

PROJECT

**POSITION PAPER –  
SITE BASED MANAGEMENT  
PLAN & ENVIRONMENT  
PROTECTION PLAN  
KINGS FOREST SERVICE  
STATION (PRECINCT 1)  
KINGSCLIFF  
NEW SOUTH WALES**

PREPARED FOR

**A SECTION 34 CONCILIATION  
CONFERENCE IN THE PROCEEDINGS  
PROJECT 28 V MINISTER FOR PLANNING**

PREPARED BY

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**CLIENT** Project 28 Pty Ltd

**CLIENT CONTACT**

**SYNOPSIS** This position paper describes the management strategies and procedures to ensure that potential environmental impacts of the proposed Kings Forest Service Station are managed throughout its construction and operational phases. The sections forming the Environment Protection Plan (EPP) represents a template for the EPP that must be prepared in satisfaction of the requirements of the *Protection of the Environment Operations (UPSS) Regulation 2014*.

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## **SUMMARY**

Project 28 Pty Ltd commissioned Gilbert & Sutherland Pty Ltd (G&S) to prepare a Site Based Management Plan (SBMP) and Environment Protection Plan (EPP) for the proposed Kings Forest Service Station (Precinct 1) located on Tweed Coast Road, Kingscliff, New South Wales ('the site').

This document constitutes the combined SBMP and EPP for the Service Station and provides procedures to ensure that the potential construction and operational phase environmental impacts are minimised and managed.

The sections forming the EPP represent a template for the EPP that must be prepared in satisfaction of the requirements of the *Protection of the Environment Operations (Underground Petroleum Storage System (UPSS)) Regulation 2014*. The EPP can only be finalised following the detailed design and construction of the UPSS. However, the design details and management commitments provided herein reflect industry best practice management for a service station and when implemented in accordance with the relevant Australian Standards and statutory requirements, the probability of any measurable impact to the sensitive receiving environment would be very low.

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# 1 Site Based Management Plan

## 1.1 Objectives

The main objective of this Site Based Management Plan (SBMP) is to provide mitigation measures to minimise the potential environmental impacts that could result from the construction and operation of a Service Station at the site. The SBMP provides information on specific site management issues relating to surface water, groundwater, dewatering, erosion and sediment control and air quality (dust) from the development during the construction and operational phases.

The control measures detailed in this SBMP have been developed to minimise impacts on the environment and achieve the following objectives:

- appropriate stewardship of natural resources
- protection of surface and groundwater
- confirmation of the success of impact control measures by the means of monitoring during the construction, on maintenance and operational phases of the proposed development
- compliance with statutory requirements.

## 1.2 Implementation

This management plan requires the Proponent to mitigate the potential environmental impacts associated with the construction and operational phases of the proposed Service Station development.

It is intended that the SBMP will provide a set of performance criteria and guiding principles with which the engineering designs for the development will comply.

## 1.3 SBMP structure

This SBMP acknowledges the environmental impacts associated with the development and details strategies to mitigate them.

Each control strategy is based upon proven environmental management methods and is presented as a commitment. The commitments made within this document will form the basis of future assessments, which will be made available to DoPE/OEH for review.

The SBMP is based on a series of tables for both the construction and operational phases of the development. The person responsible for the implementation of the measures detailed is written on the table itself. The tables then detail the issue, the performance criteria, the implementation strategy, monitoring, auditing, reporting, failure identification and the corrective action.

The detachable pages within each section detail the provisions of the SBMP. The format is presented below for reference purposes.

#Table 1

<b>Person responsible</b>	This is the person who has accepted the responsibility of implementing the SBMP provisions detailed on this page.
<b>Issue</b>	The issue with which the table deals.
<b>Operational policy</b>	The operational policy or management objective that applies to the element.
<b>Performance criteria</b>	Performance criteria (outcomes) for each element of the operation.
<b>Implementation strategy</b>	The strategies or tasks (to nominated operational design standards) that will be implemented to achieve the performance criteria.
<b>Monitoring</b>	The monitoring requirements will measure actual performance (i.e. specified limits to pre-selected indicators of change).
<b>Auditing</b>	The auditing requirements, which will verify implementation of agreed construction and operational phase environmental management strategies and compliance with agreed performance criteria.
<b>Reporting</b>	Content, timing and responsibility for reporting and auditing of monitoring results.
<b>Identification of incident or failure</b>	The circumstances under which the agreed performance criteria are unlikely to be met and environmental harm is likely to result.
<b>Corrective action</b>	The action to be implemented in case a performance requirement is not reached and the company(s) responsible for action.

**Commitment #**

What the management has committed the company to.

An objective of the tabular format is to allow for change and allow the SBMP to be a working document. If items need altering, changes may be made to the individual tables after appropriate consultation with the statutory authorities.

**1.4 General commitments**

*Commitment 1*

The Proponent undertakes to comply with the environmental implementation strategy as contained within the approved SBMP.

*Commitment 2*

The Proponent undertakes to fulfill all commitments made in this SBMP and to carry out its activities on the project site in accordance with relevant current statutory requirements and approved amendments.

## 1.5 Definitions

In this SBMP the terms have the following meanings:

**ARA** – Appropriate Regulatory Authority – this is the authority that regulates certain activities as identified in the relevant legislation. For activities associated with UPSS, the ARA is usually either the EPA or council.

**Authorised Person** is the Responsible person on behalf of a corporation.

**Development** means the proposed Service Station development.

**DoPE** – Department of Planning & Environment NSW.

**EIT** – Equipment Integrity Test – must be conducted by a suitably qualified person and be accompanied by a certificate and test results.

**EPA** means the NSW Environmental Protection Authority.

**Interstitial monitoring** – A type of leak monitoring used for detecting leaks in the annular/interstitial space of a double wall underground tank.

**Loss detection** – Procedures and processes able to identify the cause of a discrepancy (loss) from any part of a UPSS (i.e. a leak from tanks and/or pipework).

**Loss monitoring procedure** – One or more procedures for undertaking inventory control (reconciliation) of the petroleum in a system to identify a discrepancy in the volume of petrol (either loss or gain) and the means to record the results and trigger the need for any further action.

**NATA** – National Association of Testing Authorities. NATA is the authority responsible for the accreditation of laboratories throughout Australia.

**OEH** – Office of Environment and Heritage New South Wales.

**POEO Act** – *Protection of the Environment Operations Act 1997*.

**Proponent** means the person undertaking the development of the land or every subsequent owner and includes the person nominated by the Proponent as having the responsibility for implementing the provisions of the SBMP.

**Responsible person** means the person responsible for management and control of a UPSS. Where a corporation is responsible for the UPSS, an **Authorised Person** shall be nominated and assume the responsibilities of the Responsible person.

**SBMP** means the approved Site Based Management Plan and includes any amendments that may be approved from time to time.

**SIRA** – Statistical Inventory Reconciliation Analysis – A third party statistical assessment of inventory (volumetric) data (i.e. delivery, dispensing and retention volumes), which may be compensated (adjusted), as appropriate, to determine if a discrepancy in inventory control can be identified.

**SQIDs** Storwater Quality Improvement Devices.

**Suitably qualified person** – A person who has the relevant academic/technical qualification and practical experience to undertake work in a safe and effective manner, such as a contaminated land consultant (who will need appropriate tertiary qualifications and experience).

**TSC** means Tweed Shire Council.

**UPSS** – Underground Petroleum Storage Systems.

**UPSS Regulation** – *Protection of the Environment (Underground Petroleum Storage Systems) Regulation 2014*.

**UPSS Regulation Guideline** – OEH's (formerly DECCW) Guidelines for Implementing the UPSS Regulation.

**UST** – Underground Storage Tank, which is one component of a UPSS.

**Water NSW** – Statutory body established under the Water NSW Act 2014 as the State's largest supplier of raw water and to act as a single point of contact for the day-to-day business needs of water customers including the management of groundwater, regulated and unregulated water.

## 1.6 Contact details

The following persons are responsible for the implementation of the management measures described in the individual tables of the SBMP.

### **Contractor's Site Manager**

The name and address of the Contractor and its representative will be notified to TSC by the Consulting Engineer prior to the commencement of the project.

### **Consulting Engineer**

Unless advised otherwise the Consulting Engineer is:

Company: TBA

Address:

Contact Details:

Phone:

Email:

### **Environmental Consultant**

Unless advised otherwise the Environmental Consultant is:

Company: TBA

Address:

Contact Details:

Phone:

Email:

## 2 Management of potential impacts – construction phase

The SBMP requires the Proponent to mitigate the potential environmental impacts associated with the construction works.

Prior to commencement of construction, detailed erosion and sediment control plans, based on the requirements of this SBMP and the 'Best Practice Erosion and Sediment Control Guidelines (IECA, 2008)', will be prepared and submitted to the Principal Consent Authority for approval.

As soon as is practicable after the completion of the earthworks, stabilisation of the site should commence to cover the exposed areas, which will minimise erosion and movement of sediment across and off the site. Wherever possible, the site will remain vegetated and otherwise undisturbed until construction commences and where practicable, runoff from undisturbed areas should be diverted around disturbed areas.

Other control measures such as (but not limited to) temporary sedimentation basins, silt fences and contour drains should be installed and maintained in accordance with the recommendations contained in the 'Best Practice Erosion and Sediment Control Guidelines (IECA, 2008)' and approved site specific Erosion and Sediment Control Plans.

As far as practicable control measures should be maintained until landscaping has been completed and becomes established.

The following detachable pages detail the provisions of this SBMP for the construction phase.

### 2.1 Protection of Stormwater Quality Improvement Devices (SQIDs)

Bioretention basins are to be constructed in accordance with the sites Stormwater Assessment Report, this SBMP and the relevant engineering drawings in the following staged sequence:

1. If practicable based on the site specific Erosion and Sediment control plans the proposed bioretention basin may be constructed to a stage that would permit it to be used as a temporary sedimentation basin.
2. During the construction phase of the civil works and when the site has been stabilised to minimise erosion and sediment transport, the basin can be constructed to a stage that would allow it to function effectively (that is the sub-surface drainage system and the filter media should be installed) but without the final landscaping. The filter area is to be suitably protected by covering with geotextile filter fabric, loamy topsoil and turf.
3. When the construction of the Service Station is complete, the proponent will have the geotextile filter fabric, loamy topsoil and turf removed and the final landscaping completed in accordance with the approved landscape plans.

## 2.2 Construction phase dust management

<b>Person responsible</b>	Contractor's Site Manager
<b>Issue</b>	Minimisation of dust movement off site.
<b>Operational policy</b>	To achieve acceptable air quality standards through the control of movement of dust off site from site works.
<b>Performance criteria</b>	The target level for complaints by nearby residents is no more than one in any seven-day period. Ambient air quality should not deteriorate by more than 30% over a period of seven consecutive days. Dust deposition at any nearby residence should not exceed 100 mg/m <sup>2</sup> /day.
<b>Implementation strategy</b>	<p>Minimisation of the movement of dust offsite will be achieved through the following onsite practices:</p> <ul style="list-style-type: none"> <li>• All dust creating activities are to cease if wind speed exceeds 10m/sec.</li> <li>• Contractors' staff are to be trained to implement dust minimisation measures.</li> <li>• A water cart shall be available on site at all times throughout the construction phase and used for dust suppression on stockpiles, haul roads and exposed soils.</li> </ul>
<b>Monitoring</b>	<p>Daily inspections will be carried out to verify that dust mitigation measures are being implemented. The Proponent will conduct dust monitoring upon receipt of repeated complaints. If dust monitoring is to take place, the following will occur:</p> <ul style="list-style-type: none"> <li>• Temporary dust deposition gauges will monitor the movement of dust offsite at the nearest residences adjacent to the proposed development site and within the predominant wind directions.</li> <li>• Monitoring will be undertaken in accordance with AS 3580.10.1(2003).</li> </ul>
<b>Auditing</b>	Site Management is to examine the Complaints Register on a weekly basis and review corrective action taken.
<b>Reporting</b>	<p>Complaints by residents are to be recorded in the Complaints Register and notified to DoPE.</p> <p>The contractor is to notify DoPE of a possible environmental nuisance on receipt of 3 or more dust complaints in any 24-hour period.</p> <p>Results will be provided to DoPE or TSC upon request.</p> <p>Complaints by neighbours are to be recorded in a Complaints Register and notified to DoPE.</p>

Identification of incident or failure	Any dust-related complaints by residents will indicate a failure of the dust control measures.
Corrective action	Locate the source of the dust and implement the following measures: <ul style="list-style-type: none"><li>• Apply water sprays to vegetation.</li><li>• Cover or water exposed areas.</li><li>• If dust persists, cease the dust creating activities.</li></ul> All dust complaints to be addressed in consultation with council officers.

*Commitment 3*

Dust generated during the construction works will be managed to ensure that dust movement offsite is minimised.

### 2.3 Construction phase sediment and erosion controls

<b>Person responsible</b>	Contractor's Site Manager
<b>Issue</b>	Sediment and erosion controls
<b>Operational policy</b>	To prevent the displacement of sediment and soil across and offsite.
<b>Performance criteria</b>	No visual indication of erosion on areas under construction, including evidence of rilling (an indicator of sheet erosion).
<b>Implementation strategy</b>	<ul style="list-style-type: none"> <li>• Prior to commencement of construction, detailed erosion and sediment control plans shall be submitted to and approved by DoPE.</li> <li>• Erosion and sediment control devices shall be installed prior to commencement of work in accordance with the approved plans and to the reasonable satisfaction of DoPE.</li> <li>• Temporary erosion measures (eg. silt fences) are to be employed onsite during construction where reasonably deemed necessary by DoPE from an assessment of slope and soil type. Such measures should be in accordance with the recommendations in the (IECA, 2008).</li> <li>• Stockpiled soil should be stored/bunded in a manner to prevent soil being washed offsite (i.e. bunding where necessary.)</li> <li>• Outside the construction area the existing surface water conditions should be maintained wherever possible.</li> </ul>
<b>Monitoring</b>	<p>Visual inspections to be carried out weekly and after rainfall events to ensure that erosion measures are in place and operational to suit the activities taking place at the time.</p> <p>Surface water quality to be monitored monthly (refer to the Section titled 'Surface Water Monitoring' which details monitoring of surface water and stormwater quality).</p>
<b>Auditing</b>	The Site manager is to review the Site Diary on a weekly basis to ensure inspections are being conducted and that maintenance of the site's erosion and sediment controls is being undertaken as required.
<b>Reporting</b>	Reporting is required only if sediment and erosion measures are insufficient.
<b>Identification of incident or failure</b>	<ul style="list-style-type: none"> <li>• Signs of erosion on site.</li> <li>• Damaged or failed erosion control devices.</li> <li>• Falling water quality as identified by the Contractor.</li> <li>• Build-up of sediment.</li> </ul>
<b>Corrective action</b>	Apply remedial measures to improve sediment and erosion measures, e.g. silt fences, shakedown areas and runoff velocity controls.

*Commitment 4*

Best management practices will be implemented throughout the construction works to minimise erosion and sediment transport offsite.

## 2.4 Construction phase surface water monitoring

Person responsible	Contractor's Site Manager												
Issue	Surface water controls on site												
Operational policy	To control the quality runoff during the construction phase												
Performance criteria	<p>All controlled discharge from the site during the construction phase should comply with the following criteria:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: black; color: white;"> <th>Water Quality Parameter</th> <th>Release Criteria</th> <th>Criteria Type</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>6.5 - 9.0</td> <td>Range</td> </tr> <tr> <td>Dissolved oxygen</td> <td>&gt;6.0mg/L</td> <td>Minimum</td> </tr> <tr> <td>Turbidity</td> <td>50NTU</td> <td>Maximum</td> </tr> </tbody> </table>	Water Quality Parameter	Release Criteria	Criteria Type	pH	6.5 - 9.0	Range	Dissolved oxygen	>6.0mg/L	Minimum	Turbidity	50NTU	Maximum
Water Quality Parameter	Release Criteria	Criteria Type											
pH	6.5 - 9.0	Range											
Dissolved oxygen	>6.0mg/L	Minimum											
Turbidity	50NTU	Maximum											
Implementation strategy	Stormwater control should be achieved by directing as much runoff as practicable from disturbed areas to temporary control measures. 'Clean' runoff from undisturbed areas should be diverted around disturbed areas if possible.												
Monitoring	<p>Surface water quality monitoring shall be conducted in all temporary sedimentation basins and upstream and downstream of the site for the parameters listed above.</p> <p>Surface water monitoring shall occur prior to controlled discharge of water offsite from sediment ponds and following the first rainfall event of greater than 25mm in a 24-hour period each month.</p>												
Auditing	The Consulting Engineer is to audit water quality results to ensure all discharges comply with the performance criteria above.												
Reporting	Results sheets to be compiled for monitoring events and submitted to DoPE on a monthly basis. All results to be kept on site for inspection by local and state government officers upon request.												
Identification of incident or failure	<ul style="list-style-type: none"> <li>• Discharge of water offsite that does not meet the 'Performance Criteria'.</li> <li>• Visible changes in water body conditions off site that can be linked to onsite activities.</li> </ul>												
Corrective action	<ul style="list-style-type: none"> <li>• If pH is detected outside the criteria range, waters should be contained and the pH adjusted to within the range (6.5 to 9.0) prior to release.</li> <li>• If turbidity exceeds the water quality criteria for this parameter then water may need to be contained on site for a sufficient period to allow suspended solids to settle out prior to release.</li> <li>• Flocculants such as gypsum may be used to aid settlement of suspended solids. A rate of 32 kg/100m<sup>3</sup> of water is recommended.</li> </ul>												

### Commitment 5

The Proponent will ensure that all waters discharged off site meet the performance criteria set out above.

## 2.5 Construction phase groundwater quality monitoring

Person responsible	Contractor's Site Manager, Environmental Consultant
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Issue	Management of groundwater quality															
Operational Policy	To prevent the degradation of groundwater quality during construction.															
Performance Criteria	<ul style="list-style-type: none"> <li>Groundwater quality will be maintained at or close to background levels, and not impacted upon by construction operations.</li> <li>Compliance with the groundwater quality objectives identified in Table 2.5.1 (below):</li> </ul> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th><i>Pollutant</i></th> <th><i>Unit of measure</i></th> <th><i>Water quality objective</i></th> </tr> </thead> <tbody> <tr> <td><i>pH</i></td> <td><i>pH units</i></td> <td><i>Background mean pH +/- two standard deviations (SD)</i></td> </tr> <tr> <td><i>Salinity (as electrical conductivity)</i></td> <td><i>µS/cm</i></td> <td><i>Background mean reading +/- two SD</i></td> </tr> <tr> <td><i>Turbidity</i></td> <td><i>NTU</i></td> <td><i>Background mean reading +/- two SD</i></td> </tr> <tr> <td><i>Oil and grease</i></td> <td><i>Visible or odorous</i></td> <td><i>No visible signs of oil or grease (e.g. filming) and no odour</i></td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>In the case of a potential contamination incident (e.g. a spill), the Environmental Consultant shall define an appropriate suite of analyses to ascertain whether the spill has entered the groundwater. If it is found to have entered the groundwater, suitable remediation such as treatment, pumping and/or recharge barriers shall be deployed as defined by the Environmental Consultant.</li> </ul>	<i>Pollutant</i>	<i>Unit of measure</i>	<i>Water quality objective</i>	<i>pH</i>	<i>pH units</i>	<i>Background mean pH +/- two standard deviations (SD)</i>	<i>Salinity (as electrical conductivity)</i>	<i>µS/cm</i>	<i>Background mean reading +/- two SD</i>	<i>Turbidity</i>	<i>NTU</i>	<i>Background mean reading +/- two SD</i>	<i>Oil and grease</i>	<i>Visible or odorous</i>	<i>No visible signs of oil or grease (e.g. filming) and no odour</i>
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<i>Oil and grease</i>	<i>Visible or odorous</i>	<i>No visible signs of oil or grease (e.g. filming) and no odour</i>														
Implementation Strategy	<ul style="list-style-type: none"> <li>Groundwater sampling and analysis will be undertaken fortnightly at the locations shown on Drawing No. 11728 105 throughout construction.</li> <li>Sampling and analysis of groundwater intercepted by excavation and diverted to recharge trenches shall be undertaken weekly.</li> <li>A register of groundwater monitoring results will be maintained.</li> <li>Groundwater sampling results shall be compared to background results.</li> </ul>															
Monitoring	<ul style="list-style-type: none"> <li>Groundwater monitoring will be undertaken for the parameters shown above. Groundwater level will also be recorded prior to sampling at each location.</li> </ul>															
Auditing	<ul style="list-style-type: none"> <li>Environmental audits shall be undertaken on a monthly basis of site activities, groundwater monitoring results, complaints, pollution incidents, breaches of this SBMP and corrective actions.</li> </ul>															

Reporting of monitoring results	<ul style="list-style-type: none"> <li>• Results of the monthly monitoring program shall be compiled and records kept on-site and provided for inspection by relevant statutory authorities upon request.</li> <li>• Monthly reports including raw results and interpretation will be prepared and submitted to DoPE for review.</li> </ul>
Identification of incident or failure	<ul style="list-style-type: none"> <li>• Deterioration in groundwater quality outside of the effects of drought or flood due to on-site activities.</li> <li>• Non-compliance with the water quality objectives.</li> <li>• Contamination attributable to the construction enters the receiving environment.</li> </ul>
Corrective Action	<p>If the test results for any parameter fail to meet the water quality objectives for more than two rounds of monitoring, further investigations will be conducted.</p> <p>The results of the investigation should ascertain if the incident/failure is an anomaly or if a sustained decline in groundwater quality is present. If a trend exists for declining groundwater quality, the likely source(s) of contamination will be identified.</p> <p>Should the investigation indicate that site activities are triggering the incident/failure, the following will be implemented:</p> <ol style="list-style-type: none"> <li>1. Locate the source of the contamination/level variation and take all possible actions to contain and control the contaminant/level variation. Investigate the cause of the contamination/level variation and take action to prevent a recurrence.</li> <li>2. The cause of the stress/deterioration in vegetative growth shall be investigated and assessed against a corresponding change in groundwater conditions (if identified).</li> </ol>

*Commitment 6*

The Proponent will ensure that groundwater is monitored in accordance with the SBMP and any indications of deteriorating groundwater quality are thoroughly investigated.

## 2.6 Construction phase groundwater levels, seepage and dewatering monitoring/management

Person responsible	Contractor's Site Manager, Environmental Consultant
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<b>Issue</b>	Management of groundwater level across the site, including the groundwater intercepted during the course of excavation below groundwater level for the installation of underground storage tanks.
<b>Operational policy</b>	To prevent or minimise impacts on existing groundwater levels, ecosystems and on receiving waters.
<b>Performance criteria</b>	<ul style="list-style-type: none"> <li>• To maintain background conditions and prevent degradation to off-site receiving environments.</li> <li>• Groundwater levels shall remain no lower than 1 m beyond the lowest recorded background depth at each monitoring point.</li> <li>• Predevelopment groundwater flow direction shall be maintained at the site boundary.</li> <li>• Groundwater intercepted during excavation (below the groundwater table) is pumped into recharge trenches in order to maintain the groundwater levels and flow direction in the remainder of the site.</li> <li>• Groundwater intercepted during excavations for services or installation of underground storage tanks must be of appropriate quality as defined in Table 2.5.1 above before any discharge into the receiving environment.</li> </ul>
<b>Implementation strategy</b>	<ul style="list-style-type: none"> <li>• As far as practicable, any groundwater encountered during the course of works shall be directed to recharge trenches.</li> <li>• Recharge trenches shall be located by survey prior to installation of the underground storage tanks, and designed to minimise the effect of excavation on surrounding groundwater levels. That design shall include appropriate (variable) recharge engineering to allow for control of groundwater flow direction and gradient.</li> <li>• Groundwater directed to recharge trenches shall be monitored for quality weekly, and compared to the parameters defined in Table 2.5.1 above.</li> <li>• If additional storage volume is required, dewatered groundwater may be pumped to a temporary sediment pond prior to being pumped to the recharge trenches or discharged from site.</li> <li>• No groundwater shall be discharged from the site until the site's water quality criteria are reached.</li> <li>• Any discharge of groundwater from the site to the receiving environment shall be conducted in accordance with the erosion and sediment management parts of this Site Based Management Plan.</li> </ul>

	<ul style="list-style-type: none"> <li>Reliable in situ monitoring equipment will be used for monitoring groundwater levels, pH and conductivity. This equipment will be calibrated weekly. Other analyses shall be undertaken manually as scheduled.</li> </ul>
Monitoring	<p>Groundwater encountered during excavation works shall be pumped to the recharge trenches, and pH shall be monitored weekly to ensure waters comply with the site's release criteria.</p> <p>If dewatered groundwater is to be released off-site, it must be contained within a temporary sediment pond and comply with the site's release criteria prior to release.</p>
Auditing	<p>Auditing will be undertaken by the site manager and/or the proponent's nominated representative.</p> <p>The audit should include an inspection of site activities, complaints, corrective actions and reporting to assess compliance with the SBMP.</p>
Reporting	<ul style="list-style-type: none"> <li>Water quality monitoring results to be submitted to DoPE on request.</li> <li>All results to be kept on site for inspection by local and state government officers at all times.</li> </ul>
Identification of incident or failure	<ul style="list-style-type: none"> <li>Discharge of waters to the recharge trenches without analysis.</li> <li>Discharge of groundwaters to the receiving environment without appropriate controls and analysis.</li> <li>Deterioration in surface water quality downstream of the development resulting from discharge of waters from the development site.</li> <li>Variation in groundwater levels and/or flow direction outside the site boundary or in the environmental protection zones beyond the effects of drought or flood.</li> </ul>
Corrective action	<ul style="list-style-type: none"> <li>Take necessary steps to address the problem to prevent a recurrence in consultation with the environmental consultant.</li> <li>Addition of hydrated lime and/or liquid lime to contained waters as required to maintain the pH within the recommended range.</li> <li>Addition of gypsum to contained waters as required to reduce the concentration of suspended solids.</li> </ul>

*Commitment 7*

Management will ensure that on-site activities do not impact upon groundwater quality, levels or movement outside of conditions experienced during drought or flood.

## 2.7 Construction phase contractor management

Person responsible	Consulting Engineer
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Issue	Contractor management
Operational policy	To ensure the Proponent's duty of care is met by ensuring that the Contractor is aware of his/her responsibilities under the terms of the SBMP.
Performance criteria	The Contractor is fully aware of his responsibilities under the terms of the SBMP.
Implementation strategy	Review of the SBMP and the construction phase contracts by the Proponent.  Training for construction staff in implementation of SBMP provisions.
Auditing	The Consulting Engineer will audit induction and training records to ensure all staff working at the site have been made aware of their responsibilities under the SBMP.
Reporting	The Consulting Engineer shall report any incidents to the Proponent.
Corrective action	To be detailed at the time.

### *Commitment 8*

A proactive program of contractor management will be implemented.

## 2.8 Installation of UPSS

Person responsible	Responsible Person and Duly Qualified Person
Issue	Incorrect installation is one of the major causes of leaks in UPSS.
Operational policy	UPSS must be installed and tested prior to commissioning in accordance with clauses 5–8 of the UPSS Regulation.
Performance criteria	<p>To meet the requirements of the UPSS Regulation, a UPSS must:</p> <ul style="list-style-type: none"> <li>• be installed by a duly qualified person</li> <li>• pass equipment integrity testing.</li> </ul>
Implementation strategy	<p>The Responsible person must ensure that a qualified and experienced installation contractor, who is trained to install UPSS under a scheme acceptable to EPA and/or SafeWork, installs the UPSS.</p> <p>The UPSS owner/operator needs to document the following requirements:</p> <ul style="list-style-type: none"> <li>• the installation contractor has complied with the requirements of this section</li> <li>• the installation checks and tests specified in Appendix F of AS4897–2008 have been carried out</li> <li>• the UPSS certification must be retained by the owner/operator</li> <li>• as-built drawings have been prepared in accordance with section 6.4.3 of AS 4897–2008, and are retained for the life of UPSS.</li> </ul> <p>The installation contractor needs to be trained to install UPSS under a scheme acceptable to EPA and/or Safework. The installation contractor needs to develop and implement health and safety measures in accordance with the <i>Work Health and Safety Regulation</i>.</p> <p>The installation contractor needs to certify that the installation complies with:</p> <ul style="list-style-type: none"> <li>• the requirements of the UPSS designer</li> <li>• the equipment manufacturer’s instructions</li> <li>• the specifications contained in AS1940–1993, <i>The Storage and Handling of Flammable Combustible Liquids</i>, Standards Association of Australia</li> <li>• the methods and specifications contained in RP001, <i>Recommended practices for installation of underground liquid storage systems</i>, PICA, where relevant.</li> </ul> <p>The UPSS shall be tested for integrity of the system by means of an equipment integrity test (EIT) after the completion of all site works.</p> <p>Equipment integrity tests (EITs) shall be conducted in accordance with the requirements described in Table 2.9 of this document.</p>

Auditing	The supervising engineer and/or the responsible person should audit the installation against the checklist provided in Appendix F of AS4897–2008.
Reporting	<p>The duly qualified person who designs and installs a UPSS must provide details of all relevant industry standards and specifications used and met to the person responsible for the system as a reference for the future.</p> <p>The duly qualified person shall provide certification of the installation and the results of the integrity test and these must be kept until 7 years after decommissioning.</p> <p>‘As-built drawings’ must be finalised at the completion of the installation and provided to the Responsible Person. These shall include the details described in Section 4.8.</p>
Corrective action	The UPSS cannot be used until certification has been provided by the duly qualified person.

*Commitment 9*

UPSS shall be installed, tested and certified by a duly qualified person prior to commissioning.

## 2.9 Equipment integrity testing

Person responsible	Duly Qualified Person
Issue	Equipment Integrity Testing is required prior to commissioning a UPSS.
Operational policy	The UPSS shall be tested for integrity of the system by means of an equipment integrity test (EIT) after the completion of all site works.
Performance criteria	Equipment integrity tests (EITs) shall demonstrate that the UPSS does not leak. The test shall be capable of detecting a leak of 0.38 L per hour, with a probability of detection of at least 0.95 and a probability of false detection of 0.05 or less.
Implementation strategy	<p>The UPSS shall be tested for integrity of the system by means of an equipment integrity test (EIT) after the completion of all site works.</p> <p>Equipment integrity tests (EITs) shall comply with all of the following:</p> <ul style="list-style-type: none"> <li>• The test shall be capable of detecting a leak of 0.38 L per hour, with a probability of detection of at least 0.95 and a probability of false detection of 0.05 or less.</li> <li>• The EIT shall be conducted by a competent and experienced person who shall provide certification in compliance with AS 4897-2008 (Clause 6.4.2).</li> <li>• The EIT shall be a nationally approved and certified method of EIT that meets, as a minimum, the requirements or certification standards of the USEPA.</li> </ul> <p>Only inert gases shall be used to pressure test tanks. Air pressure tests shall not be used as an EIT for tanks once the tank has contained product or used oil.</p> <p>Pneumatic pressure testing of installed tanks shall not be used as an EIT. EIT may be used from time to time to assess whether a UPSS is leaking.</p>
Auditing	The supervising engineer and/or the responsible person should audit the installation against the checklist provided in Appendix F of AS4897–2008.
Reporting	<p>Records of equipment integrity tests shall be retained for the life of the UPS system and shall contain as a minimum the following information:</p> <ul style="list-style-type: none"> <li>○ Equipment identification.</li> <li>○ Location of test.</li> <li>○ Date of test.</li> <li>○ Results of test.</li> <li>○ Test method.</li> <li>○ Certification by testing company or individual that the test method complies with this Standard.</li> </ul>

<b>Corrective action</b>	<p>The UPSS cannot be used until integrity testing demonstrates the system is free from leaks.</p> <p>If EIT is used as part of a leak investigation, and a leak is confirmed, the relevant components of the UPSS shall be emptied and decommissioned until repairs are made or the equipment is replaced. Said components shall not be recommissioned until subsequent EIT demonstrates that the UPSS is free from leaks.</p>
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*Commitment 10*

Equipment Integrity Testing shall be undertaken prior to commissioning to demonstrate the integrity of the system following construction.

### 3 Management of potential impacts – operational phase

#### 3.1 Intent

This part of the SBMP specifies those matters that must be complied with by the Responsible Person throughout the operational life of the development.

#### 3.2 Implementation

Underground storage tanks and permanent stormwater quality control devices are to be monitored and maintained as detailed in the following tables.

#### 3.3 Service station forecourt management

<b>Person responsible</b>	Responsible or authorised person as identified in Section 4.3; all staff.
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<b>Issue</b>	The majority of fuel spills at service stations are due to customer error or mis-use of dispensers.
<b>Operational policy</b>	Management of the service station forecourt area to minimise the risk, quantity and impact of spills due to customer activity.
<b>Performance criteria</b>	Any fuel spills within the forecourt area are contained or captured by the forecourt drainage system and removed by a licensed liquid waste contractor.
<b>Implementation strategy</b>	<ul style="list-style-type: none"> <li>• The forecourt area shall be hydraulically isolated from the stormwater management system by canopy cover and a bunded and grated fuel dispensing area. The grated drainage system shall capture all potentially contaminated runoff from the forecourt area and drain to a covered underground collection tank. The tank will contain level sensors and alarms, which will trigger the notification of a licensed liquid waste contractor, responsible for the collection and treatment &amp;/or disposal of the tank contents. The level sensor will be set so that sufficient freeboard remains available to accommodate a spill &amp;/or rainfall events. High level alarms will also be provided, which will trigger an emergency response in the event that the tank reaches 90% of its capacity.</li> <li>• A PA system will be present to enable the console operator to communicate with customers in the event of an emergency, or more generally with respect to mobile phone usage, filling non-compliant containers or inappropriate use of dispensers.</li> <li>• Emergency shut-off buttons will be located in the console and the forecourt area to allow shut-off of fuel supply in an emergency.</li> <li>• In the event of a fuel spill the console operator will shut down power to all pumps and assess the situation.</li> <li>• Spill kits shall be provided in a readily accessible location. The kits should include:             <ul style="list-style-type: none"> <li>○ absorbent booms or socks and pads</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ contaminant resistant gloves</li> <li>○ disposable coveralls</li> <li>○ warning sign</li> <li>○ contaminated waste container</li> <li>○ a respirator with an organic cartridge.</li> <li>● Additional tools such as the following should also available:             <ul style="list-style-type: none"> <li>○ shovel</li> <li>○ broom</li> <li>○ rake</li> </ul> </li> <li>● In the event of a spill the fuel supply will be stopped.</li> <li>● For a minor spill the affected area shall be assessed for hazards and demarcated with cones or tape. The spill kit shall be used to contain and clean up the spill.</li> <li>● For larger spills emergency services and/or relevant authorities shall be notified.</li> <li>● Staff shall be trained to respond to a spill and a spill response guide will be located at the console and in the spill kit. A typical spill response flow-chart is attached as Appendix 2.</li> </ul>
Monitoring	<p>Trained staff must monitor customer activity continuously to ensure that inappropriate operation of dispensers is identified and curtailed as quickly as possible.</p> <p>Spill kits must be checked as part of maintenance checks to ensure they are stocked and operational.</p>
Auditing	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p>
Reporting	<p><b>Incident logs</b></p> <p>Under clause 24 of the UPSS Regulation, the person responsible for a UPSS must maintain an incident log including the following information:</p> <ul style="list-style-type: none"> <li>○ actions by anyone acting on their own behalf, rather than at the direction of the person responsible, that have affected, are affecting, or could affect the integrity of the UPSS</li> <li>○ any unplanned or abnormal incidents, including operational disruptions or equipment failures, that have affected, are affecting, or could affect the integrity of the UPSS.</li> </ul> <p>The incident log must be kept onsite or at a location specified in the EPP.</p> <p>Any major spill or incident that threatens or causes environmental harm must be reported to OEH and the EPA as soon as practicable.</p>
Identification of	<ul style="list-style-type: none"> <li>● Failure to identify activity likely to result in a spill.</li> </ul>

incident or failure	<ul style="list-style-type: none"> <li>• Failure to undertake appropriate actions in response to a spill.</li> <li>• Failure to report a reportable incident.</li> </ul>
Corrective action	<ul style="list-style-type: none"> <li>• Undertake investigations to determine the extent of any impact.</li> <li>• Report to EPA if harm has occurred, or is likely to have occurred.</li> <li>• Engage suitably qualified persons to assist with investigation and the formulation of necessary remediation works.</li> <li>• Review procedures and implement changes as required to prevent future spills or incidents.</li> </ul>

*Commitment 11*

The forecourt shall be monitored and managed to minimise the likelihood of a spill, or the impact from a spill, should one occur.

### 3.4 Management of waste water

<b>Person responsible</b>	Responsible or authorised person as identified in Section 4.3.
<b>Issue</b>	Potentially contaminated water from the forecourt cannot enter the stormwater or sewerage system.
<b>Operational policy</b>	Potentially contaminated water from the forecourt and the carwash shall be excluded from the stormwater system. Potentially contaminated water from the forecourt shall also be excluded from local sewerage.
<b>Implementation strategy</b>	<p>The fuel dispensing area shall be located under the canopy and hydraulically isolated to exclude uncontaminated stormwater from the forecourt area. Potentially contaminated surface water from the forecourt area resulting from spillage, washdown or incidental stormwater ingress shall be directed to an underground collection tank fitted with level sensors which will trigger the notification of a licensed liquid waste contractor, responsible for the collection and treatment &amp;/or disposal of the tank contents. The level sensor &amp; alarm will be set so that sufficient freeboard remains available to accommodate a spill &amp;/or rainfall events. High level alarms will also be provided, which will trigger an emergency response in the event that the tank reaches 90% of its capacity.</p> <p>A proprietary wastewater treatment plant shall be used to recycle water used in the car wash and dog wash facilities. Any wastewater from the process shall be discharged to sewer under a trade waste agreement. Solid waste will be disposed to landfill.</p>
<b>Monitoring</b>	<p>The collection tank shall be inspected as part of routine maintenance to ensure that sensors and level alarms are working.</p> <p>Monitoring of water discharged from the carwash treatment plant to sewer in accordance with trade waste agreement requirements.</p>
<b>Auditing</b>	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p> <p>TSC &amp;/or DoPE may carry out audits of trade waste compliance.</p>
<b>Reporting of monitoring results</b>	Reports for trade waste quality provided to DoPE in accordance with trade waste agreement.
<b>Identification of incident or failure</b>	<ul style="list-style-type: none"> <li>• Apparent deterioration of water quality.</li> <li>• Potentially contaminated water entering the stormwater system.</li> </ul>

<b>Corrective action</b>	Undertake repairs or maintenance to ensure potentially contaminated water is contained within the wastewater management system.  Clean or maintain stormwater control structure as appropriate.
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*Commitment 12*

Potentially contaminated water from the forecourt area shall be excluded from the stormwater and sewerage systems. Treated wastewater from the carwash may be disposed of to sewer under trade waste agreements.

### 3.5 Operational phase maintenance of local bioretention basins and/or swales

Person responsible	Proponent
Issue	Operation and maintenance of the bioretention basins and/or swales.
Operational policy	To maintain the water quality control structures in order to ensure adequate performance during their operational life.
Performance criteria	Local bioretention basins and/or swales must be maintained and operational.
Implementation strategy	<ul style="list-style-type: none"> <li>• Routine inspection of the bioretention basin profiles to identify any areas of obvious increased sediment deposition, scouring from storm flows, rill erosion of the batters from lateral inflows, damage to the profile from vehicles and clogging of the bioretention basin (evident by a 'boggy' filter media surface).</li> <li>• Ensure inlets and outlets are structurally stable and free of blockages.</li> <li>• Ensure that trash and/or sediment accumulation does not impair operation inlet pits or vegetation. Remove sediment that is impeding flow direction or smothering the vegetation and re-profile to original design specifications.</li> <li>• Ensure vegetation is maintained at an effective operating level, including regular watering/irrigation until plants are established and actively growing.</li> <li>• Weed removal and replanting should be conducted where required (herbicides should not be used for weed control). Ensure erosion of batters is minimised.</li> <li>• All waste to be disposed of at council approved waste facilities.</li> <li>• Mowing of grass in swales if required.</li> </ul>
Monitoring	Inspect control structures after significant rainfall events of more than 25mm in a 24-hour period.
Auditing	DoPE to carry out quarterly audits to verify that inspections have been carried out and that action has been implemented as required to correct any shortcomings.
Reporting of monitoring results	NA
Identification of incident or failure	<ul style="list-style-type: none"> <li>• Apparent deterioration of water quality.</li> <li>• Complaints from residents about odours or increased mosquito numbers.</li> <li>• Death of vegetation.</li> </ul>
Corrective action	Clean or maintain stormwater control structure as appropriate.

#### *Commitment 13*

Water quality control structures will be adequately maintained throughout their operational life to ensure continued performance.

## 4 Environment Protection Plan

### 4.1 Intent

The Protection of the *Environment Operations (Underground Petroleum Storage Systems) Regulation 2014* (UPSS Regulation) requires development of an Environment Protection Plan (EPP) for a UPSS that must be retained on-site. The EPP must contain the documented procedures and records relating to the UPSS that are specified in clause 19 of the UPSS Regulation.

This part of the SBMP constitutes a Draft EPP, to assist with the assessment of potential impacts associated with the proposed development of a service station on the site.

### 4.2 Implementation

This Draft EPP must be updated following the construction of the service station, with as constructed drawings included and management tables updated as required to reflect the final design and built structure.

The EPP must adopt or exceed the management strategies proposed in this Draft EPP. The storage system must not be used otherwise than in accordance with an environment protection plan that is in place in relation to the system (Clause 19(1) UPSS Regulation).

### 4.3 Storage System Information

Requirement	The following information about the UPSS is provided to address the information requirements of clause 19(3) and must be retained on-site as part of the EPP.
Site name:	Kings Forest Service Station, Tweed Coast Road
Site address:	Part Lot 7 on DP 875447, Tweed Coast Road, Cudgen NSW
Site phone number:	TBA
Land title particulars:	Lot 7 on DP 875447
Person responsible:	TBA
Authorised Person	<i>If person responsible is a corporation, the name of a natural person who is authorised to act on behalf of the corporation:</i> TBA
Postal address	<i>(for person responsible or natural person – may differ from site address):</i> TBA
Phone number	<i>(for person responsible or natural person – may differ from 24-hour emergency phone number):</i> TBA
24-hour emergency phone number	TBA
Name of site owner	<i>(if different from person responsible):</i> TBA

Access and security information	Details of access to, and security of, the system, including any locks, gates, fences, etc. and the means of opening them.
Location of records	<p>The location of all records kept in accordance with Part 5 of the UPSS Regulation, especially specifics of any off-site storage of records</p> <ul style="list-style-type: none"> <li>• Record of significant modifications: Location TBA.</li> <li>• Incident log: Location TBA</li> </ul> <p><b>All documents must be kept for seven years from the date of creation.</b></p> <p><b>All Documents must be kept for seven years from date of decommissioning.</b></p>
Date:	
Revision #:	

The UPSS Storage System is comprised of the following underground storage components summarised in Table 4.3.2. The location of the UPSS is shown on Drawing No. 11728 105.

Table 4.3.2 – Details of materials stored in Underground Storage Tanks

Tank No.	Hazardous Material	Underground Storage Capacity (Litres)	Type or category of hazardous chemical	Dangerous Goods Class/Division/Packaging Group
T1	AdBlue®	20,000	Not Classified	Not Classified
T2	Diesel	90,000	Combustible Liquids Class C1	C1
T3	Premium Diesel	30,000	Combustible Liquids Class C1	C1
T4	Premium Unleaded Petrol 95	40,000	Flammable Liquids Category 3	3 PG II
T5	Premium Unleaded Petrol 98	40,000	Flammable Liquids Category 3	3 PG II
T6	Unleaded Petrol E10	50,000	Flammable Liquids Category 3	3 PG II
T7	Unleaded Petrol 91	60,000	Flammable Liquids Category 3	3 PG II
T8	Liquid Petroleum Gas	30,000	Flammable Gases Category 1	2.1 PG

#### 4.4 Loss monitoring procedure

Person responsible	Responsible or authorised person as identified in Section 4.3 above.
Issue	Loss monitoring procedures must be implemented as required by Clause 19(2) of the POEO (UPSS) Regulation.
Operational policy	Loss monitoring procedures shall be implemented to identify any discrepancies between the amount of petroleum that should be in the system, and the amount of petroleum that is actually present in the system.
Performance criteria	Loss monitoring procedures must be capable of detecting losses of petroleum occurring at a rate of 0.76 litres per hour or more, with at least 95% accuracy ( <i>clause 19(4) of the UPSS Regulation</i> ).
Implementation strategy	<p>Loss monitoring shall be achieved through a combination of technology and ancillary techniques reflecting industry best practice.</p> <p>Loss monitoring shall include Statistical inventory reconciliation analysis (SIRA) <u>and</u> Automatic Tank Gauging <u>and</u> Interstitial Monitoring.</p> <p><b>Statistical inventory reconciliation analysis (SIRA) shall:</b></p> <ul style="list-style-type: none"> <li>• be certified as meeting the requirements of the Regulation by an independent third party, consistent with the current United States Environmental Protection Agency (USEPA) protocols and system of verification (USEPA 1990)</li> <li>• use equipment that has been installed, calibrated and commissioned in accordance with the manufacturer’s instructions for the loss monitoring system</li> <li>• be undertaken by a person suitably trained in each element of the procedure</li> <li>• be conducted according to the service provider’s instructions</li> <li>• have a system in place that ensures the appropriate regulatory authority (ARA) is informed if there is a significant loss and appropriate corrective action is undertaken. The person responsible for a UPSS must retain a written description of the routine operation, maintenance and service requirements of the loss monitoring system as provided by the manufacturer.</li> <li>• The raw data produced as part of the loss monitoring system (such as data from daily tank dipping or automatic tank gauging) should be kept until it is assessed and incorporated into a final report. The final reports must be kept as part of the EPP and for seven years from the date of decommissioning of the UPSS.</li> </ul>

**Automatic Tank Gauging (ATG)** shall be used in conjunction with the SIRA.

The ATG shall be evaluated and certified by a third party as capable of detecting a leak of 0.76 L per hour, with a probability of detection of at least 0.95 and a probability of false detection of 0.05 or less, from any portion of the tank that routinely contains product; and either—

- (a) incorporate inventory control using tank contents readings from the automatic tank gauging system; or
- (b) be used in conjunction with a leak monitoring system for product piping.

**Interstitial monitoring**

Monitoring of the interstitial space of the double-walled tanks shall be used as a back-up to the SIRA and ATG monitoring system. The proposed interstitial monitoring shall be capable of detecting a release through either the internal or external wall of the tank.

A wet method such as the Envirotank Hydroguard hydrostatic leak detection system shall be adopted.

The interstitial monitoring system shall include a six-monthly inspection program, conducted by a competent and experienced person, to check that:

- (a) the system is active;
- (b) leak detection measurements (e.g. liquid levels, pressure levels) are within the manufacturer's tolerances;
- (c) leak detection measurements are recorded; and
- (d) any losses outside the manufacturer's leak detection tolerances are reported immediately to the tank owner.

Leak detection in piping shall be achieved via pressurised piping with an automatic line leak detector which is activated and operational whenever the piping is in use. Such a system must be installed, calibrated and commissioned in accordance with the manufacturer's instructions for the loss monitoring system.

Alternatively, suction piping may be used without leak detection, providing:

- the piping normally operates at less than atmospheric pressure
- the piping allows its contents to drain back into the tank if the suction is released
- a single check valve is installed vertically in the piping and located directly below, and as close as practical to, the suction pump dispenser. A suitably competent and experienced person must determine that the piping satisfies the above requirements.
- The piping must be calibrated and commissioned in accordance with the manufacturer's instructions for the loss monitoring system.

<p><b>Monitoring</b></p>	<p>Loss monitoring procedures including the ATG, Interstitial Monitoring and the pressurised (or suction) pipework shall be automated and operational on an ongoing basis.</p> <p>Where loss monitoring procedures identify any discrepancy, further investigation will be actioned.</p> <p>When loss monitoring procedures indicate a discrepancy, a loss investigation shall be commenced, in compliance with the following:</p> <p>(a) Where the discrepancy is significantly in excess of the UPS system’s normal pattern, then the process of discrepancy or loss investigation shall be commenced within 2 working days.</p> <p>(b) Where the discrepancy is higher than normal but not significantly in excess of the UPS system’s normal pattern, then the process of discrepancy or loss investigation shall be commenced within 10 working days.</p> <p>If, through a discrepancy or loss investigation, a leak or spill is discovered or suspected, then a leak or spill response shall be commenced.</p>
<p><b>Auditing</b></p>	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p>
<p><b>Reporting of monitoring results</b></p>	<p>The raw data produced as part of the loss monitoring system should be kept until it is assessed and incorporated into a final report.</p> <p>The final reports must be kept as part of the EPP and for seven years from the date of decommissioning of the UPSS.</p> <p>Where a loss investigation is triggered, the person responsible must keep a record of any discrepancy or loss investigation and findings, including the action taken, for at least seven years from the completion of the final report.</p>
<p><b>Identification of incident or failure</b></p>	<ul style="list-style-type: none"> <li>Any results from the loss monitoring procedures that indicate a failure or are inconclusive must be investigated.</li> </ul>
<p><b>Corrective action</b></p>	<p>A loss detection investigation shall be undertaken in accordance with the Loss Investigation Procedure attached at Appendix 3.</p> <p>If the loss detection investigation is completed and the loss is confirmed as a leak or a spill, the incident management procedures detailed in table 4.5 shall be followed.</p>

*Commitment 14*

Multi level loss monitoring procedures shall be implemented to ensure that any leak in the UPSS is identified as soon as possible to minimise the risk of environmental impacts.

#### 4.5 Incident management procedure

Person responsible	Responsible or authorised person as identified in Section 4.3 above.
Issue	All UPSS must have documented incident management procedures detailing the response to a confirmed leak or spill of petroleum from the UPSS ( <i>clause 19(5) of the UPSS Regulation</i> ).
Operational policy	In the event that loss detection and investigation identifies a leak or a spill, such actions as necessary to verify, stop and mitigate any impact on human health and the environment, shall be taken as soon as practicable.
Performance criteria	Loss monitoring procedures must be capable of detecting losses of petroleum occurring at a rate of 0.76 litres per hour or more, with at least 95% accuracy ( <i>clause 19(4) of the UPSS Regulation</i> ).
Implementation strategy	<p>Where a discrepancy is identified as a leak or spill, the following actions should be implemented:</p> <ul style="list-style-type: none"> <li>• Action must be taken as soon as safe and practicable to prevent any further release of petroleum into the environment.</li> <li>• Identify and mitigate any fire, explosion or vapour hazards.</li> <li>• Notify the incident to the EPA, DoPE and OEH’s Environment Line.</li> <li>• Document all steps taken to prevent migration of any petroleum that has leaked or spilled. If the location of the leak can be identified, this would include, where relevant, shutting down and isolating the affected components, removing any stored fuel and commissioning further testing and diagnosis to facilitate repair or replacement.</li> <li>• Document all steps taken to recover or remove petroleum that has leaked or spilled, so that the site does not pose a threat to the environment or human health and safety.</li> <li>• Remove or, where practicable, repair leaking UPSS components in accordance with industry best practice. A suitably qualified and experienced person must be engaged to undertake the investigations and repairs.</li> </ul> <p><b>Incident notification</b></p> <p>Where a leak or spill at a UPSS is causing or likely to cause material harm to the environment or human health, the person responsible must notify both the appropriate regulatory authority (ARA) and OEH’s Environment Line (phone 131 555 or (02) 9995 5555) as soon as practicable. Failure to report such pollution incidents is an offence. Incidents at UPSS which must be notified include (but are not limited to):</p> <ul style="list-style-type: none"> <li>• a leak or spill from a UPSS verified in accordance with loss detection or incident management procedures that is causing or threatens material harm to human health or the environment</li> <li>• evidence on the site of free-phase hydrocarbons in surface water or groundwater</li> </ul>

	<ul style="list-style-type: none"> <li>evidence that offsite migration of hydrocarbons could occur, is occurring or has occurred. A written report on the incident must also be submitted to OEH within seven days of the verbal notification, using the UPSS Regulation Leak Notification form attached as Appendix 4.</li> </ul>
Monitoring	Additional groundwater monitoring shall be undertaken in accordance with Table 4.6 to assess the likelihood of off-site impacts, in the event of a leak.
Auditing	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p>
Reporting	<p><b>Incident logs</b></p> <p>Under clause 24 of the UPSS Regulation, the person responsible for a UPSS must maintain an incident log including the following information:</p> <ul style="list-style-type: none"> <li>actions by anyone acting on their own behalf, rather than at the direction of the person responsible, that have affected, are affecting, or could affect the integrity of the UPSS</li> <li>any unplanned or abnormal incidents, including operational disruptions or equipment failures, that have affected, are affecting, or could affect the integrity of the UPSS.</li> </ul> <p>The incident log must be kept onsite or at a location specified in the EPP and retained for at least seven years from the date the UPSS is decommissioned by the person responsible.</p> <p><b>Incident report</b></p> <ul style="list-style-type: none"> <li>A written report on a reportable incident must be submitted to OEH within seven days of the verbal notification, using the UPSS Regulation Leak Notification attached as Appendix 4 of these guidelines.</li> <li>If part of the UPSS is removed in response to an incident, DoPE must also receive a validation report within 60 days of the removal of a tank, decommissioning of a UPSS or completion of remediation work.</li> </ul>
Identification of incident or failure	<ul style="list-style-type: none"> <li>Failure to undertake appropriate actions in response to an identified incident.</li> <li>Failure to report a reportable incident.</li> </ul>
Corrective action	<ul style="list-style-type: none"> <li>Report to EPA.</li> <li>Undertake investigations to determine the extent of any impact.</li> <li>Engage suitably qualified persons to assist with investigation and the formulation of necessary remediation works.</li> </ul>

*Commitment 15*

Incident management procedures shall be implemented to minimise the risk of environmental impacts in the event of a leak in the UPSS.

#### 4.6 Groundwater monitoring

<b>Person responsible</b>	Responsible or authorised person as identified in Section 4.3 above.
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<b>Issue</b>	All UPSS must have groundwater monitoring wells installed and tested.																					
<b>Operational policy</b>	A series of groundwater monitoring wells shall be installed to facilitate regular monitoring of the groundwater in the vicinity of the UPSS.																					
<b>Performance criteria</b>	Groundwater monitoring conducted in accordance with the UPSS Regulation shall demonstrate that there is no impact from the UPSS to the groundwater environment.																					
<b>Implementation strategy</b>	<p>Groundwater wells shall be:</p> <ul style="list-style-type: none"> <li>• located, installed and sampled in accordance with the advice of a suitably qualified and experienced person - this will include two observation wells constructed within the UST pit and groundwater wells used to assess groundwater conditions prior to construction.</li> <li>• tested at least every six months for the presence of groundwater contamination from any UPSS on the site</li> <li>• sampled and analysed in a laboratory for the presence and concentration of specific chemicals within 30 days of –             <ul style="list-style-type: none"> <li>○ the installation of the wells</li> <li>○ the discovery that groundwater may be contaminated by petroleum</li> <li>○ the discovery of a leak through loss monitoring for tanks and piping, inventory control, discrepancy or loss investigation, or some other method.</li> </ul> </li> <li>• Groundwater quality shall comply with the objectives outlined in Table 4.6.1 (below).</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: black; color: white;"> <th style="text-align: left;"><i>Pollutant</i></th> <th style="text-align: left;"><i>Unit of measure</i></th> <th style="text-align: left;"><i>Water quality objective</i></th> </tr> </thead> <tbody> <tr> <td><i>pH</i></td> <td><i>pH units</i></td> <td><i>Background mean pH +/- two standard deviations (SD)</i></td> </tr> <tr> <td><i>Salinity (as electrical conductivity)</i></td> <td><i>µS/cm</i></td> <td><i>Background mean reading +/- two SD</i></td> </tr> <tr> <td><i>Turbidity</i></td> <td><i>NTU</i></td> <td><i>Background mean reading +/- two SD</i></td> </tr> <tr> <td><i>Oil and grease</i></td> <td><i>Visible or odorous</i></td> <td><i>No visible signs of oil or grease (e.g. filming) and no odour</i></td> </tr> <tr> <td><i>BTEX</i></td> <td><i>ug/L</i></td> <td><i>Below NEPM Schedule B2 GIL</i></td> </tr> <tr> <td><i>Petroleum Hydrocarbons</i></td> <td><i>µg/l</i></td> <td><i>Below NEPM Schedule B2 GIL</i></td> </tr> </tbody> </table> <p>Any groundwater monitoring wells shall be subject to approval by the NSW Office of Water.</p>	<i>Pollutant</i>	<i>Unit of measure</i>	<i>Water quality objective</i>	<i>pH</i>	<i>pH units</i>	<i>Background mean pH +/- two standard deviations (SD)</i>	<i>Salinity (as electrical conductivity)</i>	<i>µS/cm</i>	<i>Background mean reading +/- two SD</i>	<i>Turbidity</i>	<i>NTU</i>	<i>Background mean reading +/- two SD</i>	<i>Oil and grease</i>	<i>Visible or odorous</i>	<i>No visible signs of oil or grease (e.g. filming) and no odour</i>	<i>BTEX</i>	<i>ug/L</i>	<i>Below NEPM Schedule B2 GIL</i>	<i>Petroleum Hydrocarbons</i>	<i>µg/l</i>	<i>Below NEPM Schedule B2 GIL</i>
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<b>Monitoring</b>	Groundwater monitoring will be undertaken for the parameters shown above. Groundwater levels will also be recorded prior to sampling at each location.
<b>Auditing</b>	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p>
<b>Reporting of monitoring results</b>	<p>A duly qualified and experienced person who designs and/or installs a groundwater well must provide a written groundwater monitoring well report. The report should outline well construction details, the industry standards met in the installation and confirm that the well's design, location and installation satisfy industry best practice requirements.</p> <p>The person responsible must retain this documentation for seven years from the date of decommissioning of the UPSS.</p> <p>The person responsible must also keep all groundwater monitoring results and associated reports for a minimum of seven years from the date they are created. Where the person responsible changes (such as through sale, transfer of ownership of the site or business or contractual changes), all documents must be transferred to the new person responsible.</p>
<b>Identification of incident or failure</b>	<ul style="list-style-type: none"> <li>• Evidence within the groundwater of contaminants associated with the UPSS.</li> </ul>
<b>Corrective action</b>	<ul style="list-style-type: none"> <li>• If there is evidence on the site of free-phase hydrocarbons in surface water or groundwater, notify OEH or EPA, as detailed in Table 4.5 Incident Management Procedure.</li> <li>• Undertake further investigation of loss monitoring data and equipment to verify &amp;/or establish the source of the leak.</li> <li>• Undertake further actions as described in Table 4.5 Incident Management Procedure.</li> </ul>

*Commitment 16*

Groundwater quality shall be monitored and any evidence of a leak in the UPSS shall be thoroughly investigated.

#### 4.7 Maintenance schedule

Person responsible	Responsible or authorised person as identified in Section 4.3 above.
Issue	All UPSS shall be maintained and tested in accordance with the equipment manufacturer’s instructions and AS4897-2008.
Operational policy	All practicable measures shall be adopted in the operation and maintenance of UPSS to prevent leakage. This includes, but is not limited to, maintenance and operation in accordance with the manufacturer’s recommendations.
Performance criteria	A storage system must not be used unless all gauges, indicators, probes, sensors and any other measuring instruments in the system are checked and maintained (and where necessary calibrated) in accordance with the manufacturer’s specifications and/or the maintenance (Clause 20 of the UPSS Regulation).
Implementation strategy	<p>The primary maintenance tasks associated with UPSS are described below.</p> <p><b>Daily Maintenance:</b></p> <ul style="list-style-type: none"> <li>• Fill points –check for damage.</li> <li>• Drains – check and remove blockages</li> <li>• Check spill kit contents</li> <li>• Check collection pits and sump levels</li> </ul> <p><b>Pre-delivery Maintenance:</b></p> <ul style="list-style-type: none"> <li>• Check fill point spill containment area and remove product/water prior to delivery.</li> </ul> <p><b>Weekly Maintenance:</b></p> <ul style="list-style-type: none"> <li>• Check vent points and remove blockages</li> <li>• Check under-pump sumps</li> <li>• Check tank pit observation wells and investigate any evidence of leakage</li> </ul> <p><b>Monthly Maintenance:</b></p> <ul style="list-style-type: none"> <li>• Check SIRA report and investigate discrepancies and inconclusive results</li> </ul> <p><b>Biannual – annual maintenance:</b></p> <p><b>Cathodic Protection Systems</b></p> <p>Maintenance checks of cathodic protection systems shall be conducted in compliance with a corrosion specialist’s instructions and AS 2832 Parts 1 and 2.</p> <p>Inspection and testing shall take place within 6 to 12 weeks after installation, and at least every 6 months thereafter. Such inspection and testing shall be—</p>

	<p>(a) in compliance with AS 2832 Parts 1 and 2; and</p> <p>(b) in accordance with a corrosion specialist's instructions.</p> <p><b>Leak Monitoring Systems</b> A written description of the routine operation, maintenance and service requirements as provided by the manufacturer of the leak monitoring system shall be retained.</p>
Monitoring	Responsible person to check and sign maintenance checklists and ensure that maintenance is undertaken in compliance with AS4897-2008 and the UPSS Regulation.
Auditing	<p>OEH will undertake compliance auditing, involving a random and targeted selection of UPSS sites, to verify that the requirements of the UPSS Regulation are being implemented appropriately.</p> <p>Site audit inspections will usually occur during normal business hours and may be announced or unannounced.</p>
Reporting	<p>All data produced by any measuring instruments of a UPSS must be retained by the person responsible for at least seven years from when the data was produced, in accordance with clause 25 of the Regulation.</p> <p>All records of the maintenance, inspection and testing of the cathodic protection system shall be maintained for the life of the UPSS. Records shall contain the information recommended in AS 2832 Parts 1 and 2.</p> <p>Records of all leak monitoring system checks, inspections and tests shall be maintained for at least 7 years.</p>
Identification of incident or failure	<ul style="list-style-type: none"> <li>• Maintenance issues identified and not addressed.</li> <li>• Failure to undertake necessary repairs or maintenance tests.</li> <li>• Complaints from residents about odours or increased mosquito numbers.</li> </ul>
Corrective action	<ul style="list-style-type: none"> <li>• Necessary repairs must be undertaken as soon as practicable to remedy any faults identified by maintenance tests or checks.</li> <li>• Repairs must be undertaken by suitably qualified persons.</li> <li>• If inadequate corrosion protection is discovered, the owner shall ensure corrective measures are taken to comply with the requirements of AS4897-2008 and AS2832 – 2003, Parts 1 &amp; 2.</li> <li>• Any testing that identifies a failure in the leak monitoring system shall be thoroughly investigated until the cause of the failure is identified and repaired. Until such time as the failure is repaired secondary monitoring of tank observation wells and/or groundwater wells should be undertaken at an increased frequency.</li> <li>• Consult with a suitably qualified person to determine whether reporting or other actions are required for compliance purposes.</li> </ul>

*Commitment 17*

Maintenance will be undertaken in accordance with the equipment manufacturers' specifications to ensure the UPSS and the associated monitoring equipment functions in accordance with its design.

#### 4.8 Current 'as-built' drawings for the UPSS

The conceptual layout of the UPSS and associated management measures are illustrated in Drawing 11728 106. The detailed design shall include as a minimum the measures identified in the conceptual design (Drawing 11728 106) and following construction, as built drawings shall be included in the EPP.

The 'as-built' drawings must be suitably detailed and depict the final installed configuration of any part of a UPSS and any construction deviations showing all features of the storage site as currently built. This does not include pre-constructed design drawings.

The 'As-Built' drawings must be prepared in accordance with section 6.4.3 of AS 4897–2008, which requires the following:

For new UPSS, as-built drawings shall show—

- (a) buildings and site boundaries;
- (b) location and details of liquefied petroleum gas or other tanks;
- (c) exact location and description of all components of the UPS system;
- (d) physical size and capacity of each tank;
- (e) type of product or used oil stored in each tank;
- (f) details of tank fittings and anchorage;
- (g) piping and dispenser layout;
- (h) equipment manufacturer and materials of construction;
- (i) leak monitoring system details and location;
- (j) tank pit observation wells;
- (k) cathodic protection system details;
- (l) details of abandoned or temporarily decommissioned tanks; and
- (m) the centre-line of all underground electrical power, communication or sensor cabling and other underground services.
- (n) The date of preparation of the plan.

#### 4.9 Plan of the storage site

Workplaces with hazardous chemicals, including fuel, must have site plans which meet the WHS and UPSS Regulation requirements. These plans are used by emergency services in an emergency and provide the location of above and below ground infrastructure for use by operators.

The proposed layout of the service station site, including the UPSS location is illustrated in Drawing No. 11728 105. The plan will be updated following detailed design and shall include as a minimum the following information:

- the location of the storage system, including all tanks, fill points and pipework
- the location of buildings and associated infrastructure
- all fences and gates
- all groundwater monitoring wells (including any codes by which they are designated)
- any unsealed ground surfaces
- adjacent land-uses
- the location of the hazardous chemicals manifest
- other details as required in the hazardous chemicals manifest by the Work Health and Safety Regulation 2011 (WHS Reg) including:
  - location of buildings, amenities, structures and internal roadways
  - adjacent environmentally sensitive areas and watercourses
  - adjacent public streets, public areas, housing, commercial premises
  - site access points and restrictions to accessibility
  - topography of site and adjacent areas
  - location of emergency resources and equipment (e.g. boosters, hydrants, fire pumps, monitors, foam, spill containment kits).

## 4.10 Industry Standards

To meet industry best practice, a UPSS is required to comply with:

- all relevant Australian Standards, recognised Codes of Practice and other relevant state and federal statutory requirements specific to the design and installation of underground systems that store petroleum products, such as *AS4897–2008: Design, installation and operation of underground petroleum storage systems* (AS 2008a)
- equipment manufacturers' instructions that address design and/or installation requirements and specifications.

The duly qualified person who designs and installs a UPSS must provide details of all relevant industry standards and specifications used and met to the person responsible for the system as a reference for the future (*clause 19(2)(f) of the UPSS Regulation*).

The following is a list of industry standards relevant to the design and installation of the UPSS, which may be included in the list provided by the duly qualified person.

### Australian Standards:

- AS1940 – 2004 *The Storage & Handling of Flammable & Combustible Liquids.*
- AS/NZS1596:2014 *Storage and Handling of LPG Gas*
- AS 4897 – 2008 *The Design, Installation and Operation of Underground Petroleum Storage Tanks*
- AS /NZS 3000 – 2007 *Electrical Installations (ANZ Wiring Rules)*
- AS/NZS 60079.10.1:2009 *Classification of Areas. Explosive gas atmospheres;*
- AS 2832.2 – 2003 *Cathodic Protection of Metals – Compact buried structures*
- AS 2239 – 2003 *Galvanic (sacrificial) Anodes for Cathodic Protection*
- AS/NZS3788:2006 *Pressure Equipment – In-service inspection*
- AS 4037 – 1999 *Pressure Equipment – Examination & testing*
- AS 2885.0 – 2008 *Pipelines – Gas and Liquid Petroleum – General Requirements*
- AS 2885.1 – 2012 *Pipelines – Gas and Liquid Petroleum – Design and Construction*
- AS 2885.2 – 2012 *Pipelines – Gas and Liquid Petroleum – Operation and Maintenance*
- AS /NZS 1020 – 1995 *The Control of Undesirable Static Electricity*
- AS / NZS 1841.5: 2007 *Portable Fire Extinguishers*
- AS 2444 – 2001 *Portable Fire Extinguishers and Fire Blankets". Select. & location."*
- AS 1692 – 2006 *Tanks for Flammable and Combustible liquids*

### Codes of Practice:

- Australian Code for the Transportation of Dangerous Goods by Road and Rail, Seventh edition.
- NSW Code of Practice 2005 for Storage & Handling of Dangerous Goods.

### Planning NSW Guidelines:

- Hazardous and Offensive Development Application Guidelines - Applying SEPP 33.
- Hazardous and Offensive Development Application Guidelines - Multi-Level risk Assessment.
- Hazardous Industry Planning Advisory Paper No. 1 - Industry Emergency Planning Guidelines.
- Hazardous Industry Planning Advisory Paper No. 2 - Fire Safety Study Guidelines
- Hazardous Industry Planning Advisory Paper No 3 - Environmental Risk Impact Assessment Guidelines
- Hazardous Industry Planning Advisory Paper No. 4 - Risk Criteria for Land Use Safety Planning

- Hazardous Industry Planning Advisory Paper No. 5 - Hazard Audit Guidelines
- Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis
- Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Study Guidelines
- Hazardous Industry Planning Advisory Paper No. 8 - Hazard and Operability Studies
- Hazardous Industry Planning Advisory Paper No. 9 - Guidelines for the Development of Safety Management Systems
- Hazardous Industry Locational Guidelines No. 1 Liquefied Petroleum Gas, Automotive Retail Outlets.

**NSW DECCW (now OEH) / EPA Guidelines:**

- DECCW. July 2009. *Guidelines for Implementing the Protection of the Environment (Underground Petroleum Storage Systems) Regulation 2014.*
- EPA. Undated. *Underground Petroleum Storage Systems - Best practice guide for environmental incident prevention and management*
- EPA. November 2009. *Standards and Best Practice Guidelines for Vapour Recovery at Petrol Service Stations*
- DECCW. 2008. *Information Sheet 3 of Environmental Action for Service Stations. Forecourt Design, Operation & Maintenance.*

#### 4.11 Specifications

As above, to meet industry best practice, a UPSS is required to comply with the equipment manufacturers' instructions that address design and/or installation requirements and specifications.

The duly qualified person who designs and installs a UPSS must provide details of all specifications for the equipment supplied and installed, to the person responsible for the system as a reference for the future (*clause 19(2)(f & g) of the UPSS Regulation*).

The relevant specifications shall be supplied by the duly qualified person in accordance with the above requirements following detailed design and installation of the UPSS.

This shall include, but not be limited to:

- Equipment Suppliers Specifications, Requirements and Instructions.
- Fuel System Specifications and Drawings.
- Site Specific drawings and suppliers' specifications.

## 5 Administration of the SBMP & EPP

### 5.1 Amendment of the SBMP

The Proponent may make application to DoPE to amend the provisions of this SBMP. The application shall:

- a. Be in writing.
- b. Specify the provisions of the SBMP to which the application relates.
- c. State how the proposed amendment(s) achieve the objectives of the provisions to which the amendment(s) relate.

DoPE shall approve the amendment(s) where DoPE is satisfied that the proposed amendment(s) achieve the objective of the provisions to which the amendment(s) relate.

### 5.2 Amendment of the EPP

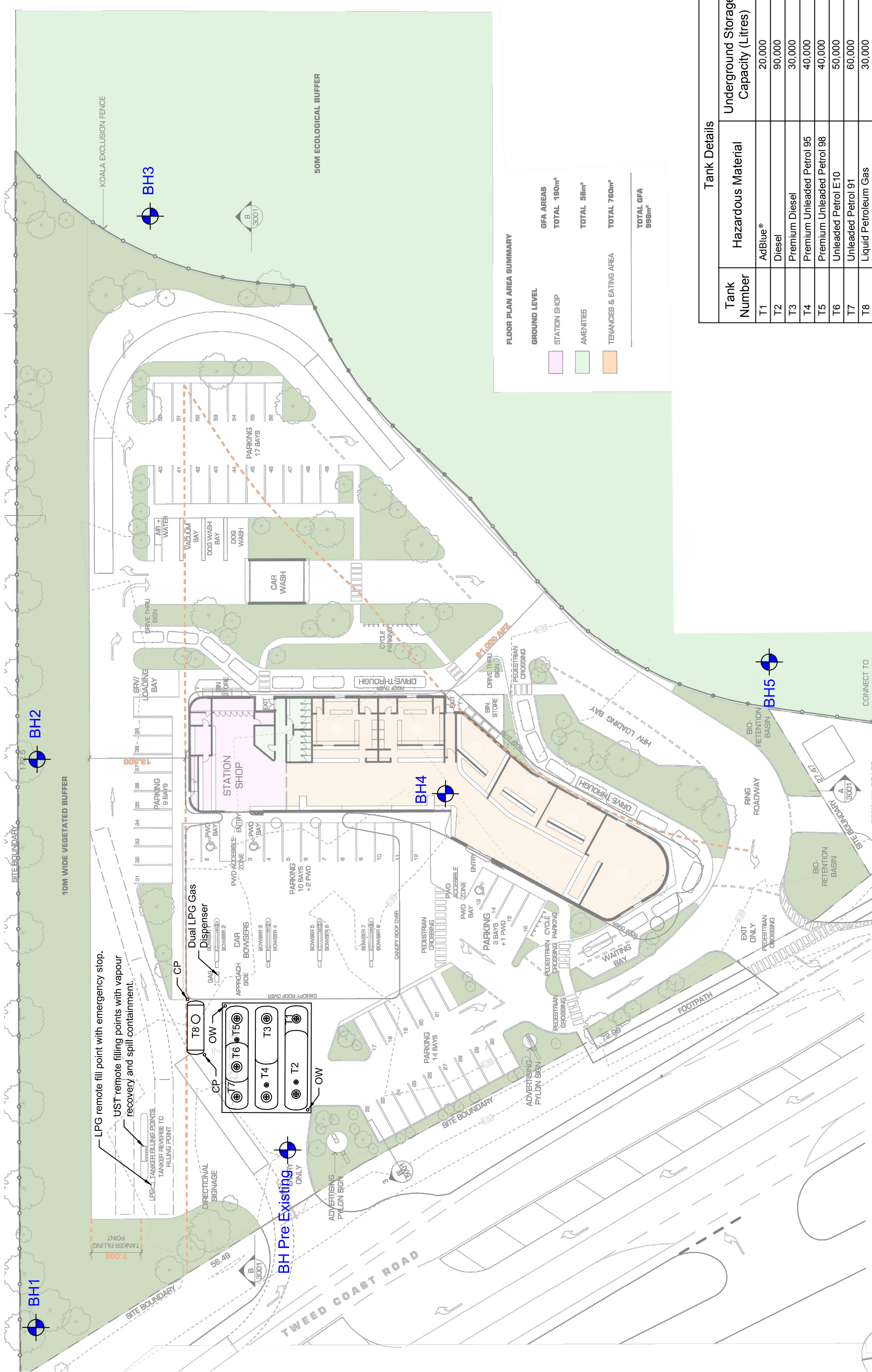
The Proponent may amend the EPP as required to ensure that the document reflects any modification to the UPSS or changes to its management, ownership or responsibilities. The revised EPP shall:

- a. Be kept in hard copy on site and available for inspection by EPA upon request.
- b. Be signed and dated by the Responsible Person.
- c. Reflect the requirements of the UPSS Regulation.

### 5.3 Incident management

The Proponent and any person appointed by the Proponent as having responsibility for a control strategy set out in this SBMP have clearly defined responsibilities under the *Protection of the Environment Operations Act 1997* to report any incidents likely to cause material or serious environmental harm.

## 6 Appendix 1 – Drawings



**FLOOR PLAN AREA SUMMARY**

GROUND LEVEL	GFA AREAS
STATION SHOP	TOTAL 180m <sup>2</sup>
AMENITIES	TOTAL 58m <sup>2</sup>
TENANCIES & EATING AREA	TOTAL 760m <sup>2</sup>
	TOTAL GFA 998m <sup>2</sup>

**Tank Details**

Tank Number	Hazardous Material	Underground Storage Capacity (Litres)
T1	AdBlue®	20,000
T2	Diesel	90,000
T3	Premium Diesel	30,000
T4	Premium Unleaded Petrol 95	40,000
T5	Premium Unleaded Petrol 98	40,000
T6	Unleaded Petrol E10	50,000
T7	Unleaded Petrol 91	60,000
T8	Liquid Petroleum Gas	30,000

**ORIENTATION**

**SCALE 1:500**

**ROBINA**

PO Box 4115 Robina QLD 4230  
Email: robina@access.gs

**LEGEND**

- BH# Groundwater Monitoring Location
- OW Tank Pit Observation Well
- CP Cathodic Protection

For additional Legend entries see the drawing space.

**SOURCES**

Proposed Development Layout: Push Architecture, Proposed Site Plan, Drawing No. 1000 Issue P1, Dated: 11/2016

**NOTES**

- Existing groundwater wells outside of built/paved footprint to be retained for future monitoring.

**PROJECT**

PROPOSED SERVICE STATION, TWEED COAST RD, KINGS FOREST, NSW

**CLIENT**

PROJECT 28 PTY LTD

**DRAWING**

SITE AND UPS (TANK) LAYOUT SHOWING GROUNDWATER AND TANK PIT OBSERVATION WELLS

**SCALE** 1:500@A3

**DATE** 29/11/2016

**DRAWN** BMW/AJS

**CHECKED** NTS

**PROJECT** 11728

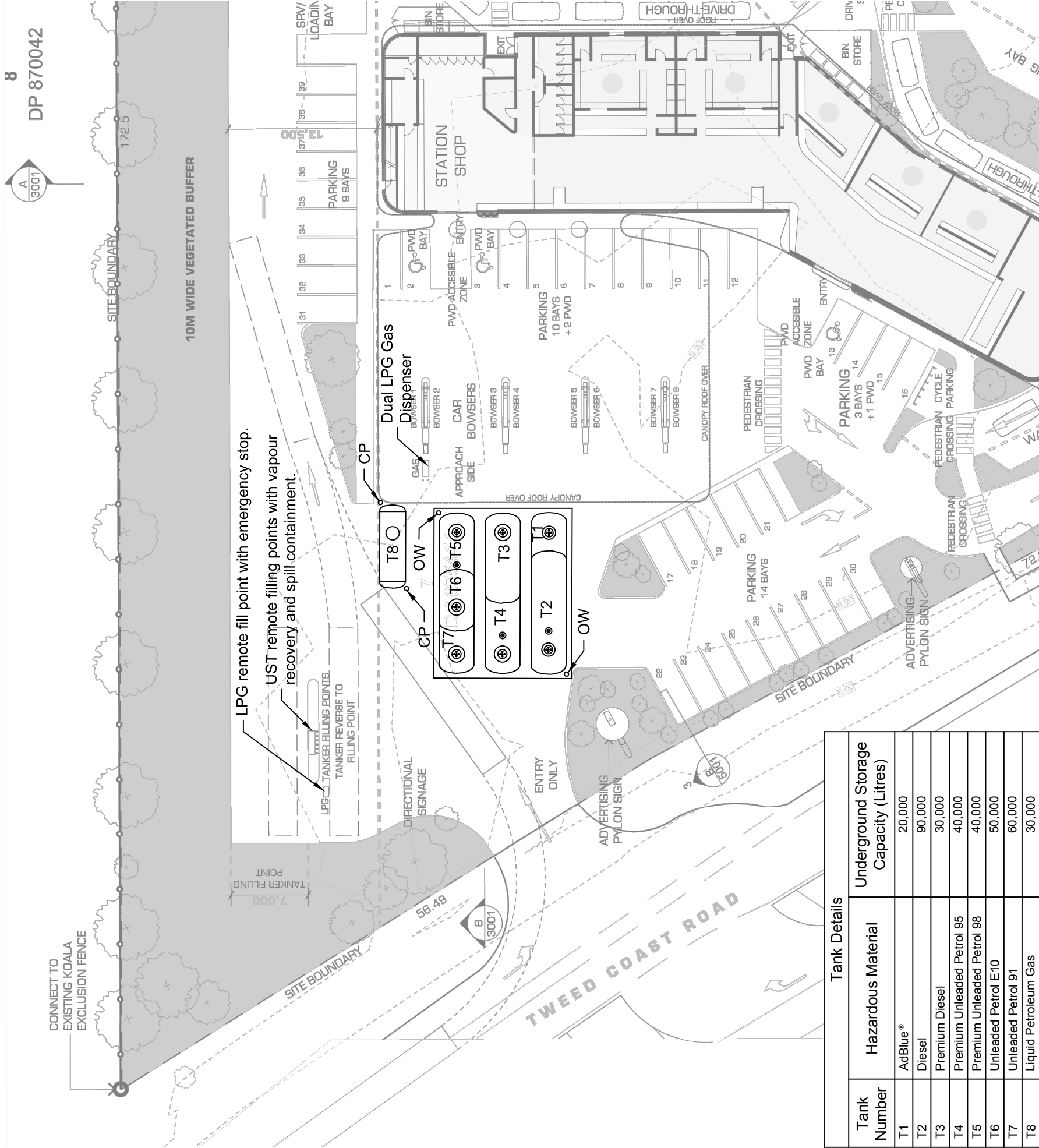
**DRAWING** 105

**REVISION**

**GILBERT SUTHERLAND**

**NOTES**

- Industry best practice** will be adopted in the design, products, materials and installation techniques of the UPSS. The design & installation of the UPSS shall comply with AS 4897 - 2008 the POEO (UPSS) Regulation 2008 and POEO (Clean Air) Amendment (Vapour Recovery) Regulation 2009.
  - USTs - Fuel**
    - Fuel will be stored in 3 x 110,000 litre underground storage tanks (USTs), with a manufacturers warranty of 30 years.
    - Double walled fibreglass tanks** (Envirotank or equivalent) inclusive of an interstitial monitoring system to detect leakage via the outer or inner wall.
    - All tank outlet fittings to be enclosed in one containment turret installed on the tank top, with any potential leaks from joints in pump and pipe work fittings being contained in the turret for safe and approved disposal methods.
    - The tank pit will be installed with two observation wells on opposite corners of tank excavation to enable monitoring for **secondary leak detection**.
    - All tanks to have an automatic tank gauging system installed as one part of the leak detection procedure.
  - Submersible turbine pumps** complete with mechanical leak detectors for fuel, shall be installed inside tank containment turrets to ensure any leaks are captured within the turrets and to facilitate servicing. Any fuel leaks detected by the leak detector will immediately and automatically shut down the fuel pumping system.
  - Underground Pipe Work.**
    - Secondary containment must be provided for all product delivery lines from tanks to dispensers. This shall consist of Lined Polyethylene Flexible Pipe (LPP or NUP) type, with any joints being welded and or terminated inside tank containment turret and dispenser containment.
    - Vent, vapour recovery, fill and syphon lines to be Lined Polyethylene Flexible Pipe (LPP or NUP).
    - All underground malleable fittings to be protected with Denso tape or corrosion protection.
    - Aboveground Fuel Vent Pipe Work to be galvanized steel and supported to specification. Vent terminations to be minimum 4.5 m high, with up draft vents caps (or as required by Regulations) and located to meet AS1940 - 2004 and AS/NZS 60079.10.1:2009 requirements.
  - Fuel Vapour Recovery System Stage 1** - Underground tanks vent system to be connected to a vapour recovery system to return vapours from underground tanks into delivery vehicle tank vapour recovery system, during product deliveries.
  - Fuel Vapour Recovery System Stage 2** - Underground pipework from all dispenser bases, shall be provided to enable return of vapours from customer cars via dispensers to underground tanks..
- Fuel Filling Points for USTs**
- Underground tanks shall have overflow prevention valves to stop delivery of product to prevent accidental overflow of tanks during product deliveries.
  - Filling Point shall include a double containment box system installed to capture any minor spills from delivery hoses in the inner box, and with a drain valve and pipe work to allow fuel to drain into an underground tank.
  - The outer box shall be protected with heavy duty galvanized steel lid to prevent damage from vehicles.
- Underground LPG Tank**
- LPG shall be stored in 1 x 30,000 litre underground steel tank protected with epoxy resin paint and **cathodic protection system**.
  - The cathodic protection system will consist of a **sacrificial anode system**, with four (4) magnesium anodes, five (5) zinc reference electrodes, and one (1) permanent silver / silver chloride reference, electrical test units and electrical isolation flange kits. The system shall be designed for a minimum life of 20 years with 6 monthly inspections.
  - Backfill material** shall be approved and installed to meet cathodic protection system requirements and standards.
  - All **pipe work** steel and welded on site to Australian Standard, protected by Denso tape wrapping and cathodic protection system.
  - The **Filling Point for LPG** shall be located to meet AS/NZS 1596 : 2014 and AS/NZS 60079.10.1:2009 and be fitted with pressure relief valve system and emergency shut off switch.
  - A submersible turbine pump, shall be installed inside the LPG tank containment turrets to capture any leaks within the turret and to facilitate servicing.
  - The proposed LPG installation will comply with all aspects of the current edition of Australian / New Zealand Standard AS/NZS 1596:2014 "The Storage and Handling of LP Gas" and certified by an Accredited Dangerous Goods Consultant.
  - The above requirements shall be incorporated into a detailed design to be prepared by a duly qualified person with appropriate qualifications, experience and affiliation to a recognized professional body such as the Australian Institute of Dangerous Goods Consultants.
  - All equipment to be installed to manufacturers, suppliers and to Oil Company specifications, by accredited and experienced fuel services Contractors.
  - All work shall be tested, checked and certified by Fuel System Certifying Consultants.



Tank Number	Hazardous Material	Underground Storage Capacity (Litres)
T1	AdBlue®	20,000
T2	Diesel	90,000
T3	Premium Diesel	30,000
T4	Premium Unleaded Petrol 95	40,000
T5	Premium Unleaded Petrol 98	40,000
T6	Unleaded Petrol E10	50,000
T7	Unleaded Petrol 91	60,000
T8	Liquid Petroleum Gas	30,000

**ORIENTATION**

**SCALE 1:400**

**ROBINA**  
PO Box 4115 Robina QLD4230  
Email: robina@access.gs

**LEGEND**

- OW Tank Pit Observation Well
- CP Cathodic Protection

**SOURCES**

Proposed Development Layout: Push Architecture, Proposed Site Plan, Drawing No. 1000 Issue P1, Dated: 11/2016

**PROJECT**

PROPOSED SERVICE STATION, TWEED COAST RD, KINGS FOREST, NSW

**CLIENT**

PROJECT 28 PTY LTD

**DRAWING**

UPSS AND LPG CONTROL MEASURES (CONCEPTUAL)

**SCALE** 1:400@A3

**DATE** 29/11/2016

**DRAWN** BMW/AJS

**CHECKED** NTS

**PROJECT** 11728

**DRAWING** 106

**REVISION**

**NOTES**

1. Fuel Dispensers (Bowers) to be located under a canopy, on concrete pavement area and on site forecourt in accordance with AS1940-2004.
2. Dispenser units shall have **containment sumps** fitted under all units to capture any leaks from fittings and joints.
3. Dispenser units to be protected from vehicle damage with **steel bollards** fitted near each unit on concrete forecourt area.
4. Dispenser unit hoses must have **automatic shut-off nozzles** to prevent overfilling of vehicle fuel tanks.
5. All dispenser hoses must be fitted with a **vapour recovery system**.
6. Underground pipe work near dispensers shall be fitted with **impact shear valves** in all product lines, to stop the flow of product in the event of vehicle impact.
7. All dispensers to have **mandatory safety signs**, complete with instructions, fitted on canopy columns and dispensers.
8. An **environmental spill kit** to be held outside main building for any small spills on forecourt area.

**Console operators:**

9. All site staff to complete fuel and LPG work practices and **safety training** with the manual kept on site for inspection and auditing by appropriate authorities.
10. A **PA system** shall be installed in the forecourt area and retail building to enable the site operator to communicate with client vehicles on the forecourt area, in the event of an **emergency** or as otherwise required. A step by step **emergency response instructions**, complete with telephone numbers and contacts, to be placed near site operator in building.

**12. Fire protection**

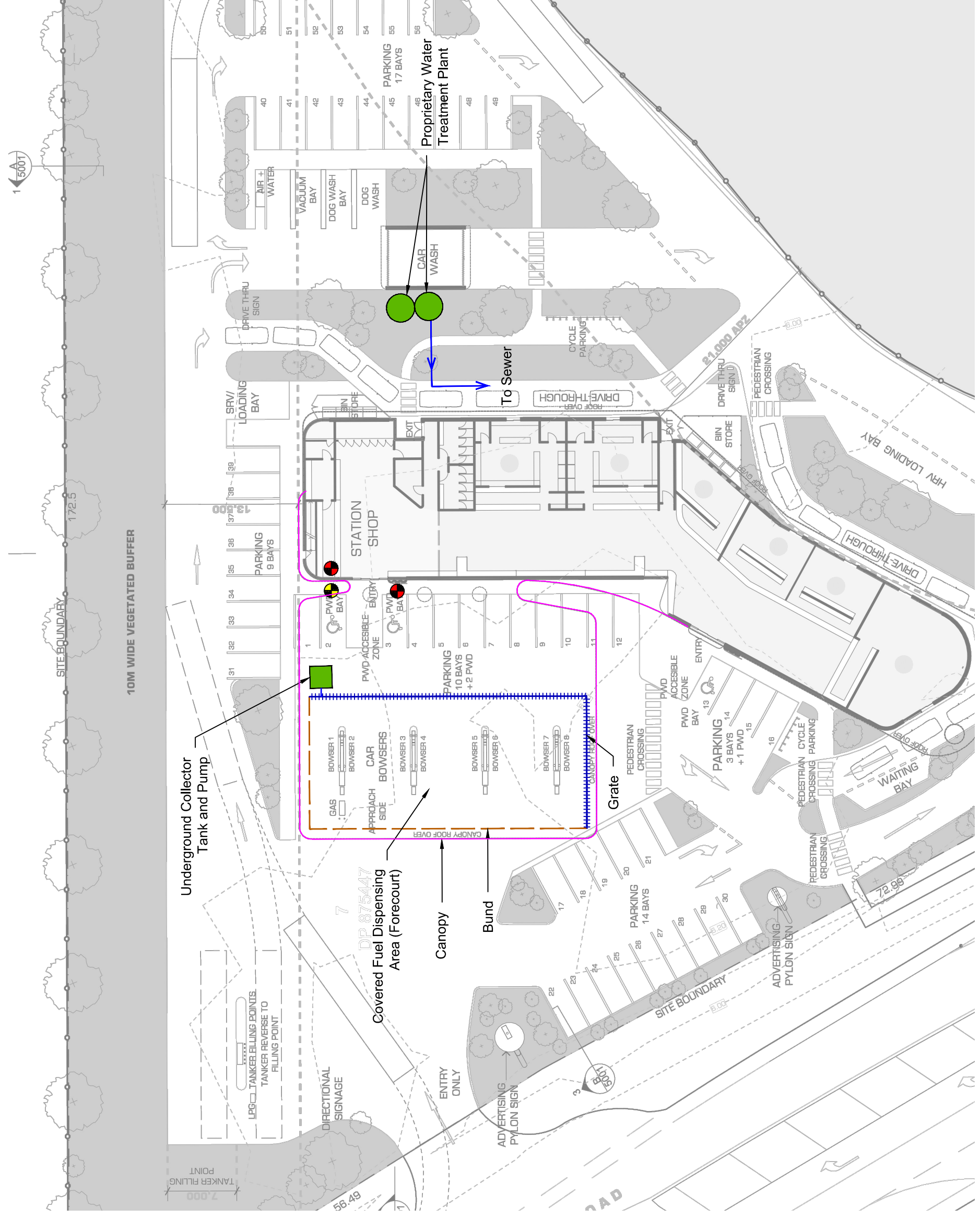
- Two (2) 4.5kg dry chemical fire extinguishers to be installed on canopy columns in the event of small fires on or near vehicles.
- One (1) 2.5 kg dry chemical fire extinguisher fitted inside building.

13. **Emergency stop switches** must be fitted to both inside and outside of building, to shut down power to all dispensers in the event of spillage or fire.

**Wastewater management**

14. The fuel dispensing area shall be located under the canopy and hydraulically isolated to exclude uncontaminated stormwater from the forecourt area. Potentially contaminated surface water from the forecourt area resulting from spillage, washdown or incidental stormwater ingress shall be directed to an underground collection pit fitted with high level alarms, which will trigger pump out procedures. The contaminated water shall be collected for offsite treatment and/or disposal by a licensed liquid waste removal contractor.

15. A proprietary wastewater treatment plant shall be used to recycle water used in the car wash and dog wash facilities. Any wastewater from the process shall be discharged to sewer under a trade waste agreement. Solid waste will be disposed to landfill.



**ORIENTATION**

**SCALE 1:400**

**ROBINA**  
PO Box 4115 Robina QLD4230  
Email robina@access.gs

**LEGEND**

- Emergency Shut Off
- Spill Kit
- Bund
- Drainage Grate
- Wastewater Plumbing
- Canopy

**SOURCES**  
Proposed Development Layout: Push Architecture, Proposed Site Plan, Drawing No. 1000 Issue P1, Dated: 11/2016

**PROJECT**  
PROPOSED SERVICE STATION, TWEED COAST RD, KINGS FOREST, NSW

**CLIENT**  
PROJECT 28 PTY LTD

**DRAWING**  
FORECOURT AND WASTEWATER MANAGEMENT

**SCALE**  
1:400@A3

**DATE**  
29/11/2016

**DRAWN**  
BMW/AJS

**CHECKED**  
NTS

**PROJECT**  
11728

**DRAWING**  
107

**REVISION**

**GILBERT SUTHERLAND**

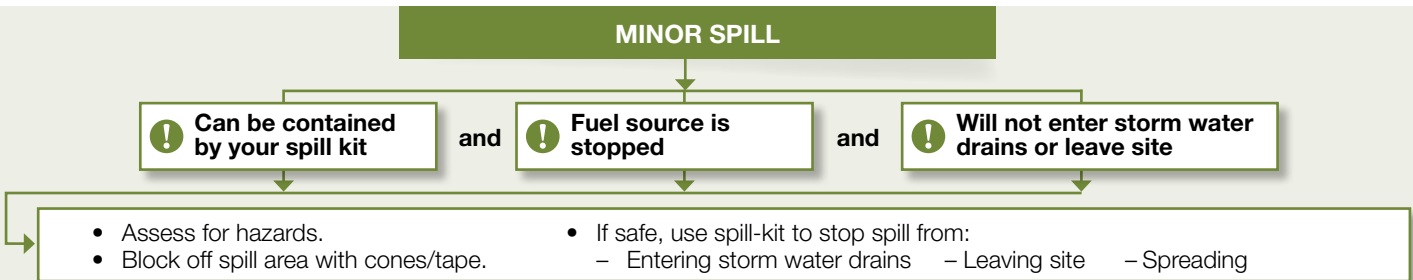
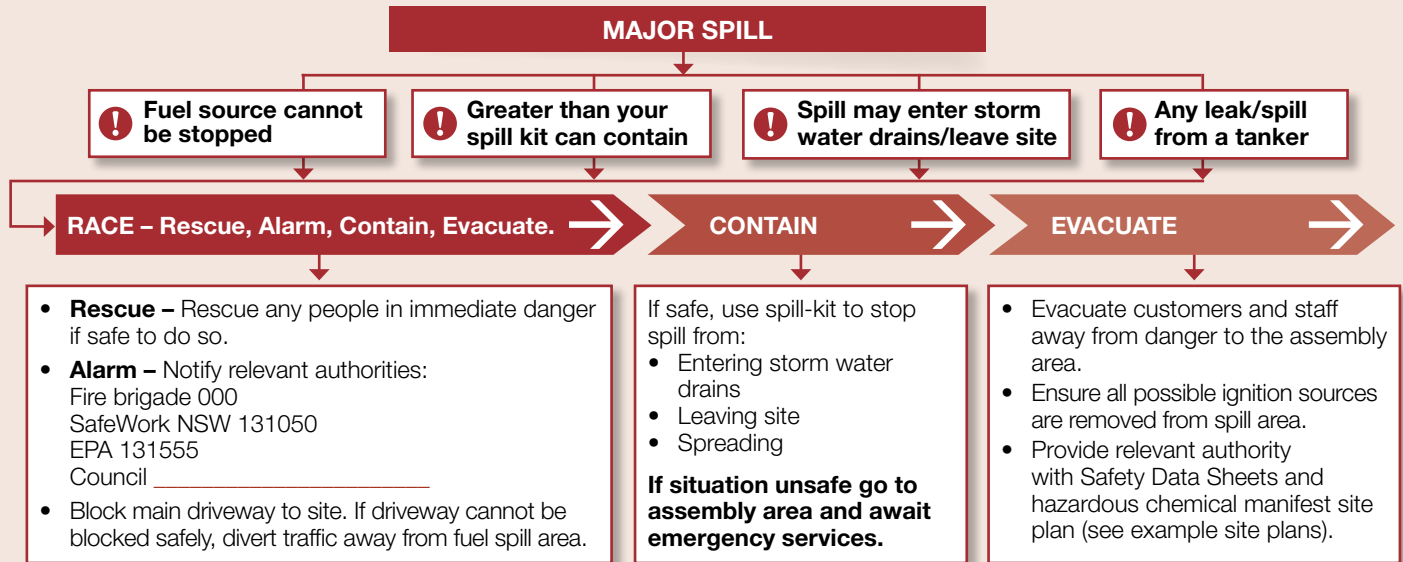
## 7 Appendix 2 – Spill Actions

From NSW EPA's Underground Petroleum Storage Systems - Best practice guide for environmental incident prevention and management.

# Spill Actions

**EMERGENCY  
PUMP SHUT OFF  
SWITCH**

## Always shutdown all pumps and assess the situation



Where a leak or spill is causing or is likely to cause material harm to the environment or human health, you must notify each relevant authority as soon as practicable. Failure to report such pollution incidents is an offence under Part 5.7 of the POEO Act. Relevant authorities include EPA, Council, SafeWork NSW, Fire and Rescue NSW and NSW Health (see contact list).

## 8 Appendix 3 – UPSS loss investigation procedure

From NSW EPA's Underground Petroleum Storage Systems - Best practice guide for environmental incident prevention and management – After AS4897-2008.

# Leak investigations



## Loss detection investigation checks

To assist in determining the cause of a discrepancy identified during loss monitoring, the following system checks may be initiated (where appropriate) by the person responsible for a UPSS.

Suspected issue to investigate	Loss/Gain?	Example system checks. To be conducted by a suitably qualified person.
Inventory records	Loss or gain	Check the inventory control records of the preceding three months (or to a point when records are deemed satisfactory) to ensure the discrepancy has not been caused by a record-keeping error.
Security/pilfering	Loss	Check the following: <ul style="list-style-type: none"> <li>for sites that do not operate continuously (non-24 hour sites), that all tank openings (e.g. dip and fill points) are secured, in particular after hours</li> <li>on self-serve sites, that controlled authorisation of dispensers is operating</li> <li>where available, CCTV or similar security system.</li> </ul>
Dip stick	Loss or gain	Check the following: <ul style="list-style-type: none"> <li>dip stick for wear/damage and replace if necessary</li> <li>each tank has the correct dip stick</li> <li>if using automatic tank gauging, that the system is operating to the manufacturer's specifications.</li> </ul>
Water	Gain	Check each tank for the presence of water by: <ul style="list-style-type: none"> <li>use of a water-finding paste on a dipstick. Identify entry point(s) (e.g. if tank has a hole or water is entering via open valve, fill point, etc.).</li> </ul>
Fill points, spill boxes, pumps and piping manifolds	Loss or gain	For a dispenser with a pump located inside the dispenser unit, remove covers and check valves and pipework for leaks, both during operation and when switched off. For submersible pumps, lift the pump cover and check wells for leaks. For piping manifolds, lift the pit cover and check for leaks. Check fill point seals and covers for damage.
Tank pit observation wells and groundwater monitoring wells	Loss	Check: <ul style="list-style-type: none"> <li>for any evidence of petroleum in the tank pit observation and groundwater monitoring wells. Engage suitably qualified person to investigate and identify the source of the leak.</li> </ul>
Vents	Loss	Check: <ul style="list-style-type: none"> <li>vent caps for any visible blockages</li> <li>vents for evidence of petroleum blow-out at either vent outlet or below vents on ground or buildings.</li> </ul>

*Continued overleaf*

## Leak investigations *continued*

Suspected issue to investigate	Loss/ Gain?	Example system checks. To be conducted by a suitably qualified person.
Dispenser pumps are over or under dispensing	Loss or gain	<p>Check:</p> <ul style="list-style-type: none"> <li>• that dispenser totals and console totals are recorded and operating within their accepted tolerances and that the records produced by each, for the same period, correlate within acceptable limits</li> <li>• the maintenance schedule and calibration of dispensers</li> <li>• inspect under sump pump (if present).</li> </ul>
Sales test	Loss or gain	<p>Determine tank and dispenser relationships by identifying single stock systems. Establish opening stock datum and do not alter the single stock systems for the duration of the sales test.</p> <p>During the sales test the operator should satisfy the requirements of the delivery procedures and run the test for five days unless significant loss or gain variations can be determined in a shorter period.</p> <p>The final stock reconciliation should be performed by the person responsible.</p>
Interstitial monitoring (for appropriately designed UPSS only)	Loss	<p>Check:</p> <ul style="list-style-type: none"> <li>• the system is active</li> <li>• leak detection measurements (e.g. liquid levels or pressure levels) are within the manufacturer's tolerances</li> <li>• leak detection measurements have been recorded for the system.</li> </ul> <p>Where any previous losses outside the manufacturer's leak detection tolerances have been reported in the last six months, undertake further investigation of the system to identify the source of leak.</p>
Human error	Loss or gain	<p>Check:</p> <ul style="list-style-type: none"> <li>• UPSS installation records – was the installer accredited/certified?</li> <li>• for inaccurate measuring/recording</li> <li>• delivery losses/tank filling activities</li> <li>• for inadequate system management</li> <li>• failure to complete physical system checks.</li> </ul>
Recent repairs undertaken on UPSS	Loss or gain	<p>Check:</p> <ul style="list-style-type: none"> <li>• maintenance of records</li> <li>• if repair and reuse was performed, whether compatible materials were used.</li> </ul>
Equipment integrity test	Loss or gain	<p>If none of the above investigations reveals a reason for the discrepancy in the reconciliation records, an EIT may be considered and performed in accordance with the UPSS Guidelines.</p>

## 9 Appendix 4 – UPSS Regulation leak notification form

*Note:* This form may be downloaded from [www.environment.nsw.gov.au/upss.htm](http://www.environment.nsw.gov.au/upss.htm)



**Section B: Details of the incident (Attach additional papers if necessary)**

**Date incident occurred or leak identified:**

**Duration of incident (or date leak stopped):**

**Nature of incident:**

**Circumstances in which the incident occurred (including the cause of the incident, if known):**

- Leaking tank       Overfilling       Other (please specify)  
 Leaking piping       Spill  
 Structural failure       Unknown

**Location of the incident** (maps and/or diagrams may be included):

**Location of any place where pollution is occurring or is likely to occur** (maps and/or diagrams may be included):

**What aspects of the environment are affected?** (tick all that apply):

- Air       Surface water       Soil       Other (please specify)  
 Groundwater       Stormwater       Sediments

**Nature of any pollutants involved:**

- Unleaded petrol       Other, e.g. additives (please specify)  
 Lead replacement  
 Diesel  
 Kerosene  
 Waste oil

**Estimated quantity or volume of pollutants involved:**

**Concentration of any pollutants involved:**

**Action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution:**

**Any other relevant information** (e.g. adjoining land uses, other possible source(s) of pollution):

**Section C: Person responsible\* for the UPSS site (refer to UPSS Regulation or see Section 1.6 of the UPSS Guidelines)**

*\* The person responsible is the person who has management and control of the system. If the 'person' responsible is a corporation, an individual who is authorised to act on the organisation's behalf must be nominated.*

**Name:**

**Phone no(s):**

**Contact person (if person responsible is not a natural person):**

**Address:**

**Section D: Details of person who submitted notification**

**Name:**

**Position:**

**Address:**

**Phone no(s):**

**Signature:**

**Date:**

***If you fail to report a pollution incident which poses material harm to the environment as required under Part 5.7 of the Protection of the Environment Operations Act 1997, you commit an offence. The maximum penalty is \$1,000,000 for corporations or \$250,000 for individuals.***

***A person is required to notify a pollution incident under Part 5.7 of the Act even though to do so might incriminate them or make them liable to a penalty.***

***Any notification given by a person under Part 5.7 of the Act is not admissible in evidence against the person for an offence or for the imposition of a penalty.***

**Please send  
completed form to:**

**Email:** [upssreg@environment.nsw.gov.au](mailto:upssreg@environment.nsw.gov.au)

**Post (if before 31 May 2012):**

Contaminated Sites – UPSS

Department of Environment, Climate Change and Water NSW

PO Box A290

Sydney South NSW 1232

**Local Council (if after 1 June 2012).**