Independent Environmental Representative

Environmental Audit Report

BULK WATER ALLIANCE

MURRUMBIDGEE TO GOOGONG WATER TRANSFER

5TH AUDIT (CEMP COMPLIANCE)

MARCH 2012

ngh environmental

AUDITED ORGANISATION	PROJECT
Bulk Water Alliance	Murrumbidgee to Googong Water Transfer Project
ADDRESS	**CONTACT DETAILS**
Angle Crossing Road Williamsdale	John Turville (02) 6175 2369
DEPTH OF AUDIT	**SCOPE OF AUDIT**
Environmental	Management Plan Compliance
DATE OF AUDIT	**AUDIT CRITERIA**
20th and 21st March 2012	Management Plans
PERSONS CONTACTED	**AUDIT TEAM**
John Turville – M2G Land and Compliance Manager	Erwin Budde, NGH Environmental – Lead auditor
PREVIOUS AUDIT DATE	**PREVIOUS AUDIT REFERENCE**
April, June, September, December 2011	**ngh**environmental (April, June, September, December 2011)

AUDIT SUMMARY

Environment:

This was the fifth audit of the construction phase of the Murrumbidgee to Googong Water Transfer Project by the Independent Environmental Representative. It involved an audit of compliance against the projects construction management plans, including the CEMP and sub plans.

The audit included a site inspection, interviews, and a desktop-based review of records and plans. Site evidence collected during previous inspections by the Environmental Representative was also used. The focus was on construction phase requirements.

The audit found excellent compliance with the project's environmental management plans. Works are being carried out to a high level of conformance with the management strategies and measures detailed in the management plans. No new non-compliances were found during the current audit.

Many issues raised during previous audits were not addressed prior to this audit. Several of these have been closed by the auditor as they are considered no longer relevant given that the works on site are winding down. However, a number have been raised to a higher status as these remain of concern to the auditor.

One (1) Corrective Action Request and three (3) Observations of Concern are raised.

Signed:  **Lead Auditor**	**Date: 30/3/12**

Table of contents

1. REPORT SUMMARY 5
1.1 INTRODUCTION 5
1.2 SCOPE OF AUDIT 5
1.3 SUMMARY OF CORRECTIVE ACTIONS 5
1.4 SUMMARY OF OBSERVATIONS OF CONCERN 6
1.5 SUMMARY OF OPPORTUNTIES FOR IMPROVEMENT 6
2 AUDIT PROCESS 7
2.1 OPENING MEETING 7
2.2 CLOSING MEETING 7
2.3 SITE INSPECTION 7
2.4 DESIGNATED FOLLOW-UP 7
2.5 PREVIOUS ENVIRONMENTAL AUDIT 7
3 DETAILS OF AUDIT FINDINGS 8
3.1 PREVIOUS AUDITS 8
3.2 COMMUNITY ENGAGEMENT AND STAKEHOLDER MANAGEMENT PLAN 11
3.3 WASTE MANAGEMENT PLAN 11
3.4 GENERAL – INTERNAL AUDITING 12
4 ATTACHMENTS 13

1. REPORT SUMMARY

1.1 INTRODUCTION

This audit represents the fifth (5th) independent environmental representative audit conducted of the M2G project to date.

At the time of the audit, the following works were being undertaken:

- Pipeline construction under the Monaro Highway
- Detailed civil works at the Mini-hydro
- Detailed building works on the High Lift Pump Station
- Cleanup from recent flooding at the Low Lift Pump Station
- Pipeline rehabilitation including topsoil preparation and sowing

1.2 SCOPE OF AUDIT

The audit scope for this audit was the implementation of Construction Environmental Management Plan, the relevant Subplans and the relevant Environmental Work Method Statements. The following plans were audited:

- Construction Environmental Management Plan (January 2012)
- Aquatic Ecology Management Plan (February 2012)
- Terrestrial Ecology Management Plan (January 2012)
- Landscape Rehabilitation Management Plan – Appendix D (January 2012)
- Soil and Water Management Plan (February 2012)
- Noise and Vibration Management Plan (January 2012)
- Waste Management Plan (March 2012 (Draft for Signoff))
- Community Engagement and Stakeholder Management Plan (July 2011)
- Environmental Work Method Statements

The audit covered all operations of the project undertaken to date.

1.3 SUMMARY OF CORRECTIVE ACTIONS

The following Corrective Actions Request(s) (CAR) were identified and explained to BWA during the audit Closing Meeting. They are considered to be deficiencies in meeting specified requirements.

CAR No.	Section of Report	Details
1	3.1	The EPA have not been asked to endorse the qualifications of any staff undertaking noise monitoring.

1.4 SUMMARY OF OBSERVATIONS OF CONCERN

The following Observations of Concern (OoC) were identified and explained to BWA during the audit Closing Meeting. They are considered to be deficiencies in meeting specified requirements.

OoC No.	Section of Report	Details
1	3.1	Driver behaviour training/awareness.
2	3.1	Documents not present on website.
3	3.1	Internal Audit Reports not sufficiently documenting the audit process.

1.5 SUMMARY OF OPPORTUNTIES FOR IMPROVEMENT

No Opportunities for Improvement (OfI) were identified during the audit.

2 AUDIT PROCESS

2.1 OPENING MEETING

An informal opening meeting was held on the morning of the 20th March, attended by John Turville, Brigid McCarthy and Peter Sheehan.

2.2 CLOSING MEETING

A closing meeting was held in the afternoon of the 21st March, attended by John Turville.

2.3 SITE INSPECTION

A site inspection was conducted on both the 20th and 21st of March. In attendance were John Turville, Peter Sheehan, Brigid McCarthy, representatives from the ACT EPA and various BWA staff. Site evidence gathered from previous inspections undertaken by the Environmental Representative was also used in completing this audit.

2.4 DESIGNATED FOLLOW-UP

A follow-up of the audit findings will be managed by the M2G Land and Compliance Manager to verify the completion of all corrective actions. The next IER Audit will be conducted in 3 months.

2.5 PREVIOUS ENVIRONMENTAL AUDIT

A review of the recommendations from the previous IER audits conducted in June, September and December 2011 was undertaken.

3 DETAILS OF AUDIT FINDINGS

This section details the findings of the audit report. It only details those findings requiring action. For complete details of the findings of the Audit, refer to the completed Audit Protocol contained in Appendix A.

3.1 PREVIOUS AUDITS

CONDITIONS OF APPROVAL AUDIT – JUNE 2011

An audit of compliance against the projects Conditions of Approval (NSW, ACT and Commonwealth) was undertaken by the ER in June 2011. The results are documented in an audit report (**ngh**environmental June 2011).

Table 3-1: Summary of Audit Status (June 2011)

No	Details	Status	Comments
Corrective Action Requests (CARs)			
None raised.			
Observations of Concern (OOC)			
1	Audit reports and reports on compliance were not present on the website.	Closed	Files have been uploaded to the public website.
2	PCL TAMS has not endorsed the EWMS's being prepared by BWA. Brett McNamara, Parks Conservation Service (PCS) has not been followed up with regards to the recent EWMS's being prepared.	Closed	BWA have corresponded with PCS and submitted several EWMS's for their information.
Opportunities for Improvement (OFIs)			
1	A robust system for ensuring water is not taken from Burra Creek for construction activities unless there is visible flow in the Creek is not in place.	Closed	Form updated. Toolbox talk held. CEMP updated with correct forms.
2	The EPA should be asked to endorse Peter Sheehan's qualifications with regards to noise measuring.	Open	Not actioned. Raised as an OOC in December 2011 Audit and a CAR in the current audit.

CEMP IMPLEMENTATION AUDIT – SEPTEMBER 2011

Table 3-2 identifies the findings of the September 2011 CEMP audit, and the status of these findings at the time of the current audit.

Table 3-2: Status of Audit Findings (September 2011)

No	Details	Status	Comments
Corrective Action Requests (CARs)			

No	Details	Status	Comments
None raised.			
Observations of Concern (OOC)			
1	Waste Register is confusing, not controlled and poorly detailed.	Closed	Reference to the Waste Register was removed from the recent review of the WMP. Instead, Lotus Notes records will be used as a register of waste disposal.
Opportunities for Improvement (OFIs)			
1	SWMP and EWMS's could be updated/improved to better reflect the record keeping being undertaken for soil and water management.	Closed	Whilst not addressed in the EWMS, limited earthworks are expected from now on and the issue is no longer relevant.
2	Contingency planning for waterway crossings	Closed	Whilst not addressed in the EWMS, no further waterway crossing works are expected and the issue is no longer relevant.
3	EWMS improvements to include more waste management measures/strategies	Closed	See comments in Section 3.3 of this Report.
4	Signage of bins at compounds	Closed	Signage has improved
5	The waste tracking system could be improved to better address the targets contained in Tables 6.3 and 6.4 of the WMP.	Closed	See comments in Section 3.3 of this Report.
6	The WMP could be updated to reflect actual practices in relation to external inspection findings.	Closed	Whilst this section of the WMP was not updated in the March 2012 review of the WMP, it is clear in the CEMP that SQE Reports would be used as the primary record of documenting environmental issues.
7	Internal Audit Reports could be improved to better address the requirements of the 'Auditing' sections of the CEMP (generally sections 8 or 9).	Open	Raised as **OOC 03** in the current audit

CONDITIONS OF APPROVAL AUDIT – DECEMBER 2011

An audit of compliance against the projects Conditions of Approval (NSW, ACT and Commonwealth) was undertaken by the ER in December 2011.

Table 3-3: Summary of Audit Status (December 2011)

No	Details	Status	Comments
Corrective Action Requests (CARs)			
None raised.			
Observations of Concern (OOC)			
1	Fire Danger Rating signs have not been installed at the locations committed to in the Bushfire Management Plan (ACT CoA B13 and Table 2.3 of the BMP).	Closed	Due to works ceasing in areas of concern, fire danger signs were not considered necessary anymore.
2	A robust system for ensuring water is not taken from Burra Creek for construction activities unless there is visible flow in the Creek is not in place (NoW Permit Condition 1). This was raised as an Opportunity for Improvement (OFI) in the June 2011 audit.	Closed	Form updated. Toolbox talk held. CEMP updated with correct forms.
3	The ACT EPA should be asked to endorse Peter Sheehan's qualifications with regards to noise measuring. This was raised as an OFI in the June 2011 audit (ACT Environmental Authorisation Condition 18).	Open	Not actioned. Raised as **CAR 01** in the current audit.
Opportunities for Improvement (OFIs)			
1	No records of unauthorised out of hours work on (8/12/11) were maintained. It is recommended a refresher training session be held to remind staff of their obligations to report such events.	Closed	Whilst this was not actioned, no further complaints regarding out of hours works have been received. As works are winding down, this is no longer considered an issue.
2	The 6-monthly Compliance Report has not been uploaded onto the website.	Open	Not actioned. Raised as an **OOC 02** in the current audit.
3	Additional awareness training is suggested to improve BWA driver behaviour on Williamsdale Road and reduce community concerns.	Open	Not actioned. Raised as an **OOC 01** in the current audit. Note, two further complaints regarding road user behaviour were raised since the previous audit.

3.2 COMMUNITY ENGAGEMENT AND STAKEHOLDER MANAGEMENT PLAN

3.2.1 Complaints Management

The previous audit (December 2011) highlighted a number of complaints relating to driver behaviour, particularly along Williamsdale Road. An OFI was raised suggesting additional training/awareness be undertaken to remind staff of their obligations to adhere to road safety rules.

It is apparent that this was not addressed. In light of two recent complaints also related to driving behaviour, it is considered this issue is significant and an Observation of Concern is now raised to address driver behaviour. **Observation of Concern 01.**

3.3 WASTE MANAGEMENT PLAN

The Waste Management Plan was updated in March 2012 (pending formal signoff). The updated plan was reviewed:

1. Against the findings of previous audits, particularly in relation to commitments/strategies and their implementation
2. Against current waste management practices.

It is noted that the Waste Management Plan contains a large number of commitments to reusing, recycling and disposal of waste. It also includes a table of targets for recycling/reuse. In general, as found during previous audits (OFI 5, September 2011 Audit), BWA have not implemented any measures to monitor compliance against these conditions or targets. In addition, BWA have included few specific waste management measures related to the commitments in the WMP on other management system documents, such as EWMS (OFI 3, September 2011 Audit). Notwithstanding this, the following waste management practices have been observed throughout the project:

1. Segregation of construction waste at source. Whilst some deficiencies have been recorded throughout the project in relation to this (eg signage at bins (OFI 4, September 2011 Audit)), segregation has been observed particularly in relation to steel and timber waste.
2. Segregation of office waste is occurring. For example, cardboard boxes are present throughout the site compound for disposal of paper waste. Dedicated paper waste bins are located in the compound. And a dedicated recycling bin is located in the kitchen.
3. The contractor selected for the collection of waste (Theiss), together with the waste management centre (Mugga Lane), separate recyclable from non-recyclable waste and therefore ensure that recyclables in the co-mingled waste stream are being separated.
4. 3rd party audits, by BWA, of the Mugga Lane waste management centre, have occurred, to verify separation of co-mingled waste is occurring.
5. Spoil, rock and other VENM waste from the construction works are being managed separately with extensive record keeping and tracking occurring. Reuse options for excess spoil/rock are being actively sought.
6. Topsoil reuse is highly efficient across the project.

Overall, waste management on the project is considered to be of a very high standard. As the project generates very little waste which poses an environmental risk (eg hazardous waste, liquid waste), the management regime adopted is considered to be adequate for the risks posed.

Therefore, whilst improvements could be made to the system documentation and the tracking/recording of waste to demonstrate compliance with the documentation, the waste management practices adopted are adequately addressing the risks on the site.

3.4 GENERAL – INTERNAL AUDITING

The previous audit made comment on the documentation of internal audits. The management system lists a number of key issues which internal audits are required to review. BWA use the Internal Audit Report form, which does not prompt for the range of issues listed in the management system. An OFI was raised in the September 2011 audit.

This audit reviewed the OFI raised and the audit report template. As a result, the OFI will be raised to a OOC. Internal auditing is a key component of compliance management and quality assurance. Whilst internal audits are being conducted regularly across a broad range of activities covering many environmental issues, the reporting of these audits is not in compliance with the management system. As a result, compliance verification, and the associated assurances of quality management to the client, cannot be demonstrated through the internal audit process. **Observation of Concern 03**

4 ATTACHMENTS

Attachment A Completed Audit Protocol

N/A - Not audited or not applicable to the current stage of the works
PC - Compliance assessed at previous audit
Yes - Compliance Achieved

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
AE1	Aquatic Ecology Management Plan	Prior to the commencement of construction activities, arrange an inspection of all habitat to be disturbed (using a qualified ecological specialist). Any fauna encountered during this pre-clearance survey should be removed if possible, or its shelter/burrow site clearly marked so that an attempt can be made a later/more suitable time to remove the fauna. All locations that need to be dewatered must be cleared of fauna with fauna to be relocated immediately upstream of the work site or to an appropriate area predetermined by the ecologist.	PC	
AE2	Aquatic Ecology Management Plan	Iconic and listed threatened species to be specifically targeted during fauna pre-clearance surveys and is to include the following: Platypus Prior to construction, undertake Inspection of river and creek banks within the construction footprint for Platypus burrow entrances including nocturnal spotlighting and dusk surveys to detect presence of Platypus in the vicinity of the construction site. If burrows are located, careful excavation in small scoops with an un-toothed bucket is to be undertaken, in case a lactating female and/or dependent young are present. Where appropriate, arrangements for the transfer of any dependent Platypus young to an establishment with established protocols for rearing platypus young (e.g. Taronga Zoo, Sydney).Â Any adults found in burrow to be left to return to the stream or to be captured and released, depending on the proximity to the construction site and the assessment of the ecologist . Murray River Crayfish Regular inspections of sediment controls, including the Coffer Dam and Silt Curtains to be undertaken to ensure sediment is not escaping and that turbidity in the river is maintained at acceptable levels The Environmental Officer is to be present during dewatering of the coffer dam to capture and release any	PC	
AE3	Aquatic Ecology Management Plan	During any near stream works such as trenching or excavating, water quality will be protected under the construction environmental management plan, including suitably designed and maintained sediment controls (detailed in ESCPs) designed to cope with a greater than average rainfall and/or flow event and regularly inspected and maintained throughout the construction and rehabilitation phase Mesh netting will not be used as part of the sediment and erosion control measures as it has the ability to trap, kill and/or injure aquatic fauna that may try to pass through	Yes.	Water Quality Monitoring Reports 15/3, 14/3, 25/2, 24/2. No mesh netting being used near streams
AE4	Aquatic Ecology Management Plan	Avoid undertaking excavation or other works in or near the Murrumbidgee River or Burra Creek during periods of actual or predicted heavy rain or higher than average flows as per the requirements of the SWMP	Yes. However, excavations had occurred prior to the recent heavy rainfall. The flooding had affected the works area.	ER Inspections. BWA Correspondence and images.
AE5	Aquatic Ecology Management Plan	Cease work immediately if any previously unknown threatened flora or fauna species are encountered and consult the Ecologist with regards to the actions to be taken Refer to the procedures in Section 5.4 of this document for summary information on how rescued fauna are to be treated PCL, RSPCA, Wildcare or WIRES would be consulted in relation to injured animals.	Yes. None recorded to date.	Interview B. McCarthy
AE6	Aquatic Ecology Management Plan	Water will be extracted from the Murrumbidgee River for construction purposes (predominantly for dust suppression). Whenever the water is required for use within the Burra Creek / Googong catchment (i.e. east of Gibraltar Range), the water must be filtered (at the source) to prevent the potential transfer of pest species between catchments This will involve the use of a fixed and robust filter system to be placed over the intake pipe when taking water to prevent the potential intake of eggs or juvenile fish of pest species. Construction staff will undertake training to ensure that they are aware of the requirements on this and other ecological issues subject to potential construction impacts.	Yes. Signage has been installed. Water carts are not permitted to pass from Murrumbidgee catchment into Burra Creek catchment. Water for hydrostatic testing is adhering to the same rules.	ER Inspections
AE7	Aquatic Ecology Management Plan	In the event of high flows/rainfall there is the possibility of an overflow of water into the Coffer Dams which may then have the potential to accumulate silt in the base of structure. During occasional maintenance operations this silt may need to be removed in accordance with the EWMS 05 Dewatering. Refer to the SWMP for more information on this strategy.	Yes. Two overflow events have occurred, in Feb and Mar 2012. Cleanup from the March 2012 event was occurring at the time of the audit. Discharge was occurring in accordance with EWMS 005 as modified by ACT EPA correspondence 16/3/12	Audit Inspection. Water Quality Monitoring records. Correspondence with ACT EPA.
AE8	Aquatic Ecology Management Plan	Any waters extracted from the proposed coffer dams must be certified clean from contamination (oils, spills) associated with the construction before release back into the Murrumbidgee River or Burra Creek This applies to the initial dewatering of the Coffer Dams This activity is to be undertaken under the guidance of the SWMP. Dewatering will be undertaken in accordance with EWMS.05 Dewatering.	Yes. Discharges are being monitored for pH and turbidity. Automatic dosing for both is occurring. There was one incident which resulted in an ACT EPA Infringement Notice being issued.	ER Inspections. ACT EPA correspondence
AE9	Aquatic Ecology Management Plan	Turbidity controls to ensure water quality standards comply with the relevant guideline/agreed standards as per the requirements of the SWMP.	Dewatering discharge limits / testing.	Water Quality Monitoring Reports 15/3, 14/3, 25/2, 24/2.
AE10	Aquatic Ecology Management Plan	Stockpiles will be located away from the Murrumbidgee River and Burra Creek Approvals from relevant agencies will be gained prior to the disposal and placement of soil material.	No stockpiles present near river or creek	ER Inspections
AE11	Aquatic Ecology Management Plan	Erosion and sediment control measures will be implemented according to site specific Erosion and Sediment Control Plans (ESCPs) for works adjacent to waterways	ESCP's implemented. TREES inspections are being undertaken.	TREES reports, ER inspections

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
AE12	Aquatic Ecology Management Plan	Disturbed areas will be rehabilitated and/or landscaped as soon as practical, through a progressive landscaping regime to ensure stabilisation of bare areas and to take advantage of optimal growing conditions This will be undertaken in accordance with the approved Landscape Rehabilitation Management Plan (LRMP).	Yes. Progressive rehabilitation has occurred throughout hte project in accordance with the Landscape Rehabilitation Plan. The rehabilitation has been largely successful.	ER Inspections.
AE13	Aquatic Ecology Management Plan	A waste management plan (WMP) has been prepared and will be implemented to avoid potential contamination of waterbodies through inappropriate storage and/or stockpiling of construction waste material Key strategies of the WMP will be to ensure that all construction waste material is stored properly and located well away from any watercourses The WMP will provide management strategies for the handling of chemicals and other hazardous construction materials and to detail the immediate action to be undertaken for any spills	See WMP	
AE14	Aquatic Ecology Management Plan	All stream bed and banks will be reinstated and revegetated with appropriate (locally occurring) species to ensure long term bank stability	Yes (part). Burra Creek has been rehabilitated and rock-lined. To date no planting has occurred.	ER Inspections.
AE15	Aquatic Ecology Management Plan	Rehabilitation of aquatic ecology impacted by pipeline construction at waterway crossings will be undertaken as soon as practical following the completion of construction (refer to the LRMP for further details)	Yes (part). Waterway crossing in NSW was rehabilitated. No planting has yet occurred.	ER Inspections.
AE16	Aquatic Ecology Management Plan	Ensure fuels and chemicals are bunded and stored appropriately on site in accordance with ACT EPA and NSW DECCW guidelines.	Yes. General compliance with fuel storage is being observed throughout the project.	ER Inspections
AE17	Aquatic Ecology Management Plan	Monitor rehabilitation activities in accordance with the objectives stated in the approved Landscape Rehabilitation Management Plan (LRMP)	See LRMP	
S1	Soil & Water Management Plan	Prepare progressive ESCPs for all impacted areas that comply with : Soils and Construction Volume 1, 4th Edition (Landcom) March 2004; Managing Urban Stormwater: Soils and Construction, Volume 2C: Unsealed Roads (DECC, 2008); Environmental Protection Guidelines for Construction and Land Development in the ACT (EPA, 2007) Relevant EWMSs (eg. Stockpiling)	Yes. ESCP's have been prepared for the project. In ACT they have been certified by the EPA. TREES are also assisting in ESC.	ESCP Folder
S2	Soil & Water Management Plan	Works will not commence prior to an ESCP being developed and adequately implemented on site. This may include the development and implementation of EWMSs for high risk activities	Yes. General compliance is being observed across the site. There have been some works which have commenced without adequate ERSED controls in place (eg pipeline W of Laydown 2), however, such issues are rectified quickly.	ER Inspections.
S3	Soil & Water Management Plan	Erosion and sediment controls will be inspected prior to predicted rainfall, prior to long work breaks and after rainfall events tc ensure they are fully functional. If required, initiate any repair or maintenance requirements	Yes	Weekly Inspectio Records
S4	Soil & Water Management Plan	ESCP's will be progressively updated as construction activities change and distributed to relevant site personnel for reference and implementation.	Yes	Revision numbers on ESCPs
S5	Soil & Water Management Plan	Site personnel (in particular ERSED crews) will be provided with training on sound environmental practice and the implementatior of effective Erosion and Sediment Control structures.	Yes.	TREES training record 15/11/11, Toolbox 19/10/11
S6	Soil & Water Management Plan	Specific site personnel will be trained and/or toolboxed on correct coffer dam management prior to any discharge	Yes	Toolbox training 19/3/12, 23/02/12
S7	Soil & Water Management Plan	Site personnel will be kept informed of relevant environmental issues through the implementation of environmental training and toolboxes.	Yes. Environmental toolbox discussions being held several times per month.	Toolbox Records
S8	Soil & Water Management Plan	Clearing and grubbing limits will be established and clearing will be undertaken in a controlled manner to limit areas of disturbance	Yes	TEMP
S9	Soil & Water Management Plan	Silt curtains will be installed in the Murrumbidgee River and Burra Creek around the coffer dams.	Yes. Silt curtain was used in Burra Creek, and has now been removed. Silt curtain was used in Mbidgee River, but removed due to recent flooding.	ER Inspections.
S10	Soil & Water Management Plan	Where possible, felled vegetation will be utilised as erosion and sediment control or placed as Coarse Wood Debris (CWD) for animal habitat.	Yes. Most felled vegetation has been mulched and is being used in erosion and sediment control or in rehabilitation	ER Inspections
S11	Soil & Water Management Plan	Access tracks will be delineated and sign posted to prevent unnecessary ground disturbance.	Yes. ROW is clearly defined along the pipeline route.	ER Inspections
S12	Soil & Water Management Plan	Vehicular access at the bed and banks of the Murrumbidgee River and Burra Creek will be limited.	Yes. No vehicular access at Murrumbidgee. Limited vehicular access at Burra Creek, although some access is possible to get to the discharge structure.	ER Inspections
S13	Soil & Water Management Plan	Control measures will be implemented at site exits to minimise tracking of sediment onto public roads and identified in relevant ESCP	Yes. Stabilised rock access points present at Monaro Highway, Angle Crossing Road and Burra Creek.	ER Inspections
S14	Soil & Water Management Plan	Water carts will be used to suppress dust along the project route.	Yes	ER Inspections

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
S15	Soil & Water Management Plan	Changes to runoff flow paths to the Murrumbidgee River and Burra Creek will remain unchanged or be minimised as much as practical, with disturbed banks of the Murrumbidgee River and Burra Creek to be lined with geotextile to prevent erosion.	Yes. Several changes to runoff into the Murrumbidgee River have occurred to attempt to alleviate erosion, in particular at the top of the Gully down from the HLPS and along Angle Crossing Road down to the Mbidgee causeway. These changes are considered improvements and have been undertaken in consultation with PCS and ACT EPA.	ER Inspections.
S16	Soil & Water Management Plan	The excavation, lower and lay and backfilling of the pipe line will be undertaken progressively.	Yes. The pipeline is being installed progressively.	ER Inspections
S17	Soil & Water Management Plan	Regular inspections will be undertaken, at least weekly, to ensure erosion and sediment control structures are effective (including following significant rain events). If improvements are identified, these will be documented in an inspection report which is to be closed out within designated times frames.	Yes. Weekly and daily inspections being undertaken after rain	Inspection records
S18	Soil & Water Management Plan	Records regarding water quality and functionality of erosion and sediment control devices will be kept, including details of rain events, use of flocculants, sediment removal and dewatering activities. A checklist will be completed prior to when treated water is to be discharged from the coffer dams.	Yes. Regular inspections are being undertaken and recorded on the SQE Inspection / Site Instruction forms. **Note: The SWMP still refers to forms which are not being used. However, given that the record keeping has been sufficient and adequate, the OFI previously raised has been withdrawn.**	Inspection records
S19	Soil & Water Management Plan	The coffer dams will be inspected after each rain event (greater than 20 mls in 24 hours), flocculated and discharged or pumpec into containers, as required. All appropriate recording will be undertaken prior to discharge. Inside the coffer dams will be kept as clean as possible (eg. Machinery, equipment or excess dirt will not be stored in the coffer dams) to minimise flood damage and potential pollution of the River).	Yes. Dewatering is occurring and includes testing for pH and turbidity. Records have been maintained.	Inspections, water quality monitoring records and discharge records.
S21	Soil & Water Management Plan	Where appropriate, water from the coffer dams will be utilised for construction purposes, such as compaction and dust suppression.	Yes. Water from the Eductor Discharge 'coffer dam' was being used for dust suppression. However, most of the water collected in the coffer dams on site was being discharged into the river. There is no longer a coffer dam at Burra Creek.	ER Inspections
S22	Soil & Water Management Plan	Stockpiles (Topsoil/ spoil) will be located away from drainage lines, including the Murrumbidgee River and Burra Creek.	Yes	ER Inspections
S23	Soil & Water Management Plan	Sediment fences will be installed below stockpiles to manage erosion, clean water diversion drains constructed upslope of stockpiles where there is medium to large catchment upslope and stockpiles will be stabilised as soon as practical.	Yes. Stockpiles remain protected and diversion drains remain in place where appropriate.	ER Inspections.
S24	Soil & Water Management Plan	Progressive rehabilitation will occur during construction activities to stabilise exposed areas and minimise erosion potential.	Yes	ER Inspections
S25	Soil & Water Management Plan	Records regarding water quality and functionality of erosion and sediment control devices will be kept, including details of rain events, use of flocculants, discharge, sediment removal and dewatering activities with controls updated if ineffective.	Yes	See s17 and s18
S26	Soil & Water Management Plan	A coffer dam checklist will be completed whenever treated water is to be discharged from the coffer dams		
S27	Soil & Water Management Plan	All work in or adjacent to watercourses must be undertaken in compliance with EWMS Working in Watercourse areas EN EWMS09.	PC.	
S28	Soil & Water Management Plan	All temporary crossings must be undertaken in compliance with EWMS Temporary Waterway Crossings General EN-EWMS04 and Removal of Temporary Crossings EWMS07	N/A. No waterway crossing works were occurring at the time of the audit.	
S29	Soil & Water Management Plan	All temporary diversions of waterways must be undertaken in compliance with EWMS Temporary Waterway Diversion EN-CMS06	N/A. No temporary waterway diversions were present at the time of the audit.	
S30	Soil & Water Management Plan	All installations of temporary water crossings must be undertaken in compliance with EWMS Temporary Waterway Crossings - general EN-EWMS04	Yes	Audit inspection
S31	Soil & Water Management Plan	Waterway crossings will not be constructed during periods of heavy rain and flooding	N/A	
S32	Soil & Water Management Plan	A contingency plan will be implemented if heavy rain and/ or flooding occur during the installation of a temporary waterway crossing.	N/A Contingeny plan not documented. However, as pipeline works have nearly ceased, and waterway crossings are nearly complete, the OFI is no longer relevant	Interview J. Turville
S33	Soil & Water Management Plan	A landscape rehabilitation program would be instigated immediately following construction utilising appropriate stabilisation products and species endemic to the area Restoration may also involve the provision of in-stream habitat features such as riffles, pools and snags.	Yes. Progressive rehabilitation has occurred throughout hte project in accordance with the Landscape Rehabilitation Plan.	ER Inspections
S34	Soil & Water Management Plan	Staff will be trained through site inductions and tool box talks in relation to management of wastewater, the potential impact on water ways and made aware of their responsibilities and penalties under the ACT Environment Protection Act (1997) and the NSW Protection of the Environment Operations Act (1997) in relation to water pollution.	Yes. Specific ERSED training has been provided. Toolbox talks on waterway crossings have been undertaken.	Toolbox records

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
S35	Soil & Water Management Plan	Unplanned wastewater discharges will be reported to the Environmental Manager who will notify Regulatory Authorities if required.	Yes. Whilst no evidence of unplanned discharges was cited, exceedences in discharge levels has occurred and resulted in ACT EPA infringement notice being issued.	ER Inspections
S36	Soil & Water Management Plan	Wastewater from site amenities will be treated by an approved treatment system onsite or removed by a licensed contractor to an appropriate disposal facility with the approval of EPA, PCL and/ or DECCW.	Yes. Coffer dam dewatering is being treated prior to discharge	Discharge records
S37	Soil & Water Management Plan	Discharges from the coffer dams will be undertaken in compliance with EWMS Coffer Dam Management	Yes. A review of EWMS 005 was undertaken and compliance with current dewatering was found.	ER Inspections
S38	Soil & Water Management Plan	Hydrostatic pressure testing will occur progressively	Yes. Hydrostatic testing has been occurring progressively.	ER Inspections
S39	Soil & Water Management Plan	Water collected in excavations, the pipeline trench or low points on site will be pumped to containers, used on site for dust suppression or be managed following the EWMS Dewatering.	Yes	ER Inspections, Water Discharge Records
S40	Soil & Water Management Plan	Concreting and curing operations will be undertaken in compliance with EWMS Using curing compounds, and other relevant EWMSs, eg EWMS Concrete Management	N/A	
S41	Soil & Water Management Plan	Concrete washout areas/pits will be adequately sized, located away from drainage lines and waterways and maintained regularly Activities will undertaken in compliance with EWMS Concrete Management	Yes. Concrete washout at HLPS, LLPS and the Mini Hydro comply with EWMS	ER Inspections
S42	Soil & Water Management Plan	Where possible opportunities for water reuse/ recycling will be initiatec	N/A	
S43	Soil & Water Management Plan	Water captured in bunded areas will be assessed for contamination prior to discharge. Contamination will be removed using appropriate absorbent material and disposed of in a licensed waste management facility.	Yes.	Water Discharge Records
S44	Soil & Water Management Plan	Construct the coffer dams in accordance with EWMS Construction of Coffer Dams and specific ESCP	N/A	
S45	Soil & Water Management Plan	Manage the coffer dams in accordance with EWMS Coffer Dam Management EN-CMS05.	Yes - see notes on dewatering above	
S46	Soil & Water Management Plan	Where appropriate, water from the coffer dams will be utilised for construction purposes, such as compaction and dust suppression	Yes - see notes on dust suppression above	
S47	Soil & Water Management Plan	Records regarding quantity of extracted water, water quality and functionality of erosion and sediment control devices will be kept, including details of rain events, use of flocculants, discharge, sediment removal and dewatering activities.	Yes	Water quality and discharge records
S48	Soil & Water Management Plan	A coffer dam checklist will be completed whenever treated water is to be discharged from the coffer dams.	Yes. Manual checks are being undertaken as well as continuous data logging from the automatic dosing system. Recent discharges have been into Sediment Trap 2.	Water Quality Records. Weekly EPA Reports
S49	Soil & Water Management Plan	Site personnel undergo training on appropriate spill management and emergency response procedures	PC	
S50	Soil & Water Management Plan	Works involving the use of chemicals, dangerous goods or other potential contaminants, will be planned and implemented to minimise the possibility of spillage	N/A	
S51	Soil & Water Management Plan	The use and storage of chemicals and dangerous goods will be strictly in accordance with relevant legislation, manufacturers instructions, MSDS and the relevant Safe Work Method Statements	PC	
S52	Soil & Water Management Plan	Adequate quantities of emergency response materials such as oil spill kits, absorbent materials, sand bags, flocculating agents and pH buffer solutions will be readily available and kept in designated compounds. Hydrocarbon spill kits will also be kept in emergency response vehicles, Superintendents vehicles, Environmental Officers vehicle and other vehicles that carry substantial quantities of chemicals (e.g. subcontractors).	Yes. Spill kits are present at site compounds and were well stocked at time of audit.	Inspection
S53	Soil & Water Management Plan	Temporary bunding will be provided for all refuelling or maintenance of plant and equipment or any other activity onsite that could result in spillage of a chemical, fuel or lubricant (especially where the activity is undertaken in a location with direct drainage to a waterway or environmentally sensitive area).	N/A	
S54	Soil & Water Management Plan	Where chemical drums (greater than 20 litres) are removed from bunded areas, they will be placed in temporary bunds and returned to the bunded area by the end of the day.	PC	
S55	Soil & Water Management Plan	Machinery, pumps and other equipment will be checked regularly for excessive wear and leaks, and if required, repaired promptly	N/A	
S56	Soil & Water Management Plan	Permanent storage of fuels and chemicals will only occur within impervious bunded areas with a capacity of at least 120% of the total capacity of the largest vessel stored and roofed with 10° overhang.	Yes	ER Inspections
S57	Soil & Water Management Plan	Bunded areas will be located in an area at least 30m from a Riparian Management Zone or Exclusion Zone as defined in the ACT Forest Code of Practice.	Yes	ER Inspections
S58	Soil & Water Management Plan	Water captured in a bunded area will be monitored and drained (if uncontaminated) after each rain event to ensure bund capacity is maintained at all times. If contamination is evident the contaminant will be absorbed using remediation products (absorbent pads, etc) and disposed to an appropriate waste management facility.	Yes	ER Inspections
S59	Soil & Water Management Plan	Records of water quality checks, discharges and any remedial actions taken will be recorded	Yes	Water quality records
S60	Soil & Water Management Plan	Where safe to do so, containment measures such as sandbags, booms, earth bunds or cut drains will be installed to capture and retain spilled material and prevent it from leaving site, entering any watercourse or impacting on vegetation stands.	N/A	
S61	Soil & Water Management Plan	Spill kits will be maintained in emergency response vehicles and at identified site facilities where significants spills may occur (e.g. workshops)	See s52	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
S62	Soil & Water Management Plan	No refuelling will occur within 30m of an riparian management zone or in a location where fuel may enter a waterbody.	See s57	
S63	Soil & Water Management Plan	Establish a program for the implementation of revegetation and topsoiling works along the site and in/adjacent to water courses (Landscape Rehabilitation Management Plan).	Yes. LRMP is being implemented across the site progressively, including within waterways	ER Inspections
S64	Soil & Water Management Plan	Undertake progressive reshaping and rehabilitation works in conjunction with the completion of bulk excavation and land shaping, and in accordance with the Landscape Rehabilitation Management Plan	Yes. LRMP is being implemented across the site progressively, including within waterways	ER Inspections.
S65	Soil & Water Management Plan	Graded banks on a 2-3% grade will be constructed across the easement or mulched rip lines installed where the easement is perpendicular to the existing ground slope to reduce the potential for erosion The spacing between the graded banks/ mulched rip lines will be determined by the gradient of the existing topography and range from 15m to 40m apart. The graded banks will also be located so as to outlet onto a stable surface.	Yes. Rollover banks are being used during works, prior to re-topsoiling.	ER Inspections
S66	Soil & Water Management Plan	Topsoil will be reused in areas as close as possible to its source location to maximise the benefits available from the existing seed bank.	Yes.	ER Inspections
S67	Soil & Water Management Plan	Vegetated filter traps will be established or other measures implemented quickly where possible to minimise erosion and offsite sedimentation.	Yes. A range of measures have been adopted to minimise erosion hazard.	ER Inspections
S68	Soil & Water Management Plan	Weed management strategies will be implemented in newly rehabilitated areas to control weed infestation and propagation	N/A	
S69	Soil & Water Management Plan	Appropriate endemic and native species will be used wherever possible particularly those that will provide future habitat for endangered fauna	Yes. Native groundcover species are being used in parts of the rehabilitation program.	ER Inspections
S70	Soil & Water Management Plan	A program of seed collection will be implemented to bolster endemic and native seed stores which can be later used for final rehabilitation works	PC	
S71	Soil & Water Management Plan	Felled vegetation may be positioned in a manner that prevents erosion (i.e. positioned in windrows along contour banks) or can be mulched to assist in erosion control and rehabilitation works	PC	
S72	Soil & Water Management Plan	Rehabilitation of waterway crossings or areas in and adjacent to the Murrumbidgee River or Burra Creek will occur as soon as works are complete in that area.	Yes. Waterway crossings are being rehabilitated progressively. Burra Creek has been rehabilitated following works.	ER Inspections
A1	Noise & Vibration Management Plan	Ensure strict compliance with construction hours [refer section 2.6 of NVMP]. This requirement to be communicated to all Bulk Water Alliance staff through inductions and toolbox meetings. This will mean that no plant or machinery is to be started ("warmed up") prior to the approved start time.	Yes. See Audit Report 4 for details regarding an out-of-hours works incident.	Complaints Records.
A2	Noise & Vibration Management Plan	Provide an induction to site personnel (including sub-contractors) addressing the requirements of this NVMP and their responsibilities with regard to noise and vibration management.	PC	
A3	Noise & Vibration Management Plan	Submit reports to the BWA (and relevant State or Territory Regulatory Authorities when requested) outlining environmental performance and compliance with this NVMP.	Noise Report submitted to ACT EPA monthly	Monthly Report to ACT EPA
A4	Noise & Vibration Management Plan	Prepare a Blast Management Strategy to the satisfaction of the relevant Regulatory Authority (ACT EPA / NSW DECCW) ensuring blasting times are strictly adhered to and blasting criteria are met.	Yes. Blast Management Strategies and Plans have been prepared for the blast activities to date	Interview B. McCarthy
A5	Noise & Vibration Management Plan	Provide continuous education of supervisors, operators and sub-contractors on the need to minimise noise through Toolbox meetings and on-site training.	No toolbox talks on noise have been held since the time of the last audit. Note that at the time of the current audit, works within proximity to residences had nearly been completed.	Toolbox Records
A6	Noise & Vibration Management Plan	Select appropriate sized rock excavation equipment and design procedures for their use in order to comply with vibration emission limits.	N/A	
A7	Noise & Vibration Management Plan	Ensure equipment is operated in the correct manner including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down equipment not in use.	Yes.	ER Inspections
A8	Noise & Vibration Management Plan	Position plant on site to reduce emission of noise to the surrounding area. i.e. away from potentially effected receivers.	N/A	
A9	Noise & Vibration Management Plan	Select site access points and haul road locations away from sensitive receivers.	PC	
A10	Noise & Vibration Management Plan	Regularly grade access roads to reduce noise from trucks rattling.	Council have undertaken works on Williamsdale Road and TAMS had graded Angle Crossing Road. Note, the condition of the latter is still poor due to heavy rainfall.	Audit Inspection.
A11	Noise & Vibration Management Plan	Ensure equipment and diesel combustion engines (including delivery and disposal trucks) are turned off when not in use.	N/A	
A12	Noise & Vibration Management Plan	Ensure machinery used is appropriately sized to prevent overloading and associated over-revving.	N/A	
A13	Noise & Vibration Management Plan	Where possible, locate construction equipment in a position that provides the most acoustic shielding from buildings and topography.	N/A	
A14	Noise & Vibration Management Plan	Ensure traffic movement is kept to a minimum, e.g. ensure trucks are fully loaded so that the volume of each delivery is maximised and the number of trips is therefore minimised.	N/A	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
A15	Noise & Vibration Management Plan	Ensure plant and equipment is adequately maintained.	N/A	
A16	Noise & Vibration Management Plan	Undertake monitoring of noise levels from a selection of fixed and mobile plant every six months and ensure that levels are not degraded by lack of maintenance and comply with respective Australian Standards (Refer AS 2436 -1981).	PC	
A17	Noise & Vibration Management Plan	Undertake monthly monitoring of construction noise levels at sensitive receivers to check for compliance. Prepare monthly monitoring summaries for submission to the Bulk Water Alliance and relevant Regulatory Authorities when requested.	Yes. Monitoring is occurring regularly.	Noise Monitoring Records
A18	Noise & Vibration Management Plan	All monitoring results will be reported to the satisfaction of the BWA. A monitoring summary report will be submitted to the BWA and records will be maintained for submission to relevant Regulatory Authorities upon request.	Monthly monitoring summaries are prepared.	Monthly Noise Monitoring Summary Reports
A19	Noise & Vibration Management Plan	Design blasts to not exceed the ANZECC limits or, alternatively, develop other mitigation measures that mitigate the potential impacts (negotiate with the potentially affected residents)	PC	
A20	Noise & Vibration Management Plan	Stabilise access tracks with gravel or similar, all weather material and position access points away from sensitive receivers	Yes	ER Inspections
A21	Noise & Vibration Management Plan	Develop Construction Method Statement (CMS) to assist in minimising noise and vibration generating activities. This CMS to be toolboxed to construction staff regularly.	Yes. EWMS's consider noise mitigation. Toolboxes have occurred regularly,	EWMS. Toolbox records
A22	Noise & Vibration Management Plan	Construction hours and scheduling Where feasible and reasonable, noisy activity will be carried out in the least sensitive time periods (to be determined through community consultation)	Yes. No new noise complaints have been received since December 2011	Complaints Records.
A23	Noise & Vibration Management Plan	Construction respite period Noisy activities will be carried out in blocks of time (e.g. all rock hammer operators have lunch break at the same time)	N/A	
A24	Noise & Vibration Management Plan	Equipment selection Where feasible and reasonable, use quieter construction methods (e.g. choice of plant / equipment or methods). E.g. Enclosing noisy compressors or pumps and fitting silencers to any pressure operated equipment and engines, reducing need for rock hammers by blast design or rock splitters.	N/A	
A25	Noise & Vibration Management Plan	Maximum noise levels Plant and equipment will have noise levels monitored and checked. Ensure maintenance of machinery is carried out regularly. Vehicles found to produce excessive noise compared to normal industry expectations should be stood down until repairs or modifications can be made.	PC	
A26	Noise & Vibration Management Plan	Use and siting of plant Noise emitting plant to be directed away from sensitive receivers. Shielding from terrain and objects should be considered in equipment location. Simultaneous operation of noisy plant within discernable range of sensitive receiver is to be avoided.	N/A	
A27	Noise & Vibration Management Plan	Plan worksites and activities to minimise noise and vibration Plan traffic flow, parking and loading/unloading areas to minimize reversing movements within the site (min. reverse beepers)	N/A	
A28	Noise & Vibration Management Plan	Minimise disturbance arising from delivery of goods to construction sites Loading and unloading of materials/deliveries is to occur as far as possible away from sensitive receivers. Select site access points as far as possible away from sensitive receivers.	N/A	
A29	Noise & Vibration Management Plan	L.etterbox drops Project updates provided in letterboxes of sensitive receivers.	Yes. Regular communication with community is occurring	Community notices, Construction Updates, SMS and other methods.
A30	Noise & Vibration Management Plan	Individual briefing Visit resident at least 48 hours ahead of potentially disturbing activities.	Yes. Consultation with effected landowner in advance of both 19 and 25 January blasts.	Consultation Records
A31	Noise & Vibration Management Plan	Project specific respite offer When residents are subject to lengthy periods of noise or vibration. The offer could comprise pre-purchased movie tickets, alternative temporary accommodation or similar offer.	N/A. No such impacts have occurred to date.	ER Inspections
A32	Noise & Vibration Management Plan	Specific notifications These notifications are letterbox dropped or hand delivered 7 days ahead of particularly noisy activities. This supports other periodic notifications or to advertise unscheduled works.	N/A	
A33	Noise & Vibration Management Plan	Phone calls Directly notify residents ahead of upcoming noisy activities.	PC	
A34	Noise & Vibration Management Plan	On going Evaluation As the project proceedes, re-evaluation of construction methodology to assess the feasibility and reasonableness of using quieter methods, wherever practicable.	N/A	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
A35	Noise & Vibration Management Plan	The blast charge configuration will be selected by the specialist Blasting Sub-Contractor to minimise impacts on sensitive receivers. Before blasting can commence at a site, critical locations will be identified and appropriate measures taken (e.g. reduction of blast size) to limit overpressure and vibration to acceptable levels.	Yes. Blast monitoring has occurred at sensitive receivers.	
A36	Noise & Vibration Management Plan	All sensitive receivers will be informed of blasting activities, as per the CESM Plan with blasting to be scheduled for a set time and day so that blasting will not occur more than once on any set day. Any alteration from the agreed arrangement will be communicated to nearby residences to avoid any surprises.	Yes. The single sensitive receiver to the 19 and 25 January blasts was notified	Consultation Records
A37	Noise & Vibration Management Plan	A monitoring regime for all blasts will be developed which includes obtaining waveform traces at the three most affected locations.	Yes. Monitoring was undertaken for all blasting.	Blasting records 19/1/12 and 25/1/12.
A38	Noise & Vibration Management Plan	Where airblast overpressure levels are anticipated to exceed ANZECC guidelines, the Bulk Water Alliance will negotiate an arrangement with the potentially affected residential receivers so as to mitigate any adverse impact on amenity.	N/A. No expected exceedences have been identified. An unexpected exceedence occurred in September 2011 - See Audit Report 4.	
A39	Noise & Vibration Management Plan	Consideration will be given to delaying or cancelling the blast under extreme enhancing weather conditions. E.g. Temperature inversion layer	N/A	
NVMP 1	Noise & Vibration Management Plan	S2.7 An EPL is required to be obtained from DECCW. The EPL will detail noise and vibration compliance limits for this part of the project.	PC	
NVMP 2	Noise & Vibration Management Plan	S3.4 When required, additional specialist support will be outsourced to complement noise and vibration management on site. eg Acoustic Specialist, Dilapidation Inspector	Yes. SLR have been engaged to address complaints about vibration (Blinksell property, Oct 2011) and noise monitoring to verify noise criteria (Dec 2011).	SLR Reports
NVMP 4	Noise & Vibration Management Plan	S4.3.2 ...all potentially impacted residents will be informed of the nature of the works, expected noise levels, duration of works and a method of contact.	PC	
NVMP 5	Noise & Vibration Management Plan	S4.3.5 Heavy vehicles attending the site would be restricted, where possible, to between 7:00 am and 6:00 pm to minimise the risk of sleep disturbance. Early morning oversized deliveries may be required on occasion for some of the construction works and would occur outside the recommended construction hours. The mitigation measures detailed in section 6 would be implemented to reduce the impact of sleep disturbance. All drivers would be sensitised to the potential for sleep disturbance on local residents and would be expected to take practical and reasonable measures to minimise the impact during the course of their delivery activities. Residents to be impacted by such activities outside of normal construction hours will be notified as early as possible prior to activity (pending approval from the Department of Planning).	N/A	
NVMP 6	Noise & Vibration Management Plan	S4.3.6 Resident would be informed that the vibration levels are minimal and should not give rise to structural damage.... Residential receivers should only be exposed to intermittent vibration for less than 1 day per event.... Vibration mitigation measures detailed in section 6 would be considered when construction works are within 50 m of residents.	N/A	
NVMP 7	Noise & Vibration Management Plan	S4.3.7 Blasting will be used in areas where hydraulic excavators with hammer attachments are ineffective due to large formations of hard rock. Areas of rock that potentially require blasting have been identified at the following pipeline chainages and areas: • CH387 – CH950; (ACT Lot 0 DP 1654) • CH1892 – CH1985; (ACT Lot 0 DP 1653) • CH6850 – CH6921(NSW Lot 1 & 2 DP1065476) and • Low lift pump station for construction of the base.	Yes. Five blasts to date (2 in NSW, 3 in ACT)	
NVMP 8	Noise & Vibration Management Plan	S4.3.7 Methods to reduce the impact of airblast overpressure are detailed in Section 6 (Environmental Mitigation Measures), though the blast contractor would determine their effectiveness and practicability. Blast monitoring should be undertaken to assess compliance and confirm the predictions. Prior to a blast the parameters are designed and confirmed by an interdependent consultant who will ratify the site constants will not be exceeded.	Yes.	
NVMP 10	Noise & Vibration Management Plan	S6.3 A copy of this NVMP will be made available to potentially affected noise receivers before commencement of works by the CESM Manager. Noise monitoring results will also be made available for the potentially affected receivers upon request.	PC	
NVMP 11	Noise & Vibration Management Plan	S8.1 Inspection. The Environmental Manager and M2G Environmental Manager will undertake monthly inspections of construction activities to ensure compliance with the requirements of the NVMP and the noise control measures identified in Section 5. This will also identify opportunities for improvement in noise management performance. An inspection report would be requested to facilitate follow up of any identified issues. A copy of the report will be distributed to relevant site personnel and a response will be prepared outlining the action taken/proposed within 7 working days. A summary of inspection outcomes will be provided to the Bulk Water Alliance APMT on a monthly basis.	Yes	
NVMP 12	Noise & Vibration Management Plan	S8.2 Monitoring. Noise and vibration monitoring will be undertaken on a monthly basis (unless otherwise specified in ACT Environmental Authorisation or NSW EPL) by a suitably qualified environmental professional. See specific info under headings: Equipment noise, complaints response, construction noise, vibration and blasting monitoring pg 32-33	Yes. Monitoring being undertaken by BWA staff using handheld monitors.	Monitoring Reports and Records

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
NVMP 13	Noise & Vibration Management Plan	S8.3 Auditing. The NVMP will be audited at least annually.	Yes	ER Audits
NVMP 14	Noise & Vibration Management Plan	S8.4 Reporting. Performance reports will be made available to the Bulk Water Alliance on a monthly basis. The reports will summarise: • Monitoring results and comparison with noise objectives; • Complaints (received by the Bulk Water Alliance); • Inspection outcomes; • Community notifications and; • Other relevant issues. Where monitored noise levels exceed the predicted noise levels, feasible and reasonable mitigation measures will be identified and implemented.	N/A	
LR1	Landscape Rehabilitation Management Plan	Pre-construction - Survey of alignment for all elements identifiec · Topsoil and landforms · Drainage · Vegetation type & weeds · Environmentally Sensitive Areas	PC	
LR2	Landscape Rehabilitation Management Plan	Pre-construction - Survey of alignment including cross sections to record existing surface level and contours. This survey will include the locations of rivers, creeks and drainage lines (waterways).	PC	
LR3	Landscape Rehabilitation Management Plan	Pre-construction - Surveys of all rivers and creeks to be encountered along the pipeline route identifying key features such as vegetation, existing erosion and clean water flow paths leading to the creek or drainage line.	PC	
LR4	Landscape Rehabilitation Management Plan	Pre-construction - Undertake relevant flora and fauna surveys including (but not limited to) • Presence of Swainsona recta along the pipeline route • Tagging of trees to be removed and/or retained • Seek expert advice from DECCW (Threatened Species Unit) regarding the translocation of rare and threatened species where applicable • Weed mapping	PC	
LR5	Landscape Rehabilitation Management Plan	Pre-construction - Development of Environmental Work Method Statements (EWMS') to ensure that appropriate mitigation measures will be deployed throughout the construction activities.	PC	
LR6	Landscape Rehabilitation Management Plan	Pre-construction - Obtaining a "Permit to Enter Site" prior to construction commencing – to be issued by the Construction Manager The "Permit to Enter" system outlines the specific approvals, documentation and pre construction activities that must be completed prior to works commencing in an area. This system ensures that the pre-construction activities identified above are complete prior to works commencing.	PC	
LR7	Landscape Rehabilitation Management Plan	Pre-construction - Development of site specific rehabilitation plans in consultation with Councils, landowners, state agencies as well as Project Ecologist, Soil Conservationist and key interest groups such as Friends of Grassland (FoG) and Landcare groups.	PC	
LR8	Landscape Rehabilitation Management Plan	During construction - Protection of public landscape assets	PC	
LR9	Landscape Rehabilitation Management Plan	During construction - Establish vehicles/ plant wash down facilities along the project route.	PC	
LR10	Landscape Rehabilitation Management Plan	During construction - Undertake weed spraying where identified in the Weed Management Strategy two weeks prior to clearing and grubbing commencing.	Yes. Weed spraying was conducted over the pipeline route in accordance with the WMP - see WMP.	
LR11	Landscape Rehabilitation Management Plan	During construction - Ensure that clearing is minimised where possible and works are confined to the approved corridor (constrained and unconstrained areas).	Yes. Works are being confined to the minimum width corridor feasible in most cases.	ER Inspections
LR12	Landscape Rehabilitation Management Plan	During construction - Clearing and stockpiling of site topsoil for reuse during rehabilitation works. Ensure that stockpiles are covered as appropriate and that appropriate erosion and sediment controls are in place to avoid erosion and sediment runoff. Weed infested topsoil will be kept separate from weed free topsoil.	PC	
LR13	Landscape Rehabilitation Management Plan	During construction - Undertake weekly inspections and complete weekly inspection checklist to ensure that areas of disturbance are being minimised and that effective controls are being implemented to minimise environmental impact.	Yes. Weekly inspections being undertaken. Checklists being completed.	Weekly Inspection Checklists
LR14	Landscape Rehabilitation Management Plan	During construction - Ensure backfilled areas are shaped and prepared appropriately for rehabilitation, including mounding of the backfilled pipeline to allow for settlement and the construction of graded banks or mulched rip lines, at predetermined intervals (based on soil type and slope gradient), across the pipeline easement where the pipe line easement is perpendicular to the existing slope.	PC	
LR15	Landscape Rehabilitation Management Plan	During construction - Ongoing liaison with landowners and key stakeholders regarding progress of rehabilitation	Yes.	Inteview J. Turville
LR16	Landscape Rehabilitation Management Plan	During construction - Progressive rehabilitation to be undertaken in accordance with specific Site Environment Plans.	PC	
LR17	Landscape Rehabilitation Management Plan	Post construction - Vehicles will be confined to designated maintenance access tracks within the nominated Right of Way (ROW) if still present.	PC	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
LR18	Landscape Rehabilitation Management Plan	Post construction - Undertake monitoring and maintenance as required on rehabilitated areas to ensure long term stabilisation.	Yes. Monitoring of revegetation has commenced	Audit Inspection.
LR19	Landscape Rehabilitation Management Plan	Post construction - Implement corrective actions where necessary if performance objective is not being achieved. This will include replanting of species which have not survived, weed control, installation of additional controls if erosion is occurring etc.	N/A	
LR20	Landscape Rehabilitation Management Plan	S2.4 A licence to collect native seed may be required by the appointed revegetation contractor should collection of native seed occur on State or Territory land. This licence will be sought prior to undertaking any seed collection activities	PC	
LR21	Landscape Rehabilitation Management Plan	S5.2 - It is recommended that the topsoil immediately above the pipe trench and the haul road (ROW) be scraped to a maximum depth of 100mm (or less depending on topsoil profile) and stockpiled separately for later reinstatement.... An Environmental Work Method Statement (EWMS) for Topsoil Stripping and Stockpiling (BWA-M2G-EN-EWMS-002) has been prepared to specifically manage environmental and rehabilitation related impacts associated with this activity	PC	
LR22	Landscape Rehabilitation Management Plan	Following construction, the depth to which the compaction extends is determined and then a depth just below the compaction zone is cultivated to enable the soil to be opened up enabling greater oxygen intake and water infiltration into the soil profile. The depth will be as shallow as possible to overcome the compaction and ripping up and down steeper slopes will be avoided. The practice is not recommended where sub-soils are dispersible.	PC	
LR23	Landscape Rehabilitation Management Plan	S5.2 - To alleviate problems associated with sodic, dispersive soils, the M2G Construction Manager will incorporate gypsum into the soil profile (primarily subsoil) at the time of backfilling the trench, where required.[refer rates in s 5.2]	No issues have been encountered with sodic soils to date.	
LR24	Landscape Rehabilitation Management Plan	s5.2 - It is important that soil from weed affected areas be used only within those areas. Under no circumstances is top soil from weed affected areas allowed to enter high conservation grassland/woodland areas.	Yes. Topsoil is generally being reused in the area it came from.	
LR25	Landscape Rehabilitation Management Plan	S5.3 Are establishment techniques being implemented in acordance with the processes described in 5.3.1 Non- native areas (Direct seeding, hydromulching) pg 26-27 5.3.2 High conservation value areas (cultivation of soil profile, seed spreading, Air seeding) pg 28-30 5.3.3 Drainage lines (rehab methodology as per table 5.3) pg 31-32 5.3.4 Seed sourcing (native species) p 32 5.3.5 Erosion control p32 5.3.6 Maintenance regime (reinstatement of disturbed areas, weed management, watering reseeding of bare areas, replanting of planted areas) p33 5.3.7 Protection of threstened species, incl refferal of proposed actions re EPBC species to DEWHA. p33	PC	
LR26	Landscape Rehabilitation Management Plan	Are the practices in S 5.4 being followed to improve terrestrial flora and fauna values? P34	PC	
LR27	Landscape Rehabilitation Management Plan	All communication and consultation will be undertaken in accordance with the project Community Engagement and Stakeholder Management (CESM) Plan	See CESM Plan Audit Results	
LR28	Landscape Rehabilitation Management Plan	S7 Are the three main forms of training (site induction, environmental management training, Toolbox training) being implemented as described on pg 37-38?	Yes	Induction, Training and Toolbox Records
LR29	Landscape Rehabilitation Management Plan	S7 Records of all site inductions and on site training will be kept on a database, including details of the training topic(s) presented, participants and training dates. All participants will be required to "sign-off" that they have been informed and understand their environmental obligations at the conclusion of each training session.	Yes	Induction, Training and Toolbox Records
LR30	Landscape Rehabilitation Management Plan	S7 Training will generally be prepared and delivered by the Environmental Officer, or by personnel delegated by the M2G Land and Compliance Manager.	Yes	Induction, Training and Toolbox Records
LR31	Landscape Rehabilitation Management Plan	S8.1 Inspection and Auditing. The implementation of the LRMP will be monitored regularly by Environmental staff in conjunction with the appointed Landscape contractor and M2G construction staff. The appointed sub-contractors engaged to work on the landscape rehabilitation of the pipeline will have to comply with BWA's quality management system as well as specifications for landscape planting and revegetation according to the LRMP. A regular program of monitoring, auditing and review of the LRMP and its implementation, will be carried out in accordance with this LRMP and its specific designs, the CEMP and the M2G specific Quality Management Plan.	PC	
W1	Waste Management Plan	Where possible opportunities for water reuse/ recycling will be initiatec	PC	
W2	Waste Management Plan	Ensure that there is no open burning or incineration on site	PC	
W3	Waste Management Plan	Waste management and minimisation will form part of the induction program	PC	
W4	Waste Management Plan	Environmental Work Method Statements (EWMSs) will include practices to minimise waste generation and to maximise recycling and reuse of materials including rock fill material, concrete, oils, greases, lubricants, sanitary wastes, timber, glass, cleared vegetation and metal.	PC. However, suggested changes have not been made. It is now considered that, given the project is nearing completion, these changes are no longer necessary.	
W5	Waste Management Plan	Segregated waste disposal containers for the collection and recycling/disposal of all waste streams generated during the early works will be provided on-site. Waste disposal containers will have clear signage and instructions for use to avoid cross-contamination.	Signage is still generally missing from waste bins.	
W6	Waste Management Plan	A Waste Management Register of all waste collected for disposal and recycling, including amounts, data and time and details and location of disposal will be maintained at all times.	Lotus Notes records are being used to track waste	WMP, Interview J Turville

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
W7	Waste Management Plan	Prior to disposal of non-recyclable liquid and non-liquid waste, it will be classified based on the DECC Waste Classificatior Guidelines, Part 1: Classifying Waste and *and ACT's Environmental Standards – Assessment & Classification of Liquid and Non-liquid Wastes (2000)*.	Yes. Classification in WMP.	
W8	Waste Management Plan	All waste being transported off site on public roads must be covered.	N/A	
W9	Waste Management Plan	Toilets will be emptied and serviced regularly (pump-out system).	N/A	
W10	Waste Management Plan	The site will be cleared of any litter.	At the time of the audit the site was generally free of litter.	Audit inspection
W11	Waste Management Plan	Topsoil will be stockpiled, stabilised and reused for landscaping (where not infested with weeds). Weeds will be disposed of.	PC	
W12	Waste Management Plan	Storage of all hazardous substances and dangerous goods will be in accordance with MSDS requirements in a bunded area. Solid and hazardous wastes will be contained and separated from inert waste.	PC	
W13	Waste Management Plan	Any material contaminated by spills i.e. fuel, oil, lubricants etc will be stored in a sealed secure container within a bunded area and will be transported to an EPA approved waste disposal site.	PC	
W14	Waste Management Plan	Biodegradable products will be used wherever possible.	PC	
W15	Waste Management Plan	A wastewater collection and treatment system will be provided for all vehicles, plant and equipment maintenance and cleaning areas to prevent the discharge of pollutants to stormwater. Wastewater arising from such activities will be collected and disposed of in accordance with the relevant regulatory authorities guidelines. Water use in office will be metered and reported monthly.	PC	
W16	Waste Management Plan	Truck wash-down facilities will be provided on site in an area designed to contain wastewater	PC	
W17	Waste Management Plan	Regular collection of wastes will ensure air emissions are at a satisfactory level. All waste and wastewater management systems will be regularly inspected and audited.	PC	
W18	Waste Management Plan	Concrete washout pits will be provided and used.	PC	
W19 - W85	Waste Management Plan	Specific waste measuresto be implemented as per Table 6.3	Yes or N/A. These conditions were audited with either compliance noted or N/A noted. A28 - Sheep dip material will be reused on site.	A28 - Interview B. McCarthy.
W86	Waste Management Plan	S6.2.2 Energy Conservation Key strategies adopted to reduce greenhouse gases will be promoted by energy efficient and less greenhouse-intensive work practices and will include the actions outlined in S6.2.2.	Greenhouse Gas emissions are being recorded monthly.	Waste Records
W87	Waste Management Plan	S4.2.7 Sub-contractor monitoring The work of subcontractors will be monitored through the site inspection process detailed in Section 8 of this document. Observations will be made by relevant personnel (listed above) to assess the effectiveness of the environmental protection measures being used by the subcontractors and to determine compliance with the requirements of the WMP. Any non-conformances or improvements identified during these inspections will be documented on an Environmental Maintenance, Observation and Action List for minor non-conformances/improvements or an Environmental Improvement Notice (EIN) for significant non-conformances.	Yes. Subcontractors are being monitored by environment staff, with records kept	SQE Inspection Reports.
W88	Waste Management Plan	A concerted effort will be made by BWA to utilise the spoil onsite rather than dispose of materials off-site. However, this is not always achievable. To assist the BWA to dispose of excess material in an environmentally sustainable manner and in accordance with government agency expectations and licence requirements, a procedure for disposing of this material can be found in Appendix A of this document.	Yes	Spoil Management - Material tracking folder 1053 of 1050.
W89	Waste Management Plan	5.2.2 Disposing of waste in NSW A duly completed and signed notice under section 143(3A) of the POEO Act 1997 ("s.143 Notice") will be received prior to transporting wastes generated by or for the M2G project to a place that is not owned by the BWA or ACTEW and is not a licensed waste facility (the "Waste Site"). This includes waste transported for reuse, recycling, disposal or stockpiling. Waste in this context includes spoil, fill, Virgin Excavated Natural Material ("VENM"), crushed rock, reclaimed asphalt pavement, mulched vegetation, waste concrete, etc.	N/A	
W90	Waste Management Plan	5.2.2 Disposing of waste in NSW Waste will not be transported to the Waste Site unless: • The landholder has been provided with a letter highlighting the need for a "s.143 Notice", your role and the respective roles of the BWA and the landholder in ensuring that the waste is appropriately managed. The letter will be consistent with the template letter in Appendix D with the following documents attached: – A copy of the 'Questions and answers for the landowner/occupier' relating to illegal waste dumping, available from the DECCW website at http://www.environment.nsw.gov.au/waste/s143questions.htm – a "s.143 Notice" for the landholder to complete. The "s.143 Notice" must obtained from DECCW at http://www.environment.nsw.gov.au/resources/waste/notice_s143.pdf • The "s.143 Notice" is completed and signed by the landholder, and the original copy of the signed "s.143 Notice" returned to the M2G site office; and • A copy of the "s.143 Notice" is provided to the transporter of the materials, who will be made aware of the material's classification and the details on the "s.143 Notice".	N/A	
W91	Waste Management Plan	5.2.2 Disposing of waste in NSW The BWA will ensure that the waste is accurately described on the "s.143 Notice" and waste delivery arrangements have been confirmed with the landholder prior to transporting materials to the Waste Site.	N/A	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
W92	Waste Management Plan	S5.2.3 Disposing of spoil in ACT If soil of a quantity greater than 100m3 is to be disposed of and placed on leased land with the ACT, an Environmental Authorisation will need to be obtained prior to importation and placement of the soil material. The Environmental Authorisation will need to be obtained by the party accepting the material and the BWA would need to comply with their own Environmental Authorisation (No. 802) prior to disposal of this spoil material, in particular Schedule 2, Table 7, Waste Management of Environmental Authorisation 802.	N/A	
W93	Waste Management Plan	S5.2.3 Disposing of spoil in ACT Every attempt will be made to recycle/ reuse other insert waste products on site, such as concrete from the demolition of compound foundations or fill materials from the coffer dam. If this is not feasible, the waste will be disposed of at a waste management facility lawfully able to accept such waste.	Yes. Spoil recycling is occurring. Excess rock is being used elsewhere on the project or being made available to PCS for use elsewhere in the ACT.	ER Inspections.
W94	Waste Management Plan	5.2.3 Industrial waste (ACT) or Special waste (NSW). Testing of material suspected to be contaminated in relation to the railway line will occur using an accredited consultant and the amount of contaminated material is estimated to be around 200m3. If determined to be unsuitable the material will be disposed of at a licensed waste facility and transported using a licensed waste transporter. Excavated material removed from this location will be replaced with VENM sourced from either side of the rail reserve as part of the pipeline excavation.	N/A	
W95	Waste Management Plan	5.2.3 Industrial waste (ACT) or Special waste (NSW). Soil testing will be undertaken if it is thought that contamination from the sheep dip is present within the pipeline easement. As stated above, an accredited consultant will be engaged to undertake the sampling and report on the results. Any material deemed unsuitable (contaminated) will be disposed of at a licensed waste facility using a licensed waste transporter.	Yes. Soil from the Sheep dip has been stockpiled separately and will be respread over the same area once works are complete.	Interview B. McCarthy
W96	Waste Management Plan	5.2.3 Industrial waste (ACT) or Special waste (NSW). If controlled waste material is to be transported between NSW and the ACT appropriate tracking of the waste materials will be undertaken in consultation with the relevant Authorities. Appendix C contains the Waste Management Register that will be used to document this process. It is noted that the definition of VENM in the ACT is slightly different to that of NSW and any material identified as VENM will need to meet the requirements of the relevant State's definition.	N/A	
W97	Waste Management Plan	S6.1.2 Receivables facilities An appropriately licensed facility will be sought for the known contaminant at the time of disposal, if the need arises to dispose of such hazardous waste. The M2G Environmental Officer will ensure that all receiving facilities are appropriately licensed to accept the type of waste transported offsite. A record of this will be kept in the Waste Management Register to be provided (refer Appendix B). When using landfills for the first time, a copy of the landfill's licence will be requested and reviewed. The BWA will not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste. A waste management contractor will be engaged to pick up and appropriately dispose of waste material generated from the M2G Project.	N/A	
W98	Waste Management Plan	S6.2.3 Re-use and recycling action plan Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows: • Waste segregation at work areas - all waste materials, including spoil and demolition waste, will be separated on-site into dedicated bins/ areas (where practicable) for either reuse on-site or collection by a waste contractor and transport to off-site recycling facilities. • Waste separation off site - all wastes are to be deposited into one bin where space is not available on the worksite(s) for placement of multiple bins, and the waste is to be sorted off-site by a waste contractor. Refer also strategies in Tables 6.3 for reuse, recycling and disposal strategy for segregated waste materials generated during construction and Table 6.4 Waste Action Plan to promote the use of recycled materials and the conservation of energy and water	PC	
W99	Waste Management Plan	6.2.4 External Notification In the event that an incident has caused, is causing, or is likely to cause material or serious environmental harm, whether the harm occurs on or off the site, the BWA Environmental Manager will report the incident to the ACT EPA, DECCW and ActewAGL in the following manner: • Notify the ACT EPA by telephoning Canberra Connect on 132281 during and outside business hours if a spill occurs within the ACT or NSW DECCW on 131 555 if it occurs with NSW. • Notify ActewAGL on either of the numbers listed in S6.2.4 in order of priority.	No waste incidents to date	Incident records.
W100	Waste Management Plan	S8 Training All employees and sub-contractors would receive appropriate training and induction in the waste hierarchy and in their requirements.	PC	
W101	Waste Management Plan	S8 Are the three main forms of training (site induction, environmental management training, Toolbox training) being implemented as described on pg 37-38?	Yes - induction and toolbox training occurring.	Toolbox and Induction records

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
W102	Waste Management Plan	S8 Records of all site inductions and on site training will be kept on a database, including details of the training topic(s) presented, participants and training dates. All participants will be required to "sign-off" that they have been informed and understand their environmental obligations at the conclusion of each training session.	Yes	Training records
W103	Waste Management Plan	S8 Training will generally be prepared and delivered by the Environmental Officer, or by personnel delegated by the M2G Land and Compliance Manager.	Yes. Most training is being delivered by M2G environmental staff.	Training records
W104	Waste Management Plan	9.1.1 Informal Daily Inspections Informal visual checks of waste management will be undertaken daily by the foremen. Any maintenance requirements identified can be actioned prior to Environmental Maintenance Action and Observation Checklist being issued by the Environmental Officer.	Yes. Informal daily visual checks are performed. Actions are raised on the SQE Inspection form	ER Inspections, Interview B. McCarthy
W105	Waste Management Plan	9.1.2 Weekly Site Inspections Inspections by Environmental Officer will occur on a weekly basis or more frequently if specified in an Environmental Authorisation (ACT) or EPL (NSW) using the Site Environmental Inspection Checklist. Issues will then be documented on an Environmental Maintenance Action & Observation Checklist. Issues raised during this inspection will be closed out by the construction team within an allocated time frame depending on level of environmental risk.	Yes. Inspections are occurring weekly.	Inspection records
W106	Waste Management Plan	9.1.3 External Inspections External inspections will be held in consultation with the ACT EPA, NSW DECCW and other Regulatory Authorities to inspect the site and operating procedures. These inspections will be documented with all agreed outcomes documented in an Environmental Maintenance Action & Observation Checklist for actioning	Yes.	ER Inspections
W107	Waste Management Plan	9.1.4 Independent Auditor Details of the independent auditor have been summarised within the CEMP. In general, the independent auditor will assess compliance against project conditions and licences during the course of construction.	Yes	This Audit
W108	Waste Management Plan	9.2.1 Waste Register The project will maintain a waste register covering all waste removed from work sites, compounds and offices, and the extent of material reuse and recycling. A waste register template is provided in Appendix B, and includes waste classification, description, amount, treatment method, mode of transport and the receiving facility to which it is being transported.	N/A - Waste Register requirements removed from recent version of WMP. Lotus Notes is to be the primary location for waste records.	
W109	Waste Management Plan	Table 9.1 details the monitoring actions for waste management that will be undertaken throughout the project	Yes - see below	
W110	Waste Management Plan	S9.3 Auditing. Regular periodic audits of the waste management activities would be performed to ensure compliance with this WMP. Responsibilities for audits and inspections are detailed in the CEMP. Audits will include: • A full site inspection • Compliance with legislative requirements and project approvals • Compliance with this WMP • Full review of environmental records (e.g. checklist and inspections) • Review of monitoring results • Review of the Waste Register • Closure of non-conformances and previous audit findings • An assessment of the suitability of the WMP with regards to current construction activities. This may initiate a WMP review/revision • Recommendations for further improvements	Audits are being conducted and recorded on the Audit Report form. The Audit Report Form, as previously identified, does not contain enough information to determine compliance with this condition.	Audit Reports (30/1/12, 17/1/12)
W111	Waste Management Plan	9.4.1 Environmental Actions Lists and Improvement Notices The M2G Environmental Officer(s) will issue Environmental Maintenance Observation and Action Lists or an Environmental Improvement Notice (EIN) as required. Environmental Maintenance Observation and Action Lists will be issued to the Superintendent and/or Foremen for deficiencies that are minor in nature but require rectification. An Environmental Improvement Notice (EIN) will be issued for more serious deficiencies which pose a greater level of environmental risk, or for when a reprimand is required for poor performance.	Yes. SQE forms are being used.	SQE records
W112	Waste Management Plan	9.4.2 Resolving Non-conformances and implementing Corrective Actions The process outlined in S9.4.2 for managing environmental non-conformances will be followed.	N/A	

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
W113	Waste Management Plan	The M2G Environmental Manager with the assistance of the Environmental Officer(s) will maintain the following records: • The WMP; • Relevant approvals, regulatory licences and permits; • Inspection records and checklists; • Environmental monitoring results and chain-of-custody forms; • Environmental accident/incident/emergency reports; • Environmental Non-conformance and EIN documentation; • Audit reports; • Waste Register; • Monthly Reports; • Management review minutes and action taken Where hard copy records are provided they will be scanned and made available electronically. Each set of records will be allocated a register/index for easy reference and filing. Records will be maintained for at least 5 years after the date of final completion and will be available to ACTEW Representatives and Regulatory Agencies as required.	PC	
W114	Waste Management Plan	A Waste Register is to be maintained by the Environmental Officer and sub-contractors, to record the management of wastes from the project located in Appendix B. Dockets/receipts/manifests will also be retained for waste tracking to identify the waste transport contractor and destination of the wastes from each worksite. Records will be kept to demonstrate that all surplus materials are recycled, reused or disposed of in accordance with statutory requirements.	PC	
W115	Waste Management Plan	Details of wastes removed from site will be included in monthly reports. In addition, Waste information that is reportable under the NSW Government 'Waste Reduction and Purchasing Policy' will be reported by 31 July for the preceding financial year and at project completion; this is detailed within Appendix C.	Yes. WMP was updated with changes made as recommended.	
W116	Waste Management Plan	9.6 Document and Data Control All environmental documentation associated with this management plan will be documented and maintained on site in accordance with "document and data control" requirements detailed in the CEMP.	PC	
	CESM	Drill and blast mitigation measures • All sensitive receivers will be informed of blasting activities, as per the Community Information Plan with blasting to be scheduled for a set time and day so that blasting will not occur more than once on any set day. Any alteration from the agreed arrangement will be communicated to nearby residences to avoid any surprises. Where airblast overpressure levels are anticipated to exceed ANZECC guidelines, the Bulk Water Alliance will negotiate an arrangement with the potentially affected residential receivers so as to mitigate any adverse impact on amenity.	Yes. See Noise and Vibration N36	Interview R. Clarke
	CESM	11.4.3 Traffic Management Plan The CESM team will have responsibility for ensuring that community members and stakeholders affected by traffic control measures are kept informed of potential impacts and changing traffic conditions. This includes being the first point of contact and managing community complaints in accordance with the Complaints Management Procedure. The CESM team will; • Consult with landowners, community members, local sporting and recreational groups, including equine owners, local businesses and other impacted stakeholders regarding the potential construction impacts; • Document and inform the construction team of stakeholders and landowners access requirements on a daily basis; • Implement procedures to inform the relevant community of Construction traffic routes and any potential disruptions to traffic flows and amenity impacts with adequate notice; • Implement procedures to consult with local landowners with regard to Construction traffic to ensure the safety of livestock and to limit disruption to livestock movements; • Ensure adequate static and variable message and signage systems are updated to reflect changed traffic conditions; and • Manage and record complaints in accordance with the Complaints Management Procedure.	PC	
TE1	Terrestrial Ecology Management Plan	Accurately and clearly mark out the edge of clearing and trees/vegetation to be retained including hollow trees, significant species and riparian zones (min 20m each side).	PC	
TE10	Terrestrial Ecology Management Plan	The pipeline trench and any other excavations that are left open for more than 24 hours are to be regularly inspected (each morning) to ensure that no animals have fallen into the trench and become trapped. Ideally, the ends of each section of trench will be battered to allow animals to climb out of the trench. If the trench section is greater than 150m in length, then at the end of each day, place a solid branch (at least every 50m) in the trench to allow trapped fauna to climb back out of the trench to escape, or, create an escape point in the excavated trench for fauna. Should fauna species be continually observed within the trenches left open overnight, then more secure measures will be taken to protect terrestrial species from becoming trapped within the trench.	Yes. In general, the trench is backfilled immediately. Small sections of open trench are left over night. Inspections are done each morning.	ER Inspections
TE11	Terrestrial Ecology Management Plan	Limit native vegetation clearing to that required for construction and safety and, where possible, retain established trees and native shrub understorey.	Yes. Examples of retained vegetation within the corridor exist throughout the project.	ER Inspections

Reference	Plan	Description	Audit Finding (Mar 2012	Evidence (Mar 2012)
TE2	Terrestrial Ecology Management Plan	Prior to the commencement of construction activities, arrange an inspection of all habitat to be disturbed (using a qualified ecological and licenced specialist).Â Any fauna encountered during this pre-clearance survey should be removed if possible, or its shelter/nest site clearly marked so that an attempt can be made a later/more suitable time to remove the fauna.	N/A	
TE3	Terrestrial Ecology Management Plan	Wherever practical and feasible, locate ancillary structures such as site offices and sediment basins on previously cleared sites.	PC	
TE4	Terrestrial Ecology Management Plan	Identify, retain and protect old or mature trees (alive or dead) which are in close proximity to the construction area by marking out/fencing. This is to be done in accordance with the procedures detailed in Section 5.2 of this report.	Yes. Retained vegetation is protected with fencing.	ER Inspections
TE5	Terrestrial Ecology Management Plan	Install all erosion and sediment control measures prior to clearing and grubbing and other construction activities and maintain throughout the construction period, to prevent potential impacts on any nearby offsite native vegetation and habitat areas.	PC	
TE6	Terrestrial Ecology Management Plan	Install vehicle wash-down areas, if required, in accordance with the Weed Management Strategy to ensure weeds from the site are not transported outside of the site or into sensitive areas.Â Wash-down areas are to be located at entrances/exits to the construction site as well as between areas of high or low weed infestation within the site.Â Exact locations of wash-down will be shown clearly in the Site Environment Management Plans.Â Â Refer also to the Weed Management Strategy in the Landscape Rehabilitation Management Plan.	PC	
TE7	Terrestrial Ecology Management Plan	Any noxious weeds in the vicinity of the development are to be removed and further controlled throughout the duration of construction.	PC	
TE8	Terrestrial Ecology Management Plan	The ecologist will identify habitat trees and they will be scheduled for removal in sections. During removal of a section with identified habitat trees a licensed fauna spotter/catcher (handler) is to be present, specifically, must be available during the clearing of any large/hollow-bearing trees. The spotter/catcher is to inspect all large trees after felling to see if hollows are present that were not visible from the ground during the initial pre-clearance and hollow-bearing tree surveys. All hollows, once felled, are to be inspected in felled trees with the use of a torch. Should significant species be detected breeding in hollow bearing trees, these trees are to be retained until the breeding activity is complete. Refer to Environmental Work Method Statement, Clearing and Grubbing.	PC	
TE9	Terrestrial Ecology Management Plan	Cease work immediately if any previously unknown threatened flora or fauna species are encountered and contact PCL (TAMS, ACT Government) or DECCW immediately. Refer to the procedures in Section 5.4 on how rescued fauna is to be treated.	N/A. None encountered to date	Interview B. McCarthy