

APPENDIX

B

Horizontal Clearances

Outline Environmental Management Plan

STOCKINBINGAL TO PARKES REVIEW OF ENVIRONMENTAL FACTORS



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Appendix B Environmental Risk Assessment

B.1 Context

Inland Rail operates within the broader ARTC Environmental Management System. ARTC manages its environmental responsibilities and environmental performance by implementing an Environmental Management System that is consistent with the principles contained within the ISO 14000 series and standards. The *Inland Rail Environment and Sustainability Policy* guides the planning, design and implementation of the Inland Rail Program. It outlines the organisation’s commitment to effectively manage any risks that may lead to an impact on the environment during construction and operation of Inland Rail. Consistent with this policy, ARTC has developed a Construction Environmental Management Framework to provide for a high standard of environmental performance during construction of all Inland Rail projects. In accordance with the framework, contractors will be required to develop, implement and maintain a Construction Environmental Management Plan (CEMP) that meets the requirements of the respective contract, the Construction Environmental Management Framework and the REF. Construction is required to be completed in accordance with the most recent version of the CEMP approved by the relevant administrating authority (where required). The relationship between the Construction Environmental Management Framework, ARTC’s and Inland Rail’s corporate and Program-level environmental documentation, and the CEMP is shown in Figure B.1.

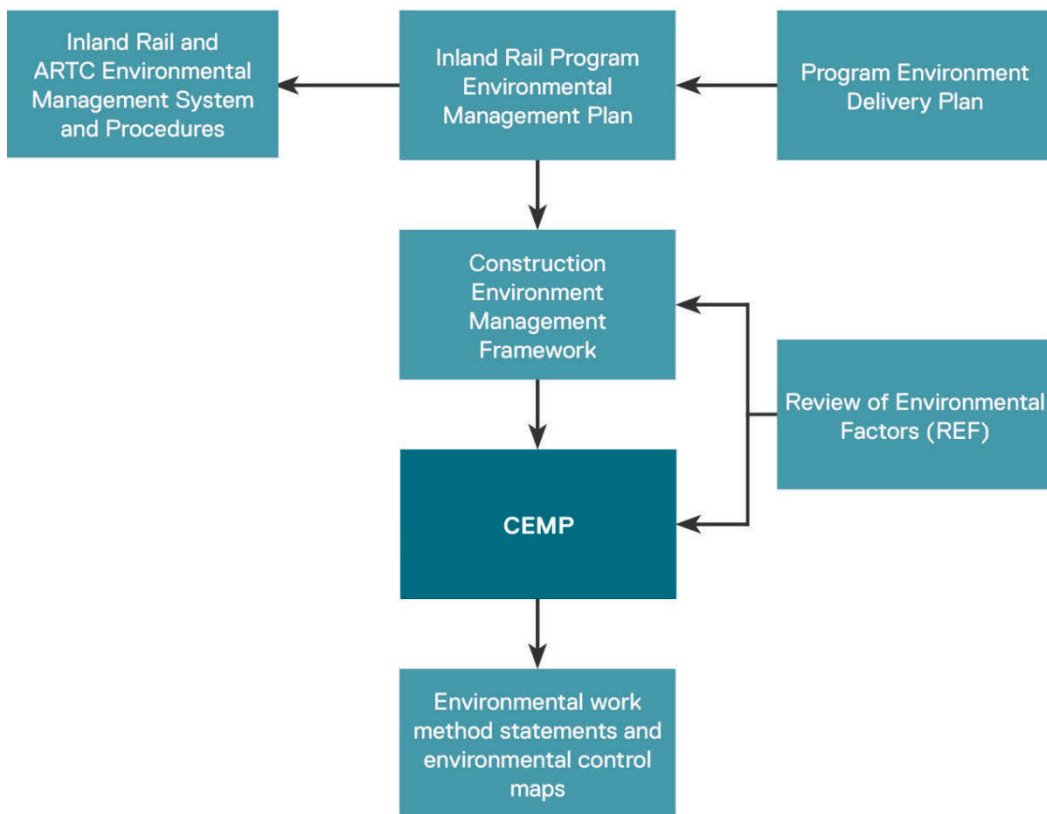


FIGURE B.1 ENVIRONMENTAL MANAGEMENT HIERARCHY

B.2 Outline of Environmental Management Plan

The management of environmental impacts during construction would be documented in the CEMP, to be prepared by the construction contractor(s). The CEMP would provide a centralised mechanism through which all potential construction-related environmental impacts will be managed. It would also provide the overall framework for the system and procedures to ensure that environmental impacts are minimised, and that legislative and approval requirements are fulfilled.

The CEMP would include detailed management plans that would detail how specific environmental issues are to be managed during construction in accordance with the mitigation measures in the REF. It would be prepared in accordance with the Inland Rail Construction Environmental Management Framework and all relevant approvals for the proposal, and include:

- ▶ Environmental obligations
- ▶ Required licences and permits
- ▶ All applicable environmental assessment mitigation measures
- ▶ Environmental aspects and impacts associated with project scope of works
- ▶ Allocation and statement of ARTC and contractor obligations
- ▶ Environmental management roles and responsibilities
- ▶ Coverage of identified risks by environmental controls and mitigations
- ▶ Environmental training needs
- ▶ Obligations of reporting to ARTC
- ▶ Emergency response incident management and non-compliance processes
- ▶ Hold point list, as supplied by ARTC
- ▶ Complaints and enquiries procedure
- ▶ Incident and emergencies procedure
- ▶ Document change/version control for the CEMP.

Contractors would develop and document a process of periodically reviewing the CEMP. The process would focus on identifying opportunities for continual improvement of processes and practices to ensure that the CEMP is relevant to contractors' activities. The process would address how legislative changes and environmental incident corrective actions will be addressed via an update to the CEMP. Any changes to the CEMP would be reported as part of contractors' monthly environmental reports.

B.3 Environmental performance

The management measures detailed in the CEMP would be monitored during construction to confirm their effectiveness and whether any additional measures are required. Site inspections would be regularly undertaken to check and update erosion and sediment control measures as necessary. Environmental site monitoring would also be undertaken to confirm project impacts and existing environmental values in accordance with monitoring commitments made in this document. The CEMP would provide for an internal compliance monitoring program where the construction contractor(s) would periodically monitor and report on project performance against the mitigation measures of the REF. Independent external audits would also be carried out in accordance with *ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing* every six months.

B.4 Non-conformance and corrective action

For any environmental issues that arise, corrective and preventative actions must be implemented. Corrective and preventative actions might be developed to address issues or initiate environmental management improvement opportunities identified as a result of incidents, inspections and monitoring, and audit findings and other reviews.

The CEMP would document the corrective and preventative action procedures that will be implemented during construction of the project.

B.5 Outline of CEMP plans

The CEMP would comprise a main CEMP document, issue-specific plans, activity-specific procedures and strategies, and site-based control maps. The CEMP, issue-specific plans and strategies/plans proposed to manage the impacts identified in the REF (in accordance with the mitigation measures) are shown in Figure B.2.

| Construction Environmental Management Plan | Other strategies and plans to be implemented during construction | | |
|---|--|---|--|
| Biodiversity Management Plan | Rehabilitation Strategy | Inland Rail NSW Construction Noise and Vibration Management Framework | Inland Rail Communications and Engagement Strategy |
| Flood and Emergency Response Plan | | | |
| Soil and Water Management Plan | | | |
| Contamination and Hazardous Materials Plan | Out-of-hours work protocol | Inland Rail Noise and Vibration Strategy | Unexpected Finds Procedure |
| Communication Management Plan | | | |
| Heritage Management Plan | | | |
| Noise and Vibration Management Plan | Inland Rail Sustainable Procurement Policy | Complaints Management Procedure | Inland Rail Sustainability Strategy |
| Marine Transport Management Plan | | | |
| Traffic, Transport and Access Management Plan | | | |
| Waste Management Plan | | | |

FIGURE B.2 CONSTRUCTION PLANS AND STRATEGIES

An outline of the required plans, and a guide to the general construction management measures required in each, is in Table B.1. The requirement to prepare these plans is specified by the mitigation measures in relevant REF chapters.

TABLE B.1 OUTLINE OF CEMP PLANS

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|-------------------------|---|---|--|
| Biodiversity management | The Biodiversity Management Plan would detail how construction impacts on terrestrial flora and fauna would be mitigated, managed and monitored. | Vegetation management | <p>Employee education and training including inductions for staff, contractors and visitors to the site would include the biodiversity issues present at the site and so they know their role and responsibilities in relation to the protection and/or minimisation of impacts to native biodiversity.</p> <p>The CEMP and construction plans would clearly document the location and full extent of clearing required.</p> |
| | | Management of trees to be retained | The management of trees in the vicinity of the construction zone would be consistent with the <i>AS 4970-2009 Protection of trees on development sites</i> (Standards Australia, 2009). |
| | | Pre-clearance surveys – native vegetation | <p>Pre-clearance surveys would be implemented within areas of native vegetation that are to be cleared. Pre-clearance surveys will be undertaken by suitably qualified and experienced ecologists and involve the following:</p> <ul style="list-style-type: none"> ▶ The demarcation of areas approved for clearing to reduce risk of accidental clearing/disturbance of surrounding native vegetation ▶ The likely habitat resources and habitat trees would be identified and marked. Habitat trees are those containing hollows, cracks or fissures and spouts, active nests, dreys or other signs of recent fauna usage. Other habitat features to be identified include fallen timber/hollow logs and burrows. ▶ The potential presence of threatened flora and fauna species, endangered populations and threatened ecological communities would be identified ▶ The identification of species or habitat features that are suitable for translocation or salvage in areas of koala habitat, visual inspection of trees for koalas prior to clearing. |
| Weed management | <p>Weeds would be managed and disposed of in accordance with the requirements of the <i>Biosecurity Act 2015</i> (NSW).</p> <p>Weed control mitigation and management strategies would be documented and implemented as follows:</p> <ul style="list-style-type: none"> ▶ Vehicles or equipment being brought onto the proposal site and/or travelling around the site must be inspected and cleaned prior to commencing work to limit the spread of seeds and plant material ▶ Regular inspections to monitor the spread of weed species ▶ Training of environmental personnel on the identification of target weed species. <p>Weed control and eradication techniques may include:</p> <ul style="list-style-type: none"> ▶ Spraying with herbicides ▶ Physical removal, e.g. chipping ▶ Minimisation of area available for weed infestation, through prompt revegetation of bare areas ▶ Site hygiene and waste management protocol to deter pest species. | | |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|---------------------|--|-----------------------------------|---|
| Noise and vibration | The Noise and Vibration Management Plan would detail how potential noise and vibration impacts would be mitigated and managed during construction. The plan would include the listed management measures. | Notification and behaviour | Notification undertaken during construction would inform relevant stakeholders of the work locations and timing, and the potential for noise impacts. Construction sites and compounds located within 200 m of sensitive receivers would be managed to minimise noise-generating activities, including unnecessary shouting, loud stereos/radios, dropping of materials from height, throwing of metal items, and slamming of doors, particularly at the start and finish of shifts. |
| | Where the noise and vibration levels are predicted to exceed the criteria after implementation of the general work practices, the additional mitigation measures detailed in the Construction Noise Strategy would be implemented. | Construction hours and scheduling | The relevant noise and vibration criteria would be defined and reference the obligations to EPL3142. |
| | The requirements of relevant standards and guidelines, including AS 2436-2010 and <i>the Interim Construction Noise Guideline</i> (Department of Environment and Climate Change, 2009) would be addressed. | Equipment and plant | Quieter and less vibration emitting construction methods would be used where reasonable and feasible. The noise levels of plant and equipment would have operating sound power or sound pressure levels that comply with the required criteria. Simultaneous operation of noisy plant within range of sensitive receivers would be avoided. The offset distance between noisy plant and adjacent sensitive receivers would be maximised. Plant used intermittently would be throttled down or shut down. Noise-emitting plant would be directed away from sensitive receivers. Stationary noise sources would be enclosed or shielded while ensuring that the health and safety of workers is maintained. Consider site topography when situating plant and use structures (such as site shed placement, earth bunds, fencing, noise barriers) to shield receivers from noise. |
| | The plan would also include reference to the working hours protocol and the complaints management procedures specified in the Communication Management Plan. | Traffic flow and deliveries | Loading and unloading of materials/deliveries would occur as far as possible from sensitive receivers, and preferably during standard construction hours. Site access points and roads would be selected to minimise impacts on sensitive receivers. Where practicable, delivery vehicles would be fitted with straps rather than chains for unloading. |
| | | Measuring and monitoring | Vibration and noise monitoring may be required in response to complaints. |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|-----------------------------------|--|---|---|
| Non-Aboriginal heritage | <p>A Heritage Management Plan would be prepared and implemented as part of the CEMP. It would include measures to manage non-Aboriginal heritage and minimise the potential for impacts during construction.</p> <p>The plan would be prepared in consultation with Heritage NSW and Forbes Shire Council and take into account the outcomes of further investigations and surveys during detailed design.</p> | Impacts to state heritage listed Forbes Station | <p>Specific management measures to be included are:</p> <ul style="list-style-type: none"> ▶ As many original elements as feasible should be reused during the modification of the Forbes Station awning. This includes reusing the chamfered edge beam at the outer edge of the awning and ensuring that the decorative finials at the track end of the cantilevered bracket remain in place. ▶ Where original elements cannot be reused, 'like for like' elements must be sourced to ensure the aesthetic of the Forbes Station awning is not diminished. ▶ Repainting should be sympathetic to the current station colour palette of the Forbes Station awning. ▶ The downpipe from the awning gutter should be relocated to reflect its position seen in the 1925 historical image shown on Figure 5.10. Care should be taken to select a low-profile gutter close to that originally installed (refer to the <i>Statement of Heritage Impact</i> (SoHI) prepared by Ozark, 2021). ▶ Unexpected finds procedure to provide a consistent method for managing any unexpected heritage or archaeological items and unexpected human skeletal remains. |
| Aboriginal heritage | <p>The potential impacts on heritage would be mitigated and managed during construction.</p> <p>The CEMP would incorporate the results of the Due Diligence Assessment and an unexpected finds procedure.</p> | General | Heritage requirements would be included in the site induction. |
| | | Unexpected finds | <p>An unexpected finds procedure would be developed and included in the CEMP to provide a consistent method for managing any unexpected heritage items (both Aboriginal and non-Aboriginal heritage items) discovered during construction, including potential heritage items or objects, and human skeletal remains.</p> <p>Procedures and notification requirements for potential human remains in accordance with relevant guidelines.</p> |
| Traffic and access | <p>A Traffic, Transport and Access Management Plan would be prepared. The plan would include measures, processes and responsibilities to minimise the potential for impacts on the community, and the operation of the surrounding road and transport environment during construction.</p> <p>The plan would be developed in consultation with local council and public transport/bus operators.</p> | Impacts to local road network | <p>As appropriate, additional reasonable and feasible measures identified as an outcome of consultation would be detailed in the plan.</p> <p>The plan would include:</p> <ul style="list-style-type: none"> ▶ Ensuring adequate road signage to inform motorists, cyclists and pedestrians of the work site ahead ▶ Scheduling deliveries to minimise impact to grain terminals, Forbes Information Centre and school bus movements ▶ Traffic controls to manage deliveries, if required ▶ Ensuring adequate sight lines to allow for safe entry and exit from the site ▶ Haulage routes. |
| Flood and emergency response plan | Potential impact from flooding at Forbes Station and other emergencies would be addressed here | Emergency incident | <p>The plan would include measures, process and responsibilities to minimise the potential impacts of construction activities on flood behaviour as far as practicable. It would also include measures to manage flood risks during construction and address flood recovery during construction.</p> <p>Evacuation protocols and monitoring for emergency events in the region would be detailed.</p> |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|----------------|--|--|---|
| Soil and water | <p>The Soil and Water Management Plan would detail how potential impacts on soils, erosion, sedimentation, watercourses and water quality (surface and groundwater) would be mitigated and managed during construction.</p> <p>The plan would consider site-specific conditions including dispersive soils and potential treatment options during construction.</p> <p>The plan would provide for incident management in relation to potential water quality contamination incidents.</p> <p>The plan would include procedures to manage the impact of the proposal on flooding, and would take into account the requirements of relevant guidelines, including:</p> <ul style="list-style-type: none"> ▶ <i>Managing Urban Stormwater: Soils and Construction Volume 1</i> (Landcom, 2004) ▶ <i>Managing Urban Stormwater: Soils and Construction Volume 2A: Installation of Services</i> | Erosion of exposed soils and sediment management | <p>Sediment and erosion control devices would be installed to minimise mobilisation and transport of sediment in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004).</p> <p>Maintenance and checking of the erosion and sedimentation controls would be undertaken on a regular basis and any subsequent records retained. Sediment would be cleared from behind barriers/sand bags on a regular basis, as required, and all controls would be managed to ensure they work effectively at all times.</p> <p>The area of exposed surfaces would be minimised. Disturbed areas would be stabilised progressively to ensure that no areas remain unstable for any extended length of time.</p> <p>Soil and sediment that accumulates in erosion and sediment control structures would be reused, where practicable, during site reinstatement, unless it is contaminated or otherwise inappropriate for reuse.</p> <p>Work would cease, where practicable, during heavy rainfall events when there is a risk of sediment loss offsite or ground disturbance due to waterlogged conditions.</p> <p>Equipment, plant and materials would be placed in designated lay-down areas where they are least likely to cause erosion.</p> <p>Erosion control devices would be removed as part of the final site clean-up. This would include removing any sediment in drainage lines that has been trapped by erosion control devices and restoring disturbed areas.</p> <p>Exposed surfaces would be stabilised, and final landscaping implemented, as soon as practicable.</p> |
| | | Stockpile management | <p>Stockpiles would be managed by implementing sediment and erosion control devices in accordance with <i>Managing Urban Stormwater, Soils and Construction</i>.</p> <p>No stockpiles of materials or storage of fuels or chemicals would be located within high/medium flood risk areas or flow paths.</p> |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|-------|---|---------------------------|---|
| | <p>(Department of Environment, Climate Change and Water (DECCW), 2008)</p> <ul style="list-style-type: none"> ▶ <i>Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed roads</i> (DECCW, 2008) ▶ <i>Erosion and sediment control on unsealed roads</i> (Office of Environment and Heritage (OEH), 2012) ▶ <i>Technical Guideline: Temporary stormwater drainage for road construction</i> (Roads and Maritime Services (RMS), 2011) ▶ <i>Waste Classification Guidelines – Part 1: Classification of Waste</i> (NSW Environment Protection Authority (EPA), 2014b). | Spill/incident management | <p>Spill kits would be maintained onsite at all times.</p> <p>Machinery would be checked daily to ensure that no oil, fuel or other liquids are leaking.</p> <p>Refuelling of plant and equipment would be undertaken within designated areas with appropriate controls.</p> <p>Visual monitoring of local water quality (such as turbidity, hydrocarbon spills/slicks) would be undertaken on a regular basis to identify any potential spills.</p> <p>Vehicle wash down and/or cement truck washout would occur in a designated bunded area or offsite.</p> |
| Waste | <p>The Waste Management Plan would detail how waste would be managed during construction to minimise the potential for significant impacts.</p> <p>The plan would include disposal requirements, measures to reduce, re-use or recycle wastes where possible. It would set targets for waste diversion, demonstrate how targets can be achieved, and outline how waste diversion would be tracked and reported.</p> <p>The plan would be prepared in accordance with the <i>Waste Classification Guidelines - Part 1: Classification of Waste</i> (EPA, 2014b).</p> | Waste management | <p>Resource management hierarchy principles would be followed:</p> <ul style="list-style-type: none"> ▶ Avoid unnecessary resource consumption as a priority ▶ Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery) ▶ Disposal is undertaken as a last resort. <p>Waste material, including soil and spoil to be taken offsite, would be classified and managed in accordance with the <i>Waste Classification Guidelines - Part 1: Classification of Waste</i> (EPA, 2014b). and would be disposed of in accordance with the <i>Protection of the Environment Operations Act 1997</i> (NSW) (POEO Act).</p> <p>All waste documentation would be collated and maintained on file in accordance with these guidelines.</p> <p>Waste material would not to be left onsite once the works have been completed.</p> <p>Working areas would be maintained, kept free of rubbish and cleaned up at the end of each working day.</p> <p>Any waste material identified as being contaminated would be managed in accordance with the <i>Contaminated Land Management Act 1997</i> (NSW) and other relevant legislation and guidelines.</p> <p>The removal, handling and disposal of any asbestos-containing materials would be undertaken by an appropriately licensed contractor, and in accordance with:</p> <ul style="list-style-type: none"> ▶ <i>Code of Practice for the Safe Removal of Asbestos 2005</i> ▶ <i>Code of Practice for the Management and Control of Asbestos in Workplaces 2005.</i> |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|---------------------------------------|--|---|--|
| Air quality and dust | The air quality management plan would detail how potential impacts on air quality would be mitigated and managed during construction. | Dust suppression-construction works | <p>Dust generation would be monitored visually and, where required, dust-control measures such as water spraying would be implemented to control the generation of dust.</p> <p>Access points would be inspected to determine whether sediment is being transferred to the surrounding road network. If required, sediment would be promptly removed from roads to minimise dust generation.</p> <p>Works would be suspended during strong winds or in weather conditions where high levels of dust or airborne particulates are likely.</p> <p>Any exposed surfaces would be stabilised as soon as practicable.</p> <p>In locations where nearby sensitive receivers may be affected, adopt a site 'shut down and cover up' policy during periods of extreme weather conditions, e.g. high winds.</p> |
| | | Dust suppression-vehicle movements | <p>Vehicle movements would be limited to designated entries and exits, haulage routes and parking areas.</p> <p>Materials transported to and from the site would be covered to reduce dust generation in transit.</p> |
| | | Vehicle emissions | <p>All plant and machinery would be fitted with emission control devices complying with relevant Australian Standards.</p> <p>Machinery would be turned off when not in use and not left to idle for prolonged periods.</p> <p>Surveillance would be undertaken to identify any vehicle, plant or equipment that is causing visible emissions. If any defective vehicles, plant or equipment are identified, operation of this machinery would cease and service/maintenance would be undertaken.</p> |
| | | Communication | <p>Advance warning would be provided to sensitive receivers in relation to any significant dust-generating activities undertaken in close proximity to sensitive receivers.</p> |
| Contamination and hazardous materials | <p>A contamination and hazardous materials plan would be prepared and implemented as part of the CEMP. It would include measures, processes and responsibilities to minimise the potential for contamination impacts on the local community, workers and environment, and procedures for incident management and managing unexpected contamination finds (an unexpected finds protocol).</p> | Handling or disturbance of contaminants and hazardous materials | <p>The plan will include a detailed list of measures that will be implemented during construction to minimise the potential for contamination impacts, including:</p> <ul style="list-style-type: none"> ▶ Allocation of general site practices and responsibilities ▶ Hazardous materials and dangerous goods management practices ▶ Procedures to be undertaken during demolition of structures ▶ Spill/incident management procedures. |

| Item | What would the plan address? | Issue | Management measures to be included in the CEMP and implemented during construction |
|-------------------------------|---|------------------------------|--|
| Communication management plan | <p>The communication management plan would provide guidance for the management of communication and consultation during the construction period, including objectives of consultation, stakeholders, contact mechanisms, and protocols.</p> <p>The plan would be consistent with the consultation plan developed by ARTC, as described in Chapter 4.</p> <p>The plan would also include implementation and maintenance of a complaints register and complaints handling and escalation procedures, consistent with ARTC requirements.</p> | Communication and complaints | <p>Contact details for a 24-hour project response line and email address would be provided for ongoing stakeholder contact throughout the construction period.</p> <p>Provision of accurate public information signs while work is in progress.</p> <p>Staging of works would be undertaken to minimise disruption, in consultation with relevant stakeholder groups, to minimise impacts to community activities and functions.</p> <p>Relevant stakeholders would be notified regarding service disruptions in accordance with the communication management plan.</p> <p>Complaints would be managed according to the following procedure:</p> <ul style="list-style-type: none"> ▶ Details of all complaints received would be recorded ▶ A detailed written response would be provided to the complainant within 14 calendar days. |