



# BHP BILLITON IRON ORE ASSET DEVELOPMENT PROJECTS

## ENVIRONMENTAL MANAGEMENT SYSTEM

### Environmental Management Plan

**PP-13-100**

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## 1.0 PURPOSE AND SCOPE

This plan outlines the minimum environmental management requirements for Asset Development Projects (ADP). These requirements apply to all activities associated with ADP projects and their implementation.

## 2.0 DEFINITIONS AND ABBREVIATIONS

**Asset Development Projects (ADP)** - Company Project Management Team.

**Company** - BHP Billiton Iron Ore Pty Ltd (BHPBIO).

**Contractor** - Tenderer

**Engineering Procurement and Construction Management (EPCM)** - Company Representative

**HSMP** - Health & Safety Management Plan

**Significant event** - BHP Billiton Consequence Severity Level 2 and above.

**Significant risk** - BHP Billiton Risk Rating of High and above.

## 3.0 REFERENCES & RELATED DOCUMENTS

BHP Billiton HSEC Management Standards

AS/NZS ISO 14001:2004

Health & Safety Management Plan (PP- 09-100)

Training and Awareness (PP-13-007)

Major and Minor Spill Response (WIN-IEN-HC-001)

Hydrocarbons and Hazardous Materials Management (PP-13-021)

Waste materials (PP-13-011)

Land Disturbance (PP-13-015)

Fauna Management (WIN-IEN-LAND-004)

Rehabilitation and Demobilisation (PP-13-020)

Surface Water and Drainage (PP-13-017)

Groundwater Management (PP-13-008)

Air Quality (PP-13-010)

Working Near or Over Natural Water (PP-13-014)

Temporary Toilet Amenities (PP-13-006)

## 4.0 ROLES AND RESPONSIBILITIES

Without limiting the generality of the General Conditions, in the execution of the work under the Contract, the Contractor shall comply with the relevant Company environmental requirements detailed herein. The Contractor shall implement and demonstrate compliance with these standards at all times during the execution of the Contract.

The Contractor shall address the requirements of those applicable standards in the form of specific project Work Instructions, detailing the operating criteria required to implement the standards. The Work Instructions shall form a part of the Contractor's Environmental Management Plan (EMP).

Nothing in this document, nor any action, omission or failure by the Company or the EPCM shall derogate the Contractor's responsibility and liability in the event of environmental pollution (as defined in the Environmental Protection Act 1986).

The Company referred to in this standard may be replaced by the EPCM as appropriate to project scope of works. In such situations, the Company will advise the Contractor of specific clauses of this standard where the EPCM shall have similar role and authority to the Company.

## **5.0 TENDER ANALYSIS AND REVIEW**

- 5.1** Unless notified as exempt from the Company, Contractors must submit an Environmental Management Plan (EMP) that meets the Company's Minimum Environmental Standards for Construction Contracts as stated in this document, specific project requirements, and is consistent with Environmental Management System standards ISO 14001:2004.
- 5.2** Contractors must reach a minimum review score of 85% on their own EMP prior to mobilisation to site.
- 5.3** An EMP shall include management of environmental aspects in the form of environmental procedures related to the Scope of Works, that are included in these minimum standards, in addition to the following:
- 5.3.1** Environmental performance of the tenderer in the last 5 years, including number, nature and severity of environmental events;
  - 5.3.2** The tenderer is to undertake a preliminary environmental risk assessment in relation to the Scope of Works;
  - 5.3.3** Detailed environmental roles, responsibilities and authorities of the following positions:
    - Company Director;
    - Project Manager; and
    - Supervisors.
  - 5.3.4** Thorough details, including role, responsibilities, authority and relevant environmental experience, of the tenderers nominated environmental representative on site.

### **Prior to Mobilisation**

- 5.4** Upon contract award, Contractors shall be advised by the EPCM of the site specific environmental requirements.
- 5.5** The Contractor must present at the HSEC Construction Risk Assessment Workshop (CRAW), detailing how specific environmental risks associated with their Scope of Work will be managed.
- 5.6** At the completion of the CRAW, the contractor will incorporate any additional environmental controls / management requirements identified into the Contractor's Project EMP.
- 5.7** Environmental training and awareness needs shall be determined and documented via a training needs analysis prior to mobilisation.
- 5.8** All personnel shall be required to undergo a Project site induction that includes the environmental requirements of the Project.
- 5.9** Contractor site management, supervisors and nominated environmental representative shall undergo a two day BHPBIO HSEC Supervisors Awareness Course, which details general environmental awareness and specific performance requirements expected on site.
- 5.10** Contractors shall ensure that all ground breaking, earthmoving and tracked equipment have undergone a weed and hygiene inspection and passed a vehicle inspection checklist prior to entering site.
- 5.11** Contractors shall clearly delineate the boundary of their lay down areas on-site and install sufficient contractor signage to indicate responsibility for such areas.

## **6.0 LEGAL COMPLIANCE & RISK MANAGEMENT**

- 6.1.** The Environmental risk register (as presented in the CRAW) shall be maintained by the Contractor and as a minimum:
- 6.1.1.** Describe the potential impacts and controls for each hazard;
  - 6.1.2.** Define the level of risk for each hazard based on requirements stipulated in the Health Safety Management Plan (HSMP, PP-09-100);
  - 6.1.3.** Be available on site, and communicated to key personnel including:
    - Contractor site construction manager;
    - Contractor HSE advisors;
    - Contractor superintendents / supervisors; and
    - EPCM personnel relevant to the works.
  - 6.1.4.** Be reviewed when significant events / non-conformances are identified;
  - 6.1.5.** Be reviewed when there is a change to the Contractor Scope of Work;
  - 6.1.6.** Be reviewed at the next stage of work under the Scope; and
  - 6.1.7.** Communicated to key personnel when revisions occur.
- 6.2.** Significant environmental risks as determined in the CRAW, shall have appropriate objectives and targets for risk reduction. Targets shall be maintained, communicated and tracked on a regular basis to determine compliance with objectives.
- 6.3.** Applicable HSEC documentation as stipulated in the HSMP, such as Job Hazard Analysis (JHA), Take 5 and Behavioural Based Observations, shall be utilised on site to identify environmental risks.

## **7.0 PERSONNEL AND RESOURCES**

The Contractor shall:

- 7.1.** appoint a site environmental representative who, irrespective of other duties, shall be familiar with these Asset Development Projects (ADP) Minimum Environmental Standards for Construction Contracts, the Contractor's EMP, and Legal and Other Requirements;
- 7.2.** nominate an alternate environmental representative to delegate environmental responsibilities to when the appointed environmental representative is off site.

The Contractor appointed environmental representative shall:

- 7.3.** ensure that the environmental requirements set in this document are adequate to the scope and are communicated to and understood by supervision.
- 7.4.** provide information on environmental Project requirements for utilisation by management and supervisors for effective communication to workgroups through pre-starts and HSEC meetings.
- 7.5.** be responsible for implementation of, and monitoring compliance with, the contractor Environmental Management Plan (EMP).

## **8.0 TRAINING AND COMMUNICATION**

- 8.1.** For additional requirements, refer to project procedure PP-13-007 Training and Awareness.
- 8.2.** All personnel working for or on behalf of the Contractor shall receive a Project site induction delivered by the EPCM, including an environmental induction, prior to commencing work on site.
- 8.3.** Personnel working for or on behalf of the Contractor who interface with significant environmental risks, shall make time available for specific environmental training in addition to the induction. This training shall be delivered by the Contractor, with support from the EPCM site environmental representative.
- 8.4.** At least one member of each work group shall undertake awareness training in the correct use of Spill Response Kits. All plant service personnel are required to undertake this training.
- 8.5.** An auditable set of records shall be maintained for all training conducted for the duration of the Contract.
- 8.6.** On a weekly basis as a minimum, environmental communications shall be delivered by the contractor to its workgroup. These shall present information on the management of environmental risks or key site environmental issues. Records of topics, records of attendance and presenter's name shall be maintained as an auditable record.
- 8.7.** Contractor's appointed environmental representative shall attend monthly project HSE meetings facilitated by or on behalf of the Company.

## **9.0 INSPECTION AND AUDITS**

- 9.1.** The Contractor's appointed environmental representative is responsible for internal environmental site audits and inspections. The nominated person shall be competent in understanding :
  - BHPBIO ADP Environmental Management Plan (this document PP-13-100) and associated documents;
  - Contract requirements;
  - Contents of the risk register and CRAWs;
  - Contractor's Environmental Management Plan and Policies;
  - Relevant environmental management procedures; and
  - Legal and Other Obligation Requirements.
- 9.2.** Non-conformances and Hazards identified by the Contractor during inspections shall be documented, addressed with appropriate corrective and preventive actions, and rectified with an agreed time frame.
- 9.3.** All active work areas shall be inspected by the Contractor work area supervisor, in the presence of an EPCM work area supervisor as a minimum on a weekly basis. These inspections shall be documented and maintained as auditable records and determine compliance with this EMP (PP-13-100).
- 9.4.** The Contractor shall formally respond to any inspection / audit findings within 3 working days of receipt, with details of appropriate corrective or remedial actions, time frames and responsibility for completion of actions.

## Site Environmental Compliance Requirements

The Contractor shall:

- 9.5. undergo a mobilisation audit within 4-6 weeks of mobilisation. This audit shall be based upon the Contractor's approved EMP, as submitted prior to mobilisation and the requirements of PP-13-100. A minimum score of 85% must be achieved by the contractor in this audit; Refer to Frm PP-13-003-02 for audit criteria.
- 9.6. undergo a quarterly environmental audit approximately three months after their mobilisation audit, and every three months thereafter. The audit is based on the Contractor's EMP and implementation of this EMP (PP-13-100). A minimum score of 85% must be achieved by the contractor in this audit; Refer to Frm PP-13-003-03 for audit criteria.
- 9.7. where the contractor scores less than 85% on audits and inspections, undergo a re-audit of outstanding actions within 4 weeks.  
*Note: For minor 'service' type contracts the frequency of the quarterly audits may be extended to 6 months following a risk assessment. Approval is required by ADP on a case by case basis.*
- 9.8. undergo an environmental demobilisation audit two weeks prior to demobilising from site. The Contractor must achieve a score of 100% on the demobilisation audit prior to completely demobilising from site.

## 10.0 EVENT MANAGEMENT

- 10.1. All contractors shall report environmental events, near-misses and potential hazards as detailed in the HSMP (PP-09-100).
- 10.2. The definition of an environmental event shall be documented and communicated to personnel working for or on behalf of the Contractor. Environmental events shall as a minimum include actual events or near misses resulting in:
  - A breach of Legal & Other Requirements;
  - Environmental damage (e.g. over clearing);
  - Environmental pollution / contamination;
  - Unapproved impacts on vegetation, flora, fauna, waters (fresh, ground and marine), heritage sites and atmosphere;
  - Unapproved discharge to air, land and water; and
  - Public complaints.

The Contractor shall:

- 10.3. take appropriate immediate actions to minimise the extent of environmental damage and pollution arising from events;
- 10.4. notify the EPCM of an event as soon as possible, and complete the Event Notification Form no later than within 12 hours of occurrence of the event;
- 10.5. immediately notify the EPCM and initiate a full investigation (ICAM) in the case of an event with the potential to result in a significant incident, or an event resulting in significant environmental pollution or damage, breach of Legal and Other Requirements, or a complaint from the public;
- 10.6. investigate all events within 72 hours of the event occurring and submit investigation forms to the EPCM for entering into the BHPBIO First Priority Database;
- 10.7. put in place corrective and preventive actions that are appropriate to the nature and scale of the event, and complete these actions within an agreed time frame. Corrective and preventive actions shall address the root causes of the event, and reduce the probability of event recurrence;

- 10.8. include the review and/ or revision of the risk register, relevant procedures and documentation as part of corrective/ preventive actions. The Contractor shall demonstrate to the EPCM that such changes have been communicated and implemented;
- 10.9. assess the effectiveness of corrective and preventative actions as part of the event investigation process, particularly for repeat events;
- 10.10. complete and report all environmental events, near miss and hazard actions within an agreed timeframe;
- 10.11. complete all environmental events, near misses and hazard actions before demobilisation from site.

## 11.0 EMERGENCY RESPONSE

- 11.1. For additional requirements, refer to procedures WIN-IEN-HC-001 Major and Minor Spill Response and PP-09-100 Health and Safety Management Plan.

The Contractor shall:

- 11.2. identify events with potential for significant environmental impacts and prepare appropriate response plans for the mitigation of such impacts. As a minimum the emergency response plan shall address events and impacts of:
  - Major hydrocarbon and chemical spills;
  - Cyclone and Storm events; and
  - Fire;
- 11.3. provide adequate plant and equipment to effectively manage emergencies.
- 11.4. demonstrate that such plans will be or are effective through personnel training and testing of the plan once every six months;
- 11.5. develop post emergency plans which include a review of the effectiveness of the plan, its implementation, and the need for revisions of the plan.

## 12.0 PROGRESS TRACKING AND REPORTING

The Contractor shall:

- 12.1. provide progress updates to the EPCM on a weekly basis as a minimum, which shall comply with reporting requirements detailed within this document, and the following:
  - Environmental training topics and % employee attendance;
  - Copies of meeting minutes where environment has been discussed;
  - Last and most recent inspection / audit score;
  - Progress against completion of corrective actions; and
  - Summary of environmental events;
- 12.2. report for the previous month by the first day of each month the following:
  - Performance against defined objectives and targets for management of significant risks as identified by the contractor in Section 6.2;
  - Description of environmental initiative/s;
  - Volume of waste oil removed from site;
  - Volume of contaminated soil disposed of at a licensed facility each month;
  - Volume and type of wastes removed from site each month;
  - Area of land cleared;
  - Total area land cleared;
  - Locations of all stockpiles;
  - The amount of area rehabilitated;

- Meter readings for each water bore, or water usage where water is not obtained directly from a bore;
- Cumulative water draw readings;
- Visual water quality;
- Abstraction volumes / rates or water cart use figures;
- Depth to water level (where required); and
- Volumes of wastewater removed from site.

**12.3.** provide all environmental related documentation as requested.

### **13.0 RECORD KEEPING**

The Contractor shall:

- 13.1.** keep records and other relevant documentation to demonstrate compliance to Company requirements including these standards for the duration of the contract;
- 13.2.** make records available during inspections and audits by the EPCM, Company or external auditors;
- 13.3.** copy relevant records and hand to the EPCM at the completion of the contract, including but not limited to:
- Event reports and Hazard Notification Forms;
  - Weed hygiene certificates;
  - Monthly reporting records;
  - Training records; and
  - Completed Vegetation Disturbance Approvals (VDA's) including survey data.

### **14.0 HYDROCARBONS AND CHEMICALS MANAGEMENT**

**14.1.** For additional requirements, refer to project procedure PP-13-021 Hydrocarbons and Hazardous Materials Management.

The Contractor shall:

- 14.2.** hold appropriate licenses for the transport, handling, storage and disposal of hazardous materials as relevant to the work under the Contract. This includes any Dangerous Goods Licensing;
- 14.3.** ensure that site approvals for new chemicals brought onto site are in accordance with the requirements under the site HSMP, (Form PP-13-021-01 Request to Bring Chemicals on Site);
- 14.4.** ensure current Material Safety Data Sheets (MSDS) accompany all chemicals kept on site. MSDS are to be filed with the chemical, or a clearly marked sign will direct where MSDS are stored. MSDS folders shall be up to date and contain an index of information held. Storage (i.e. bunding, labelling, ventilation, weatherproofing, etc) and disposal of chemical requirements shall comply with the requirements detailed within the MSDS;
- 14.5.** ensure that secondary containment facilities provide 110% containment of material and prevention of pollution in the event of breach of primary containment;
- 14.6.** ensure in the case of facilities storing multiple containers (including bunded pallets), the bunding shall be capable of holding no less than 110% of the volume of the largest storage vessel, and at least 25% of the total volume of substances stored;
- 14.7.** ensure that empty (used) hydrocarbon & chemical containers shall be treated as full and bunded as such;
- 14.8.** ensure that bulk storage facilities meet specifications of Australian Standard 1940, as a minimum;

- 14.9. ensure that doubled skinned tanks have bollards and / or 1.5m earthen bunding in place around the tank to prevent penetration due to collision;
- 14.10. ensure that re-fuelling bays at bulk fuel storage facilities (including double skinned tanks) contain all spills through the use of concrete aprons or suitable lining e.g. HDPE. The apron design will be approved by the EPCM Environmental representative;
- 14.11. dispose of hydrocarbon contaminated material from any site at a licensed facility or as advised by the EPCM Environmental Representative. Where the material has been assessed as Controlled Waste, it shall be transported and disposed of by a licensed operator;
- 14.12. fit all fixed and mobile equipment holding > 10L of hydrocarbon or chemical with an external containment of 110% capacity of the total hydrocarbons contained in the equipment. Such equipment includes but is not limited to:
  - generators;
  - welders;
  - stationary engines;
  - lighting stands;
  - pumps;
  - refuelling trailers, and;
  - service/fuel trucks;

Exception to this requirement is permitted only where all of the below mentioned complies:

- Are not being used in, above or within 10m of water (including marine, creeks, rivers, man made or natural drainage lines);
- Are used only on land;
- There is an internal bund with 110% capacity of the maximum total hydrocarbon or chemical capacity of the equipment, any spillage in the tray can be readily seen and there is a mechanism for removal of any spillage in the tray (refer to equipment specs); and
- The refuelling point is within the perimeter of the internal spill tray and, in the event of overfilling, all spillage will report to the internal spill tray;

**Note:** Fuel tanks responsible for the propulsion of Trucks and Light Vehicles do not require additional containment. All spills and drips shall be contained when and wherever re-fuelling of such fuel tanks is undertaken;

- 14.13. store all equipment (e.g. chainsaws, welders, small generators) that hold <10L of hydrocarbon or chemical out of line of fire and on plastic lining or drip trays;
- 14.14. remove stormwater present within bunding immediately after a rain event (or as directed by the EPCM) and dispose of as contaminated water. Water within bunds or spills trays shall not be discharged to the environment unless specifically authorised by the site EPCM Environmental Representative on a case by case basis;
- 14.15. ensure that appropriate suction/pump equipment to evacuate water from bunds and other containment areas is maintained and available onsite. Such equipment shall be used by the contractor to remove water from bunds in accordance with the above requirement;
- 14.16. ensure that any drains or valves in bunds, drip trays and other containment equipment are sealed at all times unless authorised for removal by the site EPCM Environmental Representative;
- 14.17. ensure that chemical & hydrocarbon storage vessels (e.g. drums & chemical cabinets) are sealed and any spillage contained when being transported around site;
- 14.18. fit service trucks, re-fuelling trailers and other vehicles used for the transportation of hydrocarbons and chemicals with spill kits and drip trays. Drip trays shall capture all spills and drips whenever re-fuelling is being undertaken;

- 14.19. make effective spill clean up material readily available at each work site and on all mobile service trucks or vehicles, where hydrocarbons and chemicals are stored and / or used;
- 14.20. not conduct hydrocarbon and chemical handling activities in the vicinity of water bodies without prior authorisation from the EPCM site environmental representative. Where such activities are necessary to the Scope of Works, a pre-task Job Hazard Analysis (JHA) shall be a part of the approval process;
- 14.21. control and clean up any spills as per Spill Response Procedure (WIN-IEN-HC-001) and guidance from the EPCM site Environmental Representative;
- 14.22. segregate oily waste materials, including liquid hydrocarbons, from general wastes and remove from site in compliance with the Contractor's EMP. If the material is assessed as Controlled Waste, it shall be removed by a licensed operator. Oily wastes shall be recycled where possible;
- 14.23. maintain waste disposal receipts as verification of type and amount of waste oil and oily materials removed from site;
- 14.24. report any area discovered as a contaminated site (e.g. areas aboveground or underground that contain high volumes of diesel, fuel or rubbish) to the EPCM site environmental representative and record the site;
- 14.25. communicate all spills to land >10L to the EPCM site environmental representative immediately. Event reports shall be completed and submitted to the EPCM HSE department within 12hrs;
- 14.26. report all spills to water to the EPCM site environmental representative immediately and follow with an event notification;
- 14.27. report all spills to land <10L using a Hazard Notification Form.

## 15.0 SOLID WASTE MANAGEMENT

- 15.1. For additional requirements, refer to project procedure PP-13-011 Waste materials.

The Contractor shall:

- 15.2. ensure waste skips and bins are not overflowing. Waste skips and bins that have lids shall be closed at all times. Waste skips and bins with no lids shall be covered to prevent any wind blown litter. Littering shall not occur at any time, including in the back of tray vehicles;
- 15.3. establish waste stations around the project site, which include all bin types required for appropriate segregation of all waste types generated in an area. All bins shall be clearly labelled including waste oil storage tanks;
- 15.4. segregate waste into scrap steel, oily wastes, recyclable wastes (paper/cardboard and aluminium cans) and general wastes. The contractor is required to consult with the EPCM site environmental representative to confirm site specific recycling requirements. The contractor shall comply with all site specific requirements;
- 15.5. remove wastes from site using an appropriate licensed operator or as specified in the contractor's approved EMP. Alternative disposal methods shall be approved by the EPCM Environmental Representative.
- 15.6. store waste in a neat and orderly manner and clearly signed as waste materials where wastes have to be temporarily stored on-site;
- 15.7. contain concrete wastes and concrete wash out in plastic lined bunds, which are to be constructed before concrete pouring begins. Concrete washout pits shall be disposed of in accordance with site requirements authorised by the EPCM site environmental representative. All spills of concrete shall be picked up and disposed of prior to the end of each shift;
- 15.8. provide properly constructed cigarette butt containers e.g. 'Butt Stops', (not open trays or tins) around offices, crib rooms and workshops;

The Contractor shall not:

- 15.9. use disposable cups on site. Alternative arrangements may be discussed with the EPCM site environmental representative.

## 16.0 CLEARING AND TOPSOIL MANAGEMENT

- 16.1. For additional requirements, refer to project procedure PP-13-015 Land Disturbance. Prior to any clearing the contractor shall complete a Vegetation Disturbance Approval (VDA) (Frm PP-13-015-01). This permit shall be authorised and signed off by the EPCM prior to commencement of any work.

The Contractor shall:

- 16.2. apply for a Vegetation Disturbance Approval (VDA) at least 72hours prior to conducting any vegetation clearing or disturbance. This permit must be authorised and signed off by the EPCM prior to commencement of work.
- 16.3. ensure compliance with all conditions and controls approved under the VDA. Any breaches will constitute an environmental incident;
- 16.4. delineate the extent of clearing required, using coloured flagging prior to commencing works. Distance between flagging shall be such that at least one flag can be seen at all times along the clearing perimeter. The EPCM representative, contractor's work area supervisor and plant operator (s) shall walk the approved VDA boundary on the 1st day of and before any clearing task commences (refer to Frm PP-13-015-01).
  - Fluorescent pink flagging shall be used to indicate the PEHR boundary;
  - Fluorescent green flagging shall be used to indicate the VDA boundary.
- 16.5. notify all personnel involved in clearing activities of protected areas (flora, fauna, heritage areas and other features), and the conditions that apply to each area. The Contractor shall ensure all employees are competent in managing risks around these sensitive areas;
- 16.6. ensure that any vegetation removed is placed either directly on disturbed areas to reduce erosion, stockpiled for later use in rehabilitation or treated as specified in the conditions of the VDA;
- 16.7. ensure that the clearing of slopes near / leading to watercourses is delayed until construction of the crossing is imminent in order to minimise erosion and sedimentation risks;
- 16.8. ensure that cleared vegetation is stockpiled away from streams / creeks / large drainage lines;
- 16.9. ensure that no burning of vegetation spoil occurs;

## SOIL

- 16.10. ensure that all available soil up to 300mm (terrain allowing), is stripped and stockpiled as part of land disturbance activities:
  - Topsoil - The top 50-100mm of soil or as agreed with the Company. The topsoil contains the seed bank and is generally higher in organic matter, microbial activity and nutrient content.
  - Subsoil - Located below the topsoil and is a source of bulk growth material. Whilst not as biologically active as topsoil, combined with seeding it is suitable to be used as a topsoil alternative.
- 16.11. ensure that a Weed Management Plan is in place for any soil contaminated with weeds, prior to clearing and stripping. This plan shall be undertaken with advice from, and approved by, the EPCM Environmental Representative;

- 16.12. ensure that soil contaminated with weeds is be removed and stockpiled after uncontaminated or clean topsoil is stockpiled;
- 16.13. ensure that weed contaminated topsoil stockpiles are placed separately ('quarantined') from uncontaminated / clean topsoil stockpiles and identified accordingly. Weed stockpiles shall be clearly signed in the field and identified on a site plan;
- 16.14. ensure that soil is applied immediately to areas being rehabilitated. Where this is not possible, soil shall be stockpiled away from work areas for later use;
- 16.15. ensure that topsoil stockpiles are no higher than 1.5 m, clearly signposted in the field and identified on a site plan, which is submitted to the EPCM Environmental Representative. Subsoil can be stockpiled at any required height, generally up to 4m;
- 16.16. ensure that topsoil is not stripped and stockpiled in wet conditions;
- 16.17. ensure that all stockpiles are surveyed and the quantities of soil, source coordinates and date stripped recorded.

## **17.0 WEED MANAGEMENT**

The Contractor shall:

- 17.1. clean all ground engaging, earthmoving and tracked equipment before arrival on site or movement between sites to remove all dirt, stones or vegetative material, and prior to entering a weed free area to prevent transfer of weeds and plants from other regions;
- 17.2. present all other general equipment, including light vehicles, to site in a clean state, free from excess dirt or dirt material;
- 17.3. present a copy of the Weed Hygiene Certificate to the EPCM as verification of clean equipment prior to mobilisation to site;
- 17.4. maintain weed hygiene certificates and make available as auditable records. A copy of the completed certificate is to be with equipment upon entry to site and kept with machinery at all times;
- 17.5. immediately inform the EPCM of any new sightings of weeds in the Project area and report using a hazard card;
- 17.6. clean machinery prior to arriving on site as there will be no washdown facilities available at project sites and equipment will be not granted entry if not thoroughly clean.

## **18.0 FAUNA MANAGEMENT**

- 18.1. For additional requirements, refer to procedure WIN-IEN-LAND-004 Fauna Management.
- 18.2. Native fauna shall not be captured, fed, harmed or disturbed. If fauna relocation is required, the EPCM Environmental Representative shall be contacted.
- 18.3. Road kills of native fauna, including those when travelling to project areas, shall be removed from the road and reported as an environmental event.
- 18.4. Road kill of cattle shall be reported immediately to the EPCM Environmental Representative.

The Contractor shall:

- 18.5. report all fauna deaths and feral animal sightings in the project area to the EPCM site environmental representative;
- 18.6. ensure no pets or other animals are brought onto the project site;

- 18.7. make available egress for fauna at water storage facilities by fixing shade cloth or similar to all corners, and ensure that this material is long enough to reach the top of the water surface at all times, regardless of volume;
- 18.8. construct egress for fauna from trenches, costeans and pits during the works e.g. ramped ends;
- 18.9. cap all bores at all times;
- 18.10. tape or cover all conduit ends if left open overnight to avoid trapping fauna.

The Contractor shall NOT:

- 18.11. use barbed wire in the project area eg for fencing. Barbed wire is prohibited onsite unless authorised by the EPCM Environmental Representative.

## **19.0 REHABILITATION & DEMOBILISATION**

- 19.1. For additional requirements, refer to project procedure PP-13-020 Rehabilitation and Demobilisation.

On completion of work the Contractor shall:

- 19.2. remove from site all temporary infrastructure and materials (including flagging tape and survey pegs) associated with construction works;
- 19.3. backfill and rehabilitate sumps and other costean type temporary installations;
- 19.4. remove concrete wash out and waste areas and where possible recycle waste concrete, or remove to an approved landfill site;
- 19.5. cap and lock groundwater bores for potential future use – do not totally decommission unless instructed by the EPCM;
- 19.6. remove any hydrocarbon contaminated soil and other material (e.g. blue metal / aggregate) present within the dedicated work area and appropriately dispose of it to a licensed facility;
- 19.7. landscape and batter depressed areas (e.g. borrow pits) to blend in with surrounding landform. Batter angles shall be such that slopes are stable, safe and will not exacerbate erosion issues;
- 19.8. cover any shallow and exposed groundwater discovered (i.e. during excavation work of a borrow pit) with 1 meter of fill before application of topsoil;
- 19.9. scarify disused compacted surfaces to a depth of approximately 300mm, along contour lines where ground conditions and hydrology allow;
- 19.10. rehabilitate borrow pits progressively when they are no longer of use.

The EPCM shall:

- 19.11. determine areas requiring rehabilitation prior to demobilisation and review scope of rehabilitation works;
- 19.12. assess the quality of rehabilitation as part of the demobilisation process.

## **20.0 SURFACE WATER & DRAINAGE MANAGEMENT**

- 20.1.** For additional requirements, refer to project procedure PP-13-017 Surface Water and Drainage.

The Contractor shall:

- 20.2.** contain all surface run-off from work activities in lined sumps to prevent pollution and erosion;
- 20.3.** push back and rehabilitate sumps upon completion of works;
- 20.4.** ensure civil designs include appropriate drainage requirements and include erosion / degradation controls;
- 20.5.** inform the EPCM if works require installation of culverts, drains or bridges, or will in any other way impact on natural drainage systems. The Contractor shall not commence such works until written approval is obtained. The Contractor shall be aware that Government approved permits are required prior to impacting river / creek beds and / or banks (natural or drainage channels), and this process involves a significant amount of time;
- 20.6.** ensure no construction materials (eg gravel, blue metal, etc.) are left in creek or river beds or on banks;
- 20.7.** maintain a minimum set back of 50m from drainage lines for disturbances unless otherwise approved;
- 20.8.** utilise appropriate methods for erosion control where the potential for erosion is high (such as rip rap rock protection and reno mattresses);
- 20.9.** where practicable, delay clearing of slopes leading to watercourses until construction of the crossing is imminent, thus minimising erosion and sedimentation risk;
- 20.10.** take water quality samples if potential contaminants are believed to have reached natural drainage channels. The EPCM site environmental representative will assist in water sampling being undertaken in a manner which ensures sample integrity;
- 20.11.** divert any uncontaminated stormwater from known or potential contaminated areas;
- 20.12.** contain and treat contaminated and turbid water from its activities prior to any discharge off site. All treated water must meet legal requirements and discharge limits;
- 20.13.** conduct servicing and maintenance of vehicles and equipment within a facility that is approved by the EPCM site environmental representative.

The Contractor shall NOT:

- 20.14.** wash down vehicles or equipment on site unless a Company approved facility is available and use has been authorised by the EPCM site environmental representative.

## **21.0 GROUNDWATER MANAGEMENT**

- 21.1.** For additional requirements, refer to project procedure PP-13-008 Groundwater Management.

The Contractor shall:

- 21.2.** abide by the conditions of any Groundwater Well Licences, attached to bores used for construction activities;
- 21.3.** fit flow meters to all production bores;
- 21.4.** take water meter readings on a minimum weekly basis;
- 21.5.** maintain a record of meter readings and report to the EPCM site environmental representative as stipulated in Section 12 Progress Tracking and Reporting;
- 21.6.** protect water storage facilities for extracted groundwater (i.e. turkey's nests) from pollution. Facilities will be lined if water is deemed saline (approx.>5000mg/L TDS) by the EPCM site environmental representative;
- 21.7.** where practicable, direct any drainage resulting from spillage from standpipes back to turkey's nests;
- 21.8.** where required for wildlife safety, restrict access to water storage facilities by fencing (not barbed wire);
- 21.9.** include water storage facilities in weekly inspections for evidence of leakage, algal blooms and holes in fencing;
- 21.10.** immediately report removal or damage to any groundwater monitoring bores or production bores to the EPCM site environmental representative.

## **22.0 AIR QUALITY MANAGEMENT**

- 22.1.** For additional requirements, refer to project procedure PP-13-010 Air Quality.

The Contractor shall:

- 22.2.** use water to suppress dust emissions from unsealed roads, stockpiles and work areas;
- 22.3.** approach the EPCM to create alternative dust management procedures where water suppression is not possible;
- 22.4.** immediately reduce vehicle speeds if dust emissions from roads are visually excessive;
- 22.5.** apply further dust suppression controls where dust levels are deemed excessive;
- 22.6.** report any community complaints regarding dust levels or any dust levels that are deemed excessive as an environmental event.

The Contractor shall not:

- 22.7.** burn any materials (including rubber or plastic products, waste oil or any other waste material) unless specifically authorised by ADP.

## **23.0 ABORIGINAL HERITAGE SITES**

The Contractor shall:

- 23.1.** ensure that all information is obtained on the location of Aboriginal Heritage Sites in the Project vicinity prior to mobilisation;
- 23.2.** respect Aboriginal Heritage Sites and ensure they are not disturbed unless written approval has been obtained from the Company;
- 23.3.** immediately inform the EPCM Environmental Representative of any previously unidentified heritage sites or suspected Aboriginal heritage site located during the Project works.
- 23.4.** ensure any sites referred to above are protected from damage until further investigation by Company appointed personnel. The discovery of any heritage sites or artefacts (including bones) requires that works cease immediately in the area and the site is NOT disturbed until otherwise authorised by ADP.
- 23.5.** communicate the appropriate management practices to personnel when working near these protected areas via site induction and toolbox meetings;
- 23.6.** where there may be a requirement for cultural monitors to be present during excavation activities, undertake all reasonable steps to ensure and accommodate these monitors to undertake their work;
- 23.7.** give all reasonable assistance to officers of the Department of Indigenous Affairs if they are investigating events or alleged events that have occurred within the project area;
- 23.8.** undergo site inductions where they will be advised of their responsibilities under the WA Aboriginal Heritage Act 1972.
- 23.9.** Fencing of selected sites for protection and avoidance is the responsibility of the Company Aboriginal Affairs Department in consultation with traditional land owners.

## **24.0 SALINE WATER MANAGEMENT**

The Contractor shall:

- 24.1.** manage saline water (approx TDS >5000mg/L) in a manner that minimises impact on vegetation;
- 24.2.** minimise spray widths on water carts / trucks when using saline water for dust suppression to reduce amount of overspray on adjacent vegetation;
- 24.3.** where practicable, develop catch dams to capture and retain any saline water run-off;
- 24.4.** design any catch dams to have an access point for front end loaders to access and remove accumulated salt. Accumulated salt will be removed as required and disposed of in a manner approved by the EPCM site environmental representative.

## **25.0 FIRE MANAGEMENT**

- 25.1.** The Contractor shall comply with management procedures as detailed in the HSMP (PP-09-100).
- 25.2.** Personnel working for or on behalf of the Contractor shall be made aware of fire starting risks, such as cigarette butts, through induction and will manage these issues appropriately.
- 25.3.** All fires are to be reported as events

## **26.0 MARINE DISCHARGE & WORKING OVER WATER**

- 26.1.** For additional requirements, refer to project procedure PP-13-014 Working Near or Over Natural Water.

The Contractor shall:

- 26.2.** prevent the discharge of materials including liquid or solid wastes, unless approved, into the marine environment at all times. Equipment or items that enter water must be recovered as soon as practicable.
- 26.3.** ensure that activities involving the use or storage of hydrocarbons or chemicals near the marine environment shall be preceded with a documented JHA, identifying related risks and their management requirements;
- 26.4.** ensure personal cigarette disposal containers are provided to all smokers working over water;
- 26.5.** ensure all required controls are in place to reduce the impacts of abrasive blasting wastes entering water.

## **27.0 SEWAGE MANAGEMENT**

- 27.1.** For additional requirements, refer to PP-13-006 Temporary Toilet Amenities.

The Contractor shall:

- 27.2.** ensure sewerage management facilities, septic tanks and / or leach drains are approved by relevant authorities prior to installation of the system. Copies of all relevant approvals and permits must be provided before commissioning and must be filed onsite;
- 27.3.** manage the facilities in a manner that complies with legislative conditions, prevents pollution and preserves the amenity of the area;
- 27.4.** report all wastewater spills or leaks as events, regardless of volumes;
- 27.5.** inspect the integrity of the system daily to ensure load capacity and system clean outs are at appropriate intervals;
- 27.6.** ensure that holding tanks for freshwater supply have a volume 25% less than the receiving / effluent tank where portable demountable units are used;
- 27.7.** ensure that the supply tanks are not refilled prior to the waste storage tank being emptied;
- 27.8.** fit a warning system such as alarms or flashing lights to all demountable toilet blocks to indicate that the facility is nearing capacity.

## **28.0 REMEDIATION WORKS**

- 28.1.** In the instances of a significant pollution event, remediation of the impacted area may be required in addition to normal cleanup. Such required remediation will be determined by the Company.
- 28.2.** Remediation shall be undertaken in accordance with relevant legislation, procedures, advice and guidelines that will be provided by the Company.

## **29.0 NOISE/ VIBRATION MANAGEMENT**

The Contractor shall:

- 29.1.** conduct its activities in compliance with the Environmental Protection (Noise) Regulations 1997.
- 29.2.** ensure equipment is appropriately fitted, maintained or substituted with noise reduction devices if necessary, to comply with Project HSMP noise levels;
- 29.3.** manage activities according to weather conditions and proximity to noise sensitive areas to minimise impact of noise and vibrational emissions;
- 29.4.** manage blasting and piling activities to minimise disturbance to any adjacent communities and undertake in accordance with Mines Safety Inspection Regulations 1995 and Environmental Protection (Noise) Regulations 1997.

## **30.0 BORROW PITS**

- 30.1.** For additional requirements, refer to project procedure PP-13-015 Land Disturbance.

The contractor shall:

- 30.2.** where possible, first source clean fill borrow material from existing stockpiles or mining waste.
- 30.3.** ensure no vegetation clearing or disturbance proceeds without an approved Vegetation Disturbance Approval (VDA).
- 30.4.** peg out the location and size of borrow pits before the work begins (refer to section 16);
- 30.5.** demarcate trees and heavy stands of vegetation that can remain with fluorescent green flagging tape prior to clearing, have them checked by the EPCM representative and avoid during clearing activities;
- 30.6.** limit access to borrow pits to a single laned access track (where possible);
- 30.7.** batter sides of the borrow pits to a maximum level of 3H:1V;
- 30.8.** recover topsoil and stockpile it on the higher edge of the borrow pit so that excessive rain water does not pond at the foot of stockpiles;
- 30.9.** utilise diversion drains and upslope windrows to divert surface water flow away from the pit.
- 30.10.** ensure that borrow pit data is reported to the EPCM as required under section 12.