

Alternative routes

Community Consultative Group
September 2024



Contents

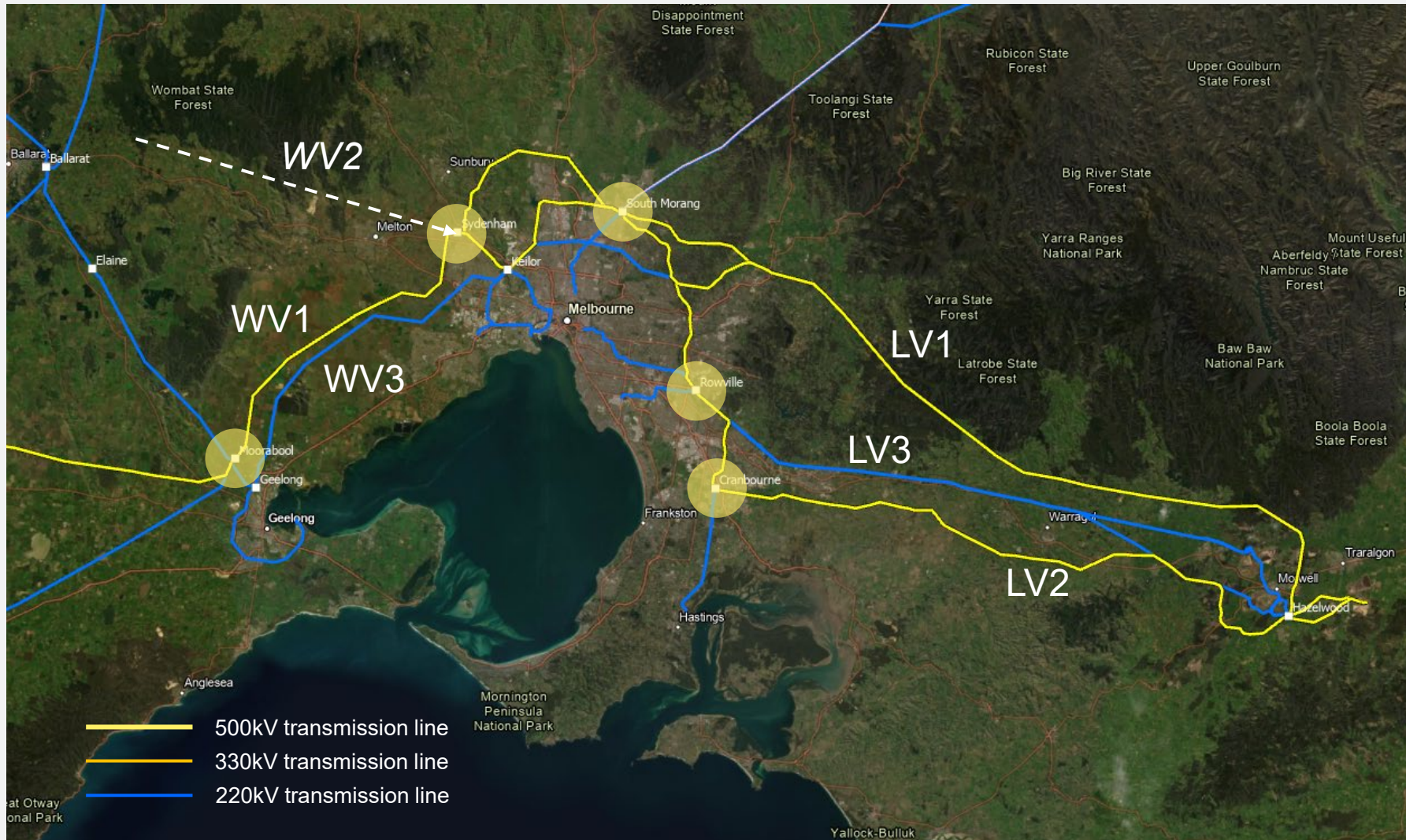


- Context
 - Transmission network
 - Constraints
- Alternative routes
 - new routes outside area of interest
 - variations on proposed route

Context



Victorian transmission network



Network security and reliability required and achieved by:

- Geographic separation
- Interconnected networks

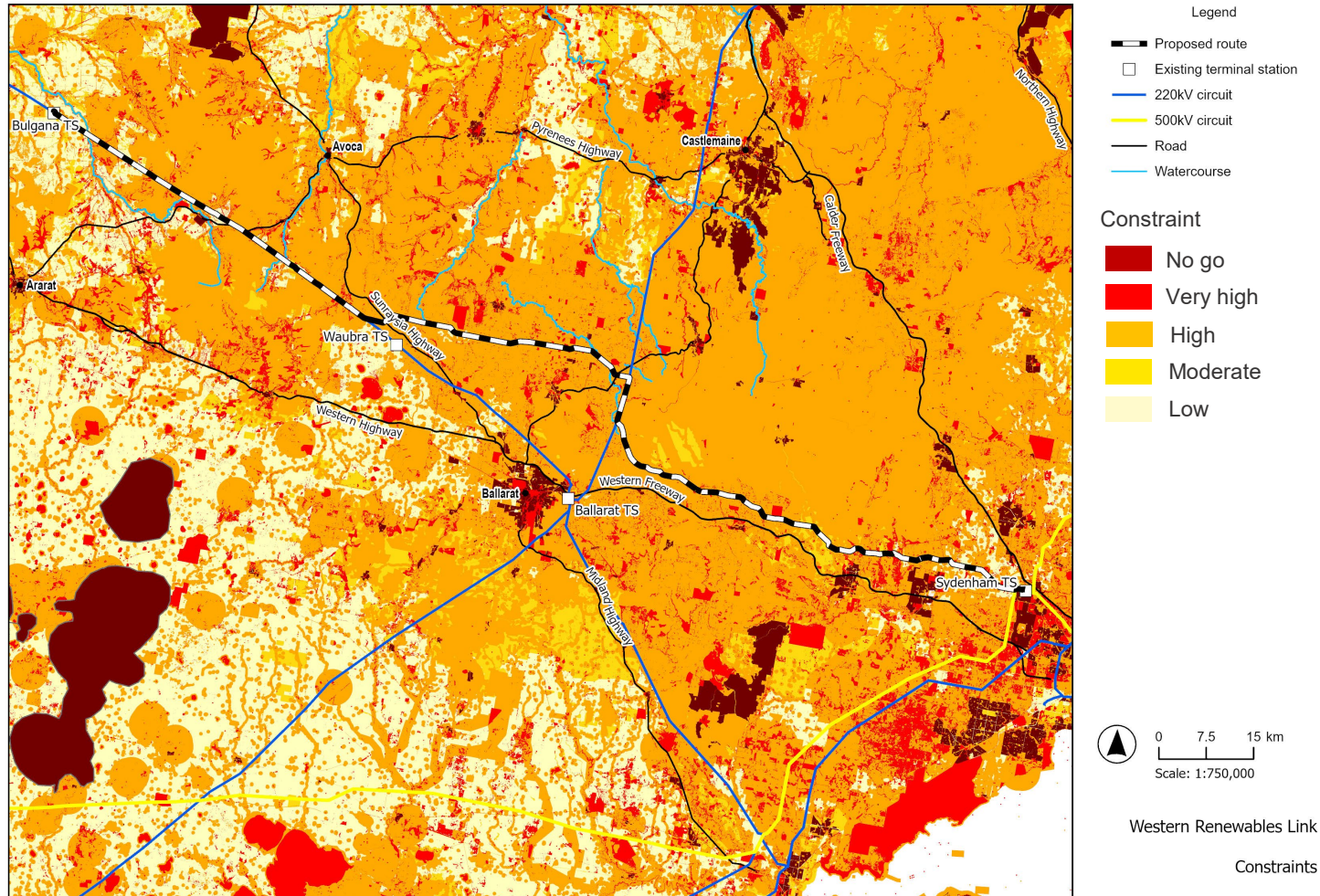
Eastern Victoria (Latrobe Valley) transmission network:

- Three separate corridors
- Interconnected between load centres

Western Victoria transmission network:

- Radial from Moorabool Terminal Station
- Geographically separate connection required to provide system security and reliability

Constraints

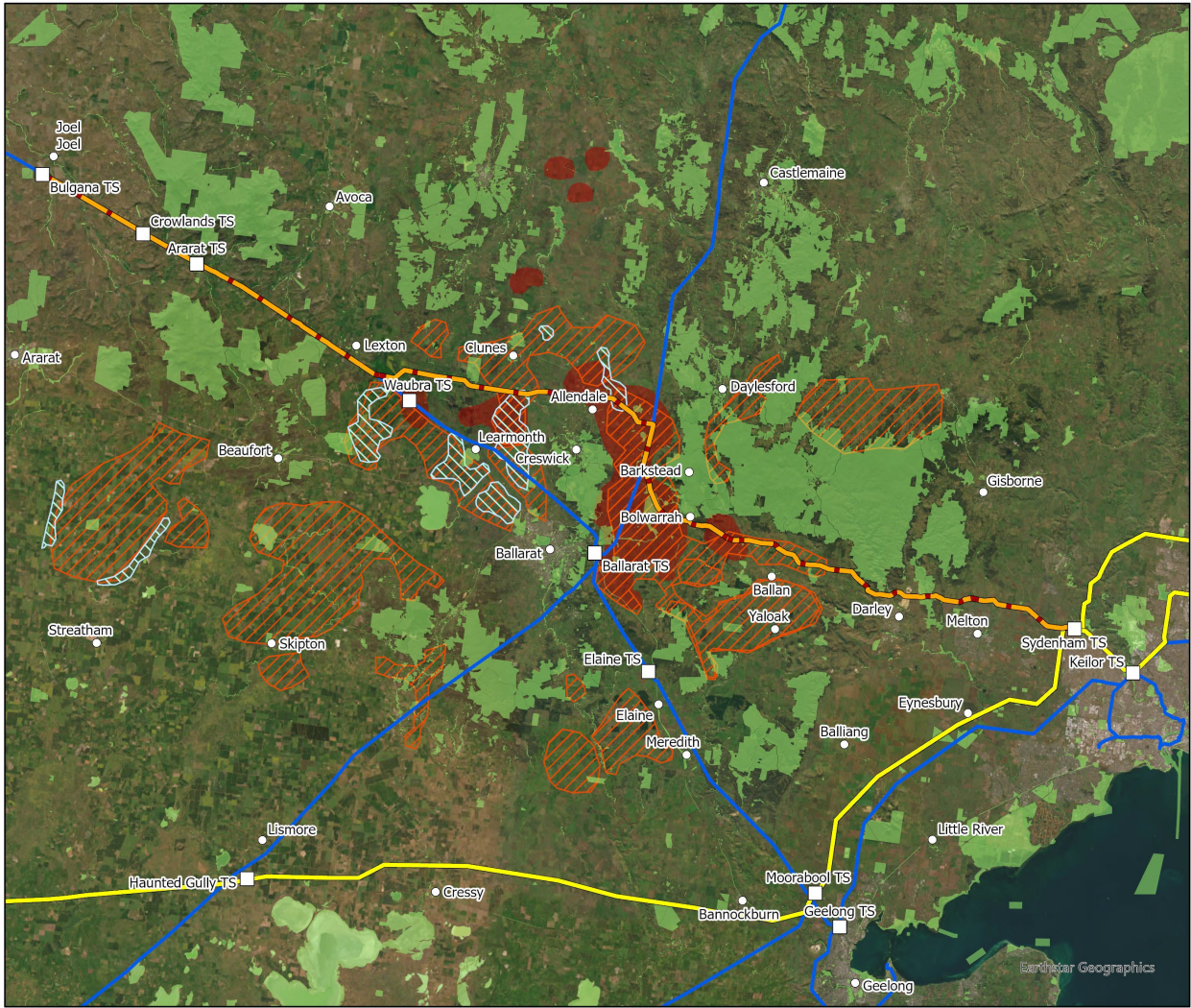


Area of interest is highly constrained

- National parks
- Conservation reserves
- Threatened native vegetation
- Threatened species habitat
- Aboriginal and historic heritage
- Cities and towns
- Residential subdivisions
- Rural residential subdivisions
- Settlement (dwellings)
- Land use planning controls
- Mineral and extractive tenements

- Areas west and south of Ballarat highly constrained
- Creswick–Ballarat corridor highly constrained
- Gordon–Bolwarrah corridor highly constrained
- Melton–Bacchus Marsh corridor highly constrained
- Sydenham–Eynesbury corridor constrained

Horticultural soils



- Legend
- Proposed route
 - 220kV circuit
 - 500kV circuit
 - Potato summer crop
 - Potato winter crop
 - Horticultural soils
 - Crown land
 - Town / locality



0 7,5 15 km

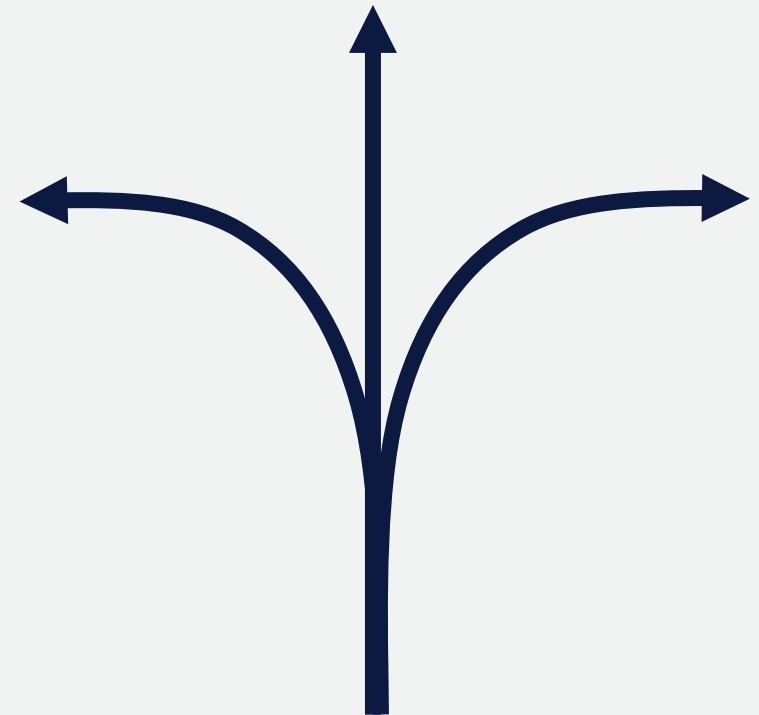
Scale: 1:750,000

Western Renewables Link

Horticultural soils

Earthstar Geographics

Alternative routes

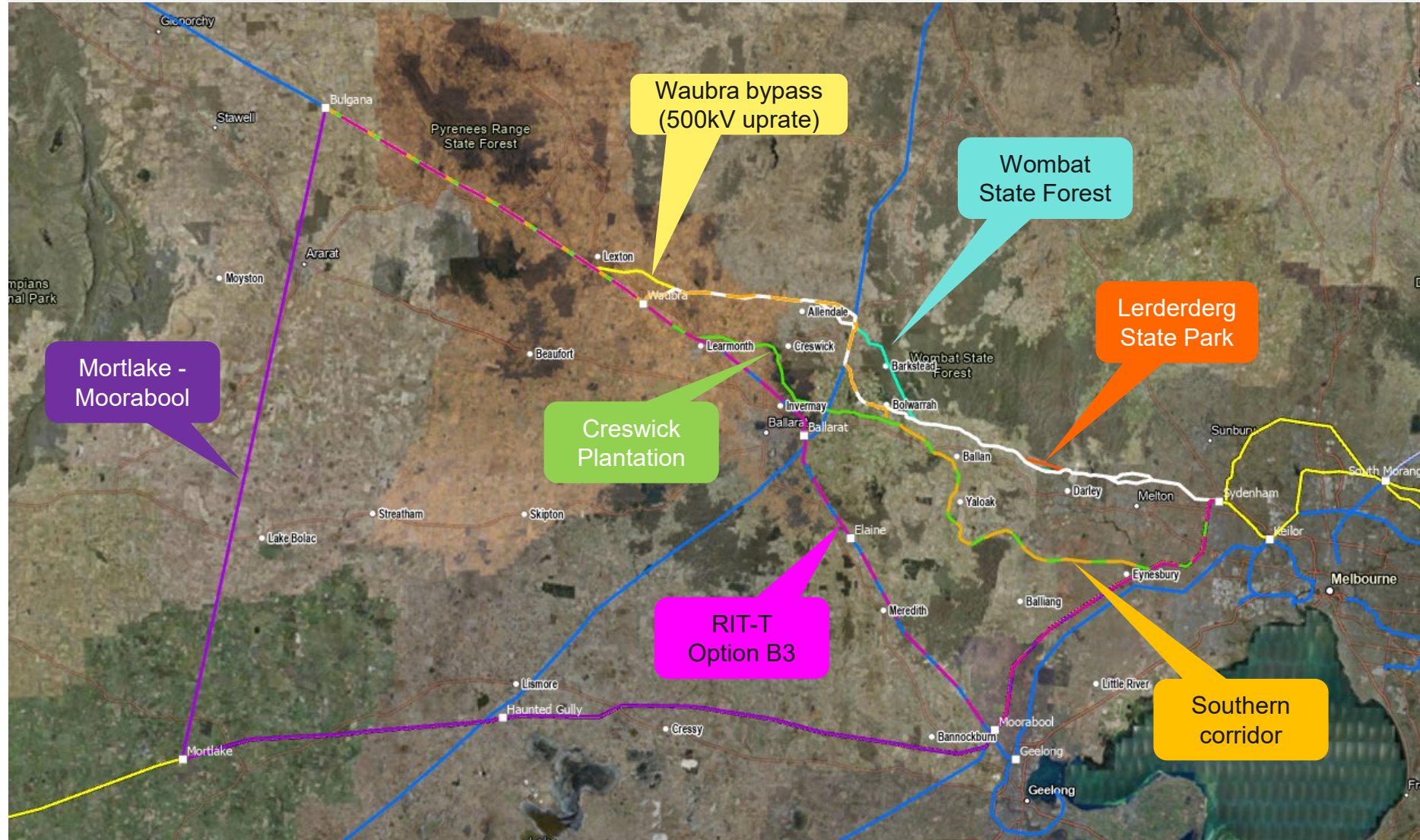


Alternative routes

Alternative routes proposed by:

- Landholders
- Community members
- Government agencies
- Parliamentarians

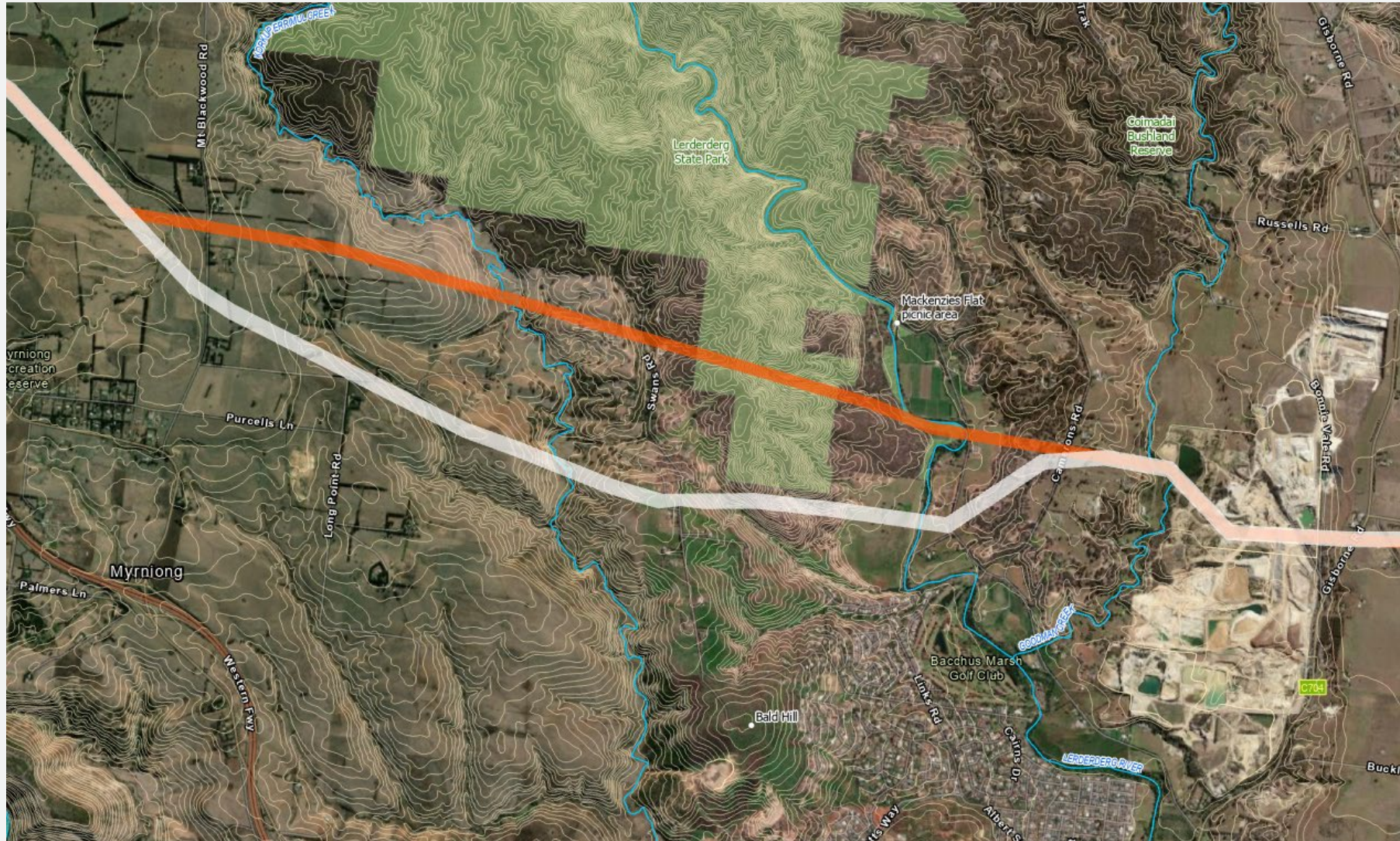
Alternative routes



Alternative routes

- Lerderderg State Park
- Wombat State Forest
- Southern corridor
- Creswick Plantation
- RIT-T Option B3
- Mortlake-Moorabool
- Waubra bypass (500kV uprate)

Lerderderg State Park



Alternative route:

- perpendicular to Lerderderg River valley
- partially screened by east-west ridge
- further away from Darley

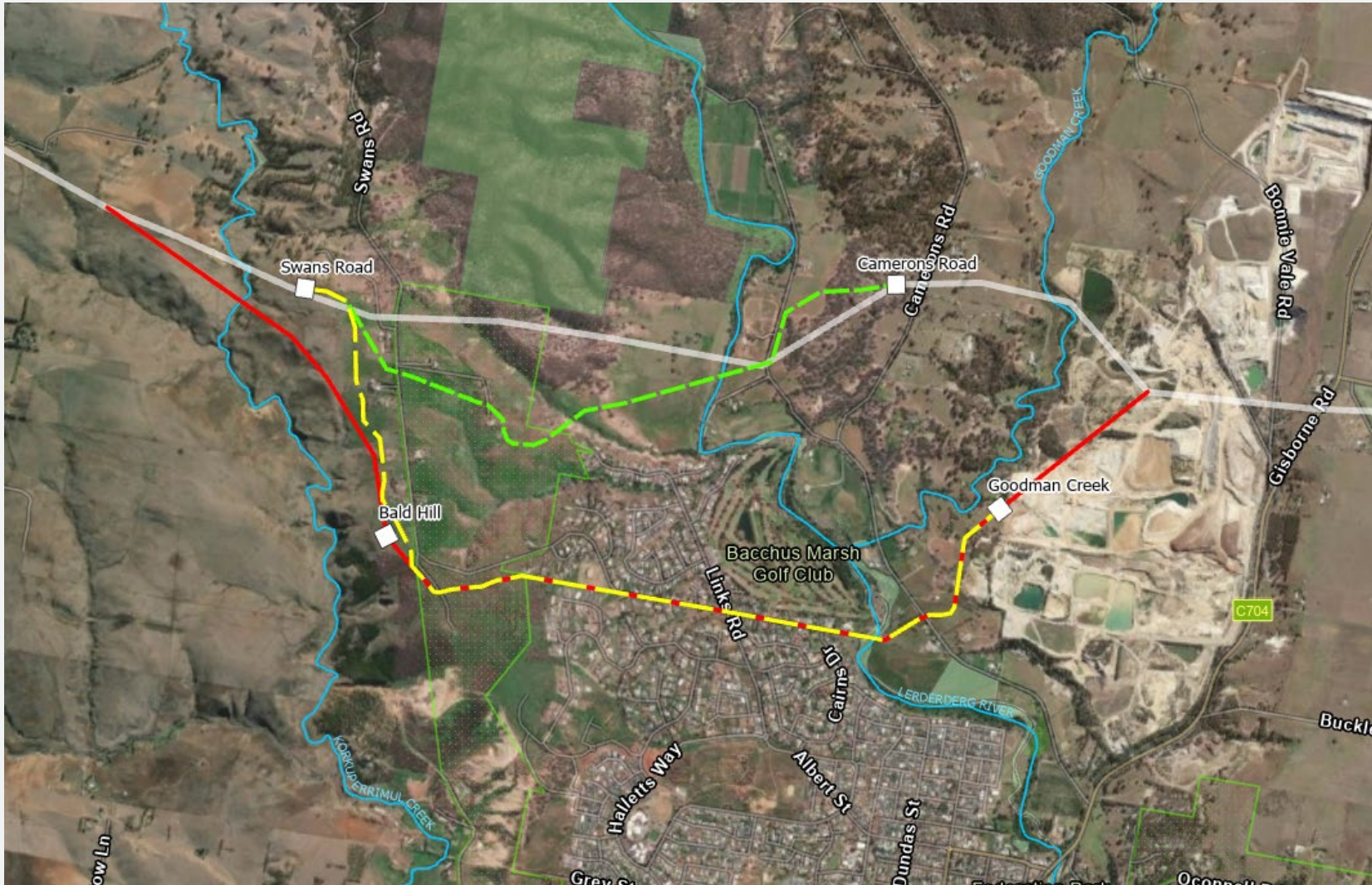
Potential impacts:

- landscape and visual impacts reduced
- biodiversity impacts increased (Melbourne yellow gum)
- Wombat-Lerderderg National Park
- reduces impacts on Darley military camp ruins
- Aboriginal cultural heritage impacts higher in state park

Lerderderg River valley from Darley

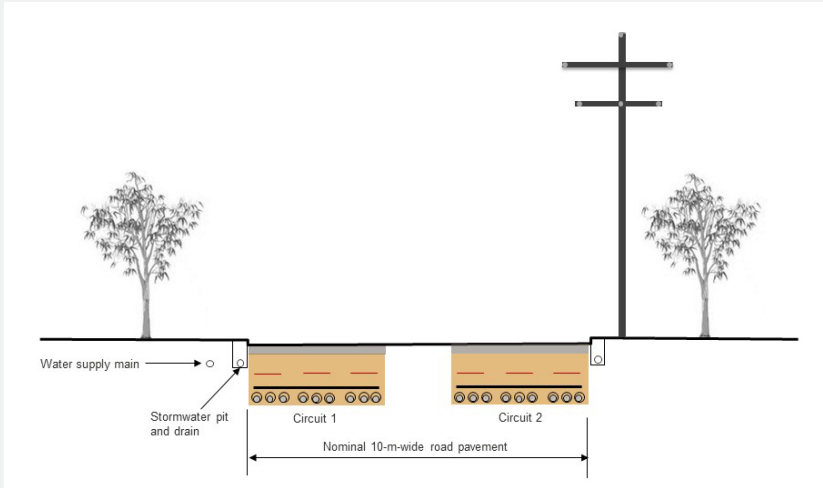


Lerderderg SP (Darley partial underground)



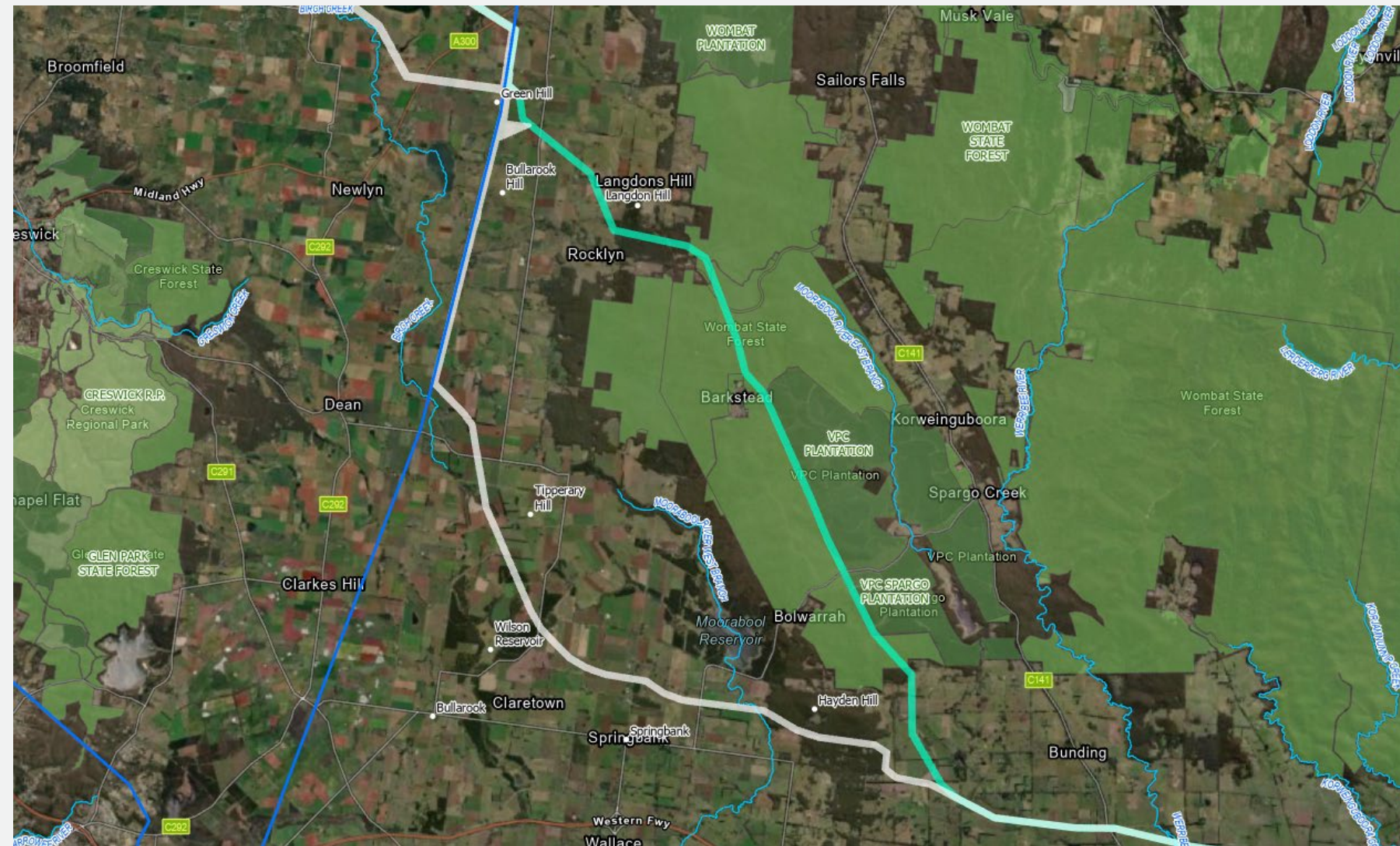
- Five partial underground routes identified; three partial underground routes evaluated:
 - Partial UG route 2 north of Darley (green line)
 - Partial UG route 4 through Darley (red line)
 - Partial UG route 5 through Darley (yellow line)
- HVAC circuits

Lerderderg SP (Darley partial underground)



Kingwell transition station Source: Corrie Construction

Wombat State Forest



Alternative route:

- avoids potato growing areas around Dean and Newlyn
- avoids Bolwarrah (Tooheys Close)
- along edge of VPC plantations
- close to Barkstead and Rocklyn

Potential impacts:

- reduces agricultural impacts
- reduces landscape and visual impacts
- Increases biodiversity impacts (greater glider / phascogales)
- Wombat Regional Park
- longer length in Bushfire Management Overlay

VPC vested land tenure

Southern corridor



Alternative route:

- variation on discounted southern corridor route
- avoids Melton, Darley and Bolwarrah
- adjacent to Moorabool West Road at Gordon
- traverses Rowsley Scarp
- uses Sydenham-Moorabool 500kV corridor

Potential impacts:

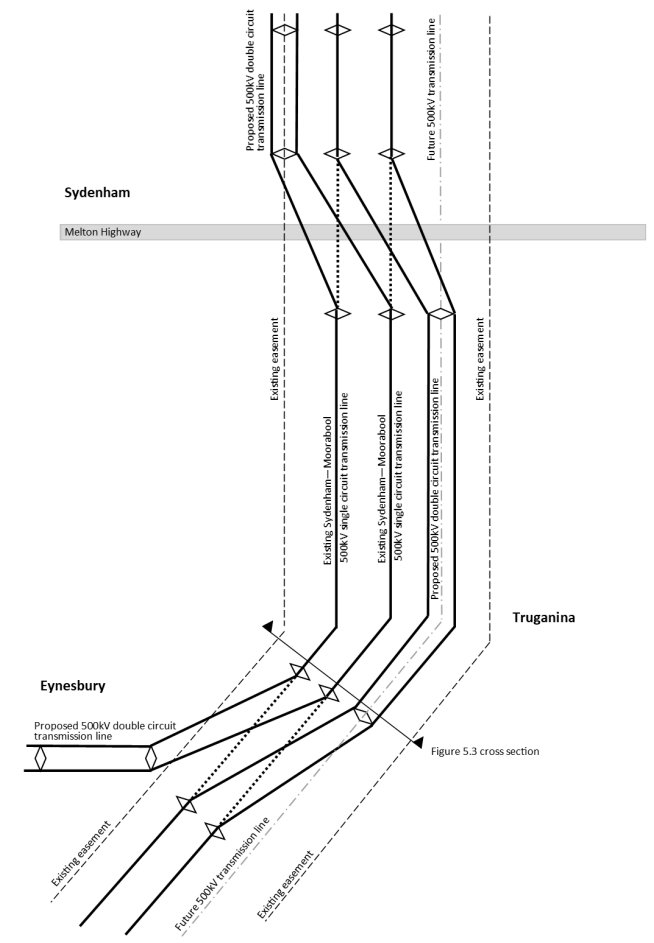
- avoids visual impacts at Darley and Myrning; introduces impacts at Gordon, Ballan and Rowsley Scarp
- incremental increase in visual impact at Sydenham and Caroline Springs (2500 more dwellings within 300m)
- potential for Aboriginal cultural heritage higher (watercourses and stony rises)
- impacts Balance Greystones heritage property
- biodiversity impacts (critically endangered native grasslands)
- Yaloak South Wind Farm

Significant risk to system security and reliability

Moorabool–Sydenham corridor



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Moorabool West Road, Gordon



Alternative route:

- close to dwellings
- highly visible from adjacent dwellings
- impacts wildlife corridor
- partial underground investigation required

RIT-T Option B3



Alternative route:

- duplication of Bulgana to Ballarat 220kV transmission line
- replacement of Ballarat to Moorabool 220kV No1 line
- potential Sydenham to Moorabool third 500kV circuit

Potential impacts:

- avoids visual impacts at Darley, Myrniong, Bolwarrah and Allendale
- avoids potato growing areas between Dean and Allendale
- lower biodiversity impacts if existing easements used
- increased visual impact at Browns Hill
- incremental increase in visual impact at Sydenham and Caroline Springs (2500 more dwellings within 300m)
- biodiversity impacts (critically endangered native grasslands)

Significant risk to system security and reliability

RIT-T Option B3 (Brown Hill)



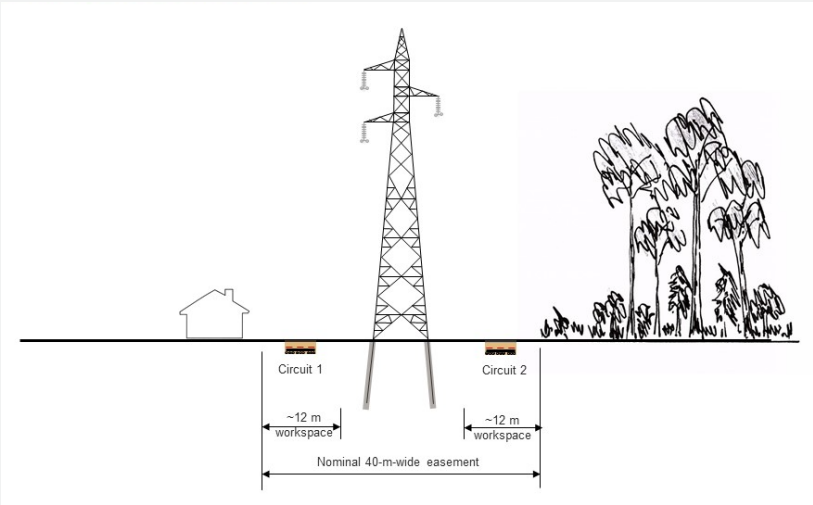
Key issues:

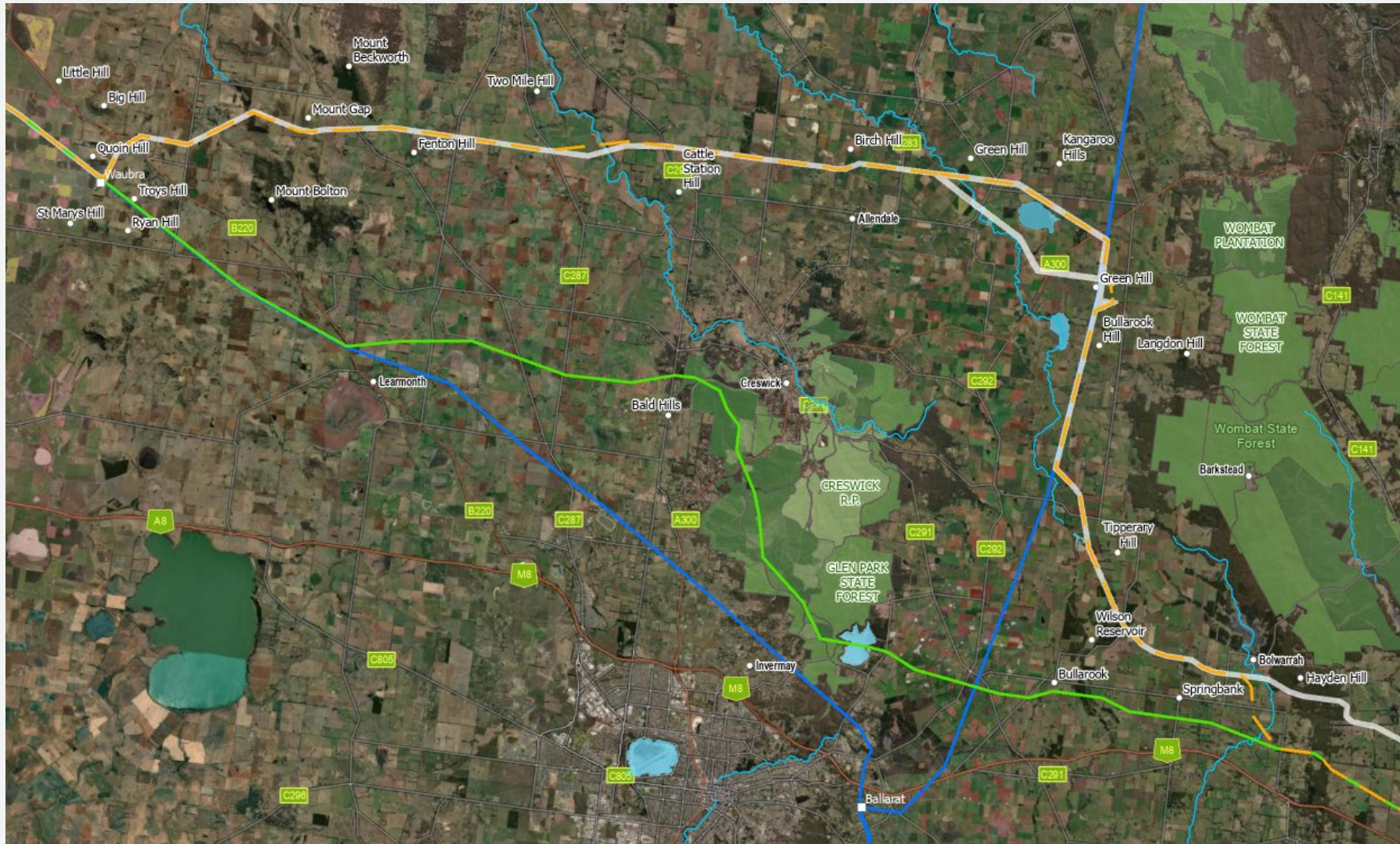
- Ballarat-Horsham 220kV transmission line easement cannot be widened without property acquisition from Ballarat to Invermay
- Existing 40-m-wide easement cannot accommodate 500kV double circuit transmission line using steel lattice towers
- Partial underground construction would significantly impact residential lots
- Insufficient space for HDD due to separation required between cables

RIT-T Option B3 (Brown Hill)



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Alternative route:

- variation on discounted route
- can be combined with proposed route or southern corridor alternative route

Potential impacts:

- avoids potato growing areas between Dean and Allendale
- lower biodiversity impacts compared to proposed route
- reduced visual impact north of Ballarat compared to proposed route
- incremental increase in visual impact at Sydenham and Caroline Springs (2500 more dwellings within 300m)
- higher historic heritage impacts (Glen Park State Forest gold mining landscape and relicts)
- longer length in Bushfire Management Overlay

VPC vested land tenure

Mortlake-Moorabool



Alternative route:

- new transmission line from Bulgana to Mortlake (requires route options study)
- duplication of Moorabool to Mortlake 500kV transmission line
- Sydenham to Moorabool third 500kV circuit

Potential impacts:

- longer route increases impacts on agriculture
- higher biodiversity values in parts
 - brolga flocking areas around Lake Bolac and Streatham
 - critically endangered native grasslands and stony rises
- incremental increase in visual impact at Sydenham and Caroline Springs (2500 more dwellings within 300m)

Significant risk to system security and reliability

Waubra bypass (500kV uprate)



Alternative route:

- bypasses Waubra
- increases separation to Waubra Wind Farm

Constraints:

- Mount Beckworth and Mount Bolton scenic landscapes
- Mount Beckworth escarpment (wedge-tailed eagles)
- Mount Mitchell Homestead
- Agricultural land use

Potential impacts:

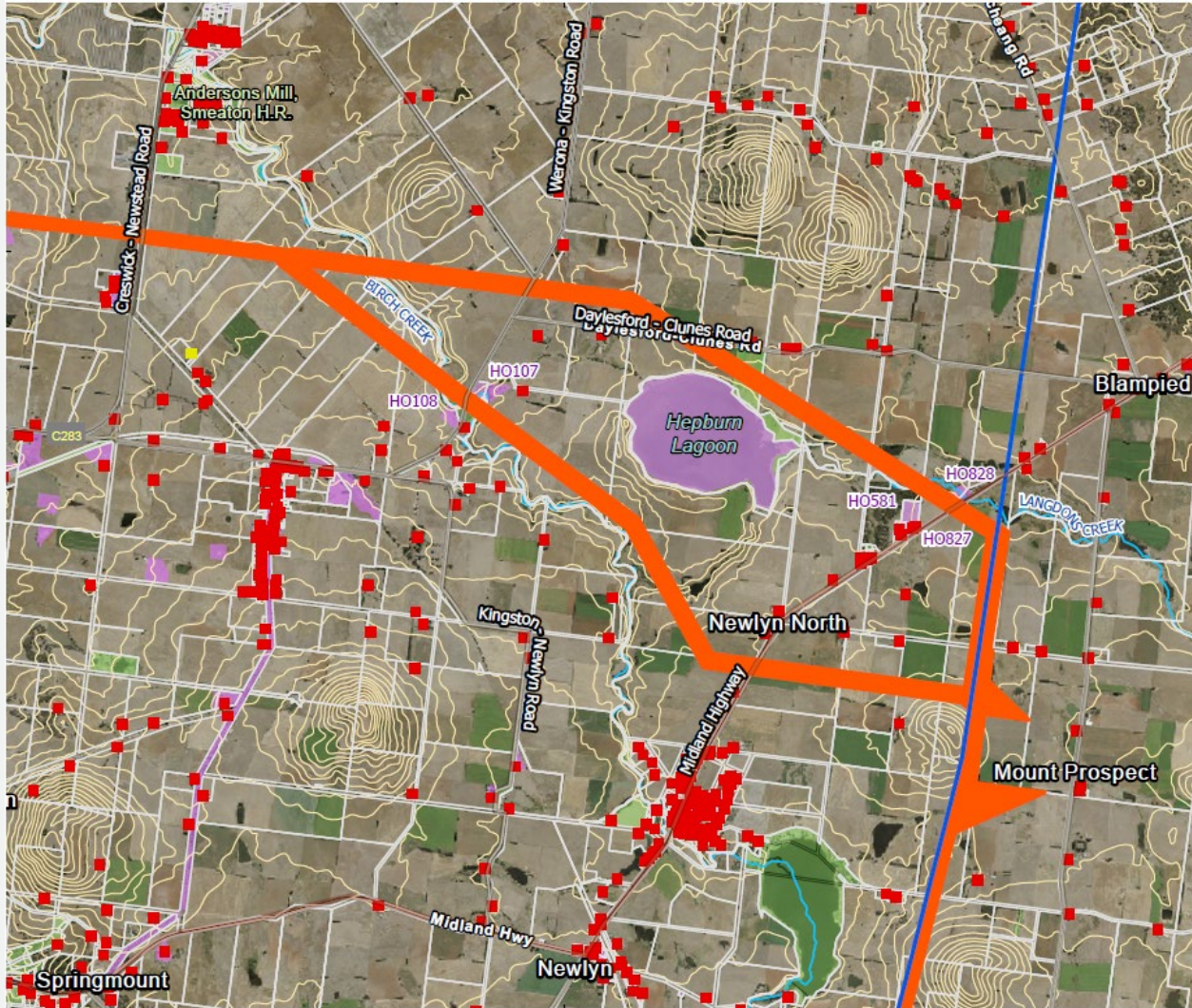
- similar biodiversity impacts
- similar Aboriginal cultural heritage sensitivity
- historic heritage (ruins) can be avoided
- similar impacts on agriculture

Conclusion

| Alternative route | Meets project objectives | Maintains system security and reliability | Overall impact compared to proposed route | Key differences |
|------------------------------|--------------------------|---|---|---|
| Lerderderg State Park | ✓ | ✓ | ● | Lower visual impacts Greater biodiversity impacts Wombat-Lerderderg National Park |
| Wombat State Forest | ✓ | ✓ | ● | Lower agricultural and visual impacts Greater biodiversity impacts Wombat Regional Park VPC vested land tenure |
| Southern corridor | ✓ | ✗ | ● | Avoids visual impacts at Darley Reduced biodiversity impacts Greater visual impact at Gordon Incremental visual impact at Caroline Springs |
| Creswick Plantation | ✓ | ✓ / ✗ | ● | Lower biodiversity, visual and agricultural impacts Greater historic heritage impacts VPC vested land tenure |
| RIT-T Option B3 | ✗ | ✗ | ● | Lower biodiversity and visual impacts Incremental visual impact at Caroline Springs |
| Mortlake-Moorabool | ✗ | ✗ | ● | Higher agricultural impacts Potentially higher biodiversity and Aboriginal cultural heritage impacts |
| Waubra bypass (500kV uprate) | ✓ | ✓ | ● | Similar biodiversity impacts Similar Aboriginal heritage impacts Cumulative visual impacts |

Proposed route variations

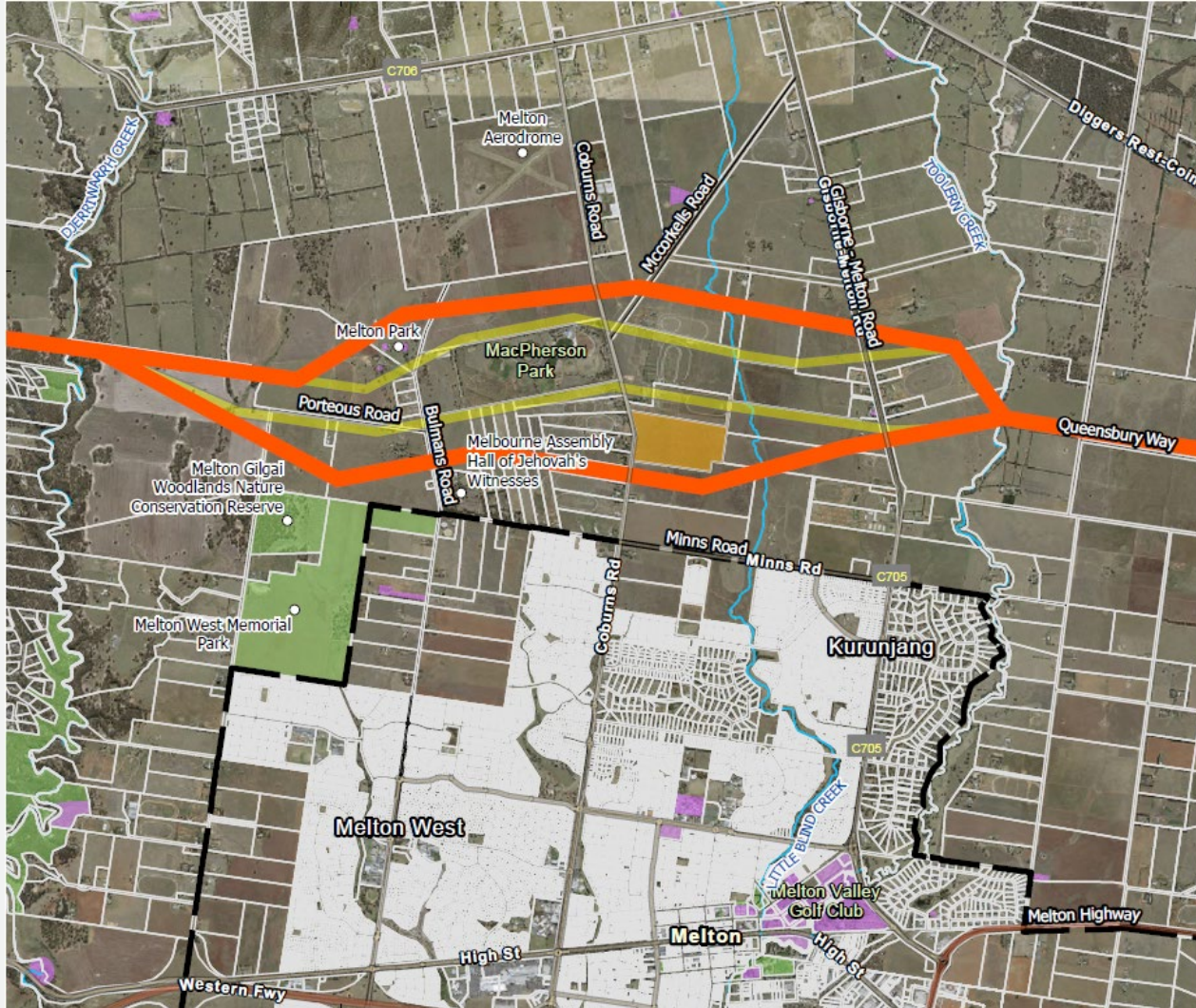
Hepburn Lagoon route options



Constraints:

- Hepburn Lagoon birdlife
- Birch Creek restoration (platypus)
- Aboriginal cultural heritage (tangible and intangible)
- Heritage properties and sites
- Smeaton clay pipes
- Agricultural land use
- Daylesford-Clunes Road (goldfields tourist road)
- Tourist and entertainment venues
- Kangaroo Hills

Melton aerodrome route options



Constraints:

- Melton Aerodrome (existing operations)
- Proposed Melton Christian College
- MacPherson Park
- Melton Park (Heritage Overlay)
- Rural residential properties
- Melton Gilgai Woodlands Nature Conservation Reserve
- Melbourne Assembly Hall of Jehovah's Witnesses
- Melton West Memorial Park
- Urban Growth Boundary

Discussion

