPLIES FOR HEALTHY HYGIENE PACKS – AEHU PROGRAM	124.20
EFT63652	**07/11/2025**	**MARTUWARRA FITZROY RIVER COUNCIL**	**300.00**
INV REIMB2910	29/10/2025	BOND RETURN FOR HIRE OF COMMUNITY ROOM 28/10/2025	300.00
EFT63653	**07/11/2025**	**CROMAG PTY LTD TAS SIGMA TELFORD GROUP**	**2,451.90**
INV 188987-01	15/10/2025	SUPPLY PALINTEST WATER TESTER – ENVIRONMENTAL HEALTH	2,451.90
EFT63654	**07/11/2025**	**JTAGZ**	**169.95**
INV 36369	03/10/2025	3 YEAR REGISTRATION TAGS FOR DOG AND CAT REGISTRATION	169.95
EFT63655	**07/11/2025**	**TRACY FRASER**	**90.00**
INV REIMB2210	22/10/2025	REIMBURSE PURCHASE OF LIBRARY BOOKS	90.00
EFT63656	**07/11/2025**	**TARUNDA SUPERMARKET**	**644.36**
INV 10188523	22/10/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	235.49
INV 10188707	22/10/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	27.30
INV 20164039	28/10/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	230.20
INV 10190533	29/10/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	151.37
EFT63657	**07/11/2025**	**RYAN BOLDISON**	**147.00**
INV REIMB2210	22/10/2025	CATERING FOR COUNCIL INDUCTIONS 22/10/2025	129.00
INV REIMB2210-2	22/10/2025	REIMBURSE PURCHASE OF GLASS JUGS FOR COUNCIL CHAMBERS	18.00
EFT63658	**14/11/2025**	**A & B TYRES**	**305.00**
INV 56740	28/10/2025	SUPPLY CENTURY BATTERY	185.00
INV 56779	31/10/2025	SUPPLY CENTURY BATTERY	120.00
EFT63659	**14/11/2025**	**1883 AUTO ELECTRICS**	**699.82**
INV 0408	04/11/2025	SUPPLY GME UHF RADIO & ANTENNA – 1KW	699.82
EFT63660	**14/11/2025**	**ALTHAM CONTRACTING**	**781.00**
INV 2441	16/10/2025	EXCAVATE PLOT 777P	308.00
INV 2499	27/10/2025	EXCAVATE PLOT 674P	473.00
EFT63661	**14/11/2025**	**RUSTYS BAKESHOP**	**535.00**
INV 0097	23/10/2025	CATERING FOR OMT MEETING 22/10/2025	175.00
INV 0095	24/10/2025	CATERING FOR COUNCIL MEMBER INDUCTIONS 23/10/2025	175.00

INV 0099	31/10/2025	CATERING FOR COUNCIL & EXECUTIVE WORKSHOP 27/10/2025	185.00
EFT63662	**14/11/2025**	**BUCKLEYS EARTHWORKS & PAVING PTY LTD**	**523,478.22**
INV 2916	30/09/2025	RFT-2526-01 GRAVEL SHEETING	102,090.45
INV 2925	27/10/2025	ORPHAN ROADS REINSTATEMENT 06-19/10/2025	421,387.77
EFT63663	**14/11/2025**	**BISHOPS TRANSPORT PTY LTD**	**278.97**
INV B331347	29/10/2025	FREIGHT - ROSHER TO DEPOT	278.97
EFT63664	**14/11/2025**	**WA COUNTRY HEALTH SERVICE**	**391.00**
INV N3798635	29/10/2025	PRE-EMPLOYMENT MEDICAL FOR ADMIN OFFICER	391.00
EFT63665	**14/11/2025**	**CITY TOYOTA**	**341.30**
INV PI13392463	31/10/2025	SUPPLY WINDSCREEN & WEATHER STRIP	341.30
EFT63666	**14/11/2025**	**DERBY BUILDING SUPPLIES**	**1,245.31**
INV 597667	23/10/2025	SUPPLY ENGINE FLUSH	54.00
INV 598066	29/10/2025	SUPPLY STIHL CHAINSAW	849.00
INV 598182	30/10/2025	SUPPLY POLISH & MULTI PURPOSE CLEANER	30.27
INV 598294	31/10/2025	SUPPLY 4X COLD STEEL TYRE	42.00
INV 598464	03/11/2025	SUPPLY FILM	270.04
EFT63667	**14/11/2025**	**DERBY 4X4 & MARINE**	**199.06**
INV 41511-64171	28/10/2025	SUPPLY GASKET	34.06
INV 41525-64134	30/10/2025	DE-REGISTER KEYS & RE-REGISTER 2X EXISTING SUB KEYS	165.00
EFT63668	**14/11/2025**	**DAIMLER TRUCKS**	**778.24**
INV XA982010290-01	29/10/2025	SUPPLY DUAL BRAKE VALVE	778.24
EFT63669	**14/11/2025**	**DERBY REGIONAL HOSPITAL (WA COUNTRY HEALTH SERVICE)**	**300.00**
INV REIMB2910	29/10/2025	BOND RETURN FOR HIRE OF COMMUNITY ROOM 22/10/2025	300.00
EFT63670	**14/11/2025**	**DERBY HARDWARE MITRE10**	**374.95**
INV 10636926	22/10/2025	SUPPLY HINGE	24.99
INV 10637048	24/10/2025	SUPPLY FLAT BAR STEEL	89.00
INV 10637049	24/10/2025	SUPPLY SCREWS	59.99
INV 10637241	28/10/2025	SUPPLY SPRINKLER	12.99
INV 10637305	29/10/2025	SUPPLY BUILDEC BOX	149.00
INV 10637299	29/10/2025	SUPPLY BROOM	23.99
INV 10637304	29/10/2025	SUPPLY CARPET STAIN REMOVER	14.99
EFT63671	**14/11/2025**	**DWA INDUSTRIAL RESOURCES PTY LTD**	**630.30**
INV 02024582	21/10/2025	WELD BRACKETS UNDER UTE, MOUNT WATER CARRIER – 18KW	630.30
EFT63672	**14/11/2025**	**PERKS INDUSTRIES PTY LTD TAS KIMBERLEY HOME**	**234.65**
INV 25-00074418	22/10/2025	SUPPLY POWERFLO WALL CHARGERS – DERBY ADMINISTRATION CENTRE	234.65

EFT63673	**14/11/2025**	**KIMBERLEY MOWERS & SPARES**	**250.00**
INV 4743	06/10/2025	SUPPLY CENTRIFUGAL CLUTCH FOR GROUNDHOG T4 TRENCHER	250.00
EFT63674	**14/11/2025**	**LAIRD TRAN STUDIO**	**35,798.43**
INV LTS251001	02/10/2025	GRANT - ARCHITECTURAL BRIEF - CIVIC CENTRE REFURB	35,798.43
EFT63675	**14/11/2025**	**TYREPOWER FITZROY CROSSING**	**65.00**
INV 103397	31/10/2025	PUNCTURE REPAIR	65.00
EFT63676	**14/11/2025**	**NGUNGA WOMENS GROUP (INC)**	**300.00**
INV REIMB3010	30/10/2025	BOND RETURN FOR HIRE OF COMMUNITY ROOM 29/10/2025	300.00
EFT63677	**14/11/2025**	**J GAULT CONTRACTING**	**935.00**
INV 0179	25/05/2025	VACATE CLEAN 33 KNOWSLEY STREET	935.00
EFT63678	**14/11/2025**	**THE PATIO FACTORY PERTH PTY LTD**	**329,803.01**
INV 10600	29/10/2025	GRANT - PERMANENT SHADE TO LYTTON PARK PLAYGROUND	170,077.77
INV 10601	29/10/2025	GRANT - PERMANENT SHADE TO NICHOLSON SQUARE PLAYGROUND	93,994.69
INV 10602	29/10/2025	GRANT - PERMANENT SHADE TO COOLIBAH PARK PLAYGROUND	65,730.55
EFT63679	**14/11/2025**	**KIMBERLEY QUARRY PTY LTD**	**1,464.93**
INV 10827	31/08/2025	SUPPLY FEATURE ROCKS TO CONSTRUCT YARNING CIRCLE	1,464.93
EFT63680	**14/11/2025**	**ROCK'S AUTOMOTIVE SERVICES PTY LTD**	**8,854.00**
INV 37919	12/09/2025	SUPPLY SERVICE PARTS	6,125.00
INV 37920	12/09/2025	SUPPLY CABIN FILTERS	1,729.00
INV 37921	09/10/2025	SUPPLY CLUTCH KIT & BRAKE PADS	1,000.00
EFT63681	**14/11/2025**	**REPCO A DIVISION OF GPC ASIA PACIFIC PTY LTD**	**151.80**
INV 4510564873	22/10/2025	POWER SUPPLIES	151.80
EFT63682	**14/11/2025**	**REDFISH TECHNOLOGIES PTY LTD**	**1,453.40**
INV 67045	22/10/2025	SUPPLY MXW NEXT 2 WIRELESS BOUNDARY TRANSMITTER	1,453.40
EFT63683	**14/11/2025**	**E & MJ ROSHER PTY LTD**	**5,419.59**
INV 1499800	15/10/2025	SUPPLY KUBOTA PARTS	5,419.59
EFT63684	**14/11/2025**	**RUSTYS IGA**	**239.52**
INV 014051	06/10/2025	SUPPLIES FOR JUNIOR SCHOOL HOLIDAY PROGRAM	239.52
EFT63685	**14/11/2025**	**SKIPPERS CLEANING SERVICES**	**50,130.92**
INV 1907	01/11/2025	CLEANING OF DERBY SHIRE BUILDINGS - OCTOBER 2025	50,130.92
EFT63686	**14/11/2025**	**TYREPOWER DERBY**	**265.00**
INV 121962	04/11/2025	SUPPLY KING SPRINGS	265.00
EFT63687	**14/11/2025**	**ABUELITAS SHOP**	**704.00**
INV 86983	30/10/2025	CATERING FOR ORDINARY COUNCIL MEETING 30/10/2025	704.00
EFT63688	**21/11/2025**	**AUSTRALIAN SERVICES UNION**	**185.50**

INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	185.50
EFT63689	**21/11/2025**	**DERBY LICENSED POST OFFICE**	**90.00**
INV 2328	31/10/2025	DLPO MONTHLY ACCOUNT - OCTOBER 2025	90.00
EFT63690	**21/11/2025**	**BISHOPS TRANSPORT PTY LTD**	**172.30**
INV B331768	31/10/2025	FREIGHT - CITY TOYOTA TO SDWK	172.30
EFT63691	**21/11/2025**	**WORKSAFE DIVISION DEPARTMENT LOCAL GOVERNMENT, INDUSTRY REGULATION AND SAFETY**	**5,474.15**
INV PERMIT 3009	30/09/2025	BUILDING SERVICES LEVY - SEPTEMBER 2025	2,170.54
INV PERMIT 3110	31/10/2025	BUILDING SERVICES LEVY - OCTOBER 2025	3,303.61
EFT63692	**21/11/2025**	**CARL SEBASTIAN**	**500.00**
INV REIMB2810	28/10/2025	BOND RETURN FOR HIRE OF CIVIC CENTRE 25-26/10/2025	500.00
EFT63693	**21/11/2025**	**BROOME TOYOTA NORTH WEST MOTOR GROUP**	**2,186.57**
INV PI13084453	01/10/2025	SUPPLY GASKETS	78.98
INV PI13084835	28/10/2025	SUPPLY SERVICE PARTS	2,107.59
EFT63694	**21/11/2025**	**CATHERINE FEENEY**	**740.00**
INV 3-R-0023	06/11/2025	5/12 LOCH STREET FORTNIGHTLY RENT,	740.00
EFT63695	**21/11/2025**	**BOC LIMITED**	**388.08**
INV 5006758506	31/10/2025	MONTHLY GAS CYLINDER CHARGES	388.08
EFT63696	**21/11/2025**	**CITY OF SOUTH PERTH**	**2,000.00**
INV 10095	31/10/2025	REVIEW AND RE-DRAFTING OF THE SHIRE'S PLANNING DELEGATIONS	2,000.00
EFT63697	**21/11/2025**	**CITY TOYOTA**	**1,633.40**
INV PI13393009	05/11/2025	SUPPLY WEATHERSTRIP	154.30
INV PI13393093	06/11/2025	SUPPLY WINDSCREENS	1,479.10
EFT63698	**21/11/2025**	**CATALYST IT AUSTRALIA PTY LTD**	**1,518.00**
INV 0625	30/09/2025	DISESTABLISH KOHA – SEPT 2025	1,012.00
INV 0631	31/10/2025	DISESTABLISH KOHA - OCT 2025	506.00
EFT63699	**21/11/2025**	**DAMBIMANGARI ABORIGINAL CORPORATION**	**1,500.00**
INV REIMB1211	12/11/2025	BOND RETURN FOR HIRE OF DERBY AIRPORT 10-11/11/2025	1,500.00
EFT63700	**21/11/2025**	**DERBY BUILDING SUPPLIES**	**854.12**
INV 598580	05/11/2025	SUPPLY CABLE TIES	81.41
INV 598707	06/11/2025	SUPPLY MILDON PILLAR TAP	46.50
INV 598715	06/11/2025	SUPPLY 2X LION TIE DOWN CAM BUCKLE	42.00
INV 598745	07/11/2025	SUPPLY WD-40 & CRC CLEANER	80.63
INV 598746	07/11/2025	SUPPLY PENRITE ENGINE FLUSH	216.00
INV 598793	07/11/2025	SUPPLY COCK HOSE	24.63
INV 599171	13/11/2025	SUPPLY MIG WIRE & TIPS	125.36

INV 599120	13/11/2025	SUPPLY SCREWS & PERMANENT MARKER	44.25
INV 599157	13/11/2025	SUPPLY LANE SP ALASSIO SET	92.86
INV 599241	14/11/2025	SUPPLY LOCTITE 3J GASKET	23.27
INV 599249	14/11/2025	SUPPLY STIHL ROPE STARTER	77.21
EFT63701	**21/11/2025**	**DEPT. OF CHILD PROTECTION & FAMILY SUPPORT**	**300.00**
INV CI1658492	08/09/2025	BOND RETURN FOR HIRE OF COUNCIL CHAMBERS 24/07/2025	300.00
EFT63702	**21/11/2025**	**DERBY BUS SERVICE PTY LTD**	**429.00**
INV 24206	31/10/2025	FREIGHT - OCTOBER 2025	429.00
EFT63703	**21/11/2025**	**DERBY HARDWARE MITRE10**	**329.80**
INV 10637626	05/11/2025	SUPPLY COIN BATTERY & CAR ALARM BATTERY	28.97
INV 10637645	05/11/2025	SUPPLY SCREWS & TAPE	45.96
INV 16037682	06/11/2025	SUPPLY 4X RAMSET DYNABOLT	35.96
INV 10637787	07/11/2025	SUPPLY SHOWER HEAD	24.99
INV 10637965	11/11/2025	SUPPLY PRIVACY SET	29.99
INV 10638017	12/11/2025	SUPPLY 20X SCOTCHLOK 314 ELECTRICAL CONNECTOR	39.80
INV 10638021	12/11/2025	SUPPLY 24X CAR ALARM BATTERY	86.16
INV 10638118	13/11/2025	SUPPLY SPRAY ZINC	31.98
INV 10638136	14/11/2025	SUPPLY TAP VALVE	5.99
EFT63704	**21/11/2025**	**DWA INDUSTRIAL RESOURCES PTY LTD**	**67.98**
INV 02024766	06/11/2025	SUPPLY 2X HD FITTINGS	67.98
EFT63705	**21/11/2025**	**ELDERS LIMITED (DERBY BRANCH)**	**271.34**
INV IY96780	06/11/2025	SUPPLY PVC COUPLINGS	271.34
EFT63706	**21/11/2025**	**DEPARTMENT OF FIRE AND EMERGENCY SERVICES.**	**10,177.89**
INV 160120	30/10/2025	2025/26 ESL PAYMENT FOR SHIRE OWNED PROPERTY	10,177.89
EFT63707	**21/11/2025**	**GRACE RECORDS MANAGEMENT**	**207.57**
INV RP01736954	31/10/2025	STORAGE OF RECORDS - NOVEMBER 2025	207.57
EFT63708	**21/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**165.37**
INV 581500	12/11/2025	UNIT 2/74 FALLON RD, FX FOR 10/09/2025 TO 11/11/2025	165.37
EFT63709	**21/11/2025**	**TEAM GLOBAL EXPRESS PTY LTD**	**581.78**
INV P69069946	19/10/2025	FREIGHT - WATER SAMPLES DERBY TO PERTH – ENVIRONMENTAL HEALTH	581.78
EFT63710	**21/11/2025**	**KIMBERLEY KRASH REPAIRS**	**385.00**
INV 10278-1	13/11/2025	CUT & POLISH SIDES OF 13KW FORTUNER	385.00
EFT63711	**21/11/2025**	**TAMARA CLARKSON**	**97.44**
INV REIMB2810-3	28/10/2025	MEALS FOR ETHICAL TRAINING & COUNCIL MEMBER INDUCTION 2025	97.44
EFT63712	**21/11/2025**	**LATIESHA SCHINDLER-THOMAS**	**541.09**

INV REIMB3010	30/10/2025	UTILITY SUBSIDY: POWER FOR 20/02/2025 TO 20/08/2025	541.09
EFT63713	**21/11/2025**	**THE PIER GROUP PTY LTD T/AS CS LEGAL**	**3,335.80**
INV 035230	31/10/2025	PROFESSIONAL FEES FOR LGA SALE OF A100760	1,536.55
INV 035231	31/10/2025	PROFESSIONAL FEES FOR LGA SALE OF A103950	1,799.25
EFT63714	**21/11/2025**	**MAXXIA PTY LTD**	**8,159.47**
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	4,304.87
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	3,770.32
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	84.28
EFT63715	**21/11/2025**	**RM SURVEYS PTY LTD (RM MAKJAP)**	**5,108.74**
INV 46365	31/10/2025	FEATURE AND LEVEL SURVEY FOR NICHOLSON OVAL LIGHTING	5,108.74
EFT63716	**21/11/2025**	**MARKET CREATIONS AGENCY PTY LTD**	**165.00**
INV JA69-2	06/11/2025	DOMAIN NAME REGISTRATION - AUSTRALIASBOABCOUNTRY.COM.AU	165.00
EFT63717	**21/11/2025**	**MANAGED IT PTY LTD**	**59,662.61**
INV 300385	03/11/2025	IT SERVICES FOR NOVEMBER 2025	59,662.61
EFT63718	**21/11/2025**	**TYREPOWER FITZROY CROSSING**	**2,740.00**
INV 103410	03/11/2025	SUPPLY CENTURY BATTERY	274.00
INV 103369	06/11/2025	REMOVAL OF ABANDONED VEHICLES IN FITZROY CROSSING	2,192.00
INV 103484	07/11/2025	SUPPLY CENTURY BATTERY	274.00
EFT63719	**21/11/2025**	**MAKARLA OOBAGOOMA**	**120.00**
INV KAPP 2025	05/11/2025	ARTWORK SOLD KAPP 2025, LESS 20% COMMISSION	120.00
EFT63720	**21/11/2025**	**MCLEODS LAWYERS**	**4,873.22**
INV 148004	13/10/2025	REVIEW OF ENFORCEMENT PROCESSES FOR UNFIT BUILDINGS	4,171.42
INV 148177	31/10/2025	ADVICE - RATES EXEMPTION APPLICATION - 18 YURABI ROAD	701.80
EFT63721	**21/11/2025**	**MARIA SEBASTIAN**	**300.00**
INV REIMB2810	28/10/2025	BOND RETURN FOR HIRE OF PROJECTOR	300.00
EFT63722	**21/11/2025**	**MOORE AUSTRALIA (TAX)**	**27,543.03**
INV 445059	31/10/2025	MONTHLY STATEMENT OF FINANCIAL ACTIVITY - SEPTEMBER 2025	3,217.50
INV 445077	31/10/2025	ADDITIONAL ON-DEMAND ACCOUNTING SUPPORT	11,198.00
INV 445096	31/10/2025	CONSULTING SERVICES FOR LONG TERM FINANCIAL PLANNING	13,127.53
EFT63723	**21/11/2025**	**MOORE AUSTRALIA AUDIT (WA)**	**5,500.00**
INV 445126	31/10/2025	AUDIT SERVICES - PHASE 4 LRCI	2,200.00
INV 445290	31/10/2025	AUDIT SERVICES - ROADS TO RECOVERY	3,300.00
EFT63724	**21/11/2025**	**FOUNDATION FOR INDIGENOUS SUSTAINABLE HEALTH LIMITED**	**600.95**
INV DER2871	07/11/2025	STAFF UNIFORMS FOR ABORIGINAL ENGAGEMENT MANAGER	330.98
INV DER2744	13/11/2025	STAFF UNIFORMS FOR ADMIN OFFICER	269.97

EFT63725	**21/11/2025**	**THE PATIO FACTORY PERTH PTY LTD**	**53,241.75**
INV 10603	29/10/2025	GRANT - PERMANENT SHADE TO BLOODWOOD PARK PLAYGROUND	53,241.75
EFT63726	**21/11/2025**	**RECHARGE PETROLEUM**	**5,719.43**
INV 01403555	31/10/2025	2995L DIESEL TO FX DEPOT	5,719.43
EFT63727	**21/11/2025**	**SEEK LIMITED**	**1,980.00**
INV 701535282	07/11/2025	RECRUITMENT ADVERTISING	1,980.00
EFT63728	**21/11/2025**	**TEC SERVICES GROUP PTY LTD**	**48,897.84**
INV 71912	25/10/2025	FITZROY CROSSING REPLACEMENT LIGHT FITTINGS	48,897.84
EFT63729	**21/11/2025**	**TENNANT AUSTRALIA**	**471.46**
INV AU90004511	28/10/2025	SUPPLY PARTS FOR TENNANT ATLV	471.46
EFT63730	**21/11/2025**	**CLEANAWAY CO PTY LTD**	**397,301.13**
INV 19431859	31/08/2025	LANDFILL MANAGEMENT - JULY 2025	151,830.17
INV 19449772	31/10/2025	SULO & STREET BINS - DRY SEASON SEPTEMBER 2025	92,545.11
INV 19449773	31/10/2025	LANDFILL MANAGEMENT - SEPTEMBER 2025	145,912.82
INV 19449971	31/10/2025	STREET BIN COLLECTION - OCTOBER 2025	12,930.38
EFT63731	**21/11/2025**	**TARUNDA SUPERMARKET**	**141.48**
INV 30111504	10/11/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	141.48
EFT63732	**21/11/2025**	**TYREPOWER DERBY**	**3,570.00**
INV 121955	13/11/2025	SUPPLY 7X MOWER TYRES	3,570.00
EFT63733	**21/11/2025**	**WALALAKOO ABORIGINAL CORPORATION**	**887.28**
INV REIMB3010	30/10/2025	REFUND DUPLICATE PAYMENT RECEIPT 121311 & STANDING CREDIT	887.28
EFT63734	**21/11/2025**	**WALYARRA CONTRACTING PTY LTD**	**160,282.22**
INV 0061	21/10/2025	MAINTENANCE 2 AREA 4 - ROADS	160,282.22
EFT63735	**28/11/2025**	**ALTHAM CONTRACTING**	**1,420.62**
INV 2565	04/11/2025	REPAIR TAP AT DERBY POOL	657.86
INV 2619	17/11/2025	REPAIR LEAKING CISTERN AND TAPS AT DERBY REC CENTRE	762.76
EFT63736	**28/11/2025**	**AUSTRALIA POST**	**804.39**
INV 1014348349	03/11/2025	DERBY POSTAGE FOR OCTOBER 2025	804.39
EFT63737	**28/11/2025**	**BLACKWOODS ATKINS - BROOME**	**272.80**
INV SI12818920	18/11/2025	SUPPLY ROPE FOR STREET TREE MAINTENANCE	272.80
EFT63738	**28/11/2025**	**BRETT ANGWIN**	**100.00**
INV REIMB1711	17/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
EFT63739	**28/11/2025**	**BUCKLEYS EARTHWORKS & PAVING PTY LTD**	**482,792.31**
INV 2926	31/10/2025	RFT-2526-01 GRAVEL SHEETING	482,792.31
EFT63740	**28/11/2025**	**CATHERINE FEENEY**	**740.00**

INV 3-R-0024	20/11/2025	5/12 LOCH STREET FORTNIGHTLY RENT	740.00
EFT63741	**28/11/2025**	**CATHERINE GOONACK**	**500.00**
INV REIMB0411	04/11/2025	BOND RETURN FOR HIRE OF CIVIC CENTRE 07/07/2023	500.00
EFT63742	**28/11/2025**	**WA COUNTRY HEALTH SERVICE**	**1,173.00**
INV N3822975	13/11/2025	PRE-EMPLOYMENT MEDICAL – WORKS CREW	391.00
INV N3822976	13/11/2025	PRE-EMPLOYMENT MEDICAL – WORKS CREW	391.00
INV N3822977	13/11/2025	PRE-EMPLOYMENT MEDICAL – WORKS CREW	391.00
EFT63743	**28/11/2025**	**C & E SCOTT SOLUTIONS**	**1,200.00**
INV 1	25/09/2025	HIRE OF EXCAVATOR FOR MADI'S PARK 12/08/2025	1,200.00
EFT63744	**28/11/2025**	**DERBY 4X4 & MARINE**	**75.02**
INV 41574-64226	05/11/2025	SUPPLY ACCESSORY SOCKET & BATTERY CABLE	75.02
EFT63745	**28/11/2025**	**DERBY PROGRESSIVE SUPPLIES**	**582.18**
INV 119484	11/11/2025	KITCHEN SUPPLIES – DERBY ADMINISTRATION CENTRE	195.94
INV 120067	21/11/2025	SUPPLIES FOR 2025 SENIORS WEEK EVENTS	386.24
EFT63746	**28/11/2025**	**ERNEST HARDY**	**11,000.00**
INV A108810	25/11/2025	RATES REFUND FOR ASSESSMENT A108810	11,000.00
EFT63747	**28/11/2025**	**ELIOT MONEY**	**1,529.59**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63748	**28/11/2025**	**FITZROY HARDWARE PTY LTD**	**139.50**
INV 10036595	07/11/2025	SUPPLY ROLLER KIT	34.50
INV 10036596	07/11/2025	SUPPLY 5X 15L WATER	105.00
EFT63749	**28/11/2025**	**GEOFFREY ANDREW DAVIS**	**1,529.59**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63750	**28/11/2025**	**GARRARDS PTY LTD**	**1,169.85**
INV 1069803	07/11/2025	SUPPLY MOSQUITO CHEMICALS	1,169.85
EFT63751	**28/11/2025**	**PATRICIA GAULT**	**1,629.59**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	200.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63752	**28/11/2025**	**GARNDUWA AMBOORNY WIRNAN - BROOME**	**400.00**
INV REIMB0711	07/11/2025	BOND RETURN FOR HIRE OF COMMUNITY ROOM & COURT 06/11/2025	400.00
EFT63753	**28/11/2025**	**PAUL GOSS**	**337.24**
INV REIMB1311	13/11/2025	UTILITY SUBSIDY: POWER FOR 15/08/2025 TO 14/10/2025	337.24
EFT63754	**28/11/2025**	**GREG WILSON**	**50.00**

INV REIMB2810	28/10/2025	BOND RETURN FOR HIRE OF CAT TRAP	50.00
EFT63755	**28/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**4,483.22**
INV 570688	31/10/2025	208 STREETLIGHTS FOR 01/10/2025 TO 31/10/2025	4,483.22
EFT63756	**28/11/2025**	**TEAM GLOBAL EXPRESS PTY LTD**	**2,117.50**
INV 0455-8L4291	09/11/2025	FREIGHT - WATER SAMPLES PERTH TO DERBY – ENVIRONMENTAL HEALTH	187.42
INV P69070084	10/11/2025	FREIGHT - WATER SAMPLES DERBY TO PERTH – ENVIRONMENTAL HEALTH	822.40
INV P69070136	16/11/2025	FREIGHT - WATER SAMPLES DERBY TO PERTH – ENVIRONMENTAL HEALTH	581.91
INV 1207694	25/11/2025	FREIGHT - WINC PERTH TO DERBY – ENVIRONMENTAL HEALTH	525.77
EFT63757	**28/11/2025**	**CONNECT CALL CENTRE SERVICES**	**507.32**
INV 120579	15/11/2025	OVERCALLS FEE FOR CONTRACT CA0415 - OCTOBER 2025	507.32
EFT63758	**28/11/2025**	**JILA PLUMBING**	**1,051.11**
INV 6856	15/11/2025	CLEAR BLOCKAGE TO BASIN DRAIN, INSTALL NEW TOILET SUITE – FX SHORT STAY AND PUBLIC TOILETS	1,051.11
EFT63759	**28/11/2025**	**KMART AUSTRALIA LIMITED**	**1,975.75**
INV 065054	17/10/2025	DECORATIONS FOR 2025 FITZROY CROSSING HALLOWEEN EVENT	1,414.00
INV 065062	17/10/2025	DECORATIONS FOR 2025 FITZROY CROSSING HALLOWEEN EVENT	561.75
EFT63760	**28/11/2025**	**KERRISSA O'MEARA**	**1,988.39**
INV REIMB1711	17/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	200.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,788.39
EFT63761	**28/11/2025**	**LACHLAN CARRACHER**	**100.00**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
EFT63762	**28/11/2025**	**LAURIE SHAW**	**1,529.59**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63763	**28/11/2025**	**LEAH UMBAGAI**	**1,529.59**
INV REIMB1711	17/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63764	**28/11/2025**	**FOUNDATION FOR INDIGENOUS SUSTAINABLE HEALTH LIMITED**	**2,377.30**
INV DER2923	21/10/2025	STAFF UNIFORMS FOR APPRENTICE MECHANIC	334.75
INV DER2946	24/10/2025	STAFF UNIFORMS FOR MANAGER DEVELOPMENT SERVICES	165.00
INV DER2947	24/10/2025	STAFF UNIFORMS FOR ENVIRONMENTAL HEALTH OFFICER	214.99
INV DER3568	20/11/2025	STAFF UNIFORMS FOR MANAGER PROJECT DELIVERY	64.99
INV DER3515	22/11/2025	STAFF UNIFORMS FOR ENGINEERING TECHNICAL OFFICER	697.83
INV DER3455	25/11/2025	STAFF UNIFORMS FOR WORKS LABOURER	899.74
EFT63765	**28/11/2025**	**ADAM RUSSELL CORNISH**	**1,529.59**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00

INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63766	**28/11/2025**	**PETER JOHN MCCUMSTIE**	**2,964.76**
INV REIMB1911	19/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	100.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 PRESIDENT ATTENDANCE FEE & ALLOWANCE	2,864.76
EFT63767	**28/11/2025**	**RAY WHITE DERBY**	**231.88**
INV 28351	21/11/2025	9 TOWER PLACE WATER 17/09 - 19/11/2025	231.88
EFT63768	**28/11/2025**	**SE RENTALS PTY LTD**	**185.90**
INV 270795	20/11/2025	DERBY POOL PRINTER RENTAL CONTRACT 20/12/2025	185.90
EFT63769	**28/11/2025**	**CROMAG PTY LTD TAS SIGMA TELFORD GROUP**	**3,258.20**
INV 194323-01	10/11/2025	SUPPLY GRANULAR CHLORINE, FREIGHT	3,258.20
EFT63770	**28/11/2025**	**TARUNDA SUPERMARKET**	**426.10**
INV 40117560	17/11/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	173.65
INV 30113152	19/11/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	27.30
INV 10199430	22/11/2025	FOOD SUPPLIES FOR COOKING PROGRAM – FX YOUTH	225.15
EFT63771	**28/11/2025**	**TYREPOWER DERBY**	**2,238.85**
INV 121992	13/11/2025	SUPPLY CENTURY BATTERY	350.00
INV 122005	13/11/2025	SUPPLY CENTURY BATTERY	385.00
INV 122006	13/11/2025	WHEEL ALIGNMENT	140.00
INV 121993	17/11/2025	SUPPLY 2X BOSCH BATTERY	1,363.85
EFT63772	**28/11/2025**	**ABUELITAS SHOP**	**198.00**
INV 86995	06/11/2025	CATERING FOR COUNCIL INDUCTIONS 05/11/2025	198.00
EFT63773	**28/11/2025**	**VALERIE ROSS**	**1,629.59**
INV REIMB1711	17/11/2025	RETURN OF 2025 LOCAL GOVERNMENT NOMINATION FEE	200.00
INV ALLOW3011	30/11/2025	NOVEMBER 2025 COUNCILLOR ATTENDANCE FEE & ALLOWANCE	1,429.59
EFT63774	**28/11/2025**	**YANUNIJARRA ABORIGINAL CORPORATION**	**500.00**
INV REIMB2011	20/11/2025	BOND RETURN FOR HIRE OF FX REC CENTRE 04/11/2025	500.00
		TOTAL	**$2,645,526.22**

FEE PAYMENTS – MUNI ACCOUNT

PAYMENT ID	DATES	CREDITOR / INVOICE DETAILS	AMOUNT
974	**03/11/2025**	**EXC - EXCESS TRANSACTIONS FEE**	**14.60**
974	**05/11/2025**	**DOT - DOT PAYMENT**	**2,944.30**
974	**06/11/2025**	**DOT - DOT PAYMENT**	**1,766.25**

974	**06/11/2025**	**BPY - BPAY FEES**	**206.36**
974	**06/11/2025**	**ASF - ACCOUNT SERVICE FEE**	**77.00**
974	**07/11/2025**	**IINET - IINET 225211599 ($109.99)**	**109.99**
974	**07/11/2025**	**DOT - DOT PAYMENT**	**91.45**
974	**06/11/2025**	**GHA - GREYHOUND AUSTRALIA**	**6,421.00**
974	**04/11/2025**	**BAS4 - ATO - IAS PAYMENT - PAYG WITHHOLDING**	**77,222.00**
974	**10/11/2025**	**DOT - DOT PAYMENT**	**2,784.20**
974	**12/11/2025**	**DOT - DOT PAYMENT**	**1,517.30**
974	**03/11/2025**	**EXC - EXCESS TRANSACTIONS FEE**	**89.80**
974	**12/11/2025**	**MER - MERCHANT FEES**	**32.50**
974	**12/11/2025**	**MER - MERCHANT FEES**	**-32.50**
974	**13/11/2025**	**GHA - GREYHOUND AUSTRALIA**	**3,050.00**
974	**13/11/2025**	**DOT - DOT PAYMENT**	**2,595.05**
974	**14/11/2025**	**DOT - DOT PAYMENT**	**2,029.30**
974	**17/11/2025**	**DOT - DOT PAYMENT**	**1,854.95**
974	**17/11/2025**	**BEX - BPOINT FEES**	**32.30**
974	**03/11/2025**	**EXC - EXCESS TRANSACTIONS FEE**	**38.95**
974	**19/11/2025**	**DOT - DOT PAYMENT**	**5,090.55**
974	**20/11/2025**	**DOT - DOT PAYMENT**	**1,696.15**
974	**20/11/2025**	**GHA - GREYHOUND AUSTRALIA**	**2,890.00**
974	**25/11/2025**	**DOT - DOT PAYMENT**	**7,386.15**
974	**24/11/2025**	**DOT - DOT PAYMENT**	**1,546.55**
974	**26/11/2025**	**DOT - DOT PAYMENT**	**6,554.70**
974	**27/11/2025**	**DOT - DOT PAYMENT**	**2,460.75**
974	**27/11/2025**	**GHA - GREYHOUND AUSTRALIA**	**4,385.00**
974	**28/11/2025**	**DOT - DOT PAYMENT**	**4,675.35**
974	**03/11/2025**	**DOT - DOT PAYMENT**	**9,244.55**
974	**03/11/2025**	**MER - MERCHANT FEES**	**645.42**
974	**03/11/2025**	**MER - MERCHANT FEES**	**303.27**
974	**03/11/2025**	**MER - MERCHANT FEES**	**49.50**
974	**03/11/2025**	**MER - MERCHANT FEES**	**32.95**
975	**18/11/2025**	**BAS4 - ATO - IAS PAYMENT - PAYG WITHHOLDING**	**79,954.31**
DD23198.2	**05/11/2025**	**TELSTRA LIMITED**	**40.00**
INV 4275260919	21/10/2025	MOBILE SERVICE - BACKUP DATA SIM	40.00
DD23210.1	**04/11/2025**	**AWARE SUPER**	**28,160.96**

INV SUPER	04/11/2025	SUPERANNUATION	22,642.23
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	4,308.11
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	400.00
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	360.62
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	165.00
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	285.00
DD23210.2	**04/11/2025**	**GESB EMPLOYER SERVICES**	**694.52**
INV SUPER	04/11/2025	SUPERANNUATION	694.52
DD23210.3	**04/11/2025**	**MLC SUPER FUND**	**577.70**
INV SUPER	04/11/2025	SUPERANNUATION	577.70
DD23210.4	**04/11/2025**	**COLONIAL FIRST STATE INVESTMENTS LIMITED**	**476.11**
INV SUPER	04/11/2025	SUPERANNUATION	476.11
DD23210.5	**04/11/2025**	**BT PANORAMA SUPER**	**1,217.06**
INV SUPER	04/11/2025	SUPERANNUATION	643.06
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	574.00
DD23210.6	**04/11/2025**	**CARE SUPER**	**817.67**
INV SUPER	04/11/2025	SUPERANNUATION	817.67
DD23210.7	**04/11/2025**	**Q SUPER**	**243.05**
INV SUPER	04/11/2025	SUPERANNUATION	243.05
DD23210.8	**04/11/2025**	**PUBLIC SECTOR SUPERANNUATION ACCUMULATION PLAN**	**960.89**
INV SUPER	04/11/2025	SUPERANNUATION	860.89
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	100.00
DD23210.9	**04/11/2025**	**HESTA**	**344.48**
INV SUPER	04/11/2025	SUPERANNUATION	344.48
DD23223.1	**04/11/2025**	**Q SUPER**	**-243.05**
INV REVERSAL	04/11/2025	SUPERANNUATION	-243.05
DD23235.1	**18/11/2025**	**AWARE SUPER**	**29,563.18**
INV SUPER	18/11/2025	SUPERANNUATION	23,999.98
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	4,385.68
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	400.00
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	360.62
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	131.90
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	285.00
DD23235.2	**18/11/2025**	**ING SUPERANNUATION FUND**	**456.53**
INV SUPER	18/11/2025	SUPERANNUATION	456.53

DD23235.3	**18/11/2025**	**GESB EMPLOYER SERVICES**	**694.53**
INV SUPER	18/11/2025	SUPERANNUATION	694.53
DD23235.4	**18/11/2025**	**COLONIAL FIRST STATE INVESTMENTS LIMITED**	**476.12**
INV SUPER	18/11/2025	SUPERANNUATION	476.12
DD23235.5	**18/11/2025**	**BT PANORAMA SUPER**	**1,088.45**
INV SUPER	18/11/2025	SUPERANNUATION	514.45
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	574.00
DD23235.6	**18/11/2025**	**CARE SUPER**	**450.80**
INV SUPER	18/11/2025	SUPERANNUATION	450.80
DD23235.7	**18/11/2025**	**Q SUPER**	**191.19**
INV SUPER	18/11/2025	SUPERANNUATION	191.19
DD23235.8	**18/11/2025**	**PUBLIC SECTOR SUPERANNUATION ACCUMULATION PLAN**	**960.89**
INV SUPER	18/11/2025	SUPERANNUATION	860.89
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	100.00
DD23235.9	**18/11/2025**	**HESTA**	**214.23**
INV SUPER	18/11/2025	SUPERANNUATION	214.23
DD23261.1	**20/11/2025**	**WESTERN AUSTRALIAN TREASURY CORPORATION**	**34,707.95**
INV LOAN	20/11/2025	DEAL 281211 (INTEREST) FLOOD DAMAGE CLAIMS AIRSTRIP REFURB	34,707.95
DD23262.1	**25/11/2025**	**WATER CORPORATION**	**263.72**
INV 9018700655	25/11/2025	FLYNN DR, FITZROY LOT 302 RES 36824 FOR 01/11/2025 TO 31/12/2025	263.72
DD23263.1	**03/11/2025**	**HOUSING AUTHORITY**	**4,440.00**
INV 03112025	03/11/2025	RENT - 7X PROPERTIES	4,440.00
DD23263.2	**24/11/2025**	**HOUSING AUTHORITY**	**1,160.00**
INV 24112025	24/11/2025	RENT - (REF 41046646)	1,160.00
DD23264.1	**12/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**122.23**
INV 107820	12/11/2025	UNIT A/84 DURACK ST, CAMBALLIN FOR 27/08/2025 TO 24/10/2025	122.23
DD23264.2	**24/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**23,336.67**
INV 312249	24/11/2025	LOT 143 DERBY HIGHWAY FOR 04/10/2025 TO 05/11/2025	4,395.78
INV 172452	24/11/2025	LOT 199 FORREST RD, FX FOR 04/10/2025 TO 05/11/2025	7,544.80
INV 166519	24/11/2025	ASHLEY ST, DERBY FOR 04/10/2025 TO 05/11/2025	6,992.76
INV 321183	24/11/2025	30 CLARENDON ST, DERBY FOR 04/10/2025 TO 05/11/2025	4,403.33
DD23264.3	**27/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**2,453.52**
INV 198764	27/11/2025	LOT 128 GREAT NORTHERN HIGHWAY, FX FOR 09/10/2025 TO 10/11/2025	2,453.52
DD23264.4	**18/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**21,082.97**
INV 220780	18/11/2025	884 STREETLIGHTS FOR 01/10/2025 TO 31/10/2025	20,997.15

INV 523100	18/11/2025	CCTV AT BAOBAB WAY, DERBY FOR 01/10/2025 TO 31/10/2025	85.82
DD23264.5	**21/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**1,770.44**
INV 333902	21/11/2025	24 LOCH ST, DERBY FOR 03/10/2025 TO 04/11/2025	1,424.44
INV 424950	21/11/2025	LOT 26818 WHARF RD, DERBY FOR 03/10/2025 TO 04/11/2025	276.01
INV 517343	21/11/2025	LOC 26818 WHARF RD, DERBY FOR 03/10/2025 TO 04/11/2025	69.99
DD23265.1	**12/11/2025**	**AUSTRALIAN SUPER**	**1,669.00**
INV COMMISSIONER OCT 2025	12/11/2025	OCTOBER 2025 COMMISSIONER SUPERANNUATION	1,669.00
DD23266.1	**21/11/2025**	**THE SHELL COMPANY OF AUSTRALIA LIMITED**	**533.42**
INV FUEL - OCT25	21/11/2025	SHELL FUEL - OCT 2025	533.42
DD23267.1	**17/11/2025**	**TELSTRA LIMITED**	**495.00**
INV 4275260810	17/11/2025	SATELLITE BILLING - NOVEMBER 2025	495.00
DD23268.1	**12/11/2025**	**TELSTRA LIMITED**	**1,977.08**
INV 4174249435	12/11/2025	MOBILE PHONE SERVICES - NOVEMBER 2025	1,977.08
DD23269.1	**11/11/2025**	**TELSTRA LIMITED**	**74.94**
INV 1718873800	11/11/2025	SERVICES AND EQUIPMENT RENTAL TO 19/11/2025	74.94
DD23269.2	**24/11/2025**	**TELSTRA LIMITED**	**13,061.39**
INV 0463459000	09/11/2025	MAIN LINE BILLING - NOVEMBER 2025	13,061.39
DD23270.1	**24/11/2025**	**TELSTRA LIMITED**	**957.85**
INV 4174249435	04/11/2025	MOBILE PHONE SERVICES - OCTOBER 2025	957.85
DD23270.2	**21/11/2025**	**TELSTRA LIMITED**	**40.00**
INV 4275260919	02/11/2025	MOBILE SERVICE - BACKUP DATA SIM	40.00
DD23272.1	**28/11/2025**	**HORIZON POWER - ACCOUNT PAYMENTS**	**2,017.45**
INV 163546	28/11/2025	LOT 32 AIRPORT RD, FX FOR 10/09/2025 TO 11/11/2025	686.04
INV 563395	28/11/2025	UNIT B/5 SPINIFEX CT, FX FOR 10/09/2025 TO 11/11/2025	654.18
INV 563394	28/11/2025	UNIT A/5 SPINIFEX CT, FX FOR 10/09/2025 TO 10/11/2025	467.21
INV 163224	28/11/2025	LOT 99999 FALLON RD, FX FOR 10/09/2025 TO 10/11/2025	210.02
DD23210.10	**04/11/2025**	**REST SUPERANNUATION**	**5,050.38**
INV SUPER	04/11/2025	SUPERANNUATION	4,333.42
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	716.96
DD23210.11	**04/11/2025**	**HOST PLUS SUPERANNUATION FUND**	**3,766.63**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	450.00
INV SUPER	04/11/2025	SUPERANNUATION	3,054.55
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	56.94
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	205.14
DD23210.12	**04/11/2025**	**CFS EDGE SUPER AND PENSION**	**1,667.72**

INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	449.00
INV SUPER	04/11/2025	SUPERANNUATION	1,218.72
DD23210.13	**04/11/2025**	**THE EQUIPSUPER SUPERANNUATION FUND**	**968.80**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	260.83
INV SUPER	04/11/2025	SUPERANNUATION	707.97
DD23210.14	**04/11/2025**	**AUSTRALIAN SUPER**	**9,875.68**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	796.46
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	845.26
INV SUPER	04/11/2025	SUPERANNUATION	8,233.96
DD23210.15	**04/11/2025**	**AUSTRALIAN RETIREMENT TRUST SUPER SAVINGS**	**2,596.91**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	362.44
INV SUPER	04/11/2025	SUPERANNUATION	2,234.47
DD23210.16	**04/11/2025**	**MLC SUPER NOMINEES PTY LTD**	**212.84**
INV DEDUCTION	04/11/2025	PAYROLL DEDUCTION	212.84
DD23210.17	**04/11/2025**	**STUDENT SUPER PROFESSIONAL SUPER**	**533.45**
INV SUPER	04/11/2025	SUPERANNUATION	533.45
DD23210.18	**04/11/2025**	**ING SUPERANNUATION FUND**	**476.12**
INV SUPER	04/11/2025	SUPERANNUATION	476.12
DD23235.10	**18/11/2025**	**UNI SUPER LIMITED**	**70.33**
INV SUPER	18/11/2025	SUPERANNUATION	70.33
DD23235.11	**18/11/2025**	**REST SUPERANNUATION**	**4,997.55**
INV SUPER	18/11/2025	SUPERANNUATION	4,280.59
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	716.96
DD23235.12	**18/11/2025**	**HOST PLUS SUPERANNUATION FUND**	**3,495.33**
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	450.00
INV SUPER	18/11/2025	SUPERANNUATION	2,783.25
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	56.94
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	205.14
DD23235.13	**18/11/2025**	**CFS EDGE SUPER AND PENSION**	**1,667.72**
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	449.00
INV SUPER	18/11/2025	SUPERANNUATION	1,218.72
DD23235.14	**18/11/2025**	**THE EQUIPSUPER SUPERANNUATION FUND**	**968.80**
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	260.83
INV SUPER	18/11/2025	SUPERANNUATION	707.97
DD23235.15	**18/11/2025**	**AUSTRALIAN SUPER**	**9,551.76**

INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	802.68
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	690.89
INV SUPER	18/11/2025	SUPERANNUATION	8,058.19
DD23235.16	**18/11/2025**	**AUSTRALIAN RETIREMENT TRUST SUPER SAVINGS**	**2,855.42**
INV DEDUCTION	18/11/2025	PAYROLL DEDUCTION	362.44
INV SUPER	18/11/2025	SUPERANNUATION	2,492.98
DD23235.17	**18/11/2025**	**STUDENT SUPER PROFESSIONAL SUPER**	**533.45**
INV SUPER	18/11/2025	SUPERANNUATION	533.45
DD23235.18	**18/11/2025**	**MLC SUPER FUND**	**225.48**
INV SUPER	18/11/2025	SUPERANNUATION	225.48
PE04/11/2025	**4/11/2025**	**NET PAY**	**$237,159.84**
PE04/11/2025	**4/11/2025**	**NET PAY**	**-$1,731.38**
PE04/11/2025	**4/11/2025**	**NET PAY**	**$2,647.35**
PE18/11/2025	**18/11/2025**	**NET PAY**	**$243,092.50**
		TOTAL	**$937,991.62**

The Shire Of Derby / West Kimberley
ANZ Corporate Credit Card Reconciliation
Period Reporting: 15/09/2025 to 12/10/2025

Card Holder : Tamara Clarkson

Date	Transaction Description	GST (Y/N)	Amount (GST Excl)	GST	Amount (GST Incl)	Account	Receipt Provided	Comments
7/10/2025	QANTAS AIRWAYS LTD (EC Mascot	Y	$ 694.73	$ 69.47	$ 764.20	PC06	Yes	Employee flight booking - Derby to Perth return - Attendance at LG Professionals WA Annual State Conference 2025 5.11.25 - 7.11.25
6/10/2025	WANEWSDTI Osborne Park	Y	$ 29.09	$ 2.91	$ 32.00	121402410.2100	Yes	The West Australian/Sunday Times Digital Edition Subscription 04.10.25 - 31.10.25
6/10/2025	CLARK POOLS AND SPAS BROOME	Y	$ 100.83	$ 10.08	$ 110.91	BM006	Yes	Pool maintenance fee for Shire provided housing.
6/10/2025	LOCAL GOVERNEMENT MANA MT HAWTHORN	Y	$ 2,345.45	$ 234.55	$ 2,580.00	EX06	Yes	CEO and EA event registration - LG Professionals WA Annual State Conference 2025
1/10/2025	BP BROOME CENTRAL 6075 BROOME	Y	$ 45.61	$ 4.56	$ 50.17	P226	Yes	Fuel expense for 01KW 28.09.25
30/09/2025	STARLINK INTERNET Sydney	Y	$ 98.18	$ 9.82	$ 108.00	121402190.2100	Yes	Additional WIFI required for Derby Administration Building 28.08.25 - 28.0.25
29/09/2025	STARLINK INTERNET Sydney	Y	$ 379.09	$ 37.91	$ 417.00	121402190.2100	Yes	WIFI subscription for FX SDWK buildings 27.08.25 - 27.09.25
29/09/2025	BROOME INTERNATIONAL A BENTLEY	Y	$ 127.27	$ 12.73	$ 140.00	EX08	Yes	Broome airport parking expense 19.09.25 to 26.09.25 while CEO attended meetings in Perth
29/09/2025	ALLVOLTS POWR SOLU BROOME	Y	$ 403.64	$ 40.36	$ 444.00	121404110.2100	Yes	12v 9AH VRLA Drypower Battery
29/09/2025	Vibe Hotel Subiaco Subiaco	Y	$ 918.16	$ 91.82	$ 1,009.98	PC06	Yes	Employee accommodation attending training in Perth 21.09.25 to 25.09.25
26/09/2025	Intuit Mailchimp Sydney	Y	$ 62.55	$ 6.26	$ 68.81	121402200.2100		Shire email direct marketing client monthly subscription (essentials plan)
25/09/2025	STARLINK INTERNET Sydney	Y	$ 505.45	$ 50.55	$ 556.00	121402190.2100	Yes	WIFI subscription for FX and Derby SDWK buildings 23.08.25 - 23.09.25
22/09/2025	BROOME INTERNATIONAL A BENTLEY	Y	$ 18.36	$ 1.84	$ 20.20	EX08	Yes	CEO travel incidentals (lunch and non-alcoholic refreshment) - travel to Perth w/ Commissioner attending Shire meetings
22/09/2025	EASTERNHIL0490063687 WATTLE GROVE	Y	$ 69.68	$ 6.97	$ 76.65	EX08	Yes	CEO travel incidental (Perth) - Cab charge 19.09.25
18/09/2025	AIRNORTH MARRARA	Y	$ 615.79	$ 61.58	$ 677.37	120401090.2100		Commissioner travel Perth to Kununurra 27.09.25 following Shire meetings in Perth
17/09/2025	BROOME INTERNATIONAL A BENTLEY	Y	$ 18.36	$ 1.84	$ 20.20	120401090.2100	Yes	Commissioner travel incidentals (lunch and non-alcoholic refreshment) - travel to Perth w/ CEO attending Shire meetings
17/09/2025	Burswood Car Rentals Burswood	Y	-$ 363.64	-$ 36.36	-$ 400.00	120401090.2100	Yes	Commissioner vehicle hire (Perth) 09.09.25 - 13.09.25 - held bond reversal.
17/09/2025	Burswood Car Rentals Burswood	Y	-$ 363.64	-$ 36.36	-$ 400.00	120401090.2100	Yes	Commissioner vehicle hire (Perth) 09.09.25 - 13.09.25 - held bond reversal.
17/09/2025	Burswood Car Rentals Burswood	Y	$ 363.64	$ 36.36	$ 400.00	120401090.2100	Yes	Commissioner vehicle hire (Perth) 09.09.25 - 13.09.25 - bond held.
15/09/2025	Reddy Express 6948 Broome	Y	$ 82.78	$ 8.28	$ 91.06	P49	Yes	Fuel expense for 13KW 11.09.25
15/09/2025	Performance Tinting MINYIRR	Y	$ 1,205.45	$ 120.55	$ 1,326.00	P49	Yes	13KW windscreen placement
				TOTAL	$ 8,092.55			

Card Holder Declaration:

I, as the card holder, am responsible for all transactions on my Corporate Credit Card and hereby declare that the expenditure detailed on this statement was approved for work related purposes in accordance with the Transaction Card Policy and Procurement Policy of the Shire of Derby/West Kimberley

Tamara Clarkson
Chief Executive Officer

_____ signature

_____ Date

Card Holder : Luke Lawrence

Date	Transaction Description	GST (Y/N)	Amount (GST Excl)	GST	Amount (GST Incl)	Account	Receipt Provided	Comments
9/10/2025	QANTAS AIRWAYS LTD (EC Mascot	Y	$ 659.35	$ 65.94	$ 725.29	EX08	Yes	Director flight booking - Derby to Perth return - Attendance at LG Professionals WA Annual State Conference 2025 5.11.25 - 7.11.25
				TOTAL	$ 725.29			

Card Holder Declaration:

I, as the card holder, am responsible for all transactions on my Corporate Credit Card and hereby declare that the expenditure detailed on this statement was approved for work related purposes in accordance with the Transaction Card Policy and Procurement Policy of the Shire of Derby/West Kimberley

Luke Lawrence
Director of Community Planning

L Lawrence signature

04.12.25 Date

TOTAL PURCHASES FOR ABOVE STATED PERIOD	**$**	**8,817.84**
PAYMENTS AND OTHER CREDITS	**-$**	**800.00**
INTEREST CHARGES	**$**	**-**
CLOSING BALANCE	**$**	**9,617.84**

Procurement Approval

Name	Tamara Clarkson
Position	Chief Executive Officer
Date	04/12/2025
Signature	

Reconciliation Processed

Name	Ashlee Doust
Position	Accounts Payable Officer
Date	
Signature	

Reconciliation Certified

Name	Aaron Gloor
Position	A/Manager Corporate Services
Date	04/12/2025
Signature	Aaron Gloor

15 COMMUNITY SERVICES

15.1 FACILITY FEE WAIVER REQUEST - DAMBIMANGARI ABORIGINAL CORPORATION

File Number: **CS/FS/2**

Author: **Santana Rose, Manager Community Development**

Responsible Officer: **Luke Lawrence, Director Community Planning**

Authority/Discretion: **Executive**

SUMMARY

This report seeks Council consideration to waive a $3,500 hire fee for the Derby Airport Function Centre by Dambimangari Aboriginal Corporation (DAC). DAC hired the facility from 8 to 10 September 2025 and requested an extension due to a fire at Mowanjum Community that restricted access. Following the hire, concerns were raised by DAC about access limitations and requested the additional fee be waived.

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

Dambimangari Aboriginal Corporation (DAC) hired the Derby Airport Terminal from 8 to 10 September 2025, with key return scheduled for 11 September 2025. A facility hire fee of $10,500 was paid along with a bond of $4,000.

On 10 September, DAC requested an extension of the booking to 11 September due to a Bushfire Warning that was issued for the Mowanjum area, which prevented some members attend the scheduled meeting. The extension was approved, with an additional hire fee of $3,500.

DAC raised concerns that a fault with an internal access door restricted movement within the facility during the hire. DAC requested that the additional hire fee be waived, noted the facility was returned in good condition, and expressed a desire to maintain a positive relationship with the Shire.

STATUTORY ENVIRONMENT

Part 6 – Financial Management of the *Local Government Act 1995* applies to this report in that 6.12 (1) (b) grants Council the power to waive or grant concession in relation to any amount of money.

POLICY IMPLICATIONS

Policy F19 – Community Funding Scheme provides guidance as to the provision of financial and non-monetary assistance to community groups and non-for-profit organisations by the Shire.

FINANCIAL IMPLICATIONS

DAC have requested a fee waiver for their additional day hire of the Derby Airport Function Space. If the facility fee waiver is granted income of $3,500 will not be realised.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	2.2 Healthy Communities	2.2.1 Build, maintain and maximise the use of community facilities
2. Community	2.2 Healthy Communities	2.2.4 Conduct and/or promote healthy lifestyle initiatives and living standards
2. Community	2.4 Sustainable Communities	2.4.2 Collaborate with key agencies, groups and service providers to improve community services, programs and facilities

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Reputation: Negative feedback if fee waiver is denied.	Possible	Moderate	Medium	Council to approve request for waiver of facility hire.

CONSULTATION

DAC raised concerns verbally and via email regarding access restrictions, the facility condition, and the additional hire fee. Correspondence was maintained to clarify the extension request, advise of the additional fee and address operational matters.

COMMENT

DAC's request to waive the additional hire fee has been reviewed against facility records and correspondence. Documented access issues occurred during the booking due to the magnetic door faults and the pre-hire condition report, completed three days prior, may not have fully reflected the facility's condition at handover. A fee waiver is considered justified, as access issues during the hire period prevented the hiree from making full use of the facility.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

Nil

RECOMMENDATION

That Council AGREE to waive the additional hire fee of $3,500 for the extension of the Derby Airport Function Centre on 11 September 2025 for Dambimangari Aboriginal Corporation.

15.2 USER AGREEMENT 2026/27 - FUSION COMBAT ACADEMY

File Number: **CP/095/3**

Author: **Kylie Tame, Manager Development Services**

Responsible Officer: **Luke Lawrence, Director Community Planning**

Authority/Discretion: **Executive**

SUMMARY

This report seeks endorsement for the Shire of Derby/West Kimberley (the Shire) to enter into a user agreement with the Fusion Combat Academy Incorporated (Fusion Combat Academy).

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

The Derby Boxing Club became incorporated in July 2018. Its purpose was to establish a community boxing program that encouraged adults, children and young people to participate in structured, healthy sporting activities within a safe and supportive environment, while providing opportunities to compete in sanctioned tournaments within the region. In October 2025, Derby Boxing Club formally changed its operating name to Fusion Combat Academy.

STATUTORY ENVIRONMENT

Part 6, division 5 of the *Local Government Act 1995* addresses financing local government activities. Subdivision 2 describes setting fees and charges.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

User agreements offer community-based sporting groups the opportunity to secure regular facility bookings at a discounted rate. This arrangement benefits both the Shire, which recovers some facility costs, and the community, which enjoys continued support for important recreational and sporting activities. This report proposes the allocation of the following facility usage to Fusion Combat Academy under the new user agreement:

- $1,050 per annum hire fee for Boxing Gym Area – squash court 1 and 2
- $478 per annum hire fee for Community Room
- $1,000 refundable facility bond
- $100 refundable key bond (per key issued).

The non-refundable fees payable for the proposed 18-month User Agreement for Fusion Combat Academy (1 January 2026 – 30 June 2027) is $2,292 ($1,528 per annum). This has been calculated using the adopted annual user agreement contribution set in the Schedule of Fees and Charges and the confirmed long-term booking schedule for the Boxing Gym Area (includes Squash Court one and Two) and the Community Room. The total amount payable without a user agreement,

and based on facility hire fees set out in the 2025/26 Schedule of Fees and Charges, would be $66,183 ($44,122 per annum). Fee calculations are provided in the table below.

Fee Calculations – 52 weeks					
	Squash court 1 & 2		Community Room		
DAY	TIME	HOURS	TIME	HOURS	
Monday	3:00pm to 8:30pm	5.5			
Tuesday	3:00pm to 8:30pm	5.5			
Wednesday	3:00pm to 8:30pm	5.5	5:00pm to 8:30pm	3.5	
Thursday	3:00pm to 8:30pm	5.5	5:00pm to 8:30pm	3.5	
Friday	3:00pm to 8:30pm	5.5	5:00pm to 8:30pm	3.5	
Saturday	3:00pm to 8:30pm	5	8:00am to 1:00pm	5	
Total Weekly Hours		32.5		15.5	**48**
Standard hire fees 52 weeks		$30,420		$13,702	**$44,122**
User Agreement fees per annum		$1,050		$478	**$1,528**

The Shire will apply a $42,594 fee reduction to support community participation and the continued development of a structured and safe combat sports program in Derby.

Any additional use outside the allocated booking times will be charged according to the hourly or daily rates outlined in the relevant Schedule of Fees and Charges.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	2.2 Healthy Communities	2.1.3 Provide activities, programs, places and spaces that engage young people
2. Community	2.2 Healthy Communities	2.2.1 Build, maintain and maximise the use of community facilities
2. Community	2.2 Healthy Communities	2.2.2 Facilitate a range of accessible sporting and recreational activities
2. Community	2.2 Healthy Communities	2.4.1 Support and assist volunteer, community and sporting groups

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Financial: Club does not meet payment obligations for the $1,050.00 fee.	Unlikely	Minor	Low	Payment schedule monitored through Shire invoicing. No access until agreement is signed.
Community: Club does not adhere to booking times, resulting in conflicts with other facility users.	Possible	Moderate	Medium	Clear booking schedule included in agreement. Staff oversight. Breach procedures enforced if repeated.

People Health & Safety: Boxing activities conducted without appropriate supervision or qualified coaches.	Possible	Major	High	Mandatory submission of coach qualifications, Working with Children Checks, and adherence to Shire Facility Code of Conduct. Scheduled meetings and compliance checks.
Property: Increased wear or damage to the community centre / squash court facility.	Possible	Minor	Low	Regular inspections, bond conditions, and requirement to report damage. Cost recovery through standard fees and charges.
Reputation: Failure to approve the UA may impact negatively on the relationship between the Shire and the club.	Likely	Moderate	High	Approve a realistic/workable User Agreement that allows the Club to operate effectively and grow.

CONSULTATION

Consultation with Fusion Combat Academy regarding the facilities they would like access to, booking times and entering into a new agreement.

COMMENT

The draft User Agreement seeks to establish an 18-month User Agreement with Fusion Combat Academy for the use of the community room and the purpose-built boxing and fitness space permanently located within the Derby Recreation Centre. The proposed agreement will operate from 1 January 2026 to 30 June 2027. The draft User Agreement has been developed in consultation with club representatives, a draft is provided in attachments.

The agreement outlines the specific areas and times allocated to the Club, including exclusive access to the designated training space during scheduled booking periods, as well as access to one storage cage for secure equipment storage. These arrangements support the re-establishment and long-term sustainability of the Club.

Date Range	***Provision***
1 January 2026 to 30 June 2027	Boxing Area Squash Courts 1 and 2: Monday to Friday 3:00pm to 8:30pm Community Room: Wednesday to Friday 5:00pm to 8:30pm
1 January 2026 to 30 June 2027	Boxing Area Squash Courts 1 and 2 and Community Room Saturday 8:00am to 1:00pm
1 January 2026 to 30 June 2027	Access to the Community room and any additional Shire facilities will be subject to the relevant standard Shire booking fees, as required.

While previous user agreements for the former Derby Boxing Club varied between 12-month and 24-month terms, the proposed 18-month agreement provides a practical transition period to align all community-based user agreements to a consistent cycle from the 2027/28 financial year onward to ensure consistency with the Shire's budgeting and fees and charges cycle. All other conditions of the agreement remain consistent with prior arrangements, including requirements for public liability insurance, adherence to Shire policies, and compliance with the conditions of hire.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. Draft - Fusion Combat Academy 2026/27 User Agreement ⇩

RECOMMENDATION

That Council:

1. **ENDORSES the discounted fees applicable to the user agreement that will be entered into with Fusion Combat Academy Incorporated;**
2. **APPROVES entering into a user agreement with Fusion Combat Academy Incorporated for an 18 month period for a fee of $1,528 per annum; and**
3. **AUTHORISES the Chief Executive Officer to finalise the terms and execute the agreement with Fusion Combat Academy Incorporated.**

Licence Agreement to use Community Facility

Between Shire of Derby/West Kimberley,
And
Fusion Combat Academy

Boxing Gym Area & Community Room– Community Building
Recreation Centre Precinct

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Parties

Shire of Derby/West Kimberley, a body corporate pursuant to the *Local Government Act 1995* of PO Box 94, Derby, Western Australia (**Shire**)

Fusion Combat Academy, a community- based sporting organisation pursuant to the *Associations Incorporation Act 2015* of PO Box 1394, Derby, Western Australia, 6728**.** (**Licensee**)

Background

A The Shire owns or manages the Land which includes the Community Facility.

B The Shire has agreed to grant to the Licensee the right to use and occupy the Licensed Area subject to the terms and conditions contained in this Licence.

Operative provisions

1 Definitions and interpretation

Definitions

1.1 In this Licence the following definitions apply:

Authorised Persons means:

(a) an agent, employee, licensee, contractor or invitee of the Licensee;

(b) any person visiting the Licensed Area with the express or implied consent of any person referred to in paragraph (a) of this definition;

(c) any person claiming under or through the Licensee.

Authorised Use is defined in Item 9 of Schedule 1.

Commencement Date is defined in Item 6 of Schedule 1.

Community Facility is defined in Item 1 of Schedule 1.

Council means the council of the Shire.

Default Interest Rate means 10% per annum above the Reserve Bank of Australia target cash rate from time to time.

End Date is defined in Item 8 of Schedule 1.

Event of Default means any of the events or occurrences set out in clause 18.1 of this Licence.

GST means goods and services tax or similar value added tax levied or imposed in Australia pursuant to the GST Law or otherwise on a supply.

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GST Act means *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

GST Law has the same meanings as in the GST Act.

Land is defined in Item 2 of Schedule 1 and where the context so requires includes the Community Facility.

Laws mean all statutes, rules, regulations, proclamations, ordinances, local laws, or by-laws present or future and includes applicable Australian Standards and Codes of Practice as varied from time to time.

Licence means this agreement and the Schedules and, where applicable, any appendices, plans or other attachments to this agreement as amended from time to time.

Licensed Area is defined in Item 3 of Schedule 1.

Licence Fee is defined in Item 4 of Schedule 1.

Minister means Minister for Lands.

Occupiers mean any person (other than the Licensee) with a right to use any part of the Land from time to time.

Party or Parties means respectively a party or parties to this Licence.

Plant and Equipment means the plant and equipment used in connection with the provision of any utilities or services or the heating, cooling, lighting, power or plumbing for the Licensed Area.

Relevant Authority means any government, statutory, public or other authority or body having jurisdiction over the Land or any matter or thing relating to the Land on the Land.

Requirements mean any requirements, notices, orders or directions of any Relevant Authority.

Review Dates is defined in Item 5 of Schedule 1.

Special Conditions means the special conditions set out in Schedule 2.

Term is defined in Item 7 of Schedule 1.

Written Law has the same meaning given to that term in the *Interpretation Act 1984* (WA) as varied from time to time

Interpretation

1.2 In the interpretation of this Licence, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Licence.

1.2.2 A reference in this Licence to a business day means a day other than a Saturday, Sunday or public holiday in Perth, Western Australia.

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1.2.3 If the day on which any act, matter or thing is to be done under this Licence is not a business day, the act, matter or thing must be done on the next business day.

1.2.4 A reference in this Licence to dollars or $ means Australian dollars and all amounts payable under this Licence are payable in Australian dollars.

1.2.5 A reference in this Licence to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

1.2.6 A reference in this Licence to any agreement or document is to that agreement or document as amended, novated, supplemented or replaced.

1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Licence.

1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.

1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.

1.2.10 A word which denotes the singular also denotes the plural, a word which denotes the plural also denotes the singular, and a reference to any gender also denotes the other genders.

1.2.11 A reference to the word 'include' or 'including' is to be construed without limitation.

1.2.12 Any schedules and attachments form part of this Licence.

2 Grant of Licence

2.1 The Shire grants to the Licensee, subject to the consent of the Minister (where relevant) and the Licensee accepts, a licence to use the Licensed Area for the Term from the Commencement Date to the End Date solely for the Authorised Use on the terms and conditions of this Licence.

2.2 The rights under this Licence are in contract only and no estate or interest in the Licensed Area is conferred on the Licensee by this Licence.

2.3 This Licence shall relate only to the Licensed Area and the Shire shall at all times be entitled to use, occupy and deal with the remainder of the Land and the Community Facility without reference to the Licensee.

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3 Conditions Precedent

Local Government Condition

3.1 This Licence is subject to and expressly conditional on the Shire complying with the procedures set out in section 3.58 of the *Local Government Act 1995* (WA) relating to disposal of property.

Land Administration Act

3.2 If the Land is subject to the provisions of the *Land Administration Act 1997* (WA) then this Licence is subject to and expressly conditional on the Minister granting his or her consent to this Licence.

Best Endeavours

3.3 The Parties covenant and agree that where relevant, the Parties will each use their best endeavours to satisfy the conditions precedent in clauses 3.1 and 3.2.

Costs

3.4 The Shire will bear all costs associated with satisfying the conditions precedent in clauses 3.1 and 3.2.

Refusal or granted subject to conditions

3.5 If any approval:

3.5.1 is refused; or

3.5.2 granted subject to a condition that the Licensee in its reasonable opinion is unable to comply with, and the Licensee within 10 business days after being notified of the condition elects, by notice in writing to the Shire, to withdraw from this Licence;

3.6 then, this Licence, except this clause, ceases to have effect and no party has any claim against the other party.

4 Licence Fee

4.1 The Licensee must pay the annual Licence Fee to the Shire on the Commencement Date and on each first day of July following the Commencement Date without any deduction or set-off by way or direct payment to the Shire or as the Shire may direct.

4.2 The first payment of the Licence Fee must be paid to the Shire on the Commencement Date and will be calculated on a pro-rata basis so that the Licensee pays the Licence Fee for the period from the Commencement Date to the 30 June during the Term of this Licence.

5 Licence Fee Review

5.1 On a Review Date the Licence Fee shall be reviewed in accordance with the provisions of clauses 5.2 to 5.5 (inclusive).

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Licence Fee Review

5.2 With effect from each Review Date, the Shire shall review the Licence Fee so that it is an amount determined or calculated in accordance with the then current Shire of Derby/West Kimberley adopted annual fees for licensing of Shire assets (facilities, buildings and land) and in line with Policy ES5 and any other relevant Policies, which have been passed by resolution of Council.

5.3 The Shire shall give the Licensee a notice setting the Licence Fee, however the failure of the Shire to give such a notice before the Review Date does not preclude the Shire from giving such a notice in respect of that Review Date at any later time.

Payment of Reviewed Licence Fee

5.4 The Licensee will be liable to pay the reviewed annual Licence Fee from the relevant Review Date whether or not the Shire has notified the Licensee of the amount to which the annual Licence Fee has been varied.

5.5 If the Shire has not given notice of the reviewed annual Licence Fee to the Licensee and the Licensee continues to pay Licence Fee at the rate of the current annual Licence Fee until the Shire notifies the Licensee of the reviewed annual Licence Fee, the Licensee will not be in default for non-payment of Licence Fee provided that when the Shire notifies the Licensee of the amount of the reviewed annual Licence Fee, any necessary adjustment is made within 10 business days of service of the Licence Fee review notice.

6 Licensee Covenants

Use

6.1 The Licensee must not use or permit the Licensed Area to be used for any purpose other than the Authorised Use.

Improvements and Additions

6.2 The Licensee must not erect, construct, build, install or bring any buildings or structures of a permanent nature on the Licensed Area or make any other alterations, additions or improvements on the Licensed Area except in accordance with clause 13 of this Licence.

6.3 Unless otherwise agreed in writing, every building and fitting, fixture or structure erected, fixed or placed upon the Licensed Area shall become the absolute property of the Shire and shall not be removed from the Licensed Area or moved to any other part of the Land except with the prior written consent of the Shire.

Maintenance

6.4 The Licensee must:

6.4.1 maintain the Licensed Area in a good condition and state of repair, except in respect of:

(i) fair wear and tear; and

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(ii) damage which is or will be reinstated from the proceeds of insurance;

6.4.2 promptly repair any damage to the Licensed Area for which the Licensee is responsible to the satisfaction of the Shire;

6.4.3 keep the Licensed Area clean and free from rubbish;

6.4.4 not do or omit to do anything which might cause the Licensed Area to deteriorate or become impaired except for fair wear and tear, to be obstructed, or to be in a condition other than a good and sanitary condition;

6.4.5 not without the Shire's prior consent, interfere with or modify the electricity supply or its reticulation, or install any electrical equipment on the Licensed Area which might overload the cables, switchboards or sub-boards through which electricity is connected to the Licensed Area;

6.4.6 not without the Shire's prior written consent interfere with or modify the drainage or water supply facilities (if any) serving the Licensed Area or any equipment connected to such facility;

6.4.7 not without the Shire's prior consent, erect or place on or in the Licensed Area any radio or television aerial or antenna;

6.4.8 keep all roads, driveways and access ways (if any) on the Land free of rubbish and debris and ensure that they are not obstructed; and

6.4.9 if this Licence is in respect of the whole of the Land, maintain all roads, driveways and access ways (if any) on the Licensed Area.

Report to the Shire

6.5 The Licensee shall report promptly to the Shire in writing:

6.5.1 all damage or defects in the Licensed Area of which the Licensee is or ought to be aware; and

6.5.2 any circumstances likely to be a danger or cause any damage or danger to the Licensed Area and the Licensee's fixtures or any person in or on the Licensed Area and the Licensee's fixtures of which the Licensee is aware.

6.6 The Licensee must also report all damage, defects or maintenance requests or suggestions to the Shire by submitting an email with the relevant information to SDWK@SDWK.wa.gov.au .

Nuisance

6.7 The Licensee must take all reasonable precautions against the outbreak of fire on the Licensed Area and to permit the entry of the Shire its officers and servants or agents on to the Licensed Area for the purpose of abating any fire on or in the vicinity of the Licensed Area.

6.8 The Licensee shall not do or permit anything to be done on or in relation to the Land, which may be or may become a danger or a nuisance to the Shire or other persons

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authorised by the Shire to enter or use the Land or to the owner or occupier of any adjoining or nearby land.

Unlawful Activities

6.9 The Licensee must not do or carry on in the Licensed Area any activity which might be harmful, offensive or illegal, or cause a nuisance, damage or disturbance to the Shire or the Occupiers or the owners or occupiers of any nearby properties.

Rubbish

6.10 The Licensee must not:

6.10.1 place any rubbish on or in any part or the Licensed Area except in a suitable receptacle; or

6.10.2 burn any rubbish in or on the Licensed Area.

Floor Overloading

6.11 The Licensee must not do any act or thing which might result in overloading any part of the floor of the Licensed Area.

Goods and Chemicals

6.12 The Licensee must not:

6.12.1 except for reasonable quantities for normal applications in connection with the Authorised Use of the Licensed Area, bring onto, store or use any chemical or inflammable substance in or on the Licensed Area; and

6.12.2 store goods on or in the Licensed Area other than those necessary for the Authorised Use.

6.13 On request, the Licensee must supply the Shire with material safety data sheets for any chemicals or inflammable substance which the Licensee is permitted to bring onto, store or use in or on the Licensed Area under clause 6.12.1 of this Licence.

Signs, advertisements or notices

6.14 The Licensee must not display from or affix to the Licensed Area any signs, advertisements or notices visible from outside the Licensed Area without the prior consent of the Shire which the Shire may not unreasonably withhold in the case of a notice:

6.14.1 stating the Licensee's name; and

6.14.2 affixed in a place immediately adjacent to the Licensed Area.

6.15 If approved, the signage, advertisement or notice must be secured in a substantial and proper manner so as not to cause any damage to the Community Facility or any person and the Licensee must at the end or earlier termination of the Term remove the signage, advertisement or notice and make good any damage.

Inspection by the Shire

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6.16 The Licensee must permit the Shire to inspect the Licensed Area at all reasonable times.

Security of Licensed Area

6.17 The Licensee must securely lock all doors, gates or other openings in, to or on the Licensed Area when the Licensed Area is unoccupied.

6.18 The Shire may enter the Licensed Area at any time for any purpose in relation to security, but nothing in this clause makes the Shire responsible in any way for the security of the Licensed Area.

Keys to Licensed Area

6.19 If the Licensed Area is able to be locked, the Licensee acknowledges that a maximum of three sets of keys will be provided to the Licensee to obtain access to the Licensed Area. The Licensee must not reproduce any additional key without the Shire's written approval.

6.20 The Licensee must pay to the Shire on demand a bond of $100 for each access key set provided by the Shire.

6.21 In the event that any keys are lost, stolen, or damaged, the Licensee shall immediately notify the Shire and shall be liable to pay the Lost Key Fee as outlined in the current Shire Fees and Charges, which shall cover the cost of replacement of such keys and, if deemed necessary by the Shire due to security concerns arising from the loss or theft, the cost of replacement of the locks to the Licensed Area.

6.22 The Licensee must return to the Shire all keys to the Licensed Area at the end or earlier termination of this Licence. Failure to return all keys may result in forfeiture of the key bond and/or additional charges for lock replacement.

Public Events

6.23 The Licensee must not hold any public event at the Licensed Area except with the prior written consent of the Shire and the Minister (where relevant).

Annual General Meeting

6.24 On the Commencement Date and on each 1 July during the Term of this Licence, if the Licensee is a community or sports organisation, the Licensee must provide the Shire with a copy of the minutes of each Annual General Meeting, an end of year financial statement report, and also provide updated contact details for each of the persons holding the positions of President, Vice President, Secretary and Treasurer in the community or sports organisation.

Toilets

6.25 The toilets, sinks and drains shall be used for their designed purposes only and the Licensee must keep them clear and unobstructed and ensure no substance is deposited into them which could damage or block them.

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7 Licensee to pay for utilities and services

Utilities and services separately assessed

7.1 In accordance with the proportions outlined in Schedule 2 (Special Conditions) the Licensee must pay to the Shire within 30 days of issue of a tax invoice or, if demand is made by a service provider, the service provider all charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges which are separately charged or assessed in respect of the Licensed Area or the Licensee.

Utilities and services not separately assessed

7.2 In accordance with the proportions outlined in Schedule 2 (Special Conditions) where any charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges are not separately charged or assessed in respect of the Licensed Area or the Licensee then, the Licensee must pay to the Shire within 30 days of issue of a tax invoice such fair proportion of those utilities and services as determined by the Shire (acting reasonably).

8 Comply with Laws

8.1 The Licensee must promptly observe and comply in all respects with all Laws, Requirements and rules relating to the Land and the Community Facility and the Licensee's use of it.

9 Risk

9.1 The Licensee agrees to occupy and use the Licensed Area at the Licensee's sole risk.

10 Insurance

Public Risk insurance

10.1 The Licensee must during the Term, effect and maintain adequate public risk insurance cover applicable to the Licensee's use of the Licensed Area for at least $20,000,000 (being the amount which may be paid out arising from any single accident or event) or any increased amount that the Shire may from time to time require.

10.2 The Licensee must supply the Shire with a certificate of currency from the insurer at the commencement of this agreement and annually when insurance is renewed by the Licensee.

Licensee's Obligation to effect other insurances

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10.3 In addition to public risk insurance, the Shire may at any time require the Licensee by notice in writing to effect and maintain other policies of insurance relating to the Licensed Area and the Licensee's fixtures or contents or otherwise as reasonably required by the Shire from time to time, including policies of insurance for:

10.3.1 the full insurable value on a replacement or reinstatement basis of the Licensee's fixtures against fire, explosion, earthquake, aircraft, riot, civil commotion, flood, lightning, storm, tempest, smoke, rainwater, water leakage, impact by vehicles, machinery breakdown or malfunction, and malicious acts or omissions;

10.3.2 employers' indemnity insurance including workers' compensation insurance in respect of all employees of the Licensee employed in or about the Licensed Area;

10.3.3 the full insurable value on a replacement or reinstatement basis of all plate glass windows and doors forming part of the Licensed Area; and

10.3.4 any other matter or thing which the Shire reasonably requires by notice to the Licensee.

10.4 If the Shire has issued a written notice to the Licensee to effect other insurance under clause 10.3, the Licensee must:

10.4.1 supply to the Shire the current details of all insurance effected in accordance with this clause, including copies of certificates of insurance or policy documents and receipts for premiums as updated, amended or varied from time to time;

10.4.2 not without the Shire's prior consent, alter the terms or conditions of any policy; and

10.4.3 ensure that each policy of insurance includes a provision for cross liability and waiver of subrogation rights in favour of the Shire.

Licensee not to invalidate insurance

10.5 The Licensee must not by any act or omission cause or allow anything to be done which might result in any insurance policy effected under this Licence or in respect of the Licensed Area and the Licensee's fixtures becoming void or voidable or which might increase the premium on any policy.

11 Limit of Shire's liability

No warranties or representations

11.1 The Licensee acknowledges and agrees that:

11.1.1 all the Licensee's fixtures and other Licensee's property in or on the Licensed Area shall be at the sole risk of the Licensee during the Term and the Shire shall not be liable for any claim, loss or damage that the Licensee may suffer as a result of:

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(i) any fault in the construction or state of repair of the Licensed Area, the Licensee's fixtures or the Shire's fixtures;

(ii) any defect in any of the Plant and Equipment;

(iii) any flow, overflow, leakage or breakdown of any water, air-conditioning, gas, power or other source of energy whether from the Licensed Area or otherwise;

11.1.2 the Licensee has not relied on any representation or warranty of the Shire in entering into this Licence and, for this purpose, the Licensee acknowledges that:

(i) the Licensee has relied on the Licensee's own skill and judgment and has made the Licensee's own enquiries in determining the suitability of the Licensed Area for the Authorised Use; and

(ii) the Licensee's occupation of the Licensed Area is conclusive evidence of the Licensee's acceptance of the Licensed Area as being in good order, repair and condition at the Commencement Date.

Shire Not Liable

11.2 The Shire is not liable to the Licensee and the Licensee will not make a claim against the Shire in respect of any liability resulting from any accident, death, injury, damage to any property (including water damage), equipment, or machinery malfunction, interruption of services, theft or other event of a similar nature in or affecting or the Licensed Area.

Licensee acts at own risk

11.3 Unless this Licence provides otherwise, whenever the Licensee is obligated or required by this Licence to do or omit to do any act or thing, the doing or the omission of the act or thing will be at the sole risk and expense of the Licensee.

12 Indemnity and release

General indemnity

12.1 The Licensee indemnifies, and shall keep indemnified the Shire and the Minister against all actions, losses, claims, damages, proceedings, suits, demands, costs and expenses for which the Shire or the Minister become liable in respect of loss or damage to property or death or injury of any nature and however or wherever sustained:

12.1.1 which are caused or contributed to by the use or occupancy of the Licensed Area by the Licensee or any Authorised Persons;

12.1.2 resulting from an act or omission of the Licensee; or

12.1.3 resulting from a notice, claim or demand against the Licensee to do or refrain from doing anything except to the extent that the Shire is obliged by

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this Licence to pay for or contribute to the cost of compliance with the notice, claim or demand and fails to do so.

Nature of indemnity

12.2 The obligation of the Licensee to indemnify the Shire and the Minister under this Licence or at law is not affected by the obligation of the Licensee to effect insurance and all indemnities shall survive the termination of this Licence.

13 Alterations by the Licensee

13.1 The Licensee must obtain the Shire's prior written approval (as distinct from any consent that the Licensee may require from the Shire as Relevant Authority) if the Licensee wishes to carry out any work not provided for in any plans previously approved by the Shire.

13.2 The Shire may in its absolute discretion decline consent, or may require a variation of this licence or require a new licence be entered into at the cost of the Licensee to record any such alteration.

13.3 For the avoidance of any doubt, the Licensee must obtain and comply with all necessary consents and will be responsible for all costs in carrying out any approved alterations and must comply with the Shire's reasonable directions in carrying out any work.

14 Assignment

14.1 The Licensee shall not transfer or assign or sub-licence its rights under this Licence except with the prior written consent of the Shire and the Minister (where relevant), which may be withheld at the absolute discretion of the Shire or the Minister.

15 Costs

Costs

15.1 The Licensee must pay or reimburse the Shire on demand for all the Shire's reasonable costs and expenses (including the Shire's legal and consultancy costs and expenses) in relation to:

15.1.1 the exercise or enforcement by the Shire of any right under this Licence;

15.1.2 any act or omission by the Licensee causing cost or expense to the Shire; and

15.1.3 obtaining or giving any consent or approval under this Licence, or a variation or surrender of this Licence.

Duty and other costs

15.2 The Licensee must pay or reimburse the Shire on demand for all duty, taxes, levies, charges and fees, and fines and penalties in respect of any of them, which may be payable in connection with this Licence.

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Interest on other moneys

15.3 If any monies payable by the Licensee remain unpaid for 30 days after their due date then the Licensee shall pay to the Shire interest on those payments at the Default Interest Rate calculated from their due date to the date of payment and such interest shall be compounded monthly.

16 GST

16.1 All fees and charges under this Agreement are exclusive of GST unless stated otherwise. If GST is payable on any supply made under this Agreement, the Licensee must pay the applicable GST amount to the Shire at the same time as the relevant payment. Terms used in this clause have the same meaning as in the *A New Tax System (Goods and Services Tax) Act 1999*.

17 Shire's covenants

Shire's responsibility for repairs and maintenance

17.1 The Shire must keep and maintain the building, all building services and the Shire's improvements on the Land in good order and condition but the Shire shall not be liable or responsible for any:

17.1.1 repair or maintenance of any alterations carried out by the Licensee in accordance with clause 13;

17.1.2 repair or maintenance which the Licensee is responsible for under the terms of this Licence; or

17.1.3 repair or maintenance that is not reasonably necessary for the Licensee's use of the Licensed Area as determined by the Shire (acting reasonably).

17.2 Unless otherwise provided in this Licence, the Shire is responsible for organising and paying for annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Licensee) and recertification of any fall arrest systems located in the Community Facility.

Shire's Right of Access

17.3 The Shire and the Shire's employees and contractors may at all reasonable times (and at any time in the case of an emergency) enter the Licensed Area with all necessary equipment to carry out repairs, maintenance or improvements to the Licensed Area (or adjacent areas), including to:

17.3.1 carry out any repairs or maintenance to the building or building services on the Land that is not the Licensee's responsibility under the terms of this Licence;

17.3.2 construct new structures on the Licensed Area;

17.3.3 alter, add to, extend, reduce the size of, or otherwise modify, existing structures on the Licensed Area; or

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17.3.4 carry out any other works that the Shire considers necessary.

Shire's right to remedy default

17.4 The Shire may, if the Licensee is in default of any repair notice given by the Shire under this Licence or, if any repairs that the Licensee is responsible for under this Licence are required to be undertaken as a matter of urgency then, without prejudice to the Shire's rights under this Licence, the Shire and the Shire's employees and contractors with all necessary equipment at all reasonable times may enter the Licensed Area to carry out such works and the costs of carrying out such works shall be payable by the Licensee to the Shire on demand.

Shire's right to deal with Land

17.5 The Shire may grant easements of support or any other easements or similar rights over any part of the Land or the Licensed Area or dedicate, transfer or otherwise deal with any part of the Land or the Licensed Area in favour of another person for any reason whatsoever.

No undue interference

17.6 In exercising the Shire's rights in clause 17.3 to clause 17.5 (inclusive), the Shire must use its reasonable endeavours not to cause any undue interference with the Authorised Use but in no event will the Shire be responsible for any compensation or liable for any loss suffered by the Licensee.

18 Events of Default

Default

18.1 An event of default occurs if:

18.1.1 the Licence Fee is at any time unpaid for 30 days after becoming due whether formally demanded or not;

18.1.2 the Licensee fails to comply with any of its other obligations under this Licence and that failure is not, in the reasonable opinion of the Shire, remediable;

18.1.3 the failure described in clause 18.1.2 is remediable, and the Licensee does not remedy the failure within 30 days, or a longer period reasonably determined by the Shire after receipt by the Licensee of a notice from the Shire specifying the failure;

18.1.4 in the event of insolvency, receivership, bankruptcy or liquidation of the Licensee; or

18.1.5 if the Licensee makes or enters into or endeavour to make or enter into any composition assignment or other arrangement with or for the benefit of the Licensee's creditors.

Shire's right to terminate

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18.2 If an event of default occurs, the Shire may terminate this Licence by written notice to the Licensee.

Other rights of Shire

18.3 Any action taken by the Shire under clause 17 is without prejudice to any other rights of the Shire and does not release the Licensee from liability under this Licence.

18.4 Access to Squash Court and Community Room Facilities outside approved times - The Licensee acknowledges that the squash facilities and community room form part of the Shire's community infrastructure and except during the Approved Program Times allocated under this Licence, the Shire may permit public use, bookings, programs or any other activities within the squash courts at its discretion. For the avoidance of doubt, the Licensee's rights to the squash facilities are non-exclusive and apply only during the Approved Program Times.

19 Termination

Licensed Area

19.1 At the end or earlier termination of this Licence, the Licensee must ensure that the Licensed Area is in a condition consistent with the compliance of the Licensee's obligations during the Term and deliver to the Shire all keys, access cards and other security devices for the Licensed Area.

Removal of Licensee's fixtures, fittings and chattels

19.2 At the end or earlier termination of this Licence, the Licensee must remove all the Licensee's chattels and, if required by the Shire, any fixture, fitting or structure erected by the Licensee during the Term, and make good at the Licensee's cost any resulting damage and if not removed within five business days or a longer period as reasonably determined by the Shire after the date of termination, ownership of those chattels, fixtures, fittings and structures may at the Shire's election pass to the Shire or the Shire may in a proper and workmanlike manner remove them from the Licensed Area and either store them or forward them to a refuse collection centre.

19.3 The cost of making good the resulting damage and the cost of removal, storage and disposal shall be recoverable from the Licensee as a debt due on demand and the Shire shall not be responsible for any compensation or liable for any loss suffered by the Licensee.

Survival

19.4 The covenants contained in this Licence which expressly or impliedly survive termination shall remain in full force and effect after the termination of this Licence without limit in time and shall not be or be deemed to be waived, merged or extinguished upon such termination.

20 Disputes

Mediation

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20.1 If a dispute arises in relation to this Licence, either Party may give the other a notice requiring that an attempt be made to resolve the dispute with the help of a mediator to be appointed jointly by the Parties.

20.2 If the Parties do not agree on a mediator within seven days after the notice is given, either Party is entitled to ask the Australian Commercial Disputes Centre (ACDC) or such other body that has similar powers at the time of the dispute to appoint the mediator.

20.3 The mediation is to be conducted in accordance with the procedure set out in the ACDC Commercial Mediation Agreement or, if at the relevant time there is no such agreement or an agreement substituted for it, in accordance with the procedure determined by the mediator in consultation with the Parties. Each of the Parties must co-operate fully with the mediator.

20.4 The Parties must each pay an equal share of the fees and expenses to which the mediator is entitled.

Arbitration

20.5 If the dispute has not been resolved by mediation under clause 20.3 within two months of a party requiring mediation, either Party may give the other Party a notice requiring that a dispute be resolved by arbitration under the *Commercial Arbitration Act 2012* (WA) by an arbitrator appointed jointly by the Parties.

20.6 If the Parties do not agree on an arbitrator within seven days after the notice of arbitration is given, either Party is entitled to ask the ACDC or such other body that has similar powers at the time of the dispute to appoint the arbitrator.

20.7 The arbitration must be conducted in accordance with the *Commercial Arbitration Act 2012* (WA). Each of the Parties must co-operate fully with the arbitrator.

20.8 Either Party is entitled to appeal to the Court of competent jurisdiction on any question of law arising out of an award.

Right to seek injunctions

20.9 For the avoidance of any doubt, nothing in this clause 20 shall be construed as limiting the rights of either Party to seek urgent injunctive orders from a Court of competent jurisdiction to restrain the other Party from an ongoing or repetitive breach of this Licence where an order for damages would not be an adequate remedy.

21 Holding Over

21.1 If the Licensee continues to use the Licensed Area after the expiry of the Term with the consent of the Shire, the Licensee will be a monthly licensee of the Shire at the same rate as the then Licence Fee payable by the Licensee immediately prior to expiry of the Term.

22 Notices

Giving notices

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22.1 Any notice or communication given to a Party under this Licence is only given if it is in writing and sent in one of the following ways:

22.1.1 Delivered or posted to that Party at its address and marked for the attention of the relevant department or officer (if any) set out below.

22.1.2 Emailed to that Party at its email address and marked for the attention of the relevant department or officer (if any) set out below.

The Shire

Name:	Shire of Derby/West Kimberley
Address:	Post Office Box 94
	Derby, WA 6728
Email:	SDWK@SDWK.wa.gov.au
Attention:	Manager Development Services

The Licensee

Name:	Derby Boxing Club
Address:	PO Box 1394
	61 Ashley Street, Derby WA 6728
Email:	fusioncombat6728@gmail.com
Attention:	President

Change of physical or email address

22.2 If a Party gives the other Party three business days' notice of a change of its address or email address, any notice or communication is only given by that other Party if it is delivered, posted or emailed to the latest address.

Time notice is given

22.3 Any notice or communication is to be treated as given at the following time:

22.3.1 If it is delivered, when it is left at the relevant address; or

22.3.2 If it is sent by post, five business days after it is posted; or

22.3.3 If it is sent by email, as soon as the sender receives from the sender's email address, a report of an error free transmission to the correct email address.

22.4 However, if any notice or communication is given, on a day that is not a business day or after 5pm on a business day, in the place of the Party to whom it is sent it is to be treated as having been given at the beginning of the next business day.

Copies of notices etc

22.5 If a Party is required by any term of this Licence to give a copy of any notice or communication to a person, the failure to give the copy of it to the person may not be raised to rebut that it was effectively given.

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23 Special Conditions

23.1 The Parties acknowledge and agree that the Special Conditions (as provided in Schedule 2) form part of this Licence.

23.2 In the event that the Special Conditions are inconsistent with the terms of the Licence, then the Special Conditions shall prevail to the extent of such inconsistency.

24 Discretion of the Shire in its capacity as a Relevant Authority

24.1 Nothing in this Licence shall fetter or be construed as an attempt to fetter the discretion or the powers of the Shire in its capacity as a Relevant Authority under any Written Law and in particular does not fetter the Shire in its capacity as a Relevant Authority with regard to the approval or imposition of conditions on any approval required for the development of the Land or carrying out of any alterations, additions or improvements on the Licensed Area in accordance with the terms of this Licence.

25 Miscellaneous

Approvals and consents

25.1 Unless this Licence expressly provides otherwise, a Party may give or withhold an approval or consent in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding a consent or approval or for giving a consent or approval subject to conditions.

25.2 Where this Licence refers to a matter being to the 'satisfaction' of a Party, this means to the satisfaction of that Party in its absolute discretion.

Entire agreement

25.3 This Licence contains everything the Parties have agreed in relation to the subject matter it deals with. No Party can rely on an earlier written document or anything said or done by or on behalf of another Party before this Licence was executed.

Further acts

25.4 Each party must at its own expense promptly execute all documents and do or use reasonable endeavours to cause a third party to do all things that another Party from time to time may reasonably request in order to give effect to, perfect or complete this Licence and all transactions incidental to it.

Governing law and jurisdiction

25.5 This Licence is governed by the law of Western Australia. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

Joint and individual liability and benefits

25.6 Except as otherwise set out in this Licence, any agreement, covenant, representation or warranty under this Licence by two or more persons binds them jointly and each of

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them individually, and any benefit in favour of two or more persons is for the benefit of them jointly and each of them individually.

Severability

25.7 Each provision of this Licence is individually severable. If any provision is or becomes illegal, unenforceable or invalid in any jurisdiction it is to be treated as being severed from this Licence in the relevant jurisdiction, but the rest of this Licence will not be affected. The legality, validity and enforceability of the provision in any other jurisdiction will not be affected.

Counterparts

25.8 This Licence may be executed in any number of counterparts each of which is an original and all of which constitute one and the same agreement.

Variation

25.9 No variation of this Licence will be of any force or effect unless it is in writing and signed by each Party to this Licence.

Waivers

25.10 A waiver of any right, power or remedy under this Licence must be in writing signed by the Party granting it. A waiver is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25.11 The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Licence does not amount to a waiver.

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Execution and date

Executed as an agreement on the _____ day of _____ 202 .

Shire of Derby/West Kimberley Representative

_____
Print Name

_____ _____
Print Position Signature

Fusion Combat Academy Representative

_____ _____
Patricia Gault Signature
President

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Schedule 1 - Items

Item 1 **Community Facility**

Derby Recreation Centre Precinct – Community Centre Building, Boxing Area and Squash Courts, and Community Room

61 Ashley Street, Derby, WA, 6728

Item 2 **Land**

Reserve (Type 3R) Reserve NO# 23127 Public open space Zoning comprised in Lot 3033 on Deposited Plan 41762 and being the land in Certificate of Title Volume LR3135 Folio 975

Item 3 **Licensed Area**

That part of the Land as depicted and hatched in the colour red, on the plan attached to this Licence as Schedule 4.

Date Range	***Provision***
1st January 2026 – 30th June 2027	Boxing Area Squash Courts 1 & 2 – Monday to Friday. Community Room – Wednesday to Friday 3:00pm – 8:30pm
1st January 2026 – 30th June 2027	Boxing Area Squash Courts 1 & 2 – Saturday Community Room – Saturday 9:00am – 12:00pm
1st January 2026 – 30th June 2027	Access to any additional Shire facilities will be subject to the relevant *standard Shire booking fees*, as required.

Item 4 **Licence Fee**

The total Licence Fee is $2,292.00 for the term of this Licence.

The licence fee is calculated on a rate of $1528.00.00 per annum excluding GST.

Fee is to be paid in two instalments.

First payment of $764 GST exclusive is payable from the Commencement Date.

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Second Payment of $1528.00 GST exclusive is payable from the 1 July 2026.

The total licence fee for this 18-month agreement is calculated on a pro-rata basis in line with the Shire's Schedule of Fees and Charges.

The annual User Agreement fee may change and can increase in line with any adjustments approved by Council as part of the Shire's annual review of the Schedule of Fee and Charges. Any changes will be applied to the remaining term of the agreement.

Item 5 **Review Date**

This Licence may be reviewed each year at the time the Shire adopts its annual Schedule of Fees and Charges, and at any time the Licence continues on a holding-over basis.

Item 6 **Commencement Date**

1 January 2026

Item 7 **Term**

18 Months

Item 8 **End Date**

30 June 2027

Item 9 **Authorised Use**

Program delivery, training and group instructional classes, including associated activities reasonably required for the operation of these programs.

One court set up permanently for boxing/martial arts, squash court (shared space) can be utilised.

Storage cage, first aid room, inside toilets, second squash courts.

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Schedule 2 – Special Conditions

Special Conditions are set out below

A Conditions Precedent

a. By accessing and utilising the facilities at the Derby Recreation Centre Precinct, including the Boxing Gym Area and Squash Courts located in the Community Centre Building, all users agree to abide by these terms and conditions. The Licensee acknowledge that their participation in activities is at their own risk and agree to exercise due care and responsibility for their safety and the safety of others. It is the Licensee responsibility to adhere to all posted rules, regulations, and instructions provided by the Shire of Derby/West Kimberley or facility staff. The Licensee further agree to utilise equipment and facilities appropriately, maintain cleanliness, and report any damage or safety concerns immediately to the Shire of Derby/West Kimberley.

b. The Licensee are expressly prohibited from undertaking any works, alterations, or modifications to the facilities, grounds, or equipment without explicit prior written consent from the Shire of Derby/West Kimberley. Any unauthorised use, wilful damage, or failure to comply with these terms may result in the suspension or termination of access to the Licensed Area. This agreement is subject to the policies and guidelines set forth by the Shire of Derby/West Kimberley, which may be updated from time to time.

B Utilities and Services

The Licensee must pay the cost of the utilities and services as set out in the table below. For the avoidance of any doubt, if there are any inconsistencies between clause 7 of this Licence and the table set out below, the Parties agree that the table will prevail.

Utility or service	Amount payable by Licensee
WA State Government Land Tax	0%
WA State Government DFES Levy	0%
Water Corporation – Annual Water/Sewerage Rates Charge (or appropriate similar charge if Shire supplied service)	0%
Water Corporation - Water Consumption Charges (or appropriate similar charge if Shire supplied service)	0%
Gas Charges (Annual Charge and Consumption)	0%
Electricity (Annual/Fixed Charges and Consumption)	0%
Telephones (Annual/Fixed Charges and Consumption)	0%
Cost of installation of any meter, wiring or other device necessitated by the use of a utility and service	100%

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Cost of annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Lessee) and recertification of any fall arrest systems in place	0%
Shire of Derby/West Kimberley's Annual Local Government Rates	0%
Cost of rubbish collection including emptying wheelie bins and 1100 bins	0%
Cost of annual licences (e.g. food surveillance fee)	100%
Public and Member Liability Insurance	100%

C Other special conditions

a. **Storage Cage Allocation**
The Licensee is allocated a storage cage located within the Community Centre building for storage and operational use.

b. **Exclusive Use During Approved Times**
The Licensee has exclusive use of the designated squash court space and boxing area during the Licensee's Approved Program Times.

c. **Common Use Facilities**
The Licensee is permitted to access and use the Common Use Facilities, including the internal toilets and First Aid Room, for the purposes of program delivery. These facilities remain under Shire control and are not part of the Licensed Area.

d. **Public Liability Insurance**
The Licensee must maintain current Public Liability Insurance for the term of this User Agreement and provide evidence of such insurance to the Shire upon execution of the agreement.

e. **Restrictions on External Use and Hiring**
The Licensee must not hire, sub-hire, or otherwise make the Licensed Area or any part of the facility available to any third party. No external users, hirers, or community groups may use the boxing area or squash court during the Licensee's Approved Program Times.

f. **Security and Lock-Up Requirements**
The Licensee is responsible for ensuring that all allocated areas and the wider building are securely locked and alarmed upon departure. Penalties or cost recovery for security call-outs resulting from non-compliance may apply.

g. **Use of Common Areas**

The Licensee must not store equipment, materials or personal items in any Common Use Areas, including corridors, foyers, or shared spaces. The Licensee must ensure these areas remain clean, unobstructed and in a tidy condition at all times. Any items left in Common Use Areas may be removed by the Shire at the Licensee's cost.

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Schedule 3 – Consent of the Minister of Lands

Consent of the Minister of Lands

If applicable, the MINISTER FOR LANDS consents to this Licence pursuant to section 18 of the *Land Administration Act 1997* (WA).

Date:

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Schedule 4 – Plan of Licensed Area

Plan of Licensed Area

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15.3 USER AGREEMENT 2026/27 - DERBY AMATEUR SWIMMING CLUB

File Number: **CP/095/3**

Author: **Kylie Tame, Manager Development Services**

Responsible Officer: **Luke Lawrence, Director Community Planning**

Authority/Discretion: **Executive**

SUMMARY

This report seeks endorsement for the Shire of Derby/West Kimberley (the Shire) to enter into a user agreement with the Derby Amateur Swimming Club Inc. (the Club).

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

The Derby Amateur Swimming Club is recognised as one of the longest-standing clubs in the Shire. Its success in strengthening its position as a leading sporting organisation can be attributed to the dedicated support of a committed group of parents, volunteers, coaches and participants.

In 2022/2023 a user agreement was formalised between the Club and the Shire. The agreement stipulated fees to be charged and the days and times the club had access to the Pool. This consisted of club development training days twice a week for two hours using three lanes, club time trials, race nights and development workshops with visiting specialists. The Council approved this agreement at its Ordinary Meeting on 28 July 28 2022 (C99/22) and subsequently in 31 August, 2023(C99/23). On 26 September 26 2024(C132/24) the Council endorsed the user agreement for 2024/25 and the clubs request for additional lane usage in excess of that covered in the previous agreements.

STATUTORY ENVIRONMENT

Part 6, division 5 of the Local Government Act 1995 deals with financing local government activities. Subdivision 2 deals specifically with setting fees and charges.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

User agreements offer community-based sporting groups the opportunity to secure regular facility bookings at a discounted rate. This arrangement benefits both the Shire, which recovers some facility costs, and the community, which enjoys continued support for important recreational and sporting activities. This report proposes the allocation of the following facility usage and relevant charges to the Club under the new user agreement:

- $1,200 per annum hire fee for the following usage of Derby Memorial Swimming Pool (DMSP):
    - Four lanes on Tuesday and Thursday afternoons
    - Two Lanes on Wednesday mornings
    - Nine slots outside regular pool operational hours.

The fees payable for the proposed 18-month user agreement for the Club (1 January 2026 to 30 June 2027) is $1,800 ($1,200 per annum). The Shire's Schedule of Fees and Charges does not set out an agreed fee for pool usage under a user agreement.

Council has previously approved $1,200 per annum as the applicable fee for the user agreement with this Club. The total amount payable without a user agreement, and based on facility hire fees set out in the 2025/26 Schedule of Fees and Charges is calculated at $22,486 ($14,991 per annum). Fee calculations are provided in the table below.

Component		Calculation Basis	Amount (AUD)
Lane Hire	Wet Season 51 training days	4 lanes × 2 hours × $17/hr	$6,936
	Dry Season 41 training days	4 lanes × 1.5 hours × $17/hr	$4,998
Total Lane Hire (Public Hours)			**$11,934**
After-Hours	Wet Season 51 training days	30 minutes after hours ($105/hr)	$2,677
	Dry Season 41 training days	1 hour after hours ($105/hr)	$5,145
Total After-Hours Charges			**$7,822**
Club Nights (12 total)		13 nights × 2 hours × $105/hr	**$2,730**
TOTAL PAYABLE		Lane Hire + After-Hours + Club Nights	**$22,487**

In addition to the fees that would ordinarily be payable, there are Shire employee costs associated with staffing the facility during the after-hours operations. The total cost for provision of staff is $4,549.51.

Staff Costs – After Hour Operations		
Season / Activity	**Staff Hours**	**Cost**
Wet Season After-Hours	25.5	**$1,089**
Dry Season After-Hours	49	**$2,093**
Club Nights Private Hire	32	**$1,367**
Total Employee Cost	**106.5**	**$4,550**

The proposed 2026/27 User Agreement introduces a revised 18-month term (1 January 2026 to 30 June 2027), instead of the traditional 12-month period.

Any additional use beyond the stipulated times will be charged according to the hourly or daily rates outlined in the relevant Schedule of Fees and Charges.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	2.2 Healthy Communities	2.2.1 Build, maintain and maximise the use of community facilities
2. Community	2.2 Healthy Communities	2.2.2 Facilitate a range of accessible sporting and recreational activities
2. Community	2.2 Healthy Communities	2.1.3 Provide activities, programs, places and spaces that engage young people
2. Community	2.2 Healthy Communities	2.4.1 Support and assist volunteer, community and sporting groups

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Organisation's Operations: Shire Programs and public access are limited during the times he Club is utilising the pool.	Almost Certain	Moderate	High	The Pool may be required to organise dates/times/staff and space accordingly to balance the needs of the community and the user groups to ensure that all parties are safe and satisfied.
People Health & Safety: Limit access to safe adequate pool space and access to accessibility equipment for those with reduced mobility issues.	Possible	Minor	Medium	Encourage patrons with limited mobility to attend during more favourable times and communicate to the wider community of best times to attend the facility.
Reputation: Providing exclusive use of pool facilities to one group may create a divide and alienate community members and groups who utilise the pool for leisure and recreational purposes.	Almost Certain	Moderate	High	Communication to members of the public to ensure information remains up to date of best times to attend the facility.
Reputation: Failure to approve The Club's request may impact negatively on the relationship between the Shire and The Club.	Likely	Moderate	High	Approve a realistic/workable User Agreement that allows the Club to operate effectively and grow.

People Health & Safety: Failure to approve The Club's request to increase lane usage may increase chances of injuries and incidents involving club participants.	Likely	Moderate	Medium	Approve a realistic/workable User Agreement that approves the request and allows the Club to operate effectively and safely.
Financial: Loss of income offset to the DMSP/SDWK due to reduced Pool membership and Aquatic Programs during times of limited pool space and availability.	Almost Certain	Moderate	High	Communication to members of the public to ensure information remains up to date of best times to attend the facility. Scheduling Aquatic Programming to ensure balanced alternatives.
People Health & Safety: Risk of incident or injury to the pool patrons due to overcrowding for lack of pool space from The Club using four lanes during peak times.	Almost Certain	Major	Extreme	Reduced the number of lanes that The Club uses from 4 to 3 lanes, to ensure there is appropriate space for all other user groups, maintain active supervision of patrons and apply preventative supervision.

CONSULTATION

Discussions have been held between Officers and the Club representatives to gather required information and update the user agreement.

COMMENT

The draft agreement seeks to establish an 18-month user agreement with The Club for access and usage of the Pool. The proposed agreement will operate from 1 January 2026 to 30 June 2027. This agreement will balance lane usage and availability for the club and the general public usage.

The Club has requested the following lane access:

Date Range	Provision
1 January 2026 to 31 May 2026 (except school holidays)	Provision of 4 Lanes each Tuesday and Thursday (4:00pm to 6:30pm) Provision of 2 lanes each Wednesday (6:00am to 7:00am)
1 June 2026 to 31 July 2026 (except school holidays)	Provision of 4 lanes once a week for two 1-hour sessions if required. Bookings completed in advanced with Derby Memorial Pool staff.

1 August 2026 to 31 May 2027 (except school holidays)	Provision of 4 Lanes each Tuesday and Thursday (4:00pm to 6:30pm) Provision of 2 lanes each Wednesday (6:00am to 7:00am)
1 June 2027 to 30 June 2027	Provision of 4 lanes once a week for two 1-hour sessions if required. Bookings completed in advanced with Derby Memorial Pool staff.
1 October 2026 to 31 May 2027	Friday club race nights with a total of 13 events over the term of the User Agreement. Bookings completed in advanced with Derby Memorial Pool staff. If agreed limits are exceeded, standard booking fees apply.

This agreement continues the arrangements adopted in the 2024/25 User Agreement, where the Club was approved access to four lanes during scheduled training times. The operational conditions of the Derby Memorial Swimming Pool remain largely unchanged and the same physical constraints apply to lane allocation and public access.

The Club has experienced an increase in membership and the expanded four-lane allocation has allowed a more comprehensive and structured training program to be delivered.

For the 2026/27 period, the Club has requested continued exclusive access to four lanes for training sessions. The primary change in this agreement is the introduction of an extended 18-month term (1 January 2026 to 30 June 2027) which provides operational continuity and reduces administrative workload for both parties.

While four-lane allocation has been managed effectively, it leaves only two lanes for public use and continues to limit access for non-club swimmers during training times. Council may consider this arrangement appropriate given the Club's community value; however, noting that public lane availability will be reduced during the agreed periods.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. Draft - Derby Amateur Swim Club 2026/2027 User Agreement

RECOMMENDATION

That Council:

1. **ENDORSES the discounted fees applicable to the user agreement with Derby Amateur Swimming Club;**
2. **APPROVES entering into a user agreement with Derby Amateur Swimming Club for an 18 month period for a fee of $1,200 per annum; and**
3. **AUTHORISES the Chief Executive Officer to finalise the terms and execute the agreement with Derby Amateur Swimming Club.**

Licence Agreement to use Community Facility

Between Shire of Derby/West Kimberley,
and Derby Amateur Swimming Club Inc.

Derby Memorial Swimming Pool

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Parties

Shire of Derby/West Kimberley, a body corporate pursuant to the *Local Government Act 1995* of PO Box 94, Derby, Western Australia (**Shire**)

Derby Amateur Swimming Club Inc., a community-based sporting organisation pursuant to the *Associations Incorporation Act 2015* of PO Box 1219, Derby, Western Australia, 6728. **(Licensee)**

Background

A The Shire owns or manages the Land which includes the Community Facility.

B The Shire has agreed to grant to the Licensee the right to use and occupy the Licensed Area subject to the terms and conditions contained in this Licence.

Operative provisions

1 Definitions and interpretation

Definitions

1.1 In this Licence the following definitions apply:

Authorised Persons means:

(a) an agent, employee, licensee, contractor or invitee of the Licensee;

(b) any person visiting the Licensed Area with the express or implied consent of any person referred to in paragraph (a) of this definition;

(c) any person claiming under or through the Licensee.

Authorised Use is defined in Item 9 of Schedule 1.

Commencement Date is defined in Item 6 of Schedule 1.

Community Facility is defined in Item 1 of Schedule 1.

Council means the council of the Shire.

Default Interest Rate means 10% per annum above the Reserve Bank of Australia target cash rate from time to time.

End Date is defined in Item 8 of Schedule 1.

Event of Default means any of the events or occurrences set out in clause 18.1 of this Licence.

GST means goods and services tax or similar value added tax levied or imposed in Australia pursuant to the GST Law or otherwise on a supply.

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GST Act means *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

GST Law has the same meanings as in the GST Act.

Land is defined in Item 2 of Schedule 1 and where the context so requires includes the Community Facility.

Laws mean all statutes, rules, regulations, proclamations, ordinances, local laws, or by-laws present or future and includes applicable Australian Standards and Codes of Practice as varied from time to time.

Licence means this agreement and the Schedules and, where applicable, any appendices, plans or other attachments to this agreement as amended from time to time.

Licensed Area is defined in Item 3 of Schedule 1.

Licence Fee is defined in Item 4 of Schedule 1.

Minister means Minister for Lands.

Occupiers mean any person (other than the Licensee) with a right to use any part of the Land from time to time.

Party or Parties means respectively a party or parties to this Licence.

Plant and Equipment means the plant and equipment used in connection with the provision of any utilities or services or the heating, cooling, lighting, power or plumbing for the Licensed Area.

Relevant Authority means any government, statutory, public or other authority or body having jurisdiction over the Land or any matter or thing relating to the Land on the Land.

Requirements mean any requirements, notices, orders or directions of any Relevant Authority.

Review Dates is defined in Item 5 of Schedule 1.

Special Conditions means the special conditions set out in Schedule 2.

Term is defined in Item 7 of Schedule 1.

Written Law has the same meaning given to that term in the *Interpretation Act 1984* (WA) as varied from time to time

Interpretation

1.2 In the interpretation of this Licence, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Licence.

1.2.2 A reference in this Licence to a business day means a day other than a Saturday, Sunday or public holiday in Perth, Western Australia.

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1.2.3 If the day on which any act, matter or thing is to be done under this Licence is not a business day, the act, matter or thing must be done on the next business day.

1.2.4 A reference in this Licence to dollars or $ means Australian dollars and all amounts payable under this Licence are payable in Australian dollars.

1.2.5 A reference in this Licence to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

1.2.6 A reference in this Licence to any agreement or document is to that agreement or document as amended, novated, supplemented or replaced.

1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Licence.

1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.

1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.

1.2.10 A word which denotes the singular also denotes the plural, a word which denotes the plural also denotes the singular, and a reference to any gender also denotes the other genders.

1.2.11 A reference to the word 'include' or 'including' is to be construed without limitation.

1.2.12 Any schedules and attachments form part of this Licence.

2 Grant of Licence

2.1 The Shire grants to the Licensee, subject to the consent of the Minister (where relevant) and the Licensee accepts, a licence to use the Licensed Area for the Term from the Commencement Date to the End Date solely for the Authorised Use on the terms and conditions of this Licence.

2.2 The rights under this Licence are in contract only and no estate or interest in the Licensed Area is conferred on the Licensee by this Licence.

2.3 This Licence shall relate only to the Licensed Area and the Shire shall at all times be entitled to use, occupy and deal with the remainder of the Land and the Community Facility without reference to the Licensee.

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3 Conditions Precedent

Local Government Condition

3.1 This Licence is subject to and expressly conditional on the Shire complying with the procedures set out in section 3.58 of the *Local Government Act 1995* (WA) relating to disposal of property.

Land Administration Act

3.2 If the Land is subject to the provisions of the *Land Administration Act 1997* (WA) then this Licence is subject to and expressly conditional on the Minister granting his or her consent to this Licence.

Best Endeavours

3.3 The Parties covenant and agree that where relevant, the Parties will each use their best endeavours to satisfy the conditions precedent in clauses 3.1 and 3.2.

Costs

3.4 The Shire will bear all costs associated with satisfying the conditions precedent in clauses 3.1 and 3.2.

Refusal or granted subject to conditions

3.5 If any approval:

3.5.1 is refused; or

3.5.2 granted subject to a condition that the Licensee in its reasonable opinion is unable to comply with, and the Licensee within 10 business days after being notified of the condition elects, by notice in writing to the Shire, to withdraw from this Licence;

3.6 then, this Licence, except this clause, ceases to have effect and no party has any claim against the other party.

4 Licence Fee

4.1 The Licensee must pay the annual Licence Fee to the Shire on the Commencement Date and on each first day of July following the Commencement Date without any deduction or set-off by way or direct payment to the Shire or as the Shire may direct.

4.2 The first payment of the Licence Fee must be paid to the Shire on the Commencement Date and will be calculated on a pro-rata basis so that the Licensee pays the Licence Fee for the period from the Commencement Date to the first 30 June during the Term of this Licence.

5 Licence Fee Review

5.1 On a Review Date the Licence Fee shall be reviewed in accordance with the provisions of clauses 5.2 to 5.5 (inclusive).

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Licence Fee Review

5.2 With effect from each Review Date, the Shire shall review the Licence Fee so that it is an amount determined or calculated in accordance with the then current Shire of Derby/West Kimberley adopted annual fees for licensing of Shire assets (facilities, buildings and land) and in line with Policy ES5 and any other relevant Policies, which have been passed by resolution of Council.

5.3 The Shire shall give the Licensee a notice setting the Licence Fee, however the failure of the Shire to give such a notice before the Review Date does not preclude the Shire from giving such a notice in respect of that Review Date at any later time.

Payment of Reviewed Licence Fee

5.4 The Licensee will be liable to pay the reviewed annual Licence Fee from the relevant Review Date whether or not the Shire has notified the Licensee of the amount to which the annual Licence Fee has been varied.

5.5 If the Shire has not given notice of the reviewed annual Licence Fee to the Licensee and the Licensee continues to pay Licence Fee at the rate of the current annual Licence Fee until the Shire notifies the Licensee of the reviewed annual Licence Fee, the Licensee will not be in default for non-payment of Licence Fee provided that when the Shire notifies the Licensee of the amount of the reviewed annual Licence Fee, any necessary adjustment is made within 10 business days of service of the Licence Fee review notice.

6 Licensee Covenants

Use

6.1 The Licensee must not use or permit the Licensed Area to be used for any purpose other than the Authorised Use.

Improvements and Additions

6.2 The Licensee must not erect, construct, build, install or bring any buildings or structures of a permanent nature on the Licensed Area or make any other alterations, additions or improvements on the Licensed Area except in accordance with clause 13 of this Licence.

6.3 Unless otherwise agreed in writing, every building and fitting, fixture or structure erected, fixed or placed upon the Licensed Area shall become the absolute property of the Shire and shall not be removed from the Licensed Area or moved to any other part of the Land except with the prior written consent of the Shire.

Maintenance

6.4 The Licensee must:

6.4.1 maintain the Licensed Area in a good condition and state of repair, except in respect of:

(i) fair wear and tear; and

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(ii) damage which is or will be reinstated from the proceeds of insurance;

6.4.2 promptly repair any damage to the Licensed Area for which the Licensee is responsible to the satisfaction of the Shire;

6.4.3 keep the Licensed Area clean and free from rubbish;

6.4.4 not do or omit to do anything which might cause the Licensed Area to deteriorate or become impaired except for fair wear and tear, to be obstructed, or to be in a condition other than a good and sanitary condition;

6.4.5 not without the Shire's prior consent, interfere with or modify the electricity supply or its reticulation, or install any electrical equipment on the Licensed Area which might overload the cables, switchboards or sub-boards through which electricity is connected to the Licensed Area;

6.4.6 not without the Shire's prior written consent interfere with or modify the drainage or water supply facilities (if any) serving the Licensed Area or any equipment connected to such facility;

6.4.7 not without the Shire's prior consent, erect or place on or in the Licensed Area any radio or television aerial or antenna;

6.4.8 keep all roads, driveways and access ways (if any) on the Land free of rubbish and debris and ensure that they are not obstructed; and

6.4.9 if this Licence is in respect of the whole of the Land, maintain all roads, driveways and access ways (if any) on the Licensed Area.

Report to the Shire

6.5 The Licensee shall report promptly to the Shire in writing:

6.5.1 all damage or defects in the Licensed Area of which the Licensee is or ought to be aware; and

6.5.2 any circumstances likely to be a danger or cause any damage or danger to the Licensed Area and the Licensee's fixtures or any person in or on the Licensed Area and the Licensee's fixtures of which the Licensee is aware.

6.6 The Licensee must also report all damage, defects or maintenance requests or suggestions to the Shire by submitting an email with the relevant information to SDWK@SDWK.wa.gov.au .

Nuisance

6.7 The Licensee must take all reasonable precautions against the outbreak of fire on the Licensed Area and to permit the entry of the Shire its officers and servants or agents on to the Licensed Area for the purpose of abating any fire on or in the vicinity of the Licensed Area.

6.8 The Licensee shall not do or permit anything to be done on or in relation to the Land, which may be or may become a danger or a nuisance to the Shire or other persons

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authorised by the Shire to enter or use the Land or to the owner or occupier of any adjoining or nearby land.

Unlawful Activities

6.9 The Licensee must not do or carry on in the Licensed Area any activity which might be harmful, offensive or illegal, or cause a nuisance, damage or disturbance to the Shire or the Occupiers or the owners or occupiers of any nearby properties.

Rubbish

6.10 The Licensee must not:

6.10.1 place any rubbish on or in any part or the Licensed Area except in a suitable receptacle; or

6.10.2 burn any rubbish in or on the Licensed Area.

Floor Overloading

6.11 The Licensee must not do any act or thing which might result in overloading any part of the floor of the Licensed Area.

Goods and Chemicals

6.12 The Licensee must not:

6.12.1 except for reasonable quantities for normal applications in connection with the Authorised Use of the Licensed Area, bring onto, store or use any chemical or inflammable substance in or on the Licensed Area; and

6.12.2 store goods on or in the Licensed Area other than those necessary for the Authorised Use.

6.13 On request, the Licensee must supply the Shire with material safety data sheets for any chemicals or inflammable substance which the Licensee is permitted to bring onto, store or use in or on the Licensed Area under clause 6.12.1 of this Licence.

Signs, advertisements or notices

6.14 The Licensee must not display from or affix to the Licensed Area any signs, advertisements or notices visible from outside the Licensed Area without the prior consent of the Shire which the Shire may not unreasonably withhold in the case of a notice:

6.14.1 stating the Licensee's name; and

6.14.2 affixed in a place immediately adjacent to the Licensed Area.

6.15 If approved, the signage, advertisement or notice must be secured in a substantial and proper manner so as not to cause any damage to the Community Facility or any person and the Licensee must at the end or earlier termination of the Term remove the signage, advertisement or notice and make good any damage.

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Inspection by the Shire

6.16 The Licensee must permit the Shire to inspect the Licensed Area at all reasonable times.

Public Events

6.17 The Licensee must not hold any public event at the Licensed Area except with the prior written consent of the Shire and the Minister (where relevant).

Annual General Meeting

6.18 On the Commencement Date and on each 1 July during the Term of this Licence, if the Licensee is a community or sports organisation, the Licensee must provide the Shire with a copy of the minutes of each Annual General Meeting, an end of year financial statement report, and also provide updated contact details for each of the persons holding the positions of President, Vice President, Secretary and Treasurer in the community or sports organisation.

Toilets

6.19 The toilets, sinks and drains shall be used for their designed purposes only and the Licensee must keep them clear and unobstructed and ensure no substance is deposited into them which could damage or block them.

7 Licensee to pay for utilities and services

Utilities and services separately assessed

7.1 In accordance with the proportions outlined in Schedule 2 (Special Conditions) the Licensee must pay to the Shire within 30 days of issue of a tax invoice or, if demand is made by a service provider, the service provider all charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges which are separately charged or assessed in respect of the Licensed Area or the Licensee.

Utilities and services not separately assessed

7.2 In accordance with the proportions outlined in Schedule 2 (Special Conditions) where any charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges are not separately charged or assessed in respect of the Licensed Area or the Licensee then, the Licensee must pay to the Shire within 30 days of issue of a tax invoice such fair proportion of those utilities and services as determined by the Shire (acting reasonably).

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8 Comply with Laws

8.1 The Licensee must promptly observe and comply in all respects with all Laws, Requirements and rules relating to the Land and the Community Facility and the Licensee's use of it.

9 Risk

9.1 The Licensee agrees to occupy and use the Licensed Area at the Licensee's sole risk.

10 Insurance

Public Risk insurance

10.1 The Licensee must during the Term, effect and maintain adequate public risk insurance cover applicable to the Licensee's use of the Licensed Area for at least $20,000,000 (being the amount which may be paid out arising from any single accident or event) or any increased amount that the Shire may from time to time require.

10.2 The Licensee must supply the Shire with a certificate of currency from the insurer at the commencement of this agreement and annually when insurance is renewed by the Licensee.

Licensee's Obligation to effect other insurances

10.3 In addition to public risk insurance, the Shire may at any time require the Licensee by notice in writing to effect and maintain other policies of insurance relating to the Licensed Area and the Licensee's fixtures or contents or otherwise as reasonably required by the Shire from time to time, including policies of insurance for:

10.3.1 employers' indemnity insurance including workers' compensation insurance in respect of all employees of the Licensee employed in or about the Licensed Area;

10.3.2 any other matter or thing which the Shire reasonably requires by notice to the Licensee.

10.4 If the Shire has issued a written notice to the Licensee to effect other insurance under clause 10.3, the Licensee must:

10.4.1 supply to the Shire the current details of all insurance effected in accordance with this clause, including copies of certificates of insurance or policy documents and receipts for premiums as updated, amended or varied from time to time;

10.4.2 not without the Shire's prior consent, alter the terms or conditions of any policy; and

10.4.3 ensure that each policy of insurance includes a provision for cross liability and waiver of subrogation rights in favour of the Shire.

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Licensee not to invalidate insurance

10.5 The Licensee must not by any act or omission cause or allow anything to be done which might result in any insurance policy effected under this Licence or in respect of the Licensed Area and the Licensee's fixtures becoming void or voidable or which might increase the premium on any policy.

11 Limit of Shire's liability

No warranties or representations

11.1 The Licensee acknowledges and agrees that:

11.1.1 all the Licensee's fixtures and other Licensee's property in or on the Licensed Area shall be at the sole risk of the Licensee during the Term and the Shire shall not be liable for any claim, loss or damage that the Licensee may suffer as a result of:

(i) any fault in the construction or state of repair of the Licensed Area, the Licensee's fixtures or the Shire's fixtures;

(ii) any defect in any of the Plant and Equipment;

(iii) any flow, overflow, leakage or breakdown of any water, air-conditioning, gas, power or other source of energy whether from the Licensed Area or otherwise;

11.1.2 the Licensee has not relied on any representation or warranty of the Shire in entering into this Licence and, for this purpose, the Licensee acknowledges that:

(i) the Licensee has relied on the Licensee's own skill and judgment and has made the Licensee's own enquiries in determining the suitability of the Licensed Area for the Authorised Use; and

(ii) the Licensee's occupation of the Licensed Area is conclusive evidence of the Licensee's acceptance of the Licensed Area as being in good order, repair and condition at the Commencement Date.

Shire Not Liable

11.2 The Shire is not liable to the Licensee and the Licensee will not make a claim against the Shire in respect of any liability resulting from any accident, death, injury, damage to any property (including water damage), equipment, or machinery malfunction, interruption of services, theft or other event of a similar nature in or affecting or the Licensed Area.

Licensee acts at own risk

11.3 Unless this Licence provides otherwise, whenever the Licensee is obligated or required by this Licence to do or omit to do any act or thing, the doing or the omission of the act or thing will be at the sole risk and expense of the Licensee.

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12 Indemnity and release

General indemnity

12.1 The Licensee indemnifies, and shall keep indemnified the Shire and the Minister against all actions, losses, claims, damages, proceedings, suits, demands, costs and expenses for which the Shire or the Minister become liable in respect of loss or damage to property or death or injury of any nature and however or wherever sustained:

12.1.1 which are caused or contributed to by the use or occupancy of the Licensed Area by the Licensee or any Authorised Persons;

12.1.2 resulting from an act or omission of the Licensee; or

12.1.3 resulting from a notice, claim or demand against the Licensee to do or refrain from doing anything except to the extent that the Shire is obliged by this Licence to pay for or contribute to the cost of compliance with the notice, claim or demand and fails to do so.

Nature of indemnity

12.2 The obligation of the Licensee to indemnify the Shire and the Minister under this Licence or at law is not affected by the obligation of the Licensee to effect insurance and all indemnities shall survive the termination of this Licence.

13 Alterations by the Licensee

13.1 The Licensee must obtain the Shire's prior written approval (as distinct from any consent that the Licensee may require from the Shire as Relevant Authority) if the Licensee wishes to carry out any work not provided for in any plans previously approved by the Shire.

13.2 The Shire may in its absolute discretion decline consent, or may require a variation of this licence or require a new licence be entered into at the cost of the Licensee to record any such alteration.

13.3 For the avoidance of any doubt, the Licensee must obtain and comply with all necessary consents and will be responsible for all costs in carrying out any approved alterations and must comply with the Shire's reasonable directions in carrying out any work.

14 Assignment

14.1 The Licensee shall not transfer or assign or sub-licence its rights under this Licence except with the prior written consent of the Shire and the Minister (where relevant), which may be withheld at the absolute discretion of the Shire or the Minister.

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15 Costs

Costs

15.1 The Licensee must pay or reimburse the Shire on demand for all the Shire's reasonable costs and expenses (including the Shire's legal and consultancy costs and expenses) in relation to:

15.1.1 the exercise or enforcement by the Shire of any right under this Licence;

15.1.2 any act or omission by the Licensee causing cost or expense to the Shire; and

15.1.3 obtaining or giving any consent or approval under this Licence, or a variation or surrender of this Licence.

Duty and other costs

15.2 The Licensee must pay or reimburse the Shire on demand for all duty, taxes, levies, charges and fees, and fines and penalties in respect of any of them, which may be payable in connection with this Licence.

Interest on other moneys

15.3 If any monies payable by the Licensee remain unpaid for 30 days after their due date then the Licensee shall pay to the Shire interest on those payments at the Default Interest Rate calculated from their due date to the date of payment and such interest shall be compounded monthly.

16 GST

16.1 All fees and charges under this Agreement are exclusive of GST unless stated otherwise. If GST is payable on any supply made under this Agreement, the Licensee must pay the applicable GST amount to the Shire at the same time as the relevant payment. Terms used in this clause have the same meaning as in the *A New Tax System (Goods and Services Tax) Act 1999*.

17 Shire's covenants

Shire's responsibility for repairs and maintenance

17.1 The Shire must keep and maintain the building, all building services and the Shire's improvements on the Land in good order and condition but the Shire shall not be liable or responsible for any:

17.1.1 repair or maintenance of any alterations carried out by the Licensee in accordance with clause 13;

17.1.2 repair or maintenance which the Licensee is responsible for under the terms of this Licence; or

17.1.3 repair or maintenance that is not reasonably necessary for the Licensee's use of the Licensed Area as determined by the Shire (acting reasonably).

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17.2 Unless otherwise provided in this Licence, the Shire is responsible for organising and paying for annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Licensee) and recertification of any fall arrest systems located in the Community Facility.

Shire's Right of Access

17.3 The Shire and the Shire's employees and contractors may at all reasonable times (and at any time in the case of an emergency) enter the Licensed Area with all necessary equipment to carry out repairs, maintenance or improvements to the Licensed Area (or adjacent areas), including to:

17.3.1 carry out any repairs or maintenance to the building or building services on the Land that is not the Licensee's responsibility under the terms of this Licence;

17.3.2 construct new structures on the Licensed Area;

17.3.3 alter, add to, extend, reduce the size of, or otherwise modify, existing structures on the Licensed Area; or

17.3.4 carry out any other works that the Shire considers necessary.

Shire's right to remedy default

17.4 The Shire may, if the Licensee is in default of any repair notice given by the Shire under this Licence or, if any repairs that the Licensee is responsible for under this Licence are required to be undertaken as a matter of urgency then, without prejudice to the Shire's rights under this Licence, the Shire and the Shire's employees and contractors with all necessary equipment at all reasonable times may enter the Licensed Area to carry out such works and the costs of carrying out such works shall be payable by the Licensee to the Shire on demand.

Shire's right to deal with Land

17.5 The Shire may grant easements of support or any other easements or similar rights over any part of the Land or the Licensed Area or dedicate, transfer or otherwise deal with any part of the Land or the Licensed Area in favour of another person for any reason whatsoever.

No undue interference

17.6 In exercising the Shire's rights in clause 17.3 to clause 17.5 (inclusive), the Shire must use its reasonable endeavours not to cause any undue interference with the Authorised Use but in no event will the Shire be responsible for any compensation or liable for any loss suffered by the Licensee.

18 Events of Default

Default

18.1 An event of default occurs if:

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18.1.1 the Licence Fee is at any time unpaid for 30 days after becoming due whether formally demanded or not;

18.1.2 the Licensee fails to comply with any of its other obligations under this Licence and that failure is not, in the reasonable opinion of the Shire, remediable;

18.1.3 the failure described in clause 18.1.2 is remediable, and the Licensee does not remedy the failure within 30 days, or a longer period reasonably determined by the Shire after receipt by the Licensee of a notice from the Shire specifying the failure;

18.1.4 in the event of insolvency, receivership, bankruptcy or liquidation of the Licensee; or

18.1.5 if the Licensee makes or enters into or endeavour to make or enter into any composition assignment or other arrangement with or for the benefit of the Licensee's creditors.

Shire's right to terminate

18.2 If an event of default occurs, the Shire may terminate this Licence by written notice to the Licensee.

Other rights of Shire

18.3 Any action taken by the Shire under clause 17 is without prejudice to any other rights of the Shire and does not release the Licensee from liability under this Licence.

18.4 Access to Derby Memorial Swimming Pool outside approved times - The Licensee acknowledges that the Derby Memorial Swimming Pool forms part of the Shire's community infrastructure and except during the Approved Program Times allocated under this Licence, the Shire may permit public use, bookings, programs or any other activities at the Derby Memorial Swimming Pool at its discretion. For the avoidance of doubt, the Licensee's rights to the Derby Memorial Swimming Pool facilities are non-exclusive and apply only during the Approved Program Times.

19 Termination

Licensed Area

19.1 At the end or earlier termination of this Licence, the Licensee must ensure that the Licensed Area is in a condition consistent with the compliance of the Licensee's obligations during the Term and deliver to the Shire all keys, access cards and other security devices for the Licensed Area.

Removal of Licensee's fixtures, fittings and chattels

19.2 At the end or earlier termination of this Licence, the Licensee must remove all the Licensee's chattels and, if required by the Shire, any fixture, fitting or structure erected by the Licensee during the Term, and make good at the Licensee's cost any resulting damage and if not removed within five business days or a longer period as reasonably determined by the Shire after the date of termination, ownership of those chattels, fixtures, fittings and structures may at the Shire's election pass to the Shire

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or the Shire may in a proper and workmanlike manner remove them from the Licensed Area and either store them or forward them to a refuse collection centre.

19.3 The cost of making good the resulting damage and the cost of removal, storage and disposal shall be recoverable from the Licensee as a debt due on demand and the Shire shall not be responsible for any compensation or liable for any loss suffered by the Licensee.

Survival

19.4 The covenants contained in this Licence which expressly or impliedly survive termination shall remain in full force and effect after the termination of this Licence without limit in time and shall not be or be deemed to be waived, merged or extinguished upon such termination.

20 Disputes

Mediation

20.1 If a dispute arises in relation to this Licence, either Party may give the other a notice requiring that an attempt be made to resolve the dispute with the help of a mediator to be appointed jointly by the Parties.

20.2 If the Parties do not agree on a mediator within seven days after the notice is given, either Party is entitled to ask the Australian Commercial Disputes Centre (ACDC) or such other body that has similar powers at the time of the dispute to appoint the mediator.

20.3 The mediation is to be conducted in accordance with the procedure set out in the ACDC Commercial Mediation Agreement or, if at the relevant time there is no such agreement or an agreement substituted for it, in accordance with the procedure determined by the mediator in consultation with the Parties. Each of the Parties must co-operate fully with the mediator.

20.4 The Parties must each pay an equal share of the fees and expenses to which the mediator is entitled.

Arbitration

20.5 If the dispute has not been resolved by mediation under clause 20.3 within two months of a party requiring mediation, either Party may give the other Party a notice requiring that a dispute be resolved by arbitration under the *Commercial Arbitration Act 2012* (WA) by an arbitrator appointed jointly by the Parties.

20.6 If the Parties do not agree on an arbitrator within seven days after the notice of arbitration is given, either Party is entitled to ask the ACDC or such other body that has similar powers at the time of the dispute to appoint the arbitrator.

20.7 The arbitration must be conducted in accordance with the *Commercial Arbitration Act 2012* (WA). Each of the Parties must co-operate fully with the arbitrator.

20.8 Either Party is entitled to appeal to the Court of competent jurisdiction on any question of law arising out of an award.

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Right to seek injunctions

20.9 For the avoidance of any doubt, nothing in this clause 20 shall be construed as limiting the rights of either Party to seek urgent injunctive orders from a Court of competent jurisdiction to restrain the other Party from an ongoing or repetitive breach of this Licence where an order for damages would not be an adequate remedy.

21 Holding Over

21.1 If the Licensee continues to use the Licensed Area after the expiry of the Term with the consent of the Shire, the Licensee will be a monthly licensee of the Shire at the same rate as the then Licence Fee payable by the Licensee immediately prior to expiry of the Term.

22 Notices

Giving notices

22.1 Any notice or communication given to a Party under this Licence is only given if it is in writing and sent in one of the following ways:

22.1.1 Delivered or posted to that Party at its address and marked for the attention of the relevant department or officer (if any) set out below.

22.1.2 Emailed to that Party at its email address and marked for the attention of the relevant department or officer (if any) set out below.

The Shire

Name:	Shire of Derby/West Kimberley
Address:	Post Office Box 94 Derby, WA 6728
Email:	SDWK@SDWK.wa.gov.au
Attention:	Aquatic and Recreation Team Leader

The Licensee

Name:	Derby Amateur Swimming Club Inc.
Address:	PO Box 1219, Derby, WA, 6728
Email:	derbysharksswimming@gmail.com
Attention:	Club President

Change of physical or email address

22.2 If a Party gives the other Party three business days' notice of a change of its address or email address, any notice or communication is only given by that other Party if it is delivered, posted or emailed to the latest address.

Time notice is given

22.3 Any notice or communication is to be treated as given at the following time:

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22.3.1 If it is delivered, when it is left at the relevant address; or

22.3.2 If it is sent by post, five business days after it is posted; or

22.3.3 If it is sent by email, as soon as the sender receives from the sender's email address, a report of an error free transmission to the correct email address.

22.4 However, if any notice or communication is given, on a day that is not a business day or after 5pm on a business day, in the place of the Party to whom it is sent it is to be treated as having been given at the beginning of the next business day.

Copies of notices etc

22.5 If a Party is required by any term of this Licence to give a copy of any notice or communication to a person, the failure to give the copy of it to the person may not be raised to rebut that it was effectively given.

23 Special Conditions

23.1 The Parties acknowledge and agree that the Special Conditions (as provided in Schedule 2) form part of this Licence.

23.2 In the event that the Special Conditions are inconsistent with the terms of the Licence, then the Special Conditions shall prevail to the extent of such inconsistency.

24 Discretion of the Shire in its capacity as a Relevant Authority

24.1 Nothing in this Licence shall fetter or be construed as an attempt to fetter the discretion or the powers of the Shire in its capacity as a Relevant Authority under any Written Law and in particular does not fetter the Shire in its capacity as a Relevant Authority with regard to the approval or imposition of conditions on any approval required for the development of the Land or carrying out of any alterations, additions or improvements on the Licensed Area in accordance with the terms of this Licence.

25 Miscellaneous

Approvals and consents

25.1 Unless this Licence expressly provides otherwise, a Party may give or withhold an approval or consent in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding a consent or approval or for giving a consent or approval subject to conditions.

25.2 Where this Licence refers to a matter being to the 'satisfaction' of a Party, this means to the satisfaction of that Party in its absolute discretion.

Entire agreement

25.3 This Licence contains everything the Parties have agreed in relation to the subject matter it deals with. No Party can rely on an earlier written document or anything said or done by or on behalf of another Party before this Licence was executed.

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Further acts

25.4 Each party must at its own expense promptly execute all documents and do or use reasonable endeavours to cause a third party to do all things that another Party from time to time may reasonably request in order to give effect to, perfect or complete this Licence and all transactions incidental to it.

Governing law and jurisdiction

25.5 This Licence is governed by the law of Western Australia. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

Joint and individual liability and benefits

25.6 Except as otherwise set out in this Licence, any agreement, covenant, representation or warranty under this Licence by two or more persons binds them jointly and each of them individually, and any benefit in favour of two or more persons is for the benefit of them jointly and each of them individually.

Severability

25.7 Each provision of this Licence is individually severable. If any provision is or becomes illegal, unenforceable or invalid in any jurisdiction it is to be treated as being severed from this Licence in the relevant jurisdiction, but the rest of this Licence will not be affected. The legality, validity and enforceability of the provision in any other jurisdiction will not be affected.

Counterparts

25.8 This Licence may be executed in any number of counterparts each of which is an original and all of which constitute one and the same agreement.

Variation

25.9 No variation of this Licence will be of any force or effect unless it is in writing and signed by each Party to this Licence.

Waivers

25.10 A waiver of any right, power or remedy under this Licence must be in writing signed by the Party granting it. A waiver is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25.11 The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Licence does not amount to a waiver.

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Execution and date

Executed as an agreement on the _____ day of _____ 202 .

Shire of Derby/West Kimberley Representative

_____
Print Name

_____ _____
Print Position Signature

Derby Amateur Swimming Club Representative

_____
Print Name

_____ _____
Print Position Signature

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Schedule 1 - Items

Item 1 **Community Facility**

Derby Memorial Swimming Pool,
Corner Clarendon and Johnson Street, Derby, WA, 6728

Item 2 **Land**

A portion of Reserve 6929 comprised in Lot 500 on Loch Street.

Item 3 **Licensed Area**

The Licensee has access to lane at the Derby Memorial Swimming Pool in accordance with the following Schedule;

Date Range	Provision
1 January 2026 – 31 May 2026 (except school holidays)	Provision of **4 Lanes** each Tuesday and Thursday (4:00pm – 6:30pm) Provision of **2 lanes** each Wednesday (6:00am-7:00am)
1 June 2026 – 31 July 2026 (except school holidays)	Provision of **4 lanes** once a week for 2 x 1-hour sessions if required based on needs. Bookings completed in advanced with Derby Memorial Pool staff.
1 August 2026 – 31 May 2027 (except school holidays)	Provision of **4 Lanes** each Tuesday and Thursday (4:00pm – 6:30pm) Provision of **2 lanes** each Wednesday (6:00am-7:00am)
1 June 2027 – 30 June 2027	Provision of **4 lanes** once a week for 2 x 1-hour sessions if required based on needs. Bookings completed in advanced with Derby Memorial Pool staff.
1 October 2026 – 31 May 2027	Friday club race nights with a total of **13 events** over the term of the User Agreement. Bookings completed in advanced with Derby Memorial Pool staff. If exceed the agreed limit the user will pay standard booking fees

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Item 4 **Licence Fee**

The total Licence Fee is $1,800 for the term of this Licence.

The Licence fee is calculated on a rate of $1,200 per annum excluding GST.

Fee is to be paid in two instalments.

First payment of $600 GST exclusive is payable from the Commencement Date.

Second Payment of $1,200 GST exclusive is payable from 1 July 2026.

The total licence fee for this 18-month agreement is calculated on a pro-rata basis in line with the Shire's Schedule of Fees and Charges.

The annual User Agreement fee may change and can increase in line with any adjustments approved by Council as part of the Shire's annual review of the Schedule of Fees and Charges. Any changes will be applied to the remaining term of the agreement.

Item 5 **Review Date**

This Licence may be reviewed each year at the time the Shire adopts its annual Schedule of Fees and Charges, and at any time the Licence continues on a holding-over basis.

Item 6 **Commencement Date**

1 January 2026

Item 7 **Term**

18 Months

Item 8 **End Date**

30 June 2027

Item 9 **Authorised Use**

Swimming Training and race / Club competition nights.

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Schedule 2 – Special Conditions

Special Conditions are set out below

C Conditions Precedent

a. By accessing and utilising the facilities at the Derby Memorial Swimming Pool, all users agree to abide by these terms and conditions. The Licensee acknowledge that their participation in activities is at their own risk and agree to exercise due care and responsibility for their safety and the safety of others. It is the Licensee responsibility to adhere to all posted rules, regulations, and instructions provided by the Shire of Derby/West Kimberley or facility staff. The Licensee further agree to utilise equipment and facilities appropriately, maintain cleanliness, and report any damage or safety concerns immediately to the Shire of Derby/West Kimberley.

b. The Licensee are expressly prohibited from undertaking any works, alterations, or modifications to the facilities, grounds, or equipment without explicit prior written consent from the Shire of Derby/West Kimberley. Any unauthorised use, wilful damage, or failure to comply with these terms may result in the suspension or termination of access to the Licensed Area. This agreement is subject to the policies and guidelines set forth by the Shire of Derby/West Kimberley, which may be updated from time to time.

D Utilities and Services

The Licensee must pay the cost of the utilities and services as set out in the table below. For the avoidance of any doubt, if there are any inconsistencies between clause 7 of this Licence and the table set out below, the Parties agree that the table will prevail.

Utility or service	Amount payable by Licensee
WA State Government Land Tax	0%
WA State Government DFES Levy	0%
Water Corporation – Annual Water/Sewerage Rates Charge (or appropriate similar charge if Shire supplied service)	0%
Water Corporation - Water Consumption Charges (or appropriate similar charge if Shire supplied service)	0%
Gas Charges (Annual Charge and Consumption)	0%
Electricity (Annual/Fixed Charges and Consumption)	0%
Telephones (Annual/Fixed Charges and Consumption)	
Cost of installation of any meter, wiring or other device necessitated by the use of a utility and service	0%

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Cost of annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Lessee) and recertification of any fall arrest systems in place	0%
Shire of Derby/West Kimberley's Annual Local Government Rates	0%
Cost of rubbish collection including emptying wheelie bins and 1100 bins	0%
Cost of annual licences (e.g. food surveillance fee)	0%

C Other special conditions

a) All registered Derby Amateur Swimming Club Inc. members must hold a valid Pool Membership or Pool Pass for the duration of their participation in Derby Amateur Swimming Club Inc. activities. Where a current membership or pool pass is not held standard pool entry fees apply.

b) The user is permitted to store approved club equipment in a contained storage space. The user is to store items at their own risk and will store items in such a manner as not to impede other users of the facility or the operational standards set out by Shire Derby West/Kimberley. Storage will be of an agreed size requirement and must have the ability to be moved without added risk to Shire Derby West/Kimberley personnel and other equipment or building requirements.

c) Common Use Facilities: The Licensee is permitted to access and use common use facilities, including the internal toilets, for the purposes of program delivery. These facilities remain under Shire control and are not part of the Licensed Area.

d) Public Liability Insurance: The Licensee must maintain current Public Liability Insurance for the term of this User Agreement and provide evidence of such insurance to the Shire upon execution of the agreement.

e) Restrictions on External Use and Hiring: The Licensee must not hire, sub-hire, or otherwise make the Licensed Area or any part of the facility available to any third party.

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15.4 USER AGREEMENT 2026/27 - DERBY TIGERS FOOTBALL CLUB

File Number: **CP/095/3**

Author: **Kylie Tame, Manager Development Services**

Responsible Officer: **Luke Lawrence, Director Community Planning**

Authority/Discretion: **Executive**

SUMMARY

This report seeks endorsement for the Shire of Derby/West Kimberley (the Shire) to enter into a user agreement with the Derby Tigers Football Club Inc. (the Club).

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

The Derby Tigers Football Club was incorporated in 2009 and joined the West Kimberley Football League with a senior men's team and later with a women's team joining the competition in 2017. The club has over time, successfully ran the Auskick program and is highly dependent on availability of volunteers. The Club's programs and initiatives increased in 2024/25 in running junior football and Colts exhibition games. The Shire has previously entered into user agreements with the Club.

STATUTORY ENVIRONMENT

Part 6, division 5 of the *Local Government Act 1995* deals with financing local government activities. Subdivision 2 deals specifically with setting fees and charges.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

User agreements offer community-based sporting groups the opportunity to secure regular facility bookings at a discounted rate. This arrangement benefits both the Shire, which recovers some facility costs, and the community, which enjoys continued support for important recreational and sporting activities. This report proposes the allocation of the following facility usage to the Club under the new user agreement:

- Senior training twice weekly, including oval lights and changeroom access
- Auskick/Junior Football Program (Term 2 & 3)
- Colts Junior Program (training and competition)
- Access to changerooms, toilets, kiosk, storeroom and supporting infrastructure.

The fees payable for the proposed two-year user agreement with the Club (1 January 2026 to 31 December 2027) is $2,888 ($1,444 per annum). This has been calculated using the adopted annual user agreement contribution set in the 2025/26 Schedule of Fees and Charges, consisting of:

- $1,050 for Senior training with lights per annum
- $394 for Junior/Auskick/Colts programs with lights per annum.

The total amount payable without a user agreement, and based on facility hire fees set in the 2025/26 Schedule of Fees and Charges, would be $19,768 ($9,844 per annum). The Shire will apply a $16,880. fee reduction to support community participation and the continued development of football in Derby.

Any additional use outside the allocated booking times will be charged according to the hourly or daily rates outlined in the relevant Schedule of Fees and Charges.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	2.2 Healthy Communities	2.2.1 Build, maintain and maximise the use of community facilities
2. Community	2.2 Healthy Communities	2.2.2 Facilitate a range of accessible sporting and recreational activities
2. Community	2.2 Healthy Communities	2.1.3 Provide activities, programs, places and spaces that engage young people
2. Community	2.2 Healthy Communities	2.4.1 Support and assist volunteer, community and sporting groups

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Reputation: Providing exclusive use of facilities to one group may create a divide and alienate community members and groups who utilise the facility for leisure and recreational purposes.	Almost Certain	Moderate	High	Communication to members of the public to ensure information remains up to date of best times to attend the facility.
Reputation: Failure to approve the Club's request may impact negatively on the relationship between the Shire and the Club.	Likely	Moderate	High	Approve a realistic/workable User Agreement that allows the Club to operate effectively and grow.

People Health & Safety: The Club's heavy reliance on lit training sessions increases exposure to lighting failures. Adequate lighting is essential for evening activities, and outages may pose safety risks and require urgent reactive maintenance.	Possible	Moderate	Medium	Preventative maintenance schedule, rapid response for outages, contingency planning for temporary closures.
Environment: Prolonged rainfall, oval closures, and seasonal turf recovery periods may disrupt scheduled training sessions. Poor weather management may lead to turf damage and increased remediation costs.	Likely	Moderate	High	Weather monitoring, oval closure protocol, rest periods for turf, communication with Club regarding ground condition.
Community: Booking conflicts with other community groups and oval surface damage.	Possible	Moderate	Medium	Clear allocation schedules, communication with community groups, enforcement of booking rules, annual review of seasonal demands and preventive or action plan for mid-season bookings to decrease damage to surface.

CONSULTATION

Discussions have been held between the Shire and the club representatives of the Derby Tigers Football Club Inc. to gather required information and update the user agreement. The Club has agreed to an extended 24-month user agreement for the 2026/2027 seasons.

COMMENT

The draft agreement seeks to establish a two-year user agreement with the Club for access and usage of the Derby Nicolson Square Oval. The proposed agreement will operate from 1 January 2026 to 31 December 2027.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. **Derby Tigers Football Club 2026/27 User Agreement - Draft**

RECOMMENDATION

That Council:

1. **ENDORSES the discounted fees applicable to the user agreement that will be entered into with Derby Tigers Football Club Inc.;**
2. **APPROVES entering into a user agreement with Derby Tigers Football Club Inc. for a two year period for a fee of $1,444 per annum; and**
3. **AUTHORISES the Chief Executive Officer to finalise the terms and execute the agreement with Derby Tigers Football Club Inc.**

Licence Agreement to use Community Facility

Between Shire of Derby/West Kimberley,
and Derby Tigers Football Club

Derby Nicolson Square Oval
153 Loch Street, Derby, WA, 6728

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Parties

Shire of Derby/West Kimberley, a body corporate pursuant to the *Local Government Act 1995* of PO Box 94, Derby, Western Australia (**Shire**)

Derby Tigers Football Club Inc., a community-based sporting organisation pursuant to the *Associations Incorporation Act 2015* of PO Box 512, Derby, Western Australia, 6728 (**Licensee**)

Background

A The Shire owns or manages the Land which includes the Community Facility.

B The Shire has agreed to grant to the Licensee the right to use and occupy the Licensed Area subject to the terms and conditions contained in this Licence.

Operative provisions

1 Definitions and interpretation

Definitions

1.1 In this Licence the following definitions apply:

Authorised Persons means:

(a) an agent, employee, licensee, contractor or invitee of the Licensee;

(b) any person visiting the Licensed Area with the express or implied consent of any person referred to in paragraph (a) of this definition;

(c) any person claiming under or through the Licensee.

Authorised Use is defined in Item 9 of Schedule 1.

Commencement Date is defined in Item 6 of Schedule 1.

Community Facility is defined in Item 1 of Schedule 1.

Council means the council of the Shire.

Default Interest Rate means 10% per annum above the Reserve Bank of Australia target cash rate from time to time.

End Date is defined in Item 8 of Schedule 1.

Event of Default means any of the events or occurrences set out in clause 18.1 of this Licence.

GST means goods and services tax or similar value added tax levied or imposed in Australia pursuant to the GST Law or otherwise on a supply.

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GST Act means *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

GST Law has the same meanings as in the GST Act.

Land is defined in Item 2 of Schedule 1 and where the context so requires includes the Community Facility.

Laws mean all statutes, rules, regulations, proclamations, ordinances, local laws, or by-laws present or future and includes applicable Australian Standards and Codes of Practice as varied from time to time.

Licence means this agreement and the Schedules and, where applicable, any appendices, plans or other attachments to this agreement as amended from time to time.

Licensed Area is defined in Item 3 of Schedule 1.

Licence Fee is defined in Item 4 of Schedule 1.

Minister means Minister for Lands.

Occupiers mean any person (other than the Licensee) with a right to use any part of the Land from time to time.

Party or Parties means respectively a party or parties to this Licence.

Plant and Equipment means the plant and equipment used in connection with the provision of any utilities or services or the heating, cooling, lighting, power or plumbing for the Licensed Area.

Relevant Authority means any government, statutory, public or other authority or body having jurisdiction over the Land or any matter or thing relating to the Land on the Land.

Requirements mean any requirements, notices, orders or directions of any Relevant Authority.

Review Dates is defined in Item 5 of Schedule 1.

Special Conditions means the special conditions set out in Schedule 2.

Term is defined in Item 7 of Schedule 1.

Written Law has the same meaning given to that term in the *Interpretation Act 1984* (WA) as varied from time to time

Interpretation

1.2 In the interpretation of this Licence, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Licence.

1.2.2 A reference in this Licence to a business day means a day other than a Saturday, Sunday or public holiday in Perth, Western Australia.

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1.2.3 If the day on which any act, matter or thing is to be done under this Licence is not a business day, the act, matter or thing must be done on the next business day.

1.2.4 A reference in this Licence to dollars or $ means Australian dollars and all amounts payable under this Licence are payable in Australian dollars.

1.2.5 A reference in this Licence to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

1.2.6 A reference in this Licence to any agreement or document is to that agreement or document as amended, novated, supplemented or replaced.

1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Licence.

1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.

1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.

1.2.10 A word which denotes the singular also denotes the plural, a word which denotes the plural also denotes the singular, and a reference to any gender also denotes the other genders.

1.2.11 A reference to the word 'include' or 'including' is to be construed without limitation.

1.2.12 Any schedules and attachments form part of this Licence.

2 Grant of Licence

2.1 The Shire grants to the Licensee, subject to the consent of the Minister (where relevant) and the Licensee accepts, a licence to use the Licensed Area for the Term from the Commencement Date to the End Date solely for the Authorised Use on the terms and conditions of this Licence.

2.2 The rights under this Licence are in contract only and no estate or interest in the Licensed Area is conferred on the Licensee by this Licence.

2.3 This Licence shall relate only to the Licensed Area and the Shire shall at all times be entitled to use, occupy and deal with the remainder of the Land and the Community Facility without reference to the Licensee.

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3 Conditions Precedent

Local Government Condition

3.1 This Licence is subject to and expressly conditional on the Shire complying with the procedures set out in section 3.58 of the *Local Government Act 1995* (WA) relating to disposal of property.

Land Administration Act

3.2 If the Land is subject to the provisions of the *Land Administration Act 1997* (WA) then this Licence is subject to and expressly conditional on the Minister granting his or her consent to this Licence.

Best Endeavours

3.3 The Parties covenant and agree that where relevant, the Parties will each use their best endeavours to satisfy the conditions precedent in clauses 3.1 and 3.2.

Costs

3.4 The Shire will bear all costs associated with satisfying the conditions precedent in clauses 3.1 and 3.2.

Refusal or granted subject to conditions

3.5 If any approval:

3.5.1 is refused; or

3.5.2 granted subject to a condition that the Licensee in its reasonable opinion is unable to comply with, and the Licensee within 10 business days after being notified of the condition elects, by notice in writing to the Shire, to withdraw from this Licence;

3.6 then, this Licence, except this clause, ceases to have effect and no party has any claim against the other party.

4 Licence Fee

4.1 The Licensee must pay the annual Licence Fee to the Shire on the Commencement Date and annually by January 30 following the Commencement Date without any deduction or set-off by way or direct payment to the Shire or as the Shire may direct.

5 Licence Fee Review

5.1 On a Review Date the Licence Fee shall be reviewed in accordance with the provisions of clauses 5.2 to 5.5 (inclusive).

Licence Fee Review

5.2 With effect from each Review Date, the Shire shall review the Licence Fee so that it is an amount determined or calculated in accordance with the then current Shire of

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Derby/West Kimberley adopted annual fees for licensing of Shire assets (facilities, buildings and land) and in line with Policy ES5 and any other relevant Policies, which have been passed by resolution of Council.

5.3 The Shire shall give the Licensee a notice setting the Licence Fee, however the failure of the Shire to give such a notice before the Review Date does not preclude the Shire from giving such a notice in respect of that Review Date at any later time.

Payment of Reviewed Licence Fee

5.4 The Licensee will be liable to pay the reviewed annual Licence Fee from the relevant Review Date whether or not the Shire has notified the Licensee of the amount to which the annual Licence Fee has been varied.

5.5 If the Shire has not given notice of the reviewed annual Licence Fee to the Licensee and the Licensee continues to pay Licence Fee at the rate of the current annual Licence Fee until the Shire notifies the Licensee of the reviewed annual Licence Fee, the Licensee will not be in default for non-payment of Licence Fee provided that when the Shire notifies the Licensee of the amount of the reviewed annual Licence Fee, any necessary adjustment is made within 10 business days of service of the Licence Fee review notice.

6 Licensee Covenants

Use

6.1 The Licensee must not use or permit the Licensed Area to be used for any purpose other than the Authorised Use.

Improvements and Additions

6.2 The Licensee must not erect, construct, build, install or bring any buildings or structures of a permanent nature on the Licensed Area or make any other alterations, additions or improvements on the Licensed Area except in accordance with clause 13 of this Licence.

6.3 Unless otherwise agreed in writing, every building and fitting, fixture or structure erected, fixed or placed upon the Licensed Area shall become the absolute property of the Shire and shall not be removed from the Licensed Area or moved to any other part of the Land except with the prior written consent of the Shire.

Maintenance

6.4 The Licensee must:

6.4.1 maintain the Licensed Area in a good condition and state of repair, except in respect of:

(i) fair wear and tear; and

(ii) damage which is or will be reinstated from the proceeds of insurance;

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6.4.2 promptly repair any damage to the Licensed Area for which the Licensee is responsible to the satisfaction of the Shire;

6.4.3 keep the Licensed Area clean and free from rubbish;

6.4.4 not do or omit to do anything which might cause the Licensed Area to deteriorate or become impaired except for fair wear and tear, to be obstructed, or to be in a condition other than a good and sanitary condition;

6.4.5 not without the Shire's prior consent, interfere with or modify the electricity supply or its reticulation, or install any electrical equipment on the Licensed Area which might overload the cables, switchboards or sub-boards through which electricity is connected to the Licensed Area;

6.4.6 not without the Shire's prior written consent interfere with or modify the drainage or water supply facilities (if any) serving the Licensed Area or any equipment connected to such facility;

6.4.7 not without the Shire's prior consent, erect or place on or in the Licensed Area any radio or television aerial or antenna;

6.4.8 keep all roads, driveways and access ways (if any) on the Land free of rubbish and debris and ensure that they are not obstructed; and

6.4.9 if this Licence is in respect of the whole of the Land, maintain all roads, driveways and access ways (if any) on the Licensed Area.

Report to the Shire

6.5 The Licensee shall report promptly to the Shire in writing:

6.5.1 all damage or defects in the Licensed Area of which the Licensee is or ought to be aware; and

6.5.2 any circumstances likely to be a danger or cause any damage or danger to the Licensed Area and the Licensee's fixtures or any person in or on the Licensed Area and the Licensee's fixtures of which the Licensee is aware.

6.6 The Licensee must also report all damage, defects or maintenance requests or suggestions to the Shire by submitting an email with the relevant information to SDWK@SDWK.wa.gov.au .

Nuisance

6.7 The Licensee must take all reasonable precautions against the outbreak of fire on the Licensed Area and to permit the entry of the Shire its officers and servants or agents on to the Licensed Area for the purpose of abating any fire on or in the vicinity of the Licensed Area.

6.8 The Licensee shall not do or permit anything to be done on or in relation to the Land, which may be or may become a danger or a nuisance to the Shire or other persons authorised by the Shire to enter or use the Land or to the owner or occupier of any adjoining or nearby land.

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Unlawful Activities

6.9 The Licensee must not do or carry on in the Licensed Area any activity which might be harmful, offensive or illegal, or cause a nuisance, damage or disturbance to the Shire or the Occupiers or the owners or occupiers of any nearby properties.

Rubbish

6.10 The Licensee must not:

6.10.1 place any rubbish on or in any part or the Licensed Area except in a suitable receptacle; or

6.10.2 burn any rubbish in or on the Licensed Area.

Floor Overloading

6.11 The Licensee must not do any act or thing which might result in overloading any part of the floor of the Licensed Area.

Goods and Chemicals

6.12 The Licensee must not:

6.12.1 except for reasonable quantities for normal applications in connection with the Authorised Use of the Licensed Area, bring onto, store or use any chemical or inflammable substance in or on the Licensed Area; and

6.12.2 store goods on or in the Licensed Area other than those necessary for the Authorised Use.

6.13 On request, the Licensee must supply the Shire with material safety data sheets for any chemicals or inflammable substance which the Licensee is permitted to bring onto, store or use in or on the Licensed Area under clause 6.12.1 of this Licence.

Signs, advertisements or notices

6.14 The Licensee must not display from or affix to the Licensed Area any signs, advertisements or notices visible from outside the Licensed Area without the prior consent of the Shire which the Shire may not unreasonably withhold in the case of a notice:

6.14.1 stating the Licensee's name; and

6.14.2 affixed in a place immediately adjacent to the Licensed Area.

6.15 If approved, the signage, advertisement or notice must be secured in a substantial and proper manner so as not to cause any damage to the Community Facility or any person and the Licensee must at the end or earlier termination of the Term remove the signage, advertisement or notice and make good any damage.

Inspection by the Shire

6.16 The Licensee must permit the Shire to inspect the Licensed Area at all reasonable times.

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Security of Licensed Area

6.17 The Licensee must securely lock all doors, gates or other openings in, to or on the Licensed Area when the Licensed Area is unoccupied.

6.18 The Shire may enter the Licensed Area at any time for any purpose in relation to security, but nothing in this clause makes the Shire responsible in any way for the security of the Licensed Area.

Keys to Licensed Area

6.19 If the Licensed Area is able to be locked, the Licensee acknowledges that a maximum of three sets of keys will be provided to the Licensee to obtain access to the Licensed Area. The Licensee must not reproduce any additional key without the Shire's written approval.

6.20 The Licensee must pay to the Shire on demand a bond of $100 for each access key set provided by the Shire.

6.21 In the event that any keys are lost, stolen, or damaged, the Licensee shall immediately notify the Shire and shall be liable to pay the Lost Key Fee as outlined in the current Shire Fees and Charges, which shall cover the cost of replacement of such keys and, if deemed necessary by the Shire due to security concerns arising from the loss or theft, the cost of replacement of the locks to the Licensed Area.

6.22 The Licensee must return to the Shire all keys to the Licensed Area at the end or earlier termination of this Licence. Failure to return all keys may result in forfeiture of the key bond and/or additional charges for lock replacement.

Public Events

6.23 The Licensee must not hold any public event at the Licensed Area except with the prior written consent of the Shire and the Minister (where relevant).

Annual General Meeting

6.24 On the Commencement Date and on each 1 July during the Term of this Licence, if the Licensee is a community or sports organisation, the Licensee must provide the Shire with a copy of the minutes of each Annual General Meeting, an end of year financial statement report, and also provide updated contact details for each of the persons holding the positions of President, Vice President, Secretary and Treasurer in the community or sports organisation.

Toilets

6.25 The toilets, sinks and drains shall be used for their designed purposes only and the Licensee must keep them clear and unobstructed and ensure no substance is deposited into them which could damage or block them.

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7 Licensee to pay for utilities and services

Utilities and services separately assessed

7.1 In accordance with the proportions outlined in Schedule 2 (Special Conditions) the Licensee must pay to the Shire within 30 days of issue of a tax invoice or, if demand is made by a service provider, the service provider all charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges which are separately charged or assessed in respect of the Licensed Area or the Licensee.

Utilities and services not separately assessed

7.2 In accordance with the proportions outlined in Schedule 2 (Special Conditions) where any charges for water, gas, electricity, telephones and other utilities or services, including line charges and the cost of installation of any meter, wiring or other device necessitated by the use of a utility and service or rubbish collection charges are not separately charged or assessed in respect of the Licensed Area or the Licensee then, the Licensee must pay to the Shire within 30 days of issue of a tax invoice such fair proportion of those utilities and services as determined by the Shire (acting reasonably).

8 Comply with Laws

8.1 The Licensee must promptly observe and comply in all respects with all Laws, Requirements and rules relating to the Land and the Community Facility and the Licensee's use of it.

9 Risk

9.1 The Licensee agrees to occupy and use the Licensed Area at the Licensee's sole risk.

10 Insurance

Public Risk insurance

10.1 The Licensee must during the Term, effect and maintain adequate public risk insurance cover applicable to the Licensee's use of the Licensed Area for at least $20,000,000 (being the amount which may be paid out arising from any single accident or event) or any increased amount that the Shire may from time to time require.

10.2 The Licensee must supply the Shire with a certificate of currency from the insurer at the commencement of this agreement and annually when insurance is renewed by the Licensee.

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Licensee's Obligation to effect other insurances

10.3 In addition to public risk insurance, the Shire may at any time require the Licensee by notice in writing to effect and maintain other policies of insurance relating to the Licensed Area and the Licensee's fixtures or contents or otherwise as reasonably required by the Shire from time to time, including policies of insurance for:

10.3.1 the full insurable value on a replacement or reinstatement basis of the Licensee's fixtures against fire, explosion, earthquake, aircraft, riot, civil commotion, flood, lightning, storm, tempest, smoke, rainwater, water leakage, impact by vehicles, machinery breakdown or malfunction, and malicious acts or omissions;

10.3.2 employers' indemnity insurance including workers' compensation insurance in respect of all employees of the Licensee employed in or about the Licensed Area;

10.3.3 the full insurable value on a replacement or reinstatement basis of all plate glass windows and doors forming part of the Licensed Area; and

10.3.4 any other matter or thing which the Shire reasonably requires by notice to the Licensee.

10.4 If the Shire has issued a written notice to the Licensee to effect other insurance under clause 10.3, the Licensee must:

10.4.1 supply to the Shire the current details of all insurance effected in accordance with this clause, including copies of certificates of insurance or policy documents and receipts for premiums as updated, amended or varied from time to time;

10.4.2 not without the Shire's prior consent, alter the terms or conditions of any policy; and

10.4.3 ensure that each policy of insurance includes a provision for cross liability and waiver of subrogation rights in favour of the Shire.

Licensee not to invalidate insurance

10.5 The Licensee must not by any act or omission cause or allow anything to be done which might result in any insurance policy effected under this Licence or in respect of the Licensed Area and the Licensee's fixtures becoming void or voidable or which might increase the premium on any policy.

11 Limit of Shire's liability

No warranties or representations

11.1 The Licensee acknowledges and agrees that:

11.1.1 all the Licensee's fixtures and other Licensee's property in or on the Licensed Area shall be at the sole risk of the Licensee during the Term and the Shire shall not be liable for any claim, loss or damage that the Licensee may suffer as a result of:

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(i) any fault in the construction or state of repair of the Licensed Area, the Licensee's fixtures or the Shire's fixtures;

(ii) any defect in any of the Plant and Equipment;

(iii) any flow, overflow, leakage or breakdown of any water, air-conditioning, gas, power or other source of energy whether from the Licensed Area or otherwise;

11.1.2 the Licensee has not relied on any representation or warranty of the Shire in entering into this Licence and, for this purpose, the Licensee acknowledges that:

(i) the Licensee has relied on the Licensee's own skill and judgment and has made the Licensee's own enquiries in determining the suitability of the Licensed Area for the Authorised Use; and

(ii) the Licensee's occupation of the Licensed Area is conclusive evidence of the Licensee's acceptance of the Licensed Area as being in good order, repair and condition at the Commencement Date.

Shire Not Liable

11.2 The Shire is not liable to the Licensee and the Licensee will not make a claim against the Shire in respect of any liability resulting from any accident, death, injury, damage to any property (including water damage), equipment, or machinery malfunction, interruption of services, theft or other event of a similar nature in or affecting or the Licensed Area.

Licensee acts at own risk

11.3 Unless this Licence provides otherwise, whenever the Licensee is obligated or required by this Licence to do or omit to do any act or thing, the doing or the omission of the act or thing will be at the sole risk and expense of the Licensee.

12 Indemnity and release

General indemnity

12.1 The Licensee indemnifies, and shall keep indemnified the Shire and the Minister against all actions, losses, claims, damages, proceedings, suits, demands, costs and expenses for which the Shire or the Minister become liable in respect of loss or damage to property or death or injury of any nature and however or wherever sustained:

12.1.1 which are caused or contributed to by the use or occupancy of the Licensed Area by the Licensee or any Authorised Persons;

12.1.2 resulting from an act or omission of the Licensee; or

12.1.3 resulting from a notice, claim or demand against the Licensee to do or refrain from doing anything except to the extent that the Shire is obliged by

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this Licence to pay for or contribute to the cost of compliance with the notice, claim or demand and fails to do so.

Nature of indemnity

12.2 The obligation of the Licensee to indemnify the Shire and the Minister under this Licence or at law is not affected by the obligation of the Licensee to effect insurance and all indemnities shall survive the termination of this Licence.

13 Alterations by the Licensee

13.1 The Licensee must obtain the Shire's prior written approval (as distinct from any consent that the Licensee may require from the Shire as Relevant Authority) if the Licensee wishes to carry out any work not provided for in any plans previously approved by the Shire.

13.2 The Shire may in its absolute discretion decline consent, or may require a variation of this licence or require a new licence be entered into at the cost of the Licensee to record any such alteration.

13.3 For the avoidance of any doubt, the Licensee must obtain and comply with all necessary consents and will be responsible for all costs in carrying out any approved alterations and must comply with the Shire's reasonable directions in carrying out any work.

14 Assignment

14.1 The Licensee shall not transfer or assign or sub-licence its rights under this Licence except with the prior written consent of the Shire and the Minister (where relevant), which may be withheld at the absolute discretion of the Shire or the Minister.

15 Costs

Costs

15.1 The Licensee must pay or reimburse the Shire on demand for all the Shire's reasonable costs and expenses (including the Shire's legal and consultancy costs and expenses) in relation to:

15.1.1 the exercise or enforcement by the Shire of any right under this Licence;

15.1.2 any act or omission by the Licensee causing cost or expense to the Shire; and

15.1.3 obtaining or giving any consent or approval under this Licence, or a variation or surrender of this Licence.

Duty and other costs

15.2 The Licensee must pay or reimburse the Shire on demand for all duty, taxes, levies, charges and fees, and fines and penalties in respect of any of them, which may be payable in connection with this Licence.

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Interest on other moneys

15.3 If any monies payable by the Licensee remain unpaid for 30 days after their due date then the Licensee shall pay to the Shire interest on those payments at the Default Interest Rate calculated from their due date to the date of payment and such interest shall be compounded monthly.

16 GST

16.1 All fees and charges under this Agreement are exclusive of GST unless stated otherwise. If GST is payable on any supply made under this Agreement, the Licensee must pay the applicable GST amount to the Shire at the same time as the relevant payment. Terms used in this clause have the same meaning as in the *A New Tax System (Goods and Services Tax) Act 1999*.

17 Shire's covenants

Shire's responsibility for repairs and maintenance

17.1 The Shire must keep and maintain the building, all building services and the Shire's improvements on the Land in good order and condition but the Shire shall not be liable or responsible for any:

17.1.1 repair or maintenance of any alterations carried out by the Licensee in accordance with clause 13;

17.1.2 repair or maintenance which the Licensee is responsible for under the terms of this Licence; or

17.1.3 repair or maintenance that is not reasonably necessary for the Licensee's use of the Licensed Area as determined by the Shire (acting reasonably).

17.2 Unless otherwise provided in this Licence, the Shire is responsible for organising and paying for annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Licensee) and recertification of any fall arrest systems located in the Community Facility.

Shire's Right of Access

17.3 The Shire and the Shire's employees and contractors may at all reasonable times (and at any time in the case of an emergency) enter the Licensed Area with all necessary equipment to carry out repairs, maintenance or improvements to the Licensed Area (or adjacent areas), including to:

17.3.1 carry out any repairs or maintenance to the building or building services on the Land that is not the Licensee's responsibility under the terms of this Licence;

17.3.2 construct new structures on the Licensed Area;

17.3.3 alter, add to, extend, reduce the size of, or otherwise modify, existing structures on the Licensed Area; or

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17.3.4 carry out any other works that the Shire considers necessary.

Shire's right to remedy default

17.4 The Shire may, if the Licensee is in default of any repair notice given by the Shire under this Licence or, if any repairs that the Licensee is responsible for under this Licence are required to be undertaken as a matter of urgency then, without prejudice to the Shire's rights under this Licence, the Shire and the Shire's employees and contractors with all necessary equipment at all reasonable times may enter the Licensed Area to carry out such works and the costs of carrying out such works shall be payable by the Licensee to the Shire on demand.

Shire's right to deal with Land

17.5 The Shire may grant easements of support or any other easements or similar rights over any part of the Land or the Licensed Area or dedicate, transfer or otherwise deal with any part of the Land or the Licensed Area in favour of another person for any reason whatsoever.

No undue interference

17.6 In exercising the Shire's rights in clause 17.3 to clause 17.5 (inclusive), the Shire must use its reasonable endeavours not to cause any undue interference with the Authorised Use but in no event will the Shire be responsible for any compensation or liable for any loss suffered by the Licensee.

18 Events of Default

Default

18.1 An event of default occurs if:

18.1.1 the Licence Fee is at any time unpaid for 30 days after becoming due whether formally demanded or not;

18.1.2 the Licensee fails to comply with any of its other obligations under this Licence and that failure is not, in the reasonable opinion of the Shire, remediable;

18.1.3 the failure described in clause 18.1.2 is remediable, and the Licensee does not remedy the failure within 30 days, or a longer period reasonably determined by the Shire after receipt by the Licensee of a notice from the Shire specifying the failure;

18.1.4 in the event of insolvency, receivership, bankruptcy or liquidation of the Licensee; or

18.1.5 if the Licensee makes or enters into or endeavour to make or enter into any composition assignment or other arrangement with or for the benefit of the Licensee's creditors.

Shire's right to terminate

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18.2 If an event of default occurs, the Shire may terminate this Licence by written notice to the Licensee.

Other rights of Shire

18.3 Any action taken by the Shire under clause 17 is without prejudice to any other rights of the Shire and does not release the Licensee from liability under this Licence.

18.4 Access to Derby Nicholson Square Oval outside approved times - The Licensee acknowledges that the Derby Nicholson Square Oval forms part of the Shire's community infrastructure and except during the Approved Program Times allocated under this Licence, the Shire may permit public use, bookings, programs or any other activities at the Derby Nicholson Square Oval at its discretion. For the avoidance of doubt, the Licensee's rights to the Derby Nicholson Square Oval are non-exclusive and apply only during the Approved Program Times.

19 Termination

Licensed Area

19.1 At the end or earlier termination of this Licence, the Licensee must ensure that the Licensed Area is in a condition consistent with the compliance of the Licensee's obligations during the Term and deliver to the Shire all keys, access cards and other security devices for the Licensed Area.

Removal of Licensee's fixtures, fittings and chattels

19.2 At the end or earlier termination of this Licence, the Licensee must remove all the Licensee's chattels and, if required by the Shire, any fixture, fitting or structure erected by the Licensee during the Term, and make good at the Licensee's cost any resulting damage and if not removed within five business days or a longer period as reasonably determined by the Shire after the date of termination, ownership of those chattels, fixtures, fittings and structures may at the Shire's election pass to the Shire or the Shire may in a proper and workmanlike manner remove them from the Licensed Area and either store them or forward them to a refuse collection centre.

19.3 The cost of making good the resulting damage and the cost of removal, storage and disposal shall be recoverable from the Licensee as a debt due on demand and the Shire shall not be responsible for any compensation or liable for any loss suffered by the Licensee.

Survival

19.4 The covenants contained in this Licence which expressly or impliedly survive termination shall remain in full force and effect after the termination of this Licence without limit in time and shall not be or be deemed to be waived, merged or extinguished upon such termination.

20 Disputes

Mediation

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20.1 If a dispute arises in relation to this Licence, either Party may give the other a notice requiring that an attempt be made to resolve the dispute with the help of a mediator to be appointed jointly by the Parties.

20.2 If the Parties do not agree on a mediator within seven days after the notice is given, either Party is entitled to ask the Australian Commercial Disputes Centre (ACDC) or such other body that has similar powers at the time of the dispute to appoint the mediator.

20.3 The mediation is to be conducted in accordance with the procedure set out in the ACDC Commercial Mediation Agreement or, if at the relevant time there is no such agreement or an agreement substituted for it, in accordance with the procedure determined by the mediator in consultation with the Parties. Each of the Parties must co-operate fully with the mediator.

20.4 The Parties must each pay an equal share of the fees and expenses to which the mediator is entitled.

Arbitration

20.5 If the dispute has not been resolved by mediation under clause 20.3 within two months of a party requiring mediation, either Party may give the other Party a notice requiring that a dispute be resolved by arbitration under the *Commercial Arbitration Act 2012* (WA) by an arbitrator appointed jointly by the Parties.

20.6 If the Parties do not agree on an arbitrator within seven days after the notice of arbitration is given, either Party is entitled to ask the ACDC or such other body that has similar powers at the time of the dispute to appoint the arbitrator.

20.7 The arbitration must be conducted in accordance with the *Commercial Arbitration Act 2012* (WA). Each of the Parties must co-operate fully with the arbitrator.

20.8 Either Party is entitled to appeal to the Court of competent jurisdiction on any question of law arising out of an award.

Right to seek injunctions

20.9 For the avoidance of any doubt, nothing in this clause 20 shall be construed as limiting the rights of either Party to seek urgent injunctive orders from a Court of competent jurisdiction to restrain the other Party from an ongoing or repetitive breach of this Licence where an order for damages would not be an adequate remedy.

21 Holding Over

21.1 If the Licensee continues to use the Licensed Area after the expiry of the Term with the consent of the Shire, the Licensee will be a monthly licensee of the Shire at the same rate as the then Licence Fee payable by the Licensee immediately prior to expiry of the Term.

22 Notices

Giving notices

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22.1 Any notice or communication given to a Party under this Licence is only given if it is in writing and sent in one of the following ways:

22.1.1 Delivered or posted to that Party at its address and marked for the attention of the relevant department or officer (if any) set out below.

22.1.2 Emailed to that Party at its email address and marked for the attention of the relevant department or officer (if any) set out below.

The Shire

Name:	Shire of Derby/West Kimberley
Address:	Post Office Box 94
	Derby, WA 6728
Email:	SDWK@SDWK.wa.gov.au
Attention:	Manager Development Services

The Licensee

Name:	Derby Tigers Football Club Inc.
Address:	PO Box 512, Derby, WA, 6728
Email:	dtfc6728@hotmail.com & dtfcpresident@hotmail.com
Attention:	President

Change of physical or email address

22.2 If a Party gives the other Party three business days' notice of a change of its address or email address, any notice or communication is only given by that other Party if it is delivered, posted or emailed to the latest address.

Time notice is given

22.3 Any notice or communication is to be treated as given at the following time:

22.3.1 If it is delivered, when it is left at the relevant address; or

22.3.2 If it is sent by post, five business days after it is posted; or

22.3.3 If it is sent by email, as soon as the sender receives from the sender's email address, a report of an error free transmission to the correct email address.

22.4 However, if any notice or communication is given, on a day that is not a business day or after 5pm on a business day, in the place of the Party to whom it is sent it is to be treated as having been given at the beginning of the next business day.

Copies of notices etc

22.5 If a Party is required by any term of this Licence to give a copy of any notice or communication to a person, the failure to give the copy of it to the person may not be raised to rebut that it was effectively given.

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23 Special Conditions

23.1 The Parties acknowledge and agree that the Special Conditions (as provided in Schedule 2) form part of this Licence.

23.2 In the event that the Special Conditions are inconsistent with the terms of the Licence, then the Special Conditions shall prevail to the extent of such inconsistency.

24 Discretion of the Shire in its capacity as a Relevant Authority

24.1 Nothing in this Licence shall fetter or be construed as an attempt to fetter the discretion or the powers of the Shire in its capacity as a Relevant Authority under any Written Law and in particular does not fetter the Shire in its capacity as a Relevant Authority with regard to the approval or imposition of conditions on any approval required for the development of the Land or carrying out of any alterations, additions or improvements on the Licensed Area in accordance with the terms of this Licence.

25 Miscellaneous

Approvals and consents

25.1 Unless this Licence expressly provides otherwise, a Party may give or withhold an approval or consent in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding a consent or approval or for giving a consent or approval subject to conditions.

25.2 Where this Licence refers to a matter being to the 'satisfaction' of a Party, this means to the satisfaction of that Party in its absolute discretion.

Entire agreement

25.3 This Licence contains everything the Parties have agreed in relation to the subject matter it deals with. No Party can rely on an earlier written document or anything said or done by or on behalf of another Party before this Licence was executed.

Further acts

25.4 Each party must at its own expense promptly execute all documents and do or use reasonable endeavours to cause a third party to do all things that another Party from time to time may reasonably request in order to give effect to, perfect or complete this Licence and all transactions incidental to it.

Governing law and jurisdiction

25.5 This Licence is governed by the law of Western Australia. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

Joint and individual liability and benefits

25.6 Except as otherwise set out in this Licence, any agreement, covenant, representation or warranty under this Licence by two or more persons binds them jointly and each of

them individually, and any benefit in favour of two or more persons is for the benefit of them jointly and each of them individually.

Severability

25.7 Each provision of this Licence is individually severable. If any provision is or becomes illegal, unenforceable or invalid in any jurisdiction it is to be treated as being severed from this Licence in the relevant jurisdiction, but the rest of this Licence will not be affected. The legality, validity and enforceability of the provision in any other jurisdiction will not be affected.

Counterparts

25.8 This Licence may be executed in any number of counterparts each of which is an original and all of which constitute one and the same agreement.

Variation

25.9 No variation of this Licence will be of any force or effect unless it is in writing and signed by each Party to this Licence.

Waivers

25.10 A waiver of any right, power or remedy under this Licence must be in writing signed by the Party granting it. A waiver is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25.11 The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Licence does not amount to a waiver.

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Execution and date

Executed as an agreement on the _____ day of _____ 202 .

Shire of Derby/West Kimberley Representative

_____
Print Name

_____ _____
Print Position Signature

Derby Tigers Football Club Representative

_____
Print Name

_____ _____
Print Position Signature

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Schedule 1 – Items

Item 1 **Community Facility**

Derby Nicolson Square Oval

153 Loch Street, Derby, WA, 6728

Item 2 **Land**

Reserve (Type 3R) Reserve NO# 26179 comprised in Lot 1402 on Deposited Plan 193851, Title Volume 3111 - Folio 707

Item 3 **Licensed Area**

That part of the Land having an area of approximately 37,790 square metres as depicted on the plan attached to this Licence as Schedule 4.

Item 4 **Licensed Area**

The Licensee has access to facility usage at Derby Nicolson Square Oval in accordance with the following schedule;

Date Range	Provision
1 January 2026 – 31 December 2027	Provision of facility usage for Club seasonal Training nights Tuesday and Thursday with lights, averaging four hours total per week. (5:30pm – 7:30pm)
1 January 2026 – 31 December 2027	Provision of facility usage for Junior Football Development Program averaging two hours a week. (4:00pm – 6:00pm)
1 January 2026 – 31 December 2027	Provision of facility usage Friday with lights for Junior Development Football and Reserves Program. Competition and Club Training nights (6:00pm – 8:00pm)
1 January 2026 – 31 December 2027	All competition games will be scheduled in advanced and charged as per the Fees set out in the SDWK fees and charges statement.

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Item 5 **Licence Fee**

The total Licence Fee is $2,888.00 for the term of this licence.

The Licence Fee is calculated on a rate of $1,444.00 per annum excluding GST.

Fee is to be paid in two instalments.

First payment of $1,444.00 GST exclusive is payable from the Commencemnt Date.

Second Payment of $1,444.00 GST exclusive is payable from 1 January 2027.

The total licence fee for this 24-month agreement is calculated on a pro-rata basis in line with the Shire's adopted Fee and Charges.

The annual User Agreement fee may change and can increase in line with any adjustments approved by Council as part of the Shire's annual review of the Schedule of Fee and Charges. Any changes will be applied to the remaining term of the agreement.

Item 5 **Review Date**

This Licence may be reviewed each year at the time the Shire adopts its annual Schedule of Fees and Charges, and at any time the Licence continues on a holding-over basis

Item 6 **Commencement Date**

1 January 2026

Item 7 **Term**

24 Months

Item 8 **End Date**

31 December 2027

Item 9 **Authorised Use**

Program delivery/ training and development, Junior competition and including associated activities reasonably required for the operation of these programs.

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Schedule 2 – Special Conditions

Special Conditions are set out below

A Conditions Precedent

a. By accessing and utilising the facilities at the Derby Nicolson Oval, including the Oval, change room facilities, Storage area and Kiosk facilities, all users agree to abide by these terms and conditions. The Licensee acknowledge that their participation in activities is at their own risk and agree to exercise due care and responsibility for their safety and the safety of others. It is the Licensee responsibility to adhere to all posted rules, regulations, and instructions provided by the Shire of Derby/West Kimberley or facility staff. The Licensee further agree to utilise equipment and facilities appropriately, maintain cleanliness, and report any damage or safety concerns immediately to the Shire of Derby/West Kimberley.

b. The Licensee are expressly prohibited from undertaking any works, alterations, or modifications to the facilities, grounds, or equipment without explicit prior written consent from the Shire of Derby/West Kimberley. Any unauthorised use, wilful damage, or failure to comply with these terms may result in the suspension or termination of access to the Licensed Area. This agreement is subject to the policies and guidelines set forth by the Shire of Derby/West Kimberley, which may be updated from time to time

B Utilities and Services

The Licensee must pay the cost of the utilities and services as set out in the table below. For the avoidance of any doubt, if there are any inconsistencies between clause 7 of this Licence and the table set out below, the Parties agree that the table will prevail.

Utility or service	Amount payable by Licensee
WA State Government Land Tax	0%
WA State Government DFES Levy	0%
Water Corporation – Annual Water/Sewerage Rates Charge (or appropriate similar charge if Shire supplied service)	0%
Water Corporation - Water Consumption Charges (or appropriate similar charge if Shire supplied service)	0%
Gas Charges (Annual Charge and Consumption)	0%
Electricity (Annual/Fixed Charges and Consumption)	0%
Telephones (Annual/Fixed Charges and Consumption)	0%
Cost of installation of any meter, wiring or other	0%

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device necessitated by the use of a utility and service	
Cost of annual pest control inspections, servicing of fire extinguishers, exit lights, security lights, fire hydrants, air conditioners (not owned by the Lessee) and recertification of any fall arrest systems in place	0%
Shire of Derby/West Kimberley's Annual Local Government Rates	0%
Cost of rubbish collection including emptying wheelie bins and 1100 bins	0%
Cost of annual licences (e.g. food surveillance fee)	100%
Public and Member Liability Insurance	100%

C Other special conditions

a. Allocation of a Storage space located at the back of the Oval Building for storage and use.

b. Reserved access to permanent Change room for usage and storage that cannot be hired out to external users and access to the secondary change rooms for training days.

c. Rights to use or maintain Common Use Facilities (such as facility use equipment located on site, toilets, store room and kiosk);

d. Scheduled Game Day must be booked in advanced and paid for separately outside of the User Agreement.

e. Current Public Liability Insurance is required by the association and must be provided to the Shire for the term of the User Agreement;

f. Restrictions on External Use and Hiring: The Licensee must not hire, sub-hire, or otherwise make the Licensed Area or any part of the facility available to any third party. No external users, hirers, or community groups may use the Licensee Area during the Licensee's Approved Program Times.

g. Security and Lock-Up Requirements: The Licensee is responsible for ensuring that all allocated areas and the wider building are securely locked and alarmed upon departure. Penalties or cost recovery for security call-outs resulting from non-compliance may apply.

h. Use of Common Areas: The Licensee must not store equipment, materials or personal items in any Common Use Areas, including corridors, foyers, or shared spaces. The Licensee must ensure these areas remain clean, unobstructed and in a tidy condition at all times. Any items left in Common Use Areas may be removed by the Shire at the Licensee's cost.

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Schedule 3 – Consent of the Minister of Lands

Consent of the Minister of Lands

If applicable, the MINISTER FOR LANDS consents to this Licence pursuant to section 18 of the *Land Administration Act 1997* (WA).

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Schedule 4 – Plan of Licensed Area

Plan of Licensed Area

1. *Field area/playing area*
2. *Change room 1 – Reserved for Licensee usage*
3. *Change room 2*
4. *Kiosk and toilets*
5. *Store room*



16 DEVELOPMENT SERVICES

16.1 BUSHFIRE RISK MANAGEMENT PLAN ENDORSEMENT

File Number: **R/25**

Author: **Kylie Tame, Manager Development Services**

Responsible Officer: **Luke Lawrence, Director Community Planning**

Authority/Discretion: **Executive**

SUMMARY

This report seeks Council endorsement of The Shire of Derby/West Kimberley draft Bushfire Risk Management Plan (BRMP).

DISCLOSURE OF ANY INTEREST

Nil by Author, or Responsible Officer.

BACKGROUND

The responsibility for managing bushfire risk is shared across the community, including local and state government, industry, private landholders, and other community members. Successful bushfire risk management requires identifying and assessing risk and implementing coordinated treatments across the landscape to mitigate the potential for bushfires to occur.

Local government has a range of responsibilities in relation to bushfire mitigation, including but not limited to:

- Developing and implementing fire mitigation strategies for all relevant lands vested in the local government.
- Administering day to day provisions of the *Bush Fires Act 1954* and regulations.
- Prescribing and enforcing bushfire prevention measures on all private lands and leaseholds within the local government district.

The BRMP is a state-wide initiative led by the Rural Fire Division of the Department of Fire and Emergency Services (DFES) to support local governments to reduce the threat posed by bushfire. A BRMP is a strategic document developed by local government to facilitate a coordinated approach towards the identification, assessment and treatment of assets exposed to bushfire risk. In the context of bushfire risk management planning, risk is the potential for a bushfire to harm something that is valued by the community.

While local governments prepare the BRMP, they do so on behalf of all stakeholders and are not solely responsible for managing the risks identified in the plan. Local governments with endorsed plans are eligible for grants under the Mitigation Activity Fund Grants Program (MAFGP) to assist with implementing mitigation activities identified in their plans. The Western Australian Government established the MAFGP to reduce bushfire hazards that present an extreme, very high or high risk to assets, in combination with the progressive rollout of the BRMP. An Office of Bushfire Risk Management (OBRM) endorsed BRMP is required to be eligible to apply for the MAFGP. To maintain OBRM endorsement, a local government is required to review and update their BRMP at least every two (2) years.

STATUTORY ENVIRONMENT

Bush Fires Act 1954

Local Government Act 1995

Section 2.7(2)(a) and (b) Provides that Council is to oversee the allocation of local government finances and resources and to determine the local government policies.

Section 3.1 – Provides that the general function of the local government is to provide for the good government of persons in its district.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

Approval of the OBRM endorsed BRMP enables the Shire to apply for funding through the MAFGP. If successful, the funding will help to reduce the direct Shire costs for annual mitigation works.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
2. Community	2.1 Safe Communities	2.1.1 Encourage community safety to be a whole-of-community responsibility
4. Environment	4.1 Our natural environment	4.1.1 Take advantage of, protect and promote natural attractions and environmental features

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Property: Without a coordinated and risk based mitigation plan in place there is an increased risk of property damage from bushfire.	Unlikely	Major	Medium	The BRMP is approved by Council and bushfire mitigation activities are coordinated and strategic.
Financial: Council does not approve the OBRM endorsed BRMP. Shire will not eligible for funding from State government for annual mitigation works.	Unlikely	Moderate	Medium	The BRMP is approved by Council.

CONSULTATION

The following stakeholders have been consulted through the development of the plan:

- Local Emergency Management Committee.
- Department of Biodiversity, Conservation and Attractions (DBCA) West Kimberley.
- DFES Bushfire Mitigation Branch.
- Department of Primary Industries & Regional Development (DPIRD).
- Department of Planning Lands and Heritage (DPLH) – Pastoral.
- Department of Housing and Works (DoHW).
- Kimberley Land Council (KLC).
- Kimberley Development Commission (KDC).
- Master Builders Association (MBA).

Ongoing consultation will continue throughout the implementation of an endorsed BRMP, a list of key stakeholders has been identified in the bushfire risk management planning process for the Shire. The BRMP includes a communications plan that outlines key communication initiatives to be undertaken during the plan's implementation.

COMMENT

The Shire of Derby/West Kimberley (Shire) has prepared a BRMP (Attachment 1) in accordance with the requirements of the guidelines for preparing a BRMP issued by OBRM. This is the Shire's first BRMP and provides a strategic framework for assessing and treating bushfire risks across all land tenures within the shire. The draft BRMP has been submitted to the OBRM for assessment and endorsement in line with the requirements of the Bushfire Risk Management Planning Process. The draft BRMP was endorsed by OBRM on 18 November 2025 (Attachment 2) and review required by 31 May 2028.

The Shire will benefit from having a Council endorsed BRMP as it:

- Demonstrates the Shire is aware of risks, has prioritised treatments and has a transparent strategy
- Sets clear priorities and reduces reactive decision making
- Provides a defensible basis for prioritising works, supports planning decisions, and demonstrates good governance and due diligence
- Improves coordination with DFES, Department of Biodiversity, Conservation and Attractions, Department of Housing and Works, Aboriginal Community Controlled Organisations, Aboriginal rangers and communities, utilities and private landholders
- Assists community engagement by communicating why treatments are needed, prioritises treatments based on risk and not otherwise and shifts emotive discussions to evidence based decisions.

The BRMP does not mean the Shire inherits responsibility for private or State-owned lands and does not override council decision making. It does provide an evidence-based framework to guide fire mitigation works and future planning.

By having a BRMP the Shire will be able to access State mitigation funding, there may also be opportunity to access other funding including Disaster Resilience Grants.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. **SDWK Bushfire Risk Management Plan 2025 - 2027 (draft)**
2. **OBRM approval letter SDWK BRM Plan**

RECOMMENDATION

That Council ADOPTS the draft Shire of Derby/West Kimberley Bushfire Risk Management Plan 2025 - 2027 as attached.

Shire of Derby / West Kimberley

2025 – 2027 Bushfire Risk Management Plan

www.sdwk.wa.gov.au

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Document control

Document name	Shire of Derby/West Kimberley Bushfire Risk Management Plan	Current version	1.1
Document owner	CEO Shire of Derby/West Kimberley	Issue date	DD/MM/YYYY
Document location	Shire of Derby/West Kimberley	Next review date	DD/MM/YYYY

Document endorsements

This Bushfire Risk Management Plan has been endorsed by the Office of Bushfire Risk Management as consistent with the standards detailed in the *Guidelines for Preparing a Bushfire Risk Management Plan 2024*.

The approval of the Bushfire Risk Management Plan by Shire of Derby/West Kimberley Council signifies support of the plan's implementation and commitment to working with risk owners to manage bushfire risk. Approval does not signify acceptance of responsibility for risk, treatments or outcomes on land that is not managed by the Shire of Derby/West Kimberley.

Local Government	Representative	Signature	Date
Shire of Derby/West Kimberley	Chief Executive Officer		DD/MM/YYYY

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Acknowledgement of Country

In the spirit of Reconciliation, the Shire of Derby/West Kimberley acknowledges the traditional custodians of Country throughout the Shire and the continued connection to the land, waters and community.

The Shire of Derby/West Kimberley would like to pay our respects to the people, the cultures and the Elders past and present and the continuation of cultural, spiritual and educational practices of Aboriginal people.

Chapter 1 Introduction

1.1. Background

This Bushfire Risk Management (BRM) Plan provides contextual information to inform a structured approach to identifying, assessing, prioritising, monitoring and treating bushfire risk. The BRM Plan has been prepared by the Shire of Derby/West Kimberley (Shire), it encompasses all land within the Shire and has been written on behalf of all stakeholders within that area. The BRM Plan is informed by consultation and communication with land and asset managers that has occurred throughout its development to ensure an informed and collaborative approach to managing bushfire risk.

The BRM plan has been prepared with due consideration of the requirements stated in the *Guidelines for Preparing a Bushfire Risk Management Plan* (the Guidelines) published by the Office of Bushfire Risk Management (OBRM) including the principles described in *ISO 31000:2018 Risk Management*.

1.2. Objective of the Bushfire Risk Management planning program

The BRM planning program supports local governments to reduce the threat posed by bushfire. The Shire's BRM Plan will contribute to achieving the objective of the BRM program by:

- Guiding and coordinating a cross-tenure, multi-stakeholder approach to BRM planning.
- Facilitating the effective use of the financial and physical resources available for BRM activities.
- Supporting integration between risk owners, strategic objectives and tactical outcomes.
- Documenting processes used to monitor and review the implementation of treatments to ensure risk is managed to an acceptable level.

1.3. Legislation, policy and standards

Legislation, policy and standards that were applied in the development of this BRM Plan can be found in the Bushfire Risk Management Planning Handbook – Appendix 1 – Summary of Related Legislation, Policy and Guidelines.

Other Shire of Derby/West Kimberley policy, guidelines and standards relevant to this document include:

- Shire of Derby/West Kimberley Corporate Business Plan 2019-2023
- Shire of Derby/West Kimberley Firebreak and Fuel Hazard Reduction Notice
- Shire of Derby/West Kimberley Application For Permit to Burn
- Shire of Derby/West Kimberley Local Emergency Management Arrangements
- Shire of Derby/West Kimberley Local Recovery Plan
- Shire of Derby/West Kimberley Strategic Community Plan 2021-2031

Chapter 2 The risk management process

The BRM planning process is a cycle of understanding the context and assessing and treating risks. Each of these steps is informed by communication and consultation and supported by monitoring and review. The three products produced during the BRM planning process are the BRM Plan, Asset Risk Register and Treatment Schedule.

Further details on the guiding principles and process for the development of this plan can be found in Chapter 2 of the Guidelines.

2.1. Roles and responsibilities

The roles and responsibilities of the key stakeholders involved in the development of the BRM Plan are outlined in Table 1

Table 1: *Roles and responsibilities in the BRM planning process*

STAKEHOLDER	ROLES AND RESPONSIBILITES
Local Government	• Custodian of the BRM Plan. • Coordinate the development and ongoing review of the BRM Plan. • Undertake bushfire risk assessment of local government area. • Submit the draft BRM Plan to OBRM for review and endorsement. • Develop and implement a Treatment Schedule for local government managed land. • Encourage risk owners to treat identified risks. • Communicate the plan to the community
Department of Fire and Emergency Services (DFES)	• Contribute to the development and implementation of the BRM Plan. • Facilitate involvement of state and federal government agencies in the BRM planning process. • Undertake treatments on unmanaged reserves and unallocated Crown land within gazetted town sites. • By agreement, implement treatment strategies for other land managers. • Endorse BRM Plans as consist with the Guidelines, BRM Program and dynamic risk environment. • Administer the Mitigation Activity Fund Grants Program.
Department of Biodiversity, Conservation and Attractions (DBCA)	• Contribute to the development of the BRM Plan. • Undertake their treatment program on DBCA managed land. • Provide advice on environmental assets and appropriate treatment strategies for their protection.
Department of Planning, Lands and Heritage	• Identify managed assets. • Provide advice on management of Aboriginal and Cultural Heritage. • Provide advice on current risk treatment programs. • Contribute to the development of BRM Plans. • Undertake treatments on lands they manage.
Other State and Commonwealth Government agencies and public utilities	• Identify managed assets. • Provide advice on current risk treatment programs. • Contribute to the development of BRM Plans. • Undertake treatments on lands they manage.
Corporations and private landowners	• Identify managed assets. • Provide advice on current risk treatment programs. • Contribute to the development of BRM Plans. • Undertake treatments on lands they manage.
Traditional Owners, Native Title Bodies and Aboriginal Ranger Groups	• Identify, map and protect cultural heritage sites and lands. • Provide advice on current risk treatment programs. • Contribute to the development of the BRM Plan. • Undertake treatments on lands they manage. • Support development of cultural heritage pre-incident plans.

2.2. Stakeholder engagement

Engagement with stakeholders during the development, implementation and review of the BRM Plan ensures planning is based on comprehensive information and considers the values and objectives of the entire community.

The following table identifies key stakeholders in the BRM planning process. These are stakeholders that are identified as having a significant role or interest in the planning process or are likely to be significantly impacted by the outcomes.

Table 2: *Key stakeholders identified in the BRM planning process for the Shire.*

STAKEHOLDER	ROLE OR INTEREST	LEVEL OF IMPACT OF OUTCOMES	LEVEL OF ENGAGEMENT
Shire of Derby/West Kimberley	Plan owner. Major role in the development, management and review of the plan. Responsible for treatments on land they own/manage	High	Inform, consult, involve, collaborate and empower
DFES	Provide expert knowledge and advice in relation to bushfire risk, prevention and treatment. Responsible for prevention, preparedness and response within their designated areas	High	Inform, consult, involve, and collaborate
OBRM	Review and endorse BRM Plan	High	Consult
Volunteer Firefighters	Provide local knowledge and advice in relation to bushfire risk, prevention and treatment as a result of responding to bushfires in the Shire	High	Inform, consult, involve, and collaborate
DBCA	Responsible for prevention, preparedness and response within their designated areas	High	Inform, consult, involve, and collaborate
DPLH	Manager of large parcels of UCL/UMR within the Shire	Medium	Inform, consult, involve and collaborate
Utilities	Manage and maintain critical infrastructure	Medium	Inform, consult, involve, collaborate and empower
Main Roads	Manage and maintain land and assets	Medium	Inform, consult, involve, collaborate and empower
Water Corp	Manage and maintain land and assets	Medium	Inform, consult, involve, collaborate and empower
Department of Housing & Works	Major role as Asset Manager on behalf of State Government	High	Inform, consult, involve, collaborate and empower
Department of Justice	Land and asset owners/managers	High	Inform, consult, involve, collaborate and empower
Department of Defence	Land and asset owners/managers	High	Inform, consult, involve, collaborate and empower
Private landholders	Land and asset owners/managers	High	Inform, consult, involve, collaborate and empower
Pastoralists	Major role as asset and owners/managers for large portions of land across the Shire	High	Inform, consult, involve, collaborate and empower
Traditional Owners	Major role as asset owners/managers for large portions of land across the Shire. Native Title Holders. Knowledge holders for cultural and heritage matters that may be impacted by fire and fire management.	High	Inform, consult, involve, collaborate and empower
Aboriginal Ranger Groups – Indigenous fire management programs	Play a key role in bushfire mitigation and preparedness by conducting on-country work including cultural burning and early season/low-intensity patch burning. Play a key role in multi-agency bushfire suppression efforts	High	Inform, consult, involve, collaborate and empower
Kimberley Land Council – Indigenous fire management program	Major support role for many indigenous ranger groups in their facilitated Kimberley Ranger Network (KRN). Works with native title groups and supports and coordinates ranger groups via its Land & Sea Management Unit (LSMU). Assist with Healthy Country Plans, capacity, building, training, advisory support, mapping traditional knowledge, funding. Coordinates fire-planning and firefighting support.	High	Inform, consult, involve, collaborate and empower

Aboriginal Corporations or bodies – Indigenous fire management program	Manages and supports Rangers who do on-country work including cultural burning and run healthy-country programs and seasonal early burns to reduce late-dry season bushfires	High	Inform, consult, involve, collaborate and empower
Master Builders Association of WA	Interested Party. Provide expert knowledge and advice in relation to bushfire risk and building industry codes	High	Inform, consult, involve
Shire of Derby/West Kimberley Community	Interested Party	Medium	Inform, consult, involve, collaborate and empower

Chapter 3 Establishing the context

Strategic and corporate framework

The BRM Plan has been created to guide the Shire in identifying and assessing bushfire risks, while establishing strategies to implement effective mitigation treatments. The success of the BRM Plan depends on stakeholders actively engaging with the community so it is well informed, supported and able to adopt mitigation measures that reduce bushfire risk.

Adopting the BRM Plan into the Shire's strategic documents will ensure that bushfire risk management aligns with broader planning efforts and enables effective resource allocation. The outcomes of the BRM Plan will support the Shire in budgeting for and prioritising annual mitigation works. Additionally, the results will be shared with key stakeholders, such as the Local Emergency Management Committee (LEMC) and other interest groups to raise awareness and enhance collaboration in preparing for and responding to bushfire events.

The Shire's vision is:

"A place where people want to live, invest, visit, and return to"

The Shire's values are highlighted in the Strategic Community Plan 2021-2031 and provides an overview of the ongoing needs, goals, strategies and directions of the Shire into the future. The BRM Plan supports the Shire's following values in many ways.

Respect	*Engage meaningfully with Traditional Owners, pastoralists, and local communities to incorporate their perspectives and concerns.*
Knowledge	*Use both traditional fire knowledge (e.g. cultural burning practices) and scientific data to inform risk assessments and treatments.*
Relationships	*Collaborate with Department of Fire and Emergency Services (DFES), Department of Biodiversity, Conservation and Attractions (DBCA), Ranger groups, landholders, asset and land managers and other state agencies for coordinated bushfire risk mitigation.*
Legacy	*Design mitigation strategies that ensure long-term resilience of communities, ecosystems, infrastructure, cultural sites and the economy to future bushfire threats.*
Community	*Prioritise public education, awareness campaigns, and access to bushfire planning resources across towns and remote communities.*
Integrity	*Ensure transparency in bushfire risk mapping, treatment priorities, funding decisions, and progress reporting.*
Committed	*Implement and maintain firebreaks, fuel load management, and bushfire preparedness with clear responsibilities and resourcing.*
Proud	*Protect the Shire's natural beauty, cultural sites, and heritage assets from bushfire through place sensitive mitigation efforts and promote a sense of pride in coming together and sharing a responsibility to keep our community safe.*



Figure 1: *Shire of Derby/West Kimberley Integrated Planning and Reporting Framework*

The BRM Plan forms an essential element of the Shire's broader strategic framework, directly linking to the vision of making the area a desirable place to live, invest, and visit.

Through its incorporation into the Shire's strategic documents, active stakeholder engagement, and outcome-based resource allocation, the BRM Plan will contribute to long-term community safety and resilience. The BRM Plan will be implemented by the Shire and risk owners, through collaboration with the Shire and Local Emergency Management Committee (LEMC). The Shires Director of Community Planning will be responsible for the ongoing maintenance and implementation of the BRM Plan.

Land use and tenure

Land tenure in the Shire influences how land is managed and who is responsible for managing bushfire risk. Different land tenures come with different risk ownership and responsibilities.

The State Hazard Plan – Fire, including *Section 2.1.3.* highlights a strong focus on shared responsibility for fire management. The BRM Plan recognises the importance of including State Agencies responsible for property (assets) that may be exposed to bushfire risk in addition to informing the land manager/occupier. This is the best approach to achieving the ultimate outcome, which is to reduce the overall bushfire risk to the community.

Table 3: *Summary of land management responsibilities within the Shire. Source: OBRM*

ORGANISATION	NUMBER OF PROPERTIES	AREA (HECTARES)	PERCENTAGE
Aboriginal Managed	592	1860213.033	15.46%
Commonwealth Government	16	595235.5739	4.95%
DBCA - Inside Native Title	1411	2408431.383	20.02%
DBCA - Outside Native Title	1157	954556.5516	7.93%
Department Of Biodiversity, Conservation And Attractions	1	0.327269965	0.00%
Department Of Fire And Emergency Services	135	377.1015284	0.00%
Department Of Planning, Lands And Heritage	383	63643.12038	0.53%
Department Of Water And Environmental Regulation	1	0.07074474	0.00%
Local Government	393	5387.542633	0.04%
Main Roads Western Australia	144	15251.00001	0.13%
Other State Government	536	1405.494449	0.01%
Private and Other	1488	6117663.201	50.84%
Water Corporation	28	73.64604535	0.00%

Calculated land-tenure data supplied by OBRM in Table 3, shown above, considers the bushfire management and prevention responsibilities of each land parcel. Certain business rules are applied to the Tenure to determine that responsibility.

The following categories are outlined to understand how they are calculated, as they are similar yet different:

Aboriginal Managed = Aboriginal Corporation Lease + Native title exists (exclusive)

DBCA – inside native title = Where land identified as DBCA Managed overlaps with Aboriginal Managed land (as above), it clips out the Aboriginal Managed area and retains it as DBCA Managed - inside native title (this is per DBCA's understanding of their responsibilities)

DBCA – outside native title = DBCA managed land that does not overlap with native title claims.

Private and Other = Leases that are leased by; Private, Company, Association or Unknown[1]

[1] **Note:** If the company or association is an Aboriginal Corporation, then it is considered Aboriginal Managed

As shown in Table 3, the Shire covers a vast area with diverse land tenures however local government–managed- land makes up only 0.04% of the total land area, limiting the Shire's direct role in land-based bushfire mitigation activities and emphasises the need for effective bushfire mitigation through shared responsibility and strong cross-tenure cooperation.

Private and Other Tenure in the Shire is 50.84% and refers to land managed outside of government tenure systems, where the onus of bushfire prevention lies directly with the landholder or occupier.

Shire records show the combined total area for Pastoral Stations, including Aboriginal managed stations is just over 7,660,000 hectares (ha). Many individual stations cover up to almost 400,000ha each. Land managers may face challenges mitigating bushfire risk due to vast and diverse landscapes across their tenure. They often have limited firefighting capability due to small workforce numbers and access to firefighting appliances. Pastoralists may opt into the DFES Aerial burning program prior to the bushfire season to reduce bushfire risk on their tenure. Rangers employed by Aboriginal Fire Management programs and DFES volunteer firefighters will often support pastoralists with firefighting efforts to combat bushfires. The grazing of lands and burning of vegetation during the cooler months following the wet season promotes new growth, reduces fuel loads and minimises soil erosion as the ground holds more moisture compared to later in the dry season. As part of good neighbour practices, pastoral land managers will often ensure extra measures are in place by mitigating bushfire risk to adjoining properties to prevent bushfires escaping their station boundaries. Pastoralists often engage in firefighting efforts and support State agencies during large scale bushfires.

In 2006, the Department of Agriculture and Food noted important aspects of managing bushfire risk in the Kimberley Pastoral rangelands:

- aerial and ground burning early in the dry season to produce areas of low fuel.
- grading of fence lines and access tracks; provide opportunities for backburning against oncoming bushfire should that be required.
- clearing fuel from around assets such as buildings, yards (permanent and temporary) and bores.
- equipment readiness.
- training.[2]

Table 3 shows DBCA's combined tenure inside and outside native title covers 27.95%. In 2010, the Department commenced an adaptive management program on prescribed burning. Kimberley Aboriginal Corporations, Savanna Carbon Abatement projects and the Australian Wildlife Conservancy under Ecofire also increased fire management programs around this time. Together, these initiatives resulted in increased prescribed burning throughout the Kimberley. New fire management programs sought to apply interconnected networks of patchy, low intensity, early dry season prescribed burning to limit the negative impacts of late season wildfires[3]. Increasing the number of smaller, patchy prescribed burns on DBCA land while retaining areas of older fuel age classes with high ecological value aims to decrease the number of large, frequent and devastating bushfires. The Western Australian Aboriginal Ranger Program (ARP) is administered by DBCA and supports Ranger groups led by Aboriginal organisations. The many activities undertaken by Rangers include fire management, mapping, cultural site management and carbon reduction activities. By offering meaningful employment on Country. The ARP significantly contributes to the *WA Aboriginal Empowerment Strategy 2021-2029* and the State's *Closing the Gap* commitments.

[2] Department of Agriculture and Food, Western Australia. (2006), Fire management guidelines for Kimberley pastoral rangelands : best management practice guidelines. Department of Primary Industries and Regional Development, Western Australia, Perth. Report. https://library.dpird.wa.gov.au/lr_best/2

[3] Department of Biodiversity, Conservation and Attractions Prescribed burning benefits threatened mammals in Kimberley tropical savannas

Aboriginal managed tenure makes up 15.46% of the Shire's overall area with Pastoral leases held by Aboriginal Corporations included in this percentage. Aboriginal people have a strong connection to Country and are central to maintaining cultural heritage, biodiversity and bushfire resilient landscapes. The landscapes and ecosystems found across the Shire have been shaped by Aboriginal cultural burning methods over thousands of years. The Plan supports Aboriginal people to continue with culturally informed fire management across the Shire. Cultural burning, sometimes known as cool burning, right-way fire or good fire, involves the burning of vegetation in targeted areas during the early dry season between March and July. Cool burns allow the fire to move slowly, reducing ground fuels as it meanders along the ground creating natural firebreaks or fire scars. This gentle, slow-moving fire allows time for small mammals and insects to move to safer areas or to previous fire scars. Cool burns remove ground fuels only so tree canopies remain intact. Because not everything is burnt, the landscape becomes a mosaic of burnt and unburnt country. The method removes fuel for larger fires late in the dry season, whilst maintaining and protecting habitats for mammals, reptiles, insects and birds.

When conducting risk assessments for Remote Aboriginal communities, the level of bushfire preparedness can vary. Layers of land tenure, asset owners and managers can create complexity and, quite often, confusion over who holds responsibility for bushfire mitigation. Uncertainty can lead to major gaps in preparedness with some stakeholders, including government agencies, assuming bushfire preparedness and mitigation is the responsibility of others.

When the Plan identifies a community's risk rating is above the acceptable bushfire risk level, the Shire will ensure the risk is communicated to the land manager and tenants. The Shire will also communicate the risk to the asset manager or owner, including State Agencies that manage assets on behalf of the State Government as supported by State Hazard Plan – Fire.

The Plan intends to bring together all stakeholders with their goals to collaborate, find solutions and establish measures to reduce the impact of bushfires to themselves and the community.

Community demographics and values

The 2024 Estimated Resident Population for the Shire was 8,536, with a population density of 0.07 persons per km^2. The Shire has 54 communities and three towns, spanning over 120,146 km^2 with 1,968 rateable properties. These properties form the primary base for generating local government revenue through rates. This population statistic excludes large variances in tourist population between the wet and the dry season.

The 2021 ABS Census Data shows the Shire's population is predominantly Aboriginal at 56% and is home to several Kimberley Aboriginal language groups, including Warrwa, Bardi, Jawi, Ngarinyin, Worrorra, Nyikina, Mangala, Unggumi, Bunuba, Walmajarri, Kija, Gooniyandi, Oogardang, Oomeday, Yow Jabi and Wangkatjunka people.

The Census also showed the diversity of languages used at home, shown in Figure 2 below, highlighting the need to accommodate for languages other than English to ensure bushfire risk and the importance of bushfire preparedness is understood across the Shire.

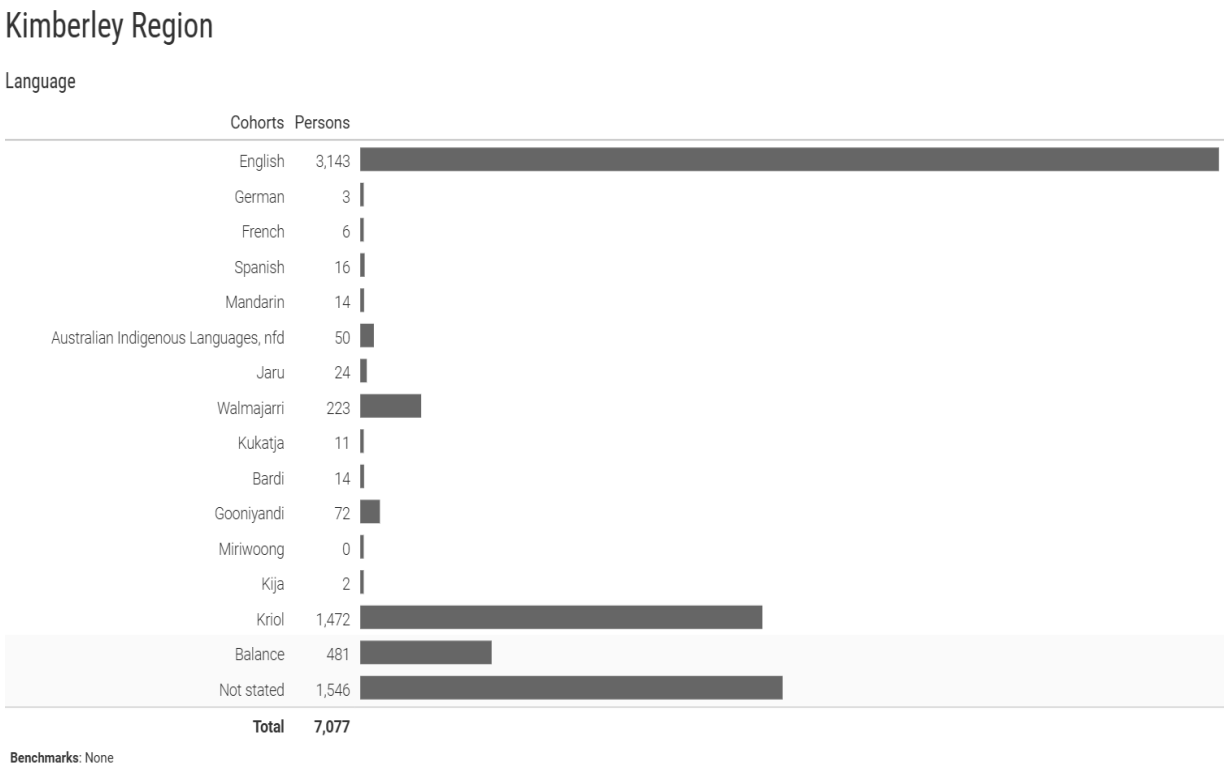


Figure 2: *Languages spoken at home in the Shire Source: Australian Bureau of Statistics 2021 Census of Population and Housing.*

Socio Economic Indexes for Areas (SEIFA) is a suite of indexes that have been created by the Australian Bureau of Statistics (ABS) from social and economic census information. Across Australia's local government areas, SEIFA scores range from 143 (most disadvantaged) to 1207 (least disadvantaged). An area with a low SEIFA score may reflect many households with low income or people without qualifications or in low skill occupations. The Shire's 2021 Wellbeing/SEIFA (Relative Disadvantage) score was 734. https://app.remplan.com.au/kimberley-region/community/wellbeing/seifa-relative-disadvantage?locality=derby-west-kimberley

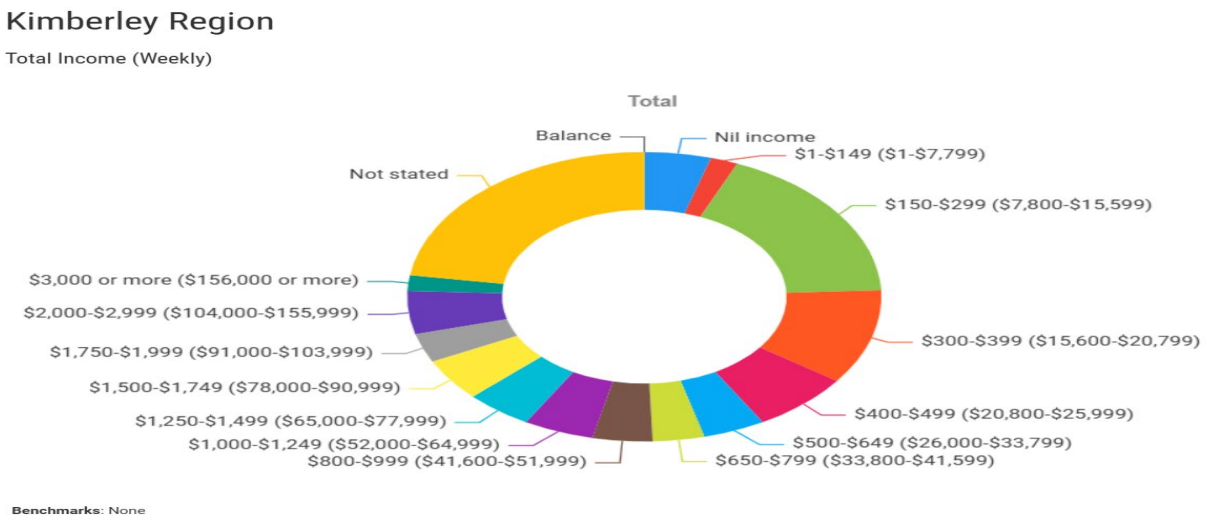


Figure 3: *Derby/West Kimberley Total Income (Weekly) Source: Australian Bureau of Statistics 2021 Census of Population and Housing***.**

In Figure 3 shown above, the total weekly income for most persons living in the Shire was between $150-$299 per week.

The Shire has a substantial proportion of households—32.0% as of 2021—residing in social housing[4].

There is a need to develop initiatives that support residents who may lack financial resources but are motivated to access the tools and equipment necessary to safely manage vegetation and maintain an Asset Protection Zone (APZ) around their homes.

A spokesperson for Master Builders Association of Western Australia suggested a conservative estimated cost for a new build in Derby for 2025 was 1.8 times higher than it was to build the same house in the Perth Metropolitan region.

Given the increasing costs of construction, rising insurance premiums, the high proportion of social housing and residents with limited disposable income, it is crucial that homes are built and maintained to be resilient to bushfires, ensuring they remain insurable and occupants are not displaced.

The Plan also identifies the importance of understanding what municipal services are within the Shire that include bushfire mitigation works like firebreak installation, trimming of trees and mowing around homes and how performance is measured by State Agencies who contract them to complete works.

Bushfire season coincides with the Shire's peak tourism season from April to October where the region can experience a dramatic increase in population with the Shire attracting approximately 113,000 visitors a year. Nearly all of the Shires popular tourist destinations and accommodation options are located in Bushfire Prone Areas and highlights the need to mitigate bushfire risk to these areas and establish bushfire awareness amongst tourists.

The BRM Plan is designed to identify areas of risk across the Shire by considering its vulnerability and exposure to bushfire, while providing a clear pathway towards building a resilient community that is supported, informed, and well prepared for any bushfire event through proactive measures such as community education, fuel management, culturally informed engagement and strategic land use planning.

[4] Source: Australian Bureau of Statistics, Census of Population and Housing 2016 and 2021.

Cultural heritage

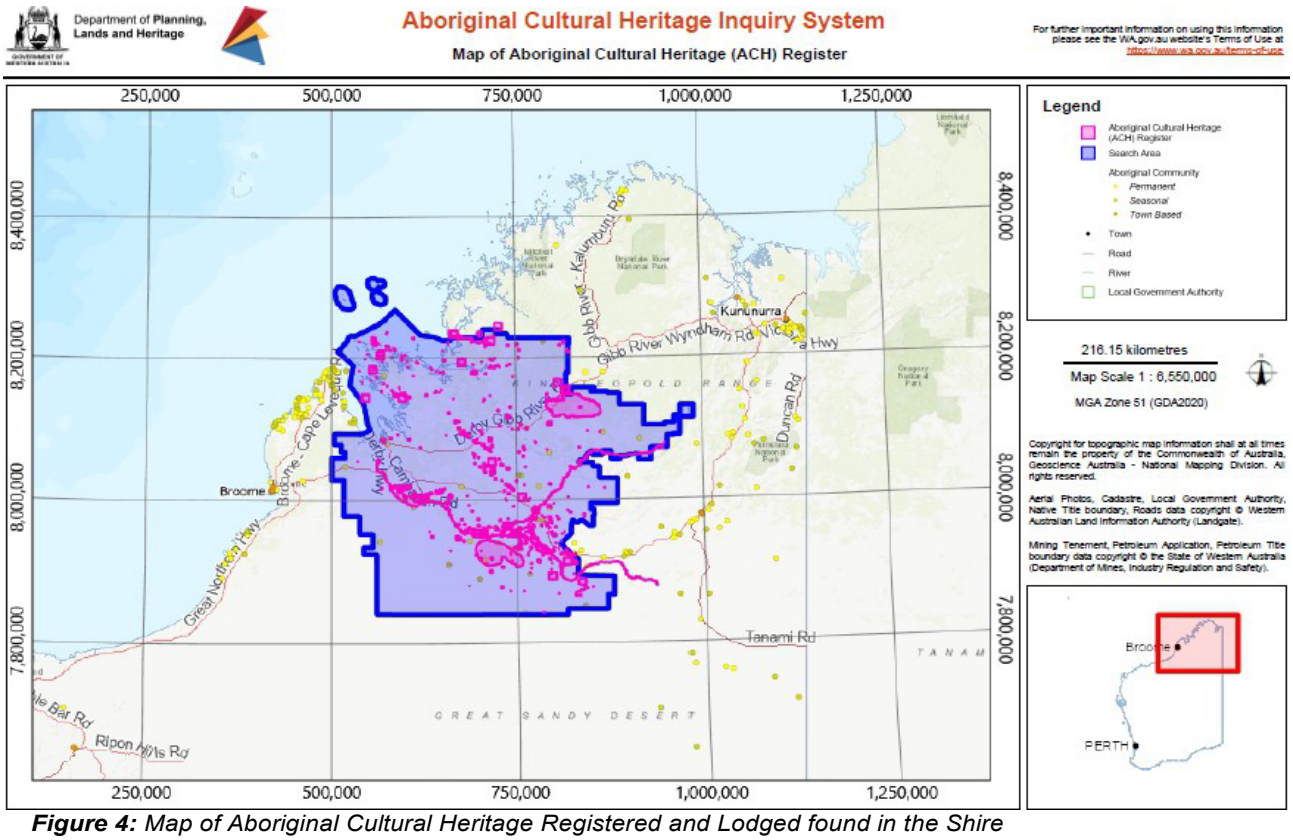


Figure 4: *Map of Aboriginal Cultural Heritage Registered and Lodged found in the Shire*

Aboriginal culture is the oldest continuing culture in the world where Aboriginal people continue to pass down tradition and cultural knowledge to their people.

Aboriginal cultural heritage and sacred sites form an important part of the Shires landscape and identity. These sites hold deep spiritual, historical and social significance for Aboriginal people and are protected under the Aboriginal Heritage Act 1972 (WA) and associated regulations. Sacred sites can include natural features such as ranges, hills, trees, rivers or rock formations as well as areas connected to ceremonial traditions. Ancient rock paintings, grinding grooves, scattered artefacts, modified trees, burial and ceremonial grounds are also considered Aboriginal heritage.

When planning and undertaking bushfire risk treatments or fire suppression, it is essential to ensure works do not disturb or damage Aboriginal heritage or places. These sites are mapped broadly in the Aboriginal Cultural Heritage Inquiry System (ACHIS) and signifies the importance of consulting with relevant Traditional Custodians, Aboriginal Corporations and heritage authorities before implementing mitigation measures such as prescribed burning, vegetation clearing and firebreaks. Under the Aboriginal Heritage Act 1972 (WA), ministerial approval may also be required when considering such works.

The Aboriginal Areas Protection Authority (AAPA) provides information on sacred site management that, while specific to the Northern Territory, offers valuable context for understanding the cultural responsibilities of custodians and the importance of protecting these sites[5]

Some Aboriginal cultural assets have restricted access. Entry into these sites may be prohibited to certain genders or other Aboriginal and non-Aboriginal people. It is crucial when conducting mitigation works or fire suppression that local knowledge and guidance is sought from the correct Aboriginal Custodians of Country. Prohibited cultural areas may influence bushfire preparedness and fire suppression meaning other solutions may need to be sought in order to protect lives and property.

As shown in Figure 4, Registered Aboriginal Cultural Heritage sites and Protected Areas are shown in the Aboriginal Cultural Heritage Inquiry System (ACHIS).

The ACHIS shows the Shire currently has 710 Aboriginal Cultural Heritage (ACH) Registered Areas and 339 ACH Lodged Areas. This system will be consulted and appropriate approvals obtained when planning bushfire mitigation activities. It is important to note not all sites are found in this system therefore it is important to consult with the Custodians of that area prior to commence of any works.

Most of the Shire's non-Aboriginal heritage comes from the early colonial pastoral and settlement period. Physical reminders can still be found and are visible in old infrastructure including police stations, inns, bridges, cemeteries and mission-era buildings including:

- Wharfinger's House Museum
- Myalls Bore and Cattle Trough
- Derby Pioneer Cemetery
- Crossing Inn

The BRM Plan supports best-practice bushfire mitigation, with a focus on protecting human life while avoiding harm to cultural heritage.

[5] **Note:** Sacred sites are the responsibility of Aboriginal custodians who protect their sites and whose rights and roles are codified through kinship and relationships to the land.

Economic activities and industry

The BRM Plan intends to safeguard and minimise disruptions to the local economy by reducing the likelihood and severity of bushfire impacts to key industries in the Shire. By identifying risks, prioritising treatments, and enhancing preparedness, the BRM Plan aims to limit short-term disruption and support long-term resilience, ensuring businesses, jobs and supply chains can recover more quickly after a bushfire.

***Table 4**: Summary of the Shire's economic activity and industry*

INDUSTRY	SHORT-TERM EFFECTS	LONG-TERM EFFECTS
Pastoralism	Livestock losses, and loss of bloodlines infrastructure (fences) damage/loss, asset (machinery) damage/loss, disruptions to operations. Increased risk of traffic accidents due to straying livestock	Long recovery of stock and grazing lands, land degradation, weed invasion and potential station closures. Insurance increases
Mining	Operational shutdowns, infrastructure damage, labour shortages	Permanent damage to infrastructure, loss of jobs, decline in investor confidence
Tourism	Cessation of tourism activities, damage to natural attractions, economic losses for local businesses	Permanent damage to attractions, reduced visitor numbers, and long-term economic strain.
Agriculture	Crop loss, damage to irrigation, and product contamination	Loss of farmland, delayed recovery of production, and increased operational costs
Aquaculture	Water pollution from ash, low oxygen or PH changes leading to fish kills. Infrastructure damage, power outages affect feeding and operations	Erosion and nutrient run off, weakened stock, increased disease risk, economic loss, higher insurance and regulatory pressures in bushfire prone areas
Savannah Fire Projects (Carbon Farming)	Early dry season burn disruptions, High emissions from hot, late season bushfires reduce carbon credit potential, diversion of ranger teams and funding to emergency response.Net target disruptions	Reduced Carbon Abatement, Ecosystem degradation, Disrupted fire regimes, Potential loss of funding and carbon market eligibility
Retail & Services	Business interruptions, goods shortages, and economic strain on local businesses and government services	Business closures decreased consumer confidence, and prolonged economic downturn. Employees relocate for job opportunities elsewhere
Cultural and Creative Industries	Cancellation of cultural events and tours, damage to cultural assets, and loss of income.	Loss of artwork, reduced cultural and creative tourism, and financial hardship.
Transport & Infrastructure	Road closures, isolated communities, and increased transport costs. Loss or damage to bridges and roads	Prolonged road closures, isolated communities, and increased transport costs affecting overall goods and services costs

Topography and landscape features

The Shire covers over 120,000 km2 and is characterised by diverse landscapes and environmental features that significantly influence bushfire risk. Understanding the geographic factors at play can help in managing and mitigating bushfire risks, especially in relation to important assets in the region.

The topography and landscapes feature ancient sandstone ranges, floodplains, river systems, pindan savannah soils and grasslands and coastlines consisting of islands, mudflats, mangrove forests. Due to the inaccessible and expansive terrain, aerial burning methods are widely used amongst stakeholders like DBCA, DFES, pastoralists and Ranger groups. Sloping terrain influences how fast a bushfire can move whilst creek lines and rivers found in the Shire can serve as natural firebreaks although dense vegetation along these waterways can cure rapidly in the dry season and may still allow fire to spread.

Climate and weather

The Shire sits between the Tropic of Capricorn and the Equator and moves between two distinct seasons. The wet season is characterised by cyclones, intense heat, rain, and thunderstorms. The dry season runs from April to October where humidity level drops and rainfall is minimal with dry days and cooler nights. Streams are confined to waterholes or completely dry out and waterfalls cease to flow. During the dry, very little rain falls and nights are cool on the coast but colder in the ranges. The Shire experiences large fluctuations in annual rainfall due to variations in cyclonic conditions. Heavy rainfalls are in the months of December to March where monthly rainfalls range from 0mm to 1500mm. This is the period where vegetation and fuels grow rapidly.

Due to varying fire risk across the region, the Shire is split into two Fire Danger Rating (FDR) districts, *The Kimberley Inland* and *The Derby Coast*. The division allows for more accurate assessments and bushfire management strategies across the Shire. The two districts are used to communicate Fire Danger Ratings, which are based on weather conditions like temperature, wind and humidity. These factors interact with the surrounding vegetation and fuel. The combination of high temperatures, strong winds, seasonal variability in rainfall, and the presence of flammable vegetation makes the Shire highly susceptible to bushfires in the dry season.

The bushfire season typically spans between the months of June to October although it has been known to occur earlier due to an unseasonal short wet season that typically occurs from November to April.

August to October bring hot, dry temperatures coupled with strong dry easterly winds that fan bushfires making then spread rapidly. During this period, grasslands have fully cured and fuel moisture is at its lowest resulting in accumulated fuel loads that are highly flammable. Hot burns scorch the earth and with the right conditions can move fast, be unpredictable and threaten life and property. Planned burning by stakeholders like Ranger groups, DBCA, DFES, and pastoralists is timed after the wet season where weather conditions support safer conditions for prescribed burning. These weather conditions align with traditional methods of cool burning.

Vegetation and fuel

The Shire lies within a tropical savanna biome, characterised by tall perennial grasslands interspersed with scattered, fire-resistant trees and shrubs. Fire is a natural and essential ecological process: many plant species resprout following fire, while others, such as Pindan wattle, rely on fire to trigger seed release. Overall, the region's vegetation is highly fire-resilient and in many cases fire-dependent.

However, frequent, intense late dry-season bushfires reduce tree cover and threaten fauna, particularly small mammals, birds, and species dependent on long-unburnt habitats. By contrast, early dry-season, low-intensity patch burning helps to maintain canopy cover, supports healthy grass and shrub growth, and sustains food and shelter for threatened species.

The BRM Plan emphasises the importance of mosaic burning, conducted collaboratively by Ranger groups, DBCA, and other stakeholders across the Shire. Effective and adaptive fire management is critical to reducing bushfire risk while protecting human life, property, biodiversity, and cultural values.

Table 5: *Vegetation types found in the Shire.*

VEGETATION TYPE	FUEL STRUCTURE	FIRE BEHAVIOUR	BUSHFIRE MITIGATION STRATEGIES
Pindan (Acacia Shrubland on red sandy plains)	Dense Acacia and wattle shrub layer with mixed grasses and often with some taller Eucalypt trees, on plains or dunes with deep red sandy soils. Acacia species are often taller than 2m	Hot, slow moving fires with deep smoldering fires	Mechanical clearing near assets Invasive grass control
Hummock Grasslands (Spinifex)	Dense discontinuous spinifex hummocks; resinous, highly flammable	Intense, high temperature fires where continuous fuels enable rapid spread. Smoldering and reignition are common	Strategic firebreaks using natural bare ground (claypans, sand and rocky terrain) Cultural Fire Management led by Traditional Owners
Tussock Grasslands	Tall annual grass, dense, continuous fine fuels, highly flammable.	Extreme fire behaviour following wet season. Rapid spread, high flame height surface fires	Managed grazing (Pastoral Leases) Slashing/mowing near communities Maintain water points for suppression
Tropical Eucalypt Woodlands/Grass	Tall eucalypts with continuous grassy understory	Frequent ignitions; fast-moving grass fires beneath trees	Cultural Fire Management led by Traditional Owners Targeted invasive grass management
Riparian & Wetland	Dense reeds and Pandanus grasses with variable moisture content found near permanent springs, billabongs, springs. Potential fire hazard during dry periods	Low risk fire when moisture content is high. Intense and difficult to suppress when moisture content is low.	Exclusion zones to protect sensitive areas Pre-season buffer burns
Invasive Grasses (Buffel, Gamba)	Dense, continuous grass fuels. Significant biomass compared to native grasses.	Drives extreme fire behaviour. High flame height, faster spread and hotter burns. If fully cured and burns hot, increases soil erosion and promotes domination over other native plant species	Strategic early dry-season burning to reduce seed set Intensive weed management (mechanical, herbicide, biological trials) Managed grazing (pastoral leases) Contain spread along roads, rivers and disturbed areas Community engagement and education to prevent spread.
Mangroves	Dense, intertidal forests; leaf litter and woody debris; limited grassy fuels	Low flammability due to waterlogged soils and plant moisture however fires are possible during extreme droughts and can be patchy and smoldering	Exclude from prescribed burns Tidal channels and mudflats can act as natural firebreaks Cultural Fire Management led by Traditional Owners in adjacent grasslands to protect mangrove edges

Across the Shire, several bushfire mitigation strategies are applied consistently across multiple vegetation types. Mosaic cool-season prescribe burning is used to reduce fuel continuity before grasses are fully cured, helping to moderate fire behaviour. Well maintained firebreaks and established buffer zones, roads and critical infrastructure clear of obstructions not only reduce bushfire risk but support bushfire suppression efforts and firefighter safety. Established and maintained Asset Protection Zones (APZ) further reduces the likelihood of bushfire spreading and impacting residential properties and other important assets like schools, hospitals and critical infrastructure.

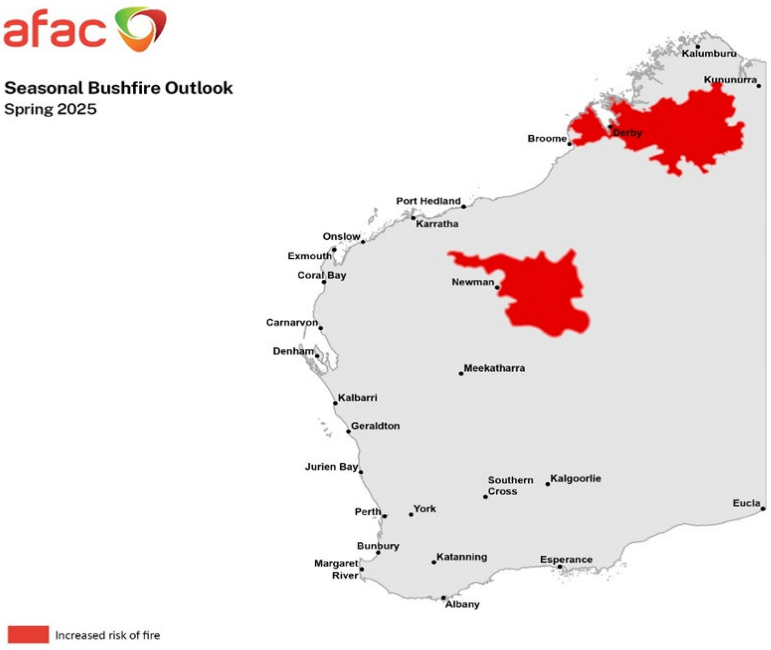


Figure 5: *Seasonal Bushfire Outlook Spring 2025 highlighting the Shire's increased risk of fire.*

The Australasian Fire Authority Council (AFAC) is the Australian and New Zealand National Council for fire and emergency services. AFAC releases its Seasonal Bushfire Outlook quarterly and identifies areas of increased risk so communities are aware and primed to take appropriate action. The outlook combines expert analysis of bushfire fuels, past rainfall and temperature, and climate outlooks prepared by the Bureau of Meteorology .

AFAC's Seasonal Bushfire Outlook for Spring 2025 for WA showed the Shire was likely to experience a higher risk of fire for the Derby Coast, and the Central Kimberley districts. The increased bushfire risk potential was due to increased fuel loads following above average rainfall combined with expected warmer than normal temperatures and expected lower rainfall. The El Niño–Southern Oscillation and Indian Ocean Dipole were also factored into the Outlook.

AFAC notes the Outlook is not a prediction of where and when bushfires will occur. Instead, it highlights areas with an increased potential for fire activity, helping communities and agencies prepare accordingly.

The BRM Plan provides a systematic approach to identifying, assessing and mitigating bushfire risks across the Shire. The Plan promotes knowledge sharing through the use of data, technology and mapping tools to reduce bushfire risk across the community.

Important species and communities

The Shire features a wide range of flora and fauna, including Threaten Ecological Communities (TEC). It is important to understand the impacts of prescribed burns in or near habitats featuring vegetation cover where small native mammals are found. Prescribed burns should never be of high intensity or cover large areas.

The two TECs found in the Shire are:

Big Springs (Critically Endangered) is a diverse TEC with both tropical rainforest and savanna fire adapted species and is essentially a spring-fed wetland community that support distinct assemblages of aquatic invertebrates, often with stygal and restricted elements. The mesic environment in these springs probably also support distinct terrestrial invertebrate fauna assemblages. Bushfires can negatively impact these assemblage compositions.

Walcott Inlet (Vulnerable) is a restricted TEC with swamp-rainforest dominated ecological community noted for its structural diversity, unique camaenid land snail assemblage, high endemism and the presence of threatened species such as the Northern Quoll.

Established in 2012 and covering 300,060 hectares, The Charnley River-Artesian Range Wildlife Sanctuary is a refuge for northern Australia's biodiversity. The sanctuary is on Wilinggin Country and the Traditional Custodians are Ngarinyin People[6]. Many threatened and endemic species live here and have avoided extinction since European colonisation, likely due to rugged topography and high rainfall.

Bushfires are significantly reduced with strategic planned burning by restoring healthy fire patterns creating a mosaic of different ages of vegetation breaking up the fuel load to reduce the risk of larger, more intense bushfires that impact native vegetation and animals.

Important species and communities are listed on the Department of Biodiversity, Conservation and Attractions (DBCA) website. The Shire is committed to mapping environmental assets as information becomes available and will ensure environmental considerations are incorporated into all mitigation planning. The BRM Plan recognises the importance of local environmental values and will capture the general description of the asset, follow DBCA's protocols by only mapping their general locations. Conservation status, geographical extent and the potential impact of fire will be captured in the Bushfire Risk Management System (BRMS) allowing the Shire to address these assets on a case-by-case basis.

The BRM Plan acknowledges the importance of ecological fire programs that promote and protect biodiversity across the Shire and supports collaboration amongst all stakeholders.

[5] Australian Wildlife Conservancy

Historical bushfire occurrence

Table 6: *Historical bushfire occurences in the Shire. Source :DFES*

Year:	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
No. of Bushfires of all sizes.	***126***	***160***	***212***	***246***	***116***
Suspicious/Deliberate	85	89	119	102	24
Unreported	20	37	66	103	53
Weather Conditions - Lightning	5	6	8	30	4
Undetermined	9	7	7	1	19
Cigarette	0	0	1	0	13
Reignition of previous fire	2	4	3	3	1
Burn off fires	1	2	3	3	0
Other open flames or fire	0	2	2	1	2
Weather Conditions (High winds, natural combustion etc. Excludes Lightning)	0	6	1	0	0
Sleeping/Alcohol/Drugs/Physical-Mental impairment	1	4	0	0	0
Campfires/bonfires/outdoor cooking	1	1	0	1	0
Human Error (Left on, knock over, unattended etc.)	2	0	0	0	0
Improper Fuelling/Cleaning/Storage/Use of material ignited	0	1	1	0	0
Hot works (grinding, cutting, drilling etc..)	0	0	0	2	0
Vehicles (incl. Farming Equipment/Activities)	0	1	0	0	0
Indoor Appliances - cause unknown	0	0	1	0	0

Bushfires are an ongoing challenge in the Shire and suspicious or deliberately lit fires remain a major concern for the community. The number of unreported or unidentified fires in the data suggest bushfire activity is higher than records indicate. Underreporting makes it difficult to direct mitigation efforts effectively and highlights the need to reduce bushfire risk by improving fire cause investigations, exploring deterrents, continuing early dry season burns and supporting stakeholders and land managers to act on their properties.

Bushfire risk controls

Table 7: *Current bushfire risk controls in the Shire.*

Control	Action or activity description	Lead agency	Notes and comments	
Local Emergency Management Committee (LEMC)	The Local Emergency Management Committee provides advice to Council on the development, implementation, review and evaluation of the Emergency Management Arrangements to ensure Council meets its obligations under Emergency Management legislation.	Shire	Main functions include: advising and assisting the local government in ensuring that LEMA are established liaising with public authorities and other key organisations to develop, review and test the LEMA. The LEMC also carries out other activities as directed by the State Emergency Management Committee (SEMC) or prescribed by the Emergency Management Regulations 2006 Each LEMC is supported by, and reports to, a District Emergency Management Committee (DEMC), which, in turn, reports to the SEMC.	
Bushfire Prone Area Mapping & Planning Controls	State Planning Policy 3.7 applied to BAL assessments, planning/building requirements in bushfire-prone areas.	Shire of Derby/West Kimberley	Ensure developments are assessed and designed to reduce bushfire risk	
Restricted Burning Period	The Restricted Burning Period commences on April 1 through to January 14 annually unless amended by Council due to seasonal conditions	Shire of Derby/West Kimberley	A permit to burn must be obtained from the Fire Control Officer before any burning is carried out.	
Fire Control Measures	Owners and Occupiers of land are required to have fire control measures and/or fire breaks completed as of 30 June 2025 and maintained to 31 December 2026 in accordance with the Fire Break Notice. Permits to Burn are required: **1 April 2025 to 14 January 2025**	Shire of Derby/West Kimberley	Information on requirements can be found: • On local notice boards • Shire website at: https://www.sdwk.wa.gov.au/services/ranger-services.aspx • Contacting the Shire Ranger Service on 9191 0999	
Fire Break & Fuel Hazard Reduction Notice	All owners and occupiers of land are required to have fire control measures and/or fire breaks completed as of 30 June and maintained to 31 December in accordance with the Fire Break notice.	Shire of Derby/West Kimberley	A Firebreak Notice is served on all owners or occupiers of land within the Shire advising they are required to have fire breaks or fire control measures. On property vegetation and fuel load reduction and improves defensible space	
Australian Fire Danger Rating System	Triggers and thresholds for fire restrictions and community messaging	Australasian Fire and Emergency Service Council (AFAC)	• Fire danger ratings predict and describe the potential level of danger, should a bushfire start. • Provide information to take action to protect yourself and others from the potentially dangerous impacts of bushfire. Provide emergency services with information that supports decision making. • Available in a range of languages and provide First Nations Resources	
Total Fire Ban	Declared by DFES on days when fires are most likely to threaten lives and property.	DFES	Declared when extreme fire weather is predicted or when widespread fires are occurring and firefighting resources are stretched.	
Hamlet Grove Volunteer Bushfire Brigade	Capability - Bushfire	DFES	Hamlet Grove BFB 4.4	TANKER
			Hamlet Grove BFB LT	LIGHT TANKER

Derby Volunteer Fire & Rescue	Capability – Structure, Bushfire, Rescue, Hazmat	DFES	Derby VFRS 3.4	URBAN TANKER
			Derby VFRS LT	LIGHT TANKER
			Derby VFRS TRL	ROAD CRASH RESCUE TRAILER
Fitzroy Crossing Volunteer Fire & Emergency Services	Capability – Structure, Bushfire, Rescue, Flood, Hazmat, General Rescue	DFES	Fitzroy Crossing VFES LT	LIGHT TANKER
			Fitzroy Crossing VFES TRL	RESCUE TRAILER
			Fitzroy Crossing VFES 3.4 Urban	URBAN TANKER
			Fitzroy Crossing VFES Trailer	BOX TRAILER
			Fitzroy Crossing VFES Rescue	ROAD CRASH RESCUE TRUCK
			Fitzroy Crossing VFES Ute	UTILITY VEHICLE
DFES Bushfire Mitigation Program	Maintain UCL/UMR firebreaks, conduct prescribed burning, and vegetation spraying in high-risk areas inside gazetted townsites.	DFES	Targets asset protection and bushfire risk reduction in gazetted fire districts	
DBCA Bushfire Mitigation Program	Prescribed aerial and ground burns, invasive grass control, and firebreak maintenance in DBCA managed-land.	DBCA	Creates vegetation mosaics to slow large wildfires and protect environmental assets and habitats.	
Aboriginal Ranger land management programs (Fire)	Cultural burning, land and fire management often in collaboration with KLC, DBCA and pastoralists	Traditional Owners/ Indigenous Rangers Fire Working Groups/Kimberley Land Council	Programs empower Traditional Owners to actively participate in managing their Country and protect their cultural heritage. Promotes biodiversity, improves, and supports the regeneration of native plants and protection of native animals. Fuel loads are managed and natural firebreaks created. Cultural burning mitigates the intensity and spread of late dry season bushfires.	
Department of Education Bushfire Risk Mitigation	DoE action treatments recommended by DFES Bushfire Mitigation Branch (BMB) across the land on which DoE manages	Dept of Education/DFES BMB	Schools on land managed by DoE within Declared Bushfire Prone Areas are individually assessed and bushfire risk planning and treatments are developed. BMB Team attend and conduct risk reassessments every 2-3 years	
Emergency WA	Emergency WA is Western Australia's trusted source for emergency information.	DFES	Through the website and on the app, information is provided through alerts and warnings for emergencies across Western Australia, along with other useful information such as Fire Danger Ratings, Total Fire Bans, Prescribed Burns and Burn Offs.	
My Bushfire Plan	The My Bushfire Plan website and companion app is a bushfire preparedness tool	DFES	Provides one place to prepare, store, print, share and update your bushfire survival plan anytime, from any device.	
Community Engagement	School programs, workshops, public awareness led by Ranger and Fire Working Group, DBCA, DFES and partner agencies	Ranger Groups/Fire Working Groups, DFES and Volunteer Fire Brigades	Builds Community awareness, preparedness and resilience.	

Chapter 4 Asset identification and risk assessment

Assets at risk from bushfire in the Shire are recorded in the *Asset Risk Register* in the BRMS. Assets are divided into four categories: human settlement, economic, climate, and cultural. Each asset has been assigned a bushfire risk rating between low and extreme based on the risk assessment methodology described in the Guidelines and Handbook.

4.1. Local government asset risk profile

A summary of the risks assessed in the Shire is shown in Table 5. This table shows the proportion of assets at risk from bushfire in each risk category at the time the BRM Plan was endorsed. This table was correct at the time of publication but may become outdated as risks are treated or additional risks are identified and assessed. A report may be generated from the BRMS to provide the most current risk profile.

Table 8: *Local Government Asset Risk Summary*

Asset Category	Risk Rating					
		Low	Medium	High	Very High	Extreme
	Human Settlement	7.1%	3.6%	7.6%	7.1%	43.6%
	Economic	3.1%	2.2%	12.4%	2.7%	0.4%
	Environmental	0.0%	0.0%	0.4%	0.0%	0.0%
	Cultural	0.4%	0.9	1.3%	2.2%	4.9%

Chapter 5 Risk evaluation

5.1. Risk acceptance criteria

The acceptable level of risk for each asset category is shown in Table 6. A risk that is assessed as exceeding these limits will be considered for treatment. Risks below the acceptable level do not require treatment during the life of this BRM Plan. They will be managed by routine bushfire risk controls and monitored to detect any increase in their risk rating.

Table 9: *Risk acceptance criteria for bushfire risk in the Shire.*

Acceptable risk level	Asset category			
	Human settlement	Economic	Environmental	Cultural
	Medium	Medium	Medium	Medium

Chapter 6 Risk treatment

The purpose of risk treatment is to reduce the potential impact of bushfire on the community, economy and environment. This is achieved by implementing treatments that modify the characteristics of the hazard, the community or the environment to make bushfires less likely or less harmful.

6.1. Treatment Strategy

The Treatment Strategy outlines the Shire's overall approach to managing bushfire risk in the medium to long term. The strategy is shaped by factors such as the distribution of risk in the landscape, the community's values and objectives, stakeholders' mitigation programs and constraints on treatment options. The Treatment strategy helps guide the development of integrated annual treatment schedules.

Community valued areas within the town are important for recreation, visual appeal, and social connection and will be managed through mechanical fuel reduction, including firebreak installation, slashing, and mowing. Strategically placed fire access tracks on Shire-managed-land will serve multiple purposes: safer, wider passages for fire appliances responding to bushfire, slowing or stopping bushfire spread, acting as containment lines during planned burns, and, where necessary, providing evacuation routes for nearby residents. Mechanical works are favoured over prescribed burning inside gazetted townships and communities due to the flexibility of treatments whereas prescribed burning near townsites often have smaller, favourable windows of opportunity to complete.

Stakeholders across the Shire play an important risk reduction role and are switching to Traditional cool-burning techniques instead of past Western burning methods. This approach not only prevents the spread of larger, out of control bushfires but also helps regenerate vegetation, control invasive weeds, protect and enhance plant and animal life, safeguards cultural and heritage sites, conserves biodiversity, and reduces the risk of bushfires spreading to nearby communities and critical infrastructure. There is also a positive flow on effect to volunteer firefighters meaning efforts placed into fuel management at the right time of the season reduces the likelihood of firefighter fatigue due to continuous callouts during the harsh conditions of the peak bushfire season.

Planned burning operations may be carried out in larger reserves on the town's outskirts, to reduce bushfire risk and enhance community safety. These burns will proceed when suitable weather conditions and qualified personnel are available. The Shire greatly values the unpaid contribution of volunteer firefighters, who dedicate their time and skills protecting our community during emergencies, however, they should not be expected to also undertake unpaid mitigation work, such as planned burning. To support bushfire mitigation efforts and ensure bushfire management is safe and effective, the Shire encourages collaboration with external stakeholders, including Ranger Groups, pastoralists, DFES, DBCA and other suitably qualified personnel.

Planned burns will be scheduled to minimise smoke impacts; however, short notice changes may be required due to weather conditions.

All planned burns conducted on Shire managed land will be registered with the DFES Communication Centre for publishing on the Emergency WA app and website prior to ignition, ensuring the community is kept informed.

6.2. Treatment Schedule

The Treatment Schedule is a list of bushfire risk treatments recorded in the BRMS. It is developed regarding the outcome of the risk assessment process and Treatment Strategy and in consultation with stakeholders.

A treatment schedule for the Shire covering the first year has been entered to BRMS. This is a live document and will be regularly updated throughout the life of the BRM Plan.

Land managers are responsible for implementing agreed treatments on their own land. This includes costs associated with the treatment and obtaining the relevant approvals, permits or licenses to undertake an activity. Where agreed, another agency may manage a treatment on behalf of a land manager.

Chapter 7 Monitoring and review

Monitoring and review processes are in place to ensure that the BRM Plan remains current and considers the best available information.

7.1. Monitoring and review

The Shire will monitor the BRM Plan and BRMS data to identify any need for change. The Plan and BRMS data will be reviewed at least every two years to ensure they continue to reflect the local context, assets at risk, level of risk and treatment priorities.

7.2. Reporting

The Shire CEO or their delegate will provide OBRM with the outcomes of the two- year review of the BRM Plan. This is required to maintain OBRM endorsement of the Plan.

The Shire will contribute information about their BRM Program to the annual OBRM *Fuel Management Activity Report*.

Glossary

sset	Something of value that may be adversely impacted by bushfire. This may include residential houses, infrastructure, commercial, agriculture, industry, environmental, cultural and heritage sites.
sset category	There are four categories that classify the type of asset – Human Settlement, Economic, Environmental and Cultural.
sset risk register	A component within the BRMS used to record the consequence, likelihood, risk rating and treatment priority for each asset identified in the BRM Plan.
ushfire	Unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective.
ushfire risk anagement	A systematic process to coordinate, direct and control activities relating to bushfire risk with the aim of limiting the adverse effects of bushfire on the community.
ushfire risk	The chance of a bushfire igniting, spreading and causing damage to the community or the assets they value.
onsequence	The outcome or impact of a bushfire event.
andowner	The owner of the land, as listed on the Certificate of Title; or leaser under a registered lease agreement; or other entity that has a vested responsibility to manage the land.
kelihood	The chance of something occurring. In this instance, it is the potential of a bushfire igniting, spreading and impacting on an asset.
essor	A person who leases or lets a property to another; a landlord.
isk acceptance	The informed decision to accept a risk, based on the knowledge gained during the risk assessment process.
isk analysis	The application of consequence and likelihood to an event to determine the level of risk.
isk assessment	The systematic process of identifying, analysing and evaluating risk.
isk evaluation	The process of comparing the outcomes of risk analysis to the risk criteria in order to determine whether a risk is acceptable or tolerable.
isk identification	The process of recognising, identifying and describing risks.
isk treatment	A process to select and implement appropriate measures undertaken to modify risk.
reatment objective	The aim to be achieved by the treatment. Treatment objectives should be specific and measurable.
reatment priority	The order, importance or urgency for allocation of funding, resources and opportunity to treatments associated with a particular asset. The treatment priority is based on an asset's risk rating.
reatment chedule	A report produced within the BRMS that details the treatment priority of each asset identified in the BRM Plan and the treatments scheduled.
reatment Strategy	The general approach that will be taken to managing bushfire risk, in consideration of the local government context and objectives.
reatment type	The specific treatment activity that will be implemented to modify risk, for example a planned burn.

Abbreviations and Acronyms

BS	Australian Bureau of Statistics
CCO	Aboriginal Community-Controlled Organisation
CH	Aboriginal Cultural Heritage
CHIS	Aboriginal Cultural Heritage Inquiry System
FAC	Australasian Fire and Emergency Service Authorities Council
FDRS	Australian Fire Danger Rating System
LT	Aboriginal Lands Trust
PZ	Asset Protection Zone
RP	Aboriginal Ranger Program
WC	Australian Wildlife Conservancy
AL	Bushfire Attack Level
FB	Bush Fire Brigade
MB	Bushfire Mitigation Branch
PZ	Building Protection Zone
RM	Bushfire Risk Management
RMS	Bushfire Risk Management System
EO	Chief Executive Officer
OMCEN	DFES Communications Centre
BCA	Department of Biodiversity, Conservation and Attractions
FES	Department of Fire and Emergency Services
oD	Department of Defence
oE	Department of Education
oHW	Department of Housing and Works
oJ	Department of Justice
WER	Department of Water and Environmental Regulation
PLH	Department of Planning, Lands and Heritage
CO	Fire Control Officer

DR	Fire Danger Rating
AZMAT	Hazardous Materials
LC	Kimberley Land Council
EMC	Local Emergency Management Committee
IAFGP	Mitigation Activity Fund Grants Program
IBA	Master Builders Association of Western Australia
IOU	Memorandum Of Understanding
AFI	Northern Australian Fire Information
)BRM	Office of Bushfire Risk Management
DWK	Shire of Derby/West Kimberley
EIFA	Socio-Economic Indexes For Areas
PP 3.7	State Planning Policy 3.7 – Planning in Bushfire Prone Areas
EC	Threatened Ecological Communities
FB	Total Fire Ban
CL	Unallocated Crown Land
MR	Unmanaged Reserves
FES	Volunteer Fire and Emergency Service
FRS	Volunteer Fire and Rescue Service
/A	Western Australia

Appendix A – Communication Plan

This Communication Plan supports the development, implementation and review of the Shire's BRM Plan. It should document the:

- Communication objectives.
- Roles and responsibilities.
- Key stakeholders engaged in the development of the BRM Plan and Treatment Schedule.
- The implementation and review of the BRM Plan including: target audiences and key messages at each project stage; communication risks and strategies for their management; and communication monitoring and evaluation procedures.

Communication Objectives

The communication objectives for the development, implementation and review of the BRM Plan for the Shire are as follows:

- Key stakeholders understand the purpose of the BRM Plan and their role in the BRM planning process.
- Stakeholders who are essential to the BRM planning process, or can supply required information, are identified and engaged in a timely and effective manner.
- Relevant stakeholders are involved in decisions regarding risk acceptability and treatment.
- Key stakeholders engage in the review of the BRM Plan as per the schedule in place for the local government.
- The community and other stakeholders engage with the BRM planning process and as a result are better informed about bushfire risk and understand their responsibilities to address bushfire risk on their own land.

Roles and Responsibilities

The Shire is responsible for the development, implementation and review of the Communication Plan. Key stakeholders support the Local Government by participating in the Communication Plan as appropriate. An overview of communication roles and responsibilities are as follows:

- Shire CEO is responsible for requesting OBRM endorse the BRM Plan.
- Shire Communications and Media Team, is responsible for communication of the BRM Plan to the community.
- Shire's Director Community Planning is responsible for communication between the Local Government and the Department of Fire and Emergency Services.

Key Stakeholders for Communication

The following table identifies key stakeholders in the BRM planning process, its implementation and review. These are stakeholders that are identified as having a significant role or interest in the planning process or are likely to be significantly impacted by outcomes.

Stakeholder	Role or interest	Level of impact of outcomes	Level of engagement
DFES	Provide expert knowledge and advice in relation to bushfire risk, prevention, and treatment	High	Collaborate and consult
OBRM	Review and endorse BRM Plan	High	Consult
DBCA	Responsible for prevention, preparedness, and response within their designated areas.	Medium	Collaborate and consult
DPLH	Manager of large parcels of UCL/UMR within the Shire	Medium	Consult
DoHW	Manager of State Government Assets. Arranges and funds contractors to deliver quasi-municipal services including firebreaks	High	Inform, consult, empower
Horizon Power & Water Corporation	Manage and maintain critical infrastructure	Medium	Inform and consult
Private Landowners	Carry out treatments on their own land in accordance with the BRM Plan	High	Inform, consult , empower
Pastoralists	Manage a significant portion of the Shire's land mass	High	Collaborate and consult
Indigenous Rangers Groups	Manage and mitigate bushfire risk in large areas of land for environmental, economic and cultural reasons	High	Collaborate and consult

Communications Log

This Communications Log captures the communications with key internal and external stakeholders that occurred during the development of the BRM Plan and associated Treatment Schedule. Record any significant conversations, community engagement events, emails, meetings, presentations, workshops and other communication initiatives.

Timing of communication	Stakeholders	Purpose	Summary	Communication Method	Lesson Identified	Follow up
Development of the BRM Plan						
Throughout the development of the BRM Plan	Shire CEO and Executive Staff	Ensure Shire executives have input and ownership of the BRM Plan	Informed and consulted on the development of the plan. Input into the plan	Phone, Emails, face to face	Ensure sufficient uptake and awareness	Ongoing updates on the development
Throughout the development of the BRM Plan	LEMC	Input and awareness of the development of the BRM Plan	Context, Stakeholders, and risk assessments	Online	Ensure sufficient uptake and awareness.	Ongoing updates through LEMC
February 2025	Shire CEO, Director Community Planning	Provide overview of BRMP and process. Request input and access to relevant Shire documents and plans.	Informed and consulted on the development of the plan.	Email	Ensure sufficient uptake and awareness.	Ongoing updates on the development
February 2025	DBCA West Kimberley	Seek input and raise awareness of the BRM Plan	Seek input into the BRM Plan	Email	Ensure sufficient uptake and awareness	Follow up.
March 2025	Director Community Planning, Ranger, Remote Aboriginal Community	Work from Shire office to gain input into BRMP, field assessments, data entry.	Informed and consulted on the development of the plan. Further input into the plan.	Face to Face	Feedback and input greater with face to face communication.	Ongoing updates on the development and seek feedback
March 2025	DPLH	Identify assets	Consulted DPLH ACHIS register	Online register	Nil	As required
March 2025	Indigenous Groups (KLC)	Seek input and raise awareness of the Plan	Seek input	Phone, Email	Currently operational with seasonal Bushfire Mitigation.	Follow up required
May 2025	LEMC	Seek input and raise awareness of the Plan	Volunteer Fire Brigades want to have input into the Plan. Community input emphasised at early stages of plan	Online	As first responders, input from volunteer fire brigades and their local knowledge and areas of concern is crucial to the success of the plan.	Invited to meet face to face with local fire brigades. Input and feedback provided
June 2025	Shire	Conducted field assessments for BRMS data entry.	Field assessments conducted limited to Fitzroy Crossing, Camballin, Looma, Mowamjun, Derby township with focus on human settlements.	In person	Budget constraints limit time taken and distance to cover entire Shire. Focus on larger settlements for the first BRM Plan where many assets could be risk assessed. Focus is risk to life and property like human settlements and critical infrastructure. The success of the Plan relies heavily on input from stakeholders and land managers	Continue to add new assets to BRMS throughout life of the Plan. Seek support to increase BRPC budget to support field assessments, and on ground consultation.

July 2025	Shire	Identify tenure types in the Shire considered as Private and Other in the information supplied by OBRM.	Breakdown of the data will inform the BRM Plan Seek approval to access treatments on LG tenure	Email	Nil	Pastoral stations list provided. Further breakdown of Non-Aboriginal Pastoral Leases required as Aboriginal Pastoral Leases are captured under Aboriginal Managed category
July 2025	Department of Primary Industries & Regional Development (DPIRD)	Identify assets and types of industries in the Shire.	Will seek info on hectares per Pastoral station in the Shire. Provided a summary of industries	Face to face , email	Ensure sufficient uptake and awareness.	Follow up
July 2025	Department of Housing and Works (DOHW)	Seek input and raise awareness of the Plan. Inform of risk to State Government assets. Collect information on the assets they manage in the Shire on behalf of the State so risk can be communicated to the correct stakeholders. To identify if there is KPI's and Auditing processes in place for municipal services.	Specifically sought to identify • The Remote or Town Based Community homes that are not owned or funded by State Government. • Estimated cost of replacement of DoHW managed assets, specifically houses • Cost of relocating displaced families as the support agency for Natural Hazards providing and coordinating emergency relief and support services after an emergency • The agency that bears these costs • Confirm if the assets they manage are insured for bushfires • As asset manager on behalf of State Government are steps taken to ensure APZ & BPZ are established • Insurance implications to the asset owner if houses do not have APZ/BPZ established	Email/Phone	Nil response. Followed up with FOI request to DoC and DoHW. Ensure sufficient uptake and awareness as DoHW role of "lessor" Phone call established DoHW do have some municipal services in some communities (not all) that install firebreaks. DoHW were unable to provide the list of Housing and Infrastructure Services to Aboriginal Remote and Town-Based Communities.	Seek alternate avenues to gain access to this data.

August 2025	DBCA West Kimberley	Seek input and raise awareness of the BRM Plan	Current mitigation activities, annual plans and seek DBCA environmental assets	Email	Currently Operational with Seasonal Bushfire Mitigation	Follow up
September 2025	Master Builders Association	Seek current data for new builds in the Shire	Data from 2015 prior to COVID outdated	Phone, Email	Reasonable to work on a 1.8 metro loading for a standard new build in the Shire.	Expressed interest in the BRM Plan. Include as a stakeholder/advisor
September 2025	Kimberley Pilbara Cattlemen's Association CEO	Identify if Pastoralists' mitigation efforts are recorded or mapped into a central database and if mitigation is measured and communicated with neighbouring land managers or asset owners	Seeking input	Email	At time of publishing no response was received.	Follow up
September 2025	DFES Bushfire Mitigation Branch	Identify schools that BMB conduct risk assessments. Currently 20 of the 32 DoE school sites are on the Bushfire Zone Register	BMB advised only schools on land managed by DoE are risk assessed	Email	Schools' bushfire risks are reassessed every 2-3 years	20 of the 32 DoE schools sites are on the Bushfire Zone Register
September 2025	Department of Primary Industries & Regional Development (DPIRD)	Seek input and raise awareness of the BRM Plan	Following up	Email	Ensure sufficient uptake and awareness.	Ongoing updates on the development and seek feedback
October 2025	KLC	Investigate streamlining Remote Community Risk Assessments processes between Shire and KLC	KLC Rangers currently capturing data for Remote Aboriginal Communities bushfire risk to provide critical intelligence for effective bushfire response.	Online	Discussed streamlining risk assessments and data gathering by Rangers	Follow up
October 2025	DPLH (Pastoral)	Data sought	Seek further data to identify combined total area (hectares) for Pastoral Stations in particular non-Aboriginal Pastoral Leases held in the Shire	Phone, email	This information forms the Land and Tenure component of the Context Statement	Follow up
October 2025	Kimberley Development Commission	Seek current data for building costs per Shire in the Kimberley	Last known data provided in 2015 unlikely to reflect current building market in the Kimberley	Phone, email	More appropriate to work on a 1.6x metro loading for construction costs in Broome and Kununurra, for other towns and remote communities 1.8-2 would probably be reasonable. A conservative estimate is always better placed for planning.	As required

Timing of communication	Stakeholders	Purpose	Summary	Communication Method	Lesson Identified	Follow up
Development of the Treatment Schedule						
Throughout the development of the BRM Plan	Community	Encourage input as the Plan develops over its Lifetime	Work together with the community to look at bushfire risks, discuss possible treatments and make sure local voices help shape the Plan	Face to Face, social media	Ensure the Community understands the purpose of the Plan, the nature of bushfire risks and encourage a collaborated effort towards building a resilient community.	Ongoing
Throughout the development of the BRM Plan	DPLH	Statutory approvals	Approvals required for implementing treatments- Clearing, Cultural heritage etc.	Email	Time frames for approvals could impact treatment	Ongoing consultation and reviews of treatments
Throughout the development of the BRM Plan	DoHW	Encourage input as the Plan develops over its lifetime	Inform of identified assets and associated risk assessment. Seek input and awareness of the BRM plan. Communicate bushfire risk to public housing assets managed by DoHW. Seek number of public assets managed by DoHW in Remote Aboriginal Communities	Email	Ensure understanding of the purpose of the Plan, the nature of bushfire risks and encourage a collaborated effort towards building a resilient community.	Ongoing consultation during the life of the Plan
Throughout the development of the BRM Plan	DFES	Discuss and plan treatments	Discuss and plan treatments on managed lands	Online meeting	Changes in strategies required based on vegetation	As required
Throughout the development of the BRM Plan	Shire Staff	Discuss and plan treatments	Discuss and plan treatments on managed lands	Online meeting	Changes in strategies required based on vegetation	As required
Throughout the development of the BRM Plan	Land Managers	Identify assets and associated risk assessment to assist empowering them to identify and implement suitable treatment strategy	Identified sites requiring treatments, treatment Options, Impacts of various types of treatments	Email, Face to Face	Funding available to implement treatments, Impacts on other economical incomes such as Carbon Credit Schemes	Ongoing consultation and discussions during the life of the BRM Plan
Throughout the development of the BRM Plan	DBCA	Overview of DBCA's Program	Overview of DBCA's Program	Email	Consultation with stakeholders very important	As required

Communications Plan

This Communications Plan outlines the key communication initiatives that will be undertaken during the implementation of the BRM Plan.

Timing of communication	Stakeholders	Communication Objective(s)	Communication Method	Key Message or Purpose	Responsibility	Identified Risks to Communication	Strategy to Manage Risks	Monitoring and Evaluation Method
Following Plan endorsement								
Life of Plan	Council	All	Online or Face to Face	Request Council to formally adopt the BRM Plan	Director Community Planning	Lack of information provided at the Council briefing meeting	Ensure comprehensive briefing provided to council	Receive Council adoption of the BRM Plan.
Life of Plan	LEMC	All	Online or Face to Face, Quarterly meetings	Update on the implementation of treatments	Director Community Planning	Lack of attendance from LEMC members	Regular contact with members including updates outside of scheduled meetings	Constructive feedback and support of the implementation
Life of Plan	Private landowners	All	Social Media, Face to Face, Emails, Postal notification As required	Review treatment options and implementation effectiveness	Director Community Planning	Lack of buy in from landowners, lack of cooperation from landowners to implement mitigation strategies	Ensure effective communication during all stages of the plan. Ensure landowners are empowered to undertake the treatments identified.	Treatments are undertaken and risk is reduced to assets.
Life of Plan	Pastoralists	All	Face to Face, Emails, As required	Review treatment options and implementation effectiveness	Director Community Planning	Lack of cooperation from pastoralist to undertake treatments on their land	Ensure pastoralist are consulted and empowered to undertake the required treatments	Treatments are undertaken and risk is reduced to assets.
Life of Plan	Government Agencies	All	Face to Face, Emails, quarterly	Review treatment options and implementation effectiveness	Director Community Planning	Lack of interest to implement treatments on land they manage or follow up treatments that protect the assets they manage on behalf of State Government	Ensure all agencies with land management or asset management responsibilities are consulted and empowered to undertake the required treatments	Treatments are undertaken and risk is reduced to assets.

Government of Western Australia
Department of Fire & Emergency Services

DFES
Department of Fire & Emergency Services

Our Ref: 25/237852
Your Ref:

Tamara Clarkson
Chief Executive Officer
Shire Derby/West Kimberley
PO Box 94, Derby WA 6728

Dear Ms Clarkson

ENDORSEMENT OF BUSHFIRE RISK MANAGEMENT PLAN

Thank you for providing the Shire of Derby West/Kimberley Bushfire Risk Management (BRM) Plan received by the Office of Bushfire Risk Management (OBRM) on 17 November 2025.

I am pleased to inform you that the Shire of Derby West/Kimberley BRM Plan has been endorsed by OBRM. This signifies it meets the standard required by the *Guidelines for Preparing a Bushfire Risk Management Plan* (the Guidelines). We recommend the BRM Plan is now presented to Council for approval.

BRM Plans and the data that support them should be reviewed regularly and updated to reflect any changes that have occurred in the Shire of Derby West/Kimberley area. OBRM will request confirmation the Shire of Derby West/Kimberley BRM Plan has been reviewed by 31 May 2028. More information on the review process can be found in the Guidelines and we will contact the Shire nearer the review date.

The Shire of Derby West/Kimberley will also be required to respond to an annual survey detailing progress in managing bushfire risk. You will receive the survey in July 2026, and I thank you in advance for your contribution to helping us understand the state of bushfire risk across Western Australia.

Thank you for your Shire's commitment to managing bushfire risk and I wish you well in implementing the Plan.

Yours sincerely

Chris Dunne
A/DIRECTOR OBRM
18 November 2025

PO Box P1174 Perth WA 6844
Cockburn Emergency Services Complex
20 Stockton Bend, Cockburn Central WA 6164

17 INFRASTRUCTURE

17.1 ENDORSEMENT OF FITZROY CROSSING AIRPORT PROPOSED UPGRADE

File Number: **9030**

Author: **Wayne Neate, Director Infrastructure**

Responsible Officer: **Tamara Clarkson, Chief Executive Officer**

Authority/Discretion: **Review**

SUMMARY

This report seeks Council's endorsement to undertake the redesign of the Fitzroy Crossing airport as per the report by Aerodrome Management Services (AMS) as a hybrid design.

DISCLOSURE OF ANY INTEREST

Nil by Author, Nil by Responsible Officer.

BACKGROUND

As a result of Ex Tropical Cyclone Ellie and the associated flooding in 2023, it was recognised that the Fitzroy Crossing airport's ability to sustain recovery efforts was significantly hampered in the early period because of two significant issues identified as follows;

1. The current levels of the airport which during the flood caused the northern end of the airport to become inundated and reducing the operational length of the airport;
2. The issue with the runway surface and the substructure of the runway which caused significant delays in using larger aircrafts transport community members to accommodation elsewhere and to re-supply the town.

The inundation of the airport and the issues with the substructure of the runway were deemed high risk by the Department of Fire and Emergency Services (DFES) to future recovery efforts. Following this, funds were secured from the Reginal Airports Development Scheme (RADS) via the Western Australian Department of Transport (DoT) to undertake studies to rectify the identified issues. Those studies were completed by Greenfields Technical Services (GTS) who provided the initial engineering report, concept design and costings (Attachments 1, 2 and 3) which is complimented by WML Consulting Engineers geotechnical report (Attachment 4) that both assisted in informing GTS's reports.

Discussions with DoT have continued and due to the size of the project and the complex nature of construction, and to give government assurance around the quality and timeliness of the project, Main Roads Western Australia (MRWA) will undertake the project and the work associated with developing the detailed design.

Following GTS's reports, three options were provided about the lifts required on the airport. These options only varied in the height of the lift along the entire length of the airport and in discussions with DoT and MRWA, further investigation was required to improve airport operations in the event of an emergency as well ensuring best value for investment.

Evangelisti and Associates (EA) then undertook a study of the airport and surrounding land in regards to its hydrology (Attachment 5) which outlines the future inundation of the airport and looks at possible methods of control. All information from GTS, WML and EA has been reviewed

and a final report was provided by AMS (Attachment 6). AMS' report provides reasoning to implement lifts at either end of the runway and a minimal lift in the centre to correct the pavement issues.

This hybrid model seeks to address initial concerns of the airport and its operational functionality.

STATUTORY ENVIRONMENT

Nil.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

The Shire was initially awarded a small grant for the engineering and hydrology study which totalled $79,500 which has been completed and is due to be acquitted. Earlier in 2025, the Shire successfully obtained a grant for a further $800,000 to complete a full design model based on the AMS report and proposed methodology. This work is being undertaken by MRWA. The Shire's planned contribution to the project is in-kind support by way of employee time, to administer the grant and project along with the future consultation.

STRATEGIC IMPLICATIONS

GOAL	OUR PRIORITIES	WE WILL
1. Leadership and Governance	1.1 Collaboration and partnership	1.1.3 Maximise regional opportunities that benefit our community
4. Environment	4.2 Liveable Communities	4.2.3 Encourage and facilitate the maintenance and development of infrastructure that connects our communities

RISK MANAGEMENT CONSIDERATIONS

RISK	LIKELIHOOD	CONSEQUENCE	RISK ANALYSIS	MITIGATION
Legal & Compliance: It has been noted that the runway at Fitzroy Crossing Aerodrome in its current condition is non-compliant as per the Manual of Standards 139.	Likely	Moderate	High	That the proposed hybrid model for works at the Fitzroy Crossing Aerodrome be the preferred model for improvement works.

CONSULTATION

Officers have consulted extensively with DoT, MRWA and external contractors. Further consultation will be required to ensure all Fitzroy Crossing airport users and stakeholders are aware of planned works and have planned operations appropriately for any required airport closure periods during the proposed 2027 or 2028 construction period.

COMMENT

The Shire has worked in close collaboration with DoT and MRWA on this project, to ensure best suited outcomes are delivered in a timely manner for the benefit of Fitzroy Valley community members. The proposed works aim to solve the issue of the poor substructure at the airport which has been raised as an issue in annual technical inspections and also by the Civil Aviation Safety Authority.

The redesign of the Fitzroy Crossing airport is of State interest, as it addresses several issues in the event the runway is required in an emergency situation. All of agencies involved with the project seek to ensure that Council is fully supportive with the hybrid model approach as suggested by AMS in their conclusion on page six of their report.

It is recommended that the report AMS be endorsed as the most value for investment approach to achieve the two main goals of this project;

1. To increase the serviceability of the Fitzroy Crossing airport in the event of an emergency and throughout ordinary operations
2. Support effective operations of larger aircrafts in the event of an emergency and ordinary operations by resolving the underlying runway pavement issues.

VOTING REQUIREMENT

Simple majority

ATTACHMENTS

1. **GTS - Runway Reconstruction Design Report**
2. **GTS - Fitzroy Airport upgrade Drawings**
3. **GTS - Initial Concept and cost estimate**
4. **WML - Geotechnical report**
5. **EA - Hydrology Study**
6. **AMS - Summary and conclusion**

RECOMMENDATION

That Council ENDORSE the report by Aerodrome Management Services to undertake the redesign of the Fitzroy Crossing airport and support the approach taken within the report.

GREENFIELD TECHNICAL SERVICES

SHIRE OF DERBY WEST KIMBERLEY

FITZROY CROSSING AERODROME

RUNWAY RECONSTRUCTION DESIGN REPORT

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Revision Status						
Rev	Date	Purpose	Prepared	Reviewed	Approved	Details
A	02/06/23	Issued for internal review	MB	JK	N/A	First draft
B	06/06/23	Issued for external review				

GREENFIELD TECHNICAL SERVICES

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1.0 PROJECT OVERVIEW

Greenfield Technical Services (Greenfield) has been engaged by the Shire of Derby West Kimberley (Shire) to detail the design levels for the reconstruction and renewal of the sealed runway at the Fitzroy Crossing Aerodrome.

The Shire owns, operates, and maintains the Fitzroy Crossing Aerodrome. The Aerodrome is a spray sealed granular airstrip measuring 1,300m long x 30m wide, with additional sealed shoulders. The Aerodrome also incorporates a sealed taxiway and a sealed aircraft parking area on the eastern side of the runway.

The runway site lies approximately 1.5 km from the town centre and approximately 2.5 km from the Fitzroy River. The runway is built directly adjacent to a grassy floodplain known as the Plum Plain to the west.

The Fitzroy Crossing airstrip is predominantly used by chartered service aircraft and aircraft involved with pastoral operations with no regular commercial traffic.

The existing runway shows signs of significant cracking, with cracks widths up to 60 mm recorded. The Shire has repaired the cracks by filling the void with sand and using crack sealant to try and limit moisture ingress into the pavement and subgrade. However, the cracks have reopened at some locations with visible openings down to the subgrade level.

Recently, the Shire has been successful in securing funding for the refurbishment of various elements of the facility. Specifically, the Shire is committed to the reconstruction of the Aerodrome runway within the budget provided by the grant funding. The Shire has advised Greenfield that they appreciate they may not have sufficient grant funding to reconstruct the entire length of the runway.

For the purpose of this design report, the runway is assumed to have a north-south orientation and Ch 0 is at the southern end (i.e. RWY 01).

2.0 SUPPLIED INFORMATION

The Shire provided a survey pickup of the airstrip which extended 20m past the edge of the runway seal. The pickup also included the aerodrome taxiway and the aircraft parking apron.

In addition to the above, the Shire also provided a geotechnical investigation undertaken by WML Consulting Engineers (WML).

3.0 GEOTECHNICAL INVESTIGATION REPORT – WML 2023

The Shire engaged WML to undertake a geotechnical investigation and pavement assessment of the existing airstrip runway. This investigation report assessed the existing runway pavement condition, identified possible causes of seal cracking, and assessed the existing pavement structural capacity using the CASA PCN-ACN system. Recommendations for remediations were also provided, including pavement thickness requirements for reconstruction works.

The Aerodrome and runway remained open whilst the field work for the geotechnical investigation was completed.

3.1 FIELD PROGRAMME

Fieldwork was carried out on the 30th of November 2022 by a WML geotechnical engineer and comprised:

- A site walkover to observe existing site features and to obtain photo documentation.

- 10 pavement dippings were conducted on the pavement shoulder to assess the existing thickness and composition of the pavement and subgrade. Dippings were conducted to a maximum depth of 1.0 m to limit the disturbance to the runways.
- Dynamic Cone Penetrometer (DCP) testing was conducted at each pavement dipping through the subgrade to a maximum depth of 1.7 m.
- Shear Vane testing on subgrade at the majority of pavement dipping sites.
- Falling Weight Deflection (FWD) testing of the entire length of the existing runway was conducted by STATS Australia. A total of 7 full-length runs were completed, with additional testing conducted on the taxiway and apron. The testing completed on the runways was as follows:
    - Runway centreline – 25 m intervals
    - ± 3 m centreline offset – 25 m intervals
    - ± 6 m centreline offset – 50 m intervals
    - ± 12 m centreline offset – 50 m intervals.
- Collection of representative subgrade and pavement layer materials for laboratory testing, including soil classification (PSD/PI/LS), 4-day soaked CBR and shrink-swell index testing of both the subgrade and existing pavement materials.

3.2 GROUNDWATER

WML has noted that during the geotechnical investigation, groundwater was not encountered.

Significant rainfall and flooding occurred in Fitzroy Crossing in early 2023. Although the town was severely inundated during this flooding, the airstrip was still operational and was used for the large emergency response activities. Anecdotal information supplied to Greenfield suggests that the water level in Plum Plain did encroach past the western and northern Aerodrome fences during this significant flooding event.

3.3 INTERPRETED SUB-SURFACE PROFILE

Based on the seven pavement dipping locations, a summary of the interpreted subsurface profile is provided in Table 5 below. WML stated that the findings at each pavement dipping were generally consistent across the airstrip.

Item	Road	Thickness	Description
1	Stone Seal	15-20mm	**Stone SEAL**
2	Basecourse and Subbase	One site recorded a depth of 180mm. The remaining nine sites recorded depths that varied between 280 – 330mm.	**Sandy GRAVEL;** with some clay, fine to coarse grained, subangular to angular, red brown, sand is fine to medium grained, dry to moist, very dense – *Basecourse*
3	Subgrade	Observed at all locations. Typically at 300mm below ground level	**Clayey gravelly SAND;** clayey is low to medium plasticity; gravel is fine to medium grained, red brown, moist, very dense

Table 1: Summary of sub-surface soil profile

3.3.1 *Subgrade assessment*

WML conducted soaked subgrade CBR testing on samples from 5 of the 10 sites and the CBR results ranged from 6 % – 16 %. Based on the result variability, WML adopted a design subgrade CBR of 6%.

WML also assessed the reactivity of the subgrade was assessed using several methods:

- Assessment of the swells measured from the soaked CBR testing
- Shrink-swell index tests were conducted where the cracking was most severe
- Assessment of the Weighted Mean Plasticity Index

WML stated that the results of this assessment indicate that the subgrade has low reactivity. WML also recommended that additional geotechnical testing is conducted along the pavement centreline to further assess the subgrade reactivity as test holes within the pavement runway were not permitted for this investigation which focused on the shoulders.

3.3.2 *Basecourse assessment*

The pavement composition was found to be consistent along the runway.

A CBR test was conducted on the basecourse, recording a soaked CBR of 70%. Based on MRWA specifications, this is generally lower than the minimum 80% specified for basecourse pavement material.

3.4 FALLING WEIGHT DEFLECTOMETER (FWD) TESTING

The FWD data was used by WML to back-calculate pavement layer elastic modulus (or stiffness) using the program ELMOD 6. WML decided that the assessment would be taken for only the centreline and 3 m east and west as this best represents the section where aircraft take off and land.

3.4.1 *Subgrade assessment*

WML note that Austroads Guide to Pavement Technology Part 2 – Structural Design (AGPT2) provides a commonly used relationship:

Modulus (Mpa) = 10 x CBR (with a maximum modulus value of 150 Mpa, or CBR = 15%).

From the average back calculated stiffnesses, WML state that this relationship suggests subgrade CBR values of 7-9%. Based on this, WML recommended that a stiffness of 60 Mpa or a CBR of 6% is adopted for the subgrade, accounting for some of the lower subgrade stiffnesses identified by the FWD.

WML also noted that as the pavement has significant cracking, it is expected that the subgrade in-situ moisture will increase during rainfall events.

3.4.2 *Basecourse assessment*

WML stated that as the existing runway seal has significant cracking, moisture is able to ingress into the basecourse pavement layer. Therefore, to ensure that the results represent the current pavement, WML did not include the waterproofing benefits of the existing seal when back-calculating the stiffness results.

Based on the FWD testing and assessment of the back-calculated stiffnesses, WML has concluded that the in-situ basecourse pavement materials are best described as ‘base quality gravel’, better representing the weaker basecourse material observed.

3.5 PAVEMENT DESIGN DETAILING

3.5.1 *Aircraft types*

The Fitzroy Crossing airstrip is predominantly used by chartered service aircraft with no regular commercial traffic. These chartered aircraft are primarily Pilatus PC-12 and Cessna 208 Caravans. The Royal Flying Doctor Service (RFDS) also uses Pilatus PC-12 and PC-21 in WA.

Fitzroy Crossing is prone to significant flooding, and often the airstrip is the only access to the town during this period. The Shire advised WML that during flood emergencies, the Australian Defense Force (ADF) has used C-27J Spartans for the delivery of supplies.

The Shire also advised WML that C-130 Hercules and Fokker 50 have used the airstrip, although the use of these aircraft is uncommon. WML did not include any C-130 Hercules and Fokker 50 in the aircraft traffic or pavement design assessments.

3.5.2 *Adopted design parameters*

The average number of departures adopted by WML for each aircraft type is summarised below:

Pilatus PC-12	Average annual departure of 10 flights per week
Cessna 208 Caravan	Average annual departure of 15 flights per week
C-27J Spartan	Average annual departure of 20 flights per year

As there is no regular commercial traffic, or detailed aircraft traffic data available, WML noted that the number of annual departures adopted for each aircraft type is based on discussions with the Shire.

WML assumed a 20-year design life with a traffic growth rate of 3% per annum.

3.5.3 *Pavement Classification Number (PCN)*

The pavement strength rating for a runway must be determined using the Aircraft Classification Number/Pavement Classification Number (ACN/PCN) pavement rating system as per the requirements of the Australian Civil Aviation Safety Authority (CASA) Manual of Standards (MOS) Part 139 – Aerodromes.

WML determined the **PCN Code for the Fitzroy Crossing Aerodrome Runway is 12/F/C/Y/T** as summarised below:

- The numerical PCN value is 12 based on the runway bearing strength, the runway pavement thickness, and the design traffic
- The pavement type is classified F based on the pavement being flexible
- The subgrade CBR strength of 6 is categorised C based on being Low Strength
- Based on the aircraft used in the assessment, tyre pressures varied between 0.5 to 1.0 MPa which corresponds to category Y.
- The technical study method was used to determine the PCN so category T is adopted

3.5.4 *Pavement thickness design*

WML calculated the pavement thickness using the latest version of industry-standard software, APSDS 5 published by Mincad Systems.

A summary of the calculated pavement thickness is detailed in the table below.

Item	Layer Description	Thickness
1	Minimum Basecourse Thickness	**205mm**
2	Minimum Subbase Thickness	150mm
3	Installation of geotextile reinforcement – Tensar TX160 or approved equivalent	-
4	**Total Thickness**	**385mm**

Table 2: Calculated minimum pavement thickness requirements

4.0 DESIGN DETAILING OF PAVEMENT RECONSTRUCTION MODEL

4.1 AIRSTRIP RUNWAY DESIGN PARAMETERS

The design parameters for airstrips are detailed in the MOS Part 139 – Aerodromes.

The standards which an aerodrome facility must meet to be suitable for use by aeroplanes within a particular range of performance and size are determined by the aerodrome reference code (ARC) chosen by the aerodrome operator.

The **ARC Code for the Fitzroy Crossing Aerodrome Runway is 2C** as summarised below:

- The code number is 2 based on the aeroplane reference field length of not less than 800m.
- The code letter is C 2 based on the aeroplane wingspan being 24m up to but not including 36m.

The Shire has advised that the greatest allowable outer main gear wheel span (OMGWS) can be determined on a case-by-case basis.

Additionally, the Shire confirmed that runway is a non-instrument runway.

Based on the above, a summary of the various design parameters is detailed below.

Item	Design Element	Details
1	Runway width	Minimum 30m
2	Runway longitudinal slope	Not greater than 2%
3	Vertical curve radius	Minimum 7500m
4	Distance between Vertical Points of Intersection (VPIs)	At least 45m
5	Transverse slope on runways	1.0 – 2.0%
6	Graded runway strip width	80m
7	Graded runway strip longitudinal slope	Not greater than 2%
8	Graded runway strip longitudinal slope changes	Not greater than 2%
9	Transverse slope on the graded runway strip	The first 3m from the edge of the runway must slope down and not be greater than -5%. The remainder of the width shall be not greater than 3%
10	Runway shoulders	Not required

Table 3: Summary of design parameters for the airstrip reconstruction

4.2 ASSESSMENT OF THE EXISTING RUNWAY STRIP

4.2.1 *Surface shape*

The existing sealed airstrip is approx. 30m wide plus a sealed shoulder approx. 2.5m wide on each side.

The existing cross fall from the centreline to the outer line marking (approx. 15m wide) is variable across the width and along the length of the strip. Although most sections have a cross fall that is less than -2%, there are some sections where it is greater than -2%.

There are also several sections where the crown is not sitting central across the runway strip.

The sealed shoulders have a cross fall that typically varies between -3 to -5%.

There are some sections of the graded runway strip that have a transverse cross fall that is greater than the maximum -3% specified in the MOS Part 139-Aerodromes.

Based on the above, a new sealed runway surface is required for referencing during the reconstruction of the runway pavement. Given the width of the runway, as well as the relatively flat cross-fall grades, an electronic design model of the revised runway pavement surface will provide much better control of quality during construction, as well as accurate quantities for tendering purposes. The electronic design model will help control construction quantities, as well as ensure the constructed levels conform with the requirements of the MOS Part 139 – Aerodromes.

4.2.2 *Drainage*

The major drainage element at the aerodrome is the table drain that runs parallel with the runway along the eastern edge between the runway and the aircraft parking area. The drain is moderately silted but generally free of any significant vegetation debris. The front and back slopes of the drain have some light to moderate scouring in parts.

To facilitate the taxiway crossing this drain there are 3 No. Ø600mm Corrugated Steel Pipe (CSP) culverts with in-situ concrete headwalls with rock protection. These culverts drain from south to north.

Due to the location of the aerodrome, the natural rainfall runoff is from east to west. Runoff from the central and western parts of the runway appears to drain naturally to the west.

Although the existing runway strip is slightly higher through the middle section, the ground levels at either end of the strip are generally the same. As a result, the existing longitudinal grades of the runway strip are typically between -0.5% and +0.5%.

Based on the existing transverse cross-fall of both the existing sealed airstrip, as well as the graded runway strip, rainfall-runoff typically drains away from the sealed runway strip.

4.2.3 *Adjacent runway infrastructure*

The sealed runway includes lighting along the western and eastern edges of the seal. The lights are 200mm high and are typically spaced approx. 60m apart, except for along each end of the strip where the spacing is much closer.

There are approx. 70 lights around the perimeter of the runway strip, not including lights along the taxiway and parking area. Each light typically has a Ø400mm pit in the unsealed shoulder, some of which are partially buried.

4.3 SUMMARY OF DESIGN RECONSTRUCTION MODEL

4.3.1 *Design objective*

The objective of the design surface model for the pavement reconstruction is to:

a) Create a design surface that complies with the requirements of the MOS Part 139-Aerodromes.
b) Ties into the existing levels along the edge of the existing sealed runway so that there is minimal work required in the graded runway strip adjacent the sealed runway.
c) As much as possible, avoid unnecessary modification of adjacent existing infrastructure.

4.3.2 *Draft runway reconstruction models*

A number of options were considered for the runway pavement reconstruction model.

The first option considered using the existing runway centreline and constructing a straight grade to tie into the edge of the existing runway seal. However, this resulted in a constantly changing cross-fall along the length of the runway. Based on the construction impracticalities of this option, it was not developed any further.

The second option considered utilised a typically uniform cross-fall for the main 30m runway section, and then a variable cross-fall for the outer 2.5-3.0m sealed shoulder. Although this was better than the first option, there were still impracticalities for construction which meant that it was not progressed any further.

Finally, an overlay option was modelled. However, this resulted is a large amount of fill over a large area in the graded runway strip. Based on this additional work,. The overlay model was not progressed any further.

4.3.3 *Horizontal and vertical design alignments*

The design horizontal alignment flows the existing runway centreline.

The design vertical alignment typically sits approx. 50-150mm below the existing surface. The actual design profile has been determined based on the following considerations:

- A design cross-section that is typically consistent to allow for set out and construction.
- The adopted design transverse cross-fall of the sealed runway.
- The existing profile of the unsealed shoulder adjacent to the sealed runway and the allowable design transverse cross-fall in the area.
- Trying to minimise the width of construction required to tie into the existing levels/profiles in the graded runway strip adjacent to the sealed runway permitted.

4.3.4 *Design cross-section*

The total seal width for the design runway surface is 35m which typically matches the existing seal width.

A summary of the design pavement cross-fall is detailed below.

<table>
<tr><th rowspan="2">Section</th><th colspan="2">Chainage</th><th rowspan="2">Length (m)</th><th colspan="2">Runway Transverse Cross-Fall</th></tr>
<tr><th>Start</th><th>End</th><th>LHS</th><th>RHS</th></tr>
<tr><td>1</td><td>0</td><td>240</td><td>240</td><td>-2.0%</td><td rowspan="2">-1.5%</td></tr>
<tr><td>2</td><td>240</td><td>490</td><td>250</td><td>-1.5%</td></tr>
<tr><td>3</td><td>490</td><td>560</td><td>70</td><td rowspan="2">-2.0%</td></tr>
<tr><td>4</td><td>560</td><td>770</td><td>210</td><td>-2.0%</td></tr>
</table>

Table 4: Summary of design transverse cross-fall for the sealed runway

Section	Chainage		Length (m)	Runway Transverse Cross-Fall	
	Start	End		LHS	RHS
5	770	890	120	**-1.5%**	**-1.5%**
6	890	1260	370	**-2.0%**	
7	1260	1290	30		**-2.0%**

Table 4: Summary of design transverse cross-fall for the sealed runway

The design cross-section requires some earthworks outside of the sealed runway strip to tie into the existing levels in the graded runway strip. The design cross-fall in these areas typically varies between -1.0% to -5.0%. The width of the tie-in also typically varies between 1-5m however there are some small, isolated sections where the width of the tie-in increases up to approx. 10-12m.

Based on the above, the existing runway lights, as well as the associated electrical pits will need to be removed during the reconstruction and then reinstalled to match the new construction level.

4.3.5 *Drainage*

The proposed runway reconstruction model ties into the existing levels adjacent to the runway strip such that the existing rainfall-runoff flow paths are maintained.

4.4 DESIGN SEAL SURFACING DETAILS

The nominal seal surfacing details are as follows:

- Prime: 60/40 cutback bitumen
- First coat seal: C320 bitumen with 10mm aggregate
- Second coat seal: C320 bitumen with 7mm aggregate
- Third coat seal: CRS emulsion and sand

5.0 SAFETY IN DESIGN

5.1 DESIGN PROCESS

The scope of the Greenfield design is limited to the design levels for the reconstruction and renewal of the existing airstrip pavement.

The design geometry requirements for airstrips are detailed in the MOS Part 139 – Aerodromes. Based on a nominated type of airstrip, these design standards have been developed to provide a safe airstrip for designated aircraft.

Airstrip geometry that does not conform to the design parameters in the MOS Part 139 – Aerodromes, represents a hazard. The risk associated with the hazard is the airstrip does not provide a safe and stable surface for take-off and landing which could result in serious personal injury and/or damage to the aircraft.

To manage this risk, the adopted design parameters are based on the provisions of the MOS Part 139 – Aerodromes. These measures have resulted in a lower residual risk than the level of risk associated with the existing airstrip.

However, as the design scope of works was limited to the sealed runway and the tie-in to the existing grade runway strip, there are sections of the existing graded runway strip that are outside of the scope of the design that may not be conforming to the requirements of the MOS Part 13 – Aerodromes.

Therefore, as this risk has not been completely eliminated, the Shire would need to monitor and manage the risk once the runway construction has been completed and the runway is opened to aircraft.

5.2 CONSTRUCTION PROCESS

As noted in section 5.1, the geometry of the runway strip is a key element to providing a safe and stable runway for use by aircraft. There is a hazard associated with the constructed runway pavement if the as constructed runway levels are different to the design levels. The risk associated with the hazard is the airstrip does not provide a safe and stable surface for take-off and landing which could result in serious personal injury and/or damage to the aircraft.

To manage these risks, the design process includes producing an electronic design model that can be set out on site and allow the construction works to be measured progressively to ensure conformance with the model. Additionally, the design model has been detailed with consideration to the ease of construction and conformance.

The use of an electronic design model that considers the ease of construction results in a residual risk that is considered low.

The runway construction process will also involve various common construction hazards which have risks associated with damage to persons, plant and property. Apart from achieving the required design geometry, no unique construction risks associated with the design of the airstrip have been identified during the design process. The common construction hazards will need to be identified and managed through the construction contactor's project planning and onsite safety processes.

6.0 STANDARD LIMITATIONS AND ASSUMPTIONS

Unless otherwise specified in this Design Memo, our Standard Limitations and Assumptions will apply (refer Appendix A) for any of the following elements contained in this Design Memo:

- Waterways/Drainage
- Traffic
- Geotechnical
- Pavement and Surfacing Details
- Construction Methods
- Approvals

APPENDIX A – STANDARD LIMITATIONS AND ASSUMPTIONS FOR DESIGN PROJECTS

Purpose

Our Standard Limitations and Assumptions are used in the design detailing and deliverables when specific project details are not available. The Limitations and Assumptions are also used for certain design processes in the absence of specific project requirements.

Unless otherwise specifically specified in the scope of works and the design memo, the following represent the standard Limitations and Assumptions that are used as part of our design detailing and deliverables.

Waterways/Drainage

Unless otherwise specified, this waterway and drainage considerations in the design brief are based on the following:

- Local, site-specific information provided by the client regarding any know waterway/drainage issues affecting the existing/proposed infrastructure. If no information is provided by the client about any known issues, then it is assumed that there are no known issues.
- The current level of serviceability/access is to be replicated in any design details related to the same design element.
- Runoff flows from the more frequent rainfall events.
- Basic catchment definition and runoff calculations. A formal detailed waterways analysis is not included within this scope of work.

Traffic

The design details are based on traffic volumes and growth provided by the client.

Where no data is provided by the client, an estimate will be made based of experience and any relevant publicly available traffic data.

Geotechnical

The design details are based on the material properties of the existing ground conditions being suitable for pavement construction without any additional treatment.

Pavement and Surfacing Details

This design brief allows for nominating a nominal pavement thickness that has been used in similar applications based on previous experience.

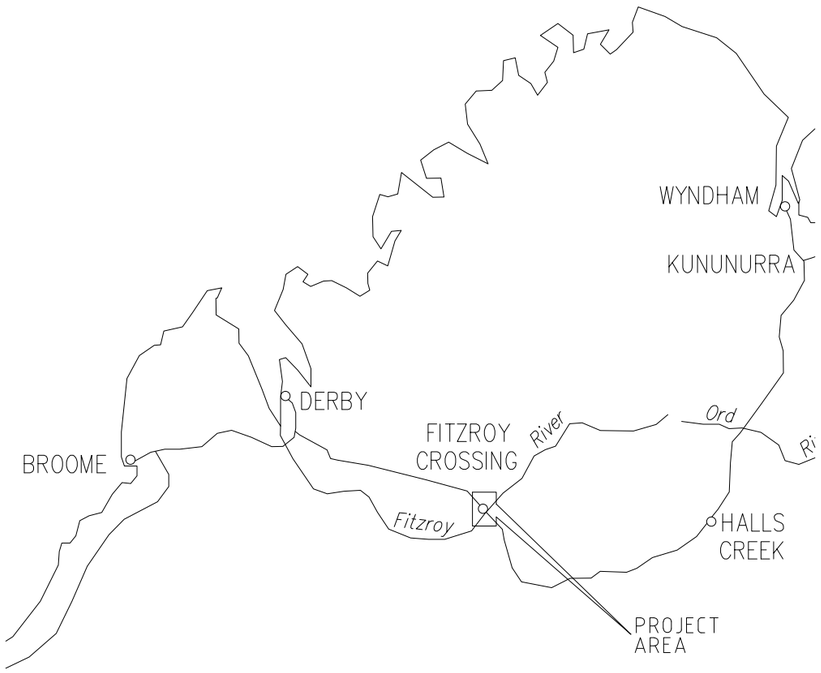
The design allows for a nominal surfacing detail to be specified in the drawings.

Construction Methods

This design brief considers construction methods and processes that are appropriate and consistent with similar airstrips in the region and that would normally be used when constructing, upgrading, or maintaining rural airstrips in remote areas of Western Australia.

Approvals

The design details are based on the client being responsible for identifying and obtaining all approvals required for the works.



SHIRE OF DERBY WEST KIMBERLEY

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN

DRAWING NO.	DESCRIPTION
SDK-J1086-000	LOCALITY PLAN AND INDEX
SDK-J1086-100	OPTION 1 - LOW : PLAN / PROFILE : CH 0-600
SDK-J1086-101	OPTION 1 - LOW : PLAN / PROFILE : CH 600-1200
SDK-J1086-102	OPTION 1 - LOW : PLAN / PROFILE : CH 1200-1420
SDK-J1086-103	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 0-600
SDK-J1086-104	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 600-1200
SDK-J1086-105	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 1200-1420
SDK-J1086-106	OPTION 3 - HIGH : PLAN / PROFILE : CH 0-600
SDK-J1086-107	OPTION 3 - HIGH : PLAN / PROFILE : CH 600-1200
SDK-J1086-108	OPTION 3 - HIGH : PLAN / PROFILE : CH 1200-1420
SDK-J1086-300	OPTION 1 - LOW : TYPICAL SECTION DETAILS
SDK-J1086-301	OPTION 2 - MIDDLE : TYPICAL SECTION DETAILS
SDK-J1086-302	OPTION 3 - HIGH : TYPICAL SECTION DETAILS

NOTE : ALL A-1 DRAWINGS HAVE BEEN REDUCED TO A-3 SIZE

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

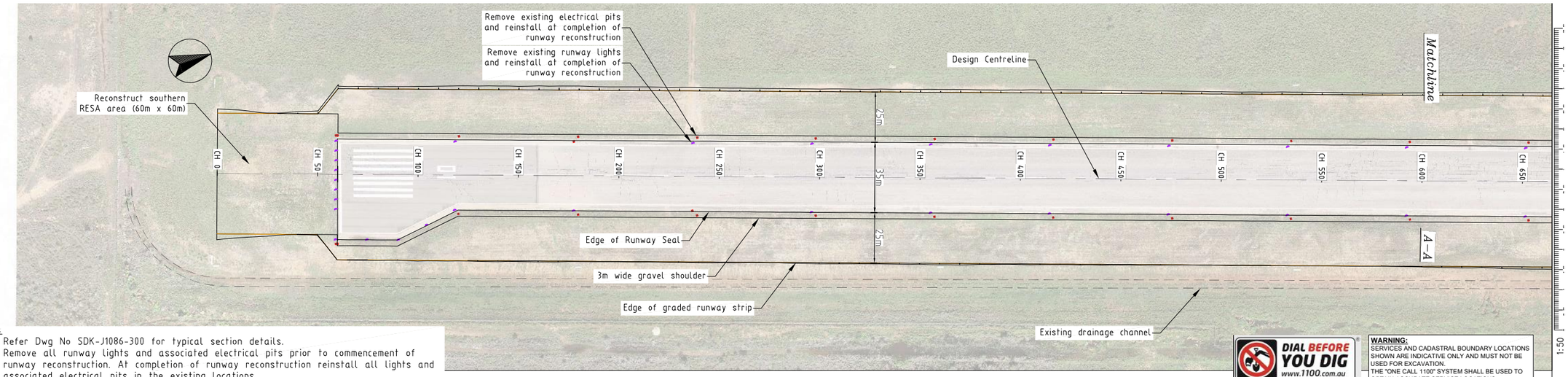
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
LOCALITY PLAN AND INDEX

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_000_A
AMENDMEN

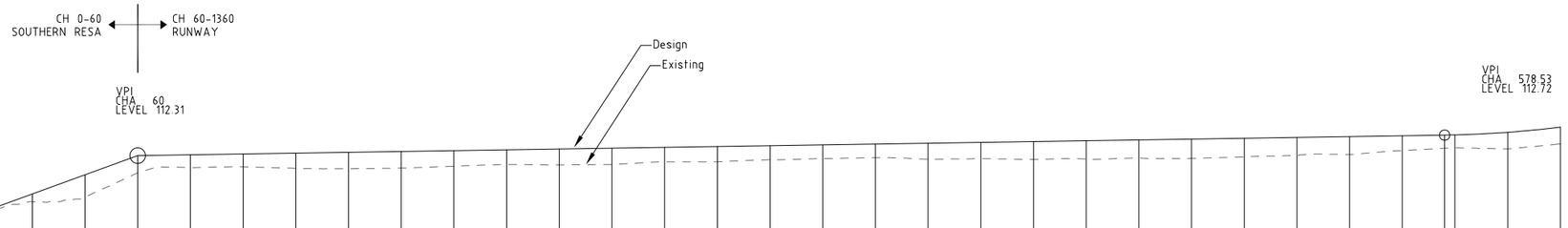


Notes

1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

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WARNING:
SERVICES AND CADASTRAL BOUNDARY LOCATIONS SHOWN ARE INDICATIVE ONLY AND MUST NOT BE USED FOR EXCAVATION.
THE "ONE CALL 1100" SYSTEM SHALL BE USED TO OBTAIN ACCURATE SERVICE LOCATIONS



Horizontal Geometry
DATUM R.L.106.000

Existing Height	111.216	111.429	111.521	111.984	112.082	112.096	112.067	112.059	112.072	112.108	112.142	112.131	112.140	112.190	112.190	112.231	112.251	112.271	112.239	112.250	112.237	112.239	112.265	112.256	112.285	112.314	112.330	112.404	112.449	112.458	112.435	112.532
Existing to Design Cut(-) / Fill(+)	0.000	0.152	0.424	0.325	0.242	0.244	0.289	0.312	0.316	0.295	0.277	0.304	0.310	0.276	0.291	0.266	0.262	0.258	0.305	0.311	0.339	0.352	0.343	0.367	0.355	0.341	0.340	0.282	0.249	0.245	0.318	0.318
Design Centreline	111.216	111.580	111.945	112.309	112.324	112.340	112.356	112.372	112.387	112.403	112.419	112.435	112.450	112.466	112.482	112.497	112.513	112.529	112.545	112.560	112.576	112.592	112.608	112.623	112.639	112.655	112.670	112.686	112.699	112.703	112.752	112.850
Chainage	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	556.03	560.00	580.00	600.00
Superelevation	LHS & RHS -2%																															

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 1 - LOW : Ch 0 - 600

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

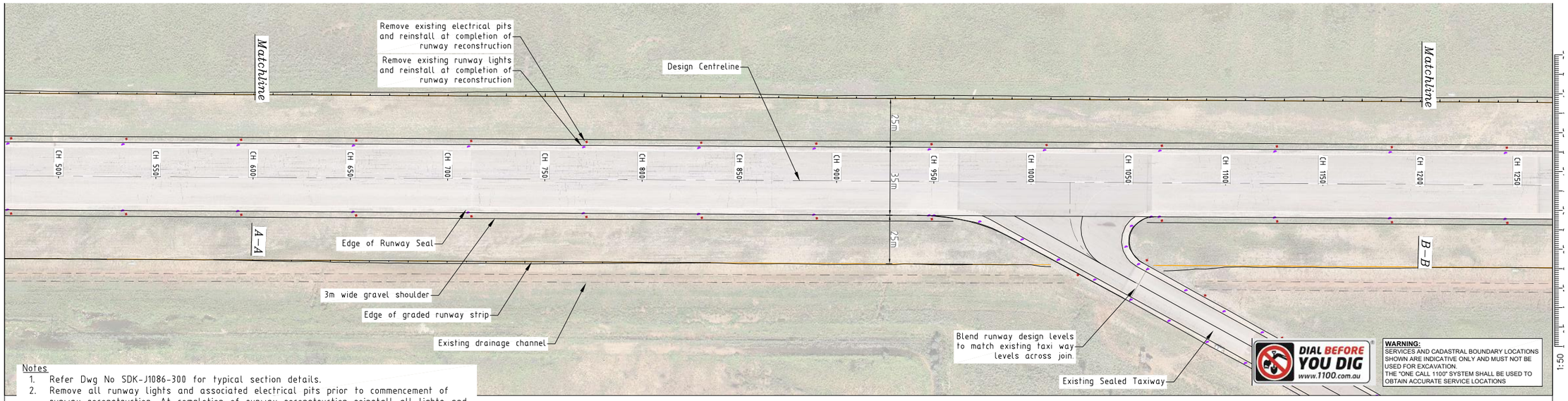
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

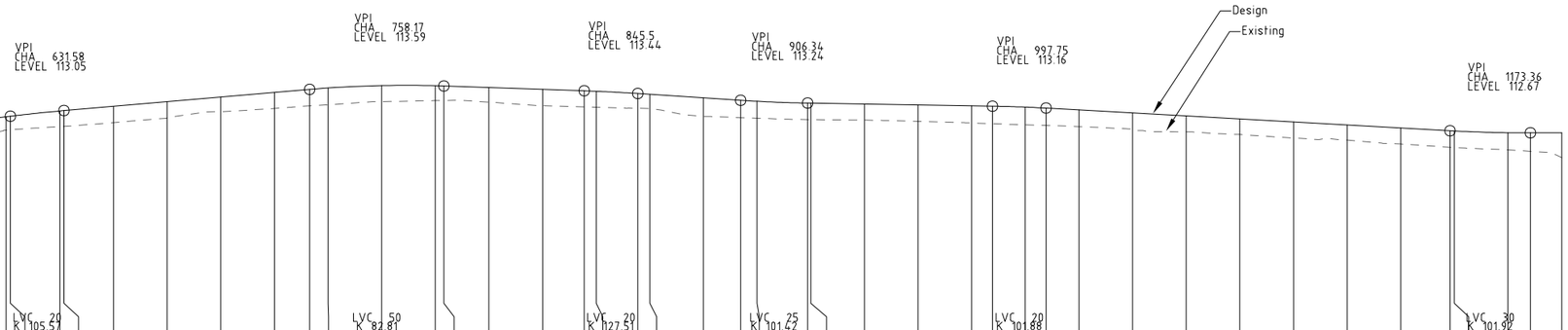
SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW
Plan / Profile: Ch 0 - 600

LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER SDK_J1086_100_A AMENDMENT

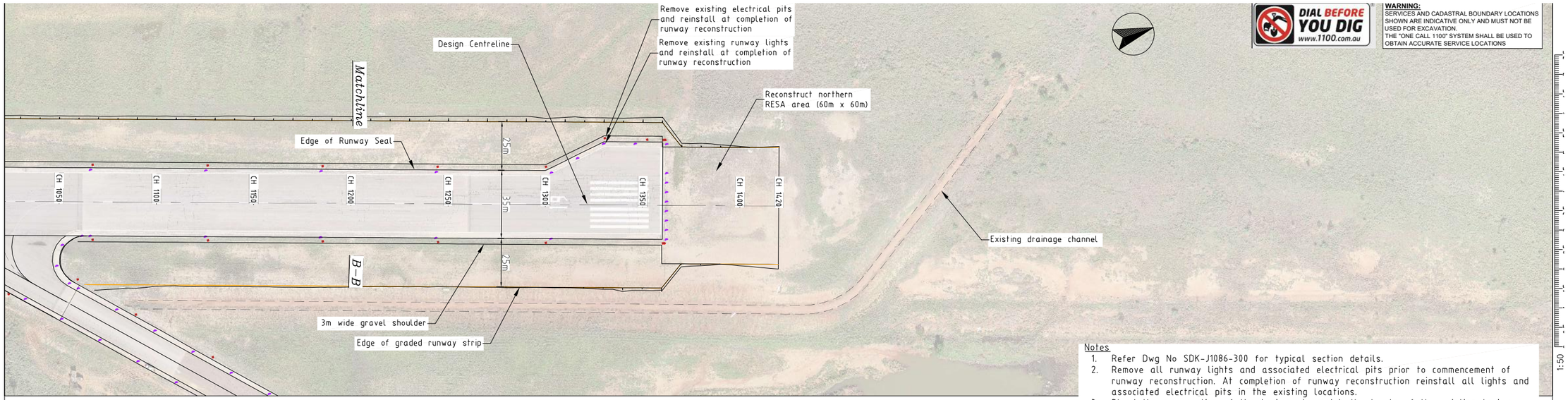


Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

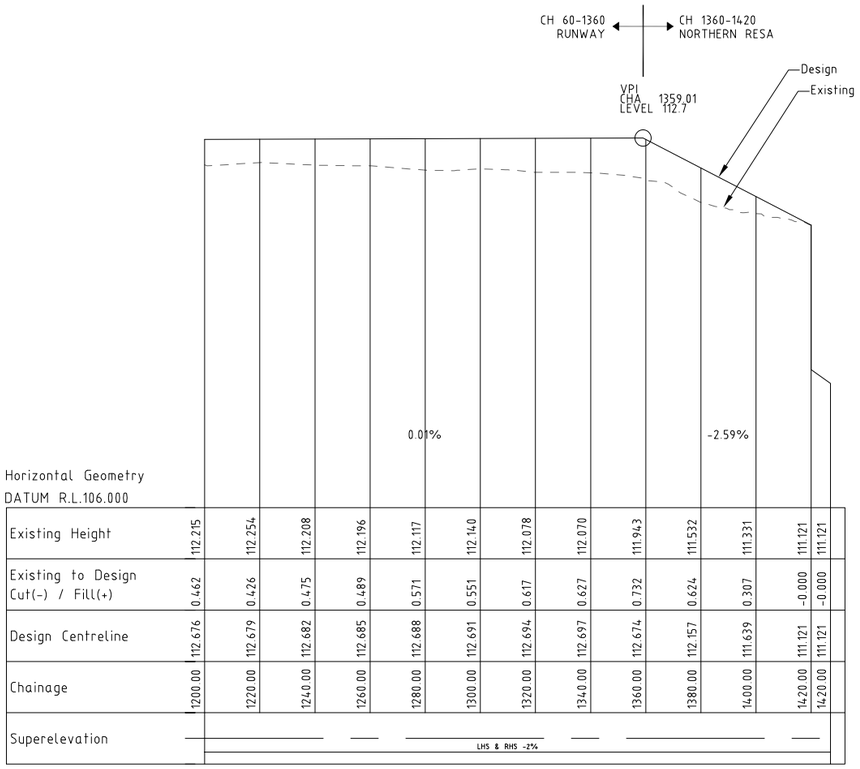


Horizontal Geometry
DATUM R.L.107.000

| | | |



Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.



Horizontal Geometry DATUM R.L.106.000														
Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121	
Existing to Design Cut(-) / Fill(+)	0.462	0.426	0.475	0.489	0.571	0.551	0.617	0.627	0.732	0.624	0.307	-0.000	-0.000	
Design Centreline	112.676	112.679	112.682	112.685	112.688	112.691	112.694	112.697	112.674	112.157	111.639	111.121	111.121	
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00	
Superelevation					LHS & RHS -2%									

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 1 - LOW : Ch 1200 - 1420

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

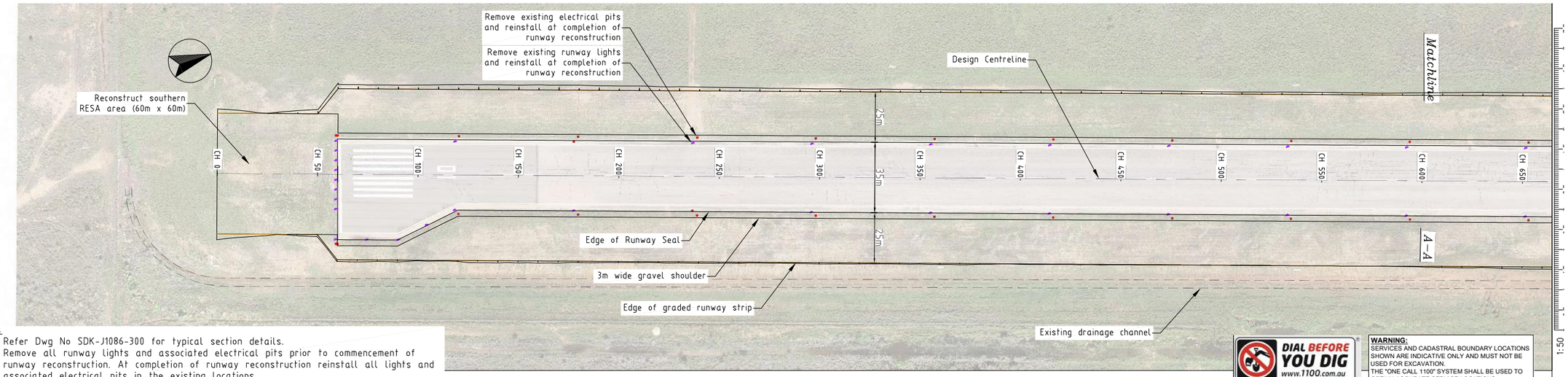
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW
Plan / Profile: Ch 1200 - 1420

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_102_A
AMENDMENT: A

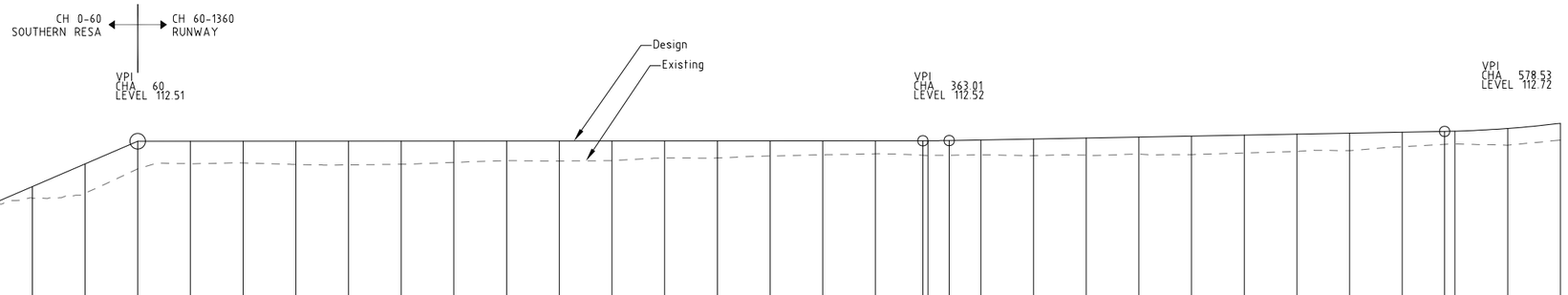


Notes

1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

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WARNING:
SERVICES AND CADASTRAL BOUNDARY LOCATIONS SHOWN ARE INDICATIVE ONLY AND MUST NOT BE USED FOR EXCAVATION.
THE "ONE CALL 1100" SYSTEM SHALL BE USED TO OBTAIN ACCURATE SERVICE LOCATIONS



Horizontal Geometry
DATUM R.L.106.000

Existing Height	111.216	111.429	111.521	111.984	112.082	112.096	112.067	112.059	112.072	112.108	112.142	112.131	112.140	112.190	112.190	112.231	112.251	112.271	112.244	112.239	112.244	112.250	112.237	112.239	112.265	112.256	112.285	112.314	112.330	112.404	112.449	112.458	112.435	112.532
Existing to Design Cut(-) / Fill(+)	0.000	0.219	0.557	0.525	0.427	0.414	0.443	0.452	0.440	0.405	0.371	0.383	0.374	0.325	0.325	0.285	0.266	0.246	0.274	0.279	0.279	0.284	0.315	0.331	0.324	0.351	0.341	0.330	0.332	0.277	0.246	0.242	0.317	0.318
Design Centreline	111.216	111.647	112.078	112.509	112.509	112.510	112.511	112.511	112.512	112.512	112.513	112.514	112.514	112.515	112.515	112.516	112.517	112.517	112.518	112.518	112.523	112.534	112.552	112.570	112.589	112.607	112.626	112.644	112.663	112.681	112.696	112.700	112.752	112.850
Chainage	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	358.01	360.00	368.01	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	556.03	560.00	580.00	600.00
Superelevation	LHS & RHS -2%																																			

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 2 - MIDDLE : Ch 0 - 600

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

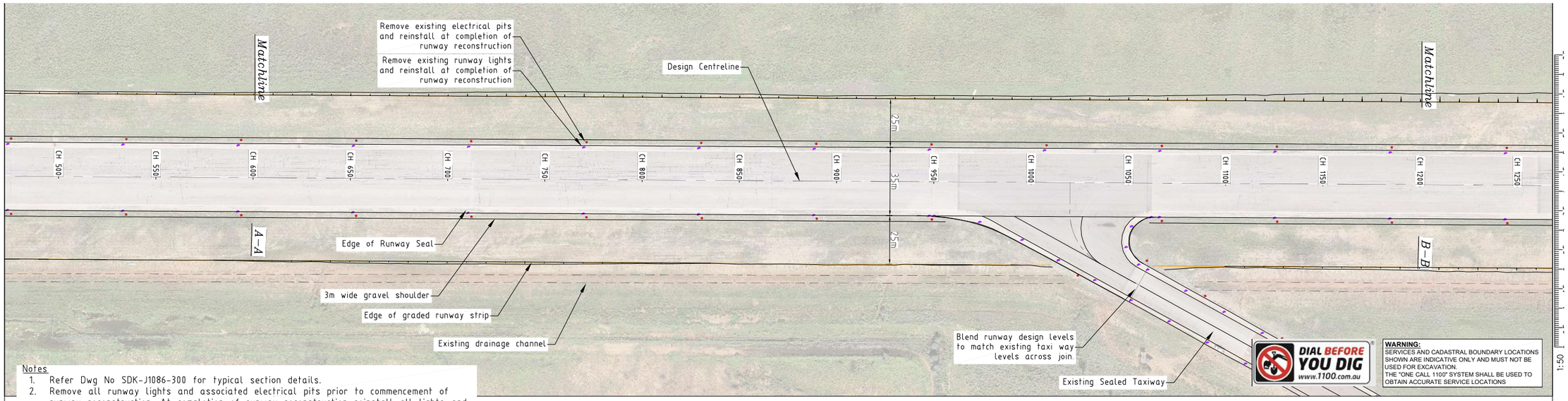
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

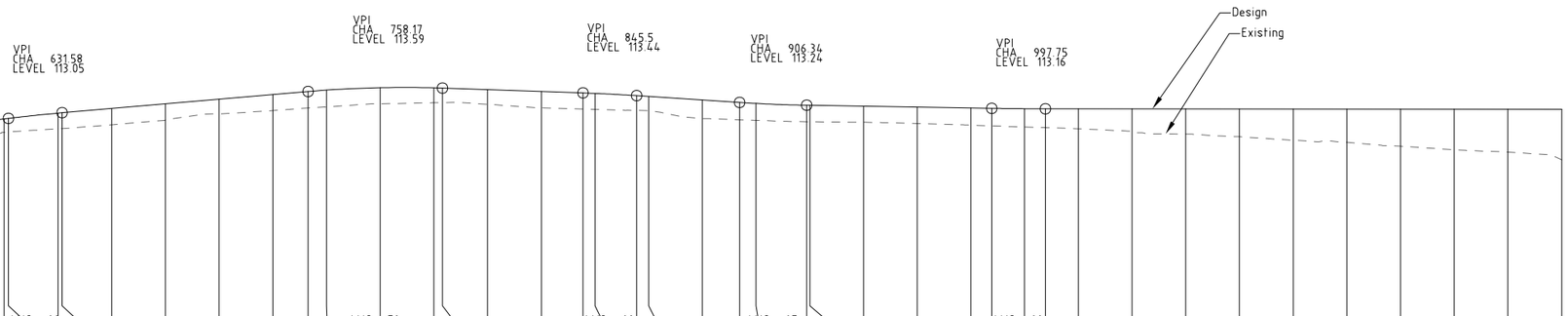
SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 2 - MIDDLE
Plan / Profile: Ch 0 - 600

LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER AMENDMENT
SDK_J1086_103_A

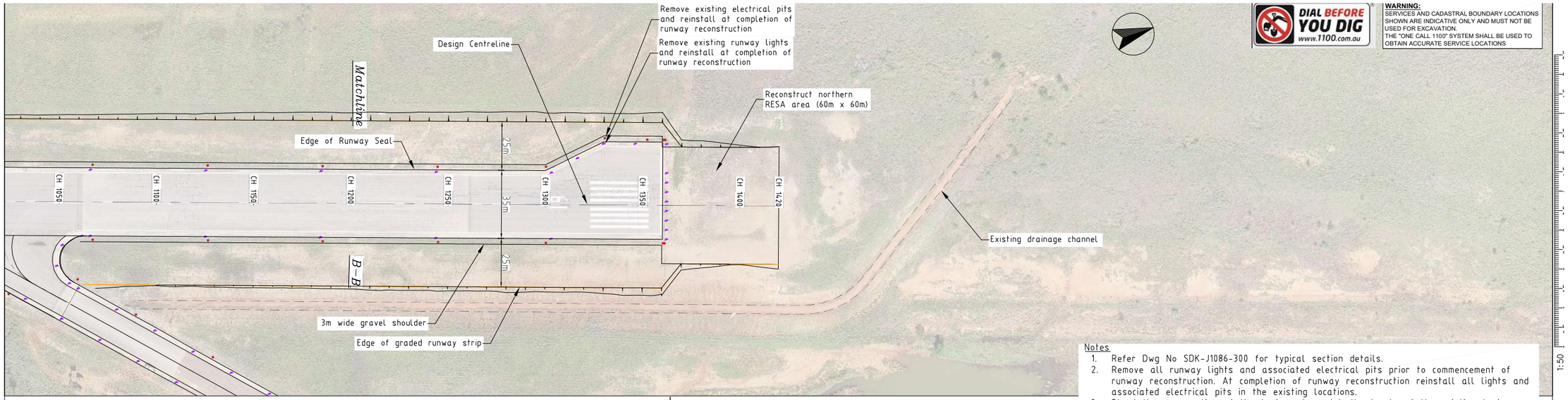


Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

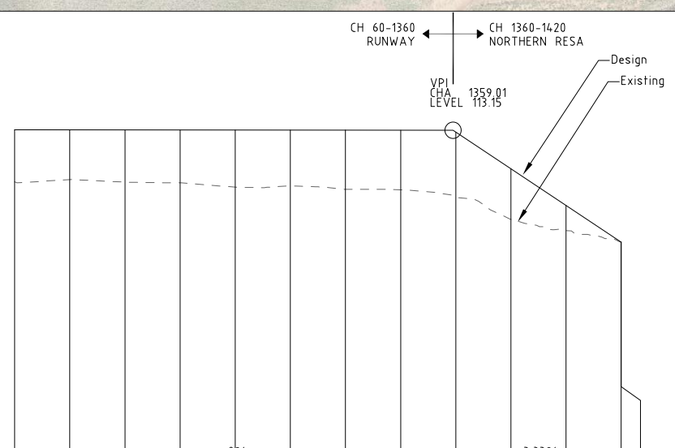


Horizontal Geometry
DATUM R.L.107.000

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Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.



Horizontal Geometry
DATUM R.L.106.000

Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121	
Existing to Design Cut(-) / Fill(+)	0.941	0.902	0.947	0.957	1.036	1.012	1.074	1.081	1.174	0.919	0.455	0.000	0.000	
Design Centreline	113.156	113.155	113.154	113.154	113.153	113.152	113.151	113.151	113.117	112.452	111.786	111.121	111.121	
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00	
Superelevation	LHS & RHS -2%													

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 2 - MIDDLE : Ch 1200 - 1420

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

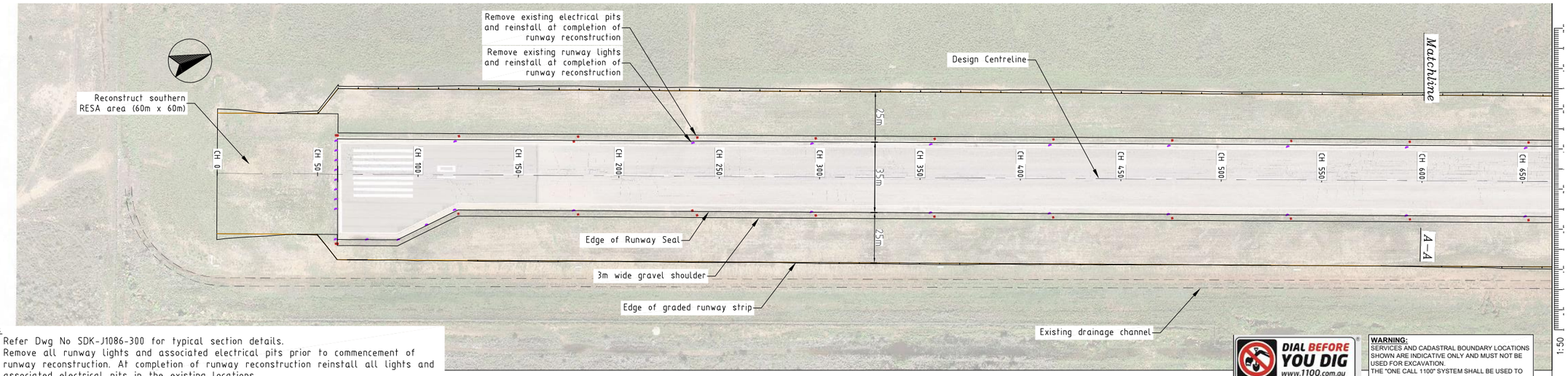
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 2 - MIDDLE
Plan / Profile: Ch 1200 - 1420

LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER AMENDMEN
SDK_J1086_105_A



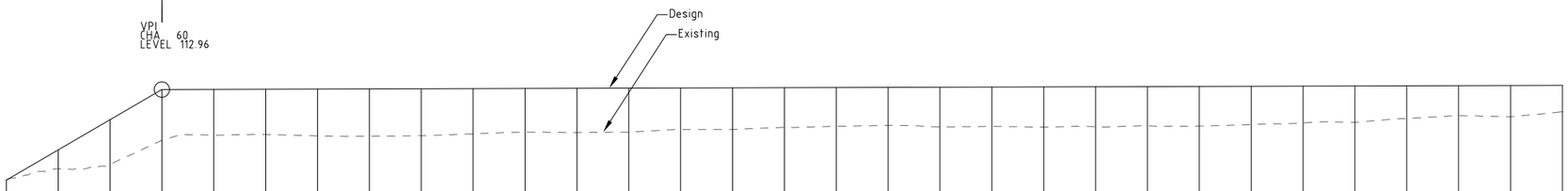
Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

DIAL BEFORE YOU DIG www.1100.com.au

WARNING:
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THE "ONE CALL 1100" SYSTEM SHALL BE USED TO OBTAIN ACCURATE SERVICE LOCATIONS

CH 0-60 SOUTHERN RESA ◄► CH 60-1360 RUNWAY

VPI CHA 60 LEVEL 112.96



Horizontal Geometry
DATUM R.L.106.000

Existing Height	111.216	111.429	111.521	111.984	112.082	112.096	112.067	112.059	112.072	112.108	112.142	112.131	112.140	112.190	112.190	112.231	112.251	112.271	112.239	112.250	112.237	112.239	112.265	112.256	112.285	112.314	112.330	112.404	112.458	112.435	112.532
Existing to Design Cut(-) / Fill(+)	0.000	0.369	0.858	0.976	0.881	0.870	0.902	0.913	0.903	0.870	0.839	0.853	0.847	0.800	0.803	0.765	0.748	0.731	0.766	0.758	0.774	0.774	0.752	0.764	0.738	0.712	0.699	0.628	0.577	0.603	0.509
Design Centreline	111.216	111.798	112.379	112.960	112.963	112.966	112.969	112.972	112.975	112.978	112.981	112.984	112.987	112.990	112.993	112.996	112.999	113.002	113.005	113.008	113.011	113.014	113.017	113.020	113.023	113.026	113.029	113.032	113.035	113.038	113.041
Chainage	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	560.00	580.00	600.00
Superelevation	LHS & RHS -2%																														

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 3 - HIGH : Ch 0 - 600

No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547

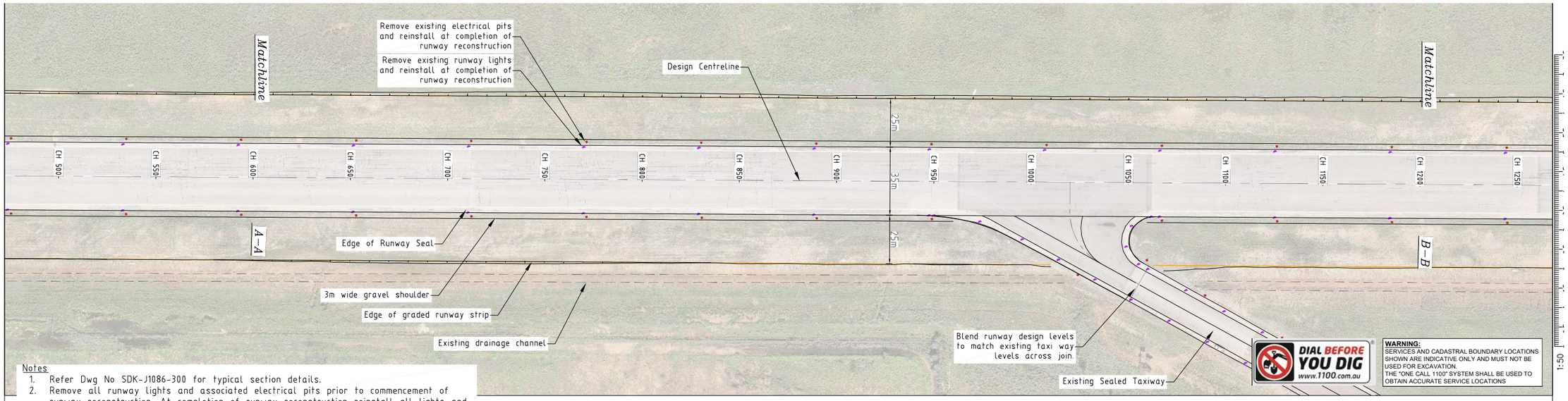
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

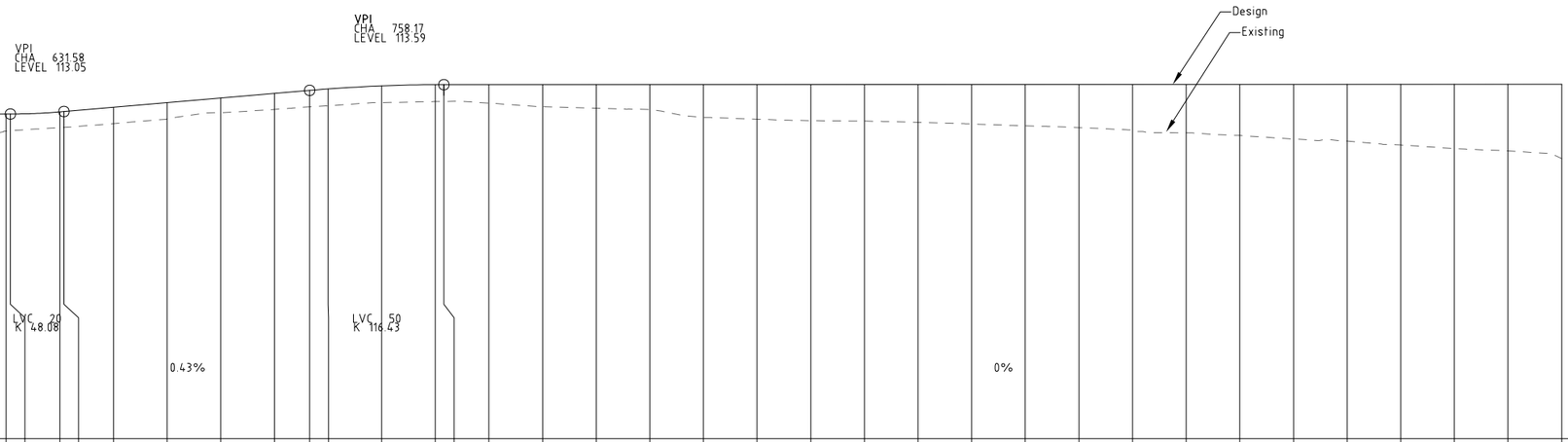
FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH
Plan / Profile: Ch 0 - 600

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_106_A
AMENDMENT

1:1000

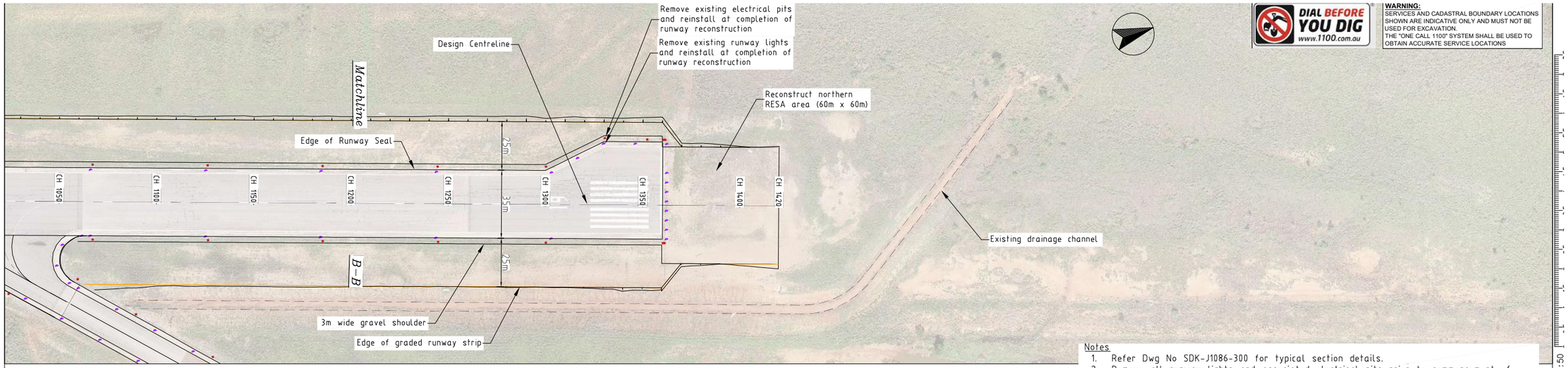


Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

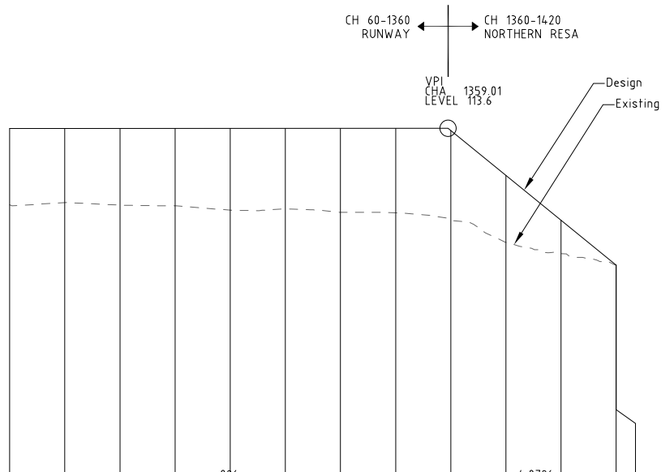


Horizontal Geometry
DATUM R.L.107.000

| | | |



Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.



Horizontal Geometry
DATUM R.L.106.000

Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121	
Existing to Design Cut(-) / Fill(+)	1.383	1.344	1.391	1.402	1.482	1.459	1.522	1.530	1.617	1.214	0.603	0.000	0.000	
Design Centreline	113.598	113.598	113.598	113.599	113.599	113.599	113.599	113.600	113.560	112.747	111.934	111.121	111.121	
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00	
Superelevation	LHS & RHS -2%													

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 3 - HIGH : Ch 1200 - 1420

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

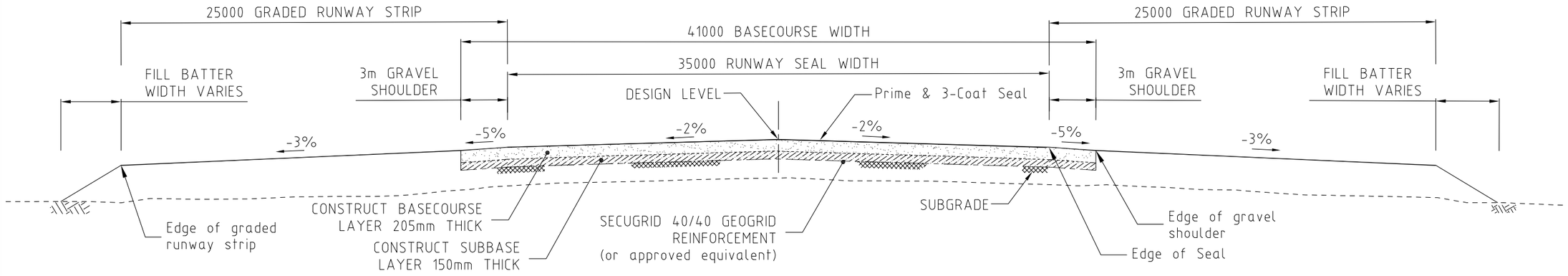
GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH
Plan / Profile: Ch 1200 - 1420

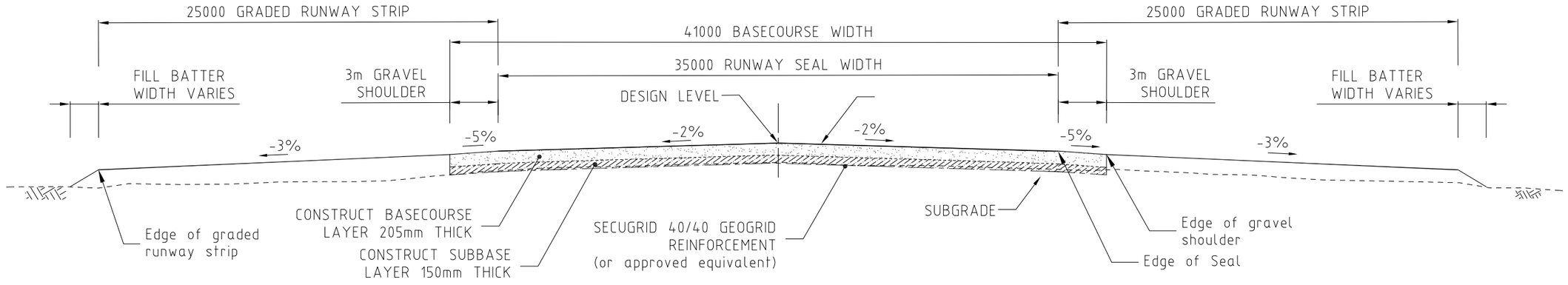
LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER AMENDMENT
SDK_J1086_108_A

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 1 TYPICAL SECTION B

CH 1200–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–0.7m ABOVE EXISTING



OPTION 1 TYPICAL SECTION A

CH 60–1200 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

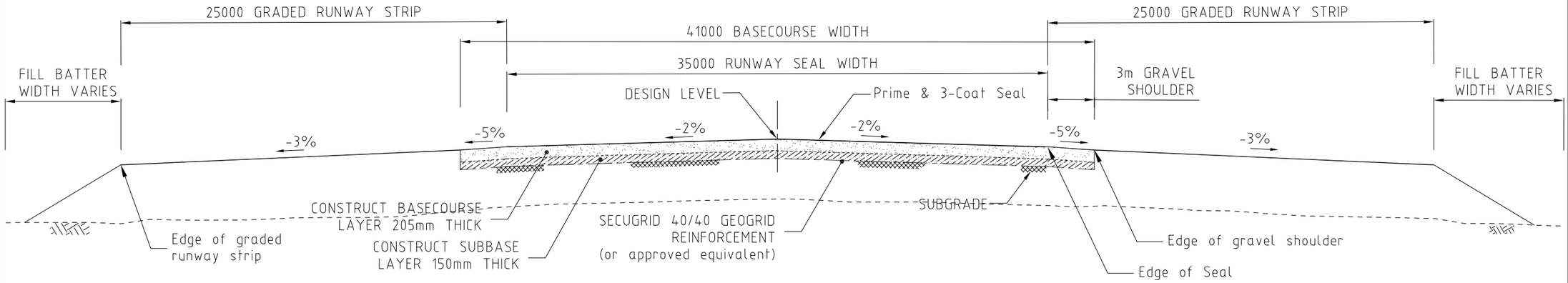
GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW TYPICAL SECTION DETAIL

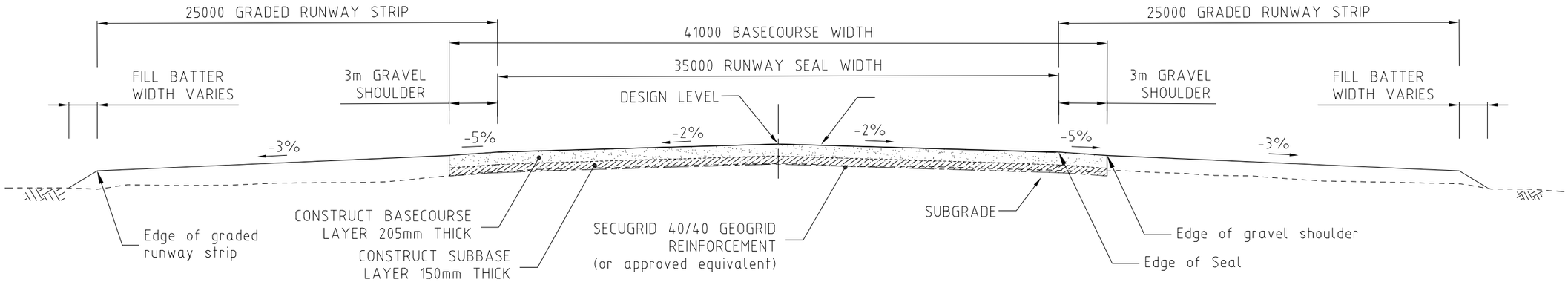
LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_300_A
AMENDMENT: A

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 2 TYPICAL SECTION D

CH 60–180 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–0.6m ABOVE EXISTING
CH 1040–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–1.1m ABOVE EXISTING



OPTION 2 TYPICAL SECTION C

CH 180–1040 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31–05–24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
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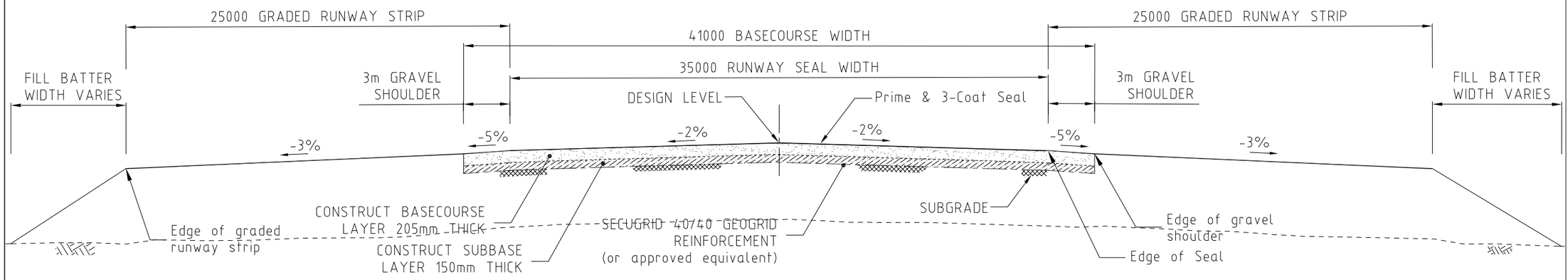
DESIGNED M.BARNS / DRAWN M.BARNS — DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 2 - MIDDLE TYPICAL SECTION DETAIL

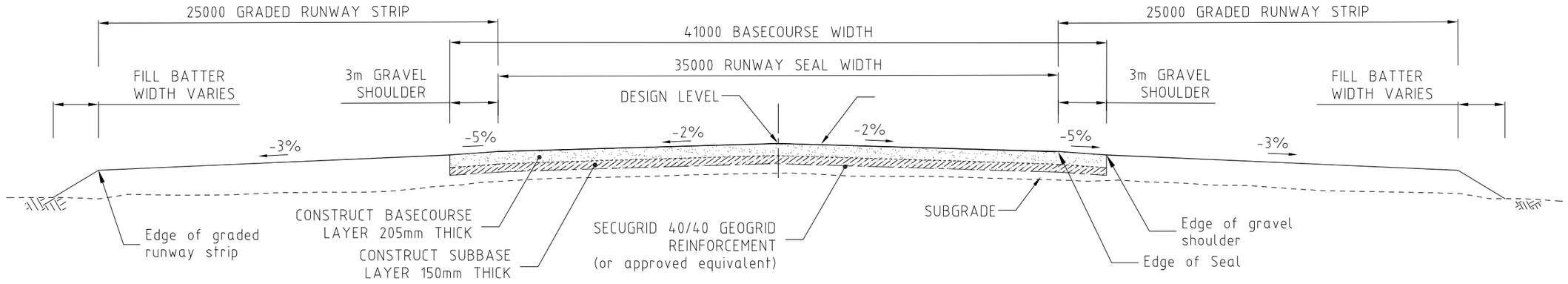
LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_301_A
AMENDMENT: A

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 3 TYPICAL SECTION F

CH 60–600 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.5–1.0m ABOVE EXISTING
CH 860–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.6–1.6m ABOVE EXISTING



OPTION 3 TYPICAL SECTION E

CH 600–860 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3–0.5m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

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DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
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FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH TYPICAL SECTION DETAIL

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_302_A
AMENDMENT: A

GREENFIELD TECHNICAL SERVICES

SHIRE OF DERBY WEST KIMBERLEY

FITZROY AERODROME FLOOD RESILIENCE UPGRADE

Stage 1A Initial Concept Assessment and Budget Cost Estimate

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Revision Status						
Rev	Date	Purpose	Prepared	Reviewed	Approved	Details
A	22/05/24	Issued for review	MB			
B	24/05/24	Reissued for review	MB/JK	JK		
C	29/05/24	Issued for external review	JK	NH		

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1.0 PROJECT OVERVIEW

The Shire of Derby West Kimberley (Shire) owns and operates the Fitzroy Crossing Aerodrome which is predominantly used by chartered service aircraft and aircraft involved with pastoral operations with no regular commercial traffic.

The Aerodrome incorporates a spray-sealed granular airstrip measuring 1,300m long x 30m wide, with an additional 2.5m wide sealed shoulders. The Aerodrome also incorporates a sealed taxiway and a sealed aircraft parking area on the eastern side of the runway.

The runway site lies approximately 1.5 km from the town centre and approximately 2.5 km from the Fitzroy River. The runway is built directly adjacent to a grassy floodplain known as the Plum Plain to the west.

The importance of the airstrip asset was highlighted in early 2023 when road access to the Fitzroy Crossing townsite was temporarily cut off due to severe flooding as a result of tropical cyclone Ellie (TC-Ellie). It was noted that whilst the aerodrome remained serviceable during the response to TC-Ellie, flood waters encroached on the turnaround areas at both ends of the airstrip and were close to encroaching on the west side of the runway. Had this floodwater encroached on the main runway strip, this could have restricted aerodrome operations.

In late March 2024, the Department of Transport (DoT) advised the Shire that there was funding available to progress the necessary engineering assessment and detailing to consider improving the level of flood resilience of the Fitzroy Crossing aerodrome by raising the level of the airstrip.

In April 2024, the Shire engaged Greenfield Technical Services (Greenfield) to progress technical engineering work based on the following staged approach:

- Stage 1A: Initial Concept Assessment and Budget Cost Estimate
- Stage 1B: Detailed Concept Assessment
- Stage 2: Market Pricing
- Stage 3: Engineering Design (Preliminary and Detailed)

Given the funding timeline, the staged approach was necessary to ensure that the key stakeholders were informed of key conceptual-level information in Stage 1A relating to the estimated construction costs for the nominated level of improvement. The remainder of this memo is concerned only with Stage 1A.

For this design report, the runway is assumed to have a north-south orientation and Ch 0 is at the southern end (i.e. RWY 01).

2.0 ASSESSMENT OF THE EXISTING RUNWAY STRIP

2.1 SEALED AIRSTRIP AND GRADED RUNWAY STRIP

The existing sealed airstrip is approx. 30m wide plus a sealed shoulder approx. 2.5m wide on each side.

The existing cross fall from the centreline to the outer line marking (approx. 15m wide) is variable across the width and along the length of the strip. Although most sections have a cross fall that is less than -2%, there are some sections where it is greater than -2%.

There are also several sections where the crown is not sitting central across the runway strip.

The sealed shoulders have a cross fall that typically varies between -3 to -5%.

There are some sections of the graded runway strip that have a transverse cross fall that is greater than the maximum -3% specified in the MOS Part 139-Aerodromes.

2.2 DRAINAGE

The major drainage element at the aerodrome is the existing table drain that runs parallel to the runway along the eastern edge between the runway and the aircraft parking area. The existing drain is moderately silted but generally free of any significant vegetation debris. The front and back slopes of the existing drain have some light to moderate scouring in parts.

To facilitate the taxiway crossing this drain the existing drainage consists of 3 No. Ø600mm Corrugated Steel Pipe (CSP) culverts with in-situ concrete headwalls with rock protection. These existing culverts drain from south to north.

Due to the location of the aerodrome, the natural rainfall runoff is from east to west. Runoff from the central and western parts of the runway appears to drain naturally to the west.

Although the existing runway strip is slightly higher through the middle section, the ground levels at either end of the strip are generally the same. As a result, the existing longitudinal grades of the runway strip are typically between -0.5% and +0.5%.

Based on the existing transverse cross-fall of both the existing sealed airstrip, as well as the graded runway strip, rainfall runoff typically drains away from the sealed runway strip.

2.3 LIGHTING

In addition to the above, the sealed runway includes lighting along the western and eastern edges of the seal. The lights are 200mm high and are typically spaced approx. 60m apart, except for along each end of the strip where the spacing is much closer.

There are approx. 70 lights around the perimeter of the runway strip, not including lights along the taxiway and parking area. Each light typically has a Ø400mm pit in the unsealed shoulder, some of which are partially buried.

3.0 FITZROY CROSSING FLOOD MODELLING CONSIDERATIONS

3.1 CATCHMENT OVERVIEW

Greenfield has previously been part of the Main Roads team that completed detailed flood modelling of the Fitzroy flood plain at Fitzroy Crossing as part of the Auslink project to detail and assess various upgrade options for the Great Northern Highway (GNH). Based on this previous experience, flood modelling at Fitzroy Crossing is very complex as summarised below:

- The Fitzroy River catchment is approx. 47,000km2 and includes the large Margaret River sub-catchment which joins the main Fitzroy River channel approx. 6km upstream of Fitzroy Crossing town. Due to the location of the junction of the Fitzroy and Margaret Rivers, the flow distribution at Fitzroy Crossing is determined not only by the magnitude of a flood but also by the relative flow within the two rivers.
- Joining the river system at Fitzroy Crossing is the relatively small Brooking Channel catchment. Due to its very close proximity to the town, it can have a significant influence on the flood level in the township.
- Due to the number of waterways and the variable influence that the Fitzroy and Margaret Rivers can have on the flooding regime, it is very difficult to predict what the impact will be around the Fitzroy Crossing town, as it will vary with individual flood events. Additionally, floods of similar magnitude can have vastly different impacts depending on the pre-event conditions and the spatial variation of rainfall patterns across the large catchment.
- The Annual Exceedance Probability (AEP) statistical return periods of peak flows cannot be confidently computed for the Fitzroy River. No two historical flood phenomena are the same, and the return period of a flood event cannot be linearly interpolated in the flood frequency curves.
- Although there has been a Department of Water (DoW) gauge at the Fitzroy River bridge which provides flow data, it does not accurately account for the fact that in times of flooding, the flow in both the Fitzroy and Margaret Rivers breaks out of the main river channels and spread out over the flood plain. Therefore, the data at the Fitzroy bridge gauging station is not considered accurate for use in a flood model.
- Based on the above points, a flood model needs separate input hydrographs for both the Fitzroy and Margaret Rivers upstream of where they join.
- The is a relative lack of DoW gauged river data close to Fitzroy Crossing townsite which means that they are too far away to be used as direct input into a flood model at Fitzroy Crossing. Therefore, input hydrographs need to be developed that are not able to be compared to the DoW-gauged data at Fitzroy Crossing.

3.2 DIFFERENCES BETWEEN MODELLING BRIDGES AND AIRSTRIPS

Afflux is important in hydraulic modelling and flooding assessments due to the potential risks associated with structures along major arterial roads that traverse waterways. Afflux is defined as the increase in turbulent water level upstream of a structure where the flow path through the structure is less than the natural width of the channel. This restriction of the natural flow through the structure causes elevated water levels upstream and higher velocities downstream of the structure.

Based on the above, a flood model that calculates the afflux generated by different structures for different flows is critical when designing and detailing bridges. However, airstrips are fundamentally different to bridges as they are typically constructed at a distance away from river channels such that they are typically not impacted by river flows, except in very large events. Based on the above, even in very large events where an airstrip may be inundated by flows that break out of a river channel, airstrips typically generate little if any afflux

3.3 FLOOD MODELLING FOR THE FITZROY CROSSING AIRSTRIP

Based on the commentary in sections 3.1 and 3.2 above, for the detailing of improvements to the Fitzroy Crossing airstrip, it is considered more practical to undertake flood modelling based on a specified flood water level rather than the typical method that uses design flood events e.g. 1 in 50yr AEP, 1 in 100yr AEP, etc. This modified flood modelling method will be applied to a much smaller area around the airstrip rather than the conventional method of modelling the larger flood area.

For each design option, the actual design level of the airstrip will include 300mm of freeboard above the nominated design flood level.

4.0 STAKEHOLDER MEETING TO DISCUSS DESIGN CRITERIA AND FLOOD MODELLING METHODS

The Shire arranged a stakeholder meeting on 25 March 2024 which was attended by the DoT, Main Roads WA, the Shire, and Greenfield. As well as discussing the project objectives and funding requirements, the meeting included a discussion on the design criteria and flood modelling methodology proposed by Greenfield. The meeting also included a discussion about the flood modelling and design process adopted by Main Roads WA for the recently completed replacement of the Fitzroy River bridge.

4.1 MAIN ROADS COMMENTS ON FLOOD MODELLING FOR THE FITZROY CROSSING AIRSTRIP

Main Roads WA agreed with the Greenfield comments about the complexity and limitations of flood modelling at Fitzroy Crossing. They confirmed that the detailing of the Fitzroy River bridge replacement was not based on a flood model that provided flood flows and extents for specific design rainfall events. Rather, the flood model produced by BG&E for Main Roads WA was developed to replicate the flood extents, levels, and flows recorded as a result of TC–Ellie. The input hydrographs were then modified to produce the actual flood levels corresponding to the design flood level adopted for the bridge upgrade.

Main Roads WA confirmed that developing a new flood model from scratch for the Fitzroy Crossing airstrip would require a substantial amount of survey and hydrological data, as well as a significant amount of time. Therefore, as the exiting BG&E model included the Fitzroy Crossing townsite and the airstrip, Main Roads WA confirmed that they would be able to provide a copy of the Flood Model design report as well as some flood plots of the extents, depth, and levels.

4.2 CRITERIA FOR IMPROVEMENT OF THE FITZROY CROSSING AIRSTRIP

There was also some discussion about the required level of improvement to the runway flood resilience and the amount of funding available. The Shire and DoT confirmed that, as opposed to targeting a specific level of improvement to flood resilience, the level of improvement provided by the upgrade would be a function of the costs to construct and the amount of funding available.

Greenfield also noted that, based on their experience, there were limitations on the accuracy of construction estimates in the current construction industry climate, on top of those associated with construction in the Kimberly region.

4.3 TIMING FOR COMPLETION FOR THE DESIGN DETAILING FOR THE AIRSTRIP UPGRADE

Finally, the nominated date for completion of the design detailing was also discussed. Greenfield advised that there was not sufficient time available to be able to complete all the design deliverables by the end of May 2024. This led to a discussion on what were the key deliverables required by the end of May 2024. The Shire confirmed that the final detailed design deliverables, tender specifications and documentation, and cost estimates were not required to be fully completed by the end of May 2024. Instead, only sufficient details needed to be provided for key stakeholders for the following elements:

- The proposed level of improvement to the runway flood resilience
- The estimated cost to construct the proposed upgrade

Based on the above, Greenfield suggested adopting a staged approach which allowed for progressively providing information to the key stakeholders and maturing of the proposed upgrade details over time.

As a result of the discussions in the meeting, the Shire confirmed the following points related to the required scope of design work:

- Based on the complexities of flood modelling at Fitzroy Crossing, the standard methods for flood modelling are not applicable for detailing the upgrade of the Fitzroy Crossing airstrip.
- The design methodology proposed by Greenfield is appropriate for the proposed upgrade of the airstrip.
- Only basic information related to the proposed level of improvement to the runway flood resilience and the estimated cost to construct the proposed upgrade is required by the end of May 2024. All other design deliverables can be finalised after this date.
- The staged approach for the design process and associated deliverables proposed by Greenfield are appropriate,
- The proposed upgrade of the runway does not need to achieve a specific level of improvement to the runway flood resilience. Instead, the proposed level of improvement needs to reflect the estimated construction costs that are in line with the

5.0 STAGE 1A – DESIGN SCOPE OF WORK

The specific scope of Stage 1A is summarised below:

- Review the relevant available information provided by the Shire and Main Roads WA. This information is likely to include:
  - Recorded flood extents and levels from the TC – Ellie event
  - Flood mapping from the BG&E flood model developed as part of the design detailing for the replacement of the Fitzroy River bridge
  - Information related to the design parameters used during the design of the new Fitzroy River bridge.
- Select three design flood levels for detailing the runway upgrade. The actual design flood levels will be determined as part of this scope of work. The intent is to select a range of flood levels to provide the Shire and other stakeholders an indication of the likely extent of work required to upgrade the runway to meet the revised design criteria, and how the extent of associated work varies depending on the design flood event:

  Option 1: LOW (Design airstrip level = TC-Ellie flood level + 300mm freeboard)

  Option 2: MIDDLE (Design airstrip level = TC-Ellie flood level + 450mm + 300mm freeboard)

  Option 3: HIGH (Design airstrip level = TC-Ellie flood level + 900mm + 300mm freeboard)

- Construct a basic concept design model for each design case with reference to the key basic parameters specified in the Australian Civil Aviation Safety Authority (CASA) Manual of Standards (MOS) Part 139 – Aerodromes. This will include a basic assessment of the impact of various height changes on other infrastructure in the aerodrome area.
- Consider the basic construction processes, resources, and quantum of work required to achieve each of the three design cases. Specifically:
  - Indicative earthworks required
  - Modifications required to existing drainage flow paths and associated drains and culverts.
- Indicative footprint layout of each of the three design cases
  - Commentary on the extent of the work required to achieve each of the design cases with reference to the base case of reconstructing the existing runway as per the design completed by Greenfield in 2023.
- Budget construction cost estimate based on the calculated quantities for the three cases providing that the cost estimate is <$20M. If one or more of the design cases is expected to exceed $20M, the budget cost estimate will not be progressed as this is nominally the total funding that the Shire may be able to secure for the work.

The following items are not part of Greenfield's design scope of works:

- **Pavement design:** The Shire has previously engaged WML Consultants (WML) to undertake a geotechnical investigation and pavement design for the reconstruction of the runway pavement. Refer section 8.0.
- **Seal surfacing:** The seal details for the design will be based on a nominal sealing treatment. Nominal seal application rates and spread rates will be detailed separately as part of the Procurement Management project.
- **Linemarking:** The linemarking details will be based on reinstatement of the existing linemarking.
- **Lighting:** The lighting details are based on reinstatement of the existing lighting layout.

6.0 SUPPLIED INFORMATION

Item	Description	Supplied By	Details
1	**Engineering feature survey - 2023**	**Shire**	Survey pickup and background aerial imagery of the airstrip which extended 20m past the edge of the runway seal. The pickup also included the aerodrome taxiway and the aircraft parking apron.
2	**Geotechnical investigation report – WML 2023**		Geotechnical investigation and pavement design were undertaken by WML as part of the previous project to reconstruct the existing airstrip pavement. The relevant sections of the original WML report have been summarised in section 8.0 below.
3	**Ground surface LIDAR survey - 2008**	**Main Roads WA**	Main Roads LIDAR survey extending across a large area centred around Fitzroy Crossing townsite. This data has subsequently been used in the development of 2D hydraulic flood models of the Fitzroy and Margaret Rivers at Fitzroy Crossing. The metadata statement for this data notes that the data was captured with a vertical accuracy of +/- 0.30m at 95% confidence. Main Roads WA supplied an extract of this data around the Fitzroy Crossing airstrip. The supplied data has a grid with points at 2m spacing. This extract of survey data will be used to complement the engineering feature survey supplied by the Shire.
4	**Fitzroy Bridge Replacement – Waterways assessment BG&E 2023**	**Main Roads WA**	Waterways assessment for the Fitzroy River Replacement project following damage to the existing bridge caused by flooding in January 2023. The report summarises the bridge's geometric and structural designs based on estimated flood velocities and stream power values. The relevant sections of the original BG&E report have been summarised in section 7.0 below.
5	**Fitzroy Crossing surveyed flood levels and flood depth mapping - 2023**	**Department of Water**	Summary of flood levels located around the Fitzroy Crossing townsite that were recorded from the January 2023 flood event. Additionally, the maps were also shaded with several colours to indicate the corresponding flood depth around the Fitzroy townsite. The review and assessment of this data are discussed further in section 7.0 below.

Table 1: Summary of supplied information

7.0 FITZROY RIVER BRIDGE REPLACEMENT – WATERWAYS ASSESSMENT (BG&E 2023)

As previously discussed in section 3.2, there are various complexities associated with modelling flood events at Fitzroy Crossing. Additionally, it was also noted that airstrips typically generate little to no afflux.

Based on the above, the BG&E waterways assessment has been reviewed to understand:

- the design process and associated considerations for detailing the replacement bridge structure
- any relevant information that relates to the design process for upgrading the Fitzroy airstrip

7.1 FLOOD FLOWS AND LEVELS FOR THE 2023 EVENT

Preliminary estimates by DWER suggest the magnitude of this flood was in the order of 1 in 100 to 1 in 200 AEP. This equates to a total inflow from the Fitzroy River, Magaret River and Brooking Creek of 50,000 m3/s entering the system of which approximately 9,000 m3/s was conveyed through the Fitzroy River bridge.

This inflow is well above the previous largest known flood recorded in 1983 which had 20,000 m3/s entering the system. Before the 2023 flood, the 1983 flood was considered the flood benchmark at Fitzroy Crossing.

The 2023 flood levels at both the Fitzroy River bridge and airstrip are summarised below:

Item	Site	Location	Flood Level (mAHD)	Comment
1	Fitzroy River bridge	Immediately upstream of the bridge	110.91	Recorded by DoW
2		At the bridge	110.70	Estimated by Main Roads
3		Immediately downstream of the bridge	110.66	Recorded by DoW
4	Fitzroy airstrip	Northern end of runway	111.80	Estimated from DoW recorded levels at Fitzroy townsite
5		Southern end of runway	111.45	

Table 2: Flood levels from the January 2023 flood event

> *Greenfield comment: As highlighted in* Table 2*, the flood levels at the airstrip differ from those at the Fitzroy River bridge which highlights the fact that flood levels vary across the Fitzroy floodplain. This reinforces the value of referencing flood modelling to actual recorded levels in real events.*

7.2 FITZROY CROSSING SERVICEABILITY

The flood behaviour at Fitzroy Crossing is very complex and under full flood the flows are conveyed across the GNH from Plum Plain to GoGo Station through four bridges and numerous formal (and informal) floodways. The GNH between Fitzroy River Bridge (No 1311) and GoGo Station turnoff has been constructed at or near the ground level, with the exception being the approaches to the Two Mile (No 1268) and Blue Bush bridges. This results in the highway sections acting as floodways between the bridges.

Serviceability of the Fitzroy Bridge itself is not a controlling consideration because the serviceability of the existing GNH crossing of the Fitzroy River flood plain is low compared to the overall level provided by the highway, with this section of the highway being the “weakest link” between Derby and Darwin.

The Plum Plain section of the GNH is located on the western side of Fitzroy Crossing town site and is susceptible to flooding from overflow from the Fitzroy River or local flow from Brooking Channel, or a combination of the two. Plum Plain acts as a floodway with an overflow of generally slow-moving wide sheet flow during large floods. The Plum Plain section of the crossing currently has a higher level of serviceability than the section from Fitzroy Crossing to GoGo Station.

Based on the above, the most critical consideration is the survivability of the new bridge.

7.3 BRIDGE DESIGN CRITERIA

A summary of the design criteria for the replacement bridge is detailed below:

Item	Element	Details
1	Serviceability	As noted in section 7.2, the serviceability of the road section is governed by the existing floodways and road sections rather than the bridge itself. Therefore, there are no specific criteria to increase the level of serviceability of the replacement bridge. However, the replacement bridge will not result in a reduction in serviceability.
2	Serviceability Limit State (SLS)	*AS5100.1 nominates a 1 in 100 AEP flood immunity and SLS for new road structures associated with control access highways.* However, the replacement bridge has no specific criteria for flood immunity. Therefore, the SLS event used to detail the scour protection has been based on a flood event having a water level upstream of the bridge similar to the 2023 flood event which equates to approx. 50,000 m3/s entering the system of which approximately 9,000 m3/s was conveyed through the Fitzroy River bridge.
3	Ultimate Limit State (ULS)	*AS5100.1 states the hydraulic capacity of the system shall allow the passage of the 1 in 2000 AEP flood without catastrophic effects or failures.* The ULS event has been based on a flood event having a water level upstream of the bridge 1.5m above the guardrail. This equates to a total inflow of approx. 100,000 m3/s entering the system.
4	Afflux	No specific limits on afflux were adopted for the project however the design seeks to minimise adverse flood impacts on nearby properties.

Table 3: Summary of bridge design criteria

> *Greenfield comment: The design criteria used for the replacement bridge have been specifically modified to suit the unique complexities and known constraints of flooding, and associated modelling, at Fitzroy Crossing. This validates the method of flood modelling proposed for the Fitzroy airstrip.*

7.4 FLOOD MODEL FLOWS

Due to the number of waterways and the variable influence that the Fitzroy and Margaret Rivers can have on the flooding regime, it is very difficult to predict what the impact will be at GNH, as it will vary with individual flood events. Additionally, floods of similar magnitude may have vastly different impacts depending on the antecedent conditions and the spatial variation of rainfall patterns across the large catchment. The statistical return periods of peak flows e.g., serviceability, 1 in 100, 1 in 2,000 AEP cannot be confidently computed for the Fitzroy River. No two historical flood phenomena are the same, and the return period of a flood event cannot be linearly interpolated in the flood frequency curves.

Design flows adopted for the SLS and ULS scenarios were obtained by adjusting the inflows in the hydraulic model to achieve flood levels in the hydraulic model that match the following scenarios:

- 2023 flood level upstream of the bridge (SLS) – Approx. 50,000m3/s entering the system
- 1.5 m above the proposed guardrail (ULS) – Approx. 100,000m3/s entering the system

Greenfield comment: The design flows chosen have been referenced to the January 2023 flood event due to the unique complexities and known constraints of flooding, and associated modelling, at Fitzroy Crossing. This validates the method of flood modelling proposed for the Fitzroy airstrip.

7.5 SUMMARY OF BRIDGE REPLACEMENT DETAILS

The replacement Fitzroy River bridge is 268m long, having a similar length to the upstream channel. This represents an increase of approx. 92m compared to the old Fitzroy River bridge which was 176m long.

The flood modelling indicates that the replacement bridge will reduce the afflux upstream of the bridge by between 0.05 – 0.25m. However, there is no change in afflux in the vicinity of the Fitzroy airstrip.

8.0 GEOTECHNICAL INVESTIGATION REPORT (WML 2023)

The Shire engaged WML to undertake a geotechnical investigation and pavement assessment of the existing airstrip runway. This investigation report assessed the existing runway pavement condition, identified possible causes of seal cracking, and assessed the existing pavement structural capacity using the CASA PCN-ACN system as per the requirements of the Australian Civil Aviation Safety Authority (CASA) Manual of Standards (MOS) Part 139 – Aerodromes. Recommendations for remediations were also provided, including pavement thickness requirements for reconstruction works.

A summary of the WML report is presented in the sections below.

8.1 FIELD PROGRAMME

Fieldwork was carried out on the 30th of November 2022 by a WML geotechnical engineer and comprised:

- A site walkover to observe existing site features and to obtain photo documentation.
- 10 pavement dippings were conducted on the pavement shoulder to assess the existing thickness and composition of the pavement and subgrade. Dippings were conducted to a maximum depth of 1.0 m to limit the disturbance to the runways.
- Dynamic Cone Penetrometer (DCP) testing was conducted at each pavement dipping through the subgrade to a maximum depth of 1.7 m.
- Shear Vane testing on subgrade at the majority of pavement dipping sites.
- Falling Weight Deflection (FWD) testing of the entire length of the existing runway was conducted by STATS Australia. A total of 7 full-length runs were completed, with additional testing conducted on the taxiway and apron. The testing completed on the runways was as follows:
    - Runway centreline – 25 m intervals
    - ± 3 m centreline offset – 25 m intervals
    - ± 6 m centreline offset – 50 m intervals
    - ± 12 m centreline offset – 50 m intervals.
- Collection of representative subgrade and pavement layer materials for laboratory testing, including soil classification (PSD/PI/LS), 4-day soaked CBR, and shrink-swell index testing of both the subgrade and existing pavement materials.

8.2 GROUNDWATER

WML has noted that during the geotechnical investigation, groundwater was not encountered.

Significant rainfall and flooding occurred in Fitzroy Crossing in early 2023. Although the town was severely inundated during this flooding, the airstrip was still operational and was used for large emergency response activities. Anecdotal information supplied to Greenfield suggests that the water level in Plum Plain did encroach past the western and northern Aerodrome fences during this significant flooding event.

8.3 INTERPRETED SUB-SURFACE PROFILE

Based on the seven pavement dipping locations, a summary of the interpreted subsurface profile is provided in Table 4 below. WML stated that each pavement dipping was generally consistent across the airstrip.

Item	Road	Thickness	Description
1	Stone Seal	15-20mm	**Stone SEAL**
2	Basecourse and Subbase	One site recorded a depth of 180mm. The remaining nine sites recorded depths that varied between 280 – 330mm.	**Sandy GRAVEL;** with some clay, fine to coarse-grained, subangular to angular, red-brown, sand is fine to medium-grained, dry to moist, very dense – *Basecourse*
3	Subgrade	Observed at all locations. Typically at 300mm below ground level	**Clayey gravelly SAND;** clayey is low to medium plasticity; gravel is fine to medium grained, red brown, moist, very dense

Table 4: Summary of sub-surface soil profile

8.3.1 Subgrade Assessment

WML excavated the pavement dippings to subgrade level whereafter dynamic cone penetrometer (DCP) testing was conducted starting at the top of the subgrade level. WML also conducted soaked subgrade CBR testing on samples from 5 of the 10 sites and the CBR results ranged from 6 % – 16 %. Based on the result variability, WML adopted a design subgrade CBR of 6%.

WML also assessed the reactivity of the subgrade was assessed using several methods:

- Assessment of the swells measured from the soaked CBR testing
- Shrink-swell index tests were conducted where the cracking was most severe
- Assessment of the Weighted Mean Plasticity Index

WML stated that the results of this assessment indicate that the subgrade has low reactivity. WML also recommended that additional geotechnical testing is conducted along the pavement centreline to further assess the subgrade reactivity as test holes within the pavement runway were not permitted for this investigation which focused on the shoulders.

8.3.2 Basecourse Assessment

The pavement composition was found to be consistent along the runway. A CBR test was conducted on the basecourse, recording a soaked CBR of 70%. Based on MRWA specifications, this is generally lower than the minimum 80% specified for basecourse pavement material.

8.4 FALLING WEIGHT DEFLECTOMETER (FWD) TESTING

The FWD data was used by WML to back-calculate pavement layer elastic modulus (or stiffness) using the program ELMOD 6. WML decided that the assessment would be taken for only the centreline and 3 m east and west as this best represents the section where aircraft take off and land.

8.4.1 Subgrade Assessment

WML notes that Austroads Guide to Pavement Technology Part 2 – Structural Design (AGPT2) provides a commonly used relationship:

Modulus (Mpa) = 10 x CBR (with a maximum modulus value of 150 Mpa, or CBR = 15%).

From the average back calculated stiffnesses, WML states that this relationship suggests subgrade CBR values of 7-9%. Based on this, WML recommended that a stiffness of 60 Mpa or a CBR of 6% is adopted for the subgrade, accounting for some of the lower subgrade stiffnesses identified by the FWD.

WML also noted that as the pavement has significant cracking, it is expected that the subgrade in-situ moisture will increase during rainfall events.

8.4.2 Basecourse Assessment

WML stated that as the existing runway seal has significant cracking, moisture can ingress into the basecourse pavement layer. Therefore, to ensure that the results represent the current pavement, WML did not include the waterproofing benefits of the existing seal when back-calculating the stiffness results.

Based on the FWD testing and assessment of the back-calculated stiffnesses, WML has concluded that the in-situ basecourse pavement materials are best described as 'base quality gravel', better representing the weaker basecourse material observed.

8.5 PAVEMENT DESIGN DETAILING

8.5.1 Aircraft Types

The Fitzroy Crossing airstrip is predominantly used by chartered service aircraft with no regular commercial traffic. These chartered aircraft are primarily Pilatus PC-12 and Cessna 208 Caravans. The Royal Flying Doctor Service (RFDS) also uses Pilatus PC-12 and PC-21 in WA.

Fitzroy Crossing is prone to significant flooding, and often the airstrip is the only access to the town during this period. The Shire advised WML that during flood emergencies, the Australian Defense Force (ADF) has used C-27J Spartans for the delivery of supplies.

The Shire also advised WML that C-130 Hercules and Fokker 50 have used the airstrip, although the use of these aircraft is uncommon. WML did not include any C-130 Hercules and Fokker 50 in the aircraft traffic or pavement design assessments.

8.5.2 Adopted Design Parameters

The average number of departures adopted by WML for each aircraft type is summarised below:

Pilatus PC-12	Average annual departure of 10 flights per week
Cessna 208 Caravan	Average annual departure of 15 flights per week
C-27J Spartan	Average departure of 10 flights every 5 years

As there is no regular commercial traffic, or detailed aircraft traffic data available, WML noted that the number of annual departures adopted for each aircraft type is based on discussions with the Shire.

WML assumed a 20-year design life with a traffic growth rate of 3% per annum.

8.5.3 Pavement Classification Number (PCN)

The pavement strength rating for a runway must be determined using the Aircraft Classification Number/Pavement Classification Number (ACN/PCN) pavement rating system as per the requirements of the MOS Part 139 – Aerodromes.

WML determined the **PCN Code for the Fitzroy Crossing Aerodrome Runway is 12/F/C/Y/T** as summarised below:

- The numerical PCN value is 12 based on the runway bearing strength, the runway pavement thickness, and the design traffic
- The pavement type is classified F based on the pavement being flexible
- The subgrade CBR strength of 6 is categorised C based on being Low Strength
- Based on the aircraft used in the assessment, tyre pressures varied between 0.5 to 1.0 MPa which corresponds to category Y.

- The technical study method was used to determine the PCN so category T is adopted

8.5.4 Pavement Thickness Design

WML calculated the pavement thickness using the latest version of industry-standard software, APSDS 5 published by Mincad Systems. The calculated pavement thickness is detailed in the table below.

Item	Layer Description	Thickness
1	Minimum Basecourse Thickness	**205mm** [1)]
2	Minimum Subbase Thickness	150mm
3	Installation of geogrid reinforcement – Secugrid 40/40 or approved equivalent	-
4	**Total Thickness**	**355mm**
Note: 1) Includes round up to the nearest 5 mm with an additional 10 mm added for construction tolerance.		

Table 5: Calculated minimum pavement thickness requirements

9.0 DESIGN PARAMETERS FOR AIRSTRIP UPGRADE MODELS

The design parameters for airstrips are detailed in the MOS Part 139 – Aerodromes.

The standards that an aerodrome facility must meet to be suitable for use by aeroplanes within a particular range of performance and size are determined by the aerodrome reference code (ARC) chosen by the aerodrome operator.

The **ARC Code for the Fitzroy Crossing Aerodrome Runway is 2C** as summarised below:

- The code number is 2 based on the aeroplane reference field length of not less than 800m.
- The code letter is C 2 based on the aeroplane wingspan being 24m up to but not including 36m.

The Shire has advised that the greatest allowable outer main gear wheel span (OMGWS) can be determined on a case-by-case basis.

Additionally, the Shire confirmed that the runway is a non-instrument runway.

Based on the above, a summary of the various design parameters is detailed below.

Item	Design Element	Details
1	Runway width	Minimum 30m
2	Runway longitudinal slope	Not greater than 2%
3	Vertical curve radius	Minimum 7500m
4	Distance between Vertical Points of Intersection (VPIs)	At least 45m
5	Transverse slope on runways	1.0 – 2.0%
6	Graded runway strip width	80m
7	Graded runway strip longitudinal slope	Not greater than 2%
8	Graded runway strip longitudinal slope changes	Not greater than 2%
9	Transverse slope on the graded runway strip	The first 3m from the edge of the runway must slope down and not be greater than -5%. The remainder of the width shall be not greater than 3%
10	Runway shoulders	Not required

Table 6: Summary of design parameters for the airstrip upgrade

9.1 DESIGN SEAL SURFACING DETAILS

The nominal seal surfacing details are as follows:

- Prime: 60/40 cutback bitumen
- First coat seal: C320 bitumen with 10mm aggregate
- Second coat seal: C320 bitumen with 7mm aggregate
- Third coat seal: CRS emulsion and sand

10.0 AIRSTRIP UPGRADE DETAILS

10.1 OPTION 1 – LOW

Option 1 is based on the flowing flood criteria:

Design airstrip level = TC-Ellie flood level + 0mm lift + 300mm freeboard

Design Scenario	Location	Interpreted 2023 Flood Level (mAHD)	Minimum Design Level Above Flood Level		
			Lift (m)	Freeboard (m)	Design Level (mAHD)
Option 1	Airstrip (Top)	111.80	0.00	0.30	112.10
	Airstrip (Middle)	111.65			111.95
	Airstrip (Bottom)	111.45			111.75

Table 7: Design levels for upgrade Option 1

Based on the above, the northern end of the airstrip has been raised approx. 0.6m to achieve the design criteria. For the southern and middle sections of the airstrip, the design level has typically been raised approx. 0.3m above the existing based on the premise of building the new pavement over the existing pavement which has a lot of cracking. The decision to raise the design level in these areas resulted from the previous assessment of the existing pavement where WML advised that it would be better to build the new pavement over the existing pavement to reduce the risk of cracking in the new pavement.

Option 1 includes the formation of the RESA area (60m x 60m) at both ends of the runway to tie into the new design levels. The graded runway strip ties into the existing drainage channel that runs parallel to the airstrip on the east side. Further, Option 1 requires reconstruction of approx. 60m of the taxiway approach to the main sealed airstrip. The longitudinal profile of the reconstructed section includes a vertical curve with a radius of curvature of approx. 430m which is the same radius as the vertical curve on the existing taxiway profile. We note that the minimum radius of vertical curves on the taxiway specified in the MOS Part 139 – Aerodromes is 3000m.

The construction quantities for Option 1 are summarised in the table below.

Design Scenario	Total Footprint incl Seal (m2)	Area of Existing Seal (m2)	Clearing Area (m2)	Earthworks Volumes (m3)		Pavement Area (m2)	Seal Area (m2)
				CUT (Bank)	FILL (Compacted)		
Option 1	121,200	48,550	72,650	-1,400	22,400	20,030	48,550

Table 8: Construction quantities for upgrade option 1

10.2 OPTION 2 – MIDDLE

Option 2 is based on the flowing flood criteria:

Design airstrip level = TC-Ellie flood level + 450mm lift + 300mm freeboard

Design Scenario	Location	Interpreted 2023 Flood Level (mAHD)	Minimum Design Level Above Flood Level		
			Lift (m)	Freeboard (m)	Design Level (mAHD)
Option 2	Airstrip (Top)	111.80	0.45	0.30	112.55
	Airstrip (Middle)	111.65			112.40
	Airstrip (Bottom)	111.45			112.20

Table 9: Design levels for upgrade Option 2

Based on the above, the southern and northern ends of the airstrip have been raised approx. 0.4m and 1.1m respectively to achieve the design criteria. For the middle section of the airstrip, the design level has typically been raised approx. 0.3m above the existing based on the premise of building the new pavement over the existing pavement which has a lot of cracking. The decision to raise the design level in these areas resulted from the previous assessment of the existing pavement where WML advised that it would be better to build the new pavement over the existing pavement to reduce the risk of cracking in the new pavement.

Option 2 includes the formation of the RESA area (60m x 60m) at both ends of the runway to tie into the new design levels. The graded runway strip ties into the existing drainage channel that runs parallel to the airstrip on the east side. Further, Option 2 requires reconstruction of approx. 60m of the taxiway approach to the main sealed airstrip. The longitudinal profile of the reconstructed section includes a vertical curve with a radius of curvature of approx. 580m which is the same radius as the vertical curve on the existing taxiway profile. We note that the minimum radius of vertical curves on the taxiway specified in the MOS Part 139 – Aerodromes is 3000m.

The construction quantities for Option 2 are summarised in the table below.

Design Scenario	Total Footprint incl Seal (m2)	Area of Existing Seal (m2)	Clearing Area (m2)	Earthworks Volumes (m3)		Pavement Area (m2)	Seal Area (m2)
				CUT (Bank)	FILL (Compacted)		
Option 2	122,430	48,550	73,880	-820	36,830	20,030	48,550

Table 10: Construction quantities for upgrade option 2

10.3 OPTION 3 – HIGH

Option 3 is based on the flowing flood criteria:

Design airstrip level = TC-Ellie flood level + 900mm lift + 300mm freeboard

Design Scenario	Location	Interpreted 2023 Flood Level (mAHD)	Minimum Design Level Above Flood Level		
			Lift (m)	Freeboard (m)	Design Level (mAHD)
Option 3	Airstrip (Top)	111.80	0.90	0.30	113.00
	Airstrip (Middle)	111.65			112.85
	Airstrip (Bottom)	111.45			112.65

Table 11: Design levels for upgrade Option 3

Based on the above, the southern and northern ends of the airstrip have been raised approx. 0.9m and 1.6m respectively to achieve the design criteria.

The middle section of the airstrip has been raised between 0.3m to 0.6m.

Option 3 includes the formation of the RESA area (60m x 60m) at both ends of the runway to tie into the new design levels. The graded runway strip ties into the existing drainage channel that runs parallel to the airstrip on the east side. Further, Option 3 requires reconstruction of approx. 60m of the taxiway approach to the main sealed airstrip. The longitudinal profile of the reconstructed section includes a vertical curve with a radius of curvature of approx. 1140m which is the same radius as the vertical curve on the existing taxiway profile. We note that the minimum radius of vertical curves on the taxiway specified in the MOS Part 139 – Aerodromes is 3000m.

The construction quantities for Option 3 are summarised in the table below.

Design Scenario	Total Footprint incl Seal (m2)	Area of Existing Seal (m2)	Clearing Area (m2)	Earthworks Volumes (m3)		Pavement Area (m2)	Seal Area (m2)
				CUT (Bank)	FILL (Compacted)		
Option 3	126,300	48,550	77,750	-330	78,860	20,030	48,550

Table 12: Construction quantities for upgrade option 3

11.0 BUDGET COST ESTIMATE

A budget cost estimate based on the Stage 1A details has been prepared and is summarised in the sections below. Please note, that pricing is highly variable and contingent on numerous factors including the technical scope but also market and external forces including competition, resources, weather, timing and material costs; all of these aspects are outside of Greenfield's control. The actual tendered price for the work will vary from the budget cost. Furthermore, as the design process progresses the design quantities and scope will be matured and refined which may also result in changes in the budget cost.

11.1 CRITICAL ASSUMPTIONS

The following assumptions have been used in the preparation of the Stage 1A budget cost estimate.

1. General
    a. The extent of the runway environment, being the sealed runway pavement, the graded runway strip and the RESA area at both ends will remain unchanged in terms of the total area; that is the runway will remain the same length and width.
    b. The cost estimate is valid for a period of 12 months only. A cost escalation factor of 3% has been included however any delays in the construction work may require the cost estimate to be revised or at the minimum, reviewed in the context of appropriate escalation.
2. Work sequencing and programming
    a. The work will be competitively tendered and the work awarded to a single Contractor with significant experience in similar works in similar areas.
    b. The work will commence and be completed during one "dry" season.
    c. The Contractor will progress the work on a roster basis of 3 weeks on, 1 week off.
    d. Allowance made for a full-time surveyor and full-time geotechnical testing facilities during the construction period.
    e. The sealing of the airstrip will be completed in one mobilisation.
    f. General project administration overhead allowance of 2%
    g. 30% contingency allowance for scope development, market variables and other factors
3. Construction materials
    a. 100% of cut material will be used as fill.
    b. Basecourse and subbase materials will be sourced from manufactured material produced at the Nillibubbica Quarry near the boundary of the Shire of Broome / Shire of Derby West Kimberley. This is a one-way lead of approx. 290km. Material will be imported using 10 road-train side tippers (54m3 volume).
    c. Subbase and basecourse materials will be stockpiled at a suitable location within the site following import from the pit. Materials will then be reloaded and placed on the job within the construction areas.
    d. Cycle time for the imported pavement material (round trip) per truck is estimated at approx. 7hrs.
    e. Construction water of sufficient quality and volume will be available from sources local to the Fitzroy Crossing townsite.
    f. Fill material will be sourced from a suitable source within 80km of the Fitzroy Crossing Aerodrome. Material will be imported using seven (7) road-train side tippers (36m3 volume).
    g. Cycle time for the imported fill material (round trip) per truck is estimated at approx. 2.5hrs.
4. Production rates
    a. The duration of the key activities has been estimated using the following production rates
        i. Earthworks
            1. Clearing / grubbing 400 m2/hr
            2. Embankment foundation preparation 600 m2/hr

3. Cut to fill 100 m3/hr
4. Import Fill 130 m3/hr
5. Trim Graded Runway 600 m2/hr
6. Subgrade preparation 300 m2/hr

ii. Pavement
1. Load, cart and stockpile pavement material 65 m3/hr
2. Load and place pavement material 150 m3/hr
3. Mix and compact 600 m2/day
4. Trim - subbase 600 m2/hr
5. Trim – basecourse 300 m2/hr

iii. Surfacing
1. Prime 25,000 m2/day
2. 1st Coat Seal (10mm) 20,000 m2/day
3. 2nd Coat Seal (7mm) 20,000 m2/day
4. Sand Seal 16,000 m2/day

5. Site factors
a. Other than what is provided in the nominal contingency allowance, no other specific allowance has been made for the following:
i. Additional approvals to undertake the works
ii. Costs or delays associated with industrial issues
iii. Removal, relocation, management or otherwise of any unknown utility services (above or below ground)
iv. Costs of any administration / procedural works required with regulatory bodies for the upgraded aerodrome

11.2 BUDGET COST ESTIMATE

A summary of the budget cost estimates for each of the options is below. The detailed cost estimates are available in Appendix A.

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11.2.1 Option 1 – Low

Item No.	Description	Unit	Quantity	Base rate ($)	Amount ($)	Base rate + Contingency ($)	Amount + Contingency ($)
1.0	**General Items**						
1.01	Project Management	Item	1	$ 226,931	$ 226,931	$ 340,397	$ 340,397
1.02	Engineering Design	Item	1	$ 24,000	$ 24,000	$ 36,000	$ 36,000
1.03	Supervision	Item	1	$ 411,948	$ 411,948	$ 617,922	$ 617,922
1.04	Survey & Setting Out	Item	1	$ 441,034	$ 441,034	$ 661,551	$ 661,551
1.05	Mobilisation/Demobilisation	Item	1	$ 570,000	$ 570,000	$ 855,000	$ 855,000
1.06	Camp/Accommodation	Item	1	$ 1,164,330	$ 1,164,330	$ 1,746,495	$ 1,746,495
1.08	Other General Items	Item	1	$ 1,205,655	$ 1,205,655	$ 1,808,482	$ 1,808,482
2.0	**Earthworks**						
2.01	Clearing & grubbing	ha	7.27	$ 36,022	$ 261,702	$ 54,033	$ 392,553
2.04	Embankment Construction	m^3	29,596	$ 64	$ 1,908,457	$ 97	$ 2,862,685
2.05	Subgrade Preparation	m^2	56,350	$ 6	$ 316,499	$ 8	$ 474,749
3.0	**Pavement & Surfacing**						
3.03	Sub-Basecourse	m^2	56,350	$ 34	$ 1,928,340	$ 51	$ 2,892,511
3.03	Basecourse	m^2	56,350	$ 42	$ 2,351,451	$ 63	$ 3,527,177
3.05	Surfacing	m^2	48,550	$ 26	$ 1,277,408	$ 39	$ 1,916,112
3.10	Pavement Markings	Item	1.0	$ 75,000	$ 75,000	$ 112,500	$ 112,500
					Total Budget Cost Estimate (ex-Contingency)		**$ 12,162,756**
					Total Budget Cost Estimate (Incl. Contingency)		**$ 18,244,134**

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11.2.2 Option 2 – Middle

Item No.	Description	Unit	Quantity	Base rate ($)	Amount ($)	Base rate + Contingency ($)	Amount + Contingency ($)
1.0	**General Items**						
1.01	Project Management	Item	1	$ 241,973	$ 241,973	$ 362,960	$ 362,960
1.02	Engineering Design	Item	1	$ 24,000	$ 24,000	$ 36,000	$ 36,000
1.03	Supervision	Item	1	$ 449,817	$ 449,817	$ 674,726	$ 674,726
1.04	Survey & Setting Out	Item	1	$ 487,216	$ 487,216	$ 730,824	$ 730,824
1.05	Mobilisation/Demobilisation	Item	1	$ 570,000	$ 570,000	$ 855,000	$ 855,000
1.06	Camp/Accommodation	Item	1	$ 1,286,250	$ 1,286,250	$ 1,929,376	$ 1,929,376
1.08	Other General Items	Item	1	$ 1,279,546	$ 1,279,546	$ 1,919,319	$ 1,919,319
2.0	**Earthworks**						
2.01	Clearing & grubbing	ha	7.39	$ 35,987	$ 265,869	$ 53,980	$ 398,803
2.04	Embankment Construction	m^3	50,529	$ 57	$ 2,900,584	$ 86	$ 4,350,875
2.05	Subgrade Preparation	m^2	56,350	$ 6	$ 316,499	$ 8	$ 474,749
3.0	**Pavement & Surfacing**						
3.03	Sub-Basecourse	m^2	56,350	$ 35	$ 1,949,415	$ 52	$ 2,924,122
3.03	Basecourse	m^2	56,350	$ 42	$ 2,361,052	$ 63	$ 3,541,578
3.05	Surfacing	m^2	48,550	$ 26	$ 1,277,408	$ 39	$ 1,916,112
3.10	Pavement Markings	Item	1.0	$ 75,000	$ 75,000	$ 112,500	$ 112,500
					Total Budget Cost Estimate (ex-Contingency)		**$ 13,484,628**
					Total Budget Cost Estimate (Incl. Contingency)		**$ 20,226,943**

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11.2.3 Option 3 – High

Item No.	Description	Unit	Quantity	Base rate ($)	Amount ($)	Base rate + Contingency ($)	Amount + Contingency ($)
1.0	**General Items**						
1.01	Project Management	Item	1	$ 285,931	$ 285,931	$ 428,896	$ 428,896
1.02	Engineering Design	Item	1	$ 24,000	$ 24,000	$ 36,000	$ 36,000
1.03	Supervision	Item	1	$ 560,482	$ 560,482	$ 840,723	$ 840,723
1.04	Survey & Setting Out	Item	1	$ 622,174	$ 622,174	$ 933,260	$ 933,260
1.05	Mobilisation/Demobilisation	Item	1	$ 570,000	$ 570,000	$ 855,000	$ 855,000
1.06	Camp/Accommodation	Item	1	$ 1,642,538	$ 1,642,538	$ 2,463,807	$ 2,463,807
1.08	Other General Items	Item	1	$ 1,495,478	$ 1,495,478	$ 2,243,217	$ 2,243,217
2.0	**Earthworks**						
2.01	Clearing & grubbing	ha	7.78	$ 35,881	$ 278,978	$ 53,822	$ 418,467
2.04	Embankment Construction	m^3	109,988	$ 52	$ 5,753,300	$ 78	$ 8,629,950
2.05	Subgrade Preparation	m^2	56,350	$ 6	$ 316,499	$ 8	$ 474,749
3.0	**Pavement & Surfacing**						
3.03	Sub-Basecourse	m^2	56,350	$ 36	$ 2,011,001	$ 54	$ 3,016,502
3.03	Basecourse	m^2	56,350	$ 42	$ 2,389,108	$ 64	$ 3,583,662
3.05	Surfacing	m^2	48,550	$ 26	$ 1,277,408	$ 39	$ 1,916,112
3.10	Pavement Markings	Item	1.0	$ 75,000	$ 75,000	$ 112,500	$ 112,500
					Total Budget Cost Estimate (ex-Contingency)		**$ 17,301,897**
					Total Budget Cost Estimate (Incl. Contingency)		**$ 25,952,846**

12.0 SUMMARY

Greenfield has completed Stage 1A, the initial concept assessment and budget cost estimate for the proposed upgrade of the Fitzroy Crossing Aerodrome to improve resilience to flood events. As a result of this work, three options to raise the runway have been identified:

- Option 1 (Low): Lift runway by 0.3m
- Option 2 (Middle): Lift runway by 0.75m
- Option 3 (High): Lift runway by 1.2m

Each of the options provides an improvement to the current serviceability of the runway to flood events. The primary difference between the three options is the quantity of earthworks required for Options 2 and 3 compared to Option 1.

A budget cost estimate for each of the options has also been provided based on the conceptual design details. Please note, the cost estimates are estimates only and will need further refinement as the preliminary and detailed engineering is progressed.

We request that the Shire review the information provided with the key stakeholders and advise which of the three options they would like to proceed for further design and detailing in Stages 1B and other subsequent stages.

Any comments on this report should be directed to either Joshua Kirk (josh.kirk@greenfieldtech.com.au) or Matt Barns (matt.barns@greenfieldtech.com.au) in the first instance.

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APPENDIX A – BUDGET COST ESTIMATES

OPTION 1 – LOW

Shire of Derby West Kimberley
FITZROY AERODROME UPGRADE

BUDGET COST ESTIMATE - STAGE 1A - OPTION 1 (LOW)
May-24

JOB DIMENSIONS			NOTES
start SLK	0.00		
end SLK	0.00		
road length	0.00	kms	
Clearing/grubbing width	0.0	m	
Total clearing/grubbing area	72650	m2	Option 1: Assume 10m wide strip entire perimeter of runway (2,660m)
allow avg depth of fill	0.00	m	
allow % of all fill - to be imported	100%		
fill volume to be imported (bank)	21140	m3 bank	Assume 100% of cut used as fill
fill bulking factor	1.4		
imported fill volume (loose)	29596	m3 loose	
allow avg cut to spoil	0.000	m	
allow % of cut to spoil	0%		
volume - Cut to spoil (bank)	0	m3 bank	Assume 100% of cut used as fill
bulking factor	1.4		
Cut to spoil volume (loose)	0	m3 loose	
average subgrade width		m	
subgrade area	56350	m2	Seal area plus 3m shoulder each side full length
		m	
sub-basecourse area	56350	m2	
sub-basecourse thickness	0.15	m	
sub-basecourse volume (compacted)	8463	m3 bank	
sub-basecourse bulking factor	1.5		
sub-basecourse volume (loose)	12695	m3 loose	
basecourse area	56350	m2	
basecourse thickness	0.205	m	
basecourse volume (compacted)	11566	m3 bank	
basecourse bulking factor	1.5		
basecourse volume (loose)	17349	m3 loose	
prime seal width	0.0	m	
prime seal area	48550	m2	
second coat width	0.0	m	
second coat seal area	48550	m2	

Plant rates are sourced from hybrid recent tenders	Plant Rate	Depreciation	Operator Rate	Total Rate
Grader				$ 315.00
950 Loader				$ 320.00
Backhoe				$ 210.00
Semi side tipper (18m3)				$ 285.00
Road train side tipper (36m3)				$ 360.00
Road train side tipper (54m3)				$ 500.00
Multi Roller				$ 210.00
Padfoot				$ 210.00
Vibe Roller				$ 190.00
Semi Watercart				$ 260.00
Labourer				$ 80.00
Broom				$ 180.00
Skid Steer				$ 180.00
Dozer (D7 or similar)				$ 470.00
45t Excavator				$ 400.00
14t Excavator				$ 200.00
Prime				$ 2.86
1st Coat Seal (10mm)				$ 8.45
2nd Coat Seal (7mm)				$ 7.15
3rd Coat Seal (Sand Seal)				$ 6.50
Manufactured gravel (m3)				$ 4.00
Push Up Imported fill (m3)				$ 3.76
Water source equipment (per day)				$ 900.00
3rd Party Contract Quality Assurance (hr)				$ 150.00

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 1 (LOW)**
FITZROY AERODROME UPGRADE **May-24**

Item	Description	Quantity	Unit	Rate	Amount
1.00	**GENERAL ITEMS**				
1.01	***Project Management***	***498***	***Item***	***$ 455.66***	***$ 226,931.14***
	Procurement Management	40	hrs	$ 180.00	$ 7,200.00
	Project & QA documentation	498	hrs	$ 180.00	$ 89,645.28
	On-going support on site	144	hrs	$ 145.00	$ 20,880.00
		6400	kms	$ 1.50	$ 9,600.00
	Project Engineer Support ex-office	664	each	$ 150.00	$ 99,605.86
1.02	***Engineering Design***	***1***	***Item***	***$ 24,000.00***	***$ 24,000.00***
	Issue Drawings for Construction	30	hrs	$ 180.00	$ 5,400.00
	Issue Setout Data	20	hrs	$ 180.00	$ 3,600.00
	General Support during construction	1	Item	$ 15,000.00	$ 15,000.00
1.03	***Supervision***	***1***	***Item***	***$ 411,948.05***	***$ 411,948.05***
	3rd Party Contract Supervision	2285	hrs	$ 150.00	$ 342,744.63
	Travel	6000	kms	$ 1.60	$ 9,600.00
	Flights	6	Return flight	$ 2,000.00	$ 12,000.00
	Meals / Accommodation	190.41368	day	$ 250.00	$ 47,603.42
1.04	***Survey requirements for the Works***	***1***	***Item***	***$ 441,034.20***	***$ 441,034.20***
	Survey crew - Initial pickup		kms	$ -	$ -
	Survey crew - Earthworks setout		Item	$ -	$ -
	Survey crew - Pavement setout		kms	$ -	$ -
	Surveyor - Full time on site	176	day	$ 2,500.00	$ 441,034.20
1.05	***Mobilisation/Demobilisation***	***1***	***Item***	***$ 570,000.00***	***$ 570,000.00***
	mob / demob all plant	1	Item	$ 500,000.00	$ 500,000.00
	establish camp	1	days	$ 50,000.00	$ 50,000.00
	any other set-up costs	1	Item	$ 20,000.00	$ 20,000.00
1.06	***Camp and Accommodation***	***1***	***Item***	***$ 1,164,330.30***	***$ 1,164,330.30***
	establish and maintain camp	176	days	$ 6,600.00	$ 1,164,330.30
				$ -	$ -
				$ -	$ -
1.07	***Traffic management during construction***				
1.08	***Other General Items***		***Item***		***$ 1,205,654.72***
	Geotechnical testing (lab & resources) - earthworks and pavements	141	day	$ 5,000.00	$ 705,654.72
	Insurances	1	Item	$ 200,000.00	$ 200,000.00
	Temporary removal, protection and reinstatement of existing services	1	Item	$ 200,000.00	$ 200,000.00
	All costs related to occupational health & safety matters	1	Item	$ 100,000.00	$ 100,000.00
				$ -	$ -
				Total Project Indirect Costs	**$ 4,043,898.41**

Printed: 27/05/2024

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 1 (LOW)**
FITZROY AERODROME UPGRADE **May-24**

2.00	**EARTHWORKS**						
2.01	**Clearing & grubbing**	**7.27**	**Ha**	**$**	**36,022.28**	**$**	**261,701.88**
	950 Loader	182	hrs	$	320.00	$	58,120.00
	Road train side tipper (36m3)	363	hrs	$	360.00	$	130,770.00
	Grader	182	hrs	$	315.00	$	57,211.88
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
2.02	**Topsoil removal and respread - cut to spoil**						
2.03	**Embankment Foundation**						
2.04	**Embankment Construction**					**$**	**1,908,456.73**
	Embankment foundation preparation	**72,650**	**m2**	**$**	**3.59**	**$**	**260,450.25**
	Grader	121	hrs	$	315.00	$	38,141.25
	Vibe Roller	242	hrs	$	190.00	$	46,011.67
	Padfoot	242	hrs	$	210.00	$	50,855.00
	Road train side tipper (36m3)	0	hrs	$	360.00	$	-
	950 Loader	97	hrs	$	320.00	$	30,997.33
	Semi Watercart	363	hrs	$	260.00	$	94,445.00
	Cut to Fill	**1,400**	**m3**	**$**	**27.85**	**$**	**38,990.00**
	Grader	14	hrs	$	315.00	$	4,410.00
	Vibe Roller	28	hrs	$	190.00	$	5,320.00
	Padfoot	28	hrs	$	210.00	$	5,880.00
	Semi side tipper (18m3)	28	hrs	$	285.00	$	7,980.00
	950 Loader	14	hrs	$	320.00	$	4,480.00
	Semi Watercart	42	hrs	$	260.00	$	10,920.00
	Import Fill	**29,596**	**m3**	**$**	**44.04**	**$**	**1,303,396.77**
	Grader	228	hrs	$	315.00	$	71,840.77
	Vibe Roller	456	hrs	$	190.00	$	86,665.05
	Padfoot	456	hrs	$	210.00	$	95,787.69
	950 Loader	228	hrs	$	320.00	$	72,981.10
	Road train side tipper (54m3)	1596	hrs	$	500.00	$	798,230.74
	Semi Watercart	684	hrs	$	260.00	$	177,891.42
	Trim Graded Runway	**72,650**	**m3**	**$**	**2.68**	**$**	**194,338.75**
	Grader	121	hrs	$	315.00	$	38,141.25
	Vibe Roller	121	hrs	$	190.00	$	23,005.83
	Multi Roller	242	hrs	$	210.00	$	50,855.00
	950 Loader	61	hrs	$	320.00	$	19,373.33
	Skid Steer	0	hrs	$	180.00	$	-
	Semi Watercart	242	hrs	$	260.00	$	62,963.33
	Allow for all charges relating to fill material for construction	**29,596**	**m3**	**$**	**3.76**	**$**	**111,280.96**
	clearing		Ha	$	5,403.34	$	-
	push-up cost (includes 10% extra for waste / excess)	29596	m3 loose	$	3.76	$	111,280.96
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
2.05	**Subgrade preparation**	**56,350**	**m2**	**$**	**5.62**	***$***	***316,499.17***
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	376	hrs	$	190.00	$	71,376.67
	Multi Roller	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
					Total Earthworks / Formation	**$**	**2,486,657.77**

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 1 (LOW)**
FITZROY AERODROME UPGRADE **May-24**

3.00	**PAVEMENT & SURFACING**						
3.02	**Subbase**	**56350**	**m2**	**$**	**34.221**	**$**	**1,928,340.40**
	Charges relating to gravel supply for construction	**12695**	**m3**	**$**	**4.00**	**$**	**50,778.00**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	12695	m3 loose	$	4.00	$	50,778.00
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**12695**	**m3**	**$**	**92.98**	**$**	**1,180,339.59**
	950 Loader	197	hrs	$	320.00	$	62,951.44
	Road train side tipper (54m3)	1967	hrs	$	500.00	$	983,616.32
	950 Loader	98	hrs	$	320.00	$	31,475.72
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	393	hrs	$	260.00	$	102,296.10
	Load, and Place	**12695**	**m2**	**$**	**11.18**	**$**	**141,896.30**
	Grader	56	hrs	$	315.00	$	17,772.30
	950 Loader	56	hrs	$	320.00	$	18,054.40
	Vibe Roller	113	hrs	$	190.00	$	21,439.60
	Padfoot	0	hrs	$	210.00	$	-
	Road train side tipper (36m3)	113	hrs	$	360.00	$	40,622.40
	Semi Watercart	169	hrs	$	260.00	$	44,007.60
	Mix & Compact	**56350**	**m2**	**$**	**6.52**	**$**	**367,556.70**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**67,086.89**	**$**	**67,086.89**
	construct and install bore		Item			$	-
	bore pumping costs	75	days	$	900.00	$	67,086.89
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-
	Trim	**56350**	**m2**	**$**	**2.14**	**$**	**120,682.92**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Multi Roller	94	hrs	$	210.00		
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
3.03	**Basecourse**	**56350**	**m2**	**$**	**41.73**	**$**	**2,351,451.13**
	Charges relating to gravel supply for construction	**17349**	**m3**	**$**	**4.00**	**$**	**69,396.60**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	17349	m3 loose	$	4.00	$	69,396.60
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**17349**	**m3**	**$**	**92.98**	**$**	**1,613,130.77**
	950 Loader	269	hrs	$	320.00	$	86,033.64
	Road train side tipper (54m3)	2689	hrs	$	500.00	$	1,344,275.64
	950 Loader	134	hrs	$	320.00	$	43,016.82
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	538	hrs	$	260.00	$	139,804.67
	Load, and Place	**17349**	**m2**	**$**	**11.27**	**$**	**195,467.09**
	Grader	77	hrs	$	315.00	$	24,288.81
	950 Loader	77	hrs	$	320.00	$	24,674.35
	Vibe Roller	77	hrs	$	190.00	$	14,650.39
	Padfoot	77	hrs	$	210.00	$	16,192.54
	Road train side tipper (36m3)	154	hrs	$	360.00	$	55,517.28
	Semi Watercart	231	hrs	$	260.00	$	60,143.72
	Mix & Compact	**56350**	**m2**	**$**	**2.49**	**$**	**140,405.42**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	94	hrs	$	210.00	$	19,722.50
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**91,685.42**	**$**	**91,685.42**
	construct and install bore		Item			$	-
	bore pumping costs	102	days	$	900.00	$	91,685.42
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 1 (LOW)**
FITZROY AERODROME UPGRADE **May-24**

	Trim	**56350**	**m2**	**$**	***4.28***	**$**	**241,365.83**
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	188	hrs	$	190.00	$	35,688.33
	Multi Roller	188	hrs	$	210.00		
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
3.05	**Surfacing**	**48,550**	**m2**	**$**	**26.31**	**$**	**1,277,408.00**
	Sealing Contractor - Mob/Demob	1	item	$	50,000.00	$	50,000.00
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
	Prime	48550	m2	$	2.86	$	138,853.00
	1st Coat Seal (10mm)	48550	m2	$	8.45	$	410,247.50
	2nd Coat Seal (7mm)	48550	m2	$	7.15	$	347,132.50
	3rd Coat Seal (Sand Seal)	48550	m2	$	6.50	$	315,575.00
3.07	**Line marking**	**1**	**Item**	**$**	**75,000.00**	**$**	**75,000.00**
	Line marking	1	Item	$	75,000.00	$	75,000.00
					Total Pavement	**$**	**5,632,199.53**

4.00	**DRAINAGE**						
					Total Drainage	**$**	**-**
5.00	**MISCELLANEOUS AND SAFETY DEVICES**						
5.01							
					Total Miscellaneous and Safety Devices	**$**	**-**

Actual Direct Cost		**$**	**12,162,755.71**
Project Admin	***2.0%***	**$**	**243,255.11**
Escalation	***3.0%***	**$**	**364,882.67**
Contingency	***30.0%***	**$**	**3,648,826.71**
Variations	***15.0%***	**$**	**1,824,413.36**
Total Contingency	50%		
TOTAL Project Cost		**$**	**18,244,133.56**

OPTION 2 – MIDDLE

Shire of Derby West Kimberley
FITZROY AERODROME UPGRADE

BUDGET COST ESTIMATE - STAGE 1A - OPTION 2 (MIDDLE)
May-24

JOB DIMENSIONS			NOTES
start SLK	0.00		
end SLK	0.00		
road length	0.00	kms	
Clearing/grubbing width	0.0	m	
Total clearing/grubbing area	73880	m2	Option 2: Assume 10m wide strip entire perimeter of runway (2,660m)
allow avg depth of fill	0.00	m	
allow % of all fill - to be imported	100%		
fill volume to be imported (bank)	36092	m3 bank	Assume 100% of cut used as fill
fill bulking factor	1.4		
imported fill volume (loose)	50529	m3 loose	
allow avg cut to spoil	0.000	m	
allow % of cut to spoil	0%		
volume - Cut to spoil (bank)	0	m3 bank	Assume 100% of cut used as fill
bulking factor	1.4		
Cut to spoil volume (loose)	0	m3 loose	
average subgrade width		m	
subgrade area	56350	m2	Seal area plus 3m shoulder each side full length
		m	
sub-basecourse area	56350	m2	
sub-basecourse thickness	0.15	m	
sub-basecourse volume (compacted)	8463	m3 bank	
sub-basecourse bulking factor	1.5		
sub-basecourse volume (loose)	12695	m3 loose	
basecourse area	56350	m2	
basecourse thickness	0.205	m	
basecourse volume (compacted)	11566	m3 bank	
basecourse bulking factor	1.5		
basecourse volume (loose)	17349	m3 loose	
prime seal width	0.0	m	
prime seal area	48550	m2	
second coat width	0.0	m	
second coat seal area	48550	m2	

Plant rates are sourced from hybrid recent tenders	Plant Rate	Depreciation	Operator Rate	Total Rate
Grader				$ 315.00
950 Loader				$ 320.00
Backhoe				$ 210.00
Semi side tipper (18m3)				$ 285.00
Road train side tipper (36m3)				$ 360.00
Road train side tipper (54m3)				$ 500.00
Multi Roller				$ 210.00
Padfoot				$ 210.00
Vibe Roller				$ 190.00
Semi Watercart				$ 260.00
Labourer				$ 80.00
Broom				$ 180.00
Skid Steer				$ 180.00
Dozer (D7 or similar)				$ 470.00
45t Excavator				$ 400.00
14t Excavator				$ 200.00
Prime				$ 2.86
1st Coat Seal (10mm)				$ 8.45
2nd Coat Seal (7mm)				$ 7.15
3rd Coat Seal (Sand Seal)				$ 6.50
Manufactured gravel (m3)				$ 4.00
Push Up Imported fill (m3)				$ 3.76
Water source equipment (per day)				$ 900.00
3rd Party Contract Quality Assurance (hr)				$ 150.00

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 2 (MIDDLE)**
FITZROY AERODROME UPGRADE **May-24**

Item	Description	Quantity	Unit	Rate	Amount
1.00	**GENERAL ITEMS**				
1.01	***Project Management***	***538***	***Item***	***$ 450.09***	***$ 241,973.23***
	Procurement Management	40	hrs	$ 180.00	$ 7,200.00
	Project & QA documentation	538	hrs	$ 180.00	$ 96,770.48
	On-going support on site	144	hrs	$ 145.00	$ 20,880.00
		6400	kms	$ 1.50	$ 9,600.00
	Project Engineer Support ex-office	717	each	$ 150.00	$ 107,522.75
1.02	***Engineering Design***	***1***	***Item***	***$ 24,000.00***	***$ 24,000.00***
	Issue Drawings for Construction	30	hrs	$ 180.00	$ 5,400.00
	Issue Setout Data	20	hrs	$ 180.00	$ 3,600.00
	General Support during construction	1	Item	$ 15,000.00	$ 15,000.00
1.03	***Supervision***	***1***	***Item***	***$ 449,817.17***	***$ 449,817.17***
	3rd Party Contract Supervision	2507	hrs	$ 150.00	$ 375,995.56
	Travel	6000	kms	$ 1.60	$ 9,600.00
	Flights	6	Return flight	$ 2,000.00	$ 12,000.00
	Meals / Accommodation	208.88642	day	$ 250.00	$ 52,221.61
1.04	***Survey requirements for the Works***	***1***	***Item***	***$ 487,216.06***	***$ 487,216.06***
	Survey crew - Initial pickup		kms	$ -	$ -
	Survey crew - Earthworks setout		Item	$ -	$ -
	Survey crew - Pavement setout		kms	$ -	$ -
	Surveyor - Full time on site	195	day	$ 2,500.00	$ 487,216.06
1.05	***Mobilisation/Demobilisation***	***1***	***Item***	***$ 570,000.00***	***$ 570,000.00***
	mob / demob all plant	1	Item	$ 500,000.00	$ 500,000.00
	establish camp	1	days	$ 50,000.00	$ 50,000.00
	any other set-up costs	1	Item	$ 20,000.00	$ 20,000.00
1.06	***Camp and Accommodation***	***1***	***Item***	***$ 1,286,250.40***	***$ 1,286,250.40***
	establish and maintain camp	195	days	$ 6,600.00	$ 1,286,250.40
				$ -	$ -
				$ -	$ -
1.07	***Traffic management during construction***				
1.08	***Other General Items***		***Item***		***$ 1,279,545.70***
	Geotechnical testing (lab & resources) - earthworks and pavements	156	day	$ 5,000.00	$ 779,545.70
	Insurances	1	Item	$ 200,000.00	$ 200,000.00
	Temporary removal, protection and reinstatement of existing services	1	Item	$ 200,000.00	$ 200,000.00
	All costs related to occupational health & safety matters	1	Item	$ 100,000.00	$ 100,000.00
				$ -	$ -
				Total Project Indirect Costs	**$ 4,338,802.57**

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 2 (MIDDLE)**
FITZROY AERODROME UPGRADE **May-24**

2.00	**EARTHWORKS**						
2.01	**Clearing & grubbing**	**7.39**	**Ha**	**$**	**35,986.53**	**$**	**265,868.50**
	950 Loader	185	hrs	$	320.00	$	59,104.00
	Road train side tipper (36m3)	369	hrs	$	360.00	$	132,984.00
	Grader	185	hrs	$	315.00	$	58,180.50
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
2.02	**Topsoil removal and respread - cut to spoil**						
2.03	**Embankment Foundation**						
2.04	**Embankment Construction**					**$**	**2,900,583.53**
	Embankment foundation preparation	**73,880**	**m2**	**$**	**3.59**	**$**	**264,859.80**
	Grader	123	hrs	$	315.00	$	38,787.00
	Vibe Roller	246	hrs	$	190.00	$	46,790.67
	Padfoot	246	hrs	$	210.00	$	51,716.00
	Road train side tipper (36m3)	0	hrs	$	360.00	$	-
	950 Loader	99	hrs	$	320.00	$	31,522.13
	Semi Watercart	369	hrs	$	260.00	$	96,044.00
	Cut to Fill	**820**	**m3**	**$**	**27.85**	**$**	**22,837.00**
	Grader	8	hrs	$	315.00	$	2,583.00
	Vibe Roller	16	hrs	$	190.00	$	3,116.00
	Padfoot	16	hrs	$	210.00	$	3,444.00
	Semi side tipper (18m3)	16	hrs	$	285.00	$	4,674.00
	950 Loader	8	hrs	$	320.00	$	2,624.00
	Semi Watercart	25	hrs	$	260.00	$	6,396.00
	Import Fill	**50,529**	**m3**	**$**	**44.04**	**$**	**2,225,269.45**
	Grader	389	hrs	$	315.00	$	122,652.65
	Vibe Roller	779	hrs	$	190.00	$	147,961.92
	Padfoot	779	hrs	$	210.00	$	163,536.86
	950 Loader	389	hrs	$	320.00	$	124,599.51
	Road train side tipper (54m3)	2726	hrs	$	500.00	$	1,362,807.19
	Semi Watercart	1168	hrs	$	260.00	$	303,711.32
	Trim Graded Runway	**73,880**	**m3**	**$**	**2.68**	**$**	**197,629.00**
	Grader	123	hrs	$	315.00	$	38,787.00
	Vibe Roller	123	hrs	$	190.00	$	23,395.33
	Multi Roller	246	hrs	$	210.00	$	51,716.00
	950 Loader	62	hrs	$	320.00	$	19,701.33
	Skid Steer	0	hrs	$	180.00	$	-
	Semi Watercart	246	hrs	$	260.00	$	64,029.33
	Allow for all charges relating to fill material for construction	**50,529**	**m3**	**$**	**3.76**	**$**	**189,988.29**
	clearing		Ha	$	5,397.98	$	-
	push-up cost (includes 10% extra for waste / excess)	50529	m3 loose	$	3.76	$	189,988.29
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
2.05	**Subgrade preparation**	**56,350**	**m2**	**$**	**5.62**	***$***	***316,499.17***
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	376	hrs	$	190.00	$	71,376.67
	Multi Roller	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
					Total Earthworks / Formation	**$**	**3,482,951.20**

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 2 (MIDDLE)**
FITZROY AERODROME UPGRADE **May-24**

3.00	**PAVEMENT & SURFACING**						
3.02	**Subbase**	**56350**	**m2**	**$**	**34.595**	**$**	**1,949,414.94**
	Charges relating to gravel supply for construction	**12695**	**m3**	**$**	**4.00**	**$**	**50,778.00**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	12695	m3 loose	$	4.00	$	50,778.00
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**12695**	**m3**	**$**	**92.98**	**$**	**1,180,339.59**
	950 Loader	197	hrs	$	320.00	$	62,951.44
	Road train side tipper (54m3)	1967	hrs	$	500.00	$	983,616.32
	950 Loader	98	hrs	$	320.00	$	31,475.72
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	393	hrs	$	260.00	$	102,296.10
	Load, and Place	**12695**	**m2**	**$**	**11.18**	**$**	**141,896.30**
	Grader	56	hrs	$	315.00	$	17,772.30
	950 Loader	56	hrs	$	320.00	$	18,054.40
	Vibe Roller	113	hrs	$	190.00	$	21,439.60
	Padfoot	0	hrs	$	210.00	$	-
	Road train side tipper (36m3)	113	hrs	$	360.00	$	40,622.40
	Semi Watercart	169	hrs	$	260.00	$	44,007.60
	Mix & Compact	**56350**	**m2**	**$**	**6.77**	**$**	**381,606.39**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**74,111.74**	**$**	**74,111.74**
	construct and install bore		Item			$	-
	bore pumping costs	82	days	$	900.00	$	74,111.74
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-
	Trim	**56350**	**m2**	**$**	**2.14**	**$**	**120,682.92**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Multi Roller	94	hrs	$	210.00		
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
3.03	**Basecourse**	**56350**	**m2**	**$**	**41.90**	**$**	**2,361,051.75**
	Charges relating to gravel supply for construction	**17349**	**m3**	**$**	**4.00**	**$**	**69,396.60**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	17349	m3 loose	$	4.00	$	69,396.60
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**17349**	**m3**	**$**	**92.98**	**$**	**1,613,130.77**
	950 Loader	269	hrs	$	320.00	$	86,033.64
	Road train side tipper (54m3)	2689	hrs	$	500.00	$	1,344,275.64
	950 Loader	134	hrs	$	320.00	$	43,016.82
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	538	hrs	$	260.00	$	139,804.67
	Load, and Place	**17349**	**m2**	**$**	**11.27**	**$**	**195,467.09**
	Grader	77	hrs	$	315.00	$	24,288.81
	950 Loader	77	hrs	$	320.00	$	24,674.35
	Vibe Roller	77	hrs	$	190.00	$	14,650.39
	Padfoot	77	hrs	$	210.00	$	16,192.54
	Road train side tipper (36m3)	154	hrs	$	360.00	$	55,517.28
	Semi Watercart	231	hrs	$	260.00	$	60,143.72
	Mix & Compact	**56350**	**m2**	**$**	**2.49**	**$**	**140,405.42**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	94	hrs	$	210.00	$	19,722.50
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**101,286.04**	**$**	**101,286.04**
	construct and install bore		Item			$	-
	bore pumping costs	113	days	$	900.00	$	101,286.04
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 2 (MIDDLE)**
FITZROY AERODROME UPGRADE **May-24**

	Trim	**56350**	**m2**	***$***	***4.28***	**$**	**241,365.83**
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	188	hrs	$	190.00	$	35,688.33
	Multi Roller	188	hrs	$	210.00		
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
3.05	**Surfacing**	**48,550**	**m2**	**$**	**26.31**	**$**	**1,277,408.00**
	Sealing Contractor - Mob/Demob	1	item	$	50,000.00	$	50,000.00
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
	Prime	48550	m2	$	2.86	$	138,853.00
	1st Coat Seal (10mm)	48550	m2	$	8.45	$	410,247.50
	2nd Coat Seal (7mm)	48550	m2	$	7.15	$	347,132.50
	3rd Coat Seal (Sand Seal)	48550	m2	$	6.50	$	315,575.00
3.07	**Line marking**	**1**	**Item**	**$**	**75,000.00**	**$**	**75,000.00**
	Line marking	1	Item	$	75,000.00	$	75,000.00
					Total Pavement	**$**	**5,662,874.69**

4.00	**DRAINAGE**						
					Total Drainage	**$**	**-**
5.00	**MISCELLANEOUS AND SAFETY DEVICES**						
5.01							
					Total Miscellaneous and Safety Devices	**$**	**-**

Actual Direct Cost		**$**	**13,484,628.46**
Project Admin	***2.0%***	**$**	**269,692.57**
Escalation	***3.0%***	**$**	**404,538.85**
Contingency	***30.0%***	**$**	**4,045,388.54**
Variations	***15.0%***	**$**	**2,022,694.27**
Total Contingency	50%		
TOTAL Project Cost		**$**	**20,226,942.70**

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GREENFIELD TECHNICAL SERVICES

OPTION 3 - HIGH

Shire of Derby West Kimberley
FITZROY AERODROME UPGRADE

BUDGET COST ESTIMATE - STAGE 1A - OPTION 3 (HIGH)
May-24

JOB DIMENSIONS			NOTES
start SLK	0.00		
end SLK	0.00		
road length	0.00	kms	
Clearing/grubbing width	0.0	m	
Total clearing/grubbing area	77750	m2	Option 1: Assume 10m wide strip entire perimeter of runway (2,660m)
allow avg depth of fill	0.00	m	
allow % of all fill - to be imported	100%		
fill volume to be imported (bank)	78563	m3 bank	Assume 100% of cut used as fill
fill bulking factor	1.4		
imported fill volume (loose)	109988	m3 loose	
allow avg cut to spoil	0.000	m	
allow % of cut to spoil	0%		
volume - Cut to spoil (bank)	0	m3 bank	Assume 100% of cut used as fill
bulking factor	1.4		
Cut to spoil volume (loose)	0	m3 loose	
average subgrade width		m	
subgrade area	56350	m2	Seal area plus 3m shoulder each side full length
		m	
sub-basecourse area	56350	m2	
sub-basecourse thickness	0.15	m	
sub-basecourse volume (compacted)	8463	m3 bank	
sub-basecourse bulking factor	1.5		
sub-basecourse volume (loose)	12695	m3 loose	
basecourse area	56350	m2	
basecourse thickness	0.205	m	
basecourse volume (compacted)	11566	m3 bank	
basecourse bulking factor	1.5		
basecourse volume (loose)	17349	m3 loose	
prime seal width	0.0	m	
prime seal area	48550	m2	
second coat width	0.0	m	
second coat seal area	48550	m2	

Plant rates are sourced from hybrid recent tenders	Plant Rate	Depreciation	Operator Rate	Total Rate
Grader				$ 315.00
950 Loader				$ 320.00
Backhoe				$ 210.00
Semi side tipper (18m3)				$ 285.00
Road train side tipper (36m3)				$ 360.00
Road train side tipper (54m3)				$ 500.00
Multi Roller				$ 210.00
Padfoot				$ 210.00
Vibe Roller				$ 190.00
Semi Watercart				$ 260.00
Labourer				$ 80.00
Broom				$ 180.00
Skid Steer				$ 180.00
Dozer (D7 or similar)				$ 470.00
45t Excavator				$ 400.00
14t Excavator				$ 200.00
Prime				$ 2.86
1st Coat Seal (10mm)				$ 8.45
2nd Coat Seal (7mm)				$ 7.15
3rd Coat Seal (Sand Seal)				$ 6.50
Manufactured gravel (m3)				$ 4.00
Push Up Imported fill (m3)				$ 3.76
Water source equipment (per day)				$ 900.00
3rd Party Contract Quality Assurance (hr)				$ 150.00

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 3 (HIGH)**
FITZROY AERODROME UPGRADE **May-24**

Item	Description	Quantity	Unit	Rate	Amount
1.00	**GENERAL ITEMS**				
1.01	***Project Management***	***653***	***Item***	***$ 437.68***	***$ 285,930.82***
	Procurement Management	40	hrs	$ 180.00	$ 7,200.00
	Project & QA documentation	653	hrs	$ 180.00	$ 117,592.49
	On-going support on site	144	hrs	$ 145.00	$ 20,880.00
		6400	kms	$ 1.50	$ 9,600.00
	Project Engineer Support ex-office	871	each	$ 150.00	$ 130,658.33
1.02	***Engineering Design***	***1***	***Item***	***$ 24,000.00***	***$ 24,000.00***
	Issue Drawings for Construction	30	hrs	$ 180.00	$ 5,400.00
	Issue Setout Data	20	hrs	$ 180.00	$ 3,600.00
	General Support during construction	1	Item	$ 15,000.00	$ 15,000.00
1.03	***Supervision***	***1***	***Item***	***$ 560,482.33***	***$ 560,482.33***
	3rd Party Contract Supervision	3154	hrs	$ 150.00	$ 473,164.97
	Travel	6000	kms	$ 1.60	$ 9,600.00
	Flights	6	Return flight	$ 2,000.00	$ 12,000.00
	Meals / Accommodation	262.86943	day	$ 250.00	$ 65,717.36
1.04	***Survey requirements for the Works***	***1***	***Item***	***$ 622,173.57***	***$ 622,173.57***
	Survey crew - Initial pickup		kms	$ -	$ -
	Survey crew - Earthworks setout		Item	$ -	$ -
	Survey crew - Pavement setout		kms	$ -	$ -
	Surveyor - Full time on site	249	day	$ 2,500.00	$ 622,173.57
1.05	***Mobilisation/Demobilisation***	***1***	***Item***	***$ 570,000.00***	***$ 570,000.00***
	mob / demob all plant	1	Item	$ 500,000.00	$ 500,000.00
	establish camp	1	days	$ 50,000.00	$ 50,000.00
	any other set-up costs	1	Item	$ 20,000.00	$ 20,000.00
1.06	***Camp and Accommodation***	***1***	***Item***	***$ 1,642,538.23***	***$ 1,642,538.23***
	establish and maintain camp	249	days	$ 6,600.00	$ 1,642,538.23
				$ -	$ -
				$ -	$ -
1.07	***Traffic management during construction***				
1.08	***Other General Items***		***Item***		***$ 1,495,477.72***
	Geotechnical testing (lab & resources) - earthworks and pavements	199	day	$ 5,000.00	$ 995,477.72
	Insurances	1	Item	$ 200,000.00	$ 200,000.00
	Temporary removal, protection and reinstatement of existing services	1	Item	$ 200,000.00	$ 200,000.00
	All costs related to occupational health & safety matters	1	Item	$ 100,000.00	$ 100,000.00
				$ -	$ -
				Total Project Indirect Costs	**$ 5,200,602.67**

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Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 3 (HIGH)**
FITZROY AERODROME UPGRADE **May-24**

2.00	**EARTHWORKS**						
2.01	**Clearing & grubbing**	**7.78**	**Ha**	**$**	**35,881.43**	**$**	**278,978.13**
	950 Loader	194	hrs	$	320.00	$	62,200.00
	Road train side tipper (36m3)	389	hrs	$	360.00	$	139,950.00
	Grader	194	hrs	$	315.00	$	61,228.13
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
2.02	**Topsoil removal and respread - cut to spoil**						
2.03	**Embankment Foundation**						
2.04	**Embankment Construction**					**$**	**5,753,300.31**
	Embankment foundation preparation	**77,750**	**m2**	**$**	**3.59**	**$**	**278,733.75**
	Grader	130	hrs	$	315.00	$	40,818.75
	Vibe Roller	259	hrs	$	190.00	$	49,241.67
	Padfoot	259	hrs	$	210.00	$	54,425.00
	Road train side tipper (36m3)	0	hrs	$	360.00	$	-
	950 Loader	104	hrs	$	320.00	$	33,173.33
	Semi Watercart	389	hrs	$	260.00	$	101,075.00
	Cut to Fill	**330**	**m3**	**$**	**27.85**	**$**	**9,190.50**
	Grader	3	hrs	$	315.00	$	1,039.50
	Vibe Roller	7	hrs	$	190.00	$	1,254.00
	Padfoot	7	hrs	$	210.00	$	1,386.00
	Semi side tipper (18m3)	7	hrs	$	285.00	$	1,881.00
	950 Loader	3	hrs	$	320.00	$	1,056.00
	Semi Watercart	10	hrs	$	260.00	$	2,574.00
	Import Fill	**109,988**	**m3**	**$**	**44.04**	**$**	**4,843,839.18**
	Grader	848	hrs	$	315.00	$	266,983.26
	Vibe Roller	1695	hrs	$	190.00	$	322,075.05
	Padfoot	1695	hrs	$	210.00	$	355,977.68
	950 Loader	848	hrs	$	320.00	$	271,221.09
	Road train side tipper (54m3)	5933	hrs	$	500.00	$	2,966,480.69
	Semi Watercart	2543	hrs	$	260.00	$	661,101.41
	Trim Graded Runway	**77,750**	**m3**	**$**	**2.68**	**$**	**207,981.25**
	Grader	130	hrs	$	315.00	$	40,818.75
	Vibe Roller	130	hrs	$	190.00	$	24,620.83
	Multi Roller	259	hrs	$	210.00	$	54,425.00
	950 Loader	65	hrs	$	320.00	$	20,733.33
	Skid Steer	0	hrs	$	180.00	$	-
	Semi Watercart	259	hrs	$	260.00	$	67,383.33
	Allow for all charges relating to fill material for construction	**109,988**	**m3**	**$**	**3.76**	**$**	**413,555.63**
	clearing		Ha	$	5,382.21	$	-
	push-up cost (includes 10% extra for waste / excess)	109988	m3 loose	$	3.76	$	413,555.63
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
2.05	**Subgrade preparation**	**56,350**	**m2**	**$**	**5.62**	***$***	***316,499.17***
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	376	hrs	$	190.00	$	71,376.67
	Multi Roller	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
					Total Earthworks / Formation	**$**	**6,348,777.60**

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 3 (HIGH)**
FITZROY AERODROME UPGRADE **May-24**

3.00	**PAVEMENT & SURFACING**						
3.02	**Subbase**	**56350**	**m2**	**$**	**35.688**	**$**	**2,011,001.18**
	Charges relating to gravel supply for construction	**12695**	**m3**	**$**	**4.00**	**$**	**50,778.00**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	12695	m3 loose	$	4.00	$	50,778.00
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**12695**	**m3**	**$**	**92.98**	**$**	**1,180,339.59**
	950 Loader	197	hrs	$	320.00	$	62,951.44
	Road train side tipper (54m3)	1967	hrs	$	500.00	$	983,616.32
	950 Loader	98	hrs	$	320.00	$	31,475.72
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	393	hrs	$	260.00	$	102,296.10
	Load, and Place	**12695**	**m2**	**$**	**11.18**	**$**	**141,896.30**
	Grader	56	hrs	$	315.00	$	17,772.30
	950 Loader	56	hrs	$	320.00	$	18,054.40
	Vibe Roller	113	hrs	$	190.00	$	21,439.60
	Padfoot	0	hrs	$	210.00	$	-
	Road train side tipper (36m3)	113	hrs	$	360.00	$	40,622.40
	Semi Watercart	169	hrs	$	260.00	$	44,007.60
	Mix & Compact	**56350**	**m2**	**$**	**7.50**	**$**	**422,663.89**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	188	hrs	$	210.00	$	39,445.00
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**94,640.49**	**$**	**94,640.49**
	construct and install bore		Item			$	-
	bore pumping costs	105	days	$	900.00	$	94,640.49
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-
	Trim	**56350**	**m2**	**$**	**2.14**	**$**	**120,682.92**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Multi Roller	94	hrs	$	210.00		
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
3.03	**Basecourse**	**56350**	**m2**	**$**	**42.40**	**$**	**2,389,107.71**
	Charges relating to gravel supply for construction	**17349**	**m3**	**$**	**4.00**	**$**	**69,396.60**
	clearing		Ha			$	-
	push-up cost (includes 10% extra for waste / excess)		m3 loose			$	-
	Screen and condition gravel	17349	m3 loose	$	4.00	$	69,396.60
	Mobe/demobe (screening)		item			$	-
	royalty cost (includes 10% extra for waste / excess)		m3 loose			$	-
	rehabilitation cost		Ha			$	-
	Load , Cart and Stockpile	**17349**	**m3**	**$**	**92.98**	**$**	**1,613,130.77**
	950 Loader	269	hrs	$	320.00	$	86,033.64
	Road train side tipper (54m3)	2689	hrs	$	500.00	$	1,344,275.64
	950 Loader	134	hrs	$	320.00	$	43,016.82
	Semi Watercart	0	hrs	$	260.00	$	-
	Semi Watercart	538	hrs	$	260.00	$	139,804.67
	Load, and Place	**17349**	**m2**	**$**	**11.27**	**$**	**195,467.09**
	Grader	77	hrs	$	315.00	$	24,288.81
	950 Loader	77	hrs	$	320.00	$	24,674.35
	Vibe Roller	77	hrs	$	190.00	$	14,650.39
	Padfoot	77	hrs	$	210.00	$	16,192.54
	Road train side tipper (36m3)	154	hrs	$	360.00	$	55,517.28
	Semi Watercart	231	hrs	$	260.00	$	60,143.72
	Mix & Compact	**56350**	**m2**	**$**	**2.49**	**$**	**140,405.42**
	Grader	94	hrs	$	315.00	$	29,583.75
	Vibe Roller	94	hrs	$	190.00	$	17,844.17
	Padfoot	94	hrs	$	210.00	$	19,722.50
	Semi Watercart	282	hrs	$	260.00	$	73,255.00
	Allow for all charges relating to water supply for construction	**1**	**Item**	**$**	**129,342.00**	**$**	**129,342.00**
	construct and install bore		Item			$	-
	bore pumping costs	144	days	$	900.00	$	129,342.00
	construct and line turkey's nest		Item			$	-
	standpipe and pumping costs		days			$	-

Shire of Derby West Kimberley **BUDGET COST ESTIMATE - STAGE 1A - OPTION 3 (HIGH)**
FITZROY AERODROME UPGRADE **May-24**

	Trim	**56350**	**m2**	***$***	***4.28***	**$**	**241,365.83**
	Grader	188	hrs	$	315.00	$	59,167.50
	Vibe Roller	188	hrs	$	190.00	$	35,688.33
	Multi Roller	188	hrs	$	210.00		
	Semi Watercart	564	hrs	$	260.00	$	146,510.00
3.05	**Surfacing**	**48,550**	**m2**	**$**	**26.31**	**$**	**1,277,408.00**
	Sealing Contractor - Mob/Demob	1	item	$	50,000.00	$	50,000.00
	Semi Watercart	60	hrs	$	260.00	$	15,600.00
	Prime	48550	m2	$	2.86	$	138,853.00
	1st Coat Seal (10mm)	48550	m2	$	8.45	$	410,247.50
	2nd Coat Seal (7mm)	48550	m2	$	7.15	$	347,132.50
	3rd Coat Seal (Sand Seal)	48550	m2	$	6.50	$	315,575.00
3.07	**Line marking**	**1**	**Item**	**$**	**75,000.00**	**$**	**75,000.00**
	Line marking	1	Item	$	75,000.00	$	75,000.00
					Total Pavement	**$**	**5,752,516.89**

4.00	**DRAINAGE**						
					Total Drainage	**$**	**-**
5.00	**MISCELLANEOUS AND SAFETY DEVICES**						
5.01							
					Total Miscellaneous and Safety Devices	**$**	**-**

	Actual Direct Cost	**$**	**17,301,897.17**
Project Admin	***2.0%***	**$**	**346,037.94**
Escalation	***3.0%***	**$**	**519,056.91**
Contingency	***30.0%***	**$**	**5,190,569.15**
Variations	***15.0%***	**$**	**2,595,284.57**
Total Contingency	50%		
	TOTAL Project Cost	**$**	**25,952,845.75**

Printed: 29/05/2024

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Greenfields Technical Services

GEOTECHNICAL INVESTIGATION AND PAVEMENT ASSESSMENT

FITZROY CROSSING AERODROME

June 2023
10836-GP-R-001-2







WML
Consulting Engineers

Document History and Status				
Revision	**Prepared By**	**Reviewed By**	**Purpose of Issue**	**Date**
0	H. Thorpe	J. Grundlingh	Issued to Client	08/03/2023
1	H. Thorpe	T. Bond and Paul Foley	Issued to Client	27/04/2023
2	H. Thorpe	J. Grundlingh	Issued to Client	12/06/2023

Issued to:	Greenfields Technical Services
WML Project Number:	10836:01
Document Name:	10836-GP-R-001-2

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LIMITATIONS

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1 INTRODUCTION

The Shire of Derby West Kimberly (**Client**) engaged WML Consultants (**WML**) to undertake a geotechnical investigation and pavement assessment of the existing airstrip runway at Fitzroy Crossing. The airstrip is owned and maintained by the Shire of Derby West Kimberly **(Shire)**. This report will assess the existing runway pavement condition, identify possible causes of seal cracking, and assess the existing pavement structural capacity using the CASA PCN-ACN system. Recommendations for remediations will also be provided, including pavement thickness requirements for reconstruction works.

1.1 Site description

The Fitzroy Crossing Aerodrome is spray sealed granular airstrip, measuring 1300 m long and 30 m wide with additional sealed shoulders.

The existing runway shows signs of significant cracking, with cracks widths up to 60 mm recorded during the investigation. The Shire repaired the cracks by filling the void with sand and using crack sealant to try and limit moisture ingress into the pavement and subgrade. However, the cracks have reopened at some locations with visible openings down to the subgrade level.

The runway site lies approximately 1.5 km from the town centre and approximately 2.5 km from the Fitzroy River. The runway is built directly adjacent to a grassy floodplain known as the Plum Plain to the west.

1.2 Client supplied information

The following information was made available by Greenfields Technical Services for the purpose of this report:

- Fitzroy Crossing Aerodrome - Geotechnical Site Investigation Scope

In addition to the above, some verbal information from the Shire has been provided to WML regarding airstrip traffic. This information is presented in the relevant sections below.

1.3 Objectives of this report

The objectives for this geotechnical and pavement design report are to:

- Identify and describe the geotechnical site conditions, including the geotechnical properties and attributes of the existing airstrip runway pavement.
- Assess the existing airstrip runway pavement structure for the current design loading using the CASA ACN-PCN system.
- Identify and assess potential sources of suitable granular pavement material for use in the refurbishment; works. If no suitable material can be identified nearby, then the identification of a suitable material within the Kimberley area is required.
- Prepare a formal pavement design suitable for the design loading with reference to material properties and availability of suitable granular pavement material in the area; and
- Provide details of any specific geotechnical concerns at the airstrip and provide advice on suitable engineering treatments to manage those concerns.

2 FIELD PROGRAMME

2.1 Fieldwork

Fieldwork was carried out on the 30th of November 2022 by a WML geotechnical engineers and comprised:

- A site walkover to observe existing site features and to obtain photo documentation.
- Ten (10) Pavement Dippings (PD) conducted on the pavement shoulder to assess the existing thickness and composition of the pavement and subgrade. Dippings were conducted to a maximum depth of 1.0 m to limit the disturbance to the runways.
- Dynamic Cone Penetrometer (DCP) testing was conducted at each pavement dipping through the subgrade to a maximum depth of 1.7 m.
- Shear Vane testing on subgrade at the majority of pavement dipping sites.
- Falling Weight Deflection (FWD) testing of the entire length of the existing runway was conducted by STATS Australia. A total of 7 full-length runs were completed, with additional testing conducted on the taxiway and apron. The testing completed on the runways was as follows:
    - o Runway centreline – 25 m intervals
    - o ± 3 m centreline offset – 25 m intervals
    - o ± 6 m centreline offset – 50 m intervals
    - o ± 12 m centreline offset – 50 m intervals.
- Collection of representative subgrade and pavement layer materials for laboratory testing, including soil classification (PSD/PI/LS), 4-day soaked CBR and shrink-swell index testing of both the subgrade and existing pavement materials.

Note: The assessment of the runway refers to chainages. Chainage zero is taken as the northern end of the runway with the chainage increasing in the direction south.

The site investigation was undertaken in accordance with Australian Standard AS 1726:2017 '*Geotechnical Site Investigations*'. A geotechnical engineer from WML completed the fieldwork, logged the materials encountered in the pavement dippings, carried out in-situ testing, collected soil samples, and obtained photographic documentation. All pavement dippings were backfilled as close to the original conditions as possible by the maintenance team from the Shire. Approximate test locations are presented on the site map attached (Drawing number 10836-G-001), and soil logs are shown in Appendix A.

2.2 Pavement dippings

Pavement dippings were performed using a small excavator with a narrow (300 mm) toothed bucket. The pavement seal was first removed by saw-cutting the pavement, which the Shire conducted. A summary of the pavement dippings is provided in Table 1 below.

Table 1: Summary of fieldwork

Test ID	Termination depth (m)	Reason for termination	Depth to groundwater (m)	Stratigraphy	Pavement Thickness (mm)
PD1	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy GRAVEL** sub-base; overlying **Clay** (starting at 220mm BGL)	200
PD2	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 350mm BGL)	330
PD3	0.8	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 350mm BGL)	330

Test ID	Termination depth (m)	Reason for termination	Depth to groundwater (m)	Stratigraphy	Pavement Thickness (mm)
PD4	0.8	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 300mm BGL)	280
PD5	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 320mm BGL)	300
PD6	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy Gravel** sub-base, overlying **Sandy CLAY** (starting at 300mm BGL)	280
PD7	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 200mm BGL)	180
PD8	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 350mm BGL)	330
PD9	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 350mm BGL)	330
PD10	1.0	Target depth	GNE	**Stone Seal;** overlying **Clayey Sandy GRAVEL** base-course, overlying **sandy CLAY** (starting at 350mm BGL)	330

Notes: GNE – Groundwater not encountered

All depths are relative to the ground surface at the time of the investigation unless specified otherwise

2.3 Dynamic Cone Penetrometer (DCP) testing

The pavement dippings were excavated to subgrade level, whereafter DCP testing was conducted starting at the top of subgrade level. DCP tests were completed in accordance with AS 1289.6.3.2 "*Determination of the Penetration Resistance of a Soil – 9 kg Dynamic Cone Penetrometer Test*". A summary of the test results and correlated CBR is provided in Table 2 Below.

Table 2. DCP test results summary

Depth (m)	PD1		PD2		PD3		PD4		PD5		PD6		PD7		PD8		PD9		PD10	
	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)	Blows	Correlated CBR (%)
0.5 -0.65	NA	NA	NA	NA	NA	NA	NA	NA	10	15	6	8	11	16	3	4	3	4	3	4
0.65 -0.8	3	4	7	10	3	4	3	4	11	16	7	10	11	16	6	8	9	13	5	7
0.8 -0.95	3	4	11	16	8	11	7	10	5	7	7	10	11	16	7	10	12	18	3	4
0.95 -1.1	6	8	11	16	7	10	8	11	6	8	9	13	11	16	6	8	12	18	4	5
1.1 -1.25	7	10	18	29	8	11	11	16	6	8	11	16	13	20	9	13	12	18	10	15
1.25 -1.4	8	11	20	32	14	21	10	15	8	11	NA	NA	13	20	12	18	NA	NA	10	15
1.4 -1.55	8	11	NA	NA	10	15	11	16	10	15	NA	NA	NA	NA	NA	NA	NA	NA	12	18
1.55 -1.7	10	15	NA	NA	10	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: DCP testing began at the start of the natural subgrade. All depths are relative to the existing ground level at the time of the investigation.
Values represent the number of blows required to advance.

3 LABORATORY TESTING

To assist in evaluating geotechnical design parameters and confirming the visual classification of the soils, laboratory testing was carried out by a NATA-accredited laboratory, Western Geotechnics (WGLS). Testing comprised the following:

- Particle Size Distribution (PSD) testing on six (6) samples (AS 1289 3.6.1)
- Atterberg limits and linear shrinkage testing on six (6) samples (AS 1289 3.1.2, 3.2.1, 3.3.1, 3.4.1)
- Modified dry density testing on six (6) samples (AS 1289.5.2.1)
- 4-Day-Soaked California Bearing Ratio testing on six (6) samples (AS 1289 6.1.1, 5.1.1, AS 2.1.1)
- Shrink-Swell Index testing on two (2) samples (AS 1289.7.1.1)

Material test results are presented in Table 3 and Table 4 below. Laboratory test certificates are presented in Appendix B.

Table 3: Summary of soil classification testing

Test ID	Depth (m)	PSD			Atterberg Limits				Soil Classification (USCS)
		Fines (%)	Sand (%)	Gravel (%)	LL (%)	PL (%)	PI (%)	LS (%)	
PD2	0.35 – 1.0	24	38	38	27	13	14	7	**SP – clayey gravelly SAND**
PD4	0.3 – 0.8	27	43	30	24	12	12	7	**SW – clayey gravelly SAND**
PD5	0.32 – 0.8	30	29	41	27	13	14	7.5	**SP – clayey gravelly SAND**
PD6	0.3 – 1.0	34	39	27	26	12	14	8	**SP – clayey gravelly SAND**
PD9	0.35 – 1.0	18	31	51	21	10	11	6	**GC – clayey sandy GRAVEL**
PD8	0.015 – 0.35	8	27	65	NO	NP	NP	0	**GW – sandy GRAVEL with clay**

Note: PSD – Particle Size Distribution; PI – Plasticity Index; LS – Linear Shrinkage; LL– Liquid Limit; PL– Plastic Limit; CBR – California Bearing Ratio; NO – Not Obtainable; NP – Non-Plastic; GW – Well Graded Gravel; SP – Poorly Graded Sand; USCS – Unified Soil Classification System

Table 4: Summary of CBR testing

Location	Depth (m)	Strength			CBR Swell %	WPI % PI x % < 0.425 mm	Shrink-Swell Index (I_{ss})
		OMC (%)	MMDD [1] (t/m^3)	CBR [2] (%)			
PD2	0.35 – 1.0	7.5	2.15	7	0.5	672	-
PD4	0.3 – 0.8	8.0	2.15	12	0.0	732	0.7
PD5	0.32 – 0.8	9.5	2.08	7	0.5	728	-
PD6	0.3 – 1.0	9.0	2.14	6	0.5	882	0.8
PD8	0.015 – 0.35	8.0	2.11	70	0.0	429	-
PD9	0.35 – 1.0	8.0	2.16	16	0.0	0	-

Notes: All depths are relative to the existing ground surface. OMC – Optimum Moisture Content; MMDD – Maximum Modified Dry Density; CBR – California Bearing Ratio

1. *Tested At 95% laboratory dry density ratio*
2. *Soaked CBR value quoted at 5 mm penetration*
3. *weighted mean plasticity index (WPI) is PI x percentage passing 0.425 mm*

4 SUBSURFACE CONDITIONS

4.1 Published geology

The 1:250,000 scale Geological Map 'Fitzroy Crossing' indicates that the site is underlain by one geological unit as follows:

- Q_b Clay, silt; minor gypsum, black soil: pedogenic

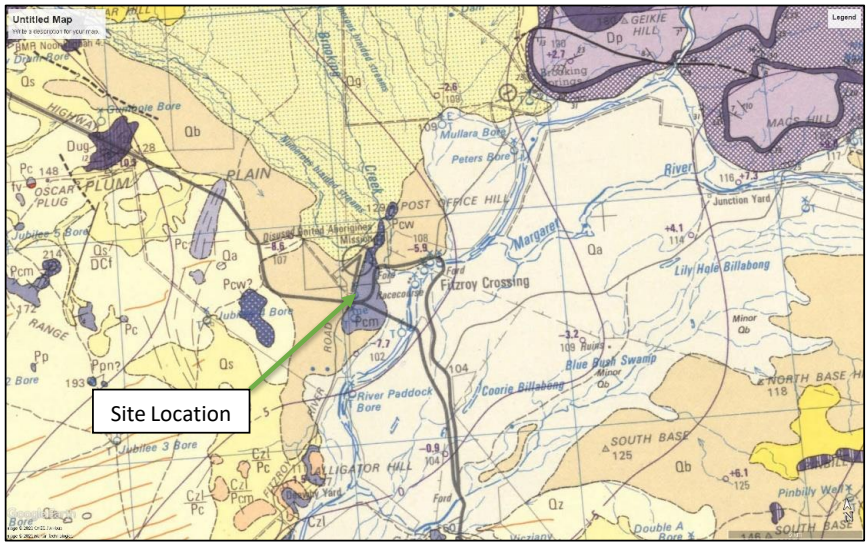


Figure 1: Extract from the 1:250,000 scale Geological Map 'Fitzroy Crossing'

4.2 Groundwater

During the geotechnical investigation groundwater was not encountered.

Significant rainfall and flooding occurred in Fitzroy Crossing following the investigation during Nov-Dec 2022. The town was severely inundated during this flooding while the airstrip was still operational. The airstrip was used for emergency response during this flooding, with ADF Spartans regularly using the airstrip.

4.3 Interpreted subsurface profile

A summary of the interpreted subsurface profile is provided in Table 5 below. The findings at each pavement dipping were generally consistent across the airstrip.

Table 5: Sub-surface soil profile

Pavement Layer	Thickness	Description
Stone Seal	15-20 mm	**STONE SEAL**
Basecourse and Subbase	Thickness varies between 180 mm to 330 mm (Average = 280 mm)	**Sandy GRAVEL**; with some clay, fine to coarse grained, subangular to angular, red brown, sand is fine to medium grained, dry to moist, very dense – *Basecourse*
Subgrade	Observed at all locations. Typically, at 300mm BGL	**clayey gravelly SAND;** clayey is low to medium plasticity; gravel is fine to medium grained, red brown, moist, very dense;

5 ANALYSIS AND INTERPRETATION

5.1 Subgrade assessment

Generally, the subgrade conditions consist of **clayey gravelly SAND,** in which five (5) soaked CBR tests were conducted. The CBR results ranged from 6 % – 16 %, with an average CBR of 9.6%. The percentage fines in the subgrade varied from 8% – 34%, seeing the subgrade varied from **clayey gravelly SAND** to **gravelly SAND with some clay**. For two (2) samples with lower fines, CBRs of 12% and 16% were recorded. The remaining three samples with higher fines content recorded results of 6%, 7% and 7%. Therefore, a design subgrade CBR of 6% is recommended for the assessment that follows, due to the variability in the subgrade along the airstrip.

5.1.1 Subgrade reactivity

The reactivity of the subgrade was assessed using several methods as shown in Table 6 below. The swells measured from CBR testing varied from 0.0 to 0.50%, indicating that the subgrade is non-reactive. For confirmation, shrink-swell index tests were conducted where the cracking was most severe, again showing low reactivity. Austroads Guide to Pavement Technology Part 2 – Structural Design (AGPT2) also provides a method of assessing the expansive nature of soils using the Weighted Mean Plasticity index (PI x % < 0.425 mm). Again, this assessment indicated low reactivity.

Table 6: Expansive Soil Classification Guide

Expansive Nature	Swell (%)	Weighted Mean Plasticity (PI x % < 0.425)
Very High	> 5.0	>3200
High	2.5 – 5.0	2200 – 3200
Moderate	0.5 – 2.5	1200 - 2200
Low	< 0.5	< 1200

5.2 Pavement composition

The pavement composition was found to be consistent along the runway. The existing spray seal, on average, was 15 – 20 mm thick. The pavement thickness varied from 280 mm to 330 mm, with one location finding a thickness of 180 mm at PD7. Half of the test locations recorded a pavement thickness of 330 mm, and the pavement composition below was used for the assessment that follows:

- Surfacing: 20 mm Spray Seal
- Basecourse: 330 mm clayey sandy GRAVEL
- Subgrade: clayey gravelly SAND.

5.3 Falling Weight Deflection (FWD) testing

5.3.1 Uniform pavement section assessment

The FWD data was initially analysed using the method of cumulative sums of differences for the maximum surface deflections to determine uniform pavement sections. The method identifies uniform pavement sections by showing sections with a constant grade (slope). Figure 2 below summarises the cumulative sums for the centreline and 3 m east and west. Figure 3 below summarises the cumulative sums for the centreline and 6 m and 12 m east and west.

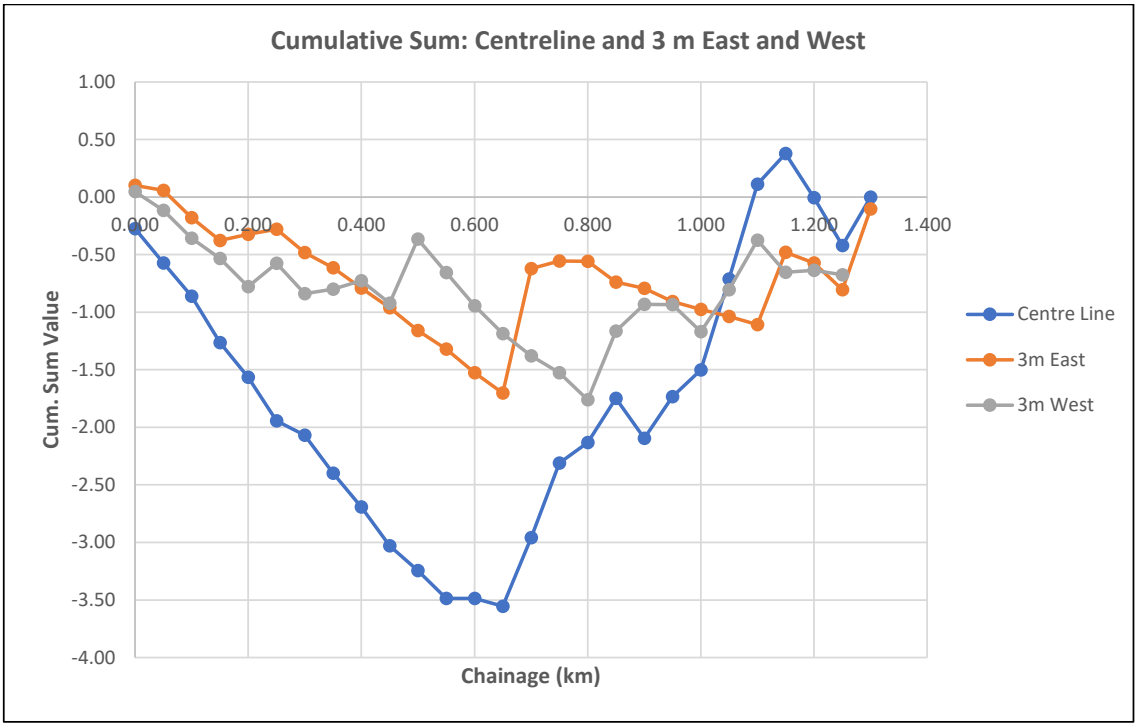


Figure 2: Cumulative sum – centreline and 3 m East and West

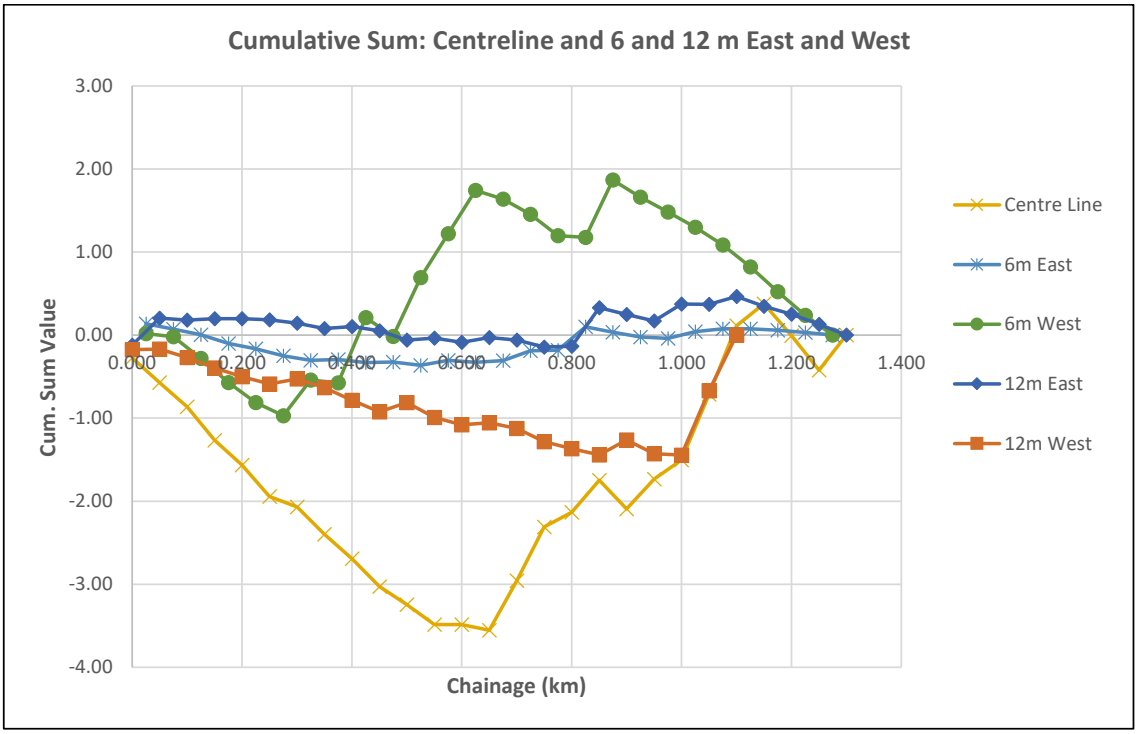


Figure 3: Cumulative sum – centreline and 6 m and 12 m East and West

From the cumulative sum assessment, the mean and standard deviation are calculated for each uniform section. Then the Coefficient of Variance (CoV) is calculated by dividing the mean by the standard deviation. It is generally accepted that a CoV of less than 0.25 indicates statistically uniform test results. However, the results for this assessment are generally scattered, making splitting the pavement into uniform sections with CoV less than 0.25 impractical. For this assessment, the general slope of the cumulative sum assessment graphs above were used to split sections of more uniform pavement.

The uniform sections identified for the centreline and 3 m East and West are generally the same for the three runs as follows:

- 0 m to 650 m
- 650 m to 1300 m

Different sections were identified for the runs 6 m and 12 m East and West of the centreline. East of the centreline, the pavement is generally uniform the entire length of the runway, while West, the pavement is less uniform and can be split into the following sections:

6 m West:

- 0m to 275 m
- 275 m to 625 m
- 625 m to 875 m
- 875 m to 1275 m

12 m West:

- 0 m to 650 m
- 650 m to 1.150 m
- 1.150 m to 1.275 m

5.3.2 Pavement deflections

Pavement deflections provide an indication of the current and future pavement performance. Conversely, high surface defections are an indication of pavement weakness. Refer to Figure 4 and Figure 5 for a summary of the deflection data.

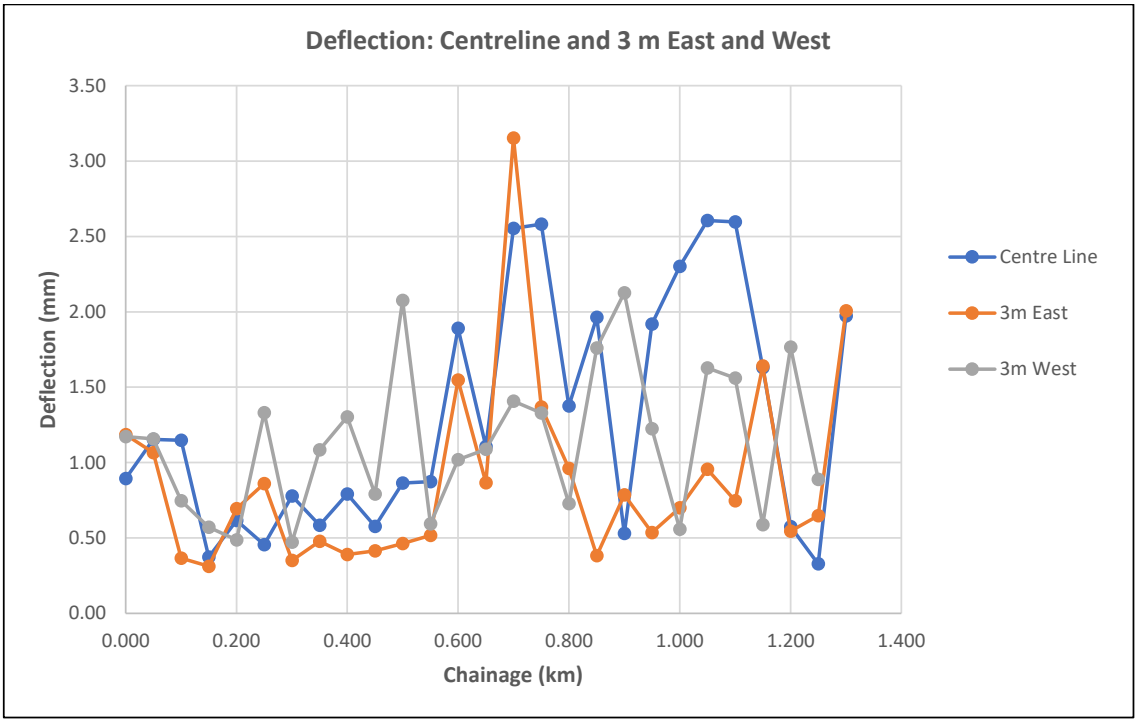


Figure 4: Deflection data – centreline and 3 m East and West

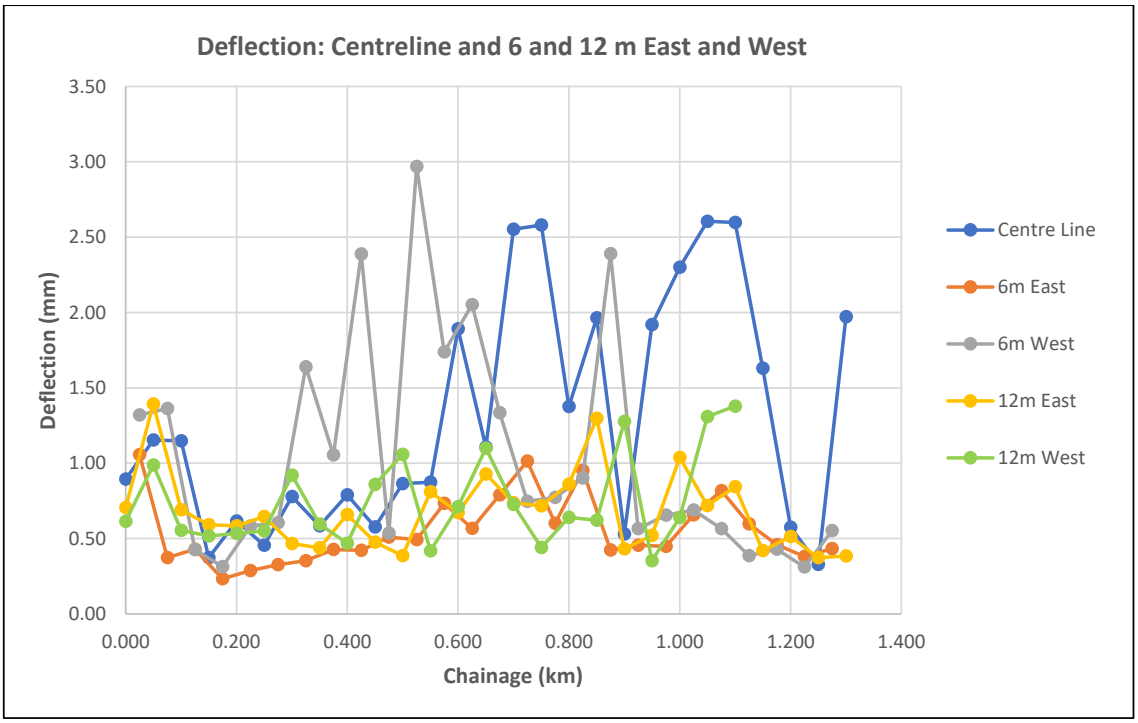


Figure 5: Deflection data – centreline and 6 m and 12 m East and West

Table 6, 7 and 8 below summarises the maximum deflections for each uniform pavement section.

Table 7: Maximum deflections – centreline and 3 m East and West

Section	Centreline (mm)	3 m West (mm)	3 m East (mm)
0 – 650 m	1.15	2.08	1.55
650 – 1300 m	2.61	2.13	3.15

Table 8: Maximum deflections – 6 m and 12 m East

Section	6 m East (mm)	12 m East (mm)
0 – 1300 m	1.06	1.39

Table 9: Maximum deflections – 6 m and 12 m West

Section	6 m West (mm)	Section	12 m West (mm)
0 – 275 m	1.36	0 – 650 m	1.1
275 – 625 m	2.97	650 – 1.150 m	1.38
625 – 875 m	2.39		
875 – 1275 m	0.69		

5.4 Pavement layer stiffness

The FWD data was used to back-calculate pavement layer elastic modulus (or stiffness) using the program ELMOD 6. For the assessment that follows, it was decided that the assessment will be taken for only the centreline and 3 m east and west as this best represents where the aircraft takeoff and land. The ELMOD 6 program is calibrated using the assessed pavement layer thickness as discussed in Section 5.2 above. A summary of the back-calculated modules for the uniform pavement sections is summarised in Table 10 below.

Table 10: Summary of stiffness analysis

Chainage	Centreline		3 m East		3 m West	
	Base (MPa)	Subgrade (MPa)	Base (MPa)	Subgrade (MPa)	Base (MPa)	Subgrade (MPa)
0 – 650 m	363	95	448	109	390	85
650 – 1300 m	284	59	401	89	308	69

The back-calculated stiffness results in Table 10 have excluded the benefits of the seal, which is considered more representative as the existing pavement has significant cracking, allowing moisture ingress into the pavement. The average basecourse stiffness between chainage 0 – 650 m varied between 363 – 448 Mpa (400 Mpa average), while the section between chainage 650 – 1300 Mpa was weaker, with the average stiffness varying from 284 – 401 Mpa (331 Mpa average). Austroads Guide to Pavement Technology, Part 2 (AGPT2) suggests the following presumptive values for base materials:

- High Standard Crushed Rock = 300 – 700 Mpa
- Normal Standard Crushed Rock = 200 – 500 Mpa
- Base quality gravel = 150 – 400 Mpa

A soaked CBR was conducted on the basecourse, recording a CBR of 70%, which is generally lower than typical high quantity basecourse materials used in the region, based on MRWA specifications. Based on this testing and assessment

of the back-calculated stiffnesses, the in-situ pavement materials are best described as 'base quality gravel', better representing the weaker material observed.

The average back calculated stiffness of the subgrade again varied between the two sections, with an average stiffness of 85 – 109 Mpa (96 Mpa average) between chainage 0 – 650, and 59 Mpa – 89 Mpa (72 Mpa average) between chainage 650 – 1300. As discussed in Section 5.1 above, the subgrade's representative soaked CBR was 6%. AGPT2 provides a commonly used relationship: Modulus (Mpa) = 10 x CBR (with a maximum modulus value of 150 Mpa, or CBR = 15%). From the average back calculated stiffnesses, this relationship suggests a CBR of 9% between ch 0 – 650 and 7% between ch 650 – 1300.

As the pavement has significant cracking, it is expected that the subgrade in-situ moisture will increase during rainfall events.

It is recommended that a stiffness of 60 Mpa or a CBR of 6% is adopted for the subgrade, accounting for some of the lower subgrade stiffnesses identified by the FWD.

5.5 Aircraft traffic

The Fitzroy Crossing airstrip is predominantly used by chartered service aircraft with no regular commercial traffic. These chartered aircraft are primarily Pilatus PC-12 and Cessna 208 Caravans. The Royal Flying Doctor Service (RFDS) also use Pilatus PC-12 in WA.

Fitzroy Crossing is prone to significant flooding, and often the airstrip is the only access to the town during this period. The Australian Defense Force (ADF) has used C-27J Spartans for emergency supply delivery during the 2022 floods. The Shire has indicated that C-130 Hercules and Fokker 50 have used the airstrip. However, these aircraft are uncommon and won't be included in the assessment that follows. The Shire has not specified a design life. An assumed design life of 20 years will be adopted, with a traffic growth rate of 3% per annum. Nevertheless, in practice, the traffic will increase or decrease as more of a step function.

A summary of the aircraft types, Maximum Takeoff Weights (MTOW) and the number of departures is summarised in Table 11 below. The number of annual departures is based on discussions with the Shire, as no detailed aircraft traffic data is available for this airstrip as there is no regular commercial traffic.

Table 11: Summary of aircraft traffic

Aircraft	Maximum Takeoff Weights (MTOW) – kg	Annual Departures	Pass to Traffic Cycle Ratio	Cumulative Growth Factor (CGF) – 3%	Cycles for Design Life
Pilatus PC-12	4,740	520[1)]	2	27	28,080
Cessna 208 Caravan	3,969	800[2)]	2	27	43,200
C-27J Spartan	30,500	20[3)]	2	27	1,080

Notes:

1) *Assumes an average annual departure of 10 flights per week.*
2) *Assumes an average annual departure of 15 flights per week.*
3) *Assumes an average annual departure of 20 flights per year.*

5.6 Pavement Classification Number (PCN)

The International Civil Aviation Organisation (ICAO) developed a standardised method of reporting aircraft pavement strength known as the Aircraft Classification Number/Pavement Classification Number (ACN/PCN).

The US Federal Aviation Association (FAA) recommends that PCN calculations be based on the same method adopted by ICAO for calculating ACN. For this purpose, the FAA developed the software program COMFAA, which computes ACN

following the procedures specified by ICAO. COMFAA calculates an ACN and PCN for a design aircraft and a corresponding flexible pavement thickness for a designated subgrade CBR. The flexible pavement thickness is based on a reference pavement composition (FAA Advisory Circular 150/5335-5C).

For aircraft with less than four wheels on a main gear, the reference pavement consists of 3" (76.2mm) of asphalt and 6" (152.4mm) of high-quality granular base (crushed rock base course). FAA also provides a spreadsheet to compare the actual pavement composition to the reference pavement using material equivalencies.

The Australian Government Civil Aviation Safety Authority (CASA) Manual of Standards (MOS) Part 139 – Aerodromes. Version 1.13: March 2016, Clause 6.2.10.1 states the pavement strength rating for a runway must be determined using the ACN-PCN pavement rating system.

5.6.1 PCN calculation

The inputs for the PCN calculation are the runway bearing strength, the runway pavement thickness, and the design traffic. The runway bearing strength (CBR) is 6%, and the average granular pavement thickness was found to be 330 mm. Using the supporting COMFAA spreadsheet, the existing pavement has an equivalent thickness of 310 mm, as shown in Appendix C.

The equivalent thickness, subgrade CBR and design traffic were input to the COMFAA program. The COMFAA input screens for the three aircraft types are shown in Appendix C, and a summary of the PCN calculation is provided in Table 12 below.

Table 12: Summary of PCN calculation

Aircraft	PCN – Subgrade Strength Category 'C' (low strength = CBR 4-8%)
Pilatus PC-12	3.9
Cessna 208 Caravan	3.3
C-27J Spartan	12.8

The PCN code is taken as the largest for each value in Table 12, which was found to be 12.8. Therefore, the PCN is rounded down to a value of **12**.

The PCN value depends on the number of flights and the aircraft's weight. A conservative traffic volume was assumed as no detailed aircraft traffic could be provided. It is expected that the Shire assesses the adopted traffic volumes, and if the volume is considered underestimated, the PCN number should be recalculated.

5.6.2 PCN code

The PCN code consists of:

- Numerical PCN value,
- Pavement type,
- Subgrade strength category,
- Allowable tyre pressure, and
- Method used to determine the PCN.

5.6.2.1 Numerical PCN value

As per Section 5.6.1 a numerical value of **12** applies to the Fitzroy Crossing Airstrip.

5.6.2.2 Pavement type

The pavement type is classified as per Table 13:

Table 13: Pavement type classification

Pavement type for ACN-PCN determination	Code
Rigid pavement	R
Flexible pavement	F

The Fitzroy Crossing Airstrip is classified as a Flexible Pavement – Type **F**.

5.6.3 Subgrade strength category

The subgrade strength is categorised as per Table 14:

Table 14: Subgrade strength

Strength Category	Strength Code	Flexible Pavements	Rigid Pavements
High	A	California Bearing Ratio 15 (All CBR above 13%)	k = 150 MN/m3 (550 lb/in3) (All k values above 120 MN/m3)
Medium	B	California Bearing Ratio 10 (For CBR between 8% to 13%)	k = 80 MN/m3 (300 lb/in3) (For values between 60 and 120 MN/m3)
Low	C	California Bearing Ratio 6 (For CBR between 4% to 8%)	k = 40 MN/m3 (150 lb/in3) (For values between 25 and 60 MN/m3)
Ultra Low	D	California Bearing Ratio 3 (For CBR below 4%)	k = 20 MN/m3 (75 lb/in3) (All k values below 25 MN/m3)

Per the discussions in Sections 5.1 and 5.4, the subgrade strength category is **C – Low Strength.**

5.6.3.1 Allowable tyre pressure

There are four tyre pressure codes shown in Table 15 below.

Table 15: Tyre pressure codes

Category	Code	Tyre Pressure Range
High	W	No pressure limit
Medium	X	Pressure limited to 1.5 MPa
Low	Y	Pressure limited to 1.0 MPa
Very low	Z	Pressure limited to 0.5 MPa

Based on the aircraft used for this assessment, tyre pressures varied between 0.5 to 1.0 MPa. It is therefore recommended that category **Y** is adopted for this airstrip.

5.6.3.2 Method used to determine the PCN

The method is specified as either 'T' for a technical study and 'U' for the "using plane experience". Therefore, method T is appropriate.

5.6.3.3 PCN code summary

The PCN Code for the Fitzroy Crossing Aerodrome Runway is **12/F/C/Y/T**

5.7 Pavement thickness design (new/reconstructed pavement)

Based on the aircraft traffic summarised in Section 5.1 above and a subgrade CBR of 6%, the pavement thickness requirements can be calculated for a new/reconstructed pavement. The pavement thickness was calculated using the latest version of industry-standard software, APSDS 5 published by Mincad Systems. A summary of the required pavement thickness is shown in Table 16 below.

Table 16: Minimum pavement thickness requirements

Layer Description	Layer Thickness Requirements
Minimum Basecourse Thickness (mm)	235 mm[1)]
Minimum Subbase Thickness (mm)	150 mm
Total Thickness	**385 mm**

Note:

1) Includes round up to the nearest 5 mm with an additional 10 mm added for construction tolerance.

5.7.1 Pavement sensitivity assessment – ADF emergency aircraft

The Fitzroy Crossing Airstrip is predominantly used by small, charted planes and larger ADF aircraft during the wet season when significant flooding cuts off access to the town by road. The pavement designer understands the prediction of flooding events may be challenging. However, with the impact of climate change, the frequency and severity of cyclones and other extreme weather events are expected to increase. Therefore, the importance of the airstrip in providing access to the township is considered vital, which is why the ADF aircraft were included in the pavement structural capacity assessment. For comparison, the same pavement thickness assessment has been completed, excluding the ADF aircraft and the minimum required pavement thickness is shown in Table 17 below.

Table 17: Minimum pavement thickness requirements – with no ADF aircraft

Layer Description	Layer Thickness Requirements
Minimum Basecourse Thickness (mm)	105 mm[1)]
Minimum Subbase Thickness (mm)	150 mm
Total Thickness	**255 mm**

Note:

1) Includes round up to the nearest 5 mm with an additional 10 mm added for construction tolerance.

The existing pavement thickness was much larger than the minimum pavement thickness requirements when excluding the ADF aircraft. Combining the analysis of the pavement thickness assessment and the results from the FWD testing, the existing pavement materials strength is considered suitable for the current pavement loadings. The pavement integrity issues discussed in Section 6.1 below are considered the result of subgrade movement.

The pavement thickness design in Section 5.7 included 20 number C-27J Spartans per year. This was a conservative assumption made for the structural capacity assessment, as no detailed traffic volumes were provided. However, as a sensitivity assessment, a range of different C-27J Spartans volumes and the resulting pavement thickness is summarised in Table 18 below.

Table 18: Minimum pavement thickness requirements – different ADF aircraft volumes

Layer Description	Minimum Layer Thickness Requirements		
	20 flights per year	10 flights per year	10 flights every 5 years
Basecourse Thickness (mm)	235 mm[1]	225 mm[1]	205 mm[1)]
Subbase Thickness (mm)	150 mm	150 mm	150 mm
Total Thickness	**385 mm**	**375 mm**	**355 mm**

Note:

1) Includes round up to the nearest 5 mm with an additional 10 mm added for construction tolerance.

As shown in Table 18 above, the pavement thickness is not significantly impacted by the number of passes, with only a 30 mm reduction in pavement thickness required for an 8-times reduction in the number of passes. Airstrip pavement thickness requirements are more greatly impacted by the subgrade strength and the loaded weight of the aircraft, reflecting a bearing capacity type assessment. The existing pavement thickness is 330 mm thick on average, lower than the minimum required pavement thickness for even a relatively small number of passes by the C-27J Spartan. A pavement overlay or full reconstruction should be considered for the airstrip to be more confidently and routinely used by larger aircraft during emergency flooding events.

6 DISCUSSION AND RECOMMENDATIONS

6.1 Existing pavement condition

Appendix E provides a summary of the visual pavement assessment conducted during the investigation. Generally, the shape and condition of the existing pavement and seal are in good condition and considered “fit for purpose” for the relatively light aircraft traffic that routinely uses the airstrip. The pavement has also performed well when used by the occasional heavier aircraft used during the emergency flooding events by the ADF. However, the primary defect of the existing pavement is cracking, which visually creates some concerns for the Shire. South of the taxiway at ch 500, a noticeable ‘lump’ is also seen across the full width of the pavement. Discussions with the Shire indicate that this lump was produced by pavement repair works with the pavement overlayed to the north. This ‘lump’ is a concern that should be addressed.

Crack sealing has been conducted along the entire runway, and for the majority of the runway, these repairs have been successful, with the cracks remaining closed. However, the cracks have reopened between ch 500 to ch 950, with large crack widths of up to 60 mm recorded. This section also has the most cracks, with block cracking in relatively even 2.5 m x 2.5 m patterns. The cracking for the rest of the runway, except for the turn pad, is predominantly longitudinal. Block cracking also occurs in both turn pad areas. However, crack sealing has been successful at these locations.

Based on the significant crack widths and depths seen in the pavement section between ch 500 to ch 950, the most likely cause is considered to be subgrade movement. However, laboratory testing indicates the subgrade is non-reactive, with low plasticity. As the test locations were conducted on the shoulder of the runway, the subgrade closer to the centreline may be more reactive, or deeper material is present with very high reactivity.

Cement stabilisation of the basecourse is another reason for block cracking in pavements. The linear shrinkage of zero for the basecourse sample collected indicates that cement stabilisation may have been conducted in the past as a pavement repair treatment. A combined effect from the stabilisation of the pavement and reactive subgrade would lead to cracking of this severity. However, the Shire was unable to provide any information confirming if the pavement was stabilised.

6.2 Maintenance and remediations options

6.2.1 Temporary Maintenance

WML considers the pavement in its existing condition to be ‘fit for purpose’, assuming the Shire continues to seal cracks as they appear and reseal the pavement when required. Where cracks have occurred in the pavement, the crack sealing conducted to date has been successful with the exception of the severely cracked section between ch 500 to ch 950. The cracking in the remaining sections of pavement is less severe and until a change in the pavement condition is observed or a significant increase in aircraft traffic or size is proposed, additional remediation works are not considered necessary at this time.

6.2.2 Pavement Reconstruction

Following assessment of the existing pavement geometry by Greenfields Technical Services it is understood that a full pavement reconstruction is required. WML’s preference is to overlay the existing pavement, however this was found to not be feasible from a geometric point of view. For the pavement reconstruction, it is recommended that the pavement thickness be based on the recommendations in Table 18 above, allowing for at least 10 flight every 5 years from the ADF aircraft during flood events.

Table 19: Pavement Overlay Requirements

Layer Description	Layer Thickness Requirements
Minimum Basecourse Thickness (mm)	205 mm[1)]
Minimum Subbase Thickness (mm)	150 mm
Total Thickness	**355 mm**

Note:

1) Includes round up to the nearest 5 mm with an additional 10 mm added for construction tolerance.

At the base of the new pavement, a geogrid reinforcement is proposed to provide additional resistance to subgrade movement and the resulting pavement cracking. A Secugrid 40/40 or equivalent strength geogrid is recommended.

It is noted that the laboratory testing on the subgrade samples collected from this investigation indicate the subgrade has low reactivity. WML is of the opinion that this testing is not representative based on the cracking observed. The Pavement dipping's conducted in this investigation were only permitted on the shoulder, and additional testing within the pavement runway is recommended to confirm the above recommendations.

6.3 Pavement Building Materials

Based on a desktop study and WMLs experience conducting borrow material assessments, there is little opportunity to identify suitable pavement materials close to Fitzroy Crossing. Discussions with the Shire confirm this, as it was indicated that the Shire operated no borrow pits in Fitzroy Crossing.

It is understood that recent road construction works in Fitzroy Crossing have imported MRWA specification material from the Nillibubbica Quarry located 100 km east of Broome. This quarry is considered a suitable source of pavement materials for the reconstruction works at the airstrip.

The overlay will be constructed in two layers, which will be specified as sub-base and basecourse. MRWA specification 501 shall be adopted for the construction as follows.

- Sub-base (lower layer) – Kimberley Gravel Subbase (Annexure 501G of Specification 501) –
    - It is recommended the CBR of the material is tested and the requirements of 30% minimum be increased to 50%. This will provide greater support to the basecourse and is expected to be easily achieved.
- Basecourse – Crushed Rock Basecourse (See section 501.11 of Specification 501)

6.4 Conclusion

In summary WML's findings and recommendations were as follows;

- Between ch 500 – 950, the extent of pavement cracking is most severe and the crack sealing conducted has failed, resulting in the cracks reopening.
- The remaining sections of pavement are considered 'fit for purpose' and the crack sealing has been successful. Until a noticeable change in the pavement condition is observed or a change in the aircraft traffic is proposed, additional remediation is not considered necessary.
- Based on the geometry assessment by Greenfields Technical Services, a full pavement reconstruction is proposed. WML's preference would be to overlay the existing pavement as this would provide greater confinement of the subgrade. WML provided overlay recommendations in a previous revision of this report however, geometric issues determined that this was not feasible.
- Recommendations for the pavement reconstruction were provided which incorporates a geogrid reinforcement at subgrade level.
- The geotechnical investigation did not determine the primary cause of the cracking. It is noted that the pavement dippings conducted in this investigation were only permitted on the pavement shoulder. WML

considers the cracking to be caused by subgrade movement and possible stabilisation of the pavement Between ch 500 – 950. Additional geotechnical testing is required to confirm the pavement design within the pavement runway, 3-5 m either side of the centerline. The pavement thickness may need to be increased, or a subgrade improvement layer provided if the subgrade is found to be reactive.

7 CLOSURE

WML did not encounter any environmental contamination or evidence of previous man-made buried structures during the site investigation, however this does not indicate that they do not exist. Attention should be taken during any excavation works, and if any, contamination, unknown buried structures or unexpected ground conditions are encountered, WML should be contacted immediately.

We trust that the information provided within this report satisfies your present requirements and meets with your approval. Should you have any queries, please do not hesitate to contact the author of this report.

We draw your attention to the attached "*Report Limitations*" included with this report. This information sheet is intended to provide additional information about this report and information included within it. This information is provided not to reduce the level of responsibility accepted by WML but to ensure that all parties that rely on this report, and the information contained herein, are aware of the responsibilities that each assumes in so doing.

8 REFERENCES

1. Geological Series Map 1:50,000 Scale 'Fitzroy Crossing '
2. Standards Australia. 2017. *Geotechnical Site Investigations*. AS 1726:2017. SAI Global.
3. Standards Australia. 2007. Earthworks for Residential and Commercial Developments. AS 3798:2007. SAI Global.
4. Austroads Guide to Pavement Technology Part 2 – Structural Design
5. Main Road Engineering Road Note 9

LIMITATIONS

REPORT LIMITATIONS

WML have undertaken investigations, performed consulting services, and prepared this report based on the Client's specific requirements, documents and information supplied, and previous experience. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the Client to transmit the information and recommendations of this report to the appropriate organisations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers.

We performed our professional services in accordance with generally accepted geotechnical engineering principles and practices currently employed in the area; no warranty, expressed or implied, is made as to the professional advice included in this report.

Any data provided by third parties including, but not limited to: sub-consultants, published data, and the Client, may not be verified and WML assumes no responsibility for the adequacy, incompleteness, inaccuracies, or reliability of this information. WML does not assume any responsibility for assessments made partly or entirely based on information provided by third parties.

This report has been prepared based on investigation locations which are explicitly representative of the specific sample or test points. Interpretation of conditions between such points cannot be assumed to represent actual subsurface information and there are unknowns or variations in ground conditions between test locations that cannot be inferred or predicted.

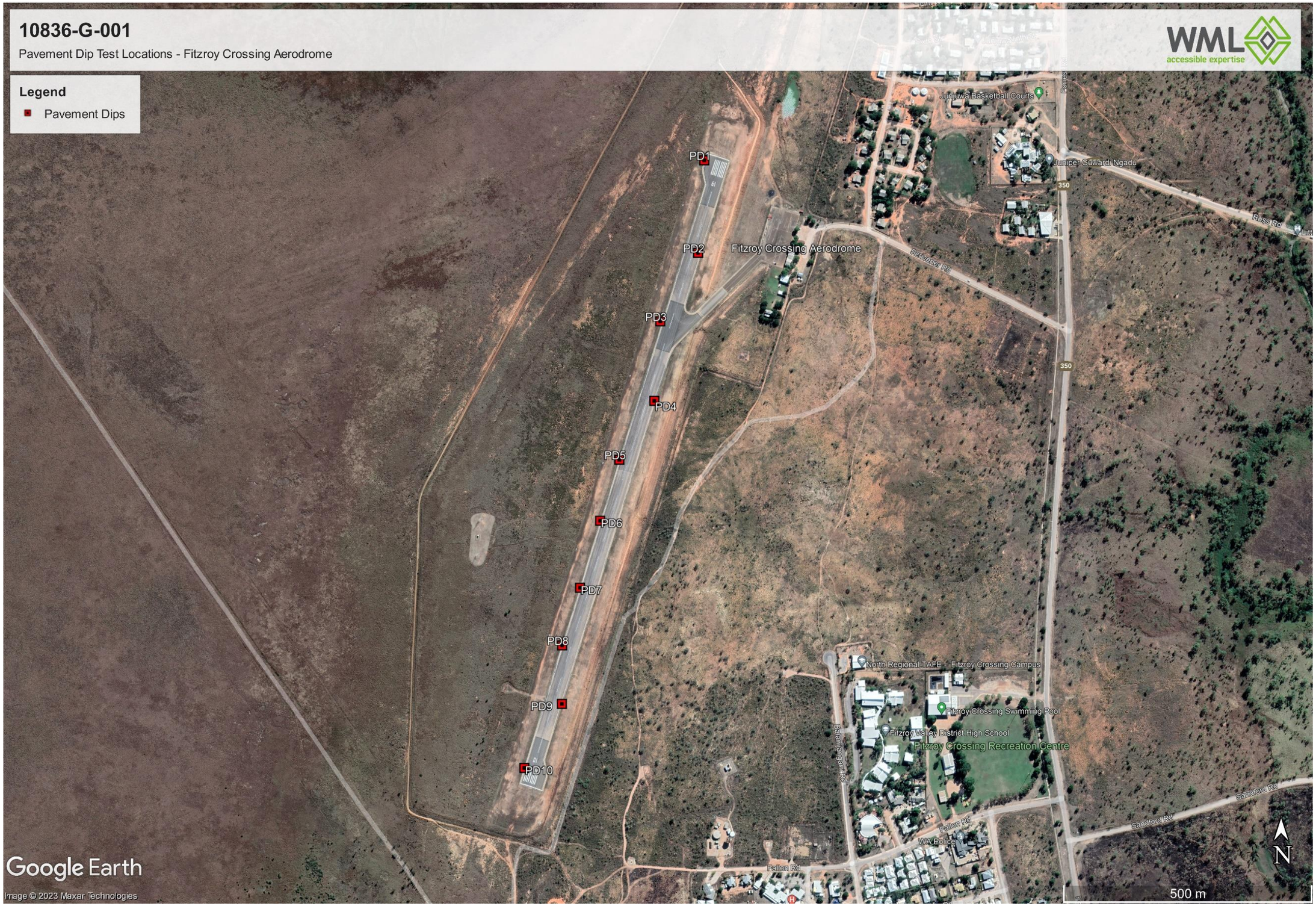
This report is based upon field and other conditions encountered at the time of report preparation. If unexpected subsurface conditions are encountered, WML shall be notified immediately to review those conditions and provide additional and/or modified recommendations, as necessary.

Our services did not include any contamination or environmental assessment of the site or adjacent sites. The nature of geotechnical investigation differs from the environmental investigation practice. If you require any environmental considerations to be applied to your project, WML can advise on further steps to be undertaken.

Geotechnical assessments are typically based on judgment of the investigation data and visual observations of the site and materials.

This document must not be subject to unauthorised use that is, reusing without written authorisation of WML. Such authorisation is essential because it requires WML to evaluate the document's applicability given new circumstances, not the least of which is passage of time.

SITE MAP


10836-G-001
Pavement Dip Test Locations - Fitzroy Crossing Aerodrome
WML
accessible expertise
Legend
Pavement Dips
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD8
PD9
PD10
Fitzroy Crossing Aerodrome
Junjuwa Basketball Courts
Juniper Guwardi Ngadu
Ross Rd
Derwent Rd
Fitzroy Crossing Swimming Pool
Fitzroy Valley District High School
Fitzroy Crossing Recreation Centre
Fallon Rd
WA Police
Sandford Rd
350
Google Earth
Image © 2023 Maxar Technologies
N
500 m

APPENDIX A

SOIL LOGS

WML CONSULTING ENGINEERS

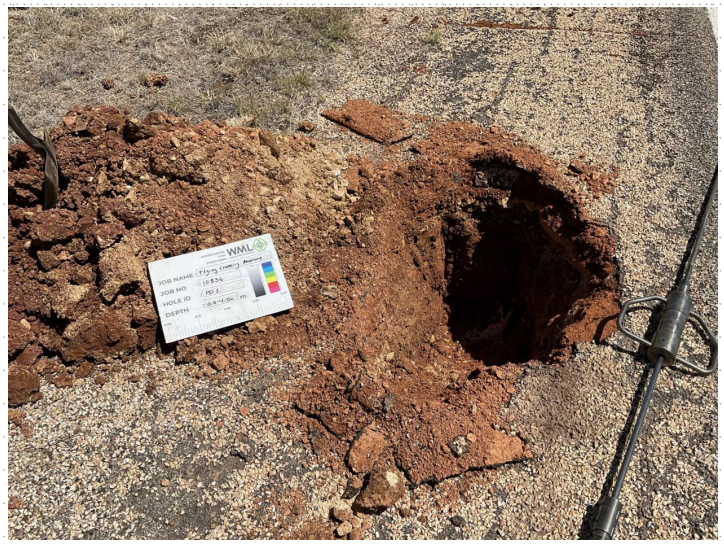
TEST: PD1

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770948.0 m E, 7988234.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					0 5 10 15 20 25
			0.12		GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.22		GP	**Sandy GRAVEL,** fine to medium grained, cream; sand is fine to medium grained; with clay; moist; very dense; SUB-BASE.	M	VD			
		0.5			Cl	**CLAY,** low to medium plasticity, red brown; with fine to medium grained sand, trace fine grained gravel; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
		1.0	1.00			Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD2

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770933.0 m E, 7988051.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description					IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY			0 5 10 15 20 25
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.35								
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_v>130 kPa		
			1.00								
		1.0				Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD3

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	0.80m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770856.0 m E, 7987917.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description					IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY			0 5 10 15 20 25
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.35								
		0.5			Cl	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt			
			0.80								
						Hole Terminated at 0.80 m Target Depth					
		1.0									
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

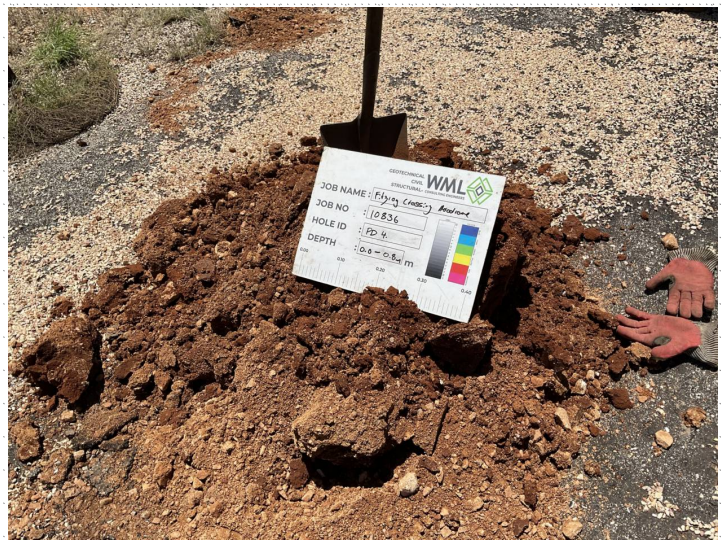
TEST: PD4

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	0.80m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770842.0 m E, 7987760.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm (0 5 10 15 20 25)
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.30								
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
			0.80								
		1.0				Hole Terminated at 0.80 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD5

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770771.0 m E, 7987645.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm (0 5 10 15 20 25)
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.32								
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
		1.0	1.00			Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD6

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770731.0 m E, 7987525.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
300mm wide tooth bucket	Not Encountered	0.0									0 5 10 15 20 25
			0.12		GP	STONE SEAL.	M	VD			
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE; *Old seal at the bottom of the layer*	M	D			
			0.30			**Sandy GRAVEL,** fine to coarse grained, subangular, pale brown; sand is fine to medium grained; with clay; moist; dense.					
		0.5			Cl	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
		1.0	1.00			Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD7

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770689.0 m E, 7987393.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm (0 5 10 15 20 25)
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
			0.20		GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
			1.00			Hole Terminated at 1.00 m Target Depth					
		1.0									
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

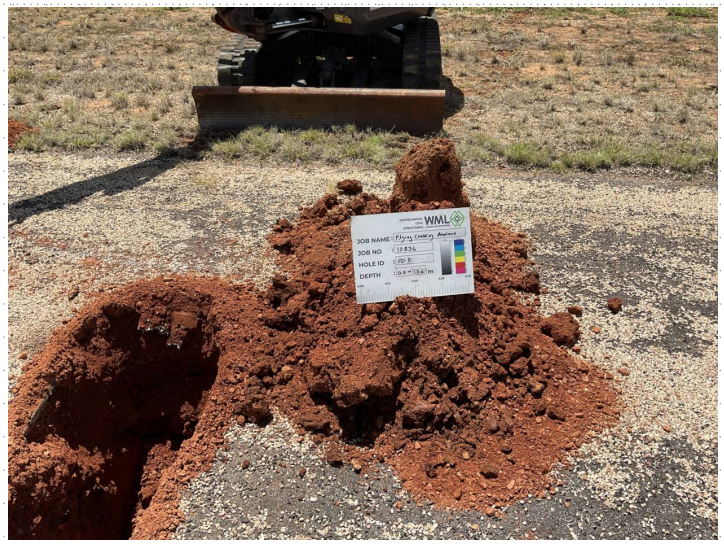
TEST: PD8

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770652.0 m E, 7987280.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					0 5 10 15 20 25
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.35								
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt	FV 0.50 m s_u>130 kPa		
			1.00								
		1.0				Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD9

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770650.0 m E, 7987165.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm (0 5 10 15 20 25)
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.35								
		0.5			CI	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt			
			1.00								
		1.0				Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

WML CONSULTING ENGINEERS

TEST: PD10

SHEET: 1 OF 1

CLIENT:	Greenfields Technical Services	HOLE DEPTH:	1.00m	CONTRACTOR:	WML Consultants		
PROJECT:	Fitzroy Crossing Aerodrome	COORDINATES:	770573.0 m E, 7987038.0 m N, MGA94 Zone 50	EQUIPMENT:	Excavator		
JOB NO.:	10836			LOGGED:	HT	START DATE:	30/11/2022
LOCATION:	Fitzroy Crossing Aerodrome	INCLINATION:	-90°	CHECKED:	SM	END DATE:	30/11/2022

Drilling				Field Material Description							
METHOD	WATER	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	IN SITU TESTING	SAMPLE	DCP TEST Blows per 150 mm
300mm wide tooth bucket	Not Encountered	0.0				STONE SEAL.					0 5 10 15 20 25
					GP	**Clayey Sandy GRAVEL,** fine to coarse grained, subangular to angular, red brown; sand is fine to medium grained; moist; very dense; BASE COURSE.	M	VD			
			0.35								
		0.5			Cl	**Sandy CLAY,** low to medium plasticity, red brown; sand is fine to medium grained; moist; very stiff.	M	VSt			
			1.00								
		1.0				Hole Terminated at 1.00 m Target Depth					
		1.5									
		2.0									

Sketch & Other Observations



WML 3.00.0 LIB.GLB Log WML TEST PIT 10836 LOGS.GPJ <<DrawingFiles>> 3/1/2023 16:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WML 3.00.0 2022-08-23 Prj: WML 3.00.0 2022-08-23

APPENDIX B

LABORATORY TEST RESULTS

WESTERN GEOTECHNICAL & Laboratory Services

SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.5.2.1

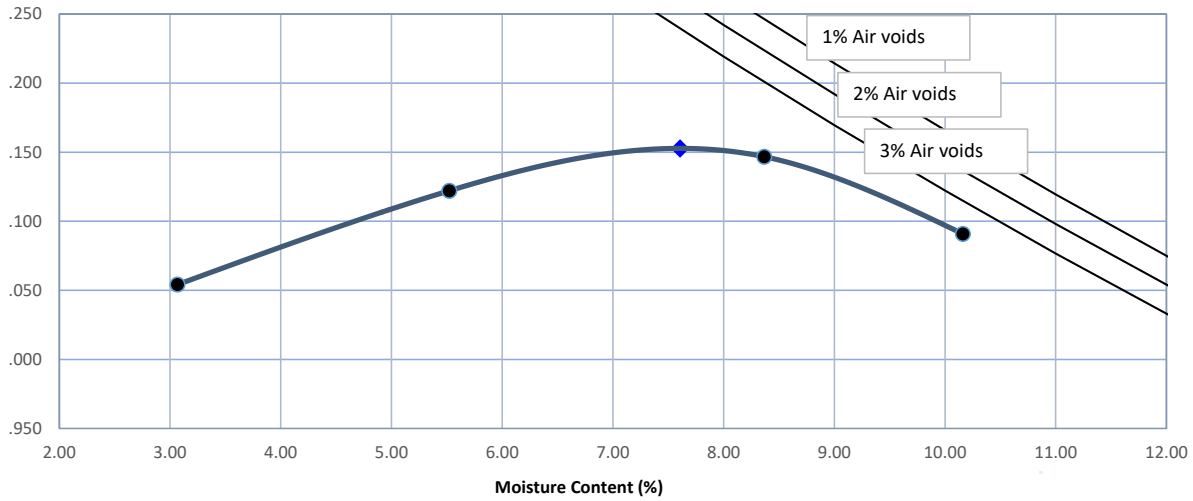
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18739_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18739
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD2 - 0.35 - 1.0	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

Sampling Method:		**Sampled by Client, Tested as Received**	
Sample Curing Time:		**48 Hrs**	
Method used to Determine Liquid Limit:		**Visual / Tactile Assessment by Competent Technician**	
Material + 19.0mm (%):	**3**	**Material + 37.5mm (%)**	**-**

Moisture Content (%)	**3.1**	**5.5**	**8.4**	**10.2**	
Dry Density (t/m³)	**2.054**	**2.122**	**2.147**	**2.091**	

Dry Density (t/m³)



Modified Maximum Dry Density (t/m³) **2.15**

Optimum Moisture Content (%) **7.5**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.8 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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WESTERN GEOTECHNICAL & Laboratory Services

SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18739_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18739
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD2 - 0.35 - 1.0	*Date Tested:*	12-12-2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**27**
AS 1289.3.2.1	**Plastic Limit (%)**	**13**
AS 1289.3.3.1	**Plasticity Index (%)**	**14**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**7.0**
AS 1289.3.4.1	**Length of Mould (mm)**	**253**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**Curled**

Comments:

Approved Signatory:

Name: Brooke Elliott
Date: 13-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

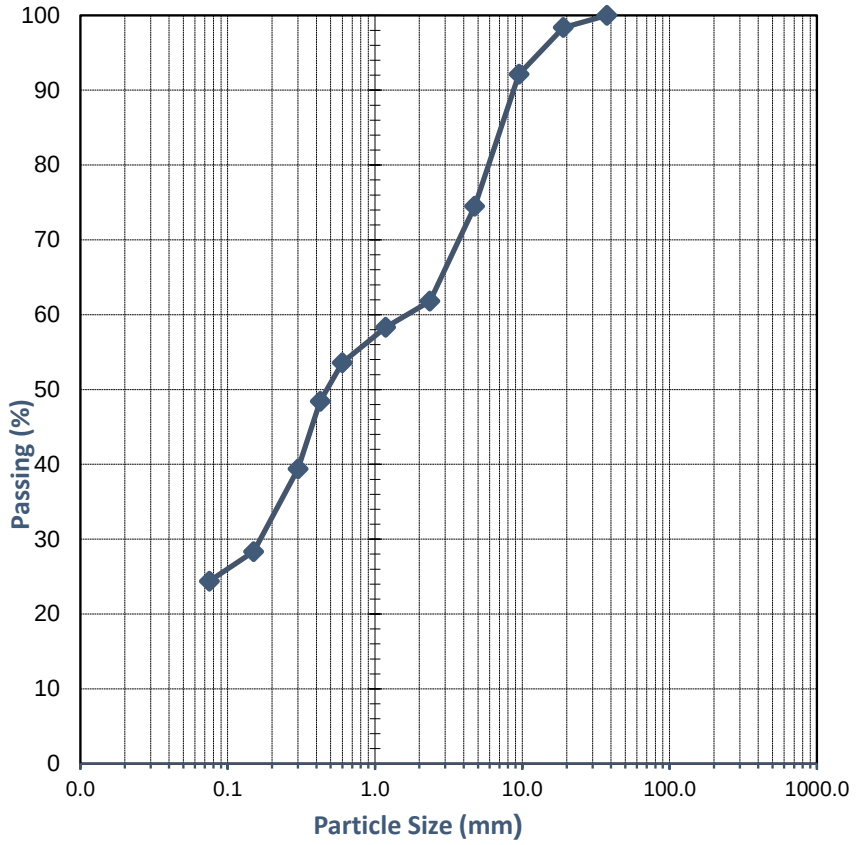
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18739_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18739
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD2 - 0.35 - 1.0	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	98
9.5	92
4.75	74
2.36	62
1.18	58
0.600	54
0.425	48
0.300	39
0.150	28
0.075	24



Comments:

Approved Signatory:

Name: Natasha Bielawski

Date: 12-December-2022

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TEST REPORT - AS 1289.6.1.1

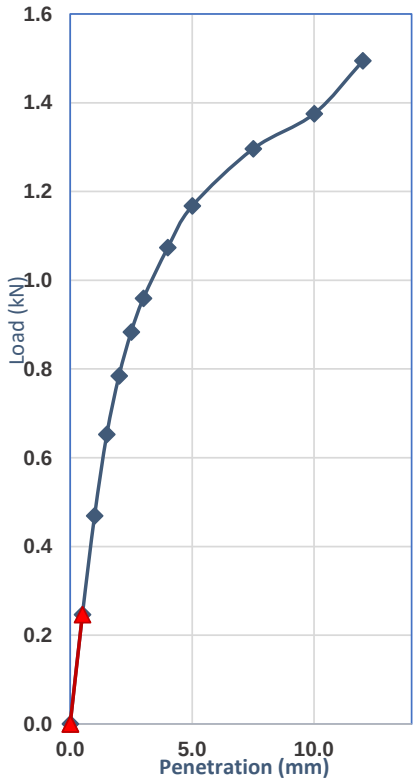
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Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18739_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18739
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD2 - 0.35 - 1.0	*Date Tested:*	12/12 - 18/12/22

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Sandy Clay with Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	24.0
% Retained 19.0mm	3	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.16	Optimum Moisture (%)	7.5
Target Dry Density Ratio (%)	92	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	1.98	Moisture Content (%)	7.4
Density Ratio (%)	92.0	Moisture Ratio (%)	97.5

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	9.00	Measured Swell (%)	0.5
Dry Density (t/m³)	1.98	Dry Density Ratio (%)	92.0
Moisture Content (%)	13.2	Moisture Ratio (%)	173.5

Specimen Conditions After Test			
Top 30mm Moisture (%)	14.2	Remaining Depth (%)	12.8

Correction applied to Penetration: 0mm

Determined at a Penetration of: 2.5mm

California Bearing Ratio (CBR): 7%

Comments:

Approved Signatory:

Name: Brooke Elliott

Date: 19-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.5.2.1

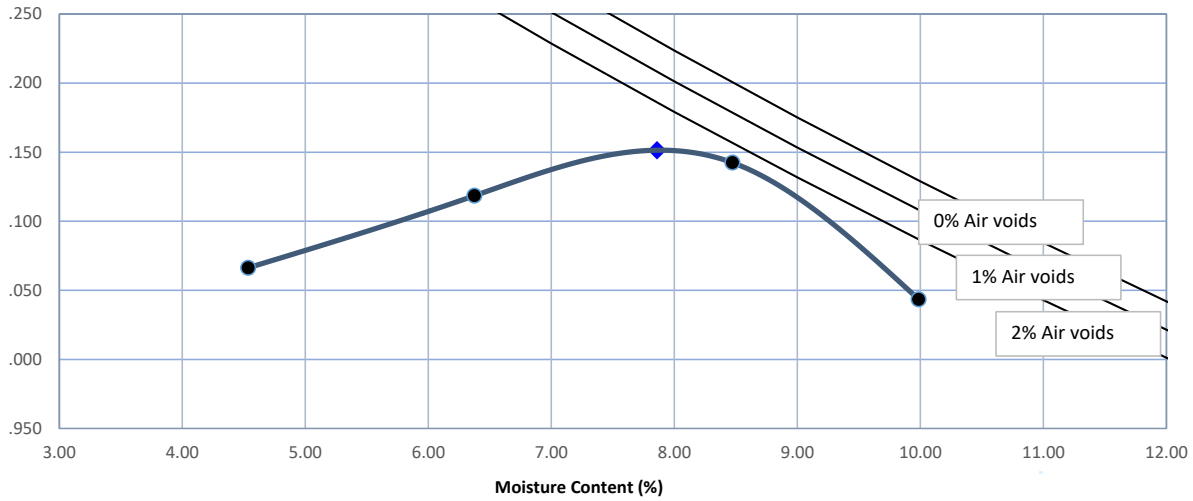
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18740_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18740
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD4 - 0.3 - 0.8	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

Sampling Method:	**Sampled by Client, Tested as Received**		
Sample Curing Time:	**48 Hrs**		
Method used to Determine Liquid Limit:	**Visual / Tactile Assessment by Competent Technician**		
Material + 19.0mm (%):	**4**	**Material + 37.5mm (%)**	**-**

Moisture Content (%)	**4.5**	**6.4**	**8.5**	**10.0**	
Dry Density (t/m³)	**2.066**	**2.118**	**2.142**	**2.043**	

Dry Density (t/m³)



Modified Maximum Dry Density (t/m³) **2.15**

Optimum Moisture Content (%) **8.0**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.705 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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WESTERN GEOTECHNICAL & Laboratory Services

SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18740_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18740
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD4 - 0.3 - 0.8	*Date Tested:*	10/12/2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**24**
AS 1289.3.2.1	**Plastic Limit (%)**	**12**
AS 1289.3.3.1	**Plasticity Index (%)**	**12**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**7.0**
AS 1289.3.4.1	**Length of Mould (mm)**	**250**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**Curled**

Comments:

Approved Signatory:

Name: Natasha Bielawski
Date: 12/December/2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

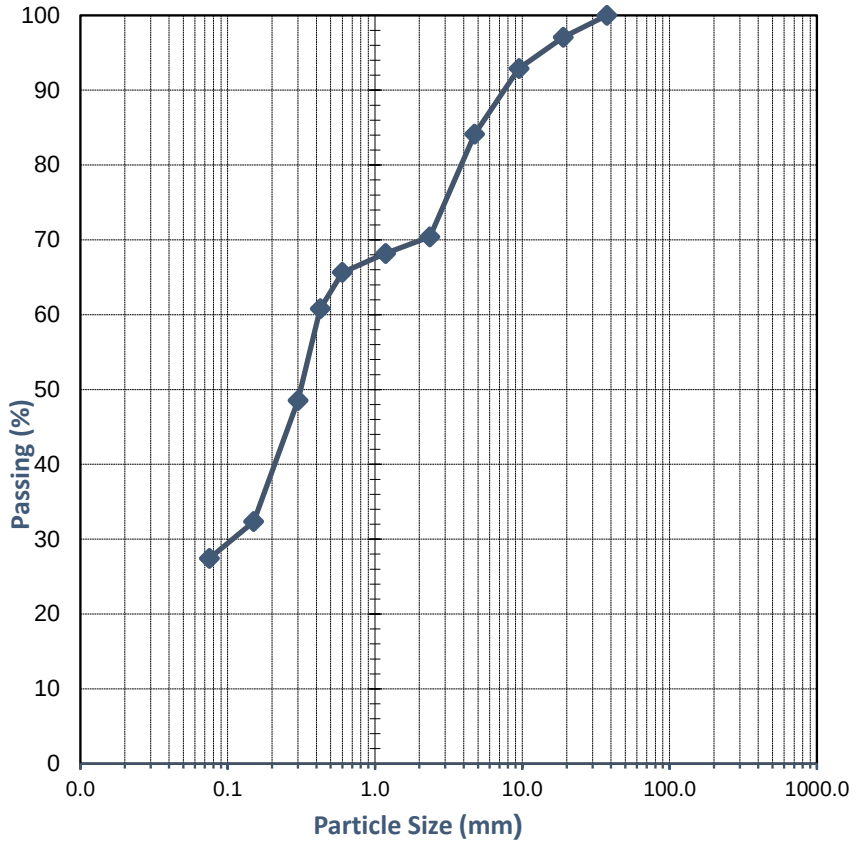
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18740_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18740
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD4 - 0.3 - 0.8	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	97
9.5	93
4.75	84
2.36	70
1.18	68
0.600	66
0.425	61
0.300	49
0.150	32
0.075	27



Comments:

Approved Signatory:

Name: Natasha Bielawski
Date: 12-December-2022

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WESTERN GEOTECHNICAL & Laboratory Services

SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.6.1.1

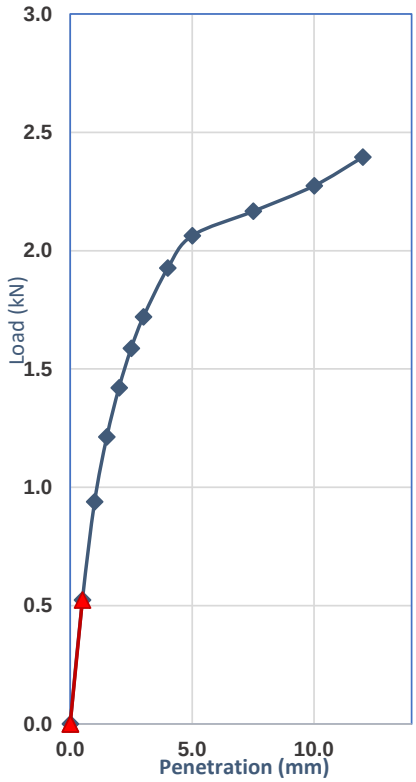
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18740_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18740
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD4 - 0.3 - 0.8	*Date Tested:*	13/12 - 19/12/2022

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Silty Sand with Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	24.0
% Retained 19.0mm	0	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.15	Optimum Moisture (%)	8.0
Target Dry Density Ratio (%)	92	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	1.98	Moisture Content (%)	7.9
Density Ratio (%)	92.0	Moisture Ratio (%)	100.0

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	9.00	Measured Swell (%)	0.0
Dry Density (t/m³)	1.98	Dry Density Ratio (%)	92.0
Moisture Content (%)	12.0	Moisture Ratio (%)	151.5

Specimen Conditions After Test			
Top 30mm Moisture (%)	9.2	Remaining Depth (%)	11.5

Correction applied to Penetration: 0mm

Determined at a Penetration of: 2.5mm

California Bearing Ratio (CBR): 12%

Comments:

Approved Signatory:

Name: Brooke Elliott

Date: 20-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.7.1.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18740_1_SSI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18740
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD4 - 0.3 - 0.8	*Date Tested:*	21/12/22 - 3/1/23

TEST RESULTS - SHRINK SWELL INDEX

Sampling Method: Sampled by Client, Tested as Received

Material Description: Silty Sand with Gravel

SWELL SPECIMEN	
Moisture Content Initial (%):	14.2
Dry Density - Initial (t/m^3):	1.93
Moisture Content Final (%):	15.4
Estimated Inert Inclusions (%):	16

SHRINK SPECIMEN	
Moisture Content Initial (%):	9.5
Extent of Crumbling:	Nil
Length/Diameter Ratio:	2.0
Extent of Cracking:	Nil

SHRINK SWELL INDEX	
Shrink Swell Index (I_{ss})	**0.7**

Comments:

Approved Signatory:

Name: Cody O'Neill

Date: 05/January/2023

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.5.2.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18741_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18741
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD5 - 0.32 - 0.8	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

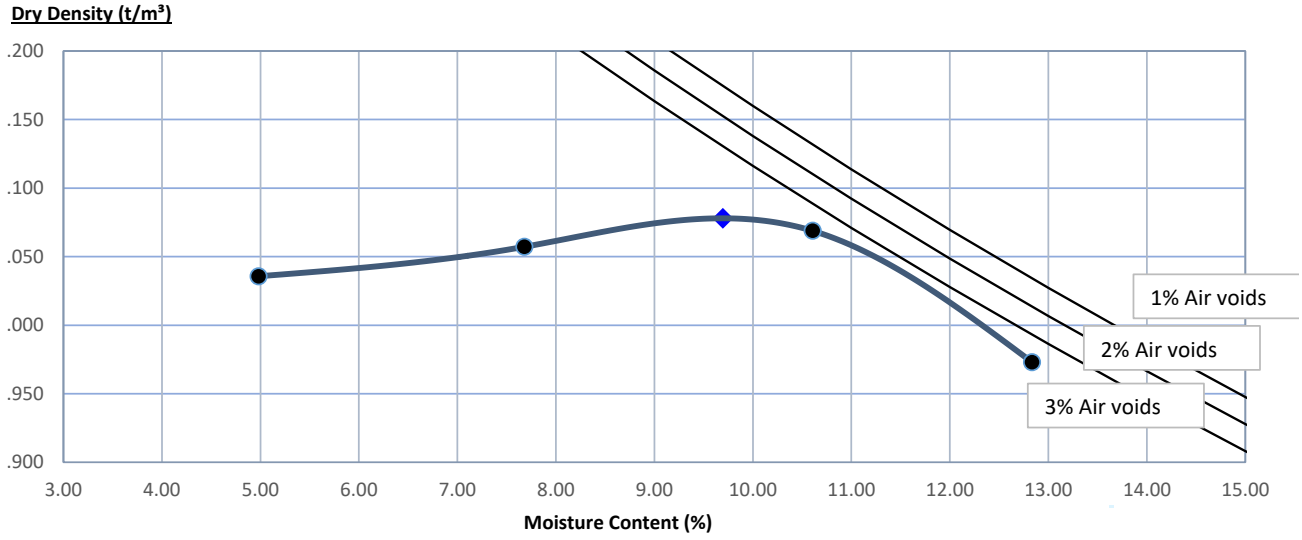
Sampling Method: Sampled by Client, Tested as Received

Sample Curing Time: 48H

Method used to Determine Liquid Limit: Visual / Tactile Assessment by Competent Technician

Material + 19.0mm (%): 0 **Material + 37.5mm (%)** -

Moisture Content (%)	**5.0**	**7.7**	**10.6**	**12.8**	
Dry Density (t/m³)	**2.036**	**2.057**	**2.069**	**1.973**	



Modified Maximum Dry Density (t/m³) **2.08**

Optimum Moisture Content (%) **9.5**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.791 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18741_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18741
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD5 - 0.32 - 0.8	*Date Tested:*	10/12/2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**27**
AS 1289.3.2.1	**Plastic Limit (%)**	**13**
AS 1289.3.3.1	**Plasticity Index (%)**	**14**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**7.5**
AS 1289.3.4.1	**Length of Mould (mm)**	**250**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**Curled**

Comments:

Approved Signatory:

Name: Natasha Bielawski
Date: 12/December/2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

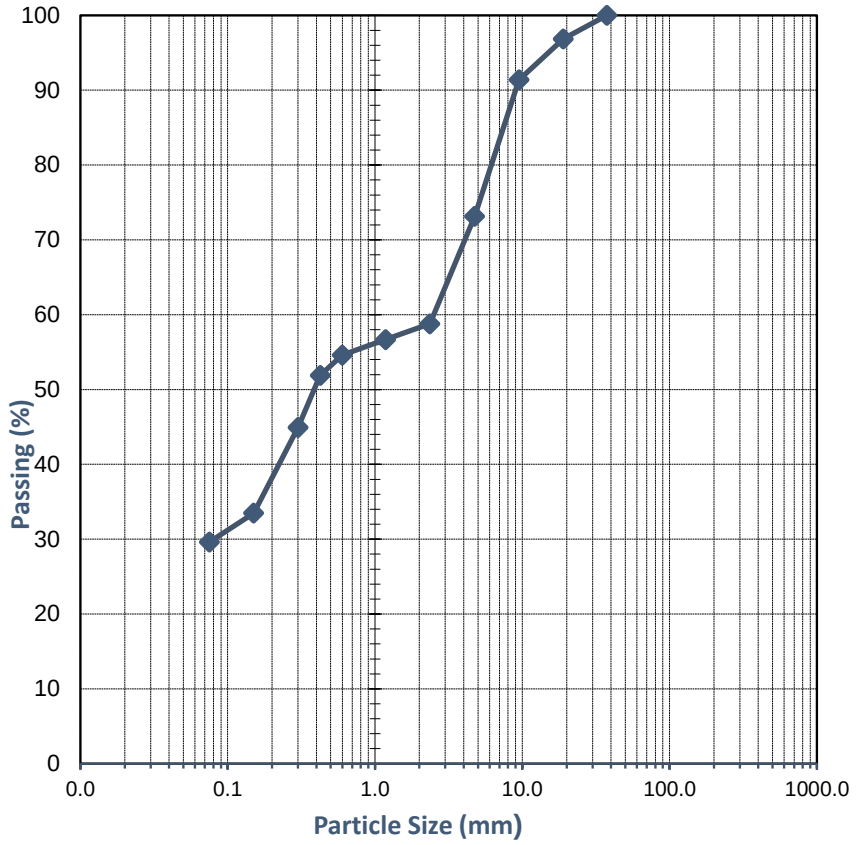
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18741_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18741
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD5 - 0.32 - 0.8	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	97
9.5	91
4.75	73
2.36	59
1.18	57
0.600	55
0.425	52
0.300	45
0.150	33
0.075	30



Comments:

Approved Signatory:

Name: Natasha Bielawski

Date: 12-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.6.1.1

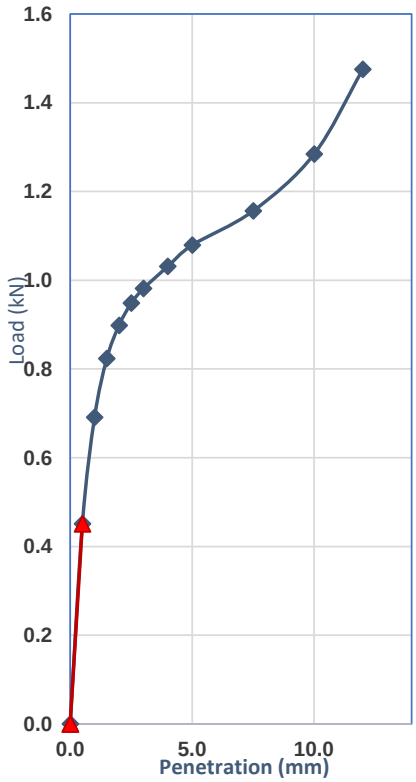
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18741_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18741
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD5 - 0.32 - 0.8	*Date Tested:*	12/12 - 18/12/22

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Sandy Clay with Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	24.0
% Retained 19.0mm	0	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.08	Optimum Moisture (%)	9.5
Target Dry Density Ratio (%)	92	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	1.91	Moisture Content (%)	10.2
Density Ratio (%)	91.5	Moisture Ratio (%)	105.0

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	9.00	Measured Swell (%)	0.5
Dry Density (t/m³)	1.90	Dry Density Ratio (%)	91.5
Moisture Content (%)	14.6	Moisture Ratio (%)	150.5

Specimen Conditions After Test			
Top 30mm Moisture (%)	15.5	Remaining Depth (%)	14.3

Correction applied to Penetration: 0mm

Determined at a Penetration of: 2.5mm

California Bearing Ratio (CBR): 7%

Comments:

Approved Signatory:

Name: Brooke Elliott

Date: 19-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.5.2.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18742_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18742
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD6 - 0.3 - 1.0	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

Sampling Method: Sampled by Client, Tested as Received

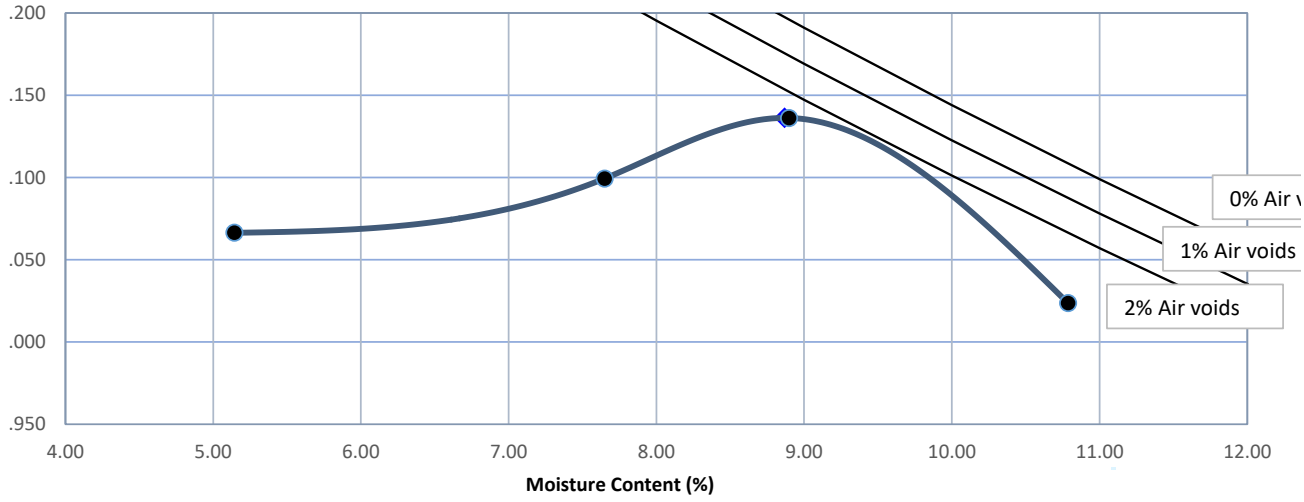
Sample Curing Time: 48 Hrs

Method used to Determine Liquid Limit: Visual / Tactile Assessment by Competent Technician

Material + 19.0mm (%): 1 **Material + 37.5mm (%)** -

Moisture Content (%)	**5.1**	**7.7**	**8.9**	**10.8**	
Dry Density (t/m³)	**2.066**	**2.099**	**2.136**	**2.024**	

Dry Density (t/m³)



Modified Maximum Dry Density (t/m³) **2.14**

Optimum Moisture Content (%) **9.0**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.729 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18742_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18742
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD6 - 0.3 - 1.0	*Date Tested:*	10/12/2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**26**
AS 1289.3.2.1	**Plastic Limit (%)**	**12**
AS 1289.3.3.1	**Plasticity Index (%)**	**14**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**8.0**
AS 1289.3.4.1	**Length of Mould (mm)**	**250**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**Curled**

Comments:

Approved Signatory:

Name: Blank

Date: 12/December/2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

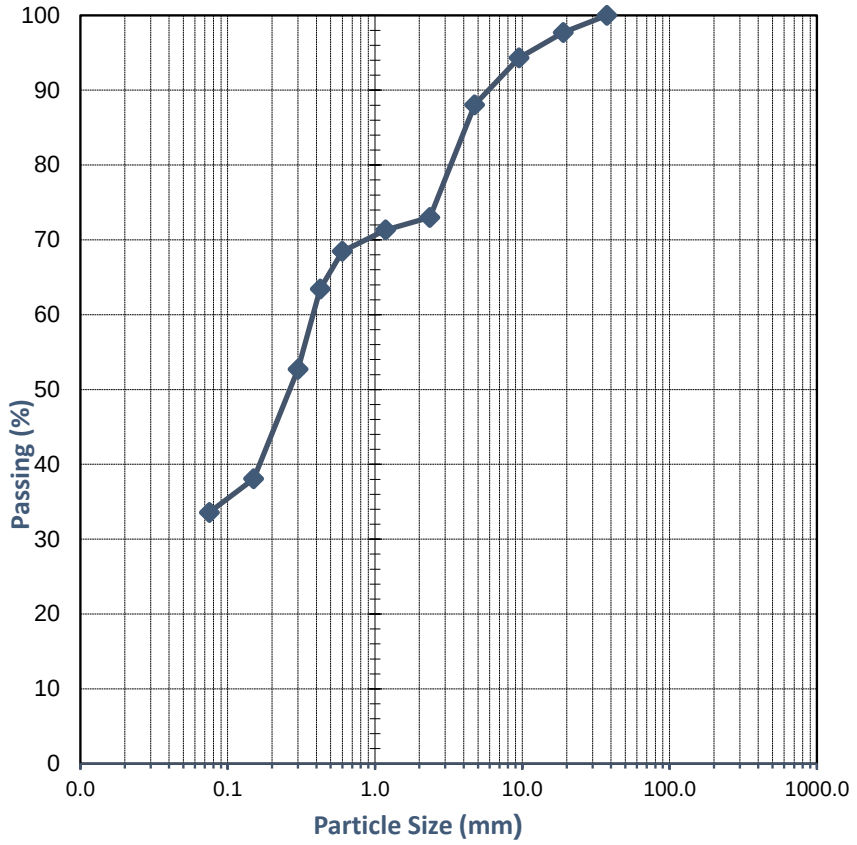
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18742_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18742
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD6 - 0.3 - 1.0	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	98
9.5	94
4.75	88
2.36	73
1.18	71
0.600	68
0.425	63
0.300	53
0.150	38
0.075	34



Comments:

Approved Signatory:

Name: Natasha Bielawski

Date: 12-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.6.1.1

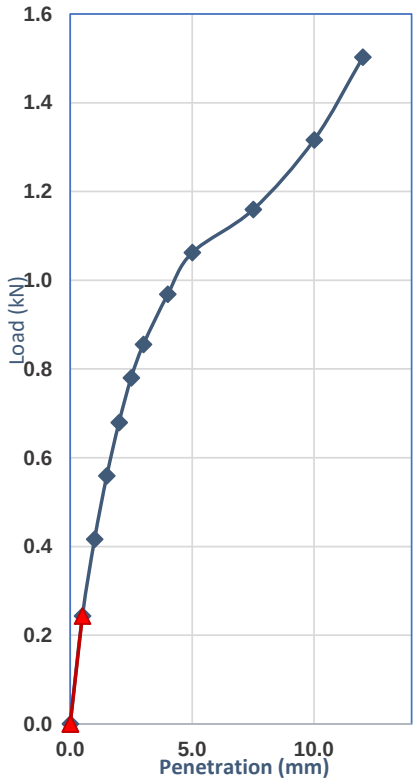
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18742_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18742
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD6 - 0.3 - 1.0	*Date Tested:*	12/12 - 18/12/22

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Sandy Clay with Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	24.0
% Retained 19.0mm	1	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.14	Optimum Moisture (%)	9.0
Target Dry Density Ratio (%)	92	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	1.96	Moisture Content (%)	8.9
Density Ratio (%)	92.0	Moisture Ratio (%)	100.0

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	9.00	Measured Swell (%)	0.5
Dry Density (t/m³)	1.95	Dry Density Ratio (%)	91.0
Moisture Content (%)	13.9	Moisture Ratio (%)	156.0

Specimen Conditions After Test			
Top 30mm Moisture (%)	14.2	Remaining Depth (%)	13.4

Correction applied to Penetration: 0mm

Determined at a Penetration of: 2.5mm

California Bearing Ratio (CBR): 6%

Comments:

Approved Signatory:

Name: Brooke Elliott

Date: 19-December-2022

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TEST REPORT - AS 1289.7.1.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18742_1_SSI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18742
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD6 - 0.3 - 1.0	*Date Tested:*	21/12/22 - 4/1/23

TEST RESULTS - SHRINK SWELL INDEX

Sampling Method: Sampled by Client, Tested as Received

Material Description: Silty Sand with Gravel

SWELL SPECIMEN	
Moisture Content Initial (%):	9.0
Dry Density - Initial (t/m^3):	1.87
Moisture Content Final (%):	14.7
Estimated Inert Inclusions (%):	13

SHRINK SPECIMEN	
Moisture Content Initial (%):	9.8
Extent of Crumbling:	Nil
Length/Diameter Ratio:	2.1
Extent of Cracking:	Nil

SHRINK SWELL INDEX	
Shrink Swell Index (I_{ss})	**0.8**

Comments:

Approved Signatory:

Name: Cody O'Neill

Date: 05/January/2023

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.5.2.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18743_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18743
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD9 - 0.35 - 1.0	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

Sampling Method: Sampled by Client, Tested as Received

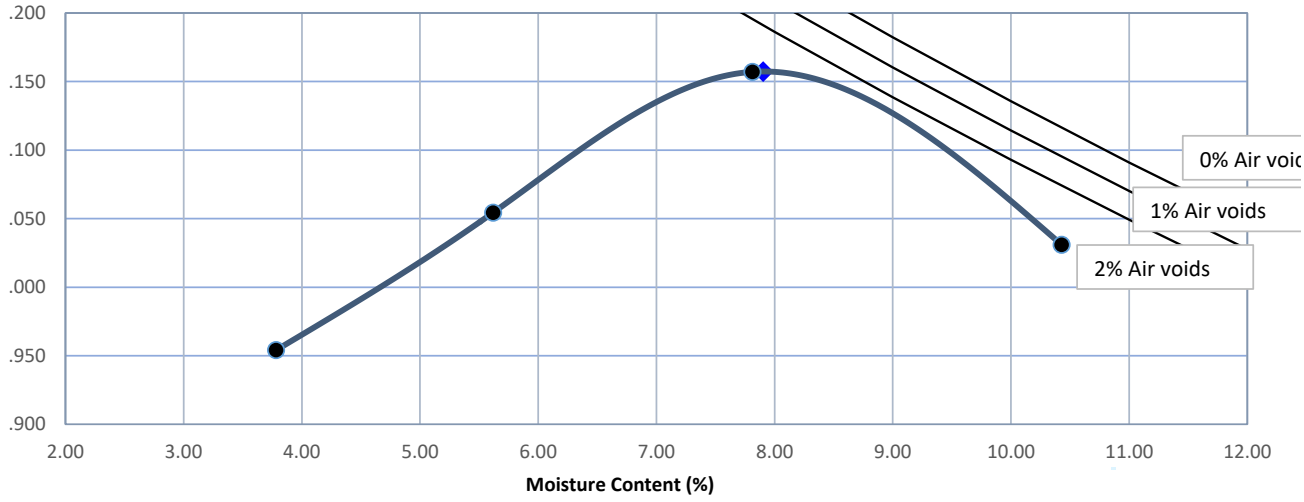
Sample Curing Time: 48 hrs

Method used to Determine Liquid Limit: Visual / Tactile Assessment by Competent Technician

Material + 19.0mm (%): 6 **Material + 37.5mm (%)** -

Moisture Content (%)	**3.8**	**5.6**	**7.8**	**10.4**	
Dry Density (t/m³)	**1.954**	**2.054**	**2.157**	**2.031**	

Dry Density (t/m³)



Modified Maximum Dry Density (t/m³) **2.16**

Optimum Moisture Content (%) **8.0**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.716 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18743_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18743
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD9 - 0.35 - 1.0	*Date Tested:*	10/12/2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**21**
AS 1289.3.2.1	**Plastic Limit (%)**	**10**
AS 1289.3.3.1	**Plasticity Index (%)**	**11**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**6.0**
AS 1289.3.4.1	**Length of Mould (mm)**	**250**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**-**

Comments:

Approved Signatory:

Name: Natasha Bielawski
Date: 12/December/2022

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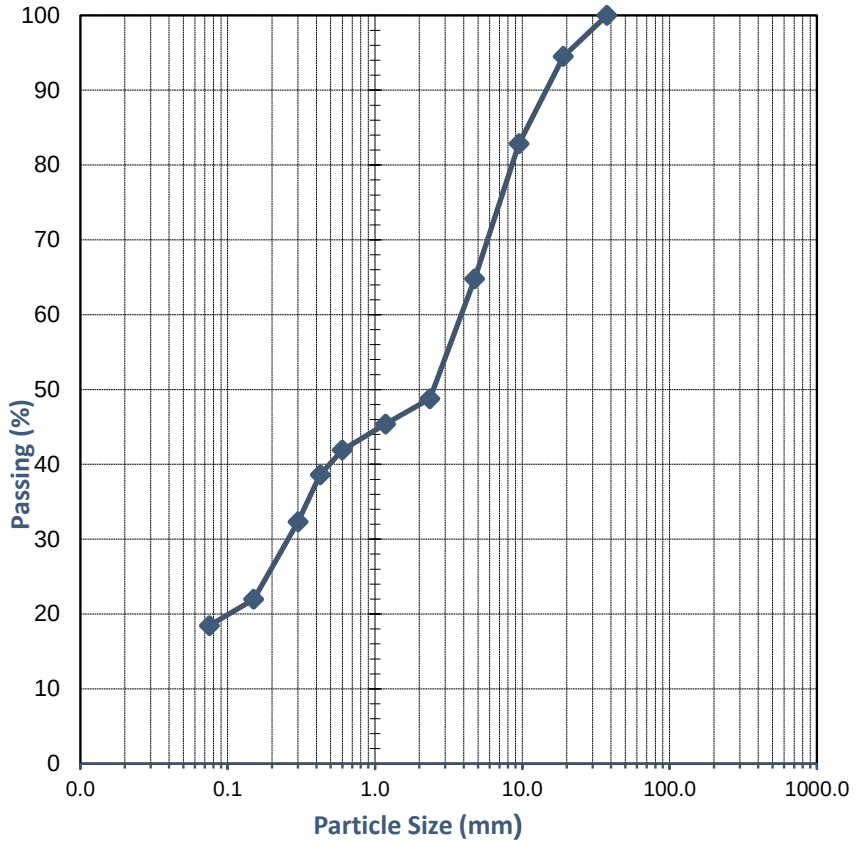
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18743_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18743
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD9 - 0.35 - 1.0	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	95
9.5	83
4.75	65
2.36	49
1.18	45
0.600	42
0.425	39
0.300	32
0.150	22
0.075	18



Comments:

Approved Signatory:

Name: Natasha Bielawski

Date: 12-December-2022

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Accreditation No. 20599

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TEST REPORT - AS 1289.6.1.1

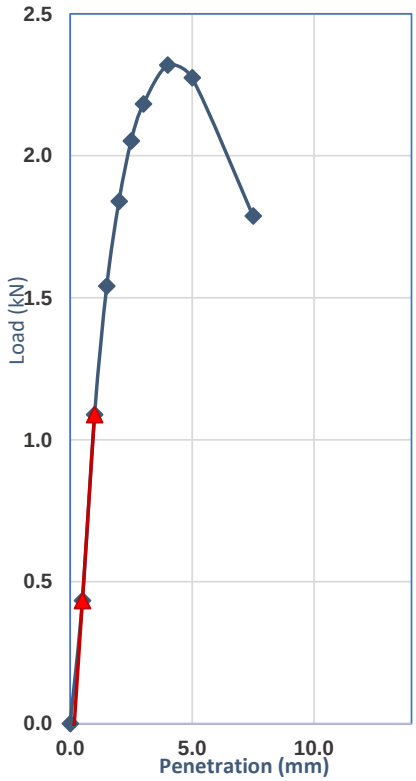
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18743_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18743
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30/11/2022
Sample Identification:	PD9 - 0.35 - 1.0	*Date Tested:*	12-18/12/22

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Silty Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	24.0
% Retained 19.0mm	6	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.16	Optimum Moisture (%)	8.0
Target Dry Density Ratio (%)	92	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	1.99	Moisture Content (%)	7.6
Density Ratio (%)	92.5	Moisture Ratio (%)	96.0

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	9.00	Measured Swell (%)	0.0
Dry Density (t/m³)	1.99	Dry Density Ratio (%)	92.0
Moisture Content (%)	9.6	Moisture Ratio (%)	122.0

Specimen Conditions After Test			
Top 30mm Moisture (%)	9.4	Remaining Depth (%)	9.1

Correction applied to Penetration: 0.2mm

Determined at a Penetration of: 2.5mm

California Bearing Ratio (CBR): 16%

Comments:

Approved Signatory: Cody O'Neill

Name: Cody O'Neill

Date: 19/December/2022

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TEST REPORT - AS 1289.5.2.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18744_1_MMDD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18744
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD8 - 0.015 - 0.35	*Date Tested:*	12-12-2022

TEST RESULTS - Modified Maximum Dry Density

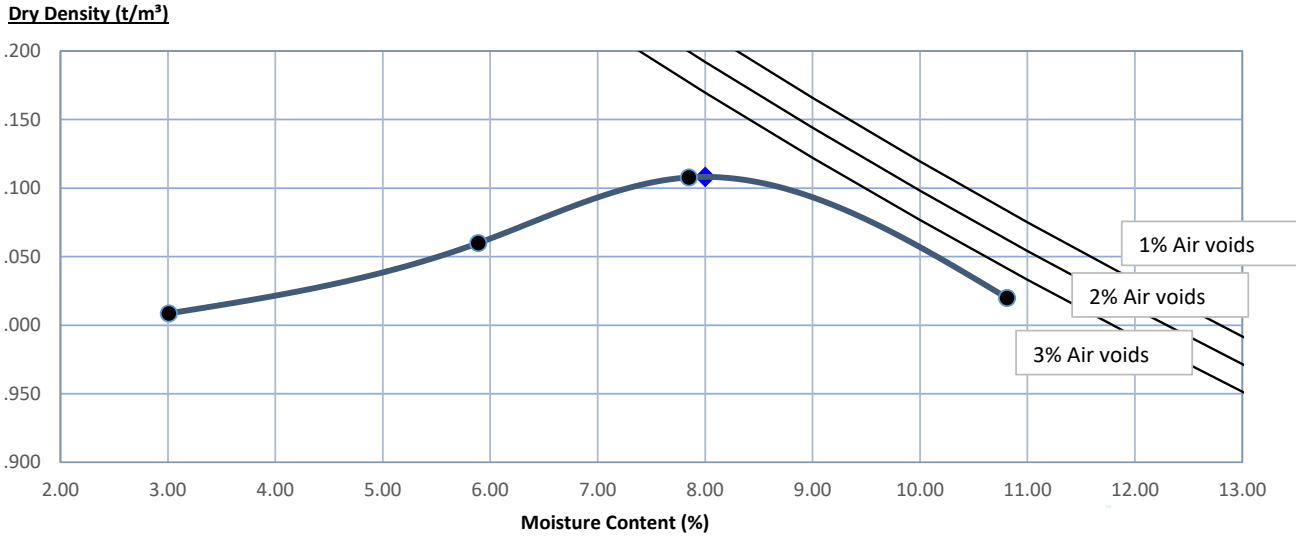
Sampling Method: Sampled by Client, Tested as Received

Sample Curing Time: 48H

Method used to Determine Liquid Limit: Visual / Tactile Assessment by Competent Technician

Material + 19.0mm (%): 3 **Material + 37.5mm (%)** -

Moisture Content (%)	**3.0**	**5.9**	**7.8**	**10.8**	
Dry Density (t/m³)	**2.009**	**2.060**	**2.108**	**2.020**	



Modified Maximum Dry Density (t/m³) **2.11**

Optimum Moisture Content (%) **8.0**

Comments: *The above air void lines are derived from a calculated apparent particle density of 2.724 t/m³*

Approved Signatory:

Name: Brooke Elliott

Date: 13-December-2022

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TEST REPORT - AS 1289.3.1.1, 3.2.1, 3.3.1 & 3.4.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18744_1_PI
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18744
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD8 - 0.015 - 0.35	*Date Tested:*	13-12-2022

TEST RESULTS - Consistency Limits (Casagrande)

Sampling Method:	**Sampled by Client, Tested as Received**
History of Sample:	**Oven Dried <50°C**
Method of Preparation:	**Dry Sieved**

AS 1289.3.1.1	**Liquid Limit (%)**	**Not Obtainable**
AS 1289.3.2.1	**Plastic Limit (%)**	**Non-Plastic**
AS 1289.3.3.1	**Plasticity Index (%)**	**Non-Plastic**
AS 1289.3.4.1	**Linear Shrinkage (%)**	**0.0**
AS 1289.3.4.1	**Length of Mould (mm)**	**250**
AS 1289.3.4.1	**Condition of Dry Specimen:**	**-**

Comments:

Approved Signatory:

Name: Brooke Elliott
Date: 14-December-2022

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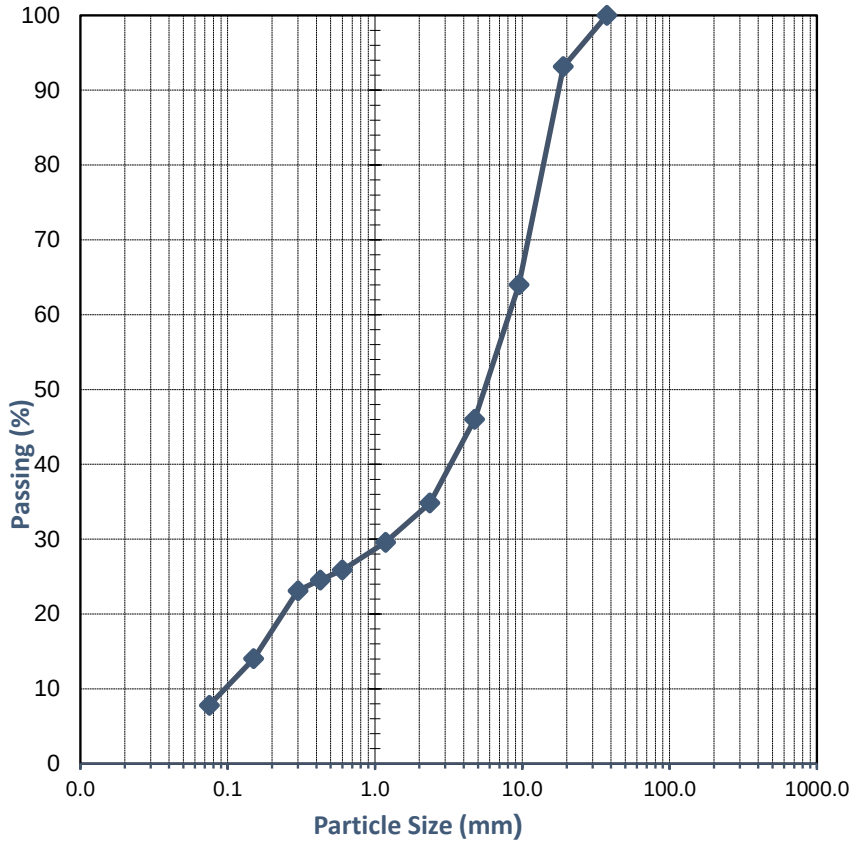
TEST REPORT - AS 1289.3.6.1

Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18744_1_PSD
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18744
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD8 - 0.015 - 0.35	*Date Tested:*	09/12 - 12/12/2022

TEST RESULTS - Particle Size Distribution of Soil

Sampling Method: Sampled by Client, Tested as Received

Sieve Size (mm)	Percent Passing Sieve (%)
150.0	
100.0	
75.0	
37.5	100
19.0	93
9.5	64
4.75	46
2.36	35
1.18	30
0.600	26
0.425	25
0.300	23
0.150	14
0.075	8



Comments:

Approved Signatory:

Name: Natasha Bielawski

Date: 12-December-2022

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SOIL | AGGREGATE | CONCRETE | CRUSHING

TEST REPORT - AS 1289.6.1.1

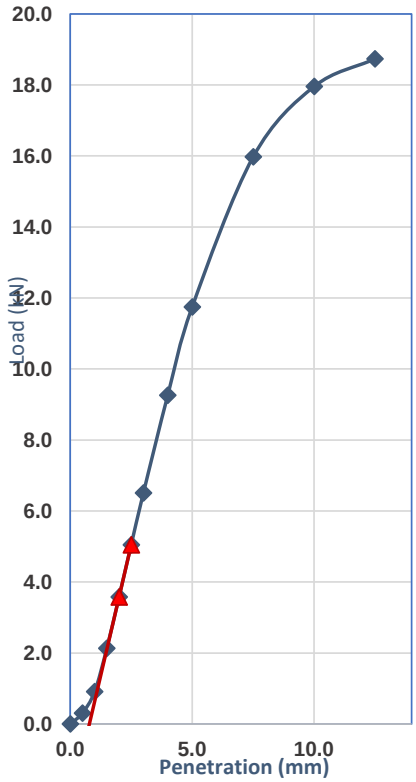
Client:	WML Consultants	*Ticket No.*	S8258
Client Address:	Level 3/1 Prowse St, West Perth WA 6005	*Report No.*	WG22.18744_1_SCBR
Project:	Fitzroy Crossing Aerodrome	*Sample No.*	WG22.18744
Location:	Fitzroy Crossing Aerodrome	*Date Sampled:*	30-11-2022
Sample Identification:	PD8 - 0.015 - 0.35	*Date Tested:*	12/12 - 19/12/2022

TEST RESULTS - CALIFORNIA BEARING RATIO

Sample Description: Silty Gravel

Sampling Method: Sampled by Client, Tested as Received

Load Penetration Curve



Compaction Details			
Compaction Method	AS 1289.5.2.1	Hammer Type	Modified
Plasticity Determined by	Estimated	Curing Time (Hours)	48.0
% Retained 19.0mm	3	Excluded/Replaced	Excluded
Maximum Dry Density (t/m^3)	2.11	Optimum Moisture (%)	8.0
Target Dry Density Ratio (%)	98	Target Moisture Ratio (%)	100

Specimen Conditions At Compaction			
Dry Density (t/m3)	2.06	Moisture Content (%)	8.2
Density Ratio (%)	98.0	Moisture Ratio (%)	102.0

Specimen Conditions After Soak			
Soaked or Unsoaked	Soaked	Soaking Period (days)	4
Surcharges Applied (kg)	4.50	Measured Swell (%)	0.0
Dry Density (t/m³)	2.06	Dry Density Ratio (%)	98.0
Moisture Content (%)	11.2	Moisture Ratio (%)	140.0

Specimen Conditions After Test			
Top 30mm Moisture (%)	8.8	Remaining Depth (%)	9.4

Correction applied to Penetration: 0.8mm

Determined at a Penetration of: 5.0mm

California Bearing Ratio (CBR): 70%

Comments: Maximum limits of load cell reached.

Approved Signatory:

Name: Brooke Elliott

Date: 20-December-2022

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APPENDIX C

C1: COMFAA

C2: APSDS

COMFAA – PCN/ACN Calculation

This file name = PCN Results Flexible 22-02-2023 11;24;05.txt
Library file name = C:\Program Files (x86)\COMFAA 30\COMFAAaircraft.Ext
Units = Metric

Evaluation pavement type is flexible and design procedure is CBR.
Alpha Values are those approved by the ICAO in 2007.

CBR = 6.00 (Subgrade Category is C(6))
Evaluation pavement thickness = 310.0 mm
Pass to Traffic Cycle (PtoTC) Ratio = 2.00
Maximum number of wheels per gear = 2
Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming
76 mm of HMA and 152 mm of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Pilatas PC-12	4.740	95.00	517	520	1,974	202.0
2	GrnCaravan-CE-208B	3.969	95.00	517	800	2,780	190.4
3	C-27J Spartan	30.500	95.00	724	20	229	300.4

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on C(6)
3	C-27J Spartan	230	300.4	32.364	427.00	0.7623	13.6
					Total CDF =	0.7623	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on C(6)
1	Pilatas PC-12	4.740	95.00	517	229.4	3.9
2	GrnCaravan-CE-208B	3.969	95.00	517	209.9	3.3
3	C-27J Spartan	30.500	95.00	724	413.7	12.8

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
3,C-27J Spartan,30.500,12.8,40,300.38,2.29481E+002,3.01042E+002,300.40,32.364,13.6,310.0,C,6.00,2.00,F

Fitzriy Crossing Airstrip.txt

APSDS Version 5.0u (1 June 2022)

y-coordinate for results (Y): 0

Locations for Damage Calculations:
Top of layer no. 3
Layer no. 3 is INCLUDED in max. CDF calculation
Job Title: Fitzriy Crossing Airstrip

Damage Factor Calculation

Standard Deviation of Wander: 773
Interval between result points along X-axis (XWDEL): 100
Upper range for approximation of statistics (XWMAX): 2087.1

Minimum x-coordinate for results (XMIN): 0
Maximum x-coordinate for results (XMAX): 10000

Assumed number of damage pulses per movement:
Reservoir Method

Traffic Spectrum Details:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Load No.	Load ID	Movements
1	C-27J	1.08E+03
2	Cessna 208 Caravan	4.32E+04
3	Pilatus PC-12	2.81E+04

N.B. Full details of Load Groups will be provided in a future release.

Details of Layered System:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Layer No.	Lower i/face	Material ID	Isotropy	Modulus (or Ev)	P.Ratio (or vvh)	F	Eh	vh
1	rough	BBBase	Iso.	0.00E+00	0.30			
2	rough	BBSubbase	Iso.	0.00E+00	0.30			
3	rough	cbr6 - dependent	Iso.	6.00E+01	0.40			

Performance Relationships:

Layer No.	Location	Performance ID	Component	Perform. Constant	Perform. Exponent	Traffic Multiplier
3	top	Calibr_2010	EZZ	0.000000	0.000	1.000

Reliability Factors: Not Used.

Details of Layers to be sublayered:
Layer no. 1: Barker-Brabston sublayering
Layer no. 2: Barker-Brabston sublayering

Automatic layer thickness design:
Layer number to be designed: 1
Minimum thickness: 0
Maximum thickness: 5000

Results:

Layer No.	Thickness	Material ID	Load ID	Gross Weight	Critical Strain	CDF
1	222.55	BBBase			n/a	n/a
2	150.00	BBSubbase			n/a	n/a
3	0.00	cbr6 - dependent	Total			1.00E+00
			C-27J	30.50	1.96E-03	1.00E+00
			Cessna 208 Caravan	3.97	5.96E-04	1.20E-04
			Pilatus PC-12	4.74	6.90E-04	3.41E-04

Fitzriy Crossing Airstrip.txt

APSDS Version 5.0u (1 June 2022)

y-coordinate for results (Y): 0

Locations for Damage Calculations:
Top of layer no. 3
Layer no. 3 is INCLUDED in max. CDF calculation
Job Title: Fitzriy Crossing Airstrip

Damage Factor Calculation

Standard Deviation of Wander: 773
Interval between result points along X-axis (XWDEL): 100
Upper range for approximation of statistics (XWMAX): 2087.1

Minimum x-coordinate for results (XMIN): 0
Maximum x-coordinate for results (XMAX): 10000

Assumed number of damage pulses per movement:
Reservoir Method

Traffic Spectrum Details:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Load No.	Load ID	Movements
1	C-27J	5.40E+02
2	Cessna 208 Caravan	4.32E+04
3	Pilatus PC-12	2.81E+04

N.B. Full details of Load Groups will be provided in a future release.

Details of Layered System:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Layer No.	Lower i/face	Material ID	Isotropy	Modulus (or Ev)	P.Ratio (or vvh)	F	Eh	vh
1	rough	BBBase	Iso.	0.00E+00	0.30			
2	rough	BBSubbase	Iso.	0.00E+00	0.30			
3	rough	cbr6 - dependent	Iso.	6.00E+01	0.40			

Performance Relationships:

Layer No.	Location	Performance ID	Component	Perform. Constant	Perform. Exponent	Traffic Multiplier
3	top	Calibr_2010	EZZ	0.000000	0.000	1.000

Reliability Factors: Not Used.

Details of Layers to be sublayered:
Layer no. 1: Barker-Brabston sublayering
Layer no. 2: Barker-Brabston sublayering

Automatic layer thickness design:
Layer number to be designed: 1
Minimum thickness: 0
Maximum thickness: 5000

Results:

Layer No.	Thickness	Material ID	Load ID	Gross Weight	Critical Strain	CDF
1	212.20	BBBase			n/a	n/a
2	150.00	BBSubbase			n/a	n/a
3	0.00	cbr6 - dependent	Total			1.01E+00
			C-27J	30.50	2.07E-03	1.01E+00
			Cessna 208 Caravan	3.97	6.31E-04	2.02E-04
			Pilatus PC-12	4.74	7.32E-04	5.77E-04

Tuesday, 28 February 2023 13:35 **Page 1**

Fitzriy Crossing Airstrip.txt

APSDS Version 5.0u (1 June 2022)

y-coordinate for results (Y): 0

Locations for Damage Calculations:
Top of layer no. 3
Layer no. 3 is INCLUDED in max. CDF calculation
Job Title: Fitzriy Crossing Airstrip

Damage Factor Calculation

Standard Deviation of Wander: 773
Interval between result points along X-axis (XWDEL): 100
Upper range for approximation of statistics (XWMAX): 2087.1

Minimum x-coordinate for results (XMIN): 0
Maximum x-coordinate for results (XMAX): 10000

Assumed number of damage pulses per movement:
Reservoir Method

Traffic Spectrum Details:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Load No.	Load ID	Movements
1	C-27J	0.00E+00
2	Cessna 208 Caravan	4.32E+04
3	Pilatus PC-12	2.81E+04

N.B. Full details of Load Groups will be provided in a future release.

Details of Layered System:

ID: Fitzroy Crossing Title: Fitzroy Crossing

Layer No.	Lower i/face	Material ID	Isotropy	Modulus (or Ev)	P.Ratio (or vvh)	F	Eh	vh
1	rough	BBBase	Iso.	0.00E+00	0.30			
2	rough	BBSubbase	Iso.	0.00E+00	0.30			
3	rough	cbr6 - dependent	Iso.	6.00E+01	0.40			

Performance Relationships:

Layer No.	Location	Performance ID	Component	Perform. Constant	Perform. Exponent	Traffic Multiplier
3	top	Calibr_2010	EZZ	0.000000	0.000	1.000

Reliability Factors: Not Used.

Details of Layers to be sublayered:
Layer no. 1: Barker-Brabston sublayering
Layer no. 2: Barker-Brabston sublayering

Automatic layer thickness design:
Layer number to be designed: 1
Minimum thickness: 0
Maximum thickness: 5000

Results:

Layer No.	Thickness	Material ID	Load ID	Gross Weight	Critical Strain	CDF
1	93.13	BBBase			n/a	n/a
2	150.00	BBSubbase			n/a	n/a
3	0.00	cbr6 - dependent	Total			1.02E+00
			C-27J	30.50	4.02E-03	0.00E+00
			Cessna 208 Caravan	3.97	1.44E-03	3.13E-01
			Pilatus PC-12	4.74	1.62E-03	7.51E-01

APPENDIX D

TRAFFIC DATA

STATS WA
Perth Laboratory

Perth Add:
Unit 1/16 Production Road, Canning Vale, WA 6155
Karratha Add:
1938 Pyramid Road, Karratha, WA 6714
Singapore Add:
71 Toh Guan Road East, #02-01/02/06 Techcentre, SG 608598

www.statsaustralia.com.au

Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 1 12m W of Centr	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-1/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20236**																
0.000	41.4	8:26:14 AM	1315	622	548	506	469	423	380	319	267	119	0.615	0.073		286	129	
0.050	41.4	8:30:27 AM	1291	981	727	613	507	414	342	255	193	87	0.987	0.255		447	56	
0.100	41.4	8:31:40 AM	1294	551	405	342	280	226	194	149	117	64	0.554	0.147		738	132	
0.150	41.4	8:34:07 AM	1294	514	390	324	265	216	183	138	107	54	0.517	0.125		741	124	
0.200	41.4	8:35:24 AM	1310	538	394	325	268	212	175	135	102	62	0.534	0.143		557	191	
0.250	41.4	8:36:34 AM	1311	555	393	314	256	203	176	130	103	49	0.551	0.161		779	145	
0.300	41.4	8:37:46 AM	1292	915	607	502	407	328	266	198	149	73	0.921	0.311		468	96	
0.350	41.4	8:38:58 AM	1301	596	453	367	300	236	188	137	101	43	0.595	0.143		635	84	
0.400	41.4	8:40:07 AM	1306	470	374	317	262	219	180	139	110	58	0.468	0.096		702	128	
0.450	41.4	8:41:16 AM	1301	860	751	677	626	238	221	192	156	95	0.859	0.109		135	67	
0.500	41.4	8:42:27 AM	1289	1050	691	547	439	347	302	235	182	90	1.059	0.361		406	100	
0.550	55.1	8:43:40 AM	1305	420	350	298	257	217	191	154	125	68	0.418	0.070		731	157	
0.600	55.1	8:45:15 AM	1299	711	549	461	374	307	260	192	147	87	0.711	0.162		494	94	
0.650	55.1	8:46:24 AM	1290	1092	821	693	572	458	377	266	197	70	1.100	0.273		221	74	

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Accredited for Compliance with ISO/IEC 17025 - Testing

Approved Signatory: Jordan Mortimer

NATA Accreditation Number 19186 Site - Number 21714

PCert.029.04.22

STATS WA
Perth Laboratory

Perth Add:
Unit 1/16 Production Road, Canning Vale, WA 6155
Karratha Add:
1938 Pyramid Road, Karratha, WA 6714
Singapore Add:
71 Toh Guan Road East, #02-01/02/06 Techcentre, SG 608598

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 1 12m W of Centr	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m West of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-1/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300 — **Moduli, (MPa)** Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
Sample Number:		E-20236																
0.700	55.1	8:47:39 AM	1297	724	547	475	399	329	276	209	161	75	0.726	0.178		603	73	
0.750	55.1	8:48:50 AM	1311	444	351	295	246	216	219	140	124	68	0.441	0.093		839	163	
0.800	55.1	8:50:00 AM	1281	631	472	384	318	251	219	164	132	61	0.640	0.161		651	103	
0.850	55.1	8:51:29 AM	1288	615	442	362	290	233	192	142	112	58	0.621	0.175		405	210	
0.900	55.1	8:52:40 AM	1286	1263	839	642	457	348	285	177	136	55	1.277	0.428		365	45	
0.950	55.1	8:53:50 AM	1304	355	270	229	197	169	164	129	105	56	0.354	0.085		1130	248	
1.000	49.7	8:56:05 AM	1308	644	410	324	264	220	193	148	115	66	0.640	0.232		668	210	
1.050	49.7	8:57:24 AM	1297	1306	286	241	205	175	148	122	97	56	1.309	1.022		975	366	
1.100	49.7	8:58:40 AM	1304	1383	461	339	261	210	175	133	106	61	1.379	0.919		454	231	

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1299	750	501	416	344	269	231	174	137	68	**0.751**	**0.249**		**530**	**123**	
SDEV	9	299	166	140	119	83	68	52	41	17	**0.30**	**0.25**		**1.63**	**1.68**	
COVR, %	1	40	33	34	35	31	29	30	30	25	**40.2**	**99.1**				
95th Percentile											**1.306**					
90 Percentile											**1.241**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20237**																
0.025	47.9	9:12:32 AM	1295	1314	939	742	573	467	378	268	193	76	1.319	0.376		252	57	
0.075	47.9	9:13:59 AM	1277	1339	1021	874	749	627	529	408	313	118	1.363	0.324		355	36	
0.125	47.9	9:15:27 AM	1324	434	334	282	235	193	176	130	105	62	0.426	0.097		804	193	
0.175	47.9	9:16:44 AM	1318	318	250	214	183	156	137	110	91	49	0.314	0.067		1059	259	
0.225	47.9	9:18:07 AM	1303	583	466	378	313	256	213	160	124	62	0.582	0.117		556	102	
0.275	47.9	9:19:23 AM	1308	608	405	315	243	196	164	121	94	50	0.604	0.202		782	147	
0.325	47.9	9:20:35 AM	1261	1591	825	585	442	341	274	202	150	80	1.640	0.789		304	87	
0.375	47.9	9:21:52 AM	1284	1042	721	557	425	341	271	187	139	53	1.055	0.325		423	61	
0.425	47.9	9:24:24 AM	1248	2294	1195	715	467	321	228	143	108	66	2.389	1.144		154	39	
0.475	47.9	9:42:58 AM	1299	535	403	340	290	242	211	162	126	60	0.535	0.132		761	122	
0.525	47.9	9:44:17 AM	1222	2791	1787	1293	1006	772	649	439	289	155	2.969	1.068		170	28	
0.575	53.6	9:45:18 AM	1279	1710	840	525	375	295	258	213	167	92	1.738	0.885		401	72	
0.625	53.6	9:57:40 AM	1267	1999	1140	736	536	404	332	270	204	110	2.051	0.882		257	57	
0.675	53.6	9:58:37 AM	1276	1310	1060	883	716	576	475	338	251	103	1.335	0.255		86	83	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20237**																
0.725	53.6	9:59:36 AM	1304	750	576	495	431	362	328	253	202	95	0.748	0.174		169	74	
0.775	53.6	10:00:33 AM	1295	770	666	595	514	438	380	297	235	102	0.773	0.104		356	50	
0.825	53.6	10:01:30 AM	1293	898	561	426	332	268	225	168	125	62	0.903	0.339		586	115	
0.875	53.6	10:02:50 AM	1241	2282	1282	905	653	485	372	265	180	94	2.391	1.048		181	43	
0.925	53.6	10:03:52 AM	1301	566	412	329	272	223	191	151	122	67	0.565	0.154		630	178	
0.975	53.6	10:04:48 AM	1302	656	476	384	316	260	222	172	125	54	0.655	0.180		672	104	
1.025	62.5	10:05:47 AM	1293	685	511	415	341	282	234	174	133	65	0.689	0.174		535	100	
1.075	62.5	10:06:49 AM	1302	566	417	335	273	217	178	133	105	64	0.565	0.149		515	168	
1.125	62.5	10:07:49 AM	1308	389	296	245	213	177	163	125	107	58	0.386	0.092		985	222	
1.175	62.5	10:08:47 AM	1304	430	366	321	282	245	223	177	139	76	0.429	0.064		642	138	
1.225	62.5	10:09:46 AM	1310	313	241	213	188	160	146	117	99	55	0.311	0.072		1394	247	
1.275	62.5	10:10:48 AM	1304	555	433	366	313	272	239	181	147	70	0.553	0.122		793	108	

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300 — **Moduli, (MPa) Processed in ELMOD 6**

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		E-20237															

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1289	1028	678	518	411	330	277	206	157	77	**1.050**	**0.359**		**435**	**93**	
SDEV	24	695	384	264	199	153	125	88	60	25	**0.74**	**0.36**		**2.00**	**1.85**	
COVR, %	2	68	57	51	48	46	45	43	39	33	**70.1**	**99.3**				
95th Percentile											**2.390**					
90 Percentile											**2.220**					

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20238**																
0.000	57.6	10:15:10 AM	1291	1165	740	600	475	378	298	231	188	88	1.173	0.428		331	89	
0.050	57.6	10:16:08 AM	1284	1143	928	794	682	569	482	368	268	107	1.157	0.218		299	38	
0.100	57.6	10:17:07 AM	1293	742	605	515	442	367	323	251	183	82	0.746	0.138		505	63	
0.150	57.6	10:18:04 AM	1304	573	368	281	235	187	164	127	99	47	0.571	0.204		801	202	
0.200	57.6	10:18:59 AM	1308	490	354	291	234	189	159	696	97	61	0.487	0.135		904	222	
0.250	57.6	10:20:01 AM	1285	1315	738	479	347	260	212	166	129	75	1.330	0.584		384	89	
0.300	57.6	10:21:18 AM	1305	474	356	293	232	195	163	127	102	52	0.472	0.118		848	160	
0.350	57.6	10:22:45 AM	1286	1073	658	507	382	295	232	163	113	66	1.085	0.420		399	81	
0.400	57.6	10:24:44 AM	1289	1292	844	667	468	344	263	177	127	49	1.303	0.452		324	41	
0.450	57.6	10:25:40 AM	1294	788	603	527	380	297	243	166	118	51	0.792	0.186		383	62	
0.500	60.1	10:31:17 AM	1202	1920	1052	853	509	392	311	204	151	96	2.077	0.939		292	36	
0.550	60.1	10:32:20 AM	1258	575	489	455	391	347	310	253	208	117	0.594	0.089		334	155	
0.600	60.1	10:35:54 AM	1192	935	850	791	693	630	596	491	423	233	1.020	0.093		167	74	
0.650	60.1	10:36:56 AM	1218	1020	891	808	699	623	566	450	380	199	1.089	0.138		197	83	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20238**																
0.700	60.1	10:38:34 AM	1205	1304	1131	1048	914	818	741	589	475	259	1.407	0.187		88	66	
0.750	60.1	10:42:04 AM	1234	1262	1040	942	791	687	590	488	395	190	1.329	0.234		241	42	
0.800	60.1	10:43:07 AM	1241	696	558	490	376	316	266	216	160	70	0.729	0.145		471	72	
0.850	60.1	10:44:02 AM	1227	1662	739	572	390	297	235	178	120	66	1.761	0.978		319	83	
0.900	60.1	10:48:52 AM	964	1577	1123	920	656	479	357	239	165	89	2.127	0.612		103	33	
0.950	60.1	11:06:28 AM	1300	1224	845	687	549	446	376	274	203	102	1.224	0.379		365	62	
1.000	60.1	11:07:39 AM	1312	564	418	368	311	261	239	198	147	78	0.559	0.145		689	147	
1.050	66.4	11:09:22 AM	1279	1602	869	632	484	363	296	194	143	58	1.628	0.745		291	70	
1.050	66.4	11:11:15 AM	1288	1546	742	458	319	237	191	144	117	61	1.560	0.811		360	82	
1.100	66.4	11:14:40 AM	1309	592	491	446	362	311	270	216	160	81	0.588	0.100		458	93	
1.150	66.4	11:15:55 AM	1274	1731	1342	1001	562	446	361	281	213	91	1.766	0.397		375	30	
1.200	66.4	11:17:13 AM	1312	897	552	446	325	260	215	163	124	60	0.889	0.342		542	133	

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		**E-20238**															
1.250	66.4	11:18:36 AM	1276	1916	880	624	438	335	276	211	151	74	1.952	1.055		279	79
Mean Lane Values			1260	1114	748	611	468	383	324	269	191	96	**1.164**	**0.380**		**348**	**77**
SDEV			70	448	260	220	176	160	148	148	105	57	**0.50**	**0.30**		**1.74**	**1.71**
COVR, %			6	40	35	36	37	42	46	55	55	59	**43.1**	**78.3**			
95th Percentile													**2.039**				
90 Percentile													**1.841**				

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20239**																
0.000	62.0	11:32:53 AM	1307	709	660	622	422	355	299	229	175	77	0.705	0.049		358	49	
0.050	62.0	11:35:15 AM	1282	1373	884	824	563	458	372	266	191	83	1.392	0.496		276	86	
0.100	62.0	11:36:54 AM	1316	700	552	476	366	299	251	184	134	66	0.691	0.146		462	73	
0.150	62.0	11:38:11 AM	1313	597	405	541	262	211	172	141	99	64	0.591	0.190		573	224	
0.200	62.0	11:39:28 AM	1309	588	418	366	261	205	175	136	108	62	0.584	0.169		863	109	
0.250	62.0	11:40:40 AM	1309	650	490	427	296	255	200	148	126	70	0.646	0.159		246	253	
0.300	62.0	11:42:19 AM	1319	474	342	292	232	191	164	116	97	54	0.467	0.130		821	171	
0.350	62.0	11:43:32 AM	1325	448	341	306	216	176	146	115	90	47	0.440	0.105		922	133	
0.400	62.0	11:44:54 AM	1316	668	472	375	287	224	187	143	109	50	0.660	0.194		529	130	
0.450	62.0	11:46:52 AM	1317	482	359	340	253	211	177	142	112	57	0.476	0.121		755	136	
0.500	65.1	11:48:05 AM	1312	390	334	314	260	212	184	148	127	67	0.386	0.055		489	155	
0.550	65.1	11:49:21 AM	1299	809	613	544	419	347	299	221	176	81	0.810	0.196		461	75	
0.600	65.1	11:50:40 AM	1310	678	558	508	420	358	307	241	184	89	0.673	0.119		423	71	
0.650	65.1	11:52:05 AM	1298	927	698	606	455	381	351	252	204	95	0.928	0.229		403	78	

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WORLD RECOGNISED ACCREDITATION

Accredited for Compliance with ISO/IEC 17025 - Testing

Approved Signatory: Jordan Mortimer

NATA Accreditation Number 19186 Site - Number 21714

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STATS WA
Perth Laboratory

Perth Add:
Unit 1/16 Production Road, Canning Vale, WA 6155
Karratha Add:
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Singapore Add:
71 Toh Guan Road East, #02-01/02/06 Techcentre, SG 608598

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20239**																
0.700	65.1	11:53:21 AM	1302	738	599	556	441	378	325	254	199	87	0.737	0.139		419	63	
0.750	65.1	11:54:38 AM	1305	719	631	559	446	377	329	258	196	95	0.716	0.088		332	65	
0.800	65.1	11:55:58 AM	1302	862	681	627	433	359	284	208	137	47	0.861	0.181		213	59	
0.850	65.1	11:57:13 AM	1294	1292	661	528	397	252	197	155	110	64	1.298	0.634		245	118	
0.900	65.1	11:58:28 AM	1314	436	347	299	254	204	177	143	117	69	0.431	0.088		592	210	
0.950	65.1	12:00:02 PM	1310	526	431	402	323	266	231	182	140	55	0.522	0.094		539	97	
1.000	65.1	12:15:20 PM	1305	1042	668	576	420	336	287	209	161	70	1.038	0.373		482	77	
1.050	65.1	12:16:33 PM	1310	724	555	502	399	341	298	230	171	90	0.718	0.168		482	90	
1.100	65.1	12:17:53 PM	1299	844	580	538	378	324	282	214	175	88	0.845	0.264		515	97	
1.150	65.1	12:19:01 PM	1315	425	373	359	313	262	251	205	149	79	0.420	0.051		520	118	
1.200	65.1	12:26:14 PM	1319	522	443	432	369	331	303	254	206	97	0.514	0.078		405	165	
1.250	65.1	12:27:32 PM	1315	377	328	306	247	231	220	170	83	47	0.373	0.048		647	93	

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300 — **Moduli, (MPa) Processed in ELMOD 6**

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
Sample Number:		**E-20239**																
1.300	65.1	12:29:55 PM	1316	390	350	300	247	221	196	146	115	52	0.385	0.040		585	122	

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1309	681	510	464	347	288	247	189	144	70	**0.678**	**0.171**		**470**	**105**	
SDEV	9	257	147	133	90	76	66	48	39	16	**0.26**	**0.14**		**1.46**	**1.53**	
COVR, %	1	38	29	29	26	26	27	26	27	23	**38.5**	**80.5**				
95th Percentile											**1.220**					
90 Percentile											**0.972**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20240**																
0.025	66.4	12:36:19 PM	1288	1048	799	677	523	416	354	267	202	76	1.058	0.251		369	51	
0.075	66.4	12:37:41 PM	1310	377	325	305	257	224	201	164	139	76	0.374	0.052		366	256	
0.125	66.4	12:39:00 PM	1314	435	390	329	241	211	180	147	126	70	0.430	0.045		449	200	
0.175	66.4	12:40:25 PM	1311	235	224	197	177	134	175	110	75	34	0.233	0.011		744	372	
0.225	66.4	12:42:02 PM	1314	291	242	227	181	158	142	112	92	52	0.288	0.048		842	245	
0.275	66.4	12:43:27 PM	1315	330	297	237	192	168	155	120	94	56	0.326	0.033		748	231	
0.325	66.4	12:44:39 PM	1313	357	299	264	218	177	155	120	96	43	0.353	0.057		757	148	
0.375	66.4	12:46:02 PM	1312	432	305	264	202	170	144	109	83	48	0.428	0.126		1004	186	
0.425	66.4	12:47:16 PM	1312	426	349	337	238	204	175	135	111	57	0.422	0.076		621	133	
0.475	66.4	12:48:43 PM	1309	513	391	338	264	205	199	128	100	48	0.509	0.121		780	103	
0.525	64.7	12:50:54 PM	1306	495	418	386	311	274	237	186	151	88	0.493	0.077		435	129	
0.575	64.7	12:52:07 PM	1304	737	563	581	373	315	271	201	165	83	0.735	0.173		503	73	
0.625	64.7	12:53:18 PM	1308	571	479	440	364	313	277	226	182	88	0.568	0.091		465	98	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20240**																
0.675	64.7	12:54:30 PM	1298	789	653	658	486	403	360	265	205	76	0.790	0.136		365	50	
0.725	64.7	12:55:42 PM	1301	1015	783	705	543	443	362	269	204	88	1.014	0.232		122	117	
0.775	64.7	12:57:21 PM	1312	606	483	429	338	277	233	183	131	59	0.600	0.122		567	74	
0.825	64.7	12:58:31 PM	1298	950	554	482	346	276	237	181	142	61	0.951	0.397		562	118	
0.875	64.7	12:59:41 PM	1317	429	380	328	246	205	188	147	114	60	0.423	0.048		514	152	
0.925	64.7	1:00:53 PM	1311	459	400	350	251	214	189	150	123	67	0.455	0.059		548	130	
0.975	64.7	1:02:04 PM	1307	451	353	313	259	210	187	150	126	70	0.449	0.097		707	181	
1.025	66.8	1:03:24 PM	1297	656	461	437	318	266	228	178	138	68	0.658	0.195		648	107	
1.075	66.8	1:04:34 PM	1294	814	667	593	442	363	301	214	153	73	0.818	0.148		362	46	
1.125	66.8	1:05:45 PM	1305	600	485	422	331	266	222	167	129	63	0.598	0.115		404	93	
1.175	66.8	1:07:10 PM	1308	463	364	333	258	214	188	147	121	65	0.460	0.098		514	185	
1.225	66.8	1:08:21 PM	1321	387	296	268	208	179	161	131	105	56	0.381	0.090		984	191	
1.275	66.8	1:09:32 PM	1312	438	356	320	276	240	207	166	134	66	0.434	0.081		778	131	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300 — **Moduli, (MPa) Processed in ELMOD 6**

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
Sample Number:		E-20240																

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1308	550	435	393	302	251	220	168	132	65	**0.548**	**0.115**		**540**	**129**	
SDEV	8	220	154	144	103	82	65	48	36	14	**0.22**	**0.08**		**1.54**	**1.69**	
COVR, %	1	40	35	37	34	33	29	28	27	22	**40.6**	**72.2**				
95th Percentile											**0.999**					
90 Percentile											**0.885**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20241**																
0.000	66.8	1:13:15 PM	1299	1184	829	719	527	424	340	250	185	65	1.185	0.355		412	46	
0.050	66.8	1:17:25 PM	1292	1060	850	750	583	466	413	295	217	101	1.067	0.211		320	45	
0.100	66.8	1:18:37 PM	1314	371	354	322	266	226	208	174	129	65	0.367	0.017		358	125	
0.150	66.8	1:19:48 PM	1314	316	260	243	200	176	151	121	98	55	0.313	0.055		853	199	
0.200	66.8	1:21:50 PM	1304	697	387	310	233	183	169	126	97	53	0.695	0.309		805	204	
0.250	66.8	1:23:00 PM	1299	860	564	484	319	257	230	171	123	57	0.861	0.296		674	86	
0.300	66.8	1:24:13 PM	1309	353	301	276	189	157	140	101	83	50	0.351	0.052		815	148	
0.350	66.8	1:26:23 PM	1303	479	357	310	237	195	162	121	96	55	0.478	0.122		801	134	
0.400	66.8	1:30:04 PM	1310	393	314	285	226	189	161	127	100	51	0.390	0.078		764	160	
0.450	66.8	1:31:14 PM	1312	419	334	287	244	198	183	134	111	59	0.415	0.084		705	165	
0.500	64.2	1:32:25 PM	1160	414	364	338	294	260	247	204	173	90	0.464	0.056		451	175	
0.550	64.2	1:33:39 PM	1120	445	366	329	281	235	222	168	142	70	0.517	0.092		585	115	
0.600	64.2	1:34:36 PM	694	826	800	727	695	482	429	355	277	139	1.547	0.049		51	34	

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0			**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20241**																
0.650	64.2	1:35:42 PM	642	428	390	363	312	276	251	208	176	101	0.867	0.077		128	99	
0.700	64.2	1:36:54 PM	784	1901	1095	841	600	472	385	295	234	119	3.152	1.336		166	37	
0.750	64.2	1:37:56 PM	864	910	698	866	482	413	358	265	213	88	1.369	0.319		208	50	
0.750	64.2	1:43:06 PM	1308	968	715	613	499	411	362	286	195	88	0.962	0.251		452	64	
0.800	64.2	1:44:14 PM	1321	389	314	287	233	203	180	143	116	58	0.383	0.074		805	172	
0.850	64.2	1:45:30 PM	1293	781	582	470	371	271	227	186	108	62	0.785	0.200		416	78	
0.900	64.2	1:46:47 PM	1310	540	400	350	287	238	215	174	139	79	0.536	0.139		698	160	
0.950	64.2	1:47:57 PM	1296	699	514	450	351	263	240	189	146	73	0.701	0.186		578	100	
1.000	63.0	1:49:10 PM	1298	954	762	576	395	316	264	193	161	72	0.955	0.192		534	47	
1.050	63.0	1:50:25 PM	1308	752	567	555	392	328	285	216	172	77	0.747	0.184		483	79	
1.100	63.0	1:51:37 PM	1280	1616	748	548	373	292	233	176	131	74	1.641	0.882		347	89	
1.150	63.0	1:52:56 PM	1311	550	387	370	262	221	194	143	111	65	0.545	0.162		792	130	

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0			**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		**E-20241**															
1.200	63.0	2:06:09 PM	1309	653	632	431	308	241	185	152	122	71	0.649	0.021		111	359
1.250	63.0	2:07:22 PM	1269	1959	1025	786	501	379	290	205	157	78	2.007	0.957		243	53
1.300	63.0	2:08:32 PM	1304	916	558	432	307	243	205	151	113	59	0.913	0.357		693	99
Mean Lane Values			1212	780	552	476	356	286	247	190	147	74	**0.888**	**0.254**		**322**	**75**
SDEV			201	443	231	191	133	98	82	63	48	21	**0.62**	**0.31**			
COVR, %			17	57	42	40	38	34	33	33	32	29	**69.4**	**121.4**			
95th Percentile													**1.879**				
90 Percentile													**1.575**				

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20242**																
0.000	60.0	2:12:22 PM	1305	897	705	650	505	408	359	262	199	79	0.894	0.192		380	50	
0.050	60.0	2:13:37 PM	1032	916	782	715	607	525	473	360	288	132	1.154	0.169		212	42	
0.100	60.0	2:14:44 PM	1070	945	800	717	579	487	415	320	247	101	1.148	0.177		179	44	
0.150	60.0	2:15:50 PM	1080	310	258	246	192	163	158	118	101	60	0.374	0.063		627	276	
0.200	60.0	2:16:56 PM	1049	498	364	314	251	212	176	146	108	54	0.617	0.166		581	129	
0.250	60.0	2:20:19 PM	1309	458	369	337	287	232	224	169	121	46	0.455	0.089		697	115	
0.300	60.0	2:21:31 PM	1305	783	440	328	234	175	154	113	94	51	0.780	0.341		619	207	
0.350	60.0	2:22:49 PM	1301	585	448	443	295	242	197	138	105	51	0.584	0.137		148	286	
0.400	60.0	2:23:59 PM	1293	787	615	511	406	319	265	203	145	54	0.791	0.172		285	90	
0.450	60.0	2:25:08 PM	1295	575	445	406	298	240	201	142	106	57	0.577	0.130		611	79	
0.500	58.8	2:26:20 PM	1297	863	612	500	357	284	232	179	127	67	0.865	0.252		404	95	
0.550	58.8	2:27:29 PM	1300	874	650	560	412	321	264	201	150	75	0.874	0.224		379	77	
0.600	58.8	2:28:39 PM	1254	1825	1375	1149	933	807	719	571	460	223	1.892	0.466		192	46	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20242**																
0.650	58.8	2:29:51 PM	1281	1091	699	621	450	369	311	244	197	104	1.107	0.399		406	93	
0.700	58.8	2:31:05 PM	1234	2424	1415	1093	785	637	521	398	311	150	2.553	1.063		198	51	
0.750	58.8	2:32:31 PM	1239	2460	1398	1007	685	506	399	277	198	105	2.581	1.114		191	33	
0.800	58.8	2:33:43 PM	1265	1339	713	575	392	295	238	163	124	59	1.376	0.644		364	78	
0.850	58.8	2:34:52 PM	1257	1899	1075	836	590	448	347	242	171	68	1.963	0.852		232	46	
0.900	58.8	2:36:01 PM	1306	533	414	354	285	238	202	166	121	68	0.531	0.119		610	142	
0.950	58.8	2:37:21 PM	1255	1852	1054	875	574	422	336	230	172	108	1.919	0.827		231	46	
1.000	58.8	2:38:40 PM	1234	2185	1522	1099	798	617	491	350	266	129	2.301	0.698		169	31	
1.050	58.8	2:39:49 PM	1220	2445	1267	1123	744	557	441	291	212	99	2.606	1.256		175	41	
1.100	58.8	2:40:58 PM	1240	2477	1245	854	534	379	300	198	141	54	2.597	1.292		218	31	
1.150	58.8	2:42:10 PM	1275	1599	882	733	466	352	270	191	140	68	1.630	0.731		297	53	
1.200	58.8	2:43:17 PM	1299	574	492	474	386	334	311	244	186	85	0.575	0.083		441	72	

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		E-20242															
1.250	58.8	2:44:23 PM	1313	331	279	248	221	189	178	136	109	76	0.328	0.052		753	291
1.300	58.8	2:45:32 PM	1265	1919	1056	799	544	422	344	249	182	90	1.972	0.887		269	56
Mean Lane Values			1243	1239	791	651	474	377	316	233	177	86	**1.298**	**0.466**		**322**	**75**
SDEV			84	739	387	283	197	159	132	102	82	39	**0.78**	**0.40**		**1.66**	**1.96**
COVR, %			7	60	49	43	42	42	42	44	46	46	**59.7**	**86.2**			
95th Percentile													**2.592**				
90 Percentile													**2.564**				

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Taxiway Run 1 W - E	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Taxiway West to East	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-8/V0	**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
Sample Number:		**E-20243**																
0.000	59.4	2:47:58 PM	1314	331	258	228	184	157	135	104	80	36	0.327	0.072		1101	170	
0.050	59.4	2:49:03 PM	1309	377	300	250	212	243	150	114	92	52	0.374	0.076		626	303	
0.100	59.4	2:50:15 PM	915	570	520	489	380	349	318	278	249	169	0.810	0.071		287	100	
0.150	59.4	2:51:22 PM	1047	513	424	373	305	250	219	169	140	68	0.637	0.111		379	102	
0.200	59.4	2:52:34 PM	1014	1978	1564	963	246	743	338	243	416	89	2.536	0.531		252	84	
0.250	59.4	2:54:00 PM	924	965	588	558	304	245	205	165	127	65	1.358	0.530		541	50	

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1087	789	609	477	272	331	228	179	184	80	**1.007**	**0.232**		**466**	**114**	
SDEV	181	624	484	271	72	211	84	69	128	47	**0.84**	**0.23**		**1.73**	**1.86**	
NOTE: Deviation from the Standard	17	79	80	57	26	64	37	39	70	59	**83.1**	**100.0**				
95th Percentile											**2.241**					
90 Percentile											**1.947**					

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Taxiway Run 2 E - W	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Taxiway East to West			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-9/V0			**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)	
Sample Number:		**E-20244**																
0.250	59.4	2:55:32 PM	997	840	498	365	263	199	178	137	108	68	1.095	0.445		635	105	
0.200	59.4	2:56:42 PM	1070	1497	738	665	469	304	290	190	131	83	1.818	0.921		131	94	
0.150	59.4	2:57:54 PM	878	1188	640	597	330	247	199	152	131	77	1.759	0.812		145	183	
0.100	59.4	3:01:18 PM	912	650	485	426	267	211	195	165	70	65	0.927	0.235		322	53	
0.050	59.4	3:02:23 PM	1057	800	500	447	309	243	192	142	108	56	0.984	0.369		294	74	
0.000	59.4	3:03:37 PM	977	574	379	322	229	181	153	109	86	49	0.763	0.259		548	99	
Mean Lane Values			982	925	540	470	311	231	201	149	105	66	**1.224**	**0.507**		**292**	**94**	
SDEV			77	352	128	134	85	44	46	27	24	12	**0.45**	**0.29**		**1.92**	**1.51**	
NOTE: Deviation from the Standard			8	38	24	28	27	19	23	18	23	19	**36.8**	**57.4**				
95th Percentile													**1.803**					
90 Percentile													**1.789**					

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Apron Run 1 N - S	**Seal:** 20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:** 330
Section / Lane:	Apron, North to South		**Tested By:**	Caige Kazmierowski	**Subgrade:** N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m	
Certificate Number:	E-102599-10/V0		**Certificate Date:**	7/12/2022	
Equipment ID:	FWD 044		**Segment Length, m**	100m	
Prepared By:	AY	**Checked By:** Tony Mansour			

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		**E-20245**															
0.000	58.0	3:31:33 PM	1032	1946	1220	742	355	206	193	132	115	90	2.451	0.915		293	12
0.050	58.0	3:39:55 PM	956	1690	970	668	405	287	219	157	121	66	2.298	0.979		215	31
0.100	58.0	3:41:02 PM	991	952	508	332	223	162	142	104	85	35	1.249	0.583		485	86

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	993	1529	899	580	328	218	185	131	107	64	**2.000**	**0.826**		**313**	**32**	
SDEV	38	516	361	218	94	63	40	27	19	27	**0.65**	**0.21**		**1.51**	**2.67**	
NOTE: Deviation from the Standard:	4	34	40	38	29	29	21	20	18	43	**32.7**	**25.8**				
95th Percentile											**2.436**					
90 Percentile											**2.421**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Apron Run 2 N - S	**Seal:** 20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:** 330
Section / Lane:	Apron, North to South		**Tested By:**	Caige Kazmierowski	**Subgrade:** N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m	
Certificate Number:	E-102599-11/V0		**Certificate Date:**	7/12/2022	
Equipment ID:	FWD 044		**Segment Length, m**	100m	
Prepared By:	AY	**Checked By:** Tony Mansour			

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		**E-20246**															
0.000	58.0	3:43:18 PM	1029	886	474	446	234	173	140	90	75	52	1.119	0.521		584	62
0.050	58.0	4:09:40 PM	950	648	331	237	163	113	102	63	53	13	0.887	0.434		719	102

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	990	767	403	342	199	143	121	77	64	33	**1.003**	**0.477**		**648**	**80**	
SDEV	56	168	101	148	50	42	27	19	16	28	**0.16**	**0.06**		**1.16**	**1.43**	
NOTE: Deviation from the Standard:	6	22	25	43	25	30	22	25	24	85	**16.4**	**12.9**				
95th Percentile											**1.108**					
90 Percentile											**1.096**					

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Approved Signatory: Jordan Mortimer

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NATA Accreditation Number 19186 Site - Number 21714

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Singapore Add:
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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Apron Run 3 N - S	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Apron, North to South		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-12/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal)	E2 (Base)	E3 (Subgrade)
Sample Number:		E-20247															
0.000	58.0	4:12:22 PM	1048	992	523	348	232	164	119	73	45	14	1.231	0.582		323	70
0.050	58.0	4:13:32 PM	1020	738	450	350	232	177	139	96	76	28	0.940	0.367		511	79

NOTE: Deviation from the Standard: (1) Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1034	865	487	349	232	171	129	84	60	21	**1.086**	**0.474**		**406**	**74**	
SDEV	20	180	52	1	0	9	15	17	22	10	**0.21**	**0.15**		**1.38**	**1.09**	
NOTE: Deviation from the Standard:	2	21	11	0	0	5	11	20	37	46	**18.9**	**32.0**				
95th Percentile											**1.216**					
90 Percentile											**1.202**					

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 1 12m W of Centr	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m West of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-1/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20236																
0.000	41.4	8:26:14 AM	1315	622	548	506	469	423	380	319	267	119	0.615	0.073	2691	36		
0.050	41.4	8:30:27 AM	1291	981	727	613	507	414	342	255	193	87	0.987	0.255	873	36		
0.100	41.4	8:31:40 AM	1294	551	405	342	280	226	194	149	117	64	0.554	0.147	1433	80		
0.150	41.4	8:34:07 AM	1294	514	390	324	265	216	183	138	107	54	0.517	0.125	1647	72		
0.200	41.4	8:35:24 AM	1310	538	394	325	268	212	175	135	102	62	0.534	0.143	1438	83		
0.250	41.4	8:36:34 AM	1311	555	393	314	256	203	176	130	103	49	0.551	0.161	1300	91		
0.300	41.4	8:37:46 AM	1292	915	607	502	407	328	266	198	149	73	0.921	0.311	769	54		
0.350	41.4	8:38:58 AM	1301	596	453	367	300	236	188	137	101	43	0.595	0.143	1569	43		
0.400	41.4	8:40:07 AM	1306	470	374	317	262	219	180	139	110	58	0.468	0.096	1906	76		
0.450	41.4	8:41:16 AM	1301	860	751	677	626	238	221	192	156	95	0.859	0.109	614	122		
0.500	41.4	8:42:27 AM	1289	1050	691	547	439	347	302	235	182	90	1.059	0.361	586	64		
0.550	55.1	8:43:40 AM	1305	420	350	298	257	217	191	154	125	68	0.418	0.070	2195	100		
0.600	55.1	8:45:15 AM	1299	711	549	461	374	307	260	192	147	87	0.711	0.162	1190	53		
0.650	55.1	8:46:24 AM	1290	1092	821	693	572	458	377	266	197	70	1.100	0.273	881	24		

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Client :	WML Consultants Engineers	**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing	**File Name:**	Run 1 12m W of Centr	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome	**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m West of Centre	**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal	**Testing Interval:**	50m		
Certificate Number:	E-102599-1/V0	**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044	**Segment Length, m**	1,300m		
Prepared By:	AY **Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20236																
0.700	55.1	8:47:39 AM	1297	724	547	475	399	329	276	209	161	75	0.726	0.178	1255	49		
0.750	55.1	8:48:50 AM	1311	444	351	295	246	216	219	140	124	68	0.441	0.093	1543	205		
0.800	55.1	8:50:00 AM	1281	631	472	384	318	251	219	164	132	61	0.640	0.161	1315	60		
0.850	55.1	8:51:29 AM	1288	615	442	362	290	233	192	142	112	58	0.621	0.175	1257	65		
0.900	55.1	8:52:40 AM	1286	1263	839	642	457	348	285	177	136	55	1.277	0.428	554	27		
0.950	55.1	8:53:50 AM	1304	355	270	229	197	169	164	129	105	56	0.354	0.085	2294	169		
1.000	49.7	8:56:05 AM	1308	644	410	324	264	220	193	148	115	66	0.640	0.232	915	134		
1.050	49.7	8:57:24 AM	1297	1306	286	241	205	175	148	122	97	56	1.309	1.022	238	384		
1.100	49.7	8:58:40 AM	1304	1383	461	339	261	210	175	133	106	61	1.379	0.919	243	264		
NOTE: Pavement moduli computed using Dynatest Elmod6 software.																		
Mean Lane Values			1299	627	476	404	341	282	242	188	148	72	**0.751**	**0.249**	**1065**	**77**		
SDEV			9	177	137	125	115	106	93	80	68	26	**0.30**	**0.25**	**1.89**	**2.02**		
COVR, %			1	28	29	31	34	37	39	43	46	36	**40.2**	**99.1**				

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) **Processed** in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20237																
0.025	47.9	9:12:32 AM	1295	1314	939	742	573	467	378	268	193	76	1.319	0.376	590	26		
0.075	47.9	9:13:59 AM	1277	1339	1021	874	749	627	529	408	313	118	1.363	0.324	722	23		
0.125	47.9	9:15:27 AM	1324	434	334	282	235	193	176	130	105	62	0.426	0.097	1940	112		
0.175	47.9	9:16:44 AM	1318	318	250	214	183	156	137	110	91	49	0.314	0.067	2769	155		
0.225	47.9	9:18:07 AM	1303	583	466	378	313	256	213	160	124	62	0.582	0.117	1561	54		
0.275	47.9	9:19:23 AM	1308	608	405	315	243	196	164	121	94	50	0.604	0.202	1046	96		
0.325	47.9	9:20:35 AM	1261	1591	825	585	442	341	274	202	150	80	1.640	0.789	281	66		
0.375	47.9	9:21:52 AM	1284	1042	721	557	425	341	271	187	139	53	1.055	0.325	697	34		
0.425	47.9	9:24:24 AM	1248	2294	1195	715	467	321	228	143	108	66	2.389	1.144	208	22		
0.475	47.9	9:42:58 AM	1299	535	403	340	290	242	211	162	126	60	0.535	0.132	1609	79		
0.525	47.9	9:44:17 AM	1222	2791	1787	1293	1006	772	649	439	289	155	2.969	1.068	203	18		
0.575	53.6	9:45:18 AM	1279	1710	840	525	375	295	258	213	167	92	1.738	0.885	213	153		
0.625	53.6	9:57:40 AM	1267	1999	1140	736	536	404	332	270	204	110	2.051	0.882	196	106		
0.675	53.6	9:58:37 AM	1276	1310	1060	883	716	576	475	338	251	103	1.335	0.255	761	18		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20237**																
0.725	53.6	9:59:36 AM	1304	750	576	495	431	362	328	253	202	95	0.748	0.174	2399	40		
0.775	53.6	10:00:33 AM	1295	770	666	595	514	438	380	297	235	102	0.773	0.104	1524	34		
0.825	53.6	10:01:30 AM	1293	898	561	426	332	268	225	168	125	62	0.903	0.339	661	72		
0.875	53.6	10:02:50 AM	1241	2282	1282	905	653	485	372	265	180	94	2.391	1.048	226	24		
0.925	53.6	10:03:52 AM	1301	566	412	329	272	223	191	151	122	67	0.565	0.154	1287	98		
0.975	53.6	10:04:48 AM	1302	656	476	384	316	260	222	172	125	54	0.655	0.180	1229	62		
1.025	62.5	10:05:47 AM	1293	685	511	415	341	282	234	174	133	65	0.689	0.174	1188	56		
1.075	62.5	10:06:49 AM	1302	566	417	335	273	217	178	133	105	64	0.565	0.149	1369	73		
1.125	62.5	10:07:49 AM	1308	389	296	245	213	177	163	125	107	58	0.386	0.092	1864	187		
1.175	62.5	10:08:47 AM	1304	430	366	321	282	245	223	177	139	76	0.429	0.064	2611	79		
1.225	62.5	10:09:46 AM	1310	313	241	213	188	160	146	117	99	55	0.311	0.072	2546	227		
1.275	62.5	10:10:48 AM	1304	555	433	366	313	272	239	181	147	70	0.553	0.122	1600	79		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 2 6m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m West of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-2/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20237																

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1304	766	569	467	383	316	266	200	153	69	**1.050**	**0.359**	**887**	**60**		
SDEV	17	447	327	272	227	189	155	117	87	26	**0.74**	**0.36**	**2.43**	**2.09**		
COVR, %	1	58	58	58	59	60	58	59	57	37	**70.1**	**99.3**				
95th Percentile											**2.390**					
90 Percentile											**2.220**					

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20238**																
0.000	57.6	10:15:10 AM	1291	1165	740	600	475	378	298	231	188	88	1.173	0.428	538	52		
0.050	57.6	10:16:08 AM	1284	1143	928	794	682	569	482	368	268	107	1.157	0.218	959	21		
0.100	57.6	10:17:07 AM	1293	742	605	515	442	367	323	251	183	82	0.746	0.138	1435	37		
0.150	57.6	10:18:04 AM	1304	573	368	281	235	187	164	127	99	47	0.571	0.204	1050	137		
0.200	57.6	10:18:59 AM	1308	490	354	291	234	189	159	696	97	61	0.487	0.135	7089	15		
0.250	57.6	10:20:01 AM	1285	1315	738	479	347	260	212	166	129	75	1.330	0.584	355	68		
0.300	57.6	10:21:18 AM	1305	474	356	293	232	195	163	127	102	52	0.472	0.118	1632	97		
0.350	57.6	10:22:45 AM	1286	1073	658	507	382	295	232	163	113	66	1.085	0.420	545	53		
0.400	57.6	10:24:44 AM	1289	1292	844	667	468	344	263	177	127	49	1.303	0.452	554	24		
0.450	57.6	10:25:40 AM	1294	788	603	527	380	297	243	166	118	51	0.792	0.186	1135	31		
0.500	60.1	10:31:17 AM	1202	1920	1052	853	509	392	311	204	151	96	2.077	0.939	256	29		
0.550	60.1	10:32:20 AM	1258	575	489	455	391	347	310	253	208	117	0.594	0.089	1989	56		
0.600	60.1	10:35:54 AM	1192	935	850	791	693	630	596	491	423	233	1.020	0.093	1026	57		
0.650	60.1	10:36:56 AM	1218	1020	891	808	699	623	566	450	380	199	1.089	0.138	1156	28		

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Approved Signatory: Jordan Mortimer

NATA Accreditation Number 19186 Site - Number 21714

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STATS WA
Perth Laboratory

Perth Add:
Unit 1/16 Production Road, Canning Vale, WA 6155
Karratha Add:
1938 Pyramid Road, Karratha, WA 6714
Singapore Add:
71 Toh Guan Road East, #02-01/02/06 Techcentre, SG 608598

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20238**																
0.700	60.1	10:38:34 AM	1205	1304	1131	1048	914	818	741	589	475	259	1.407	0.187	889	22		
0.750	60.1	10:42:04 AM	1234	1262	1040	942	791	687	590	488	395	190	1.329	0.234	765	27		
0.800	60.1	10:43:07 AM	1241	696	558	490	376	316	266	216	160	70	0.729	0.145	1302	42		
0.850	60.1	10:44:02 AM	1227	1662	739	572	390	297	235	178	120	66	1.761	0.978	241	74		
0.900	60.1	10:48:52 AM	964	1577	1123	920	656	479	357	239	165	89	2.127	0.612	397	11		
0.950	60.1	11:06:28 AM	1300	1224	845	687	549	446	376	274	203	102	1.224	0.379	606	37		
1.000	60.1	11:07:39 AM	1312	564	418	368	311	261	239	198	147	78	0.559	0.145	1531	89		
1.050	66.4	11:09:22 AM	1279	1602	869	632	484	363	296	194	143	58	1.628	0.745	315	46		
1.050	66.4	11:11:15 AM	1288	1546	742	458	319	237	191	144	117	61	1.560	0.811	264	80		
1.100	66.4	11:14:40 AM	1309	592	491	446	362	311	270	216	160	81	0.588	0.100	1815	51		
1.150	66.4	11:15:55 AM	1274	1731	1342	1001	562	446	361	281	213	91	1.766	0.397	431	14		
1.200	66.4	11:17:13 AM	1312	897	552	446	325	260	215	163	124	60	0.889	0.342	685	69		

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 3 3 m W of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m West of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-3/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20238**																
1.250	66.4	11:18:36 AM	1276	1916	880	624	438	335	276	211	151	74	1.952	1.055	211	73		
NOTE: Pavement moduli computed using Dynatest Elmod6 software.																		
Mean Lane Values			1260	1114	748	611	468	383	324	269	191	96	**1.16**	**0.38**	**754**	**42**		
SDEV			70	448	260	220	176	160	148	148	105	57	**0.50**	**0.30**	**2.23**	**1.88**		
COVR, %			6	40	35	36	37	42	46	55	55	59	**43.1**	**78.3**				
95th Percentile													**2.039**					
90 Percentile													**1.841**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20239																
0.000	62.0	11:32:53 AM	1307	709	660	622	422	355	299	229	175	77	0.705	0.049	1479	32		
0.050	62.0	11:35:15 AM	1282	1373	884	824	563	458	372	266	191	83	1.392	0.496	533	29		
0.100	62.0	11:36:54 AM	1316	700	552	476	366	299	251	184	134	66	0.691	0.146	1359	40		
0.150	62.0	11:38:11 AM	1313	597	405	541	262	211	172	141	99	64	0.591	0.190	1325	62		
0.200	62.0	11:39:28 AM	1309	588	418	366	261	205	175	136	108	62	0.584	0.169	1271	76		
0.250	62.0	11:40:40 AM	1309	650	490	427	296	255	200	148	126	70	0.646	0.159	1107	76		
0.300	62.0	11:42:19 AM	1319	474	342	292	232	191	164	116	97	54	0.467	0.130	1586	109		
0.350	62.0	11:43:32 AM	1325	448	341	306	216	176	146	115	90	47	0.440	0.105	1809	87		
0.400	62.0	11:44:54 AM	1316	668	472	375	287	224	187	143	109	50	0.660	0.194	1071	67		
0.450	62.0	11:46:52 AM	1317	482	359	340	253	211	177	142	112	57	0.476	0.121	1847	79		
0.500	65.1	11:48:05 AM	1312	390	334	314	260	212	184	148	127	67	0.386	0.055	2099	162		
0.550	65.1	11:49:21 AM	1299	809	613	544	419	347	299	221	176	81	0.810	0.196	1149	39		
0.600	65.1	11:50:40 AM	1310	678	558	508	420	358	307	241	184	89	0.673	0.119	1658	40		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20239																
0.650	65.1	11:52:05 AM	1298	927	698	606	455	381	351	252	204	95	0.928	0.229	940	39		
0.700	65.1	11:53:21 AM	1302	738	599	556	441	378	325	254	199	87	0.737	0.139	1469	39		
0.750	65.1	11:54:38 AM	1305	719	631	559	446	377	329	258	196	95	0.716	0.088	1643	33		
0.800	65.1	11:55:58 AM	1302	862	681	627	433	359	284	208	137	47	0.861	0.181	1184	23		
0.850	65.1	11:57:13 AM	1294	1292	661	528	397	252	197	155	110	64	1.298	0.634	387	61		
0.900	65.1	11:58:28 AM	1314	436	347	299	254	204	177	143	117	69	0.431	0.088	1895	120		
0.950	65.1	12:00:02 PM	1310	526	431	402	323	266	231	182	140	55	0.522	0.094	2112	49		
1.000	65.1	12:15:20 PM	1305	1042	668	576	420	336	287	209	161	70	1.038	0.373	658	49		
1.050	65.1	12:16:33 PM	1310	724	555	502	399	341	298	230	171	90	0.718	0.168	1264	53		
1.100	65.1	12:17:53 PM	1299	844	580	538	378	324	282	214	175	88	0.845	0.264	922	55		
1.150	65.1	12:19:01 PM	1315	425	373	359	313	262	251	205	149	79	0.420	0.051	3009	68		
1.200	65.1	12:26:14 PM	1319	522	443	432	369	331	303	254	206	97	0.514	0.078	2632	56		
1.250	65.1	12:27:32 PM	1315	377	328	306	247	231	220	170	83	47	0.373	0.048	3897	49		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 4 12m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	12m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-4/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) in ELMOD 6 **Processed**

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
Sample Number:		E-20239																
1.300	65.1	12:29:55 PM	1316	390	350	300	247	221	196	146	115	52	0.385	0.040	2750	76		
Mean Lane Values			1309	653	490	437	338	280	242	187	143	70	**0.68**	**0.17**	**754**	**42**		
SDEV			9	257	147	133	90	76	66	48	39	16	**0.26**	**0.14**	**1.67**	**1.57**		
COVR, %			1	39	30	31	27	27	27	26	27	23	39	81				
95th Percentile													**1.220**					
90 Percentile													**0.972**					

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m	Seal not structural, combined with base laye	
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20240																
0.025	66.4	12:36:19 PM	1288	1048	799	677	523	416	354	267	202	76	1.058	0.251	827	30		
0.075	66.4	12:37:41 PM	1310	377	325	305	257	224	201	164	139	76	0.374	0.052	2752	118		
0.125	66.4	12:39:00 PM	1314	435	390	329	241	211	180	147	126	70	0.430	0.045	1443	201		
0.175	66.4	12:40:25 PM	1311	235	224	197	177	134	175	110	75	34	0.233	0.011	4857	135		
0.225	66.4	12:42:02 PM	1314	291	242	227	181	158	142	112	92	52	0.288	0.048	3662	127		
0.275	66.4	12:43:27 PM	1315	330	297	237	192	168	155	120	94	56	0.326	0.033	2725	123		
0.325	66.4	12:44:39 PM	1313	357	299	264	218	177	155	120	96	43	0.353	0.057	2938	80		
0.375	66.4	12:46:02 PM	1312	432	305	264	202	170	144	109	83	48	0.428	0.126	1693	123		
0.425	66.4	12:47:16 PM	1312	426	349	337	238	204	175	135	111	57	0.422	0.076	2212	81		
0.475	66.4	12:48:43 PM	1309	513	391	338	264	205	199	128	100	48	0.509	0.121	1660	71		
0.525	64.7	12:50:54 PM	1306	495	418	386	311	274	237	186	151	88	0.493	0.077	2176	68		
0.575	64.7	12:52:07 PM	1304	737	563	581	373	315	271	201	165	83	0.735	0.173	1222	44		
0.625	64.7	12:53:18 PM	1308	571	479	440	364	313	277	226	182	88	0.568	0.091	1975	55		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20240																
0.675	64.7	12:54:30 PM	1298	789	653	658	486	403	360	265	205	76	0.790	0.136	1416	30		
0.725	64.7	12:55:42 PM	1301	1015	783	705	543	443	362	269	204	88	1.014	0.232	975	26		
0.775	64.7	12:57:21 PM	1312	606	483	429	338	277	233	183	131	59	0.600	0.122	1640	46		
0.825	64.7	12:58:31 PM	1298	950	554	482	346	276	237	181	142	61	0.951	0.397	615	75		
0.875	64.7	12:59:41 PM	1317	429	380	328	246	205	188	147	114	60	0.423	0.048	2194	78		
0.925	64.7	1:00:53 PM	1311	459	400	350	251	214	189	150	123	67	0.455	0.059	2249	61		
0.975	64.7	1:02:04 PM	1307	451	353	313	259	210	187	150	126	70	0.449	0.097	1762	128		
1.025	66.8	1:03:24 PM	1297	656	461	437	318	266	228	178	138	68	0.658	0.195	1218	69		
1.075	66.8	1:04:34 PM	1294	814	667	593	442	363	301	214	153	73	0.818	0.148	1151	33		
1.125	66.8	1:05:45 PM	1305	600	485	422	331	266	222	167	129	63	0.598	0.115	1674	44		
1.175	66.8	1:07:10 PM	1308	463	364	333	258	214	188	147	121	65	0.460	0.098	2069	76		
1.225	66.8	1:08:21 PM	1321	387	296	268	208	179	161	131	105	56	0.381	0.090	2312	118		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 5 6m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	6m East of Centre		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-5/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) in ELMOD 6 — **Processed**

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20240																
1.275	66.8	1:09:32 PM	1312	438	356	320	276	240	207	166	134	66	0.434	0.081	2517	76		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1308	453	380	329	262	219	201	153	121	61	**0.548**	**0.115**	**1813**	**71**		
SDEV	8	300	214	178	132	102	78	60	46	17	**0.22**	**0.08**	**1.58**	**1.71**		
COVR, %	1	66	56	54	50	47	39	39	38	27	**40.6**	**72.2**				
95th Percentile											**0.999**					
90 Percentile											**0.885**					

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Approved Signatory: Jordan Mortimer

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NATA Accreditation Number 19186 Site - Number 21714

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Singapore Add:
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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20241**																
0.000	66.8	1:13:15 PM	1299	1184	829	719	527	424	340	250	185	65	1.185	0.355	683	28		
0.050	66.8	1:17:25 PM	1292	1060	850	750	583	466	413	295	217	101	1.067	0.211	912	25		
0.100	66.8	1:18:37 PM	1314	371	354	322	266	226	208	174	129	65	0.367	0.017	3006	84		
0.150	66.8	1:19:48 PM	1314	316	260	243	200	176	151	121	98	55	0.313	0.055	3391	113		
0.200	66.8	1:21:50 PM	1304	697	387	310	233	183	169	126	97	53	0.695	0.309	725	155		
0.250	66.8	1:23:00 PM	1299	860	564	484	319	257	230	171	123	57	0.861	0.296	782	55		
0.300	66.8	1:24:13 PM	1309	353	301	276	189	157	140	101	83	50	0.351	0.052	1690	269		
0.350	66.8	1:26:23 PM	1303	479	357	310	237	195	162	121	96	55	0.478	0.122	1820	71		
0.400	66.8	1:30:04 PM	1310	393	314	285	226	189	161	127	100	51	0.390	0.078	2794	65		
0.450	66.8	1:31:14 PM	1312	419	334	287	244	198	183	134	111	59	0.415	0.084	2185	98		
0.500	64.2	1:32:25 PM	1160	414	364	338	294	260	247	204	173	90	0.464	0.056	2820	70		
0.550	64.2	1:33:39 PM	1120	445	366	329	281	235	222	168	142	70	0.517	0.092	1971	72		
0.600	64.2	1:34:36 PM	694	826	800	727	695	482	429	355	277	139	1.547	0.049	653	22		

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20241**																
0.650	64.2	1:35:42 PM	642	428	390	363	312	276	251	208	176	101	0.867	0.077	1051	72		
0.700	64.2	1:36:54 PM	784	1901	1095	841	600	472	385	295	234	119	3.152	1.336	164	27		
0.750	64.2	1:37:56 PM	864	910	698	866	482	413	358	265	213	88	1.369	0.319	592	29		
0.750	64.2	1:43:06 PM	1308	968	715	613	499	411	362	286	195	88	0.962	0.251	883	41		
0.800	64.2	1:44:14 PM	1321	389	314	287	233	203	180	143	116	58	0.383	0.074	2618	97		
0.850	64.2	1:45:30 PM	1293	781	582	470	371	271	227	186	108	62	0.785	0.200	999	44		
0.900	64.2	1:46:47 PM	1310	540	400	350	287	238	215	174	139	79	0.536	0.139	1477	102		
0.950	64.2	1:47:57 PM	1296	699	514	450	351	263	240	189	146	73	0.701	0.186	1138	60		
1.000	63.0	1:49:10 PM	1298	954	762	576	395	316	264	193	161	72	0.955	0.192	870	28		
1.050	63.0	1:50:25 PM	1308	752	567	555	392	328	285	216	172	77	0.747	0.184	1225	46		
1.100	63.0	1:51:37 PM	1280	1616	748	548	373	292	233	176	131	74	1.641	0.882	256	82		
1.150	63.0	1:52:56 PM	1311	550	387	370	262	221	194	143	111	65	0.545	0.162	1465	81		
1.200	63.0	2:06:09 PM	1309	653	632	431	308	241	185	152	122	71	0.649	0.021	873	130		

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 6 3 m E of Centre	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	3m East of Centre			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-6/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
Sample Number:		**E-20241**																
1.250	63.0	2:07:22 PM	1269	1959	1025	786	501	379	290	205	157	78	2.007	0.957	253	34		
1.300	63.0	2:08:32 PM	1304	916	558	432	307	243	205	151	113	59	0.913	0.357	619	72		
Mean Lane Values			1212	748	541	471	355	289	252	190	142	66	**0.888**	**0.254**	**1062**	**61**		
SDEV			201	355	252	219	161	125	103	69	49	18	**0.62**	**0.31**	**2.15**	**1.85**		
COVR, %			17	48	47	46	45	43	41	37	35	27	**69.4**	**121.4**				
95th Percentile													**1.879**					
90 Percentile													**1.575**					

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20242**																
0.000	60.0	2:12:22 PM	1305	897	705	650	505	408	359	262	199	79	0.894	0.192	1169	28		
0.050	60.0	2:13:37 PM	1032	916	782	715	607	525	473	360	288	132	1.154	0.169	1104	21		
0.100	60.0	2:14:44 PM	1070	945	800	717	579	487	415	320	247	101	1.148	0.177	1020	20		
0.150	60.0	2:15:50 PM	1080	310	258	246	192	163	158	118	101	60	0.374	0.063	2119	204		
0.200	60.0	2:16:56 PM	1049	498	364	314	251	212	176	146	108	54	0.617	0.166	1266	77		
0.250	60.0	2:20:19 PM	1309	458	369	337	287	232	224	169	121	46	0.455	0.089	2486	60		
0.300	60.0	2:21:31 PM	1305	783	440	328	234	175	154	113	94	51	0.780	0.341	602	150		
0.350	60.0	2:22:49 PM	1301	585	448	443	295	242	197	138	105	51	0.584	0.137	1734	37		
0.400	60.0	2:23:59 PM	1293	787	615	511	406	319	265	203	145	54	0.791	0.172	1141	36		
0.450	60.0	2:25:08 PM	1295	575	445	406	298	240	201	142	106	57	0.577	0.130	1604	48		
0.500	58.8	2:26:20 PM	1297	863	612	500	357	284	232	179	127	67	0.865	0.252	853	45		
0.550	58.8	2:27:29 PM	1300	874	650	560	412	321	264	201	150	75	0.874	0.224	1025	31		
0.600	58.8	2:28:39 PM	1254	1825	1375	1149	933	807	719	571	460	223	1.892	0.466	427	26		

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0			**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044			**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20242**																
0.650	58.8	2:29:51 PM	1281	1091	699	621	450	369	311	244	197	104	1.107	0.399	557	65		
0.700	58.8	2:31:05 PM	1234	2424	1415	1093	785	637	521	398	311	150	2.553	1.063	211	31		
0.750	58.8	2:32:31 PM	1239	2460	1398	1007	685	506	399	277	198	105	2.581	1.114	206	24		
0.800	58.8	2:33:43 PM	1265	1339	713	575	392	295	238	163	124	59	1.376	0.644	383	50		
0.850	58.8	2:34:52 PM	1257	1899	1075	836	590	448	347	242	171	68	1.963	0.852	288	29		
0.900	58.8	2:36:01 PM	1306	533	414	354	285	238	202	166	121	68	0.531	0.119	1641	75		
0.950	58.8	2:37:21 PM	1255	1852	1054	875	574	422	336	230	172	108	1.919	0.827	296	29		
1.000	58.8	2:38:40 PM	1234	2185	1522	1099	798	617	491	350	266	129	2.301	0.698	277	20		
1.050	58.8	2:39:49 PM	1220	2445	1267	1123	744	557	441	291	212	99	2.606	1.256	215	24		
1.100	58.8	2:40:58 PM	1240	2477	1245	854	534	379	300	198	141	54	2.597	1.292	187	25		
1.150	58.8	2:42:10 PM	1275	1599	882	733	466	352	270	191	140	68	1.630	0.731	335	38		
1.200	58.8	2:43:17 PM	1299	574	492	474	386	334	311	244	186	85	0.575	0.083	2243	44		

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Run 7 Centre Line	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Centreline		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-7/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa): 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20242																
1.250	58.8	2:44:23 PM	1313	331	279	248	221	189	178	136	109	76	0.328	0.052	2484	222		
1.300	58.8	2:45:32 PM	1265	1919	1056	799	544	422	344	249	182	90	1.972	0.887	259	39		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1243	1239	791	651	474	377	316	233	177	86	**1.298**	**0.466**	**690**	**43**		
SDEV	84	739	387	283	197	159	132	102	82	39	**0.78**	**0.40**	**2.41**	**1.94**		
COVR, %	7	60	49	43	42	42	42	44	46	46	**59.7**	**86.2**				
95th Percentile											**2.592**					
90 Percentile											**2.564**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Taxiway Run 1 W - E	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Taxiway West to East		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-8/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		**E-20243**																
0.000	59.4	2:47:58 PM	1314	331	258	228	184	157	135	104	80	36	0.327	0.072	3050	93		
0.050	59.4	2:49:03 PM	1309	377	300	250	212	243	150	114	92	52	0.374	0.076	1731	243		
0.100	59.4	2:50:15 PM	915	570	520	489	380	349	318	278	249	169	0.810	0.071	1226	75		
0.150	59.4	2:51:22 PM	1047	513	424	373	305	250	219	169	140	68	0.637	0.111	1479	56		
0.200	59.4	2:52:34 PM	1014	1978	1564	963	246	743	338	243	416	89	2.536	0.531	165	66		
0.250	59.4	2:54:00 PM	924	965	588	558	304	245	205	165	127	65	1.358	0.530	334	120		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1087	789	609	477	272	331	228	179	184	80	**1.007**	**0.232**	**899**	**96**		
SDEV	181	624	484	271	72	211	84	69	128	47	**0.84**	**0.23**	**3.03**	**1.70**		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

90 Percentile											**1.947**				

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Taxiway Run 2 E - W	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Taxiway East to West		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m	Seal not structural, combined with base laye	
Certificate Number:	E-102599-9/V0		**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Normalised to (kPa) 1300 Deflec. (mm)	Curvat. (mm)	Moduli, (MPa) Processed in ELMOD 6 E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20244																
0.250	59.4	2:55:32 PM	997	840	498	365	263	199	178	137	108	68	1.095	0.445	861	68		
0.200	59.4	2:56:42 PM	1070	1497	738	665	469	304	290	190	131	83	1.818	0.921	882	28		
0.150	59.4	2:57:54 PM	878	1188	640	597	330	247	199	152	131	77	1.759	0.812	1188	33		
0.100	59.4	3:01:18 PM	912	650	485	426	267	211	195	165	70	65	0.927	0.235	232	117		
0.050	59.4	3:02:23 PM	1057	800	500	447	309	243	192	142	108	56	0.984	0.369	269	52		
0.000	59.4	3:03:37 PM	977	574	379	322	229	181	153	109	86	49	0.763	0.259	392	168		
Mean Lane Values			982	925	540	470	311	231	201	149	105	66	**1.224**	**0.507**	**530**	**63**		
SDEV			77	352	128	134	85	44	46	27	24	12	**0.45**	**0.29**	**1.99**	**2.01**		
COVR, %			8	38	24	28	27	19	23	18	23	19	**36.8**	**57.4**				
95th Percentile													**1.803**					
90 Percentile													**1.789**					

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers			**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing			**File Name:**	Apron Run 1 N - S	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome			**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Apron, North to South			**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal			**Testing Interval:**	50m	Seal not structural, combined with base layer	
Certificate Number:	E-102599-10/V0			**Certificate Date:**	7/12/2022		
Equipment ID:	FWD 044			**Segment Length, m**	100m		
Prepared By:	AY	**Checked By:**	Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processed in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron)									Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
				0	200	300	400	500	600	750	900	1500						
Sample Number:		E-20245																
0.000	58.0	3:31:33 PM	1032	1946	1220	742	355	206	193	132	115	90	2.451	0.915	227	13		
0.050	58.0	3:39:55 PM	956	1690	970	668	405	287	219	157	121	66	2.298	0.979	249	18		
0.100	58.0	3:41:02 PM	991	952	508	332	223	162	142	104	85	35	1.249	0.583	360	76		
Mean Lane Values			993	1529	899	580	328	218	185	131	107	64	**2.000**	**0.826**	**273**	**26**		
SDEV			38	516	361	218	94	63	40	27	19	27	**0.65**	**0.21**	**1.28**	**2.54**		
COVR, %			4	34	40	38	29	29	21	20	18	43	**32.7**	**25.8**				
95th Percentile													**2.436**					
90 Percentile													**2.421**					

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Apron Run 2 N - S	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Apron, North to South		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-11/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	100m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
Sample Number:		E-20246																
0.000	58.0	3:43:18 PM	1029	886	474	446	234	173	140	90	75	52	1.119	0.521	473	54		
0.050	58.0	4:09:40 PM	950	648	331	237	163	113	102	63	53	13	0.887	0.434	546	87		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	990	767	403	342	199	143	121	77	64	33	**1.003**	**0.477**	**508**	**68**		
SDEV	56	168	101	148	50	42	27	19	16	28	**0.16**	**0.06**	**1.11**	**1.41**		
COVR, %	6	22	25	43	25	30	22	25	24	85	**16.4**	**12.9**				
95th Percentile											**1.108**					
90 Percentile											**1.096**					

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Client :	WML Consultants Engineers		**Job No:**	102599	**Pavement Profile, (mm)**	
Project Name:	Fitzroy Crossing Areodrome FWD Testing		**File Name:**	Apron Run 3 N - S	**Seal:**	20
Road Name:	Fitzroy Crossing Areodrome		**Survey Date:**	30/11/2022	**Base:**	330
Section / Lane:	Apron, North to South		**Tested By:**	Caige Kazmierowski	**Subgrade:**	N/A
Surface Type:	Spray Seal		**Testing Interval:**	50m		
Certificate Number:	E-102599-12/V0		**Certificate Date:**	7/12/2022	Seal not structural, combined with base laye	
Equipment ID:	FWD 044		**Segment Length, m**	1,300m		
Prepared By:	AY	**Checked By:** Tony Mansour				

DYNATEST FWD (E- 044) TEST RESULTS TO WA:326.2

Normalised to (kPa) 1300

Moduli, (MPa) Processe in ELMOD 6

Chainage (km)	Pavent. Temp'tr deg ^{0}C	Time of test	FWD Stress (kPa)	Geophone Location (mm) and Deflections (micron) 0	200	300	400	500	600	750	900	1500	Deflec. (mm)	Curvat. (mm)	E1 (Seal + Base)	E2 (Subgrde)		
Sample Number:		E-20247																
0.000	58.0	4:12:22 PM	1048	992	523	348	232	164	119	73	45	14	1.231	0.582	427	39		
0.050	58.0	4:13:32 PM	1020	738	450	350	232	177	139	96	76	28	0.940	0.367	640	50		

NOTE: Pavement moduli computed using Dynatest Elmod6 software.

Mean Lane Values	1034	865	487	349	232	171	129	84	60	21	**1.086**	**0.474**	**523**	**44**		
SDEV	20	180	52	1	0	9	15	17	22	10	**0.21**	**0.15**	**1.33**	**1.19**		
COVR, %	2	21	11	0	0	5	11	20	37	46	**18.9**	**32.0**				
95th Percentile											**1.216**					
90 Percentile											**1.202**					

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APPENDIX E

VISUAL CLASSIFICATION

Visual Pavement Assessment
Section: Southern U-Turn up to Ch 1200
• There is cracking in the runway's centre, generally longitudinal and diagonal cracking. • The outer edges of the pavement have little to no cracking. • Seal appears in good condition otherwise. The cracks have been repaired, and there is no evidence that they have reopened. • There is a full-width transverse joint at chainage 1200.





Visual Pavement Assessment
Section: Ch 1200 to Ch 950
• Similar cracking, longitudinal, slightly west of the centreline. • There are some irregular transverse cracks. • The cracks have been repaired, and there is no evidence that they have reopened.

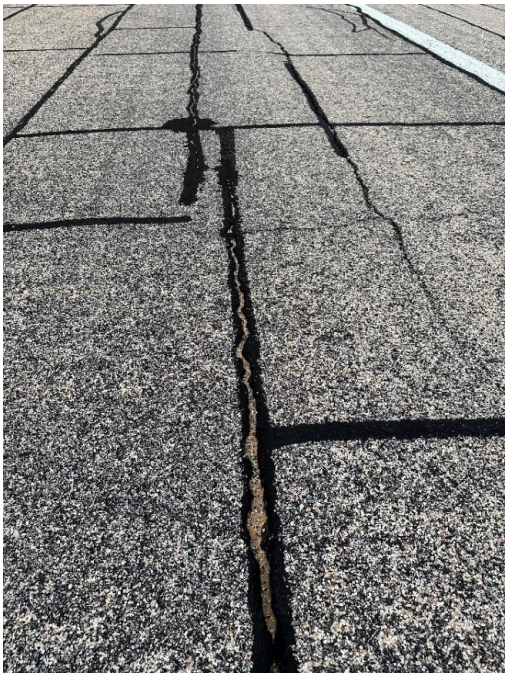




Visual Pavement Assessment
Section: Ch 950 to Ch 500
• At Ch 950, there is a full-width transverse crack. • The pavement has notable block cracking, predominantly in the west of the centreline. • The cracking in this section is the worse on the airstrip — a critical section for repair. • The cracks have been repaired. However, the cracks are reopening. Reopened cracks are 20 – 60 mm wide.



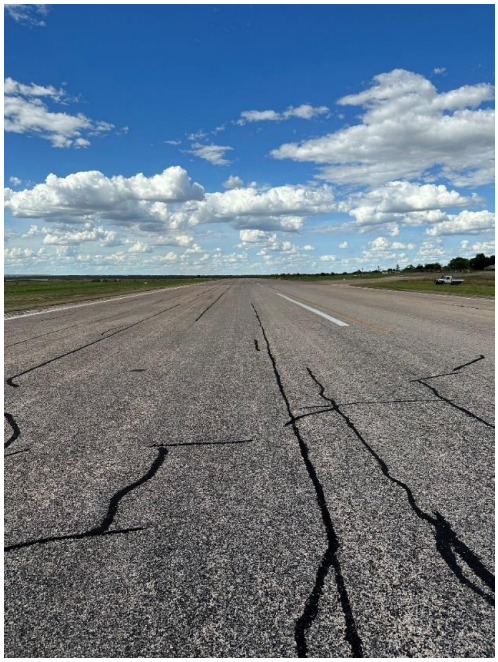






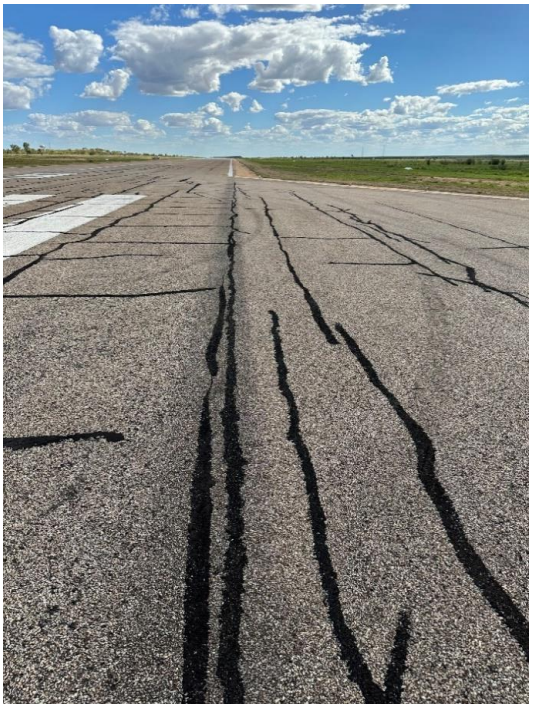
Visual Pavement Assessment
Section: Ch 500 to Ch 100
• Another full-width transverse crack at Ch 500 with a very noticeable lip in the pavement surface. The Shire has indicated that the section to the north has been repaired with a pavement overlay. • Cracking in the pavement is similar to Ch 1200 to Ch 950, with less block cracking and more longitudinal cracking with some irregular transverse cracks, mainly in the west lane. • There is, however, some block cracking at the turn into the taxiway. • The cracks have been repaired, and there is no evidence that they have reopened.





Visual Pavement Assessment
Section: Ch 100 to Ch 0 (Northern U-turn)
• Block cracking throughout the entire U-turn area. • The cracks have been repaired, and there is no evidence that they have reopened.





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Fitzroy Crossing Aerodrome

Airfield Hydrology Assessment

September 2025

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FITZROY CROSSING AERODROME

Hydrology Assessment

September 2025

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REF: 25007 – FITZROY CROSSING AERODROME

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DOCUMENT HISTORY

Revision	Date issued	Created by	Reviewed by	Revision type
A	-	MW	ME	Draft for AMS Review
B	25/09/2025	MW	ME	Issued for Use

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1. INTRODUCTION

This document presents the results of a Hydrological desktop assessment undertaken by Evangelisti & Associates (EA2) for the proposed upgrade to Fitzroy Crossing Aerodrome, WA. The following sections contained in this report describe the hydrological assessment of the aerodrome following Tropical Cyclone Ellie and assessment of the three proposed aerodrome upgrade options as presented in the Stage 1A Initial Concept Assessment and Budget Cost Estimate by Greenfield Technical Services. The key objectives for this Study are:

- Assess hydrological regime of the airfield, including consideration of the new Fitzroy Crossing bridge.
- Determine level and freeboard requirements to maintain airfield operability for extreme events.
- Review Stage 1A Initial Concept design

1.1. Project Context

The critical importance of the aerodrome was demonstrated following Tropical Cyclone Ellie (TC-Ellie) in 2023, when severe flooding of the Fitzroy River and tributaries temporarily cut road access to the Fitzroy Crossing townsite and many surrounding communities. During this time Fitzroy Crossing Aerodrome was a base of operations for the emergency response and RAAF flights, with over 200 aircraft movements per day.

Since TC Ellie, funding has become available to improve the level of flood resilience of the aerodrome for future flood events.

Greenfield Technical Services were engaged to undertake initial engineering design and budget cost estimating for three upgrade options which propose to lift the existing runway to achieve a higher freeboard to future flood levels and to allow for an asphalt overlay to address pavement issues on the northern half of the runway.

1.1.1. Existing Runway

The runway is situated approximately 1.5 km west from the town centre and 2.5 km west from the Fitzroy River Bridge. The Runway is located at the eastern edge of the Plum Plain Flood Plain.

The Aerodrome consists of a spray-sealed granular runway measuring 1,300 m in length and 30 m in width, with an additional 2.5 m of sealed shoulders on either side. Associated infrastructure includes a sealed taxiway and a sealed aircraft parking apron located on the eastern side of the runway.

An existing table drain runs parallel to the runway along the eastern edge between the runway and township, which flows south to north. This table drain captures runoff from the eastern portion of the aerodrome and the western extent of the township, which is located along a ridgeline approximately 10 m above the runway. Where the table drain crosses the taxiway, 3x DN600 Corrugated Steel culverts

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with in-situ concrete headwalls are provided. The downstream invert of the drain is approximately 110.8 mAHD where is passes the northern end of the runway.

The existing runway has a vertical crest in the middle section, with the longitudinal grade of the centreline -0.5% and +0.5% to either end. The existing centreline is nominally 1 m higher than the surrounding floodplain.

Based on the existing transverse cross-fall of both the existing sealed airstrip, as well as the graded runway strip, rainfall runoff drains away in all directions from the sealed runway strip.

1.2. Available Information

- ARR Data Hub results.
- Regional Flood Frequency Estimation Model results, ARR
- Ground surface LIDAR survey – 2008, MRWA
- Fitzroy Bridge Replacement – Waterways Assessment BG&E 2023, MRWA
- Fitzroy Crossing surveyed flood levels and flood depth mapping – 2023, DWER
- Fitzroy Aerodrome Flood Resilience Upgrade Stage 1A Initial Concept Assessment and Budget Cost Estimate – 2025, Greenfield Technical Services
- Geotechnical Investigation and Pavement Assessment Fitzroy Crossing Aerodrome- 2025, WML
- Hydrology of the Fitzroy River, DWER
- Flood Investigations Report, Fitzroy River Flooding: March 1983, March 1984, and January 1986 – 1990 Goh, J. and Joyce, M, MRWA.
- Flooding along Australia's Fitzroy River – NASA Earth Observatory

2. FITZROY RIVER HYDROLOGY

The following key findings were made relating to the Fitzroy Crossing Aerodrome and surrounding climactic and hydrological setting:

- The Fitzroy River catchment is one of the largest catchments in Western Australia, covering an area of around 94,000 km^2. The catchment upstream of Fitzroy Crossing is 46,350 km^2, with the longest stream length of 551 km – Refer catchment plan in Figure 1.

- The section of Fitzroy River adjacent to the townsite is fed from the upper reaches of the Fitzroy River and Margaret River. The Brooking Creek flows eastwards into the Plum Plain floodplain which, whilst comparatively small, can have a significant influence on flood levels at the aerodrome.

- The elevated areas in the north-east feature exposed rock with tributaries flowing through many rocky gorges. The catchment northeast of Fitzroy Crossing is steep rocky terrain as compared to the downstream reaches of Fitzroy River. These characteristics result in low losses and quick times to concentration, resulting in short but intense flows through Fitzroy River.

- The Fitzroy River floodplain is highly complex, influenced by multiple tributaries and variable flows from the Fitzroy River and Margaret River which have equivalently sized catchments, with additional complexity arising from temporal factors and joint probability effects of flows from these two catchments.

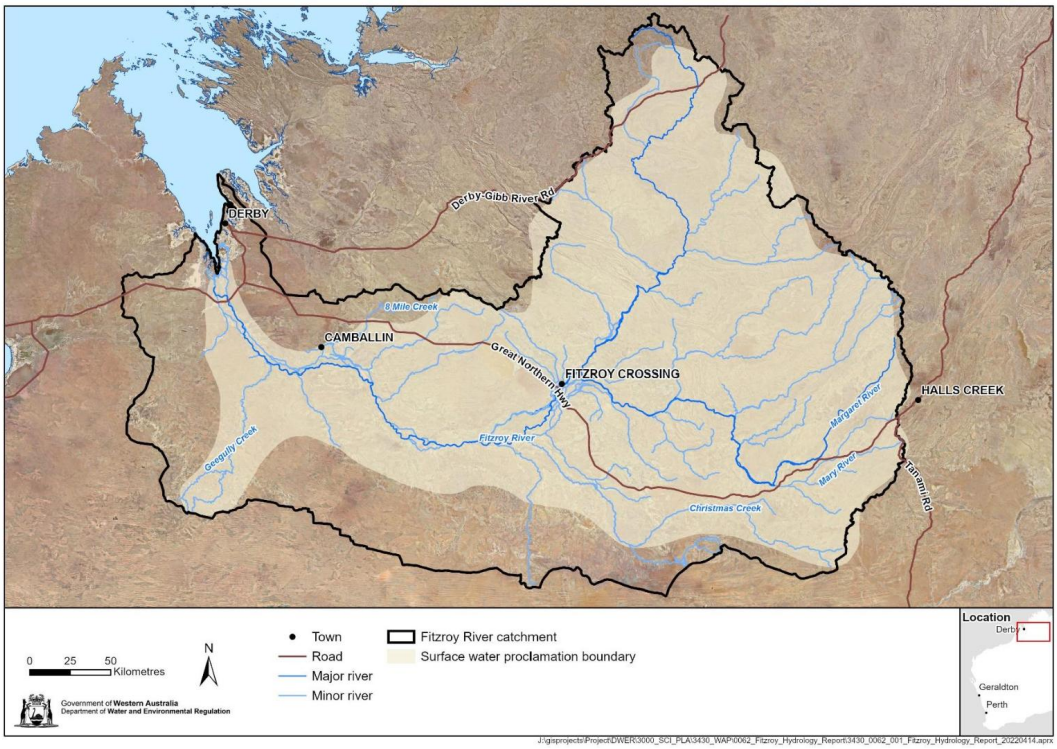


Figure 1 - Fitzroy River Catchment

- As a result, Annual Exceedance Probability (AEP) return periods for peak flows in the Fitzroy River cannot be reliably calculated, and flood event return periods cannot be linearly interpolated from flood frequency curves. Hydrological modelling for the Fitzroy River therefore relies primarily on hydrographs derived from historic events.

- The Bureau of Meteorology (BoM) Fitzroy River – Fitzroy crossing (Station 802055) is located approximately 3.5 km southeast of the aerodrome and has 42 years of annual data but was destroyed shortly after TC Ellie. Based on the available daily streamflow data, the following key historic events are highlighted:

    - TC Ellie, 4th January 2023 – 2,552 GL (flood depth of 15.81 m which exceeded all events previously recorded).
    - 16th March 2011 – 1,139 GL (Flood depth 14.08 m) – colloquially considered one of the most destructive on record.
    - Major Flood, 25th February 2002 – 1,290 GL (flood depth of 13.95 m, which was the maximum level recorded at the time).
    - Tropical Cyclone Ken, 19th March 1983 – 2,000 GL

- Flow estimates derived from high-water marks recorded along the Great Northern Highway during the 1983, 1984, and 1986 flood events are shown on Figure 2 below. It indicates that only 25% – 30% of the total Fitzroy River discharge was conveyed through the Fitzroy River Bridge, with the majority of flows distributed across additional bridges and floodways spanning a floodplain approximately 13 km wide. This distribution demonstrates the critical role of the wider floodplain in attenuating peak flows and highlights the limitations of relying solely on the main bridge to convey floodwaters. It also underscores the importance of considering multiple flow paths and floodplain hydraulics in the design, maintenance, and resilience planning of transport infrastructure in the region.

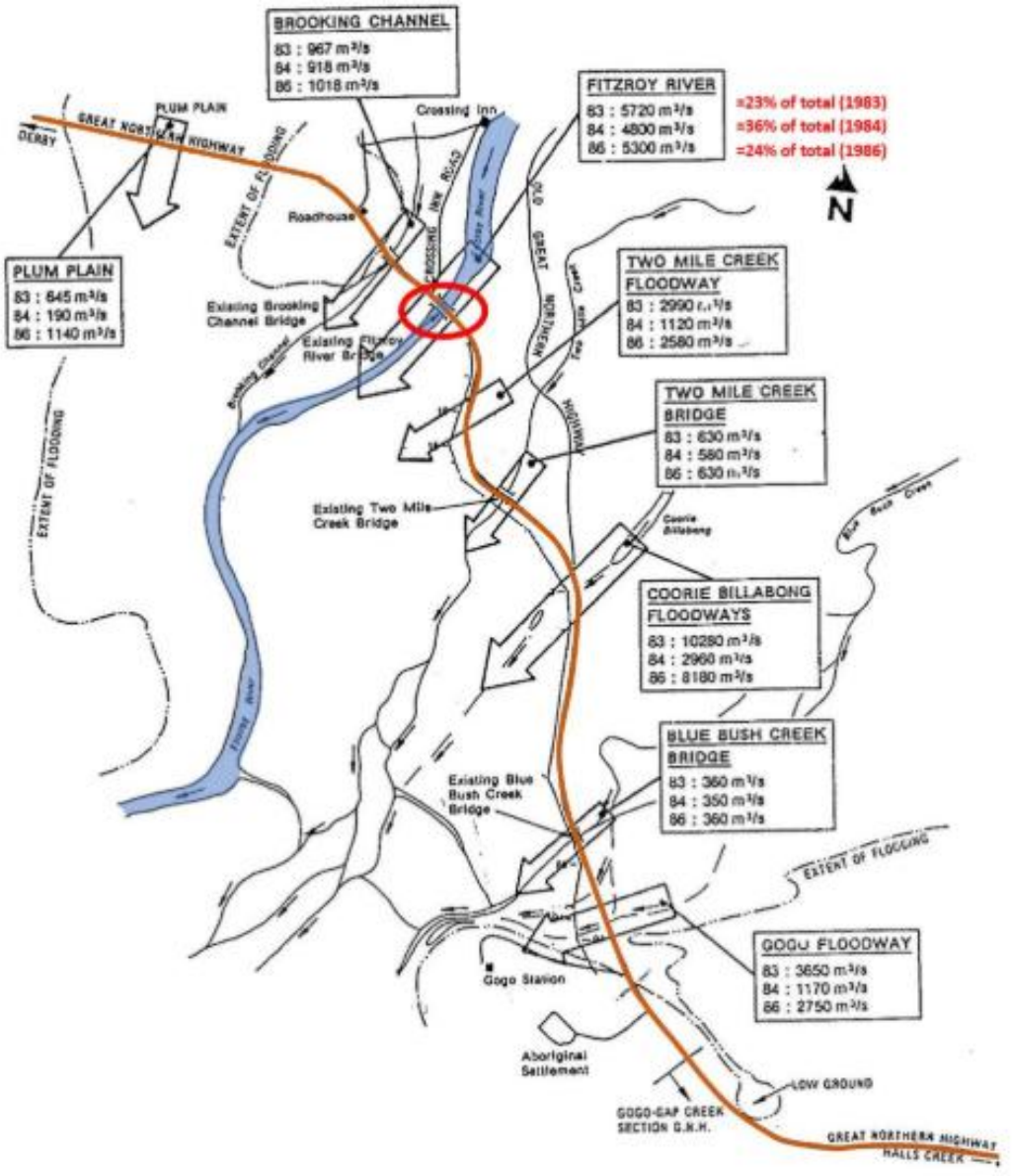


Figure 2 - Great Northern Highway Flow Measurements in 1983, 1984, and 1986 (Goh 1990).

2.1. January 2023 TC Ellie Flooding

In January 2023 Tropical Cyclone Ellie resulted in the flooding of the Fitzroy River, exceeding all events previously recorded by up to 4 m. The annual flow for the 2022–23 wet season is therefore likely to exceed the largest annual flow ever recorded.

As noted in The Fitzroy Bridge Replacement Water Ways Assessment, DWER estimate that the flood was between the 1 in 100 to 1 in 200 ARI, which equates to a total inflow from the Fitzroy River, Margaret River and Brooking Creek of 50,000 m^3/s entering the system.

The estimated January 2023 peak flow rate from the downstream-most gauge on the Margaret River (Mt Krauss) was 15,000 m^3/s. The Dimond Gorge river gauge on the Fitzroy River was destroyed before the peak flood level could be measured however, using high water marks a peak flow rate of 20,000 m^3/s was estimated. The culmination of the flows in addition to the many other tributaries align with DWERS estimate of 50,000 m^3/s, which far exceeds the previous record peak flow of 20,000 m^3/s from the 1983 flood which was considered the flood benchmark at Fitzroy Crossing.

The Dimond Gorge precipitation gauge (Site ID 502139), located approximately 90 km upstream of Fitzroy Crossing, recorded 402 mm of rainfall over 24 hours on 1 January 2023, and a total of 824 mm over the week ending 2 January 2023. According to BoM IFD data, the 24-hour total corresponded to an event with an AEP of 1 in 2,000, while the 4- to 7-day totals substantially exceeded the 1 in 2,000 AEP threshold – see Figure 3.

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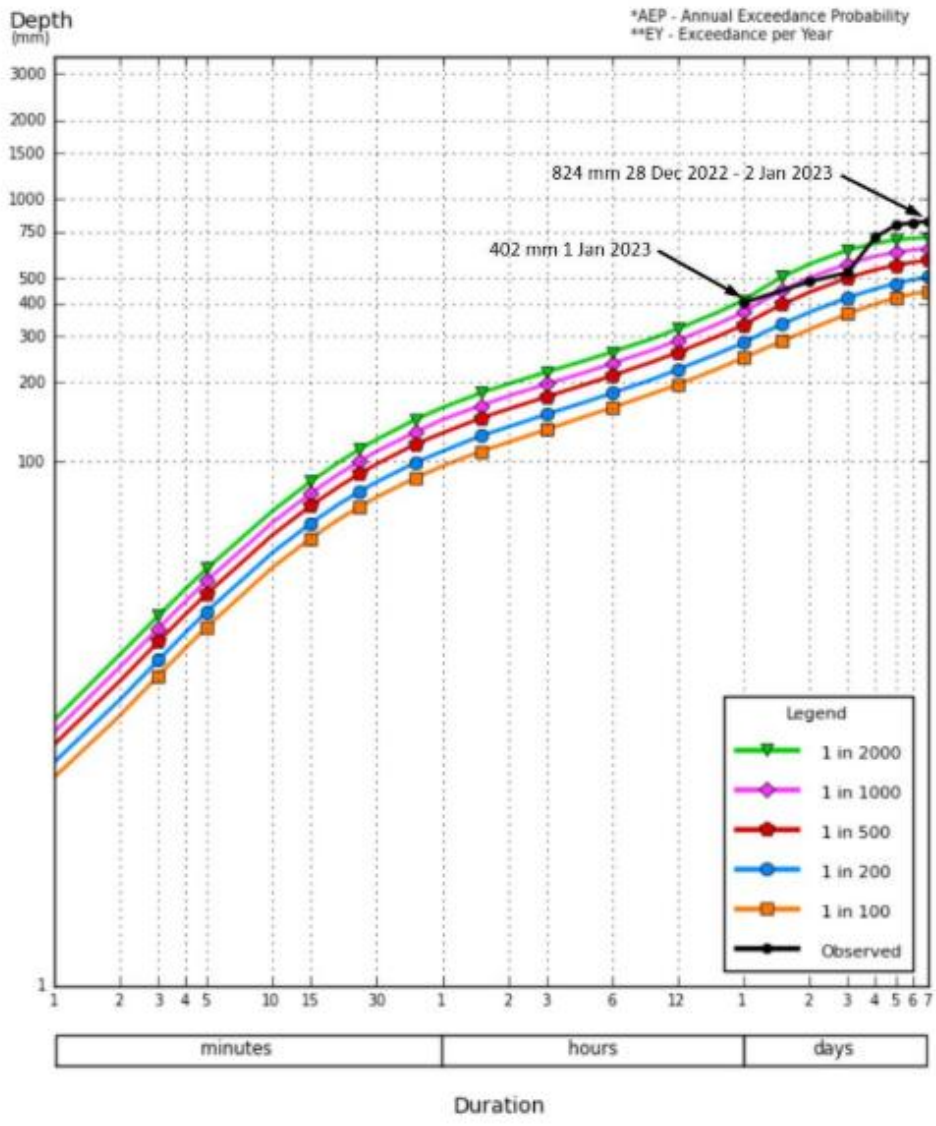


Figure 3 - Dimond Gorge Precipitation from 28 Dec 2022 – 2 Jan 2023 Against BoM IFD.

2.2. Climate change

Climate change projections for northern Australia provide no consistent indication of future changes in annual or seasonal rainfall, with two of four global climate models (GCMs) projecting an increase in wet-season rainfall and two projecting a decrease (DWER). While GCMs have limited ability to represent

key monsoonal drivers, both wetter and drier wet-season futures remain plausible; however, the models consistently project increased rainfall variability from daily to seasonal timescales and a higher likelihood of more intense rainfall extremes. Tropical cyclones are expected to occur less frequently, although a greater proportion are projected to reach higher intensities. Analysis by DWER of the extreme daily and weekly rainfall observed during TC Ellie, using quantile mapping bias correction across four GCMs and two representative concentration pathways indicates in Figure 4 that events of this magnitude will remain rare, with the January 2023 totals exceeding at least 90% of projected future daily and weekly rainfall.

A sensitiviy assesment undertaken by BG&E nominally increasing the total inflow of the servicability limit state flood event by 20% (60,000 m^3/s total flow) to represent the impact of climate change. The impact on the maximum flood level indicated that by increasing the total inflow to the 2D flood model, the water level at the Fitzroy crossing bridge increases by approximately 400 mm from 110.8 mAHD to approximately 111.2 mAHD. The flood mapping of this increase in flood level was not avaialble for the assesment, such that the potential increase in flood level at the Aerodrome was not ascertained, although likely to have increased in the order of 0.1 m – 0.3 m.

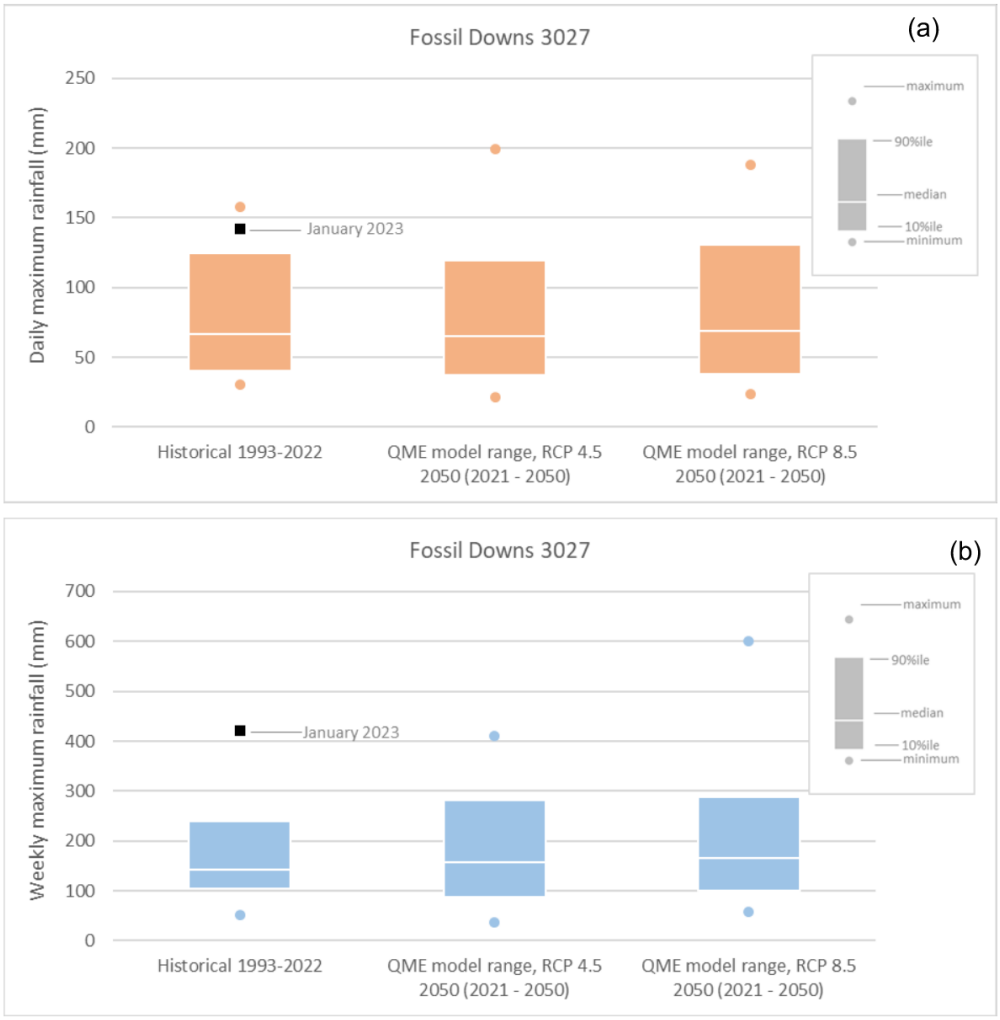


Figure 4 - Comparison of January 2023 Observed Rainfall Fossil Downs Bom Guage with Historic and Future Climate Projections of a) annual peak daily rainfall and b) annual peak weekly rainfall volumes (DWER)

2.2.1. Fitzroy River Geomorphology

The geomorphology of the Fitzroy River is complex, with the braided nature of flows though the floodplain making determination of accurate rating curves difficult, due to the ever-changing cross section of the river and the cyclical erosion and deposition of sediment.

A simple comparison of historical aerial imagery in Figure 5 spanning 2002–2023 indicates progressive lateral migration of the Fitzroy River channel upstream of the Fitzroy River Bridge. Between 2002 and 2022, the left bank receded by approximately 50 m, equating to an average long-term migration rate of ~2.5 m/year. This gradual adjustment was subsequently exceeded by TC Ellie, during which an additional ~30 m of lateral bank erosion occurred. The magnitude of this single-event recession highlights the dominance of episodic, high-magnitude flood events in driving channel bed conditions relative to background rates of fluvial migration.

Anecdotally, the 2011 Flood at Fitzroy crossing was noted as following several years of below average wet seasons, with the 2011 event being the last major flood prior to TC Ellie in 2023. This highlights the possibility that the buildup of sediment within the channel bed may increase the likelihood of more severe flooding upstream.



2002 **2022** **2023 – Post TC Ellie**

Figure 5 – 2002 to 2023 post TC Ellie Bank Migration

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2.3. TC Ellie Impact on Aerodrome

The extent of flooding at the aerodrome can be seen in photographs and satellite imagery captured just after the event (Figure 6, Figure 7 and Figure 8), where the graded strip and northern end of the runway became inundated.

TC Ellie flood levels from DWER Flood modelling within the vicinity of the aerodrome and a comparison to empirical evidence are summarised below:

Table 2-1 – TC Ellie Flood Levels

Item	Site	DWER Recorded Flood Level (mAHD)	Observed Debris (mAHD)
Fitzroy Airport	Northern end of runway	111.80	112.1
	Southern end of runway	111.45	111.64
Great Northern Highway	500 m South of Runway	111.1	111.1

It is noted that the observed flood levels provided by DWER and empirical evidence of debris from photos and satellite imagery indicate that the TC Ellie flood level at the northern and southern end of the runway were slightly higher than those recorded by DWER. This may be due to the additional impacts of windblown wave action during TC Ellie.

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Figure 6 – Jan 2023 Extent of Runway Overtopping



Figure 7 – Floodwaters Surrounding Fitzroy Crossing Aerodrome Jan 2023

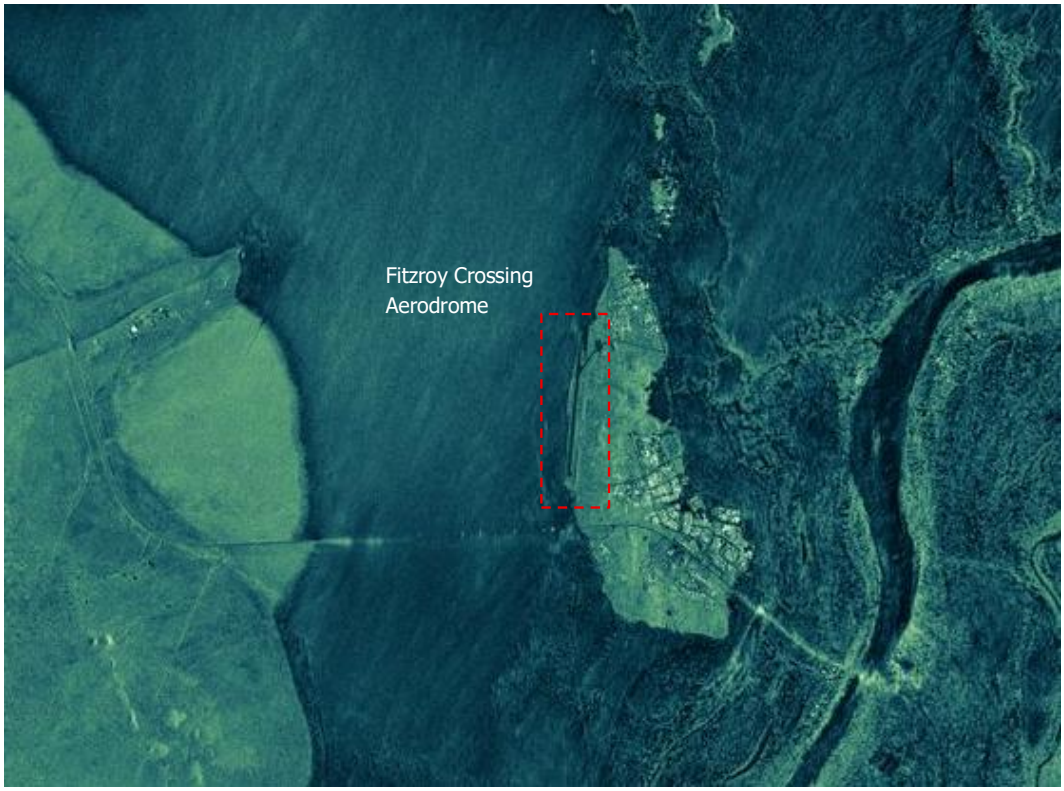


Figure 8 - Extent of Flooding Jan 2023 (ICEYE)

2.4. MRWA Bridge Replacement

Following the failure of the existing Fitzroy Crossing Bridge in January 2023 and in particular the erosion of the eastern embankment, MRWA has constructed a new wider replacement Fitzroy Crossing bridge which is 268 m long, having a similar length to the upstream channel, representing an increase of approximately 92 m compared to the old Fitzroy River bridge which was 176 m long. It is noted however that the soffit level of the new bridge has not been increased from the original height of 109.4 mAHD. However, the serviceability limit state event used by BG&E for scour protection design has been based on a flood event having a water level upstream of the bridge similar to TC Ellie.

As part of BG&E's verification of the 2D flood model, the existing bridge was modelled against the TC Ellie event with total inflow of 50,000 m^3/s. The maximum flow through rate calculated at the bridge was 8,276 m^3/s increasing to 8,853 m^3/s for a 10 m scour depth of the river channel based on 2021 Lidar. By comparison, the new bridge modelled under the same TC Ellie event, had a maximum flow through rate of 10,129 m^3/s increasing to 10,335 m^3/s for an 8 m scour depth based on updated bathymetric survey in March 2023.

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In line with above increased flow though capacity of the new bridge, BG&E notes that the replacement bridge will reduce the afflux upstream of the bridge by between 0.05 – 0.25m, which aligns with the deeper riverbank and wider bridge span. However, the new bridge did not show a change in afflux in the vicinity of the Fitzroy Aerodrome – Refer Figure 9 below.

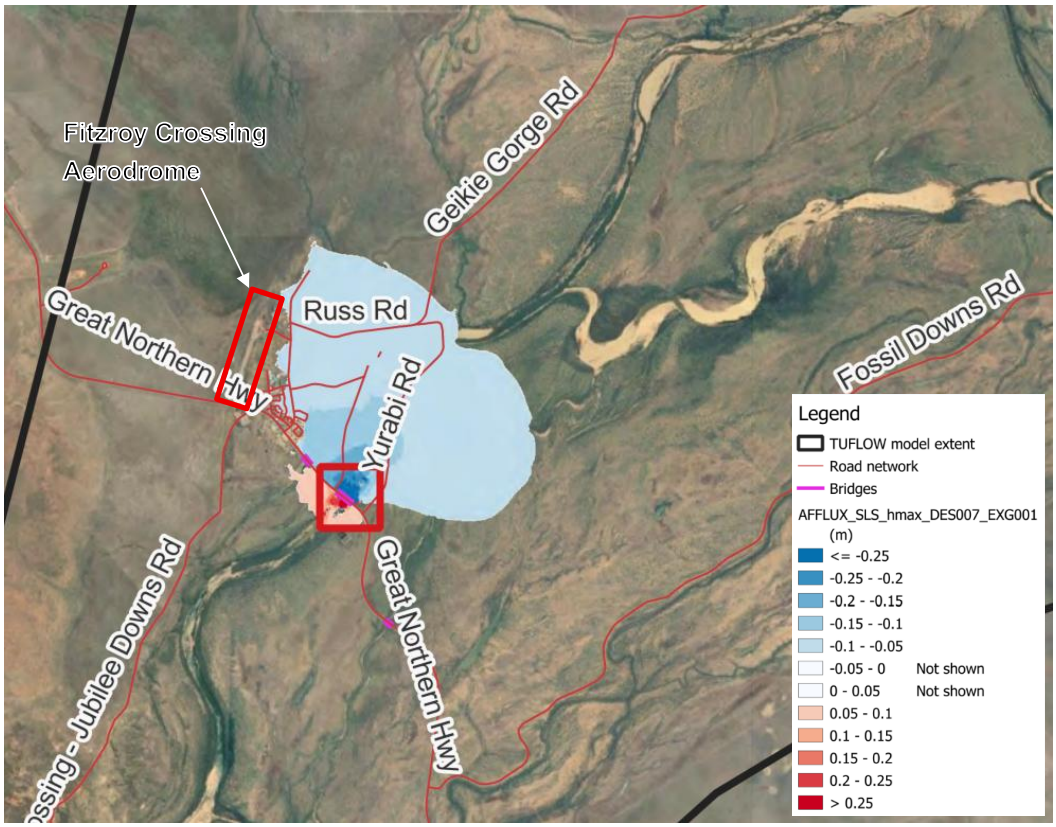


Figure 9 – AFLUX map – SLS TWL difference – Old Bridge vs New Bridge (BG&E)

3. FITZROY CROSSING AERODROME FLOOD RESILIENCE

3.1. Stakeholder Requirements

As noted by Greenfield Technical Services and BG&E, due to the complexity in modelling a design event for the Fitzroy River catchment, discussions with the Shire around the level of serviceability of the

proposed aerodrome improvement works would be a function of the costs to construct and the funding available. Based on the significance of the aerodrome for supplies and evacuation during flood events in the region and following discussions with the Shire, for assessment purposes, the benchmark for assessment of serviceability will be the TC Ellie Flood levels.

3.2. Serviceability

As mentioned by BG&E, the serviceability of the Fitzroy Bridge is not the governing constraint, as the hydraulic and geometric performance of the Great Northern Highway floodplain crossings exert greater control on network functionality. In its current configuration, the section of highway east of Fitzroy crossing represents the critical egress bottleneck out of the township. The Fitzroy Crossing–GoGo Station section exhibits reduced hydraulic efficiency and lower flood immunity, resulting in greater frequency and duration of inundation-related traffic disruption.

The Plum Plain section of the Great Northern Highway provides a comparatively higher level of service. Under major flood events, the Plum Plain section conveys wide, shallow overbank sheet flow at low velocities, reducing hydraulic afflux and limiting erosive potential, however this section of the Great Northern Highway is not traversable for the 1% AEP event based on DWER flood modelling. The new Fitzroy River Crossing Bridge therefore has focused on survivability, not serviceability.

The existing runway is classified as Code 2C, with typical serviceability requirements for an aerodrome of this type being for the runway to remain dry during a 1% AEP event and the graded strip to remain dry for the 10% AEP event. By way of comparison, the follow minimum serviceability requirements are recommended for commercial airfields:

- The Commonwealth Department of Construction Roads and Aerodrome Branch Stormwater Management Manual requires runway serviceability for the 50 year event.
- Federal Aviation Administration guidelines only requires runway serviceability for the 5 year event.

Based on flood mapping of the1% AEP by DWER, the existing runway and graded strip of the existing Aerodrome is shown to not be inundated and therefore serviceable for events up the 1% AEP event – Refer Figure 10 below.

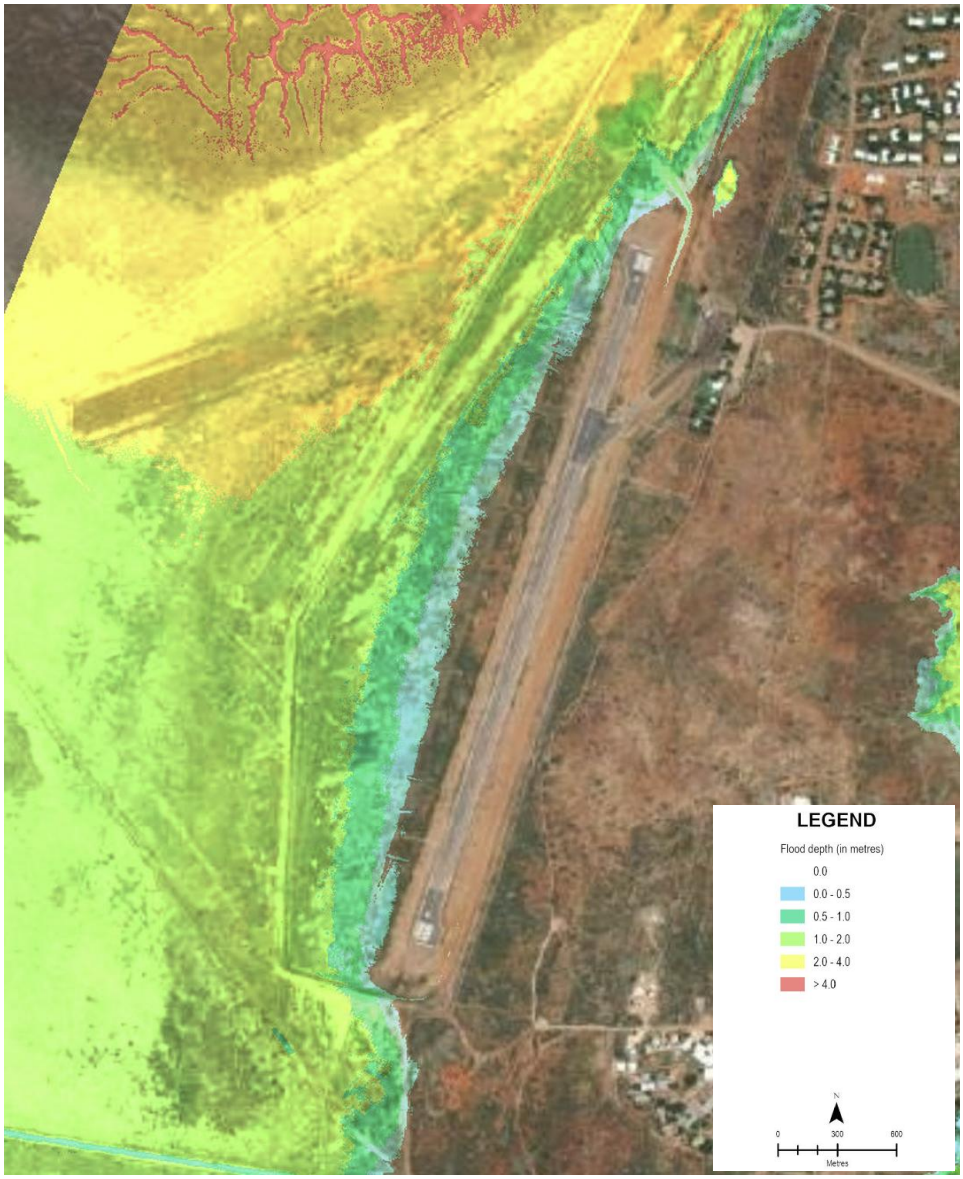


Figure 10 – 1% AEP Flood Depth (DWER)

Due to the limitations for alternative evacuation routes from Fitzroy Crossing as result of its remoteness and reliance on the Great Northern Highway, which is prone to flooding, a much higher serviceability level is therefore required for emergency infrastructure.

Whilst not the specified level of serviceability for the Aerodrome, for the purpose of benchmarking against the TC Ellie Flood levels, a minimum viable level of serviceability to allow for the safe movement

and navigation of emergency aircraft will be considered. As such, the runway is to be free of water and the cones that mark the graded strip and runway lighting will be required to be visible to ensure operability of the aerodrome, refer See Figure 11 (albeit under heavily controlled operating conditions):

» Graded strip – allow 150 mm of ponding at edge of graded strip (Height of grass) and:

» Runway Shoulder – Landing Lights visible above flood waters (Shoulder level +100 mm)

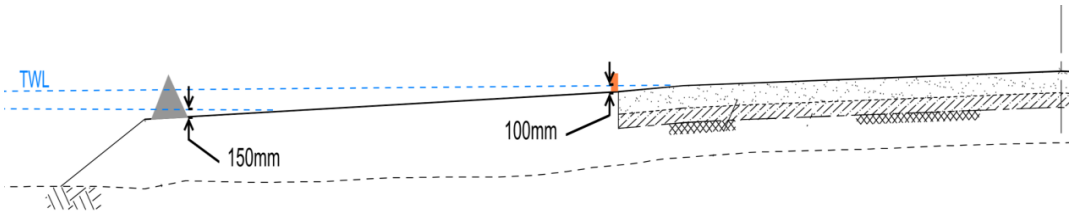


Figure 11 - Minimum Viable Level of Serviceability

3.3. Review of Initial Concept Designs

EA2 has undertaken an assessment of the three Greenfield Technical Services concept design options in line with the TC Ellie flood levels and the minimum viable visibility of Navaids in Tables 3-1, 3-2 and 3-3 below. To provide an equivalent comparison to the TC Ellie flood levels, the observed debris levels have been used to include the effect of wind driven wave action on navaid visibility.

The tables below show whether the runway centreline, elevated runway shoulder lights and graded strip cones are visible above floodwaters as highlighted in green.

Table 3-1 – 1A Concept Option 1- Low (0 mm Lift + 300 mm Freeboard)

Option 1	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112.1	111.7	111
Mid Runway	111.64	111.95	111.55	110.85
Southern end of runway	111.1	111.75	111.35	110.65
Estimated Construction Budget		**$18.2M**		

Table 3-2 – 1A Concept Option 2 - Mid (450mm lift + 300mm Freeboard)

Option 2	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112.55	112.15	111.45
Mid Runway	111.64	112.4	112	111.3
Southern end of runway	111.1	112.2	111.8	111.1
Estimated Construction Budget		**$20.2M**		

Table 3-3 – 1A Concept Option 3 - High (900 mm Lift + 300 mm Freeboard)

Option 3	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	113	112.6	111.9
Mid Runway	111.64	112.85	112.45	111.75
Southern end of runway	111.1	112.65	112.25	111.55
Estimated Construction Budget		**$26M**		

By way of comparison, the same minimum viable serviceability test for TC Ellie flood levels has been undertaken for the existing runway in Table 3-4 below, which aligns with the observed flooding of the existing runway in Section 2.3 above.

Table 3-4 - Existing Runway

Existing	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112	111.75	111.05
Mid Runway	111.64	113.25	113	112.3
Southern end of runway	111.1	111.2	110.95	110.25

The proposed 1A Concept options represent major reconstruction works to the aerodrome with significant costs and still does not achieve the target level of serviceability for TC Ellie flood levels unless the runway is raised 1m above the existing runway level.

3.4. Alternate Concept Design - Bund/Dyke

To ensure all possible options have been investigated, the following concepts have been briefly explored as alternative options to avoid the significant earthworks required to globally lift the airfield to varying degrees as proposed by Greenfield Technical Services Options 1 – 3.

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A nominally 1.5 – 2.0 m high bund with crest level of 112.4m AHD would be required around the perimeter of the graded strip to protect the runway from TC Ellie flood levels and overland flows from the east of the runway. A basin would be required to detain runoff from the 3.6 ha northern portion of the airfield catchment trapped by the bund. For this system to operate, a detention volume of at least 15,000 m^3 would be required to detain the 1% AEP event and allow surrounding floodwaters to dissipate before being able to be released via a valved/one-way outfall. Alternatively, this basin would be required to be drained with a pump system.

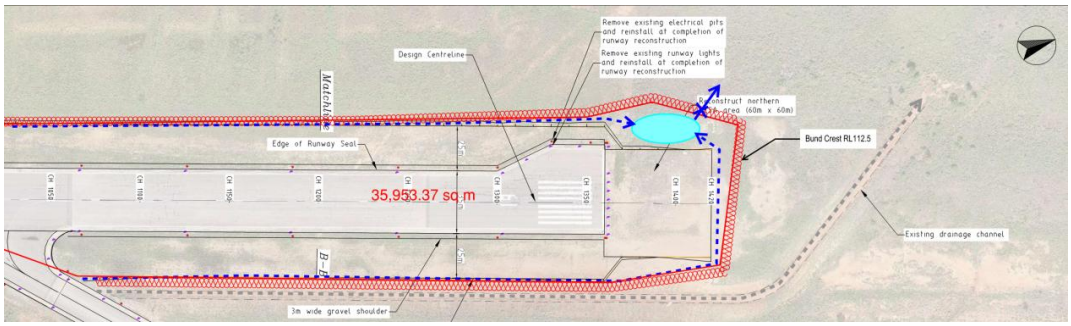


Figure 12 - Bunded Runway Concept

Viability of this option, particularly at the northern end of the existing runway is not feasible, due to the significant detention volume required to retain an extreme event (like TC Ellie) and the time for floodwaters to dissipate prior to being able to discharge stormwater from the basin. Reliance on a pumped system particularly in an extreme flood event would also add an additional point of failure. Additionally, the detention basin would represent the bird strike risk as a fixed waterbody would be created at the northwest corner of the airfield.

4. CONCLUSION

EA2 have provided this hydrological assessment of Fitzroy Crossing Aerodrome in the context of the January 2023 TC Ellie flood event and assessment of the proposed design options presented by Greenfields as part of the Stage 1A Initial Concept Assessment for improving the flood resilience of the Fitzroy Crossing Aerodrome. The assessment has highlighted the following conclusions and areas requiring further investigation:

- The flooding at the Fitzroy Crossing Aerodrome as a result of TC Ellie, was an extreme flood event – well in excess of the 1% AEP flood levels, with evidence that it exceeded a 1 in 2000 year rainfall event, considering the joint probability of record flows from the incoming Fitzroy and Margret Rivers as well as the potentially buildup of sediment within Fitzroy River which may have diverted additional flows across the wider floodplain.

- The new Fitzroy Crossing Bridge, whilst wider and able to accommodate 20% higher flows than previously, will not provide any flood relief to Fitzroy Crossing aerodrome.

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- The Fitzroy River is a highly dynamic, sand-bed river system that was subject to constriction and redirection of flow in the vicinity of Fitzroy Crossing making it difficult to forecast flood depths.
- On the basis of the information referred to at the time of writing, we believe the airfield presently meets its required flooding serviceability requirements, and minor works to remediate MOS geometric non-compliances and pavement overlay works will assist in increasing the Aerodrome flood resilience.
- In order to ensure the airfield remains serviceable for an extreme flood event like TC Ellie, lifting of the runway 1 m above existing would be required, resulting in significant earthworks and long construction periods in addition to construction budgets.
- It is recommended that in light of the recently released ARR 2024 Climate change considerations, the DWER Flood modelling of Fitzroy River for the 1% AEP event should be updated to in include climate change scenarios, which would then set the minimum flood level for any works to the aerodrome.
- In the absence of specific emergency infrastructure serviceability requirements for the Fitzroy Crossing aerodrome, any upgrade works will ultimately be limited to the available funding.

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26th October 2025

Wayne Neate

Director of Infrastructure

Shire of Derby/West Kimberley

Via email: Wayne.Neate@sdwk.wa.gov.au

Dear Wayne,

TECHNICAL MEMORANDUM

RE: FITZROY CROSSING AERODROME HYDROLOGY STUDY RESULTS

1 Introduction

Aerodrome Management Services (AMS) has been engaged by the Shire of Derby/West Kimberley (Shire) to review and lead a hydrology study of the Fitzroy Crossing Aerodrome and to advise on measures that will make the aerodrome more resilient to floods.

In January 2023, during Tropical Cyclone Ellie, the aerodrome became a critical logistics hub when regional road access was cut off by flooding, underscoring the need for an airfield that remains operable at the height of major flood events. As part of this commission, AMS coordinated hydrologic inputs via our sub-consultant Evangelisti and Associates (EA2), integrated flood information and technical materials provided by the Shire, Main Roads Western Australia (MRWA) and Department of Water and Environmental Regulation (DWER) and assessed practical engineering responses that preserve safe emergency-use operations during extreme flooding.

In providing this advice, AMS has reviewed documentation and options prepared by Greenfield Technical Services for the Shire, including the 2023 runway reconstruction design report and the Stage 1A materials, together with the WML geotechnical and pavement assessment.

Our role is to evaluate those options against observed TC-Ellie flood behaviour and aerodrome operational criteria, to support the option that best meets the Shire's resilience objectives, or to propose a refined alternative where it better maintains aerodrome serviceability through flooding.

This memorandum sets out that advice and a clear pathway to concept endorsement and detailed design phase.

This approach aligns with Civil Aviation Safety Authority (CASA) Part 139 (Aerodromes) Manual of Standards (MOS) operational expectations for Code 2C aerodromes while recognising the aerodrome's role during road closures, demands a functional, event-based benchmark rather than a strict Annual Exceedance Probability (AEP) criterion. The embankment raise is a passive, low-complexity solution that avoids the operational fragility of perimeter bunds or pumped detention.

2 Purpose and Scope

The purpose of this memorandum is to translate the hydrologic findings and the Shire/MRWA-supplied data into a clear runway height requirement, to define the operational criteria that constitute minimum viable operability during extreme flooding, and to outline the immediate steps that will take the project to concept endorsement and detailed design. The second part of the scope is to offer advice on the benefit of the pavement lift in terms of increased strength for the safe operation of a C27J Spartan for disaster/emergency response.

The scope included review and integration of:

- EA2 Airfield Hydrology Assessment – September 2025,
- DWER flood mapping for both the January 2023 event and the 1% AEP scenario,
- Greenfield Technical Services 2023 Runway Reconstruction Design Report Rev D,
- Greenfield Technical Services 2024 Stage 1A Initial Concept Assessment and Budget Cost Estimate Rev C,
- WML Geotechnical and Pavement Assessment Rev 2 June 2023; and
- Data from Fitzroy Bridge Replacement – Waterways Assessment Report

The memorandum does not seek statutory approvals; rather, it provides an engineering basis for the Shire's decision on the preferred resilience option.

3 Standards, Guidance and Source Documents

The assessment intent aligns with;

(i) CASA MOS Part 139 for runway geometry, strip/RESA, lighting and drainage interactions;
(ii) Australian Rainfall & Runoff (2019–2024) for hydrologic method and climate allowances; and
(iii) Austroads/MRWA practice for drainage adjacent to floodplains.
(iv) Australian Rainfall & Run off – Guide to Flood Estimation
(v) DWER Storm Water Management Manual

These are applied to achieve emergency-use operability at the height of a TC-Ellie-scale event, acknowledging that an event-based benchmark is more reliable than purely probabilistic targets for this catchment.

3.1 Client Provided Documentation

AMS and our sub-consultant hydrologist have used the following documentation to assess the options presented to the shire:

- 2023 Fitzroy Crossing Runway Reconstruction Design Report by Greenfield Technical Services;
- 2023 Geotechnical Investigation & Pavement Assessment – Derby & Fitzroy Crossing Aerodrome by WML Consultants;
- 2023 Flood Resilience Upgrade – Stage 1A by Greenfield Technical Services and associated documentation;
- 2023 January 2023 (TC Ellie) Flood-Depth Map – Fitzroy Crossing by Department of Water and Environmental Regulation;

- 2023 1% AEP Flood-Depth Map – Fitzroy Crossing by Department of Water and Environmental Regulation

4 Hydrology Study Findings

The EA2 report confirms the TC Ellie (Jan 2023) event as the practical operability benchmark at the aerodrome. DWER mapping shows shallow to moderate inundation bands encroaching the runway margins, consistent with debris-inferred levels used in the analysis. The 1% AEP depth mapping places the runway on the fringe of principal floodways east/southeast of town. Given the braided floodplain and joint-probability effects, an observed event benchmark is the most dependable basis for setting runway operability levels at this site.

The EA2 report recommends a global embankment lift of approximately 1.0 m to keep the runway centreline above the Ellie reference level with practical freeboard and to maintain lighting visibility at the shoulders. A resilience forward variant adds +0.30 m to reflect Australian Rainfall and Runoff (ARR) v4.2 climate guidance, pending a focused DWER model update centred on the airfield locality. Indicative crest (centreline) levels are shown in Table 1 below.

Table 1 - EA2 Indicative Runway Centreline Levels

Location	TC Ellie level + wave (mAHD)	Base recommendation (Raise +1.0 m)	Resilience-forward (+0.3 m climate allowance)
RWY North End	112.10	**113.00**	**113.30**
RWY Mid (crest region)	111.64	**112.85**	**113.15**
RWY South End	111.10	**112.65**	**112.95**

Re-grading of the eastern table drain and resetting of taxiway culvert inverts are required to maintain continuous fall to the downstream invert and to avoid detention. All lighting plinths, pits and cable routes need to be lifted or replaced with the pavement and recorded against AHD benchmarks for future verification.

The Full Hydrology Study Report compiled by Evangelisti & Associates (EA2) is attached in Appendix A of this Technical Memorandum.

5 Functional Serviceability Criteria

5.1 Stormwater Guidance

Routine drainage serviceability targets in common references are well below the severity of the 2023 event. The Commonwealth Department of Construction Stormwater Management Manual (Jan 1978) sets the requirements to be “no ponding” on runways and taxiways for a 50-year storm, allows limited-duration ponding on grassed areas adjacent to pavements, and specifies higher protection near buildings.

Federal Aviation Administration (FAA) guidance also typically designs airside drainage so the 5-year storm results in no encroachment of runoff onto runway and taxiway pavements (including paved shoulders). By contrast, it is evident that the TC-Ellie flood exceeded estimations of 1 in 2000 year flood event and has

exceeded previous records of flooding at Fitzroy Crossing and dominated by riverine flooding rather than local rainfall. MRWA data also suggests that the TC-Ellie flood at Fitzroy Crossing exceeds a 1 in 100 year flood event, this data including the results estimated by EA2 further supports the fact that the Fitzroy river and all tributaries that flow into it are quite complex in nature.

Accordingly, AMS suggests maintaining MOS compliant grades and crossfalls for routine rainfall (consistent with the above references) but somewhat agrees to the EA2 report that considers the runway elevation to the observed TC-Ellie benchmark (plus wave set-up) so the centreline remains dry and lighting visible during the next extreme flood, thereby giving resilience that is required.

This dual approach standards for frequent storms and height/freeboard for rare floods delivers practical, defensible resilience for the aerodrome's emergency role and function for the area.

During a TC Ellie scale flood or greater, the runway centreline should remain free of standing water and longitudinal grades should remain within MOS limits. Runway edge and threshold lights (including bases and fittings at the shoulders) are to stand at least 100 mm above the reference flood level, allowing for local wave effects observed in 2023. The graded strip should remain clearly identifiable; only shallow, localised ponding is acceptable near the outer edge where it does not affect safety or increase wildlife risk. Across the centreline profile, design should maintain approximately 300 mm of freeboard above the event benchmark, with final values validated by AHD referenced survey and the updated hydrologic check.

5.2 Emergency/Disaster Response Requirements

AMS understands that in the event of an emergency, the aerodrome will need to support aid and relief efforts for the community by way of accommodating C27J Spartan Operations as part of the disaster response.

It was observed that whilst carrying out disaster response operations, the C27J Spartan, had caused undulations and distress in the existing aircraft pavement at the Aerodrome. This can be attributable to the type of pavement material used in the Aerodrome which Geotechnical Reports from WML show to be a sandy clay type of material and whilst at optimum moisture, may perform well, at saturation decreases drastically in strength and elasticity, this material is more or less considered to be pindan.

The proposed pavement lift and proper pavement construction using good quality base materials would significantly improve longevity of the pavement and its strength whilst also safeguarding the future operations of the aerodrome as the existing pavement exhibits low pavement layer strength, which further degrades in flood events where flood waters seep into the in-situ pavement layers, through the adjacent soil, when floods reach the same level.

6 AMS Review and Recommendations

Upon review of the three (3) Options in the Concept Assessments carried out by Greenfield Technical Services AMS understands as presented will require further refining. Further review and incorporation of the EA2 report findings of the highest flood level at the Northern Runway End, which include the effects of waves and debris caused by the flood, AMS considers the options of the Greenfield Technical Services Initial Concept Assessment as viable, however, AMS believes that the sections that maintained a suitable freeboard clearance from the flood level need not be raised and maybe reconstructed to full pavement depth using quality granular material. Lifts should be carried out in sections of the runway that were

inundated or are at risk of being inundated in a future flood event, this would also include prat of the taxiway and the replacement of the culvert under the taxiway. A mark-up showing the highest flood level during TC Ellie on the concept drawings are shown in Appendix B.

With regards to the standards, AMS understands, that due to the repetitive flood events in the area of Fitzroy Crossing the standards cannot be acceptable for the aerodrome which holds key importance in natural disasters and emergencies for the shire.

Departing from the standards and guidelines for aerodrome flood allowances mentioned by the former Commonwealth Department of Construction – Roads and Aerodromes Branch and the FAA mentioned above, and considering the soil and pavement layer structure of the aerodrome, it would be highly recommended to lift the aerodrome and also construct the pavement using granular materials to allow for unrestricted C27J operations, provide longevity for the pavement, resist any negative impacts of water seeping under the pavement and soil, and reduce costs associated with the reconstruction/restoration works after future floods.

On the selection of the Options presented by the Greenfield Technical Services, the conceptual assessment due to the substantial amount of contingency included in the report, AMS would suggest moving onto the Detailed Design including detailed survey of the aerodrome, this is important as AMS has not reviewed documentation that relates to the effects of the lift on the taxiway and apron of the aerodrome. Although, contingency estimates are included, there is room for refinement to achieve a realistic estimate that caters to all works required, for now the budget estimate for all options seems to be able to cover associated works for each option respectively.

With all that said, AMS' recommends the budget estimate would be Option 3 from the Conceptual Assessment as this satisfies the Shire's desire to make the aerodrome resilient to flooding, allows for adequate pavement strengthening to hinder deformations to the pavement in during emergency response and aligns with the EA2 report that a 1m lift would clear worst case flood scenarios through the graded strip area.

7 Next Steps

AMS recommends the next stage from the confirmation that supports the lifting of the pavement to be;

i) Select Option 3 from the concept assessment as an upper budget limit
ii) Commission a detailed survey of the runway, graded strips, table drains, culvert inverts, taxiway, apron and lighting plinths so a precise long-section, cross-section and drainage level schedule can be issued.
iii) Prepare a 15% concept/preliminary package comprising the proposed longitudinal profile, typical sections, drainage tie-ins, lighting reset details, construction staging narrative and an updated cost estimate with allowances for haul and a cost-effective option for the design that brings the estimate to a realistic budget. That package will reflect a stakeholder workshop and Gate-2 decision of a refined preliminary design.
iv) Carry out detailed design for the pavement and graded strip areas to meet free board requirements for serviceability as recommended by the EA2 Hydrology Study or to find a suitable and allowable lift solution that incorporates the existing middle section of the runway

to only be reconstructed and the north and south sections to be raised to meet the exiting levels in the middle as this was not inundated and maintains adequate free board as is.

8 Conclusion

Although earlier models presented in the Conceptual Assessment report assumed uniform lifts across the entire aerodrome, based on the EA2 Hydrology Study review and with overlaying of the estimated flood level on the Option 3 conceptual design, AMS recommends the following;

1. Adopt a hybrid runway raise applying larger lifts at both runway ends to achieve and maintain freeboard above the 1% AEP (1 in 100) reference level (including wave setup) to ensure runway integrity and C27J Spartan including other aircraft operability.
2. Through the mid-runway section, the adopt a smaller lift with targeted reconstruction using good quality granular material is recommended to correct existing pavement wear and tear and deficiencies, whilst also improving the pavement strength.

This setting reflects a resilience forward design acknowledging projected climate change and is considered a prudent, fit-for-purpose approach for upgrading the aerodrome which is critical for the region with regard to emergency preparedness.

This hybrid approach is assessed as the most cost-effective means to meet the two objectives:

1. a more resilient aerodrome – no inundation of the operational runway surface at a flood event and;
2. resolution and strengthening of existing deteriorating pavement.

9 Closure

It is trusted this technical memorandum satisfies your requirements. Please do not hesitate to contact the undersigned if you have any further queries relating to this matter.

Yours sincerely



Beatus Kili

Civil Engineer

Appendices:

Appendix A – EA2 Fitzroy Crossing Aerodrome: Airfield Hydrology Assessment, September 2025

Appendix B – AMS Mark up of Concept Assessment Drawings

Appendix A – EA2 Fitzroy Crossing Aerodrome: Airfield Hydrology Assessment, September 2025

evangelisti & associates

Fitzroy Crossing Aerodrome

Airfield Hydrology Assessment

September 2025

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FITZROY CROSSING AERODROME

Hydrology Assessment

September 2025

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DOCUMENT HISTORY

Revision	Date issued	Created by	Reviewed by	Revision type
A	-	MW	ME	Draft for AMS Review
B	25/09/2025	MW	ME	Issued for Use

1. INTRODUCTION

This document presents the results of a Hydrological desktop assessment undertaken by Evangelisti & Associates (EA2) for the proposed upgrade to Fitzroy Crossing Aerodrome, WA. The following sections contained in this report describe the hydrological assessment of the aerodrome following Tropical Cyclone Ellie and assessment of the three proposed aerodrome upgrade options as presented in the Stage 1A Initial Concept Assessment and Budget Cost Estimate by Greenfield Technical Services. The key objectives for this Study are:

- Assess hydrological regime of the airfield, including consideration of the new Fitzroy Crossing bridge.
- Determine level and freeboard requirements to maintain airfield operability for extreme events.
- Review Stage 1A Initial Concept design

1.1. Project Context

The critical importance of the aerodrome was demonstrated following Tropical Cyclone Ellie (TC-Ellie) in 2023, when severe flooding of the Fitzroy River and tributaries temporarily cut road access to the Fitzroy Crossing townsite and many surrounding communities. During this time Fitzroy Crossing Aerodrome was a base of operations for the emergency response and RAAF flights, with over 200 aircraft movements per day.

Since TC Ellie, funding has become available to improve the level of flood resilience of the aerodrome for future flood events.

Greenfield Technical Services were engaged to undertake initial engineering design and budget cost estimating for three upgrade options which propose to lift the existing runway to achieve a higher freeboard to future flood levels and to allow for an asphalt overlay to address pavement issues on the northern half of the runway.

1.1.1. Existing Runway

The runway is situated approximately 1.5 km west from the town centre and 2.5 km west from the Fitzroy River Bridge. The Runway is located at the eastern edge of the Plum Plain Flood Plain.

The Aerodrome consists of a spray-sealed granular runway measuring 1,300 m in length and 30 m in width, with an additional 2.5 m of sealed shoulders on either side. Associated infrastructure includes a sealed taxiway and a sealed aircraft parking apron located on the eastern side of the runway.

An existing table drain runs parallel to the runway along the eastern edge between the runway and township, which flows south to north. This table drain captures runoff from the eastern portion of the aerodrome and the western extent of the township, which is located along a ridgeline approximately 10 m above the runway. Where the table drain crosses the taxiway, 3x DN600 Corrugated Steel culverts

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with in-situ concrete headwalls are provided. The downstream invert of the drain is approximately 110.8 mAHD where is passes the northern end of the runway.

The existing runway has a vertical crest in the middle section, with the longitudinal grade of the centreline -0.5% and +0.5% to either end. The existing centreline is nominally 1 m higher than the surrounding floodplain.

Based on the existing transverse cross-fall of both the existing sealed airstrip, as well as the graded runway strip, rainfall runoff drains away in all directions from the sealed runway strip.

1.2. Available Information

- ARR Data Hub results.
- Regional Flood Frequency Estimation Model results, ARR
- Ground surface LIDAR survey – 2008, MRWA
- Fitzroy Bridge Replacement – Waterways Assessment BG&E 2023, MRWA
- Fitzroy Crossing surveyed flood levels and flood depth mapping – 2023, DWER
- Fitzroy Aerodrome Flood Resilience Upgrade Stage 1A Initial Concept Assessment and Budget Cost Estimate – 2025, Greenfield Technical Services
- Geotechnical Investigation and Pavement Assessment Fitzroy Crossing Aerodrome- 2025, WML
- Hydrology of the Fitzroy River, DWER
- Flood Investigations Report, Fitzroy River Flooding: March 1983, March 1984, and January 1986 – 1990 Goh, J. and Joyce, M, MRWA.
- Flooding along Australia's Fitzroy River – NASA Earth Observatory

2. FITZROY RIVER HYDROLOGY

The following key findings were made relating to the Fitzroy Crossing Aerodrome and surrounding climactic and hydrological setting:

- The Fitzroy River catchment is one of the largest catchments in Western Australia, covering an area of around 94,000 km^2. The catchment upstream of Fitzroy Crossing is 46,350 km^2, with the longest stream length of 551 km – Refer catchment plan in Figure 1.

- The section of Fitzroy River adjacent to the townsite is fed from the upper reaches of the Fitzroy River and Margaret River. The Brooking Creek flows eastwards into the Plum Plain floodplain which, whilst comparatively small, can have a significant influence on flood levels at the aerodrome.

- The elevated areas in the north-east feature exposed rock with tributaries flowing through many rocky gorges. The catchment northeast of Fitzroy Crossing is steep rocky terrain as compared to the downstream reaches of Fitzroy River. These characteristics result in low losses and quick times to concentration, resulting in short but intense flows through Fitzroy River.

- The Fitzroy River floodplain is highly complex, influenced by multiple tributaries and variable flows from the Fitzroy River and Margaret River which have equivalently sized catchments, with additional complexity arising from temporal factors and joint probability effects of flows from these two catchments.

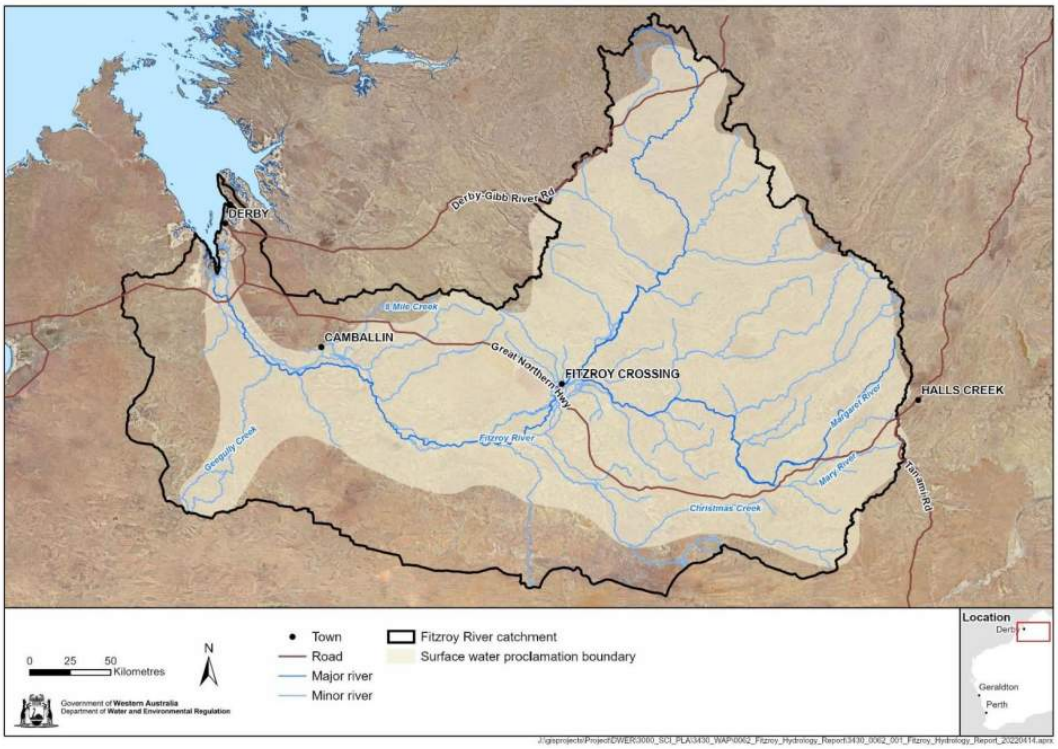


Figure 1 - Fitzroy River Catchment

- As a result, Annual Exceedance Probability (AEP) return periods for peak flows in the Fitzroy River cannot be reliably calculated, and flood event return periods cannot be linearly interpolated from flood frequency curves. Hydrological modelling for the Fitzroy River therefore relies primarily on hydrographs derived from historic events.

- The Bureau of Meteorology (BoM) Fitzroy River – Fitzroy crossing (Station 802055) is located approximately 3.5 km southeast of the aerodrome and has 42 years of annual data but was destroyed shortly after TC Ellie. Based on the available daily streamflow data, the following key historic events are highlighted:

    - TC Ellie, 4th January 2023 – 2,552 GL (flood depth of 15.81 m which exceeded all events previously recorded).
    - 16th March 2011 – 1,139 GL (Flood depth 14.08 m) – colloquially considered one of the most destructive on record.
    - Major Flood, 25th February 2002 – 1,290 GL (flood depth of 13.95 m, which was the maximum level recorded at the time).
    - Tropical Cyclone Ken, 19th March 1983 – 2,000 GL

- Flow estimates derived from high-water marks recorded along the Great Northern Highway during the 1983, 1984, and 1986 flood events are shown on Figure 2 below. It indicates that only 25% – 30% of the total Fitzroy River discharge was conveyed through the Fitzroy River Bridge, with the majority of flows distributed across additional bridges and floodways spanning a floodplain approximately 13 km wide. This distribution demonstrates the critical role of the wider floodplain in attenuating peak flows and highlights the limitations of relying solely on the main bridge to convey floodwaters. It also underscores the importance of considering multiple flow paths and floodplain hydraulics in the design, maintenance, and resilience planning of transport infrastructure in the region.

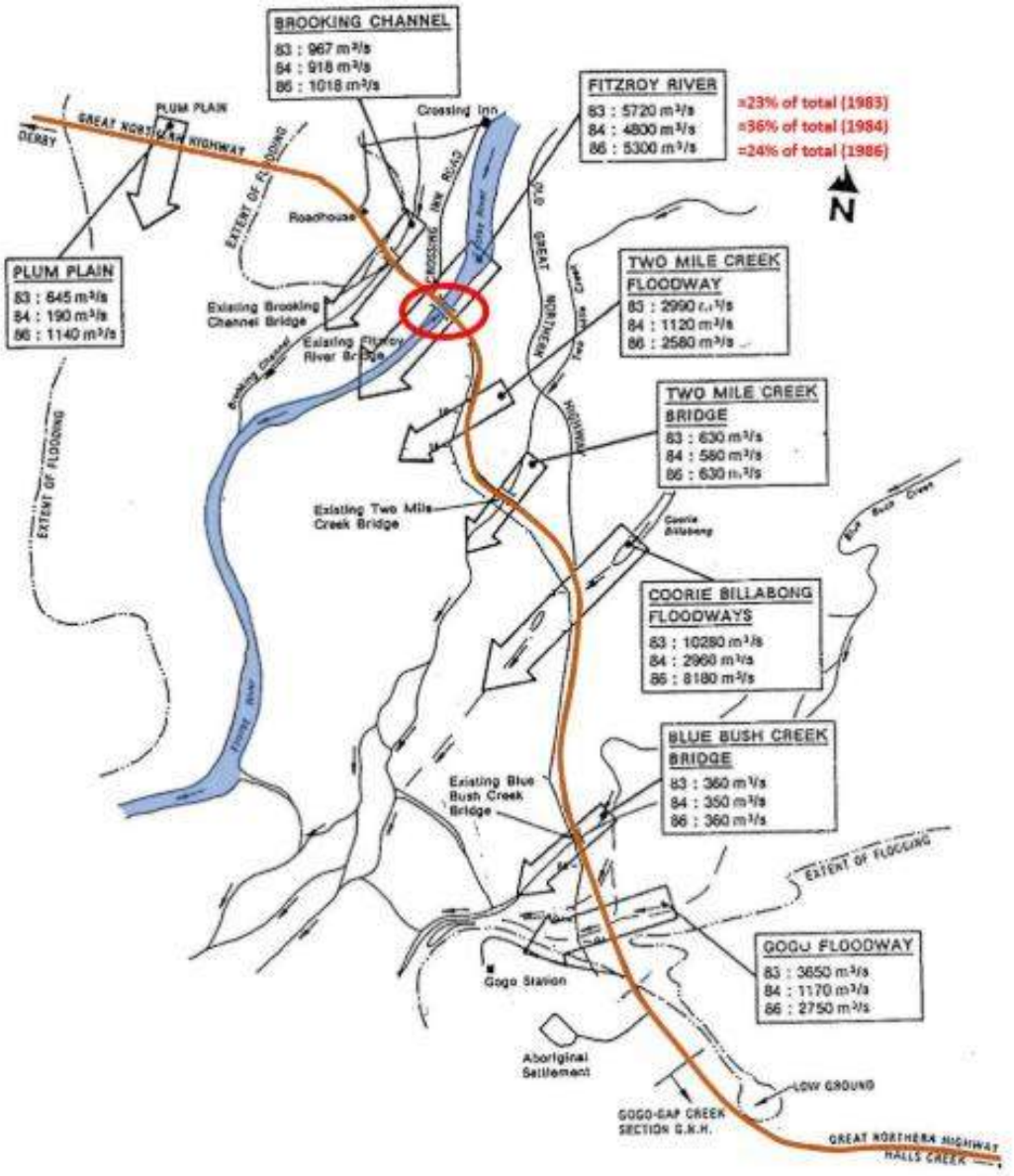


Figure 2 - Great Northern Highway Flow Measurements in 1983, 1984, and 1986 (Goh 1990).

2.1. January 2023 TC Ellie Flooding

In January 2023 Tropical Cyclone Ellie resulted in the flooding of the Fitzroy River, exceeding all events previously recorded by up to 4 m. The annual flow for the 2022–23 wet season is therefore likely to exceed the largest annual flow ever recorded.

As noted in The Fitzroy Bridge Replacement Water Ways Assessment, DWER estimate that the flood was between the 1 in 100 to 1 in 200 ARI, which equates to a total inflow from the Fitzroy River, Margaret River and Brooking Creek of 50,000 m^3/s entering the system.

The estimated January 2023 peak flow rate from the downstream-most gauge on the Margaret River (Mt Krauss) was 15,000 m^3/s. The Dimond Gorge river gauge on the Fitzroy River was destroyed before the peak flood level could be measured however, using high water marks a peak flow rate of 20,000 m^3/s was estimated. The culmination of the flows in addition to the many other tributaries align with DWERS estimate of 50,000 m^3/s, which far exceeds the previous record peak flow of 20,000 m^3/s from the 1983 flood which was considered the flood benchmark at Fitzroy Crossing.

The Dimond Gorge precipitation gauge (Site ID 502139), located approximately 90 km upstream of Fitzroy Crossing, recorded 402 mm of rainfall over 24 hours on 1 January 2023, and a total of 824 mm over the week ending 2 January 2023. According to BoM IFD data, the 24-hour total corresponded to an event with an AEP of 1 in 2,000, while the 4- to 7-day totals substantially exceeded the 1 in 2,000 AEP threshold – see Figure 3.

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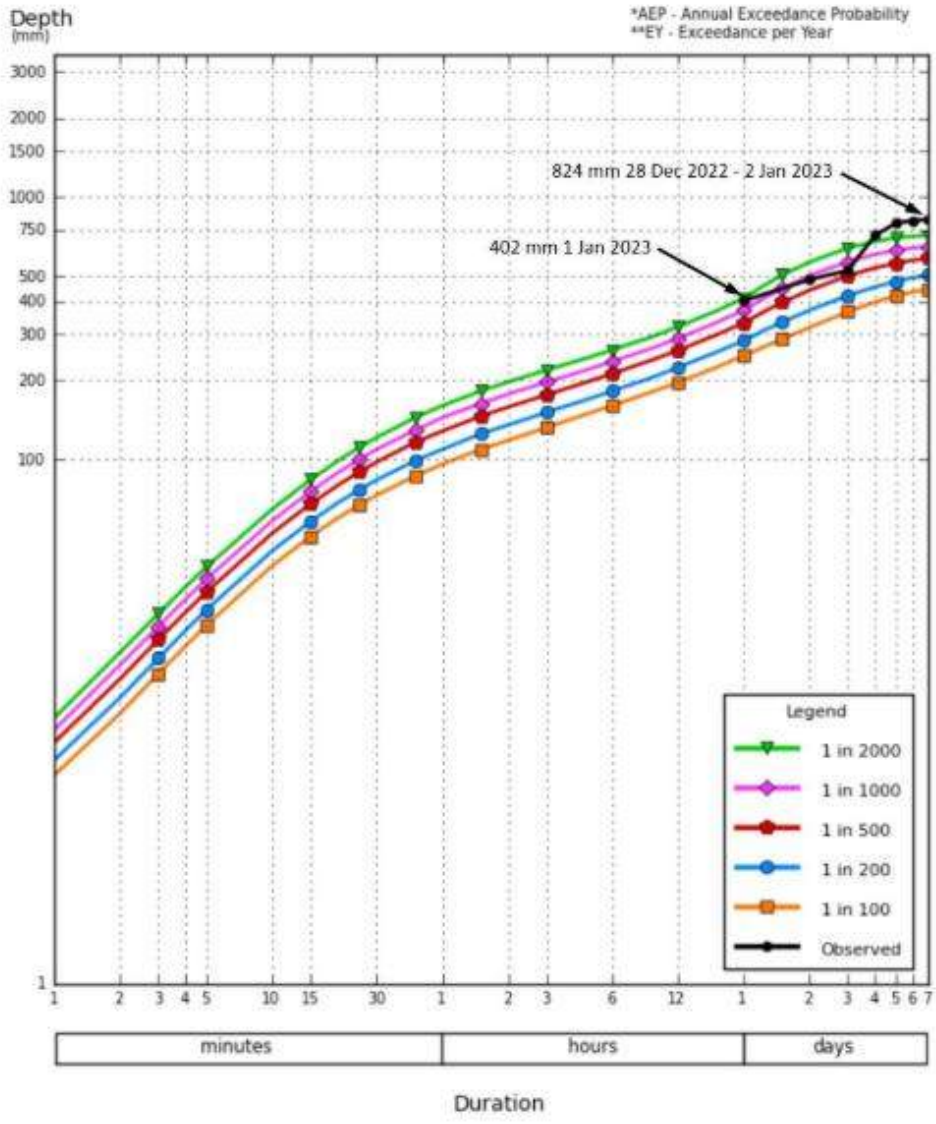


Figure 3 - Dimond Gorge Precipitation from 28 Dec 2022 – 2 Jan 2023 Against BoM IFD.

2.2. Climate change

Climate change projections for northern Australia provide no consistent indication of future changes in annual or seasonal rainfall, with two of four global climate models (GCMs) projecting an increase in wet-season rainfall and two projecting a decrease (DWER). While GCMs have limited ability to represent

key monsoonal drivers, both wetter and drier wet-season futures remain plausible; however, the models consistently project increased rainfall variability from daily to seasonal timescales and a higher likelihood of more intense rainfall extremes. Tropical cyclones are expected to occur less frequently, although a greater proportion are projected to reach higher intensities. Analysis by DWER of the extreme daily and weekly rainfall observed during TC Ellie, using quantile mapping bias correction across four GCMs and two representative concentration pathways indicates in Figure 4 that events of this magnitude will remain rare, with the January 2023 totals exceeding at least 90% of projected future daily and weekly rainfall.

A sensitiviy assesment undertaken by BG&E nominally increasing the total inflow of the servicability limit state flood event by 20% (60,000 m^3/s total flow) to represent the impact of climate change. The impact on the maximum flood level indicated that by increasing the total inflow to the 2D flood model, the water level at the Fitzroy crossing bridge increases by approximately 400 mm from 110.8 mAHD to approximately 111.2 mAHD. The flood mapping of this increase in flood level was not avaialble for the assesment, such that the potential increase in flood level at the Aerodrome was not ascertained, although likely to have increased in the order of 0.1 m – 0.3 m.

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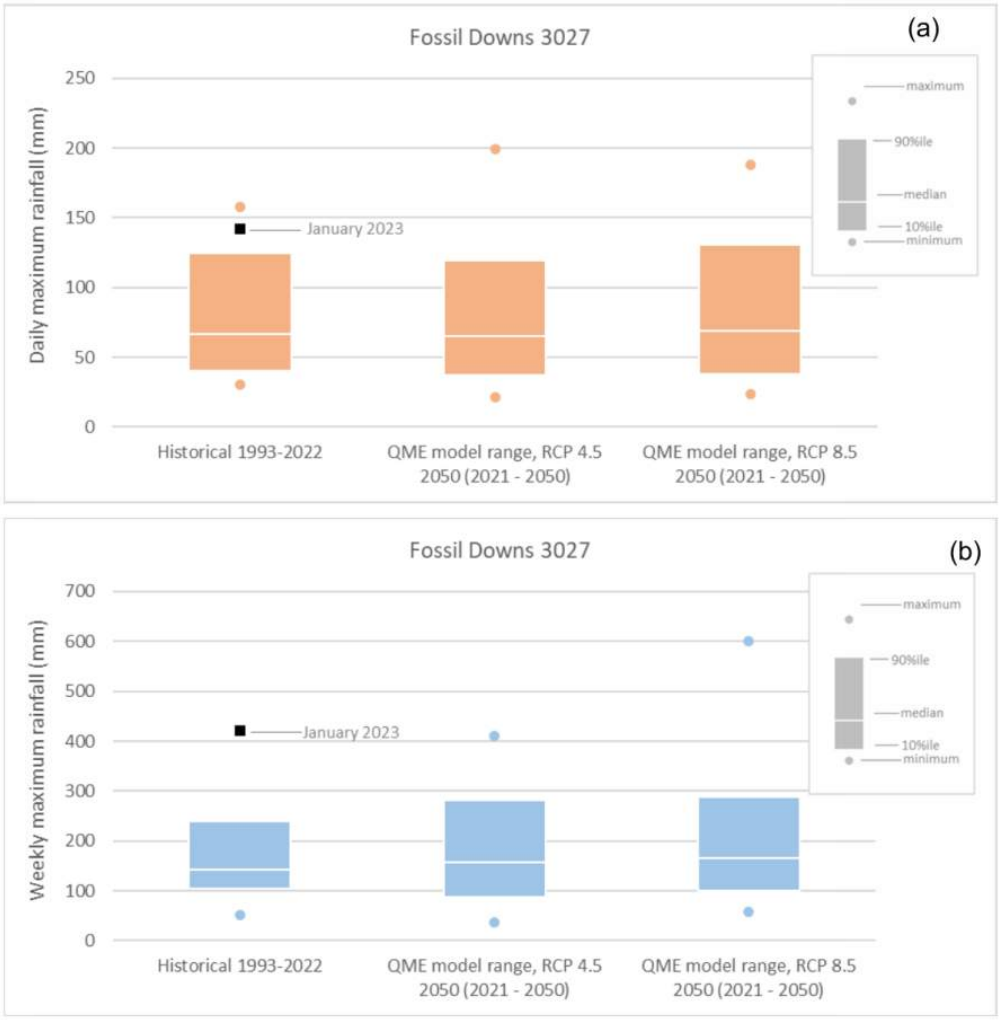


Figure 4 - Comparison of January 2023 Observed Rainfall Fossil Downs Bom Guage with Historic and Future Climate Projections of a) annual peak daily rainfall and b) annual peak weekly rainfall volumes (DWER)

2.2.1. Fitzroy River Geomorphology

The geomorphology of the Fitzroy River is complex, with the braided nature of flows though the floodplain making determination of accurate rating curves difficult, due to the ever-changing cross section of the river and the cyclical erosion and deposition of sediment.

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A simple comparison of historical aerial imagery in Figure 5 spanning 2002–2023 indicates progressive lateral migration of the Fitzroy River channel upstream of the Fitzroy River Bridge. Between 2002 and 2022, the left bank receded by approximately 50 m, equating to an average long-term migration rate of ~2.5 m/year. This gradual adjustment was subsequently exceeded by TC Ellie, during which an additional ~30 m of lateral bank erosion occurred. The magnitude of this single-event recession highlights the dominance of episodic, high-magnitude flood events in driving channel bed conditions relative to background rates of fluvial migration.

Anecdotally, the 2011 Flood at Fitzroy crossing was noted as following several years of below average wet seasons, with the 2011 event being the last major flood prior to TC Ellie in 2023. This highlights the possibility that the buildup of sediment within the channel bed may increase the likelihood of more severe flooding upstream.

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2002 **2022** **2023 – Post TC Ellie**

Figure 5 – 2002 to 2023 post TC Ellie Bank Migration

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2.3. TC Ellie Impact on Aerodrome

The extent of flooding at the aerodrome can be seen in photographs and satellite imagery captured just after the event (Figure 6, Figure 7 and Figure 8), where the graded strip and northern end of the runway became inundated.

TC Ellie flood levels from DWER Flood modelling within the vicinity of the aerodrome and a comparison to empirical evidence are summarised below:

Table 2-1 – TC Ellie Flood Levels

Item	Site	DWER Recorded Flood Level (mAHD)	Observed Debris (mAHD)
Fitzroy Airport	Northern end of runway	111.80	112.1
	Southern end of runway	111.45	111.64
Great Northern Highway	500 m South of Runway	111.1	111.1

It is noted that the observed flood levels provided by DWER and empirical evidence of debris from photos and satellite imagery indicate that the TC Ellie flood level at the northern and southern end of the runway were slightly higher than those recorded by DWER. This may be due to the additional impacts of windblown wave action during TC Ellie.

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Figure 6 – Jan 2023 Extent of Runway Overtopping



Figure 7 – Floodwaters Surrounding Fitzroy Crossing Aerodrome Jan 2023

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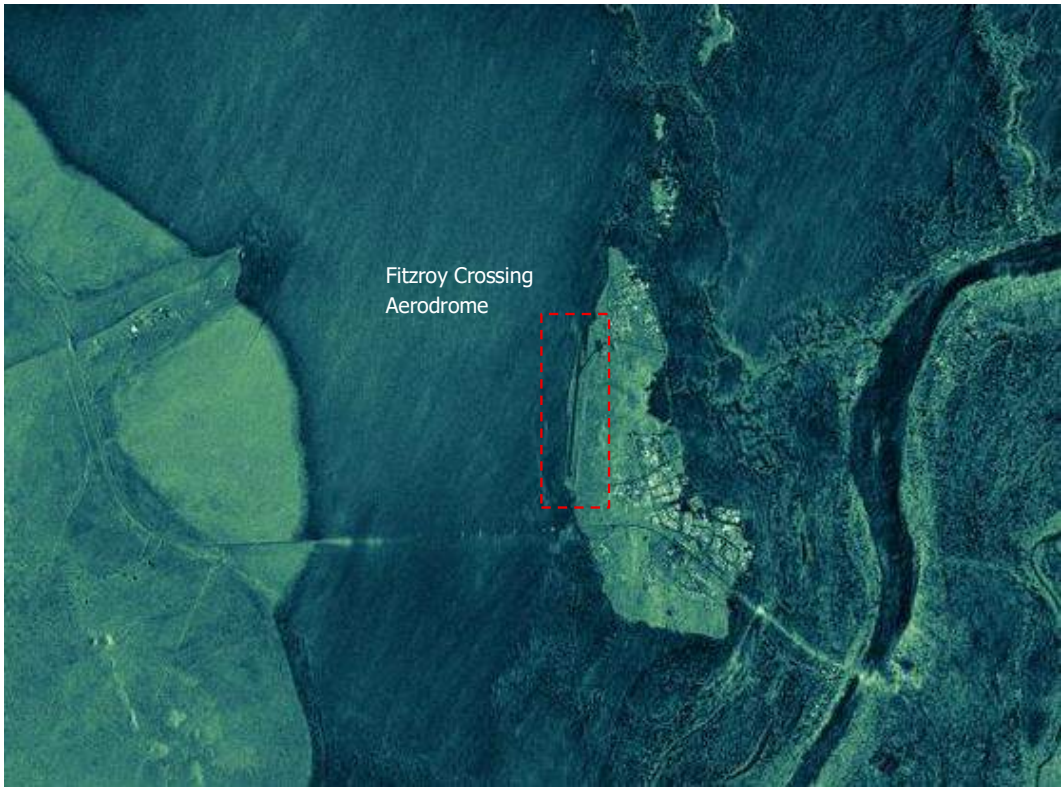


Figure 8 - Extent of Flooding Jan 2023 (ICEYE)

2.4. MRWA Bridge Replacement

Following the failure of the existing Fitzroy Crossing Bridge in January 2023 and in particular the erosion of the eastern embankment, MRWA has constructed a new wider replacement Fitzroy Crossing bridge which is 268 m long, having a similar length to the upstream channel, representing an increase of approximately 92 m compared to the old Fitzroy River bridge which was 176 m long. It is noted however that the soffit level of the new bridge has not been increased from the original height of 109.4 mAHD. However, the serviceability limit state event used by BG&E for scour protection design has been based on a flood event having a water level upstream of the bridge similar to TC Ellie.

As part of BG&E's verification of the 2D flood model, the existing bridge was modelled against the TC Ellie event with total inflow of 50,000 m^3/s. The maximum flow through rate calculated at the bridge was 8,276 m^3/s increasing to 8,853 m^3/s for a 10 m scour depth of the river channel based on 2021 Lidar. By comparison, the new bridge modelled under the same TC Ellie event, had a maximum flow through rate of 10,129 m^3/s increasing to 10,335 m^3/s for an 8 m scour depth based on updated bathymetric survey in March 2023.

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In line with above increased flow though capacity of the new bridge, BG&E notes that the replacement bridge will reduce the afflux upstream of the bridge by between 0.05 – 0.25m, which aligns with the deeper riverbank and wider bridge span. However, the new bridge did not show a change in afflux in the vicinity of the Fitzroy Aerodrome – Refer Figure 9 below.

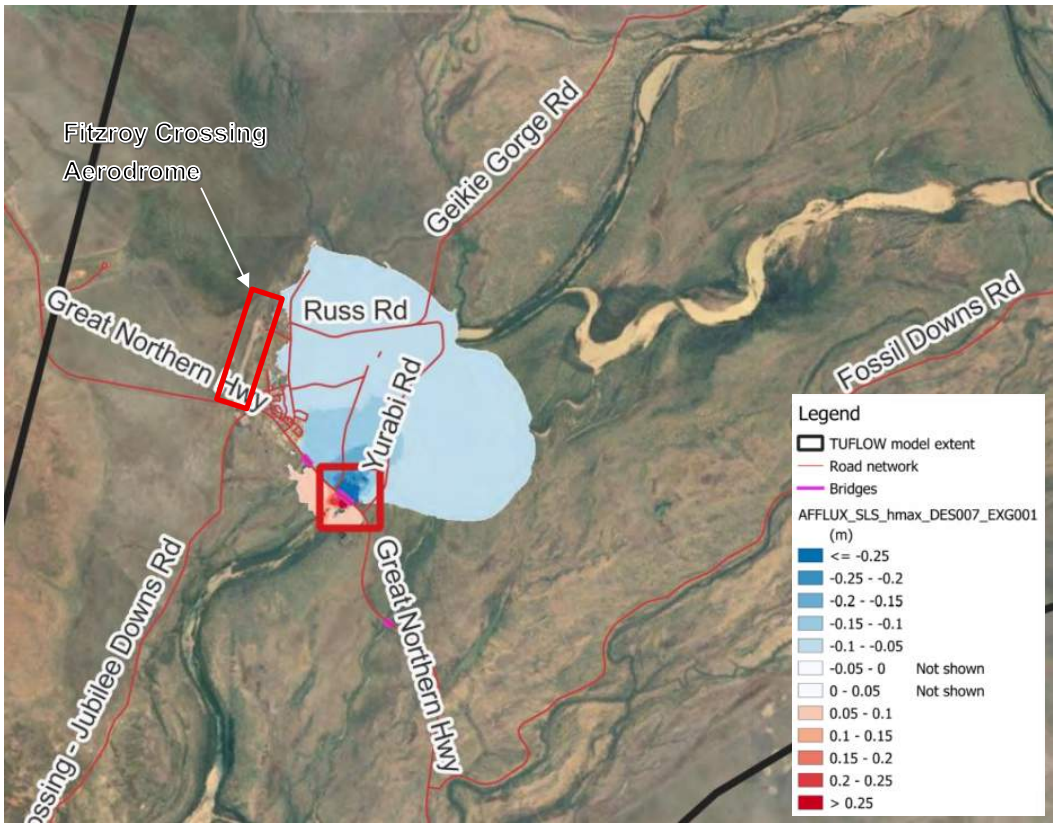


Figure 9 – AFLUX map – SLS TWL difference – Old Bridge vs New Bridge (BG&E)

3. FITZROY CROSSING AERODROME FLOOD RESILIENCE

3.1. Stakeholder Requirements

As noted by Greenfield Technical Services and BG&E, due to the complexity in modelling a design event for the Fitzroy River catchment, discussions with the Shire around the level of serviceability of the

proposed aerodrome improvement works would be a function of the costs to construct and the funding available. Based on the significance of the aerodrome for supplies and evacuation during flood events in the region and following discussions with the Shire, for assessment purposes, the benchmark for assessment of serviceability will be the TC Ellie Flood levels.

3.2. Serviceability

As mentioned by BG&E, the serviceability of the Fitzroy Bridge is not the governing constraint, as the hydraulic and geometric performance of the Great Northern Highway floodplain crossings exert greater control on network functionality. In its current configuration, the section of highway east of Fitzroy crossing represents the critical egress bottleneck out of the township. The Fitzroy Crossing–GoGo Station section exhibits reduced hydraulic efficiency and lower flood immunity, resulting in greater frequency and duration of inundation-related traffic disruption.

The Plum Plain section of the Great Northern Highway provides a comparatively higher level of service. Under major flood events, the Plum Plain section conveys wide, shallow overbank sheet flow at low velocities, reducing hydraulic afflux and limiting erosive potential, however this section of the Great Northern Highway is not traversable for the 1% AEP event based on DWER flood modelling. The new Fitzroy River Crossing Bridge therefore has focused on survivability, not serviceability.

The existing runway is classified as Code 2C, with typical serviceability requirements for an aerodrome of this type being for the runway to remain dry during a 1% AEP event and the graded strip to remain dry for the 10% AEP event. By way of comparison, the follow minimum serviceability requirements are recommended for commercial airfields:

- The Commonwealth Department of Construction Roads and Aerodrome Branch Stormwater Management Manual requires runway serviceability for the 50 year event.
- Federal Aviation Administration guidelines only requires runway serviceability for the 5 year event.

Based on flood mapping of the1% AEP by DWER, the existing runway and graded strip of the existing Aerodrome is shown to not be inundated and therefore serviceable for events up the 1% AEP event – Refer Figure 10 below.

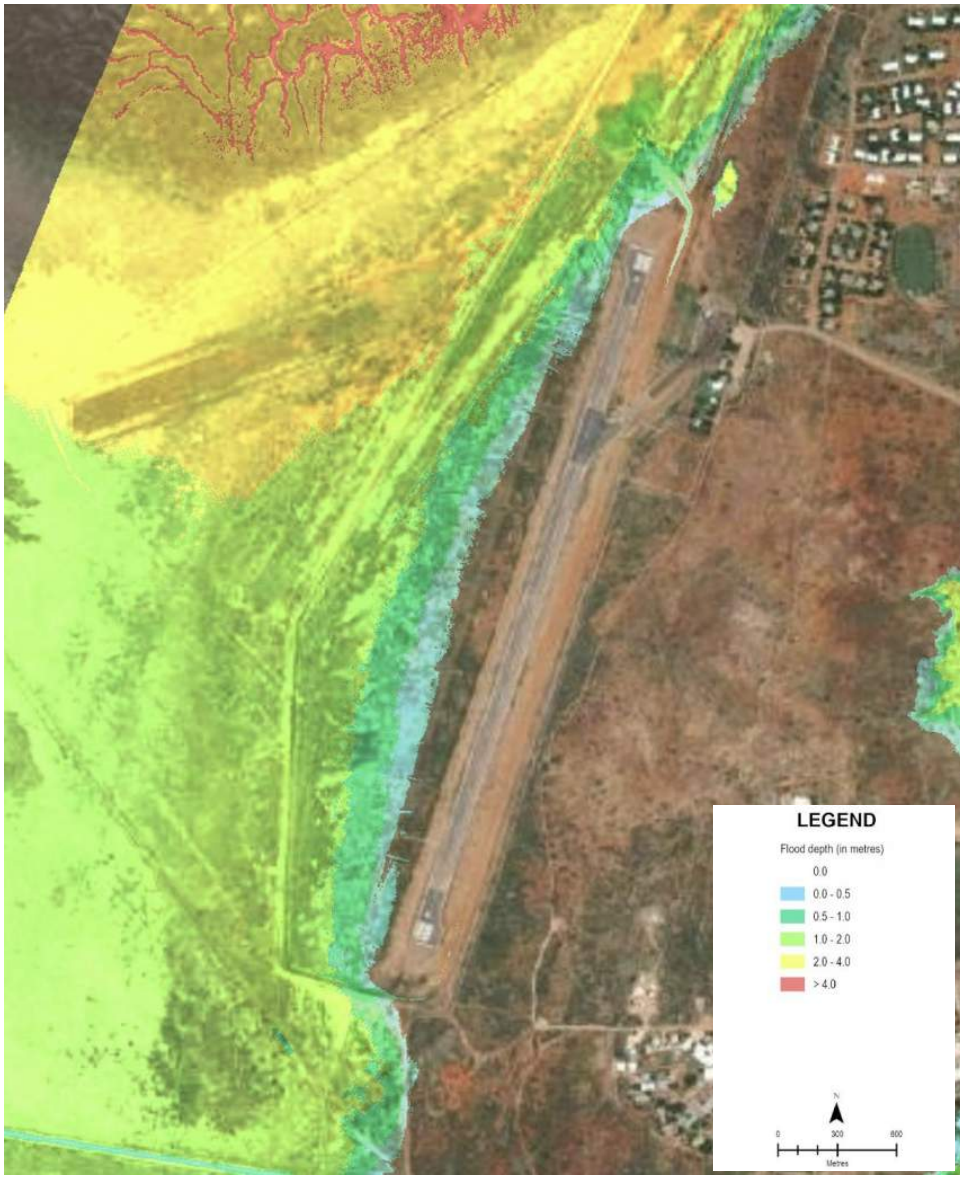


Figure 10 – 1% AEP Flood Depth (DWER)

Due to the limitations for alternative evacuation routes from Fitzroy Crossing as result of its remoteness and reliance on the Great Northern Highway, which is prone to flooding, a much higher serviceability level is therefore required for emergency infrastructure.

Whilst not the specified level of serviceability for the Aerodrome, for the purpose of benchmarking against the TC Ellie Flood levels, a minimum viable level of serviceability to allow for the safe movement

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and navigation of emergency aircraft will be considered. As such, the runway is to be free of water and the cones that mark the graded strip and runway lighting will be required to be visible to ensure operability of the aerodrome, refer See Figure 11 (albeit under heavily controlled operating conditions):

» Graded strip – allow 150 mm of ponding at edge of graded strip (Height of grass) and:

» Runway Shoulder – Landing Lights visible above flood waters (Shoulder level +100 mm)

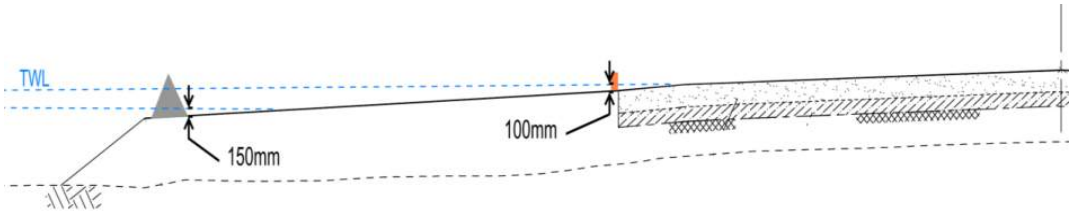


Figure 11 - Minimum Viable Level of Serviceability

3.3. Review of Initial Concept Designs

EA2 has undertaken an assessment of the three Greenfield Technical Services concept design options in line with the TC Ellie flood levels and the minimum viable visibility of Navaids in Tables 3-1, 3-2 and 3-3 below. To provide an equivalent comparison to the TC Ellie flood levels, the observed debris levels have been used to include the effect of wind driven wave action on navaid visibility.

The tables below show whether the runway centreline, elevated runway shoulder lights and graded strip cones are visible above floodwaters as highlighted in green.

Table 3-1 – 1A Concept Option 1- Low (0 mm Lift + 300 mm Freeboard)

Option 1	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112.1	111.7	111
Mid Runway	111.64	111.95	111.55	110.85
Southern end of runway	111.1	111.75	111.35	110.65
Estimated Construction Budget		**$18.2M**		

Table 3-2 – 1A Concept Option 2 - Mid (450mm lift + 300mm Freeboard)

Option 2	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112.55	112.15	111.45
Mid Runway	111.64	112.4	112	111.3
Southern end of runway	111.1	112.2	111.8	111.1
Estimated Construction Budget		**$20.2M**		

Table 3-3 – 1A Concept Option 3 - High (900 mm Lift + 300 mm Freeboard)

Option 3	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	113	112.6	111.9
Mid Runway	111.64	112.85	112.45	111.75
Southern end of runway	111.1	112.65	112.25	111.55
Estimated Construction Budget		**$26M**		

By way of comparison, the same minimum viable serviceability test for TC Ellie flood levels has been undertaken for the existing runway in Table 3-4 below, which aligns with the observed flooding of the existing runway in Section 2.3 above.

Table 3-4 - Existing Runway

Existing	Flood Level + Wave (mAHD)	Centreline (mAHD)	Shoulder Runway Lights (mAHD)	Graded strip Cone (mAHD)
Northern end of runway	112.1	112	111.75	111.05
Mid Runway	111.64	113.25	113	112.3
Southern end of runway	111.1	111.2	110.95	110.25

The proposed 1A Concept options represent major reconstruction works to the aerodrome with significant costs and still does not achieve the target level of serviceability for TC Ellie flood levels unless the runway is raised 1m above the existing runway level.

3.4. Alternate Concept Design - Bund/Dyke

To ensure all possible options have been investigated, the following concepts have been briefly explored as alternative options to avoid the significant earthworks required to globally lift the airfield to varying degrees as proposed by Greenfield Technical Services Options 1 – 3.

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A nominally 1.5 – 2.0 m high bund with crest level of 112.4m AHD would be required around the perimeter of the graded strip to protect the runway from TC Ellie flood levels and overland flows from the east of the runway. A basin would be required to detain runoff from the 3.6 ha northern portion of the airfield catchment trapped by the bund. For this system to operate, a detention volume of at least 15,000 m^3 would be required to detain the 1% AEP event and allow surrounding floodwaters to dissipate before being able to be released via a valved/one-way outfall. Alternatively, this basin would be required to be drained with a pump system.

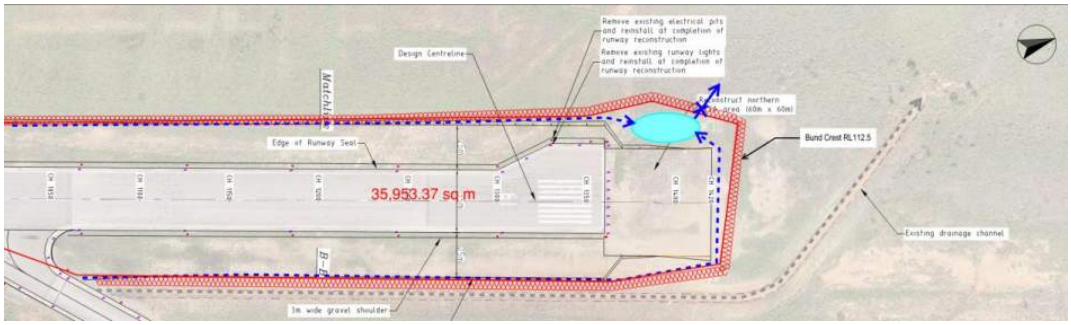


Figure 12 - Bunded Runway Concept

Viability of this option, particularly at the northern end of the existing runway is not feasible, due to the significant detention volume required to retain an extreme event (like TC Ellie) and the time for floodwaters to dissipate prior to being able to discharge stormwater from the basin. Reliance on a pumped system particularly in an extreme flood event would also add an additional point of failure. Additionally, the detention basin would represent the bird strike risk as a fixed waterbody would be created at the northwest corner of the airfield.

4. CONCLUSION

EA2 have provided this hydrological assessment of Fitzroy Crossing Aerodrome in the context of the January 2023 TC Ellie flood event and assessment of the proposed design options presented by Greenfields as part of the Stage 1A Initial Concept Assessment for improving the flood resilience of the Fitzroy Crossing Aerodrome. The assessment has highlighted the following conclusions and areas requiring further investigation:

- The flooding at the Fitzroy Crossing Aerodrome as a result of TC Ellie, was an extreme flood event – well in excess of the 1% AEP flood levels, with evidence that it exceeded a 1 in 2000 year rainfall event, considering the joint probability of record flows from the incoming Fitzroy and Margret Rivers as well as the potentially buildup of sediment within Fitzroy River which may have diverted additional flows across the wider floodplain.

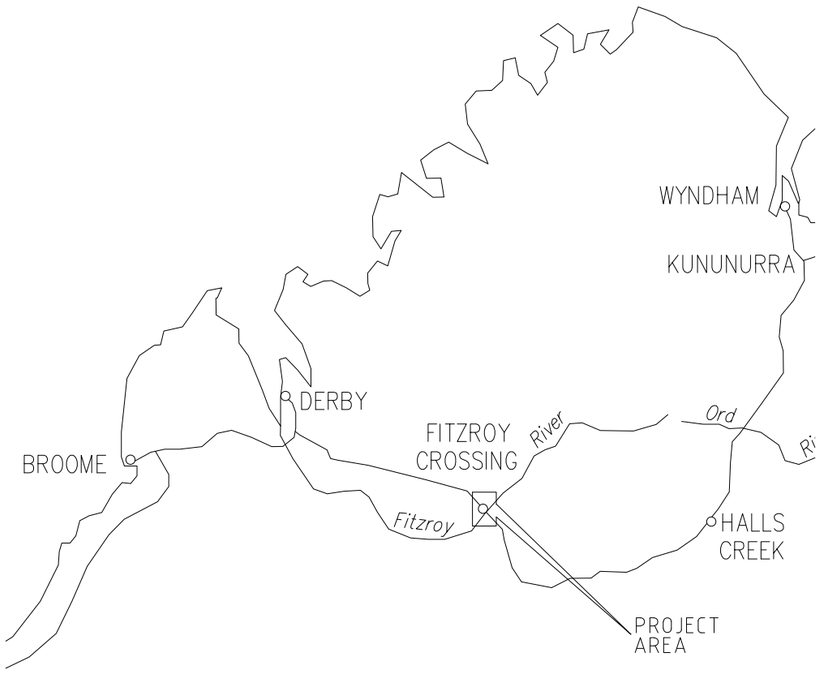
- The new Fitzroy Crossing Bridge, whilst wider and able to accommodate 20% higher flows than previously, will not provide any flood relief to Fitzroy Crossing aerodrome.

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- The Fitzroy River is a highly dynamic, sand-bed river system that was subject to constriction and redirection of flow in the vicinity of Fitzroy Crossing making it difficult to forecast flood depths.
- On the basis of the information referred to at the time of writing, we believe the airfield presently meets its required flooding serviceability requirements, and minor works to remediate MOS geometric non-compliances and pavement overlay works will assist in increasing the Aerodrome flood resilience.
- In order to ensure the airfield remains serviceable for an extreme flood event like TC Ellie, lifting of the runway 1 m above existing would be required, resulting in significant earthworks and long construction periods in addition to construction budgets.
- It is recommended that in light of the recently released ARR 2024 Climate change considerations, the DWER Flood modelling of Fitzroy River for the 1% AEP event should be updated to in include climate change scenarios, which would then set the minimum flood level for any works to the aerodrome.
- In the absence of specific emergency infrastructure serviceability requirements for the Fitzroy Crossing aerodrome, any upgrade works will ultimately be limited to the available funding.

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Appendix B – AMS Mark up of Concept Assessment Drawings



SHIRE OF DERBY WEST KIMBERLEY

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN

DRAWING NO.	DESCRIPTION
SDK-J1086-000	LOCALITY PLAN AND INDEX
SDK-J1086-100	OPTION 1 - LOW : PLAN / PROFILE : CH 0-600
SDK-J1086-101	OPTION 1 - LOW : PLAN / PROFILE : CH 600-1200
SDK-J1086-102	OPTION 1 - LOW : PLAN / PROFILE : CH 1200-1420
SDK-J1086-103	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 0-600
SDK-J1086-104	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 600-1200
SDK-J1086-105	OPTION 2 - MIDDLE : PLAN / PROFILE : CH 1200-1420
SDK-J1086-106	OPTION 3 - HIGH : PLAN / PROFILE : CH 0-600
SDK-J1086-107	OPTION 3 - HIGH : PLAN / PROFILE : CH 600-1200
SDK-J1086-108	OPTION 3 - HIGH : PLAN / PROFILE : CH 1200-1420
SDK-J1086-300	OPTION 1 - LOW : TYPICAL SECTION DETAILS
SDK-J1086-301	OPTION 2 - MIDDLE : TYPICAL SECTION DETAILS
SDK-J1086-302	OPTION 3 - HIGH : TYPICAL SECTION DETAILS

NOTE : ALL A-1 DRAWINGS HAVE BEEN REDUCED TO A-3 SIZE

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

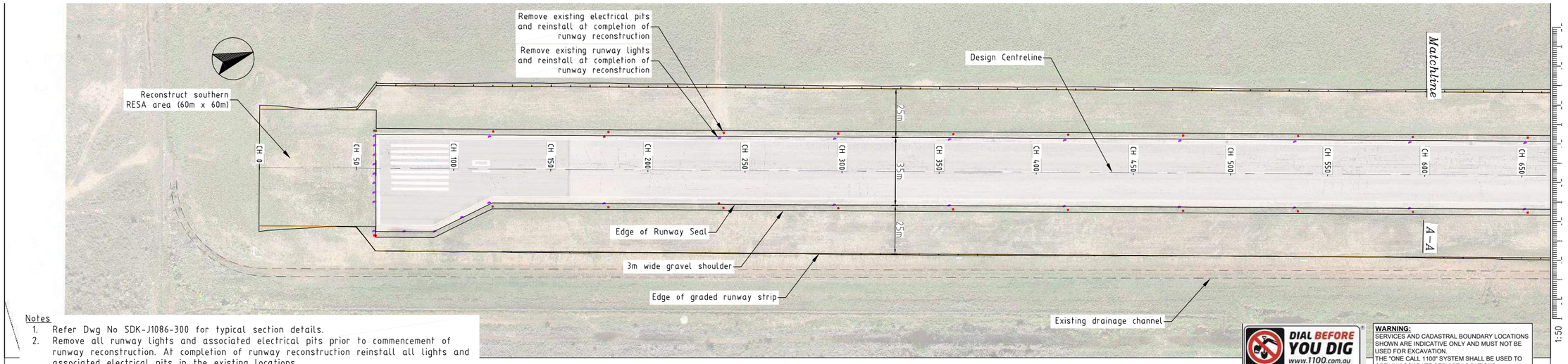
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

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DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
LOCALITY PLAN AND INDEX

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_000_A
AMENDMEN

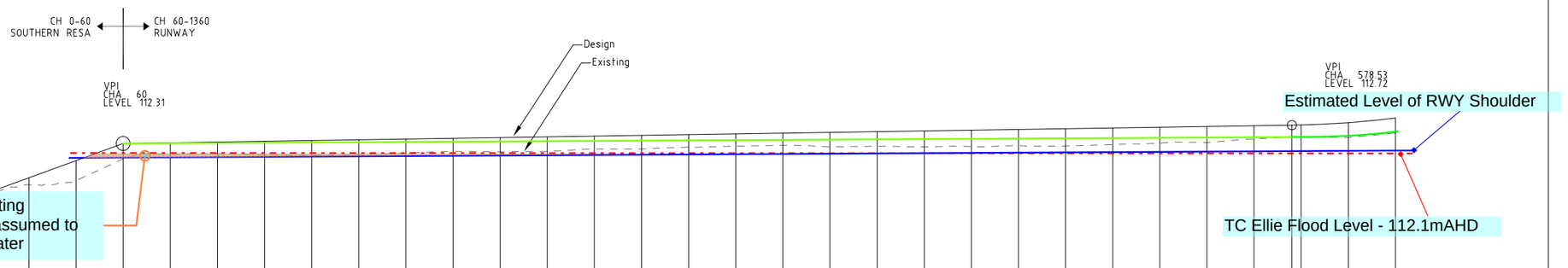


Notes

1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

DIAL BEFORE YOU DIG www.1100.com.au

WARNING:
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THE "ONE CALL 1100" SYSTEM SHALL BE USED TO OBTAIN ACCURATE SERVICE LOCATIONS



Horizontal Geometry

DATUM R.L.106.000

Existing Height	111.216	111.429	111.521	111.984	112.082	112.096	112.067	112.059	112.072	112.108	112.142	112.131	112.140	112.190	112.190	112.231	112.251	112.271	112.239	112.250	112.237	112.239	112.265	112.256	112.285	112.314	112.330	112.404	112.449	112.458	112.435	112.532
Existing to Design Cut(-) / Fill(+)	0.000	0.152	0.424	0.325	0.242	0.244	0.289	0.312	0.316	0.295	0.277	0.304	0.310	0.276	0.291	0.266	0.262	0.258	0.305	0.311	0.339	0.352	0.343	0.367	0.355	0.341	0.340	0.282	0.249	0.245	0.318	0.318
Design Centreline	111.216	111.580	111.945	112.309	112.324	112.340	112.356	112.372	112.387	112.403	112.419	112.435	112.450	112.466	112.482	112.497	112.513	112.529	112.545	112.560	112.576	112.592	112.608	112.623	112.639	112.655	112.670	112.686	112.699	112.703	112.752	112.850
Chainage	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	556.03	560.00	580.00	600.00
Superelevation	LHS & RHS -2%																																

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 1 - LOW : Ch 0 - 600

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

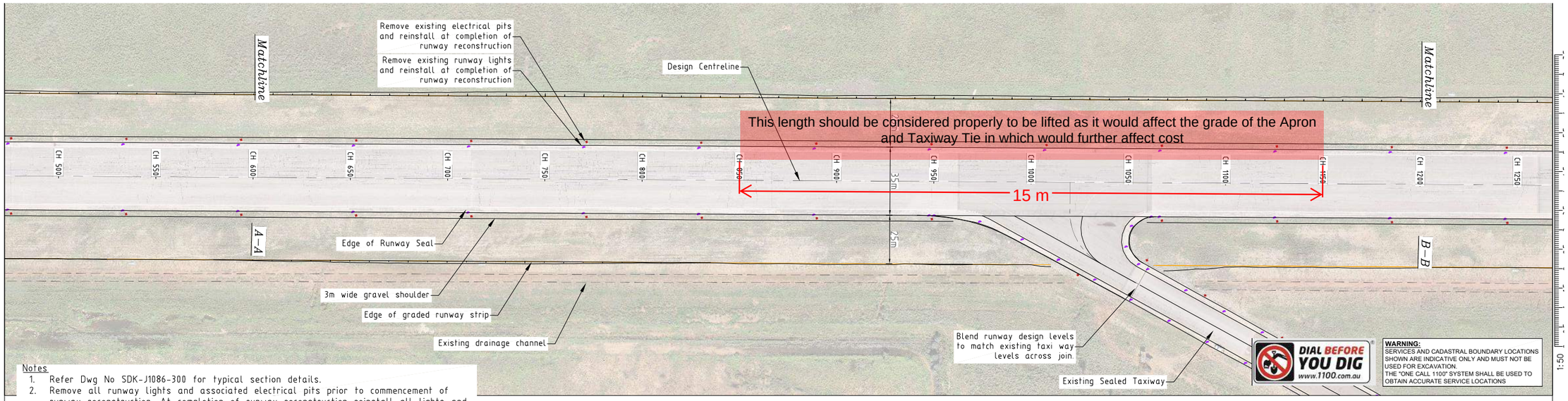
GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547

DESIGNED / DRAWN	DATE
M.BARNS M.BARNS	28/05/24

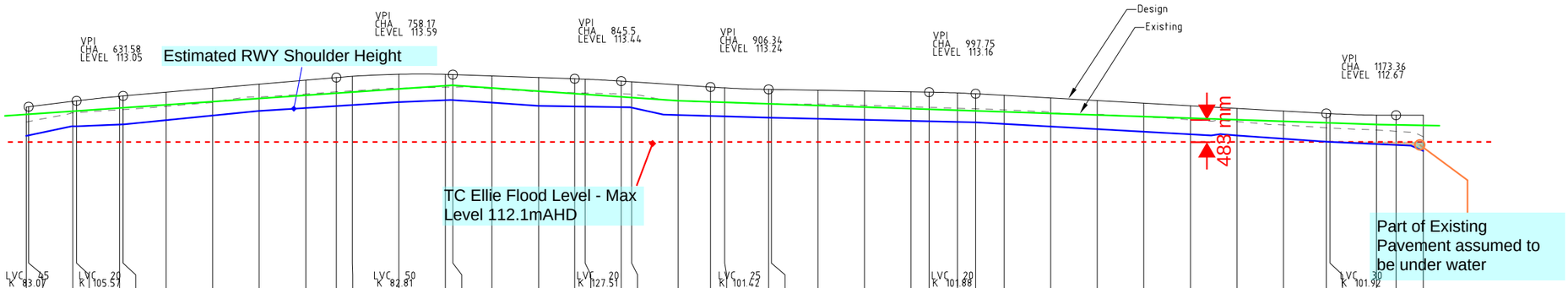
SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW
Plan / Profile: Ch 0 - 600

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_100_A
AMENDMENT:

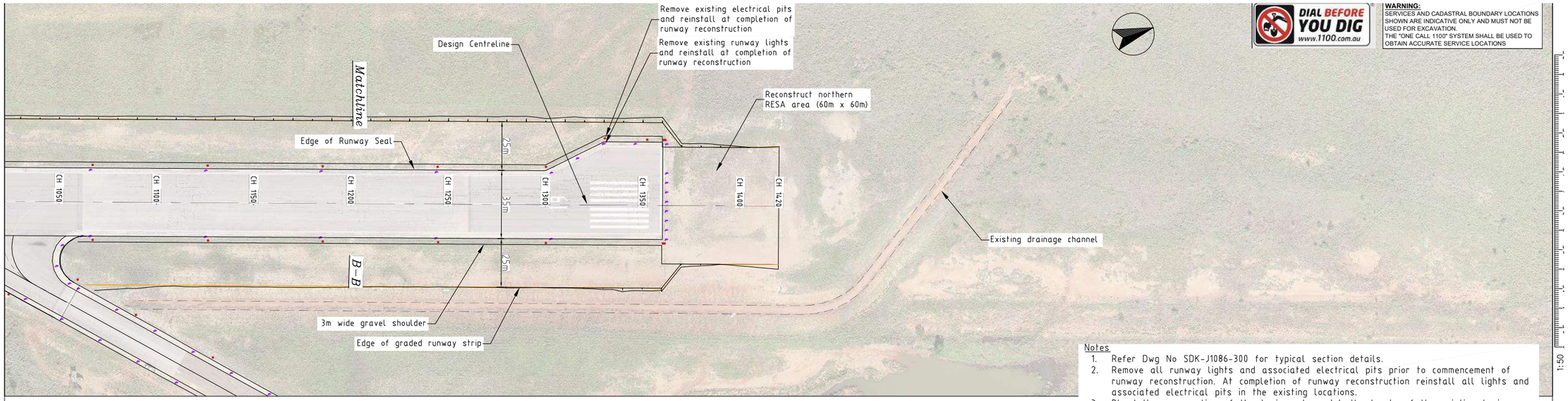


Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.

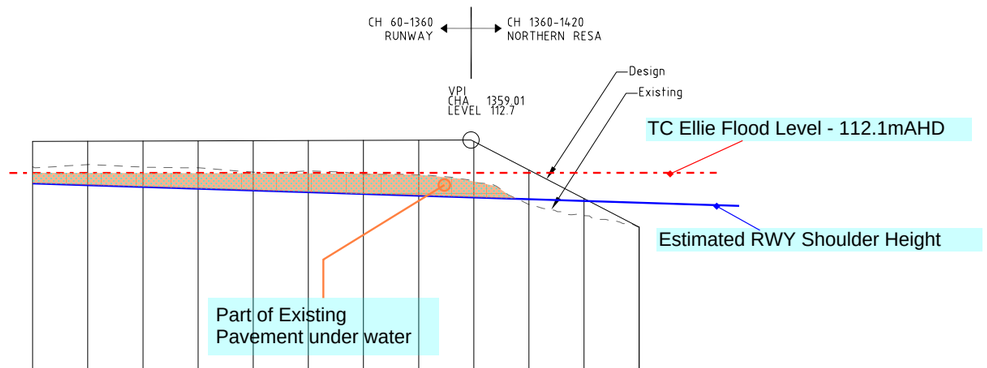


Horizontal Geometry
DATUM R.L.107.000

| | | |



Notes
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2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.



Horizontal Geometry
DATUM R.L.106.000

Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121
Existing to Design Cut(-) / Fill(+)	0.462	0.426	0.475	0.489	0.571	0.551	0.617	0.627	0.732	0.624	0.307	-0.000	-0.000
Design Centreline	112.676	112.679	112.682	112.685	112.688	112.691	112.694	112.697	112.674	112.157	111.639	111.121	111.121
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00
Superelevation					LHS & RHS -2%								

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 1 - LOW : Ch 1200 - 1420

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

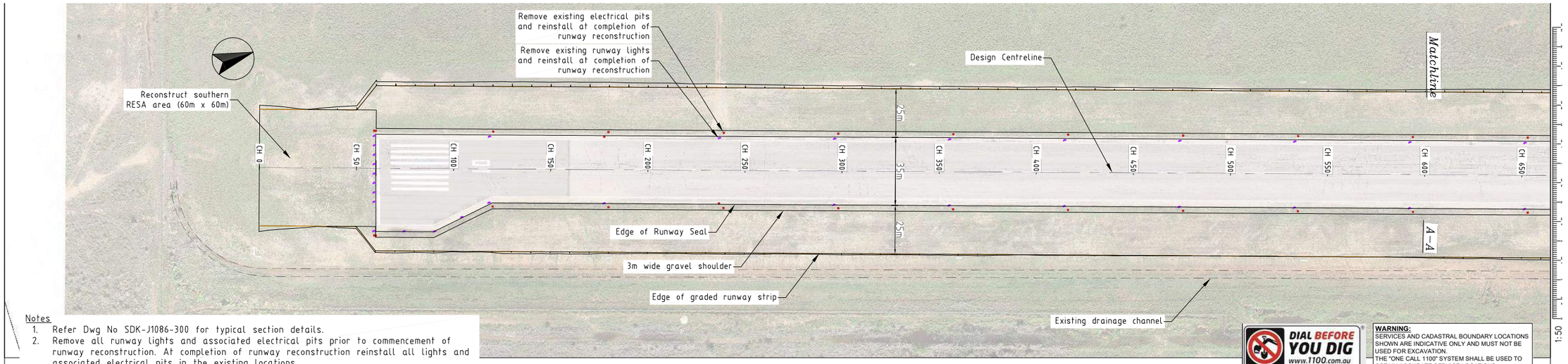
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW
Plan / Profile: Ch 1200 - 1420

LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER AMENDMEN
SDK_J1086_102_A

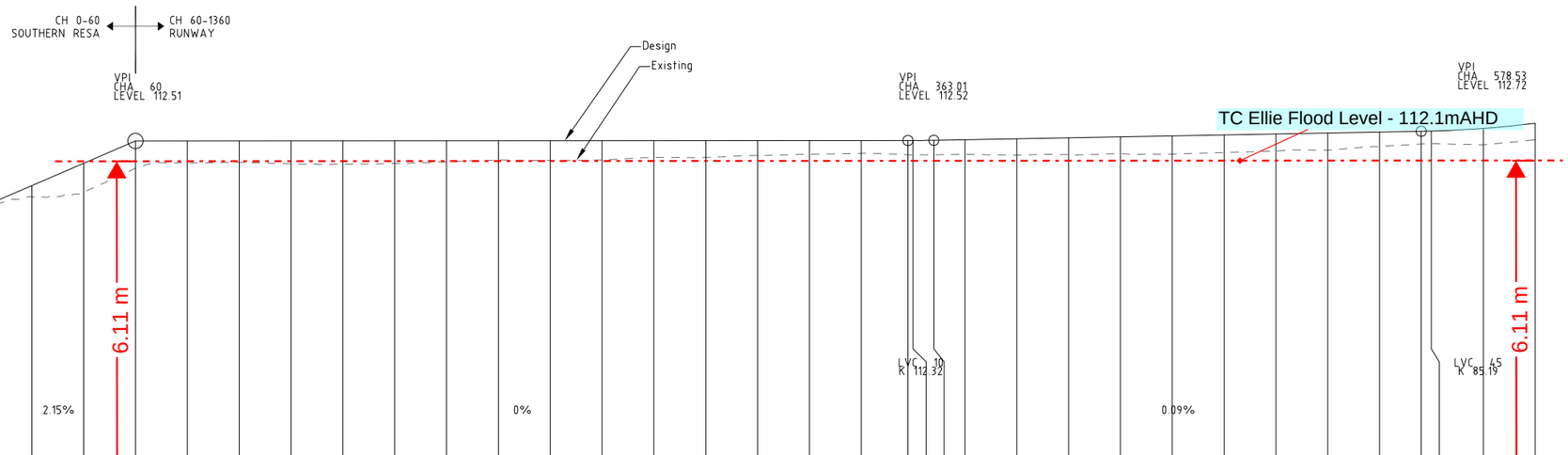


Notes

1. Refer Dwg No SDK-J1086-300 for typical section details.
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3. Blend the new section of the taxiway to match the levels of the existing taxiway.

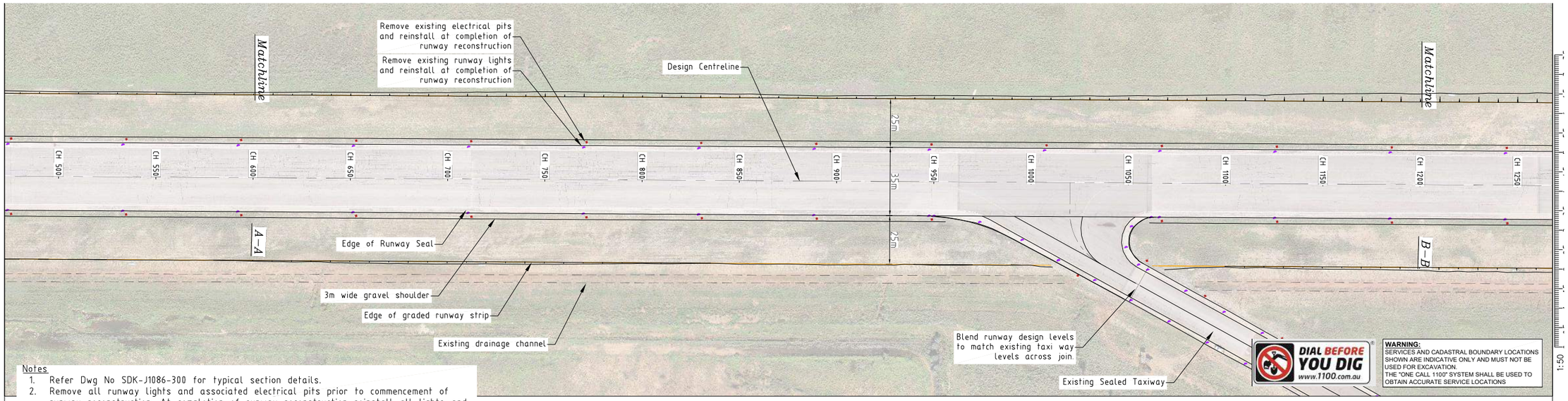
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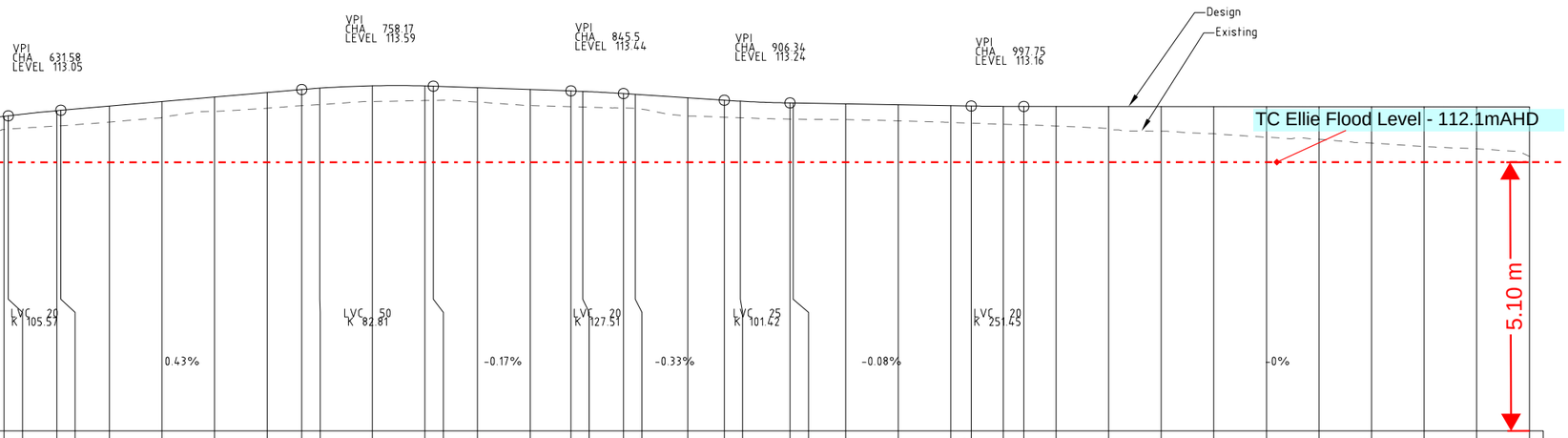


Horizontal Geometry
DATUM R.L.106.000

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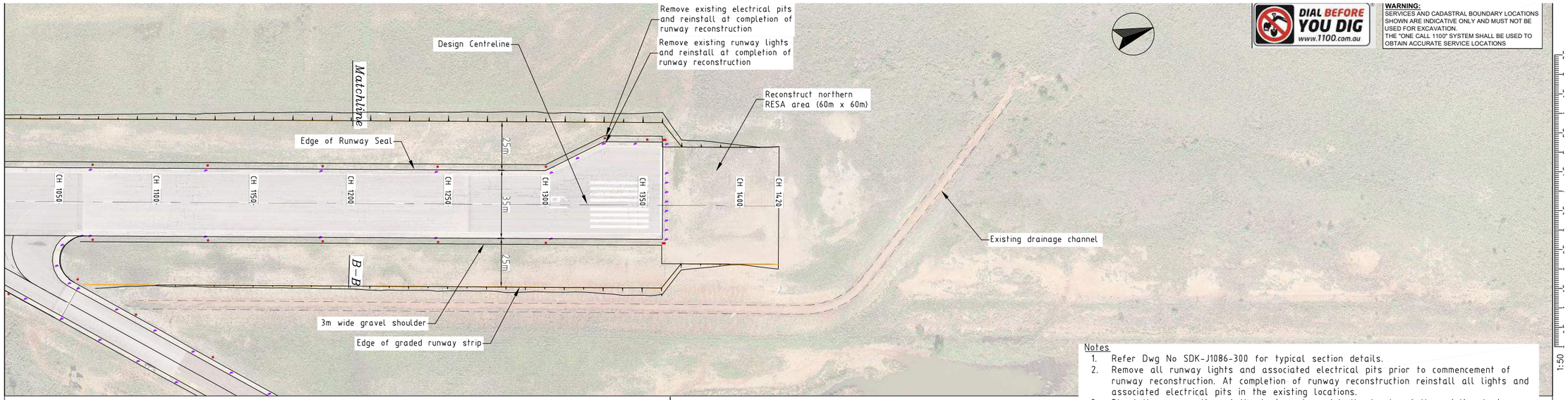


Notes
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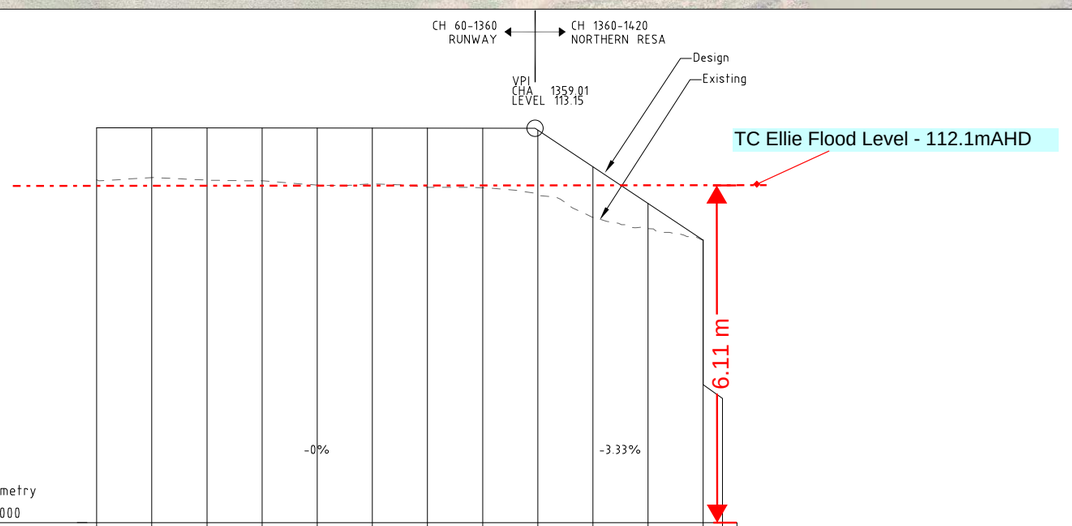


Horizontal Geometry
DATUM R.L.107.000

| | | |



Notes
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Horizontal Geometry DATUM R.L.106.000													
Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121
Existing to Design Cut(-) / Fill(+)	0.941	0.902	0.947	0.957	1.036	1.012	1.074	1.081	1.174	0.919	0.455	0.000	0.000
Design Centreline	113.156	113.155	113.154	113.154	113.153	113.152	113.151	113.151	113.117	112.452	111.786	111.121	111.121
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00
Superelevation	LHS & RHS -2%												

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 2 - MIDDLE : Ch 1200 - 1420

1:1000

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

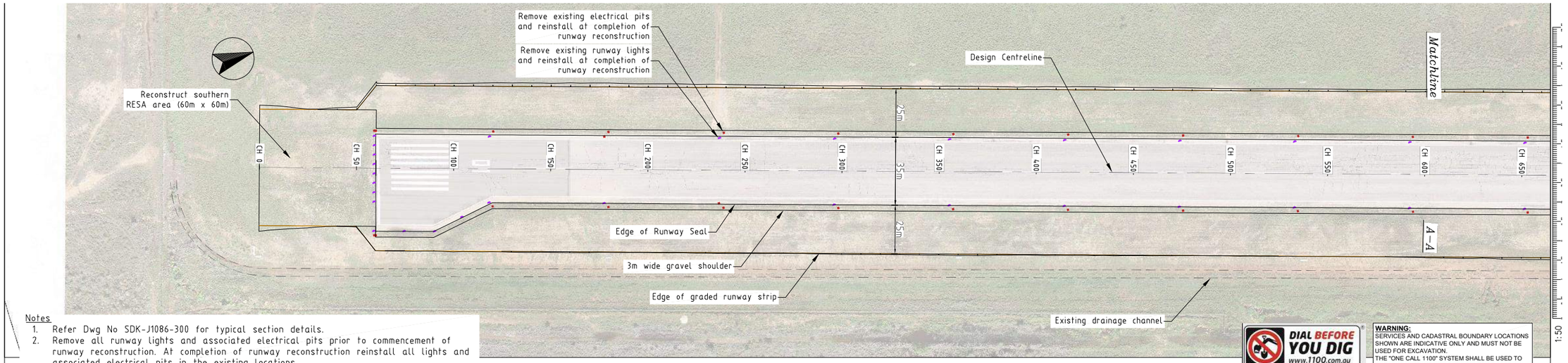
SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 2 - MIDDLE
Plan / Profile: Ch 1200 - 1420

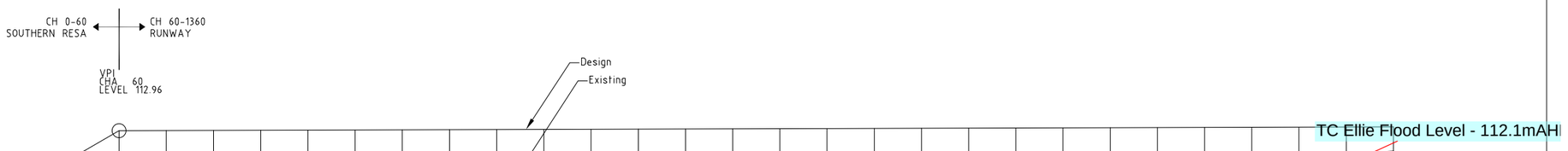
LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_105_A
AMENDMENT: A



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Notes
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Horizontal Geometry
DATUM R.L.106.000

Existing Height	111.216	111.429	111.521	111.984	112.082	112.096	112.067	112.059	112.072	112.108	112.142	112.131	112.140	112.190	112.190	112.231	112.251	112.271	112.239	112.250	112.237	112.239	112.265	112.256	112.285	112.314	112.330	112.404	112.458	112.435	112.532
Existing to Design Cut(-) / Fill(+)	0.000	0.369	0.858	0.976	0.881	0.870	0.902	0.913	0.903	0.870	0.839	0.853	0.847	0.800	0.803	0.765	0.748	0.731	0.766	0.758	0.774	0.774	0.752	0.764	0.738	0.712	0.699	0.628	0.577	0.603	0.509
Design Centreline	111.216	111.798	112.379	112.960	112.963	112.966	112.969	112.972	112.975	112.978	112.981	112.984	112.987	112.990	112.993	112.996	112.999	113.002	113.005	113.008	113.011	113.014	113.017	113.020	113.023	113.026	113.029	113.032	113.035	113.038	113.041
Chainage	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	560.00	580.00	600.00
Superelevation	LHS & RHS -2%																														

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 3 - HIGH : Ch 0 - 600

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547

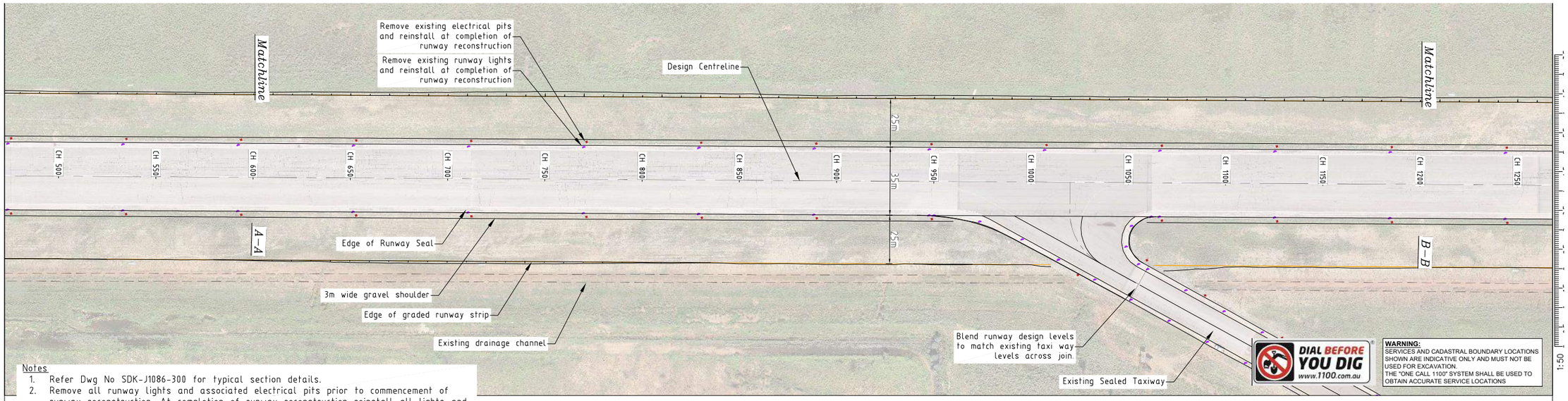
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

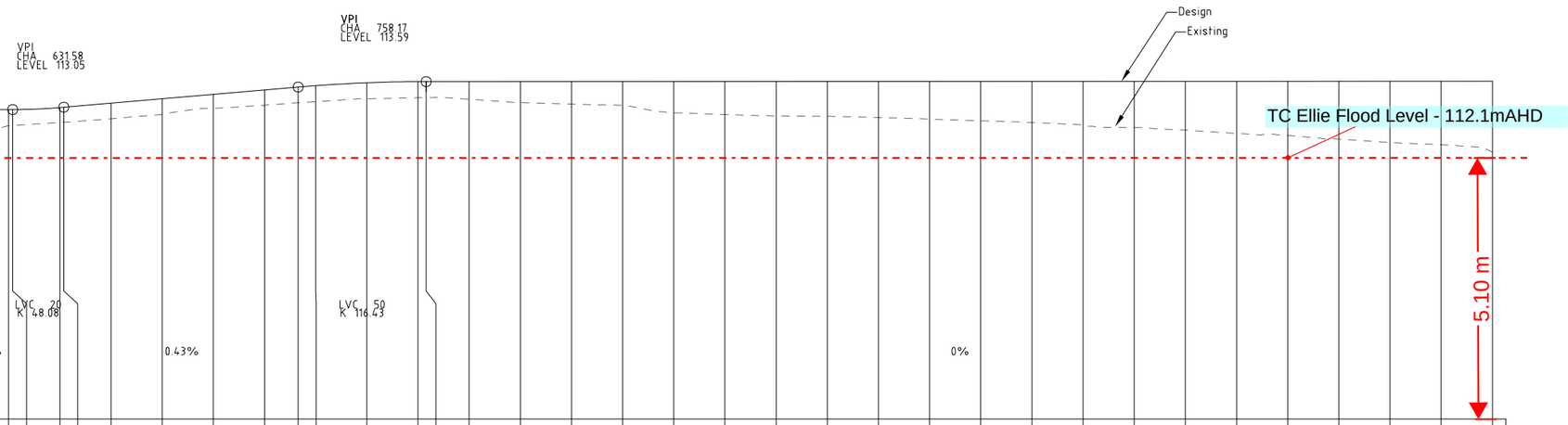
FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH
Plan / Profile: Ch 0 - 600

LOCAL AUTHORITY
SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER AMENDMEN
SDK_J1086_106_A

1:1000

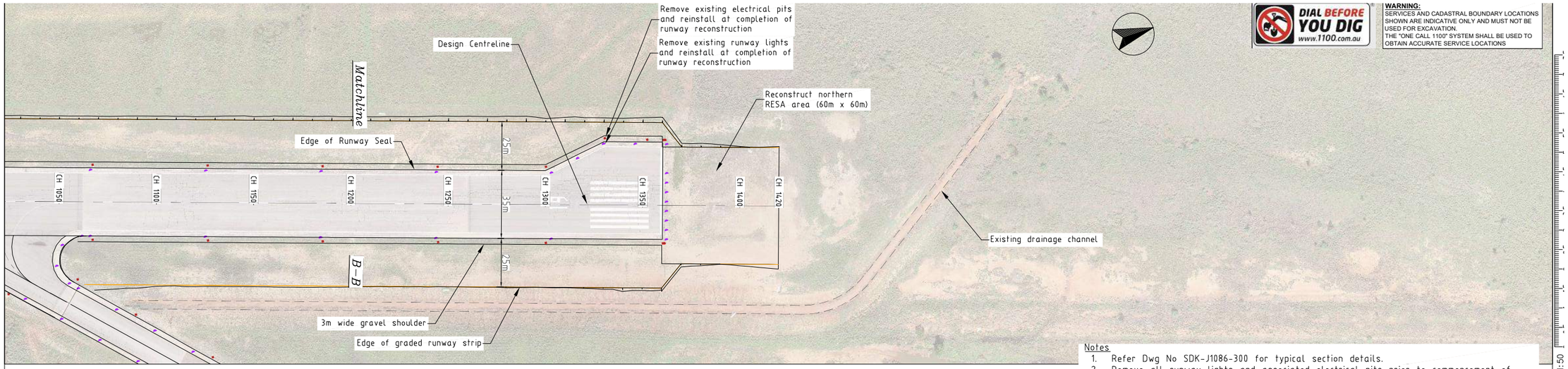


Notes
1. Refer Dwg No SDK-J1086-300 for typical section details.
2. Remove all runway lights and associated electrical pits prior to commencement of runway reconstruction. At completion of runway reconstruction reinstall all lights and associated electrical pits in the existing locations.
3. Blend the new section of the taxiway to match the levels of the existing taxiway.



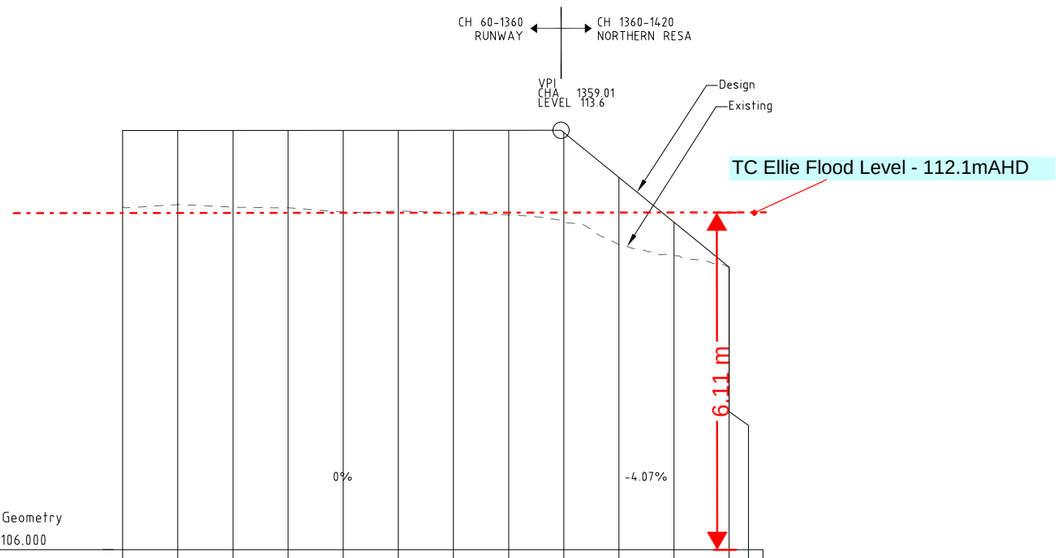
Horizontal Geometry
DATUM R.L.107.000

| | | |



DIAL BEFORE YOU DIG www.1100.com.au
WARNING:
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Horizontal Geometry
DATUM R.L.106.000

Existing Height	112.215	112.254	112.208	112.196	112.117	112.140	112.078	112.070	111.943	111.532	111.331	111.121	111.121	
Existing to Design Cut(-) / Fill(+)	1.383	1.344	1.391	1.402	1.482	1.459	1.522	1.530	1.617	1.214	0.603	0.000	0.000	
Design Centreline	113.598	113.598	113.598	113.599	113.599	113.599	113.599	113.600	113.560	112.747	111.934	111.121	111.121	
Chainage	1200.00	1220.00	1240.00	1260.00	1280.00	1300.00	1320.00	1340.00	1360.00	1380.00	1400.00	1420.00	1420.00	
Superelevation	LHS & RHS -2%													

Hz Scale 1:1000 Vert Scale 1:50

LONGITUDINAL SECTION Fitzroy Crossing Airstrip OPTION 3 - HIGH : Ch 1200 - 1420

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547

DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

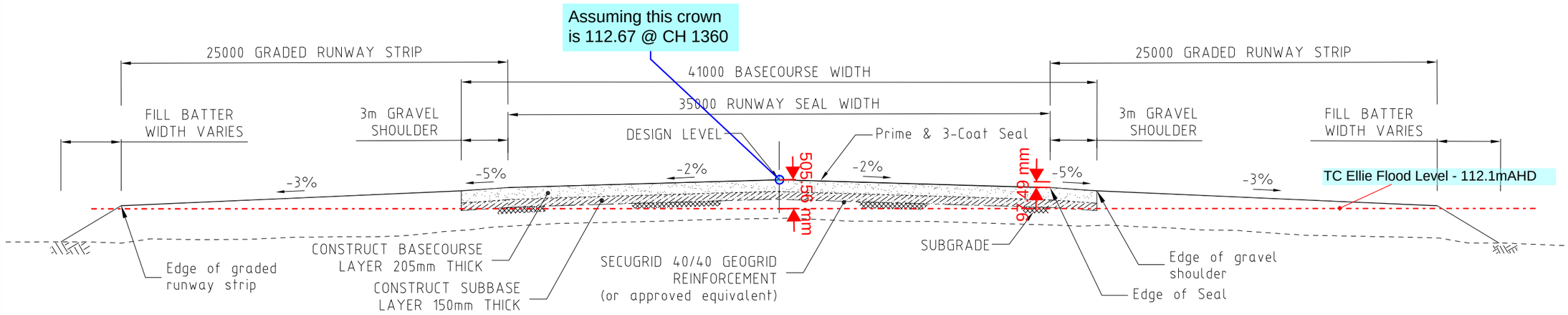
SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH
Plan / Profile: Ch 1200 - 1420

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_J1086_108_A
AMENDMENT: A

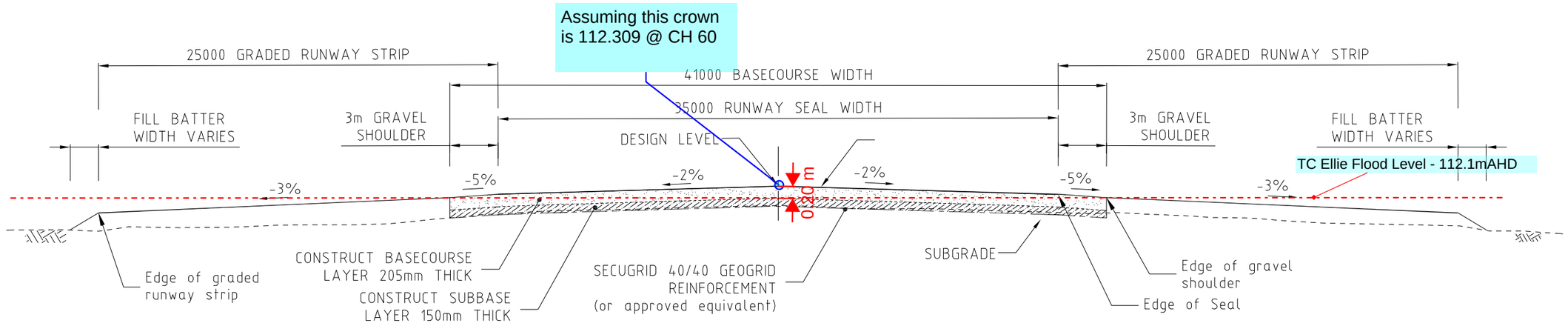
1:50
1:1000

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 1 TYPICAL SECTION B

CH 1200–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–0.7m ABOVE EXISTING



OPTION 1 TYPICAL SECTION A

CH 60–1200 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

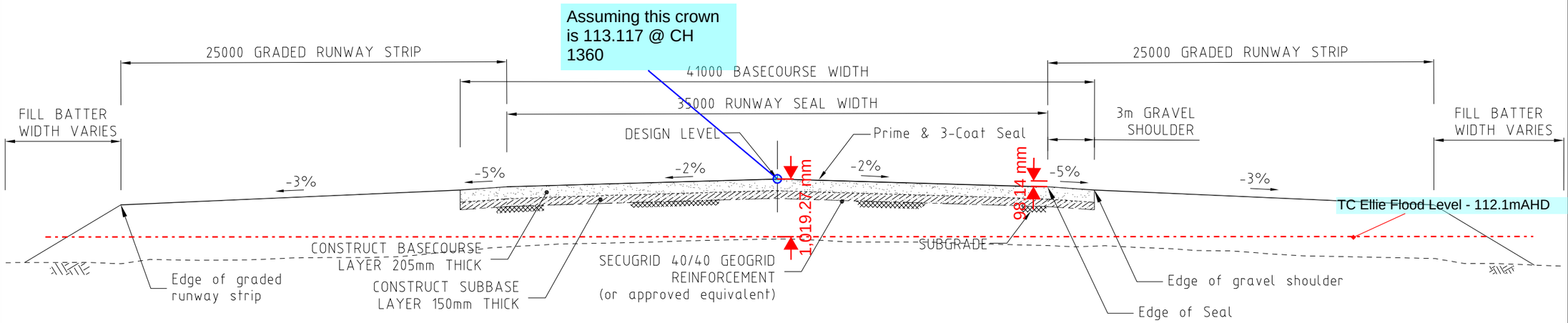
GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 1 - LOW TYPICAL SECTION DETAIL

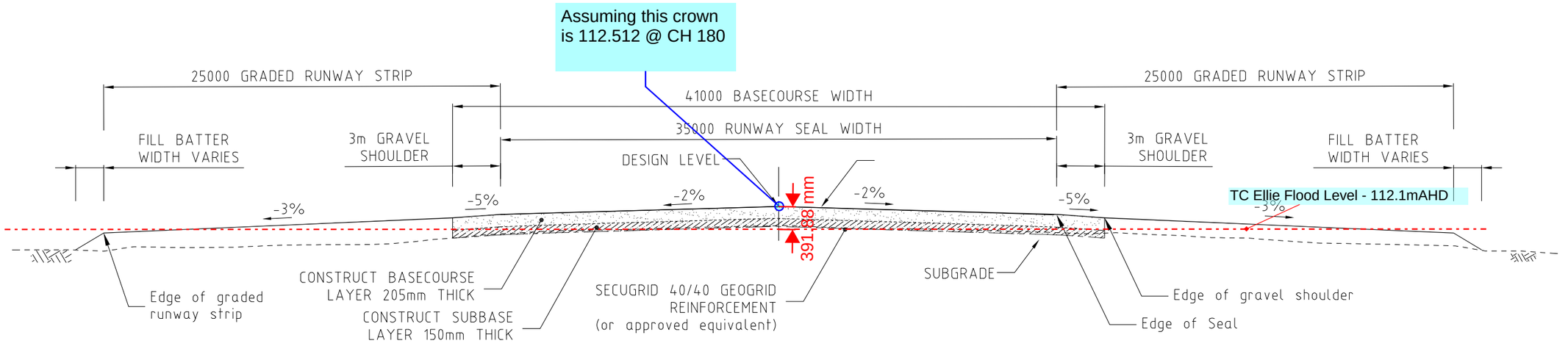
LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_300_A AMENDMENT: A

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 2 TYPICAL SECTION D

CH 60–180 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–0.6m ABOVE EXISTING
CH 1040–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.4–1.1m ABOVE EXISTING



OPTION 2 TYPICAL SECTION C

CH 180–1040 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31–05–24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

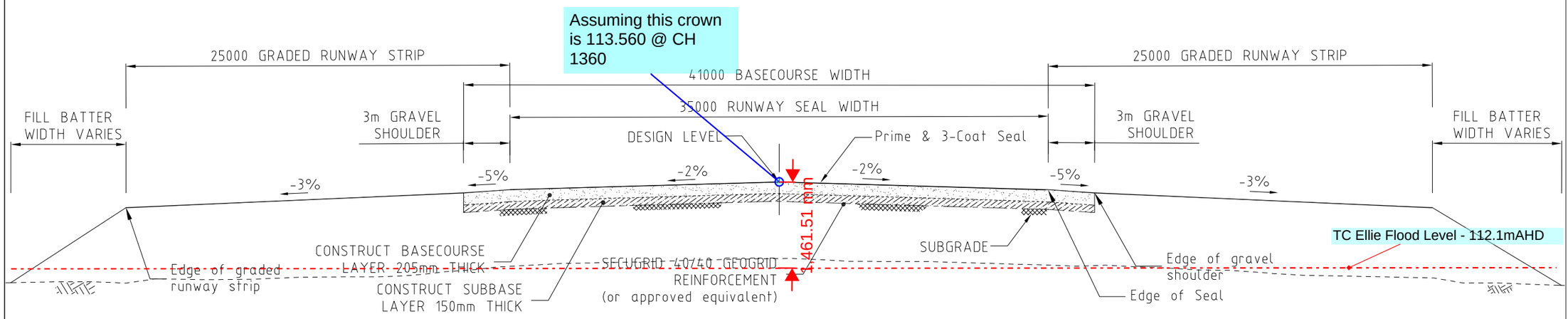
GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 2 - MIDDLE TYPICAL SECTION DETAIL

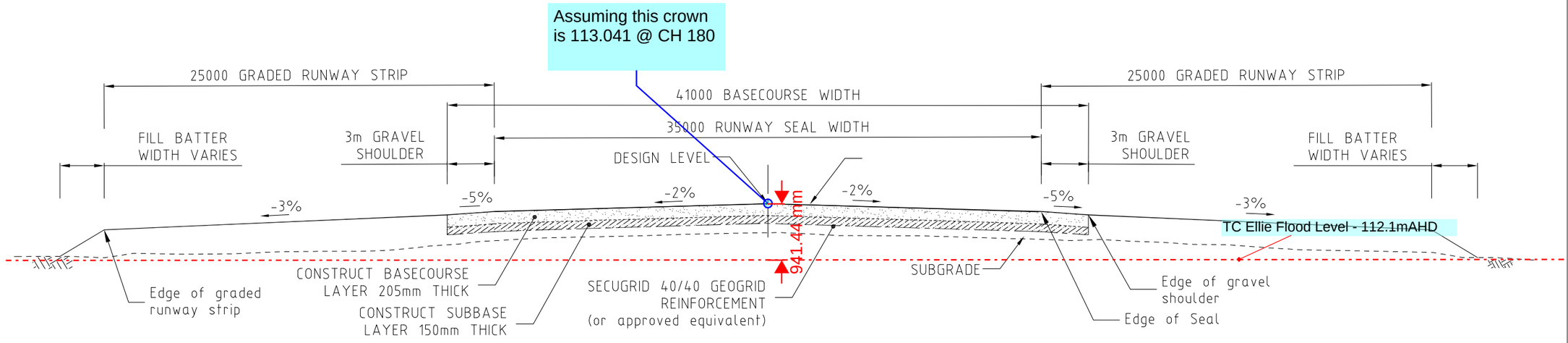
LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_301_A
AMENDMENT: A

Notes
1. Prime is a 60/40 cutback bitumen.
2. First coat seal is C320 with 10mm aggregate and second coat seal is C320 with 7mm aggegate.
3. Third coat seal is CRS emulsion with sand.



OPTION 3 TYPICAL SECTION F

CH 60–600 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.5–1.0m ABOVE EXISTING
CH 860–1360 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.6–1.6m ABOVE EXISTING



OPTION 3 TYPICAL SECTION E

CH 600–860 : PAVEMENT LEVEL OF SEALED RUNWAY APPROX 0.3–0.5m ABOVE EXISTING

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
A	Issued for review	31-05-24			

SURVEY STANDARD: ENGINEERING SURVEY
DATE OF CAPTURE: FEBRUARY 2023
PROJECT ZONE: FITZROY2020
HEIGHT DATUM: A.H.D

GREENFIELD TECHNICAL SERVICES
GERALDTON : 8/81 Forrest St Geraldton WA 6530 Ph - 9921 5547
PERTH : 8/339 Cambridge St Wembley WA 6014 Ph - 9921 5547
DESIGNED M.BARNS / DRAWN M.BARNS DATE 28/05/24

SHIRE OF DERBY WEST KIMBERLEY
30 LOCH STREET
DERBY
WA 6728

FITZROY AERODROME FLOOD RESILIENCE UPGRADE
STAGE 1A : INITIAL CONCEPT DESIGN
OPTION 3 - HIGH TYPICAL SECTION DETAIL

LOCAL AUTHORITY: SHIRE OF DERBY WEST KIMBERLEY (003)
DRAWING NUMBER: SDK_11086_302_A
AMENDMENT: A

18 URGENT BUSINESS

19 MATTERS FOR WHICH THE MEETING MAY BE CLOSED

RECOMMENDATION

That Council considers the confidential report(s) listed below in a meeting closed to the public in accordance with Section 5.23(2) of the Local Government Act 1995:

19.1 Write-Off Outstanding Debt - A500101

This matter is considered to be confidential under Section 5.23(2) - e(iii) of the Local Government Act, and the Council is satisfied that discussion of this matter in an open meeting would, on balance, be contrary to the public interest as it deals with a matter that if disclosed, would reveal information about the business, professional, commercial or financial affairs of a person, where the information is held by, or is about, a person other than the local government.

20 CLOSURE

20.1 Date of Next Meeting

The next ordinary meeting of Council will be held 5:30pm, Thursday, 26 February 2026 at the Council Chambers, 31 Clarendon Street, Derby.

20.2 Closure of Meeting