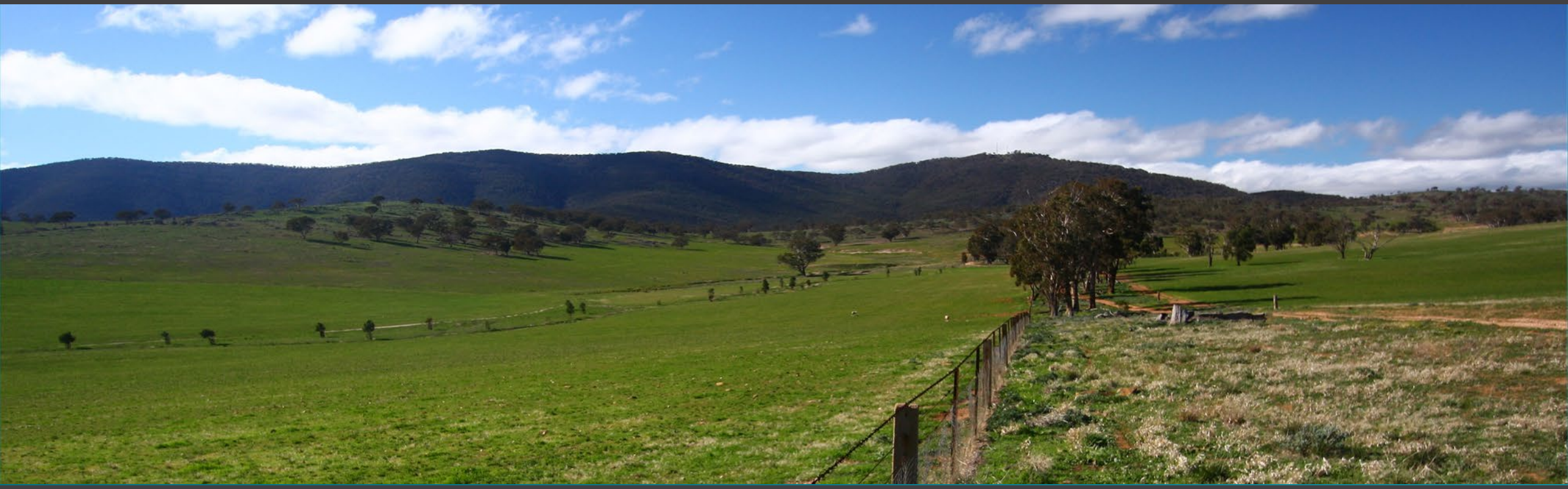
INLAND RAIL
ILLABO TO STOCKINBINGAL (I2S)
COMMUNITY CONSULTATIVE COMMITTEE (CCC)

November 2019

PRESENTATION OVERVIEW

- Project Update – Cameron Simpkins (Project Director)
- Consultation Update – Heath Martin (Stakeholder Manager)
- Social Performance – Jody Meier (Program Social Performance Lead)
- Environment Update – Daniel Lumby (Environmental Advisor)



I2S PROJECT UPDATE
CAMERON SIMPKINS

November 2019

INLAND RAIL

I2S STAKEHOLDER ENGAGEMENT UPDATE
HEATH MARTIN

November 2019

ENGAGEMENT AND CONSULTATION OVERVIEW

- Since August 2019, we've completed consultation for the Focused Area of Investigation and 70% reference design
- Completed field studies including Spring flora survey, UXO clearance, and cultural heritage excavations
- We have met with Regional Emergency Management Committee (REMC), Local Emergency Management Officers (LEMOs), and Rural Fire Service (RFS) representatives to better understand access requirements during emergency scenarios
- Met with NSW Crownland and Local Land Services to discuss TSRs and other Crown Land impacts
- Information stands at Agquip, Henty Field Days, and the Cootamundra and Junee Shows

Inland Rail at the Cootamundra Show, October 2019

FAI AND 70% REFERENCE DESIGN CONSULTATION WRAP-UP

Recent consultation for the FAI and the 70% reference design has included:

- Meetings with MPs and Councils
- One on one meetings with landowners
- Meetings with Government agencies such as TfNSW, Emergency Services, Local Land Services, and Crownland
- Community drop-in sessions in Temora, Cootamundra, and Illabo
- Presentations and briefings with other community groups such as the Country Women's Association, Junee Business and Trades Association, and Rotary

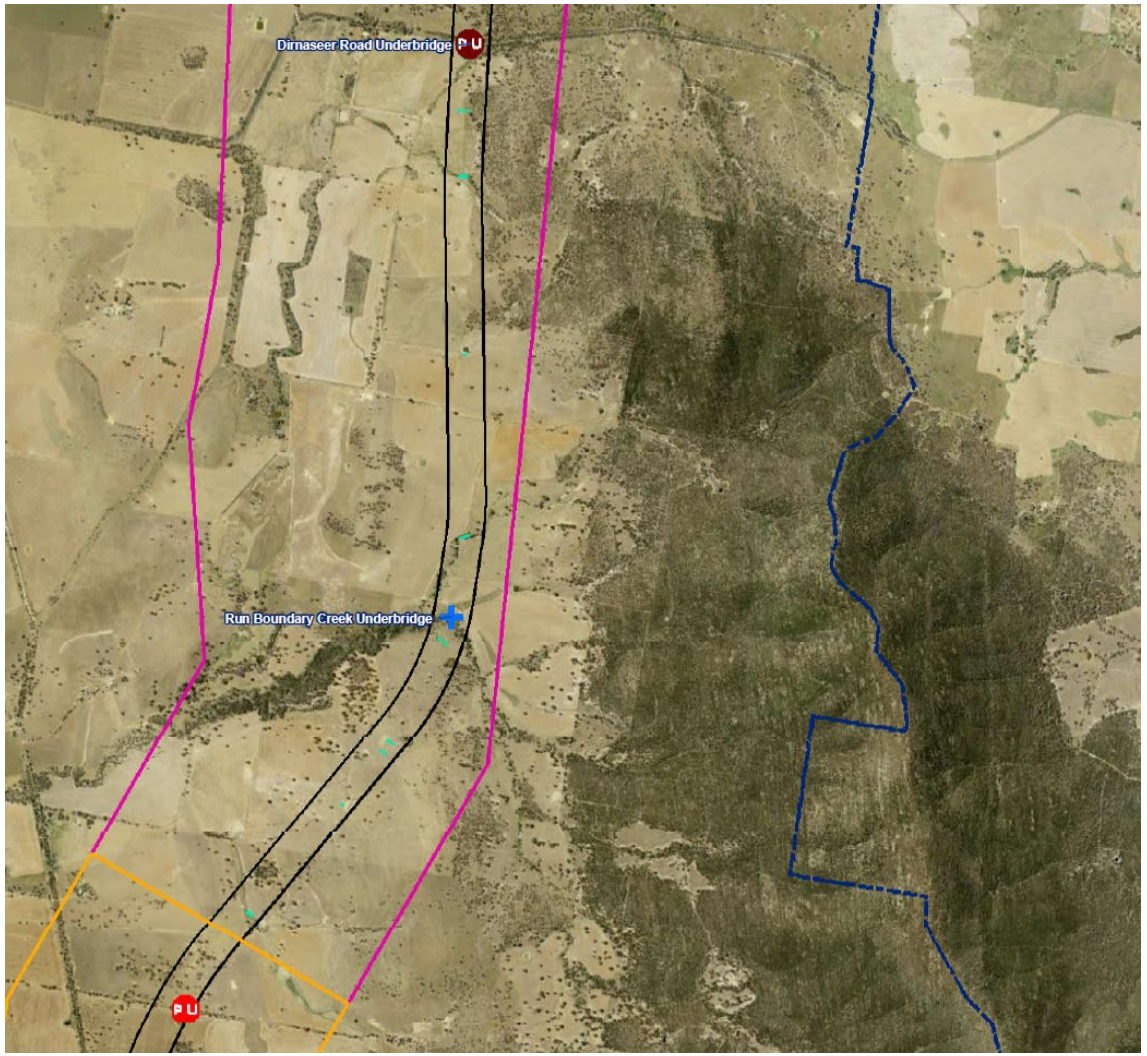
Cootamundra Drop–In Session August 2019

UXO CLEARANCE AND CULTURAL HERITAGE

- Following completion of UXO sweep near Billabung Creek/Olympic Hwy, cultural heritage investigations could be completed.

EMERGENCY MANAGEMENT FEEDBACK: RFS & LEMO

- Primary feedback has been to locate the rail maintenance corridor on the eastern side of the line to facilitate firefighting activities in the Bethungra Range



I2S SPONS AND DONS

- Inland Rail sponsorship of the Illabo Public School Community Garden; Elwood Hall, Stockinbingal restoration; and the Coolamon, Junee and Temora Canola Trail launch November 2019

INLAND RAIL

ENGAGEMENT AND CONSULTATION NEXT STEPS

INLAND RAIL

Next steps for engagement and consultation are:

- 95% Reference design consultation in Q1 2020
  - Ongoing consultation with the community, including impacted landowner face to face meetings and community information drop-in sessions
  - Community Consultative Committee (CCC)
- Finalization of the consultation chapter and report for EIS, EIS submission Q2 2020
  - Stakeholder Engagement activities in Q1 2020 will cover making public submissions on EIS
  - Consultation during EIS will include drop-in sessions with technical expertise to explain key studies e.g. flooding and noise

Cootamundra Show, October 2019

INLAND RAIL

SOCIAL PERFORMANCE NSW

JODY MEIER

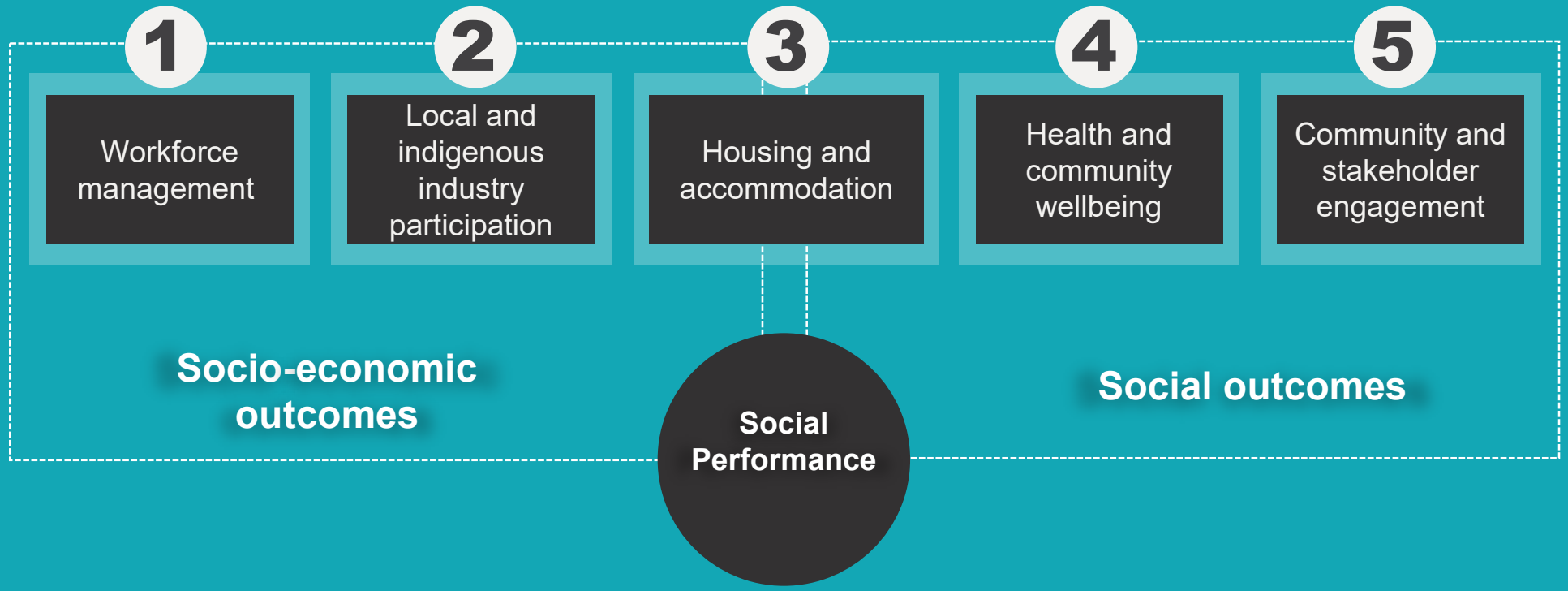
PROGRAM SOCIAL PERFORMANCE LEAD NSW

SOCIAL PERFORMANCE PROGRAMME

INLAND RAIL

Inland Rail Social Performance Programme aim

ARTC recognises its responsibility to deliver and operate Inland Rail with the least social impact possible, while enhancing the benefits Inland Rail will deliver to the people of Australia at both a local and national scale



ARTC'S MECHANISMS FOR DELIVERING SOCIAL OUTCOMES

- Primary approval processes
- Social Impact Management Plans (SIMPs)
- Stakeholder and community engagement
- Supply chain opportunities
- Procurement and contracts
- Project delivery

SIMP DEVELOPMENT

Process for SIMP development included:

- Stakeholder engagement (ongoing)
- Consideration of ARTC's commitments
- Identifying additional mitigation, management and enhancement measures
- Developing performance measures and a monitoring and reporting framework

Includes five sub-plans addressing:

- Community and stakeholder engagement
- Workforce management
- Housing and accommodation
- Local business and industry content
- Health and community wellbeing

LOCAL AND INDIGENOUS BUSINESS PARTICIPATION

ARTC IR is committed to supporting local and Indigenous businesses to provide opportunities to participate in Inland Rail.

Local Market Readiness

- Market analysis and engagement
- Business capacity building
- Linking with major tenderers

Procurement Processes

- Social criteria in tender processes
- Local content in contracts
- Contractor management

ARTC IR Governance

- Social Performance objectives
- Indigenous Participation Plan
- Public reporting

Maximised Local & Indigenous Business Participation

ARTC IR SOCIAL INVESTMENT STRATEGY 2019 - 2025

INLAND RAIL

ARTC INLAND RAIL ACADEMY

The Academy will:

- Increase # skilled residents eligible for employment on IR and regional industries
- Increase students' awareness of and ability in 21st century skills
- Open opportunities for local businesses in new supply chains

Education:

- STEM and trades education in schools; university scholarships

Skills & training:

- into a range of industries as apprentices and trainees or upgrading industry accreditations

Business capacity building:

- for small-to-medium enterprises to benefit from Inland Rail procurement opportunities

Inland Rail staff upskilling:

- inductions, niche skills training

COMMUNITY HEALTH AND WELLBEING

This approach will:

- Ensure support is available to residents as needed
- Support local councils deliver on regional priorities
- Increase safe behaviours in local communities

Mental health support:

- For impacted communities, their members and our CCC representatives

Safety programs:

- During construction of IR

Regional priorities:

- Support on an as-needs basis

Our legacy will be to build regional prosperity and community wellbeing alongside the fast, reliable, connected Inland Rail

COMMUNITY HEALTH AND WELLBEING

- Under ARTC's social investment program we are working with Primary Health Networks across the Inland Rail Alignment. (Murrumbidgee PHN)
- The partnership aims to support good community health and wellbeing through increasing community resilience and ensuring awareness and access to mental health services available locally. ARTC is developing a program of support for communities which meets governmental approval requirements and ARTC's corporate social responsibility.
- It is expected ARTC supported services will commence from early 2020 and continue for a period of 3 years. More information on their partnership will be made available early 2020.
- In the meantime, community members are invited to continue accessing their existing services. **MPHN Central Intake Phone: 1800 931 603**

COMMUNITY SPONSORSHIP AND DONATIONS PROGRAM

- The ARTC Inland Rail Community Sponsorships and Donations Program supports community-initiated projects, events or activities, which:
  - Are one-off and short-term
  - Contribute to the community's wellbeing, prosperity and/or sustainability
  - Focus on one or more of the Sponsorships and Donations Program's priority areas of *culture; safety; environment; recreation; and entrepreneurism*
  - Align with the core values of ARTC Inland Rail which are *future thinking, active engagement, no harm, results.*

COMMUNITY SPONSORSHIP AND DONATIONS PROGRAM

INLAND RAIL

- Funding requests: $1,000 - $4,000
- Eligibility: Project, Organisation (local, not-for-profit), Application
- Rounds: 4 per year
- Guidelines, application form and FAQs available on IR website

Announce and promote round opening	Round Opens	Round Closes	Announcements of successful applicants
For June, July, August projects	1 February	30 April	14 June
For September, October, November projects	1 May	31 July	14 September
For Christmas, December, January and February projects	1 August	31 October	14 December
For March, April, May projects	1 November	31 January	14 March

PARKES TO NARROMINE OUTCOMES

INLAND RAIL

INLAND RAIL
SOCIAL PERFORMANCE

SNAPSHOT 2019

December 2018
to October 2019

997 PEOPLE have worked on the project since December 2018

153 of whom are Indigenous

395 local residents have worked on the project

96 of whom are local and Indigenous

150 SUSTAINABLE JOBS
EMPLOYED FOR 26 WEEKS OR OVER
FOR A MINIMUM OF 15 HOURS A WEEK

121 TRADESPEOPLE

50 WOMEN ARE WORKING

84 local businesses have supplied to the project

9 Indigenous businesses

$46.7M total spend with local businesses

$6.5M total spend with Indigenous businesses

INDIGENOUS PARTICIPATION PLAN

- Provide focus for the business and statement of commitment
  - Community engagement and staff
- Respect and recognition
  - Acknowledgment and commitments
- Economic Participation and supply chain
  - Sustainable business development
  - Creating business opportunities
- Workforce Development
  - Rail worker program
  - STEM
- Contractual opportunities

P2N WORKFORCE DEVELOPMENT PILOT

- Local Peak Hill Aboriginal residents participating
- Cert II Rail Infrastructure units for Pegasus Card
- Partnership between Training Services NSW, Sureway (jobactive provider), Complete Asset Management, DIRDC and Inland Rail
- Further rounds for Peak Hill, Parkes and Narromine.

INLAND RAIL

I2S ENVIRONMENTAL PROJECT UPDATE
DANIEL LUMBY

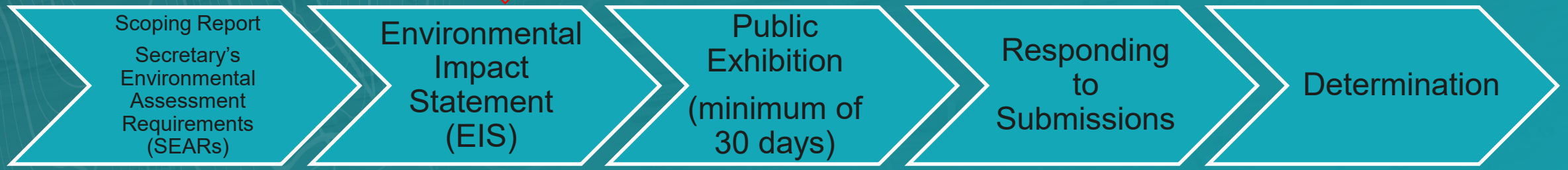
November 2019

AGENDA

1. Project Planning Approval Timeline
2. Project description
3. EIS Update and Key Findings

I2S PLANNING PROCESS

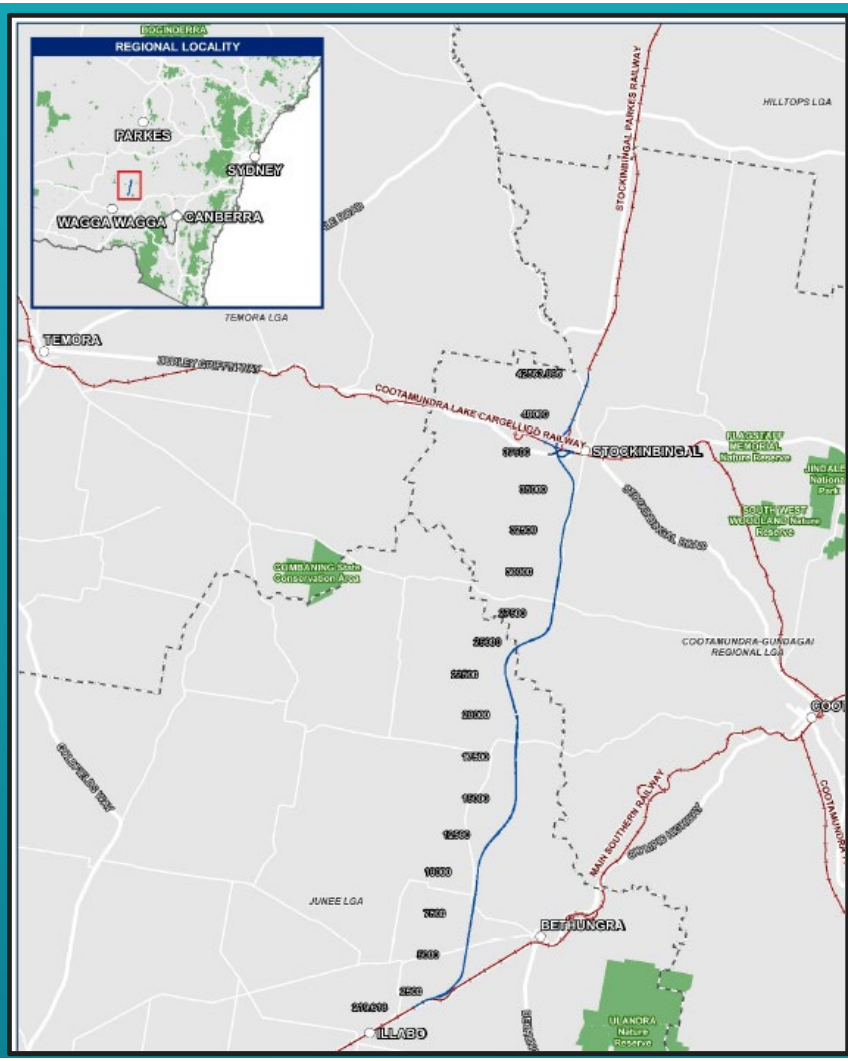
We are here



- All field investigations are complete
- 70% EIS reviewed in September 2019
- 95% EIS planned for December 2019
- 100% EIS is planned for March 2020
- Public exhibition is planned for Q2 2020
- Anticipated that NSW Department Planning, Industry and Environment would finalise their assessment by Q4 2020

PROJECT DESCRIPTION – KEY FEATURES

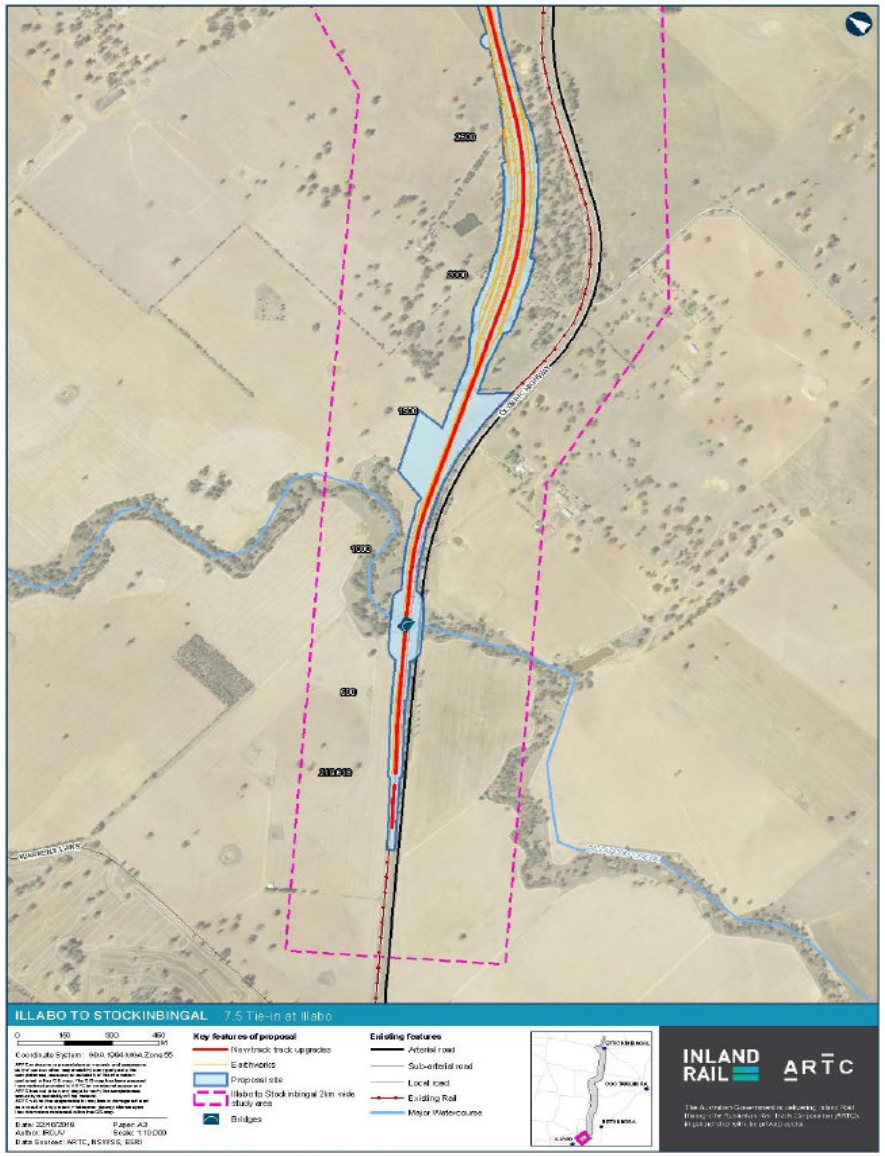
- About 37 km of new, single track standard gauge railway between Illabo and Stockinbingal. Approximately 3 km of new track to maintain the existing connection of the Lake Cargelligo rail line either side of the proposal;
- Realignment of a 1.8 km section of the Burley Griffin Way
- One crossing loop and associated maintenance siding
- Both public and private level crossings, as well as stock crossings
- 13 bridges (Burley Griffin Way road over rail)
- Signalling and communications, fencing, signage



PROJECT DESCRIPTION

CONSTRUCTION

- Road and rail construction
- Tie in and track upgrades at Illabo and Stockinbingal
- Stockpile and laydown areas
- Bridge and culvert construction
- Rail maintenance access road
- Demolition of exiting infrastructure
- Vegetation clearing and earthworks
- Construction workforce
- Blasting
- Construction traffic movement
- Utility relocation
- Embankments and mounding
- Site offices and parking areas
- Track drainage
- Signage
- Signalling and communications
- Fencing
- Retaining walls
- Site reinstatement and rehabilitation works



PROJECT DESCRIPTION – WORK HOURS

- Seeking approval for construction hours from 6am to 6pm, Monday to Sunday, with respite provided on every second weekend with works ceasing at 1pm on Saturday and not occurring on Sunday. The roster will not incorporate night-time works unless additional consultation and approval has taken place.

- Work roster is proposed to be a 10 on 4 off approach. Benefits include;
  - enable the project to be completed sooner
  - increased efficiencies on the delivery of the project
  - Increased efficiencies would minimise disruption around public interfaces including level crossing and bridges for example

PROJECT DESCRIPTION - OPERATION

- 1,800 m freight trains, double stacked travelling at 80 – 115 km/hr
- Future-proofed to accommodate 3,600 m trains travelling at 80 km/hr
- 42 trains per week in 2025
- 76 trains per week in 2040

EIS UPDATE AND KEY FINDINGS

BIODIVERSITY

BIODIVERSITY – BASELINE

- The Proponent must assess biodiversity impacts in accordance with s7.9 of the Biodiversity Conservation Act 2016 (BC Act), the Biodiversity Assessment Method (BAM), and be documented in a Biodiversity Development Assessment Report (BDAR)

- Database and Biodiversity Mapping;
  - The likely distribution of native vegetation and threatened ecological communities
  - The presence of threatened flora and fauna (listed under the BC Act, FM Act and/or the EPBC Act) with the potential to be affected by the proposal

- Field Surveys;
  - Terrestrial flora surveys, undertaken in October/December 2018 and May/September 2019
  - Terrestrial fauna surveys, undertaken in October/November/December 2018 and May/July 2019

Western Grey Box tall grassy woodland

BIODIVERSITY – KEY FINDINGS

Flora

- The proposal would impact 10 different native vegetation plant community types
- resulting in the loss of approximately 105 Ha of native vegetation
- The proposal would impact two threatened ecological communities listed under the BC Act and EBPC Act

Fauna

- Potential habitat areas for threatened fauna recorded or potentially occurring within the proposal site include;
  - Squirrel Glider, Superb Parrot, Swift Parrot, Regent Honeyeater, Corben Long-eared Bat

- Assessments identifies supporting vegetation is largely highly modified, fragmented and disturbed within the proposal site
- The extent of potential habitat to be removed is a small component of available habitat locally with an abundance of similar quality habitat and that of much higher quality in the greater locality.

PLANT COMMUNITY TYPE (PCT)	CONDITION
PCT 5 River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion	Poor to good
PCT 76 Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions	Low to good
PCT 80 Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion	Poor to moderate
PCT 266 White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low to moderate
PCT 267 White Box - White Cypress Pine - Western Grey Box shrub/grass/forb woodland in the NSW South Western Slopes Bioregion	Moderate
PCT 276 Yellow Box grassy tall woodland on alluvium or parna loams and clays on flats in NSW South Western Slopes Bioregion	Moderate
PCT 277 Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low to moderate
PCT 309 Black Cypress Pine - Red Stringybark - red gum - box low open forest on siliceous rocky outcrops in the NSW South Western Slopes Bioregion	Moderate
PCT 347 White Box - Blakely's Red Gum shrub/grass woodland on metamorphic hillslopes in the mid-southern part of the upper slopes sub-region of the NSW South Western Slopes Bioregion	Poor to moderate
PCT 796 Derived grassland of the NSW South Western Slopes	Grasslands

BIODIVERSITY - MANAGEMENT

- Biodiversity offsets are required to compensate for the unavoidable loss of ecological values as a result of the proposal

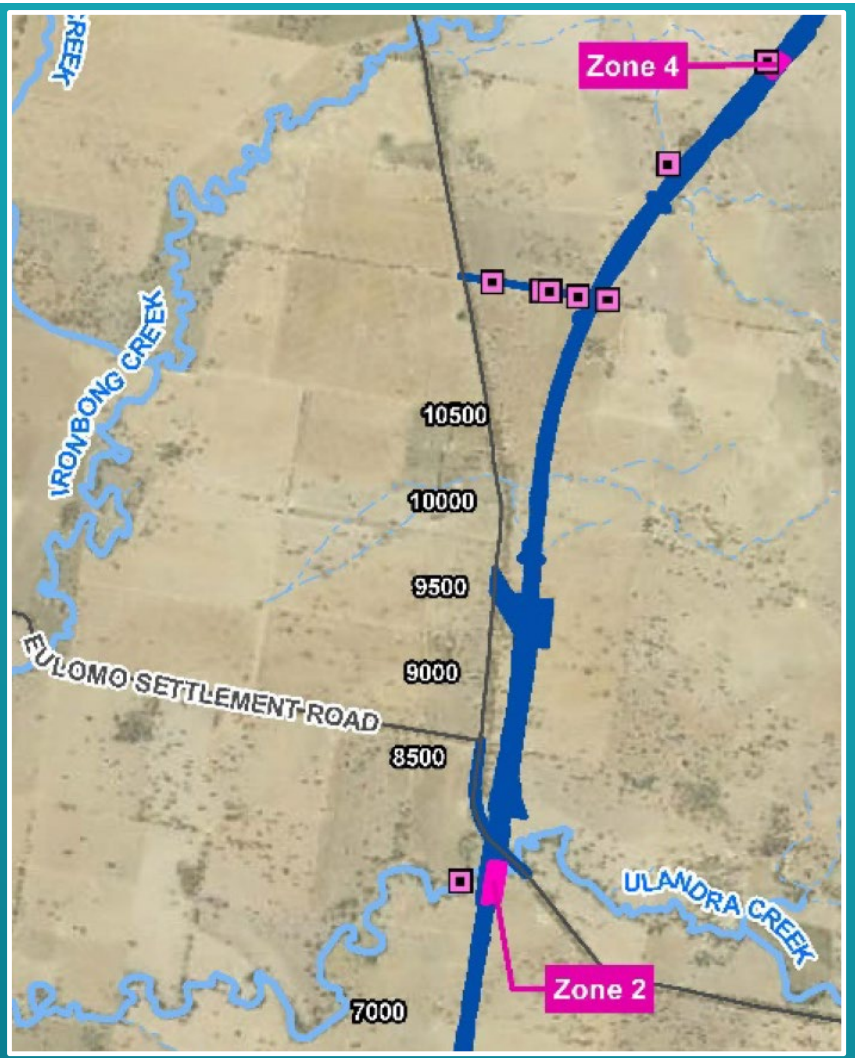
- Flora and Fauna, Reinstatement and Rehabilitation and Biosecurity management plan will be developed as part of the Construction Environment Management Plan (CEMP) and will address;

  - Clearing limited to extents only required
  - Requirements for pre-clearing surveys, including terrestrial and aquatic habitats, breeding habitats
  - Animal handling protocols, including relocation and emergency care;
  - Relocation of plants and habitats, including hollow bearing logs (where applicable)
  - Weed surveillance and treatment protocols
  - Erosion and sediment control plans

CULTURAL HERITAGE

CULTURAL HERITAGE - METHODOLGY

- Desktop assessment of Aboriginal and European Heritage including government database searches and mapping analysis
- Consultation with Registered Aboriginal Parties (RAPs)
- Pedestrian field surveys (Nov 2018)
- Assessing the significance of sites/areas of potential archaeological sensitivity within the proposal site requiring further investigation
- Test Excavations (May, Sep and Oct 2019)
- Preparation of an Aboriginal Cultural Heritage Assessment Report
- RAPs review of draft assessment report



CULTURAL HERITAGE – FINDINGS AND MITIGATION

- **Aboriginal heritage**
  - Direct impacts – Scattered artefacts and isolated finds are the predominant sites identified
  - Indirect impacts – scarred trees adjacent to disturbance footprint
- **Historical heritage**
  - Direct impacts – No items identified within the proposal site

Mitigation

- Where possible, the proposal would avoid Aboriginal and non-Aboriginal heritage.
- Where avoidance of impact to Aboriginal heritage is not feasible, the approach to mitigation would be guided by the type and significance of the site, in consultation with Aboriginal stakeholders.
- Where areas of significant archaeological potential have been identified, salvage of the proposal site would be undertaken prior to construction. In this instance, the collected items would be stored at an appropriate keeping place identified in consultation with Aboriginal stakeholders and/or EES (formerly OEH)

NOISE AND VIBRATION

NOISE AND VIBRATION - BASELINE

- Construction and Operational Noise and Vibration assessments completed
- Identification of noise and vibration sensitive receivers
- Identification of existing noise and vibration levels in the study area

- Noise and vibration criteria/management levels to:
  - Provide a basis for assessing the potential for impacts during construction and operation
  - Use as the basis for monitoring during construction and operation

TIMING	RBL (dBA)[1]	NML (dBA)	HIGHLY NOISE AFFECTED LEVEL (dBA)
Standard hours	35	45	
Out of hours - Day	35	40	75
Out of hours - Evening	30	35	
Out of hours - Night	30	35	

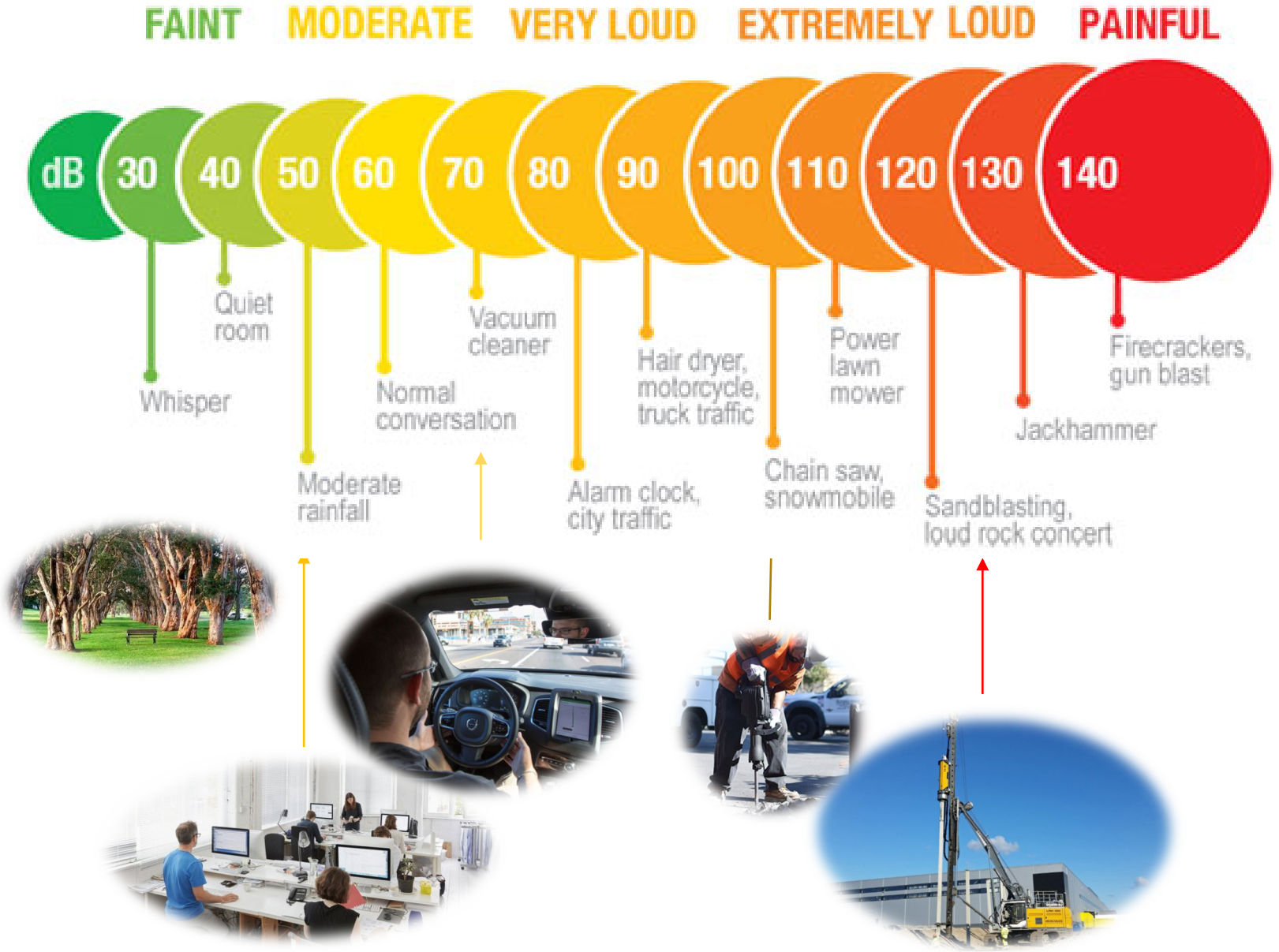
Noise Management Levels at residential receivers

NOISE AND VIBRATION - BASELINE

- Identification of the main potential noise and vibration sources during construction and operation
- Establish reasonable, worst case scenarios applicable to various stages of construction
- Assessment of the potential for noise and vibration to exceed the applicable criteria
- Provides noise and vibration mitigation measures.
- Some construction activities are likely to occur outside recommended standard hours, therefore the assessment considered potential impacts during standard and non-standard working hours.

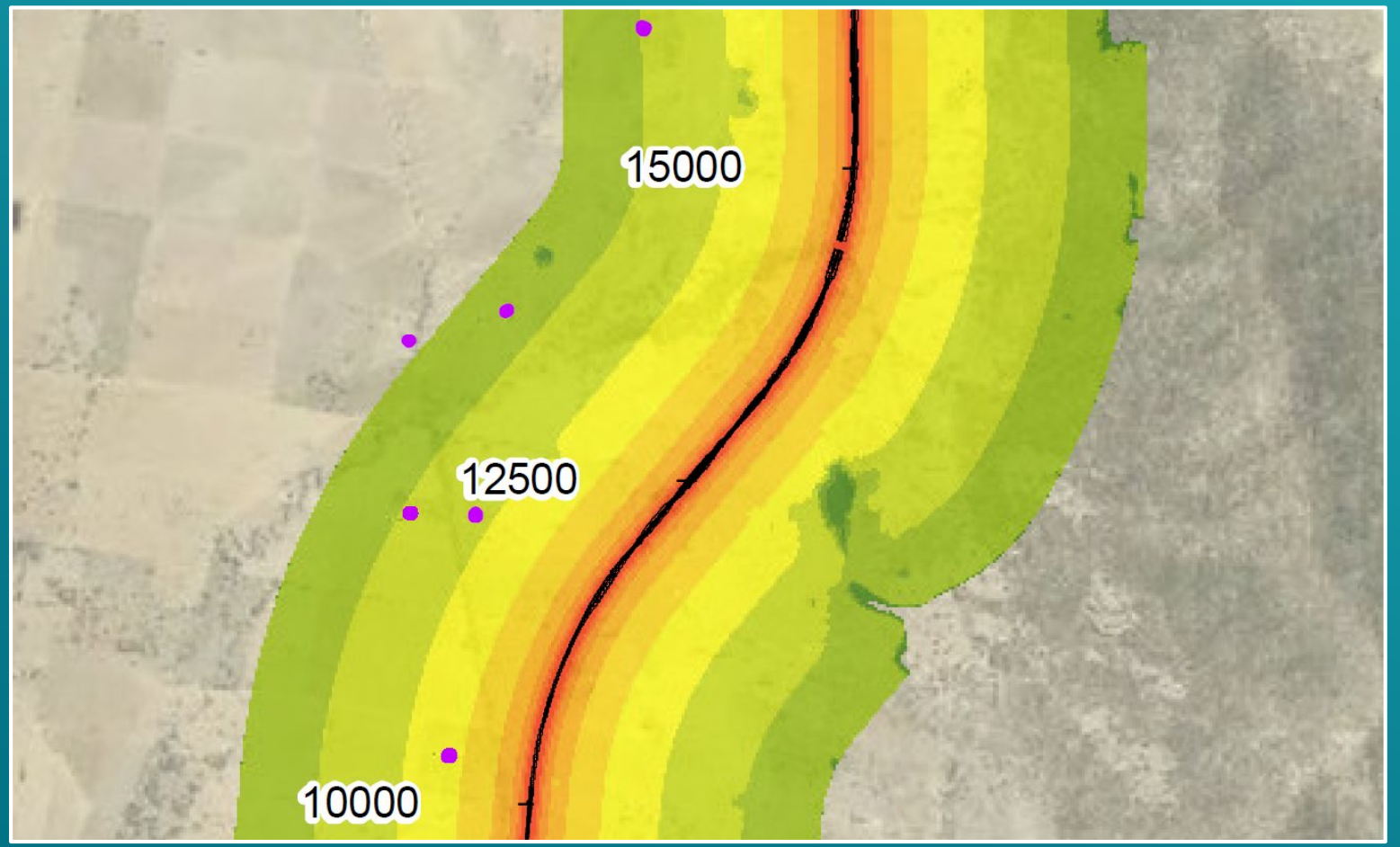
Scenario ID	Stage	Activity	Resources	SWL (dBA)
SC03	Drainage and Earthworks	Excavation	20T excavator	105
			25T ADT	109
		Installation	Excavator/crane	95
		Backfill	Wacker packer	108
			Excavator/Front End Loader	112
		Excavation to formation depth	30T excavator	110
			30T ADT	109
			D10 dozer	121
			D6 dozer	113
			637 Scraper	103
		Trim and proof roll	14G Grader	110
		Rip and Recompact	12T smooth drum roller	107
			12T padfoot roller	107
		Lime Stabilisation	Lime spreader trucks and Stabilising machine	110

Construction Scenario 3 - Drainage and Earthworks


FAINT
MODERATE
VERY LOUD
EXTREMELY LOUD
PAINFUL
dB
30
40
50
60
70
80
90
100
110
120
130
140
Whisper
Quiet room
Moderate rainfall
Normal conversation
Vacuum cleaner
Alarm clock, city traffic
Hair dryer, motorcycle, truck traffic
Chain saw, snowmobile
Power lawn mower
Sandblasting, loud rock concert
Jackhammer
Firecrackers, gun blast

NOISE AND VIBRATION

Scenario 3 Drainage and Earthworks



Noise Contours (Leq,15min) Scenario 3

- 30 to 35
- 35 to 40
- 40 to 45
- 45 to 50
- 50 to 55
- 55 to 60
- 60 to 65
- 65 to 70
- 70 to 75
- 75+

ILLABO TO STOCKINBINGAL Noise contours - Scenario 3

0 1 2 3 Kilometers

Coordinate System: GDA 1994 MGA Zone 55

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Date: 23/10/2019 Paper: A3
Author: IRDJV Scale: 1:120,000
Data Sources: IRDJV, ARTC, LPI

Alignment
Sensitive Receivers

NOISE AND VIBRATION - MITIGATION

Example of Construction Mitigation

- Community Engagement Plan
- Noise and vibration monitoring
- Where feasible, some locations within the vicinity Stockinbingal are undertaken within standard hours
- In some scenarios, certain types of machinery (i.e. D8 dozer) is limited where possible to standard hours.

Example of Operational Mitigation

- Architectural acoustic treatments to the building to control rail noise within the internal environment of the building; and/or,
- Upgrades to any existing property boundary fencing to improve screening of rail noise levels.

NOISE AND VIBRATION - MITIGATION

Engineering controls	Possible noise benefit, dBA
Portable temporary screens	5-10
Screen or enclosure for stationary equipment	10-15
Maximising the offset distance between noisy plant items and sensitive receivers.	3-6
Avoiding using noisy plant simultaneously and/or close together, adjacent to sensitive receivers.	2-5
Orienting equipment away from sensitive receivers.	3-5
Carrying out loading and unloading away from sensitive receivers.	3-5
Using noise source controls, such as the use of residential class mufflers, to reduce noise from all plant and equipment including bulldozers, cranes, graders, excavators and trucks	5-10
Selecting site access points and roads as far as possible away from sensitive receivers	3-6

Example Engineering Controls and Associated Noise Benefit

LANDSCAPE AMENITY AND VISUAL IMPACT

LANDSCAPE AND VISUAL AMENITY

- The landscape and visual assessment is undertaken with reference to a number of existing guidelines, policies and standards which cover landscaping, visual, bridge and urban green cover.
- Thirteen public and private viewpoints were selected to analyse visual impacts of the proposal during construction and operation
- Magnitude of change across viewpoints ranged from low to high
- Impact captures viewer sensitivity, quantam of view, distance, period of view, scale of change

	HIGH MAGNITUDE	MODERATE MAGNITUDE	LOW MAGNITUDE	NEGLIGIBLE MAGNITUDE
HIGH SENSITIVITY	HIGH	HIGH - MODERATE	MODERATE	NEGLIGIBLE
MODERATE SENSITIVITY	HIGH - MODERATE	MODERATE	MODERATE/ LOW	NEGLIGIBLE
LOW SENSITIVITY	MODERATE	MODERATE/LOW	LOW	NEGLIGIBLE
NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Visual Impact Rating Matrix

LANDSCAPE AND VISUAL AMENITY – BURLEY GRIFFIN WAY

Viewpoint location - wider context

LANDSCAPE AND VISUAL AMENITY – OLD COOTAMUNDRA ROAD

Viewpoint Location Before.

Viewpoint Location After.

Viewpoint Location - Wider Context.

Viewpoint Location - looking west from the intersection of Old Cootamundra Road and Dudauman Road.

LANDSCAPE AND VISUAL AMENITY – BURLEY GRIFFIN WAY

Viewpoint Location - Wider Context.

Viewpoint location - existing Burley Griffin Way looking north towards proposed realigned Burley Griffin Way.

*This photomontage is taken from the current Burley Griffin Way which is being realigned. As a result of this the current road will become redundant and the land will most likely be re-zoned into private land with minimal visual receptors. The viewpoint has been included to give a better long distance view of the proposed works.

Viewpoint Location Before.

Viewpoint Location After.

LANDSCAPE AND VISUAL AMENITY - MITIGATION

Example Construction Mitigation

- A Reinstatement and Rehabilitation Plan (or equivalent) would be prepared to include measures to reinstate and restore disturbed sites, as close as possible, to the pre-construction condition or better, or, to the satisfaction of landowners

- Rehabilitation undertaken with respect to the landscape, for example;
  - Rural
  - Ecologically sensitive areas
  - Townships

Example Operational Mitigation

- Best practice, sensitive bridge design

- Private residence and public vantage points have been assessed for visual amenity and mitigation developed
  - vegetation screening at select locations
  - strategic tree and shrub planting along road verges (i.e. Dudauman Road, Ironbong Road)

LAND USE AND PROPERTY

LAND USE AND PROPERTY - BASELINE

- Under the Cootamundra LEP 2013 and Junee LEP 2012 the vast majority of the study area is zoned Primary Production (RU1)
- Specifically, the majority of the properties are used for extensive livestock and cropping enterprises
- The proposal intersects 21 property holdings
- Land and Soil Capability mapping identifies that both the northern and southern sections of the study area consist primarily of class 3 (high capability) land with smaller areas of class 4 (moderate capability) land
- The central section of the study area has a mixture of class 3, 4 and 6 (low capability) land.

LAND USE AND PROPERTY - BASELINE

- Travelling stock reserves are located in the study area
- Nineteen weed species were identified during landholder consultation as biosecurity risks. Examples include
  - St Johns Wort, Khaki Weed, Bathurst Burr, Cape weed and Boxthorn
- Key livestock biosecurity risks raised by landholders include;
  - Sheep Footrot, Ovine Johne's disease and Sheep Lice

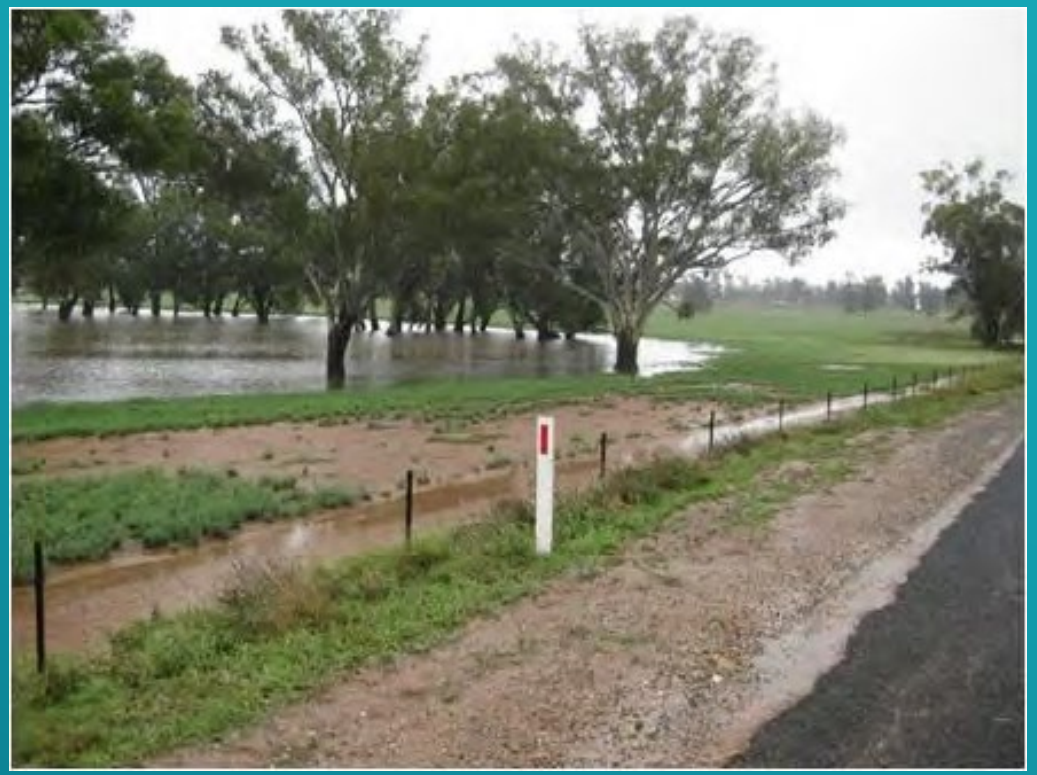
LAND USE AND PROPERTY

Impact	Mitigations
Property severance and acquisition	• Full or partial acquisition in accordance with *Land Acquisition (Just Terms Compensation) Act 1991* • Land temporarily required during construction will be leased
Farming Operations	• Connectivity with severed land parcels and property holdings to be maintained through level crossings and stock crossings to allow movement of stock, vehicles and equipment. • Individual property management plans (i.e. temporary access arrangements, biosecurity, appropriate management of construction areas) • Communication plans (timing and scope of construction activities, farm operations) • Appropriate fencing (i.e. stock)
TSRs	• Consult with Local Land Services to minimise impacts
Biosecurity	• Biosecurity Management Plans as part of the Construction Environment Management Plan (i.e. pre-clearing surveys, vehicle and machinery hygiene protocols, establish no go areas, monitoring and control)

FLOODING AND HYDROLOGY

FLOODING AND HYDROLOGY - BASELINE

- Topographic data sets used for this assessment are LiDAR survey (2015) – 0.2 m resolution with an accuracy of 0.15 m vertical and <0.5 m horizontal
- Design rainfall data has been sourced from the Australian Bureau of Meteorology (BOM)
- Existing data and studies were obtained from Cootamundra Gundagai Regional Council and Junee Shire Council to understand existing flood conditions
- All the available recorded data from the Wattle Creek at Dudauman (412134) gauge was reviewed
- A visit to the proposal site in July 2018 to further inform understanding of the terrain in and around the proposal site.



Flooding at Ulandra Creek near Ironbong Road

FLOODING AND HYDROLOGY

- A review of sensitive receivers to determine potential impacts (i.e. afflux limits – residential receivers 50mm, roads 100mm, cropping paddocks 200mm)
- Flood modelling software used to understand flood behavior
- Assessment of proposed changes to the existing flood behavior for both construction and operation of the proposal
- Identification of mitigation measures to manage impacts

DESIGN EVENT	APPROXIMATE EQUIVALENT AVERAGE RECURRENCE INTERVAL (ARI)	PURPOSE OF EVENT ANALYSIS
18.13% AEP	5 year ARI	Low order event for impact assessment
10% AEP	10 year ARI	Medium event for flood impact assessment and potential lower standard adopted for hydraulic design
5% AEP	20 year ARI	Medium event for flood impact assessment and potential lower standard adopted for hydraulic design
2% AEP	50 year ARI	Medium event for flood impact assessment and potential lower standard adopted for hydraulic design
1% AEP	100 year ARI	Typical standard for hydraulic design
1% AEP + CC	100y ARI and climate change	Climate change factor of 1.12 applied to 1% AEP rainfall depths to assess the impact of predicted future climate conditions.
0.05% AEP	2000 year ARI	Extreme event to inform loading for structural stability assessments for bridges (if required)
Probable Maximum Flood (PMF)	NA	Extreme event to understand full extent of flood extent.

HYDROLOGY AND FLOODING

Impact	Mitigations
Impacts on flood-prone areas from temporary infrastructure during construction	• All stockpiles to be above the 5% AEP • Removing construction infrastructure and equipment from the flood prone areas in the event of a forecast flood
Impacts on flood-prone areas from permanent infrastructure during operation	• The proposal site has avoided major floodplains and intersects watercourses and overland flow paths that only flow following significant rainfall events • Designing the proposal to minimise the potential for impacts – sizing of culverts and bridges • Where there is estimated non-conformances then further mitigation measures have been included in the flood models and further design and discussion with affected stakeholders is required.
Water quality impacts due to spills and erosion during construction and operation	• Given that the majority of watercourses that cross the proposal site are ephemeral, impacts to surface water hydrology and flow regimes as a result of construction would be limited in extent. • Temporary erosion and sediment control measures • Locate waste containers, chemicals and dangerous goods to out of flood prone areas
Flood emergency management	• A flood emergency management plan be developed for both the construction and operation phase of the proposal. The plan would be prepared in accordance with Australia Disaster Resilience handbook, Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia, Handbook 7

SOCIAL IMPACT

SOCIAL IMPACT

- Desktop assessment is undertaken to gain an understanding of the existing conditions;
  - Population statistics, economic data, travel behaviours, employment statistics, what types of business and industry are in the region and what capacity do they have

- SIA consultation ensures that the key issues, lifestyle and community values and aspirations are identified and understood as they relate to social impacts.
  - Landholders
  - Service providers (schools, councils, police etc)
  - Community Groups
  - Accommodation Providers (Cootamundra, Temora, Junee, Wagga Wagga)
  - Real Estate Agents

- Consultation completed via face to face, phone, online survey

- SIA also incorporates feedback from previous one on one landholder consultation, community drop in sessions, the CCC and agronomist consultation.

RESPONSES TO KEY ISSUES

Key Issues	Responses
Severance and amenity impacts	▪ Alignment placed along the border of private properties wherever possible to limit severance ▪ Landholder feedback during early phases of consultation identified the preferred location of the rail to be located as far east as possible towards the Bethungra Range to limit impacts to cropping land ▪ Develop and implement property management agreements in consultation with directly impacted landholders (weed management protocols, temporary access requirements) ▪ Completing all whole and partial property acquition in consultation with landholders and in accordance with the requirements of the Land Acquisition (Just Terms Compensation) Act 1991;
Community wellbeing	▪ Develop and implement a workforce housing and accommodation plan to address the needs of the non-resident workforce in coordination with the local councils, real estate agents and the accommodation services providers in the Study Area ▪ Develop and implement a comprehensive engagement plan to keep local stakeholders informed and provide a point of contact for the local community; ▪ Implement EIS mitigation strategies to reduce impacts of noise and vibration, traffic, visual amenity and air quality impacts during the construction and operational phases ▪ Identifying opportunities and develop programs for community health and wellbeing
Local business opportunities	▪ Identification of local and regional businesses with potential capacity to supply the proposal ▪ Develop a local business and industry procurement plan to assess opportunities for local procurement and suppliers across the Study Area ▪ Clear and efficient process for businesses to seek information about opportunities and to register their interest
Employment opportunities	▪ Prepare the local community for employment in the construction of the proposal to ensure residents can be involved in construction where possible. ▪ Mechanisms for people to seek information about employment opportunities and to register their interest in Inland Rail ▪ Development of an Indigenous employment participation plan

INLAND RAIL

AIR QUALITY

AIR QUALITY

Construction

Sources

- Dust from vegetation clearing and earthworks, vehicle movements, handling and transfer of spoil material
- Odour from potential contaminated land
- Combustion emissions

Impact assessment

- Low risk to human health
- Impacts intermittent and localised
- Low number of sensitive receivers and geographical extent

Mitigations

- Stabilise disturbed area as soon as practicable
- Dust suppression
- Stockpile management
- Speed limits enforced on unsealed roads

Operation

Sources

- Diesel combustion
- $PM_{10,}$ $PM_{2.5}$, NO_x, CO, VOCs, SO_2

Dispersion modelling

- Impacts are anticipated to be low within Stockinbingal and rural environments

Mitigations

- Trains to minimise idling
- Locomotive maintenance
- Complaints management

TRAFFIC ASSESSMENT

TRAFFIC

Construction

Impacts

- Rail components including sleepers, ballast and track may be transported via trains to Stockinbingal, and then transported by road. Prefabricated concrete units, fill and equipment deliveries are likely to be via road.
- Bulk earthworks for the proposal would be undertaken within the proposal site which would minimise impacts on the public roadway
- Detours and access arrangements for construction of level crossings and bridges

Mitigations

- Consultation with relevant stakeholders to inform of increased heavy vehicles
- Road Dilapidation Reports provided to relevant road authorities
- Traffic Management Plan Temporary detours and access arrangements for construction of level crossings and bridges.

Operation

Impacts

- Introduction and upgrade of level crossings
  - Dudauman Street from passive to active
  - New passive public level crossing on Old Sydney Road

Mitigations

- LX safety – sight distances, lane marking, boom gates, signage, lighting

INLAND RAIL

THANK YOU

ARTC

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.