



METROPOLITAN COAL CONSTRUCTION MANAGEMENT PLAN

SURFACE WORKS ASSESSMENT FORM

**Seismic Survey Lines
Adjacent to and east of Fire Road 9I**

August 2014

Metropolitan Coal

Proposed Clearing of Survey Tracks

Background

The subject Surface Works Assessment (SWA) Form is submitted to Department of Planning & Environment (DP&E) and Sydney Catchment Authority (SCA) for the proposed vegetation clearance of an existing trail to conduct a seismic survey 250 metres east and parallel to Fire Road 9I.

The survey location has been chosen to correspond with existing trails that have overgrown and require clearing to facilitate the assessment. Using this path will allow the survey to take place with minimal disturbance to the surrounding environment. The surveys will be used for a number of mine mapping operations in accordance with the Metropolitan Coal Project Approval and associated Environmental Management Plans and Monitoring Programs.

This SWA Form provides details of construction and environmental management measures for the proposed tracks as outlined in the Metropolitan Coal Construction Management Plan (ConMP) as approved by Department of Planning & Infrastructure (DP&I) on 14 November 2011.

Construction and environmental safeguards detailed in the SWA Form will be communicated to on-site workers by providing copies of the documentation and holding discussions with all relevant staff/contractors prior to works commencing to ensure adherence to such safeguards. The site environmental supervisor will inspect the operations for compliance during works and following works completion. Performance will be documented in accordance with the process set out by the Construction Management Plan, which requires details to be completed in the Surface Works Register and Surface Works Performance Indicator Form, Appendices 1 and 2 respectively.

Site Location

The site is within the Woronora Special Area in the local government area (LGA) of Wollongong City Council. The Woronora Special Area covers a region of approximately 75 square kilometres (km²) and includes the catchment of Woronora Dam. SCA manages the Woronora Special Area and public access is restricted.

The township of Waterfall is located approximately 5 km to the north.

The location for the tracks is 250 metres east and parallel to Fire Road 9I (see Figure 1). The Seismic line will run 850m from Fire Road 9I south to the Princess Hwy. The existing trail condition is shown in Figure 2 and 3.

**Construction Management Plan
Surface Works Assessment Form**

**Note, this form must be completed in full
prior to the commencement of surface disturbance works**

Date: 6 August 2014

Name and position: Ryan Pascoe, Manager – Safety & Environmental Services

Register number (i.e. Number 1, 2, etc.): 7

RMP register number: 8

Site name:

Seismic Survey Track East of Fire Road 9I Woronora Special Area,
Helensburgh

Site type:

Seismic Survey

Site co-ordinates (easting/northing):

9I extension to the north 312175E 6218295N to 312185E 6218440N
East of 9I 312605E 6217550N to 312625E 6218375

Expected duration of works: 4 weeks

Works schedule:

The proposed seismic exploration activity will involve slashing part of a disused water line track to provide access for drilling equipment, installation of geophones and access for a Vibroseis buggy.

A 3.0 metre wide trail will be created with a tractor mounted slasher by following the existing overgrown trail. The vegetation will be cut above ground level and leaving the lower stem and roots in-situ to maximise the potential for natural regrowth; Upon completion of the survey vegetation cuttings will be placed in a random pattern to brush matt areas of disturbance.

Seismic works will include:

- drilling open holes to a depth of 20m, spaced at 24m;
- installation of geophones (pegged into the ground) at 8m intervals;
- wiring connection of geophones;
- low level shot firing at base of borehole which will not be detectable at receptors; and
- rehabilitation immediately after cessation of seismic works.

Metropolitan Coal has conducted ecological and heritage due diligence surveys of the exploration routes and has not identified any threatened flora species or heritage sites that would be impacted by the slashing or exploration works.

1. Drilling Method:

Boreholes will have a diameter of 100 millimetres (mm) and will be drilled using a track mounted rig.

Boreholes would be drilled to depths of up to 24 m. The bores would be drilled using rotary air open hole drilled

2. Water Management and Cuttings Containment:

Drilling will occur during forecast dry weather wherever practicable. Compressed air will be used to clear the drill cuttings.

Drill cuttings will be sandstone deposited onto the verge of the track with approximately 1/10th of a m³ per hole. Cuttings will be returned to the hole during rehabilitation.

3. Borehole Casing:

PVC would be installed to approximately one tenth of the depth of the bore. Casing will be removed during rehabilitation.

4. Site Rehabilitation:

The sites will be rehabilitated at the completion of the seismic survey in accordance with Metropolitan Coal's Rehabilitation Management Plan.

5. Fuel Management:

Large quantities of fuel will not be stored on site. Fuel will be transported in a closed purpose built 200 litre fuel tank secured in a 4 wheel drive vehicle. Re-fuelling will be conducted using a low voltage electric pump and bowser. Care will be taken not to spill fuel. Oil/fuel absorbent materials or other containment materials will be made available at the site to prevent contact with the surrounding environment.

Equipment (e.g. drill rigs, pumps) will be regularly inspected for leaks of oil/fuel/coolant. Spill containment/treatment resources (i.e. spill kits) will be provided and personnel will be trained in their use. The spill kits will include: absorbent material 40 L bag of Organic Oil/Fuel absorbent; absorbent pads: 20 of 480 X 430 mm pads; garbage bags; shovel; and a bag of rags.

Review of baseline information - site features (refer Section 5 of the ConMP)

Are any of the following features located within the proposed disturbance area or immediate surrounds?

Are there occurrences of the Southern Sydney Sheltered Forest on Transitional Sandstone Soils EEC in the general area?

Are there occurrences of the O'Hares Creek Shale Forest EEC in the general area?

No

Two endangered ecological communities (EECs) have been recorded in the region around the study sites (BBS, 2008) as follows:

1. *Southern Sydney sheltered forest on transitional sandstone soils in the Sydney Basin Bioregion EEC and,*
2. *O'Hares Creek Shale Forest EEC.*

Neither of these communities was found to occur in the vicinity of the boreholes.

Are upland swamps located in the general area?

Yes

An upland swamp is located in the vicinity of the eastern seismic line, however no disturbance within the upland swamp would be conducted.

Fire Road 9I has previously been disturbed historically by the construction and maintenance of a water pipeline. The vegetation along the verges of the road is already affected by regular mowing, which has bonsaied many shrubs. Fire Road 9I and its verge is not part of an upland swamp.

The eastern margin of the upland swamp near the eastern seismic line Banksia Thicket was marked by blue streamers of surveyors type approximately 5 m from its edge in order to avoid inadvertent damage to the swamp during slashing operations.

Are there records of known threatened flora species in the general area?

Yes

The flora survey did not identify any threatened flora species within the proposed disturbance area associated with the seismic lines.

Are there records of known threatened fauna species in the general area?

No

Are existing (or proposed) monitoring sites located nearby?

No

What vegetation type is present?

Vegetation Community (NPWS 2003)		Rare or Threatened Species
Map Unit No.	Community Name	
MU34	Sandstone Heath Woodland	Nil
MU40	Sandstone Gully Apple-Peppermint Forest	
MU42	Upland Swamps Banksia Thicket	

Are known Aboriginal heritage sites present?

No

Is this an area in which disturbance is to be avoided and/or limited? (refer Sections 6.1.1 and 6.1.2 of the ConMP) **Yes**

The eastern margin of the Banksia Thicket on the southern portion of the eastern seismic line was marked by blue streamers of surveyors type approximately 5 m from its edge in order to avoid inadvertent damage to the swamp during slashing operations.

If the proposed disturbance area is located in an area to be avoided or limited, relocate site where appropriate in accordance with the requirements of the ConMP

Threatened flora survey (refer Section 6.1.3 of the ConMP)

Date of survey for threatened flora.

31 July 2014

Name of suitably qualified ecologist conducting survey.

Colin Bower

Have any threatened flora been identified within the proposed disturbance area or immediate surrounds. **No**

Scientific names of threatened flora species recorded. **N/A**

Will works be relocated to avoid or minimise impacts on the threatened flora species **Yes**

The eastern margin of the Banksia Thicket on the southern portion of the eastern seismic line was marked by blue streamers of surveyors type approximately 5 m from its edge in order to avoid inadvertent damage to the swamp during slashing operations.

If it is not feasible to relocate the works, have the impacts of the proposed works on the population of the threatened flora species been assessed by a suitably qualified and experienced ecologist? **N/A**

If No, do not proceed

Has the assessment concluded that the proposed surface activities are likely to have a significant impact on a population of the threatened flora species? **No**

If Yes, the proposed works are to be modified to avoid such an outcome

[Attach any relevant ecological reports to this assessment form]

Vegetation clearance and site access (refer Section 6.1.6 of ConMP)

Is vegetation clearing required for the construction works? If yes, describe extent (e.g. m²) and method of clearing (e.g. slashing/lopping branches/removal)?
Yes

A 3.0 metre wide trail approximately 1000 metres in length will be created with a tractor mounted slasher by following the existing overgrown trail. The vegetation will be cut above ground level and leaving the lower stem and roots in-situ to maximise the potential for natural regrowth; Upon completion of the survey vegetation cuttings will be placed in a random pattern to brush matt areas of disturbance.

Describe the access requirements for the construction site (e.g. vehicle/pedestrian/helicopter) and where the access will be from (e.g. which fire road).

Existing Fire Road 9I will be used for siting/delivery of equipment and for access to site
Vehicles and equipment will be maintained to suitable standards to minimise the risk of the introduction of weeds. All equipment will be inspected before it is relocated and identified soil and vegetation will be removed to prevent the spread of weed. Weed control measures and revegetation of areas disturbed by drilling will be implemented where required.

Is vegetation clearing required for site access? If yes, describe the extent and method of clearing?
Yes

A 3.0 metre wide trail approximately 1000 metres in length will be created with a tractor mounted slasher by following the existing overgrown trail. The vegetation will be cut above ground level and leaving the lower stem and roots in-situ to maximise the potential for natural regrowth; Upon completion of the survey vegetation cuttings will be placed in a random pattern to brush matt areas of disturbance.

Vegetation management measures to be implemented (refer Section 6.1.4 of the ConMP)

Site Layout Plan (refer Section 6.1.5 of ConMP)

Has a Site Layout Plan been prepared and attached to the Works Assessment Form?

Yes/No

Have the following been indicated on the Site Layout Plan?

Yes/No

- Site location
- Works design
- Management measures (e.g. erosion and sediment controls, spill kits)
- Access track/s (indicate type of access, e.g. pedestrian/vehicle. Also indicate location of nearest fire trail where access will be from)
- Areas of vegetation clearance
- Location of equipment (e.g. pump, generator, fuel storage, portable toilets)
- Equipment storage areas
- Safety equipment (e.g. fire extinguisher and first aid kit)

Attach photographs, where appropriate

Description of Photographs:

See Attachments

Aboriginal heritage pre-clearance survey (refer Section 6.2 of the ConMP)**Date of pre-clearance survey for Aboriginal heritage sites.**

4 August 2014

Name of survey attendees.

Clare Anderson

Patrick Brien

Are any Aboriginal heritage sites identified within the proposed disturbance area or immediate surrounds. No

Description of recorded Aboriginal heritage sites. N/A

Will works be relocated to avoid impacts on the Aboriginal heritage site? N/A

If it is not feasible to relocate the works to avoid impacts to the Aboriginal heritage site, management and/or mitigation measures to be implemented in accordance with the Metropolitan Mine Heritage Management Plan. Describe measures below. N/A

Where avoidance is not practicable, has a comprehensive baseline record been obtained and salvage considered in consultation with Aboriginal stakeholders prior to disturbance. N/A

[Attach any relevant archaeological reports to this assessment form]

Known Aboriginal heritage sites located close to surface disturbance works

Details of demarcation (e.g. fencing, sign-posting or temporary flagging) implemented to avoid accidental damage to known Aboriginal heritage sites located close to surface disturbance works. N/A

Erosion or sediment control measures required?

- Is any erosion or sediment control required? Yes
- If yes, has an Erosion and Sediment Control Plan been prepared and attached to the Surface Works Assessment Form? Yes

Fuel and spill management measures required?

- Are compressors and pumps bunded and with sufficient capacity? Yes

- Where fuels are used, are spill kits available at the construction site? **Yes**
- Have personnel been trained in spill clean up procedures? **Yes**

Refuelling of Chainsaws and brush cutter will be done over a 10 litre bucket with hydrocarbon absorbent material placed in the bucket to absorb any potential spills. 20 litre fuel can will be bundled in a 30 litre plastic container located on access vehicle.

Refuelling of Tractor will be done offsite with specific attention paid to cleaning any potential overfilling and excess fuel remaining on the equipment prior to entering the catchment.

Refuelling of Drill Rig

Large quantities of fuel will not be stored on site. Fuel will be transported in a closed purpose built 200 litre fuel tank secured in a 4 wheel drive vehicle. Re-fuelling will be conducted using a low voltage electric pump and bowser. Care will be taken not to spill fuel. Oil/fuel absorbent materials or other containment materials will be made available at the site to prevent contact with the surrounding environment.

Equipment (e.g. drill rigs, pumps) will be regularly inspected for leaks of oil/fuel/coolant. Spill containment/treatment resources (i.e. spill kits) will be provided and personnel will be trained in their use. The spill kits will include: absorbent material 40 L bag of Organic Oil/Fuel absorbent; absorbent pads: 20 of 480 X 430 mm pads; garbage bags; shovel; and a bag of rags.

List Hazardous Materials and Storage Requirements

- **What hazardous materials are required to be used and how will they be stored on site?** **Yes**
Unleaded Petrol and Diesel
- **Are Materials Safety Data Sheets (MSDS) for hazardous materials located at the construction site?** **Yes**

Bushfire Preparedness and Management

- **Have HCPL staff and contractors been provided with fire awareness and fire safety training?** **Yes**
- **Has a Hot Work Permit been obtained from the SCA if required?** **Yes**

Hot Work is not expected to be performed. Items needing hot work are removed and any hot works is generally done off site in a work shop. Hot Work will only be done on site if the piece of machinery requiring hot works cannot be removed from the catchment area. Metropolitan Coal will use the SCA'S Hot Work Permit and Procedure in this instance.

Site Layout



APPENDIX 2: EROSION AND SEDIMENT CONTROL PLAN

Correct location, design of the work site and work practices will minimise the risk of erosion at each of the sites. Effectively managing this issue will be achieved by carrying out the following:

- Minimise the disturbance area of the access trails and work site, this will accordingly reduce the likelihood and severity of erosion needing to be controlled
- Slashing or vegetation disturbance will be conducted following the strategies listed in the vegetation management section above;
- Correct aspect and site location. The sites have been selected in appropriate areas that will minimise the risk of erosion ie flat sites, not on hard rock;
- Sediment control will be managed in accordance with the Blue Book (Volume 1 and Volume 2E), including the installation of sediment fences as per the standard drawing 6-8 of the Blue Book Volume 1;
- Whilst drilling is being conducted, the collar of the drill hole will have a cellar dug into the ground so sediment can be pumped directly into baffled tanks and pumped out for removal ;
- All workers will be trained in the appropriate work practices and the drilling operation will be constantly manned whilst in operation.