Appendix 20 – Proposed Environmental Management Documentation

Based on the outcomes of investigations completed to date and the residual risks to be managed through further investigation and detailed design, GWMWater has developed a proposed approach to the next stage of environmental planning 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 examine and assess all expected impacts up-front, the full design and associated impacts were documented in the PDIA report prior to commencement of construction. The staging plan was driven by, and far more applicable to, the development of CHMPs.

Without staging being proposed for delivery of the EGRP project, there is significant opportunity to streamline assessments and documentation. It is proposed that this could be achieved for the EGRP project by simply providing two environmental planning documents prior to commencement of construction: an Environment Management Framework (EMF) and Environment Management Plan (EMP). The EMP would effectively bundle the scope items of the PDIA report, TSMP, CEMP and native vegetation offset documents into a single management plan document. The EMP would provide a single location for all general project information, enable easier cross-referencing and provide a more streamlined format for review and commentary.

Environmental Management Framework (EMF):
The EMF will apply to the entire project and will document the governance processes:

- 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.

Environment Management Plan (EMP):
The EMP will 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 for the entire designed scope ("worst case" impact);
- Calculation of environmental impacts and associated offset requirements for the construction scope (expected impact); and
- Details of biodiversity offset availability and procurement.

Change Management:
It is recognised that there will be potential for minor changes in location of designed infrastructure, methodology of installation and associated impacts after initial approvals are received. The minor changes may result from:

- Constructability issues
    - Presence of hard rock
    - Location of existing services
- Land use and occupation changes
    - Recent land development or recently planned development
    - Stakeholder preferences (including landowners)
- Customer interest
    - Requirements for meter locations
    - New property sign-ups
- Cultural heritage investigation outcomes
    - Heritage discoveries made during CHMP development after environmental planning approvals
    - Heritage discoveries made during construction

The design investigations and early stakeholder communication process will endeavour to reduce the likelihood of these changes as much as possible, but it is not possible to entirely eliminate the potential for change after commencement of the construction process. It is therefore necessary to have a well-defined change management process to ensure that impacts and risks associated with any change are appropriately managed and reconciled. A draft change management process is outlined in the table below.

It is noted that any change proposed to the Activity Area of an approved CHMP may require completion and approval of a CHMP Amendment, which will be a separate process to that described above.

It is also noted that GWMWater's recent experience on rural pipeline projects (particularly on the South West Loddon project) has been that the main drivers and constraints for pipe alignment selection have been environmental values and customer service requirements. Although a large amount of cultural heritage was found to exist along pipeline alignments, damage to heritage was generally managed through salvage, or avoided by HDD. There were very few instances of pipe alignments being significantly altered due to presence of cultural heritage. It is expected that the experience with the EGRP project will be similar and therefore there is considered to be a very low risk of significant design change due to

discovery of cultural heritage after approval of environmental planning documentation or due to discovery during construction.

GWMWater owns a 38.9 Ha block of land at Mafeking that is surrounded by the Grampians National Park and is substantially covered in good quality native vegetation. This block is currently going through the process of being set-up to provide biodiversity offsets, specifically for the EGRP project.

Table 1: Proposed change management process

Change Type	Management Process
Change required during construction ***within*** previously assessed corridor and ***without*** additional environmental or heritage impact.	1. Change made by Contractor and GWMWater prior to construction. 2. Change captured in as-constructed detail.
Change required during construction ***within*** previously assessed corridor and ***with*** additional environmental or heritage impact.	1. Proposed change identified. 2. If change of impact assessed to be within EMP estimate, change captured in as-constructed detail, reconciled in monthly reporting and at final reconciliation. 3. If change of impact assessed to be greater than within EMP estimate, DELWP is consulted regarding approval requirement. 4. Change captured in as-constructed detail, reconciled in monthly reporting and at final reconciliation.
Change required during construction, ***outside*** of previously assessed corridor and ***without*** additional environmental or heritage impact.	1. Proposed change identified. 2. The proposed change is field-assessed to evaluate any impact on heritage or environmental values. 3. Change without additional impact is captured in as-constructed detail, reconciled in monthly reporting and at final reconciliation.
Change required during construction, ***outside*** of previously assessed corridor and ***with*** additional environmental or heritage impact.	1. Proposed change identified. 2. The proposed change is field-assessed to evaluate any impact on heritage or environmental values. 3. If change of impact assessed to be within EMP estimate, change captured in as-constructed detail, reconciled in monthly reporting and at final reconciliation. 4. If change of impact assessed to be greater than within EMP estimate, DELWP is consulted regarding approval requirement. 5. Change captured in as-constructed detail, reconciled in monthly reporting and at final reconciliation.

Incorporation of Environmental Management into the Contract:

Management Plans

GWMWater will require the construction contractor to consider the following when developing the EMP:

- EMF

- Detailed analysis of the existing environment
- Ecology survey results, analysis and management recommendations
- Native Vegetation management requirements
- Cultural heritage survey results, analysis and management recommendations
- Geotechnical survey results, analysis and management recommendations
- Consideration of the Glenelg Hopkins and Wimmera CMAs waterway requirements
- Any other specialist report as identified or required
- Project Overview
- Legislative Requirements
- Roles and Responsibilities
- Construction Methodology
- Identification of environmental and cultural values
- Identification of suitable Mitigation Measures
- Training Requirements
- Monitoring and Reporting Requirements

Ecological Control Points

Ecological Control Points (ECPs) will be developed by the construction contractor which will outline specific controls that must be in place during construction at any site identified as having a high environmental value. These will be incorporated into the EMP.

An ECP will include as relevant:

- Site layout including approximate dimensions of the construction footprint
- Construction methodology
- 'No go' areas i.e. native fauna habitat, MNES or indigenous native vegetation requiring protection; any cultural heritage sensitivity areas (or as defined in a CHMP)
- Any indigenous native vegetation / trees approved for removal (including exotic or nonindigenous trees)
- Any declared weed / disease / acid sulfate soil areas.
- Site access
- Any laydown or silt disposal areas
- Any wash / clean down or refuelling areas
- Site drainage or intended erosion and sediment controls
- Contingencies for wet weather or other plausible risks identified by the contractor
- Any council or VicRoads road reserve or Crown Land areas (marked up with any relevant items above).

Waterway Crossing

All waterways will use HDD technology to avoid impact unless approved otherwise through a Works on Waterway Permit by the Glenelg Hopkins or Wimmera CMAs. The conditions for which this might apply is where a waterway is only a minor drainage line with little potential for erosion and no identified environmental or cultural heritage impact.

Environmental Management Tools

- Identify the location of sensitive environmental and cultural heritage sites and management measures or 'no/go areas' on the design drawings to guide construction crews during construction through (or in proximity to) the area.
- Inspection Checklists will be used by the construction contractor to ensure that all environmental commitments are being met in the field.
- An Audit Program will be used by GWMWater and the construction contractor to ensure compliance with the project documentation and identify opportunities for continual improvement.

General principles to be adopted through the design and construction stages are summarised below:

Eliminate the risk by:

- Conducting detailed survey of the preliminary system alignment to identify areas of sensitivity and verify presence or absence of environmental assets.
- Reviewing the requirement for impact (i.e. is the section of pipeline really required or can other parts of the system be re-designed to meet the need of supply?)
- Re-alignment around an identified environmental asset by re-design
- Changing the proposed construction methodology by selecting HDD technology
- Re-scheduling planned works to avoid the risk (i.e. plan works to avoid seasonal risks – breeding season, fish habitat in ephemeral waterway, etc.)

Substitute the risk by:

- Adopting a less intrusive construction methodology (i.e. use a 'poor boy' crew that can work slowly through a narrower construction width over discrete lengths of pipeline; use 'plough-in' methodology to rip the pipeline in to reduce trafficking and ground disturbance width, use of horizontal directional drilling, etc.)

Isolate the risk by:

- Preparing planning controls to protect identified environmental assets from construction impacts
- Installing physical barriers and separation to shield active construction work from adjacent sensitive receptors.

Use engineering controls by:

- Modifying detailed design to reduce impact (e.g. removing the need for placement of above ground valves within waterways)

Use administrative controls by:

- Preparing an EMP with specific commitments regarding environmental protection, monitoring and performance.
- Ensuring regular formalised communication during construction of identified assets and protective measures required to avoid or reduce impacts.