Bridging Document to TEB-001-0020-05 Rev 9.1

Dampier to Bunbury Natural Gas Pipeline Environment Plan – North Dandalup

Australian Gas Infrastructure Group

Table of Contents

1. Controlled Copy Register

Rev	Date	Description
0.1	15/08/2022	Issued for Internal Review
1	8/9/2022	Initial Submission
2	05/01/2023	Revised on DMIRS Feedback
2.1	3/2/2023	Addition of contact detail and update to Section 4.2
2.2	9/5/2023	Revised on Section 2.3.9
2.3	14/06/2023	Amendment to remove flaring and include proposed alternative (Drawdown by Atco)

	Title	Name
Author	Environmental Advisor	JZ Khoo
Reviewed	Environmental Manager	Melanie Kenny
Reviewed	Head of Land Management	Neil Parry
Approved	Executive General Manager Transmission Asset Management	Tawake Rakai

2. Purpose and Description

2.1. Purpose

This Bridging Document is prepared to provide specific information for proposed activities to complete the North Dandalup pipe replacement project. These impacts and risks are covered under TEB-001-0020-05 Dampier to Bunbury Natural Gas Pipeline Environment Plan (EP) Revision 9.1 as approved by the Department of Mines, Industry Regulation and Safety (DMIRS) in September 2020. This includes an associated Oil Spill Contingency Plan.

This scope of works involves the removal and replacement of approximately 3km of mainline pipeline with heavy wall pipe. This is due to a land classification change from R1 to T1 to facilitate rural/residential development.

The works will be implemented and operated in accordance with the implementation strategy within the approved DBNGP EP.

These works are proposed to commence in February 2023.

For enquiries regarding this project please contact:

AGIG

c/o Land Management

08 9223 4300

PO Box Z5267

St Georges Tce, PERTH WA 6831

land.management@agig.com.au

2.2. Location

The pipeline replacement is located west of the North Dandalup town site as outlined in the below figure:

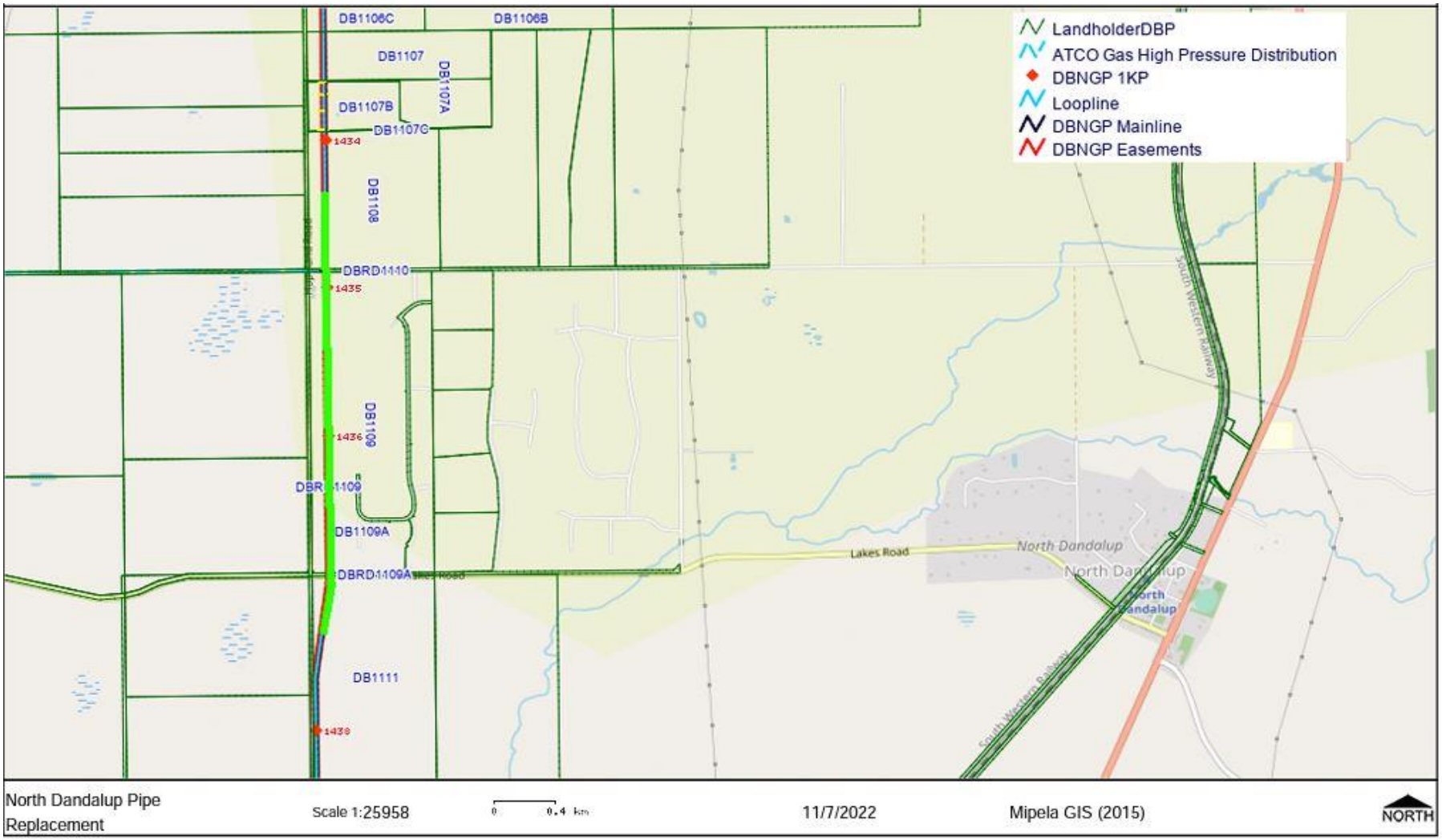

Figure 1: Location of works

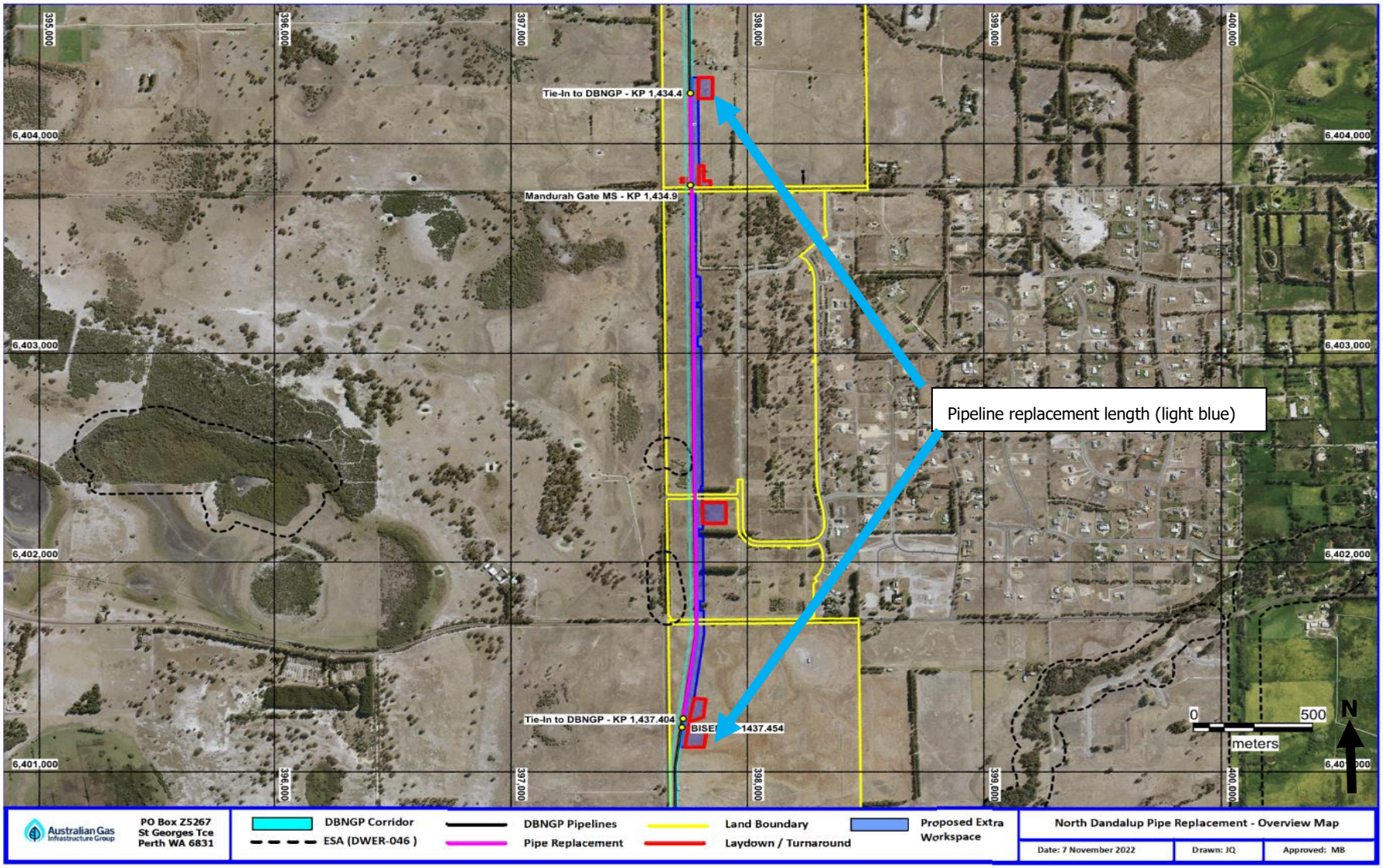

Figure 2: Location of works

Table 1: Replacement pipeline location coordinates

	Latitude	Longitude	Northing (GDA 94)	Easting (GDA 94)
KP1434.42	-32.49651	115.911026	6,404,238.88	397,758.38
KP1437.4	-32.523402	115.910377	6,401,257.08	397,727.91

2.3. Activity Description

DBNGP will conduct the works to replace the existing mainline pipeline between KP1434.42 and KP1437.4. The works will include:

- Survey and geotechnical works of the area
- Potholing and positive identification of existing pipelines and services
- Access track for construction activities
- Clear and grade the work area within the corridor
- Dewatering and acid sulphate soil (ASS) management
- Trenching and excavation to expose the old pipeline
- Cutting old pipeline into short sections and removal from site
- Transport of new pipes and laydown on the right of way
- Pipe welding, NDT and coating
- Pipe bending, lowering into the completed trench, padding, backfilling and compaction
- Road crossings will either be open Cut or HDD
- Hydrotesting of the completed pipe section
- Tie-ins of the new pipe to the existing at the isolated tie points.
- Tie-ins to Mandurah Gate Meter Station (outside of compound)
- Commissioning and returning the completed section to normal operation
- Reinstatement and rehabilitation activities

All activity risks, impacts and controls are outlined in the DBNGP EP Rev 9.1, but to support the approval of these works, DMIRS has requested a Bridging Document (this document).

Table 2: Potential Activity Disturbance

Activity	Activity Area (hectares - ha)
Pipeline replacement (2.92 km) within existing easement including extra workspace Easement (30 m x 2920 m) (8.76 ha) Extra workspace (up to 25 m – see Appendix C for specific width and changes) (6.84 ha)	15.6
Ancillary areas	4 (total)

Pipeline laydowns (including offices), turnarounds and access track disturbance	
LAYDOWNS	
Laydown area 1: 100 m x 60 m (single tree will be avoided)	1 – 0.6
Laydown area 2: 70 m x 20 m plus 50 m x 30 m	2 –0.29
Laydown area 3 (turnaround): 20 m x 20 m	3 - 0.04
Laydown area 4: 100 m x 100 m	4 - 1
Laydown area 5: 90 m x 50 m	5 – 0.45
Laydown area 6: 100 m x 80 m	6 – 0.8
ACCESS TRACKS	
Within easement 10 m x 800 m	0.8 ha
TOTAL ACTVITY AREA	**19.6**

2.3.1. Mandurah Gate Meter Station

The project will tie into the Mandurah Gate Meter Station directly upstream (north of the compound) and downstream on the southern side of Readheads Rd.

2.3.2. Clear and grade

The North Dandalup project area consists of land used for pasture and agricultural purposes.

A site survey (Mattiske 2022, Appendix B) was completed of the area identifying the proposed scope of works will have minimal impact on native vegetation. Three native trees (*Eucalyptus rudis*) will be required to be removed at Readheads Road (southside) to facilitate the new tie in. The removal of these trees is covered under our existing vegetation clearing approval (CPS 4241).

The Survey revealed that, the native vegetation found in the project area were not of a conservative species and well represented on the region of the Swan Coastal Plain.

Clearing is required to allow for the creation of construction workspace to safety complete the works as described in section 2.3. Only space required for construction works will be cleared and apart from the three trees noted above, all works will be in pasture/agricultural land.

2.3.3. Water Management

There is potential for interaction with groundwater based on survey results. The timing of the works is to coincide with a period of lowest groundwater (later summer). A nearby surface expression may have potential ASS impacts and these surface expression areas will be avoided at all times and are outside of the proposed disturbance footprint.

Groundwater was identified at 0.8-2.8 meters below ground (mbgl) level during survey work which means that there is potential for dewatering of the trench to allow for safe work activities.

Dewatering may be carried out to ensure a safe working environment and management of pipeline removal and installation. The dewatering discharge will occur in areas with specific erosion controls

and directed away from the work area. These discharge points will be inspected daily to ensure erosion controls are effective and where required, movement of discharge to avoid potential inundation of areas over time.

Erosion controls will include either earthen barriers, geofabric, rock placement or a combination to ensure controls are effective. These will be temporary and enable movement of the discharge point to ensure ongoing pipeline construction and minimise impacts.

Dewatering shall be as outlined in the EP and meet requirements of Water Quality Protection Note 13. Due to time scale, construction works timing and volume of water estimated, a license is not currently predicted.

Water required for construction, including hydrotesting shall be sourced from nearby Local Government standpipes with approval from the relevant regulator.

2.3.4. Acid Sulphate Soils

An ASS Management Plan (ASSMP) has been developed as required under the existing DBNGP EP controls and in line with guidance. This sets out both soil stockpile treatment requirements, reinstatement processes to minimise risk and dewatering dosing requirements during abstraction prior to discharge.

This was developed by competent geotechnical and environmental consultancy and included soil sampling specific to the area.

As required under the DBNGP EP, adherence to the ASSMP will be audited during the project to ensure all controls and conditions are implemented.

2.3.5. Road crossings

There are three road crossings involved in the project, two of these will remain in place, as the pipe at these crossings is already heavy wall pipe. The new Northam Entrance Road will be constructed through Horizontal Directional Drilling.

2.3.6. Access tracks

Access to the location shall be by existing landholder tracks with specific short tracks established to maintain safe access from the current road (<200 m). Access tracks are generally 6 m wide to capture for excavators, pipe trucks and light vehicles.

These access tracks will form part of the rehabilitation works post construction in conjunction with consultation with landholder.

2.3.7. Crib room, office and ablutions

These temporary facilities shall be installed in the laydown area at the site. Waste management is covered below, and rehabilitation shall be in line with landholder consultation and future land use. The laydown and extra workspaces have been designed to minimise impacts to existing native flora onsite.

2.3.8. Waste Management

Waste management shall be similar to the operations of DBNGP.

Waste streams expected and examples of each are included below as well as approximate volumes:

- Scrap metal – offcuts from pipe, packaging, damaged metal containers, offcut wire and removed fencing (~10 t)
- Cut and removed pipe – kept where possible and moved offsite to an existing storage location (i.e. MLV, Jandakot or a compressor station) for potential future re-use
- General waste – pipe caps, food and accommodation wastes, light plastics (~1,000 m^3)
- Co-mingled recycling – cardboard, plastics (~1 t)
- Timber – old or damaged pallets, broken wood gluts, packaging (valves) (~8 t)
- Hazardous waste including liquid hazardous wastes. These will be limited to oil, greases, any spill material, filters and sewage wastes (~18 m^3)

- Other – Batteries stored in specific bunded pallet or cage (~<10 batteries)

As per the DBNGP EP, all waste shall be removed in a timely manner by a licensed waste contractor to a licensed waste facility. All receptacles required for the project shall be removed from site on last service as part of the demobilisation process.

2.3.9. Blow down of existing pipeline and purging

A section of the existing pipeline will be removed and replaced. It is necessary to ensure safe dismantling can occur. The previously approved plan (by DMIRS, Rev 2.1) included the majority of the gas inventory will be flared to the lowest level possible before the rest is vented, of which the total volume of gas was estimated to be approximately 6.55 TJ.

However, the flaring process was not able to be implemented due to the unavailability of our flaring contractor. As a result, DBP must take another approach for the blow down of existing pipeline and purging to ensure dismantling process is safe. After careful consideration, instead of flaring, DBP has decided to engage ATCO to utilise the gas in the pipe to the lowest level possible before the rest is vented. This method negates the need to flare and therefore reduces the reduces the total amount of gas being released into the atmosphere, originally from 6.55 TJ (Rev 2.1) to 1.5TJ (this document, Rev 2.3).

The processes have been revised and will be implemented as follows::

- The affected section ~9 km will be isolated with MLV142 closed and insertion of the BISEP to ensure full isolation, while the loopline (Loop 10) continues to maintain supply to all Pipeline South customers, except Mandurah Gate Station (owned by ATCO).
- The Mandurah Gate Station will continue to draw gas for up to 2 days from the affected mainline section, to lower and deplete the linepack/gas inventory in the isolated section.
- Once the pressure in the isolated pipeline section is lowered to between 2000 kPa to 3000 kPa, the supply to the Mandurah Gate Station will be re-routed to the loopline.
- The gas supply to the Mandurah Gate Station will be stopped and isolated once the Mandurah Gate Station commences receiving gas from the loopline.
- The remaining gas in the isolated section, approximately 1.5 TJ of gas, will then be vented to the atmosphere and purged with nitrogen.
- Once the isolated pipeline section is completely vented and verified to be free of gas, the tie-in with the newly installed heavy wall pipeline section can take place.

Note that a large majority of gas inventory will be depleted by Atco's Mandurah Gate Station to the lowest level possible before venting. This will reduce emissions. Emissions will be calculated and captured in the quarterly and annual emissions reporting.

The venting operation will occur at MLV142 (north of the project site) with a vent located at the existing compound within the DBNGP corridor.

The details are as follows:

- Gas pipeline length to be vented: 9,000 m
- Estimated volume: Approximately 1.5 TJ
- Venting time: <12 hours per day (0700-1900) over 2 days

Venting will occur within land directly adjacent to MLV142. The land is owned freehold by DBP and there are no direct landholder impacts at this location. MLV142 is ~5.8 km north of the project site near corner of Hopelands Road and Elliot Road. The nearest receptor (farmhouse) to MLV142 is 400 m from the site.

Noise disturbance from the venting will be managed through the current DBNGP EP controls including design to minimise noise, timing of activity (daytime and not on Sunday) and landholder notification. No additional controls are proposed as set out in Table 6.

Heat and Noise was modelled (Well Test Knowledge International, 2022) which included a range of flow rates. At 100 m from the vent no values of 85 dB (8 hour working average) were exceeded at maximum potential flow. The EP Noise Regulations 1997; Regulation 13 sets out the requirements for construction work to meet specific criteria.

Therefore, the works will be carried out as follows:

- Works (venting) will only be undertaken between 0700 and 1900 hours of Monday to Saturday
- No works will be carried out on Sunday
- Equipment used is as quiet as reasonably available
- Venting will be constricted to the nominated operating time period and at a flow rate that ensures impacts to the nearby residence are in line with Noise Regulation requirements.

2.3.10. Works Schedule

Table 3: Proposed Schedule (key milestones)

Activity	Commences and duration
Survey work including GIS, ASS and Flora	May to July 2022
Potholing of DBNGP	May to June 2022
Commence construction of access tracks	February 2023
Commence clear and grade	February 2023
Mobilization of pipeline construction equipment and offices etc	February / March 2023
Pipeline Construction	March 2023 – June 2023
Mandurah Meter Gate Station Facility new supply	February – March 2023
Hydrotesting	May to June 2023
Progressive reinstatement and rehabilitation	April to May 2023
Commissioning	May to June 2023
Practical Completion	May to June 2023
Demobilisation	June 2023

3. Flora, Vegetation and Fauna survey

A site assessment and desktop survey were completed on the proposed disturbance area in June 2022 (Appendix B).

The majority of the alignment occurs on already cleared and harvested paddocks and near a small development, the field effort concentrated on assessing the crossing of road verges and plant identification and collection.

Many invasive species (non-native) were identified with four native species recorded in close proximity to the proposed works.

Impacts to native species were deemed not significant and no additional approvals are required.

4. Additional Construction Details

4.1. Roster / Work hours

Personnel are proposed to work a 12-hour roster door to door from their accommodation. No night works are planned for construction works, however hydrotesting may occur into later hours if required testing times are not met. If night works are required (see below), minimal personnel and equipment movement will be planned and shall require approval from the project manager.

Work hours will generally be 6 am to 6 pm door to door. A 3 week on 1 week off roster is the proposed roster.

4.2. Night works

Night works may be utilised for hydrotesting (as this is based on a time testing period). Temporary lighting shall be installed (light towers etc.) for the work and shall be downward pointing and directed at the work equipment only. These shall be turned off at the completion of works and not left on when no work is being undertaken. Landholder consultation will occur prior to any night works.

If night works are required, lighting towers would only be used until 12am (midnight) which is approximately 5-6 hours and only for one or two nights during the project. Three towers (max) would be used at each of the hydrotest work locations. These would be located at the start and end of the works at KP1434.4 and KP1437.4 (see Figure 2).

4.3. Accommodation

Project staff will be accommodated offsite at existing commercial facilities.

4.4. Pipeline Construction

The typical pipeline construction details outlined in Section 4.6 describe the actual pipeline methodology to be used in the proposed construction.

This project however will pothole, positively locate, isolate, excavate, blow down and cut and remove the existing pipeline replacement.

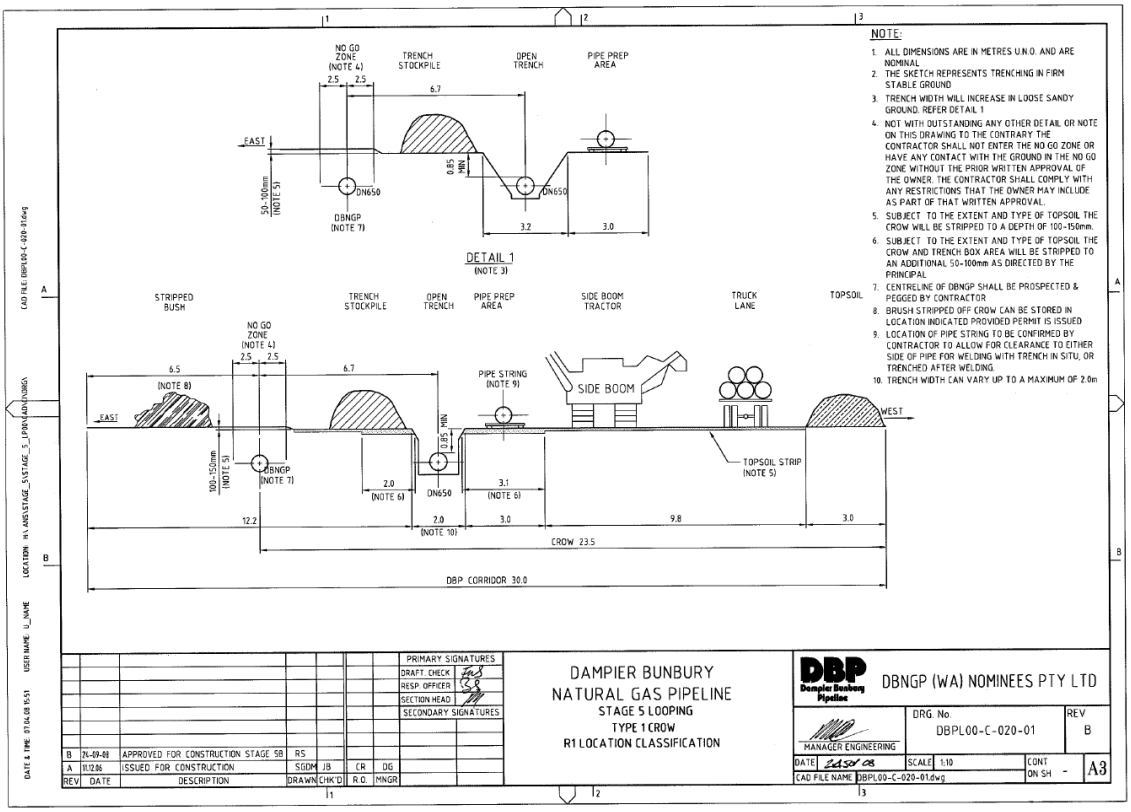

Figure 3: Cross section of construction right of way template

Due to the location, additional non-native vegetation shall be cleared to allow for laydown and pipe storage as outlined in Section 2.2.

4.5. Rehabilitation

Due to lack of removal of native vegetation, rehabilitation aspects shall abide by the current land use and future land use based on change in land use from rural (agriculture) to residential. While not specific to the rehabilitation criteria (all fencing will be replaced as required).

Therefore, criteria for construction shall be related to the following:

1. Management of drainage by ensuring landform consistent with surrounding area and as per prior to disturbance topography
2. Soil profile reinstated (sub-soil and topsoil) with vegetation replaced as per landholder request
3. Management of erosion risk to minimise potential for loss of disturbed area.

Specific criteria are listed below.

Table 4: Rehabilitation – short- and long-term objectives

Objective	Relevant Environmental Factor/s	Key Aspect	Attribute	Criteria	Monitoring / Measurement	Timeframe	Mitigation
CONSTRUCTION REHABILITATION PHASE							
Reinstatement and rehabilitation of construction right of way and all disturbed ancillary areas including laydowns, access tracks and turnarounds.	Soils and stability	Water Surface stability Soil	Water and Drainage Erosion rills, gullies or piping Sediment loss Soil profile reinstated in order (sub soil, topsoil, vegetation) Removal of access track crushed limestone	No erosion inconsistent with surrounding land Drainage across area not impeded post construction Soil profile consistent with pre-disturbance profile Reinstatement to pre-disturbance soil profile and type. Crushed limestone removed from site (targeted for reuse on DBP access tracks and stored at Kwinana Junction site)	Aerial Surveillance reviews erosion and subsidence weekly to assess Inspection of reinstatement process during backfill. Checklist inspection process Checklist inspection process includes removal of crushed limestone	Weekly Aerial Surveillance: Action taken to repair any erosion / subsidence in timely manner and install improved erosion controls Profile reinstatement at time of backfill and reinstatement works and removal of crushed limestone stabilization.	Improved erosion controls installed and frequently reviewed for effectiveness (weekly through aerial surveillance)
Removal of all project equipment and waste	Built environment, waste	Waste and infrastructure	Infrastructure removed	All project equipment and waste removed from construction site	Checklist inspection to confirm compacted bare earth suitable for ongoing operational use and no evidence of project waste	Immediately post construction	NA – no completion of project until all equipment and waste has been removed

Objective	Relevant Environmental Factor/s	Key Aspect	Attribute	Criteria	Monitoring / Measurement	Timeframe	Mitigation
Removal of all projects temporary installations (crib rooms, offices, ablutions etc.)	Built environment, waste	Waste and infrastructure	Infrastructure removed	All project related infrastructure removed as part of demobilisation and completion requirements	Checklist inspection process	Immediately post construction	NA – no completion of project until all equipment and waste has been removed
Reinstatement of laydown and impacted area (not including construction right of way)	Soil, flora and vegetation	Soil and erosion	Infrastructure removed	All project related infrastructure (including civil works) removed as part of demobilisation and completion requirements and completed to a stable landform	Checklist inspection process	Immediately post construction	NA – no completion of project until all equipment and waste has been removed
END OF OPERATIONAL LIFE PHASE							
Reinstatement of all natural drainage patterns and features (pre-existing landform achieved) in consultation with landholders	Soils and stability	Water Surface stability	Water and Drainage Erosion rills, gullies or piping Sediment loss	No erosion inconsistent with surrounding land Drainage across area not impeded post decommissioning and reinstatement	Aerial Surveillance reviews erosion and subsidence weekly to assess	Weekly Aerial Surveillance: Long term reviews 3, 5 and 10 years may occur dependent on any identification however due to zoning and land use (residential) access and required work will be in consultation with each specific landholder	Improved erosion controls installed and frequently reviewed for effectiveness (weekly through aerial surveillance) Action taken to repair any erosion / subsidence in a timely manner

Objective	Relevant Environmental Factor/s	Key Aspect	Attribute	Criteria	Monitoring / Measurement	Timeframe	Mitigation
Removal of all above ground infrastructure	Soil, flora and fauna	Built infrastructure removal Ecosystem value restoration	Water infiltration Soil profile as designed Key threats managed (feral animals, weeds and fire mitigation in place) Infrastructure removed	Decommissioning checklist (HSE Review) of removal of all infrastructure	Checklist inspection process	Post decommissioning	Additional works to ensure all equipment removed
	Soil Health	Soil structure	Soil function	Additional monitoring of ecosystem function may be utilised within the rehabilitation monitoring assessment	Timely rehabilitation monitoring including: • Photo monitoring • Transect monitoring • Control sites for comparison assessment	Up to 10 years based on agreed criteria at time of decommissioning but based on current EP Section 7.7. Additional monitoring of ecosystem function	Additional stocking (seeding or seedling planting) may occur on advice of environmental specialist. This will be dependent on each landholders use specific requirements.

4.6. Mobilisation / Demobilisation

Mobilisation is the process of moving equipment and personnel to site. The Construction Contractor shall mobilise all required plant, equipment and consumables. These shall be transported via truck to the specific location.

Mobilisation includes the floating (truck transport) of major plant and equipment, transfers for personnel and light vehicle (LV) driving to site. Once onsite, only truck deliveries, service truck (fuel truck) personnel buses and light vehicles will be moving back and forth to offsite locations until the plant is demobilised.

Project plant and equipment will include graders, side booms, excavators, welding and coating trucks and pipeline trucks.

Pipeline delivery and removal trucks shall deliver pipe to a laydown area and remove pipe to a DBP storage area (main line valve location or compressor station for longer term storage). Contractor trucks onsite shall then transport these up the right of way (stringing).

Controls for environmental impact (such as weed and pathogens) are outlined in the EP.

Crib rooms, offices, waste areas, signage and other project specific equipment shall all be removed as part of demobilisation. Reinstatement and rehabilitation shall occur as per Section 4.5. Demobilisation is part of a sign-off process to ensure the area is left in good condition and this forms part of the construction contract.

A list of proposed equipment is included in Appendix A.

4.7. Refuelling

Refuelling will occur onsite during the project including on the right of way. Controls as outlined in the DBNGP EP apply including minimum distance from watercourses, drip tray and spill kit controls. The DBP OSCP applies to this process. The refuelling trailer (double lined tank) will be stored at the laydown. Additional information is included below to inform on the risk of spills associated with the project. It is noted that there are low lying areas (palusplain, sump land) and refuelling shall avoid any water ponding areas. Refuelling shall only occur on areas built up by crushed limestone (laydowns, tracks) as this will mitigate (minimise) the risk of entering groundwater.

4.8. Hazardous materials storage and handling; Spills

Hazardous substances and dangerous goods shall be stored at the laydown in a temporarily located DG container and gas cage area. This includes all requirements listed in the EP to control any potential impacts.

Proposed chemical types are:

- Coating materials (Part A and B) – max volume 50 kg
- Coating wrap – Denso Tape – max volume 275 kg
- Diesel Fuel (fuel trailer) – max 10,000 L
- Paint (touch ups) – max volume 100 L
- Lubricants – max volume 500 L
- Greases – max volume 500 L

- Oils – max volume 500 L
- Grouting cement – max volume 100 kg
- Nitrogen – 10 x nitro packs (16 G Size cylinders)
- Welding gases (acetylene, oxygen, argon) – max volume 10 G size cylinders each
- Other minor chemicals (containers <20L)

In terms of spill scenarios, these are as per the OSCP include with the EP with the following additional information is provided:

Table 5: Spill scenario specific to these activities

Source	Incident	Location	Hydrocarbon type	Volume (maximum)
Mobile refuelling truck	Rupture / leak including vehicle incident	Along right of way, during transit to site	Diesel Oils/grease	10,000 L 208 L
Plant and equipment leaks	Leak	Along right of way	Diesel Oils/grease	250 L 15 L

As all other oils, greases and chemicals are in containers less than 25 L these are not considered a credible source for a significant spill event.

4.8.1. Spill Risk Scenarios

For the two risk scenarios above, additional information on the response and mitigation is included below:

Traffic incident while fuel in transit (third party refuelling truck)

Traffic incident during 3rd party transport would be managed by external response units (SES, Fire fighters, Ambulance, Police) as location would most likely be on main WA roads. Depending on location, DBP may provide additional assistance in terms of civil equipment or any other as requested. Road and traffic controls are in place when travelling to and from remote locations to ensure knowledge of road conditions and closures. Only licensed transporters are used for movement of hydrocarbons.

If an event occurred onsite, ground disturbing equipment (graders, excavators etc.) would be used to help contain and clean up any spill. Trucks onsite could be used to collect contaminated material and fill would be sourced to reinstate any removed material.

Leak from heavy equipment (hydraulic oil, fuel) or light vehicles

Heavy equipment, especially pipe benders and excavators can potentially have leaks through hoses and pressurised equipment as well as fuel leaks. This is limited in volume to the capacity of the oil and fuel tanks on the equipment. Pre-starts and pre mobilisation equipment checks as well as regular servicing will be performed to minimise this risk but, the potential remains. Mitigation of spills includes the use of spill kits (held on all equipment and includes pads, absorbent booms and bags for contaminated material).

For larger spills, other heavy equipment onsite can be used to help collect any contaminated material and contain spills.

5. Existing Environment – Proposed works location

The below outline is taken from the Flora site inspection completed for the project or general sources (GIS data).

5.1. Climate

The study area occurs Darling Botanical District which experiences a Dry Mediterranean climate with 5-6 dry months each year. This climate falls within the relatively humid zone of the southwest (Beard 1990).

The Bureau of Meteorology (BoM) Karnet Rehabilitation Centre (Site 009111) is the closest to the study area, operating since 1963. Average annual long-term rainfall recorded at the station is 1153.5 mm with the highest rainfall typically in June-August. Annual mean maximum temperatures range from 15.5°C in winter to 30.6°C in summer (BoM 2022).

5.2. Geology

The study area occurs on the Swan Coastal Plain which is a series of sand dunes running from east to west. Regionally the site is characterized by Tertiary sediments overlying Mesozoic sandstones. Siltstones and limestones.

Soil types are typically Bassendean overly Guildford Clays. Within low lying wetland areas Lacustrine/peaty deposits are generally encountered.

5.3. Flora

The DBCA database search, NatureMap and PMST reports identified 16 conservation significant flora species that have the potential to occur within an 80 km radius of the study area.

5.4. Environmentally Sensitive Areas (ESA) and Threatened Ecological Communities (TEC)

There are two ESAs that may potentially be impacted by the proposed works near KP1436 which are mainly in relation to the roadside vegetation. On inspection by AGIG and Mattiske Consulting, the significant aspects of these areas will not be impacted by the works. Appendix C outlines the ESA locations. All works will avoid any native vegetation clearing in this area. Impact will only include crop/pasture area vegetation even though this includes the mapped ESA area.

There are several TECs located in the vicinity near KP 1433 and 1438 however, these will not be impacted by the proposed works and remain over 600 m away from the work locations.

5.5. Hydrology

The area consists of dampland, palusplain as well as a sumpland which indicates the low-lying nature of the area as well as indication of surface water during inspections in nearby paddocks. Groundwater was encountered in July 2022 within 1 m of the surface which indicates a high-water table.

5.6. Heritage

There is one registered site in close proximity to the activity area, however this is located to the west of Hopelands Road and will not be impacted by the proposed works.

5.7. Landholders

There are three landholders across the proposed disturbance area, with Niroda (the land subdivider/developer) owning the majority of the works area. Consultation with landholders is outlined in Section 6. The landholder agreements encompass specific environmental considerations including pollution and biosecurity. Specifically, 'DBP must not do anything to pollute any part of the Land which would result in contamination' and minimise the risk for weed introduction with controls such as vehicle numbers and meet any farm biosecurity requirements.

6. Risk Assessment and Controls

6.1. Risk Assessment

A risk assessment HAZOP was completed for the activity on 22 July 2022 to assess the impacts of the works including over pressure, noise and purging process. This included a multidisciplinary team including Risk and Safety (HSE), Engineers, Operations personnel and Permitting.

On review of these risk assessments, all controls are listed and captured within the existing EP and associated procedures and the activities are detailed within this Bridging Document. These hazards have already been captured in the risk assessment included in the EP (Table 6).

Table 6: Hazards and Risks capture in the risk assessment included in the EP

Hazard / Risk	EP Section Reference	Related EP Objectives confirmed from DBNGP EP (this includes EPS and MC but these are not shown)	Comment / Additional EPO, EPS or MC if required
Soils and Sediment Loss of viable topsoil or compaction ASS impacts	6.1	• Minimise change to soil profile from excavation activities. • Prevent acidification of potential ASS soils.	• No additional EPO, EPS or MC required. • Soil testing (July 2022) indicated no presence of ASS at the location. Soil testing was conducted as required under the EP controls.
Flora Damage to native vegetation (including clearing, fire and lack of rehabilitation)	6.2	• Minimise and manage the disturbance to remnant native vegetation. • Avoid disturbance within conservation significant and environmentally sensitive areas to the maximum extent practicable.	• No additional EPO, EPS or MC required. • No additional EPO, EPS or MC required.
Weed Introduction or spread of weeds or pathogens	6.3	• Minimise the potential for new weeds to be introduced into the corridor from external sources. • Minimise the risk of spreading existing weeds along the corridor and to adjacent areas.	• No additional EPO, EPS or MC required. • No additional EPO, EPS or MC required.
Bushfire Bushfire impacts including: • Loss of flora • Loss of fauna habitat • Erosion • Impacts to other locations /	6.4	• To prevent bushfires as a results of construction and operational activities.	• No additional EPO, EPS or MC required, it is noted that the MC for Bushfire includes the PTW system which specifically includes fire watch requirements not listed in the EPS in the EP.

services / stakeholders			
Fauna Damage to fauna (direct) through vehicle impacts, falling and stuck within trench, predation within trench or post relocation. Fauna in pipe strings Damage to native vegetation fauna habitat	6.5	• To minimise the direct impacts on fauna through impacts with vehicles, aircraft, entrapment in excavation works, or extraordinary exposure to predators. • To minimise the temporary and permanent reduction or fragmentation of existing fauna habitat.	• No additional EPO, EPS or MC required, noting all trench controls are included in the EP. • No additional EPO, EPS or MC required.
Air emissions including dust and noise: Pollution to air Noise pollution to stakeholders Dust emissions impacting stakeholders	6.7	• Minimise emissions of natural gas. • Noise controls are implemented as required to minimise noise impacts including notification to landholders / stakeholders prior to commencement of potentially noisy activities. • Minimise dust impacts from activities.	• No additional EPO, EPS or MC required. • No additional EPO, EPS or MC required.
Surface and Groundwater Water quantity decrease (over abstraction impacting local land users or vegetation)	6.8	To prevent contamination of surface and ground water.	• No additional EPO, EPS or MC required noting that no ASS conditions are required for dewatering.
Spills / Hazardous Materials Soil contamination from hydrocarbons or chemicals	6.9	As per EP Objectives	No additional EPO, EPS or MC required.
Waste	6.10	As per EP Objectives	No additional EPO, EPS or MC required.

6.2. Appropriate controls and measurement and monitoring

The EP outlines the specific controls, objectives, standards and measurement criteria for this scope of work. No additional EP objectives, performance standards or measurement criteria was deemed necessary for this activity, and existing EP is appropriate to manage the impacts from the proposed works.

6.3. Statement of control compliance

AGIG shall ensure that all environmental impacts and risks controls associated with these temporary works shall be implemented as per the existing DBNGP EP (Rev 9.1).

6.4. Monitoring and auditing

An Environmental Audit will be completed once during construction. Weekly Project HSE inspections shall also be undertaken to confirm the EP EPO, EPS and MC are being met.

Reporting arrangements shall be as per the current EP and include emissions, waste and incident reporting.

6.5. Consultation

Consultation has occurred with government departments, landholders and the local government as per Table 7.

Table 7: Stakeholder Consultation

Consulted Body	Date	Topic	Outcome
DMIRS	March 2022 ongoing	Construction of new pipeline and decommissioning of existing pipeline	Changed proposed method to remove and replace existing mainline
	March 2022	Pipeline Licence variation	Discussion based around submission and variation
	October 2022	Bridging Document submission	Feedback received and resubmissions (Nov 22)
Niroda (Developer)	Jan 2022 ongoing	• Project requirement and proposal • FEED • Initial construction details shared as part of project plan	Selected proponent for work
LANDHOLDERS			
Clearview Nominees Pty Ltd - Ernie Surman	June 2022	Initial Project Brief	Receptive to further discussion
	August 2022	• Land Access and Compensation Agreement sent • Rehabilitation post construction • Project timeframe	Executed Agreement in place
Niroda Holdings Pty Ltd - Brent Denboer	June 2022	Initial Project Brief	Agreed in principle
	August 2022	• Land Access and Compensation Agreement sent • Rehabilitation post construction • Project timeframe	Executed Agreement in place
Lanstal Pty Ltd	June 2022	Initial Project Brief	Agreed in principle
	August 2022	• Land Access and Compensation Agreement sent • Rehabilitation post construction • Project timeframe	Agreement in negotiation
Shire of Murray	August 2022	Project Brief	No issues raised (awareness)

Appendix A: Proposed Plant and Equipment

Equipment	Activity Description
Grader x 2	Clear and Grade Reinstatement Access track maintenance
Excavators x 3	Trenching Soil stockpiling Lifting
Side Booms x 2	Lifting
Crane x 1	Lifting and loading
Light vehicles x 8 (inc buses)	Personnel movement Small load transfers
Trucks x 2 (plus contractor delivery trucks)	Pipe transfers Mobilisation and demobilisations Project equipment
Compressors (air) x 2	Hydrotesting Air compressor
Fuel trailer / truck	<10 kL refuelling truck
Padding machine x 1	Install padding soil
Welding / cutting generators and units x 4 (truck or trailer based)	Small generators and hot works units
Ancillary equipment	As required including post hole diggers, compactors, hydrotest equipment, fencing equipment and earthing equipment. Tanks etc. for water.
Generators (site power) x 2	Generators for office and crib room power

Appendix B: Flora, Vegetation and Fauna Site Inspection

Appendix C: Layout Maps