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:	**Grampians Wimmera Mallee Water (GWMWater)**
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Mark Williams Managing Director PO Box 481, Horsham 3402, Victoria, Australia mark.williams@gwmwater.org.au 1300 659 961
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:**	Graeme Dick (*and other staff of*) Rural Pipeline Projects Director Grampians Wimmera Mallee Water (GWMWater) PO Box 481, Horsham 3402, Victoria, Australia graeme.dick@gwmwater.org.au 03 5381 9608
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	GWMWater has a long history of stock and domestic water supply pipeline developments. These include: **Stage Two South West Loddon Pipeline – 1,240 km** **Stage One South West Loddon – 110 km** **Coonooer/Wartook – 15 km** **Landsborough Valley – 38 km** **Pella and Quambatook North – 66 km** **Wimmera Mallee Pipeline – over 9,000km** **Five Towns pipeline – 117 km** **Northern Mallee Pipeline – 3,650 km** Over this history of rural pipeline construction, GWMWater has continued to refine its planning, environmental management and construction techniques to minimise the environmental impacts of our projects. We work collaboratively with regulators, customers and stakeholders to achieve best possible environmental outcomes by proactively risk assessing our impacts, adopting best practice techniques and encouraging

	application of technology in order to effectively minimise those impacts. GWMWater won an Australian Business Award for Environmental Sustainability in 2009 for its approach to planning and construction on the Wimmera Mallee Pipeline. GWMWater also won several Engineers Australia Victorian excellence awards for the same project, including an award in the environmental management category in 2011. GWMWater also won the Premier's Sustainability Award 2018 for Environmental Justice for our efforts engaging with Traditional Owners on the South West Loddon Pipeline. This award recognised the GWMWater's embrace of cultural heritage and the commitment made to significantly exceed the standard obligations. The mature framework for proactive environmental management developed by GWMWater will be used on this project. The specialist consulting firms engaged to provide GWMWater with additional expertise for this Referral are: • Biosis: original desktop assessment of both biodiversity and cultural heritage matters. • GHD: detailed flora and fauna survey of potential construction corridors • GHD: planning advice based on early estimates of impacts and relevant matters. • Agriculture Victoria: advice on conditions and risk associated with soils and geology GWMWater will release a tender brief for the EGRP to attract suitable applicants who can not only plan and deliver construction projects of this scale, but demonstrate that they have specific capabilities, experience and capacity in cultural heritage and environmental management. A single contractor will be engaged who will sub-contract environmental and cultural heritage services to consultants with a track record for working on projects of this size and complexity. Contractors and sub-contractors without the required skills and experiences will not progress through to short-listing.

2. Project – brief outline

Project title: East Grampians Rural Pipeline (EGRP) Project

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 project is located east of the Grampians Ranges in western Victoria. The project extends from Great Western in the north to Lake Bolac in the south and from the Grampians National Park boundary in the west to Middle Creek in the east.

The Project Extent as indicated in Appendix 1 covers an area of 3,320 km^2 within the local government areas of Ararat Rural City, Northern Grampians Shire and Pyrenees Shire. The project extent excludes some large areas of crown land (parks) and townships with existing water supply. The EGRP will not be constructed in these areas. Appendix 2 shows local government areas in the vicinity of the project area.

Table 1: Project Extent Coordinates

Project Extent Coordinates			
Id	**X**	**Y**	**SYS**
1	659,277	5,893,060	*GDA_1994_MGA_Zone_54*
2	686,745	5,893,330	*GDA_1994_MGA_Zone_54*
3	695,509	5,880,710	*GDA_1994_MGA_Zone_54*
4	703,552	5,857,370	*GDA_1994_MGA_Zone_54*
5	703,713	5,833,810	*GDA_1994_MGA_Zone_54*
6	684,795	5,826,670	*GDA_1994_MGA_Zone_54*
7	657,311	5,824,290	*GDA_1994_MGA_Zone_54*
8	636,342	5,835,030	*GDA_1994_MGA_Zone_54*
9	635,405	5,852,800	*GDA_1994_MGA_Zone_54*
10	642,540	5,878,960	*GDA_1994_MGA_Zone_54*

Please note a shapefile of the project extent is available on request.

Short project description (few sentences)**:**
The project will involve the construction of up to 1,400 km of rural water pipeline network consisting of larger sized trunk mains (100 mm to 450 mm), distribution lines (63 mm to 90 mm), up to 14 pump stations and potentially a balancing storage. Appendix 3 shows the network of potential corridors assessed to date. Most of the construction will occur within this footprint and anything outside this footprint will be fully assessed for natural and cultural values. The project will provide a secure stock and domestic water supply to the farm gate for up to 1500 landholders living in the climate stressed region of eastern Grampians region of western Victoria.

The project connects to existing infrastructure, specifically the Lake Fyans to Ararat water main, in the north west of the project area. Lake Fyans is connected via channel to our key Wimmera Mallee Pipeline (WMP) head works storage in the Grampians, Bellfield Reservoir. Similar to both the WMP and the South West Loddon Pipeline (SWLP), the EGRP will provide a stock and domestic raw water supply to rural properties in the project area. The planned EGRP infrastructure will also provide improvement of water supply security to existing towns in the project area (Willaura, Moyston, etc.). The majority of the impact will be limited to a small corridor of a maximum width of 15 m with up to 1,400 km of stock and domestic water supply pipeline (not for irrigation). Table 1 provides the simplified Project Extent coordinates

The planned raw (untreated) water pipeline network will draw on GWMWater's existing WMP storages (using water sourced from GWMWater headworks including Bellfield Reservoir) and connect Lake Fyans with the eastern Grampians to service rural farming enterprises and lifestyle properties over an area of up to 3,320 km^2 with a reticulated, pressurised water supply. Connection to the scheme is voluntary. However, the scheme will be designed with capacity to

ultimately service all rural landholders in the project extent. Some properties in environmentally sensitive areas may not be reached due to necessary avoidance of environmental impacts. The scope of this referral includes all potential infrastructure to connect towns and existing reservoirs.

3. Project description

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

Provision of a secure rural water supply to the eastern Grampians region of Victoria will deliver a suite of benefits across triple bottom line outcomes:

- Economic: Supporting activity and employment in farming and intensive livestock sectors which underpin the viability of the region and from reducing current reliance on water carting, run off water and bores. A set of case studies were completed to validate the assumed benefits and included in the business case.
- Social: Creation of a sustainable lifestyle regarding recreation and quality of life in what is an arid climate and from enhancing fire-fighting capacity.
- Environmental: Reduction in interceptions from unregulated waterways from multiple small on-farm dams for the benefit of regional rivers and wetlands in line with regional priorities. It has been estimated that up to 2,500 ML per year of additional water could be returned back to waterways as a long term result of this project.
- Resource management: Linking of the Lake Bellfield and Lake Fyans supply source to other currently separate headworks systems including Mt Cole reservoir and Mt William headworks system.

The overall suite of outcomes will generate aggregate benefits for the region across socio-economic and environmental impacts valued at $215M in present value terms.

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

The proposal to construct a pipeline to supply stock and domestic water to a drought affected region is directly aligned with and implements clearly articulated government strategic policies and regional priorities. The Victorian Government has recently published its "*Water for Victoria"* strategy which sets out a framework and proposals for future water resource management and use across sectors and locations. The proposal for a piped stock and domestic supply for the eastern Grampians area directly aligned with the core principles and proposals in this paper. The project directly responds to the following four core commitments:

- Water for agriculture
- Realising the potential of the grid and markets
- Recognising recreational values
- Resilient and liveable cities and towns
- Jobs, economy and innovation

The economy of the area is based on agriculture, primarily broad acre grain, intensive animal, seed, sheep and wool production. Farmers presently rely on rain-fed dams and water bores (with supplementary water carting in dry times) to supply their water needs.

Recent dry years have reduced this catchment dam water resource and so have challenged the viability of farming properties. The higher costs and time involved with water carting is exacerbated by lower income following de-stocking due to the lack of water availability.

The regional community and councils requested GWMWater to review alternative water supply options. A workshop of key stakeholders was held in June 2016 to define the problem and develop an Investment Logic Map (ILM). The workshop identified four key problems:

- Significant destocking during drought-like conditions threatens the viability of local agribusinesses and major employers including the abattoir

- Limited water to meet the needs of agriculture and local towns harms domestic and commercial investment and development
- Land use change has adversely impacted on the availability of surface water for essential fire-fighting and environmental functions
- Declining participation in communal activities reliant on green public spaces leads to the breakdown of important social networks

The Victorian government has committed $32 million to the project (24 October 2018). The business case sought a further $32 million from the Commonwealth, which is yet to be committed. There is an expectation that construction will commence in 2020. Assuming the balance of funding is received, GWMWater will be contributing $9.8 million and landholders are expected to contribute $5.6 million collectively. If the currently uncommitted funding is not received, the GWMWater and landowner contributions will be reduced proportionately. The project will connect rural landholders in the project extent to the water grid for the first time, significantly increasing the region's water security and underpinning local farming.

The scheme is an opt-in project, not forcing any landholder to connect. The design of the system will provide capacity to supply all landholdings (up to 1,500) however early expressions of interest received from landholders indicate the likely connections to take place are closer to 700 as multiple properties are managed as one enterprise. The design is intended to allow progressive connections into the future and cater for reasonably predicted deferred impact under the one approval process.

GWMWater is already accepting Expressions of Interest (EOIs) from landowners in the project area. Up to March 2019, 285 positive EOIs covering 3,650 parcels of land and totalling 1,170 km^2 have been received. The level of interest from landowners clearly demonstrates that there is demand for connections as landholders understand the value of and need for a secure water supply. Appendix 4 shows EOIs received to date.

Rural properties currently reliant on catchment dams, groundwater bores and rainwater collection will be offered a piped water supply, avoiding the requirement to cart water through dry periods and improving water security, quality and reliability. Further social benefits will also be realised by provision of water to recreational reserves and the project will provide enhanced water supply access for regional fire-fighting capacity.

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

Project Extent

The Project extent, detailed in Section 2 and identified in Appendix 1, defines the broad area that the EGRP has the potential to supply. The size of the area actually supplied is contingent on the registration of interest from landholders. The system will be designed with capacity to cater for all landholders in the project extent, however, being an 'opt in' scheme, construction will only occur to service "signed-up" landholders with a supply. The scope of this referral and subsequent assessments is for the full potential project extent.

Appendix 1 identifies a network of potential construction corridors (approximately 2,200 km). The detailed design is expected to utilise up to 1,400 km of these corridors but with potential for alternate corridors to be designed where necessary. Any alternate corridors designed will be fully assessed for environmental values. A maximum 15 m disturbance corridor is estimated for installation of trunk mains in non-sensitive areas, but the corridor is reduced to 8 m maximum disturbance in sensitive areas. The 8 m corridor has been used to assess the likely environmental effects that may be encountered during construction of this project.

Infrastructure and construction scope will be confirmed during the detail design stage. The concept design and business case identified the following construction activities:

Table 02: Construction works based on concept design

Works	Length	Width	Other/Comments
Trunk Main (up to)	400 km	15 m	100 mm to 450 mm diameter pipeline underground to a minimum depth of 800 mm
Distribution (up to)	1,000 km	15 m	Up to 100 mm diameter pipes underground to a minimum depth of 600 mm
Pump stations	20 m	30 m	Up to 14 proposed in cleared paddocks
Open storage	50 m	80 m	One 30 ML storage proposed adjacent to pump station in cleared paddock
Storage tank	20 m	20 m	One 1 ML storage tank proposed adjacent to pump station in cleared paddock
Air valves and scour valves	1 m	1 m	Above ground infrastructure adjacent to the pipeline corridor (offset to fence line)
Power line extensions	3.5 km	10 m	Extension to the proposed pump station sites (impact area associated with pole placements)
Connection to landholders	10 m	3 m	Up to 900 water meter installations at water supply points

This Referral is submitted before the detailed design of the overall system has taken place. The design and assessment of impact will occur in accordance with the outcomes of this referral process. GWMWater is currently planning to complete an Environmental Management Framework (EMF), Environmental Management Plan (EMP) and Cultural Heritage Management Plans (CHMPs).

As documented in the section of this Referral dealing with potential environmental impacts, there is considerable flexibility in constructing the pipeline to avoid sensitive areas such as native vegetation by diverting the route around such areas. This avoidance of sensitive areas along the alignment is the primary means of avoiding environmental impacts and means the project can be kept to a low level of overall impact.

The pipeline installation will predominately occur at eight metres inside a property boundary to minimise construction impacts on often more sensitive road reserve areas. Where a property is vegetated within the 8 m set back, there is a large amount of flexibility to move the pipeline further into the property and avoid vegetation or sensitive sites. There is also the flexibility to regularly

bore the pipe under roads and go back and forth between paddocks on either side of a road to avoid most vegetated areas.

Where on-ground assessment has identified sensitive areas (e.g. vegetation, stream crossing), the design will divert the pipeline away from the area or specify directional drilling (boring) under the area.

GWMWater EGRP Operational Works

The operation of the water pipelines network will involve a range of activities generally undertaken by operations staff of GWMWater. Common activities include:

- maintenance of the pipeline
- maintenance of associated facilities
- operation of the pump stations, storages and pipeline valves.

Project Delivery

Whilst GWMWater remains ultimately responsible and accountable for the delivery and impacts of the project, a competent design and construction Contractor will be engaged to complete and adhere to the environmental and cultural heritage management documentation. The Contractor will also be required to adhere to GWMWater's design requirements. It is essential that the constructing Contractor is involved in preparing the design and assessment of impacts so that the actual construction methods to be used are considered in calculating impacts. This will ensure key principles of avoidance, minimisation and mitigation are embedded in the design process.

GWMWater will deliver the intended work as part of a two phase contract. This will firstly involve the 'Design and Assess' phase to prepare an initial design that will then be assessed on-ground to identify cultural and ecological values. The values identified will in turn inform detailed design which, once completed, will represent the final alignment for construction.

The second phase will involve construction of the EGRP. Construction will not occur until necessary environmental, cultural heritage and construction plans have been approved.

The potential construction corridors already assessed by GHD and GWMWater are expected to be used for the detailed design for around 90-95% of the network alignment. There may be some variation in the level of impact depending on the pipe size and construction methodology used by any particular Contractor, but impacts in sensitive areas are limited to 8 metre width.

Determining suitable alignments to service some properties and avoid natural or cultural features will involve the assessment of some additional potential construction corridors. In particular, pipes may be placed along internal boundaries between properties rather than in paddocks along roadside fence lines. These potential route options away from roads were not assessed in the survey work done by GHD to date, but will provide additional options to service customers with reduced impacts.

The construction Contractor will be required to prepare an Environmental Management Framework (EMF) to define governance arrangements and an Environment Management Plan (EMP) to detail a design that minimises environmental and heritage impacts whilst fulfilling customer service requirements. This will involve a review of the current pipeline concept plan and corridors which will be realigned where required to achieve improved outcomes across multiple design criteria (including avoidance of flora, fauna and cultural heritage sites identified on the ground during survey work). Whilst the final detailed alignments of the pipe network is not yet known, the construction methodology and environmental safeguards required to recognise, avoid and minimise impacts on environmental and cultural assets are well known and understood. These will be applied during design and construction activities.

After receipt of necessary design and planning approvals, the Contractor will undertake construction activities.

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

Estimated ancillary works are identified in Table 3 below.

Table 03: Ancillary works

Works	Length	Width	Other/Comments
Laydown/ storage areas for pipe, machinery and equipment	100 m	50 m	One every 100 km, generally using existing disturbed areas, such as roadworks stockpile sites
Access points/ temporary access	10 m	6 m	One every 1 km, but using existing property access points wherever possible
Vehicle turn around	20 m	20 m	One every 2 km
Installation of pipeline marker signs	-	-	Negligible impact. To provide a visual above-ground indication of buried infrastructure

Ancillary works will utilise existing cleared land and can avoid impacting native vegetation. Where changes are required to the land (removal of fences and loss of crop, etc.), these will be rehabilitated to an acceptable standard. A land access agreement will be signed with each landholder regarding the satisfactory reinstatement of their land, requiring a signing-off that their property has not been left in worse condition. There are also conditions within the contract documentation require GWMWater to complete an inspection within 12 months of works with the release of security bonds contingent on the contractor rehabilitating land to the satisfaction of the landholder.

Key construction activities:

The standard sequence of pipeline construction activities will commence with securing access to the land and confirming access protocols, concluding with reinstatement of sites and commissioning of the pipeline. The process will generally consist of the following:

Ground Preparation

- Pre-construction walk through – appropriately qualified and informed project personnel will perform a 'walk through' whereby they locate and mark off identified areas of sensitivity.
- Fence cutting – fences will be opened up and temporary access will be installed.
- Weed/pathogen hygiene areas – where identified, machinery hygiene stations will be set up to assist in management of regional and noxious weeds. Control prior to construction will also be considered as a method of reducing the risk of weed or pathogen spread.
- Laydown and storage – areas for laydown of pipe and associated materials and equipment will be cleared by removing the topsoil and installing temporary protective materials (i.e. crushed rock) as required.
- Installation of temporary access tracks to site as required.
- Service location – underground services will be located using non-destructive excavation and identified using markers or stakes.

Trenching method

- Clear and grade – ground is prepared by grading or otherwise windrowing the topsoil to one side of the working area or Right of Way (RoW). This is performed in order to preserve the topsoil and the seed bank contained within it, in order to facilitate successful rehabilitation following reinstatement.
- Pipe stringing – pipe is 'strung out' or laid out along the RoW end to end, sitting on wooden stakes or bags of sawdust in preparation for joining. Regular breaks are made to allow for maintenance of access (for landholder or for stock as previously agreed) and also to allow for emergency services to get through should they require to.
- Trenching – a dedicated trenching machine or excavator will dig the trench to the required depth. Excess from the trench or 'spoil' is windrowed to the other side of the trench as that of the pipe strings. Spoil and topsoil are kept separate.
- Pipe laying – bedding sand or sieved spoil may be required at the base of the trench to protect the pipe. A truck with a modified trailer drives ahead of the pipe laying crew and dispenses a layer of bedding material into the trench.
- (PVC pipe) – individual pipe lengths (each 6 metres long) are lifted into the trench using a 'sling' and an excavator. The pipe end is lubricated and joined manually by pushing the lubricated spigot end into the socket of the previous pipe length already in the trench. A rubber ring in the socket seals the connection.
- (PE or poly pipe) – the PE pipe lengths (either 500 metre+ coils or 12 metre lengths, depending on pipe diameter) is welded together using specialised equipment and lowered into the trench once it has cooled either manually or using an excavator and sling.
- Backfill and compaction – the trench spoil is picked up, sieved to remove any large clumps or sharp stones or objects and re-laid into the trench around the pipe. The spoil is then compacted to ensure that there will be minimal settlement following construction.
- Topsoil replacement – the separately windrowed topsoil is graded back evenly across the RoW, to enable regeneration of pre-existing grasses or cropping.

- Hydrotest – all sections of installed pipe must be pressure tested to ensure that they are capable of operating at or above operational water pressures. Sections of pipe are progressively filled with water and pressure tested, with any non-compliant sections dug up and repaired.

Different types of pipe may be used dependent on construction equipment, pressure classes and flow requirements. The Contractor will nominate preferred construction methodology for each section in their EMP. The EMP will be reviewed and approved before being allowed to proceed to construction.

Pipeline construction disturbance corridor has a width of up to 15 m wide for trenching due to the need to have a traffic lane parallel to trench excavation and spoil stockpiles. However, where it is practical and particularly for the smaller size pipes, the disturbance corridor shall be reduced. The 8 m disturbance corridor through sensitive areas is achieved by not having a traffic lane and carrying pipe lengths in one-by-one to install in the trench. This method adds time and cost to the construction process, but allows the reduced corridor width.

Trenches are backfilled on the same day that they are excavated, so that the only sections left open overnight are a few metres to enable continuation of pipe joining the next day. Any open excavations left overnight are barricaded and ramped on one side to allow egress of fauna.

Plough-in method

For polyethylene (PE) pipelines, 'plough-in' methodology can be used which involves a specialised 'plough' deep ripping lengths of PE pipeline directly into the ground.

Lengths of PE are 'fuse welded', either by welding lengths together on the RoW prior to installation or by fuse welding 'in situ' where a bell hole is excavated every 500-800 m to weld adjacent lengths of pipeline together. Once the pipeline has been installed, the ~0.3 metres width of 'heaved' earth, where the plough tine has cut through, is rolled flat with a pass or two of a heavy rubber-tyred vehicle. This is a quicker form of construction than traditional trenching and involves a narrower corridor of ground disturbance. However, it is not always possible to adopt this method as it is not compatible with rocky ground conditions.

The plough-in technique is most efficiently used to pull in pipeline under 100 mm in diameter (although it can be used to install up to 450 mm diameter pipe) and requires a RoW of 3 m width to allow one tracked machine to pass through with approximately 0.3 m of soil disturbance from the plough tine. The soil is then wheel-rolled by a second machine prior to completion of construction.

Some plough units are vibratory which further reduces the volume of soil that is displaced at the ground surface.

Depending on the plough-in methodology used, 'bell holes' – vertical excavations to expose the pipeline – may be required to join the lengths of pipe. Bell holes are typically installed every 500-800 m when they are required. Each bell hole has a 4 m x 1 m disturbance zone around the excavation where topsoil would be removed and stockpiled to the side of the disturbed area.

All bell holes and stock pile locations will be placed away from identified environmental and cultural sensitivities locations. Buffer areas around particular sensitivities will be specified within the EMP and supporting procedural documentation.

To accommodate different types of plough-in technology, a RoW as small as 3 m wide can be used instead of 15 m using trenching technology.

Reducing Right of Way for sensitive sites

Where vegetation removal is authorised, the construction corridor shall be reduced to a maximum 8 m width.

Determination of those areas holding significant environmental or cultural value will be made during the design and assessment phase of the project where studies and on-ground assessment

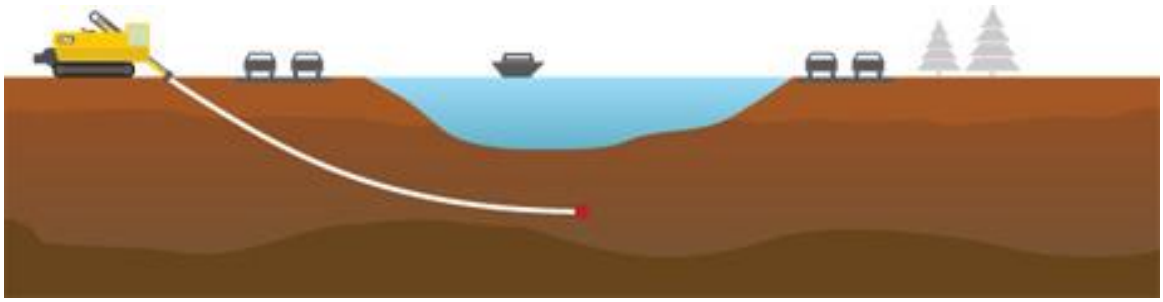
will be undertaken. Survey outcomes will then be incorporated into pipeline design to avoid sensitive sites where possible or to otherwise minimise (and offset) impacts.

All impacted areas of ecological significance will be designated as Environmental Control Points in the EMP, with associated management measures described in order to avoid and minimise construction impacts.

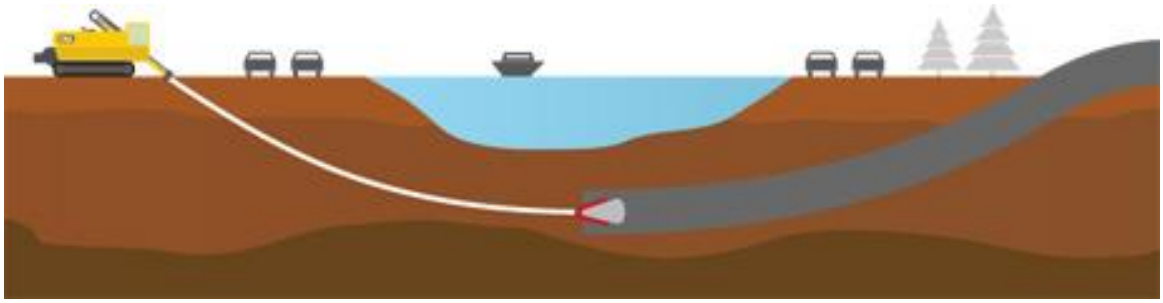
Culturally sensitive sites will also be identified following survey and assessment will be made by the relevant stakeholders in order to avoid or minimise impacts, in accordance with the project Cultural Heritage Management Plans (CHMPs). Recent past projects have included provision for direct supervision by traditional owners during construction and salvage of known cultural heritage archaeologists and traditional owners.

Horizontal Directional Drilling (HDD)

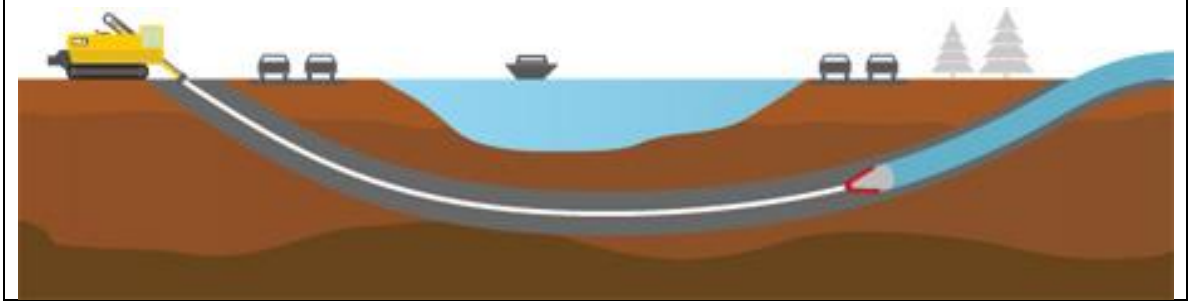
Horizontal Directional Drilling (trenchless technology) is used for the installation of buried pipelines without disturbing the ground surface. The HDD process involves a small pilot bore being drilled and then enlarged by reaming to the size required for the pipe. The drill path may be straight or gradually curved and the direction of the drilling head can be adjusted at any stage during the initial pilot bore to steer around or under obstacles. Drill entry and exit pits are required and excavated on either side of the sensitive corridor being drilled. Drill slurry (water and removed soil) is temporarily located beside the pit with excess removed from site before top soil is replaced. These pit dimensions vary according to the size of the rig and conduit to be installed.



Pilot Bore
Starting at the entry point a drill head, suitable for the ground conditions, is drilled along the predetermined route with depth and alignment monitored continuously.



Reaming Process
The pilot bore is enlarged in suitable steps by back reaming the hole with cutters designed for the ground conditions to a size that accommodates the pipe.

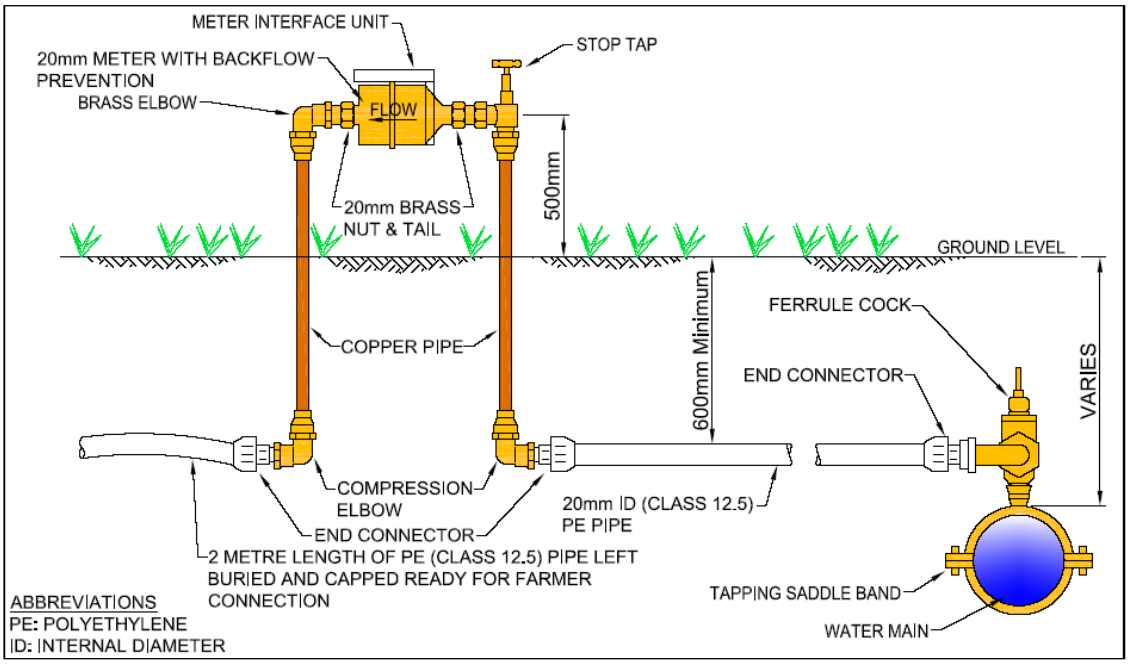


Pipe Installation
Once the drill string is connected to the pipe via a swivel pull back commences. In some instances the pipe can be pushed into place.

Bore Pits:
Where long lengths of HDD are required (greater than 100 m) an intermediate bore pit (1 m x 2 m) may be required to join up sections of pipe. Temporary vehicle access will be required to join the lengths of pipe however it is estimated that this method will reduce the impact area by 90 percent compared to trenching and ploughing technology. This approach was successfully used to avoid significant impact on Golden Sun Moth habitat on a recent project, where 600 m of HDD involved a total of 4 intermediate pits (an impact area of 8 m^2). This impact was endorsed by the Commonwealth as an acceptable mitigation measure. For this project, all roads, waterways, rail corridors and other obstructions (including native vegetation or cultural sites) of limited width will be avoided using HDD unless other technologies are authorised by the relevant approval authority.

Meter Point Installation

Landowners are connected to the pipeline system through water meters connected to the water mains by small service lines. Tapping points on the pipeline will be positioned inside the landowner's paddock and meters will be located on fence lines. The figure below details the fittings that comprise each tapping point.



The meter points are marked out in consultation with the landowner, taking into account the presence of high quality native vegetation, weeds and sites of cultural heritage to minimise impacts at each location. Information about no-go areas and other sensitivities is taken into account when locating each tapping point and dictates to some extent where meters can be located at a property.

Most water meter locations will be identified and installed at the same time as pipe installation, removing the need to re-excavate the water main. In cases where this is not possible, minor excavation will be required inside property fence lines to access the existing water main and to install the tapping and metering point. The water meter is supplied by a short length of 25 mm PE pipe connected from the water main tapping.

In cases where a meter point is required on the other side of the road from the pipeline, the 25 mm service pipeline will be installed by HDD under the road reserve area.

Installation of valves

Above-ground air valves, scour valves and isolation valves will be installed at regular intervals throughout the pipe network. These will typically be located on road reserve areas directly adjacent to property boundary fence lines and covered by black polyethylene “pots” (~400 mm diameter) to protect them. These valves are critical to enable operation of the pipeline system.

Installation of these valves generally occurs from the paddock, with minimal impact on the road reserve area (1 m x 1 m). Exact locations of valves are flexible and will be designed to avoid identified areas of particular environmental or cultural sensitivity.

Water Storage

Construction of water storage facilities will involve the following activities:

Pre-Construction

- Identification of cleared site
- Preparation of a site management plan including provision for topsoil and drainage management.

During Construction

- Stripping the topsoil and storing it away from construction operations
- Construction of a sediment dam for on-site drainage to flow into during construction
- For open storage:
    - Importation of subsoil material and compaction to form each basin
    - Installation of inlet/outlet pipes, connecting the storage to the rest of the pipeline system
    - Importation of material to allow the formation and compaction of embankments
    - Installation of HDPE liner.
- For tank storage:
    - Importation of subsoil material and compaction to form foundation for the tank
    - Construction of the tank on site including concrete foundation
    - Installation of inlet/outlet pipes, connecting the storage to the rest of the pipeline system
    - Installation of suitable telemetry and monitoring equipment.
- Construction of access road into site if required.

Post Construction

- Reinstatement of topsoil, and
- Re-seeding topsoil if natural regeneration is insufficient.

Pump Stations

The pump stations are required to move water around the pipeline network and to provide the appropriate delivery pressure to each rural customer once the network has been installed.

The location of each pump station will be selected to minimise potential impacts on social, environmental and cultural values. An area of approximately 30 m0 m x 20 m0 m would be required for a typical pump station site. Site selection will be dependent on a number of factors, including the presence of environmental values, land use, the cost of supplying the site with electricity, the sensitivity of the site to noise receptors and the landscaping work required to screen the facilities so as not to affect the amenity of the neighbouring properties. Each pump station will be enclosed for noise and weather mitigation, essentially being a small (~9 m x 6 m) Colourbond shed.

The exact locations of pump stations and indicative corridors to potential power sources will be identified through the detailed design process. Each site and required power line connection alignment will be assessed in detail to minimise impact on identified environmental assets. Locations are generally flexible enough to avoid any impact on natural or cultural assets.

Waterway Crossings

All waterway crossings will use HDD technology to avoid impact, unless otherwise approved by the Glenelg Hopkins Catchment Management Authority (CMA) or Wimmera CMA. Trenching method would only be considered where a designated waterway on a map is, following site investigation, proven to be a minor depression with low flora, fauna or cultural heritage value and low erosion potential.

Glenelg Hopkins and Wimmera CMAs will issue Works on Waterways permits which will specify any additional conditions. These conditions will be adhered to during construction and any associated rehabilitation of the crossings. Appendix 5 shows the project extent and the boundary between the Glenelg Hopkins and Wimmera CMAs.

Road and Rail Crossings

Rail line and made roads will be crossed using HDD. Unmade roads may be crossed using an open cut trench where there are no or low native vegetation values. The crossing will be reinstated following pipeline construction. Asset owners and other stakeholders will be actively consulted during the design phase of the project. Where HDD of roads and rail crossings is to be employed, this will occur from paddock to paddock to avoid vegetation disturbance within road and rail corridors.

Access tracks, laydowns and turn-arounds

Vehicles and construction machinery will require access to the construction RoW. This will be using existing access in the form of gates and roadways. There may be a requirement to form temporary access for construction in some instances.

Where access does not exist at both ends of a pipeline section, a vehicle 'turn around' may be created to allow for vehicles and machinery to turn and exit from a dedicated access way. These 'turn-arounds' are typically slightly wider than the 15 m RoW (~20 m0 m). All turnaround areas will be located in areas away from environmental and cultural sensitivities.

Laydown areas will also be required at dedicated points along the construction corridor for equipment, machinery, pipe and other materials to be stored in advance of being taken to site. These will vary in size and there is a great deal of flexibility to allow them to be located in areas of no environmental or cultural value.

The location of vehicular turn-arounds and material laydown areas will be selected at the design phase based on locations having no environmental or cultural value. Locations will be written into the EMP.

Reinstatement

Reinstatement for most pipe installation will simply involve respreading removed topsoil back across the RoW following backfill and compaction of the trench. Some sections may remain open slightly longer while final installation of valves are completed. In these cases, as much of the RoW will be reinstated as possible, leaving only the access and the site itself to be closed up following completion of the necessary work.

Erosion and sediment controls will be established where necessary to protect the RoW from subsequent rainfall events. Details of erosion and sediment control measures will be provided in the EMP. The land is then either left to naturally regenerate, is actively re-seeded or re-worked by the landholder as per landowner requirements.

The EMP will specify particular reinstatement measures required for any particularly sensitive areas including any public land. Reinstatement methods will be commensurate with the original vegetation type and quality as specified by the relevant public land management authority.

Key operational activities:

The operation of the water pipelines network will involve a range of activities generally undertaken by operations staff of GWMWater. Common activities include:

- Maintenance of the pipeline

- Operation of the pump stations, storages and pipelines
- Maintenance and operation of associated facilities such as air valves, scour valves, pump stations, storages and meter points.

The impact of these operational activities will be limited to sites of pre-existing ground disturbance.

Key decommissioning activities (if applicable):

N/A

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

☒ No ☐ Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

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

☒ No ☐ Yes If yes, please identify related proposals.

The EGRP is a standalone project in the eastern Grampians area. The project does connect to existing infrastructure for water supply purposes such as the Lake Fyans to Ararat Water Main.

4. Project alternatives

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

Whole of Project Options Assessment – Summary

The business case identified a number of options and endorsed the centralised Stock and Domestic water supply as the preferred option, based on socio-economic assessment. The alternatives considered during the feasibility stage of this project are identified below.

*Do nothing***:**
'Business as usual' would involve the community continuing with its current responses carting water in dry periods. This would be affordable in the short-term, however, it would maintain its current adverse impact on the environment from reliance on farm-dams and would not be resilient to any further climate drying. Most importantly it would be likely to see further retrenchment in farming and so would not generate a sustainable economic outcome.

Increased storages:
This option would involve constructing additional or enlarging current dams and storages either on-farm or at a regional scale. This option would be expensive to implement and not feasible because the existing storages already capture a significant proportion of the region's flows. The pipeline area is within the Murray Darling Basin so any increased water take would run counter to the need to reduce sustainable diversion limits. The approach would also be vulnerable to any further drying and would impact on already stressed catchments.

Water Carting:
This option would harness local private sector providers to supply a larger volume of water to replace rainfall in catchment dams. This would be technically feasible and have little impact on the environment. However, it would not be realistic as a medium-term solution as the costs of delivery are very high (at $10/kL) so graziers de-stock rather than pay for raised watering costs. This would continue the decline in grazing, an industry which is vital to the regional economy.

Desalination:
This would be a climate resilient response. However, it is a costly approach and problematic in regional Victoria in locations away from the coastline due to the challenge of disposing of the resultant brine stream.

Demand management:
This option would involve promoting more water efficient farming practices. This is not easy to implement for the grazing sector where there is a basic volume of water required per head of stock. The major improvement in this regard would be to convert from a system of open catchment dams to a piped system with tanks and troughs as this would reduce losses and evaporation risks. However, unlike the Wimmera Mallee pipeline there is no current inefficient channel system to replace. The soil and land capability does not allow conversion to more intensive cropping so there are no alternative farming activities that could readily be adopted so the regional economy would be adversely impacted.

Brief description of key alternatives to be further investigated (if known)**:**

Following on from the business case options assessment as outlined above, no further consideration of project alternatives (design, location or timing) is proposed.

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:

GWMWater has identified three types of facilitated works that will be associated with construction of the EGRP. GWMWater propose to exclude each of these ancillary activities from the project scope and this Referral document based on the rationale supplied.

On Farm Works:
On-farm installation of small diameter polyethylene pipeline by private landowners, in order to deliver water from their connection (metering) points at property boundaries to strategic delivery points (tank installations). GWMWater will provide advice in an on-farm guidance document that will be provided to each landholder who registers an interest in connecting to the EGRP.

As this is an "opt-in" scheme, GWMWater does not know the precise extent or location of properties that will connect to the pipeline. The locations, extent and impacts of potential on-farm works are similarly unknown and the responsibility to obtain appropriate planning permissions for on-farm works is therefore allocated to the individual landowners.

GWMWater propose to educate landholders on their responsibilities in relation to works on private land and will work with each individual landholder as well as the relevant local council and DELWP to provide a detailed description of the planning and permitting requirements if carrying out these on-farm works.*Decommissioning of Farm Dams:*
With secure alternative water supply through a piped system, farmers and landholders may choose to decommission or cease to utilise their on-site dams. The switch to a permanent piped supply is expected to result in significant volumes of surface water being diverted away from farm dams back into natural catchments. This will occur over time, especially as many of the farm dams silt up quickly and are costly to empty out. It is anticipated that the benefits of water returning to the waterways will be incrementally experienced over 5-10 years after completion of the project.

The Project has no mandate to enforce or manage any dam related works on private landholdings, but it is an expected outcome of delivering the Project.

Firefighting Access Points:
Installation of firefighting standpipes and/or tanks (on smaller diameter pipelines) that will be located at strategic points throughout the system for use and access by emergency services personnel during an emergency event.

The Country Fire Authority will be engaged with regard to installation of standpipes and/or tanks and creation of access points at strategic locations throughout the EGRP supply area to enhance fire response. These locations will be agreed in consultation with council and will adopt principles of avoidance and impact mitigation in their site selection, as well as line of sight where they are in proximity to road junctions.

6. Project implementation

Implementing organisation (ultimately responsible for project, i.e. not contractor)**:**
Grampians Wimmera Mallee Water Corporation ABN 35 584 588 263

Implementation timeframe:
Indicative project timing is highlighted in Table 4 below and is consistent with funding obligations and advice to government agencies.

Table 4: Expected timing of project

Works	Timing
Tender	May – July 2019
Early Works Contract Commences	August 2019
Construction Works Commence	March 2020
Landholder Connections commence	November 2020
Completion of Construction	June 2021
Funding acquittal	June 2021

Proposed staging (if applicable):
The EGRP is planned to be constructed with multiple construction crews working on different aspects. For example, the teams might include two large trenching teams, a small trench team, a ploughing team, four HDD teams and a connections/fittings team. Construction will progress in an orderly fashion across the project extent.

For the purposes of environmental approvals, the project is proposed to be considered as one stage and the entire project documented in one EMF and one EMP. It is recognised that an estimate of the upper limit of environmental impact for the entire project is required for the EES referral to enable a decision on the appropriate form of assessment (and approval) that may be required, prior to any approval and commencement of works. The design and associated impact estimation for the entire project will be provided for appropriate approval, prior to commencement of works. The preliminary Flora and Fauna Assessment report already completed by GHD (Attachment 2) provides a very good indication of the extent and types of potential environmental impacts.

However, preparation of multiple CHMPs will be necessary due to timing practicalities. The Registered Aboriginal Parties and traditional owner representative bodies have limited resources that will result in a necessarily extended timeframe to deliver CHMPs covering the entire project area.

Although the likely impact of rural pipeline installation is expected to be relatively small, there is a requirement for a large volume of cultural heritage fieldwork due to the extensive length of pipeline to be field assessed. This fieldwork is the most resource intensive aspect of CHMP preparation. GWMWater's recent experience with rural pipeline projects is that each CHMP takes 9-10 months to be prepared and approved and is therefore likely to constrain the delivery timeframe of the entire project.

It is expected that approximately five separate CHMPs will be developed based on geographic areas within the project extent. The detail of the extent to be included in each CHMP will be proposed by the Contractor, but is likely to be based partly on the areas covered by the multiple Registered Aboriginal Parties and traditional owner representative bodies present in the project area. Construction in any area of the project extent will require cultural and environmental approvals to proceed.

Environmental Impact and Management Documentation
The EGRP is a very similar project in terms of scope and type of infrastructure works to the recent South West Loddon Pipeline project (SWLPP), which is now nearing completion of construction. The SWLPP was referred in 2017 with far less detailed survey information regarding expected impacts on environmental assets.

The Minister's decision included requirement for GWMWater to develop:

1. Project Design Impact Assessment (PDIA) report
2. Environmental Management Framework (EMF)
3. Native Vegetation Offset Strategy
4. Threatened Species Management Plan
5. Construction Environment Management Plan (CEMP) – per Stage
6. Native Vegetation Offset Plan – per Stage

The SWLPP was delivered in stages, but due to the need to appropriately examine and assess all expected impacts up-front, it was documented in the PDIA report. The staging plan was driven by, and far more applicable to, the development of CHMPs.

Without staging being proposed for environmental planning aspects of the EGRP project, there is significant opportunity to streamline assessments and potentially documentation. GWMWater's proposal for appropriate environmental impact and management documentation for the project is detailed in Appendix 20.

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).

GWMWater has undertaken an assessment of land adjacent to about 2,200 km of roads in the project area. This is a combination of land directly assessed by GHD under a flora and fauna assessment contract and a desktop assessment completed by GWMWater. These assessments have enabled the selection of potential construction corridors with either:

- zero or negligible impact on natural values
- manageable impact on native vegetation and habitat

A number of possible construction corridors have been assessed where there is the risk of a significant impact on FFG or EPBC listed matters. These areas are deemed no go areas and alternative low impact routes will be assessed in conjunction with the detailed pipe network design.

The pipeline will be constructed within these corridors using a right of way up to 15 m wide. In areas with environmental or cultural sensitivity, the right of way can be as small as 3 m wide. For the purposes of this document, potential impacts have been calculated based on an 8 m wide right of way which is our standard for construction in areas of native vegetation or other sensitivity. Additionally, any potential corridor to be used currently assessed via the desktop methodology will be directly assessed by suitably qualified and experienced experts prior to approval for construction.

The final detailed pipe alignment will be determined as the project progresses and will be informed by site specific surveys and assessments with the primary objective of avoiding environmentally and culturally sensitive areas. As can be seen from the maps contained in Appendix 6, the project site is predominantly on freehold land used for agriculture with the vast majority cleared of vegetation.

Where the mapping identifies sensitive areas, this will be the focus of the detailed survey and design process to avoid these areas where possible. The benefit of the EGRP being linear infrastructure is that the eventual construction alignment can be sufficiently flexible to avoid most areas of environmental sensitivity such as vegetation or cultural heritage sites.

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):

General Description of the Study Area

Climate

The nearest Bureau of Meteorology weather stations are at Ararat (BOM site number 089085) in the north of the project extent and Westmere (BOM site number 089112) in the south. Climate statistics for Ararat and Westmere are shown in Table 5 and Table 6 respectively.

Table 5: Climate statistics for Ararat

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temp (°C)	27.1	27.2	24.0	19.7	15.5	12.4	11.8	13.0	15.3	18.4	21.7	24.8	19.2
Mean min temp (°C)	11.2	11.3	9.6	7.3	5.6	3.9	3.4	3.9	5.1	6.1	7.8	9.4	7.0
Mean rainfall (mm)	38.7	31.2	30.1	41.8	53.7	55.6	63.1	68.6	60.8	55.4	44.8	38.4	584.1

Table 6: Climate statistics for Westmere

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temp (°C)	28.6	27.5	25.2	20.2	15.7	12.9	12.2	13.3	15.7	19.6	23.2	25.9	20.0
Mean min temp (°C)	11.3	11.7	10.2	7.7	6.5	4.3	4.3	4.4	4.8	5.4	8.0	9.4	7.3
Mean rainfall (mm)	40.2	16.7	21.6	35.6	50.7	40.2	55.9	58.1	47.9	39.7	44.3	44.3	515.2

Topography

The elevation in the project extent ranges from 200 m AHD in the vicinity of Wickliffe in the south to over 600 m AHD at hills south of Ararat and the rises leading to Mount Cole Reservoir. Ararat itself sits at 330 m AHD.

The Hopkins River and Fiery Creek dissect the project extent and are the two major waterways. Several hundred ephemeral drainage lines and waterways drain into these two river systems.

Public Land

The majority of Public Land by area within the Project Extent is vegetated with land use typically State Forest, State Park or other listed reserve or riparian corridor with a lesser area dedicated to recreational use and for public utility purposes. These areas are unlikely to be impacted by the EGRP. However the majority of crown land by number of parcels are unused road reserves. The majority of these appear to be cropped as part of adjacent private land. Many such parcels will be crossed by the pipeline. A public land map is provided in Appendix 7 indicating the relevant State Forests, State Parks and other listed reserves in or adjacent to the project area.

Vegetation Cover

Based on the 2017 native vegetation extent layer, the project area has two discrete parts split by an imaginary east-west line about 8 km south of Ararat. North of this line is the rockier country which has a relatively high cover of native vegetation. This section has large tracts of vegetated crown land and agriculture is generally grazing related. Native vegetation, including native grasslands or pastures persist in this area. South of this line is country far more suited to cropping and has been extensively cleared. Many wider roadsides include examples of native grassland and other remnant vegetation. Vegetation cover is shown in Appendix 8.

Site area (if known): Refer to the EGRP Project Extent map in Appendix 1 which identifies the area of 3,320 km^2. The maximum extent of project activities will be about 22 km^2 including pipes, pump stations, laydown and turnaround areas, and a range of ancillary areas. The current early phase of planning allows for no more than 40 ha of impact on native vegetation which is less than 2% of the activity area.

Route length (for linear infrastructure) up to 400 km of trunklines; up to 1,000km of distribution lines if every landholder wants to connect. Refer to the EGRP Project Extent Overview Map in Appendix 1. Trunk mains will be reconsidered in line with the approved principles highlighted in the EMF and EMP and distribution lines will also be designed based on the principles of avoidance and mitigation.

Current land use and development:

Land Use

The dataset entitled "Landuse 2017" (Spatial Data Mart), provides a breakdown of land use in the EGRP project extent. Over 93% of the project extent is used for some form of primary production including:

- Mixed farming and grazing
- General Cropping
- Livestock Production (Sheep)
- Plantations
- Vineyard

In fact the only other landuse covering more than 2% of the project extent is road reserves.

Generally the lower slopes and plains are suitable for cropping and grazing. Higher slopes and rockier areas are more likely to be grazing only. Higher slopes, generally being less suitable for agriculture, have tended to be retained for conservation purposes and this is the case of the larger parcels of crown land in the vicinity of the project extent. Vineyards and livestock are likely to be intensive users and the pipeline design can cater for large volumes of water.

Public land typically contains higher values and areas of sensitivity as it is less disturbed or cultivated. Some areas of public land within the Project extent are subject to active use through water extraction, grazing licences or timber production whilst other parcels have additional protection provisions that limit the permitted use or activities that can be undertaken.

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

Major Roads

Two major arterial roads run within the project extent. The Western Highway (A8) runs through Ararat in the northern extent of the project area. The Glenelg Highway (B160) forms the southernmost boundary of the project area. The other major road in the project area is the Pyrenees Highway (B180) which runs north to south. Appendix 9 shows major roads in the project extent. For the most part, construction corridors will be adjacent to road reserves except in the rare occurrence where there is an area of significance to avoid.

Railways

There are four rail lines currently operating in the project area. These are:

- Ararat Line (broad gauge)
- Western Line (standard gauge)
- Maryborough Ararat Line (standard gauge)
- Portland Line (standard gauge)

All railways will be crossed using boring technology to avoid impacting any of this infrastructure. Appendix 10 shows rail systems in the project extent.

Townships

A total of four main towns are located within the project extent. These towns include:

- Ararat
- Great Western
- Lake Bolac
- Moyston

Ararat is the key regional centre located 200 km west of Melbourne on the Western Highway. Given the pipeline is a rural water pipeline, impact on townships will be minimised and are excluded from the project area. However, security of water supplies to towns may be supplemented by connections to town storages and / water treatment plants. As an aside, a separate project to upgrade the town of Moyston to a potable water supply is under consideration. This project will follow a separate approvals process if it is deemed viable.

Land Parcels
An analysis of land data shows that around 2,000 properties (greater than 10 ha) are contained within the project extent. This equates to about 1,500 properties under discrete management or farm businesses.

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

The proposed water supply project will extend across the Local Government areas of Ararat Rural City, Northern Grampians Shire and Pyrenees Shire.

Regional planning

The Central Highlands Regional Growth Plan is one of the key regional planning documents for the project extent.

- prioritise infrastructure investment that facilitates economic growth and urban development
- identify potential economic, social and environmental benefits of infrastructure investment and prioritise investment where it will achieve multiple benefits
- coordinate infrastructure investment with the expected residential, urban and agricultural growth identified in the regional growth plan

Strategic and Local Policy Framework
The project covers land within the Ararat, Northern Grampians and Pyrenees Planning Schemes. The Municipal Strategic Statements identify long-term strategic directions for land use and development in their respective municipalities. A number of clauses of the State Planning Policy Framework (SPPF) and Local Planning Policy Framework (LPPF) are of relevance to the project relating to biodiversity, significant environments and landscapes, natural resource management and economic development. Local Planning Policies are used to implement the objectives and strategies of the MSS. Those specifically relevant to this proposed project are described in Table 7.

Table 07: Key Planning Policy

State Planning Policy Framework **Ararat, Pyrenees and Northern Grampians Planning Schemes**	
Northern Grampians Planning Scheme ***11.12-4 Infrastructure***	The objective for Clause 11.12-4 is to improve infrastructure in the local government areas for both the Ararat and Northern Grampians Planning Schemes.
Central Highlands Regional Growth Plan	Referred to in the Pyrenees planning scheme but nothing specific like above.
Ararat Rural City Planning Scheme ***11.13-8 Infrastructure***	The objective for Clause 11.13-8 is to identify infrastructure to support growth in the Wimmera Southern Mallee regional growth area for both the Ararat and Northern Grampians Planning Schemes.

Development Infrastructure ***19.03-2***	The objective for clause 19.03-2 is to plan for the provision of water supply, sewerage and drainage services that efficiently and effectively meet State and community needs and protect the environment for both the Ararat and Northern Grampians Planning Schemes. The objective in the Pyrenees Planning Scheme is to provide timely, efficient and cost-effective development infrastructure that meets the needs of the community.
Municipal Strategic Statements (MSS)	
Ararat Rural City*21.03-3*	Objective 9 of the Ararat MSS is To ensure the equitable provision of services in a manner which is responsive to need, and is economically and socially sustainable.
Northern Grampians Shire	Does not contain any specific strategic objectives or strategies relating to a proposed water pipeline or more broadly the provision of infrastructure.

Local Planning Policy - applicable zones and overlays

Appendix 11 is provided to show the planning zones which apply to land within the project area. The vast majority (96.8%) of the Project Extent has been incorporated into the Farming Zone within the relevant Planning Schemes. Agriculture consists of broad acre cropping, grazing, intensive stock and fodder operations and a smaller amount of speciality/niche agricultural production. There are also significant areas of native vegetation, particularly grasslands of varying quality, on private land throughout the project area, particularly to the north of the project area.

0.4% of the Project Extent is dedicated as Public Conservation and Resource Zone and contains the greatest area of remaining native vegetation. Large parcels of crown land (often zoned PCRZ) have been excluded from the project area as there will be no water supply constructed in these areas.

The remaining 3.4% of the Project Extent is divided into a number of zones for, industrial, public and residential use. Appendix 12 shows overlays relevant to the project extent. There is some overlap between the overlays which is difficult to display at this scale.

Collectively, 18.6% of the Project Extent is subject to an overlay that has associated heritage or environmental value including extensive areas for the protection of habitat for a diverse range of remnant fauna and flora communities (ESO3). Where possible these areas will be avoided for the Project and all routes will be assessed to ensure no direct impacts occur. Measures such as horizontal directional drilling will be used to minimise the impact on these areas. All works will be undertaken in consultation with landholders and councils.

There is land within the Project extent that is subject to the Significant Landscape overlay mostly located to the west of the project extent. Preliminary plans indicate there is little direct impact from constructing the pipeline in these areas. It is unlikely pipeline construction will significantly impact landscape values as most infrastructure is buried.

Less than 10% of the Project Extent has an overlay that could be considered a threat to the Project (e.g. Land subject to inundation, salinity or erosion). At these locations, additional consideration will be given to the need for management measures to protect project assets, as appropriate.

Table 08: Planning scheme land use zone breakdown within all 8 m wide potential construction corridors

Zone	Area (ha)	%
Farming Zone	1613.5	96.0
Rural Living Zone	36.1	2.1
Road Zone 1	18.6	1.1
Rural Conservation Zone	4.8	0.3
Public Use Zone	3.7	0.2
Town Zone	2.8	0.2
Public Conservation & Resource Zone	1.7	0.1
Public Park & Recreation Zone	0.2	0.0

Local government area(s):

The EGRP will be constructed within the following LGAs:

1. Ararat Rural City
2. Northern Grampians Shire
3. Pyrenees Shire

Councils have shown support for GWMWater to seek a Planning Scheme amendment for this project.

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)**:**

In order to determine what level of potential environmental impact the proposed construction and operation activities of the Project (the 'threats') will have, it is necessary to identify what environmental assets currently exist within the Project Extent and where they are located.

Environmental assets may be described as:

Naturally occurring entities that provide environmental "functions" or services. These include those entities which have no economic values, but bring indirect uses, benefits, options and bequest benefits or simply existence benefits which cannot be translated into a present day monetary value.

Key environmental assets within the EGRP Project Extent
Environmental assets tend to be closely linked to areas of public land which will be avoided where possible. Native vegetation, threatened species and protective overlays tend to be overwhelmingly located within riparian corridors, road reserves, rough grazing areas and areas of Crown Land that have not been subjected to recent agricultural cultivation or forestry practices. There is significant areas of primarily grazing country in the project extent which has habitat value as native grassland. Significant species persist in these areas including Golden Sun Moth and Striped Legless Lizard.

It is acknowledged that on-ground assessment of pipeline design corridors is required to confirm the presence of native vegetation and/or any threatened species. Public land exposure is minimised during preliminary design in order to minimise potential environmental impacts. A public land map is provided in Appendix 7 indicating the relevant State Forests, State Parks and other listed reserves in or adjacent to the project area. The pipeline is unlikely to be constructed in areas of conservation reserve or state forest. Most impacts on crown land will be crossings of waterway reserves and unused road reserves. Avoidance of impacts on environmental assets in the project extent is a high priority for GWMWater.

Bioregions
The Project Extent includes Victorian Volcanic Plains, Central Victorian Uplands, Goldfields, Dundas Tablelands, Wimmera and Greater Grampians Bioregions. Appendix 13

Flora Assets
Biosis undertook a desktop review of threatened flora species historically recorded within 5 km of (a slightly earlier example of) the Project Extent as well as flora species identified by the EPBC Act Protected Matters Search Tool has been undertaken. This included 110 flora species.

An assessment of the likelihood of species occurring within and surrounding the Project Extent was undertaken using criteria outlined in the Flora and Fauna section of this Referral. This assessment identified:

- Four EPBC Act listed communities occur within the project area.
- Four FFG Act listed communities occur within the project area.
- 25 EPBC Act listed species considered possible to occur within / surrounding the Project Extent
- 34 FFG Act listed species of flora considered likely to occur within / surrounding the Project Extent

GHD has undertaken flora and fauna surveys for potential construction corridors in the EGRP project extent. Their complete report is included as Attachment 2.

GHD's Vegetation Quality Assessment (VQA) resulted in mapping a total of 70.98 ha of native vegetation within the potential corridors. This vegetation was represented by 27 EVCs across five different bioregions, and included areas within 48 modelled DELWP Current Wetlands (7.93 ha). Utilising 47.49 km of horizontal directional drilling (HDD) and deleting some sections of the pipeline alignment has resulted in only 36.505 ha of native vegetation within the corridor required to be removed. As an aside, GWMWater is estimating 40 ha has the maximum impact to account for a number of items not yet fully documented.

One vegetation community listed under the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 and Flora and Fauna Guarantee (FFG) Act 1988 was recorded within the corridor (0.28 ha of EPBC Act-Natural Temperate Grasslands of the Victorian Volcanic Plain and FFG Act- Western (Basalt) Plains Grassland). This community was able to be avoided by deletion of the pipeline alignment within the area.

A total of 174 flora species were recorded within the corridor, of these 123 were native and 51 were introduced.

The desktop assessment identified 99 flora species listed as rare or threatened under the EPBC Act, the FFG Act and/or the DELWP Advisory list of Threatened Flora (VROTS). Of these, 29 species had the potential to require targeted surveys under the EPBC Act and/or FFG Act. During October and November 2018, these species were targeted in surveys. A total of seven species listed under either the EPBC Act, FFG Act or VROTS were recorded within the corridor. Avoid and minimise measures have resulted in only three of the seven species being impacted (three listed under VROTS).

Fauna Assets
A desktop review of threatened fauna species historically recorded within 5 km of the Project Extent as well as fauna species identified by the EPBC Act Protected Matters Search Tool has been undertaken. This included 62 fauna species.

An assessment of the likelihood of species occurring within and surrounding the Project Extent was undertaken using criteria outlined in the Flora and Fauna section of this Referral. This assessment identified:

- 29 EPBC Act listed species considered likely to occur within/surrounding the Project Extent including a number of critically endangered species such as Golden Sun Moth and Striped Legless Lizard.
- 33 additional FFG Act listed species considered likely to occur within/surrounding the Project Extent

The study area offers a range of potentially valuable habitats in the form of grasslands, woodlands, scattered trees and waterways and waterbodies. From these habitats, a total of 371 terrestrial fauna species (346 native and 25 non-native) are documented to occur or predicted to occur (Victorian Biodiversity Atlas (VBA) and Protected Matters Search Tool (PMST))1.

Of the native fauna species identified for the study area, 73 are considered threatened and are listed under the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999, the FFG Act and or the DELWP Advisory list of Threatened Vertebrate or Invertebrate Fauna in Victoria (DSE 2013, 2009)2. Of these threatened species, 25 warranted further consideration and one warranted targeted surveys. Targeted surveys were conducted for the EPBC Act listed Golden Sun Moth (*Synemon plana*), which was documented to occur from 134+ records present in the project extent. One other threatened fauna species (Brolga, *Grus rubicunda*) was also observed during field assessments. Following avoidance and minimisation measures, the risk to the 25 threatened species and their habitat is considered low and ultimately, habitat for threatened fauna is expected to be avoided.

Ecological Community Assets
The Biosis desktop study identified five threatened ecological communities:

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South eastern Australia
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain

- Natural Temperate Grassland of the Victorian Volcanic Plain
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

The following FFG Act listed threatened communities are considered likely to occur within the study area, and may be impacted by the project:

- Western (Basalt) Plains Grassland
- Red Gum Swamp
- Grey Box – Buloke Grassy Woodland
- Western Basalt Plains (River Red Gum) Grassy Woodland

Landscape Assets

A total of 17 environmental, landscape and culturally significant planning overlays intersect the Project Extent. Additionally, significant parcels of Crown Land that occur within proximity to the Project Extent that have locally significant landscape value are provided below.

- Grampians National Park
- Buangor State Park
- Mount Langi Ghiran
- Ararat Hills Regional Park

It is not expected that the Project will have adverse impacts on landscape values due to its predominantly underground location.

Waterway Assets

Wetlands of national significance within the EGRP Project Extent are provided below.

Nationally significant wetlands include:

- Mount William Swamp
- Lake Muirhead
- Lake Buninjon

Appendix 14 shows these three sites within the project extent.

Wetlands listed below are all of international significance (Table 9) and can be avoided.

Table 09: Water bodies to the Project Extent (as per desktop search)

Name	**Project area Proximity**
Lake Albacutya	150 – 200 km

Locally significant water bodies

The following water bodies are locally significant within the Project Extent:

- Green Hill Lake
- Mount William Swamp
- Lake Muirhead
- Lake Buninjon

There are a total of four waterways listed as ‘major’ within the Project Extent (Table 10 outlines these). Detailed design will detail the number of times these waterways will require to be crossed.

The (Department of Environment, Land, Water and Planning) Vic Map Hydro dataset was referenced to determine the hierarchy of these watercourses within the Project Extent. The Vic Map Hydro dataset hierarchy uses a code to indicate the importance/size of a watercourse. This hierarchy is adequate at this stage of the planning process to be able to reasonably determine the significance of the watercourse in the absence of site based assessment of characteristics and values.

Table 10: Primary waterways within the Project Extent

Waterway Name	Hierarchy
Hopkins River	High
Mount William Creek	High
Wimmera River	High
Fiery Creek	High
Allanvale Creek	Minor
Charleycombe Creek	Minor
Salt Creek	Minor
Dry Creek	Minor
Back Creek	Minor
Concongella Creek	Minor
Mount Cole Creek	Minor

All the above mentioned waterways will either be avoided or require HDD technology to minimise impact. Works on Waterways permits will be required from the Glenelg Hopkins or Wimmera CMAs for any crossings.

Cultural Heritage Assets

The planning overlay map in Appendix 15 identifies a number of heritage overlay areas that are located near the potential construction corridors identified so far. Twelve of the heritage sites are immediately adjacent to proposed corridors and six of the twelve have submitted an expression of interest for a water supply. Any impact from pipeline construction in the heritage areas can be managed sympathetically with protecting the values. This can be carried out in consultation with the landholders, council and other stakeholders.

Table 11: Heritage Assets within or immediately adjoining the potential construction corridors.

HO Number	Heritage Asset / Building	Town
HO112	Fountain Head Brewery Residence Military Bypass Road	Armstrong
HO113	"Westgate", Westgate Road (being limited to the buildings on CA 13A Section 15, Parish of Ararat, which is part of a larger property).	Armstrong
HO117	"Challicum Park", Challicum Road (Challicum Pre-emptive Right, Part A, Parish of Colvinsby).	Buangor
HO119	Lexington Homestead 274 Moyston–Great Western Road,	Moyston
HO120	Ross Bridge Primary School No. 1069, Mortlake-Ararat Road (CA 16A, Township of Rossbridge)	Rossbridge
HO121	Teacher's Residence, Mortlake-Ararat Road, (CA 16C, Township of Rossbridge)	RossBridge
HO122	Bluestone Church, Mortlake-Ararat Road, (Part CA 26, Parish of Tatyoon)	Rossbridge
HO129	"Burrumbeep", Burrumbeep Road, District (Lot 2 PS 147752, Parish of Merrymbuela)	Willaura
HO132	Brierly Cottage, Yarram Gap Road, (being limited to the dwelling located on CA 168, Parish of Watgania, which is part of a larger property).	Willaura
HO133	Woolshed, Mount William Estate Road, (being limited to the woolshed building located on Mount William Pre-emptive Right, Section A, Parish of Watgania)	Willaura
HO134	Yalla-Y-Poora Estate; Manager's Cottage, Coach House and Stables, The Smithy, Mount William Road (being limited to the	Tatyoon

	buildings located on Lot 2 PS67094, which is part of a larger property).	
HO136	Yarram Park Homestead, (being limited to the dwelling located on Yarram Yarram Preemptive Right, Section A, Parish of Watgania West).	Willaura

The EGRP constitutes a 'high impact activity' that will be undertaken within 'an area of cultural heritage sensitivity'. Aboriginal cultural heritage may be impacted by construction and it is accepted that Cultural Heritage Management Plans will be required for each geographic area of the project. Appendix 16 shows the areas of cultural sensitivity within the project extent.

Engagement with Registered Aboriginal Parties (RAP) has begun. The project extent includes three appointed RAPs (Martang, Wathaurong and Barengi Gadjin). There is also a portion of the project extent without an appointed RAP. Aboriginal Victoria is expected to assess a CHMP applicable in this area and consultation with them is also underway. The area without a RAP will require traditional owner consultation with Martang, Barengi Gadjin and Eastern Maar.

GWMWater has been advised that Eastern Maar Aboriginal Corporation (EMAC) will/may soon be the appointed RAP in the area currently within the control of Martang. This change may involve some transition pains due to changing arrangements. The change may alter who assesses the CHMPs applicable to the current Martang area (Martang, Eastern Maar or Aboriginal Victoria) and this is thought to be manageable. Appendix 17 shows the areas of each RAP within the project extent.

It is likely that five CHMPs will be prepared for the EGRP. One each for the Wathaurong, Barengi Gadjin and Aboriginal Victoria areas and two in the Martang area to create manageable documents. Commencement of detailed field surveys is awaiting appointment of construction contractors who will appoint heritage advisors. GWMWater will engage RAPs and traditional owners directly.

The bulk of the project is in the Martang RAP area (68%) and GWMWater has already entered into a memorandum of understanding outlining roles and responsibilities. This MoU is based on our award winning MoU with Dja Dja Wurrung. GWMWater intends to enter into similar MoU with BGLC, EMAC and Wathaurong and we are awaiting progress on appointments and approvals. Wathaurong covers 13% of the project area with BGLC at 9% and the final 10% will be applicable to Aboriginal Victoria. The Martang MoU is included as Attachment 3.

The CHMPs will be prepared as part of Project Planning prior to the commencement of 'significant ground disturbance' activities. An on-ground survey consisting of standard and complex assessment will be undertaken and report prepared as part of the detailed design phase of works. Principles of avoidance and mitigation will be adopted with cultural heritage assessments similar to the methodology used for environmental impacts.

Findings from this survey will be used to prepare the CHMPs that will outline the required minimisation of impacts to identified sites. RAPs and traditional owners will be fully engaged throughout the process and are responsible for consideration and approval of each CHMP relative to the geographic areas (provided it has been prepared to their satisfaction).

Social / Amenity Assets

Several National Parks and State Parks are located in proximity to the project area. These parks provide significant social amenity to the area. The larger parcels have been excluded from the project area and there should be no new construction in those areas. Preliminary designs will be released to various stakeholders and landholders and any proposed impact areas will be further identified by locals. This will then provide an opportunity, prior to detailed final design to avoid or mitigate social amenity impacts.

Significant areas of high environmental value crown land include Grampians National Park and Buangor State Park, Mount Langi Ghiran and the Ararat Hills Regional Park. Public land traversed by the potential construction corridors is being identified so that public land manager consents can be processed efficiently.

Impacts to public land by the construction of the EGRP will be significantly reduced through further detailed analysis during the design phase with impacts to the higher order reserves being avoided altogether. Linear reserves can be avoided through horizontal direct drilling. These objectives are written into the design principles so where the contractor identifies areas of impact in higher order public land they must demonstrate that all other alternatives have been considered.

9. Land availability and control

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

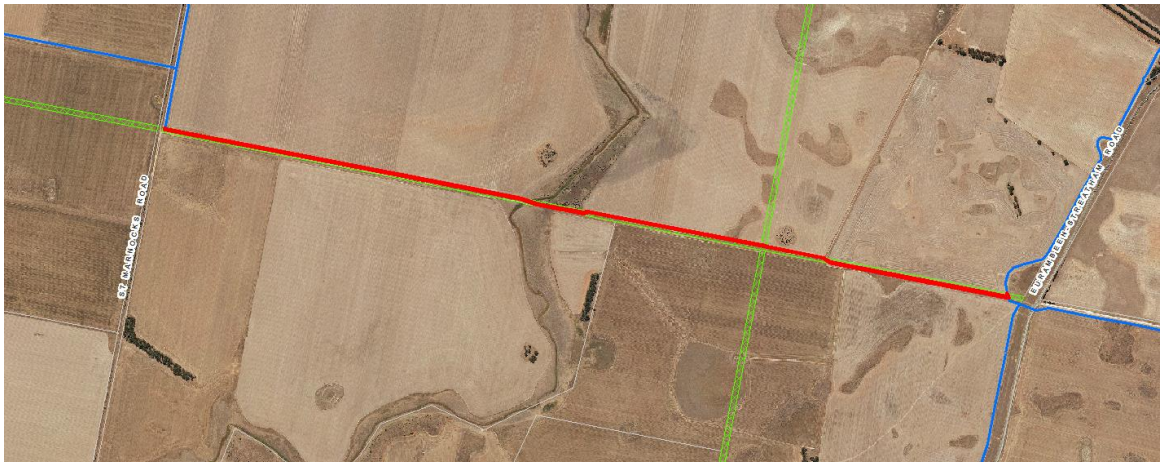
☐ No ☒ Yes If yes, please provide details.

The EGRP will be constructed partly on Crown land. GWMWater has identified 424 parcels of crown land where the potential construction corridors (Appendix 2) may have an environmental impact. The impacts would be from construction of the new pipelines and in most cases the impacts are small. Based on an 8 m construction corridor (maximum impact area in a significant area) the breakdown of impact sizes is as follows:

Impact	**Count**
0 – 100 m^2	30
100 m^2 – 200 m^2	187
200 m^2 – 300 m^2	53
300 m^2 – 500 m^2	64
500 m^2 – 1,000 m^2	39
1,000 m^2 – 10,000 m^2	49
> 10,000 m^2	2
Total	**424**

As shown in Appendix 06, the larger parcels of crown land (for example Mount Langi Ghiran and the Ararat Hills) have been excluded from the project extent. The remaining crown land parcels are distributed across the project extent which is particularly evident for unused road reserves. These can be utilised, with appropriate approvals, or avoided based on environmental, cultural or technical matters.

As an example, the largest impact on crown land (26,190 m^2) is shown in the screen capture below. The potential construction corridors are shown in blue, crown land in green and the intersection between the two in red. This area of crown land is cropped with the surrounding paddocks and is easily avoidable (if it became part of the future detailed design) by placing the pipe into the adjacent freehold land. As this area is not a made road, it has not been assessed in the field. Aerial photo interpretation and a desktop investigation indicate no native vegetation values are present. If a pipeline is necessary in this area under the detailed design, a field assessment will be carried out.



Application of horizontal direct drilling and other low impact technologies allows us to estimate that 355 sites out of 424 could be constructed without impact on crown land. The median impact

size of estimated impacts is less than 200 m^2. Based on our 8 m corridor, applying HDD would result in a small 25 m bore. Certainly linear corridors of crown land such as waterways and road reserves with native vegetation and biodiversity values are to be constructed with HDD to minimise and remove environmental impacts.

Within the crown land estate, GWMWater has identified eight parcels managed by Parks Victoria potentially impacted by the EGRP construction. Further examination of these sites indicate that impacts can be avoided at seven can be easily avoided by realigning the construction corridor or implementing HDD. One site is somewhat inconvenient to realign although we may be able to place the pipe on the roadside adjacent to the Parks Reserve subject to further native vegetation assessment. Future iterations of the pipeline design will avoid impacts on Parks Victoria managed land wherever possible.

The current potential construction corridors assessed intersects less than 30 ha of crown land which is less than 2% of the total construction corridor area. Most crown land parcels intersected appear to be unused road reserves with little environmental value. Aerial photo interpretation indicates most of these reserves are cropped with adjacent paddocks. The GHD native vegetation assessments did not directly consider impacts on crown land as it concentrated on freehold land. However, examination of the potential construction corridors and the crown land gave two broad situations:

- The crown land was clearly a vegetated corridor (waterway or road reserve) and was marked for horizontal direct drilling to avoid impacts.
- The crown land was clearly cropped as part of the adjacent paddock and there is no environmental impact.

In situations where there is doubt about the environmental value of crown land, a formal assessment will be conducted prior to approval for construction commencement.

There will be a number of Crown land parcels impacted by the construction works, principally road and waterway crossings that are crossed at right angles on the shortest possible alignment. This approach forms a consistent methodology where possible when crossing Crown land and to minimise the area of impact to each land parcel. In the rare case that values are lower within the Crown land corridor compared to adjacent private property, the Crown land will be favoured to form the pipeline alignment. This occasionally happens with degraded roadsides next to high quality reserves.

The majority of Crown land crossings will be via trenchless techniques although some crossings that have low or no value or significance may be trenched or ploughed.

Current land tenure (provide plan, if practicable):

Interpreting the land zone breakdown within the planning scheme, the land tenure within the trunklines assessment corridor consists of approximately 95% private property and 5% public land including road reserves.

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

GWMWater intend to negotiate an easement over pipelines that are 300 mm in diameter or greater. It is estimated that less than 70 km of trunk main will require an easement with access to the remainder of the land negotiated via land access agreements with landowners.

GWMWater may acquire some land for the fourteen pump stations but prefers to acquire these through easements.

Land access agreements will provide GWMWater with permission to enter properties in order to undertake surveys, pre-clearing, construction and reinstatement; returning the property to a condition that is acceptable to the landholder following completion of construction.

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

Table 12 lists the tenements that are intersected by the potential construction corridors.

Table 12: Tenements intersected by the potential construction corridor.

Type	Tenement No.	Owner
Extractive Industry	WA1405, WA1405, WA680, WA1178, WA857, WA947, WA1136	Ararat Rural City Council
Extractive Industry	WA006193	Aussie Rock Pty Ltd
Exploration	EL5497, EL5425, EL5425, EL5425, EL5425, EL5425, EL5497, EL5425	Black Range Metals Pty Ltd
Extractive Industry	WA1112	Charles P Armytage
Extractive Industry	WA612	David Martin
Extractive Industry	WA906	David West
Extractive Industry	WA1253	Finchall Pty Ltd
Exploration	EL006721	Golden Goose Mining Pty Ltd
Extractive Industry	WA1373, WA1230, WA1482, WA1467	Graeme McKay Earthworks (Vic) Pty Ltd
Extractive Industry	WA793	Grampian Sands Pty Ltd
Extractive Industry	WA1149	Gregory James Newton
Extractive Industry	WA1414, WA1244	Jamak Pty Ltd
Extractive Industry	WA891	K & J Baker Cartage Pty Ltd
Extractive Industry	WA1129	Keith Hamilton & Sons Pty Ltd
Prospecting	PL006008	Masthead Projects Pty Ltd
Extractive Industry	WA1493	Maurice Eric Holden
Exploration	EL006526, EL006525, EL006528, EL006527, EL006702, EL5476, EL006702, EL006745, EL5480, EL006703, EL5480	Navarre Minerals Limited
Extractive Industry	WA1461, WA606, WA1468	Northern Grampians Shire Council
Exploration	EL006318	Owen Coote
Extractive Industry	WA1335	Rocky Point Gravel Pty Ltd
Extractive Industry	WA846, WA1306	S T Hamilton & Sons Constructions Pty Ltd
Extractive Industry	WA1450, WA614	Statewide Recycling Services Pty Ltd
Exploration	EL006271, EL3019, EL5486, EL3019	Stavely Minerals Limited
Extractive Industry	WA439, WA1257, WA438	Stawell Brick Co Pty Ltd
Mining	MIN5260, EL5474	Stawell Gold Mines Pty Ltd
Extractive Industry	WA1308	Telegraph Farm Company Pty Ltd
Extractive Industry	WA1332	Thomas William Eastick
Extractive Industry	WA1475	Walker Farming Pty Ltd
Extractive Industry	WA1525	Western Quarries Pty Ltd

Each tenement holder will be consulted regarding the EGRP, following confirmation of the preliminary alignment, in order to inform them of the Project and identify any areas of concern.

There are likely to be several other easements, encumbrances and third party interests on land that will be within the EGRP construction corridor. These will be identified following confirmation of the preliminary alignment and those interests will be notified of the intended works with any additional location information or notification protocols being noted in advance of construction.

Crown land in the project area is subject to negotiations between traditional owners and Department of Justice and Regulation. As a sign of respect for Aboriginal cultural heritage, GWMWater will treat impacts on crown land as if a Recognition and Settlement Agreement exists at the time of final approval.

10. Required approvals

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

Commonwealth legislation

Table 13: Commonwealth Legislation

Act	Relevant agency	Implications	Stage
Native Title Act, 1993	Existing MoU between Martang Pty Ltd and GWMWater MoU to be arranged with BGLC, EMAC and Wathaurong.	Compliance for future acts is reached via the requirements of section 24 of the *Native Title Act 1993.*	Construction
Environment Protection and Biodiversity Conservation Act, 1999	Department of the Environment and Energy (DoEE)	This Act provides a framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places of national environmental significance. Previous experience and results of flora and fauna surveys to date indicates that avoidance of MNES can be achieved. GWMWater therefore intends not to refer the project under this Act. GWMWater has had discussion with the Commonwealth communicating this intent and the reasoning.	Planning / Early Works

State legislation

Table 14: State Legislation

Act	Relevant agency and other stakeholders	Implications	Stage
Aboriginal Heritage Act, 2006	Aboriginal Victoria is responsible for implementation of the Act.	This Act enables the protection, preservation and management of Victoria's Aboriginal (indigenous) heritage through *Registered Aboriginal Parties (RAPs)*. Under this Act, a Cultural Heritage Management Plan (CHMP) or a series of CHMPs are required to be prepared. Preparation of a CHMP, or series of CHMPs if construction will be 'staged', as part of Project Planning prior to the commencement of 'significant ground disturbance' activities.	Planning / Early Works/ Construction
Catchment and Land Protection Act, 1994 (CaLP Act)	Objective to provide for the control of noxious weeds and pest animals. Works on or affecting waterways will need to be compliant with the requirements of *Catchment and Land Protection Act 1989* and be consistent with strategies and policies flowing from the Act.	Weed and Pest species will be managed within the Environment Management Plan (EMP). Works on Waterways permit will be obtained from the Glenelg Hopkins or Wimmera CMAs as required	Early Works/ Construction
Crown Land (Reserves) Act	DELWP	Licence or consent may be required for Crown land occupation. Will depend on land tenure.	Early Works/ Construction

Environment Effects Act, 1978	Department of Environment, Land, Water and Planning (DELWP)	Assesses the proposed impact on Environmental Assets by the construction and operation of the EGRP. The Minister will consider the extent to which the Project is capable of having a significant effect on the environment. Preparation of a Referral of the Project (this document) and then responding to any assessment requirements set out in the Minister's decision on whether an EES is required.	Planning
Environmental Protection Act, 1970	The Act provides a legal framework to protect the environment in the State of Victoria. It applies to noise emissions and the air, water and land in Victoria and to the discharge of waste from any premises in Victoria. Under the Act are a number of subordinate policies including state environment protection policies (SEPPs) and waste management policies (WMPs). The Project will comply with all relevant SEPPs and WMPs.	Principles of the Act will be adopted during planning, design, construction and operation of the EGRP. Waste, Noise, Vibration and Air Quality Management will be managed within the EMP	Early Works/ Construction
Fisheries Act 1995	The *Fisheries Act 1995* provides the legislative framework for the regulation, management and conservation of Victorian fisheries including aquatic habitats.	Permit required to take, injure, damage, destroy, possess, keep or display for reward any declared protected aquatic biota. Listed protected aquatic species include all fish or aquatic invertebrates listed under the *Flora and Fauna Guarantee Act 1988*.	Construction
Flora and Fauna Guarantee Act, 1988	Department of Environment, Land, Water and Planning (DELWP)	The *Flora and Fauna Guarantee Act* (FFG Act) is the primary Act for the protection of threatened native flora and fauna within Victoria. The FFG Act provides safeguards for the following: •Threatened native flora and fauna; •Threatened communities of native flora and fauna; •Protected flora; •Potentially threatening processes. The FFG Act applies to all public land. Permits are required under the FFG Act for the taking of listed (threatened or protected) species in these areas Proponent is required to manage any threatening process listed under the Act. Appropriate controls to manage the effects of the construction will be implemented. The extent to which this will be required will be determined during the design and assessment phase of the work.	Early Works / Construction

Heritage Act, 1995	Approval is required to undertake any works to a place listed.	To be confirmed once alignment is determined under a CHMP	Construction
Land Act 1958	Approval is required for buildings and works and to occupy permanently or temporarily unreserved Crown land (on a permanently or temporarily basis)	Consent to access land and to undertake investigations have been obtained to date.	Early Works / Construction
National Parks Act	Parks Victoria	Section 27 Consent required to occupy if NP is crossed.	Early Works / Construction
Planning and Environment Act, 1987	Minister for Planning	GWMWater will request that the Minister exercises his powers under section 20(4) of the *Planning and Environment Act* 1987 to prepare, adopt and approve a Planning Scheme Amendment (PSA). In the absence of that amendment, planning permission from local government would be required.	Planning / Early Works
Roads Management Act, 2004	VicRoads or relevant local government authority	Requires the preparation of a Traffic Management Plan and consent to conduct works within a road corridor from the relevant authority, VicRoads or in the case of the local Council a works within road reserve permit. Prepare a Traffic Management Plan and consult with relevant authority. May require permit for works within road reserve.	Early Works / Construction
Traditional Owner Settlement Act 2010	The Victorian Department of Justice and Regulation is the lead agency. Existing MoU between Dja Dja Wurrung Clans Aboriginal Corporation and GWMWater.	Compliance for land use activities is reached via the requirements of the Dja Dja Wurrung Land Use Activity Agreement (LUAA) that exists between the Dja Dja Wurrung Clans Aboriginal Corporation and the State of Victoria, prepared under the State *Traditional Owner Settlement Act 2010.*	Early Works / Construction
Water Act, 1989	Glenelg Hopkins Catchment Management Authority (CMA) Wimmera Catchment Management Authority (CMA)	This Act governs water entitlements and establishes the mechanisms for managing Victoria's water resources. Works and activities within the bed and banks of designated waterways in the project extent require a licence. Section 67 Requires a license for works and activities in waterways including beds and banks. Consult with CMA.	Early Works / Construction
Wildlife Act 1975	The Wildlife Act establishes the framework for the protection of the State's native wildlife. The inspection, removal or relocation of fauna species for the Project would require a permit under the Wildlife Act 1975.	Approval is required to remove or relocate fauna.	Early Works / Construction

Public land owner consent

GWMWater or contractors will initiate the public land consent process as soon as a specific alignment is known and the responsible crown land managers can be identified. DELWP, as representative of the land owner, will be provided with all parcel details, a planning report for each parcel and appropriate mapping (including shapefiles). Crown land managers such as VicTrack and Parks Victoria will also be notified and provided with information as soon as the pipeline route is confirmed. Requests for crown land owner's and manager's consent will be forwarded in a bulk email to Grampians.Planning@delwp.vic.gov.au for the project. Approvals to proceed will be secured prior to commencement of works on each parcel of public land.

All other Public Land stakeholders will be contacted once the preliminary alignment has been confirmed and will be fully briefed with regard to planned infrastructure. Compliance for future acts is reached via the requirements of section 24 of the *Native Title Act 1993*.

GWMWater or contractors will work collaboratively with crown land owners and managers to obtain the relevant permissions required for construction and operation of the EGRP.

Rail authority consent/ other 3rd party consent
Contractors will seek approvals from VicTrack and other third parties once the specific alignment is known. Approvals to proceed will be secured before works start on particular areas of land requiring additional consents.

Other
Through the design phase of the project planning, all relevant approvals will be obtained. No construction will take place until approvals and compliance with relevant legislation can be demonstrated.

Have any applications for approval been lodged?

☒ No ☐ Yes If yes, please provide details.

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

Commonwealth Department of Environment and Energy
The Project team submitted an "Information on Proposed Action" to the EPBC team and held subsequent discussion about the EGRP on 1 March 2019. The outcomes of the preliminary flora and fauna field surveys have indicated that avoidance of MNES is feasible and therefore GWMWater does not propose to refer the project under the EPBC Act. GWMWater communicated this intent to the EPBC team and detailed the reasoning behind the decision not to refer the Project.

DELWP engagement
GWMWater has been in regular consultation with DELWP since July 2018 (following the announcement of state government funding) and had been in discussions six months prior, when the business case was being developed.

Other agencies consulted:
The project has a project steering committee that has met regularly since June 2015. The Project Steering Committee consists of the following agencies:

- Ararat Rural City Council
- Pyrenees Shire Council
- Northern Grampians Shire Council.
- Wannon Water
- Glenelg Hopkins CMA
- Wimmera CMA
- Regional Development Victoria
- Landholders
- Martang Pty Ltd
- Wathaurong
- Barengi Gadjin Land Council
- Eastern Maar Aboriginal Corporation
- Trust for Nature

A customer committee has also been established and discusses local issues relevant to the community and landholders. Members of this group consist of:

- Landholders
- Victorian Farmers Federation

The remaining approval agencies will be consulted when details of locations are known. At this point in the Project there is not enough information to properly engage with these agencies.

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):

While there are likely to be sites along the alignment where some level of impact is unavoidable, active management during the design and construction phases should enable these impacts to be minimised. GHD undertook a two phase assessment of potential construction corridors (road reserve adjacent). The first phase was assessment of 1,765 km of potential corridors estimating around 132 ha of native vegetation. The second phase involved vegetation quality assessment of 71 ha of native vegetation. This assessment included 27 EVCs across 5 bioregions and 48 modelled wetlands. This was reviewed by GWMWater and the application of basic horizontal direct drilling and avoidance measures reduced the potential impact to 36.5 ha of native vegetation. A total of 123 native flora species were recorded in the corridors. The project extent supports habitat for 346 native fauna species which are documented or predicted to occur. Biodiversity and native vegetation impacts as assessed by GHD are shown in Appendix 18 and detailed in Attachment 2.

In addition to the impact assessed by GHD, GWMWater is estimating a 0.25 ha impact from many small impacts associated with valves and meters. Part of the construction process for rural water pipelines is the installation of air valves and meter connections at the fence line adjacent to pipelines. This infrastructure is absolutely necessary to ensure the correct operation of the pipeline. Generally these valves are placed on the road side of the fence so they do not interfere with the ongoing management and farming of the rural land. In some cases, the valves may be placed in areas of native vegetation on the roadside. The impact from this is generally less than 1 m^2 per valve. The East Grampians Rural Pipeline (EGRP) may include as many as 2,500 such impacts separated by 100-500m. In and of itself, this impact is only 0.25 ha but the total impact from the project will be over 10 ha (this is currently being determined). GWMWater believes it is impractical to assess vegetation quality for each square metre individually as the specific locations will only be decided during the construction phase and will be based upon local conditions. There are also a great many of them which makes individual assessment uneconomical.

The environmental risk assessment identified that the Project has the potential to impact the following assets:

- Cultural heritage
- Non-aboriginal Cultural Heritage
- Native vegetation
- Threatened flora and fauna species.
- Waterways and water environments
- Landscapes and soils
- Social environments

'Reasonable estimate' concept

Mapping of the 1,765 km of potential construction corridors has been prepared as part of the reference material of this Referral (Appendix 3). Compared to the 1,765 km of corridor assessed, the total network design length is expected to be about 1,400 km and actual construction length expected to be only up to 1,200 km. The assessed corridor length represents an over-estimation of potential pipeline length.

The pipeline has been placed within a 8 m assessment corridor which has been prepared to reflect our reasonable estimate. The 8 m right of way was chosen for this purpose as it accurately reflects the space needs to construct the larger mains in sensitive areas. Disturbance during construction will not exceed 15 m in non-sensitive and will be reduced further where species or sensitive activities have been identified that cannot be avoided using plough in methodology or

HDD. Vehicle turn-arounds and material laydown areas may require a greater corridor width but these locations are flexible and can be located in areas of no environmental or cultural value.

Values presented in this Referral concentrate on the 8 m wide trunklines assessment corridor that traverses the Project Extent. This assessment provides an estimation of potential effects across a large area. While detailed design of the infrastructure is still required, the EGRP team has diligently included both trunk and distribution mains in the calculations of potential impacts.

The key sources of potential impacts were identified as:

- Disturbance caused by the construction process, specifically:
    - Soil movement and replacement
    - Vehicle and machinery movement
    - Formation of temporary site access
    - Laydown and vehicular turnaround preparation
    - Installation of valves and meters
    - Construction of storages and pump stations
    - Power lines upgrade connections.

Summarised in Table 15 below are the key construction activities and maximum ground disturbance areas.

Construction Element	Maximum Design Length (m)	Maximum Construction Width (m)	Maximum Number	Total Ground Disturbance Area (Ha)
Trunk lines	400,000	15	1	600
Distribution lines	1,000,000	15	1	1,500
Open Storage	50	80	1	0.4
Tanks Storage	20	20	1	0.04
Pump stations (incl. booster pump stations *	30	20	14	0.84
Laydown/storage (1 per 50 km) *	100	50	14	7
Access points/ temporary access (1 per 800 m) *	10	6	1,400	8.4
Installation of air valves (from pipeline to fence line)	10	3	1,700	5.1
Vehicular turnarounds(1 per 2 km) *	20	20	700	28
Water meter installation*	10	3	750	2.25
Power line installation to pump stations*	250	10	14	3.5
Air valves and small impacts on roadsides	1	1	2500	0.25
Total Maximum Project Ground Disturbance Area				**2,156**
Total % Ground Disturbance Area within Project Extent (320,000 Ha)				**0.67%**

Table 15: Key Construction activities and maximum ground disturbance areas

The assessments conducted to date provide a relatively high level of confidence that the species identified in the potential corridor assessments can largely be avoided as outlined above. Items with an asterisk (*) shown above have the flexibility of being located in areas of cleared land and will largely have no species or habitats impact. The majority of the impact would be confined to the trunk and distribution lines.

The first pass on the corridors by GHD indicated 132 ha of native vegetation may be impacted in assessed corridors. After application relatively easy avoidance measures such as selecting a corridor only on the side of the road without native vegetation and basic application of HDD, the total potential impact was reduced to 36.5 ha.

GWMWater considers that 40 ha of native vegetation is a reasonable worst case. This estimate includes the 36.5 ha from the GHD assessment and the 0.25 ha from the many small impacts estimation. It also allows for some variability in the detailed design and in reaching all expressions of interest. As the project develops, the actual environmental impacts will be confirmed. Many existing impacts will be avoided as the pipes won't be necessary. This reduction may be partly balanced by some new alignments that might result in currently unassessed environmental impact. Based on GWMWater's past experience with large scale rural pipelines most environmental impacts are small and manageable. We are confident the project can be managed within a 40 ha impact.

Importantly, the proposed EMP for this project will provide a high-confidence estimate of worst case native vegetation impact based on actual designed alignments. The preparation and approval of this proposed "secondary consent" document will provide another step for identifying and mitigating impacts prior to commencement of construction.

The key potential impacts that construction and operation of the EGRP may have on the natural environment were identified as:

Vegetation, flora, fauna

- Proposed native vegetation removal from endangered Ecological Vegetation Classes (EVCs) or very high conservation significance vegetation will exceed regulatory triggers in relation to Environmental Effects or EPBC that would deem the Project to have a 'significant' impact on environmental assets and values
- Activities associated with construction damage or destroy protected habitat, listed species or threatened/ endangered vegetative communities
- Each site in the 40 ha impact area is allocated a Bioregional Conservation Status (BCS). A breakdown of area by BSC includes:
    - Endangered 23.6 ha.
    - Vulnerable 8.8 ha
    - Depleted 6.7 ha
    - Least concern 0.1 ha

Water environments

- Uncontrolled ground disturbance activities impact listed aquatic species and habitat
- Ineffective site based controls lead to sedimentation of waterway and transport of silt/soil off site
- Ineffective reinstatement leads to long term impact on waterway crossing location
- Ineffective scheduling leads to water flow in ephemeral waterways prior to reinstatement of work
- HDD - uncontrolled discharge or drilling fluids.
- Construction of the EGRP will involve many, perhaps 100s, of crossing of waterways and drainage lines plus work in the vicinity of wetlands. HDD is a low impact technology which can be implemented safely to avoid impacts on sensitive water environments.

Landscape and soils

- Disturbance to high value/sensitive landscapes during construction phase
- Intermediate disturbance to high value sites caused by vegetation removal
- Permanent alteration of landscape features through disturbance during construction (i.e. benching through rock areas)
- Permanent introduction of new above ground infrastructure (pump stations, storages, valves, signage markers) impact surrounding landscape
- Erosion/ mixing of topsoil and subsoils; sedimentation of waterway; sub-standard reinstatement/rehabilitation in problem soil areas.
- Assuming that all pipelines are installed via trenching which involves windrowing the top soil, the EGRP may disturb around 1,000 ha of soil. Another 500 ha of soil may be subject to vehicle and machinery traffic. However, in the vast majority of cases, the soil is replaced

within three days with a single day being common. Traffic is minimised with most construction happening with a single pass at any point along the construction corridor. In sensitive areas, traffic is severely limited to protect the environment.

Social environments

- Excessive impact on local roads, road users and adjacent landholders/ residents from traffic during construction
- Excessive dust, mud, noise, odour causes off-site impact and complaint
- Change in land use through construction of above ground infrastructure
- Weed transfer caused by construction vehicles, machinery and personnel movement between properties
- Disturbance to known and unknown sites of aboriginal and non-aboriginal significance.
- Harm to cultural heritage artefacts and landmarks.

Energy, waste and greenhouse gas

- Emissions during construction generate exceedances. Inefficient design, equipment and energy use lead to a more costly operation of the EGRP
- Waste generated by the project cannot be disposed in an efficient way/ causes environmental and social nuisance
- Sustainability value of the EGRP is scrutinised by Government.

Facilitated activities

- Disturbance of threatened species, communities, native vegetation, areas of cultural significance and other areas of sensitivity.

Key uncertainties

Whilst mapping has identified potential environmental values that may be encountered during the Project on many of the potential construction corridors, other areas may be impacted that are not yet formally surveyed. On-ground survey work, including seasonal surveys, for these areas will be undertaken and the principles of environmental management applied to the project in line with the proposed EMF and EMP. On similar projects from first survey to final alignment on a RoW assessment corridor of 15 m a reduction of 90% of the potential impact on vegetation removal had been achieved with no specific offsets being required. That is, required general biodiversity units for offsetting were reduced by 90 per cent after avoidance and mitigation practices were employed.

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.

The current reasonable impact assessment details 40 ha of native vegetation to be disturbed. The associated NVR report is included as part of Attachment 2. This assessment carried out to includes consideration of the following aspects of native vegetation disturbance.

- **Direct Impacts**: All areas of construction activity for both trunk and distribution mains, primarily on private land, where there is native vegetation has been recorded based on an 8 m wide construction corridor. The current preliminary design also includes possible connections to existing infrastructure at towns in the project area and these impacts are considered to be part of the EGRP project.
- **Horizontal Direct Drilling**: Construction around linear corridors, primarily waterways and road reserves, where HDD is expected to be implemented have been removed from the native vegetation impacts. The bore entry and exit pits will be located within the disturbed pipeline impact corridor.
- **Tree Protection Zones**: TPZs have been included in the sense that impacts on trees are easily avoidable. All construction should proceed outside the TPZ in all cases. HDD is a useful tool which will be implemented in many areas. All HDD entry/exit pits will be located outside the tree protection zones.
- **Road Reserve Impacts**: Disturbance of native vegetation from many small impacts (valves) has been estimated at 0.25 ha with an offset of 0.240 GHUs. This estimate will be refined during the design phase and reconciled to current guidelines.
- **Links between Reservoirs**: There is no planned work to connect reservoirs under the EGRP. Bulk water transfers between reservoirs, for example Bellfield to Fyans, will be carried out using existing infrastructure.
- **Alternative corridors**: Appendix 3 shows potential construction corridors. A number of these corridors are not adjacent to made roads and have not been assessed in the field. They have been assessed via a desktop methodology and a small area, about 2 ha has been estimated as a native vegetation impact. Once the network design is complete, additional field surveys will be conducted (Spring 2019) to assess any additional native vegetation and mitigate any impacts (or are at least balance with other reductions).

A number of aspects are not included at this stage.

- **Cross-country pipeline corridors:** It is likely to be practical and efficient to design some pipelines distant from road reserve corridors to either save pipe length or avoid impact to sensitive areas. These potential corridors have not been included in the flora and fauna assessments to date, but will be fully assessed during design development for approval prior to construction. Any potential impact form these corridors is expected to be balanced by impacts avoided on other corridors.
- **Power Line Extensions**: Locations of pump stations and therefore need for power line extensions will not be clear until the detailed design is complete. However, there is only a small risk of disturbing further native vegetation as there is great flexibility in the location of pump stations and they should be confined to disturbed areas.
- **Facilitated Impacts**: The works approved for GWMWater will end at the water meter placed on a property boundary. Approvals for works required on property to reticulate water to houses, stock troughs and tanks are the responsibility of the landholder. GWMWater is providing information as to the obligations of landholders in this space.
- **Crown Land and Waterways**: The GHD field assessments excluded crown land and road reserves (used and unused) as well as waterways and wetlands. For the most part, the preliminary design considered these areas based on aerial photo interpretation. Most examples are linear in nature and it is practical to use HDD to avoid impacts. In cases where HDD is not practical, further native vegetation surveys will be necessary. GWMWater is confident additional native vegetation impacts are not incurred (or are at least balanced with other reductions).

Field assessment has been undertaken on 1,765 km of land adjacent to roads. The full pipeline network will be designed at about 1,400 km in total and construction length is not expected to exceed 1,200 km, due to <100% landowner commitment. The vast majority of assessment is complete and any future assessment to remove uncertainty should be quite minor.

As stated above, some of the assessment to date has been carried out using desktop methodology. All areas to be used for construction will be formally surveyed prior to construction. Surveys will be conducted by qualified and experienced personnel, independent yet in parallel with the design phase. GWMWater will determine which recommendations, based on the avoidance and minimisation principles, are incorporated into the design phase to avoid a conflict. The recommendations will be adopted and incorporated into the EMP.

Another deliverable of the ecological survey will be the preparation of an Offset Management Plan that will determine the type and quantity of offsets required for each phase of construction.

A key planning commitment for the Project is to apply the principles of avoidance and minimisation in pipeline alignment selection. This will be achieved via:

- Re-alignment around environmental assets
- Horizontal Directional Drill (HDD) – or other trenchless technology - underneath environmental assets
- Prioritising 'plough-in' methodology through sensitive areas.

A separate Arborist assessment may be required in order to assess the impacts of construction on trees adjacent to the proposed construction alignment with Tree Protection Zones (TPZ) being determined for trees that will be retained.

These principles will be incorporated into the EMP.

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

An early part of the planning process for the EGRP is to identify potentially significant areas of sensitivity and assess the potential environmental effects. GWMWater has engaged GHD to complete a two phase assessment of potential construction corridors. The first phase involved a rapid traffic light assessment to identify land adjacent to road reserves as either:

- No native vegetation (green light)
- Native vegetation requiring assessment (amber light)
- High quality vegetation or habitat for threatened species (red light)

This phase enabled the development of least impact potential construction corridors by GWMWater. GHDs second phase involved detailed assessment (Vegetation Quality Assessment) of vegetation potentially impacted by the project. GWMWater supplemented these studies with some modelled native vegetation and habitat information outside GHD's original scope. The combined assessment has been used to characterise a reasonable / defendable estimation of impacts on the natural environment for the EGRP

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

Estimated area ……40 ha…….(hectares)

Each site in the 40 ha impact area is allocated a Bioregional Conservation Status (BCS). A breakdown of area by BSC includes:

- Endangered 23.6 ha.
- Vulnerable 8.8 ha
- Depleted 6.7 ha
- Least concern 0.1 ha

Please note that this area of clearing is considered a maximum for the project and is based on the GHD assessments (attachment 2) and some additional impacts not covered. Additional impacts include the potential for a high number of very small impacts on roadside vegetation (quantity up to 2,500, area up to 1 m^2). These impacts cannot be adequately mapped or assessed until they are built but the impact can be estimated and is included within the 40 ha. Based on previous experience with similar projects, notably the South West Loddon Pipeline, GWMWater is confident

actual impacts will be much lower than stated. This can be reflected once the detailed design is underway.

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.

Ecological Vegetation Class Analysis

Each site in the 40 ha impact area from the GHD report (attachment 2) is allocated an Ecological Vegetation Class (EVC). A breakdown of area by EVC includes:

Bioregion	**EVC Code**	**Status**	**EVC**	**Area (ha)**
Central Victorian Uplands				
1.	CVU_0020	LC	Heathy Dry Forest	0.090
2.	CVU_0022	D	Grassy Dry Forest	0.548
3.	CVU_0048	D	Heathy Woodland	0.602
4.	CVU_0055	E	Plains Grassy Woodland	1.388
5.	CVU_0067	E	Alluvial Terraces Herb-rich Woodland	3.906
6.	CVU_0068	E	Creekline Grassy Woodland	0.024
7.	CVU_0071	V	Hills Herb-rich Woodland	0.436
8.	CVU_0072	D	Granitic Hills Woodland	0.953
9.	CVU_0074	E	Wetland Formation	0.676
10.	CVU_0134	E	Sand forest	0.070
11.	CVU_0175	E	Grassy Woodland	2.053
Dundas Tablelands				
12.	DunT0003	V	Damp Sands Herb-rich Woodland	0.379
13.	DunT0055	E	Plains Grassy Woodland	1.389
14.	DunT0125	E	Plains Grassy Wetland	1.838
Goldfields				
15.	Gold0022	D	Grassy Dry Forest	4.522
16.	Gold0048	D	Heathy Woodland	0.051
17.	Gold0055	E	Plains Grassy Woodland	0.678
18.	Gold0056	E	Floodplain Riparian Woodland	0.038
19.	Gold0067	E	Alluvial Terraces Herb-rich Woodland	3.642
20.	Gold0068	E	Creekline Grassy Woodland	0.309
21.	Gold0074	E	Wetland Formation	1.542
22.	Gold0175	V	Grassy Woodland	7.446
23.	Gold0175_61	V	Grassy Woodland	0.507
Victorian Volcanic Plains				
24.	VVP_0055	E	Plains Grassy Woodland	0.138
25.	VVP_0055_61	E	Plains Grassy Woodland	0.601
26.	VVP_0056	E	Floodplain Riparian Woodland	0.267
27.	VVP_0074	E	Wetland formation	3.451
28.	VVP_0132_61	E	Plains Grassland - Heavier-soils	0.929
29.	VVP_0132_62	E	Plains Grassland - Lighter-soils	0.122
30.	VVP_0641	E	Riparian Woodland	0.112
Wimmera				

31.	Wim_0055	E	Plains Grassy Woodland	0.387

The construction methodology and design will avoid impacting the vast majority of EVC as indicated in various sections of this referral and in accordance with the EMF to be developed in the early works contract.

Have potential vegetation offsets been identified as yet?

☐ NYD ☒ Yes If yes, please briefly describe.

GWMWater is in the process of establishing an offset site at Mafeking, just outside the project area. This site will cover a proportion of our requirement for general offsets. It is expected these offsets will be secured and listed on the Victorian Native Vegetation Offset Register in June 2019.

The direct assessments by GHD have enabled processing data through EnSym Native Vegetation Regulation Tool using the most recent 2017 regulations

The NVR report shows an offset requirement of:

- 15.792 GHU with a minimum strategic biodiversity value of 0.454

GWMWater is confident these impacts and offsets can be further reduced as the detailed design of the pipeline is developed. As an aside, GWMWater is in the process of establishing an offset site at Mafeking, just outside the project area. This site should cover much of our requirement for general offsets.

Other information/comments? (e.g. accuracy of information)

Any additional or alternate corridors proposed during the design process that have not already been assessed will be assessed appropriately and included in relevant documentation.

NYD = not yet determined

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)

GHD have undertaken rapid and detailed assessments of potential construction corridors in the project area. The associated report is attached as attachment 2.

These surveys have included identification of habitat for EPBC and FFG listed species. GHD has also undertaken surveys of Golden Sun Moth in suitable areas and have discovered a number of new populations. These sites are being treated as no go areas for the purposes of the detailed design except in a couple of areas where HDD may be used to avoid the GSM habitat completely. GHD also identified habitat for Striped Legless Lizard and the need for specific surveys has been discussed. GWMWater did not undertake surveys on the basis that unlike GSM, not finding Striped Legless Lizard at a site does not mean they are not present. Thus we are treating all of these sites as if they are present and therefore to be treated as no go areas. As an aside, this does mean there will be some properties that cannot be reached under the current project.

GHD's surveys and some additional desktop work carried out by GWMWater have informed the development of potential construction corridors leading towards a least impact implementation of the project.

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.

There are a number of migratory animals present or potentially present in the project area. The list below is based on the protected matter search tool but slightly updated to incorporate local knowledge.

Species or species habitat known to occur within area

- Satin Flycatcher, *Myiagra cyanoleuca*
- Common Sandpiper, *Actitis hypoleucos*
- Sharp-tailed Sandpiper, *Calidris acuminata*
- Curlew Sandpiper, *Calidris ferruginea* (critically endangered)
- Latham's Snipe, Japanese Snipe, *Gallinago hardwickii*

Species or species habitat likely to occur within area

- Fork-tailed Swift, *Apus pacificus*
- White-throated Needletail, *Hirundapus caudacutus*
- Rufous Fantail, *Rhipidura rufifrons*

Species or species habitat may occur within area

- Yellow Wagtail, *Motacilla flava*
- Pectoral Sandpiper, *Calidris melanotos*
- Eastern Curlew, Far Eastern Curlew, *Numenius madagascariensis* (critically endangered)
- Common Greenshank, Greenshank, *Tringa nebularia*

GHD identified a number of native fauna that warranted further consideration (Attachment 2, Table 14). In all cases, the potential for impacts has been assessed as low. The species includes both FFG and EPBC Listed animals.

Mammals

- Brush-tailed Phascogale *Phascogale tapoatafa*

Birds

- Curlew Sandpiper *Calidris ferruginea*
- Swift Parrot *Lathamus discolour*

- Australasian Bittern *Botaurus poiciloptilus*
- Barking Owl *Ninox connivens*
- Blue-billed Duck *Oxyura australis*
- Freckled Duck *Stictonetta naevosa*
- Diamond Firetail *Stagonopleura guttata*
- Eastern Great Egret *Ardea modesta*
- Speckled Warbler *Chthonicola sagittata*
- Brolga *Grus rubicunda*
- Powerful Owl *Ninox strenua*
- Australasian Shoveler *Anas rhynchotis*
- Hardhead *Aythya australis*
- Musk Duck *Biziura lobate*

Reptiles

- Corangamite Water Skink *Eulamprus tympanum marnieae*
- Striped Legless Lizard *Delma impar*
- Tussock Skink *Pseudemoia pagenstecheri*
- Lace Monitor *Varanus varius*
- Bearded Dragon *Pogona barbata*

Frogs

- Growling Grass Frog *Litoria raniformis*
- Brown Toadlet *Pseudophryne bibronii*
- Southern Toadlet *Pseudophryne semimarmorata*

Invertebrates

- Golden Sun Moth *Synemon plana*
- Glenelg Spiny Cray *Euastacus bispinosus*
- Western Cray *Geocharax falcata*

The potential impacts on these species included the potential for direct harm or displacement and the disturbance of habitat. Our avoidance of higher quality vegetation and habitat as well as the judicious use of horizontal direct drilling to avoid impacts means there is very little risk of damage to these species.

Ecological Communities

The EPBC Protected Matters Search identified five threatened ecological communities:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
  Critically Endangered Community known to occur within area
- Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
  Endangered Community likely to occur within area
- Natural Temperate Grassland of the Victorian Volcanic Plain
  Critically Endangered Community likely to occur within area
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
  Critically Endangered Community likely to occur within area
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
  Critically Endangered Community likely to occur within area

GHD included FFG listed communities of flora and fauna. They identified five communities in the vicinity of the potential construction corridors:

- Creekline Grassy Woodland (Goldfields)
- Grey Box - Buloke Grassy Woodland
- Western (Basalt) Plains Grassland
- Western (Basalt) Plains (River Red Gum) Grassy Woodland
- Red Gum Swamp Community No.1

Only one of these communities, Western (Basalt) Plains Grassland, had a potential impact at the time of survey, 0.28 ha. Subsequent application of HDD means there is no impact on this community (see attachment 2, table 8).

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

Eleven threatening processes listed under the FFG Act could be applicable to the project if appropriate management measures are not implemented to avoid or minimise the potential impacts:

- Alteration to the natural flow regimes of rivers and streams.
- Degradation of native riparian vegetation along Victorian rivers and streams
- Habitat fragmentation as a threatening process for fauna in Victoria
- Increase in sediment input into Victorian rivers and streams due to human activities
- Infection of amphibians with Chytrid fungus resulting in chytridiomycosis
- Invasion of native vegetation by 'environmental weeds'
- Invasion of native vegetation communities by Tall Wheat-grass Lophopyrum ponticum.
- Loss of coarse woody debris from Victorian native forests and woodlands
- Loss of hollow-bearing trees from Victorian native forests
- Removal of woody debris from Victorian streams.
- Spread of *Phytophthora cinnamomi* from infected sites into parks and reserves, including roadsides, under the control of a state or local government authority.

All potential threatening processes can be adequately managed by avoidance and impact minimisation through adherence to the planning commitments, onsite ecological assessment to inform design and construction method.

Avoiding vegetation clearance through realignment of the pipeline where necessary removes the highest potential threatening process. EMP's for the project will include protocols for reinstatement of disturbed areas, erosion and sedimentation control and measures for controlling the potential spread of pest species and diseases.

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.

There are a number of migratory animals present or potentially present in the project area. The list below is based on the protected matter search tool but slightly updated to incorporate local knowledge.

Species or species habitat known to occur within area

- Satin Flycatcher, *Myiagra cyanoleuca*
- Common Sandpiper, *Actitis hypoleucos*
- Sharp-tailed Sandpiper, *Calidris acuminata*
- Curlew Sandpiper, *Calidris ferruginea* (critically endangered)
- Latham's Snipe, Japanese Snipe, *Gallinago hardwickii*

Species or species habitat likely to occur within area

- Fork-tailed Swift, *Apus pacificus*
- White-throated Needletail, *Hirundapus caudacutus*
- Rufous Fantail, *Rhipidura rufifrons*

Species or species habitat may occur within area

- Yellow Wagtail, *Motacilla flava*
- Pectoral Sandpiper, *Calidris melanotos*
- Eastern Curlew, Far Eastern Curlew, *Numenius madagascariensis* (critically endangered)
- Common Greenshank, Greenshank, *Tringa nebularia*

Ecological Communities

The EPBC Protected Matters Search identified five threatened ecological communities:

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  Critically Endangered Community known to occur within area
- Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
  Endangered Community likely to occur within area
- Natural Temperate Grassland of the Victorian Volcanic Plain
  Critically Endangered Community likely to occur within area
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
  Critically Endangered Community likely to occur within area
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
  Critically Endangered Community likely to occur within area

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

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

GWMWater will ensure application of the following planning commitments:

- A Site Specific Ecology Survey will be undertaken during design and assess phase to identify listed State and Federal Species and their likely habitat. Seasonal survey requirement will be identified only for areas where initial avoidance is not ideal to better inform site specific alignment selection in order to avoid and minimise impacts.

- Apply the principles of 'Avoid' and 'Minimise' in pipeline alignment selection. Avoid via:

- Re-alignment around environmental assets or use of trenchless techniques underneath environmental assets

- Minimise by prioritising 'plough-in' methodology through sensitive areas; minimise vehicular trafficking through sensitive areas.

- As part of the EMP, a management plan for threatened species will be developed to be applied by the construction contractor during construction. This will contain principles that shall be applied through detailed design and assessment to protect identified species and their habitat.

- The construction contractor must design and construct the EGRP in accordance with the EMF and EMP.

- Where trenchless techniques are required, drill length will extend from 'paddock to paddock' where native vegetation is present.

- Construction contractors will be required to prepare an EMP that will quantify proposed impacts identified through detailed survey of flora, fauna and habitat values and detail how proposed impacts will be avoided or minimised to meet the requirements of the EMP.

Other information/comments? (e.g. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (e.g. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Relatively small quantities of water will be required during construction. This water will typically be used for:

- Dust suppression
- Use in trenchless installation techniques
- Use in road upgrades or rehabilitation of road surfaces disturbed during construction
- Hydrotesting of the proposed pipeline which will occur in small sections.

This volume will be significantly lower than 1Gl/yr. Water will be supplied from the Grampians catchment (Lake Bellfield). Demand information for farming and lifestyle use across the Project Extent has been modelled at a maximum of 750 ML/yr. This is based on full connections and limited existing intensive users in the area.

Will the project discharge waste water or runoff to water environments?

☐ NYD ☐ No ☒ Yes If yes, specify types of discharges and which environments.

During construction, the Project will discharge water - either stormwater that has accumulated in the trench (trench dewatering) or hydrotesting water to agricultural land.

Water for the hydrostatic testing will be disposed of following completion of testing onto agricultural land. The location of discharge will be selected in accordance with the EMP and logged. Release of water will not cause erosion to the landscape or pooling of water. Water will not be discharged straight into aquatic environments.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

Waterways

Based on the current potential construction corridors, there are 733 potential waterway crossings. Ten of these crossing will be on high value waterways, the Hopkins River and Fiery Creek. Site specific Environmental Control Plans will be developed which will outline specific control measures that will be put in place prior to construction at sites categorised as High and Medium or where ecological values assessed during the on ground survey determine that a plan is required.

The (DELWP) Vic Map Hydro dataset was referenced to determine the hierarchy of these watercourses within the Project Extent. The Vic Map Hydro dataset hierarchy uses a code to indicate the importance/size of a watercourse, as shown in Table 17. This hierarchy is adequate at this stage of the planning process to be able to reasonably determine the significance of the watercourse in the absence of site based assessment of characteristics and values.

A GIS analysis showed potential for 854 waterway crossings using the potential construction corridors. It is clear not all corridors will be used for construction so this count is expected to reduce markedly once the detailed design is complete.

Table 17: Waterway crossings

Category	Crossings
High	Ten potential crossings each of the Hopkins River and Fiery Creek and two for each of the Wimmera River and Mount William Creek.
Medium	150 potential crossings of named waterways in the project extent including Allanvale Creek, Back Creek, Challicum Creek, Charleycombe Creek, Concongella Creek, George Creek, Good Morning Bill Creek, Jacksons Creek, Mason Creek, Mount Cole Creek, Nekeeya Creek, Nine Mile Creek, Pentland Creek, Reservoir Creek, Salt Creek, Seven Mile Creek, Six Mile Creek and Sugarloaf Creek
Low	690 potential crossings of ephemeral creeks, unnamed waterways and minor drainage lines.

All locations will use HDD unless authorised by the Glenelg Hopkins or Wimmera CMA under a Works on Waterways permit can use alternative technology on smaller low value 'drainage lines'. The EMP will specify required controls to avoid sedimentation or spills entering waterways at intersection points.

Wetlands
Wetlands will not be impacted by the Project. A small number of wetlands may be avoided by using HDD to traverse narrow sections.

Marine Environments
Marine environments will not be impacted by the Project.

Are any of these water environments likely to support threatened or migratory species?
☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

The desktop assessment has indicated that 12 migratory fauna species have the potential to occur within the Project Extent. These species are included in Appendix 15.

Eighteen Listed Marine Species also have the potential to occur within the Project Extent. Although marine and other migratory species are identified in the EPBC Protected Matters Search Tool, by undertaking a desktop assessment on the likelihood of these species occurring within proximity to the Project Extent, habitat suitability for these species along with historical records are considered and in most cases these species are considered unlikely to occur within proximity to the Project.

A Site Specific Ecological Survey will be undertaken during detailed design phase to determine precise impacts on waterway/riparian corridors. Any locations with high value or erosion risk will be avoided or crossed using HDD.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?
☐ NYD ☒ No ☐ Yes If yes, please specify.

The closest Ramsar listed wetland is Lake Albacutya which is over 200 km from Ararat. Other significant wetlands include Mount William Swamp, Lake Muirhead and Lake Buninjon.

Could the project affect streamflows?
☐ NYD ☐ No ☒ Yes If yes, briefly describe implications for stream flows.

All waterways will be crossed using HDD unless approved through a Works on Waterway Permit by the Glenelg Hopkins or Wimmera CMA. A EMP and Works on Waterway permit will still be required for all crossings. The proposed construction method means stream flows are not likely to be affected at any waterway.

Could regional groundwater resources be affected by the project?
☐ NYD ☒ No ☐ Yes If yes, describe in what way.

Temporary and minor reduction of groundwater levels may be experienced during pipeline construction, however, the pipeline depth is considered unlikely to affect groundwater flows or recharge. Construction depth requires a minimum cover of 600 mm so impact on groundwater is assumed to be negligible on this project.

The use of the plough in method will further reduce ground water impact by ensuring less disturbance and limiting sections where the trench is open and able to recharge with groundwater where the groundwater depth may be intercepted.

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

☐ NYD ☐ No ☒ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

The State Environment Protection Policy (Waters of Victoria) (SEPP) identifies a range of beneficial uses of water environments. These include:

- Aquatic ecosystems
- Water suitable for aquaculture
- Water based recreation
- Water suitable for human consumption
- Cultural and spiritual values
- Water suitable for industrial and commercial use
- Water suitable for agriculture
- Water suitable for the consumption of fish, crustaceans and molluscs.

The proposed pipeline is being constructed to aid in beneficial use of water for industrial, commercial and agricultural uses. However during its construction through waterways it has the potential to negatively affect the following beneficial uses:

- Aquatic ecosystems
- Water suitable for agriculture.

Impacts on beneficial use will be mitigated by:

- Appropriate selection of major waterway crossings using trenchless techniques
- Construction of trenched waterways will occur during no flow or low flow
- Appropriate sediment and control measures will be implemented for all waterways
- All trenched waterways will be reinstated in accordance with the EMP and works on waterways permits.

With a piped system, landholders will gradually decommission dams and allow natural flows to return to waterways as reliance on catchment dams will not be critical to farm enterprises which represent a positive outcome for waterways.

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

☐ NYD ☐ No ☒ Yes If yes, describe in what way.

Potential impacts on aquatic ecosystems will be extremely limited and insignificant as crossings of most waterways (and certainly any significant waterways) will be horizontally directionally drilled.

Open cut crossings may occur on small crossings where erosion, significant vegetation or cultural heritage impacts are negligible. This would not be considered unless approved by the Glenelg Hopkins or Wimmera CMAs. No impacts are anticipated at 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.

Is mitigation of potential effects on water environments proposed?

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

GWMWater will comply with the following planning commitments:

- A Site Specific Ecological Survey will be undertaken during the design and assess phase to determine precise impacts on waterway/riparian corridors.
- Detailed design will minimise the number of crossings of high and medium sensitivity.
- Waterway crossing locations will favour sites of existing disturbance where practical.

- Waterway crossing will use HDD. Undertake all crossings in accordance with standard works on waterway conditions from Glenelg Hopkins or Wimmera CMAs.
- Construction contractors will be required to prepare a EMP that will outline how they propose to comply with the nominated water environment commitments and the conditions of the Glenelg Hopkins or Wimmera CMAs.

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

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

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

A preliminary landscape assessment is not considered necessary as the visual impact of construction will be temporary, the pipeline will be buried, and there will be minimal above ground infrastructure.

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 If yes, provide plan showing footprint relative to overlay.

Appendix 19 shows the ESO relative to the EGRP project extent.

- **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*?**

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

The EGRP has its western boundary along part of the eastern boundary of the Grampians National Park. It is unlikely there will be any impact on the park excepting that required for maintenance of existing infrastructure.

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

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

The EGRP will be constructed adjacent to a number of conservation and recreation reserves including Buangor State Park, Ararat Hills Regional Park and Mount Langi Ghiran. It is unlikely there will be any impact on the park excepting that required for maintenance of existing infrastructure.

Some recreation reserves may request a water supply connection in which case the infrastructure will be needed to deliver water. In these cases, impacts are thought to be minor. Any installation of infrastructure in these cases will require environmental and cultural assessment.

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

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

Construction and operation of the pipeline is unlikely to materially impact on landscape values as it will predominantly be constructed in pre-disturbed agricultural land. Clearing of vegetation will be minimised and alteration of landform will be temporary.

Activities that may create temporary visual impacts from construction include the following:

- Clearing vegetation and stripping of topsoil to allow construction
- Vehicle/machinery turn-around areas
- Temporary stockpiles of excavated soil, pipeline or construction materials
- Temporary storage facilities.

The Construction ROW will be reinstated following construction so that there will be no significant change or alteration to landscape values.

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

☐ NYD ☐ No ☒ Yes Please briefly explain response.

A study of landscape values has not yet been completed and is intended to be completed as part of the design and associated assessment process,

Is mitigation of potential landscape effects proposed?

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

GWMWater will comply with the following planning commitments:

- A site specific assessment will be undertaken during the design and assess phase to determine precise impacts on any identified landscape values and site specific significance.
- Construction contractors will be required to prepare a EMP that will outline how they propose to comply with nominated landscape planning principles.

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

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

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

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

A desktop assessment of the Australian Soil Classifications within the project area is presented in Attachment 5. It is highly likely that the pipeline network will intercept a similar proportionate composition of soil types as is present over the project area.

Sodosol's have the greatest mapped extent and generally exhibit relatively high sodicity leading to erodibility, poor structure and low permeability.

These soils have low to moderate chemical fertility and can be associated with soil salinity. These characteristics pose moderate erosion risk during construction and may require increased effort in backfilling and compacting pipe trench lines to retain pre-construction condition.

Soil considered to have moderate to high agricultural potential will be encountered in Vertosols, Dermosols and Chromosols. Pipeline and other construction will be managed to minimise impacts on all soil types. Management options include ensuring no mixing of topsoil with sub-surface soil and minimising traffic.

Whilst the composition and distribution of soils present within the EGRP Project Extent vary, they are no different to those encountered within the SWLPP and Wimmera Mallee pipeline areas previously. GWMWater is confident that with the requisite planning and management during construction, soils and erosion and sediment control will be effectively managed.

Management options for acid sulphate soils include:

- Avoidance
- Prevention of oxidation (usually reburial below permanent water-table with monitoring, e.g. sand mines)
- Neutralisation
- Oxidation and leaching, and
- Pyrite removal. The Project EMP will contain measures to be implemented in the event that acid sulphate soils are encountered.

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

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

Given the size of the area, length of the pipeline alignments under consideration and numerous geologies, significant variation in stratigraphic profile can be expected along the alignment on a larger scale.

A further on-ground geotechnical survey will be conducted during the design and assess phase to confirm the findings of the desktop assessment. This will also verify constructability around key crossings by determining suitability for the use of trenchless technologies.

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

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.

There will be localised traffic impacts on roads in the vicinity of the Project.

Pipeline materials, equipment and machinery will be delivered to the construction RoW by road transport, resulting in an increased number of traffic movements across local road networks during the construction phase. This is likely to involve several operational machinery and half a dozen passenger vehicles for short periods of time. Construction can achieve several kilometres of pipe laying per day and the majority of work will be constructed inside land holders properties.

Pipe laying will occur predominately within private property, requiring minimal road closures, with all road crossings undertaken by HDD. Entry and exit pits will be located on the other side of the road reserve, thus no crossing will occur on the shoulder of roads.

GWMWater will incorporate social impact planning principles into the design and construction of the project to ensure that social environments within the EGRP are thoroughly considered and impacts minimised.

A Traffic Management Plan (TMP) will be developed for heavy vehicle movements and routes including all requisite safety protocols for large trucks accessing local roads. The TMP will be developed in consultation with VicRoads and the relevant local councils in order to satisfy requirements around delivery schedules, access and road closures (where required).

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.

Construction activities are likely to produce minor short term impacts to local residents due to the nature of pipeline construction. Whilst the Project Extent is located primarily within rural areas further limiting the likelihood of negative impacts on residents, the potential pipeline alignment also passes close to a number of small towns.

The following activities will be incorporated into the EMP.

<u>Air Emissions</u>

Construction activities have the potential to impact on air quality of the local area and sensitive receptors, including residential and farming properties. Activities potentially affecting air quality can include:

- emissions generated by the use of machinery and equipment
- wind action on stockpiles and disturbed areas creating dust
- drilling activity that may create dust from dry soils
- topsoil stripping, rock extraction and transportation (e.g. earth moving machinery, materials digging, loading, dumping, haul truck tyre/unsealed road interaction, unsealed roads, bench and face areas and materials spillage from haul trucks).

Key air environmental issues:

- Odour emissions
- Temporary reduction of amenity associated with dust
- Soil erosion and sedimentation of land and water
- Depletion of water resources
- Impacts on sensitive flora and fauna
- Inconvenience to sensitive receptors such as residents and construction workforce
- Generation of greenhouse gases and other reportable emissions

Construction will be planned and designed in accordance with the following industry standards and reference material:

- EPA Publication 480: Environmental Guidelines for Major Construction Sites (EPA, 1996)
- Australian Pipelines and Gas Association Code of Environmental Practice – Onshore Pipelines (APGA, 2013).

Outcomes:

- Minimal impacts on the community and the construction workforce
- Minimal impacts on flora and fauna

Visual, Noise and Vibration

Construction activities will generate noise and vibration (from machinery), creating the potential to cause 'nuisance impact' to adjoining properties. Major noise sources that may potentially generate 'nuisance' noise include:

- construction truck and vehicle movements
- earth moving equipment
- pumps and generators
- ancillary plant and equipment
- reversing beepers

As the work progresses along the construction ROW, noise impacts will be relatively short lived at any one location. Construction moves several kilometres a day so individual properties will be impacted for one or two days. All landholders are required to sign land access agreements and part of that agreement outlines communication channels for any issues and a commitment from GWMWater that any land disturbance will be rehabilitated to the satisfaction of the landholder. They are required to sign a release form stating they are happy their property is returned to their satisfaction. GWMWater also has a farm liaison officer where landholders can communicate any issues and they will endeavour to address.

Key Environmental Issues:

- Disturbance to local residents and other land users
- Disturbance to livestock and wildlife

Industry Standards and Reference Material:

- EPA Publications 1411: Noise from Industry in Regional Victoria (Oct 2011)
- AS1055.1-1997 Acoustics: Description and measurement of environmental noise
- AS 2436-1981 Guide to noise control on construction, maintenance and demolition site

Outcomes:

- Minimal construction and operational noise and vibration impacts on adjacent residents and other land users
- Minimal construction and operational noise impacts on wildlife and livestock

Traffic

Traffic assessment and management is an important component of pipeline planning and construction as pipeline projects have the potential to significantly alter local traffic regimes.

Key Environmental Issues:

- Safety hazard resulting from increased traffic
- Traffic impact on flora, fauna and cultural heritage
- Soil erosion and degradation on the RoW and on access tracks
- Reduction in air quality and visual amenity
- Increased noise and vibration from increased traffic

Industry Standards and Reference Material:

- Approved Traffic Management Plan
- EPA Publication 480: Environmental Guidelines for Major Construction Sites (EPA, 1996)
- Australian Pipelines and Gas Association Code of Environmental Practice – Onshore Pipelines (APGA, 2013).

- Civil Contractor's Federation guidelines 'A Guide for Machinery Hygiene for Civil Construction' (CCF, 2011).

Outcomes:

- Minimal disturbance from traffic to flora, fauna and cultural heritage
- Minimal soil erosion and degradation
- Collaboration with road authorities, councils and communities to develop appropriate traffic management strategies

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.

Chemicals used during pipeline construction will not be present in quantities to cause any significant impacts to human health. They will be stored, handled and disposed of in accordance with the Safety Data Sheets that accompany each chemical (copies will be held on site) and the EMP.

Emphasis is then placed on the safe and secure transport, storage and application of chemicals to prevent harm to the environment, and on effective response capacity should spills occur.

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.

Due to the nature of pipeline construction, impacts to nearby residences will be limited and short in duration. Access along the construction RoW and roads in some areas may be temporarily restricted or subject to traffic management measures during construction. GWMWater will negotiate the acquisition of suitable land from private landholders for pump stations and the water storage if crown land is not available. Under a crown land arrangement GWMWater would become the committee of management.

Major sealed road will be crossed using trenchless techniques, or other trenchless method. Where temporary road closure is proposed, permits will be sought from the relevant road authority. Affected residences will receive notification in accordance with permit requirements.

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 proposed pipeline will be located predominantly on agricultural land. Prompt reinstatement of the construction RoW will ensure that that land use activities can resume soon after completion of construction. Where possible, timing of construction will be considerate of landholders land use activities.

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.

Changes to non-residential land use activities will be temporary only and are not expected to permanently affect local residences/communities, social groups or industries.

Is mitigation of potential social effects proposed?

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

GWMWater will ensure compliance of the following planning commitments:

- GWMWater will prepare social impact planning principles that will be provided to the successful contractor to adopt during design and construction to ensure that social environments within the EGRP are thoroughly considered and impacts minimised.

- Pre-construction walk through will be undertaken immediately prior to construction to identify any obvious locations of noxious weeds that can be controlled.

- The construction contractor will prevent the spread of weeds and disease pathogens in work corridors through implementation of established, effective management practices.

- Construction contractors will be required to prepare an EMP that will outline how they propose to comply with nominated social impact planning principles.

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

Cultural heritage

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

☐ No If no, list any organisations that it is proposed to consult.
☒ Yes If yes, list the organisations so far consulted.

The EGRP will be planned and delivered in accordance with the requirements of the Aboriginal Heritage Act, 2006, the Aboriginal Heritage Regulations, 2007.

Engagement with Registered Aboriginal Parties (RAP) has begun. The project extent includes three appointed RAPs (Martang, Wathaurong and Barengi Gadjin). There is also a portion of the project extent without an appointed RAP. Aboriginal Victoria is expected to assess a CHMP applicable in this area and consultation with them is also underway. The area without a RAP will require traditional owner consultation with Martang, Barengi Gadjin and Eastern Marr.

The bulk of the project is in the Martang RAP area (68%) and GWMWater has already entered into a memorandum of understanding outlining roles and responsibilities (see below). This MoU is based on our award winning MoU with Dja Dja Wurrung. GWMWater intends to enter into similar MoU with BGLC and Wathaurong and we are awaiting progress on appointments and approvals. Wathaurong covers 13% of the project area with BGLC at 9% and the final 10% will be applicable to Aboriginal Victoria. GWMWater has also consulted with Eastern Maar Aboriginal Corporation as a potential successor to Martang in the bulk of the project extent.

<u>Intent of the MoU</u>

The intent of the MoU is to form the basis for cooperative relationships between the parties, in particular to:

- Recognise the role of Martang (and other RAPs) in management, protection and promoting cultural heritage within the area

- Address the impacts of construction works for the EGRP Project on Cultural Heritage through appropriate mechanisms in accordance with the Aboriginal Heritage Act 2006

- Provide for open communication, collaboration and cooperation to effectively deliver the EGRP Project without adversely impacting the cultural heritage of the region.

The overriding principles of the MoU will be to:

- To use the learnings and discovery that will occur through the development of the cultural heritage management plans and oversight of the project to expand the narrative of Aboriginal relationships on Traditional Owners Country

- Strengthen our understanding of Aboriginal cultural heritage on country;
- Protect and manage cultural heritage values
- Comply with the conditions of approved CHMPs
- Facilitate the outcomes of collaboration to promote healing and reconciliation, to enable teaching traditional owners about their country and laws, and to raise cultural awareness among their community.

The MoU does not replace legislative requirements but supports the achievement of these obligations.

CHMP's will be prepared as part of project planning prior to the commencement of 'significant ground disturbance' activities. An on-ground survey consisting of standard and complex assessment will be undertaken and reports prepared as part of the detailed design phase of works. Principles of avoidance and mitigation will be adopted with cultural heritage assessments along the same methodology as environmental impacts.

Findings from this survey will be used to prepare the CHMP that will outline the proposed minimisation of impacts to identified sites. RAPs and traditional owners will be fully engaged throughout the process and are responsible for consideration and approval of each CHMP (provided it has been prepared to their satisfaction).

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)

Biosis undertook a Cultural heritage Due Diligence Assessment to inform early planning on the project. The report is attached as Attachment 4.

Section 3.4.2, Table 4 of the Biosis report lists 30 CHMPs previously undertaken in the vicinity of the EGRP project area. Many of the completed CHMPs relate to wind farm developments and highway upgrade projects. Three CHMPs have been completed for GWMWater projects in the region in the last four years.

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

Section 3.2, Maps 3 and 4of the Biosis Cultural heritage Due Diligence Assessment (attachment 4) identify areas of cultural heritage sensitivity and about 1,300 individual registered Aboriginal places in the vicinity of the Project area. The areas of cultural heritage sensitivity are generally associated with waterways, water bodies and parks.

It is expected that cultural heritage investigations undertaken in development of the project design will discover a large number of additional Aboriginal places, which will be registered during the process of CHMP development. Harm to these places will be avoided and minimised by alignment selection, selection of appropriate construction techniques and other measures to be determined and documented in CHMP Management Recommendations.

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.

Victoria's heritage database will be interrogated in order to identify any sites that fall within the pipeline assessment corridor. Sites that are located will be avoided in advance of survey. Archaeological survey will also include any sites of non-aboriginal heritage which, if identified, will be recorded and registered with the Heritage Council of Victoria as part of the deliverables of the survey.

Is mitigation of potential cultural heritage effects proposed?

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

GWMWater will ensure compliance of the following planning commitments:

- Interaction, Engagement and Proposed work will be undertaken in accordance with the MoU with the appropriate RAPs.
- A CHMP will be required as part of Project Planning prior to the commencement of 'significant ground disturbance' activities. Standard and complex assessment will be included in the on-ground survey as part of the design and assess phase of works. Findings from this survey will be used to prepare the CHMP to the satisfaction of the appropriate RAPs.
- Non-aboriginal heritage will be identified as part of the archaeological assessment with any new identified sites being added to the Victorian heritage register (if required, permits under the Heritage Act will be sought).
- The construction contractor will be required to implement recommendations and management measures from the CHMP into the Project EMP.

Other information/comments? (e.g. accuracy of information)

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 …….
☒ Other. Please describe.

Please add any relevant additional information.

Diesel - This will be the main source of energy used during the construction of this project, for vehicles, plant and machinery etc.

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.
☒ Other. Describe briefly.

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

All waste associated with pipeline construction and operation will be managed in accordance with procedures and practices detailed in the EMP. The detailed procedures will address waste classification and segregation, labelling, storage, transport regulations and disposal.

Waste streams include:

- General contractor produced waste (e.g. litter, food scraps, cigarette butts);

- Waste construction material (e.g. concrete, off-cuts, pipe coverings etc);
- Temporary structures (e.g. fencing and signage);
- Waste soil / spoil.

All personnel are required to conform to State regulations for waste management and litter control. Waste management procedures will be based on the following EPA Waste Management Principles listed in order of priority:

- Avoid receiving waste at point of purchase;
- Reduce wastes at the point of use;
- Reuse materials where possible;
- Recycle wastes where practicable; and
- Dispose of wastes appropriately and responsibly.

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.

Emissions produced from maintenance vehicles, pumping stations, equipment and activities during operation of the pipeline will be recorded in GWMWater's quarterly Business- Performance Report and formally reported in Annual Reports.

17. Other environmental issues

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

☒ No ☐ Yes If yes, briefly describe.

All environmental impacts related to pipeline construction will be adequately addressed within the project EMP and EMP and subordinate documentation.

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 ☒ Design: Please describe briefly

The project will be located where possible within pre-disturbed agricultural land. Pipe laying is very flexible in that it can cross under roads, rail, sensitive vegetation very regularly without impact on the performance of flows and pressure. The siting of pipelines will be where ever reasonable, within pre-disturbed agricultural landscapes. The siting of pump stations, storage and ancillary work areas do not have to be sited in any particular location. There is greater flexibility in the location of these works and therefore with a high level of confidence, these works will be located in pre-disturbed agricultural landscapes to avoid flora, fauna and cultural heritage assets. The majority of environmental and cultural impacts identified in this Referral will be avoided through the adoption of planning principles such as locating pipelines 8 m within a property boundary, to avoid construction through vegetated road reserves.

☒ Environmental management: Please describe briefly.

GWMWater has successfully delivered a number of rural water pipeline systems in recent years (see section 1 of this Referral) resulting in improved water security for regions and enhanced environmental outcomes. GWMWater intends to replicate and improve on the successes of those previous projects.

GWMWater's proposal for environmental management of the project is attached as Appendix 20.

The following control measures are proposed to form the backbone of environmental management system and project delivery for the EGRP.

Environmental Management Framework

GWMWater proposes to have an Environment Management Framework (EMF) that provides a transparent and integrated governance framework to manage all identified environmental aspects identified within the Project Extent for the design, construction and operational phases of the project.

The EMF is planned to provide the expected performance measures that are required to identify environmental assets and values and to ensure their due consideration and effective management in accordance with applicable Commonwealth and State regulatory requirements during the design, construction and operation of the Project.

The EMF would include:

- Responsibilities of different parties in delivering the project;
- Relevant legislation;
- Environmental management systems of GWMWater and Contractor;
- Detailed project staging and delivery plan including heritage management;
- Change management process, to be applied if necessary after initial approvals; and
- Process for performance monitoring, auditing and reconciling project activities and impacts.

Environmental Management Plan

The proposed Environmental Management Plan (EMP) will detail how environmental aspects of the project will be managed and cover all aspects of potential impact. It will largely focus on the identification of environmental assets and appropriate design and construction methods to minimise impacts.

The EMP is proposed to apply to the entire project and document the detail of design impacts and mitigation measures:

- The design of the network including pipeline alignments and infrastructure locations, including:
    - Mapping at 1:25,000 scale overlaid on aerial photography;
    - Locations of HDD;
    - Waterway crossings;
    - Ecological Control points (ECPs);
    - Known heritage sites;
    - No-Go zones;
    - Crown land intercepts.
- Outcomes of environmental field surveys;
- Historic heritage report including expected impacts and mitigation;
- Construction methodology;
- Impacts and mitigation measures relating to construction activities (noise, dust, sediment control etc);
- Discussion of expected environmental impacts (waterways, waterbodies, flora, fauna etc) based on design;
- Management of threatened species;
- Calculation of environmental impacts and associated offset requirements; and
- Details of biodiversity offset availability and procurement.

☒ Other: Please describe briefly

Add any relevant additional information.

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.

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.

It is proposed to undertake the following detailed on-ground studies during the design and assess phase (between September 2019 and February 2020).

- Ecology survey (terrestrial and aquatic) targeting potential construction corridors not yet assessed on the ground.
- Targeted seasonal species survey (potential additional surveys into winter 2020 if required)
- Offset management strategy
- Aboriginal cultural heritage surveys (expected to be ongoing into late 2020)
- Historic heritage survey
- Geotechnical survey
- Waterway crossing assessment
- Any other specialist report as identified or required

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.

The proposed EGRP is a whole of region initiative. A wide range of interested and concerned parties have been involved in the development of the initiative over the last two years. The pipeline project is being developed, constructed and delivered under a robust governance structure with a consortium of skilled partners. This structure and approach provide the skills, project management and accountability to ensure effective delivery of the project.

Project Steering Committee: The project is overseen by a Steering Committee, with Mark Williams, the Managing Director of GWMWater as the chair of the Committee. The Project Steering Committee has met 9 times up until April 2019. The membership of the Committee comprises:

Ararat Rural City Council, Northern Grampians Shire Council and Pyrenees Shire Council: The Councils are representing the community and have been pivotal in development of business case and promotion of the project. This grounds the project in the local community to ensure strong regional and political credibility, engagement and support - supported by a local Community Consultative Committee. The committee includes representatives of:

- Ararat Rural City Council
- Pyrenees Shire Council
- Northern Grampians Shire Council
- Victorian Farmers Federation
- Tatyoon Recreation Reserve
- Upper Hopkins Land Management Group
- Grampians Winemakers Association
- Country Fire Authority
- Ararat Turf Club
- Kimbarra Wines
- GWMWater

GWMWater as the delivery agent: GWMWater is a corporatised water authority with proven skills and capacity in the design, construction and operation of rural water supply pipelines. GWMWater has the overall responsibility for delivery of the wider project. This entails the design, procurement and construction of the pipeline. It will then own and operate the pipeline as part of the existing Wimmera Mallee Pipeline with established protocols for tariffs and charges to cover ongoing operational and maintenance costs. That ensures the viability and ongoing sustainability of the proposal.

Agencies: Relevant regional and state agencies are engaged including: the Department of Environment, Land, Water and Planning (DELWP), Glenelg Hopkins and Wimmera CMAs and the Registered Aboriginal Parties. This approach ensures that the project engages all interested agencies, is coordinated with wider regional developments, meets relevant national and state policies and strategies and is delivered within appropriate procurement guidelines.

Community Consultative Committee: To complement the workings of the Project Steering Committee, Ararat Rural City Council assumed responsibility for landowner engagement through a Community Consultative Committee. The Community Consultative Committee's role is to support the Steering Committee in the investigation and development of the proposed pipeline layout and service standards, specifically in respect to the views of potential customers and issues that may impact on them as a result of a water supply scheme. The council invited nominations by public advertisement for expressions of interest. Nominees from a wide range of community groups and organisations were put forward, with all nominees being accepted and appointed to the Committee. This ensures a process to promote community engagement, understanding and support for the pipeline at a whole of project scale. However, GWMWater will be responsible for all landholder contacts at an individual property scale regarding, for example, contracts, pipeline construction and alignment and easements.

Landholder engagement: The Victorian Farmers Federation has been a central player in the development of the proposal, given its representation of landowners in the region, and has heavily promoted the proposed extension of the rural pipeline network into the East Grampians region. Indicative costs have been workshopped through the Community Consultative Committee and will be based on new customer contribution charges based on recent rural pipeline extensions by GWMWater. The indicative landowner contributions were considered to be within the realms of affordability by those on the Committee. Factsheets and website information (www.gwmwater.org.au/EGRP), advertising in regional media and a series of tours in the region has been the main methods of communicating the project to landholders. A communication engagement strategy (available on request) has also been developed to ensure ongoing communication and engagement occurs with all stakeholders at key points throughout the project.

At 2 April 2019, there have been 300 Expressions of Interest lodged by landowners seeking connection to water supply from the EGRP project.

Has a program for future consultation been developed?

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

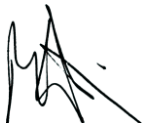
GWMWater will remain in control of all communication and engagement with landholders, the community and stakeholders throughout the project. The Community engagement strategy highlights the public engagement.

The Project Steering Committee (consisting of representatives from GWMWater, Ararat Rural City Council, Northern Grampians Shire Council, Pyrenees, Shire Council, Registered Aboriginal Parties, the Glenelg Hopkins and Wimmera CMAs and Department of Environment, Land Water and Planning) and Community Consultation Committee will oversee the design and construction of the project.

Where the pipeline crosses a landholder's property, GWMWater staff will discuss the impact and process of construction and request that a land access agreement is signed before any contractor can enter their property. Access agreements will be received by all landholders prior to works commencing.

Authorised person for proponent:

I, Mark Williams, Managing Director, of GWMWater, confirm that the information contained in this form is, to my knowledge, true and not misleading.



14 May 2019

Person who prepared this referral:

I, Graeme Dick, Rural Pipeline Projects Director, of GWMWater, confirm that the information contained in this form is, to my knowledge, true and not misleading.

14 May 2019