Town of
Port Hedland

CONSTRUCTION CONTRACT

RE-SEALING OF RUNWAY 14/32
Including Shoulders, Runway Strip Ends and RESAs

SPECIFICATIONS/ PRINCIPAL'S PROJECT REQUIREMENTS AND GENERAL CONTRACT REQUIREMENTS

TABLE OF CONTENTS

1. SITE INFORMATION

1.1 Site Location and Identification

Port Hedland International Airport – Re-sealing of Runway 14/32 and Associated Areas

The runway 14/32 is located to the south of the Main Apron.

1.2 Access to the Site

Access to the work area (airside) will be through Gate 1 which is located on the east side of the airport boundary

1.3 Works Program

1.3.1 Introduction

The scope of work consists of the re-sealing of runway 14/32, shoulders, runway strip ends and the RESAs with a prime, a single or two-coat bitumen/aggregate spray seal of 10/7 mm, aggregate followed by an emulsion spray.

The work will be carried out at night. All testing will be done during daylight hours.

The work will be carried out in 2 stages.

2. SUMMARY OF WORKS

This Contract will include all materials, labour, equipment and cartage as necessary for the due and proper completion of the Works.

2.1 Scope of Works

Stage 1

Runway 14/32 will be sealed with a prime, and a two-coat seal (10/7 mm aggregate and bitumen).

The shoulders, the two runway strip ends and the two RESAs will be sealed with a prime, one coat seal (10mm aggregate and bitumen).

Stage 2

There will be a minimum 1 week interval before Stage 2 can commence.

Runway 14/32, the shoulders, the two runway strip ends and the two RESAs will be sealed with an emulsion spray.

2.2 Standards

Where any current Australian Standard published by the Standards Association of Australia is appropriate to storage, transport and use of materials, plant, equipment, work process, or safety precautions, the provision of such standard will be observed except if conflict exists with any statutory or special requirements of proper authority, in which case the latter will prevail.

In the absence of any such statutory or special requirement or relevant Australian Standard, the Contractor will ensure that suitable procedures are observed, all proper care is taken and the instructions of the Superintendent are carried out.

Without limitation the Contractor will comply in every respect with the regulations, by-laws and requirements of:

- Civil Aviation Safety Authority (CASA) Manual of Standards Part 139 Aerodromes
- The Standards Association of Australia
- National Australian Testing Authority
- By-laws of the Local Authority and airport specific permits.

The Contractor will undertake the Works in a Total Quality Management Environment to meet the requirements of Australian Standard AS9000.

2.3 ADMINISTRATION

The Town of Port Hedland is the airport owner and the Principal.

The Airport Manager is an employee of the Principal.

The appointed Contractor is required to work in a manner that upholds aviation safety and security protocols at the airport.

The Airport Manager will appoint a Works Safety Officer/s (WSO/s) who will establish with the Contractor the appropriate separation of contract works from aircraft operations and liaise regularly on all matters relating to aircraft safety. These duties include placing markers and cones for the benefit of the aviation industry.

2.4 Site Preliminaries

The scope of preparatory work includes:

- At least 7 days prior to the commencement of work, the Contractor will request a meeting/s between the Works Safety Officer/s, the Superintendent and the Principal to discuss airside security and safety requirements, hours of work and airside operations generally
- The establishment of suitable access to the airport work areas
- The establishment of suitable hard stand areas for stockpile earthwork, pavement material, plant and equipment
- The establishment of site facilities, including ablutions and site office
- Other matters pertaining to the conduct of the works.

2.5 AIRSIDE SECURITY

The Principal, as airport operator of the airport, is responsible for public security and aircraft safety on the airside of the terminal building area.

As the Works are exclusively “airside”, the Principal’s Manager Airport Operations will be responsible for security and the Contractor must accept all directives given by the Airport Manager pertaining to security.

Before access is permitted to airside areas, the Contractor’s staff will be required to complete an induction process to ensure they are aware of the safe procedures required for working in airside areas.

All Contractors’ employees will have to be issued with a Visitor Identification Card by the Airport Manager, which is to be displayed at all times whilst airside. A given number of Contractor personnel will require Aviation Security Identification Cards (ASIC).

The Principal will establish its preferred access route and provide authorised personnel access to the “airside”.

Notwithstanding the required controls, the Principal will provide due consideration to all reasonable requests by the Contractor for access during progress of the Works.

2.6 AIRCRAFT SAFETY

The Principal, as the operator of the airport, is responsible for aircraft safety and requires the Works to be undertaken under the direction of a Works Safety Officer (WSO).
The Works will be staged to limit disruption to aircraft operations and ensure a safe work situation exists at all times.

Aircraft manoeuvrability (taxiing) to and from the runway to the apron during the construction work will be under the control of the WSO aided by cone marker delineation and directives to pilots.

All personnel engaged by the Contractor will be briefed on the importance of observing safety and accept all directives given by the WSO.

2.7 SCHEDULE OF RATES

ITEM	DESCRIPTION	Square Metre	RATE per M²	COST
1	**50/50 Cutback Bitumen Prime C170 @ up to 1.00 l/m²**	**182,740**		
	Runway 14/32 Including Turning Nodes 115.060m²			
	Runway 14/32 Shoulders 35,200m²			
	Runway strip at the north west end 5,440m²			
	Runway strip at the south east end 5,440m²			
	RESAs at both ends 21,600m²			
2	**10mm (120-150m²/m³) & 7mm (160-190m²/m³) C320 Hot Bitumen Seal @ up to 1.5 l/m² (1st coat) & 1.20 l/m² (2nd coat)**	**115,060**		
	Runway 14/32 Including Turning Nodes 115.060m²			
3	**10mm (120-150m²/m³) C320 Hot Bitumen Seal @ up to 1.5 l/m² (1st coat)**	**67,680**		
	Runway 14/32 Shoulders 35,200m²			
	Runway strip at the north west end 5,440m²			
	Runway strip at the south east end 5,440m²			
	RESAs at both ends 21,600m²			
4	**60/40 Bitumen Emulsion @ up to 1.00 l/m²**	**115,060**		
	Runway 14/32 Including Turning Nodes 115.060m²			
	60/40 Bitumen Emulsion @ up to 1.20 l/m²	**67,680**		
	Runway 14/32 Shoulders 35,200m²			
	Runway strip at the north west end 5,440m²			
	Runway strip at the south east end 5,440m²			
	RESAs at both ends 21,600m²			
5	Additional Products Used above Tendered Rates only	Prime		-
		C320		-
6	Mobilisation/Demobilisation	1	SUM	
	TOTAL (ex GST)			

3 CONTRACT TIMEFRAMES

The Contractor will complete the work within three (3) weeks.

4. CONTRACT SPECIFICATIONS

4.1 PRIMING OF BASECOURSE

4.1.1 GENERAL

The work covered by this Section details the application of cut-back bitumen.

Existing Runway 14/32 pavement and associated areas are to receive a prime, namely;

Runway 14/32, including turning areas	)	
Runway 14/32 Shoulders	)	
Runway strip at the north west end	) =	**Total Area = 182,660 square metres**
Runway strip at the south east end	)	
RESAs at both ends	)	

Spraying will not commence in any of the areas until approval has been granted by the Superintendent.

Cut-back bitumen will be a mixture of residual bitumen and cutter and will comply with the requirements of AS2157.

4.1.2 Rate of Application of Primer and Class of Primer

The target application rate of the cutback primer will be 0.8 litres per square metre measured at 15°C. Volume adjustment for temperature will be in accordance with the requirements of "Application of Primer".

The Superintendent may request that the application rate be between 0.5 to 1.0 litres per square metre to suit absorbency of the substrate surface.

The adopted spray application rates will be determined following a test area trial in the presence of the Superintendent.

The class of primer will be selected by the Contractor so that the primer will penetrate the basecourse and be free from any pools of bituminous material in not less than 6 hours and not more than 48 hours after the time of application.

The class of primer will be C170 as defined in AS2157.

4.1.3 PREPARATION OF SURFACE

Before applying the primer to the basecourse surface, all loose material, dirt, clay, and other foreign substances will be removed well clear from the surface to be primed by sweeping with a nylon rotary broom to expose a tightly bonded clean course surface.

Prior to the application of the primer, a joint inspection of the area to be treated will be made by the Superintendent and the Contractor to determine the suitability of the area to receive the primer. No primer will be placed until approval of the area has been given by the Superintendent.

4.1.4 WEATHER LIMITATIONS

The bituminous primer will be applied only when the basecourse surface has dried back to 85% of its optimum moisture content, in accordance with the requirements of AS1289 Test E2.1.

Application of the primer will not start until the pavement temperature is at least 15°C and is likely to remain at least at that temperature during the spraying operations.

Spraying of the cut-back bitumen will not proceed when rain is likely within 24 hours.

4.1.5 APPLICATION OF PRIMER

All primer will be applied with an approved bituminous sprayer.

The cut-back bitumen primer will be applied at a temperature of 35°C to 55°C. The bituminous binder will be applied uniformly to all points of the surface to be treated.

All sprayed volumes will be reduced to the equivalent volume at 15°C by multiplying the volume measured at the higher temperature by the relevant multiplier for the observed temperature as specified herein. Following the application of the primer the surface will be allowed to cure without being disturbed for a period of not less than 6 hours to attain penetration into the basecourse and evaporation of volatiles from the primer.

At the Contractor's discretion, sand may be spread to effectively absorb any residual bituminous primer to expedite surface curing, provided any excess sand and primer are removed by brooming.

Sand will comply with the requirements for uncrushed fine aggregate for use in Hot Mix Asphalt AS2150 and will have a moisture content of less than 2%.

4.1.6 MAINTENANCE

The Contractor will maintain the integrity of the prime and repair any breaks or defects if they appear.

Any materials spilt on adjacent areas as a result of priming operations will be removed by the Contractor and the surface made good.

4.2 BITUMINOUS SPRAYED SEAL

4.2.1 General

The work covered by this Section details the application of aggregate sprayed seal to the primed surfaces.

The area to receive a prime, two coats of bitumen/aggregate (10 and 7 mm aggregate) seal and an emulsion spray are:

Runway 14/32, including turning areas	Total Area = 115,060m²

The areas to receive a prime, single-coat bitumen/aggregate spray seal (10 mm aggregate) and an emulsion spray are:

Runway 14/32 Shoulders	Total Area = 35,200m²
Runway strip at the north-west end	Total Area = 5,400m²
Runway strip at the south-east end	Total Area = 5,400m²
RESA at both ends	Total Area = 21,600m²

4.2.2 Surface Preparation

All pavement surfaces to be bitumen sealed are to be clean of all loose sand, stone, dust and other foreign matter immediately prior to commencement of the aggregate seal work.

If necessary the primed surface will be lightly swept.

The clean pavement must be dry and at least 25°C prior to commencement of sealing.

Conditions for spray seal work will be at the discretion of the Superintendent. If sand, dust or rain storms are likely to occur, spray operations may be halted.

4.2.3 Aggregate Binder

Aggregate sealing of pavements will be undertaken using Class 320 bitumen.

Hot application of the sealing binder will occur at a spraying temperature of between 180°C and 185°C in dry atmospheric conditions.

Application rates will be target application rates as specified herein.

The Contractor is to describe in its Quality Assurance Procedures Manual the supply type and quality control measures to be adopted to manage the bitumen on site with particular regard to mixing, heating, storage temperature, storage times and residual volumes from spray runs.

The heating of sufficient binder for immediate needs only is to be programmed.

The sealing binder will have a proprietary anti-stripping additive mixed into it prior to commencement of spray runs.

4.2.4 Aggregate Adhesion Tests and Sealing Binder Additive

An adhesion agent of up to 1% by volume will be added and thoroughly mixed with the binder within one hour of the binder being sprayed to improve resistance to aggregate stripping.

The Contractor will determine the actual application rate of the adhesion agent and proprietary brand of adhesion agent from resistance to stripping tests conducted in a NATA registered laboratory on pre-coated and unpre-coated aggregate specimens tested in accordance with *'Resistance to Stripping of Cover Aggregate from Binders'* - AS1141 Section 50 using C320 bitumen.

The selected adhesion agent will be applied to the binder at the concentration required as determined from AS 1141.50 testing method.

4.2.5 Spray Runs

The Contractor will accurately set out the line-up before the commencement of each spray run. The start, finish and width of each spray run will be subject to approval.

The commencement and conclusion of each spray run will be cut-in and cut-out on a sheet of suitable reinforced paper of sufficient length and width to ensure that the full width and intensity of application on the pavement is achieved and that no over spray of application occurs for any stage of the Work.

Clean aggregate will be used to securely hold down ‘cut off’ paper in its position.

4.2.6 Cover Aggregate

The cover aggregate to be utilised with the spray seal binder on the primed surfaces of new pavement will be a nominal 7 mm cubical stone consisting of clean particles of hard crushed or naturally occurring rock free from dust, debris or other deleterious material.

The cover aggregate to be utilised will be a cubical stone consisting of clean particles of hard crushed or naturally occurring rock free from dust, debris or other deleterious material.

The approved aggregate is to be stockpiled on site in sufficient quantities for the sprayed seal work and is to include sufficient volumes to meet all losses.

Prior to commencement, the Contractor will supply NATA certified test results for the proposed cover aggregate to ensure that the materials will meet National Association of Australian State Road Authorities specifications and standards for sprayed seal work.

In addition the aggregate material will meet the following test results:

- Flakiness Index of the stone will not exceed 35% tested in accordance with AS1141.15.
- Los Angeles Abrasion will not exceed 30% tested in accordance with AS1141.23
- The average least dimension of the material will be 3.8mm to 4.6mm for 7mm aggregate.

The material will conform to the following grading limits:

Nominal Aggregate Size	% by mass passing	% by mass passing
AS Sieve Size mm	7mm aggregates	10mm aggregates
13.2		100
9.50	100	85 - 100
6.70	85 - 100	
4.75	0 - 30	0 - 15
2.36	0 - 2 0	0 - 2.0
1.18	0 – 0.5	

The Contractor is to furnish a report that includes the above test results and the average least dimension of each aggregate proposed to be used to the Superintendent demonstrating its suitability for use as cover aggregate for the spray seal and await its written approval before proceeding to stockpile quantities on Site.

The Superintendent will provide written notice of approval or rejection of the proposed cover aggregate within seven days of receipt of the Contractor's laboratory test report addressing suitability of their use.

4.2.7 Aggregate Pre-Coat

The cover aggregate will be pre-coated with a diesel or bitumen pre-coat mix at least 24 hours prior to the cover aggregate being spread. Application will be at a rate in the range of 8 - 10 litres/cubic metre of loose aggregate.

The Contractor will provide a bitumen based aggregate pre-coat for use in aggregate adhesion tests as required by the Specification.

The pre-coating agent will be applied thinly and evenly by means of a fine pressure spray to a moving stream of aggregate so that all particles are fully coated but without excess material.

If the aggregate is too wet to pre-coat, or contains moisture to cause uneven distribution of the pre-coating agent, pre-coat operations will be halted and the stockpile turned over or other steps taken to dry the aggregate before operations recommence.

Use of pre-coated aggregate that contains moisture may be refused until the moisture has evaporated and the pre-coat agent is effectively adhered to the stone.

No claim for payment will be recognised by the Superintendent for repeating the aggregate pre-coating process because of loss of effectiveness of the treatment.

4.2.8 Application of Cover Aggregate

The 7 mm cover aggregate will be spread at a nominal application rate between 170 to 190 sqm/cubic metre respectively. The Superintendent may request the variation of these rates following trials on site.

The 10 mm cover aggregate will be spread at a nominal application rate between 120 to 150 sqm/cubic metre respectively. The Superintendent may request the variation of these rates following trials on site.

After commencement of a sealing binder spray run, cover aggregate will be spread evenly on the surface as soon as possible, having due regard to safety.

Aggregate spreaders will be capable of adjustment to spread accurately and evenly a single layer of aggregate of the required amount per square metre to the satisfaction of the Superintendent.

Trucks spreading aggregate will be operated backwards so that the sealing binder is covered before the truck wheels pass over it. A strip no wider than 300mm will be left uncovered for overlapping adjacent runs.

Effective means of starting and finishing each run to prevent over lapping previously treated areas will be employed.

A one-stone uniform thickness of aggregate is required and blanketing will be avoided. If insufficient cover aggregate is applied, those areas will be hand treated by sprinkling additional aggregate.

4.2.9 Aggregate Rolling

In this specification, the definition of a coverage is one application of a roller's wheels to all parts of the surface. Rolling of the cover aggregate to embed it into the binder will commence immediately after spreading and continue so that all coverages required by this Specification are completed during daylight hours.

The rolling will commence with two passes of a rubber wheel flat-drum roller that will have a static drum loading of between 2 to 4.5 tonnes per lineal metre of width of drum. If aggregate cracking is observed, the Superintendent may elect to modify the program of steel wheel rolling.

This will be followed by a minimum of 20 coverages of a standard pneumatic -tyred roller to the embed aggregate.

The Superintendent may also order additional passes of the steel wheel roller, in lieu of pneumatic roller coverages.

The standard pneumatic roller (33TC or equivalent) will have a minimum mass of 10 tonne and tyre pressures will not be less than 700 kPa.

Drag brooming of the aggregate surface will only be conducted if directed by the Superintendent to correct the surface spread of aggregate cover to ensure a uniform distribution of aggregate exists during rolling operations.

Not until after the minimum twenty coverages required by standard pneumatic-tyred rollers will brooming occur.

4.2.10 Aggregate Sweeping

Excess cover aggregate will be retrieved from the surface using a suction sweeper truck or other means if whin-rowed to beyond the edge of sealed shoulder.

The Contractor will clean the surface of all aircraft pavements in the area where work has been undertaken for this contract and adjacent areas prior to the pavements being opened for use by aircraft such that the pavements are free from all loose material.

Aggregate which has been retrieved by sweeping will be removed from the work area to the stockpile site and kept separate from unused material.

The Contractor will ensure that the cover aggregate is used only once and no contamination of the clean stockpiles occurs.

4.2.11 Defective Bituminous Surfacing

If the actual rate of application varies by 10% from that agreed following joint determination by the Contractor and the Superintendent from application trials and/or the requirements of the specification are not met either by material type or application, the Superintendent may reject such Work under the Contract.

All rejected Works will be repaired, rectified or removed and replaced with acceptable Works by the Contractor at his expense so that such Work meets all the requirements of the Contract.

Rejected Work will not be paid for until such work meets the requirements of the Contract.

4.2.12 Measuring Bituminous Surfacing Materials

Bitumen will be measured by volume at 15°C. The following conversion formula will be used for emulsions and bitumen binders at temperatures higher than 15°C.

For calculation purposes it is assumed that the conversion factors are the same for all bitumen type.

Volume Conversion Formula: Volume at 15°C = Volume at T°C x 1-{(T-15)/1667} - where T is the temperature of the material at which the volume has been measured.

4.2.13 Target Application Rate

The actual spray and spread application rates will be determined following a test trial in the presence of the Superintendent who may direct that the target application rate be varied to take account of actual conditions at the time of application.

The following is the target application rate to apply for tender purposes.

Variations in the application rates ordered from the rates on which the tender was based will form the basis for an addition or deduction from the Contract Price and will be based on the rates tendered in the tender Amount Schedule.

Coat	**Target Binder Application Rate (l/sqm) 15 °C**	**Target Aggregate Application Rate (sqm/cu. m)**
10 mm Aggregate	1.35 (max 1.5)	140?
7 mm Aggregate	1.20 (max 1.5)	160?

After application of target rates of binder and cover material, the area will be jointly inspected by the Superintendent and the Contractor and any adjustment to application rates made before proceeding to completion of binder and aggregate application.

4.2.14 TEST AREA

Prior to any work commencing on the runway, the Contractor will carry out up to two test runs of 50 metre long at a location nominated by the Superintendant to determine the rate of bitumen and the 10 mm aggregate.

This will also be done over the same area to determine the rate of bitumen and the 7 mm aggregate.

Each of the above tests will be done during daylight hours.

Following the above In the presence of the Superintendent, the first spray run of each treatment will commence on the outer extremity of the pavement surface and will be considered the “test area”. This is a pavement area not normally trafficked.

Prior to the commencement of the next spray run, the “test area” will be covered and one roller pass applied.

The Superintendent and the Contractor will confer on the adequacy of the application of the bitumen spray rate and its accompanying the cover spread rate and the Superintendent may request adjustments before approval to proceed to the next spray run is granted.

4.2.15 Record Application

The Contractor will provide accurate records that include the following information and provide the same to the Superintendent at the completion of each days works:

- Spraying date and time.
- Volume sprayed in each run and mix temperature.
- Length, width, location and number of each run.
- Temperature of pavement at late afternoon and early morning.
- Cover aggregate spread.
- Roller passes and sequence.
- Amount of pre-coating applied to cover aggregate.

4.2.16 Equipment and Storage Site

General
The Contractor will be permitted to establish a site for the bulk storage of bitumen and aggregate on the aerodrome site away from public areas. The site to be adopted will be nominated by the Superintendent.

Mechanical Sprayer
Binder will be applied using a bulk bitumen sprayer that complies with the requirements specified by the National Association of State Road Authorities in publication *'Performance Requirements for Mechanical Sprayers of Bituminous Materials'.*

The mechanical sprayer will be certified by a State road authority and certificates and charts relating to such tests will be made available to the Superintendent on request before commencing spraying operations.

Hand-spraying of areas not accessible to the mechanical sprayer will be sprayed by hand-spray equipment attached to the sprayer.

Pre-coater
The pre-coater will be capable of applying a uniform film of pre-coating agent to aggregate particles at a controlled and variable rate.

The Contractor will operate the unit to the satisfaction of the Superintendent prior to commencement of the Contract.

Rollers
Steel rollers will be self-propelled and have a static drum loading of between 2 to 4.5 tonnes per lineal metre of width of drum.

Pneumatic rollers will comprise standard pneumatic rollers (33TC or equivalent) having a minimum mass of 10 tonne and tyre pressures of not less than 700 kPa.

Spreader Trucks
Aggregate spreader trucks will be designed for uniform spreading and the equipment will be capable of adjustment to accurately and evenly distribute the required amount of cover aggregate per square metre.

Vacuum Sweeper
The vacuum sweeper will be a capable of retrieving and storing excess loose cover aggregate from the pavement.

Rotary Broom
The rotary broom will be equipped with a nylon bristle broom. It may be used in conjunction with the vacuum sweeper.

4.3 BITUMINOUS EMULSION SPRAY

Application 60/40 bitumen (C170 or C320?)/Diesel or water?

To be advised

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PART 2: GENERAL CONTRACT REQUIREMENTS

1. DOCUMENTATION TO BE PROVIDED BY THE CONTRACTOR

Before the Contract is executed and the Contractor commences work, the *Superintendent* will be supplied with the following documentation by the Contractor:

- Proof of security deposit (if required)
- Satisfactory details of insurance policies
- An OHS Management Plan and/ or associated documents
- An Environmental Management Plan / Environmental Statement
- All other documents required by the Contract

1.1 Occupational Health & Safety / Environmental Management Plans

1.1.1 When is an OHS Plan Required?

An OHS Plan must be prepared for all "construction" work where:

- The cost of the work exceeds $250,000; or
- The work is considered to be "high-risk construction work"

High-risk construction work includes work in or around (or requiring) any of the following:

- Gas installations
- Electrical installations
- Confined spaces
- Heights greater than 1.8m above ground
- Waterways
- Waste and/or waste water
- Road reserves
- Plant or machinery
- 'Airside' areas
- Acid sulphate soils
- Chemicals requiring PPE
- Cranage
- Any other work as directed by the *Superintendent*

1.1.2 Who is to prepare the OHS Plan?

The OHS Plan must be prepared by the person designated by the owner of the site as the "Principal Contractor" under the OHS Act 2004 and OHS regulations 2007.

1.1.3 What does the OHS Plan have to include?

An OHS Plan must be site-specific and include at least the following:

(a) A statement of responsibilities listing the names, positions and responsibilities of all persons who will have specific OHS responsibilities on the site

(b) Details of the arrangements for managing OHS incidents, including the identity of and contact details for the person or persons who will be available to prevent, prepare for, respond to and recover from OHS incidents

(c) Any site safety rules (site induction) and details of the arrangements for ensuring that all persons at the place of work (whether employees or visitors) are informed of the rules

(d) Safe Work Method statements for all work activities assessed as having safety risks

(e) Daily 'tool box talk' log book

(f) Induction register

(g) Complaint register

(h) Daily site safety inspection log

(i) Plant Inspection log

Without prejudice, see Appendix A to Specifications- "Suggested Project OHS Management Plan Review Checklist."

1.2 Environmental Management Plans ("Emp")

1.2.1 When is an EMP Required?

For low risk projects an 'Environmental Statement of effect' will be sufficient.

A site-specific EMP will be required if:

- It is a condition of an environmental licence or approval; and/or
- The activities at the site create the potential for environmental harm
- At the direction of the Contract/ Superintendent

Specific EMPs (such as sediment control plans) will have to be prepared if there is a risk of environmental harm associated with that issue; such EMPs are to be noted by the Superintendent prior to work commencing.

1.2.2 Who Has to Prepare the EMP?

The EMP must be prepared by the company who will have primary occupation or control over the activities at the site, prior to the activities that could cause environmental harm taking place.

1.2.3 What Must an EMP Contain?

The EMP must address all of the issues identified as determined by the site environment.

The EMP must identify:

- The environmental permits/ approvals or licences that apply to the work
- The environmental risks that apply to the work
- How the Contractor will minimise and control the risk/s
- How the Contractor will comply with any requirements from the assessment of the environmental impacts
- The responsibilities of all personnel undertaking the work
- How the Contractor will comply with the Act or Regulation pertaining to the specific impact

1.3 Work Method Statements, Toolbox Talks, Induction, Complaint and Inspection Logs.

1.3.1 When is a Work Method Statement (WMS) Required?

It is a requirement of the contract, that all tasks that are identified as having safety risks have a WMS in place before work on that task commences.

The method to identify a task with a risk is to complete a Risk Assessment. Evidence that a risk assessment has occurred for every construction activity must be kept on-site at all times. It is a condition of Contract that the *Superintendent* may request to see the SMP, risk assessment, WMS or 'toolbox talk' documentation at any time. Failure to comply, or failure to have adequate documentation on site is considered a **serious breach** under this Contract. The *Superintendent* may use the provisions of the Contract to direct the Contractor to cease work immediately. Work will not recommence until the requirement of the Contract is met to the satisfaction of the *Superintendent.*

1.3.2 Who has to prepare the WMS?

Generally, unless specified, it is the Contractor's responsibility to prepare the WMS for all tasks to be undertaken by the Contractor.

In instances where the work environment presents unique or unusual risks which the Contractor is unlikely to be familiar with, the *Superintendent* will take additional measures, without prejudice, to ensure that the WMS prepared by the Contractor is adequate. Generally this will simply involve providing Contractors, without prejudice, information on risk issues. However, in some circumstances where the risks are unusually high or clearly outside the Contractor's area of expertise, the *Superintendent* will prepare a Risk Assessment and WMS for those tasks.

Examples of such circumstances may be, with prejudice or limited to, excavation in Acid Sulphate Soils, contact with 'Class C' recycled water, work on or near electrical installations or work inside 'Regulated Airspace'.

1.3.3 What does the WMS have to cover?

A WMS must:

(a) Describe how the work is to be carried out
(b) Identify the environmental and safety risks
(c) Identify the work activities assessed as having environmental and safety risks
(d) Describe the control measures that will be applied to the work activities
(e) Include a description of;
    i) The equipment used in the work
    ii) The standards to be complied with
    iii) The qualifications of the personnel doing the work
    iv) The training required to do the work

1.3.4 Daily Site-specific 'Toolbox Talks'

Prior to commencing work, the Contractor will ensure all personnel have completed their 'toolbox talk', which identifies the process controls required to complete all tasks; for example, (but not limited to):

- Activity to be undertaken
- Use of suitable equipment
- The working environment
- Compliance with standards and codes
- Qualifications of employees
- Standard of work to be undertaken on site
- WMS to be adhered to
- Personnel involved
- Equipment certification/s

If any procedures are covered by a WMS the particular WMS must be nominated on the log and attached. Alternatively, the Contractor will keep the WMS library with the log for use. Examples of processes that may be covered by a WMS include, but are not limited to:

- Emergency procedures
- Tool and equipment inspections
- Safety systems for isolated areas
- Isolation procedures
- Scaffolding
- Working at heights
- 'Hot work' procedures
- Fire protection
- Clothing and footwear
- Other specialised PPE

- Power tools
- Confined spaces
- Excavations
- Dust control
- Asbestos hygiene
- Dangerous goods, chemicals
- Disposal
- Traffic control

1.3.5 What happens if there is no mention of a task to be undertaken?

There are many instances on site where works are not predetermined and pre-planned. In the event the Contractor is required to carry out task/s not mentioned in their SMP, and subsequently has no risk assessment and WMS documented, an on-site risk assessment and safe work method statement may be completed (documented) and attached to the 'toolbox talk' log.

1.3.6 Induction Register

The Contractor will keep an Induction Register and Visitors Book on site at all times. All personnel working on site are required to be site-specifically inducted. Any temporary visitors are to be accompanied by an inducted person at all times.

Examples of what should be addressed in a site specific induction include, but are not limited to, the following:

- Emergency exits
- Site specific hazards - eg. Hard hat areas, confined spaces, hazardous substances etc
- Fire extinguishers/ hose reels
- Restricted areas
- Overhead lines, buried cables/mains
- Environmentally sensitive areas such as drains, water ways, heritage issues
- Potential sources of pollution or environmental harm
- Show special PPE lockers
- OHS notices
- Emergency procedures table complete with all contact numbers
- First aid locations and map showing closest medical assistance provider and hospital
- Toilet and meal facilities
- Office supplies and permits (confined space, hot work etc)
- Discuss workplace housekeeping
- Safety and warning signs
- Safety Awareness Training Card number (compulsory requirement)

1.3.7 Complaints Register

The Contractor will keep a log of all complaints made to any staff on site by the public. The log will include the name of the complainant, contact details, time and nature of complaint. A copy of the complaints log will be forwarded to the Superintendent every fortnight or at the request of the Superintendent.

1.3.8 Daily Site Safety/ Security Inspection Log

Prior to leaving site at any time, the Contractor will ensure the security and safety of the site is complete. This will include, but is not limited to:

- Covering/ fencing excavations
- Removing or barring all access points (decent and accent)
- Covering/ capping protrusions
- Removal and secure storage of chemicals

- Secure storage of machinery
- Fencing off areas subject to objects falling from heights
- Removal of trip hazards
- Placement of signage
- Reinstatement of construction fence/s
- Ensuring emergency contact number/s are shown on signage outside of compound
- Reporting any vandalism, graffiti, building damage, playground damage, sprinkler system damage, sign damage and fallen trees to the Superintendent in relation to the condition of any property in the immediate vicinity of the contracted works, but not necessarily under Contract. Should the matter be such that immediate action is required to render an area safe, the Contractor will notify the Superintendent.

1.3.9 Plant Inspection Log

It is a requirement of the Contract that a daily inspection be carried out on the condition and safety of all mobile and fixed plant used on site.

The Superintendent may request to review the log at any time. Failure to provide a log or failure to comply with the intent will be deemed a serious breach under the Contract and will attract provision of the articles in the Contract dealing with same.

1.3.10 What evidence does the Contractor have to provide the Superintendent, after site hand-over, in relation to Safety Management?

The Contractor is to supply the Superintendent with copies of the site-specific hazard assessments and WMS, daily 'toolbox talk' log, site induction list, complaint register and site safety/security log every fortnight, or as requested by the Superintendent.

Failure to supply any documentation will be deemed a serious breach of Contract and will be dealt with under the provisions of the articles in the Contract.

2. WORK SCHEDULING WITH CONTRACTOR

To ensure Contractors do not endanger themselves, the *Superintendent's* staff or the public, and to ensure that the *Superintendent's* infrastructure is not put at risk, all Contractors must demonstrate that the work they are about to perform has been scheduled and the *Superintendent* has been informed. The minimum time to provide the Superintendent with changes in schedules is 24 hours prior to alteration of work order.

The schedule of work must include the dates, times and exact location any work is to be carried out. The schedule should also consider extra information, including, but not limited to:

- Access permits and the holders details (eg. Confined space/ electrical)
- Safety Observer including contact details (eg. Confined space/ electrical)
- Other contractors or employees on site
- Communications with others on site (and off site where required)

3. HOURS OF WORK

The hours of work during the installation period of the Contract will be limited to:

7:00am	to	7:00pm	Monday to Friday
7:00am	to	7:00pm	Saturdays

No work Sundays or Public Holidays (without prior written approval)

At the discretion of the Superintendent, maintenance work may be approved outside these hours, provided that the noise emanating is less than the ambient noise levels and no extenuating circumstances prevail.

4. ACCESS TO WORK AND MATERIALS, SITE CONTROL AND SECURITY

The Contractor and/ or authorised persons will have access and must control the site at all times after handover, including time/s nominated as Hold Points. Notwithstanding this, the *Superintendent* may direct that the works be carried out at a particular time or in a particular order for the convenience of the public, occupiers of adjoining property or for any other reasonable purpose, under standard provisions as per the articles of the Contract. The Contractor is to keep accurate records of any time delays, which are to be signed by the Superintendent; as this will form part of any application for variation. If the Contractor fails to provide signed records to substantiate an application for variation, with exception of a *force majeure*, and without precedent, the Superintendent may be unable to substantiate an application for variation.

5. EXAMINATION AND REJECTION

The Superintendent may inspect the works under the Contract at any time for the purposes of ensuring that the services provided are in accordance with recognised standards of presentation and workmanship as per the intent of the Contract, whether or not the Contract has specific standards or specifications in relation to the service provided.

6. DUTY TO INFORM

It is the Contractors duty under the Contract to inform the Superintendent and give adequate notice; to abide by and keep documentation in relation to all *Hold Points*, *Witness Points* or *Set Points* as specified. Failure to adhere to these provisions may require works to be redeemed not to specification or unsatisfactory and require removal and/or reinstatement at the Contractors expense.

7. MATERIALS FOR WORKS

All materials and workmanship will be of the respective kinds described in the specifications or if not fully described will be in accordance with recognised Australian Standards or intent of the Contract.

If the Superintendent is of the opinion that any work is not satisfactory, or if he detects any defects, the Superintendent may direct correction at the Contractor's expense.

8. CONTRACTOR TO SUPPLY ALL PLANT, TOOLS AND EQUIPMENT

The Contractor will be responsible for providing all plant, bags, tools and all equipment necessary to effectively carry out the works required under the Contract.

Unavailability of tools and equipment will not be accepted as a reason for non-performance as the Contract is let on the basis that the Contractor will supply these as required.

9. PROTECTION OF SERVICES

The Contractor will contact the relevant authority and check the location of all services.

The Contractor is responsible for ensuring the integrity of any services, at all times, until Practical Completion.

The Contractor will immediately notify the Superintendent and the relevant authority in the event of damages to any service in the area. The Contractor will render assistance in the connection with any such incident, but otherwise work in the vicinity will be stopped immediately and not recommenced until instructed by the Superintendent.

The cost of reinstatement of damaged services, whether evident or otherwise will be borne by the Contractor, as it is solely the Contractors' responsibility to mitigate against risk to services.

The Contractor will liaise with Council staff regarding the location of water reticulation services prior to commencing any works on site.

10. DAMAGE TO THIRD PARTY OR PROPERTY

In the event of damage being caused by the Contractor in the performance of this Contract to a third party's person or property, the Contractor will give immediate notification to the Superintendent and inform the owner or representative. Any such damage caused should be replaced or made good at the Contractor's expense.

The Contractor will exercise extreme care when driving vehicles and machinery within the area. During wet conditions, the Contractor will ensure that the ground is firm enough to prevent wheel ruts, damage to lawn/ garden irrigation, installations etc. Any damage caused should be replaced or made good at the Contractor's expense or, if the Contractor fails to make good the damage, the Superintendent may employ others to rectify the damage, and deduct the cost from moneys due to the Contractor under the articles of the Contract.

11. POWER TO REMOVE PERSONNEL

The Superintendent may require the instant removal from the works, any person employed on the works, or in connection with the work, whether employed by the Contractor or not, if they are seen to be in breach of the procedures outlined in the contact, including any subsequent written notifications.

The Contractor will immediately comply with or ensure immediate compliance with such requirement and the Contractor will not again employ a person so removed on or in connection with the works until the Contractor can prove to the Superintendent the danger of a further breach or failure to comply has been negated.

It is a requirement of the Contractor to prove an instruction by the Superintendent was not justified should the Contractor wish to use such an instruction as a basis for a claim to vary the Contract.

12. INCIDENTS

In the event of an injury being sustained by personnel, the provisions under the safety management plan (SMP) relating to care of affected persons and treatment are to be enacted.

Immediately after the health and well-being of any injured person is attended to, the Contractor will verbally inform the Superintendent and subsequently investigate and report, in writing, to the Superintendent all details of the incident.

The following steps (after initial care of the injured has occurred), are to be followed, as a minimum:

- The accident/incident site or area should be quarantined and secured immediately (for investigation purposes)
- Report, if required, to the regulatory authority under which jurisdiction occurs
- Form an investigation team, the composition of which depends on the severity of the incident and will be determined by the regulation under which jurisdiction applies
- Take statements from staff and report details of incident/s to Superintendent including, but not limited to, recommendations and alterations to processes, copies of reports from regulatory or investigating organisations/ authorities and photographic records.

13. CONTRACTORS ESTABLISHMENT

The Contractor will be responsible for the supply and installation, inclusive of statutory approvals and service connections, of temporary on-site facilities required to carry out works under the Contract, including, but not limited to:

- Site meeting room
- Storage facilities
- Portable ablution facilities
- Site security (fencing)

- Lunch room

14. CONTRACTOR TO BE RESPONSIBLE FOR ALL EMPLOYEES

It will be the Contractor's responsibility to enter into sub-contract agreements with all sub-contractors and suppliers if required. Any work the Contractor proposes to sub-let, and all the proposed sub-contractors, will be subject to approval of the Superintendent. The conditions of this Contract will apply to sub-contractors and sub-letting of any works will not free the Contractor from his full responsibility for the whole of the works.

15. COMMENCEMENT OF WORK INCLUDING EMERGENCY CALLOUT

The Contractor is required to commence each new operation on site as per the conditions of the Contract.

The Contractor is to supply names, addresses and telephone numbers for emergency callout.

In emergency circumstances, the Contractor may be directed by the Superintendent to commence work immediately. Authority to undertake work will be issued as a site instruction by the Superintendent or Superintendent's representative for each scope of emergency call-out requested by the Superintendent. Instructions to the Contractor may constitute a basis for a variation claim by the Contractor.

Should the Contractor be directed verbally by the Superintendent to undertake emergency work, the Contractor will proceed without delay to carry out these directions. The Superintendent will confirm his verbal instructions with a request to vary as soon as practical thereafter. Failure to comply with instructions may result in action being taken as per dispute procedures in relevant Australian Standard.

16. DISPOSAL OF WASTE MATERIALS

The Contractor is responsible for the removal from site and disposal of relevant waste materials in a manner acceptable to the DEC and DOH.

A "chain of custody" document will be kept for every load or item removed from site and will be supplied to the Superintendent fortnightly.

17. VOLUNTARY TERMINATION OF CONTRACT

The provisions contained in the Standard and articles in the Contract will apply at all times.

APPENDIX A: SUGGESTED PROJECT OHS MANAGEMENT PLAN REVIEW CHECKLIST (Appendix to General Contract Requirements)

This checklist is used by Government Agencies when reviewing a Contractor's Project OHS Management plan. It can also be used by Contractors as a guide when preparing their Project OHS Management Plan.

IDENTIFIED HAZARDS

Assessment of the site planning or project during planning stage identified the following site-specific hazards (e.g. peculiarities of access and egress, protecting the public from the site etc...)

1. _____
2. _____
3. _____
4. _____

ELEVEN KEY ELEMENTS

1. Management Responsibility:

For each requirement of the Project OHS Management Plan one management representative should be clearly nominated.

Does the Contractor's Project OHS Management Plan state the name of the Contractor's management representative responsible for the following?

- Overall compliance on-site to OHS requirements
- Monitoring subcontractors site-specific Safety Management Plans
- Monitoring purchasing and materials delivery
- Receiving, safely storing and using materials and hazardous substances
- Communicating OHS information, site safety rules and OHS training and induction on site
- Maintaining accident and emergency procedures and first aid equipment

2. Subcontracting and Purchasing:

Are work method statements or procedures for the project in place for the following?

- Selection of subcontractors
- Monitoring of work undertaken by subcontractors
- Purchasing and delivery of materials
- Delivery of hazardous substances
- Handling of materials and hazardous substances
- Subcontractors compliance with their site-specific Safety Management Plans

3. Process Control:

- Is hazard identification and risk analysis completed?

Safe Work Method Statements may include but are not limited to:

- The manner of providing or completing a process
- Use of suitable equipment
- The working environment
- Compliance with standards and codes
- Records
- Qualifications of personnel
- Standard of work being undertaken on site

Are any of the following processes covered by the Safe Work Method Statements?

- Emergency procedures
- Tool and equipment inspections
- Safety systems for isolated areas
- Scaffolding
- Working at heights
- “Hot work” procedures
- Fire protection
- Clothing and footwear
- Power tools
- Confined spaces
- Excavations
- Dust control
- Dangerous goods, chemicals
- Disposal
- Traffic control
- Other (specify)

4. Inspection and Testing:

Do the inspection and testing procedures relate to the relevant work being undertaken for this project?

Inspection and testing procedures include, but are not limited to, the following:

- Monitor site
- Incoming materials, products and equipment
- Access and egress
- Protective measures
- Electrical safety
- Plant and equipment
- Other (specify)

5. Control of OHS Issues:

Are procedures clearly defined for the following activities?

- Incidents of non-compliance
- Non-compliance of materials and substances
- Elimination of unsafe work practices and areas
- Disposal of non-conforming materials and substances
- General site safety procedures
- Injury management
- Rehabilitation
- Other (specify)

6. Corrective Action:

Are procedures clearly defined for the following activities?

- Maintenance of records
- Incident investigation and reporting
- Procedures for corrective action reporting
- Other (specify)

7. Handling, Storage, Packaging and Delivery:

Procedures should include but not be limited to:

- Methods of unloading (handling) heavy equipment
- Damaged labels i.e. danger tags, chemical labels etc...
- Storage facilities packaging and delivery, i.e. products that do not provide adequate protection etc...
- Licensing for crane drivers

- Approvals for equipment

Are work procedures in place covering any of the following?

- Material handling
- Manual handling
- The identification, transport, storage and use of hazardous substances
- Compliance with relevant regulations, standards and codes
- Other (specify)

8. Training:

Are procedures clearly defined for the following activities?

- The training of management, supervisors and workers
- Personnel OHS induction training, task training and refresher training
- Task training necessary to conform with OHS standards
- Keeping appropriate records of OHS training

9. OHS Records:

Are records properly maintained covering management of the following issues and business activities?

- Inspection and test reports
- Internal audit reports
- Accident and incident reports
- OHS meeting minutes
- Incident analysis
- Safety equipment records
- Material safety data sheets
- Relevant site training
- Design reviews
- Internal OHS review reports
- Other (specify)

10. Design:

(This may not always be included in a site-specific plan)

Are responsibilities defined for:

- Persons undertaking design review

Are procedures defined for:

- Ensuring design compliance and OHS legislation
- Reviewing designs to identify, asses and control OHS risks
- Approving design changes
- Other (specify)

11. Internal OHS Review:

Are procedures defined for:

- Conducting regular systematic reviews of OHS procedures
- Identifying and communicating to appropriate persons any deficiencies found
- Ensuring that corrective actions are implemented and effective