



MOOI MGENI TRANSFER SCHEME PHASE 2 (MMTS-2)

Construction of the Spring Grove Dam & Appurtenant Works

[DEA Reference Number: 12/12/20/220]



MONTHLY ECO REPORT : December 2012



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TITLE AND APPROVAL PAGE

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LIST OF ACRONYMS & ABBREVIATIONS

DEA	Department of Environmental Affairs
ECO	Environmental Control Officer
EO	Environmental Officer
EMP	Environmental Management Plan
EM	Environmental Monitor
EMC	Environmental Monitoring Committee
MMTS-2	Mooi Mgeni Transfer Scheme Phase 2
TCTA	Trans-Caledon Tunnel Authority
RoD	Record of Decision

DEFINITIONS

Auditing

An 'environmental' audit is a methodical examination (including tests, checks, and confirmation) of environmental procedures and practices with the view of verifying whether they comply with internal policies, accepted practices and legal requirements

Environment

The surroundings in which humans exist and which comprise:

- The land, water and atmosphere of the earth.
- Micro-organisms, plant and animal life.
- Any part or combination of a) and b) and the interrelationships among and between them.
- The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that can influence human health and well-being.

Environmental Aspect

Those components of the company's activities, products and services that are likely to interact with the environment.

Record of Decision

The written statement from the relevant environmental authority in terms of the Environment Conservation Act (Act 73 of 1989), with or without conditions, that records its approval of a planned activity and the implementation thereof and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Environmental Feature

Elements and attributes of the biophysical, economic and social environment.

Environmental Impact

The change to the environment resulting from an environmental aspect (an activity) on the environment, whether desirable or undesirable. An impact may be the direct or indirect consequence of an activity.

Environmental Management Plan (EMP)

A detailed plan of action prepared to ensure that recommendations for enhancing positive impacts and/or limiting or preventing negative environmental impacts are implemented during the life-cycle of a project.

Environmental Objective

Overall environmental goal pertaining to the management of environmental features.

Environmental Target

Performance requirement that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

Hazardous Waste

Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment

Monitoring

'Compliance' monitoring is a continuous and systematic process to ensure that the conditions in the Record of Decision (RoD) Environmental Management Plan (EMP) are being adhered to.

Pollution

Any change in the environment caused by substances, radioactive or other waves, or noise, odours, dust or heat, emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

1 INTRODUCTION

Nemai Consulting was appointed as the independent Environmental Control Officer (ECO) for the Trans-Caledon Tunnel Authority (TCTA) for the Mooi-Mgeni Transfer Scheme Phase 2 (MMTS-2) project.

The ECO's functions in terms of environmental compliance monitoring are to systematically monitor the processes and activities required for the implementation of each Environmental Management Plan (EMP) and the conditions in the Record of Decision (RoD) (refer to environmental governance arrangements in **Figure 1**).

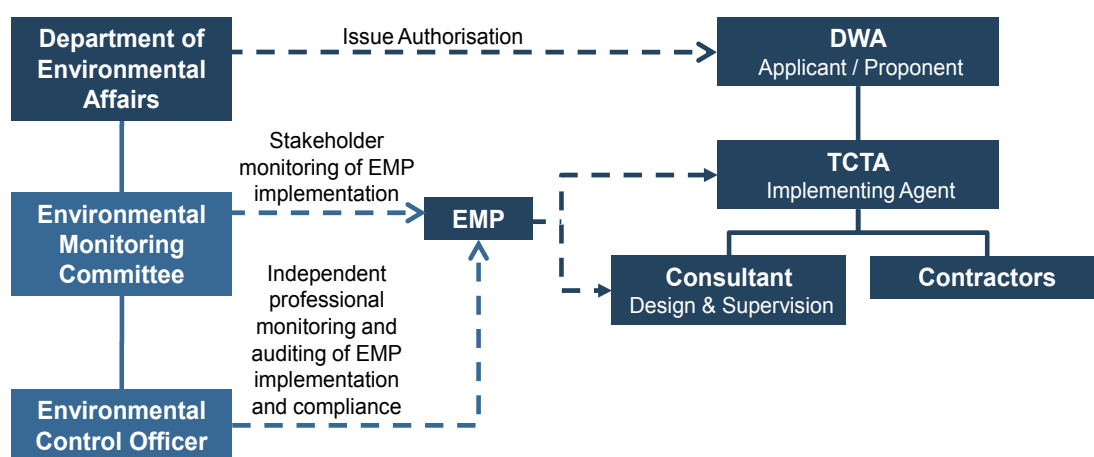


Figure 1: Environmental Governance Arrangements: Lines of Accountability

The RoD requires that a suite of EMPs be prepared for the project. Each EMP comprises two sections, namely a project description and the Environmental Management Philosophy as well as the EMP for a specific activity/phase of construction. To date, the following EMPs have been approved by the Department of Environmental Affairs (DEA):

- Construction of the Spring Grove Dam Wall – approved on 03 May 2011;
- Traffic Management and Mitigation Plan – approved on 16 August 2011 (amendment application approved on 21 February 2012);
- Search, Rescue and Relocation – approved on 07 September 2011;
- Mooi River Gauging Weir – approved on 08 October 2011;
- Mooi River Fish Barrier – approved on 06 February 2012;
- Mpofana River Gauging Weir – approved on 07 March 2012;
- Transplantation of red data species found at Inchbrakie Falls to the Reekie Lynn Falls – approved on 13 April 2012;

- Roads realignment and flood protection of affected sections of the Lower Loteni Road – approved on 07 May 2012;
- Relocation of people living in the dam basin – approved on 09 May 2012;
- Refurbishment;
- Service Relocation & Decommissioning – approved on 24 July 2012;
- Rehabilitation of off-site wetlands – approved on 12 July 2012; and
- Establishment of biodiversity offsets – approved on 12 July 2012.

This document serves as the monthly ECO Report for December 2012. The monitoring event was undertaken on 06 December 2012, and the monitoring period commenced on 16 November 2012.

2 ECO MONITORING APPROACH

2.1 Weekly Monitoring

Weekly ECO monitoring sessions are conducted where a full day is spent on site to inspect the overall construction domain on a weekly basis. The weekly ECO monitoring reports, which are submitted to TCTA, serve as an overview of the following:

- New or improved areas of good environmental practices and compliance;
- Areas of poor practices or where concerns have been noted;
- Status of previous issues; and
- Conclusions.

The weekly ECO monitoring events are more focused on best environmental practices, rather than regulatory compliance.

2.2 Monthly Monitoring

Monthly ECO monitoring serves to check compliance against the following:

- Conditions of the RoD for the construction of the Spring Grove Dam and Appurtenant Works; and
- EMPs and associated conditions of approval.

The Monthly ECO monitoring reports are submitted to TCTA, the Environmental Monitoring Committee (EMC), and ultimately DEA. The monthly ECO monitoring includes once a month full day site inspections, checking environmental administrative provisions (e.g. documentation, files, registers), analysing monitoring data, checking complaints, interviewing the Environmental Manager, Environmental Monitor (EM) and Environmental Officer (EO) (as required) and completing a detailed ECO Monitoring Checklist. The ECO Monitoring Checklist consists of monitoring items extracted from the EMP and RoD, and are categorised as follows:

- Environmental Authorisation;
- Administration;
- Environmental Education and Awareness;
- Construction;
- Materials;
- Water Quality;
- Air Quality;
- Noise;
- Community Engagement;
- Archaeology and Cultural Sites;
- Vegetation;
- Fauna;
- Traffic;
- Safety and Security;
- Waste;
- Rehabilitation;
- Search, Rescue and Relocation; and
- Relocation of people in the dam basin.

The following Conformance Scores, based on the level of compliance for the overall site, is allocated to each monitoring item in the checklist:

CONFORMANCE SCORES	DESCRIPTION
1	Task not achieved
2	Task 20% complete
3	Task 50% complete
4	Task 80 % complete
5	Task 100% completed in accordance with the EMP

Where non-conformance to the RoD conditions and EMP mitigation measures is encountered (i.e. COMFORMANCE SCORE < 5), the significance of the associated Impact is recorded based on the following guidelines):

IMPACT SCORES	IMPACT
1	Low – mitigation not needed/ mitigation measures to be maintained
2	Medium – mitigation should be considered
3	High – mitigation compulsory

The identified non-conformances and related impacts are also rated based on the following **Penalty Scores**:

PENALTY SCORES	DESCRIPTION
0	Not Applicable / Impact or Non-Conformance occurred in area of low Environmental Significance
1	Moderate – Impact/Non-Conformance occurred in area of moderate Environmental Significance (<i>1% Deduction from total conformance score</i>)
2	High – Impact/Non-Conformance occurred in area of high Environmental Significance (<i>3% Deduction from total conformance score</i>)
3	Very High – Impact/Non-Conformance Occurred in area of very high Environmental Significance (<i>5% Deduction from total conformance score</i>)

The overall compliance score is based on:

- No of items scored for the monitoring event;
- The highest conformance score for the monitoring event;
- The actual conformance score for the monitoring event;
- The conformance percentage for the monitoring event (%);
- Total Penalty Deductions (%); and
- Total Conformance Score Including Penalty Deductions (%).

2.3 Surprise Inspections

It was requested by the EMC that surprise inspections of the site be undertaken on a monthly basis. Such an inspection includes revisiting selected issues identified as part of the previous weekly monitoring event, as well as spot-checks of certain areas within the construction domain.

The findings of the surprise inspection for December 2012 are included in **Appendix A**.

3 CONSTRUCTION ACTIVITIES FOR THE MONITORING PERIOD

Amongst others, the following main construction activities took place during the monthly monitoring period, as identified during the monitoring sessions and from the EO's daily site diary:

- Installation of shutters for the dam base at the dam foundation is ongoing;
- Backfilling of the earth embankment (**Figure 3**);
- Pipe installation at the earth embankment is ongoing;
- Construction of the Spring Grove Weir is ongoing downstream from the dam wall;
- Construction of Route 2 culvert is ongoing below the dam foundation;
- Construction of a concrete drainage channel adjacent to the permanent access road into the dam basin is ongoing;
- Borrow pit excavation and usage;
- Occupation of offices on the left bank;
- Construction of D146 Road /R103 intersection is completed, minor works still in progress;
- Search and rescue crew active on site;
- Fencing crew active in basin;
- Construction of the road embankment on Route 13 and use of associated site camp is ongoing;
- Hauling of aggregate and fill;
- Upgrading of Route 9 is ongoing;
- Creation of a stock pile area on Route 11;
- Excavation of borrow pit adjacent to river and Route 13 road embankment;
- Construction activities at fish barrier site are ongoing (**Figure 4**).



Figure 2: Operations at the batching plant in the early evening



Figure 3: Earth embankment



Figure 4: Fish barrier site

The following key areas were inspected during the monitoring session:

- Site offices;
- Spoil sites;
- Dam basin;
- Dam foundation;
- River diversion (fish barrier);
- Workshop;
- Route 2 culvert;
- Borrow areas;
- Temporary river crossing;
- Stream crossings;
- Spring Grove weir;
- Area designated for waste storage;
- Stores area;
- Eating area;
- Batch plant area;
- Route 13;
- Route 11;
- Fish barrier construction site.

*

COMMENTS:

TCTA

4 ENVIRONMENTAL ACTIVITIES FOR THE MONITORING PERIOD

Some of the **key environmental activities** on site, which also include areas of good practices and compliance, were as follows:

- On-going activities –
 - Regular dust suppression;
 - Safe storage and use of hazardous substances;
 - Use of mobile toilets;
 - Vehicle maintenance in dedicated area;
 - Management of siltation;
 - Mixing cement on impermeable surfaces;
 - Appropriate signage displayed and barricading;
 - Waste management;
 - Housekeeping;
 - Trucks abiding by speed limit, displaying chevrons, covered loads and numbered;
 - Use of personal protection equipment;
 - Washing of trucks in dedicated areas;
 - Environmental awareness;
 - Flagmen deployed on new routes;
 - Speed management;
 - Fire risk management;
 - Commencement of rehabilitation of previously graded area.
- Activities identified during the monitoring event –
 - Removal of felled trees from watercourse (**Figure 5**);
 - Search and rescue activities (**Figure 6**).



Figure 5: Removal of felled trees from watercourse



Figure 6: Search and rescue activities

*

COMMENTS:

TCTA

5 WATER, AIR AND NOISE MONITORING

Amongst others, the functions of the ECO include the following:

- Conduct third-party monitoring and auditing;
- Regularly monitor and review the progress towards achieving the specific strategies, objectives and performance targets of the EMP; and
- Review monitoring data and evaluate against performance targets.

5.1 Contractor's Monitoring Results

The Contractor has appointed Blue Sands to conduct monthly water, air and noise monitoring (refer to monitoring sites, as shown in **Appendix B**). The last set of reports received was for monitoring conducted in October 2012, which is elaborated on in the sub-sections to follow. No raw data was received for the period thereafter.

5.1.1 Air Quality

Dust Fallout

- Dust fallout samples were collected on 31 October 2012 – sampling period = 33 days.

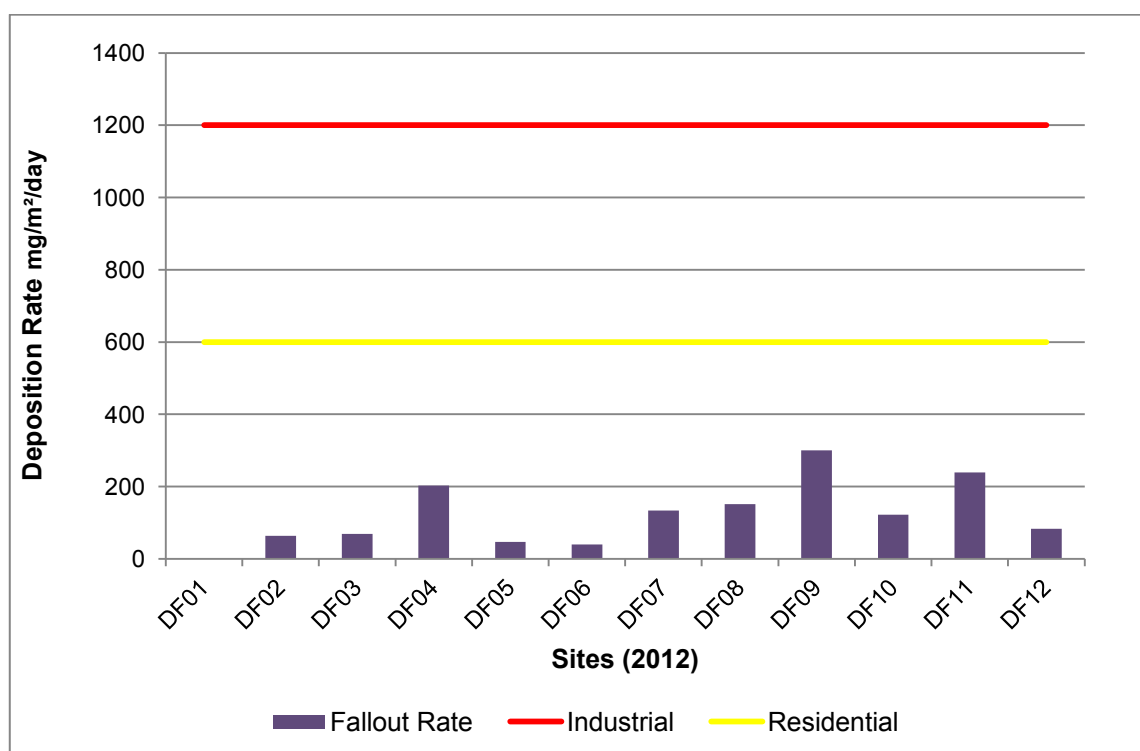


Figure 7: Dust fallout rates for October 2012 (Blue Sands, 2012a)

- Dust fallout rates continue to remain well-within the Residential Band.
- Decreased dust load is being measured as a result significantly wetter spring conditions, in spite of on-going hauling, stockpiling, mixing and on-site transport.

Continuous Particulate Monitoring (PM₁₀) with Wind Speed and Direction

- The sampling period was from 06 - 25 October 2012. Results follow.

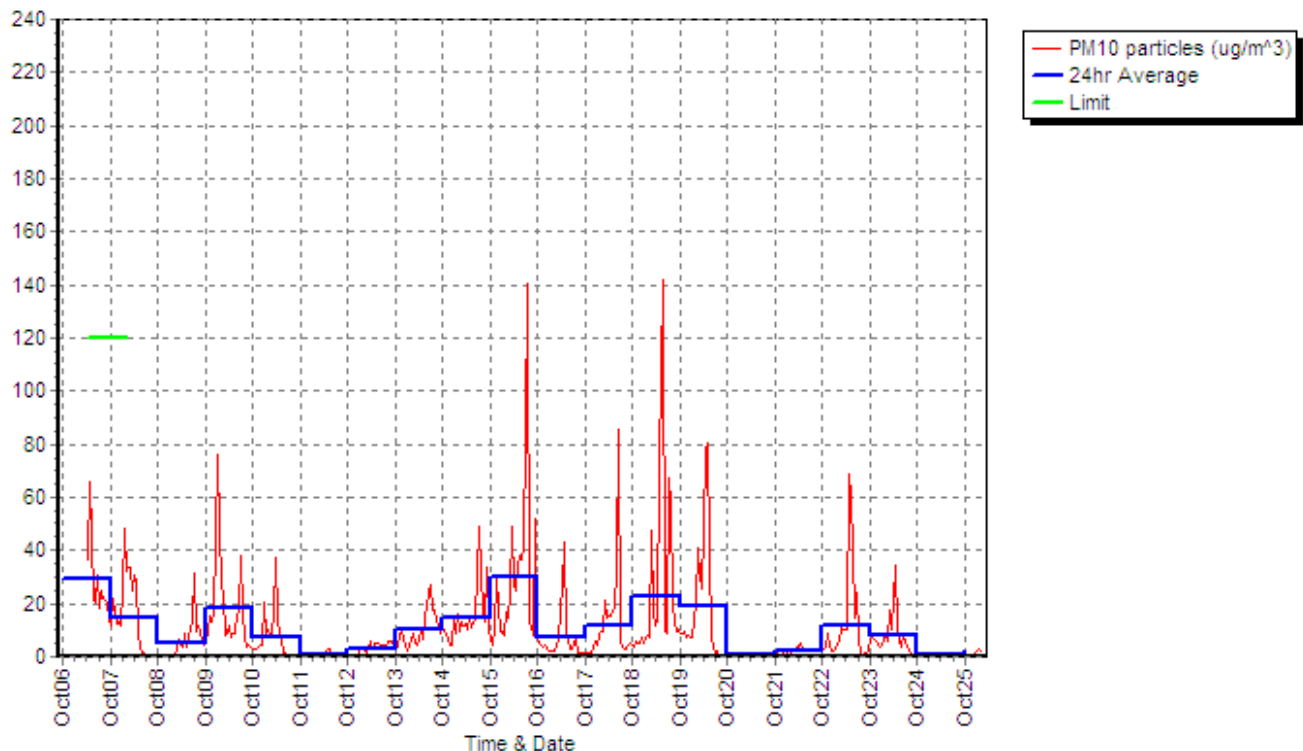


Figure 8: PM₁₀ concentrations for 06 – 25 October 2012 (Blue Sands, 2012a)

- During October 2012, the PM₁₀ concentrations were fully compliant with the 24-hour limit of 120 $\mu\text{g}/\text{m}^3$.
- The pollution rose (see **Figure 9**) shows that the major contribution to the dust levels recorded came from the northerly sector. There are two sources in this area; one being the aggregate stock pile and the other being the parking area for the office block.
- Reviewing historical trends, it is interesting to note that the most dust either originates from the aggregate stockpiles (under windy conditions) or the road (under calm conditions).

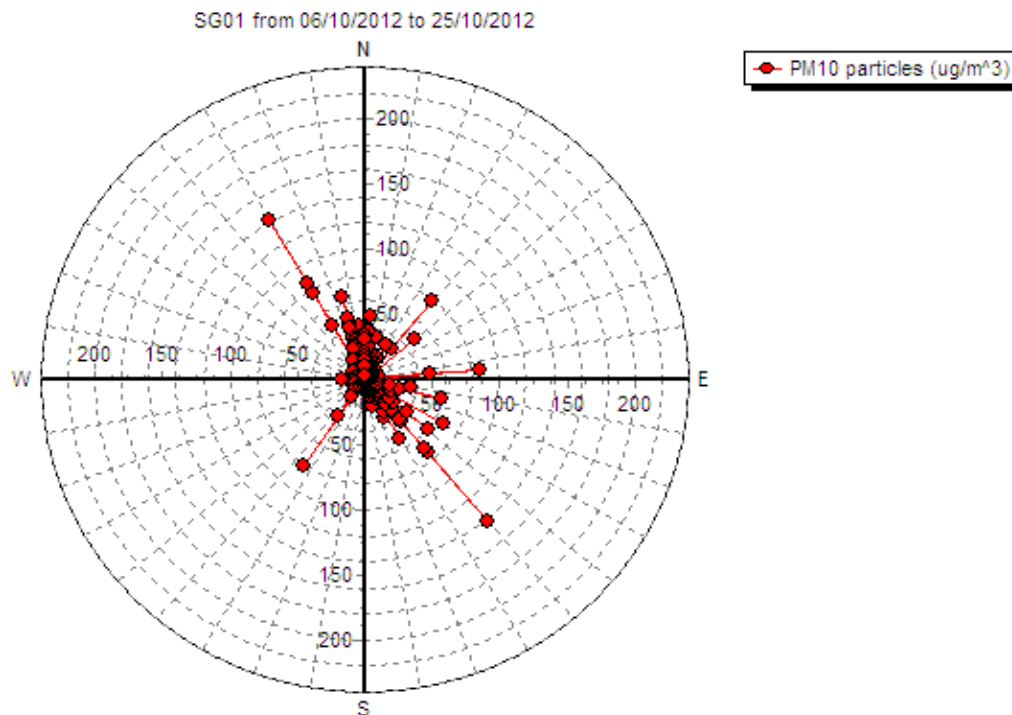


Figure 9: 1-hour PM₁₀ pollution rose for October 2012 at site SG01 (Blue Sands, 2012a)

* COMMENTS:
TCTA

5.1.2 Environmental Noise

- Four surveys were undertaken for October. Two day-time surveys were conducted. The surveys ran from 17h30 to 21h30 on 15/10/2012 and 10h00 to 14h00 on 05/11/2012. Two night-time surveys ran from 22h00 to 01h00 on 15 and 16/10/2012 and from 22h30 to 01h30 on 29 and 30/10/2012.
- EN02 and EN10 feature prominently, during the October 2012 daytime surveys. EN10 noise levels during the day can be attributed to traffic on the R104; while in the case of EN02 it was a combination of truck reverse hooters, district road traffic and domestic animals.
- EN02 and EN12, consistently recorded sounds associated with site operations.
- An additional noise monitoring point needs to be located near the fish barrier site.

* COMMENTS:
TCTA

5.1.3 Water Quality

Mooi River Sampling

- Samples were taken on 17 and 31 October 2012.
- The following exceedences were recorded on 17 October 2012:

Determinant	Typical Measurement Range	Units	WQ01	WQ02	WQ03	WQ04	WQ05	WQ06
Total ammonia	0.01 - 15	mg/l N	0.41	0.21	0.33	0.33	0.28	0.49
Fluoride	0.01 - 5	mg/l F	0.10	0.21	<0.05	0.07	<0.05	0.10

- The following exceedences were recorded on 31 October 2012:

Determinant	Typical Measurement Range	Units	WQ01	WQ02	WQ03	WQ04	WQ05	WQ06
Total ammonia	0.01 – 0.15	mg/l N	0.18	0.11	0.11	0.17	0.42	0.32
Fluoride	0.01 - 5	mg/l F	0.69	0.18	0.07	<0.05	<0.05	0.18

- Variables at sampling sites associated with construction activities were below thresholds.

Separator Sampling

- Noted that the raw borehole water is already contaminated beyond certain thresholds.
- Wash bay was not in use over monitoring period.

*** COMMENTS:**

TCTA

5.1.4 Raw Data

No raw data available following the October 2012 water, air and noise monitoring.

6 ENVIRONMENTAL PERFORMANCE

An overview of the environmental performance during the monthly monitoring period is provided in the sub-sections to follow.

6.1 Weekly ECO Monitoring – Status of Issues

Note that only significant environmental aspects and impacts are listed in this section, based on the following qualitative criteria that were used to screen the weekly ECO monitoring Reports:

1. **Hazardous** nature of the environmental aspect or impact;
2. **Extent** of impact (within / beyond the boundaries of the construction domain);
3. **Sensitivity** of receiving environment;
4. **Probability** of aspect resulting in significant impact;
5. **Regulatory** context;
6. **Liability / cost** related to corrective actions;
7. Potential to lead to legitimate **concerns** by interested and affected parties; and
8. **Cumulative** impacts.

6.1.1 21 November 2012

Issue Ref.	Category	Summary of poor practice / area of concern	Status
189	Pollution Siltation -	Dewatering operations at the river diversion (fish barrier) construction site releasing large amounts of sediment into the river.	Open
191	Hazardous Substances	Hazardous storage container (cage) at left bank does not have adequate bunding.	Open
204	Hazardous Substances	Lack of drip tray under diesel powered equipment in container at the left bank.	Closed
207	Pollution	Inadequate concrete containment measures at the river diversion (fish barrier).	Open
217	Pollution	1. Driver of a truck (being used to water roads for dust suppression) observed washing the vehicle at the spoil site above Stream #3.	Open
		2. Diesel bowser (containing fuel) parked without a drip tray at the left bank.	Closed
219	Exotic Plant Removal	1. Large number of Scotch thistle (<i>Onopordum acanthium</i>), going into flower, present in the dam basin, particularly on Route 11. 2. Large amount of bramble (<i>Rhus</i>), currently in flower present within the dam basin. A particular area of concern related to bramble establishment is the section of soil used to begin the rehabilitation of the "fencing scar" adjacent to Route 13. New bramble canes are emerging from this soil.	Open
220	Pollution Siltation -	Large pile of top soil (being used to fill sand bags) has been placed on the right bank of the Mooi River at the river diversion (fish barrier).	Open
223	Pollution Prevention	1. Hand mixing of concrete occurring without bunding adjacent to culvert near entrance gate to the fish barrier. 2. Empty cement bags on ground in front of container at the left bank. 3. Stacked diesel powered equipment without drip trays in container at left bank. 4. Diesel-powered equipment lacking drip trays at the left bank. 5. Diesel-powered equipment submerged in water below the dam wall. 6. Stacked diesel powered equipment without drip tray in container at workshop.	Closed
		7. Diesel-powered equipment lacking a drip tray at culvert on Route 11	Open

Issue Ref.	Category	Summary of poor practice / area of concern	Status
		8. Diesel-filled jerry can without a drip tray in container at dam foundation. 9. Diesel-powered equipment lacking drip tray at the Spring Grove gauging weir. 10. Two oil spills on ground beneath the concrete pump parked at the workshop area. 11. Outdoor hazardous storage container at workshop close to overflowing	

6.1.2 28 November 2012

Issue Ref.	Category	Summary of poor practice / area of concern	Status
189	Siltation: Dewatering	Dewatering operations at the river diversion (fish barrier) construction site releasing large amounts of sediment into the river.	Open
191	Pollution Prevention	Hazardous storage container (cage) at left bank does not have adequate bunding.	Open
207	Pollution Prevention	Inadequate concrete containment measures taken at the river diversion (fish barrier).	Open
217	Pollution Prevention	Driver of a truck (being used to water roads for dust suppression) observed washing the vehicle at the spoil site above Stream #3.	Open
219	Exotic Plant Removal	1. Large number of Scotch thistle (<i>Onopordum acanthium</i>), going into flower, present in the dam basin, particularly on Route 11. 2. Large amount of bramble (<i>Rubus</i>), currently in flower present within the dam basin. A particular area of concern related to bramble establishment is the section of soil used to begin the rehabilitation of the "fencing scar" adjacent to Route 13. New bramble canes are emerging from this soil.	Open
220	Water Pollution - siltation	Large pile of top soil (being used to fill sand bags) has been placed on the right bank of the Mooi River at the river diversion (fish barrier).	Open
223	Pollution Prevention	1. Diesel-powered equipment lacking a drip tray at culvert on Route 11. 2. Diesel-filled jerry can without a drip tray in container at dam foundation. 3. Two oil spills on ground beneath the concrete pump parked at the workshop area. 4. Outdoor hazardous storage container at workshop close to overflowing.	Open Closed
227	Pollution Prevention	1. The chemical solution (Loo Blue) used in the portable toilets has been spilled on the ground at the dam foundation. 2. Bag of cement lying on ground at base of tongue wall. 3. Spilled contents from torn bags of cement on ground at the Spring Grove gauging weir. 4. Diesel-powered equipment without bunding at newly located container on the right bank. 5. Oil spill at entrance of newly located container on the right bank above RCC wall. 6. Diesel-powered equipment in container at the Spring Grove gauging weir without drip tray. 7. Total of three diesel powered pieces of equipment without drip trays at the Spring Grove gauging weir.	Open Closed
228	Safety	Absence of safety barricading on steep slope on right bank from the tongue to the RCC wall.	Open
229	Pollution Prevention	Defective watering sock at the spillway causing sediment to be released without containment.	Open

6.1.3 05 December 2012

Issue Ref.	Category	Summary of poor practice / area of concern	Status
189	Siltation: Dewatering	Dewatering operations at the river diversion (fish barrier) construction site releasing large amounts of sediment into the river.	Open
191	Pollution Prevention	Hazardous storage container (cage) at left bank does not have adequate bunding.	Open
207	Pollution Prevention	Inadequate concrete containment measures taken at the river diversion (fish barrier).	Open
217	Pollution Prevention	Driver of a truck (being used to water roads for dust suppression) observed washing the vehicle at the spoil site above Stream #3.	Open
219	Exotic Plant Removal	1. Large number of Scotch thistle (<i>Onopordum acanthium</i>), going into flower, present in the dam basin, particularly on Route 11. 2. Large amount of bramble (<i>Rubus</i>), currently in flower present within the dam basin. A particular area of concern related to bramble establishment is the section of soil used to begin the rehabilitation of the "fencing scar" adjacent to Route 13. New bramble canes are emerging from this soil.	Open
220	Water Pollution - siltation	Large pile of top soil (being used to fill sand bags) has been placed on the right bank of the Mooi River at the river diversion (fish barrier).	Open
223	Pollution Prevention	Diesel-powered equipment lacking a drip tray at culvert on Route 11.	Closed
227	Pollution Prevention	1. The chemical solution (Loo Blue) used in the portable toilets has been spilled on the ground at the dam foundation. 2. Bag of cement lying on ground at base of tongue wall. 3. Spilled contents from torn bags of cement on ground at the Spring Grove gauging weir.	Open Closed
228	Safety	Absence of safety barricading on steep slope on right bank from the tongue to the RCC wall.	Open
229	Pollution Prevention: Dewatering	Defective watering sock at the spillway causing sediment to be released without containment.	Open
232	Pollution Prevention	1. Two oil spills on ground at water extraction point. 2. Concrete sludge being dumped onto bare soil on left bank below the dam wall prior to disposal. 3. Absence of drip tray under diesel-powered equipment in container at the workshop. 4. Empty geotextile socks in the waste transition area awaiting disposal; location of the contents of these socks (trapped sediment) questioned.	Closed Open

6.1.4 Conclusions

Issues related to the inadequate management of siltation frequently recorded. Hazardous material needs to be stored and used in accordance with the regulatory requirements and the MSDSs.

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COMMENTS:

TCTA

6.2 Monthly ECO Monitoring Checklist

The results of the monthly ECO Monitoring Checklist are summarised in the sub-sections to follow.

6.2.1 Monitoring Categories

The results of the monitoring categories are summarised in **Table 1**.

Table 1: Summary of Monthly ECO Monitoring Checklist categories: Dec 2012

Monitoring Category	Conformance Score (%)
Environmental Authorisation	94.15
Administration	100.00
Environmental Education and Awareness	100.00
Construction	100.00
Materials	93.21
Water Quality	88.75
Air Quality	88.00
Noise	100.00
Community Engagement	100.00
Archaeology and Cultural Sites	100.00
Vegetation	86.67
Fauna	100.00
Safety & Security	100.00
Waste	85.00
Traffic	94.67
Search, Rescue and Relocation	97.42
Construction Camp	90.00
Rehabilitation	80.00

6.2.2 Areas of Non-Compliance

Selected areas of significant non-compliance for November 2012, which (amongst others) influenced the conformance and penalty scores contained in Table 1, are captured in the table to follow.

Table 2: Selected areas of non-compliance: Dec 2012

Monitoring Category	Condition / Mitigation Measure	Comments
Environmental Authorisation	Hazardous and flammable substances must be stored and used in compliance with the applicable regulations and safety instructions	Comply with conditions stipulated in MSDSs, as recommended by the supplier for safe storage and handling required, such as incompatible materials, provision of local and general ventilation, conditions of storage (e.g. temperature and humidity, avoidance of sunlight), etc. Containers to be adequately labelled. Adequate

Monitoring Category	Condition / Mitigation Measure	Comments
		secondary containment of hazardous material in case of spillage. Overflowing drip tray at fish barrier (Figure 10).
	Screens, barriers and warning signs must be placed around excavations and wherever there is a hazard to workers, the public and animals	Barricading of excavations.
	During the construction phase the speed limit of 40km/h on public and other roads within the project area to be adhered to. This include roads and streets within Rosetta and Nottingham Road, sections of the R103, road D146, the access road to the Vaalekop South smallholdings and Riverholm, the Balgovan road for accessing the Mpofana outfall works (N3 Toll 25) and the access road to the quarry site on Springvale Farm 2170	Complaint received regarding speeding - verified.
	Security measures to be implemented to ensure the safety and security of the workers, material and surrounding communities	Ongoing. Toolbox talks undertaken. Controlled access to site: locked gate; security guard and access register. Complaint received regarding unlocked gate.
	All area disturbed by construction activities to be fully rehabilitated to the satisfaction of the Environmental Control Officer (ECO) and Environmental Monitoring Committee (EMC)	Rehabilitation to take place at appropriate phase of project. Need to rehabilitate the watercourse that was affected by the upgrading of the D146 and the graded area.
	A detailed plan of action to establish offset areas to compensate for the loss of bio-diversity and habitat and for the management of such areas during the operational phase of the MMTS-2	EMP approved. Feasibility of implementation under investigation.
	Provisions of the National Water Act, 1998 (Act 36 of 1998). Silting, demarcation and management of material storage and vehicle servicing areas used by the contractor to be outside of the 1:50 year flood line or at least 100 meters from any watercourses	Improved siltation management ongoing. On-going water quality monitoring. Siltation from various sources (e.g. instream works, dewatering, cleared areas). Daily water quality monitoring results required to assess increase in TDS. Require storm water management at fish barrier site (Figure 11) and on access road to this site (Figure 12).
Materials	A record of all types and quantities of hazardous materials on site to be kept	Hazardous material register available, which records fuel. Needs to include hazardous material in containers.
	Uncontrolled releases of hazardous materials to be prevented	Spillages observed. Suitable clean-up required.
	Spill reporting procedures to be available at all storage facilities	Not all storage areas are provided with spillage procedure.
Water Quality	Silt laden water shall not be directly discharged over land or directly into watercourses and shall be contained in	Improved siltation management ongoing. On-going water quality monitoring. Siltation from various sources (e.g.

Monitoring Category	Condition / Mitigation Measure	Comments
	settlement ponds and managed before release. Silt, sand and silt-laden water shall not enter any surface watercourse.	instream works, cleared areas). Daily water quality monitoring results required to assess increase in TDS. Require storm water management at fish barrier site and on access road to this site.
	Such overland discharge may not cause erosion	Runoff generated from watering down of aggregate stockpiles is discharged over land, which is eventually collected in an attenuation pond. Potential for erosion to be monitored. Possible erosion on steep slopes to be monitored. Require storm water management at fish barrier site and on access road to this site.
	Erosion prevention measures such as the placing of gravel or rip rap; or in some cases plastic or mesh covering to be implemented	Erosion control measures: rip raps in place at Mooi River temporary crossing; settling pond at the end of the river diversion bank; cut off trenches implemented at Derek Green's farm; along the topsoil stockpiles located above Afrisam batch plant and below the two spoil sites. Require storm water management at fish barrier site and on access road to this site.
Air Quality	Disturbed areas outside the Dam basin that will no longer be used for construction purposes to be immediately re-vegetated	Area damaged by fencing contractor, hauling and other construction activities outside of basin to be rehabilitated. Need to rehabilitate the watercourse that was affected by the upgrading of the D146.
Vegetation	The impact on flora to be kept to a minimum and to be within the development footprint	Road graded by fencing contractor through natural veldt - rehabilitation required. Risk of alien infestation (Figure 13).
Safety & Security	Ensure that the project intervention will not have a significant negative impact on the safety and security resources and facilities in the project area (i.e. a significant increase in crime activities)	Complaint received regarding unlocked gates.
Waste	Site to be kept clean and free of litter	Improved housekeeping required at dam basin. Concrete waste on ground to be removed from fish barrier site. Complaint received regarding litter.
Traffic	All delivery trucks travelling on the N3, R102 and D146 must be properly covered	Truck recorded that was not covered.
	Official warnings to be issued against rock drivers that exceed the posted speed limit by more than 10km/h on the P147 or the R103, and after the third warning (for overloading and speeding offences combined) the contractor to be instructed to remove the particular driver from the project	Various incidents of speeding.
	Crushed stone loads to be covered with	Truck recorded that was not covered.

Monitoring Category	Condition / Mitigation Measure	Comments
	tarpaulins to prevent spillage, dust and damage to other vehicles on the road	
Rehabilitation	A detailed rehabilitation plan to be compiled for off-site wetlands in the Mooi and Mgeni catchments to mitigate wetland function and habitat loss (including base monitoring)	EMP authorised. Feasibility of implementation under investigation.
	Only indigenous vegetation to be used in rehabilitation. The alien invasive plant species and weeds that will need to be controlled, as well as the method of control must be included in the Contractors Method Statement.	Need to rehabilitate the watercourse that was affected by the upgrading of the D146. Kikuyu used on embankment. Risk of bramble spreading onto area affected by grading of road (Figure 13).
Search, Rescue & Relocation	Conduct a detailed search of the inundation area (including Inchbrakie Fall) during spring and summer, taking due cognizance of specialist studies already undertaken as part of the EIA process	Site surveys will be done during the flowering season. However, the current tree felling activities will jeopardise the ability to establish a baseline in terms of species occurrence and population sizes. Response from specialist: <i>This is still to be done during spring and summer. First search complete (26 & 27 Sep & 4 Oct 2012). Felling of trees will have a bigger impact on fauna search than flora search.</i>
Construction Camp	The security of the surrounding communities shall not be compromised by the construction activities in any way	Complaint received regarding unlocked gate.



Figure 10: Overflowing drip tray and improper storage of container with hazardous material



Figure 11: Lack of stormwater management at fish barrier site



Figure 12: Lack of stormwater management on road approaching fish barrier site



Figure 13: Risk of bramble spreading onto area affected by grading of road

A possible significant risk to the environmental compliance of the overall project is the feasibility of the implementation of the EMPs for the wetland rehabilitation and biodiversity offsets. The various authorities and stakeholders involved will need to determine the most appropriate way forward in this regard.

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COMMENTS:

TCTA

6.2.3 Overall Monitoring Results

A summary of the results of the ECO monitoring checklist follows.

Table 3: Summary of results of Monthly ECO Monitoring Checklist: Dec 2012

Description	Total	Percentage
Number of Items Scored for this Audit	242	
Highest Possible Conformance Score for this Audit	1210	100
Actual Conformance Score	1119	92.48

6.2.4 Sequential ECO Monitoring Results

A graph indicating the sequential ECO Monitoring Results from May 2011 until present follows.

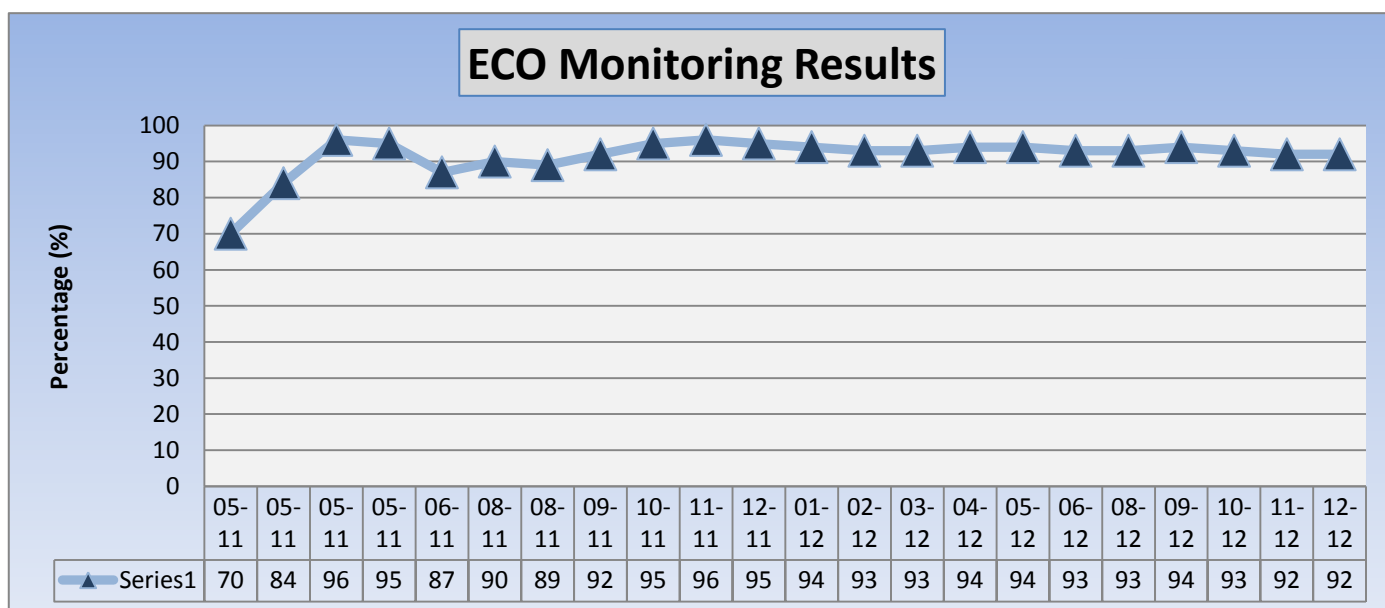


Figure 14: Graph – summary of results of Monthly ECO Monitoring Checklists

It should be noted that without the weighting of the scoring items a full appreciation of the significance of the non-compliance is not conveyed.

* **COMMENTS:**

TCTA

7 NON-CONFORMANCE / INCIDENT REPORTING

The following non-conformances / incidents previously recorded remain unattended to (details omitted):

- NCR/Incident No. J00846-NCR027 (issued on 12-07-12) – Use of defective geotextile socks when dewatering;
- NCR/Incident No. J00846-NCR030 (issued on 15-08-12) – The current storage, handling and management of hazardous and flammable materials onsite is in contravention of Section 3.2.1.5 of the RoD. This includes the storage/parking off of Diesel bowsers overnight onsite without any spill prevention in place;
- NCR/Incident No. J00846-NCR031 (issued on 04-09-12) – daily water quality monitoring;
- NCR/Incident No. J00846-NCR032 (issued on 12-09-12) – inadequate waste management;
- NCR/Incident No. J00846-NCR033 (issued on 12-09-12) – unauthorised fire and cut fence; and
- NCR/Incident No. J00846-NCR034 (issued on 20-09-12) – silt-laden water.

New environmental non-conformances / incidents recorded by the EM during the monthly ECO monitoring period are tabulated below.

Table 4: Environmental Non-Conformance / Incident Register entries for Sept – Oct 2012

Date of NCR / Incident	Description	Suggested Corrective Action	EM Suggested Deadline	Actual Date Corrected
16/10/2012	Concerns raised by the ECO and EM have not been attended too within the due dates agreed upon by contractor. These are as follows Refer to EM/EO action register 102: Use of Rebar caps 196: Portable toilet to be relocated 197: Safety barricading	Contractor to provide photographic evidence/or submit documentation as proof that the above issues have been adequately addressed.	05/11/2012	No

Date of NCR / Incident	Description	Suggested Corrective Action	EM Suggested Deadline	Actual Date Corrected
	Refer to ECO report 204: Rodio drip tray needs to be replaced 183: Housekeeping 191: Pollution prevention 199 (1): Waste management (2): portable toilet to be relocated 201 safety			
23/11/2012	Failure to address Environmental Concerns raised as per the ECO/Action Register (AR) No.259 AR/ 223.10 ECO. Spills underneath the concrete pump machine at the workshop area. Spill has been covered with sand. No. 256 AR/207.ECO Inadequate concrete containment measures at the Fish Barrier No.265. AR. Safety tag: The access steps to the RCC area displays a tag that indicates that scaffolding steps is unsafe to use. However the workers are still using the steps. No.217.1 ECO Water truck driver observed washing the truck at the spoil area in Garlick's farm above stream 3 No.224 ECO Sedimentation at route 11	Contractor to provide photographic evidence/or submit documentation as proof that the above issues have been adequately addressed.	05/12/2012	No
10/12/2012	De De-watering of the excavations at the Fish Barrier is taking place without following all the requirements of P67 4.3.6. In terms of the Specification the use of sedimentation ponds is a basic requirement to clean the water which is pumped from the Works/excavations. Currently, the settlement pond is seeping, the geotextile sock in use is defective and the outlet needs to sit higher in order to act as an overflow.	The Contractor is obliged to do point source monitoring as per P67 4.4.3. to demonstrate that the suspended solids is monitored to confirm the efficiency of sedimentation before water is discharged into the river. The defective geotextile sock must be replaced and disposed of accordingly, in addition the outlet pipe must be raised to facilitate overflow.	14/12/2012	No
10/12/2012	The servicing of an excavator at the Fish Barrier site is not in compliance with the specification. Additionally no spill prevention measures were in place at the time of the inspection, and the driver communicated that the excavator could be moved to the designated vehicle service area.	In future this will not be permitted unless there is a formal detailed request from the Contractor for a concession to service/repair equipment in any other area than the workshop area. The Contractor shall indicate in such request what measures will be implemented to prevent any pollution. The contractor is to inform all subcontractors in a tool box talk.	14/12/2012	No

Note: Wording directly extracted from Environmental Non-Conformance / Incident Register

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COMMENTS:

TCTA

8 ISSUES AND COMPLAINTS

Appendix C contains the issues and complaints (12 entries) that were recorded by the Social Monitor up to 26 November 2012. Note that the register had not been completed for the entire ECO monitoring period up to the 06 December 2012 at the time of preparing this report.

The following issues (apart from matters pertaining to expropriation) remain open, based on the Issues and Complaints Register, which require feedback / action from the project team:

Open issues from current monitoring event –

(Note: recurrent issues highlighted)

- a) Issue no. 481 (16-11-12) – upgrading of road;
- b) Issue no. 483 (21-11-12) – managing weeds, use of private road, access to irrigation pump, use of borehole,
- c) Issue no. 484 (22-11-12) – road condition;
- d) Issue no. 485 (22-11-12) – damage to vehicle due to road condition;
- e) Issue no. 486 (22-11-12) – road condition;
- f) Issue no. 490 (23-11-12) – speeding truck; and
- g) Issue no. 491 (23-11-12) – protection of willow trees.

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COMMENTS:

TCTA	
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9 PROPOSED AMENDMENTS TO THE ROD AND EMP

9.1 Proposed Amendments to RoD

An application for an amendment to the RoD was submitted by DWA to DEA on 15 August 2011. Proposed amendments or matters for clarification related to the RoD are contained in **Table 5**.

Table 5: Proposed amendments / matters for clarification related to the RoD

Condition No.	Description	Comments / Amendment
Amendments Previously Recorded		
3.2.1.22	Indigenous vegetation removed from the dam basin must be kept in a temporary nursery to be used for rehabilitation	Addressed in EMP for Search, Rescue and Relocation, which was approved on 07 September 2011.
3.2.1.23	The wood from exotic and/or invasive species removed from the dam basin must be made available to the local community free of charge	Decision pending from Contractor regarding the way forward for the disposal of the cleared vegetation. RoD condition may prove to be costly.
3.2.3.1	Daily monitoring by ECO	ECO was not appointed as a daily monitor. Daily monitoring is undertaken by the EO on behalf of the Contractor and by the EM on behalf of the Engineer. Weekly ECO monitoring conducted.
3.2.3.3	ECO's quarterly environmental performance audits	Environmental performance audits undertaken by the ECO every six months.
3.2.3.4	Submission of environmental compliance report every two months by the ECO.	Environmental compliance report submitted monthly.
3.2.3.5	ECO to maintain – a) Daily site diary b) Non-conformance register c) Public complaints register d) Register of audits e) Copies of method statements f) Material Safety Data Sheets (MSDS) g) Monitoring reports of the contractor/s h) Compliance and audit reports i) Training registers j) Copies of the RoD and EMPs k) Waste disposal certificates l) Copies of all permits required during construction	ECO to ensure that these documents, registers, reports and permits are maintained. Documentation to be maintained by Environmental Monitor. MSDSs to be kept between the OHS file and Environmental Monitor's file, due to a split function.
3.2.3.6	ECO to remain employed until the end of rehabilitation	ECO to remain employed until the end of defects liability period
3.2.6.1(d)	Provisions of the National Water Act, 1998 (Act 36 of 1998). Silting, demarcation and management of material storage and vehicle servicing areas used by the contractor to be outside of the 1:50 year flood line or at least 100 meters from any watercourses.	Mobile toilets to be situated at least 50m away from a watercourse.
3.2.1.11	All access roads must be clearly demarcated and 'no entry' signs must clearly indicate those roads not to be used by contractors or delivery vehicles. No heavy construction vehicles may access road P164 from Rosetta to Kamberg, the section of the Overdale Road between the D146 and the P164 in Rosetta or road D682 in Rosetta	<u>Proposed amendment:</u> All access roads must be clearly marked and 'no entry' signs must clearly indicate those roads not to be used by contractors or delivery vehicles. No construction vehicles may access road P164 from Rosetta to Kamberg, the section of the Overdale Road between the D146 and the P164 in Rosetta or road D682 in Rosetta, however, should impoundment of the dam take place prior to the completion of the fish barrier, access will then be allowed on the road P164 to the Ballina Road for completion of the works.
New Recommended Amendments		
N/A		

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COMMENTS:

TCTA

9.2 Proposed Amendments to EMP

In accordance with the RoD condition no. 3.2.4.4, EMPs will be regarded as dynamic documents and any changes to the EMPs must be submitted to DEA for acceptance, which is to be accompanied by recommendations of the EMC.

An EMP Amendments Register was submitted by TCTA to DEA on 21 September 2011, which records the proposed amendments to the EMP for management measures that are deemed to be ineffective or redundant. These amendments were discussed with the EMC on 03 August 2011.

Proposed amendments or matters for clarification related to the EMP are contained in **Table 6**.

Table 6: Proposed amendments / matters for clarification related to the EMP

No.	Description	Comments
Mitigation Measures identified during previous ECO monitoring events		
Existing Mitigation Measures contained in EMPs		
1.	EMPs to provide rehabilitation measures for areas to be disturbed during the construction phase [RoD condition no. 3.2.4.3(b)].	EMP for the Construction of the Spring Grove Dam Wall to make provision for rehabilitation of areas affected by construction work outside of dam basin (e.g. access roads).
2.	EMPs to include implementation measures aimed at controlling invasive plant species and weeds [RoD condition no. 3.2.4.3(f)].	Addressed in EMP Register.
3.	Cover vehicles transporting spoil, topsoil or other dust generating materials.	Addressed in EMP Register.
4.	Dust suppression measures must be implemented on dry weather days.	The spoil area opposite Erika Millican's property is considered a working area and will not be watered down for dust suppression. Instead, visual inspections will be undertaken and if dust is a nuisance the area will be watered down.
5.	For each waste type create a MSDS that is always available to accompany the waste.	Addressed in EMP Register.
6.	All waste containers designated for off site transport to be secured and labelled with the contents and associated hazards, be properly loaded and be accompanied by a shipping paper (i.e. manifest) describing the load and its associated hazards	Impractical for all waste containers. Suitable for hazardous waste.
7.	Transporters of hazardous materials to ensure	Bulk fuel transporters comply with this

No.	Description	Comments
	that: vehicles transporting hazardous materials are registered for this purpose; clearly display in English the nature of materials being transported; what to do in the event of an emergency and an emergency telephone number (24 hour) of a responsible person who can provide advice in an emergency	measure. However, requirements are too onerous for sub-contractors (e.g. mechanics). EMP deviation to be discussed.
8.	The quantity of hazardous material used each month is to be documented	Requirement is more feasible in terms of fuel usage. Necessity of measure to be explored further in terms of other hazardous material used on site, such as material used for the maintenance of vehicles, material used at the laboratory, etc.
9.	Monitor the number of project related vehicles travelling off site per day	Trucks are being monitored through GPS tracking system. Monitoring of other construction-related vehicles is an onerous task, and the practicality thereof needs to be investigated further.
10.	Phase 2 of social monitoring is monthly local area monitoring where in-depth research will be done in all the local 'communities' identified in the MEP as constituting local social environment. These areas will be covered over 12 months and comprehensive narrative reports will be compiled. The first round of longitudinal survey will be conducted. A sample of households will be interviewed every four months until the project completion to determine how they experience social impacts related to MMTS2	Need to consider how current social monitoring conforms to original intentions of the associated mitigation measure.
11.	Phase 3 of social monitoring is in-depth investigation and participation appraisal where the focus shifts from area monitoring to specialist investigation of themes and participatory appraisal and planning with project communities to determine whether social changes claimed by respondents have significance in the project social environment, the level of significance, what they involve and what responses are required	Need to consider how current social monitoring conforms to original intentions of the associated mitigation measure.
12.	Specify targets for minimum numbers of each species to be relocated; the selected destination and the party responsible for post-relocation care	Specialist feedback: Impossible to set target numbers because we don't know population sizes or even if the species occur or not. Preference is to relocate within the basin and post-relocation care of animals is impossible - we can only manage their habitat.EMP amendment.
13.	Working hours to be limited from Monday to Saturday from 06h00 to 18h00. No traffic will be permitted on the road between 07h00 and 08h00.	Requested change in working hours at the fish barrier.
Additional Mitigation Measures to supplement EMPs		
14.	Working within watercourses and safeguarding the characteristics of the watercourse, including flow, water quality, habitat (morphology) and aquatic biota	
15.	Borrow pits (e.g. stormwater management). It is noted that certain of the existing categories of	

No.	Description	Comments
	the EMP for the Construction of the Spring Grove Dam Wall make provision for managing the environmental aspects and impacts associated with the borrow pits	
16.	Mobile toilets to be situated at least 50m away from a watercourse.	
Mitigation Measures identified during last ECO monitoring event		
N/A		

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COMMENTS:

TCTA

10 REFERENCES

Blue Sands, 2012a. Air Quality Monitoring. October 2012. Spring Grove Dam Construction. Prepared for Group Five (Pty) Ltd.

Blue Sands, 2012b. Environmental Noise Surveys. October 2012. Spring Grove Dam Construction. Prepared for Group Five (Pty) Ltd.

Blue Sands, 2012c. Water Quality Monitoring. October 2012. Spring Grove Dam Construction. Prepared for Group Five (Pty) Ltd.

APPENDIX A

SURPRISE ECO INSPECTION REPORT

MOOI MGENI TRANSFER SCHEME PHASE 2 (MMTS-2)**ENVIRONMENTAL CONTROL OFFICER (ECO)****MONTHLY UNSCHEDULED INSPECTION REPORT**

DATE:	10 December 2012
REPORT NUMBER:	05
TARGET LOCATIONS:	Heritage areas; river diversion (fish barrier); spillway below dam foundation; lab area; and right bank.
DURATION:	Two hour inspection
PURPOSE:	Unscheduled ECO Inspection
ATTENDANCE:	ECO (Nemai Consulting – A. Burke); Environmental Monitor (BKS – S. J. Narain, T. Moloba); TCTA Environmental Manager (K. Govender)

PHOTOGRAPHIC RECORD – PREVIOUS ISSUES FROM 05 December 2012	
	
Fig 1: On 05 December 2012 (date of last weekly inspection) this drip tray under diesel-powered equipment was overflowing with contaminated water and spilling onto the ground at the river diversion (fish barrier).	Fig 2: During this inspection, the spill under this diesel-powered equipment at the river diversion (fish barrier) had not been removed nor the contents of the drip tray emptied and properly disposed of
	
Fig 3: On 10 September 2012, it was noted that dewatering operations at the river diversion (fish barrier) construction site were releasing large amounts of sediment into the river.	Fig 4: During this inspection, issues related to the dewatering operations at the river diversion (fish barrier) remain. This includes defective geotextile socks and an inadequately designed settlement pond that does not allow enough time for sediment to fall out of suspension before it is returned to the river. Note: during today's inspection, water level close to overflowing settlement pond banks.
	
Fig 4a: During this inspection, increased seepage of sediment laden water was observed from right side of the settlement pond at the river diversion (fish barrier).	

	
Fig. 5: On 11 October 2012, inadequate concrete containment measures were noted at the river diversion (fish barrier).	Fig. 6: During this inspection, the cement slurry that soaked into the ground at the river diversion (fish barrier) in October 2012 has not been removed.
	
Fig. 7: On 05 December 2012 (date of last inspection), bags of refuse requiring disposal were present at the river diversion (fish barrier) site camp.	Fig. 8: During this inspection, bags of refuse remained at the river diversion (fish barrier) site camp.
	
Fig. 9: On 05 December 2012 (date of last inspection), soil stock pile remained on edge of right bank of the Mooi River at the river diversion (fish barrier). Erosion into the river caused by rain water was noted.	Fig. 10: During this inspection, this soil stock pile remained on the right bank at the river diversion (fish barrier).

	
<p>Fig. 11: On 05 December 2012 (date of last weekly inspection), Scotch thistle was in flower in the basin with no control measures being undertaken.</p>	<p>Fig. 12: During this inspection, a crew of 10 was working to eradicate Scotch thistle (through hand pulling) in the dam basin.</p>
	
<p>Fig. 13: On 05 December 2012, (date of last weekly inspection), no safety barricading had been installed on the steep slope above the right bank ROC.</p>	<p>Fig. 14: During this inspection, safety barricading had been installed on the steep slope above the right bank ROC.</p>
	
<p>Fig. 15: On 05 December 2012 (date of last weekly inspection), excavated site adjacent to house at the lab area filled with standing water. Lab supervisor explained that after excavation, heavy rain ponded and the presence of heavy clay layer prevents drainage. Supervisor requested advice from the Contractor on how this issue should be addressed.</p>	<p>Fig. 16: During this inspection, the standing water at the lab area remained and no feed back has been received from the Contractor on this issue. No action has been taken.</p>



Fig. 17: On 05 December 2012 (date of last weekly inspection), the bunding under the hazardous materials storage cage on the left bank was inadequate in size and close to overflowing with contaminated water.



Fig. 18: During this inspection, cage has apparently been relocated to the right bank above the RCC and near the mechanic's container. Although the bunding had been emptied it still is an inadequately sized bund.



Fig. 19: On 05 December 2012 (date of last weekly inspection), dewatering sock present below the dam foundation at the spillway was not connected to any pump line, rather the dewatering hose pipe was placed directly into the river.



Fig. 20: During this inspection, dewatering sock present below the dam foundation at the spillway was not connected to any pump line, rather the dewatering hose pipe was placed directly into the river and siltation was evident.



Fig. 21: On 05 December 2012 (date of last weekly inspection), drip trays were missing from under diesel powered equipment in the container at the workshop, RCC trial area and Spring Grove gauging weir (above).



Fig. 22: During this inspection, drip trays were absent from under diesel powered equipment at the river diversion (fish barrier), right bank, and the spillway below dam foundation (above).

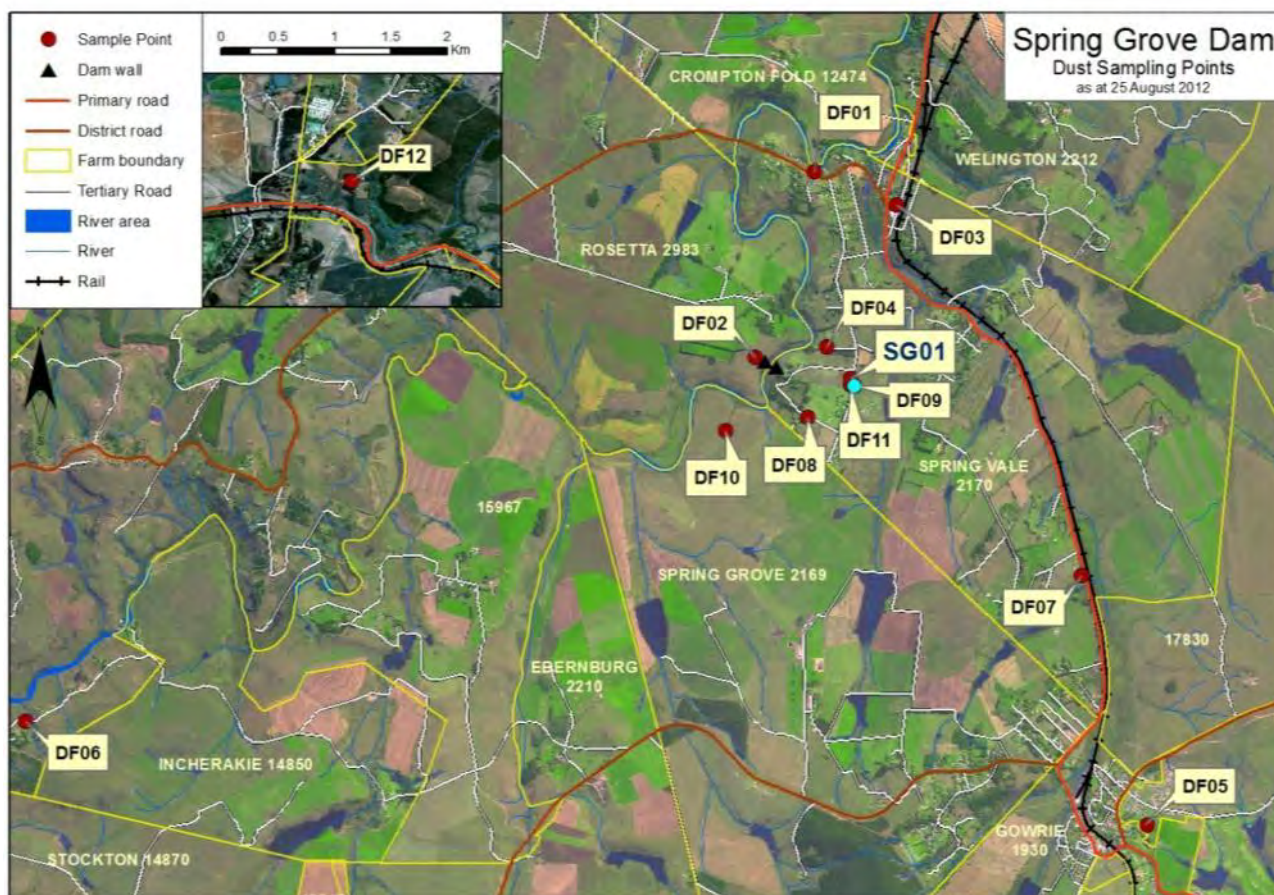


APPENDIX B

MONITORING SITES

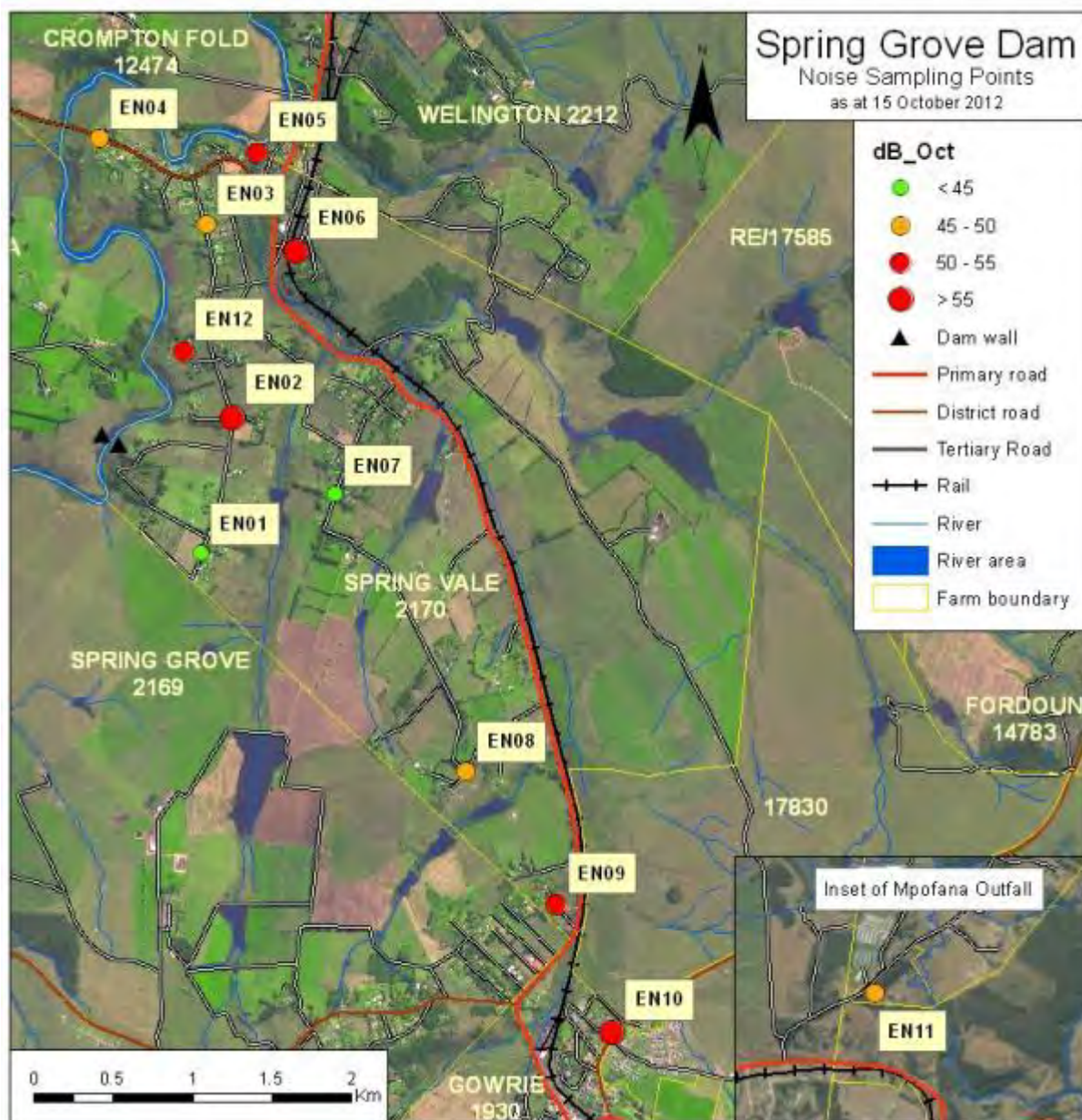
Dust Sampling Points

Blue Sands (2012a)



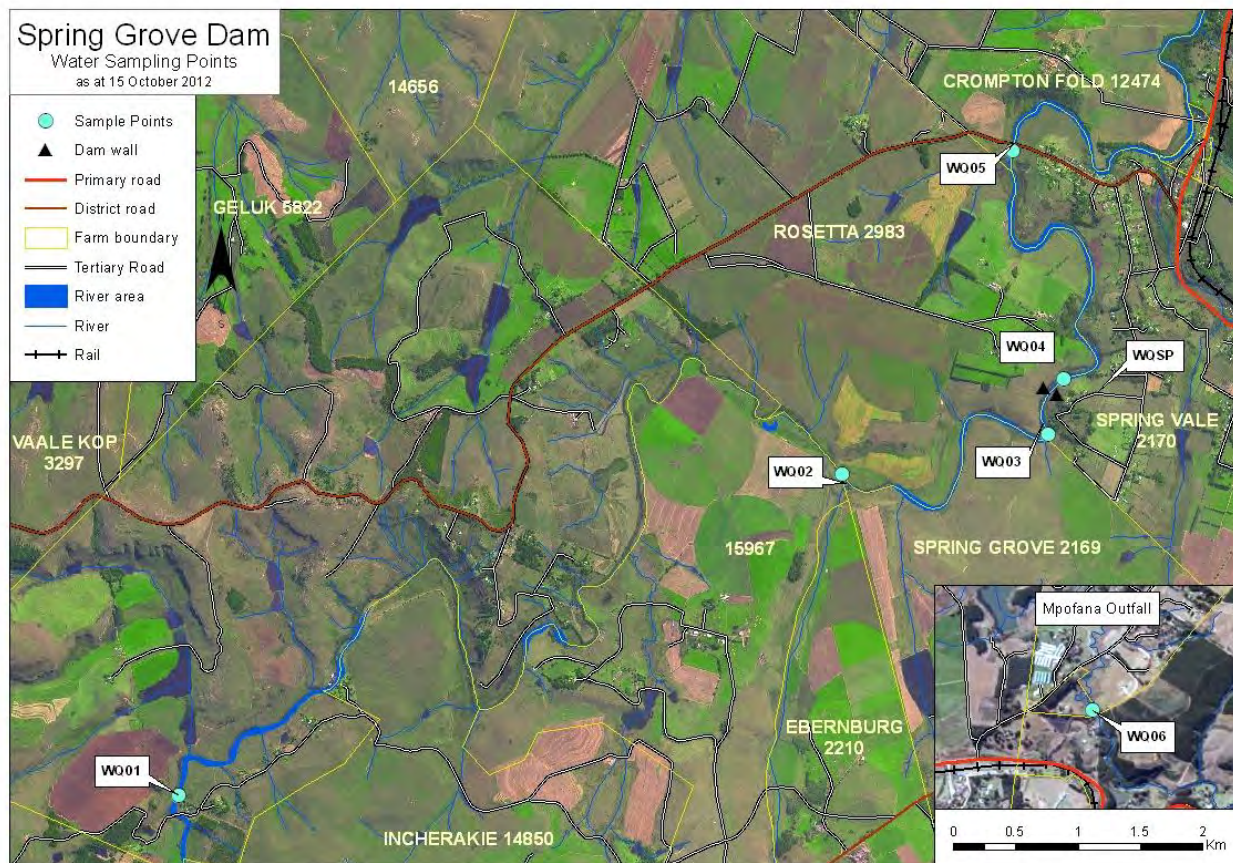
Noise Sampling Points

Blue Sands (2012b)



Water Quality Sampling Points




Blue Sands (2012c)



APPENDIX C

EXTRACT FROM ISSUES AND COMPLAINTS REGISTER

ISSUES AND COMPLAINTS REGISTER: NOVEMBER 2012 (*Note – incomplete for monitoring period*)

	Issue closed
	Issue open (related to Spring Grove Dam)
	Issue open (related to pipeline refurbishment)

No	Date	Submitted by	Description of Issue	Response to Issue	Resolved	Notes regarding Status
480	16-Nov-12	Mary Lund	Gates at the FB are just never locked. If they are not locked then the Lunds will lock the gates, and that will be at 17h00. Why can't the security guards lock the gate at the shift change? Also, white corolla, not amber light, no ID, driving through FB site; who was this?	Dear Donald (cc Salona, Gavin, and Kogi), Mary's just called. The gates at the FB are not even being closed at night, let alone locked! This is a huge security concern, and is contrary to our agreement with the Lunds, and the other landowners on the road. Mary says that if this situation does not change they will arrange for their staff to lock the gates at 17h00 sharp. Surely the security guard could lock the gate behind him when he is dropped off, and then open up for the teams in the morning? Andy observed an unmarked, un-orange-light-lit, white Toyota Corolla driving out of site a couple of evenings ago; who was this? If cars are to access site after hours then they are to be clearly marked, and are to have orange lights. Please let me have your response. Kind regards, Katie. Hi Katie, I am told that the last people to depart the Site Yesterday were the Environ. Team (white totyota). The Ballina Gate was locked this Morning as I opened it, and I can also confirm that the Lund Gate was not locked. I have already addressed this Issue w Dawid Nienaber. Thks, Donald	Yes	Gates are now being locked by responsible person.
481	16-Nov-12	Pippa Huggins	Hi Katie, Kogi and Gavin. Hope the week has treated you all well. I am just touching base around the gravelling of our road from Route 13 to entrance of Sub 49. (Huggins Property) . I was under the impression at the last EMC meeting that the gravel surface would be laid imminently as the road was considered to be dangerous in sections. I have noticed that a short stretch (about 180m- where the existing road runs into the junction of Route 11) has received the gravel treatment. This will be a big improvement, but it appears to be the extent of the remediation at present. Please could you let us know when the remainder of the road is expected to be gravelled. As an aside – I have also noticed that the amount of litter is increasing – perhaps the chicken parade should hunt and gather some rubbish. Enjoy the weekend Regards Pippa	Dear Pippa, You're absolutely right, there were plans to immediately attend to the surfacing. However, both the rain and the availability of suitable material meant that just the most problematic section was dealt with. The other sections will be surfaced as soon as material becomes available, and when weather conditions allow. In the mean time the unsuitable material will continue to be graded/removed from the road surface. As soon as I have had a response from the team re timeframes I will get back to you with a more helpful answer. I'm just about to drop Ryan a note about a couple of things, and I will mention the litter. Thank you for drawing this to our attention. Kind regards, and enjoy your weekend too. Katie	No	Resolution outstanding. Issue will only be closed when road is in a good condition.

No	Date	Submitted by	Description of Issue	Response to Issue	Resolved	Notes regarding Status
482	18-Nov-12	Chris King	Eskom is accessing Chris' property without her permission.	Katie, The Eskom contractor is Zakhele Electrical (copied) and the contact person is Terry Stark on 082 582 7299. Please note, however, it is very unlikely that Eskom will work on any transmission line situated on a landowner property without a signed way leave. It is my understanding that she would be aware of such movements (unless if she's alleging trespassing) and I don't think a vehicle stuck on her property and 'polite' request for assistance justifies any fury or an emergency call on a Sunday. This can happen to anyone including herself after these rainy days. I would suggest a meeting to discuss this (and further clarification) and the contractor's programme. Regards, James. Neil called Chris on the Sunday, and was to see Mike Forsyth the next day for wayleaves to be signed.	Yes	
483	21-Nov-12	Clive Garlick	Dear Katie, There are a few issues I would like to bring to your attention. After having the Meeting with Ryan this afternoon and discussing the weed invasion on TCTA's land(thistle,Mac Kenzies curse,ect) I was told that nothing was going to be done about it as the adjacent lands have been cultivated and chemicals that are used on these lands would eradicate the spread of weeds.I am not happy with that explanation.In most of our farming operations we rotate our lands with crops and pastures and in many cases we would not utilise any chemicals at all,hence the spread of these alien plants would take place over most of the cultivated lands. I have a huge concern especially with my instant lawn,as I do lift grass and sell to various clients,in doing so I expose ground where these weeds would flourish and render these lands useless for any further use as you can imagine.We also take seed off our rye grass pastures which would be contaminated with foreign seed. I would like to mention that the weed pressure has become so great because these lands have not been grazed and trampled by livestock for many months allowing the weeds to grow freely.My second issue is my access to my irrigation pump on the river.The road I used to use has now been demolished and I have already incurred damage to my bukkie having to use terrain that is very rough.I also have to travel a fair distance along the haulage road that Group 5 utilise and I feel is dangerous for all parties.I pointed out a more suitable route to Ryan which I do hope to get the go ahead.I do need access to the pump house and water as I have planted cabbages on my lands which need irrigation.This will be the case until a suitable irrigation system has been commissioned for the lands concerned. The third issue.The labour houses taken over by TCTA are drawing water from my bore-hole pump,let alone the repairs and maintenance for this service and utilising my facilities,my Eskom account for this pump,for October and November totals R21 801.85,if we do not come to a compromise I will be left no option but to cut the water supply to these houses.I will forward you a copy of the account that I expect to be reimbursed. Fourth issue.As per my previous e-mail sent to you	Dear Clive, Thank you for setting these issues out in writing. I'll respond point by point. Weeds: you have a valid point, and we need to reevaluate our stance on this matter and given a further explanation of the approach. I will respond to you formally once the environmental team has discussed the issue. I realise that this is critical. Access to irrigation pump: I'm grateful that you had time to meet with Ryan; thank you, and I'm sorry that I was unavailable to join you. A site instruction has been sent to G5PJV giving the go-ahead for the option that you and Ryan discussed (grading the cattle path). This should happen in the next couple of days, and we understand the urgency of the situation. I apologise that, even though you and I and a team of technical staff drove around your pivot a few months ago pointing out no-go areas for borrow activities, your access road was compromised. Thank you for drawing it to my attention on Tuesday afternoon. Staff houses – water: thank you for sending the account. I have passed it on to James Nyakale for his information and feedback.Usage of roads: apologies that you feel that I have not acknowledged your e-mail. I called you to talk through the issue and get further information, and have since discussed it with the relevant people. While there has been decision about any rehabilitation on the entrance that you currently share with Piet Pelser there has been a decision to rehabilitate the road that passes your new house. We are aware that vehicles have used this road occasionally. I cannot give you any commitment in writing about the Riverholm entrance yet. I will be in touch with you with more feedback. Kind regards, Katie	No	No complete resolution

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			without any response,the usage of both my entrance roads to my farm.Many vehicles with the"orange light"obviously people working on TCTA project have been using these farm roads,as many as 10 per day,especially during wet conditions when your roads are inaccessible or too slippery.I would like some written response in how TCTA is prepared to maintain and restore these roads back to acceptable condition. Kind regards, Clive Garlick			
484	22-Nov-12	Pippa Huggins	Dear Team, I hate to tell you all, but the condition of our road is now totally unacceptable. Despite promises made to me over 2 weeks ago, very little progress has been made. I appreciate that the weather has conspired against you, but I don't actually buy into the notion that there is a problem accessing gravel – a very large amount was brought to site adjacent to the causeway – Route 13 – which is being used to clad the sides. Clearly gravel is available for some aspects and I really think you now need to pay URGENT and CRITICAL attention to what remains of the road. The section parallel to Route 13 is a disgrace and getting worse by the moment as the heavy vehicles carve it up . The indentations are now at least 45cm deep and the central island scrapes on the bottom of my vehicle which has considerable clearance. Every time we use the road , we are putting our children , our vehicles and ourselves at risk . If the trend of disregard for the road continues ,we will be forced to use Route 13 before it is ready for action as there will be no alternative. I really dislike begging – it is extremely demeaning – but I am now BEGGING you to do something in as short a time frame as possible. Pippa	Hi Pippa, I drove it this morning and found it as you described. I contacted the relevant foreman who said he had already instructed a grader to deal with the problem. Please get back to me on your next trip through that spot if it has not been attended to. Regards, Gavin	No	Condition of road not suitable
485	22-Nov-02	Pippa Huggins	via sms: "Hi Katie - car still making noise - no idea what it is so will have to take it in to Renault in Pmb for them to check it. Will let you know but it is directly related to having to drive over huge piles of mud and gravel - never heard this noise before! P"	response to sms: "Hi Pippa, thank you for letting me know. I am so so sorry. Andrew and Gavin are both aware of the problem, and damage to your car, and I'll wait to hear from you after your visit to Renault. K"	No	Pippa to send invoice after next service

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486	22-Nov-12	Charles Jonsson	Dear All, You contractors need to be given a lesson in the making and or the grading of a dirt road by a professional, which I certainly am not. However, what I do know, is all you have now succeeded in doing by constant grading, which is what you are again proposing, is that you have now taken the road surface to below ground level, removing any remaining shale, leaving a bare, clay, flat, surface, without any drainage. Should we get more rain, which is highly likely, we will be driving on the bare clay earth in a canal type road, which will be impassable. While on this subject, let me state in writing, that we will be bringing in our own civil engineer to inspect the bypass which we have called Chapman's Peak, as I am convinced it has not been correctly constructed. I have walked and driven it, and whilst I accept it is not yet complete, the road surface is "spongy" due to a huge runoff from the slope with no drainage. No amount of additional shale on the surface or additional compacting will solve this problem as the whole road sits on a bed of clay. Be warned, that unless this matter receives urgent and immediate attention, I will have no hesitation in declaring a dispute and removing my temporary right of access. These issues have remained unresolved to our satisfaction for far too long with all of us residents being far more inconvenienced than we even envisaged, and now for a much longer time than we were promised. Even though I consider myself a very competent driver, in a 4 wheel drive Land Cruizer, with mud tyres, I have recently found our road nearly impassable. It cannot continue. This Friday 23rd November is my deadline to sort these issues, failing which I hereby officially notify you that I will recind ny temporary right of access through Penfield Farm from 7.00am on Monday 26th November 2012. Regards, Dear All, While I have your attention, please add to my list of grievances which you need to rectify by this Friday, the perilous state of my cattle grate, over which you expect us residents to drive, as per attached photograph. The track you can see on the photo, going off to the left of the road, is from one of your contractors. I am happy to meet with you to discuss any of these issues but will not change the date of my withdrawal of the temporary right of access if these issues are not rectified. Regards,	Dear Charles, and all, I'll respond point by point. Cattle grid: this will be filled in tomorrow, and we agree that it should not have been allowed to deteriorate to this condition. Track to the left: Eskom is working on your property at the moment, as far as I understand, and their truck was parked at that point today, so you will need to take this issue up with them. Road maintenance: We agree that this has been handled very badly by the contractor. The road has not held up. Andrew Olden and Gavin Elliott are to inspect the road first thing tomorrow, to assess the state of repairs so far. The road has been worked on today already. The bad areas, or soft sections, have been undercut and the unsuitable material has been removed. There are about five such sections, and three were worked on today. The canal that you speak of will be rectified by rebuilding the road layers, and mitre drains will be cut to direct the water off that section. Tomorrow's maintenance operations will be quite slow, with a stop-go system being put in place. The work will be wrapped-up by Saturday. Please bear with us. The crusher that is to be mobilised to site to prepare material for the surfacing and maintenance of your road has not yet been released from its previous job, but will arrive within the next one and a half weeks. Route 11: you're correct, it is not complete. Route 11 is still under construction, and is therefore a construction area. It has not yet been handed over to the engineer, let alone to the landowners. We're aware that tests need to be carried out in order to ensure that our specifications have been met. If it is found to be out of spec it will be reconstructed. It is un-trafficable in its current state, and is not for anyone's use. Kind regards, Katie	No	Road closed on Monday 26 Nov 2012
490	23-Nov-12	Charles Jonsson	Huge truck speeding; Charles flagged him down and asked him whether he knew the speed limit; driver said his speedometer was broken so unroadworthy truck? Charles has confiscated keys and drivers licence. Truck is pulled over between gabion and cattle grid.	Truck is water tanker. No responsible person available to see Charles about the issue.	No	Keys and licence given back, but took us one step further towards the road being closed.

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491	23-Nov-12	Peter Kidd	Katie, On the opposite bank to us in the hundred year floodline area there are two small willows which are home to about 35 to 40 pairs of breeding Cape and Southern Masked Weavers. (about two thirds of the number that were destroyed on our side). They are breeding at the moment. May I ask that these trees be spared. This area will probably never be flooded in my lifetime, my grandchildrens or their grandchildrens lifetime. May I ask that this instruction be somehow followed through. I am absolutely shattered by the destruction carried out on our side of the river. The trees downstream should have been felled outside of breeding season. Peter Kidd.	Peter, I owed you a letter of apology about the destruction of your three willows which were inside the purchased area, but would have been out of the full supply level of the dam. I'm sorry that I have not sent you one yet. Please accept this as an apology from the whole team. We will endeavour to manage ourselves and subcontractors better in future, and we regret the actions taken so far. Thank you for drawing my attention to the nesting weavers. I have copied our Environmental Monitor (Sandhisha) and G5's Environmental Officer (Ryan) into this e-mail so that they are both aware of request that you've made. No trees need be cleared above the full supply level. Ryan, please acknowledge that the tree felling contractor will be made aware of his boundaries? It would be a pity to destroy more habitat that necessary. Kind regards, Katie. Hi Mandy/Neil, Please see email below and ensure that only the timber between Inchbrakie and below Tunga Falls is felled and only that on the river banks. Kind Regards, Ryan Phelan	No	Resolution only when the tree felling team has moved through that section without causing damage.
493	26-Nov-12	Piet Pelser	Brush piles (debris from tree felling) must not be burnt below Stable One; this would scare horses and also blow ash into Piet's new house.	Agreed that those piles will not be burnt, but rather buried.	Yes	

Note: Wording directly extracted from Issues and Complaints Register