






NORTHERN GOLDFIELDS INTERCONNECT PIPELINE ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Document No		20199-PL-LH-0003			
Rev	Date	Status	Originated	Checked	Approved
4.0	20/08/2020	Issued for Use			
			K. McDonald	B. Ivory	R. Cherney
			(CDM Smith)	Access and Approvals Lead	Project Manager
3.0	14/08/2020	Issued for Use	K. McDonald	B. Ivory	R. Cherney
			(CDM Smith)	Access and Approvals Lead	Project Manager
2.0	03/08/2020	Issued for Use	K. McDonald	B. Ivory	R. Cherney
			(CDM Smith)	Access and Approvals Lead	Project Manager
1.0	03/06/2020	Issued for Use	J. Azzarello	B. Ivory	R. Cherney
			(CDM Smith)	Access and Approvals Lead	Project Manager

© Copyright APA Group 2020



Table of Contents

1. INTRODUCTION	3
2. LOCATION OF ACTIVITY	4
3. DESCRIPTION OF THE ACTIVITY	6
3.1 Engineering and Environmental Surveys	6
3.2 Project Schedule	7
4. DESCRIPTION OF THE ENVIRONMENT AND SUMMARY OF IMPACTS AND RISKS	7
5. IMPLEMENTATION STRATEGY	15
5.1 COVID-19	15
5.2 Reporting and Record Keeping	16
6. STAKEHOLDER CONSULTATION	16
7. CONTACT DETAILS	21
8. REFERENCES	21

Environment Plan Document Summary

1. Introduction

APA intend to undertake key engineering and environmental survey activities to inform the forward planning and approvals for the proposed Northern Goldfields Interconnect (NGI) pipeline; a new 580 km buried pipeline. The surveys will be used to ground-truth and refine the initial desktop assessment of the understanding of the landforms and environmental/heritage values and sensitivities that may be of relevance to the NGI pipeline project route selection. The surveys and investigations proposed are inherently low risk, minimal disturbance activities. The survey activities will utilise pre-existing roads or tracks where possible and no vegetation clearing will be required or undertaken.

The NGI pipeline is proposed to commence at Ambania, located approximately 50 km east of Geraldton and connect into the existing Goldfields Gas Pipeline (GGP) at approximately 40 km south of Leinster. The project will initially include compression (achieved through a new compressor station) at the start of the pipeline, with associated aboveground facilities sparsely located along the route of the pipeline.

The NGI pipeline project will create new opportunities for the supply of natural gas for mining and industrial development, as well as other growth opportunities in the Mid-West and Goldfields regions. The NGI pipeline development will also provide greater access to existing and new natural gas supply fields supporting the regions processing and power generation growth requirements.

The proposed pipeline alignment option under consideration traverses agricultural land, which includes a mix of cropping and pastoral land uses. The pipeline alignment will make use of existing infrastructure corridors (e.g. Dampier to Bunbury Natural Gas Pipeline easement and Geraldton to North-Eastern Goldfields Infrastructure Corridor), where possible, in order to reduce the extent of disturbance required for the project and in keeping with the proposed use of the land. Finalisation of the preferred pipeline alignment will be informed by engagement with affected landholders and other stakeholders, and the outcomes of environmental and engineering investigations.

This document summarises the APA NGI Survey Activities Environment Plan (EP) submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for approval. The EP addresses the environmental management requirements to undertake environmental and engineering survey activities. The overall objective of the EP is to:

- Mitigate all identified environmental risks to be as low as reasonably practicable (ALARP) and acceptable; and
- Minimise disturbance to surrounding landholders.

The EP is structured in line with the latest DMIRS Guidelines for the Development of Petroleum and Geothermal Environment Plans in Western Australia (2016). The EP includes the following key sections; Introduction, Activity Description, Existing Environment, Environmental Risk Assessment and Management, Performance Objectives, Standards and Measurement Criteria, Implementation Strategy, Oil Spill Contingency Plan, Reporting and Record Keeping, and Stakeholder Engagement.

2. Location of Activity

All survey activities will be confined to within the survey area, as shown on **Figure 2-1**. The survey area will cover a 500 m wide area, 250 m either side of the proposed pipeline route. As there has been no groundwork conducted in selecting the proposed route, APA are requesting this large area to allow for any deviations, should the need arise, in the proposed route.

The survey area commences at Ambania, approximately 50 km east of Geraldton, and extends eastward to the proposed connection with the GGP, approximately 40 km south of Leinster (**Figure 2-1**). The proposed survey area corridor commences at approximately 28° 37' 28" S, 115° 07' 53" E (GDA 1994) and terminates at approximately 28° 14' 08" S, 120° 48' 50" E (GDA 1994). The total survey area is approximately 290 km² (**Figure 2-1**).

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

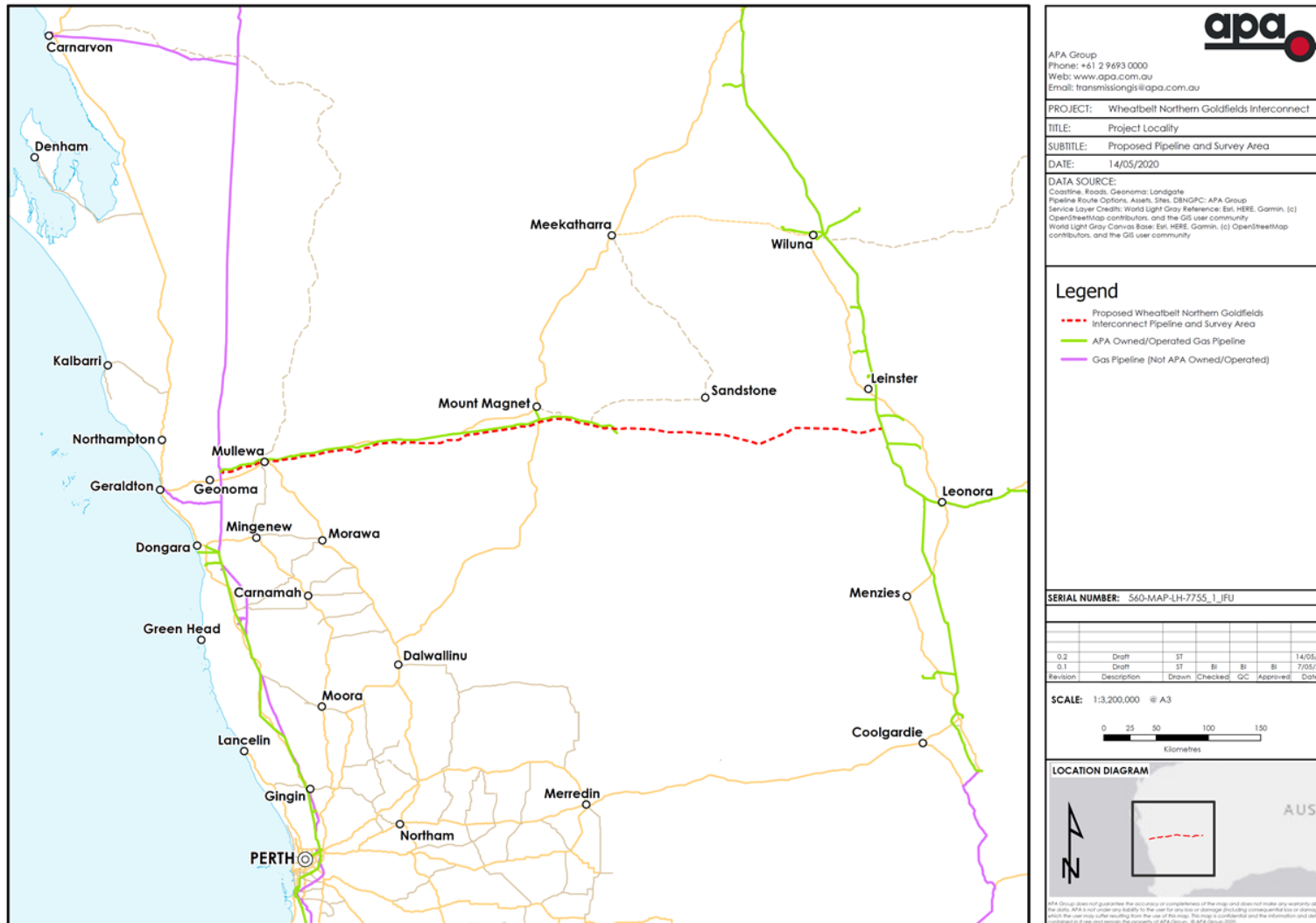


Figure 2-1: Northern Goldfields Interconnect Pipeline Project Locality

3. Description of the Activity

3.1 Engineering and Environmental Surveys

The planned work includes the completion of engineering and environmental surveys within the NGI survey area, as shown in **Figure 2-1**.

As outlined above, the primary purpose of the surveys is to ground-truth desktop information and provide an informed understanding of the environmental features that are present in the survey area. The results of the surveys will inform forward design and approvals. The surveys, by their preliminary, short-term nature, are inherently low impact; comprising mainly of targeted investigations and visual observations from traversing the area by vehicle and/or foot. All survey activities will be designed and undertaken in accordance with the required legislation, standards and guidance.

Table 3-1 provides a summary of the scope of works associated with the surveys.

Table 3-1: Summary of Engineering and Environmental Surveys Scope of Works

Survey	Summary
Engineering	
Geotechnical	A geotechnical survey is planned to be undertaken to ascertain the geological characteristics of the terrain along the pipeline route, and to provide sufficient data to enable the design of the pipeline route and construction of the pipeline. The geotechnical survey will include localised field investigations, core hole sampling, test pits, sampling for acid sulphate soil (ASS) and a hydrology and scour assessment.
Centreline	A centreline survey is required to physically establish the pipeline route on the ground as identified by desktop studies and confirm its suitability for pipeline construction. The survey will, therefore, establish and mark the pipeline route on the ground with survey markers. Modifications/refinements to the pipeline route may be required to detour around restrictive landform features and environmentally and culturally sensitive areas.
Environmental	
Flora and vegetation	A detailed flora and vegetation survey will be undertaken to define the botanical values in the survey area, with particular focus on identifying the presence of conservation significant flora and vegetation.
Terrestrial fauna	A fauna survey will be undertaken to understand the presence of fauna (particularly conservation significant fauna) and fauna habitat within the survey area.
Aboriginal heritage	An Aboriginal heritage assessment to ground-truth the desktop search and determine the location and significance of any Aboriginal heritage sites will be undertaken.
European heritage	A targeted European heritage assessment to better understand the location and significance of any European heritage sites identified in the desktop review will be undertaken.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

3.2 Project Schedule

The environmental surveys are expected to take approximately 2-4 weeks. The engineering surveys are expected to take up to approximately 12-16 weeks to complete.

The survey activities are expected to occur in Quarter 2/Quarter 3 2020. However, the specific timing and schedule of the surveys will be influenced by approvals, contracting and COVID-19 advice and restrictions (**Section 5.1**).

All of the survey activities are expected to be scheduled to occur within daylight hours only, with the exception of targeted fauna surveys that may warrant searches for nocturnal species (e.g. night parrot). Targeted fauna surveys may need to be undertaken at night and require camping overnight within the survey area. The requirement for the other environmental/heritage surveys to overnight within the survey area, for health and safety reasons, will be subject to the confirmation from the specialist consultants (which are yet to be selected), and commensurate with the risk.

4. Description of the Environment and Summary of Impacts and Risks

The proposed survey area is adjacent to the existing Mid-West Pipeline (MWP) and extends eastward, after the MWP termination, towards the proposed connection to the GGP 40 km south of Leinster (**Figure 2-1**).

A desktop review of existing environmental information was undertaken as part of early project planning to provide an understanding of the key environmental values that may occur within the survey area. The planned survey activities include a suite of environmental baseline surveys, whose purpose is to provide a greater understanding of the environmental values within the survey area.

A summary of the key environmental values identified within the desktop review relevant to the survey area is provided in **Table 4-1**.

Table 4-1: Summary of Environmental Values Relevant to the Proposal

Key Environmental, Socio-economic and Heritage Values and Sensitivities	
Feature	Description
Climate	<ul style="list-style-type: none">Mediterranean climate with hot, dry summers and wet winters near the compressor station at Ambania, while the survey area inland near Mount Magnet and Leinster is characterised by hot and humid summers and mild to cold winters.
Acid Sulphate Soils (ASS)	<ul style="list-style-type: none">The survey area is predominantly located in an area of "Extremely Low Probability" (1 - 5%) of ASS (Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2020). However, some sections of the survey area appear to traverse some areas of High ASS probability (>70 %) (CSIRO 2020).
Hydrology	<ul style="list-style-type: none">No major rivers are intersecting the survey area.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Key Environmental, Socio-economic and Heritage Values and Sensitivities	
Feature	Description
	<ul style="list-style-type: none"> There are no Ramsar wetland sites or wetlands of national importance in or near the survey area. The closest nationally important wetland is the Wagga Wagga Salt Lake, which is located approximately 4 km south of the survey area at the closest point.
Groundwater	<ul style="list-style-type: none"> Based on historical water level data, groundwater levels typically range between 15 m – 25 m below ground level (mbgl), however, minimum groundwater levels have been recorded as low as 4 mbgl (Bureau of Meteorology 2020). The survey area does not fall within any Public Drinking Water Supply Areas.
Flora, vegetation and weeds	<ul style="list-style-type: none"> A total of 181 conservation significant flora species were identified through the desktop review as potentially occurring within the survey area. Of the 181 potential conservation significant flora species, 19 were listed as threatened flora under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) with eight of these also listed as threatened under the <i>Biodiversity Conservation Act 2016</i> (BC Act). An additional 157 species of flora are listed as priority by the Department of Biodiversity Conservation and Attractions and may occur in the survey area. A total of 26 pre-European vegetation associations occur within the survey area at a regional level, of which nine associations have the potential to be considered regionally significant (<30% of original distribution remaining). Four weed species were identified as potentially occur within the survey area. One Threatened Ecological Community (TEC) and six Priority Ecological Communities (PECs) potentially occur within the survey area. <ul style="list-style-type: none"> The Eucalypt Woodlands of the Western Australian Wheatbelt TEC (Critically Endangered) is also listed as a Priority 3 PEC under the BC Act. Of the six PECs only two are designated for vegetation which include the Eucalypt Woodlands of the Western Australian Wheatbelt and the Yalgoo vegetation complexes (banded ironstone formation).
Fauna and introduced fauna	<ul style="list-style-type: none"> Fifty-one species of conservation significance vertebrate fauna were identified as having the potential to occur within the survey area. This includes four mammals, two reptiles, two short range endemic and eight bird species are listed as threatened EPBC Act and/or BC Act. A total of 23 species of listed or migratory birds were identified to potentially occur, however are only likely to be visitors migrating through the area. Ten species of introduced fauna have the potential to occur within the survey area.
Land use	<ul style="list-style-type: none"> The survey area traverses agricultural land, which includes a mix of cropping and pastoral land uses.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Key Environmental, Socio-economic and Heritage Values and Sensitivities	
Feature	Description
	<ul style="list-style-type: none"> The survey area traverses through a sparsely populated area and does not interest any towns or residential areas. The nearest place of residence is within approximately 120 m of the proposed NGI alignment within the agricultural section of the Mid-West region. The nearest pastoral homestead is approximately 250 m in the eastern Mid-West and Goldfields regions from the proposed alignment.
Aboriginal heritage	<ul style="list-style-type: none"> Two Native Title Determined Claims overlapping the survey area; the Yamatji Nation and the Badimia People. Three Registered Native Title Claims overlap the survey area, the Yamatji Nation, Mullewa Wadjari Community and Widi Mob. Eight Registered heritage sites and 20 other heritage places intersect with the survey area.
European heritage	<ul style="list-style-type: none"> One European heritage place (locally listed site) – the Rabbit Proof Fence No 2 and No 3 (Emu Barrier Fence) (Place No. 5022) – intersects the survey area.

Environmental aspects associated with survey activities were identified using various industry guidelines, standards and past experience on similar projects. All environmental aspects associated with the survey activities were risk assessed and specific management measures identified to ensure that potential environmental impacts are mitigated to ALARP.

A total of 11 credible risks associated with aspects of the survey activities were identified during the risk assessment, which include:

- Uncontrolled release of hydrocarbons;
- Inappropriate waste management;
- Weeds;
- Fauna interactions;
- Dust generation;
- Noise;
- Ignition source for spot fire or bush fire;
- Disturbance to Indigenous/European Heritage;
- Disturbance to native vegetation;
- Disturbance of soils (geotechnical survey only); and
- Air emissions.

The proposed survey activities are inherently localised and low impact activities and are of short duration. The environmental surveys are particularly low impact as they comprise mainly of visual observations obtained from traversing the area by vehicle and/or foot. The geotechnical and centreline surveys will require minimal localised disturbance for targeted samples to be taken at depths (generally 2 m but may be

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

up to 6 m at three locations) and installation of centreline marker pegs, respectively. The Aboriginal heritage survey or engagement with relevant Aboriginal spokespersons will be undertaken prior to mobilisation of the geotechnical survey to mitigate the potential disturbance to Aboriginal heritage values.

The residual risks associated with all survey activity aspects were assessed to be either low or negligible given the nature and scale of survey activities, environmental values, the control measures in place and the short-term nature of survey activities.

Environmental performance objectives, standards and measurement criteria have been prepared for all environmental aspects that may result in a credible impact from survey activities. The standards and measurements criteria will allow APA to measure the effectiveness of the proposed management measures in protecting the environment in line with the assigned performance objectives.

A summary of the management and mitigation measures proposed to reduce the risk to ALARP for the environmental aspects (summarised above) are provided in **Table 4-2**. Management and mitigation measures for all other credible environmental risks are provided in **Section 4.5** of the EP.

Table 4-2: Summary of Management and Mitigation Measures for Environmental Aspects

Aspect	Impact	Management and Mitigation Measures
Uncontrolled release of hydrocarbons (note, the largest credible spill is approximately 200 L from the portable fuel cell for the refuelling of the vehicle mounted drilling rig/small backhoe)	<ul style="list-style-type: none"> Localised contamination of soils Localised damage to vegetation and fauna habitat The diesel inventory for the geotechnical survey is minimal, therefore the risk to groundwater is considered negligible 	<ul style="list-style-type: none"> Pre-start vehicle inspections No refuelling of light vehicles within the survey area in the field – with refuelling of light vehicles to be undertaken at established fuel stations Hazard and incident reporting <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> Portable fuel cell self-bunded or secured within an appropriate secondary bund that will hold at least 110% of the fuel cell volume and regular inspections undertaken to ensure integrity Re-fuelling of vehicle mounted drill rig or small backhoe will be manned and portable drip trays used Pre-mobilisation check of the drill rig/backhoe to ensure integrity of hydraulic hoses and regular maintenance has been undertaken Spill response equipment/spill kits will be located within light vehicles Emergency Response Plan (ERP) and Oil Spill Contingency Plan (OSCP) will be provided to the geotechnical contractor and implemented if required All chemicals/oily waste stored in appropriate containers that are sealed at all times, unless in use Job Hazard Analyses (JHAs) – covering specific tasks involving the use of the drilling rig and backhoe

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Aspect	Impact	Management and Mitigation Measures
Inappropriate waste management	<ul style="list-style-type: none"> • Fauna attraction • Localised impacts on vegetation and fauna habitat • The chemical/oil inventory for geotechnical survey is minimal, therefore the risk to groundwater and soil is considered negligible 	<ul style="list-style-type: none"> • All domestic waste removed from the survey area • No camping/accommodation within the survey area, with the exception of targeted fauna surveys that may be undertaken at night for a portion of the survey to detect nocturnal species (e.g. night parrot)* • Contractors to store waste/litter in sealed containers for disposal at an appropriate facility/location • Cargo nets in place at all times on light vehicles • Hazard and incident reporting • APA HSE induction <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> • All chemicals/oily waste stored in appropriate containers that are sealed at all times • Pre-start to include addressing of waste management requirements
Weeds	<ul style="list-style-type: none"> • Transport/introduction of declared plant or new weed species • Spread of existing weed populations • Landowner complaints • Degradation of native vegetation and fauna habitats 	<ul style="list-style-type: none"> • Vehicle movements limited to within the boundary of the survey area, with the exception of access to/from the area • Vehicles to remain on existing roads and tracks to the maximum extent possible • Daily vehicle and equipment hygiene inspection and brushdown prior to accessing the survey area • Vehicle and equipment brushdown undertaken on entry/exit from different landholder properties • Contractors to complete APA hygiene inspection report prior to mobilisation of the survey • Any Declared weeds recorded by the botanical contractor to be reported via the APA reporting system (relevant to the flora and vegetation survey only) • Compliance with any landholder requests with regards to biosecurity requirements
Fauna interactions	<ul style="list-style-type: none"> • Loss of fauna (individuals) due to injuries or fatalities • Loss of or injury to livestock 	<ul style="list-style-type: none"> • Speed limit of 40 km/hr within the survey area when undertaking survey activities and maximum speed limit of 60 km/hr when transiting • Vehicles to use pre-existing tracks and roads, where practicable, and all speed limits on existing roads/tracks adhered to • Driving at dawn and dusk will be avoided where possible • Trained and competent drivers • Vehicles to use pre-existing tracks and roads where practicable • Survey activities to occur within daylight hours, with the exception of targeted fauna surveys that may be

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Aspect	Impact	Management and Mitigation Measures
		<p>undertaken at night for a portion of the survey to detect nocturnal species (e.g. night parrot)*</p> <ul style="list-style-type: none"> Engagement with landholders prior to commencement of surveys activities Hazard and incident reporting <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> Boreholes/test pits to be filled immediately following sampling and once fauna entrapment checks have been completed Boreholes/test pits will not be left open overnight
Dust generation	<ul style="list-style-type: none"> Localised impacts on native vegetation Landholder (pastoralists) complaints 	<ul style="list-style-type: none"> Pre-start to address road conditions Speed limit of 40 km/hr within the survey area when undertaking survey activities and maximum speed limit of 60 km/hr when transiting Drive to the conditions – speeds to be lowered if particularly dusty conditions are encountered Vehicles to use pre-existing tracks and roads where practicable No creation of new tracks Communication with landholders before commencement of surveys Hazard and incident reporting <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> All spoil material generated from the drilling of the boreholes or small, targeted excavation of the test pits will be used to backfill the sample hole No open, large excavations to be undertaken
Noise	<ul style="list-style-type: none"> Landholder (pastoralists) complaints Localised disturbance to fauna individuals 	<ul style="list-style-type: none"> Initial APA communication with landholders before commencement of surveys with contractors to advise when entering landholder properties (as required/ requested) Hazard and incident reporting <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> All machinery and equipment will be appropriately fitted and maintained
Air emissions	<ul style="list-style-type: none"> Operation of vehicles Operation of drilling rig/ backhoe(geo technical survey only) 	<ul style="list-style-type: none"> Equipment is fit for purpose as per daily pre-start checks Maintenance as per manufacturer specifications Record quantities of consumed fuels for emissions reporting - fuel logs etc. Hazard and Incident management procedures

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Aspect	Impact	Management and Mitigation Measures
Ignition source for spot fire and bush fire	<ul style="list-style-type: none"> Localised loss of native vegetation and fauna habitats Damage to landholder infrastructure (e.g. livestock or fences) 	<ul style="list-style-type: none"> Daily vehicle and equipment hygiene inspection and brushdown prior to accessing the survey area Vehicles to use pre-existing tracks and roads where practicable Vehicles will not be parked on any vegetation Fire extinguishers within all vehicles Any cigarette butts will be placed in butt bins located on vehicles ERP is to address fire risk, preventative controls and emergence response protocol Communication with landholders before commencement of surveys JHAs Hazard and incident reporting Monitor DFES alerts regarding fire ban days <p><i>Heritage survey only</i></p> <ul style="list-style-type: none"> Ensure any camp fires are fully extinguished <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> Drilling rig/backhoe operated as intended by competent operators Geotechnical boreholes and test pits will be located in naturally clear areas that support minimal vegetation
Disturbance to Indigenous and/or European heritage areas and/or artefacts	<ul style="list-style-type: none"> Loss of heritage value Cultural impacts 	<ul style="list-style-type: none"> Known Aboriginal and European heritage sites data provided to all contractors prior to the commencement of the survey activities Notify Traditional Owners before commencement of the biological and engineering survey activities, specifically in relation to those portions of the survey area that intersect areas of heritage interest Vehicle movements limited to within the boundary of the survey area, with the exception of access to/from the area Pre-starts to address heritage management and sites within the survey area Hazard and incident reporting <p><i>Geotechnical survey only</i></p> <ul style="list-style-type: none"> The geotechnical survey will commence after either: <ul style="list-style-type: none"> the Aboriginal heritage survey has been completed to ensure identified heritage values are avoided; or (noting that potential restrictions may be applicable given the current COVID-19 situation and Government guidelines)

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Aspect	Impact	Management and Mitigation Measures
		<ul style="list-style-type: none"> ○ a desktop assessment has been completed and engagement with relevant Aboriginal spokespersons has been undertaken with regards to geotechnical activities; or ○ an Aboriginal heritage monitor is engaged to assess the proposed geotechnical borehole/test pit locations that are in close proximity to sites of known Aboriginal heritage value. <ul style="list-style-type: none"> • The geotechnical borehole and test pit locations will be approved by APA prior to the survey commencing • No geotechnical borehole drilling or sampling of test pits will be undertaken in Registered sites • If suspected heritage artefacts are encountered that were previously unidentified, any ground disturbing activities will cease in the immediate area 10 m) and Department of Planning, Lands and Heritage (DPLH) notified immediately (via APA)
Disturbance to native vegetation	<ul style="list-style-type: none"> • Localised degradation of native vegetation and fauna habitats 	<ul style="list-style-type: none"> • No vegetation clearing is required for survey activities • Only light vehicles will be used for the survey activities • Vehicle movements limited to within the boundary of the survey area, with the exception of access to/from the area • Vehicles to remain on existing roads and tracks to the maximum extent possible <p><i>Geotechnical and centreline surveys only</i></p> <ul style="list-style-type: none"> • Boreholes are small in size (< 0.15 m) and the area required for drilling will be minimal • The test pits are small in size (<0.5 m) and the area required for the small, localised excavation will be minimal • Geotechnical boreholes, test pits and centre line pegs will be located in areas that support minimal vegetation and do not require any clearing
Disturbance of soils (geotechnical survey only)	<ul style="list-style-type: none"> • Localised disturbance to soil structure 	<ul style="list-style-type: none"> • No open, large excavations will be undertaken • Only light vehicles will be used for the survey activities • Boreholes are small in size (< 0.15 m) and shallow in depth (< 2 m, with a limited number potentially up to approximately 6 m at the three proposed aboveground facility locations) • Test pits (total of up to 12) are small in size (<0.5 m) and shallow in depth (in the order of approximately 3 m–5 m) • All samples will be bagged and appropriately sealed for transportation for analysis • If ASS or groundwater is encountered in areas of high probability of ASS (>70%), the test pits will be immediately backfilled upon completion of sampling

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Aspect	Impact	Management and Mitigation Measures
		<ul style="list-style-type: none">If ASS is encountered in the soil material removed it will be treated with lime to neutralise the ASS

* The requirement for the other environmental/heritage surveys to overnight within the survey area, for health and safety reasons, will be subject to the confirmation from the specialist consultants (for which the selection process is underway), and commensurate with the risk.

5. Implementation Strategy

The implementation strategy for the survey activities defines key roles and responsibilities, outlines the arrangements for monitoring, review and reporting of environmental performance, and the strategy to confirm that the management/mitigation measures are implemented, maintained and effective throughout the survey activities.

All contractors and consultants involved in the environmental and engineering survey activities are expected to comply with all relevant requirements within the EP.

The environmental management measures required under this EP will be implemented via the APA Safeguard System, supported by a comprehensive database of procedures, forms and other guidance materials pertaining to environmental management (including a project specific OSCP outlined within the EP). Additional project specific documentation will also be developed as appropriate (e.g. Project Emergency Response Plan).

Given the localised, low impact and short-term nature of the survey activities, no audits or environmental monitoring is proposed for this EP.

The scope of the proposed activities subject to this EP – a suite of baseline environmental, heritage and geotechnical surveys – are by definition a pre-development monitoring program, to characterise the existing environment relevant to the NGI project. Therefore, monitoring is inherent in the scope of the activities.

No additional monitoring above the scope of the survey activities has been proposed as there will be no significant construction activities and no clearing of vegetation. The proposed activities have a minimal and localised disturbance footprint.

All non-compliances with this EP will be reported and managed in accordance with the APA Incident Reporting Procedure (APA HSE GP 07.01).

5.1 COVID-19

APA is following the guidance published by the Commonwealth and State Governments, as well as the World Health Organisation, with respect to the management of COVID-19, including managing the impacts of remote travel restrictions and exemptions. In addition, APA has implemented a COVID-19 Travel Management Plan (which incorporates the APA COVID-19 Management Plan) to provide guidance to both APA and contractors on what is required.

APA expect that all contractors comply with all Government guidelines and ensure the safety of themselves and the broader community.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Contractors are required to have a COVID-19 Management Plan, which will be reviewed and accepted by APA prior to mobilisation. The release of any individual exemption letters required to complete the activities will only be issued on acceptance of the COVID-19 Management Plan. In the instance that the contractor does not have a COVID-19 Management Plan, they will be required to comply with APA's COVID-19 Travel Management Plan.

Due to the continual changes in the Commonwealth and State Governments requirements for travel within states due to COVID-19, APA will continue to monitor for any changes and will update the COVID-19 related plans accordingly.

5.2 Reporting and Record Keeping

APA will inform DMIRS of the start date prior to commencement of the activity (i.e. first mobilisation to the survey area) and provide notification of the completion date within one week of the activity ceasing (i.e. demobilisation of the last survey activity from the survey area). APA will submit a close-out report within three months of completion of the last survey activity. APA will also submit an emissions and discharges report to DMIRS on a quarterly basis.

DMIRS must be notified of a reportable incident within two hours of the first occurrence and provided with a written report within 3 days. A recordable incident is an event (or non-event) resulting in a non-conformance with any of the environmental performance objectives and/or standards detailed the EP. Recordable incidents are reported by calendar month not later than 15 days following the end of the reporting period (i.e. previous month).

6. Stakeholder Consultation

APA is committed to maintaining positive relations with all stakeholders throughout the duration of its activities for the NGI project and have begun early engagement with stakeholders.

The following stakeholders have been engaged and will continue to be consulted by APA:

- DMIRS;
- DPLH;
- Department of Water and Environmental Regulation (DWER)/ Environmental Protection Authority (EPA);
- Department of Biodiversity, Conservation and Attractions (DBCA);
- Local Shires, including Greater Geraldton, Yalgoo, Mount Magnet, Sandstone and Leonora;
- Aboriginal Heritage Representative Groups, including the Yamatji Marlpa Aboriginal Corporation and Native Title Services Goldfields; and
- Landholders, including freehold owners, pastoral station lessees (including any sub-lessees), interest holders to these properties, management authorities to Crown Reserves and mining tenement holders.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

APA's Access and Approvals Lead for the project will be responsible for ensuring consultation with stakeholders is undertaken, and that any issues raised are addressed in consultation with the Project Manager.

A summary of engagement undertaken to date is presented in **Table 6-1**.

APA will continue to consult with landholders and stakeholders for the duration of the survey activities. In addition, contractors completing the survey activities will notify the relevant landholders and stakeholders before commencing activities on properties.

Feedback from all interested parties will be encouraged and monitored during the survey activities. An email address (NGIproject@apa.com.au) has been set up for the project and all material relating to the NGI project will reference this as the contact for feedback, complaints and queries. All third-party complaints will be addressed promptly, in accordance with APA Corporate procedures and the NGI Project Stakeholder Engagement Strategy.

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Table 6-1: Stakeholder Engagement Outcomes

Stakeholder	Consultation	Key Dates	Contact Person
Government			
DMIRS	<p>Resource Tenure - Ongoing meetings and phone calls have taken place with regards to the application for and authorisation of the Section 7 Licence.</p> <p>Environmental Compliance - Meetings to advise on the project and the environmental approvals strategy. Submission of this EP and responding to requests for additional information. Liaison throughout EP review and assessment period.</p>	Ongoing	<p>Case officers from:</p> <p>Environment Petroleum Petroleum Titles Resource Safety</p>
EPA Services Directorate of DWER	<p>APA met with DWER/EPA to introduce the NGI project and discuss with DWER the approvals strategy for the NGI project and the preliminary work undertaken to date.</p> <p>Overall, the meeting was positive and DWER/EPA provided some valuable points for consideration, related to approvals and environmental factors.</p> <p>DWER advised that a further meeting would not be required until APA were at the pre-referral stage.</p>	05/06/2020	Leanne Thompson (Principal Environmental Officer – Infrastructure)
DPLH	<p>APA have had active discussion with the DPLH on the NGI project and in securing land tenure for construction and operation of the pipeline. The Infrastructure Corridors and Central teams have been informed and are aware of the application with DMIRS for Section 7 access. A Crown Land Enquiry has also been lodged regarding the use of these corridors.</p>	Ongoing	Joshua Caccetta, Stephen Bessely, Tiffany Vale, Ken Buchan.
DBCA	<p>March and June 2020: Consultation and advice regarding timing of the proposed flora and vegetation survey for the project, including outline of the proposed survey approach (primary survey and targeted supplementary survey).</p> <p>July 2020: Submission of a request for the appropriate fauna licences required to undertake the terrestrial fauna survey, as stipulated by the BC Act (submitted by the specialist environmental consultancy)</p>	Ongoing	<p>DBCA Geraldton Regional Office</p> <p>DBCA Wildlife Licensing Section</p>
City of Greater Geraldton	<p>The CEOs of the respective Local Governments were sent a formal notification and email communication regarding the proposed project and the application for Section 7. This</p>	Ongoing	Ross McKim CEO
Shire of Yalgoo			John Read CEO

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Stakeholder	Consultation	Key Dates	Contact Person
Shire of Mt Magnet	included a map showing the pipeline alignment within the respective Local Government Area.		Kelvin Matthews CEO
Shire of Sandstone			Kelvin Matthews CEO
Shire of Leonora			Jim Epis CEO
Mid-West Development Commission (MWDC)	The MWDC and GFDC have been advised on the NGI project and that APA will be conducting ground surveys under Section 7 of the PPA. The MWDC is very supportive of the project.	Ongoing	Anne Finlay Project Manager – Economic Infrastructure and Food Industries
Goldfields Esperance Development Commission (GEDC)			
Native Title Parties			
Badimia People and Mullewa Wadjuri	APA have discussed the Aboriginal heritage surveys with Heritage Link and the preferred providers for these Parties. Heritage Link have advised it does not require an agreement prior to the commencement of surveys.	07/07/2020 - ongoing	Badimia Land Aboriginal Corporation Patricia Edwards – Heritage Link
Southern Yamatji and Wajari Yamatji (YMAC)	APA's discussion has been with YMAC, and has included the provision of GIS data and details on the proposed surveys. APA are waiting for a draft agreement from YMAC for these two parties before these heritage surveys can commence.	09/06/2020 - ongoing	YMAC Cameron Trees – Principal Legal Officer
Badmiya Barna GudaGurna People (BBGP)	The BBGP do not have a registered claim (or determination) of Native Title. They do not have any registered contacts either listed in the Native Title Tribunal. APA are progressing discussions with the Badimia and BBGP preferred survey consultants and intend to include the BBGP as part of these surveys.	26/06/2020 - ongoing	Patricia Edwards – Heritage Link
Widi Mob	Discussions have been with the representative of the Widi Mob, MPS legal. An agreement has been reached between the two parties and APA. The next step will be to commence discussion with the Widi's preferred survey consultant.	02/07/2020 - ongoing	Kai Sinor – MPS Legal

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

Stakeholder	Consultation	Key Dates	Contact Person
Wutha	Discussions have been via phone with the Wutha representative on the proposed surveys and the NGI project. APA have confirmed the preferred anthropologist that the Wutha would like to use for the survey and is comfortable for APA to select an agreed consultant for the ethnographic survey.	20/7/2020 – ongoing	Ron Harrington Smith
Darlot	Discussion have been held with Ron Harrington Smith (on behalf of June Harrington Smith) regarding the proposed heritage surveys. At present there are no objections to the surveys provided that APA use the preferred survey consultants requested by the Darlot. Roe Legal Services were contacted to see if the Darlot had an agreement for conducting Heritage Surveys. At this point Roe Legal Services are only managing the Native Title Claim registration.	30/06/2020 – ongoing	Ron Harrington Smith Roe Legal Services
Goldfields Native Title Services (GNTS)	Communication with GNTS to determine if there any active claims within the Section 7 area and if GNTS requires notification prior to entry.	30/06/2020 – ongoing	N/A
Non-Government			
Tenement Holders	Mining Lease holders (Agnew Gold Mining Pty Limited) have been notified of the project and provided with the proposed alignment details for the NGI pipeline. Liaison has occurred with the FIJV (Yogi Magnetite) on the project directly as the FIJV is planning a magnetite slurry line to be in close proximity to the NGI pipeline. FIJV is also conducting surveys near the DBNGP corridor and within the GNEGIC. Exploration, Prospecting, and Miscellaneous Licence holders are receiving letters notifying APA's application for access under Section 7 to seek feedback in relation to the pipeline and will continue to be engage once there are planned dates for surveys. Further consultation will be ongoing as there may be some tenements within the 500 m wide survey area that may not be required to be entered.	Ongoing	Various tenement holders
Landholders			
Various Landholders	Generally comfortable with the project with some landowners raising initial concerns with APA related to the construction and operation of the proposed pipeline. APA will continue ongoing consultation and seek to work with all relevant landholders.	10/06/2020 – ongoing	Various landholder contacts

NGI PIPELINE – ENVIRONMENTAL AND ENGINEERING SURVEY ACTIVITIES

Environment Plan Document Summary

7. Contact Details

The nominated contact person for this proposal is:

Bill Ivory

Access and Approvals Lead

APA Group

Tel: (08) 6189 4563

Email: bill.ivory@apa.com.au

8. References

Bureau of Meteorology (BoM) (2020). Australian Groundwater Explorer. Available at: <http://www.bom.gov.au/water/groundwater/explorer/> (accessed on 11/08/2020).

Commonwealth Scientific and Industrial Research Organisation (CSIRO) (2020). *Australian Soil Resource Information System (ASRIS)*. Commonwealth Scientific and Industrial Research Organisation, Canberra, Australian Capital Territory. Available at: <http://www.asris.csiro.au/mapping/viewer.htm> (accessed 17/04/2020).

Department of Mines, Industry Regulation and Safety (DMIRS) (2016). *Guidelines for the Development of Petroleum and Geothermal Environment Plans in Western Australia, November 2016*. Department of Mines and Petroleum, Perth, Western Australia.