REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A CD or DVD copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
GPO Box 2392
MELBOURNE VIC 3001

Couriers

Minister for Planning
Level 20, 1 Spring Street
MELBOURNE VIC 3001

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	**Level Crossing Removal Authority**
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Graeme Chambers Project Director, Mernda Rail Extension Project Level 14, 121 Exhibition Street, Melbourne VIC 3000 graeme.chambers@levelcrossings.vic.gov.au (03) 9027 5222
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Ian Clarke Senior Planning Engineer Level Crossing Removal Authority Level 14, 121 Exhibition Street, Melbourne VIC 3000 ian.clarke@levelcrossings.vic.gov.au (03) 9027 5222
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	The Level Crossing Removal Authority (LXRA) has extensive 'in-house' expertise in rail planning, statutory planning and environmental management. GHD and AECOM were engaged to provide technical advisory services, including investigation and assessment of various matters to inform this referral and the development of the project design. Vincent Clark and Associates (VCA) were engaged as a subconsultant to provide specialist advice on cultural heritage. The technical investigations and assessments have included: • Ecological Assessment (Attachment 2) • Matted Flax-lily Translocation Plan (Attachment 3) • Landscape and Visual Impact Assessment (Attachment 4) • Urban Design Concept Report (Attachment 5) • Environmental Noise Assessment (Attachment 6) • Historical Archaeology Survey (Attachment 7) • Land Use Impact Assessment (Attachment 8) • Geotechnical Factual Report • Groundwater Impact Assessment • Surface Water Findings • Contamination and Hazardous Materials Report. • Transport Impact Assessment • Draft Cultural Heritage Management Plan (no 13635)

2. Project – brief outline

Project title: Mernda Rail Extension Project (MREP)

Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

The location of the MREP project area is shown on Figure 1 below.

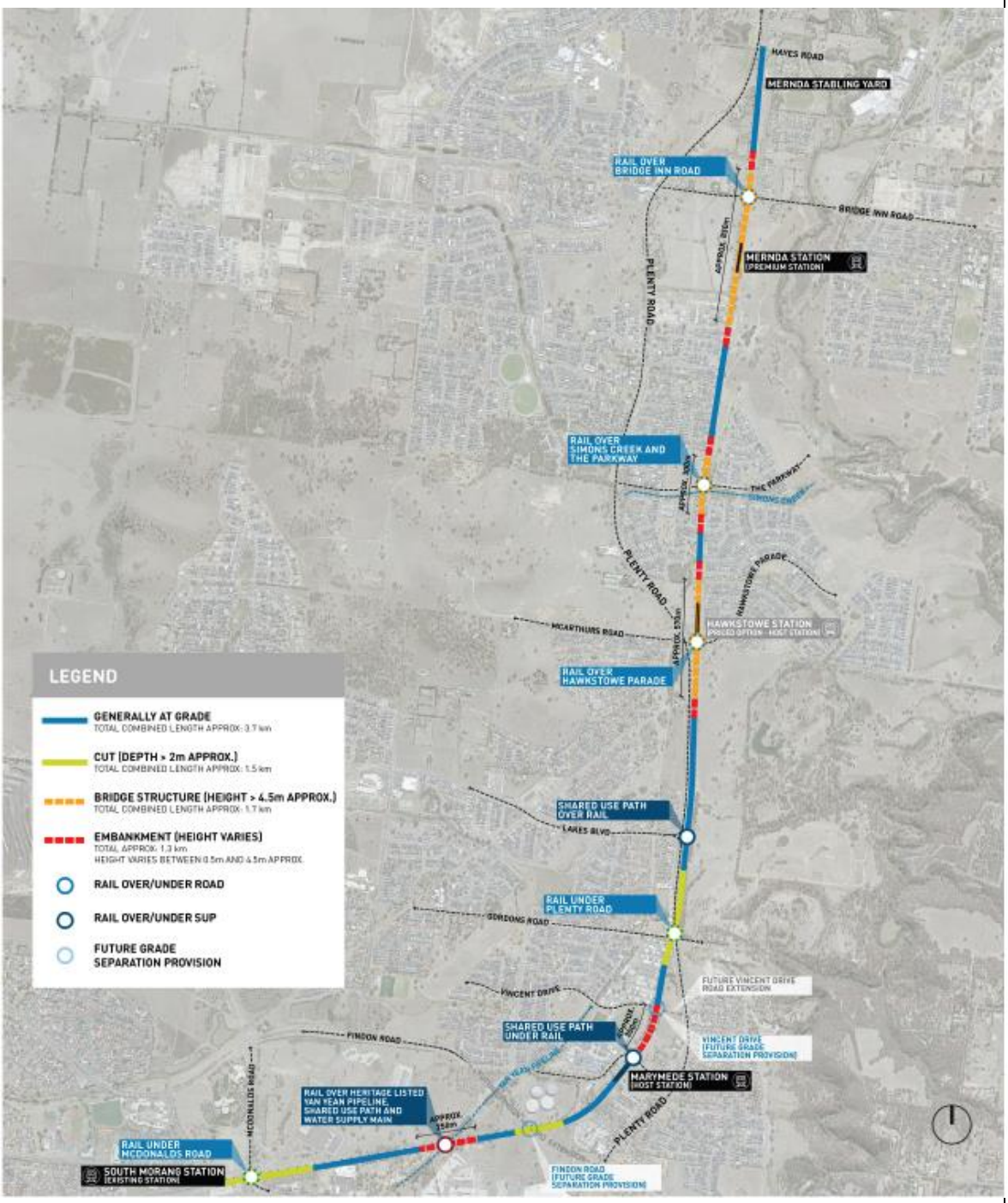

Figure 1 Project Area

The project area includes:

- The existing rail reserve between South Morang and Mernda.
- The existing operational rail reserve from Epping Substation to the existing South Morang Tie-Station. to provide extra supplementary traction power infrastructure;

- Additional land at the proposed Mernda Station that is currently private freehold land; and
- Temporary construction areas located along the rail reserve.

The project area crosses the following roads: McDonalds Road, Plenty Road and Gordons Road, Hawkstowe Parade, The Parkway (and Simon Creek) and Bridge Inn Road. Each crossing will be grade separated.

The project area is located within the Plenty River catchment and crosses Darebin Creek, Simon Creek, Mernda Drain and a number of other unnamed ephemeral drainage lines that flow to the Plenty River.

Table 1 provides the bounding coordinates for the project area (refer to Attachment 1a for detailed maps of the project area and to Attachment 1b for project area bounding coordinates).

Table 1: Mernda Rail Extension Project bounding coordinates for the project area

Location		Longitude			Latitude		
		Degrees	Minutes	Seconds	Degrees	Minutes	seconds
1	20A COOPER STREET EPPING 3076	145	1	52	-37	39	10
2	2 DAVISSON STREET EPPING 3076	145	1	48	-37	39	7
3	40 COOPER STREET EPPING 3076	145	1	37	-37	39	8
4	2/73 GRAND PARADE EPPING 3076	145	1	32	-37	39	15
5	25 FERRES BOULEVARD SOUTH MORANG 3752	145	4	8	-37	38	47
6	330 MCDONALDS ROAD SOUTH MORANG 3752	145	4	23	-37	38	52
7	330 MCDONALDS ROAD SOUTH MORANG 3752	145	4	23	-37	38	56
8	3/314 MCDONALDS ROAD SOUTH MORANG 3752	145	4	14	-37	38	58
9	372M MCDONALDS ROAD SOUTH MORANG 3752	145	4	50	-37	38	52
10	65 WILLIAMSONS ROAD SOUTH MORANG 3752	145	4	54	-37	38	48
11	25 DANAHER DRIVE SOUTH MORANG 3752	145	5	2	-37	38	54
12	370M MCDONALDS ROAD SOUTH MORANG 3752	145	5	4	-37	38	47
13	FINDON ROAD SOUTH MORANG 3752	145	5	12	-37	38	49
14	18/877 PLENTY ROAD SOUTH MORANG 3752	145	5	20	-37	38	51
15	28 OLD PLENTY ROAD SOUTH MORANG 3752	145	5	38	-37	38	40

	Location	Longitude			Latitude		
		Degrees	Minutes	Seconds	Degrees	Minutes	seconds
16	7/31 OLD PLENTY ROAD SOUTH MORANG 3752	145	5	32	-37	38	33
17	PLENTY ROAD SOUTH MORANG 3752	145	5	45	-37	38	28
18	15-25 GORDONS ROAD SOUTH MORANG 3752	145	6	8	-37	38	18
19	1079 PLENTY ROAD SOUTH MORANG 3752	145	5	45	-37	37	52
20	7 HAWKSTOWE PARADE SOUTH MORANG 3752	145	5	54	-37	37	23
21	1180P PLENTY ROAD SOUTH MORANG 3752	145	5	46	-37	37	18
22	23 CONELLY WAY SOUTH MORANG 3752	145	6	13	-37	37	16
23	26W RIVERDALE BOULEVARD SOUTH MORANG 3752	145	5	44	-37	36	55
24	2 YERING DRIVE MERNDA 3754	145	6	0	-37	36	56
25	37 MANGO CRESCENT MERNDA 3754	145	6	1	-37	36	26
26	11E PASSIONFRUIT CRESCENT MERNDA 3754	145	5	55	-37	36	20
27	640 BRIDGE INN ROAD MERNDA 3754	145	6	19	-37	36	6
28	601 BRIDGE INN ROAD MERNDA 3754	145	5	50	-37	36	2
29	1490 PLENTY ROAD MERNDA 3754	145	6	2	-37	35	47

Short project description (few sentences)**:**

The Mernda Rail Extension Project (MREP) is a proposed new dual track electrified rail line from the existing South Morang station to Mernda. The extension is approximately 8 km in length and predominantly within an existing rail reserve. New stations are proposed at Mernda and near Marymede Catholic College. Provision is made for a third station near Hawkstowe Parade. The land on which the potential station at Hawkstowe Parade is proposed to be built is included in the project area.

MREP also includes stabling facilities, a transport interchange at Mernda, and car parking at each of the railway stations. To ensure no new level crossings, the following road crossings will be grade separated from the new rail line:

- McDonalds Road;
- Plenty Road & Gordons Road;
- Hawkstowe Parade;
- The Parkway (and Simon Creek); and
- Bridge Inn Road.

A high voltage cable will be installed within the existing operational rail reserve from Epping Substation, through the existing South Morang Tie-Station and up to Hawkstowe, to provide extra traction power infrastructure.

The proposed new rail infrastructure will be located within the existing rail reserve between South Morang and Mernda, generally following the alignment of the original Whittlesea Railway Line that was decommissioned in 1959. The project area includes additional land required for a new transport interchange and car park at Mernda station, as well as some land parcels that will provide for temporary construction laydown areas, temporary construction access and for ancillary works associated with drainage and road modifications.

The project area, shown on Attachment 1a, allows for the reference design and also provides for construction and ancillary works based on conservative footprints established in consultation with a specialist constructability advisor.

A complete list of attachments and references is provided at the end of this document.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

The objectives of the MREP are to:

- Extend and improve public transport to cater for significant growth in population and employment in Melbourne's north;
- Significantly increase the number of local people in the Mernda growth corridor using public transport by providing better connections to employment, education, healthcare, entertainment and retail;
- Reduce transport congestion in the South Morang to Mernda corridor; and
- Generate local jobs and stimulate the development of the Mernda town centre.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

The delivery of the MREP responds directly to the Victorian Government's commitment to transforming Melbourne's metropolitan rail network through the integrated delivery of major infrastructure projects. The MREP together with the Melbourne Metro Project, the delivery of high capacity metro trains, the introduction of High Capacity Signalling and the removal of 50 of the State's most congested and dangerous level crossings on the metropolitan rail network will lead to a rejuvenated rail network that will safeguard and enhance Melbourne's status as one of the world's most liveable cities.

In response to increasing demand for public transport from Melbourne's northern growth areas, the Victorian Government has committed to extending the South Morang rail line to Mernda. It is forecast that without implementation, capacity on the South Morang line would be reached by 2019 and crowding would be exacerbated as demand from the population grows. As a result, MREP is identified as a key rail project in the Plan Melbourne Refresh Discussion Paper (Victorian Government, 2015) and likely to be included in Plan Melbourne 2016 (Victorian Government's metropolitan planning strategy).

The MREP was identified as a project in Stage 4 of the Network Development Plan – Metropolitan Rail (PTV, 2012) to meet increased demand for efficient and direct access to the central city from the growing residential communities in Whittlesea.

The MREP provides a further opportunity to establish a new stabling facility on the line. The South Morang line is forecast to be experiencing a significant shortfall in stabling capacity and little opportunity exists to expand the facility at Epping or to provide another stabling facility anywhere else on the corridor. The extension to Mernda opens up the opportunity to provide new stabling roads in the vicinity of the new station.

The MREP is already proving to be a catalyst for development of the Mernda Town Centre and once open the new rail services will provide immediate benefits for residents and workers alike and will contribute to the orderly development in this urban growth area.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The following main components of the MREP are described below:

- New railway tracks;
- Five grade separated road crossings;
- Two new stations and provision for a third, all with associated car parking
- Stabling facilities;
- New traction power substations at Mernda and Hawkstowe and upgrade of the existing South Morang Tie-station;

- Associated rail infrastructure including new drainage infrastructure; and
- Walking and cycling path upgrades and extensions.

New railway tracks
From the existing South Morang station the rail alignment heads north-east for approximately 2 km towards the proposed station near Marymede Catholic College. The alignment then proceeds north for approximately 5.5 km, crossing Plenty Road, Hawkstowe Parade, Simon Creek and The Parkway towards the future Mernda Town Centre and the proposed Mernda station, south of Bridge Inn Road. The alignment extends approximately 500 m north of Bridge Inn Road to the proposed stabling yard (refer Figure 1).

The key features of the new rail line include:
- Two broad gauge tracks, one northbound and one southbound;
- Single track access to the stabling facilities;
- A design that supports an operating speed of 80 km/h; and
- A single 3.5 metre wide vehicle access track along the alignment.

Rail systems including signalling, communications, operational control systems, traction and signalling power and overhead line electrification that will tie into existing rail systems currently terminating at South Morang station.

The design of the MREP includes a combination of ground level and raised or lowered tracks in different areas (as shown on Figure 1)

Generally the MREP will be delivered at grade, however in some areas cuttings will be used as well as embankments and bridge structures. Bridges or underpasses are needed at each of the five locations where the train line crosses roads and Simon Creek.

The design takes into consideration the differing conditions along the corridor including:
- Existing and planned future utility crossings and overland stormwater flow paths;
- The geology along the alignment of the MREP, with optimisation to reduce cut where shallow rock is prevalent and to achieve a cut/fill balance;
- The hydrological regime of the area including overland stormwater flow paths and the depth of the groundwater table; and
- Operational considerations, such as use of grade for braking and acceleration efficiency into and out of stations.

Grade separations
The design ensures there will be no new level crossings, with grade separations (aligning road and rail at different heights to avoid conflict with the different modes of transport) at the following road crossings:
- McDonalds Road (rail under solution);
- Plenty Road & Gordons Road (rail under solution);
- Hawkstowe Parade (rail over solution);
- The Parkway (and Simon Creek) (rail over solution); and
- Bridge Inn Road (rail over solution).

The design allows for grade separation of the following future roads (by others) to cross the rail line:
- Findon Road (road over solution), and
- Vincent Drive (road under solution).

Pedestrian and bicycle crossings will also be grade separated at the Yan Yean Pipe Track and Lakes Boulevard.

The nature of these works mean they will extend beyond the rail reserve into adjoining road reserves in some locations. These road reserves have been included in the project area.

Stations
The existing South Morang station will be modified as it will no longer be the terminating station on the line.

New stations are proposed at Mernda and near Marymede Catholic College, plus provision for a third station near Hawkstowe Parade.

Mernda Station
The design for the premium station at Mernda provides the station building at ground level and an island platform on structure, and includes a rail bridge over Bridge Inn Road.

The station design provides an island platform, approximately 163m in length and capable of being extended to approximately 228m. It includes landscaped forecourts, kiss and ride, disabled parking, parkiteer bike storage cages, staff parking and transport interchange facilities comprising 8 bus stops and a taxi rank. The station carpark will be on both sides of Bridge Inn Road and will accommodate parking for approximately 1000 commuter vehicles. The design is cognisant of the future Mernda Town Centre and is aligned with Mernda Town Centre's proposed Main Street.

The design proposes signalisation of Bridge Inn Road with Schotters Road and the transport interchange.

Station near Marymede Catholic College
The host station will be constructed primarily at-grade with commuter parking to the west. The side platforms would be approximately 160m long and designed to allow for future extension to approximately 225m in length. The existing topography elevates the at-grade station slightly above Williamsons Road levels. The station entrance and forecourt are oriented towards Williamsons Road and the unnamed access road from the southeast.

The station includes landscaped forecourts, pedestrian underpass, kiss and ride, disabled parking, parkiteer bike cages , a staff car park, taxi rank, new bus stops and parking for approximately 500 commuter vehicles.

Station near Hawkstowe Parade
Provision is made for a third station near Hawkstowe Parade.

The proposed host station provides the station building at ground level and side platforms on structure, positioned on the north side of Hawkstowe Parade. The side platforms would be approximately 160m long and designed to allow for future extension to approximately 225m in length. The station would include landscaped forecourts, kiss and ride, disabled parking, parkiteer bike cages, a staff car park, taxi rank, new bus stops and parking for approximately 100 commuter vehicles.

The project area allows for options to provide further parking and for remodelling of the traffic signals at the intersection of Plenty Road and Hawkstowe Parade.

Stabling facilities
The proposed stabling yard is located north of Bridge Inn Road, connected by a single track (approximately 500m in length) that crosses over Bridge Inn Road to a turnout at the northern end of the Mernda Station platforms.

The stabling yard provides stabling initially for three x 6 car train sets (to accommodate 164m long trains), with provision for a further three x 6 car trains in the medium term and a further two x 6 car train sets in the longer term. The new stabling yard will supplement the existing facilities at Epping, but will primarily be used for overnight stabling of trains, and will include an amenities building and car parking for drivers.

Additional infrastructure

Shared use path

The MREP will enable walking and cycling linkages including connectivity to stations. The project will interface with the broader pedestrian and bicycle network, facilitate shared use path crossings across the corridor where required and complete parts of the network planned by the City of Whittlesea.

Traction power

A high voltage cable will be installed within the existing operational rail reserve from Epping Substation, through the existing South Morang Tie-Station and up to Hawkstowe, to provide extra traction power infrastructure.

Although power is supplied to the rail extension from the South Morang sub-station, the installation of this cable will provide greater service reliability.

The cable will be located within the existing rail reserve and will be mostly overhead, except near Epping station and South Morang station where it will be diverted underground to avoid clashes with other overhead utilities.

Drainage Improvement

There are currently 12 existing stormwater drainage points between South Morang and Mernda that cross the proposed rail line. These are proposed to be consolidated into eight or nine discrete crossing points and may require some downstream improvements in consultation with the relevant drainage authority.

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

The ancillary components of the project include those related to construction being temporary site barriers and buildings, laydown areas, access track, road diversions, removal of disused rail infrastructure (such as culverts and poles) and relocation and upgrade of utilities.

Key construction activities:

LXRA will deliver the MREP under a design and construct contract.

Key construction phase activities are:

- Major civil works and preparation of track alignment – clearing of vegetation within the alignment in permitted areas, and rough grading and preparation of construction roads to provide access to work sites. The main civil works will involve use of heavy machinery for rock breaking, excavation, rock removal and piling. Access routes will utilise existing access tracks/ roads to the extent practicable. Bulk earthworks will be undertaken to widen the existing track formation. The site area will be established in accordance with environmental controls as specified in an approved environmental management plan and procedures, including those relating to vegetation removal, sediment controls, spoil removal and transport and stockpiling and storage areas (see section 18 for more detail);
- Utilities, structures and stations – once the major civil works are complete the placement of trenched utility services, drainage structures and signalling base structures, location cases and station foundations and buildings will commence. The use of pre-fabricated building elements, including sub-stations and ancillary buildings will be considered in order to assist rapid development of the station precincts;
- Track formation – the placement of the track formation, ballast, sleepers and rail will commence once in ground utility services are complete. Given the length of the alignment, specialist track laying machinery could be used to reduce construction duration;
- Rail systems – signalling cabling and fittings are susceptible to damage and will be primarily fitted once civil and track works are largely complete to reduce the risk of damage and rework;
- Commissioning and handover for train operation – site commissioning activities will allow for the conduct of driver training and start-up of station operations; and
- Site remediation – site remediation and clean up generally consists of removal of unused construction materials and waste, landscaping earthworks and planting. This stage is subject to seasonal and weather conditions and will be undertaken at the first appropriate opportunity

following completion of heavy construction activities to remove construction site hazards, and prevent re-growth of weeds and undesirable species.

The ancillary construction activities include:

- Constructing fences and temporary site barriers;
- Creating and using lay down areas for construction purposes;
- Constructing and using temporary site workshops and storage, administration and amenities buildings;
- Demolishing and removing buildings, structures and works; and
- Relocating and upgrading (as necessary) utilities, including third party telecommunication infrastructure.

Key operational activities:

Following the completion of the project, the key operation and maintenance phase activities will include:

- Operation – monitoring, controlling and operation of the asset in accordance with the network requirements; and
- Maintenance – routine inspection and monitoring of the condition of the asset, planned routine maintenance and refurbishment work, and unplanned intervention and repair of the asset.

Key decommissioning activities (if applicable):

Not applicable

Is the project an element or stage in a larger project?

☒ No ☐ Yes

Is the project related to any other past, current or mooted proposals in the region?

☐ No ☒ Yes

The MREP extends the South Morang rail line to Mernda, along the alignment of the original Whittlesea Railway Line that was decommissioned in 1959. Most recently, this rail line was extended from Epping to South Morang as part of the South Morang Extension Project (opened in 2012).

4. Project alternatives

Brief description of key alternatives considered to date (e.g. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

No project option
MREP is located within the City of Whittlesea. This is one of the fastest growing municipalities in Australia with the current population of approximately 194,000 residents expected to grow to more than 333,000 by 2036. It is also home to Australia's fastest growing suburb over the last 10 years, South Morang, which is directly serviced by the project.

Without the project there would be insufficient infrastructure to service the demand for public transport from Melbourne's northern growth areas. This would impact the connectivity of these areas with employment, education, healthcare, entertainment and retail opportunities. It would also increase congestion on the road network.

For these reasons "no project" is not the preferred option and the government has made a commitment to commence rail services in 2019.

Alternative rail corridor
The MREP is sited on the former Whittlesea Railway Line, which is zoned for transport purposes in the Whittlesea Planning Scheme (Public Use Zone 4 – PUZ4) and is owned by VicTrack.

Given the location of existing residential development, major utility assets and Plenty Gorge Park, there are no other realistic corridors between South Morang and Mernda that could provide an alternative design solution.

In response to community feedback, consideration was given to aligning the rail further to the east in the vicinity of Goulburn Street in order to reduce visual and noise impacts on residential properties. While the rail can be aligned along the eastern boundary of the existing rail reserve in this area (and has been adopted in the reference design), alignment further to the east would have a permanent impact on the Plenty Gorge Park and land that is in a Public Conservation and Resource Zone (PCRZ). Rezoning land from PCRZ to PUZ4 to enable this option is not justifiable while the existing rail reserve (with PUZ4 zoning) is available.

For these reasons the current alignment is the preferred option.

Alternative design solutions at road crossings
Part of the government commitment to build the MREP is to ensure that there will be no level crossings on the new rail line. All road crossings must be grade separated, so that the rail crosses either over or under the road, by means of bridge or underpass.

A number of options have been considered for the design of the rail at each of the new road crossings.

Technical considerations dictated the design options selected at McDonalds Road, Plenty Road/Gordons Road and The Parkway/Simon Creek. Alternative design solutions at Hawkstowe Parade and Bridge Inn Road were subject to stakeholder and community consultation, as well as investigation of technical considerations.

Table 2 summarises the options considered and selected at each road crossing.

Table 2: Design options considered at road crossings

Location	Option selected	Alternative option(s) considered	Reasons for selection of alignment
McDonalds Road	Rail under solution	Rail over solution Road under solution	The existing road and rail were designed and built to provide a rail under solution, so the alternative options are not practicable.

Location	Option selected	Alternative option(s) considered	Reasons for selection of alignment
Plenty Road / Gordons Road	Rail under solution	Rail over solution	Plenty Road (including future widening) was designed for rail under. With the rail over option, the skew angle of the road to rail would require a long span bridge and extensive approach structures.
Hawkstowe Parade and (future) station	Rail over solution with (future) station on structure	Rail under solution with (future) station in cutting	The preference for elevated rail and station is based on ground conditions, ground water (4-7m below surface level), existing utilities, construction impacts and provision of access across the rail corridor for community and wildlife. The ground water level and basalt rock would make substantial excavations complex and high risk.
The Parkway and Simon Creek	Rail over solution	Road under solution (with rail over the Creek) Rail under solution	Local environment and ground conditions. The ground water level and basalt rock in the area is close to ground level and, combined with the adjacent creek, would make substantial excavations complex and very high risk. The selected option better protects the environment around the Simon Creek wetland.
Bridge Inn Road and Mernda Station	Station on structure and rail over Bridge Inn Road	Station in cut and rail under Bridge Inn Road	Ground conditions, ground water (3m below surface level), existing utilities, construction impacts and provision of access across the rail corridor for community and wildlife.

Alternative location of the Mernda transport interchange

Early concept designs located the Mernda transport interchange (comprising the bus interchange, commuter car parking, etc.) within the future Mernda Town Centre on the west side of the railway reserve and to the south of the future east-west road known as Main Street. This design relied upon construction of a connecting road to Bridge Inn Road that would need to be delivered by a private developer.

Following community consultation, concerns were raised about the distance that commuters would need to walk from the two commuter car parks. An alternative design was investigated and then developed that located the transport interchange on the east side of the railway reserve, adjacent and to the south of Bridge Inn Road. This solution enabled relocation of the station to the north side of Main Street, closer to the northern car park, and provided improved access from the bus interchange and southern car park to the station.

Both design solutions would require acquisition of private property, but location of the transport interchange on the east side avoids development in a heritage overlay (HO19) and would not rely on development by others prior to opening.

The design was therefore revised to provide the transport interchange on the east side of the rail reserve. The project area still allows for both transport interchange options for the purposes of investigation and assessment, but LXRA no longer intends to use the land to the west.
Brief description of key alternatives to be further investigated (if known)**:** Alternatives to the current preferred design are not being investigated. However, the current design will continue to undergo design refinements and improvements within the current scope of works as it is developed further.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

Preparatory works to facilitate the commencement of MREP are excluded from this referral, specifically:

- Activities associated with designing and assessing project impacts such as geotechnical and environmental investigations, site surveys and establishing the location of existing utilities; and
- The relocation of utilities, where such activities are comparable in scope and scale to renewal and maintenance, and are undertaken in accordance with applicable Victorian planning and environmental approval processes.

Activities associated with designing and assessing project impacts are minor in nature and generally would have no impact.

Any activities that may have an impact, such as geotechnical investigations or relocation of utilities, will only be undertaken with appropriate approvals in place to be obtained separately.

6. Project implementation

Implementing organisation (ultimately responsible for project, i.e. not contractor)**:**

LXRA is an administrative office in the Victorian Department of Economic Development, Jobs, Transport and Resources.

Implementation timeframe:

The proposed timeframes for procurement, design, construction and operation of the MREP are:

- Jan-June 2016;
  - Community consultation;
  - Refining design development;
  - Commence procurement process;
- July-Dec 2016;
  - Ongoing community consultation;
  - Completion of procurement process;
  - Obtain statutory approvals;
- 2017 – Commence construction;
- 2018 – Continue construction;
- 2019;
  - Conclude construction;
  - Commissioning; and
  - Commence operation.

Proposed staging (if applicable):

The staging of construction would be determined by LXRA in consultation with the preferred contractor however much of the work will occur concurrently in order to meet the date for project completion. The new Station near Hawkstowe Parade and the grade separation with the future extended Findon Road may be delivered in separate subsequent stages.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ Yes If no, please describe area for investigation

If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The project area is located predominantly in an existing rail reserve, owned by VicTrack, that was established in the 1880s and has been disturbed by nearly a century of rail related activities. The project area includes some areas of adjacent public land owned or managed by Parks Victoria, VicRoads, City of Whittlesea and Melbourne Water, plus an area of private land at Mernda to accommodate the new transport interchange.

The land in vicinity of the project area has become increasingly urbanised with commercial and residential development increasing in recent years, and will continue to be developed in accordance with current zoning and strategic planning.

Maps are included at Attachment 1. The Urban Design Concept Report (Attachment 5) provides a contextual assessment of the area, including photographs.

Topography, landform, geology and soils

The project area is on the Victorian volcanic plain which consists of gently undulating land that is interspersed with minor drainage channels and generally rises northward. The project area has minimal deposits of topsoil and fill, which overly basaltic clay, which is subsequently underlain by rock comprising basalt of variable weathering and strength. Rock is typically around 1-3 m in depth across the site (GHD-AECOM, 2016a).

Part of the project area is adjacent to Plenty Gorge Park, a geomorphic feature associated with the Plenty River, which is managed by Parks Victoria and used extensively for public recreation.

Hydrology (surface water drainage and waterways) and groundwater

MREP is within the Plenty River catchment. Plenty River flows generally north to south, from the Great Dividing Range north of Whittlesea to the junction with the Yarra River at Viewbank. It is ephemeral with flows regularly ceasing in the summer months. Two major domestic water storages (Yan Yean and Toorourrong) are found within the catchment. The river has a largely rural catchment with two major towns at Mernda and Whittlesea. The catchment becomes fully urban downstream of South Morang. In the upper forested reaches, rivers are ecologically healthy (GHD-AECOM, 2016i).

A constructed waterway south of The Parkway, Simon Creek, drains into the Plenty River, and is associated with drainage from the adjacent residential area.

Groundwater was found to occur from 2 - 13 m depth below surface level across the project area, deeper to the south and shallower to the north (GHD AECOM, 2016b).

Vegetation

Vegetation within the project area largely consists of disturbed Plains Grassy Woodland (EVC 55) with a River Red Gum overstorey growing amongst cleared areas dominated by exotic pasture grasses. As such, the habitat value of the broader project area is generally low.

One threatened flora species, Matted Flax-lily, was identified at several locations. This species is primarily located within an existing offset site at McDonalds Road, established as part of the South Morang Rail Extension Project.

Exotic flora species observed include grass and broad-leaf weed species such as Flat Weed *Hypochaeris radicata*, Veldt grass *Ehrharta spp*., Ribwort Plantain *Plantago lanceolata*, Cocksfoot *Dactylis glomerata* and Twiggy Turnip *Brassica fruticulosa*. A number of listed weeds are also present.

Further detail is provided in the Ecological Assessment (Attachment 2).

Fauna
No threatened fauna were identified during the initial field assessment. Native fauna observed consisted entirely of common species, typical of peri-urban Melbourne. Native bird species observed included Eastern Rosella *Platycercus eximius*, Red-rumped Parrot *Psephotus haematonotus*, Superb Fairy Wren *Malurus cyaneus*, White Faced Heron *Egretta novaehollandiae*, Grey-butcher Bird *Cracticus torquatus* and Sulphur Crested Cockatoo *Cacatua galerita*. Amphibian species were limited to Common Froglet *Crinia signifera* and Plains Froglet *Crinia parinsignifera*.

Several mobs of Eastern Grey Kangaroos were also observed both within the project area and land directly abutting, with the species likely using the rail corridor to move relatively unimpeded across the local and regional landscape.

Exotic fauna observed include Common Starling *Sturnus vulgaris*, European Rabbits *Oryctolagus cuniculus* and a Red Fox *Vulpes vulpes* within agricultural land at the northern end of the project area.

Further detail is provided in the Ecological Assessment (Attachment 2).

Site area:
The project area for the MREP is approximately 90 ha including both permanent and temporary works required for the construction of the MREP (refer to Attachment 1a).

Route length
The length of the rail extension is approximately 8 km, including the train stabling.

The width of the rail corridor varies, typically as follows:

- approximately 40m between Epping and South Morang;
- approximately 25m between McDonalds Road Conservation Area and Marymede Catholic College;
- approximately 25m to 30m adjacent to Plenty Road, and
- approximately 35m adjacent to Goulburn Street and the future Mernda Town Centre.

Current land use and development:

The project area is within the Urban Growth Boundary.

Most of the MREP is sited on the former Whittlesea Railway Line, which is owned by VicTrack and zoned as Public Use Zone 4 (PUZ4) for transport use. A parcel of private freehold land would be required to provide for the transport interchange and car parking at the proposed Mernda Station. Both public and private land is either vacant or leased for grazing or horse agistment.

MREP also requires temporary access to public land parcels (owned or managed by Melbourne Water, Parks Victoria, VicRoads or the City of Whittlesea) at road crossings and for ancillary works associated with drainage improvements and road modifications.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The MREP is sited within an existing rail reserve between South Morang and Mernda.

Works will also need to be undertaken to install a new high voltage cable in the existing rail reserve between Epping and South Morang to augment the traction power supply. Land use adjacent to this section of the operating railway is primarily residential with some areas of open space.

Land use between South Morang and Mernda can be described as follows:

- South Morang to the future Findon Road: The land at the southern end of the new railway

alignment is zoned for commercial use and major utility facilities. Commercial development near South Morang station includes the Plenty Valley Town Centre. The McDonalds Road Employment Precinct is to the south of the project area and the South Morang Terminal Station and Melbourne Water storage tanks are located adjacent to the northern boundary.

- Findon Road (future) to Goulburn Street: This section of the alignment has residential development and parkland adjacent to the project area, including aged care facilities and retirement homes, and further residential developments are proposed. Marymede Catholic College is located adjacent to the rail reserve near Williamsons Road and the Mernda South Primary School is under construction adjacent to the rail reserve at The Parkway, Mernda. The proposed Hawkstowe Recreation Reserve abuts the rail reserve north of Gordons Road. The Plenty Gorge Park lies to the east, abutting the rail reserve between the proposed Recreation Reserve and Hawkstowe Parade.
- Mernda Town Centre: The future town centre will be located between Berry Lane and Bridge Inn Road. The land adjacent to the rail reserve is currently grassed paddock, but is zoned for mixed commercial and residential use. Plenty Gorge Park is adjacent to the eastern boundary of the future town centre.
- Mernda Township: The Mernda Township is north of Bridge Inn Road and is predominantly residential, with some older houses on large blocks. The area to the west of the rail reserve is zoned for commercial and residential development, and to the east for residential development.

Some land parcels within the rail reserve are currently leased for agistment or grazing purposes.

Plenty Road is an arterial road providing access from the Metropolitan Ring Road in the south. It runs almost parallel with MREP from McDonalds Road in the south to Bridge Inn Road in the north, crossing from the east side to the west side at Gordons Road. McDonalds Road and Bridge Inn Road provide east-west access, with east-west movement otherwise limited by the Plenty River.

A new local road, known as Findon Road, is proposed to cross the MREP to the south of the Marymede Catholic College. Council also proposes a new shared use path along the Yan Yean Pipe Track.

A Key Feature Map is included in Attachment 1c.

Planning context (eg. strategic planning, zoning & overlays, management plans):

State Policy Context

Transport Integration Act

The *Transport Integration Act 2010* (TIA) outlines the vision for transport in Victoria, which is "to have an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible state." [s.6]. The TIA requires decision makers to have regard to the promotion of inclusive, prosperous and environmentally responsible transport. It requires all Victorian transport agencies to work towards an integrated and sustainable transport system. MREP is expected to have a positive impact on the transport system as defined in Section 3 of the TIA.

Network Development Plan - Metropolitan Rail (PTV, 2012)

PTV's plan identified construction of a new two-track extension from South Morang to Mernda, including a new terminating station and stabling facilities at Mernda as a key project under Stage 4 plan. The plan identified that an extension to Mernda will provide improved services and reach of the rail network.

Plan Melbourne (Victorian Government, 2014)

Plan Melbourne identifies Mernda as a key activity centre of Melbourne's Northern Subregion and part of a major future growth area. It also recognises the need to link the Subregion's diverse industry base to key transport infrastructure.

Plan Melbourne Refresh Discussion Paper (Victorian Government, 2015)

Based on the Ministerial Advisory Committee's 2015 review of Plan Melbourne, the Plan is being updated to include the MREP and other key new rail projects announced since 2014.

State Planning Policy Framework

The State Planning Policy Framework (SPPF) is contained with the Whittlesea Planning Scheme and applies consistently to every planning scheme in Victoria. It outlines the Statewide planning policies to be considered in town planning decisions.

At an overarching level, the SPPF seeks to ensure that the needs of existing and future communities are properly planned having regard to factors ranging from the provision of appropriately zoned and located land, to understanding and minimising environmental impacts.

Policies of particular relevance to the MREP include:

- Clause 11 Settlement
  - 11.02-2 Planning for growth areas
- Clause 12 Environmental and Landscape Values
- Clause 13 Environmental Risks
  - 13.04 Noise and Air
  - 13.05 Bushfire
- Clause 15 Built Environment and Heritage
  - 15.01 Urban Environment
  - 15.01-2 Urban Design Principles
  - 15.01-3 Neighbourhood and Subdivision Design
  - 15.03-1 Heritage conservation
- Clause 18 Transport
  - 18.01-1 Land use and transport planning.
- Clause 19 Infrastructure

Local Policy Context

Local Planning Policy Framework

The Local Planning Policy Framework (LPPF) outlines the local planning policies to be considered in town planning decisions and must be consistent with State policy. The Project is wholly located within the City of Whittlesea. The Whittlesea Planning Scheme comprises Local policies as well as applicable land Zones and Overlays and general and particular provisions which set out types of uses and development allowed and any additional requirements for buildings and works on land.

Local policies of particular relevance to MREP include:

- Clause 21.03 Council Vision and Strategic Framework
- Clause 21.04-1 Activity Centre Planning
- Clause 21.04-2 Urban Growth
- Clause 21.05 Environment and Landscape Values
- Clause 21.11 Transport
- Clause 22.10 River Red Gum Protection Policy
- Clause 22.15 South Morang Activity Centre Policy
- Clause 52.37 Post Boxes and Dry Stone Walls

Delivery of new rail services, such as the MREP, is a key component of many of the local policies relating to land use and transport.

Integrated Transport Strategy 2014

The City of Whittlesea's Integrated Transport Strategy recognises the MREP as a near-term priority for improving the City's connectivity to the regional transport system. The Strategy indicates that

Council has advocated for the project to State government and plans to assist in actions that would progress implementation of the MREP, including:

- Reviewing land requirements along the route of the rail line between South Morang and Mernda to ensure that the corridor is protected, potential road/rail grade separations are identified, zoning along the route supports the viability of rail services and potential areas for carriage stabling and/or park and ride are identified;
- Undertake an investigation to determine the location of stations to Mernda; and
- Undertaking work that would underpin the business case for early development of the line.

Shaping Our Future, Whittlesea 2030 Strategic Community Plan (City of Whittlesea)
The Whittlesea Strategic Community Plan lists access to public transport and providing infrastructure to keep pace with population growth as two of the City's top ten priorities. Public input collected for the Plan indicated strong community support for extending the South Morang rail line to Mernda and providing adequate car park facilities at a new Mernda station.

Council Plan, 2013-2017, Shaping Our Future (City of Whittlesea)
The Whittlesea Council Plan includes a Council goal of advocating to State Government for improved public transport to the municipality, particularly in growth areas, including the extension of the South Morang train line to Mernda.

Disability Action Plan 2013-2016 (City of Whittlesea)
Goal 4 of the Whittlesea Disability Action Plan states that 'Appropriate and accessible transport services would be available to meet the varying needs of all residents.' Actions specified under Goal 4 include:

- 4.1.1 Advocate to governments and transport providers to enhance accessibility of public transport services and facilities in the municipality and across the wider network, as advised by the Accessible Parking and Transport Advocacy Working Group of Whittlesea Disability Network; and
- 4.1.2 Ensure that works in the areas of the built environment that link to public transport e.g. footpaths, bus shelters, pedestrian crossings are best practice accessibility.

Structure Plans
The area to the south of the rail corridor between South Morang and the proposed Marymede Station has been partially developed and forms part of the Plenty Valley Town Centre Draft Structure Plan, 2016 (the Plan). The Plan incorporates 200 ha of land to support a range of retail (large format and comparison goods retail), industrial, commercial, civic and residential uses. It includes a heavy focus on public transport connections covering both passenger rail, future light rail and active transport connections.

The extension of the rail line is identified within the Plan and ultimately the provision of new public transport infrastructure is integral to the achievement of the objectives for the precinct.

Mernda Strategy Plan
The Mernda Strategy Plan – Incorporated Document (City of Whittlesea, 2008) states that the extension of a heavy rail service to Mernda is central to the City's overall transport strategy and that the development of the Mernda town centre should be physically supportive of these services. MREP is consistent with the Mernda Strategy Plan.

Planning scheme zones and overlays: South Morang to Mernda

The permanent infrastructure for the MREP between South Morang and Mernda is predominantly sited within an existing rail reserve zoned Public Use Zone 4 (PUZ4) for transport use. An additional parcel of land would also be required to provide for the transport interchange and car parking at the proposed Mernda Station, which is zoned Comprehensive Development Zone 1 (CDZ1) as part of the future Mernda Town Centre. It is proposed that the land required for the Mernda transport interchange and car parking will be acquired and rezoned as part of the Planning Scheme Amendment (PSA) for this Project.

The project area also provides for temporary works outside the rail reserve and includes land in the following planning zones:

- General Residential Zone 1 (GRZ1) – Williamsons Road, South Morang; Old Plenty Road near Marymede Catholic College, South Morang; west of Plenty Road opposite Stagecoach Boulevard, Gordons Road, South Morang; Plenty Road north of Gordons Road, South Morang; Hawkstowe Parade, South Morang; north of Mount Eccles Way, South Morang; north of Grattan Street, South Morang; north-east of Huntingfield Drive, South Morang; The Parkway and Muswellbrook Grove, South Morang and Carriageway Pass and west of the Pass, South Morang;
- Public Use Zone 1 (PUZ1) – north east of Danaher Drive, South Morang; south of Williamsons Road, South Morang; east of Chamonix Parade, South Morang; north of Grattan Street, South Morang; The Parkway, South Morang and west of Carriageway Pass, South Morang;
- Road Zone 1 (RDZ1) – Plenty Road at Gordons Road, South Morang and McDonalds Road, South Morang;
- Road Zone 2 (RDZ2) – at Bridge Inn Road, Mernda;
- Special Use Zone 6 (SUZ6) – Ferres Boulevard near South Morang Station;
- Township Zone (TZ) – Schotters Road, Mernda;
- Commercial 1 Zone (C1Z) – Ferres Boulevard, South Morang;
- Commercial 2 Zone (C2Z) – north east of Plenty Road, South Morang;
- Public Conservation and Resource Zone (PCRZ) – Gordons Road, South Morang; east of Plenty Road opposite Yellowbox Avenue, South Morang; south of Hawkstowe Parade, South Morang and south east of proposed Mernda Station, Mernda; and
- Public Park and Recreation Zone (PPRZ) – East of Plenty Road opposite The Lakes Boulevard, South Morang.

Overlays in the City of Whittlesea intersecting with this section of the project area include:

- Heritage Overlay (HO12, HO19, HO43, HO70, HO116) – Thomas Mill, Bridge Inn Road; Mayfield Farm, Plenty Road; Yan Yean Water Supply System; Bluestone Bridge, Plenty River, Bridge Inn Road; 635 Bridge Inn Road, Mernda;
- Development Plan Overlay (DPO5, DPO6, DPO7, DPO8, DPO15, DPO16, DPO19, DPO25) – Mernda Development Plan; South Morang Development Plan; South Morang Employment Development Plan, South Morang Activity Centre Development Plan; Mernda Town Centre Development Plan; Mernda Township Development Plan; Williams Road Educational and Residential Precinct Development Plan; Plenty Road and McDonalds Road Employment Area Development Plan;
- Development Contribution Plan Overlay (DCPO3, DCPO9) – Drainage Infrastructure Development Contributions Plan and Mernda Precinct 5 Development Contributions Plan;
- Vegetation Protection Overlay (VPO1) – Significant Vegetation (River Redgum Grassy Woodland);
- Floodway Overlay (RFO);
- Land Subject to Inundation Overlay (LSIO).

<u>Planning scheme zones and overlays: Epping to South Morang (High Voltage Cable)</u>

The proposed high voltage cable required for traction power supply between Epping and South Morang will also be sited in the existing rail reserve zoned Public Use Zone 4 (PUZ4) for transport use.

The cable would also cross a number of road reserves with the following zones:

- Commercial 1 Zone (C1Z) – Civic Drive, Epping;
- General Residential Zone 1 (GRZ1) – Pindari Avenue, Epping;
- Public Use Zone 1 (PUZ1) – north of Epping Station and west of Campbell Street, Epping and south of the rail reserve from Varga Close to Civic Drive, Epping;

- Road Zone 1 (RDZ1) – Cooper Street, Epping;
- Activity Centre Zone 1 (ACZ1) – north of Epping Station from Campbell Street to Darebin Creek, Epping;

Overlays in the City of Whittlesea intersecting with this section of the project area include:

- Development Contribution Plan Overlay (DCPO3, DCPO14) – Drainage Infrastructure Development Contributions Plan and Epping Central Development Contributions Plan;
- Vegetation Protection Overlay (VPO1) – Significant Vegetation (River Redgum Grassy Woodland);
- Parking Overlay (PO1) – Epping Central;
- Public Acquisition Overlay (PAO2) – VicRoads;
- Road Closure Overlay (RXO);
- Special Building Overlay (SBO); and
- Land Subject to Inundation Overlay (LSIO).

Further detail Is provided in the Land Use Impact Assessment (Attachment 8).

Planning Zone and Planning Overlay maps are provided in Attachments 1d and 1e.

Local government area(s): City of Whittlesea

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity
(cf. general description of project site/study area under section 7)**:**

The MREP is predominately within an existing rail reserve. The alignment generally follows the route of the original Whittlesea Railway Line, with zoning (Public Use Zone 4) and ownership (VicTrack) that still reflect this railway use. The environment within the rail reserve remains substantially modified due to its past use as an active rail line. The former Whittlesea Railway Line is also still evidenced by the ballast that remains, cuttings through volcanic rock and a series of bridge culverts and other associated rail infrastructure. The degree of disturbance varies along the corridor.

The majority of the project area consists of a combination of old and new predominantly residential urban development, with some undeveloped land earmarked for further development such as the Mernda Town Centre.

Key environmental assets identified within and the vicinity of the project area include the following and are detailed below:

- **Flora and Fauna -** the Matted Flax-Lily *Dianella Amoena* (EPBC and FFG Act listed species) recorded in the McDonald's Road Offset Site (established as part of the South Morang Rail Extension EPBC 2010/5313). A map of the McDonald's Road Offset Site is included as Attachment 1f.
- **Aboriginal Cultural Heritage and Historic Heritage** - the project area comprises two recorded Aboriginal Sites and one heritage place listed on the Victorian Heritage Register (VHR) - the Yan Yean Water Supply System.
- **Landscape and built form characteristics**
- **Water environment** - the project area comprises a number of waterways and three flood prone areas.
- **Geology and soils**

Flora and Fauna
Desktop and field assessments were conducted to identify key ecological values in the project area. Further detail of the field surveys conducted can be found in Section 12 and the Ecological Assessment (Attachment 2).

Key findings identified in the project area include:

- Vegetation within the project area largely consists of disturbed native vegetation with a River Red Gum overstorey growing amongst cleared areas dominated by exotic pasture grasses including Kangaroo Grass *Themeda triandra*;
- Overall, 10.50 ha of native vegetation, of which 9.19 ha is the FFG Act listed ecological community Floristic Community 55-04 Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community was observed in the project area. Of this, 2.08 ha also qualifies as EPBC Act listed Grassy Eucalypt Woodland of the Victorian Volcanic Plain which was recorded in the south of the project area between McDonalds Road and the South Morang Railway Station Carpark (north), which corresponds to the area established as an offset site as part of the South Morang Rail Extension Project. This vegetation community provides suitable habitat for the Matted flax-lily. Generally the quality of the understorey was higher in the southern and central parts of the project area;
- One threatened listed species, Matted flax-lily *Dianella amoena* (EPBC Act and FFG Act listed species), was identified with 186 individual plants recorded in the project area including 109 within the McDonalds Road Offset Site (established as part of the South Morang Rail Extension EPBC 2010/5313);
- Potential habitat for a number of EPBC Act, State and regionally significant fauna species including Clover Glycine, Growling Grass Frog and Swift Parrot. Targeted surveys were undertaken in the project area and the following findings were made:
  - Targeted surveys did not record any occurrences of Clover Glycine and most of the project area was considered unsuitable habitat due to the degraded understorey;
  - Swift Parrot was not recorded during targeted surveys. This is likely to be due to the presence of competing species and absence of high quality habitat in the project area;

  - No Growling Grass Frog were observed during the targeted assessment. None of the potential habitat surveyed was considered suitable breeding habitat for the species and there are several barriers to dispersal from nearby waterbodies;
- One hundred and seventy-eight scattered remnant trees were recorded within the project area. Scattered remnant trees were mostly River Red Gum that formed the overstorey of the Plains Grassy Woodland patches.

Aboriginal cultural heritage
A draft Cultural Heritage Management Plan (No. 13635) is being prepared for the MREP by Vincent Clark and Associates (VCA 2016a). This has involved consultation with the Wurundjeri Tribe Land and Compensation Cultural Heritage Council (Registered Aboriginal Party), a review of background information (desktop assessment), ground survey (standard assessment) and test excavations (complex assessment).

A review of the Victorian Aboriginal Heritage Register (VAHR) identified 31 previously recorded Aboriginal places within 200m of the project area; two of these records are within the project area: one scarred tree south of Bridge Inn Road and an artefact scatter beside Plenty Road.

The standard and complex assessment completed to date identified an additional four sites within the project area. The additional sites recorded included isolated artefacts and lithic artefacts.

Further details about Aboriginal Cultural Heritage are provided in section 15.

Historic heritage
A historical heritage assessment was prepared for the MREP (VCA, 2016b). The assessment identified recorded historical cultural heritage values within the project area and provided management recommendations in relation to the values identified. Based on the desktop assessment and field survey, there are 13 historic sites within the project area that generally relate to the former railway use and early settlement in the area. Details of cultural heritage values, including a site by site description, are provided in section 15.

Of the 13 historic sites, one site (the Yan Yean water supply system) is listed on the Victorian Heritage Register (VHR), which covers places of state level significance, nine are listed in the Victorian Heritage Inventory (VHI), which covers historical archaeological sites and three are subject to the City of Whittlesea Heritage Overlay (HO), which covers places of local significance. Two sites were formerly listed on the VHI but have been delisted.

Landscape and built form characteristics
A Landscape and Visual Impact Assessment (Attachment 4) was completed to assess the key sensitivities and potential impacts with regard to landscape character and visual change associated with the project and recommendations for managing landscape and visual amenity of the project.

The majority of the project area is described as *Flat residential* which consists of a combination of old and new predominantly residential urban development, with some undeveloped land earmarked for further development such as the Mernda Town Centre. A part of the project area, along the Plenty River and Plenty Gorge, is described as the *River corridor.* The section of the project area located between the existing South Morang Station and the proposed Marymede station and the South Morang Terminal Station are described as *Utility reserves*.

Further details are provided in sections 14 and 15.

Groundwater and surface water
Initial desktop information indicated the groundwater in the project area is predominantly between five and ten metres below the ground level; however, recent field measurements from the monitoring bores show that groundwater levels are between 2m and 13m, generally deeper to the south and shallower to the north (GHD-AECOM, 2016b).

At most sites within the project area, the underlying Basement Rocks Aquifer is likely to be too deep to be relevant to the project.

The project area is within Plenty River catchment which is part of the upper reaches of the Port Phillip and Westernport Catchment. The Plenty River flows generally north-south from the Great

Dividing Range north of Whittlesea to the junction with the Yarra River at Viewbank, and is located east of the project area.

The Plenty River catchment is a declared water supply protection area under the *Water Act 1989* (Vic), meaning consumptive water use is subject to a stream flow management plan. MREP does not impact upon consumptive water use.

The main drainage points in the project area are Simon Creek and Wiltonvale Creek which drain into the Plenty River. Simon Creek and Wiltonvale Creek are associated with drainage from the adjacent residential area. A number of Melbourne Water drainage plans also apply to the site.

There are 15 existing stormwater drainage crossings within the project area, with three located in the section for HV cabling. The work for the HV cable is not anticipated to have any significant impact on the surface water and the existing waterway crossings in these locations.

The project area intersects three areas of land subject to inundation. One area is located at the end of Gordons Rd on the Plenty River at the potential location of a drainage outlet. The other two areas are located in the Epping to South Morang Section, where the proposed high voltage cable will cross Hendersons Road Drain and Darebin Creek.

Further details in relation to water environment within the project area are provided in section 13.

Geology and soils

Desktop research indicated that the site is underlain by Quaternary aged basalt representative of the Newer Volcanics Formation (GHD-AECOM, 2016a). During the field investigation the following soil conditions were encountered:

- Fill within the former track formation was generally thin: 0.1 to 0.6 m and consisted of brown silty clay and silt within remnant rail ballast. Fill outside the track formation did not contain ballast;
- Natural soil consisted of firm-stiff brown clay and silty clay, and was interpreted to be the weathered profile of newer volcanics basalt; and
- Basalt rock was encountered at shallow depths, generally 0.25 to 0.6 m.

Further details in relation to geology and soils within the project area are provided in section 14.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☐ No ☒ Yes If yes, please provide details.

All land within the rail reserve is owned by VicTrack on behalf of the Victorian Government.

Access may be required to some parts of the Plenty Gorge Park, which is Crown land under the control of Parks Victoria. The land in question is outside of the rail reserve, but within the project area, and may be required for temporary construction and ancillary works associated with drainage improvements and road modifications.

Current land tenure (provide plan, if practicable):

The high voltage cable to be installed between the existing Epping Substation and the existing South Morang Tie-Station would be located within the existing operational rail reserve.

The permanent railway infrastructure works would be located within the existing rail reserve between South Morang and Mernda.

Some additional land, currently private freehold, would be required to provide for the transport interchange and car parking facilities at the proposed Mernda Station. LXRA is currently in discussions with the land owner.

The MREP project area also includes some public land parcels that would provide for temporary construction laydown areas, temporary construction access and for ancillary works associated with drainage and road modifications.

Access to a parcel of private land may be required temporarily for construction access to the south of the Plenty Road / Gordons Road crossing, subject to further development of the construction methodology and consultation with the landowner.

Intended land tenure (tenure over or access to project land):

VicTrack would retain ownership of the rail reserve.

The land required for the transport interchange and car parking at the proposed Mernda Station is proposed to be acquired by the Secretary of the Department of Economic Development, Jobs, Transports and Resources and will be subsequently transferred to VicTrack.

Land required temporarily for construction would be reinstated and returned to the original owners and/or managers.

Other interests in affected land (eg. easements, native title claims):

The project area for the MREP does not intersect with any known native title claims.

The project area interfaces with the following infrastructure:

- Existing roads (at grade separated rail crossings);
- Easements for overhead power transmission lines;
- Drainage structures and overland flow paths; and
- Utilities.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

Commonwealth
Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)
The MREP has been referred to the Minister for the Environment under the EPBC Act for a decision on whether the MREP is a 'controlled action' and requires further assessment and approval (reference 2016/7674). The referral was made on the basis of potential impacts to the EPBC Act listed species Matted Flax-lily and listed ecological community Grassy Eucalypt Woodland of the Victorian Volcanic Plain.

Notification has been received that the MREP is a Controlled Action under section 18 and 18A of the EPBC Act (listed species and communities) and that the Project will be assessed via preliminary documentation.

The preliminary documentation will provide information on the following:

- A description of the action;
- Impacts to Matters of National Environmental Significance;
- Proposed avoidance, management and mitigation measures;
- Salvage translocation of the Matted Flax-lily;
- Proposed offset package (including compensation for impacts to the existing McDonalds Road offset site established under);
- Social and economic impacts of the action;
- Ecologically sustainable development;
- Environmental record of the person proposing to take the action; and
- Other approvals and conditions.

State
Consideration is being given to declaration of the MREP under the *Major Transport Projects Facilitation Act 2009* for the purpose of project delivery.

LXRA will request that the Minister for Planning considers a Planning Scheme Amendment to facilitate planning approval for this State significant project in accordance with the *Planning and Environment Act 1987* (Vic). Much of the project can be carried out without the need for planning permits, but a site specific provision reduces the need for isolated individual permits where they arise.

Provisions in the Whittlesea Planning Scheme that need to be addressed include:

- Subdivision of land required for the Mernda Transport Interchange;
- The current planning zone and development overlay on the land required for the Mernda Transport Interchange;
- Removal of native vegetation in the project area;
- Removal of red gum trees in the project area;
- Works in Heritage Overlays and potential impacts to dry stone walls;
- Works on land affected by a Floodway Overlay (FO), Special Building Overlay (SBO) or the Land Subject to Inundation (LSIO) must be undertaken to the satisfaction of the relevant floodplain management authority;

A Cultural Heritage Management Plan (13635) is currently being finalised for the Project. The CHMP has been developed in accordance with the *Aboriginal Heritage Act 2006.*

Authorisation under other Victorian legislation is also likely to apply, including:

- *Flora and Fauna Guarantee Act 1995* (Vic) – a permit to take protected flora;

- *Heritage Act 1995* (Vic) – a permit to disturb the Victorian Heritage Register site; Yan Yean Water Supply System (H2333), and consents to disturb Victorian Heritage Inventory sites;
- *Road Management Act 2004* (Vic) – a consent for works within a road reserve;
- *Water Act 1989* (Vic) – a licence to use groundwater and/or a permit for works on waterways; and
- *Wildlife Act 1975* (Vic) – a management authorisation to remove any wildlife.

Have any applications for approval been lodged?

☐ No ☒ Yes If yes, please provide details.

A referral has been lodged with the Commonwealth under the EPBC Act (reference 2016/7674).

Approval agency consultation (agencies with whom the proposal has been discussed):

A program of stakeholder consultation has been undertaken including discussions with the following approval agencies:

- City of Whittlesea;
- Commonwealth Department of the Environment;
- Department of Economic Development, Jobs, Transport and Resources;
- Department of Environment, Land, Water and Planning;
- Department of Premier and Cabinet;
- Department of Treasury and Finance;
- Heritage Victoria;
- Melbourne Water;
- Public Transport Victoria;
- VicRoads;
- VicTrack; and
- Wurundjeri Tribe Land and Compensation Cultural Heritage Council.

Other agencies consulted:

A program of stakeholder consultation has been undertaken including discussions with the following other agencies:

- Metropolitan Planning Authority;
- Metro Trains Melbourne;
- Office of Aboriginal Affairs Victoria; and
- Office of the Victorian Government Architect.

An extensive community engagement program commenced in late 2015. Community information sessions were held in March and May 2016 to support project planning.

Further details are provided in section 20 and Attachment 9.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

Extensive studies and community and stakeholder consultation have been undertaken to inform and assess the design.

Initially a series of concept design options were used to define the project area that would be investigated, allowing for all design options and additional land that may be temporarily required for construction activities (including site compound, storage areas, site access, etc.).

The studies (listed in section 1) have taken the conservative assumption that all land within the project area would be impacted by the project. In reality, it is reasonable to expect that further refinement of the design and construction methodologies will enable reductions in both the temporary construction and ongoing operational impacts of the project on the environment.

At the strategic level, the use of the existing disturbed rail reserve presents significant advantages such as:

- Minimising ecological impacts by utilising an area disturbed by the former railway use;
- Minimising Aboriginal cultural heritage impacts by utilising an area disturbed by the former railway use;
- Minimising residential and commercial land acquisition by utilising a railway reserve that is already owned by VicTrack; and
- Supporting the orderly use and development of land by utilising land that is already set aside for railway use.

The studies undertaken in relation to the MREP identified the following two environmental impacts as being potentially significant:

- the clearing of 129 endangered Matted Flax-lily; and
- the clearing of 0.82 hectares of the critically endangered grassy eucalypt woodland of the Victorian volcanic plan ecological community.

Key potentially significant environmental effects

In accordance with the '*Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978*' (Victorian Government, 2006), the need for this referral is based on the potential impacts on the listed Matted Flax-lily *Dianella amoena*.

The existing rail reserve passes through the McDonalds Road conservation area, which is classified as Grassy Eucalypt Woodland of the Victorian Volcanic Plain and was established as an offset site for the South Morang Extension Project. Extension of the existing railway along the alignment of the former Whittlesea Railway Line necessitates clearance of up to 0.82ha of the 2.08ha site, and the remaining area of 1.26 ha will continue to be protected as a no-go zone. While this represents a loss of less than 0.001% of the predicted extent of the ecological community in Australia, the likely impact is considered to be significant under the EPBC Act.

The ecological assessment identified 186 individual listed endangered Matted Flax-lily *Dianella amoena* within the project area of which, based on the reference design, 129 could be directly impacted. To mitigate and compensate for this impact, the plants will require translocation prior to construction, including 52 within the McDonalds Road offset site. This is estimated to represent approximately five per cent of the estimated 2,500 plants remaining in Victoria (refer Section 12 and Attachment 2).

There is a potential for there to be some variation in the final quantification of impacted plants. Site surveys have indicated that prevailing weather conditions can influence the ability to locates and identify plants. All known plants have been marked on site and a further survey will be undertaken before plants are salvaged to determine final plant numbers to be translocated.

Matted Flax-lilies have been successfully trans-located on previous projects and most notably for the South Morang Rail Extension Project. LXRA and its advisers are confident that any impacts will be mitigated through compliance with the approval requirements of the EPBC Act.

Other potential environmental effects

Other potential environmental impacts are listed below. These are not considered to be potentially significant. Impacts have been largely eliminated with the adoption of range of environmental management measures for the MREP (refer to section 18).

Potential impact	**Governing Legislation**
Potential direct impact on 7.89 ha of Plains Grassy Woodland (EVC 55_61)	State (*Environment Effects Act 1978* and *Planning and Environment Act 1987*)
Potential direct impact on 0.03 ha of Plains Sedgy Wetland (EVC 647)	Federal (EPBC Act)
Potential direct impact on 7.38ha of the 9.19ha ecological community Floristic Community 55-04 Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community (2.08ha of this community also qualifies as Grassy Eucalypt Woodland of the Victorian Volcanic Plain)	State (*Environment Effects Act 1978* and *Planning and Environment Act 1987*) Federal (EPBC Act) for the Grassy Woodland of the Victorian Volcanic Plain
Removal of up to 158 of the 178 scattered remnant trees	State (*Planning and Environment Act 1987*)

Based on the Ecological Assessment (Attachment 2), potential impacts to fauna are unlikely (refer also to section 12).

Aside from potential ecological impacts, additional potential environmental impacts are listed below.

- **Noise and vibration:** Noise modelling showed that there would potentially be exceedances of the applicable noise criteria from the passenger rail service and the sidings. Noise mitigation measures will be implemented to achieve compliance with the Passenger Rail Infrastructure Noise Policy (PRINP) and State Environment Protection Policy- N1 (SEPP-N1) (refer Section 15 and Attachment 6);
- **Landscape and visual:** No significant landscape character impacts were identified as part of the Landscape and Visual Impact Assessment (Attachment 4). Opportunities to mitigate potential visual and lighting impacts have been identified including the retention of vegetation (where feasible), urban design, landscaping and minimising visual mass of structures (refer section 14);
- **Cultural heritage:** Investigations of cultural heritage in the project area identified one scar tree, two sites of artefact scatter and artefacts at a further three sites. Heritage values will be protected through the implementation of the Cultural Heritage Management Plan under the *Aboriginal Heritage Act 2006* (VCA, 2016a).
- **Historic heritage:** A number of sites of historic heritage associated with the former railway use and earlier settlement were identified in the project area (refer Section 15 and VCA, 2016b). Heritage values will be protected through compliance with the relevant heritage permits and consents under the *Heritage Act 1995*.
- **Construction:** Impacts associated with a project of this type could typically include noise, vibration, dust, traffic congestion, spillage, erosion, etc. These impacts can be avoided, reduced or managed through the implementation of appropriate controls and standard industry practices, including compliance with the Environment Protection Authority Publication No. 480 - Environmental Guidelines for Major Construction sites.

Section 18 provides further information on the measures being implemented to avoid, reduce and manage environmental impacts.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

An Ecological Assessment of the MREP was undertaken (refer Attachment 2) including:

- Desktop assessment of databases and previous ecological investigations;
- Field assessments completed in June, August, September, October and November 2015, and February and March 2016 including:
  - Remnant vegetation mapping and Vegetation Quality Assessment;
  - Threatened ecological community assessment;
  - Targeted surveys for Swift Parrot, Matted Flax-lily, Clover Glycine and Growling Grass Frog;
  - Identification and mapping patches of native vegetation and undertaking habitat hectare assessment to delineate different Habitat Zones; and
  - Identification and mapping of scattered indigenous trees within the project area.

What is the maximum area of native vegetation that may need to be cleared?

☐ NYD Estimated area 7.6 hectares (of 10.50 ha within the project area)

This estimate includes all areas required for rail infrastructure works as well as ancillary work areas.

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A ……. approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Detailed assessment completed. If assessed, please list.

Based on the Ecological Assessment (Attachment 2), the project area contains 10.50 ha of native vegetation including:

- 9.20 hectares of Plains Grassy Woodland (EVC 55_61);
- 0.41 hectares of Plains Sedgy Wetland (EVC 647);
- 0.06 hectares of Riparian Scrub (EVC 191);
- 0.12 hectares of Riparian Woodland (EVC 641);
- 0.05 hectares of Swamp Scrub (EVC 53);
- 0.19 hectares of Swampy Riparian Woodland (EVC 83); and
- 0.47 hectares of Valley Grassy Forest (EVC47).

In addition there are 178 scattered remnant trees within the project area, of which up to 158 may need to be removed. Scattered remnant trees are mostly River Red Gum and these form the overstorey of the Plains Grassy Woodland patches.

Based on the current reference design, up to approximately 7.6 ha of native vegetation would be directly impacted by the project comprising approximately 7.36 ha of Plains Grassy Woodland (EVC 55_61) and 0.05 ha of Plains Sedgy Wetland (EVC 647).

Have potential vegetation offsets been identified as yet?

☒ NYD ☐ Yes If yes, please briefly describe.

An Offset Management Plan is being prepared, which will identify potential vegetation offsets.

Habitat hectare and scattered tree data from the field assessment has been provided to DELWP to prepare a Biodiversity Impact and Offset Requirements (BIOR) report to determine the risk-pathway and offset requirements for the project. Vegetation offsets would be secured prior to construction to comply with Commonwealth and State requirements.

Offsets required under the EPBC Act will also need to address impacts to the existing offset site at McDonalds Road, consistent with the EPBC Act Environmental Offsets Policy (October 2012).

Other information/comments? (eg. accuracy of information)

The information in this section has been informed by GHD-AECOM (2016c) Ecological Assessment (refer Attachment 2).

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

An Ecological Assessment of the MREP was undertaken (Attachment 2) including:

- Desktop assessment of databases and previous ecological investigations, and a likelihood of occurrence assessment for threatened species
- Field assessment including a vegetation quality assessment, and survey for listed threatened ecological communities, and seasonally-appropriate targeted surveys for listed threatened species, which informed a final likelihood of occurrence assessment, consideration of potential impacts, and development of appropriate management controls and mitigations (refer to section above for further detail).

Have any threatened or migratory species or listed communities been recorded from the local area?

☒ NYD ☒ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Listed threatened species
As part of the Ecological Assessment (Attachment 2), the initial likelihood of occurrence assessment (undertaken as part of the desktop assessment) informed which species should be considered for targeted surveys. This was based on the presence of potential species habitat, species ecology, and species records and modelling.

In relation to FFG Act and EPBC Act listed threatened species, the initial likelihood of occurrence assessment found those with a moderate or higher likelihood of occurrence to be:

- Clover Glycine *Glycine latrobeana;*
- Matted Flax-lily *Dianella amoena*;
- Growling Grass Frog *Litoria raniformis*; and
- Swift Parrot *Lathamus discolour*.

The findings of the field assessment that followed the initial likelihood of occurrence are summarised in Table 3.

Table 3: Summary of listed threatened species within the project area (GHD-AECOM, 2016c)

Species	Summary	Listing
Clover Glycine *Glycine latrobeana*	The Clover Glycine was not recorded in the project area. While the initial desktop assessment identified a moderate likelihood of occurrence, the field assessment found most of the project area, including remnant patches, consisted of a degraded understorey and was considered unsuitable habitat for Clover Glycine due to the high biomass of exotic grasses. Nonetheless, targeted surveys were completed to confirm the likelihood of species occurrence in the project area. Better quality remnant patches were considered to have a higher potential to support the species because of their archetypal Kangaroo Grass-grassland structure, yet Clover Glycine was not observed despite extensive searching. In addition to weed cover, pressure from rabbit and kangaroo grazing is likely to be a major barrier to the species' persistence in the project area as well as the wider landscape (there is only one record for Clover Glycine in the surrounding 5 km). It is concluded that Clover Glycine is unlikely to occur in the project area.	Listed as vulnerable under the EPBC Act and the FFG Act.
Matted Flax-lily *Dianella amoena*	A total of 186 individual plants were recorded in the project area. Most were in a healthy condition with those in the McDonalds Road Offset Site (established as part of the South Morang Rail Extension EPBC 2010/5313) mature with evidence of recent flowering. Elsewhere, Matted Flax-lily occurred in a number of different habitats including at the base of River Red-gums often co-existing with other *Dianella* species, on degraded rocky escarpments dominated by exotic grasses and in shallow depressions. In these areas plants were mostly immature and did not contain old flowering stems suggesting they have probably sprouted from subterranean rhizomes in the past twelve months.	Listed as endangered under the EPBC Act, listed under the FFG Act
Growling Grass Frog *Litoria raniformis*	The Growling Grass Frog was not recorded at the four sites with aquatic habitat that are considered to have potential to support the species within the project area. The project area is not considered a suitable breeding habitat for the species (GHD-AECOM, 2016c). The project area is also not considered suitable for dispersal of the species. While database search results suggest that local populations of Growling Grass Frog occur along the nearby Darebin Creek and Plenty River, urbanisation provides an impenetrable barrier for dispersal from these locations through the project area (GHD-AECOM, 2016c). Further to this, surveys in 2013 by Wildlife Profiles in the Plenty Gorge Park did not record any individuals in this area.	Listed as vulnerable under the EPBC Act, listed under the FFG Act

Swift Parrot *Lathamus discolour*	Swift Parrot was not recorded in the project area even though weather conditions, timing and survey effort were considered adequate to determine the presence of the species and were consistent with EPBC Act survey guidelines (Department of Environment, Water, Heritage and the Arts (DEWHA), 2010). The project area is not considered to support an important Swift Parrot foraging resource due to: • The presence of scattered trees, rather than intact woodland • The dominance of River Red Gum that tend to flower in spring and summer when the species is breeding in Tasmania • The presence of Noisy Miner which competes aggressively for food sources (and is identified as a key threatening process for Swift Parrot under the EPBC Act). This assessment is further supported by the project area not forming part of the identified priority habitat for conservation management of Swift Parrot foraging resource. As a result, the species is considered to have a low likelihood of occurrence, with larger, more intact areas of habitat in the surrounding landscape expected to be preferred for winter-foraging compared to the scattered remnant and fragmented woodland trees found across the project area.	Listed as endangered under the EPBC Act

Listed threatened ecological communities
The GHD-AECOM field assessment identified only one FFG Act listed threatened ecological community, being:

- Floristic Community 55-04 Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community – this community is synonymous with patches of EVC 55 Plains Grassy Woodland located between Whittlesea, Craigieburn and Epping. A total of 9.19 ha of the community was recorded within the project area.

Listed migratory species
Desktop assessment for listed migratory species identified 13 listed migratory species with the potential to occur within 5km of the project area. Following an initial likelihood of occurrence assessment (based on the presence of potential species habitat, species ecology, and species records and modelling), only one was found to have a moderate or higher likelihood of occurrence, being:

- Latham's Snipe *Gallinago hardwickii*.

Latham's Snipe *Gallinago hardwickii* was not recorded in the project area during the field assessment. The potential habitat within the project area was considered of only marginal value, with this species dispersing over large distances and having broad habitat requirements, there is a low potential the species may over-fly in low numbers, or forage in the project area on route to better habitat or breeding sites.

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.

Of the Potentially Threatening Processes listed under the *Flora and Fauna Guarantee Act 1988*, the only potentially threatening process relevant to the MREP is habitat fragmentation. However, within the rail reserve the habitat is substantially modified due to its past use as an active rail line. The former Whittlesea line is evidenced by the ballast that remains, cuttings through volcanic rock and a series of bridge culverts and other associated rail infrastructure.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☒ NYD ☒ No ☒ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing). Comment on likelihood of effects and associated uncertainties, if practicable.

The nature and extent of potential impact from the MREP on listed threatened species, ecological communities and migratory species is:

Species investigated, but not recorded, and not likely to be impacted by the MREP:

- Clover Glycine *Glycine latrobeana*;
- Swift Parrot *Lathamus discolour;*
- Growling Grass Frog *Litoria raniformis*;
- Swift Parrot *Lathamus discolour;* and
- Latham's Snipe *Gallinago hardwickii*.

Species likely to be impacted by the MREP

- Matted Flax-lily *Dianella amoena* – based on the reference design, Matted Flax-lily plants would be directly impacted by the project and require translocation prior to construction (with 129 identified as requiring translocation in the most recent surveys, including 52 within the existing McDonalds Road Offset Site); and
- Floristic Community 55-04 Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community – based on the reference design, approximately 7.38 ha of this community would be potentially directly impacted by the project.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

<u>Refinement of the project area</u>

The project area was established to ensure that the potential impacts of all design options being considered could be properly investigated. As the design of the project is developed and further refined, it is appropriate to review the extent of the project area and to reduce it where practicable in order to reduce impacts on land use and the environment. This process has started and will result in a reduction of the land required outside the rail reserve for temporary construction activities and access, mitigating the potential effect on indigenous flora and fauna.

The reduced project area will be finalised before planning approval is sought for the project.

<u>Mitigation of significant impacts</u>

The project is a Controlled Action under section 18 and 18A of the EPBC Act (listed species and communities) and it will be assessed via preliminary documentation. LXRA is currently addressing the information requirements for assessment of the project, which will include further development of the Matted Flax-lily Translocation Plan and development of an offset package to compensate for residual significant impacts, including the impacts to the existing offset site at McDonalds Road.

The Matted Flax-lily Translocation Plan (Attachment 3) has been developed for the salvage, management and translocation of this species.

Consultation has commenced with DELWP, Parks Victoria and the City of Whittlesea to locate a suitable recipient site and identify the required vegetation offsets. Initial recipient sites identified for the Matted Flax-lily include:

- McDonald's Road Offset Site, South Morang;
- Western Grassland Reserve;

- Nearby Conservation Areas in Wollert and Epping; and
- Plenty Gorge Park, South Morang.

Mitigation of impacts to vegetation

The management approach established for vegetation will be to avoid disturbance where practical. Where disturbance of vegetation cannot be avoided, the approach will be to restrict disturbance to the minimum extent required to complete the works and to offset native vegetation losses. Areas of native vegetation will be clearly identified prior to works commencing in an area and options to minimise the impacts of works on the native vegetation considered. Any trees requiring removal will be pre-inspected for wildlife and suitably permitted wildlife handlers available to assist as required.

Opportunities to identify vegetation and trees that can be protected for the duration of the works will be identified during the detailed design and construction planning phase. No Go Zone (NGZs) and Tree Protection Zones (TPZs) will be established around these areas and trees. NGZs and TPZs will be included at the worksite management plan level as they are 'live' documents and essential for the construction crews to utilise. These will be progressed during the detailed design and in consultation with relevant stakeholders, such as Council where required. NGZs and TPZs will be established to provide a physical protection barriers in an effort to reduce impacts from construction vehicles consistent with the requirements of AS4970.

Kangaroo Management Plan

Several mobs of Eastern Grey Kangaroo are present in the area and are valued by the community. A Kangaroo Management Plan will be developed to address:

- Measures to prevent kangaroos entering the construction site;
- Measures to prevent kangaroos entering the operational railway;
- Maintaining kangaroo habitat and movement corridors; and
- Identification and management of any issues associated with displacement of the kangaroos as a result of the project.

Further detail is provided in section 18.

Other information/comments? (eg. accuracy of information)

The information in this section has been informed by:

- Ecological Assessment (Attachment 2); and
- Matted Flax-lily Translocation Plan (Attachment 3).

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?
☐ NYD ☒ No

Construction and operation of the project would not require significant volumes of freshwater.

Will the project discharge waste water or runoff to water environments?
☒ NYD ☐ No

Construction of the project would not require significant discharge of wastewater or runoff to water environments, with this avoided wherever possible (GHD-AECOM, 2016i).

A Construction Environmental Management Plan (CEMP) will be developed which will manage and monitor construction work in accordance with:

- The requirements of any Works on Waterways Permits and SEPP (Waters of Victoria); and
- Guidelines and practices such as the EPA publication 480 *Environmental guidelines for major construction sites* in particular:
  - Erosion and sediment control;
  - Management of contaminated stormwater; and
  - Procedures for working in waterways and floodplains.

Operation of the Mernda Rail Extension will not result in discharge of waste water to the environment. Runoff from impermeable areas, such as car parks and building roofs, will be managed through Water Sensitive Urban Design (WSUD). The project will require a Green Building Council Rating of four stars for the station buildings (the highest rating that can currently be achieved), which is likely to result in use of rain water tanks.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?
☐ NYD ☒ No ☐ Yes

MREP is within Plenty River catchment, but does not cross the Plenty River. It crosses Darebin Creek, Simon Creek, Mernda Drain, Wiltonvale Creek and a number of other unnamed ephemeral drainage lines that flow to the river. As part of MREP, there would be drainage improvements on Melbourne Water, Parks Victoria and Council managed land, which flow into these waterways (refer to Figure 1). Drainage design is subject to development and refinement informed by consultation with Melbourne Water, Parks Victoria and Council.

The design avoids interception of surface water systems where possible, or is otherwise integrated with the existing systems.

Construction impacts will be managed and monitored through development and implementation of a Construction Environmental Management Plan (CEMP) in accordance with the requirements of the Environment Protection Act 1970 (Vic) and its subsidiary State Environment Protection Policies, including but not limited to:

- The requirements of any Works on Waterways Permits and SEPP (Waters of Victoria);
- Guidelines and practices such as the EPA publication 480 *Environmental guidelines for major construction sites*, and in particular:
  - Erosion and sediment control;
  - Management of contaminated stormwater; and
  - Procedures for working in waterways and floodplains

(GHD-AECOM, 2016i).

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☒ No ☐ Yes

Based on the Ecological Assessment (Attachment 2), it is unlikely that any waterways within the project area support threatened or migratory species, as a result of reduced habitat values, small areas or lack of suitable vegetation.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ No ☐ Yes

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site is the closest Ramsar wetland and is located approximately 50 km south of the project area. The project would not impact this site.

Could the project affect streamflows?

☐ NYD ☒ No ☐ Yes

Could regional groundwater resources be affected by the project?

☐ NYD ☒ No ☐ Yes

As noted in section 4, alternative design solutions were considered in the vicinity of Hawkstowe Parade and Bridge Inn Road, where the existing water table is closer to surface level. An elevated alignment has been adopted at these locations, avoiding interception of groundwater.

Construction and operation of the project would not affect regional groundwater resources. Any effect on groundwater of the sections of the project in cut would be temporary and localised, with changes to groundwater quality and long term flows considered unlikely.

Design and construction will avoid interception of groundwater systems where possible by selecting construction methods that minimise the need for groundwater control, such as the use of elevated options or temporary dewatering if required. A CEMP will be developed which will manage and monitor construction work in accordance with:

- The requirements of any groundwater licence and SEPP (Groundwaters of Victoria); and
- Guidelines and practices such as the EPA Publication 480 Environment Guidelines for Major Construction Sites (EPA Victoria, 1996).

(GHD-AECOM, 2016b)

Could environmental values (beneficial uses) of water environments be affected?

☐ NYD ☒ No ☐ Yes

The Ecological Assessment (Attachment 2) did not identify any potential environmental values of water environments that could be affected.

Could aquatic, estuarine or marine ecosystems be affected by the project?

☐ NYD ☒ No ☐ Yes

The Ecological Assessment (Attachment 2) did not identify any potential significant effects on aquatic, estuarine or marine ecosystems.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

The Ecological Assessment (Attachment 2) did not identify any potential significant effects on aquatic, estuarine or marine ecosystems.

Is mitigation of potential effects on water environments proposed?
☐ NYD ☐ No ☒ Yes

The following items were key considerations when identifying potential management measures:

- Long term groundwater inflow is likely to be minimal as the excavations will be sealed where significant inflow is anticipated and as such groundwater inflow will only occur during construction phase at the cut locations;
- A groundwater extraction licence would likely be required from Southern Rural Water if groundwater control is needed;
- The level of groundwater control would be dependent on:
  - The specific construction methods (to be confirmed) and length of open excavation;
  - The depth of the excavation below the groundwater level; and
  - The aquifer parameters (to be tested) (GHD-AECOM, 2016b).

The measures to mitigate potential impacts on groundwater include:

- Construction methods selected to minimise the need for groundwater extraction and disposal;
- Trade waste agreement for disposal to sewer to manage disposal of extracted groundwater;
- Provision of alternative supply if there is interference with local groundwater users; and
- Implementation of hazardous material storage and handling procedures (GHD-AECOM, 2016b).

The measures to mitigate potential impacts on surface water include:

- Specification of bridges and culverts at all designated cross drainage locations so that there is negligible afflux (increase in water levels) upstream and downstream of the proposed rail alignment;
- Specification of on-site detention to reduce runoff from newly established areas (i.e. rail reserve, station carparks etc.) back to pre-developed conditions flows; and
- Specification of WSUD to reduce stormwater pollutant entering waterways from newly established areas (i.e. rail reserve, station carparks etc.) (GHD-AECOM, 2016i).

Construction activities would follow the EPA Publication 480, and in particular:

- Erosion and sediment control;
- Management of contaminated stormwater; and
- Procedures for working in waterways and floodplains.

Other information/comments? (eg. accuracy of information)
The information in this section is primarily based on the following:

- Preliminary Groundwater Impact Assessment (GHD-AECOM, 2016b)
- Ecological Assessment (Attachment 2)
- Memorandum: Surface Water Findings (GHD-AECOM, 2016i)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

No ☒ Yes If yes, please attach.

The study methodology for the Landscape and Visual Impact Assessment (GHD-AECOM, 2016e - Attachment 4) included the following key tasks:

- Understanding the landscape character for the project area and project context;
- Defining the project area;
- Undertaking a landscape character impact assessment;
- Identifying key existing viewpoints;
- Assessing visual amenity of the project;
- Assessing the extent to which the project meets the landscape planning objectives for the project area; and
- Providing mitigation measures.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

☐ NYD ☒ No ☐ Yes

The project area does not intersect any Significant Landscape Overlays or Environmental Significance Overlays.

- **Identified as of regional or State significance in a reputable study of landscape values?**

☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining land reserved under the *National Parks Act 1975*?**

☒ No ☐ Yes If yes, please attach

- **Within or adjoining other public land used for conservation or recreational purposes ?**

☐ NYD ☐ No ☒ Yes

Hawkstowe Recreation Reserve, Mernda Recreation Reserve and Plenty Gorge Park adjoin the project area.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

☐ No ☒ Yes If yes, please attach

The MREP comprises a relatively small and contextual component of the overall urban growth taking place in the vicinity of the project area. It would have only minor to moderate impacts on the two key landscape character types (LCT1: Flat residential and LCT6: River corridor) that were identified in the Landscape and Visual Impact Assessment (Attachment 4).

The key contributions to this rating are summarised as follows:

- LCT1: Flat residential – the loss of a large number of mature endemic trees. However the corridor broadly aligns with the existing residential subdivision pattern and main road alignment north of the proposed Marymede station, the scale is not dissimilar to existing conditions and the corridor is located within an urban setting in which rapid change is occurring; and
- LCT6: River corridor – the project will introduce visually uncharacteristic elements of heavy rail infrastructure in two locations along the Plenty River corridor. However the rail line is generally aligned with the existing main road / subdivision pattern and comprises a relatively low / small and in part ephemeral element (moving trains) within the broad extent of this landscape type.

Negligible project impacts were identified for the LCT7: Utility reserves.

Overall the impact is considered minor to moderate on the key identified landscapes, generally due to the location of the corridor being in alignment with existing conditions and its scale also being in line with existing conditions.

Is there a potential for effects on landscape values of regional or State importance?

☐ NYD ☒ No ☐ Yes Please briefly explain response.

There are no identified landscape values of regional or State significance in or adjacent to the project area.

Is mitigation of potential landscape effects proposed?

☐ NYD ☐ No ☒ Yes

The Landscape and Visual Impact Assessment makes recommendations in a number of areas that can be summarised as follows:

- Preparation of a landscape management plan;
- Development and restoration of a landscape character consistent with the prevailing Plains Grassy Woodland;
- Development of landscape management measures to implement a robust, self-replicating and low maintenance landscape;
- Considerations relating to landscaping of car parking areas;
- Urban design measures to minimise visual and landscape impacts;
- Treatment of batters, in-situ rock and retaining structures where the rail is in cutting; and
- Treatments to mitigate visual impacts at various specific locations.

LXRA, in coordination with the Office of the Victorian Government Architect (OVGA), has responded to these recommendations in a number of ways:

- Development and implementation an Urban Design Framework that applies to all projects under LXRA's control;
- Development of Urban Design Project Requirements for the MREP that applies the Urban Design Framework to the project and, as part of the design and construct contract specification, must be followed;
- Development of an Urban Design Concept Report (Attachment 5) as part of the MREP reference design that provides an illustration of how the Urban Design Framework and Urban Design Performance requirements could be applied to the project; and
- Establishment of an Urban Design Working Group and a process of consultation and design review during the tender, design and construction phases, ensuring compliance during design and construction in accordance with the project requirements.

Other information/comments? (eg. accuracy of information)

The information in this section is based on the following specialist reports:

- Landscape and Visual Impact Assessment (Attachment 4)
- Urban Design Concept Report (Attachment 5)

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

The MREP does not present a significant risk to land stability, acid sulphate soils or erosion.

The project area is on the Victorian volcanic plain which consists of gently undulating land that is interspersed with minor drainage channels. The project area has minimal deposits of topsoil and fill, which overlay basaltic clay, which is subsequently underlain by rock comprising basalt of variable weathering and strength. Rock is typically around 1-3 m in depth across the site (GHD-AECOM, 2016a).

The project area has been classed as Extremely Low Probability for acid sulfate soil. The project area is situated over 25 km from the coastline and potential for saline intrusion is considered low. Historical rail activities in the project area and other activities in the vicinity such as agriculture are potential sources of contamination, however, based on the initial investigation this is considered a low risk (GHD-AECOM, 2016j).

Are there geotechnical hazards that may either affect the project or be affected by it?

☒ NYD ☒ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

The information in this section has been informed by:

- Geotechnical Factual Report (GHD-AECOM, 2016a)
- Contamination and Hazardous Materials Report (GHD-AECOM, 2016j)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYD ☒ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

The project will encourage a reduction in car use by commuters.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

The project's effects on amenity will not be significant.

Air quality

Dust from earthmoving activities and odour from mechanical plant may occur during construction, but are not expected to be significant.

Operation of the Mernda Rail Extension will have no impact on air quality and will not produce emissions of dust or odour.

Visual amenity

The Landscape and Visual Impact Assessment (Attachment 4) found potential for visual impacts at sensitive locations.

Eleven key sensitive viewpoints were identified to assess visual amenity of the project. These included from residents, recreational users and schools and community sites. Of the eleven sites assessed, seven were rated as having a Minor, Minor to Moderate or Moderate impact and the remaining four were rated as having a Major impact. The key issues that contributed to these ratings include:

- Removal of vegetation;
- Construction of new rail and station infrastructure including car parking;
- The rail corridor fence;
- Noise wall installation;
- Elevated rail bridge;
- Retaining walls; and
- Redistribution of vehicle movements associated with new carparks and, to a much lesser extent, with the stabling yard.

The noise walls, rail bridges and increased vehicle movements were the key factors in the sites identified as having a Major visual impact. The receivers were identified as residents and/or recreational users. The four locations identified as being subject to a Major visual impact are:

- VP2 – Arrilla Village, 60A Williamsons Road, South Morang;
- VP7 - Barmah Drive bridge over Simon Creek, South Morang;
- VP9 - Mango Crescent, Mernda; and
- VP10 – 6 Station Road, Mernda.

Lighting impacts from MREP are considered relatively minimal within the context of the following:

- Lighting will be sufficient to meet safety and security requirements, which is anticipated to be at a relatively low level;
- All lighting will include cut-off fittings and would be directed to reduce light trespass;
- Lighting from passing trains may be visible to some sensitive receivers, however this would be expected to reduce as proposed landscaping matured; and
- Potential lighting impacts will be mitigated by distance from the project area.

Noise

An assessment was undertaken of construction noise (Attachment 6). Noise levels during the night and evening are generally predicted to exceed the guideline limits recommendation by the EPA. Reduction of the night and evening construction noise levels to comply with the guideline limits is unlikely to be possible using practical noise mitigation methods, other than the standard restrictions on working hours.

On this basis, if construction work is to be carried out during the night and evening, a comprehensive construction noise management plan will be prepared and implemented to ensure that noise impacts on adjacent residences are minimised. In particular the construction noise management plan will include measures that will be put in place to minimise noise emissions and notify residents of potential noise impacts, and will include a procedure for handling and investigating complaints.

Noise caused by operation of the new railway service was assessed in accordance with the Passenger Rail Infrastructure Noise Policy (Victorian Government, 2013) (PRINP) and State Environmental Protection Policy No N-1 (SEPP N-1) for passenger rail service and sidings noise, respectively (refer to Attachment 6).

The proposed rail alignment options were acoustically modelled to assess the potential noise emissions from the new rail system, including noise from the passenger rail services and noise from operation of the sidings. The noise sensitive receivers along the alignment are predominantly residential receivers; however Mernda Uniting Church and Mernda South School may also be affected by noise from the project.

Noise modelling showed that there would potentially be exceedances of the applicable noise criteria from the passenger rail service (at various areas throughout the rail corridor) and the sidings (in the vicinity of where trains are stabled with all rooftop HVAC units operating). Therefore noise barriers will be designed to achieve compliance with the applicable criteria.

Vibration

A vibration assessment for operation of the Mernda Rail Extension was undertaken to determine the potential impact of train passbys on the closest sensitive receivers. British Standard 7385: Part 2 1993 and British Standard 6472-2008 were used to assess vibration transfer to buildings and humans respectively (refer to Attachment 6).

The assessment included measuring background vibration levels in the area of the proposed project in the absence of the rail infrastructure, and train passbys in a representative location along the South Morang train line.

Vibration caused by train passbys is unlikely to be perceptible at any sensitive receivers, and there is a low likelihood of adverse comment.

During construction, vibration is likely to be generated during the excavation of rock (i.e. jack hammering), piling and soil compaction (i.e. use of vibrating rollers). Impacts associated with vibration during construction are not expected to be significant and will be managed in accordance with EPA Publication 480 Environmental Guidelines for Major Construction Sites.

Traffic

There will be impacts associated with construction traffic during the construction phase of the project, specifically at all sites where there is proposed to be grade separation works. Works will need to be designed and managed at these locations to satisfactorily manage the impact to local and through traffic, and may include the use of staging and temporary side tracks to permit construction whilst maintaining sufficient road capacity at peak times (GHD-AECOM, 2016k).

The new infrastructure will change travel patterns, with increased rail patronage and existing rail passengers diverting to the new stations. Key traffic considerations arising from operation of the Mernda Rail Extension are summarised below:

- The transport impacts in the South Morang Station precinct are minimal, consisting primarily of modifications to the station precinct;
- Traffic analysis indicates that the local road network on the west side of the rail reserve is able to accommodate traffic generated by the station near Marymede Catholic College during

peak times. Pedestrians are currently able to move across the rail reserve near the station, and continuity of this will be provided via a pedestrian and cyclist underpass at the station;

- Traffic analysis indicates that the intersection of Plenty Road and Hawkstowe Parade would be operating at a high degree of saturation with excessive queuing and delay in 2019 without the MREP; and
- Site observations reveal that the Mernda road network is currently experiencing significant issues at peak times, primarily due to the operation of the Plenty Road and Bridge Inn Road roundabout. Traffic modelling work conducted for the 2019 scenario with and without the MREP highlight that traffic growth is expected to further exacerbate the current issues.

A significant community consultation program has been undertaken to assess the community's expectations in relation to the project. Details of the consultation program are included in section 20 and Attachment 9.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

No residential land will be occupied for construction or operation of the MREP.

The MREP is largely sited on an existing rail reserve, which has is zoned Public Use Zone 4 – Transport use in the Whittlesea Planning Scheme. As a consequence, the displacement of residences or severance of residential access is unlikely to occur.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the likely effects.

The MREP is largely sited on an existing rail reserve, which is owned by VicTrack and is zoned Public Use Zone 4 – Transport use in the Whittlesea Planning Scheme. As a consequence, non-residential land impacts are limited to acquisition of part of a single land parcel in the Mernda Town Centre development area. Beyond this, any disruption will be temporary in nature and will only occur during the construction period.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the potential effects.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Mitigation measures for potential social effects are outlined below.

<u>Air quality</u>

Impacts to air quality during construction will be addressed through the development of the CEMP, which will be in accordance with EPA Publication 480 and will include measures such as:

- Using appropriate dust suppression measures; and
- Using wind fences where appropriate.

<u>Visual amenity</u>

Visual amenity will be addressed by implementation of the LXRA Urban Design Framework and specification of the MREP Urban Design Project Requirements.

Key opportunities for mitigation of visual and lighting effects include:

- Retention of vegetation;
- Incorporation of landscaping, urban design and public art treatments;
- New vegetation to screen unwanted views of the project and to reinstate a verdant character of the corridor;
- Use significant levels of tree plantings at stations, carparks and the stabling yard to minimise associated lighting impacts; and
- Minimise the visual mass of structures where possible.

Refer to Attachment 4 for further detail and to the Urban Design Concept Report (Attachment 5) for how the mitigation measures could be applied.

Noise and vibration

As noted in section 4, alternative design solutions were considered in the vicinity of Hawkstowe Parade and Bridge Inn Road. An elevated alignment has been adopted at these locations, with the advantage of less noise and vibration arising from rock breaking and excavation.

A Construction Environmental Management Plan would be prepared to address potential noise and vibration impacts during construction. Suggested measures include:

- Limiting night works to program critical activities only, and restrict other works to normal construction hours as far as practicable;
- Substitute noisy machinery with quieter options;
- Install permanent noise barriers as early on in the project as possible;
- Provide temporary noise barriers;
- Notify resident in advance of works;
- Minimise requirement for reversing; and
- Provide residents with a contact number for complaints / comments.

Based on the noise modelling, noise mitigation for operation of the MREP could comprise noise barriers in the following areas:

- South of Hawkstowe Station, up to 2.5m in height on the west side;
- In the vicinity of Hawkstowe Station , up to 2.5m in height on the east side;
- Between Hawkstowe Station and Mernda Station, up to 1.5m in height on the west side;
- In the vicinity of Mernda Station, up to 2.5m in height on the west side; and
- In the vicinity of stabling facility, up to 4.5m in height on both sides

Refer to Attachment 6 for further detail.

Traffic

Traffic Management Plans will be prepared to ensure safe traffic operations and minimisation of disruption for the travelling public during construction (GHD-AECOM, 2016k).

Key measures to mitigate operational impacts of the railway extension include:

- Between South Morang and Marymede, the barrier to movement presented by the rail extension would be partly addressed by future proofing the Yan Yean Pipe Track through the provision of a pedestrian/bicycle underpass structure. The Findon Road extension across the rail line is also to be future proofed.
- Although the Mernda road network is heavily congested at peak times, the station precinct design seeks to maximise arterial road priority and minimise queuing on minor legs through the provision of auxiliary lanes at minor road intersection approaches

Other information/comments? (eg. accuracy of information)

The information in this section has been informed by the following specialist reports:

- Environmental Noise Assessment (Attachment 6);
- Landscape and Visual Impact Assessment (Attachment 4); and
- Transport Impact Assessment (GHD-AECOM, 2016k).

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☐ No ☒ Yes If yes, list the organisations so far consulted.

A draft Cultural Heritage Management Plan (ref 13635) has been prepared for the MREP in accordance with the *Aboriginal Heritage Act 2006* (Vic) (VCA 2016). This has involved consultation with the Wurundjeri Tribe Land and Compensation Cultural Heritage Council as the Registered Aboriginal Party.

What investigations of cultural heritage in the project area have been done?
(attach details of method and results of any surveys for the project & describe their accuracy)

As part of preparing the Cultural Heritage Management Plan, desktop, standard (ground survey) and complex (test excavations) assessments have been undertaken in the project area in accordance with the *Aboriginal Heritage Act 2006* (Vic).

Is any Aboriginal cultural heritage known from the project area?

☐ NYD ☐ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

During the development of the draft Cultural Heritage Management Plan (ref 13635) (VCA 2016a) the following Aboriginal cultural heritage was identified:

- Desktop assessment – a review of the Victorian Aboriginal Heritage Register (VAHR) identified 31 Aboriginal places within 200m of the project area, two of these records are within the project area (one scarred tree and an artefact scatter);
- Standard assessment (undertaken by walking along the length of the project area) – lithic artefacts were recorded on the surface at one location within the activity area; and
- Complex assessment (excavating 133 shovel test holes of 40 or 50 cm2 along transects separated by intervals of either 10 m or 20 m, and six larger pits measuring 1 m2 were excavated by hand where particular landforms were identified or where the presence of artefacts was known or suspected) – Aboriginal artefacts were recorded below ground at three locations: Berry Lane, Hawkstowe Railway Cutting and Morang Railway Cutting.

Overall, six Aboriginal sites are situated within the project area:

- VAHR 7922-0946, MRC St 1: A scarred tree, previously recorded, stands south of Bridge Inn Road and west of the railway reservation; it's extent is wholly within the activity area. The site is considered of moderate significance. Impact to this site will be avoided;
- VAHR 7922-0975, 1025 Plenty Road 1: An artefact scatter was previously recorded beside Plenty Road. The location has since been altered by road construction works. The site is considered to have very low significance. Impact to this site can be avoided;
- VAHR 7922-1214, Mayfield 2: An artefact scatter was previously near Berry Lane, east of the railway reservation. The location has since been altered by wetlands construction works. The site is considered to have very low significance. Impact to this site can be avoided;
- VAHR 7922-1399, Berry Lane: One silcrete artefact was found in an excavated pit directly south of Berry Lane, within a stratum of alluvial silt. The site is considered to have low

significance. There will be an impact to this site;

- VAHR 7922-1407, Morang Railway Cutting: Four silcrete artefacts were found in pits on a rocky rise southwest of the Yan Yean Pipeline crossing and northeast of McDonalds Road. The site is considered to have moderate significance. There will be an impact to this site, however there are mitigation measures in place to minimise harm to this site; and
- VAHR 7922-1423, Hawkstowe Park 1: Lithic artefacts span the top of a prominent rocky rise to the east of Plenty Road and extending into Hawkstowe/Plenty Gorge Park. The site is considered to have low to moderate significance. There will be an impact to this site, however there are mitigation measures in place to minimise harm to this site.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☒ NYD ☒ No ☒ Yes If yes, please list.

The MREP is sited on the historic Whittlesea Railway Line. The Historical Archaeology Survey by Vincent Clark & Associates (Attachment 7) found a number of sites within the project area. Sites in the project area are covered by three statutory listings:

- The Victorian Heritage Register (VHR), which records places with significance to the State;
- The Victorian Heritage Inventory (VHI), which records archaeological sites; and
- The Whittlesea Planning Scheme Heritage Overlay (HO), which protects sites with significance to the local community.

A significance assessment (which complies with the Heritage Council of Victoria's criteria for assessment for cultural heritage assessment) was undertaken for each site. The following list summarises the sites found, the listing of each site and the result of the significance assessment:

Victorian Heritage Register

- Yan Yean Water Supply System (H2333) is crossed in two locations (also identified within Heritage Overlay HO43) – high significance.

Victorian Heritage Inventory

- Mernda Railway Station (H7922-0356) – moderate significance;
- Mernda 1, Berry Lane (H7922- 0036) (and Heritage Overlay HO19) – moderate significance;
- Mernda 2 Mayfield Railway Bridge (H7922-0037) – low significance;
- Sirriani Stream Channel Plenty Gorge (H7922-0482) – moderate significance;
- Sheep Station Creek Homestead (H7922-0341) – moderate significance;
- South Morang Railway Station (H7922-0033) – moderate significance;
- Mernda Station Level Crossing Structure (H7922-0498) – moderate significance;
- Bridge Inn Road (listing in process);
- Former Carome Level Crossing (H7922-0501) – low significance;
- Yan Yean Pipetrack (H7922-0281) – high significance;
- Delisted site Rail Stopping Place (D7922-0357); and
- Delisted site Whittlesea HS1 (D7922-0256).

Dry stone walls are recognised under the Whittlesea Planning Scheme as part of the cultural heritage and landscape of the area. A permit is required to demolish, remove or alter a dry stone wall constructed before 1940. There are a number of dry stone walls in the project area that could be affected by the works.

The extent of the impacts to these sites has not yet been identified. Detailed design and construction planning is expected to avoid and minimise impacts to some sites. However before any ground disturbing works occur for the MREP, applications will be made to Heritage Victoria for

each of the sites affected by the project.

Is mitigation of potential cultural heritage effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

At the strategic level, the use of the existing disturbed rail reserve presents significant advantages such as minimising Aboriginal cultural heritage impacts by utilising an area disturbed by the former railway use.

There are Aboriginal cultural and historical heritage values within and adjacent to the existing rail reserve. While the design is currently being further refined to further avoid and minimise potential impacts on these values there would be impacts from the MREP.

In response to this, a Cultural Heritage Management Plan is being prepared and specific mitigation measures include:

- Fencing scarred trees for the duration of the activity;
- Undertake archaeological excavations at artefact scatters that will be impacted by the project prior to the site being damaged or destroyed;
- Undertake salvage excavations at identified sites; and
- Ensure project-specific Indigenous cultural heritage training is completed for personnel conducting ground disturbing works.

Specific mitigation measures for the historic heritage will ultimately be decided by Heritage Victoria through the conditions of the permits and consents obtained. However a number of recommendations have been made in the Historical Archaeological Survey (Attachment 7) and include:

- Recording of heritage features (including scale drawings where applicable);
- Archaeological test excavations to assess subsurface deposits;
- Recovery and storage of artefacts; and
- Reporting on the results of the investigation and excavation.

Potential impacts to dry stone walls will be identified. Mitigation could include:

- Investigation into the significance of an impact dry stone wall and recording of historic features;
- Avoidance of impacts; and
- Urban design treatments to integrate existing dry stone walls into the design.

Other information/comments? (eg. accuracy of information)

The information in this section is based on the following specialist reports:

- Draft Cultural Heritage Management Plan (no 13635) (VCA, 2016a); and
- Historical Archaeology Survey (Attachment 7).

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

☒ Electricity network. If possible, estimate power requirement/output …….

☒ Natural gas network. If possible, estimate gas requirement/output ……...

☒ Generated on-site. If possible, estimate power capacity/output ……

Installation and operation of solar panels on station buildings may be considered to reduce energy consumption.

☒ Other. Please describe.

Please add any relevant additional information.

What are the main forms of waste that would be generated by the project facility?

☒ Wastewater. Describe briefly.

☒ Solid chemical wastes. Describe briefly.

☒ Excavated material. Describe briefly.

The main form of waste from construction would be excavated soil. In the first instance, design would seek to minimise the amount of existing material to be excavated in order to minimise cost, construction time and disturbance. Opportunities would be investigated during construction to maximise the reuse of excavated materials.

☒ Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

☒ Less than 50,000 tonnes of CO_2 equivalent per annum

☒ Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum

☒ Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum

☒ More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

The Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) framework will be applied to the MREP. Under this framework targets and monitoring requirements would be established in relation to:

- Energy and carbon reduction opportunities;
- Water use and reduction strategies;
- Receiving water quality;
- Waste management and diversion from landfill; and
- Community and user safety.

These will be documented as performance requirements within the contract.

Refer also to section 18 for further detail.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

☒ No ☒ Yes If yes, briefly describe.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

The proposed location of the MREP capitalises on the existing railway line which is already disturbed and appropriately zoned. This presents significant advantages such as:

- Minimising ecological impacts by utilising an area disturbed by the former railway use;
- Minimising Aboriginal cultural heritage impacts by utilising an area disturbed by the former railway use;
- Minimising residential and commercial land acquisition by utilising a railway reserve that is already owned by VicTrack; and
- Supporting the orderly use and development of land by utilising land that is already set aside for railway use.

The locations of the new stations were chosen based on a range of factors including integration with local centres and the ability of the sites to accommodate the necessary infrastructure.

☒ Design: Please describe briefly

As part of delivery, the design is subject to ongoing development and refinement to avoid potential impacts, and is being informed by stakeholder and community consultation.

The alignment has been designed to take into account a range of factors including geology, topography and surrounding landscape values and to minimise impacts on important values.

The design of the MREP will be in accordance with the Urban Design Framework, developed by LXRA and the OVGA for the State's level crossing removal program, and the urban design project requirements that provide more specific guidance relating to the local context and project objectives.

Mitigation of specific impacts is discussed further in sections 12, 13, 14 and 15.

☒ Environmental management: Please describe briefly.

Environmental management will be an integral part of the detailed design, construction and operation of the Project.

The environmental management framework for the MREP (Attachment 10) includes:

- the preparation of an Environmental Management Strategy (EMS) as a condition on the site specific control to be the subject of the planning scheme amendment.
- the preparation of a Construction Environmental Management Plan (CEMP) pursuant to the contract documentation for the MREP.

The EMS will be prepared to the satisfaction of the Minister for Planning and will include a summary of key construction methodologies. It will include the overarching approach for the development of management measures to minimise and manage and potential environmental and amenity effects of the Project, including in respect of the following:

- native vegetation;
- protected flora and fauna;
- weed dispersal;
- site reinstatement;
- hazardous substances;
- waste;

- mud and dirt on roads;
- noise;
- dust;
- light spill;
- vibration;
- traffic management;

In addition, the EMS will include:

- a summary of consultation processes for community and stakeholders including the Council; and
- a summary of performance monitoring and reporting processes.

The construction contractor will be required to develop, implement, and maintain the CEMP to LXRA's satisfaction and in accordance with the EMS and conditions of approval. The CEMP will include:

- an outline of the regulatory framework under which project activities would be undertaken, including a list of required approvals;
- work method statements and construction procedures that have been developed to effectively manage environmental and social risks;
- performance objectives and criteria to provide a clear basis of accountability for environmental outcomes;
- competence and training requirements;
- management of change processes;
- incident response;
- reporting (reportable incidents and routine);
- compliance monitoring and auditing;
- performance monitoring and reporting; and
- record keeping.

Performance objectives would be developed in relation to:

- Aboriginal cultural heritage;
- Contamination;
- Ecology;
- Groundwater;
- Historical heritage;
- Noise and vibration ;
- Air quality;
- Erosion and settlement;
- Weeds and pathogens;
- Surface water;
- Traffic management; and
- Waste and hazardous materials management.

☒ Other: Please describe briefly

Sustainability

LXRA has adopted the ISCA and GBCA sustainability rating tools to enable measurement of sustainable outcomes and setting of mandatory targets.

The Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) framework is a rating system designed to enable the measurement of sustainability related performance across the design, construction and operation of infrastructure projects, as well as assist in comparing relative performance between projects.

For the MREP, LXRA has mandated at least an 'Excellent' IS rating (>50), certified by ISCA for both Design and As Built rating types, with a target score of 65 or higher.

The project must address minimum requirements for 8 criteria in the ISCA Rating Tool to ensure that matters considered non-negotiable by LXRA are given priority by contractors, as follows:

- a requirement for accredited management systems (ISO14001, ISO9001 and AS/NZS4801);
- a requirement for internal and external environmental and sustainability audits;
- a climate change risk assessment;
- implementation of climate change adaption measures for high and medium priority risks;
- monitoring, modelling and reduction of Greenhouse Gas emissions;
- non-use of potable water for construction purposes or other purposes where it is not economically or environmentally feasible;
- waste tracking and management; and
- diversion of waste from landfill.

The Green Star Building Council of Australia (GBCA) has a rating system that is more suitable for buildings and there is an existing 4 star rating tool for above-ground stations that was developed for the Regional Rail Link Project. LXRA requires that the project achieves a 4 star rating for all new stations.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

The MREP reference design has taken into account other urban development projects proposed for the area. The Mernda Strategy Plan Incorporated Document (City of Whittlesea, January 2008) outlines a number of proposed road and public transport upgrades (including the MREP). Of relevance to this project is the upgrade and duplication of Bridge Inn Road between the E6 roadway and the Yan Yean Road, although the timing of these works is currently unknown and unlikely in the short term.

The planning of the MREP has also taken into account other Victorian transport priorities and network planning as outlined in the Planning context section of this referral.

Other developments and projects that are being undertaken or proposed include:

- Existing construction of a Coles supermarket at the north west corner of the Plenty Road intersection with Bridge Inn Road;
- Existing construction of the Mernda South Primary School adjacent to the rail reserve at The Parkway, Mernda.
- Proposed widening of Plenty Road between McDonalds Road and Bridge Inn Road by VicRoads (funding was announced in the 2016/7 budget); and

- Proposed development of a new Woolworths supermarket at the future Mernda Town Centre (it is understood that a Planning Permit application is being prepared).

Residential development proposals may also be submitted to Council for planning permission during the planning, design and construction of the MREP.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☒ No ☐ Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed?

☐ No ☒ Yes If yes, briefly describe.

Planning and environmental investigations have informed the project's design. Investigations will continue to be developed for final approval and during the delivery phase, including:

- Offset Management Plan;
- Matted Flax-lily Translocation Plan (refer to Attachment 3);
- Cultural Heritage Management Plan that incorporates feedback from the Wurundjeri Tribe Land and Compensation Cultural Heritage Council; and
- Implementation of the recommendations of the Historical Archaeology Survey (Attachment 7).

Preparation and implementation of the Construction Environmental Management Plan will require more detailed testing and investigation to demonstrate appropriate control of potential impacts.

Consultation program

Has a consultation program conducted to date for the project?

☐ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

Engagement Principles

LXRA is committed to engagement and consultation with stakeholders and the community.
A Communications and Stakeholders Engagement Strategy has been developed for the MREP and has been implemented to raise awareness of the various aspects of the MREP and guide engagement with stakeholders in order to build trust, gather information about community values, and encourage public participation in the development of MREP. The strategy is based on the following principles:

- **Establish a clear, fair and inclusive process and explain opportunities for involvement:** provide information about the opportunities for involvement at the outset. Implementing a genuine engagement process will build trust and ensure stakeholders and the community are invested in the outcome. Managing stakeholder expectations with regard to the level of involvement and influence on design outcomes will be critical to maintaining positive stakeholders relations;
- **Commence engagement early:** ensure early connection with stakeholders to establish context and introduce the Authority and the project. Engaging early and setting the context for the project will ensure effective project delivery;
- **Support stakeholder participation as a way to assist decision making:** fostering a culture that supports public participation as a way to assist decision making and identify critical issues;
- **Be clear about what is negotiable and what is not:** manage stakeholder and community expectations by communicating early the decisions the package is considering and areas that are open for public participation;
- **Develop high quality visual materials to demonstrate project impacts:** used at the appropriate time, high quality maps and visual materials will increase understanding of the engineering aspects of the package. Use of site-specific animations will assist stakeholders in understanding critical elements and constraints of the package; and
- **CALD and minority groups:** a community profile for the project area will be developed to identify key culturally and linguistically diverse and hard to reach communities. Translated

project information and surveys will be produced, as well as provision of a translation service at public consultation events.

Community and Stakeholder consultation and engagement regarding the MREP has been undertaken in a phased approach, linked to the project development process.

Stages

Engagement commenced in mid-2015 and has continued throughout 2016, effectively in four stages, as follows:

Stage 1: Initial engagement - July to December 2015: There were two rounds of engagement completed during this phase with the first between June and August 2015 and the second between November and December 2015. Delivered by PTV, the consultation reaffirmed the public support for the proposed rail extension to Mernda, the preferences for an intermediate station location and station precinct features. This consultation consisted of facilitated community workshops, stakeholder forum and popup information stands. Surveys and online engagement tools were used to gather community feedback.

- Stage 2: Social Research - February 2016: Market research commissioned by LXRA to develop a more detailed understanding of local resident perceptions and expectations of the MREP. This research also sought feedback on the best way of providing information to the public for following stages, and the level of engagement people wanted to have.

  Focus groups and telephone surveys of residents living in a broad area around the proposed project alignment were used to build understanding of issues and community sentiment.

- Stage 3: Alignment and community issues - January to March 2016: LXRA presented design options to the community including options for grade separation at five locations along the rail corridor and options for station design. Feedback was also sought about the potential Hawkstowe Parade Station.

  This engagement took various forms , including ‘drop-in’ style interactive community feedback sessions, stakeholder meetings and on-line engagement using Social Pinpoint.

- Stage 4: Reference design – May and June 2016: LXRA presented the reference design to the community and sought feedback, particularly from owners and occupiers of properties closest to the rail corridor. The presented information set out the proposed design solutions of the project (a mix of rail above, rail under, and rail at-grade) and that an amendment to the Whittlesea Planning Scheme would be sought.

  This stage involved community information sessions, pop-ups and stakeholder briefings regarding the design. Feedback on the information sessions was gathered and submissions were sought on the Planning Scheme Amendment required for the project.

Summary of Engagement

The four stages of engagement the community and stakeholder participation resulted in:

- 1,420 people attending 35 community drop in sessions, workshops and pop-up information sessions;
- Advertisement of sessions in local paper (ten advertisements spread over stages one, three and four);
- Three presentations to residents at Arillia Retirement Village (202 participants in all);
- 2,344 responses to online or printed surveys;
- Online engagement including:
  - approximately 24,000 visitors to LXRA's Mernda Rail project website;
  - 2,918 visitors to PTV's "Get Involved" website;
  - 3,506 visits to the Social Pinpoint site and 789 comments;
- Mail outs to the community:
  - 19,000 surveys;
  - 21,200 newsletters;
  - 46,400 letters to properties adjacent to the project corridor;

  - Letters sent to 997 owners and occupiers, specifically noting that a Planning Scheme Amendment will be requested;
  - 1,120 e-updates sent to subscribers;
- Social research consisting of four focus groups and a survey of 800 people;
- Individual meetings with landowners; and
- Four meetings with the Community Reference Group and two presentations to the Whittlesea Disability Network.

The feedback collected through the community consultation process has informed the project design (refer to Attachment 9).

Key stakeholders
The Project has attracted and will continue to attract interest from a broad cross section of the Victorian community, particularly people who live, work, own land and travel through the project area and stakeholders with an interest in transport. The Communications and Stakeholders Engagement Strategy was designed to target these and broader categories of stakeholders as outlined below:

- Commonwealth Government;
- Department of Economic Development, Jobs, Transport and Resources (DEDJTR);
- Department of Environment, Land, Water and Planning (DELWP);
- Department of Premier and Cabinet;
- Department of Treasury and Finance;
- Melbourne Water;
- Metropolitan Planning Authority;
- Metro Trains Melbourne;
- Office of Aboriginal Affairs Victoria;
- Office of the Victorian Government Architect;
- Public Transport Victoria;
- City of Whittlesea;
- VicRoads;
- VicTrack; and
- Wurundjeri Tribe Land and Compensation Cultural Heritage Council.

Key engagement tools
A range of communication methods have been adopted to provide information and updates including: a community survey, online discussion forum, project hotline, community workshops and pop-up hubs (which sought community views on issues such as use of the rail network) and public submissions.

Stakeholder and community feedback has informed the project, and will continue as design develops and into construction.

Refer to Attachment 9 for further detail.

Has a program for future consultation been developed?
☐ NYD ☐ No ☒ Yes If yes, briefly describe.

LXRA will continue its stakeholder and community program as design develops and then into

construction. This will include:

- Ongoing meetings with key stakeholders;
- Ongoing meetings of the Community Reference Group;
- One on one meetings with any owners or occupiers of properties affected by the project that have expressed particular concerns;
- Periodic community updates; and
- Participation by selected stakeholders (such as Council) in the collaborative tender process.

For probity reasons, consultation will be strictly controlled during the tender phase.

The successful Contractor will be required to develop and implement a comprehensive Community and Stakeholder Engagement Plan that includes:

- On-site information centre;
- 24 hour hotline;
- Regular community updates;
- Face to face engagement with stakeholders;
- Clear processes for informing stakeholders, road users, transport users, residents and businesses of upcoming works and potential disruption; and
- Complaints resolution process.

Attachments

No.	Attachment	Reference
1	Maps	
1a	Project Area	
1b	Project Area Bounding Coordinates	
1c	Key Feature Map	
1d	Planning Zones	
1e	Planning Overlays	
1f	McDonalds Road Offset Site	
2	Ecological Assessment	GHD-AECOM, 2016c
3	Matted Flax-lily Translocation Plan	GHD-AECOM, 2016d
4	Landscape and Visual Impact Assessment	GHD-AECOM, 2016e
5	Urban Design Concept Report	GHD-AECOM, 2016f
6	Environmental Noise Assessment	GHD-AECOM, 2016g
7	Historical Archaeology Survey	Vincent Clark & Associates, 2016b
8	Land Use Impact Assessment	GHD-AECOM, 2016h
9	Consultation Outcomes	LXRA, 2016
10	Environmental Management Framework	

References

- GHD-AECOM, 2016a: Mernda Rail Extension Project - Geotechnical Factual Report, April 2016, LXRA-MNDA-00-GE-RPT-0001, Rev 0
- GHD-AECOM, 2016b: Memorandum: Preliminary Groundwater Impact Assessment, 8 March 2016, LXRA-MNDA-00-PA-MEM-0003 Rev A
- GHD-AECOM, 2016c: Mernda Rail Extension Project - Ecological Assessment, May 2016, LXRA-MNDA-00-PA-RPT-0002 Rev 1
- GHD-AECOM, 2016d: Mernda Rail Extension Project - Matted Flax-lily Translocation Plan, March 2016, LXRA-MNDA-00-PA-RPT-0004, Rev 0
- GHD-AECOM, 2016e: Mernda Rail Extension Project - Landscape and Visual Impact Assessment, 13 April 2014, LXRA-MNDA-00-PA-RPT-0006, Rev B
- GHD-AECOM, 2016f: Mernda Rail Extension Project - Urban Design Concept Report, 16 March 2016, LXRA-MNDA-00-UD-RPT-001, Rev B
- GHD-AECOM, 2016g: Mernda Rail Extension Project - Environmental Noise Assessment, May 2016, LXRA-MNDA-00-PA-RPT-007, Rev 0
- GHD-AECOM, 2016h: Mernda Rail Extension Project - Land Use Impact Assessment, 9 June 2016, LXRA-MNDA-00-PA-RPT-0012, Rev 0
- GHD-AECOM, 2016i: Memorandum: Surface Water Findings, 13 May 2016, LXRA-MNDA-00-HW-MEM-0002 Rev B
- GHD-AECOM, 2016j: Mernda Rail Extension Project - Contamination and Hazardous Materials Report, May 2016, LXRA-MNDA-00-PA-RPT-0008, Rev A.
- GHD-AECOM, 2016k: Mernda Rail Extension Project - Transport Impact Assessment, April 2016, LXRA-MNDA-00-TR-RPT-0001, Rev B
- LXRA 2016: Mernda Rail Extension Project - Consultation Outcomes, June 2016

- VCA, 2016a: Mernda Rail Extension Project - Draft Cultural Heritage Management Plan (no 13635), Vincent Clark & Associates, 15 March 2016
- VCA, 2016b: Mernda Rail Extension Project - Draft Historical Archaeology Survey, Vincent Clark & Associates, June 2016
- EPA, 1996: Publication 480 - Environment Guidelines for Major Construction Sites (EPA Victoria, 1996)

Authorised person for proponent:

I, GRAEME CHAMBERS (full name),

PROJECT DIRECTOR (position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date 12/7/2016.

Person who prepared this referral:

I, IAN MARTIN CLARKE (full name),

SENIOR PLANNING ENGINEER (position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature Ian Clarke.

Date 12/7/16.