



Development Services Attachments Wednesday, 15 June 2016

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Locality Plan
Lot 51 Reserve Road, Muchea





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9.1.3 Proposed Extractive Industry and Excavation Licence for Sand and Gravel – Lot 51 (RN 451) Reserve Road, Muchea*

| | |
|----------------------------|--|
| Applicant | Whelans Pty Ltd on behalf of G & J Edwards |
| File ref | A10698 P088/11 |
| Prepared by | Brendan Jeans, Senior Planner |
| Supervised by | Azhar Awang, Executive Manager Development Services |
| Voting requirements | Normal |
| Documents tabled | Nil |
| Attachments | 1. Locality Plan (1 page) 2. Excavation Management Plan 3. Schedule of Submissions |

SUBSTANTIVE MOTION / COUNCIL RESOLUTION – 080612

Moved Cr Gisbon/ Seconded Cr Norton

That Council:

1. Grant planning approval for the extractive industry for sand and gravel at Lot 51 (RN 451) Reserve Road, Muchea subject to the following conditions:
 - a. This planning consent shall be for a period of six (6) years from the date of issue until the 30 June in the year specified as the year of expiration. The proponent may apply for an extension of the approval for a further period of up to six (6) years. This application is to be made no later than three (3) months prior to the expiry of the current consent;
 - b. This planning consent shall only apply to Stage 1 as shown on the Excavation Plan prepared by Bio Diverse Solutions dated 26/4/12 submitted with the application;
 - c. The excavation licence shall be for a period of three (3) years from the date of issue until the 30 June in the year specified as the year of expiration. The proponent may apply for an extension of the licence for a further period of up to two (2) years. Each of these applications is to be made no later than three (3) months prior to the expiry of the current licence;
 - d. The excavation licences shall only remain valid while there is the appropriate planning approval in place to support the extraction of materials;
 - e. Prior to the issue of an excavation licence a guarantee/bond or other acceptable form of security shall be lodged with or paid to the Shire of Chittering in accordance with the amount stipulated in Schedule 3 of the By-law Relating to Extractive Industries;
 - f. Prior to the issue of an excavation licence the Applicant shall obtain a letter from the Tenement Holder stating no objection to the application and forward a copy of the response to Council;
 - g. Prior to the issue of an excavation licence the applicant shall establish a suitable buffer of the excavation from the remnant vegetation to the satisfaction of the Chief Executive Officer;



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- h. Prior to the issue of an excavation licence the Applicant is to establish a buffer area of 500m from all nearby residences, proposed pits, stockpile and loading areas on the site plan;
- i. Prior to the issue of an excavation licence a Fire Management Plan is to be prepared to the satisfaction of the Chief Executive Officer, in accordance with Local Planning Policy No 21;
- j. Prior to the issue of an excavation licence a Refuelling Management Plan is to be prepared to the satisfaction of the Chief Executive Officer, incorporating:
 - i. All on-site fuel storage and refuelling to take place within a lined and bunded area;
 - ii. Any fuel leakages or spills to be cleaned up within 24 hours;
 - iii. As part of the close-out plan, contaminated soil to be disposed of to the satisfaction of the Chief Executive Officer;
- k. Prior to the issue of an excavation licence the Applicant shall submit to the Chief Executive Officer evidence of currency of public liability insurance for the excavation works. The issue of the approval shall not, in any way, render the Shire of Chittering liable for damage or injury of any kind to any member of the public; such liability shall be the sole responsibility of the Applicant. The Applicant shall ensure that he/she and/or the excavating contractor and/or transportation contractor hold sufficient public liability insurance cover for any claim against them;
- l. Prior to the issue of an excavation licence:
 - i. An assessment shall be conducted to determine whether acid sulphate soils or dieback are present on the land and, if present, their extent and severity;
 - ii. that the samples be taken from the site by independent qualified persons;
 - iii. If the site is found to contain acid sulphate soils or dieback, an Acid Sulphate Soils Management Plan (ASSMP) or Dieback Management Plan shall be submitted and approved by the Chief Executive Officer in consultation with the Department of Environment and Conservation; and
 - iv. Operations shall be carried out in accordance with the provisions of the approved Management Plan;
- m. Prior to the issue of an excavation licence the Applicant shall enter into an agreement with the Council for payment of fees for road construction and road maintenance of Yalyal Road and Reserve Road;
- n. Prior to the issue of an excavation licence the Applicant shall submit a Traffic Management Plan for the upgrade, use and maintenance of Yalyal Road and Reserve Road;
- o. Prior to the issue of an excavation licence the applicant is to undertake an assessment study of the flora and fauna, to the satisfaction of the Department of Environment and Conservation, and all areas containing rare or endangered species of flora and fauna shall be protected and no excavation shall be permitted in these areas;
- p. Prior to the issue of an excavation licence the Applicant is to provide the water catchment management plan ;



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- q. Prior to the issue of an excavation licence the Applicant is to obtain the works approval from the Department of Environment and Conservation ;
- r. Prior to the issue of an excavation licence a Rehabilitation or Land Management Plan shall be submitted and approved by the Chief Executive Officer incorporating:
 - i. Statement of end use;
 - ii. Final contouring plan, rehabilitation and land management;
 - iii. Demarcation of surface water catchments; excavation pit hydrology and water balance;
 - iv. Revegetation and landscaping; and
 - v. Ongoing monitoring requirements.
- s. Prior to the issue of an excavation licence a Soil and Water Monitoring Program, including methodology, periodic sampling and analysis by an independent laboratory, shall be submitted and approved by the Chief Executive Officer in consultation with the Department of Environment and Conservation and Department of Water, incorporating:
 - i. Monitoring of removed material, irrespective of whether the excavation area is within a location identified as 'high risk' of containing acid sulphate soil material or there is an approved ASSMP; and
 - ii. Monitoring of water quality retained within on-site excavations;
 - iii. Identify the highest known groundwater level in proposed excavation Stage A;
 - iv. A Catchment Management Plan for Stage 1;
- t. Prior to the issue of an excavation licence the applicant is to submit a detailed Dust Management Plan to the satisfaction of the Chief Executive Officer;
- u. Top soil from the excavated areas shall be stockpiled and used where applicable in the rehabilitation process;
- v. All stormwater shall be retained on site and no discharge of pit-water shall occur without prior approval from Chief Executive Officer;
- w. Appropriate dust suppression measures shall be taken at all times where any operation on the site is likely to generate a dust nuisance to nearby residents, to the satisfaction of the Chief Executive Officer;
- x. Internal access road shall be constructed to a standard that minimises dust emission from machinery and traffic, to the satisfaction of the Chief Executive Officer;
- y. Access shall be via Yalyal Road and Reserve Road only;
- z. The operations shall comply with the requirements of the Environmental Protection (Noise) Regulations 1997 in respect to noise but, notwithstanding, the operations to have due regard to the health and amenity of any person in the vicinity;



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- aa. The development shall comply with the provisions of Council's Town Planning Scheme No 6, By-law Relating to Extractive Industries, Health Act 1911, Building Code of Australia and any other relevant Acts, Regulations, Local Laws and Council Policies, except where varied by this approval;
- bb. All vehicle loads leaving the site shall be fully covered and secured prior to leaving the site to prevent the spread of material;
- cc. A maximum of four (4) single truck movements are permitted on a daily basis;
- dd. The hours of operation shall be limited to:
 - Monday to Friday 0700hrs to 1800hrs
 - Saturday 0730 to 1700hrs
 - Sunday and Public Holidays not permittedAny variation to these times requires written approval from Council;
- ee. Excavation for the extractive industry shall not occur in the following areas:
 - i. Within 100 metres of a boundary of any land not owned by the proponent or Planning Consent holder;
 - ii. Within 20 metres of any land affected by a registered grant of easement;
 - iii. Within 40 metres of any designated water course;
 - iv. Within 500 metres of any house;
 - v. Below the level of winter groundwater table; and
 - vi. Within 40 metres of any road or road reserve.
 - vii. Below 6m from the natural ground level.
- ff. Upon decommissioning of each pit, rehabilitation shall take place in accordance with the approved plan using the stockpiled topsoil and replanting of appropriate local native species as recommended by the Chief Executive Officer;
- gg. The maximum area of pit being worked at any one time shall be one (1) hectare;
- hh. Rehabilitation of each pit shall include surface water control measures on all pit faces to prevent gully erosion, and final batters to be graded to provide safe entry and exit slopes should access to any standing water within the pit e required or accidentally occur;
- ii. Materials imported for rehabilitation or other purposes shall be certified free of dieback or other plant diseases;
- jj. Any amendments or variations to the rehabilitation or land management plan associated with the excavation shall be approved in writing by the Chief Executive Officer;
- kk. All static and other equipment will be located on the floor of the quarry to provide visual and acoustic screening;
- ll. No trucks are to be parked on any public road after hours;
- mm. An annual report shall be submitted to the Chief Executive Officer prior to 30 June each year that includes:



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- i. The progress of excavation;
- ii. Depth to groundwater from each pit floor;
- iii. The amount of materials extracted;
- iv. Monitoring program results and findings;
- v. Progress of rehabilitation;
- vi. Contingency actions and outcomes; and
- vii. Community complaints and responses.

Failure to submit the annual report prior to the close of business 30 June each year will result in the immediate suspension of the excavation licence.

- nn. If the development, the subject of this approval, is not substantially commenced within a period of twelve months from the date of the approval, the approval shall lapse and be of no further effect;
 - oo. Development and operation shall occur in accordance with the Excavation Management Plan submitted with the application for planning approval, unless specified otherwise in this approval;
 - pp. Breach of any conditions may result in cancellation of this approval;
 - qq. The approval of Main Roads WA may be required in regard to the egress and ingress to the Great Northern Highway;
 - rr. Materials extracted from the site must not exceed 100,000 tonnes per annum. A record of each year's output must be kept on the site and must be provided to Council at any time upon request;
 - ss. Stockpiles will be located on the floor of the pit to reduce visual impact;
 - tt. There will be no processing of materials on site. Materials shall be stockpiled or directly transported for use;
 - uu. No water is to be removed from Yalyal brook.
2. Delegate authority to the Chief Executive Officer to issue an excavation licence for sand and gravel at Lot 51 Reserve Road, Muchea in accordance with the planning consent specified in 1. Above, on satisfaction of conditions e, f, g, h, i, j, k, l, m, n, o, p, q, r, s and t.

Advice Note:

- 1. Should an Applicant be aggrieved by a decision of Council, the State Administrative Tribunal can be requested to review the decision. Such a request should be lodged within twenty-eight (28) days of Council's decision.
- 2. The Department of Environment and Conservation may require a permit for the clearing of native vegetation.

THE SUBSTANTIVE MOTION WAS PUT AND DECLARED CARRIED 4/2
7.57PM



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AMENDMENT

Moved Cr Mackie/ seconded Gibson

1. That the word '*crushing*' be deleted from recommendation h.
2. That an additional point be included under recommendation l. and after point i. as follows:
 - ii. *that the samples be taken from the site by independent qualified persons;*
3. That recommendation mm. be reworded as follows:

"mm. Failure to submit the annual report prior to the close of business 30 June each year will result in the immediate suspension of the excavation licence."

THE AMENDMENT WAS PUT AND DECLARED CARRIED 6/0
AND FORMED PART OF THE SUBSTANTIVE MOTION
7.40PM

Background

Council's consideration is required for the proposed extractive industry and excavation licence for sand and gravel at Lot 51 (RN 451) Reserve Road, Muchea.

Following the consultation period, the applicant sought for the application to be deferred from determination by Council. At the June 15, 2011 Ordinary Council Meeting Council resolved:

"That the motion lay on the table."

The Officer's Recommendation to Council for the June 15, 2011 Ordinary Council Meeting was as follows:

"That Council refuses the proposed extractive industry for sand and gravel at Lot 51 (RN 451) Reserve Road, Muchea for the following reasons:

1. *The proposal does not meet the objectives of the zone "to allow for the extraction of basic raw materials where it is environmentally and socially acceptable".*
2. *The proposal does not meet the requirements of the Landscape Protection Special Control Area of the Shire of Chittering Town Planning Scheme No 6.*
3. *The proposal does not meet the requirements of the Water Prone Special Control Area of the Shire of Chittering Town Planning Scheme No 6.*
4. *The proposal does not meet the objectives and preferred development under Clause 5.4 of the Shire of Chittering Local Planning Policy No 10 Basic Raw Materials and Extractive Industries.*
5. *The proposal does not meet the aims and objectives of the Shire of Chittering Local Biodiversity Strategy as it will require the high disturbance of natural vegetation which is mapped as "High Conservation Value" on the subject property.*
6. *The proposal will cause dust and noise nuisance with the use of Reserve Road, as stated by the submissions received."*

Following this, the applicant has undertaken modifications aiming to resolve issues and concerns raised by the agencies and Council. The proposal includes the following:

- Planning consent is sought for ten (10) years;
- Subject property is 155.39ha;



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- Estimated sand reserve on site between 2.4 million cubic metres and 4.4 million cubic metres of which 600,000 cubic metres at depths up to 17m has been identified as resource quality;
- Previous gravel extraction has occurred on site;
- Previous extraction at depths of 2m has been undertaken on the site.
- Proposed excavation for sand is 5m and 2m for gravel;
- No excavation below water table;
- Site ranges from 80m AHD at the southeast corner and 145m AHD in the northwest;
- Yalyal Brook flows east to west along the northern boundary (neighbours property) of the subject property;
- According to a study in the report, Yalyal Brook flows at 3.5million litres a day;
- A fauna survey uncovered a number of bird species with some identified as threatened species;
- Flora survey identified at least one (1) priority three species;
- Approximately 50% of the property is previously cleared;
- Access to be via Reserve Road from Yalyal Road;
- All water supply proposed to be obtained from Yalyal Brook;
- Proposed workforce of 2 to 3 persons.

All other relevant information including dust management, water management, dieback management are contained in the attached Excavation Management Plan (EMP).

The amendments made to the original proposal include the following:

- The EMP has been amended to exclude any areas containing native vegetation from excavation;
- The EMP has been amended to include a 20m vegetation buffer in accordance with the Department of Environment and Conservation's (DEC) suggestion;
- Inclusion of a Weed Management Programme in accordance with the DEC suggestion;
- Water will now be extracted from a licensed bore and not from Yalyal Brook on recommendation of the Swan River Trust.

Consultation

The application was advertised in accordance with Clause 9.4.3 of the Scheme. An advertising sign at the property and advertisement in the local newspaper in was undertaken as well as letters for comment to affected landowners and relevant agencies. Due to minor amendments made to the revised application, further public consultation was not undertaken.

The submissions have been tabled in the attached Schedule of Submissions.

Statutory Environment

State: Mining Act 1914

As part of the consultation period it was noted by the Department of Mines and Petroleum that a possible conflict with a tenement subject to the Mining Act could occur as a result of this proposal. The applicant has provided a letter from the tenement holder as part of their revised proposal.

Planning and Development Act 2005

Local: Shire of Chittering Town Planning Scheme No 6

The subject property is zoned 'Agricultural Resource'. The objectives of this zone are:



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To preserve productive land suitable for grazing, cropping and intensive horticulture and other compatible productive rural uses in a sustainable manner;

To protect the landform and landscape values of the district against despoliation and land degradation;

To encourage intensive agriculture and associated tourist facilities, where appropriate;

To allow for the extraction of basic raw materials where it is environmentally and socially acceptable.

The western half of the property falls within the Landscape Protection Special Control Area:

6.2 LANDSCAPE PROTECTION AREAS

6.2.1 *The Landscape Protection Areas are delineated on the Scheme Map. Planning Approval is required for any development within the Special Control Area.*

6.2.2 Purpose

- (a) To secure the areas delineated on the Scheme Map from undue subdivision and development that would detract from the landscape value of the rural environment;*
- (b) To conserve and enhance the character of the significant landscape area; and*
- (c) To ensure land use and developments are compatible with the landscape values.*

6.2.3 Landscape Areas

The Landscape Protection Areas are:

- (a) The Chittering Valley Landform System: for the protection of the Brockman River Catchment its biodiversity and the drainage pattern and land degradation problems;*
- (b) The Gingin Scarp: for the protection of the landform against denudation, water quality (nutrient export) and erosion;*
- (c) The northern uplands: for the agricultural quality of the undulating landforms and rural production.*

6.2.4 Planning Requirements

In dealing with an application for Planning Approval, the Local Government will not support:

- (a) A dwelling or outbuilding on any ridgeline as may be prominently visible from any public road or which may adversely affect the aspects of neighbouring dwellings;*



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- (b) *Land uses which are not related to the general objectives of the zone;*
- (c) *The storage or keeping of non-agricultural vehicles or materials on the land as may be visible from any public road;*
- (d) *The removal of any natural vegetation from any ridgeline;*
- (e) *The removal or lopping of trees other than for-*
 - i. *fire fighting or fire protection purposes;*
 - ii. *the removal of dead or dying trees;*
 - iii. *clearance for power lines, emergency access, emergency works by a public authority, sight lines and traffic safety on roads;*
 - iv. *if the vegetation is posing a risk to public safety;*
 - v. *the vegetation is part of an area planted for fodder, timber plantation, or any other crop;*
 - vi. *in association with the establishment of a Building Envelope.*

The Local Government may require, where appropriate, as a condition of any planning approval, additional planting of vegetation to be undertaken to ensure no net loss of vegetation or to repair any degraded landscape.

6.2.5 Relevant Considerations

In considering an Application for Planning Approval, the Local Government shall have regard to:

- (a) *The statement and the nature of the key elements of the landscape and its character;*
- (b) *The conservation and enhancement of the landscape values;*
- (c) *The impact of any buildings and associated works on the landscape due to height, bulk, colour, general appearance and the need to remove vegetation;*
- (d) *The requirement for all roofing of any building to be a of a non-reflective nature;*
- (e) *A change of land use where in the opinion of the Local Government the proposed development may cause a deterioration of the landscape value and/or cause an adverse effect(s) on the environment.*

6.2.6 Referrals for Planning Approval

The Local Government may refer any Application for Planning Approval or any amendment to vary a Special Control Area boundary to any relevant authority or community organisation.



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The south-western edge of the property falls within the Water Prone Special Control Area:

6.3 WATER PRONE AREA – ELLEN BROOK PALUSPLAIN

6.3.1 *Land subject to Inundation or flooding are delineated on the Scheme Map. Planning Approval is required for any development within the Special Control Area.*

6.3.2 Purpose

- (a) *To manage development in areas where there is high risk of inundation so as to protect people and property from undue damage and where there is a potential risk to human health.*
- (b) *To preclude development and the use of land which may increase the amount of nutrients from entering the surface and/or sub-surface water systems.*
- (c) *To ensure that wetland environmental values and ecological integrity are preserved and mentioned.*

6.3.3 Planning Requirements

The Local Government will impose conditions on any Planning Approval relating to-

- (a) *the construction and occupation of any dwelling or outbuilding;*
- (b) *the type of effluent disposal system used in this area shall be high performance with bacterial and nutrient stripping capabilities to the specifications of Council and the Health Department and shall be located in a position determined by Council;*
- (c) *minimum floor levels for any building above the highest known water levels;*
- (d) *any land use that may contribute to the degradation of the surface or sub-surface. water quality.*
- (e) *no development other than for conservation purposes will be permitted within 30 metres of any natural water body;*
- (f) *damming, draining or other developments which may alter the natural flow of surface water will not be permitted unless such works are part of an approved Catchment Management Plan.*

6.3.4 Relevant Considerations

In considering applications for Planning Approval, the Local Government shall have regard to-

- (a) *the likely impact on the health and welfare of future occupants;*



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- (b) *the proposed activities for the land and their potential increase in the risk of causing an increase in nutrients entering the water regimes;*
- (c) *any provision or recommendation from any Catchment Management Plan.*
- (d) *the likely impact on any wetland;*
- (e) *buffer distances from any wetland.*

6.3.5 Referral of Applications for Planning Approval

The Local Government may refer any Application for Planning Approval or any amendment to vary a Special Control Area boundary to any relevant authority or community organisation.

The proposed extractive industry use is defined under the Scheme as:

“means an industry which involves the extraction, quarrying or removal of sand, gravel, clay, hard rock, stone or similar material from the land and includes the treatment and storage of those materials, or the manufacture of products from those materials on, or adjacent to, the land from which the materials are extracted, but does not include industry-mining.”

The proposed extractive industry use is an ‘A’ use in the Zoning Table:

“means that the use is not permitted unless the Local Government has exercised its discretion by granting Planning Approval after giving special notice in accordance with clause 9.4.”

The proposal is for the extraction of basic raw materials. The following clause of the Scheme applies:

5.16 BASIC RAW MATERIALS

- (a) *Extraction of essential materials for roads and construction are to be permitted in areas where they will not adversely affect living environments, the landscape quality or contribute to land degradation problems during and after operations;*
- (b) *Extraction of basic raw materials within the rural zones is to be managed in accordance with best industry practices including consideration of end use and rehabilitation at time of decommission;*
- (c) *Appropriate buffer areas are to be applied to protect both the extractive operations as well as the living and agricultural environment in nearby areas;*
- (d) *Council will not support development within those buffer areas, which may be detrimental to the efficiency of the industries. This is to protect the basic raw materials precincts from development that may compromise its operations.*

Policy Implications

State: Statement of Planning Policy No 2.4 Basic Raw Materials

The proposal is not identified as a “Priority Resource Location” or “Key Extraction Area” in the Policy. The proposed extractive industry does not have any state significance.

Statement of Planning Policy No 4.1 State Industrial Buffer Policy



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It is deemed the proposal involves the need for an off-site buffer. An extractive industry land use is subject to this Policy. As stated in this Policy, an off-site buffer can be established provided a number of criteria have been met to the satisfaction of the Department of Planning. Further to the buffer requirements of this Policy, Council also stipulates buffer requirements under Local Planning Policy No 10.

Guidance Statement No 3 Separation Distances between Industrial and Sensitive Land Uses

Guidance Statement No 3 is developed by the Environmental Protection Agency (EPA). Appendix 1 of the Statement sets out the required separation distances between Industrial and Sensitive Land Uses. There are four (4) categories of Extractive Industries in the Appendix. The required separation distance for sand is 300-500 metres. There is no specified separation distance for gravel extraction.

Local: Local Planning Policy No 10 Basic Raw Materials and Extractive Industries

It is deemed the applicant has provided sufficient details subject to the Policy.

Section 5.4 of the Policy applies:

5.4 Preferred Development

- a) *Council prefers extractive industries that:*
 - i) *are located south of the Bindoon Townsite*
 - ii) *do not involve prime agricultural land*
 - iii) *cater for basic raw material needs within the Shire of Chittering*
 - iv) *are situated within areas identified in the WAPC's State Planning Policy No. 10 Basic Raw Materials*
 - v) *are more than 1000m from the nearest house*
 - vi) *do not require the management of acid sulphate soils*
 - vii) *have direct access to Brand or Great Northern Highway*
- b) *Subject to a) above, Council will not approve extractive industries that:*
 - i) *are situated in a visually significant location, such as on a ridge or along an unscreened section of regional or tourist road*
 - ii) *involve major disturbance of high value remnant bushland or natural areas, following detailed environmental assessment*
 - iii) *remove material below the winter groundwater table*
 - iv) *are located on any lot where dieback is present*
 - v) *are situated within 500m of the nearest house*
 - vi) *are located in the Chittering Valley or require access from Chittering, Chittering Valley, Julimar, Blue Plains or Maddern (North) Roads.*

Section 5.4b) of this Policy states which locations/scenarios Council will not approve extractive industries. As part of the revised proposal, the applicant has addressed many of the issues relating to this Section, in particular 5.4b) ii).

The current proposal does not meet some of the items under Section 5.4a) of the Policy. The main concern of this Section that has not been adequately addressed is 5.4a) vii). It is unclear as to what measures the applicant has proposed for the use of Reserve Road and Yalyal Road.

Financial Implications

Nil



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Strategic Implications

Local: Shire of Chittering Local Planning Strategy 2001-2015

The subject property is identified on the Strategy Map to support for Rural Retreat development. The Strategy Map also shows the Perth-Darwin National Highway to intersect the property however recent correspondence from Main Roads confirms this alignment has changed and no longer affects the property.

Currently the property is an Agricultural Resource zone and the following section applies:

8.8 AGRICULTURAL RESOURCE AREA

8.8.1 Description/Location

The majority of the agricultural land falls into this category with the more productive areas being in the eastern and northern parts of the Shire. Land to the west, mainly on the Dandaragan Plateau and Ellen Brook palusplain are less productive where there are the deeper leachable sands. On the lower plains, waterlogging constricts the full capacity of the land for pasture.

The heavier soils are associated with the better class of grazing, cropping and horticulture activities.

Lack of water prevents the better land for more intensive and profitable agriculture. When irrigable water becomes available, the land has a high capacity to convert to intensive agriculture.

8.8.2 Aims

To maintain agricultural lands for primary productive purposes;

To protect and improve the natural environment, including the landscape quality of the land.

To facilitate the conversion of suitable land, to intensive agriculture based upon appropriate soils and irrigable water supplies;

To prevent the loss of productive land to non-agricultural purposes;

To allow agro-tourism and eco-tourism to develop in the rural areas;

To allow for the subdivision of non-productive land or areas of vegetation worthy of preservation in sustainable lot sizes under conservation covenants in accordance with WAPC Policy.

To protect and revegetate streamlines to provide for biodiversity corridors.

The proposed is for the extraction of basic raw materials:

8.9 PRIMARY BASIC RAW MATERIALS AREAS (Figure 9)

8.9.1 Description/Location

The main area for basic raw materials is the lower part of the Shire although there are numerous small pits for gravel and sand throughout the rest of the Shire.



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Extraction of essential materials for roads and construction are to be permitted in areas where they will not adversely affect living environments, tourism, the landscape quality or contribute to land degradation problems during and after operations.

8.9.2 Aims

To manage the extraction of basic raw materials within the rural zones in accordance with best industry practices including consideration of end use and rehabilitation at time of decommission;

To ensure appropriate buffer areas are applied to protect the extractive operations as well as the living or agricultural environment in nearby areas.

Shire of Chittering Local Biodiversity Strategy 2008:

Figure 5 of Part 2 in the Strategy indicates the subject property to contain "High Conservation Value" with Good to Very Good vegetation condition, as per Figure 6 in Part 2, of the native vegetation covering approximately 50% of the property. Figure 5 also indicates the property to contain "vegetation complexes protected at less than 10% regionally".

Figure 7 of Part 2 in the Strategy identifies the subject property to contain "Local Ecological Linkages".

Site Inspection

Site inspection undertaken: Yes

Triple Bottom Line Assessment

Economic Implications

The proposal could provide the opportunity for local employment and provide sand and gravel material for the locality. It could also be viewed during the operation of extractive industry approval neighbouring properties may be impacted by the use of the local roads for heavy haulage. Submissions raised indicate the heavy haulage use would devalue properties using Reserve Road for access.

Social Implications

Based on the submissions received from the public, the proposal may impact negatively upon landowners in the locality. The submissions raised a number of concerns specifically relating to the increase in traffic of heavy haulage on the local road. This was raised in most submissions due to Reserve Road requiring upgrading and sealing to be suitable for the heavy haulage. Use of this road could cause noise and dust nuisances to landowners in the locality and detract from the rural amenity.

Environmental Implications

The revised application submitted has addressed many of the concerns raised in the consultation period and under the Scheme and policies. The main concerns related to the impacts on Yalyal Brook and the impacts on the remnant vegetation on the property. The applicant has submitted the revised application, which has removed the use of water from Yalyal Brook in place of a licensed bore and the applicant has proposed to implement a 20m buffer from remnant vegetation. These modifications have met DEC requirements and would address some of the concerns raised by the public.



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Comment

The outlined reasons for refusal are included provided in the Officer's Recommendation to Council for the proposed Extractive Industry and Excavation Licence. Please be advised that these were not considered by Council but withdrawn from the Agenda by the applicant. As previously outlined, the following additional information and/or changes have been provided to the Excavation Management Plan:

- The EMP has been amended to exclude any areas containing native vegetation from excavation;
- The EMP has been amended to include a 20m vegetation buffer in accordance with the Department of Environment and Conservation's (DEC) suggestion;
- Inclusion of a Weed Management Programme in accordance with the DEC suggestion;
- Water will now be extracted from a licensed bore and not from Yalyal Brook on recommendation of the Swan River Trust.

However, it is also necessary to determine whether the reasons for refusal have been adequately addressed by the applicant. These are outlined and discussed below.

1. *The proposal does not meet the objectives of the zone "to allow for the extraction of basic raw materials where it is environmentally and socially acceptable".*

Comment: The socially acceptable nature of the proposal is questionable based upon the submissions received during the initial advertising period. Many complaints arose regarding dust and noise nuisance potential from Reserve Road. It is believed that these claims are substantiated given the road is currently gravel and includes two sharp corners. The intersection of the road with Great Northern Highway would also be undesirable for use by trucks, given it has a small left turning lane and no turning bubble for those turning right onto Reserve Road. It is recommended that Council require a Traffic Management Plan outlining the upgrade requirements for Reserve and Yalyal Roads, given the likely impact the use of these roads is to have on the neighbouring rural residential uses. This should ensure that the proposal remains socially acceptable.

With regards to environmentally acceptable, the applicant has excluded high conservation value remnant vegetation from the extraction areas. However, the proposal still shows excavation to the edge of the high conservation value area with no buffer. Additional advice sought from the Landcare Group substantiates claims of a possible "Edge Effect", whereby dust from extractive industry can impact upon vegetation where it is directly adjacent. A similar effect exists for gravel roads. With the exception of outlining dust control as necessary on the property and roads used for transport, no further information is provided. It is recommended that a Dust Management Plan be provided by the applicant, as well as further evidence detailing justification regarding excavation to the edge of high conservation value remnant vegetation for Stages 2 and 3. At this time, it is not recommended that approval is issued for Stages 2 and 3, as excavation issues have not yet been fully resolved.

The location of Stage 3 is a concern given the high conservation valued area that needs to be preserved in accordance with the Shire of Chittering Local Biodiversity Strategy and the local biodiversity linkages through this area. It is noted that the applicant had identified the required buffer in consultation with the Department of Environment and Conservation (DEC). However, based on the preservation of the high conservation valued area, it is recommended that Council does not support Stage 3 for the area to be included for future extraction.

Similarly Stage 2 has also been identified as the local biodiversity linkages and therefore should be protected from extractive industry as this will have an adverse implication to the environment. Therefore it is also recommended that no extractive industry is to be permitted in stage 2.



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If the above issues are addressed, it is believed that the proposal can be considered socially and environmentally acceptable.

2. *The proposal does not meet the requirements of the Landscape Protection Special Control Area of the Shire of Chittering Town Planning Scheme No 6.*

Comment: Based upon site inspection, the site is not considered to be visually significant, even though it is part of the Gingin Scarp. Extractive industry does occur on other parts of this scarp within the Landscape Protection Special Control Area. Furthermore, distance from public roads (excluding Yalyal Road) ensures that the proposal is not easily viewed. Whilst the proposal will result in the removal of some trees, these are singular and not part of the remnant vegetation. It should be noted that revegetation of the site is proposed at the completion of excavation, with seeds collected on-site.

3. *The proposal does not meet the requirements of the Water Prone Special Control Area of the Shire of Chittering Town Planning Scheme No 6.*

Comment: Detailed review of the requirements of the Water Prone Special Control Area has revealed that only a small portion of the land, which is outside of the extraction area, is included in the Ellen Brook Palusplain). As such, the requirements relating to this Special Control Area are not applicable to the proposed extractive industry and excavation licence.

The original application proposed extraction of surface water from Yalyal Brook for the operations. The applicant after discussion with the DEC and Swan River trust submitted a revised application proposing for an approved licensed bore to be used for all the operations. This mitigates the impacts on Yalyal Brook and the Ellen Brook Catchment. It is advised however that a Catchment Management Plan be implemented as per Clause 6.3.3(f) of the Scheme to ensure all operations on the site have been dealt with accordingly. The provision of a Catchment Management Plan should address any concerns of leaching and surface water runoff into Yalyal Brook and its catchment system.

4. *The proposal does not meet the objectives and preferred development under Clause 5.4 of the Shire of Chittering Local Planning Policy No 10 Basic Raw Materials and Extractive Industries.*

The proposal does not meet the preferred development criteria for basic raw material extraction due to the following:

- The land is not identified within the WAPC State Planning Policy No.2.4 Basic Raw Materials;
- The nearest house is within 1km. Stage 3 is fully included within the 1km buffer to the nearby residence and Stage 2 would be partially impacted if a 1km buffer was imposed;
- It is not confirmed whether the property has acid sulphate soils or not in preliminary works.

However, it does meet Council's "will not" approve criteria outlined in Section 5.4 b) of the policy, as evidenced by the following:



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- It is not located in a visually significant location.
- Does not involve major disturbance of high value remnant bushland, with the exception of possible "Edge Effect";
- It will not remove material below the winter groundwater table, as outlined in the EMP;
- No dieback is present on the lot, as outlined in the EMP;
- No house is situated within 500m of the extraction, as buffers have been included within the EMP; and
- The proposal is not located in the Chittering Valley, nor will require access from any roads prohibited for transporting from extraction sites.

Based on the above, the proposal still does not meet Council's preferred development criteria outlined in 5.4 a) of Local Planning Policy No.10. Council needs to determine that if the applicant has met the "will not" criteria outlined in Section 5.4 b) of the Policy.

5. *The proposal does not meet the aims and objectives of the Shire of Chittering Local Biodiversity Strategy as it will require the high disturbance of natural vegetation which is mapped as "High Conservation Value" on the subject property.*

The revised application has removed all excavation within remnant vegetation areas on the property. The disturbance of the vegetation due to the proposed activities on site however may still be present due to the likely dust emissions onto the existing vegetation adjoining the excavation areas and the possibility of impact on groundwater due to the use of a licensed bore for all operations. Discussions with the Landcare Group further substantiate the environmental impact of excavation to adjoining vegetation, mostly relating to dust. It is recommended that Council impose a condition for the applicant to establish a buffer from excavation to existing vegetation and that Stage 2 and 3 are not issued approval until such time as additional information is provided justifying that excavation will not impact high conservation value remnant vegetation.

6. *The proposal will cause dust and noise nuisance with the use of Reserve Road, as stated by the submissions received."*

The proposed access route of Yalyal Road and Reserve Road to gain access to the Great Northern Highway requires detailed assessment, given the likely dust and noise nuisance generated. There have been no changes to the matter of access as part of the revised application. The issue lies with the current alignment of Reserve Road having sharp bends which is considered to be unsuitable for heavy haulage use. Furthermore, Reserve Road is currently unsealed and with the use of this road for heavy vehicle will require the ongoing maintenance and upgrading.

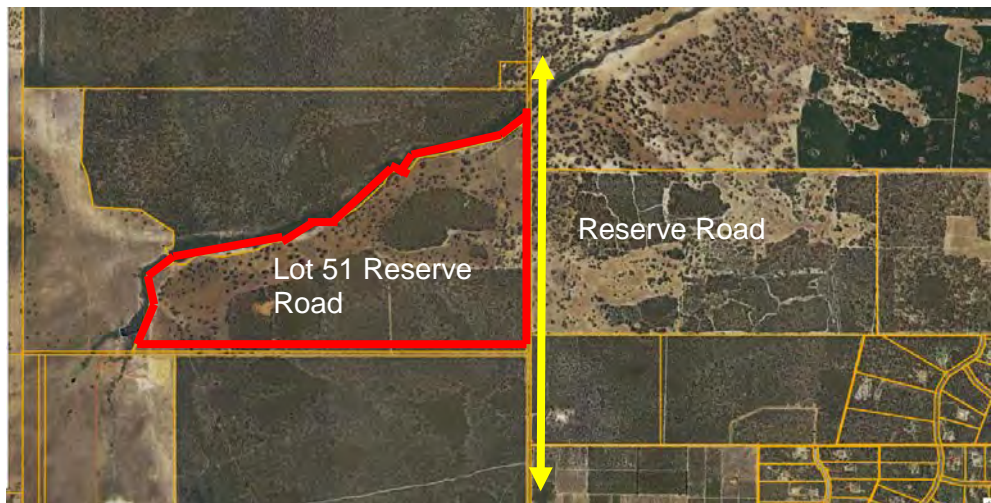
The Shire's Technical Services advised that the applicant provide Council with a more detailed plan for the upgrade and maintenance of Reserve Road prior to any excavation commencing. It was also advised that the applicant need to provide additional details as to the types of vehicles used, the consideration on the speed limit would need to be reduced for safety of other road users and further assessment of the sharp bends in Reserve Road for its suitability of heavy haulage use.

9.1.4 Deed of Agreement: Lot 51 Reserve Road, Muchea*

| | |
|----------------------------|---|
| Report date | 18 November 2015 |
| Applicant | Whelans Pty Ltd |
| File ref | A10698; P088/11 |
| Prepared by | Brendan Jeans, Senior Planning Officer |
| Supervised by | Bronwyn Southee, Executive Manager Development Services |
| Declaration | Bronwyn Southee declared an impartiality interest in this item as a former employee of Whelans Pty Ltd. |
| Voting requirements | Simple Majority |
| Documents tabled | Nil |
| Attachments | 1. Deed document 2. Location Plan 3. Approval for EIL for Extractive Industry |

Executive Summary

Council's consideration is requested for the authorisation of a legal agreement relating to the road upgrade, use and maintenance of Reserve and Yalyal Road for an extractive industry approval at Lot 51 Reserve Road, Muchea (see below).


Background

On 27 June 2012, Council resolved to grant Planning Approval for an extractive industry at Lot 51 Reserve Road, Muchea subject to a number of conditions. Condition m) required the landowner to enter into a legal agreement with the Shire to outline the road upgrade, use and maintenance requirements for Reserve and Yalyal Road. The legal agreement is to be put in place to protect the Shire's assets and ensure adequate upgrade and maintenance of the roads is carried out to an agreed standard.

The upgrade of the road has been agreed to be an initial grade to remove ruts and fine material. Due to the low number of truck movements for the extractive industry (no greater than 4 per day), upgrade to a seal standard of over 1km of road was considered excessive.

The road maintenance provisions in the Deed not only include re-grading as and when requested by the Shire, but also includes dust mitigation. The maintenance of the road is to be monitored by the Shire, however, the Shire may appoint a consultant at the cost of the applicant. This has been inserted in the Deed



to avoid any ambiguity and dispute between parties about the requirement for appropriate road maintenance and in the event the Shire lacks the resources to carry out frequent inspections.

The Shire has also inserted the possible future upgrade of Reserve Road factored into the Deed. This would mean should Reserve Road be upgraded to a seal standard as a result of another subdivision or development being approved, the road maintenance obligations would cease, however, a road maintenance monetary contribution at \$0.25 per tonne excavated from the site would be required. A bond of \$10,000 would also be held by the Shire at all times in the case that the required works and or per tonne contribution not be undertaken/paid.

Consultation

Consultation has been undertaken between Shire officers, Mcleods Solicitors, the owner and the applicant to progress the details of the Deed.

Statutory Environment

State: Transfer of Land Act 1893
Land Administration Act 1997

Policy Implications

Local: 1.5 Execution of Documents

Financial Implications

All associated costs are borne by the applicant/owner.

Strategic Implications

The requirement of deeds is to ensure that agreements between landowners and the Shire are carried through. Additionally it ensures that the burden of maintenance/actions does not fall within the Shire.

Site Inspection

Site inspection undertaken: Yes

The Shire's Executive Manager Technical Services has met with the owner and engineering consultants to view Reserve and Yalyal Road.

Triple Bottom Line Assessment

Economic implications

One of the underlying purposes of this Deed is to ensure no additional costs are borne by the Shire for the maintenance of the road, beyond the normal maintenance program, as a result of increased truck movements from the extractive industry.

The Deed protects the Shire from any associated costs.

Social implications

There are no known significant social implications associated with this proposal.

Environmental implications

There are no known significant environmental implications associated with this proposal.

Comment

The applicant has slowly been progressing the 'prior to' conditions for the extractive industry approved by Council in June 2012. All 16 'prior to' conditions have now been completed with the exception of this legal



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agreement (condition m) and bank guarantee/bonds (condition e), which the applicant has advised will be completed following the Deed being finalised.

Based on the above, it is the Officer's Recommendation that Council authorises the execution of the Deed relating to the upgrade, use and maintenance of Reserve Road and Yalyal Road for the extractive industry at Lot 51 Reserve Road, Muchea.

9.1.4 OFFICER RECOMMENDATION / COUNCIL RESOLUTION 051115

Moved Cr King / Seconded Cr Rossouw

That Council authorise the Shire President and Chief Executive Officer to sign and affix the Common Seal on the Deed of Agreement for the road upgrade, use and maintenance requirements for Reserve and Yalyal Road in relation to the approved Extractive Industry on Lot 51 Reserve Road, Muchea.

THE MOTION WAS PUT AND DECLARED CARRIED 7/0

Agreement for Road Upgrade and Maintenance for Sand and Gravel Extraction: Yalyal Road and Reserve Road, Muchea

Shire of Chittering

Highclere Pty Ltd



McLEODS

Barristers & Solicitors

Stirling Law Chambers | 220-222 Stirling Highway | CLAREMONT WA 6010

Tel: (08) 9383 3133 | Fax: (08) 9383 4935

Email: mcleods@mcleods.com.au

Ref: NG:CHITT:36019

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Details

Parties

Shire of Chittering

of PO Box 70, Bindoon, Western Australia
(Shire)

Highclere Pty Ltd (ACN 009 170 834)

of PO Box 298, Joondalup, Western Australia
(Highclere)

Background

- A Highclere owns the Property in freehold.
- B Highclere applied to the Shire for planning approval for an extractive industry use on the Property and an Extractive Industry and Excavation Licence to extract sand and gravel from the Property.
- C By Council resolution of 27 June 2012, the Shire resolved to grant the planning approval subject to a number of conditions including the following:
- “m Prior to the issue of an excavation licence the Applicant shall enter into an agreement with the Council for payment of fees for road construction and road maintenance of Yalyal Road and Reserve Road;
- n Prior to the issue of an excavation licence the Applicant shall submit a Traffic Management Plan for the upgrade, use and maintenance of Yalyal Road and Reserve Road;”
- (Road Requirements)**
- D Highclere and the Shire enter into this Deed to satisfy the Shire’s requirements in relation to the Road Requirements.

Agreed terms

1. Definitions

Unless otherwise required by the context or subject matter the following words have these meanings in this Deed:

Bond means the amount of \$10,000;

Business Day means a day that is not a Saturday, Sunday, bank holiday or public holiday in Western Australia, Australia;

Completion Date means the day on which the Shire inspects the works undertaken for the Reserve Road Upgrade and the Yalyal Road Upgrade and accepts that the works are completed to the Shire's its satisfaction;

CPI means the Consumer Price Index (All Groups) Perth number published from time to time by the Australian Bureau of Statistics;

Deed means this deed as supplemented, amended or varied from time to time;

Extraction Licence means a licence to extract sand and/or gravel from the Property issued by the Shire pursuant to the Shire's Local Law relating to Extractive Industries;

Highclere Obligations means the obligations specified in **clauses 2, 3 and 4** and everything reasonably necessary for the proper performance of those obligations;

Maintenance Standards means the maintenance standards for unsealed roads that are specified in **Annexure 3**;

Property means Lot 51 on Deposited Plan 39849 being the whole of the land contained in Certificate of Title Volume 2229 Folio 40;

Reserve Road means the section of public road known as Reserve Road from the end of the bitumen section to the entrance gate of the Property as identified in green on the Plan **attached** as Annexure 2;

Reserve Road Upgrade means;

- (a) the regrading and waterbinding of Reserve Road; and
- (b) the widening of Reserve Road where indicated on the Plan annexed as Annexure 1 so that there is a minimum of a 200 metre sightline for vehicles,

to the satisfaction of the Shire in its absolute discretion;

Term means the period during which Highclere, or any other party, holds an Extractive Industry and Excavation Licence to remove sand and/or gravel from the Property;

Tonnage Volume means the amount of materials extracted from the Property, in tonnes, as determined by **clause 4.2(1)(a) or 4.2(1)(c)**;

Yalyal Road means the section of public road known as Yalyal Road from the intersection with Reserve Road to the western boundary of the Property, as identified in green on the Plan **attached** as **Annexure 2**;

Yalyal Road Upgrade means:

- (a) the regrading and waterbinding of Yalyal Road; and
- (b) the widening of Yalyal Road so that it is a carriageway of 8 metres.

2. Upgrade to Affected Roads

2.1 Highclere to complete Reserve Road Upgrade

Prior to the issue of an Extraction Licence Highclere covenants and agrees with the Shire to:

- (a) submit to the Shire a Traffic Management Plan for the Reserve Road Upgrade and the ongoing maintenance of Reserve Road pursuant to **clause 3**; and
- (b) carry out and complete at its own expense the Reserve Road Upgrade works in accordance with the Shire's specifications and any plans approved by the Shire.

2.2 Highclere to complete Yalyal Road Upgrade

Prior to the issue of an Extraction Licence permitting transport on Yalyal Road, Highclere covenants and agrees with the Shire to:

- (a) submit to the Shire a Traffic Management Plan for the Yalyal Road Upgrade and the ongoing maintenance of Yalyal Road pursuant to **clause 3**; and
- (b) carry out and complete at its own expense the Yalyal Road Upgrade works in accordance with the Shire's specifications and any plans approved by the Shire.

2.3 Completion Date

- (1) On the Completion Date the Shire will inspect Reserve Road and Yalyal Road and will prepare a report on the condition of these roads. This will be the Road Condition Report.
- (2) The Shire agrees to issue the Extraction Licence after the Completion Date.

3. Maintenance Obligations

3.1 Maintain Reserve Road and Yalyal Road

Highclere must, at its cost, maintain the Reserve Road and Yalyal Road in accordance with the Maintenance Standards for the Term and for any period after the Term that is necessary to comply with any directions under **clause 3.2**.

3.2 Compliance Monitoring

- (1) The Shire will monitor Highclere's compliance with the Maintenance Standards via an inspection every 2 months, unless the Shire reasonably considers it necessary to require any additional inspection, to ensure the Road is maintained in accordance with the Maintenance Standards.
- (2) Highclere must comply with any reasonable direction from the Shire with respect to any work required to meet the Maintenance Standards.
- (3) If the Shire engages a third party to monitor Highclere's compliance with the maintenance standards then Highclere must pay all reasonable costs associated with monitoring of compliance with the Maintenance Standards.

3.3 Highclere Contractor

Subject to **clause 10**, Highclere may, at its discretion, engage any competent contractor to perform any work to maintain Reserve Road and Yalyal Road.

3.4 Handover Inspection

At the expiration of the Term the Shire will inspect Reserve Road and Yalyal Road and, provided that they are in the same condition as in the Road Condition Report (fair wear and tear excepted), will accept the handover from Highclere as at that date.

4. Sealed Road

4.1 Upgrade to Sealed Road

If a third party or the Shire upgrades Reserve Road so that it is a sealed road then:

- (a) upon commencement of the construction, Highclere's obligations under **clause 3.1** will cease in relation to Reserve Road only;
- (b) the Shire will return 50% of the Bond to Highclere, less any amounts drawn from the Bond pursuant to **clause 7.1**;
- (c) Highclere must immediately undertake a feature survey of the Property and provide it to the Shire; and
- (d) for the Term, Highclere will pay an amount to the Shire as a road maintenance contribution which will be paid in accordance with **clause 4.2 (Road Maintenance Contribution)**.

4.2 Road Maintenance Contribution Calculation

- (1) Highclere must:
 - (a) disclose to the Shire within one month of the end of each financial year, a report of the Tonnage Volume for the preceding financial year; and
 - (b) must support the report in **clause 4.2(1)(a)** with an annual volume survey of the Property confirming the volume of materials, in tonnes, extracted from the Property.
 - (c) in the event that the annual volume survey of the Property shows a higher tonnage of materials extracted from the Property then the report in **clause 4.2(1)(a)** then the tonnage in the annual volume survey is taken to be the Tonnage Volume.
- (2) The amount payable for the Road Maintenance Contribution is calculated by multiplying the Tonnage Volume by the fee stipulated for road maintenance contribution in the Shire's Fees and Charges (as approved by Council from time to time).
- (3) The Shire must, as soon as possible following receipt of the Tonnage Volume, issue Highclere with a tax invoice for the Road Maintenance Contribution.
- (4) If no fee is stipulated for the road maintenance contribution in the Shire's Fees and Charges then the fee for the purposes of **clause 4.2(2)** is \$0.25, subject to review pursuant to **clause 4.2(5)**.
- (5) The fee specified in **clause 4.2(4)** will be reviewed on each anniversary of this Agreement and the fee payable for road maintenance contribution will be increased by the percentage of any increase in CPI having regard to the quarterly CPI published immediately prior to the anniversary of this

Agreement and the quarterly CPI published immediately prior to the previous anniversary of this Agreement. If there is a decrease in CPI having regard to the relevant CPI publications the fee payable for the road maintenance contribution from the relevant anniversary will be the same as the fee payable for road maintenance contribution during the immediately preceding period. Should the CPI be discontinued or suspended at any time or its method of computation substantially altered, the Parties shall endeavour to agree upon the substitution of the CPI with an equivalent index.

5. Indemnity

5.1 Highclere indemnifies Shire

Highclere hereby indemnifies the Shire against any cost, damage, expense, loss or other liability which the Shire suffers or incurs, and any claim against the Shire in respect of –

- (a) loss of, or damage to, or loss of use of, any real or personal property; or
- (b) personal injury to or death of any person,
arising from, or in relation to –
- (c) the Reserve Road Upgrade, Yalyal Road Upgrade or any of the Highclere Obligations; or
- (d) a breach of this Deed by Highclere.

5.2 Apportionment of liability

Notwithstanding **clause 5.1** any liability incurred by Highclere under **clause 5.1**, reduces proportionately to the extent that the loss, damage, loss of use, injury, death or related claim was caused by –

- (a) a negligent act or omission of the Shire or any employee, consultant or agent of the Shire;
or
- (b) a breach of this Deed by the Shire.

5.3 Part 1F Civil Liability Act 2002

Highclere and the Shire agree that Part 1F of the *Civil Liability Act* does not apply to any dispute, claim, action or other matter brought by any party with respect to anything arising from this Deed.

5.4 Indirect Loss

Notwithstanding any other provision of this Deed, the Parties shall not be liable to each other for loss of use, loss of contract or for any indirect or consequential loss or damage which may be suffered under or in connection with this Deed.

6. Disposal Restrictions

Highclere covenants and agrees with the Shire not to assign, transfer or otherwise dispose of the Extraction Licence issued in relation to the Property or any other approval to extract or mine in respect of the Property or any part thereof without the prior written consent of the Shire, which consent the Shire will not withhold if:

- (a) Highclere is not in default of any of its obligations under this Deed; and

- (b) the person to whom any such right or interest is to be granted, enters into a deed of covenant with the Shire, whereby such person covenants to observe and perform the covenants on the part of Highclere herein contained to ensure that any successor observes such obligations.

7. Bond

7.1 Payment for Works

Highclere acknowledges and agrees that:

- (a) it is responsible for the full cost of fulfilling the Highclere Obligations; and
- (b) the Shire may without notice at any time draw upon the Bond to cover the costs incurred by the Shire in carrying out the Highclere Obligations.

7.2 Payment of Bond

Highclere COVENANTS AND AGREES with the Shire with 7 days of execution of this Agreement, Highclere will pay the Bond to the Shire in accordance with any policy and procedure of the Shire and in accordance with any directions of the Shire.

7.3 Genuine Pre-estimate of Bond

The Shire covenants and agrees that the Bond amount is a genuine pre-estimate of the cost the Shire will incur in undertaking the Highclere Obligations pursuant to this Agreement.

7.4 Shire's covenants

The Shire covenants and agrees with Highclere that the Bond will be used by the Shire for the purpose of recovering costs incurred by or in association with the Shire carrying out the Highclere Obligations.

8. Insurance

8.1 Public liability

Highclere must maintain, and must ensure that any contractor or subcontractor engaged to perform any part of the Highclere Obligations maintains, a valid and enforceable public liability insurance policy with an Australian Prudential Regulation Authority (APRA) authorised insurer which:

- (a) notes the Shire as an interested party; and
- (b) provides coverage of at least \$20,000,000 for each occurrence or series of occurrences arising out of one event.

8.2 Workers compensation

Highclere must maintain and ensure that any contractor or subcontractor engaged to perform any part of the Highclere Obligations, maintains, a valid and enforceable worker's compensation insurance policy which complies with the provisions of the *Worker's Compensation and Injury Management Act 1981* in respect of all employees performing any part of the Highclere Obligations.

8.3 General

- (1) Highclere must maintain, and where relevant ensure the maintenance of the insurance policies referred to in this **clause 8** throughout the Term.
- (2) The Shire may, at any time during the Term, request to be shown evidence that an insurance policy referred to in this **clause 8** is currently in effect and within 48 hours of that request Highclere must produce for inspection by the Shire a certificate of currency of the policy.
- (3) Highclere must, as soon as practicable, inform the Shire by Notice of any occurrence that may give rise to a claim under an insurance policy required by this clause and shall keep the Shire informed of subsequent developments concerning any claims made. Highclere must ensure that any contractors or subcontractors engaged in performing any part of Highclere Obligations have a similar obligation to advise Highclere of any occurrence and developments necessary to enable Highclere to perform its obligations under this clause.

9. Directions

The Shire may give Highclere any reasonable direction with respect to the proper performance of the Highclere Obligations and Highclere must comply with any such direction.

10. Responsibility of Highclere

If Highclere performs any of the Highclere Obligations through the use of any contractor or subcontractor, Highclere will remain directly responsible for the performance of the Highclere Obligations and the Shire will only deal with Highclere with respect to that performance.

11. Access to public

Highclere acknowledges that Reserve Road and Yalyal Road are public roads and must remain open to, and trafficable by, the public at all times.

12. Costs

12.1 Costs of Deed

Highclere must pay the Shire's reasonable legal costs of and incidental to the preparation, negotiation, execution and stamping of this Deed and all duty payable hereon.

13. Default

13.1 Failure to perform obligation by Highclere

- (1) If Highclere is in default under this Deed, the Shire may give Highclere Notice specifying the details of the default and –
 - (a) requiring the default to be remedied within 21 days of the Notice in a manner specified in the Notice; or
 - (b) if remedy within 21 days is not practicable, requiring other specified action to be taken within a reasonable specified timeframe.
- (2) If the Shire gives Notice under **clause 13.1(1)** and Highclere does not remedy the default, or take the other action specified within the reasonable specified timeframe, the Shire may carry out, or engage another party to carry out, the necessary work.

- (3) If the Shire carries out, or engages another party to carry out, work in accordance with **clause 13.1(2)**, or work to recover any amount owing under **clause 4.2**, all reasonable costs and expenses incurred by the Shire in doing so will be a liquidated debt owed by Highclere to the Shire and must be paid within 14 days of a demand from the Shire for payment.

13.2 Insolvency

If:

- (a) Highclere goes into liquidation whether compulsory or voluntary (not being a voluntary liquidation for the purpose of amalgamation or reconstruction), or a receiver or manager is appointed;
- (b) Highclere calls a meeting of Highclere's creditors or makes any composition or arrangement with or assignment for the benefit of its creditors, or suffers any execution under any legal process issued or levied on or against any of its goods or chattels; or
- (c) any execution or process is made against Highclere which is deemed to be an act of bankruptcy,

then, in any of these cases (but subject to the *Bankruptcy Act 1966* (Cth) and the *Corporations Act 2001* (Cth)) the Shire may, by notice in writing given to Highclere, without prejudice to any other powers, rights, authorities or remedies against Highclere under this Deed or otherwise, terminate the Deed, but without releasing Highclere from liability for any previous breach or failure to observe or perform any term or condition of this Deed.

14. Severability

If any provision of this Deed is void or unenforceable, that provision is void and unenforceable only to the extent of that voidness or unenforceability, without invalidating the remaining provisions which will remain in full force and effect.

15. Amendments

This Deed can be modified, amended or varied only by a document in writing signed by or on behalf of each of the parties.

16. Waiver

A waiver of a breach of any term or condition of this Deed is not to operate as a waiver of any breach of the same or any other term or condition of this Deed.

17. Laws of Western Australia apply

This Deed is to be construed and interpreted in accordance with the laws of the State of Western Australia and the parties agree to submit to the jurisdiction of the courts of that State and of courts competent to hear appeals from those courts.

18. Further assurance

Each party must do everything reasonably necessary to give effect to this Deed and the transactions provided for by it and use all reasonable endeavours to cause relevant third parties to do likewise.

19. Interpretation

In this Deed, unless the context otherwise requires:

- (a) headings, underlines and numbering do not affect the interpretation or construction of this Deed;
- (b) words importing the singular include the plural and vice versa;
- (c) words importing a gender include any gender;
- (d) an expression importing a natural person includes any company, partnership, joint venture, association, corporation or other body corporate;
- (e) references to parts, clauses, parties, annexures, exhibits and schedules are references to parts and clauses of, and parties, annexures, exhibits and schedules to, this Deed;
- (f) a reference to any statute, regulation, proclamation, ordinance or local law includes all statutes, regulations, proclamations, ordinances or local law varying, consolidating or replacing them, and a reference to a statute includes all regulations, proclamations, ordinances and local laws issued under that statute;
- (g) no rule of construction shall apply to the disadvantage of a party on the basis that that party was responsible for the preparation of this Deed or any part of it; and
- (h) a reference to any thing (including any real property) or any amount is a reference to the whole and each part of it;
- (i) reference to the parties includes their personal representatives, successors and lawful assigns;
- (j) where a reference to a party includes more than one person the rights and obligations of those persons shall be joint and several; and
- (k) the Schedule and Annexures (if any) form part of this deed.

Signing page

Executed on the

day of

2015

The Common Seal of the **Shire of Chittering** was affixed in the presence of -

Signature of Chief Executive Officer

Signature of Shire President

Name of Chief Executive Officer (print)

Name of Shire President (print)

Executed by **Highclere Pty Ltd**
ACN 009 170 834 accordance with
section 127 of the Corporations Act
2001:

J. EDWARDS

Director / Company Secretary

[REDACTED]

Director

G. H. EDWARDS

Name of Director / Company Secretary

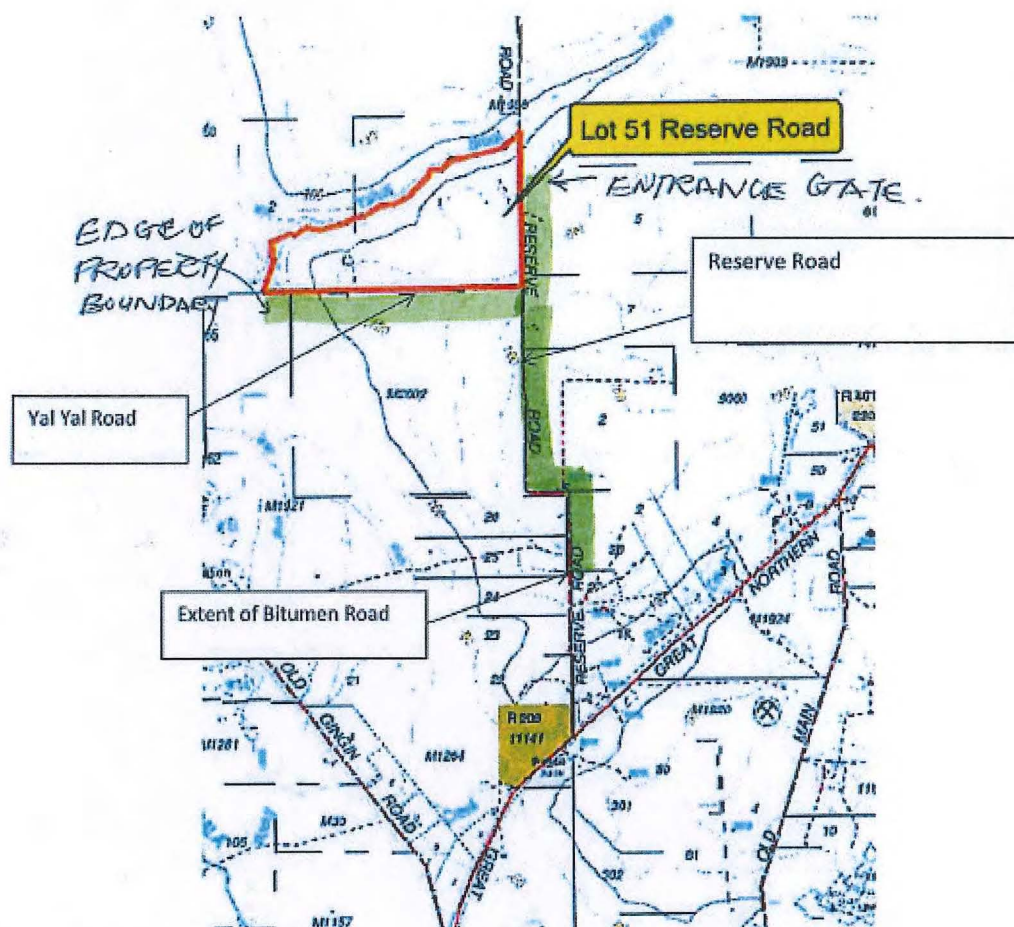
[REDACTED]

Name of Director

Annexure 1 – Reserve Road Widening



Annexure 2 – Reserve Road and Yalyal Road



Annexure 3 – Maintenance Standards for Unsealed Roads

1. Maintenance Standards for Unsealed Roads

The agreement to maintain the unsealed Road is premised on two objectives:

1. Protect and maintain the road asset; and
2. Ensure that the Road is maintained in a safe condition for all road-users.

The specification for maintenance of the Road is performance-based, and falls into two categories:

- routine patrol; and
- response to defects.

In terms of Routine Patrol, Highclere or its works contractor must implement documented inspection processes to ensure that the Road is maintained safe at all times, specifically, but not limited to:

| Routine Patrol | Max. Response Time |
|--|--|
| Remove road kill | 12 daylight hours |
| Clear blocked culverts | 12 daylight hours |
| Replace damaged signs & guideposts | 1 week subject to best endeavours to secure availability |
| Cordon off hazards, | 4 hours |
| Place / replace hazard signs | 4 hours |
| Remove litter including abandoned vehicles | 1 week subject to the said abandoned vehicle or litter being caused by MVPL's operations |

In terms of Response to Defects, Highclere or its works contractor must implement documented inspection processes to ensure that the Road is maintained safe at all times, specifically, but not limited to;

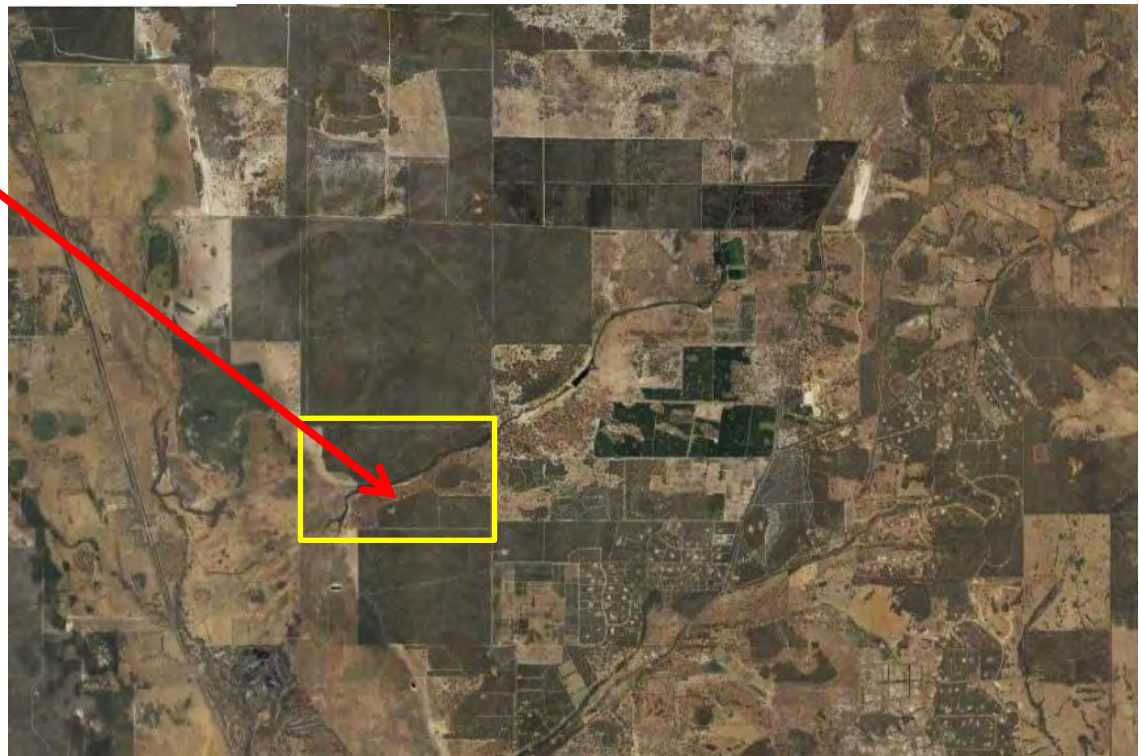
| Defect | Intervention Level | Max. Response Time |
|--|---|---------------------------|
| <u>Dust Control</u> The Shire and Highclere are agreed that the unsealed sections of road shall be maintained dust free at all times. | When visibility falls below a clear line of sight from 200m behind a permit vehicle to 200m in front of a permit vehicle, measured using a wind free day as a baseline with suitable distance and direction adjustments for wind strength and direction on other days | 2 hours |
| Potholes | Potholes > 50mm deep, or > 0.1 sq metres in area | 1 week |

| | | |
|--------------------------------------|--|------------------------------|
| Any pavement failure or corrugations | If hazardous to traffic otherwise | 12 daylight hours 1 month |
| Shoulder erosion | Width of shoulder reduced to < 1.0m as a result of MVPL's operations and not by weather events | 1 month |
| Off-road drainage | Ponding extends into pavement layer as a result of MVPL's operations and not by weather events | 1 week |
| Silted Culverts | Depth of silt > 20% of culvert | 1 month |

All maintenance activities must comply with approved Traffic Management Plan, per MRWA Code of Practice, 2010.

Locality Plan

Lot 51 Reserve Road, Muchea





Our Ref: 13074
21 December 2015

Chief Executive Officer
Shire of Chittering
PO Box 70
BINDOON WA 6502

Dear Sir/Madam

**PLANNING APPROVAL FOR EXTRACTIVE INDUSTRY – SAND AND GRAVEL
LOT 51 (451) RESERVE ROAD, CHITTERING
REQUEST TO CHANGE CONDITION CC**

In accordance with Clause 77(1b) of the Deemed Provisions for Local Planning Schemes, please find enclosed a signed Application for Planning Approval Form, which includes authorisation for payment of the \$50.00 Application Fee.

I refer to the Shire's planning approval of an extractive industry at Lot 51 (451) Reserve Road, Chittering dated 4 July 2012. Condition CC of this approval reads as follows:

cc. A maximum of four (4) single truck movements are permitted on a daily basis;

It is requested that this condition be removed or amended as it restricts the commercial viability of the extractive industry. The Approval was for the extraction of a maximum of 100,000 tonnes per annum (Condition RR). A restriction on the number of truck movements per day contradicts the condition restricting the maximum tonnage.

As outlined in the attached email correspondence, during the assessment of the application the Shire requested details of traffic volumes and the number of movements per day. In response it was advised that the number of movements would be dependent on market demand and as an estimate that there would be an average of 4 movements a day. It was advised by the Shire that the information was required to determine road contribution amounts and there was no mention that the number of movements advised would be restricted by a condition of approval. Therefore Condition CC should not have specified a maximum of 4 truck movements as that was an estimated average amount only.

In accordance with Condition M of the Approval, the applicant has now entered into a Road Maintenance Agreement with the Shire, which requires the applicant to maintain and repair Reserve Road to a mutually acceptable standard.

There is also a condition on the Approval (Condition DD), which restricts the hours of operation.

HEAD OFFICE:

Suite 4, First Floor, 40 Hasler Road, Osborne Park WA 6017
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 6241 3333 F: 08 6241 3300
E: whelans@whelans.com.au W: www.whelans.com.au

PERTH | KARRATHA | BROOME | KUNUNURRA | KALGOORLIE

WHELANS AUSTRALIA PTY LTD ACN 074 363 741

SURVEYING

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TOWN PLANNING



It is considered that Conditions DD, M & RR achieve the same outcome as a restriction on the number of daily truck movements and therefore it is requested that Condition CC be removed from the Approval. If the Shire still considers a restriction on the number of vehicles necessary it is requested that the condition be amended to read as follow:

cc. An average of twenty (20) single truck movements are permitted on a daily basis;

Should you have any queries regarding the above or require additional information, please do not hesitate to contact me on [REDACTED].

Yours sincerely

[REDACTED]

Melinda Marshall
Town Planner

Melinda Marshall


From: Melinda Marshall
Sent: Wednesday, 15 July 2015 1:52 PM
To: Vernon Butterly
Subject: FW: [13074] lot 51 reserve rd

From: Brendan Jeans [mailto: [REDACTED]]
Sent: Friday, 8 April 2011 4:22 PM
To: Melinda Marshall
Subject: RE: [13074] lot 51 reserve rd

Well generally it will be upfront. So if they believe they will extract up to 100,000 tonnes per year, they will be charged the road contribution to that tonnage. However should they maintain a record of actual extraction amounts, this would then be deducted for the following year. We have only had one case with an EIL on a local road where they pay a fixed annual road contribution.

Kind Regards

Brendan Jeans | Planning Officer
Shire of Chittering, PO Box 70 (Great Northern Highway), BINDOON WA 6502
T: 9576 4600 F: 9576 1250 E: chatter@chittering.wa.gov.au
Shire of Chittering - Come for the day and you may want to stay

 Think before you print

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From: Melinda Marshall [mailto: [REDACTED]]
Sent: Friday, 8 April 2011 4:12 PM
To: Brendan Jeans
Subject: RE: [13074] lot 51 reserve rd

Hi Brendan

So will the contributions be charged up front based on an estimate or will they be charged once the annual excavation amounts are known?

Warm regard

Melinda Marshall
Town Planner
WHELANS

133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, Mount Hawthorn WA 6915

T: 08 9208 0155
F: 08 9444 3901

E: [REDACTED]

W: www.whelans.com.au

S

>>> "Brendan Jeans" [REDACTED] 8/04/2011 3:55 pm >>>

Hey Melinda,

The reason I ask is because I will most likely need to calculate some form of road contribution by the applicant/owner. Currently we can only base it on tonnage, which was noted up to 100,000 tonnes. To get a better costing for road contribution, the applicant/owner will provide annual engineered/surveyed details of what has been excavated.....

Kind Regards

Brendan Jeans | Planning Officer

Shire of Chittering, PO Box 70 (Great Northern Highway), BINDOON WA 6502

T: 9576 4600 F: 9576 1250 E: chatter@chittering.wa.gov.au

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From: Melinda Marshall [mailto:[REDACTED]]

Sent: Friday, 8 April 2011 3:45 PM

To: Brendan Jeans

Subject: [13074] lot 51 reserve rd

Hello Brendan

We have stipulated that there will be 2-3 staff and therefore between 4 and 6 movements.

The number of movements for trucks will be dependant on market demand and distance to the market ie there will be less movements with longer turn around times. However as an estimate I would say there would be an average of 4 movements a day.

Hope this helps

Melinda Marshall

Town Planner

WHELANS

133 Scarborough Beach Road, Mount Hawthorn WA 6016

PO Box 99, Mount Hawthorn WA 6915

T: 08 9208 0155

F: 08 9444 3901

E: [REDACTED]

W: www.whelans.com.au

>>> "Brendan Jeans" [REDACTED] 6/04/2011 11:10 am >>>

Hey Melinda,

Did you have details in relation to the traffic volumes, number of movements per day etc?

Kind Regards

Brendan Jeans | Planning Officer

Shire of Chittering, PO Box 70 (Great Northern Highway), BINDOON WA 6502

T: 9576 4600 F: 9576 1250 E: chatter@chittering.wa.gov.au

Shire of Chittering - Come for the day and you may want to stay



Think before you print

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TECHNICAL NOTE

Subject: Lot 51 Reserve Road, Lower Chittering

Date: 21/04/16

Author: T Shaw

Attention: V Butterly

1 Background

The following provides additional comments regarding the proposed extraction of material from Lot 51 and cartage of same along Reserve Road to Great Northern Highway. Comments reference a request for further information contained in an email from the Shire of Chittering dated 08/04/16 as detailed in Sections 2 and 3. This Technical Note (TN) should be read in conjunction with Shawmac Document "Lot 51 Reserve Road, Muchea, Transport Impact Statement," dated 2014 and Shawmac Technical Note dated 21/03/14.

2 Truck Movements

"The Shire of Chittering requires an updated Traffic Impact Statement taking into consideration the increased traffic movements (ie from 4 to 20) in addition to the increased light vehicle traffic associated with the proposed subdivision at Lot 2 Reserve Road".

The Transport Impact Statement prepared by Shawmac in 2014 was based on a maximum of 34 vehicle movements per day under ultimate operating conditions which is in excess of the 20 truck movements triggering the Shire's requirement for an updated TIA. The assessment made in the 2014 report remains valid for consideration of the revised vehicle movements (20 per day), without consideration of the impact from the traffic likely to be generated from the subdivision of Lot 2 Reserve Road and lot 9001 Rosewood Drive.

Without detailed modelling it is not possible to estimate the cumulative impact from the subdivision traffic; however based on the following assumptions an indicative assessment.

Assume a generation of 6 vehicle trips per day from each lot giving a total generation at full build out of about 1500 vehicles per day.

Assume that peak hour traffic is approximately 10% of the daily traffic;

Consulting Traffic & Civil Engineers, Risk Managers.
1st Floor, 908 Albany Highway, East Victoria Park, WA 6101.
P +61 8 9355 1300, F +61 8 9 355 1922, E admin@shawmac.com.au
C:\Users\Shawmac3\Desktop\HD-BLACKBOX\Capture\Reserve_TN_210416.doc



Assume that 50% of traffic will use Reserve Road.

On that basis, a typical peak hour flow at the Reserve Road – Great Northern Highway intersection is likely to be in the order of that shown below.

Reserve Road

| | |
|---|----|
| Existing peak hour flows (combined) | 14 |
| Expected truck movements associated with lot 51 (combined) | 2 |
| Expected vehicle movements associated with the subdivision (combined) | 75 |
| Total | 91 |

Great Northern Highway

| | |
|---|-----|
| Existing peak hour flows (combined) | 334 |
| Expected truck movements associated with lot 51 (combined) | 2 |
| Expected vehicle movements associated with the subdivision (combined) | 75 |
| Total | 427 |

This gives a major road flow of about 450 vehicles and a minor road flow of about 45 vehicles which is under the threshold of Austroads' *Guide to Traffic Management* requiring capacity analysis.

Austroads "Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections" provides warrants for major road turn treatments for basic, auxiliary lane and channelised layouts and provide guidance on where specific treatments are warranted based on through and turning volumes. Applying these warrants indicates that a channelised Intersection is likely to be required on the basis of traffic movements through the intersection; see Figure 1. Note that without the influence of the subdivision traffic, only a basic intersection is required.

It is clear that the addition of 20 truck movements on Reserve Road will not adversely impact on the operation of the road or trigger the need for intersection upgrades when considered in isolation. Any trigger for upgrades is likely to be directly attributable to the subdivisional traffic.

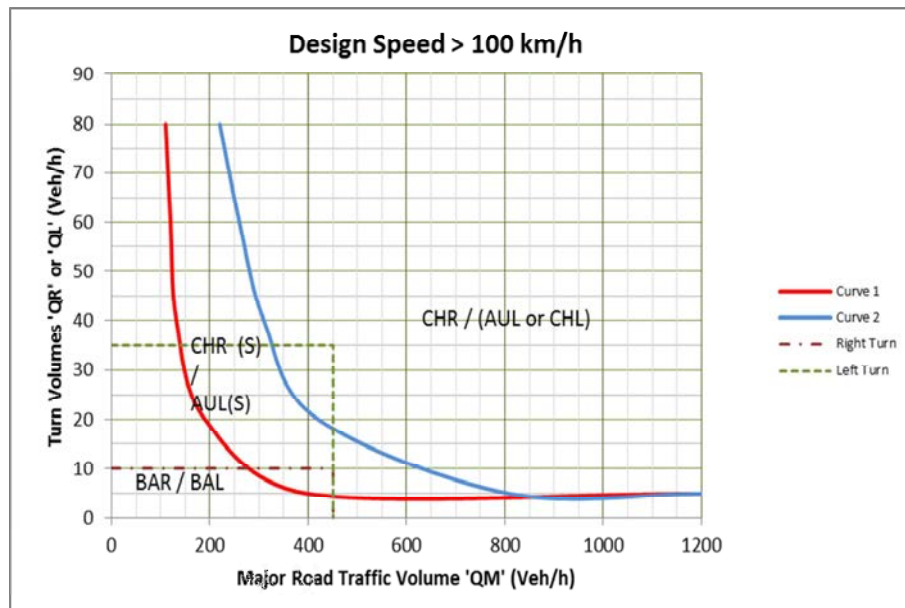


Figure 1 – Intersection Assessment

3 Dust Nuisance.

The Shire of Chittering is seeking justification around the contention that the dust increase from vehicle movement will not negatively impact the surrounding amenity of the nearby residences.

It is understood that the section of Reserve Road abutting the proposed subdivision is to be sealed and as such dust will not be generated from that section of Reserve Road. Most impact will be caused by northbound traffic when the wind is from the south or south west. During these events dust is likely to affect a small section of the subdivision. Similarly, southbound traffic will generate dust which may affect a small section of the subdivision during weather events where there is a north west wind. However, the north west wind is predominately experienced in winter when the gravel surface would be expected to be wet or moist and dust generation potential low. Winds from the north through the east to due south will not carry dust onto the subdivision. Additionally, studies in the United States of America have shown that the amount of dust produced is related to vehicle speed and that cutting average vehicle speeds from 64 kph to 56 kph will reduce dust emissions by 40%. As the most impact is likely to be from traffic travelling north on approach to the ninety degree bends, vehicle speed is likely to be slow as vehicles negotiate the bends. This should reduce dust generation potential.

Control of dust can be achieved either by applying dust control agents or by sealing. The former is used extensively in Australia and overseas and studies have shown that control measures can reduce dust by 30% to 80% and cut aggregate loss by 25% to 75%. However, such treatments are temporary and repeat applications may be necessary. Sealing provides a permanent control on dust but may be expensive. The choice of method is largely a balance of economics. Given that there is likely to be some uncertainty as to whether or not the



generation of dust by truck traffic associated with the extraction and carting operations planned for Lot 51 will impact on the subdivision, a monitor and review is recommended. Should the dust generation be shown to be an unacceptable impact, then remediation can be prescribed.

As a worst case scenario, treatment of the unsealed pavement either by dust suppression agents or by sealing would likely be limited to the maximum drift distance of dust from the prevailing winds previously outlined. Given that drift is largely dependent on wind strength more detailed modelling would be required.

Notwithstanding this, the treatment extent would most likely be limited generally to the range shown on Figure 2.

This indicates the following:

- The site boundary (yellow);
- The section of road to be sealed (orange);
- The dominant direction and length of drift (white arrow); and,
- The possible extent of road to be treated (blue).

Note that the length and direction of the drift and the length of possible road to be treated are schematic only and would be subject to later modelling.



Figure 2 – Possible Extent of Treatment

LOCALITY PLAN

LOT 5 (RN 5371) GREAT NORTHERN HIGHWAY, MUCHEA



Our Ref: 716-130

02 June 2016

Chief Executive Officer
Shire of Chittering
PO Box 70
BINDOON WA 6502



Attention: Stephanie Gladman –Planning Officer

TOWN PLANNING
URBAN DESIGN AND HERITAGE

Dear Stephanie

DEVELOPMENT APPLICATION FOR PYLON SIGNAGE – LOT 5 (NO. 3571) GREAT NORTHERN HIGHWAY, MUCHEA

Further to our discussions in relation to the above, TPG Town Planning, Urban Design and Heritage (TPG), on behalf of Aspen Group, is pleased to submit the attached modified development application for the construction of two temporary pylon signs at the above-mentioned site. This application has been modified by reducing the size of the proposed pylon signs to 2m high by 4m wide. The application now seeks temporary approval (for a period of two years).

The following documentation was provided as part of our original submission of 17 September 2015.

- Completed Schedule 7 – Application for Planning Approval;
- Completed Schedule 8 – Additional Information for Signs (Advertisements);
- Cheque for \$147, being the required fee when the cost of development is not more than \$50,000;
- Two (2) copies of proposed plans, including site plans and elevations; and
- Copy of the relevant Certificate of Title.

Subject Site

The site is located immediately to the south of the intersection of Brand Highway and Great Northern Highway, within the municipality of the Shire of Chittering. The site is currently occupied by Aussie Modular Solutions as a builders storage yard for the manufacture of transportable and modular buildings for the resource, commercial and residential sectors, including Aspen Group.

The table below summarises the particulars of the relevant Certificate of Title.

| Lot No. | Address | Volume/Folio | Plan/Diagram | Registered Proprietor |
|---------|-------------------------------------|--------------|--------------|------------------------------|
| 5 | 3571 Great Northern Highway, Muchea | 1689/590 | 67144 | Karratha Enterprises Pty Ltd |

The site has an extensive frontage to Great Northern Highway, the major road linkage between the Perth metropolitan region and the North-West region of Western Australia, which affords the site a high degree of exposure to passing vehicular traffic.

The area surrounding the site has been included in the 'Muchea Employment Node Structure Plan', which envisages a future service-based hub, encompassing transport, livestock, fabrication, warehousing, wholesaling and general commercial land uses.

PERTH OFFICE

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Perth Western Australia 6000

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Perth Western Australia 6850

Telephone +61 8 9289 8300
Facsimile +61 8 9321 4786
www.tpgwa.com.au

The Planning Group WA Pty Ltd
ABN 36 097 273 222

Proposed Development

The application seeks a temporary planning approval (for two years) for two freestanding pylon signs on either side of the existing central gravel driveway on the subject site. The billboard signage will depict an advertisement for the Perth Vineyard Holiday Park, located at Benara Road in Caversham (Refer to attached site and signage plans). The signs are 2m high x 4m wide atop of 2m pylons. The signs will be visible to motorists travelling north or south along the Great Northern Highway.

Refer to attached site and signage plans.

Planning Assessment

Shire of Chittering Town Planning Scheme No. 6

The subject site is zoned 'Agricultural Resource' with an 'Additional Use' designation under the Shire of Chittering Town Planning Scheme No. 6 (TPS6). The aims of the Scheme are listed in clause 1.6, and includes the following which could be considered relevant to the development of the site:

- To maintain the rural lifestyle as part of the community structure and well-being;
- To protect the landscape values of any designated landscape precinct/area/zone;

Schedule 3 provides requirements for development in each of the Additional Use areas, with the subject site identified for 'Industry General – Builders Storage Yard' use.

Section 5.11 of TPS6 contains a range of provisions relating to the control of advertisements, with Clause 5.11.1 stating the following:

For the purpose of this Scheme, the erection, placement or display of any sign and the use of land or any building for the display of any sign involving non site specific advertising is development within the definition of the Act requiring, except as otherwise provided, the prior approval of the Council. Such planning approval is required in addition to any licence pursuant to Council's Signs and Hoarding and Bill Posting Local Laws.

Clause 5.11.4 of TPS6 states the matters to be considered by Council in determining an application pertaining to signage as being the following:

...Council shall examine each such application in the light of the objectives of the Scheme and with particular reference to the character and amenity of the locality within which it is to be displayed, including its historic or landscape significance and traffic safety, and the amenity of adjacent areas which may be affected.

Schedule 6 of TPS6 outlines certain types of advertisements that are exempted from the requirement to obtain approval, however, the proposed signage does not fall within the stipulated criteria due to the nature of the advertisement and the dimensions proposed.

In accordance with the above, it is considered the sign is appropriate given the following:

- The location of the site abutting Great Northern Highway, and the sites current use as a builders storage yard, which is an industrial rather than agricultural type use;
- The sign is generally consistent with the aims of the Scheme as outlined above, given that it is located on a lot used for industrial purposes and will therefore not negatively impact on the rural amenity or character of the area;
- The sign is well setback from Great Northern Highway so as to not impinge of the operation or safety of the road; and
- The sign assists in supporting the economic viability of a local business by allowing it to advertise Aspen accommodation, which is manufactured on the subject site.

Signs, Hoardings and Bill Posting Local Law 1993 and Draft 2015

In addition to the requirements of TPS6, developments proposing advertising signage are subject to the requirements of the 'Signs, Hoardings and Bill Posting Local Law 1993' (the Local Law). The Shire is currently in the process of reviewing the Local Law, with the revised draft recently having been advertised for public comment.

Under the Local Law, a Pylon Sign is defined as the following:

Pylon Sign is an advertisement device and means a sign supported by one or more piers and not attached to a building and includes a detached sign framework supported on one or more piers to which sign infills may be added."

While the proposed signage is believe to be most appropriately referred to as billboard sign, such a classification does not exist in the Local Law. The proposed signs could therefore be considered to fall within the Pylon Sign classification in accordance with the above definition.

Clause 2.1.5 of the current Local Law, and clause 2.2 (4) of the proposed Law allows for the Shire to grant approval for a sign that does not comply with any of the provisions of the Local Law. No objectives against which to assess a proposed sign are provided in the Local Law to determine whether such a variation should be granted, so it is considered that the objectives of the Scheme (as outlined above) should be used as a guide in determining whether the signage would be appropriate.

The following table assesses the proposed signage against the current standards and any which are proposed to be amended under the draft Local Law. Provisions that are not considered relevant due to the site particulars or signage type proposed are not listed below.

| Required | Provided | Compliance |
|---|---|------------|
| General Restrictions | | |
| <i>A sign shall not be erected or maintained in any position where it obstructs or obscures the view from a street or other public place of traffic in that or any other street or public place.</i> | The proposed signage does not obstruct sightlines. | Complies. |
| <i>A sign shall not be erected or maintained if the sign is likely to obscure or cause confusion with or about a traffic light or traffic sign or is the sign is likely to be mistaken for a traffic light or sign.</i> | It is not considered likely that the proposed signage could be mistaken as a traffic light or sign given the proposed colours and graphics. | Complies. |
| <i>A sign shall not be erected or maintained on any land that is zoned in a Town Planning Scheme as residential or used for residential purposes other than a site of lawful non-conforming use other than residential unless specifically permitted in these by-laws.</i> | The proposed signage is located in an 'Agricultural Resource' zone with an industrial additional use designation, and the site is not used for residential purposes. | Complies. |
| <i>A sign shall not be erected or maintained if in the opinion of Council, the sign or advertising device causes or is likely to cause offence or is for reasons to be stated by Council, unsuitable or otherwise undesirable.</i> | The proposed signage does not propose and advertising material that is likely to cause offence. | Complies. |
| <i>A sign shall not be erected or maintained in any position where, in the opinion of Council, the advertisement will be out of harmony with the surroundings in the locality in which the advertisement is proposed to be exhibited or where Council considers it will be undesirable for reasons to be stated by Council.</i> | The proposed signage is considered to be in harmony with the surrounding area as it is to be located on a site currently used for industrial purposes, which includes storage and construction of transportable dwellings, rather than an area of high rural amenity. | Complies. |
| <i>No glass shall be used in any sign other than an illuminated sign.</i> | No glass is proposed. | Complies. |
| <i>No paper, cardboard, cloth or other flammable materials shall be part of or be attached to any sign but this paragraph shall not apply to posters securely fixed to a sign board.</i> | No such materials proposed. | Complies. |

| Pylon Sign Restrictions | | |
|--|--|---------------------------------|
| <p><i>Current requirement:</i> <i>Shall be so constructed that no part of the sign shall be less than 2,750mm or more than 600mm above the level of the ground immediately under the sign.</i></p> <p><i>Proposed (draft) requirement:</i> <i>Shall be so constructed that no part of the sign shall be less than 2,700mm or more than 600mm above the level of the ground immediately under the sign.</i></p> | The proposed signage is 2m above the level of the ground immediately under the sign. | Complies. |
| Shall not exceed 2,550mm measured in any direction across the face of the sign or have a greater superficial area than 4 sqm. | The proposed signage has a superficial area of 8 sqm. | Variations sought. Refer below. |
| Shall not project more than 900mm over any street, way, footpath or other public place. | The proposed signage is located within the subject site boundaries. | Complies. |
| Shall be supported on one or more piers or columns of brick, stone, concrete or steel of sufficient size and strength to support the sign under all conditions. | The proposed signage will be supported by sufficient piers or columns, further details of which will be provided to the Shire after planning approval is received. | Complies. |
| Shall not be within 1,800mm of the side boundaries of the lot on which it is erected. | The proposed signage is located centrally between the northern and southern boundaries. | Complies. |
| Shall have no part thereof less than 6m from any part of another sign erected on the same lot of land. | The proposed signage is to be separated by a distance of 6.5m, by way of an existing gravel driveway. | Complies. |

Dimensions

The proposed signage seeks a variation to the prescribed maximum dimensions stipulated under the Local Law. The proposed signage is more closely aligned with a traditional billboard structure than with a pylon sign and the proposed dimensions are necessary in this case to ensure good visibility of the sign for vehicles traveling at speed along Great Northern Highway. A sign of smaller dimensions would not be large enough in size to be effective in terms of advertising, and we therefore request that this larger sign be approved.

Main Roads (Western Australia)

Due consideration has been given to the requirements of 'Roadside Advertising' as specified by Main Roads, which we understand require a 3.5m setback to the carriageway. The proposal will provide a 10m clearance from the roadway and has been designed so as to not cause a distraction to passing motorists in terms of reflectivity and illumination.

Conclusion

This proposal seeks the approval for the erection of temporary pylon signage at Lot 5 (No .3571) Great Northern Highway, Muchea. As shown above, the proposed signage is generally compliant with the requirements of the current *Signs, Hoardings and Bill Posting Local Law 1993* and the *Draft Signs, Hoardings and Bill Posting Local Law 2015*, will not disrupt the visual amenity of the area, and is believed to be consistent with the general aims of the Scheme, in light of the existing industrial use.

On the basis of the above, we respectfully request that the Shire of Chittering grant approval of the proposal. Should you have any further queries in relation to the above, please do not hesitate to contact Eleanor Richards or the undersigned on [REDACTED].

Yours sincerely

[REDACTED]



Figure 1

SIGNAGE PLAN

Lot 5 (3571) Great Northern Hwy, Muchea

Date: 2 June 2016 Project Manager: ER
Scale: 1:4000 @ A3 Checked: ER
Dwg No: 716-130 PL muchea A3.ai Drawn: GW

0 10m 160m

source: nearmaps

subject site



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mainroads
WESTERN AUSTRALIA

Enquiries: Vel Khokulan on [REDACTED]
Our Ref: 01/706-06
Your Ref: O1565705, A3084

7 December 2015

Chief Executive Officer
Shire of Chittering
PO Box 70
BINDOON WA 6502

Attention: Stephanie Gladman

Dear Sir/Madam

**GREAT NORTHERN HIGHWAY (H006) 36.47 SLK
PROPOSED PYLON SIGNAGE (X 2) - LOT 5 (NO. 3571) GREAT NORTHERN HIGHWAY,
MUCHEA**

Further to your correspondence of the 13 November 2015 with attachments, Main Roads WA (MRWA) provides the following response.

Please refer to our letter dated 5 May 2015 in response to your letter dated 30 April 2015 relating to the subject and MRWA reiterates the following concern regarding the content of the above proposal;

MRWA objects to any further development of Lot 5 (No. 3571) as a Notice of Intention to Take (NOITT) has been lodged for this property for the purpose of constructing the Perth to Darwin National Highway. In accordance with Section 173 of the Land Administration Act 1997 a person must not cause the building or making of any improvement to the above land to be commenced or continued except with the prior approval in writing of the Minister for Lands.

If you require any further information please contact Vel Khokulan on [REDACTED]

Yours faithfully

Janet Hartley-West
NETWORK MANAGER



Enquiries: Melinda Marshall on [REDACTED]
Our Ref: 01/2823-03
Your Ref: 30/4/15



ABN: 50 060 676 021

5 May 2015

Chief Executive Officer
Shire of Chittering
PO Box 70
BINDOON WA 6502

ATTENTION: BRENDAN JEANS

Dear Sir/Madam

**GREAT NORTHERN HIGHWAY (H006) 36.39 & 36.47 SLK
PROPOSED BUILDER'S YARD EXPANSION - LOTS 5 (3571) & 6 GREAT NORTHERN
HIGHWAY, MUCHEA**

Further to your email correspondence of 30 April 2015, Main Roads WA (MRWA) provides the following response.

MRWA objects to any further development of Lots 5 & 6 as a Notice of Intention to Take (NOITT) has been lodged for these properties for the purpose of constructing the Perth to Darwin National Highway. In accordance with Section 173 of the *Land Administration Act 1997* a person must not cause the building or making of any improvement to the above land to be commenced or continued except with the prior approval in writing of the Minister for Lands

If you require any further information please contact Melinda Marshall on [REDACTED]. In reply please quote file reference 01/2823-03.

Yours faithfully

[REDACTED]
Janet Hartley-West
NETWORK MANAGER

SHIRE OF CHITTERING
RECEIVED

07 MAY 2015

Officer... Splon
File... 18/02/18
Ref... F/559037



Enquiries: Vel Khokulan on [REDACTED]
Our Ref: 01/706-06
Your Ref: O1565705, A3084

6 May 2016

Shire of Chittering
PO Box 70
BINDOON WA 6502

Attention: Stephanie Gladman

Dear Sir/Madam

**GREAT NORTHERN HIGHWAY (H006) 36.47 SLK
PROPOSED PYLON SIGNAGE (X 2) - LOT 5 (NO. 3571) GREAT NORTHERN HIGHWAY,
MUCHEA**

Further to your correspondence of the 11 April 2015 with attachments, Main Roads WA (MRWA) provides the following response.

Please refer to our letter email dated 15 December 2015 in relation to the subject and MRWA reiterates the following concern regarding the content of the above proposal;

- The Notice of Intention to Take (NOITT) is active for 12 months and will either be renewed if the land has not been formally Taken or the land will be Taken and dedicated as road reserve when the NOITT will lapse; therefore, Main Roads would require an indemnity against any compensation claim arising from the installation of the above signage.

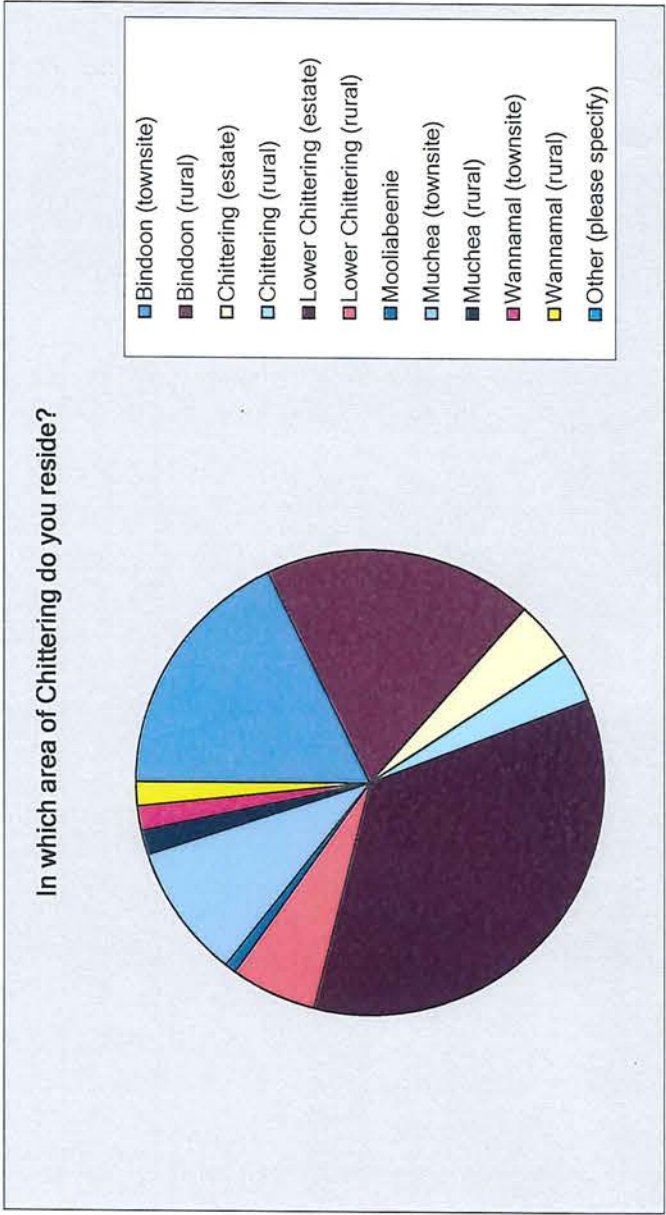
If you require any further information please contact Vel Khokulan on [REDACTED].

Yours faithfully

Janet Hartley-West
NETWORK MANAGER

Waste and Recycling Community Survey

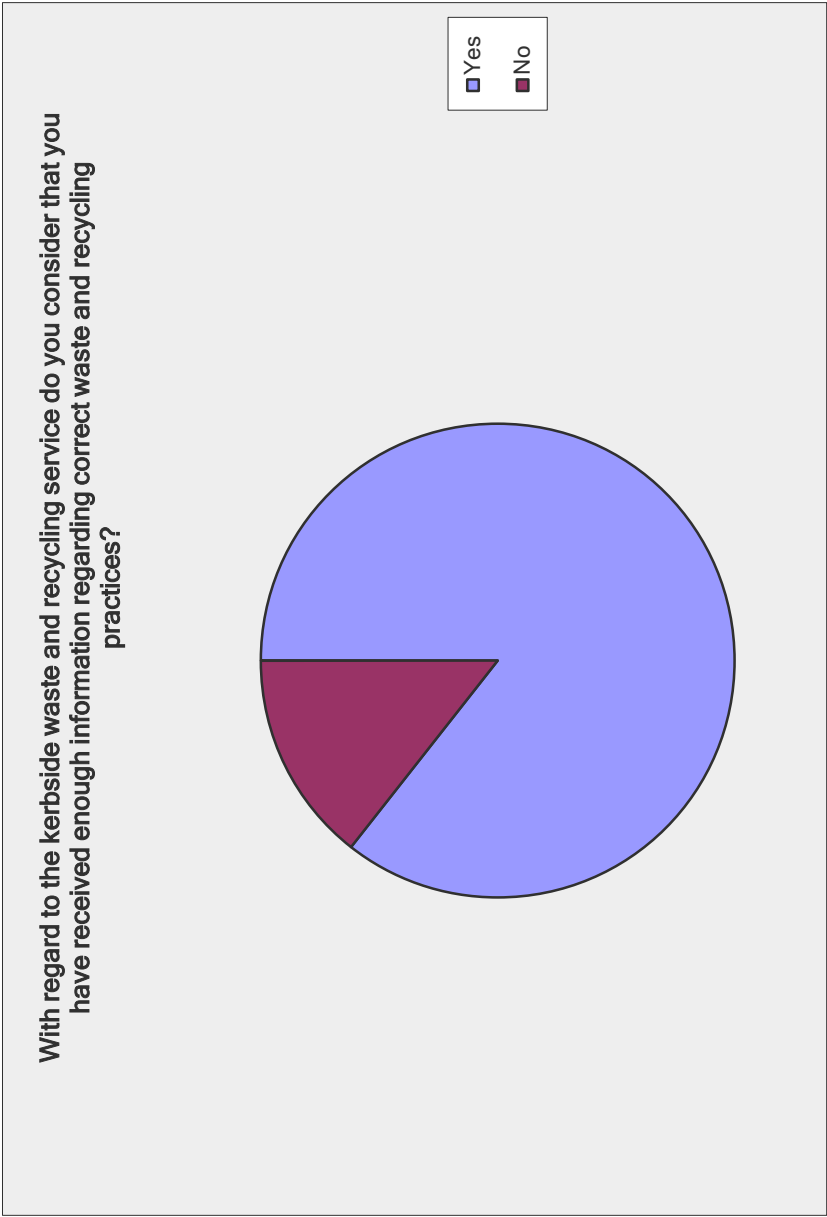
| In which area of Chittering do you reside? | | | |
|--|------------------|-------------------|-----|
| Answer Options | Response Percent | Response Count | |
| Bindoon (townsite) | 17.8% | 21 | |
| Bindoon (rural) | 18.6% | 22 | |
| Chittering (estate) | 4.2% | 5 | |
| Chittering (rural) | 3.4% | 4 | |
| Lower Chittering (estate) | 34.7% | 41 | |
| Lower Chittering (rural) | 5.9% | 7 | |
| Mooliabeenie | 0.8% | 1 | |
| Muchea (townsite) | 9.3% | 11 | |
| Muchea (rural) | 1.7% | 2 | |
| Wannamal (townsite) | 1.7% | 2 | |
| Wannamal (rural) | 1.7% | 2 | |
| Other (please specify) | 0.0% | 0 | |
| | | answered question | 118 |
| | | skipped question | 0 |



Waste and Recycling Community Survey

| With regard to the kerbside waste and recycling service do you consider that you have received enough information regarding correct waste and recycling practices? | | | |
|--|--|--------------------------|----------------|
| Answer Options | | Response Percent | Response Count |
| Yes | | 85.6% | 101 |
| No | | 14.4% | 17 |
| If no, please comment | | | 11 |
| | | <i>answered question</i> | 118 |
| | | <i>skipped question</i> | 0 |

| Number | If no, please comment | Categories |
|--------|---|------------|
| 1 | Notification of what/when we can go to our local tip is inadequate I only recently was informed that excess recyclables are welcome at the tip at no cost. I thought we either had ltd passes, even for recyclables, or paid up even for green waste - not so! | |
| 2 | Unsure what items can go in recycle, especially which plastics. | |
| 3 | Information provided is not very precise. I am positive I am placing items in the waste bin that could be placed in recycling because the information provided regarding recycling is very generic. | |
| 4 | Would like updates please | |
| 5 | No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior. Poor governance on this. | |
| 6 | New calendars should have been released for the recycling collection weeks! | |
| 7 | Would have been helpful to have reminders about what can and can't be recycled and what needs to go to tip | |
| 8 | nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can. | |
| 9 | We are happy with info recieved now , but when rolling out info was poor | |
| 10 | We dont have any road side collection of any kind | |
| 11 | Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please! | |



Waste and Recycling Community Survey

| How satisfied are you with the options you have to dispose of your waste and recyclable materials? | | | |
|--|--|--|----------------|
| Answer Options | | Response Percent | Response Count |
| Satisfied | | 55.9% | 66 |
| Somewhat Satisfied | | 23.7% | 28 |
| Unsure | | 3.4% | 4 |
| Somewhat Dissatisfied | | 6.8% | 8 |
| Dissatisfied | | 10.2% | 12 |
| If dissatisfied please provide further information or suggestions | | | 26 |
| | | <i>answered question</i> | 118 |
| | | <i>skipped question</i> | 0 |
| | | <i>or paid up even for green waste - not sol</i> | |

| Number | If dissatisfied please provide further information or suggestions | Categories |
|--------|---|------------|
|--------|---|------------|

- 1

I have no bins, so I take rubbish direct to tip as I have done for as long as I have been here. No problem.
- 2

No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior.
- 3

Disgraceful council, selfish people
- 4

Would prefer weekly recycling
- 5

nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can.
- 6

avon waste are far too selective on what recyclable materials they take. there are more crosses on the lids of the bins than ticks. NO plastic bags, NO ceramics
- 7

There is still a charge at the tip for many items
- 8

Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please!
- 9

We have found that our recycling bin inst being emptied often enough and our general waste is emptied too oftenWe would like to see the cycles be swapped to every week recycle and every second week general wastell
- 10

For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying.
- 11

Totally against the whole "city-fied" system! We came out here to AVOID city type Government intervention in our lives.
- 12

weekly recycle would be an improvement
- 13

I don't think I should have to pay for taking big stuff to the tip, such as an old fridge, for example.
- 14

I rather go back to how it use to be where i take my own rubbish to the tip as many times as I wish. I live on a bigger then normal property and a lot of rubbish and once every two weeks for recyclable is not enough. my drive way is nearly a kilometre long and I have to load the bins on a trailer, so I might as well go to the tip with it. I tried the tow behind the car gizmo and the wheels and the bins are falling to bits all ready
- 15

Junk road side service twice a year because there are people who don't own tow balls and trailers
- 16

We should have the choice of getting it or not not just forced on us
- 17

Would like to have a mini skip offered for free once a year (e.g. like Shire of Northam) or similar.
- 18

I use the landfill and notice that a large amount of recycled material is being dumped on the tip face and the Shire do not care.. Need to staff the landfill and mmitor such wastefull tipping. Also dissatisfied with what happens to glass from the landfill, it is not recycled, just tipped in another era of the tip.
- 19

A greens bin would be good in this area
- 20

Go back to the way it was. We moved to this area to be self-sufficient and have been for decades. This waste removal is a waste of time, effort and resources. Allow residents the opportunity to recycle without a mandatory pick up
- 21

Given the choice we would have kept taking our own waste to the tip. As we are charged for it we use it. It is more convinient.
- 22

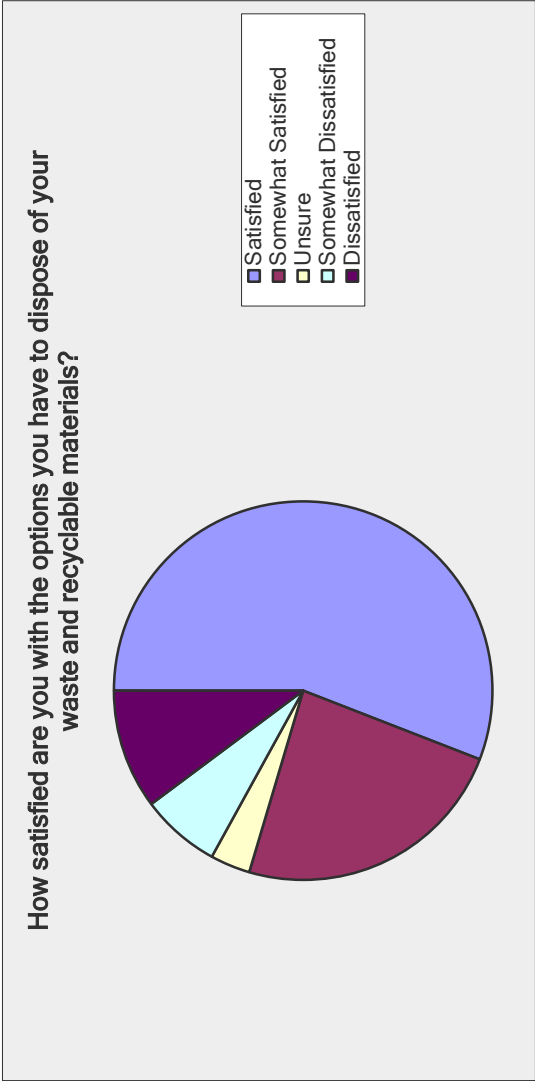
Regular large skip bins at wannamal compound
- 23

Avon waste don't offer used oil or battery pick up like the city residents get
- 24

We probably have more recyclable waste than normal rubbish, would be better to have weekly recycle pickup
- 25

Would love recycling to be collected weekly.
- 26

The people that run the tip expect you to go through every peice of rubbish even just house hold. Being cans in one area and glass in the other. Recycling is recycling



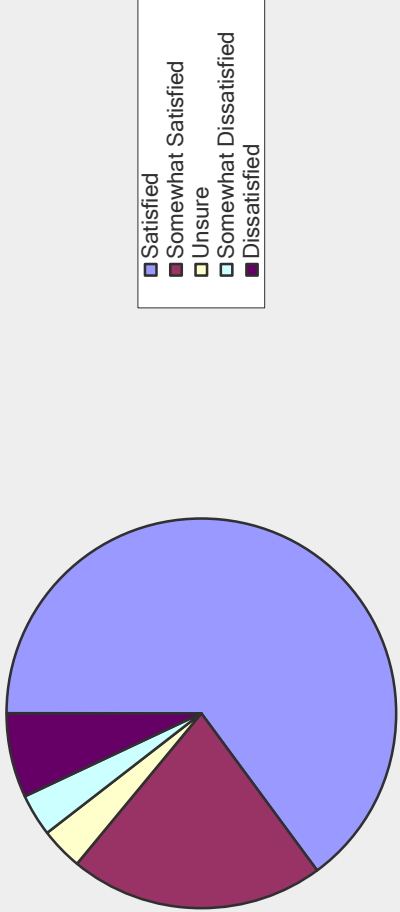
Waste and Recycling Community Survey

| How satisfied are you with the current service collection provided by Avon Waste? | | | |
|---|--|--|----------------|
| Answer Options | | Response Percent | Response Count |
| Satisfied | | 64.9% | 74 |
| Somewhat Satisfied | | 21.1% | 24 |
| Unsure | | 3.5% | 4 |
| Somewhat Dissatisfied | | 3.5% | 4 |
| Dissatisfied | | 7.0% | 8 |
| If dissatisfied please provide further information or suggestions | | | 22 |
| | | <i>answered question</i> | 114 |
| | | <i>skipped question</i> | 4 |
| | | <i>or paid up even for green waste - not sol</i> | |

| Number | If dissatisfied please provide further information or suggestions | Categories |
|--------|---|------------|
|--------|---|------------|

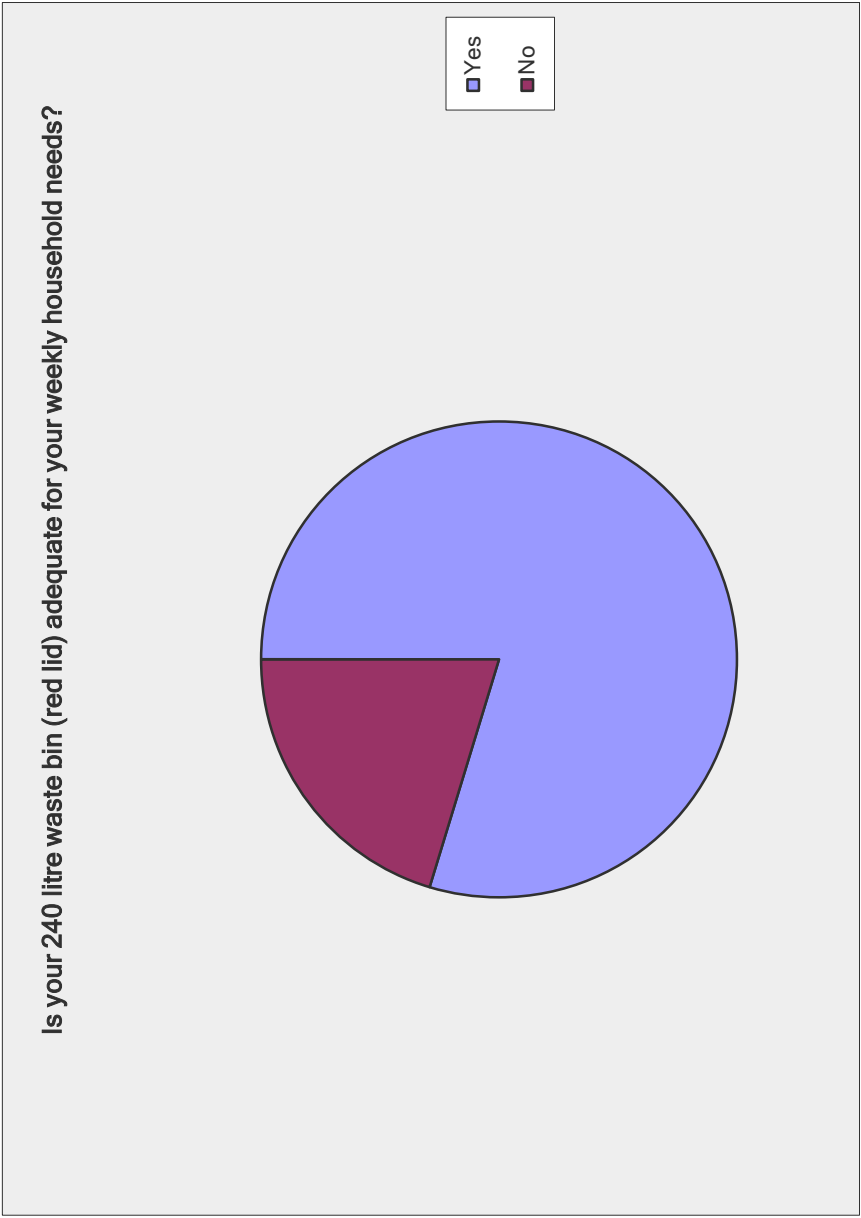
- 1 I don't have it, I have no bins.
- 2 No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior. Poor governance on this.
- 3 [REDACTED] you
- 4 red lid rubbish bins are OK, the recycle bins are [REDACTED]. please read above - essentially they do not take more types of recyclable materials.
- 5 nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can.
- 6 how come in the beginning the recycle bin came at t the same time, but now he comes much much later. This is important as i dont go out and leave bins out as it is a sign to burglars no one is home
- 7 Several times the bin has not been emptied on a Wednesday (bin is always taken down to the roadside the previous evening). When I have contacted the Shire about this on one occasion I was told the officer would contact Avon and then call me back - they didn't bother! The second time I was told that they (the officer) was too busy and to contact Avon myself. This is not acceptable - Avon are the Shire's contractor, not mine. After these 2 incidents there is no point contacting the Shire!
- 8 Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please!
- 9 Glass was broken by Avon waste and left at our gate entrance at our pick up spot
- 10 For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying.
- 11 Same reason as above No.3.
- 12 Was happy taking my own rubbish to tip. Very rarely have a more than one rubbish bag a week.
- 13 People need to be informed by letterbox drops if days are changing due to public holidays.
- 14 I rather go back to how it use to be where i take my own rubbish to the tip as many times as I wish. I live on a bigger then normal property and a lot of rubbish and once every two weeks for recyclable is not enough. my drive way is nearly a kilometre long and I have to load the bins on a trailer, so I might as well go to the tip with it. I tried the tow behind the car gizmo and the wheels and the bins are falling to bits all ready
- 15 They have noisy breaks, I have emailed them personally and it stopped for a while, is intermittently good and bad. Times could be better, as a shift worker I would appreciated during the daytime and not in the morning.. Reports that they were only taking half loads have popped up on facebook as well, i wouldn't know as i do not use them.
- 16 They are generally good but have missed our vin a few times
- 17 Woul like recycle pick up weekly
- 18 I use the landfill and notice that a large amount of recycled material is being dumped on the tip face and the Shire do not care.. Need to staff the landfill and mmitor such wastefull tipping. Also dissatisfied with what happens to glass from the landfill, it is not recycled, just tipped in another era of the tip.
- 19 As per previous comment a collection notice for Christmas/new year would have been good.
- 20 Go back to the way it was. We moved to this area to be self-sufficient and have been for decades. This waste removal is a waste of time, effort and resources.
- 21 To date he waste collection has happened without fail, The recycling has been missed twice. For the record, this question doesn't have a no answer so question 6 makes no sense at all! Presumably question 6 should have referred back to question 5.
- 22 Allow residents the opportunity to recycle without a mandatory pick up

How satisfied are you with the current service collection provided by Avon Waste?



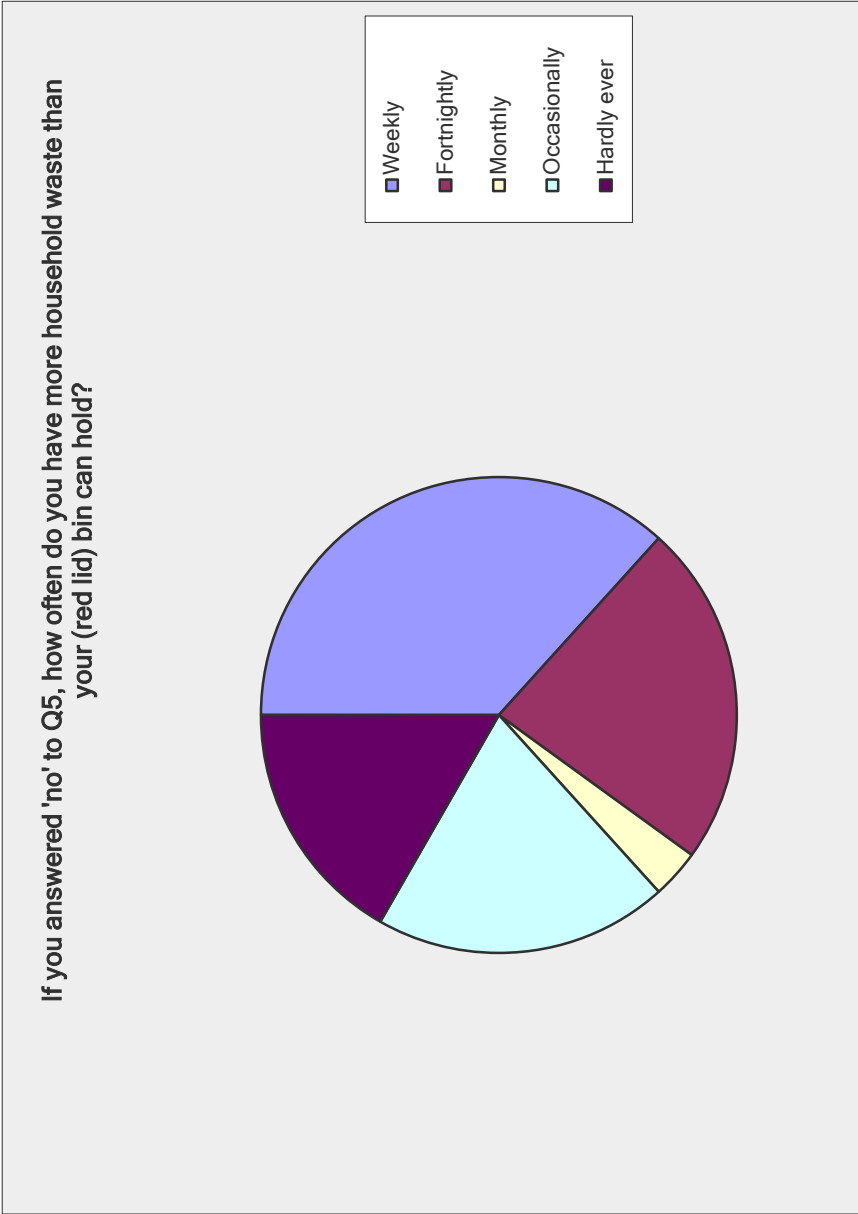
Waste and Recycling Community Survey

| Is your 240 litre waste bin (red lid) adequate for your weekly household needs? | | | |
|---|--|------------------|----------------|
| Answer Options | | Response Percent | Response Count |
| Yes | | 79.7% | 94 |
| No | | 20.3% | 24 |
| answered question | | | 118 |
| skipped question | | | 0 |



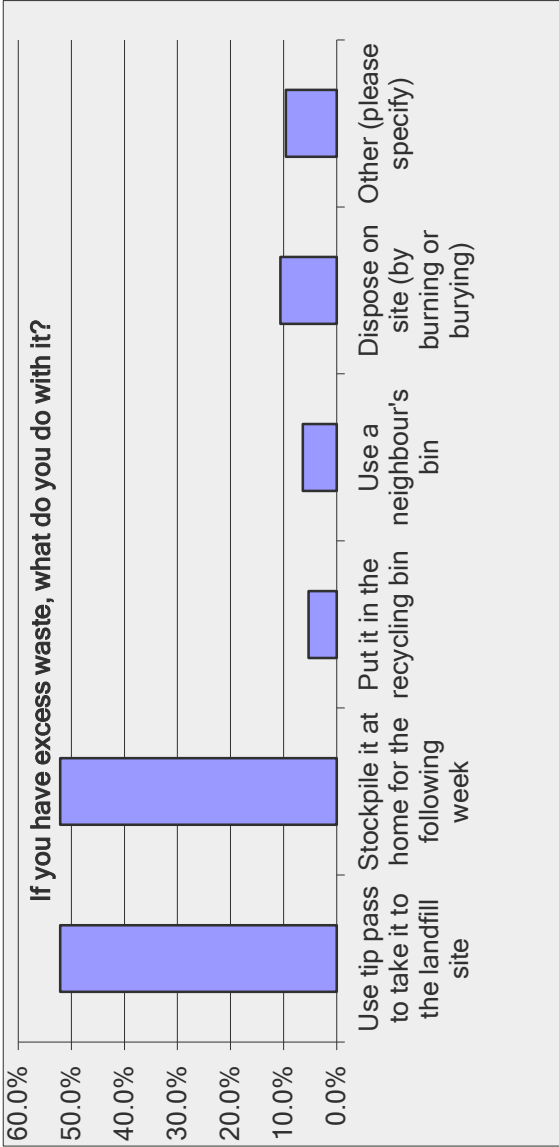
Waste and Recycling Community Survey

| If you answered 'no' to Q5, how often do you have more household waste than your (red lid) bin can hold? | | | |
|--|------------------|--------------------------|----|
| Answer Options | Response Percent | Response Count | |
| Weekly | 36.7% | 11 | |
| Fortnightly | 23.3% | 7 | |
| Monthly | 3.3% | 1 | |
| Occasionally | 20.0% | 6 | |
| Hardly ever | 16.7% | 5 | |
| | | <i>answered question</i> | 88 |
| | | <i>skipped question</i> | 30 |



Waste and Recycling Community Survey

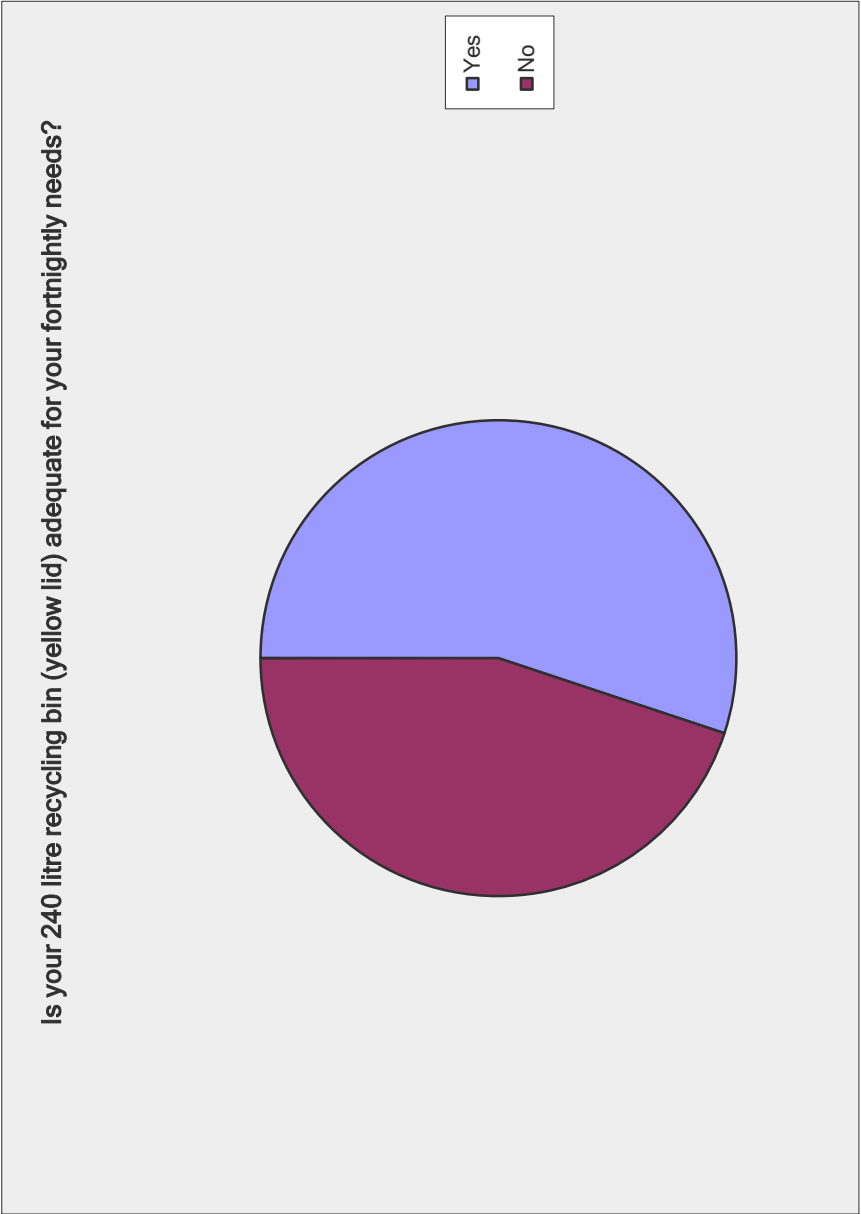
| If you have excess waste, what do you do with it? | | | |
|---|--|--|----------------|
| Answer Options | | Response Percent | Response Count |
| Use tip pass to take it to the landfill site | | 52.1% | 49 |
| Stockpile it at home for the following week | | 52.1% | 49 |
| Put it in the recycling bin | | 5.3% | 5 |
| Use a neighbour's bin | | 6.4% | 6 |
| Dispose on site (by burning or burying) | | 10.6% | 10 |
| Other (please specify) | | 9.6% | 9 |
| | | <i>answered question</i> | 94 |
| | | <i>skipped question</i> | 24 |
| | | <i>or paid up even for green waste - not sol</i> | |



| Number | Other (please specify) | Categories |
|--------|---|------------|
| 1 | I take my waste to the tip. | |
| 2 | No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior. Poor governance on this. | |
| 3 | Now I know we can take recyclables to the tip, I do so. Fire hazards otherwise! | |
| 4 | F g maggots | |
| 5 | nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can. | |
| 6 | No excess waste | |
| 7 | I only use the landfill and do not use this service as i do not have any bins. | |
| 8 | Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please! | |
| 9 | again, see question 9, this question does not have a no answer and question 9 should refer back to question 8 For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying. | |

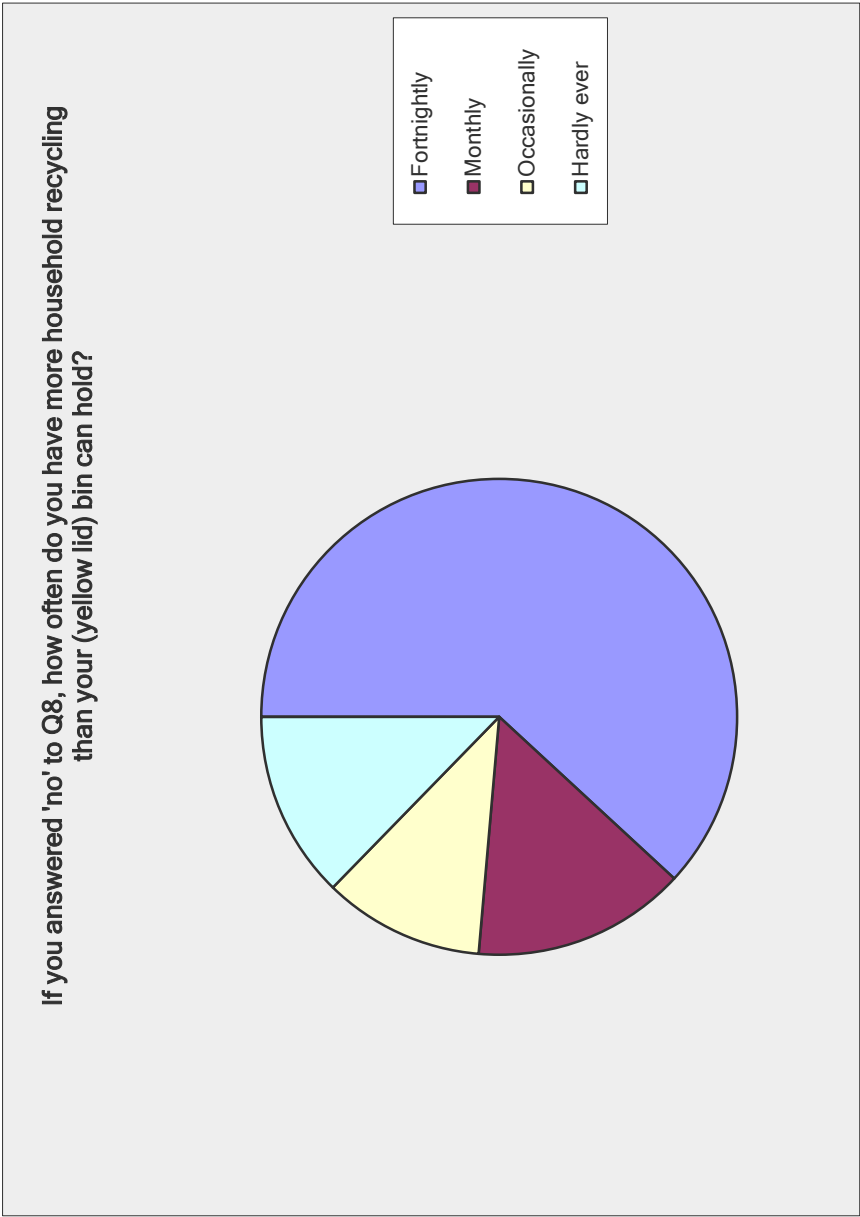
Waste and Recycling Community Survey

| Is your 240 litre recycling bin (yellow lid) adequate for your fortnightly needs? | | | |
|---|------------------|----------------|--|
| Answer Options | Response Percent | Response Count | |
| Yes | 55.1% | 65 | |
| No | 44.9% | 53 | |
| <i>answered question</i> | | 118 | |
| <i>skipped question</i> | | 0 | |



Waste and Recycling Community Survey

| If you answered 'no' to Q8, how often do you have more household recycling than your (yellow lid) bin can hold? | | | |
|---|------------------|----------------|----|
| Answer Options | Response Percent | Response Count | |
| Fortnightly | 61.8% | 34 | |
| Monthly | 14.5% | 8 | |
| Occasionally | 10.9% | 6 | |
| Hardly ever | 12.7% | 7 | |
| answered question | | | 55 |
| skipped question | | | 63 |



Waste and Recycling Community Survey

| If you have excess recyclable materials what do you do with them? | | | |
|---|--|------------------|----------------|
| Answer Options | | Response Percent | Response Count |
| Use your tip pass to take it to the landfill site | | 30.8% | 33 |
| Stockpile it at home for the following fortnight | | 65.4% | 70 |
| Put it in the waste bin | | 21.5% | 23 |
| Use a neighbour's bin | | 7.5% | 8 |
| Dispose on site (by burning or burying) | | 5.6% | 6 |
| Other (please specify) | | 8.4% | 9 |
| <i>answered question</i> | | 107 | |
| <i>skipped question</i> | | 11 | |
| <i>or paid up even for green waste - not sol</i> | | | |

| Number | Other (please specify) | Categories |
|--------|------------------------|------------|
|--------|------------------------|------------|

- 1

Take all my rubbish to the tip, bag bottles, plastic containers separately and dispose to the tip as I have always done.
- 2

No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior.

Poor governance on this.
- 3

Are they really recycled ?
- 4

I only use the landfill and do not use this service as i do not have any bins.
- 5

nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can.
- 6

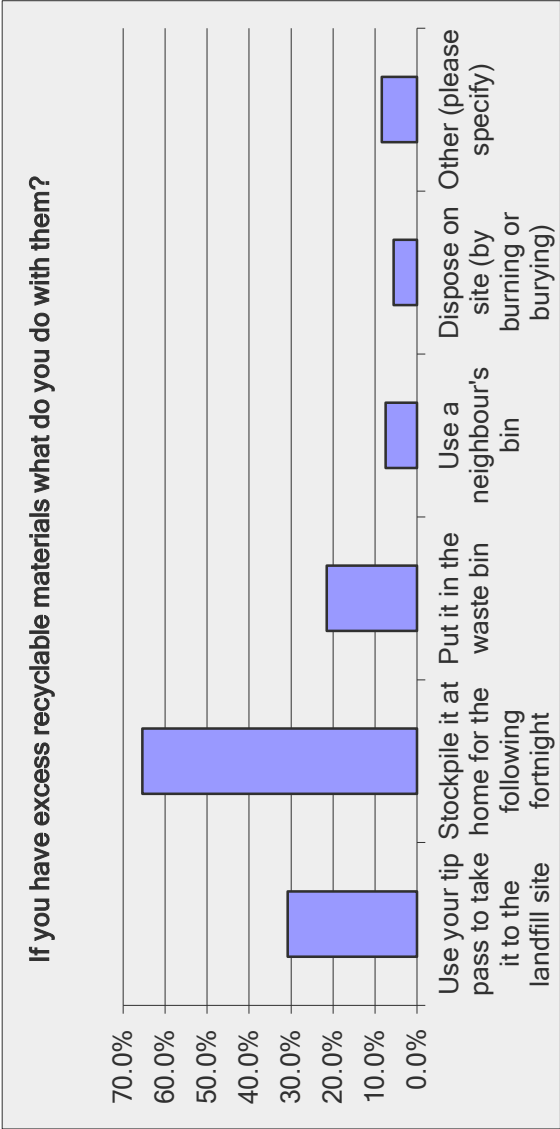
. ????
- 7

Upcycle, trade, sell
- 8

Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please!
- 9

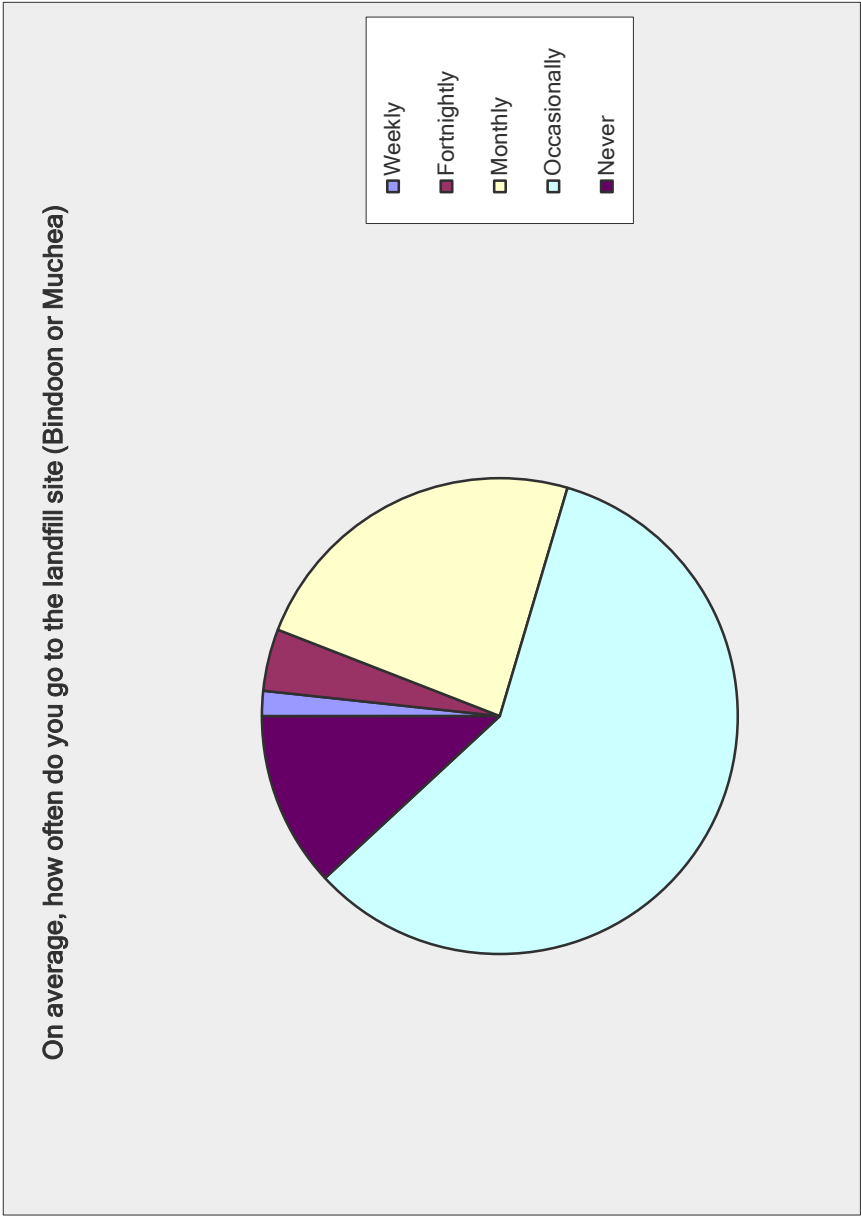
We do stockpile, but every now and then it's necessary to take it to the tip

For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying.



Waste and Recycling Community Survey

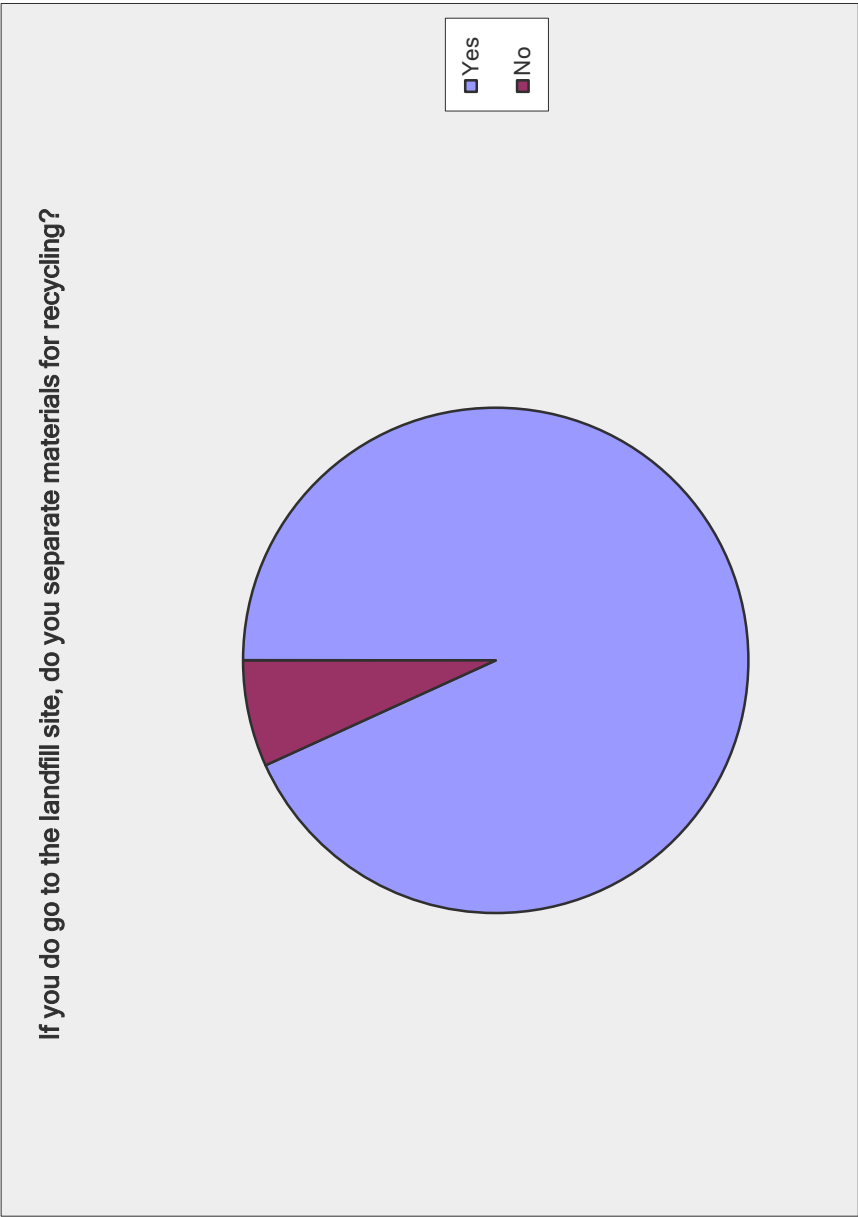
| On average, how often do you go to the landfill site (Bindoon or Muchea) | | | |
|--|------------------|--------------------------|------------|
| Answer Options | Response Percent | Response Count | |
| Weekly | 1.7% | 2 | |
| Fortnightly | 4.2% | 5 | |
| Monthly | 23.7% | 28 | |
| Occasionally | 58.5% | 69 | |
| Never | 11.9% | 14 | |
| | | <i>answered question</i> | 118 |
| | | <i>skipped question</i> | 0 |



Waste and Recycling Community Survey

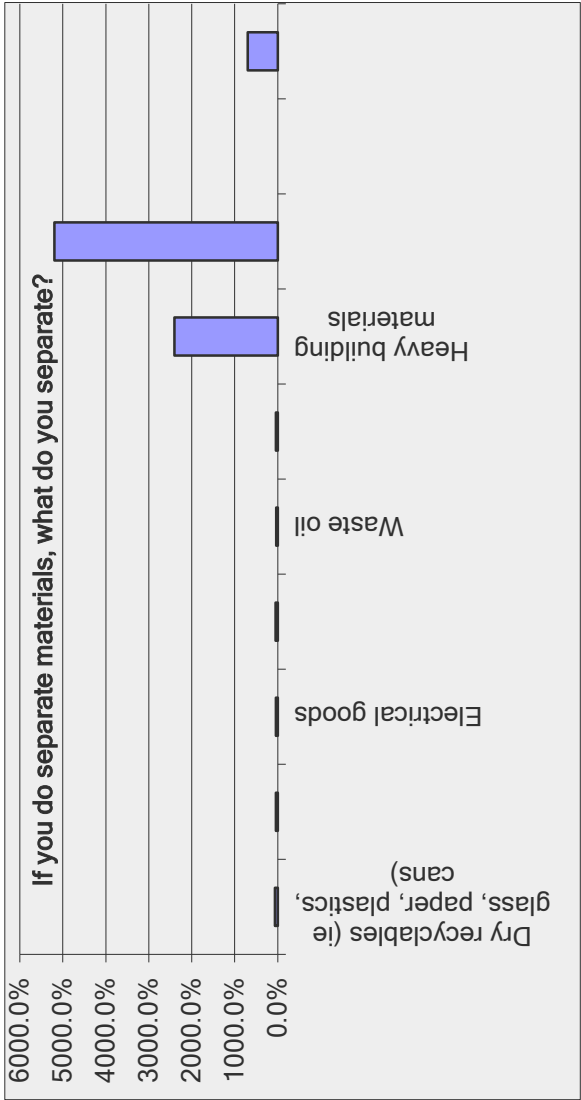
| If you do go to the landfill site, do you separate materials for recycling? | | | |
|---|------------------|--------------------------|-----|
| Answer Options | Response Percent | Response Count | |
| Yes | 93.2% | 96 | |
| No | 6.8% | 7 | |
| If no, please comment | | 4 | |
| | | <i>answered question</i> | 103 |
| | | <i>skipped question</i> | 15 |

| Number | If no, please comment | Categories |
|--------|--|------------|
| 1 | Notification of what/when we can go to our local tip is inadequate I only recently was informed that excess recyclables are welcome at the tip at no cost. I thought we either had ltd passes, even for recyclables, or paid up even for green waste - not so! | |
| 2 | When I go to the tip I'm disposing of excessive accumulated mixed waste. I'm not getting paid to segregate waste. | |
| 3 | Would only go to landfill site to dispose of large items that cant be binned. | |
| 4 | It depends what it is. General household waste doesn't seem to make a difference if you separate or not. | |



Waste and Recycling Community Survey

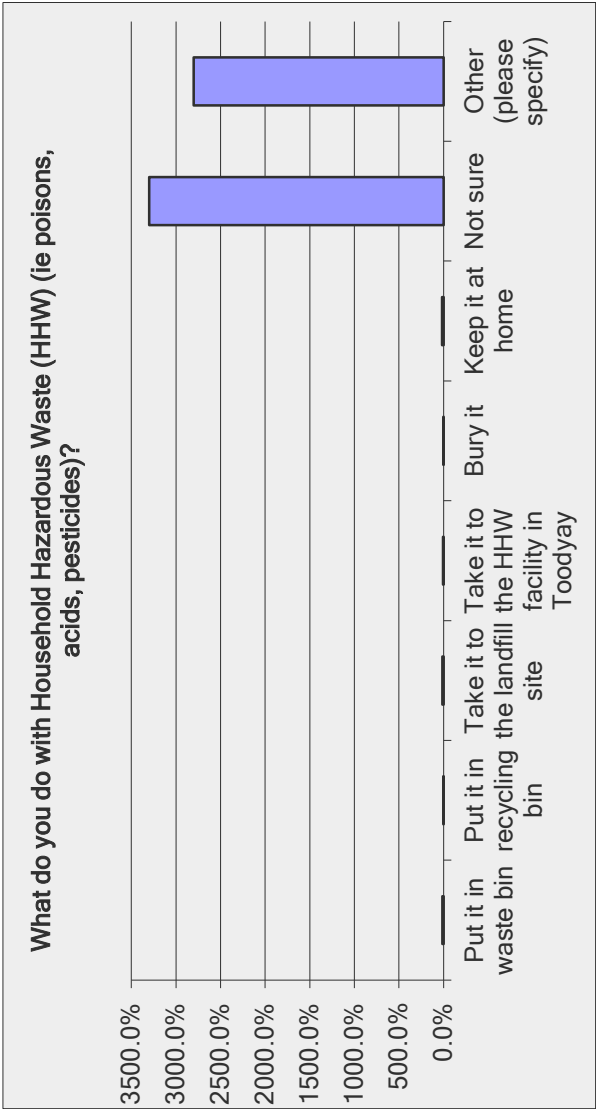
| If you do separate materials, what do you separate? | | | |
|---|---|--------------------------|----------------|
| Answer Options | | Response Percent | Response Count |
| Dry recyclables (ie glass, paper, plastics, cans) | | 67.0% | 65 |
| Whitegoods | | 45.4% | 44 |
| Electrical goods | | 42.3% | 41 |
| Greenwaste | | 52.6% | 51 |
| Waste oil | | 30.9% | 30 |
| Batteries | | 42.3% | 41 |
| Heavy Metal | 24.7% | 24 | |
| Other | ily recently was informed that excess recyclables are welcome at the ti or paid up even for green waste - not so! | 52 | |
| | 7.2% | 7 | |
| | | <i>answered question</i> | 97 |
| | | <i>skipped question</i> | 21 |



| Number | Other (please specify) | Categories |
|--------|---|------------|
| 1 | metail - not often | |
| 2 | nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can. | |
| 3 | as above | |
| 4 | Household goods,clothing, these we take to the recycle shed | |
| 5 | Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please! | |
| 6 | CARDBOARD | |
| 7 | For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying. | |

Waste and Recycling Community Survey

| What do you do with Household Hazardous Waste (HHW) (ie poisons, acids, pesticides)? | | | |
|--|------------------|--------------------------|-----|
| Answer Options | Response Percent | Response Count | |
| Put it in waste bin | 14.3% | 15 | |
| Put it in recycling bin | 1.0% | 1 | |
| Take it to the landfill site | 11.4% | 12 | |
| Take it to the HHW facility in Toodyay | 6.7% | 7 | |
| Bury it | 1.9% | 2 | |
| Keep it at home | 18.1% | 19 | |
| Not sure | 33 | | |
| Other | 28 | | |
| | | 31.4% | |
| | | <i>answered question</i> | 105 |
| | | <i>skipped question</i> | 13 |

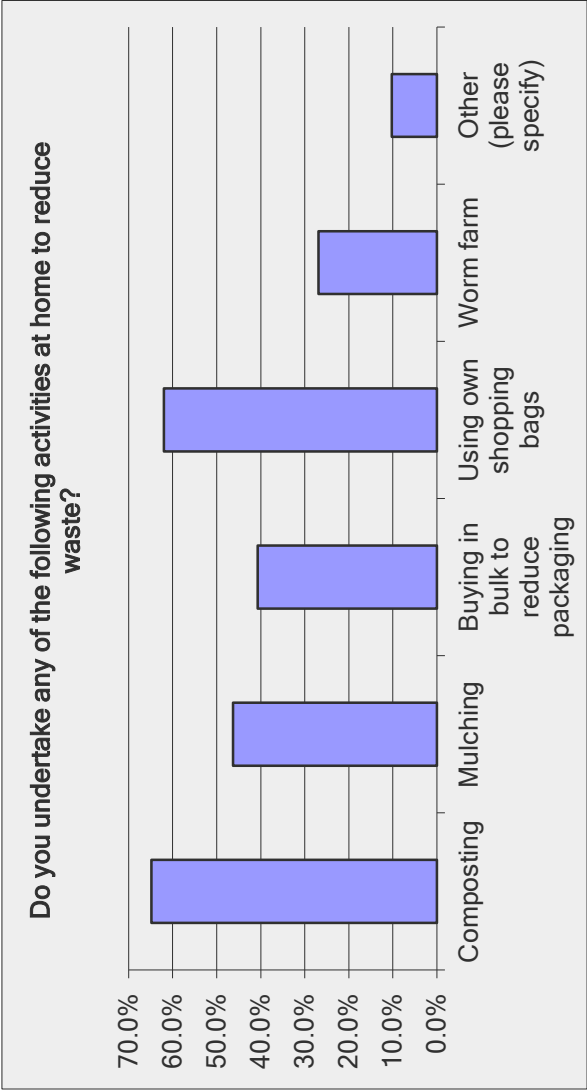


- 1 Not applicable as we have no poisons acids or pesticides for disposal.
- 2 Use all of the HHW and put container in waste bin.
- 3 nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can.
- 4 none
- 5 Do not have any HHW
- 6 Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please!
- 7 do not use EVER so have no need to dispose of this kind of stuff.
- 8 For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying.
- 9 Don't have any
- 10 don't have any
- 11 leave it beside the Bin at Kerbside
- 12 I rather go back to how it use to be where i take my own rubbish to the tip as many times as I wish. I live on a bigger then normal property and a lot of rubbish and once every two weeks for recyclable is not enough. my drive way is nearly a kilometre long and I have to load the bins on a trailer, so I might as well go to the tip with it. I tried the tow behind the car gizmo and the wheels and the bins are falling to bits all ready
- 13 Take it to tip where they separate for sending to HHW facility
- 14 Don't use these chemicals.
- 15 Not something I have here
- 16 I use the landfill and notice that a large amount of recycled material is being dumped on the tip face and the Shire do not care.. Need to staff the landfill and mmitor such wastefull tipping. Also dissatisfied with what happens to glass from the landfill, it is not recycled, just tipped in another era of the tip.
- 17 Not applicable
- 18 Go back to the way it was. We moved to this area to be self-sufficient and have been for decades. This waste removal is a waste of time, effort and resources.
- 19 Would like to know how to dispose of it correctly.
- 20 Allow residents the opportunity to recycle without a mandatory pick up
- 21 Use a commercial waste company in Perth
- 22 Not had any to dispose of yet.
- 23 try not to use acids, poisons etc.
- 24 Dont have any as yet
- 25 Use it
- 26 Use it for its intended purpose then dispose of container accordingly
- 27 I do not have or need to dispose of any of these types of materials
- 28 Dont have any

Waste and Recycling Community Survey

| Do you undertake any of the following activities at home to reduce waste? | | | |
|---|------------------|--|-----|
| Answer Options | Response Percent | Response Count | |
| Composting | 64.8% | 70 | |
| Mulching | 46.3% | 50 | |
| Buying in bulk to reduce packaging | 40.7% | 44 | |
| Using own shopping bags | 62.0% | 67 | |
| Worm farm | 26.9% | 29 | |
| Other (please specify) | 10.2% | 11 | |
| | | <i>answered question</i> | 108 |
| | | <i>skipped question</i> | 10 |
| | | <i>or paid up even for green waste - not so!</i> | |

| Number | Other (please specify) | Categories |
|--------|---|------------|
| 1 | When in season burn rubbish. | |
| 2 | No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior. Poor governance on this. | |
| 3 | Use paper bags for fruit and veg. Bye minimal packaged and processed food- cook most meals from scratch | |
| 4 | Chickens | |
| 5 | nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can. | |
| 6 | burning green waste during winter | |
| 7 | chooks | |
| 8 | Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please! | |
| 9 | Chickens | |
| 10 | For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas.We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying. | |
| 11 | Feed scapes to chooks | |



Waste and Recycling Community Survey

| Do you have any other comments or suggestions regarding waste and recycling in the Shire of Chittering? | | |
|---|--------------------------|----------------|
| Answer Options | | Response Count |
| | | 51 |
| | <i>answered question</i> | 51 |
| | <i>skipped question</i> | 67 |

| Number | Response Date | Response Text | Categories |
|--------|---|--|------------|
| 1 | Yes - there is no adequate room to put my garbage bin except in the driveway. (Which is very inconvenient and washes away) | Address: 196 Ridgetop Ramble. Please note: My driveway has washed away again due to recent rainstorms. This is due to roadworks done last year and lot of debris washing down the ditch and clogging up the drainage pipe. Note: I have complained and filled in forms about 9 months ago. | |
| 2 | \$310 compulsory unfair to low volume waste producers - penalized to foot the bill for high volume waste producers - use less - pay more. Support user pay system where the high volume waste producers pay the cost of the volume they produce provide incentive to change consumer / purchasing / waste behavior. Charge is a revenue raiser - unfair to be obliged to pay a service don't use. Speed cameras also considered revenue raiser though at least the one being infringed makes the choice of incurring the charge as a result of their behavior. Low volume waste producers would like this choice rather than be obliged regardless of their behavior. | | |
| 3 | Notification of what/when we can go to our local tip is inadequate I only recently was informed that excess recyclables are welcome at the tip at no cost. I thought we either had ltd passes, even for recyclables, or paid up even for green waste - not so! | | |
| 4 | If I'm paying for the service, I will use it. | | |
| 5 | Weekly collection of recyclable materials. | | |
| 6 | Simply better information on WHAT the tips are able to accept from residents without cost/clipping of tip passes via newspaper (local) initially then by next rate notice info pack. | | |
| 7 | No, never received any information as to the Shires intention to make this compulsory until they actually instigated it. So no, not happy at all with the service. Also never received information about it prior. Poor governance on this. | | |
| 8 | F■■■■s | | |
| 9 | I would like to see the pick up opposite recycling weekly and waste fortnightly | | |
| 10 | nearly all our rubbish is recycling. The yellow bin is either too small or needs a weekly collection. We are having to put recycling in general waste, which goes against the whole concept. Only option is tip pass. If I pay for collection, it is unreasonable to expect me to take own rubbish also. A lot of people feed chickens, or other animals food waste and compost rest, but cannot do that with plastics, glass, tins etc. I have to stockpile waste and burn when can. | | |
| 11 | Recycling bin at the local Bindoon postoffice for all the unwanted junk mail going directly in the red bin supplied. As a busy business we still have to pay a private contractor for our cardboard and I often see cardboard from town businesses going to Bindoon landfill and put on the landfill site not recycling. | | |
| 12 | we need a recycle service that takes more types of recyclable material. soft plastics like plastic bags etc. a lot more stuff could and should be going into the yellow lid rubbish bins. avon waste are too expensive for the service they offer. | | |
| 13 | Shire could be doing so much more with regard to recycling. However the multitude of tip fees are very off putting. Also there is so much discrepancy regarding whether you will or not be charged at the tip. For exactly the same type of items sometimes you will be charged and sometimes you won't. The payment for waste is far to complex - there is the roadside charge, the tip levy and then separate charges when you visit the tip. Reduce the complexity please! | | |
| 14 | 1. You forced this upon us, we had a service which you stopped , usual shire interference!2. Where is our bulk kerbside collection, you are now charging extortionate rip off rates so you can have luxury salaries and waste our money | | |
| 15 | For the fee we are paying each year there should be an annual free bulk rubbish collection offered similar to suburban areas. We have to pay tip fees to get rid of bulk rubbish and this is on top of the fees we are already paying. | | |
| 16 | The Shire needs to rationalise its waste and recycling fees and charges. Having 3 layers of fees and charges is just red tape. Cut the red tape and cut the costs. With less waste going to the tip the tip fees should be reduced, there should be enough data to analyse to confirm this by now. Also the opening times are very customer unfriendly - 5 hours in the middle of the day is ridiculous. How about considering early morning and later afternoon opening times, after all most people are at work during 10 - 3! There is the opportunity for the Shire to appease rate payers at this time but you don't appear to want to. | | |
| 17 | Kerbside collections as in metro areas would be very welcome!Recycling could be collected weekly. Recycling should be encouraged. | | |
| 18 | reduce waste, recycle and reuse when possible | | |
| 19 | I rather go back to how it use to be where I take my own rubbish to the tip as many times as I wish. I live on a bigger then normal property and a lot of rubbish and once every two weeks for recyclable is not enough. my drive way is nearly a kilometre long and I have to load the bins on a trailer, so I might as well go to the tip with it. I tried the tow behind the car gizmo and the wheels and the bins are falling to bits all ready | | |
| 20 | We are very happy with the bin collection service, the only thing I would suggest is better wheels on the bins as walking them up & down our long driveway causes alot of wear & tear. | | |
| 21 | Switch the general waste to fortnightly and the recycling to weekly to force-encourage people to change their waste practices because most waste is recyclable. | | |
| 22 | Don't charge for bin pickup as well as landfill levy!Also don't charge landfill levy for properties with no buildings on them | | |
| 23 | I use the landfill and notice that a large amount of recycled material is being dumped on the tip face and the Shire do not care.. Need to staff the landfill and mmitor such wastefull tipping. Also dissatisfied with what happens to glass from the landfill, it is not recycled, just tipped in another era of the tip. | | |

24 We are appalled at the Shires efforts to try and make Chittering into a "little Perth City". We came here for the country environment and now we have rubbish pick up and I am told we are going to TOTALLY stuff up Bindoon with TRAFFIC and Parking control!!! Leave it as is and do up the nature strip and like ANY country town have wide casual street which is shared by cars, people and billy goats.
We DO NOT WANT TO BE "LITTLE PERTH"!!!!!!!

25 Go back to the way it was. We moved to this area to be self-sufficient and have been for decades.

26 This waste removal is a waste of time, effort and resources.

27 Allow residents the opportunity to recycle without a mandatory pick up

28 Many of us purchased green bins (240L identical to those supplied except for lid colour) prior to waste service commencing for storing and transporting to landfill. It would be good if we could use these bins for kerbside pickup where garbage has been stockpiled (ie fill second bin while first is full but only put one out at a time for collection). I can still see many residents in our estate with these bins sitting around.

29 would love it to go back to how it use to be. how much dos it cost the shire now compare to how it use to be

30 We need a Curb side Junk Collection twice a year!

31 If given a tip pass there should be additional cost.

32 I do not use this service, never have, never received bins but am charged for it.. Looking ahead is the Shire going to take this on themselves? Creating jobs here instead of using a non-local vendor..What is the plan moving forward? Should be done as owner operator, will be cheaper.

33 I would hope the knockers now appreciate this convenient service.

34 This is an enquiry email via Avon Waste from: [REDACTED] Subject:Many thanks!!Message:Great service!!Please pass on my thanks to the driver[] who collected the recycled bins on Limousin Way (Lower Chittering) this morning... if he is late on his round it is because he stopped to collect the rubbish from the bins that had blown over in these gusty winds we've had today. All the best for 2016! Regards, Brad.[]

35 Recycling pick up weekly

36 Listen to your residents

37 Allow locals to take more than 2 wheels bins at a time to tip. For us it is easier to stockpile garden waste and other non household waste and take trailer small truck load at a time but it costs us to use our own tip to dump there. Through a commercial arament with a company in Perth they will take all of my excess much cheaper than what it cost to dump locally

38 unfortunately because of the winds i am currently seeing bins that have either been blown over or lids up witch as you can imagine makes for one bad mess, is there something we can do to help keep bins in the upright position?

39 Once upon a time the tip was open 7 days a week - now only 3 ??One more day would be appreciated.

40 it is very hard using and moving bins when ones drive way is a kilometer long.

41 Collection of recycle bin should be weekly for month following Christmas due to peak period for family gatherings and gift packaging that fill bin quickly

42 Possibly supply skip bins like some shires do in Perth in leu of verge collection.

43 Bulk rubbish collection

44 Would love yellow bin recycling to be weekly

45 Household verge collection be great

46 Happy with the service, also happy with the information the shire provides regarding any disruption to normal collection days (ie over Christmas)

47 Encourage residents to compost food scraps rather than putting it into the bins.

48 Roadside collection for large items as the tip wants to charge us for them, end up burning at home. (Mattress, lounge etc)

49 I think the current system is very fair and convenient.

50 Please check your survey and fix the question errors

51 Maybe a green waste bin - for leaves & branches etc

LOCALITY PLAN
LOT 6 BRAND HIGHWAY, MUCHEA



17 December 2015

Our Ref: LAM BRD DA



Town Planners, Advocates
and Subdivision Designers

ABN 24 044 036 646

Chief Executive Officer
Shire of Chittering
PO Box 70
BINDOON WA 6502

Attn: Brendan Jeans, Senior Planning Officer

Dear Brendan,

**RE: PLANNING APPLICATION FOR RETROSPECTIVE WORKS AND 'TRANSPORT DEPOT'
USE AND PROSPECTIVE WORKS AT LOT 6 (290) BRAND HIGHWAY, MUCHEA**

We act on behalf of Lampson (Australia) Pty Ltd, the register proprietor of Lot 6 (290) Brand Highway, Muchea (subject site). Enclosed is a retrospective planning application for works and a 'Transport Depot' use and prospective works at the subject site.

Please find attached a planning report which includes the following:

- A completed and signed application form;
- A copy of the certificate of title;
- Copies of the proposed site plan and associated elevations for existing buildings; and
- Copies of the accompanying management plans and information associated with the operation.

Please note that Lampson have appointed an engineering consultant to undertake a Stormwater Drainage and Catchment Plan and Report. This information will be made available shortly and thereafter provided to the Shire for its consideration as part of its assessment of the planning application.

The development fee has been calculated based upon both the retrospective and prospective aspects of the planning application. The fee has been calculated as follows:

| | Value: | Application Fee: |
|--|----------------------|-------------------------|
| Retrospective works undertaken by Lampson: | Dome shade: \$14,000 | \$147 x 3 |
| Prospective works: | Hardstand: \$5,000 | \$147 |
| Total: | | \$588.00 |

With respect to the planning application fee totalling \$588.00, we understand that the Shire is able to process phone credit card payments. Please contact the following person for electronic payment upon receipt of the application:

- Terrence Chisholm – Managing Director Lampson (Australia) Pty Ltd:
 - [REDACTED]
 - [REDACTED]

We respectfully seek Council's favourable support for this proposal and look forward to hearing from you regarding the progress of this application

Should you have any queries or require any further information in the meantime, please do not hesitate to contact our office on [REDACTED].

Yours sincerely

ALLERDING AND ASSOCIATES



TOM HOCKLEY
ASSOCIATE

cc. Client (via email)

APPLICATION FOR PLANNING APPROVAL

RETROSPECTIVE TRANSPORT DEPOT

LOT 6 (NO. 290) BRAND HIGHWAY,
MUCHEA

SHIRE OF CHITTEING

Prepared for: Lampson (Australia) Pty Ltd & Megalift Pty Ltd
Prepared by: Allerding and Associates

DECEMBER 2015

Allerding
& Associates

Town Planners, Advocates
and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 F: (08) 9382 3005 I: w.allerdingassoc.com

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1.0 EXECUTIVE SUMMARY

We act on behalf of Lampson (Australia) Pty Ltd (**Lampson**), the landowners of Lot 6 (No. 290) Brand Highway, Muchea (**subject site**). This report has been prepared in support of a retrospective application for planning approval to allow the continued operation of 'Transport Depot' land use associated with the Lampson operations. The report has also been prepared in support of an extension to the hardstand area to provide an opportunity for overflow storage to the south of the existing Lampson site. Lampson currently occupy only a small (approximately 3ha) portion of the overall 39ha site area. The potential future expansion area of approximately 1ha will result in an overall site area of approximately 4ha. Refer to the Location Plan included at **Figure 1** showing the location of the Lampson operation at the subject site. The portion of the subject site that Lampson currently occupies is referred to within this report as the 'development area'.

The development works the retrospective application seeks to rectify are associated with storage sheds and other related structures which are understood to have been removed as a result of a fire at the subject site in 2012, but which have now been re-erected by the previous landowner.

The subject site is already used by Lampson as the Perth based division of its Australia wide operations. The key elements of the operation include the storage and distribution of crane elements as well as rigging and jacking equipment. The equipment is sent out to site, assembled, then dismantled prior to being returned to site where the components are stored in pieces ready to be assigned to the next project. Some assembly of equipment on-site will be required to undertake periodic safety inspections and maintenance or for handling the components for loading or storage purposes. However, any assembly, maintenance and repair work occurring at the site forms only a subsidiary element to the Transport Depot operations.

Lampson seeks the Shire's support for the above operations under Clause 8.4.1 of the Shire of Chittering Town Planning Scheme No. 6 (**TPS6**).

Specifically, approval is sought for the following retrospective development:

1. Construction of two storage sheds which are understood to have been constructed in the exact location as those previous buildings damaged by fire;
2. Construction of a dome shade storage area in proximity to the southern boundary of the development area;
3. Construction of the office building and staff amenities block; and
4. Construction of associated water storage tanks within the property.

Planning approval is also sought under Clause 8.1 of TPS6 for a small extension to the south of the existing development area to facilitate additional storage if required by Lampson in the future. The extension area would be constructed to the same standard as the existing hardstand within the development area. The extension area would be appropriately graded to ensure that surface flows are directed to the existing drainage network within the development area which has been found to have sufficient capacity to accommodate predevelopment flows having regard to the additional drainage the extension will create.

In the circumstances of this case, where the Shire has already previously considered and approved another 'Transport Depot' operation of a significantly larger scale at the subject site, the development works and land use the subject of this application represent a form which is of a lesser scale in terms of development footprint, numbers of staff and traffic generation. The previous 'Transport Depot' proposal also sought to occupy a large portion of the cleared paddock area, while retaining the former hay bailing operation in the north-west corner of the subject site.

In this case, Lampson seeks to occupy the existing hardstand in the north-west corner of the subject site ('development area') which is understood to have previously operated for the purposes of other light and rural industries including black granite works and hay bailing. Lampson also seeks approval for a minor (approximately 1ha) extension to the hardstand area to the south to allow for overflow storage of large inert components such as boom sections and similar steelwork. Such storage would have a low impact on the surrounding landscaping being low profile in nature and stored horizontally in rows similar to that which presently exists at the site to the east of the large shed.

Accordingly, it is our view that the proposal is both capable and appropriate for approval in this location and we respectfully request the Shire grant approval on that basis.

A copy of the Shire of Chittering's Form 7 – Form of Application for Planning Approval is included as **Annexure 1** of this report.

2.0 INTRODUCTION

2.1 Background

The Shire's records indicate that industrial operations involving black granite works were operational from before 1988 to around 2000 when the land use changed to hay bailing operations. The historic Shire records provided to us by Lampson indicate that the black granite works included a number of structures at the site, however the type of structures and their location is unknown. We understand that the hay bailing operations continued to around 2012 when a fire destroyed a significant number of buildings on site. These previous activities are understood to have operated from the development area that Lampson currently occupies.

Based on a review of the aerial photography of the development area for the period between 2009 and 2015, it is apparent that the development at the site occupied a significantly greater footprint to that which presently exists. The historic aerial photographs are included at **Annexure 2**. A number of larger buildings were removed as a result of fire damage and based on discussions with Shire staff, the two main storage sheds which have been constructed in the development area were rebuilt by the previous owner following the fire. The Shire has no record of building permits being issued for the current buildings or those that existed at the site prior to the fire.

2.2 Location

The site is located approximately 800m north of the centre of Muchea and approximately 44km north-west of the Perth CBD.

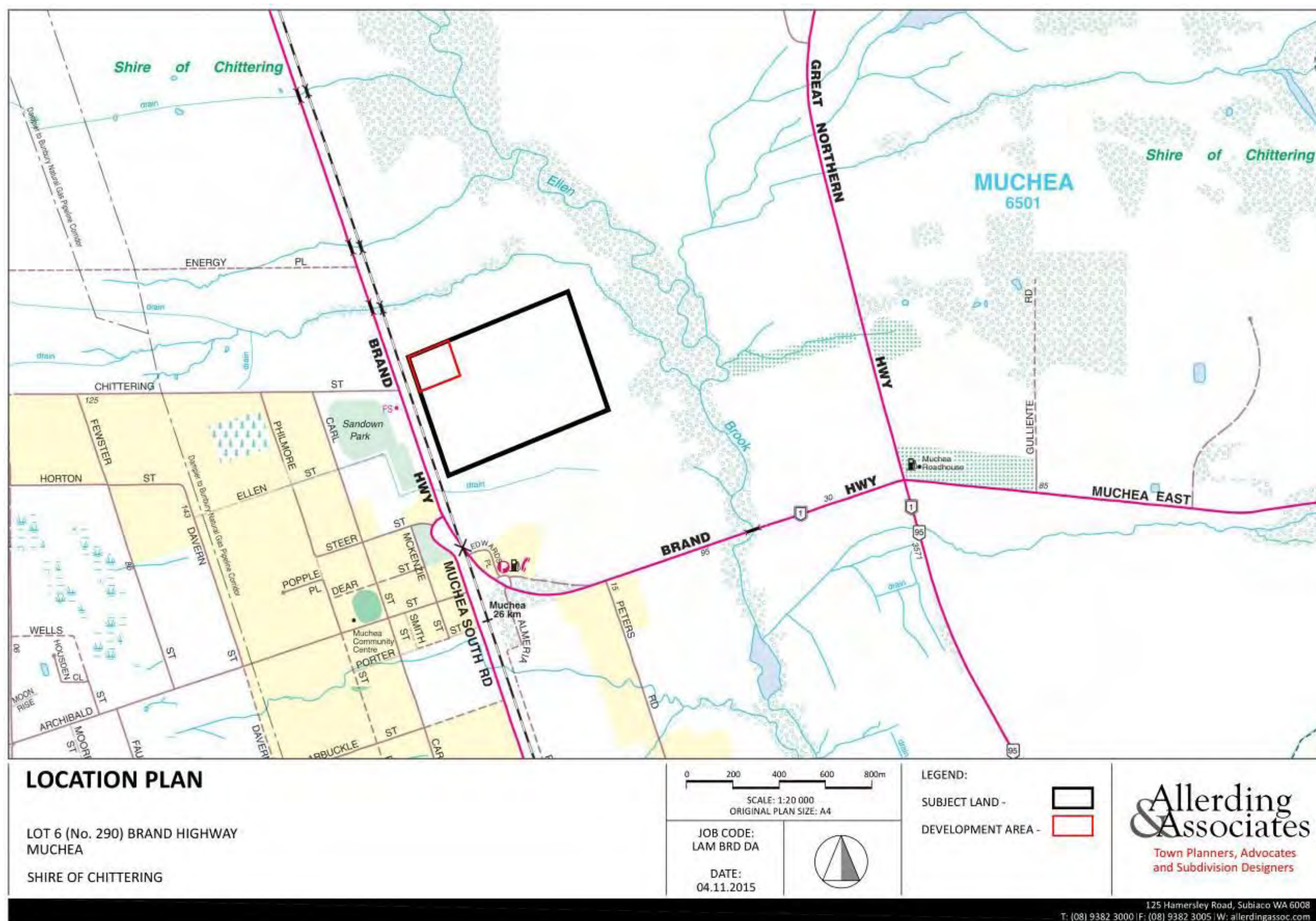


Figure 1 – Location Plan

As depicted in the Location Plan at refer **Figure 1** the subject site is located east of Brand Highway and is bound to the north and south by rural properties. The subject site is bound to the east by Ellen Brook.

Vehicle access to the development area is provided by Brand Highway to the west via an unsealed access road. The access road crosses a Public Transport Authority (PTA) owned railway line which runs in a north to south orientation along the western boundary of the subject site. Refer to **Figure 2** for a photograph of the existing railway line crossing.

2.3 Site Details

As outlined in the Site Plan (included at **Figure 3**), the subject site has a total area of 39.131ha.

The lot is held in freehold and is described on the respective Certificate of Title as Lot 6 on Plan 13866, Volume 1651, Folio 436.

The Certificate of Title is included as **Annexure 3**.

2.4 Servicing

The following summarises the intended servicing arrangements for the Site.

2.4.1 Water Supply

The subject site is not connected to a reticulated water supply and relies on rainwater tanks fed from water captured on the roofs of sheds. There are currently three rainwater tanks connected directly to each of the two sheds and the office building which provide an adequate supply of potable water for the business operations. Two large fire tanks located to the west of the smaller shed are connected to the fire fighting equipment on site and are maintained with an adequate level of water for fire fighting purposes at all times.

2.4.2 Waste Management

Based on a review of the historic Shire records supplied by Lampson, the subject site is serviced by septic tanks. A review of the dial before you dig system returned no records of reticulated sewer in the vicinity of the subject site.

2.4.3 Power Supply

The development area is connected to mains power which is of a sufficient capacity to service the operations. The connection is via a high voltage power line supplied from the main distribution line to the western side of Brand Highway.

2.4.4 Telecommunications

The development area has telephone and broadband internet connections available.

2.4.5 Gas

The subject site is not serviced by a gas network.

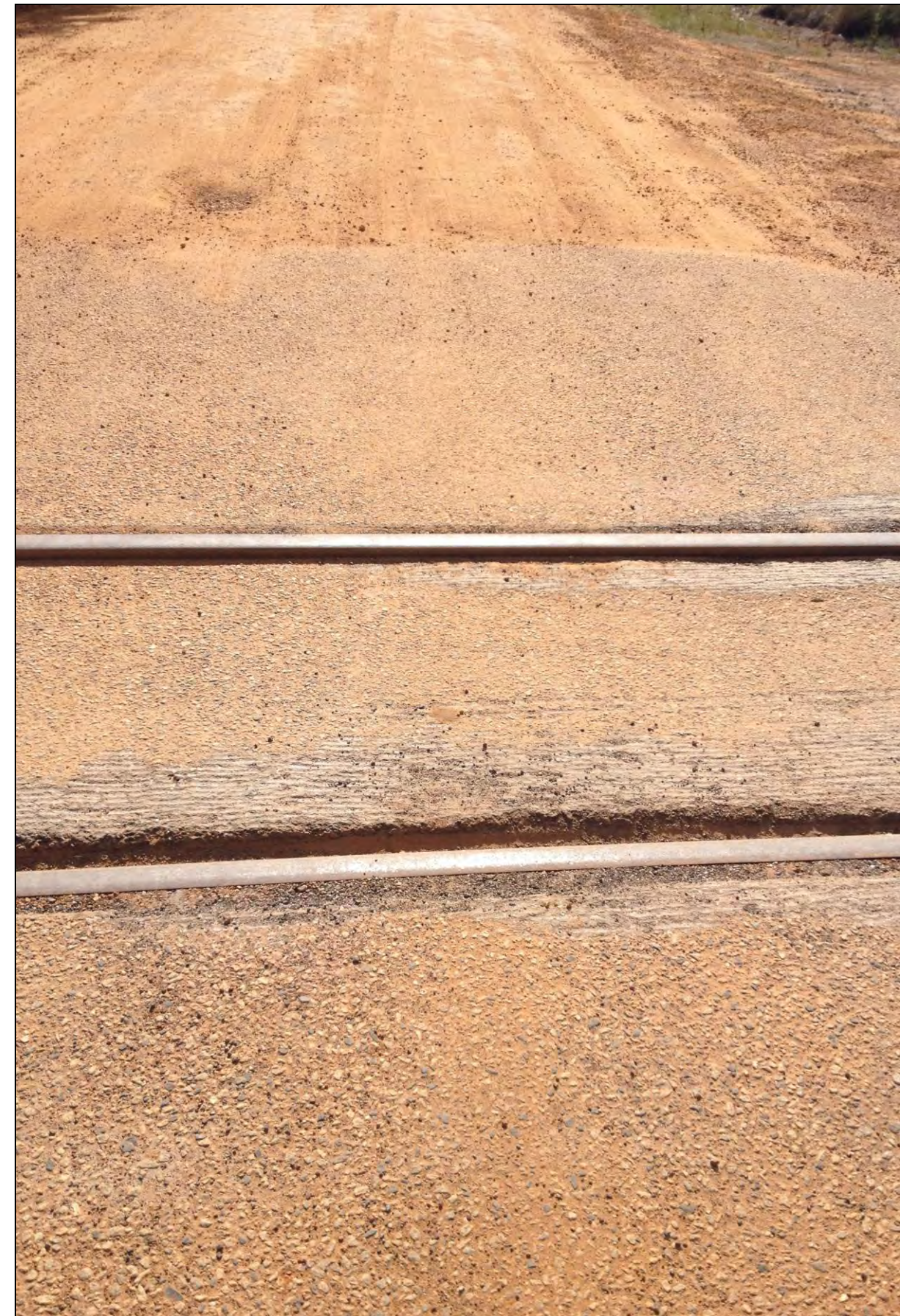


Figure 2 – Existing Railway Crossing

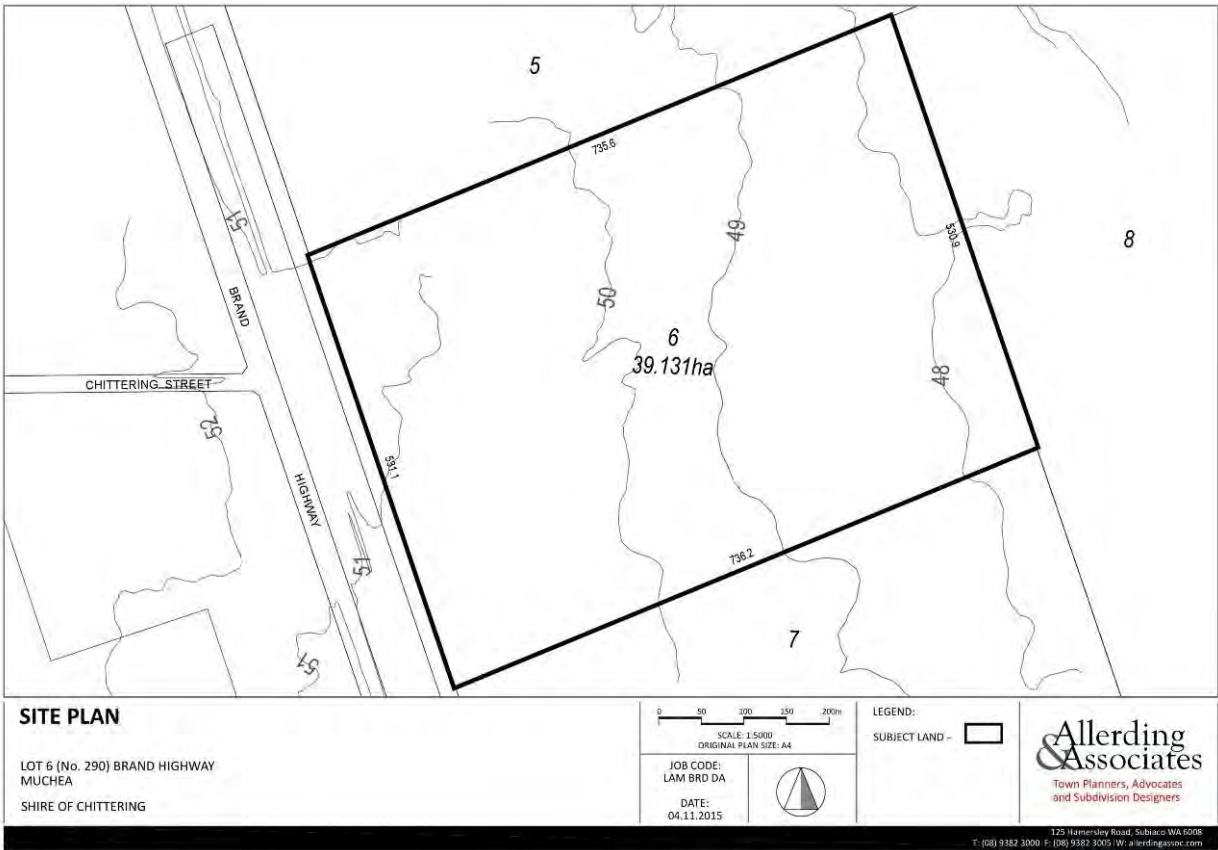


Figure 3 – Site Plan

2.4.6 Movement Network

The entrance to the development area is via Brand Highway to the west. Brand Highway provides direct and convenient access to regional centres to the north and the Perth CBD and locations to the south.

3.0 ABOUT LAMPSON (AUSTRALIA) PTY LTD

Lampson (Australia) Pty Ltd is a supplier of Lifting and Transport equipment and related services. Nationally Lampson has operated since 1991 with their initial clients being from the petrochemical industry including BP, Shell, Ampol and Caltex. 24 years later Lampson services have been extended to include mining, civil, defence, oil, gas and other general industry.

Among the general supply of cranes and transport Lampson also specialises in Heavy Lift and Transport Services and are an original equipment manufacturer of the patented Lampson Transi-Lift Crane. The capacity of cranes within Lampson's fleet range from 30 tonnes to 3000 tonnes and are offered on long term bare and dry lease or on a project specific operated basis. The trailer range includes on-road semi-trailer and floats plus various off-road heavy transport crawlers and Self Propelled Modular Trailer types.

Lampson employs approximately 90 personnel nationally however the number fluctuates with industry demands. It is common to travel experienced personnel between sites and states in order to service their varied client base. Many of Lampson's site locations are in remote areas which further contributes to the variation of clientele.

4.0 CONTEXT & RATIONALE

4.1 Importance of Operation in this Location

Lampson's Muchea site will continue to service the surrounding Western Australian areas and will from time to time supply equipment, services and personnel to other states or internationally. It is proposed that the other Lampson depots in Karratha, Darwin, Gladstone and Newcastle will support and also rely on the Muchea depot in the future. Lampson's other branches have been of benefit to their areas of operation with the common goal of being a good community member. The location of the this depot is important to Lampson given the proximity to a good inland road network providing access to both north and south of the Muchea locality. Lampson also have clients and suppliers in the Perth Metropolitan Region which is conveniently accessible from the current Muchea location. Local personnel employment will develop in time once the Lampson Muchea operation is established and it is intended that other suitable suppliers that operate or are moving into the area are utilised once these become available. In this regard, Lampson intends to ultimately offer their services and equipment to other local business as they establish their presence at this location.

4.2 Existing Land Use

As shown in the Aerial Photographs at **Figures 4 and 5**, the development area in the north-west corner of the subject site is currently occupied by Lampson for its transport depot operations. The remainder of the subject site is vacant.

4.3 Surrounding Land Uses

The neighbouring land to the north, south and east of the subject site is utilised as grazing and cropping land. The land to the north-west of the subject site is occupied by a quarry operator which undertakes the storage and distribution of stone from the site. To the west of the subject site is the Muchea Polocrosse Club at Sandown Park.

5.0 OVERVIEW OF PROPOSED DEVELOPMENT

Lampson is seeking retrospective planning approval for a Transport Depot land use at the subject site. in addition, retrospective approval for the following works are sought, which are capable and appropriate for approval under Clause 8.4.1 of TPS6:

1. Construction of two storage sheds which are understood to have been constructed in the exact location as those previous buildings damaged by fire (refer **Figures 6, 7 and 8**);
2. Construction of a dome shade storage area in proximity to the southern boundary of the development area (refer **Figure 9**);
3. Construction of the office building and staff amenities block; and
4. Construction of associated water storage tanks within the property.

The proposed Development Site Plan is included at **Figure 12** below which identifies the location of the existing structures. A full set of Development Plans are included at **Annexure 4**.



Figure 4 – Aerial Photo of Development Area

5.1 Business Operations

The transport depot will function as a storage compound for the various types of cranes and associated machinery that are leased to Lampson's clients. The equipment is sent out to site in parts and assembled on site. The equipment is then dismantled prior to being returned to site where the components are stored in pieces ready to be assigned to the next project. The only assembling of equipment on site occurs when periodic safety inspections and maintenance is undertaken. Small cranes are occasionally used to move crane components within the external storage area to the east of the large shed (refer to **Figure 10** for a photograph of the eastern storage area). Any maintenance and repair work occurring at the site forms only a subsidiary element to the Transport Depot operations.

5.2 Parking and Storage of Cranes and Transport Equipment

The parking and storage of cranes, crane components and trucks is the predominant activity that occurs as part of the Lampson operations. As demonstrated in the Development Site Plan at **Figure 12** and the Aerial Photo at **Figure 4**, the site comprises the following parking and storage areas:

- **Eastern External Storage Area** – The eastern external storage area comprises the eastern half of the Lampson Transport Depot site. This area comprises a gravel hardstand base and is utilised for the storage of various components including rigging equipment, boom sections, crawlers and other large items. The components are grouped and stored in rows to allow access for loading onto transport by crane. Trailers are also parked in the southern portion of the area awaiting unloading or preloaded for future transportation. No mechanical servicing occurs in this area and it is primarily utilised for the long term storage of large items that will not fit into the larger (main) storage building.
- **Main Storage Building** – The main storage building is located centrally within the site and is constructed on a sealed concrete base. The main storage building is utilised for the storage of parts that either require protection from the elements, are of an expensive nature or are small and are grouped with similar items. Mechanical servicing or structural repair of crane equipment occurs within the main building with adequate spill response equipment readily available should spills occur.
- **External Concrete Storage Area** – The external concrete storage area is located to the western side of the main storage building and is utilised for general works including welding and cutting of steel, pre-assembly or disassembly of rigging equipment and storage or maintenance of cranes not suitable for inside the main storage building.
- **Equipment Shed** – The equipment shed is constructed on a sealed concrete base and is utilised for the storage of rigging equipment or other small items as required. The shed also contains an electrical switchboard and a pump assembly for fire protection.
- **External Truck and Transport Equipment Parking** – Trucks and trailers used for the transportation of cranes and equipment are stored in the south west corner of the site. The trailer storage area comprises gravel hardstand and is located to allow for access to the road around the site. The access for transport vehicles throughout the site is via the entry gate in the north west, then around the storage area to the east of the site, then to the parking and storage area in the south west. Trailers can also park in the loading ramp to the south of the main storage building which can be accessed by forklift through the large loading ramp door.



• **Figure 5 – Aerial Photograph of Subject Site**



• **Figure 6 – Photograph of Equipment Shed**

- Portable Environmental Protection Shelter – The dome shaped shelter is currently located to the southern boundary of the Lampson Transport Depot adjacent to the main storage building. The shelter is constructed of canvas over steel rib frame fastened by welding to the top of shipping containers. The shelter is presently positioned to act as a shaded work area or to provide protection from rain for personnel working on items that are too large to fit inside the main storage building. The Portable Environmental Protection Shelter is relocatable and is positioned over larger items that require protection from environmental conditions and also to provide protection from the elements for any personnel that may work on this equipment. Alternatively, equipment may be brought into the shelter and stored or repaired as required by forklift or small crane. The shelter could be positioned in two or three locations every year depending on the work load and number of larger items requiring work. The shelter is disassembled prior to being relocated and in erecting the structure the manufacturer instructions for the securing of the steel frame and canvas cover are followed at all times.
- Proposed Southern External Storage Future Expansion Area – The proposed southern external storage area will be utilised for the storage of large boom sections and similar steel work. The components stored in this area would be consistent with the items stored in the existing eastern external storage area in that they comprise of items that are grouped and stored in rows to allow access for loading onto transport by crane. A description of the proposed expansion area is provided in Section 5.10.

5.3 Staff

The staff and labour personnel on site would generally be up to 10 per day but may vary subject to where work is located elsewhere in Australia. The staff would typically comprise of:

- 1 to 2 clerical staff;
- 1 to 2 management staff;
- 1 to 2 truck/crane drivers;
- 1 storeman;
- 1 to 2 tradesmen (metal/mechanic); and
- 1 to 2 riggers.

No additional staff or labour personnel are anticipated as a result of the construction of the proposed future extension to the storage area.

5.4 Hours of Operation

The Lampson transport depot will operate from 6:30am to 5:00pm Monday to Friday and from 6:30am to 3:00pm on weekends and public holidays.

5.5 Car Parking

A total of six undercover parking bays are currently provided on site. Space for an additional four parking bays are provided to the south of the undercover parking area.

The staff and labour personnel on site would generally be up to 10 per day. Of the staff accommodated at the site, approximately eight will park vehicles in the designated parking area and the two to three tradesmen and storemen personnel will park their vehicles within the large shed to enable access to tools during the day.

No visitor vehicles other than those associated with general product deliveries such as rubbish removal and water deliveries are expected to access the site.

The existing parking bays on site meet the minimum dimensions of 2.75m in width and 7.5m in length and there is sufficient space on site to enable vehicles to enter and exit in forward gear.

5.6 Security and Access

The existing Lampson site is secured by a 2m high electrified fence around the boundary of the development area. The vehicle access point is secured by a gate which is locked after business hours. Refer to **Figure 11** for a photograph of the site entry.

Access to the subject site is from a single entry and exit point via Brand Highway. Refer to **Figure 13** for a photograph of the existing crossover to the subject site from Brand Highway facing north and **Figure 14** facing south.

5.7 Traffic Management

Lampson has prepared a Traffic Management Plan which is included at **Annexure 5**.

The Lampson transport depot receives deliveries of equipment and delivers equipment on a regular basis. Equipment is packed on trucks in parts and assembled at the at the delivery location.

These incoming and outgoing deliveries are expected to occur in varying trucking configurations and frequencies including:



Figure 7 – Photograph of main storage shed in background

- One truck and trailer pocket road train (28m long) per month;
- One truck and trailer 40' trailer (25m long) per month; and
- Two truck and trailer (21m long) per week.

Vehicles will enter and exit the subject site from Brand Highway only. 90% of vehicles will turn left out of the subject site and travel south towards Perth along Brand Highway. Vehicles will then generally travel south along Muchea South Road then west along Neaves Road if accessing the north-west corridor or east toward Great Northern Highway if accessing the eastern suburbs of Perth.

As demonstrated in the Traffic Management Plan, the traffic volumes generated by the Lampson operations will not exceed the capacity of Brand Highway and it is likely that the impact on this road will be further reduced once the Perth to Darwin Highway is constructed which will divert traffic around the Muchea townsite. The impact of the operations on adjoining properties as a result of added traffic movements is also considered to be negligible given that travel is generally confined to the regional road network.

No additional vehicle movements are anticipated as a result of the construction of the proposed future extension to the storage area.

5.8 Site Management

The transport depot will operate under a range of management controls both through physical infrastructure and procedures to ensure compliance with the relevant regulations.

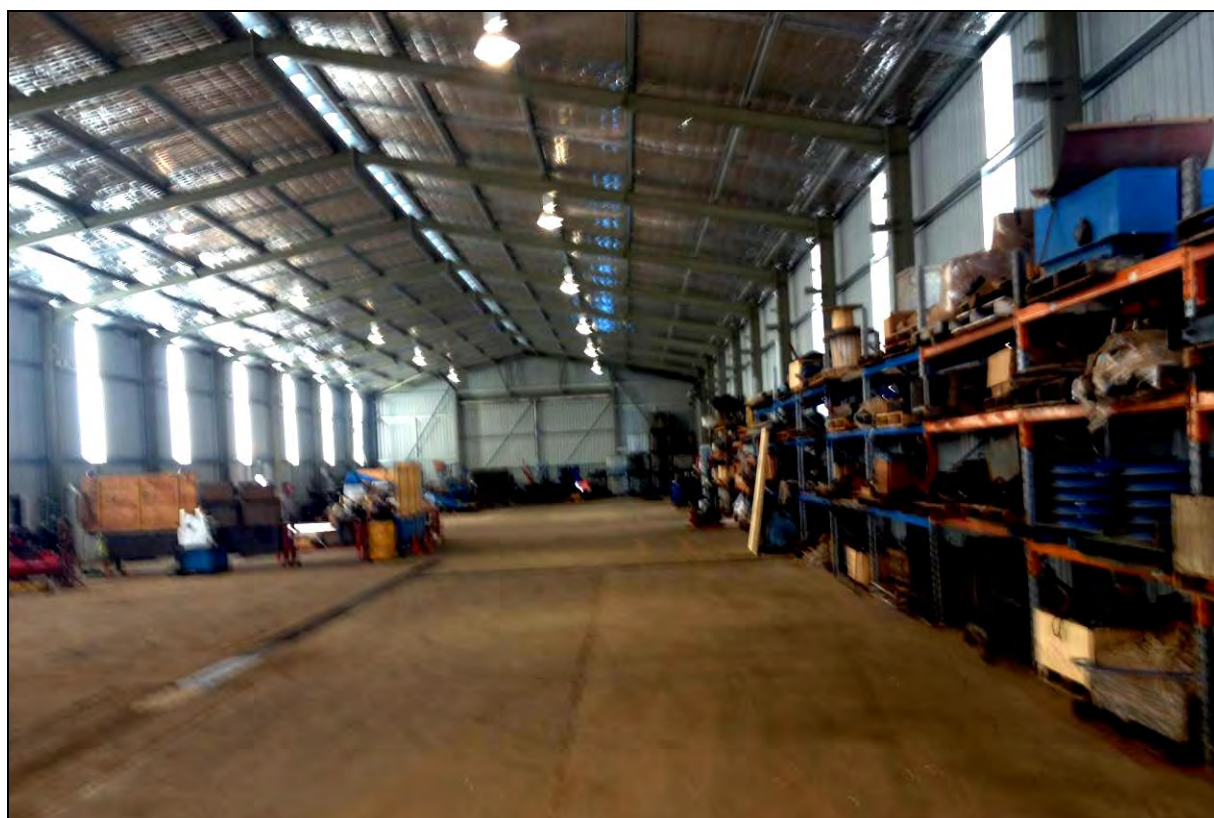


Figure 8 – Photograph of inside main storage shed



Figure 9 – Photograph of shade structure

An Environmental Management Plan (**EMP**) has been prepared in consultation with Management and employees. The EMP documents the management initiatives that will be used to minimise the impacts of its day to day activities on the environment and includes the policy framework, operating procedures, and incident reporting resources. A copy of the EMP prepared by Lampson is included in **Annexure 6**. Lampson has extensive experience in the environmental management of its operations, including longstanding and comprehensively developed measures to mitigate externalities associated with truck movements, as well as the management of on-site operations to address risks to both personnel and the environment.

The EMP is supported by a Traffic Management Plan (**TMP**) and a Spills Management Plan (**SMP**) (**Annexure 7**) as a risk management strategy for the key elements of the Lampson operations.

5.8.1 Hydrocarbon and Chemical Management

Hydraulic and engine oil is stored in the original containers supplied by the distributor and then placed in plastic bund modules. The liquids are dispensed in volumes required for each particular application and taken to the equipment located on a concreted surface, mainly within the main storage building. The plastic bund modules also have a spill tray to catch any liquid that may spill during transfer into the smaller containers. Any servicing work completed on the concreted areas would also be completed with adequate spill trays to catch any inadvertent release of liquids.

Lampson's established handling and containment measures for spills also require that all servicing is to be completed away from drains and any accidental spills would be captured by trays. Lampson also keep mobile spill kits in the main storage building that include 'kitty litter' or pads for absorption of any spilt liquid, as well as shovels and bins to remove such liquid laden material from the ground. Servicing of equipment is completed on the concreted areas such that collection and disposal of any material is completed without the need to excavate soil and remove from the working area.

Any liquid waste that has been absorbed and cleared from the spill site is stored in sealed containers within the main storage shed and then removed on an 'as required' basis by the waste removal contractor.

The a Spills Management Plan included at **Annexure 7** outlines the action response and reporting procedures for spills that occur on site.

5.8.2 Surface Water and Stormwater Management

A Stormwater Drainage and Catchment Plan and accompanying report is currently being prepared by the engineering consultants. This engineering documentation will detail the surface water movements throughout the development site and address how water will be treated during and after a heavy rainfall event. This information will be provided to the Shire as soon as it is made available.

5.9 Landscaping

The development area contains existing landscaping along the southern and eastern boundaries and a portion of the northern boundary. The operations are screened from Brand Highway by existing mature vegetation within the road and rail reserves to the west of the subject site. Due to the height of some of the cranes and machinery stored on site, landscaping will not completely screen the machinery from the public realm. However the physical setback of the external crane storage areas within the Lampson transport depot site from Brand Highway of around 100m ensures that the visual impact is considerably reduced and consequently does not result in any undue or adverse amenity impacts.

5.10 Proposed Future Expansion Area

The proposed future external storage expansion area will extend approximately 50m to the south of the existing Lampson site and will be constructed with an impermeable gravel hardstand base consistent with the remainder of the development site. Due to the flat level topography of this portion of the subject site, only limited earthworks would be required in order to direct stormwater flow to the existing network throughout the site. Given that the proposed expansion area is cleared, no removal of vegetation would be required and vehicles would be capable of passing through breaks in the existing tree line which currently forms the southern boundary of the existing development area.

This area will be utilised for the storage of large boom sections and similar steel work as required. The components stored in this area would be consistent with the items stored in the existing eastern external storage area in that they comprise of items that are grouped and stored in rows to allow access for loading onto transport by crane. No mechanical servicing occurs in this area and it is primarily utilised for storage of items with limited movable parts meaning that contaminant runoff is prevented.

The proposed storage expansion area would be fenced with a continuation of the existing 2m high electrified fence which is constructed around the perimeter of the existing development area.



Figure 10 – Photograph of eastern storage area



Figure 11 – Photograph of secured site entry

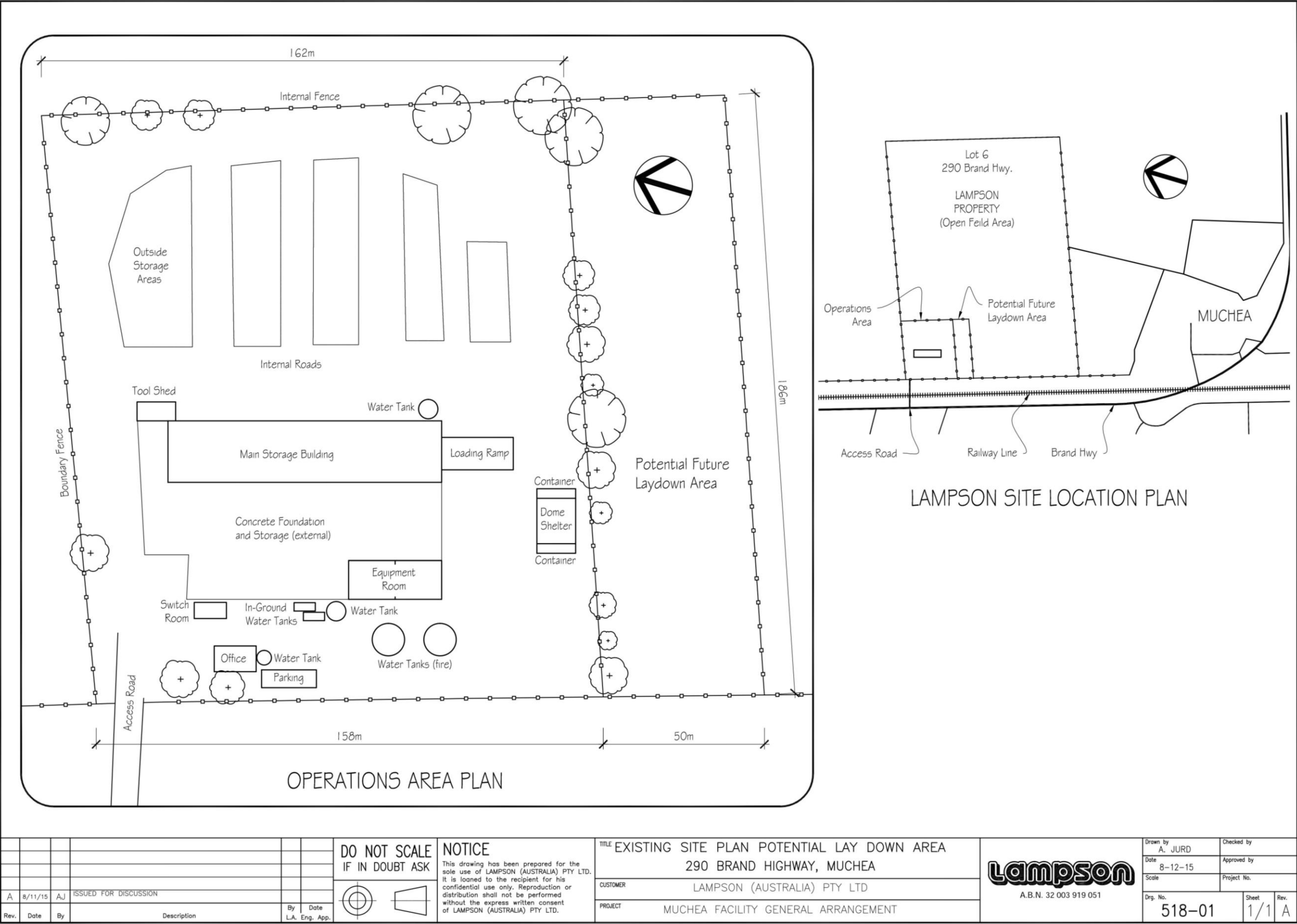


Figure 12 – Development Site Plan



Figure 13 - Photograph of the existing crossover from Brand Highway facing north



Figure 14 – Photograph of the existing crossover from Brand Highway facing south

6.0 STATE PLANNING CONTEXT

6.1 State Planning Strategy 2050 (2014)

The State Planning Strategy 2050 is the highest order planning instrument in the Western Australian planning system. The Strategy is a guide through which public authorities and local governments can express or frame their legislative mandates and/or influence in land use planning, land development and related matters.

The State Planning Strategy 2050 identifies that the South West sector, inclusive of the Wheatbelt area, will continue to be the population centre of the State. This means that a high level and range of employment opportunities will continue to be available in the South West.

The State Planning Strategy 2050 also identifies the Wheatbelt Land Use Planning Strategy as a strategic document to outline landuse planning priorities and directives for the region.

6.2 Draft Wheatbelt Land Use Planning Strategy (2011)

The Wheatbelt Land Use Planning Strategy is a guidance document for the Wheatbelt region that aims to guide land use planning decision-making. The strategy is part of the State Planning Framework and will identify key economic, social and environmental drivers and their likely implications. As a key element to the progression of economic and regional development, the WAPC will seek to finalise a structure plan for the proposed Muchea Employment Node, which will establish a site for strategic industry, linked to consolidated and improved transport routes. As noted below, whilst the subject site is located outside of the Muchea Employment Node area, the Transport Depot operations will not diminish the viability of the node and will likely provide a valuable service to the future development of the locality.

6.3 Muchea Employment Node Structure Plan (2011)

The Muchea employment node (the employment node) is located at the intersection of the Brand Highway and Great Northern Highway, and is an area set aside for service-based uses such as transport, livestock, fabrication, warehousing, wholesaling and general commercial use. The employment node was originally identified as a future industrial area in the North-East Corridor Extension Strategy (2003). The node was recognised as having potential as an industrial area that could take advantage of long-term transport opportunities offered by the proposed Perth-Darwin National Highway (refer **Figure 15**).

Whilst the subject site is not included within the Muchea Employment Node, the services provided by Lampson will be beneficial to the future development of this node and is both a capable and appropriate use given both the historic operations on the site, including black granite works and hay bailing operations, and the existing discretions provided under the planning framework for this sort of activity. In addition, the continued operation of the Transport Depot at the subject site will not compromise the future development of the Muchea Employment Node given that the subject site is already established as a commercial site which has operated for the purposes of light and rural industrial land uses for over 25 years. Refer to **Figure 16** for the location of the subject site in proximity to the Muchea Employment Node Structure Plan area.

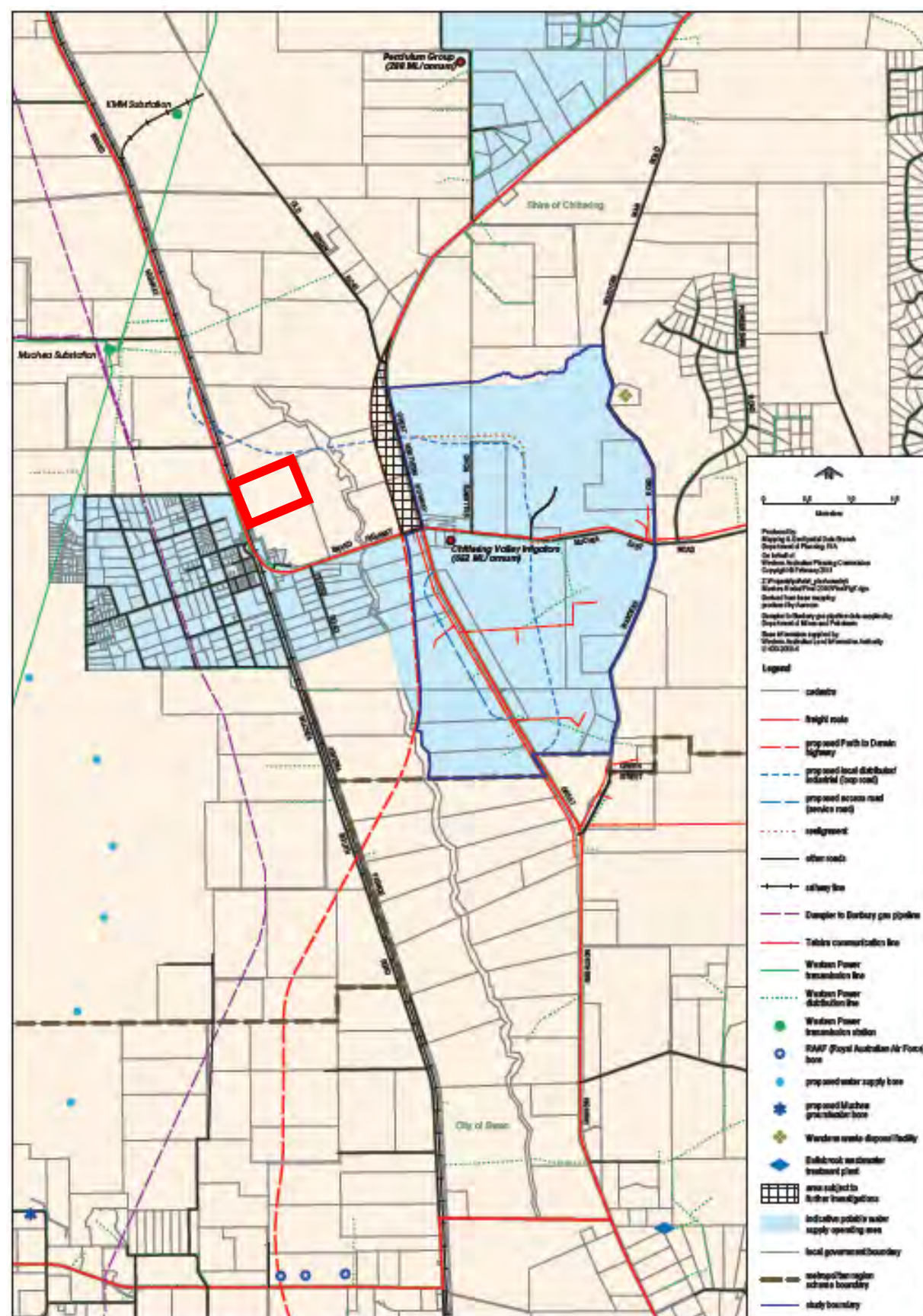


Figure 7: Road network and service infrastructure

Figure 15 – Muchea Employment Node Road Network (subject site shown in red box)

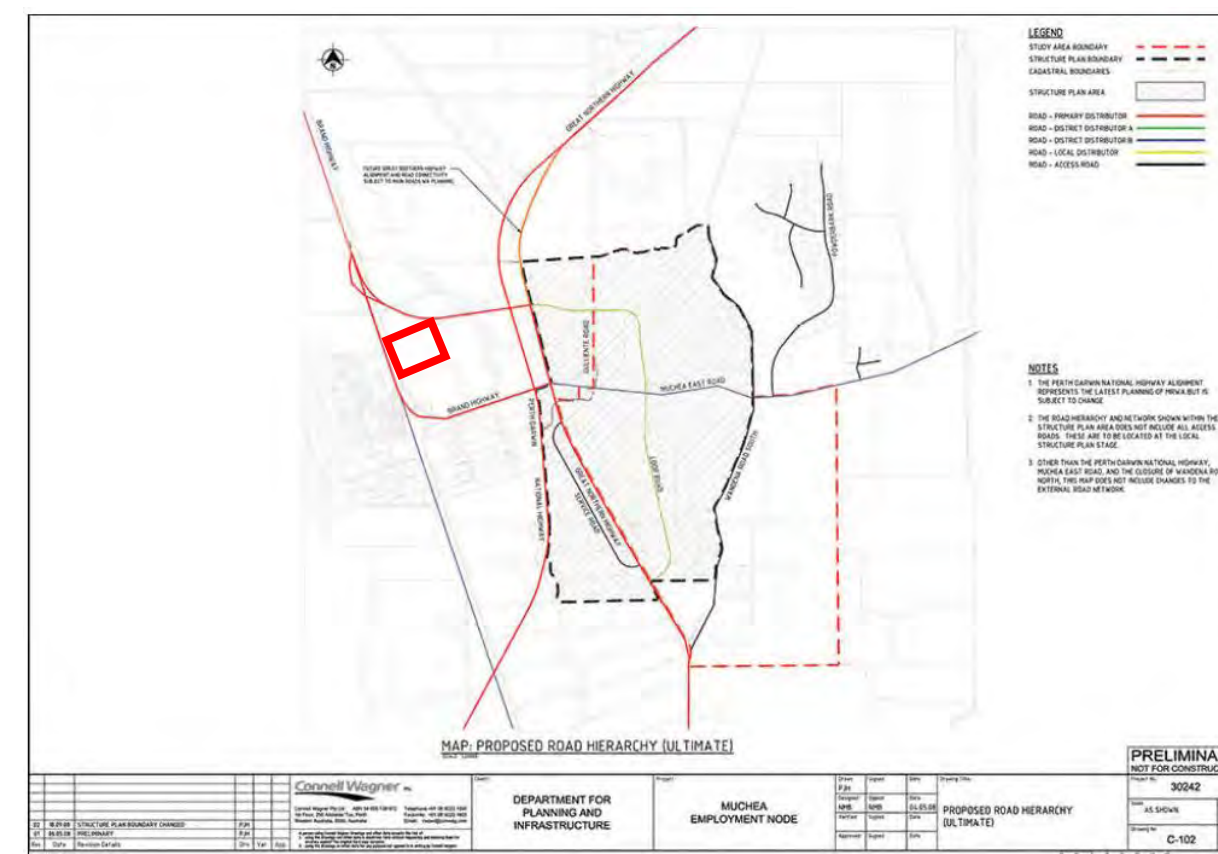


Figure 16 – Muchea Employment Node Location (subject site shown in red box)

6.4 State Planning Policy No. 1: State Planning Framework

The State Government's broad planning framework, State Planning Policy No. 1 (SPP1) is in part a consequence of the State Planning Strategy (WAPC 1997) in bringing together in a statutory planning framework, existing State and regional policies and articulating general principles for land use planning and development. It sets the key principles relating to the environment, community, economy, infrastructure and regional development which should guide the way in which future planning decisions are made having regard to each of those five elements. Under Part A (General Principles for Land Use Planning and Development) of that Policy, it states:

The primary aim of planning is to provide for the sustainable use and development of land.

The State Planning Strategy identifies the principles which further define this primary aim and describe the considerations which influence good decision-making in land use planning and development. Planning should take account of, and give effect to, these principles and related policies to ensure integrated decision making throughout government. These elements include the following:

A1 Environment

The protection of environmental assets and the wise use and management of resources are essential to encourage more ecologically sustainable land use and development.

The Lampson site operates under an Environmental Management Plan which has been prepared in accordance with the International Organisation of Standardisation to provide business with a structure for managing environmental impacts.

Further, Lampson has developed a series of management plans including a traffic management plan and spill management plan to further support the high level of environmentally wise operative practices that occur on site.

A3 Economy

Planning should contribute to the economic wellbeing of the State through the provision of land, facilitating decisions and resolving land use conflicts. Planning should provide for economic development by:

- Providing land for industry.
- Promoting local employment opportunities.
- Avoiding land use conflicts.

The Lampson site is strategically located within Muchea to supply an essential service to developers of major infrastructure projects in the Wheatbelt and Perth Metropolitan Region.

The operation will continue to provide an important source of employment for the area and in particular will contribute to an appropriate land use mix that will enhance the vitality and diversity of land uses within Muchea.

A4 Infrastructure

Planning should ensure that physical and community infrastructure by both public and private agencies is coordinated in a way that is efficient, equitable, accessible and timely. This means:

- Planning for land use and development in a manner that allows for the logical and efficient provision and maintenance of infrastructure.
- Protecting key infrastructure, including ports, airports, roads, railways and service corridors from inappropriate land use and development.

The Lampson site is located abutting the Brand Highway which provides an important transport linkage to the Perth Metropolitan Region to the south and areas of the Wheatbelt and beyond to the north. The subject site is well suited to this form of land use given its separation from the more sensitive land uses further to the south.

Based on the above, it is considered the proposal and associated flow on effects contribute to a more sustainable future and is therefore consistent with the sustainable development principles contained in SPP1.

6.5 State Planning Policy No. 2: Environment and Natural Resources Policy

The overarching objective of State Planning Policy No. 2 (SPP2) is to promote and assist in the wise and sustainable use and management of natural resources.

The policy is divided into a series of general and specific policy measures. One of those measures is the consideration of greenhouse gas emissions and energy efficiency.

The general measures under that policy are to actively seek opportunities for improved environmental outcomes including support for development which provides for environmental restoration and enhancement; and to take into account the potential for economic, environmental and social (including cultural) effects on natural resources.

More specifically, the policy recognises that ensuring that decision making takes into account the need for the primary objective being the reduction to reduce greenhouse gas emissions by means including increasing energy efficiency.

In terms of implementing the policy, section 6 notes that:

“...the purpose of this policy is to inform local governments and the Town Planning Appeals Tribunal of those aspects of State level planning policy concerning the environment and natural resources which should be taken into account in planning decision making while recognising the inherent difficulties of balancing conflicting needs.”

The relevance of this policy is that a key consideration to this matter is the significance of this locality in terms of both its proximity to transport networks and the northern extents of the Perth Metropolitan Region. The principle of ensuring that services and machinery, such as those provided by Lampson, are located in close proximity to their product delivery points is a relevant planning consideration and one which assists in meeting the objectives outlined in this planning policy. Further, the operations are being undertaken in accordance with established management practices adopted under an Environmental Management Plan implemented as part of the day to day operation of the site. This will ensure that environmental impacts will be appropriately mitigated.

6.6 State Planning Policy No. 3: Urban Growth and Settlement

The policy sets out the principles and considerations which apply to planning for urban growth and settlement in Western Australia. The introduction to the policy recognises that the spread of urban development intensifies pressures on valuable land and water resources, and imposes costs on the provision of infrastructure and services.

The policy recognises a desirable objective being sustainable and liveable neighbourhoods that coordinate new development with the efficient economic and timely provision of infrastructure and services.

Part of the policy measures, outlined in Sections 5.4 and 5.5, are to plan cost effective and resource efficient development to promote affordable housing. It also recognises that appropriate coordination of services and infrastructure is required for new growth and settlements. Whilst this applies to conventional urban services such as water and sewerage, it also applies to infrastructure provision including those services necessary to enable cost effective and affordable housing and development.

The provision of affordable and sustainable development in the locality is related to the proximity of services such as those provided by Lampson which, in particular, supports civil and general industry. The location of the Lampson site will therefore assist in providing for necessary services for the development of infrastructure in the Perth Metropolitan Region and Wheatbelt which will ultimately support the establishment and expansion of urban land for development.

6.7 Environmental Protection Authority Guidance Statement No. 3 – Separation Distances between Industrial and Sensitive Land Uses

EPA Guidance Statement No 3 outlines the generic buffers between Industrial Land Uses and Sensitive Land Uses. The document stipulates a 200m buffer for a ‘Transport vehicles depot’. A review of the land surrounding the subject site has found that there are no sensitive land uses (dwellings) within 200m of the operations (refer to **Figure 17**).



Figure 17 – 200m radius from the Lampson operations

7.0 LOCAL STATUTORY PLANNING CONTEXT

7.1 Local Planning Scheme

7.1.1 Agricultural Resource Zone

The subject site is situated in the 'Agricultural Resource Zone' under the Shire of Chittering Town Planning Scheme No. 6 (TPS6). A TPS6 Plan is provided at **Figure 18**.

The objectives of the Agricultural Resource Zone are outlined at Clause 4.2.5 of TPS6 as follows:

To preserve productive land suitable for grazing, cropping and intensive horticulture and other compatible productive rural uses in a sustainable manner;

To protect the landform and landscape values of the district against despoliation and land degradation;

To encourage intensive agriculture and associated tourist facilities, where appropriate;

To allow for the extraction of basic raw materials where it is environmentally and socially acceptable.

7.1.2 Special Control Area – Water Prone Area (Ellen Brook Palusplain)

Pursuant to Part 6 – Special Control Areas of TPS6, the subject site is located within a Water Prone Area associated with the Ellen Brook Palusplain as it is mapped as being subject to inundation or flooding. Clause 6.1 of TPS6 states that:

In respect of a Special Control Area shown on a Scheme Map, the provisions applying to the Special Control area apply in addition to the provisions of the underlying zone or reserve and any general provisions of the Scheme.

The purpose of the Water Prone Area – Ellen Brook Palusplain is described in Clause 6.3.2 as follows:

- To manage development in areas where there is high risk of inundation so as to protect people and property from undue damage and where there is a potential risk to human health.*
- To preclude development and the use of land which may increase the amount of nutrients from entering the surface and/or sub-surface water systems.*
- To ensure that wetland environmental values and ecological integrity are preserved and mentioned.*

The Planning Requirements are listed at Clause 6.3.3 as follows:

The Local Government will impose conditions on any Planning Approval relating to-

- the construction and occupation of any dwelling or outbuilding;*
- the type of effluent disposal system used in this area shall be high performance with bacterial and nutrient stripping capabilities to the specifications of Council and the Health Department and shall be located in a position determined by Council;*
- minimum floor levels for any building above the highest known water levels;*
- any land use that may contribute to the degradation of the surface or sub-surface water quality.*
- no development other than for conservation purposes will be permitted within 30 metres of any natural water body;*
- damming, draining or other developments which may alter the natural flow of surface water will not be permitted unless such works are part of an approved Catchment Management Plan.*

In considering applications for Planning Approval, the Local Government shall have regard to those matters listed in Clause 6.3.4 of TPS6:

- the likely impact on the health and welfare of future occupants;*
- the proposed activities for the land and their potential increase in the risk of causing an increase in nutrients entering the water regimes;*
- any provision or recommendation from any Catchment Management Plan.*
- the likely impact on any wetland;*
- buffer distances from any wetland.*

Clause 6.3.5 of TPS6 also notes that the Local Government may refer any Application for Planning Approval or any amendment to vary a Special Control Area boundary to any relevant authority or community organisation. The portion of the subject site currently occupied by Lampson is located approximately 900m from Ellen Brook to the east and approximately 180m from the creek line to the north. No environmentally sensitive wetlands have been identified on or surrounding the subject land.

The adopted environmental management principles will ensure that there is no risk to the groundwater or environmental qualities of the locality as a result of the operations. Further, the Transport Depot is located approximately 450m from the nearest residence and is therefore appropriately separated to mitigate any noise impacts that may arise as a result of the operations.

7.1.3 Land Use

It is proposed that the existing Lampson operations are formalised as a 'Transport Depot'. A 'Transport Depot' is defined in Schedule 1 of TPS6 as follows:

means premises used or intended for use for the parking or garaging of:

- a) *two or more motorised commercial vehicles with or without any number of non-motorised commercial vehicles; or*
- b) *two or more non-motorised commercial vehicles with or without any number of motorised commercial vehicles;*

and the use includes the maintenance and repair of vehicles so parked or garaged on the land but not of other vehicles

The Zoning Table contained within Schedule 2 of TPS6 lists a 'Transport Depot' in the Agricultural Resource zone as an "A" use, meaning that the use is not permitted unless the Shire has exercised its discretion by granting Planning Approval after giving special notice in accordance with clause 9.4.



Figure 18 – TPS6 Map

7.2 Planning and Development (Local Planning Schemes) Regulations 2015

The Planning and Development (Local Planning Schemes) Regulations 2015 (**the Planning and Development Regulations**) were gazetted on 25 August and came into effect on 19 October 2015. The Planning and Development Regulations have introduced a set of deemed provisions that now form part of TPS2. In particular, Clause 67 deals with matters to be considered by local government and include the following key provisions relevant to this application:

- (a) *the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area;*
- (b) *the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving;*
- (c) *any approved State planning policy;*
- (d) *any environmental protection policy approved under the Environmental Protection Act 1986 section 31(d);*
- (e) *any policy of the Commission;*
- (f) *any policy of the State;*
- (g) *any local planning policy for the Scheme area;*
- (h) *any structure plan, activity centre plan or local development plan that relates to the development;*
- (m) *the compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development;*
- (n) *the amenity of the locality including the following —*
 - (i) *environmental impacts of the development;*
 - (ii) *the character of the locality;*
 - (iii) *social impacts of the development;*
- (o) *the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource;*
- (p) *whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;*
- (r) *the suitability of the land for the development taking into account the possible risk to human health or safety;*
- (s) *the adequacy of —*

- (i) *the proposed means of access to and egress from the site; and*
- (ii) *arrangements for the loading, unloading, manoeuvring and parking of vehicles;*
- (t) *the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;*
- (w) *the history of the site where the development is to be located;*
- (x) *the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals;*
- (y) *any submissions received on the application;*
- (za) *the comments or submissions received from any authority consulted under clause 66;*
- (zb) *any other planning consideration the local government considers appropriate.*

Having regard to the key matters to be considered by local government, the retrospective application for planning approval is consistent with the applicable planning framework and will support the growth of Muchea and its nearby employment node by providing services necessary for construction and infrastructure upgrades in the area. The Lampson operations will also continue to provide for employment opportunities for the local community.

Given the history of the site, the current operations and proposed expansion area are considered to be entirely compatible within its setting being located on a major transport route and being separated from dwellings to ensure that any visual and noise impacts associated with the operations are limited. In this regard, amenity impacts are addressed and environmental impacts can be adequately managed through the suite of environmental management plans implemented by, inclusive of stormwater management, spill management and traffic management. Any impacts on groundwater as a result of the continued operations are therefore considered to be negligible.

The Lampson site is well landscaped around its perimeter resulting in visual screening from Brand Highway to the west, as well as neighbouring properties to the north, south and east. It is noted that in addition to the landscaping within the Lampson site, there is also established vegetation within the neighbouring road and railway reserves to the west of the site which contribute to the depth of screening to mitigate against the visual impact of stored cranes and equipment within the site. Should the Shire consider that landscaping along the southern boundary of the proposed expansion area would assist with screening from the south, Lampson would be willing to accept a condition requiring that landscaping is provided in this location before the expansion area becomes operational.

Access to the site and traffic generation as outlined in the Traffic Management Plan are considered acceptable having regard to the capacity of Brand Highway and the existing driveway and rail crossing arrangements and access throughout the site. It is recognised that whilst the Lampson operations fall within the definition of Transport Depot under TPS6, the vehicle movements per day are low compared to other forms of transport depots given that the majority of movements are associated with deliveries of Lampson cranes and machinery to project sites. This means that there are no third party deliveries of transportable items which need to be transported from vehicle to vehicle on site which results in lower overall vehicle movements.

The Shire's endorsement of the retrospective application for planning approval will result in an overall community benefit through the establishment of a nationally significant supplier of Lifting and Transport equipment and related services in Muchea which has an opportunity to further expand its services in the future. There is an opportunity for the Lampson operations to positively contribute to the growth and development of the Muchea community, including the viability of the Muchea Employment Node.

In considering any submissions by neighbouring landowners or authorities consulted as part of the planning application process, it is expected that the Shire will provide an opportunity to review and respond to any comments following the consultation period and prior to the Shire's final determination of the matter.

7.3 Local Planning Policy No. 13 – Car Parking Requirements

In accordance with the requirements set out in Clause 5 of Local Planning Policy No. 13 – Car Parking Requirements (**LPP13**), car parking bays are to be provided as follows:

5.1 Provision of car parking bays

- a) *A person shall not develop or use land or erect, use or adapt any buildings for any purpose unless car parking bays of the number specified in Table 1 are constructed and maintained in accordance with the provisions of the Scheme;*
- b) *Where an application is made for planning consent and the purpose for which the land or building is to be used is not specified in Table 1, the Local Government shall determine the number of car parking bays to be provided, based on the number of employees and likely visitors to the site.*

5.2 Standards

- a) *Subject to requirements of the Building Code of Australia for disabled access, the dimensions of each space shall not be less than 2.75 metres wide and 7.5 metres long.*

The Local Government may vary the dimensions specified:

- i) *by up to 10% where obstructions, site dimensions or topography result in the loss of one car parking space in any run or group of car parking spaces;*
- ii) *where the provision of car parking space dimensions are enlarged to accommodate larger vehicle. In such cases, the area set aside shall be not less than if the standards specified were applied.*
- b) *Cars (and if relevant trucks and buses) are to enter and exit each site in the forward direction;*

A 'Transport Depot' land use is not included in Table 1 of LPP13 and therefore the Shire is to determine car parking bays based on the number of employees and likely visitors to the site.

As outlined in Part 5, the staff and labour personnel on site would generally be up to 10 per day. Of the staff accommodated at the site, approximately eight will park vehicles in the designated parking area and the two to three tradesmen and storemen personnel will park their vehicles within the large shed to enable access to tools during the day.



As depicted on the development site plan, a total of six undercover parking bays are currently provided on site. Space for an additional four parking bays are provided to the south of the undercover parking area.

No visitor vehicles other than those associated with general product deliveries such as rubbish removal and water deliveries are expected to access the site.

The existing parking bays on site meet the minimum dimensions of 2.75m in width and 7.5m in length and there is sufficient space on site to enable vehicles to enter and exit in forward gear.

Therefore, the existing parking arrangement on site is considered to adequately provide for the needs of the Lampson staff.

7.4 Local Planning Policy No. 18 – Setbacks

The objectives of the Shire's Local Planning Policy No. 18 – Setbacks (LPP18) are listed as follows:

To maintain the rural character of the Shire;

To allow maximum flexibility for building while maintaining rural character, ensuring light, safety and visual privacy, preserving natural vegetation, protecting water courses and wetlands from encroachment and keeping firebreaks clear.

The key policy provisions under Clause 5 of LPP18 relevant to this planning application are outlined below:

5.4 *In the special control area that is Water Prone and areas liable to flooding the minimum building setback is 30m from an existing water body or highest known flood level, as decided by Council.*

5.7 *Otherwise, the following minimum setbacks generally apply to buildings (including retaining walls), dams and water tanks:*

(a) Agricultural Resource Zone

Highway – 100m

Major Road – 50m

Other Road – 30m

Rear – 30m

Side – 30m

5.11 *Council may permit variations to the minimum setbacks specified in 5.5 and 5.7 above, as permitted by TPS No. 6, in the following circumstances:*

(c) commercial or industrial use

(f) other cases where it is reasonable to do so, as determined by Council.

For the purposes of this retrospective planning application, the existing structures on site have been assessed to determine their compliance with the setback requirements under Clauses 5.4 and 5.7.

Having regard to Clause 5.4, the development site is separated from the creek line to the north by around 200m. To the east, the development area is separated from Ellen Brook by approximately 900m.

The existing office building and covered car parking structure is set back from Brand Highway by approximately 90m. The existing tool shed to the north of the large shed is setback from the northern side boundary by approximately 20m, while the main part of the large shed is set back approximately 30m from the northern boundary. Considering these minor variations, the Council has the discretion to approve the development due to the commercial nature of the operations being undertaken at the site. In addition, as demonstrated in the aerial photography included at **Annexure 2**, the physical location of the office block, parking structure, large shed and the tool shed to the north of it has not changed since prior to 2009. Indeed the overall footprint of the development has now significantly reduced.

It is therefore considered that the boundary setbacks are acceptable and capable of approval by Council.

8.0 LOCAL STRATEGIC PLANNING CONTEXT

8.1 Shire of Chittering Local Planning Strategy 2001-2015

The subject site is located within the 'Ellen Brook Palusplain', which is further identified and addressed in the Strategy:

9.2 Topography

As seen in the Site Plan at **Figure 3**, the topography of the land is generally level and provides no difficulties for development. The subject site falls from 51m AHD in the west to 48m AHD in the east. The development area is generally at a level of 51m AHD across the site.

There are no environmental constraints on the subject site with respect to the topography or surface drainage.

9.3 Site Contamination

The Department of Environment Regulation (DER) Contaminated Sites Register did not identify any recorded contamination at the subject site. There is no known contamination that has occurred as a result of the fire that occurred at the premises in 2012. Following the fire, those buildings that suffered fire damaged were removed and disposed of off-site by the previous landowner.

9.4 Wetlands and Waterways

A review of the WA Atlas Wetland Management Category Mapping was undertaken which identified the subject site within a 'Multiple Use' wetland (refer **Figure 20**). Multiple Use wetlands are generally described as 'wetlands with few remaining important attributes and functions', their respective management objectives involving:

Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare.

The existing wetland classification which exists over the subject site is not a barrier to its continued use on the basis of the previous development that has taken place on the site, but also in the context of the overall environmental management practices adopted.

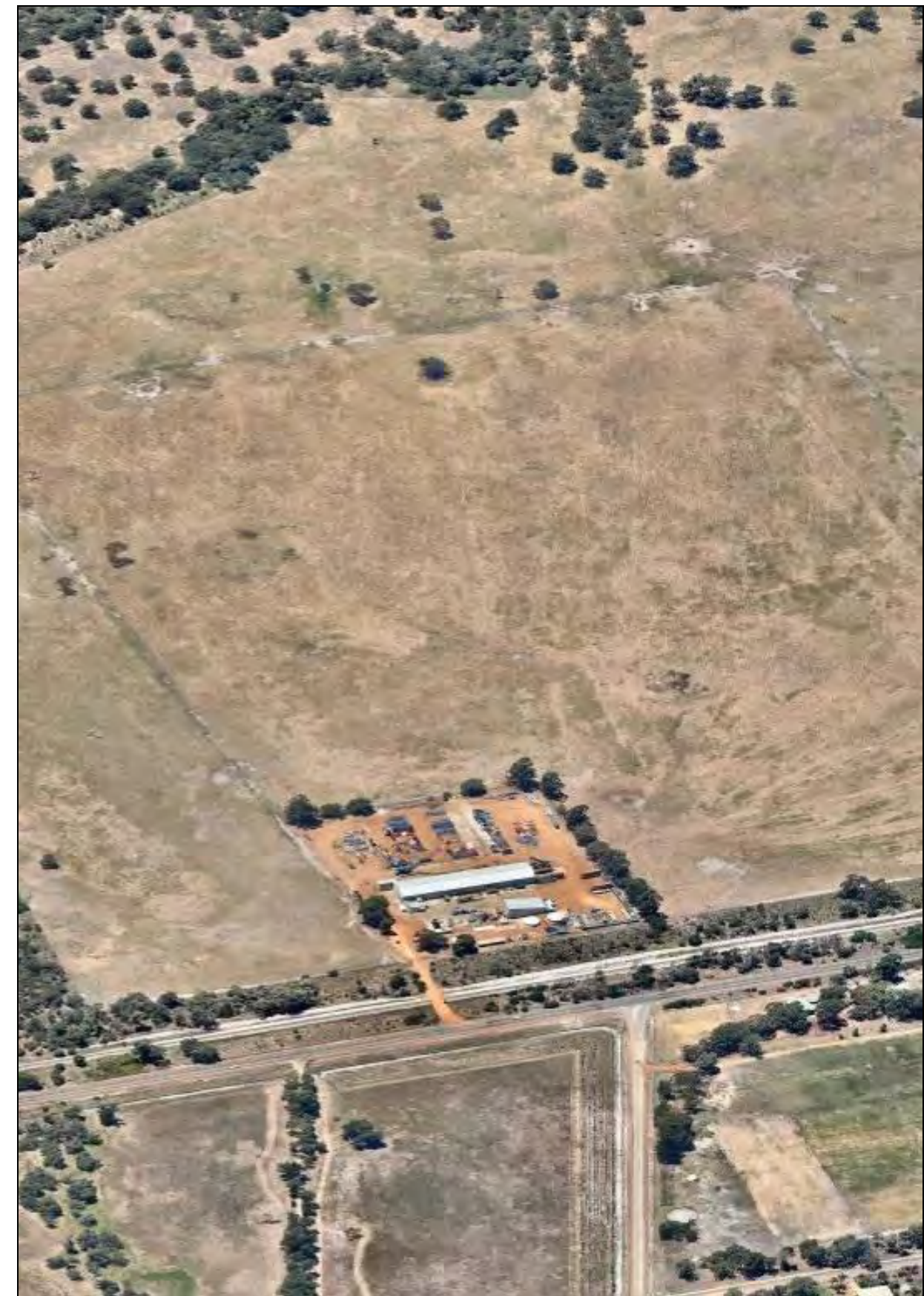
Lampson have appointed an engineering consultant to undertake a Stormwater Drainage and Catchment Plan and Report to demonstrate how water is captured and retained on-site following a storm event. This information will be provided to the Shire in due course to support the proposal. As noted previously, Lampson also operate under the terms of an EMP and Spills Management Plan which assist to further mitigate against any impacts to groundwater as a result of site operations.

9.5 Significant Vegetation

The Site has previously been completely cleared of all existing vegetation.

9.6 Indigenous Heritage

A search was undertaken on the Department of Indigenous Affairs Aboriginal Heritage Enquiry System which returned no results of Registered Aboriginal Sites on or around the subject site.



10.0 CONCLUSION

The land use and development works detailed as part of this application accurately reflect Lampson's existing business operations. The operations are consistent with the 'Transport Depot' land use under TPS6 and it is therefore considered that there are sound reasons for the Shire to exercise its discretion under clause 8.4.1 to grant retrospective planning approval for this proposal. In particular, we consider that in relation to the subject site:

- The granting of retrospective planning approval for the works already undertaken with respect to the two storage sheds, office building, staff amenities block and water storage tanks simply represents a formalisation of works that have existed at the subject site for a number of years.
- The granting of planning approval for the proposed future expansion area provides for a logical extension to the development site area which is capable of being undertaken with minimal environmental impact or impact on the local amenity. Approval of the expansion area will assist in ensuring the viability of the Lampson Muchea site and will improve the overall functionality of the Transport Depot.
- The land use is in compliance with the State and local planning framework and is designed to operate in accordance with State environmental legislation;
- The land use ensures the establishment of a lifting and transport equipment operation which supports the development of the Perth Metropolitan Region and the wider region of the Wheatbelt and South-West;
- The subject site is well suited to supplying lifting and transport equipment to the regions given its proximity to an established transport network;
- The management, efficiency and operations of the proposed Lampson operations represent established practices in environmental management;
- The proposed Lampson transport depot is consistent with the current zoning of the site and consistent with the orderly and proper planning of the locality; and
- The Lampson Transport Depot will function to serve the local community by providing employment opportunities as the operation is established.

For these reasons we respectfully seek the Shire's support for the existing works and Transport Depot operation on Lot 6 (290) Brand Highway, Muchea.



**ANNEXURE 1 –
FORM 7 –
FORM OF APPLICATION FOR PLANNING APPROVAL**



Shire of Chittering
6177 Great Northern Highway
(PO Box 70)
BINDOON WA 6502
E: chatter@chittering.wa.gov.au
T: 9576 4600 / F: 9576 1250
W: www.chittering.wa.gov.au

Schedule Seven Application for Planning Approval

Town Planning Scheme No 5

| | | | |
|---|--|-------------------------|--------------------|
| Owner/s Details: | | | |
| Name: | LAMPSON (AUSTRALIA) PTY LTD | | |
| Address: | LOT 3 AWABA ROAD, TORONTO NSW. | | |
| Contact Numbers: | Home: | | Work: 02 4959 6222 |
| | Mobile: | | Fax: 02 4950 4645 |
| | Email: | | |
| | Contact Person: | JOHN KLEEN | |
| Owners Signature: | | Date: | 17/12/2015 |
| Owners Signature: | | Date: | |
| The handwritten signature of the owner(s) is required on all applications. This application will not proceed without that / those signature/s. | | | |
| Applicant Details: | | | |
| Name: | TOM HOCKLEY | | |
| Address: | ALLERDING & ASSOCIATES 125 HAMERSLEY ROAD SORBIACO 6008 | | |
| Contact Numbers: | Home: | - | Work: 9382 3000 |
| | Mobile: | - | Fax: 9382 3005 |
| | Email: | | |
| | Contact Person: | TOM HOCKLEY | |
| Applicants Signature: | | Date: | 17/12/2015 |
| The handwritten signature of the applicant is required on all applications. This application will not proceed without that signature. | | | |
| Property Details: | | | |
| Lot No: | 6 | House/Street No: | 290 |
| Diagram/Plan No: | 13866 | Cert. of Title Vol. No: | 1651 |
| Title encumbrances (easements, restrictive covenants etc): | REFER TO ATTACHED CERTIFICATE OF TITLE. | | |
| Street name: | BRAND HIGHWAY | | |
| Nearest Street Intersection: | CHITTERING STREET | | |
| Suburb: | MUCHEA. | | |
| Existing Building / Land Use: | | | |
| Description of proposed development and/or use: | BUILDINGS AND HANDSTANDS ASSOCIATED WITH A TRANSPORT DEPOT | | |
| Nature of any existing buildings and/or use: | TWO SHEDS, ONE SHADE STRUCTURE, TRANSPORTABLE OFFICE BUILDING & HANDSTAND. | | |
| Approximate cost of proposed development (less GST) | \$19,000 (REFER TO COVER LETTER) (please note this is the replacement value of the development) | | |
| Estimated date of completion: | DECEMBER 2017 | | |
| This application is to be submitted with two copies of all plans which are no larger than A3 in size. A separate application is required for a Building License. | | | |

Please see over...



Shire of Chittering
 6177 Great Northern Highway
 (PO Box 70)
 BINDOON WA 6502
 E: chatter@chittering.wa.gov.au
 T: 9576 4600 / F: 9576 1250
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Information Sheet Application for Planning Approval

Town Planning Scheme No 6

Accompanying Material

Every application for Planning Approval shall be accompanied by:

1. The correct Fees

Planning Application Fees

| | |
|--|---|
| Not more than \$50,000 | \$147.00 |
| More than \$50,000 but less than \$500,000 | 0.32% of value amount less GST |
| More than \$500,000 but less than \$2.5m | \$1,700 + 0.257% for every \$1 over \$500,000 |
| Retrospective Approvals | Three times the amount of the application fee as detailed above. (i.e. \$147 x 3 = \$448) |



2. Schedule 7 Planning Application form

(Please see reverse)

3. Two (2) copies of plans to scale on paper no larger than A3 size, showing:

- A site plan detailing:
 - street names;
 - lot numbers and tenure of the subject land and all adjoining parcels of land;
 - north point; and
 - dimensions of site.
- Floor plans, elevations, and sections of the proposed building to be erected or altered; and
- The location of any buildings or structures already on the site.

Credit Card Payments

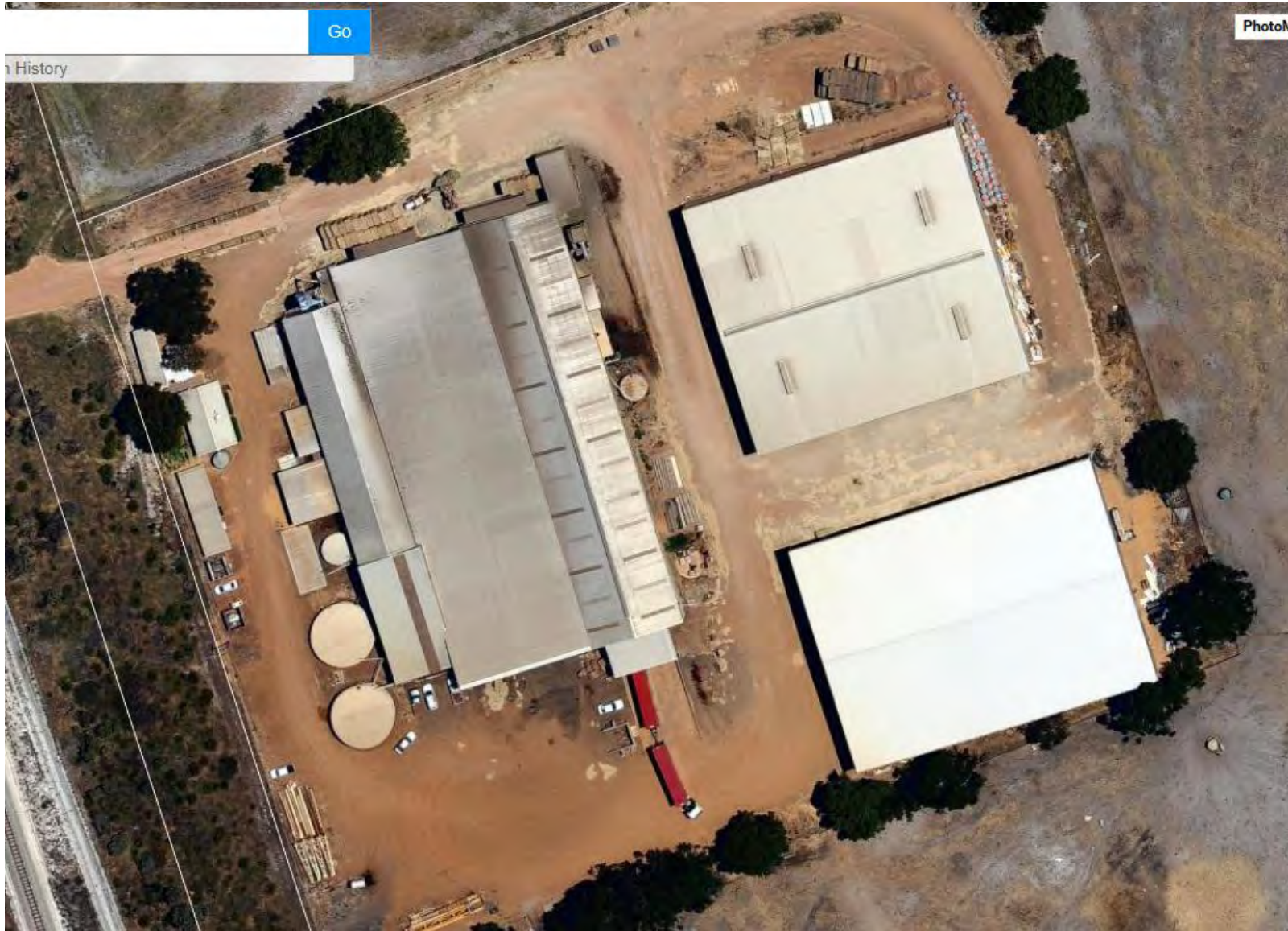
| | |
|-------------------|---|
| Card Type: | <input type="checkbox"/>  <input type="checkbox"/>  |
| Cardholders Name: | |
| Card Number: | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| Expiry Date: | |
| Security Code: | |
| Signature: | |
| Amount: | |

**ANNEXURE 2 –
HISTORIC AERIAL PHOTOGRAPHS**

Recent Site History 2009 to 2015



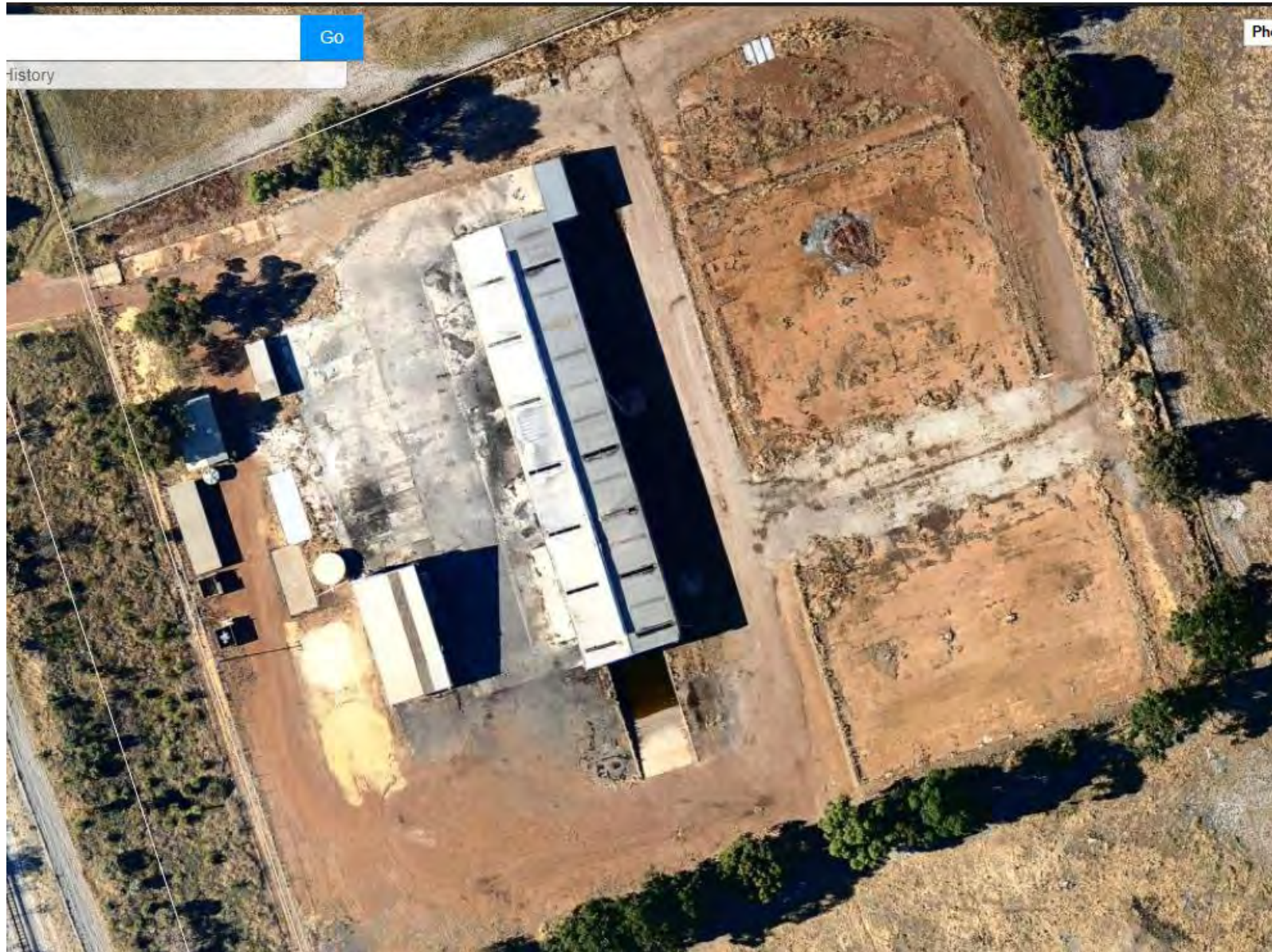
9 February 2009 (before fire)



17 January 2012 (before fire)



27 October 2012 (after fire)



14 December 2013 (remaining structures after fire – identical to current structures)



2 March 2014

(building frames about to be re-clad – damaged cladding removed due to fire damage but frames remain)



9 August 2014 (sheds re-clad and large water tanks reinstated)



21 February 2015 (Lampson operational)

**ANNEXURE 3 –
CERTIFICATE OF TITLE**

64V

WESTERN



AUSTRALIA

| | |
|------------------------------------|--|
| REGISTER NUMBER 6/P13866 | |
| DUPLICATE EDITION 4 | DATE DUPLICATE ISSUED 20/10/2015 |

RECORD OF CERTIFICATE OF TITLE UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
1651FOLIO
436

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 6 ON PLAN 13866

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

LAMPSON (AUSTRALIA) PTY LTD OF LOT 3 AWABA ROAD TORONTO NSW
(T N149062) REGISTERED 15 OCTOBER 2015

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

- EXCEPT AND RESERVING METALS, MINERALS, GEMS AND MINERAL OIL SPECIFIED IN TRANSFER 6923/1933. AS TO THE SAID LOCATION 1352 ONLY SKETCH ON VOL 1651 FOL 436.
- H632804 LEASE TO MILNE FEEDS PTY LTD OF 103-105 WELSHPOOL ROAD, WELSHPOOL
EXPIRES: SEE LEASE. AS TO PORTION ONLY. REGISTERED 27.12.2000.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

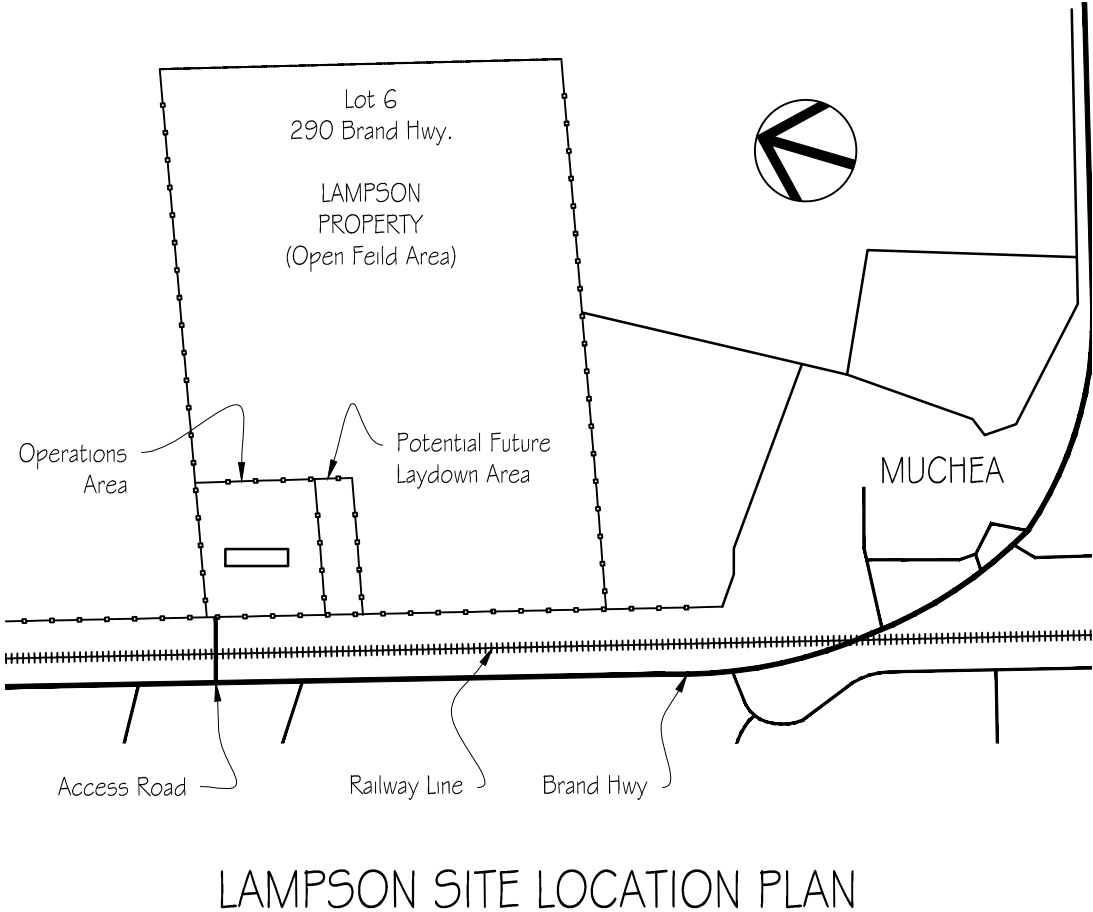
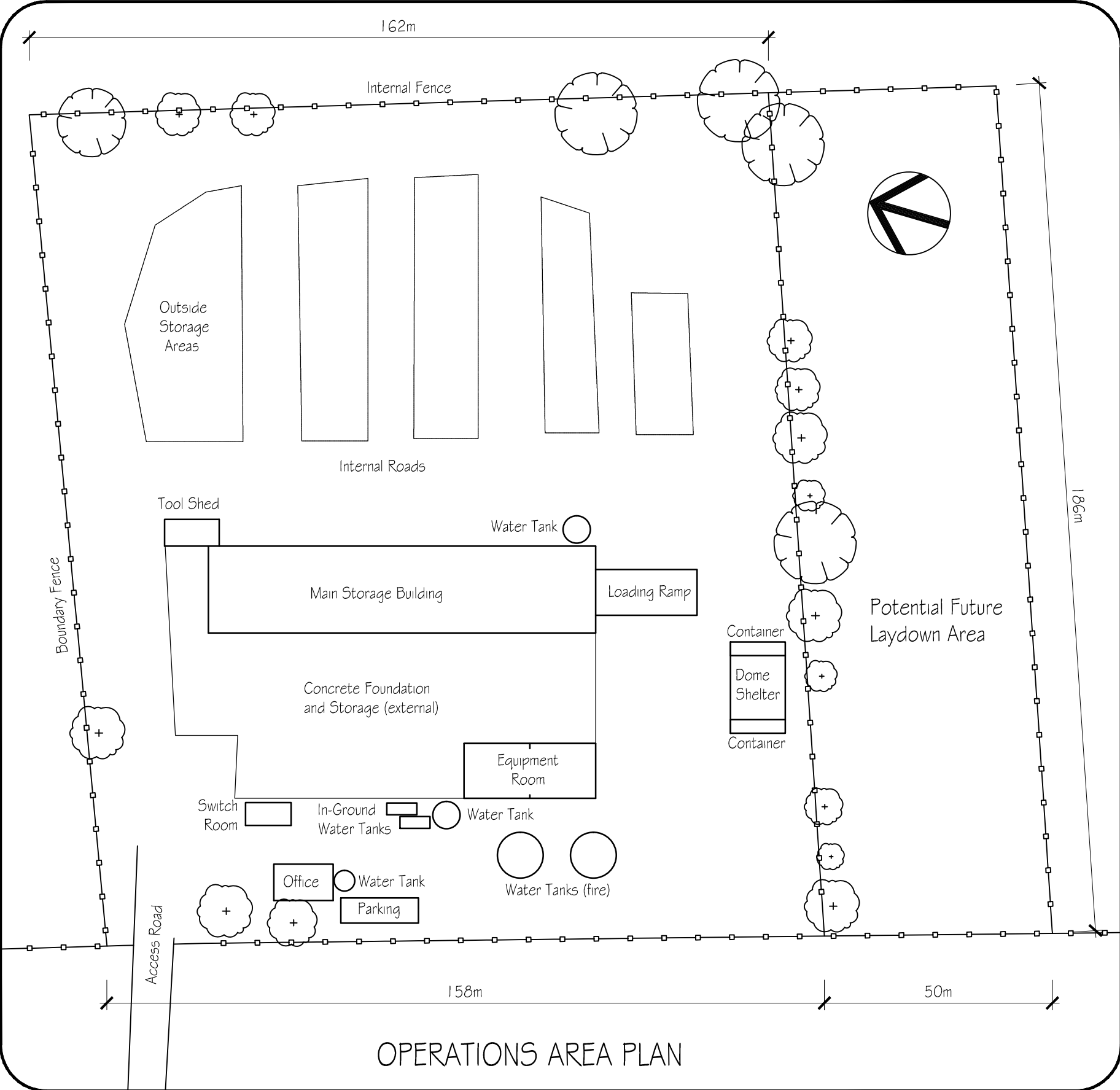
-----END OF CERTIFICATE OF TITLE-----

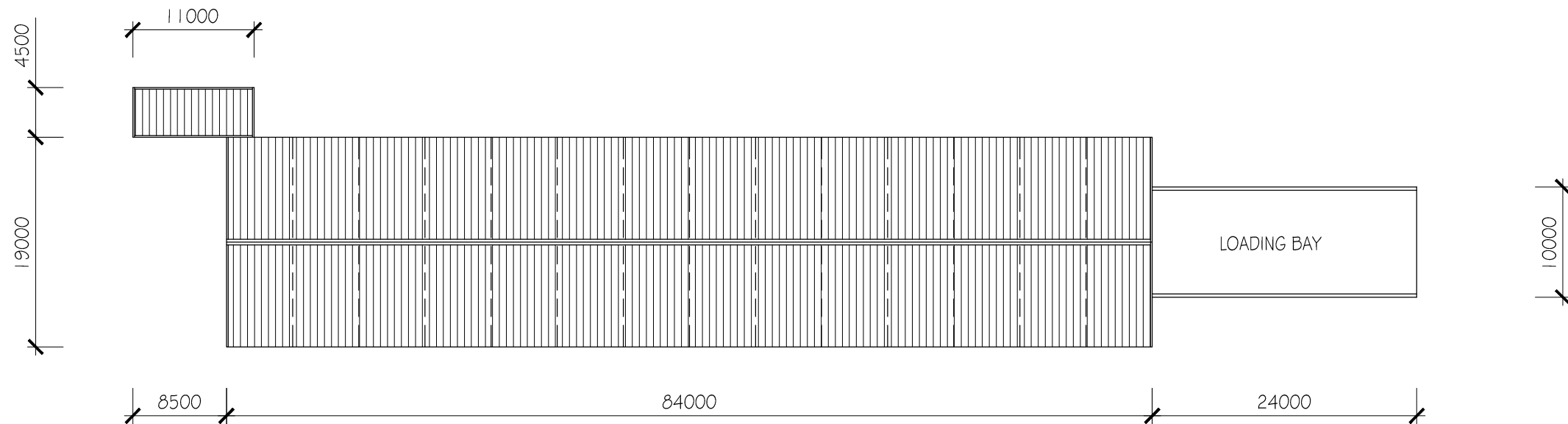
STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

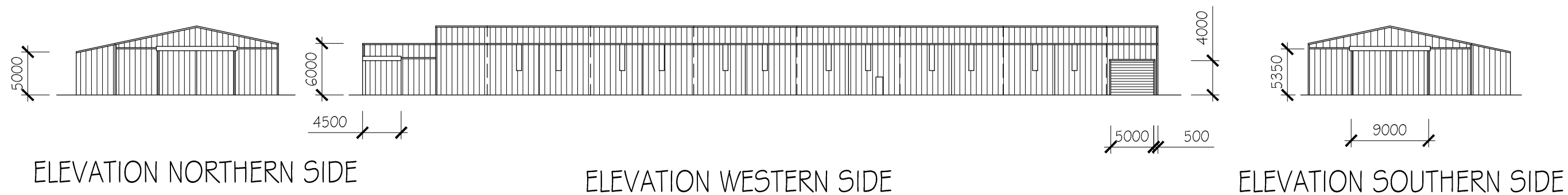
SKETCH OF LAND: 1651-436 (6/P13866).
PREVIOUS TITLE: 1651-430.
PROPERTY STREET ADDRESS: 290 BRAND HWY, MUCHEA.
LOCAL GOVERNMENT AREA: SHIRE OF CHITTERING.

**ANNEXURE 4 –
DEVELOPMENT PLANS**

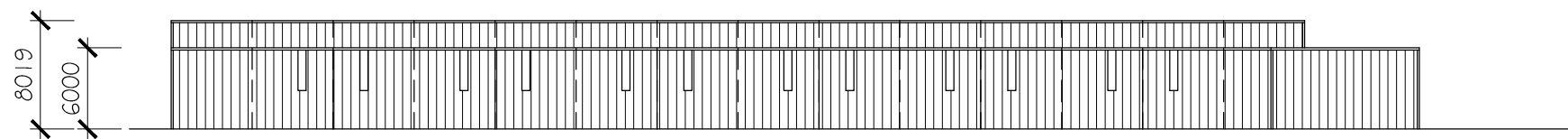
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MAIN STORAGE BUILDING PLAN

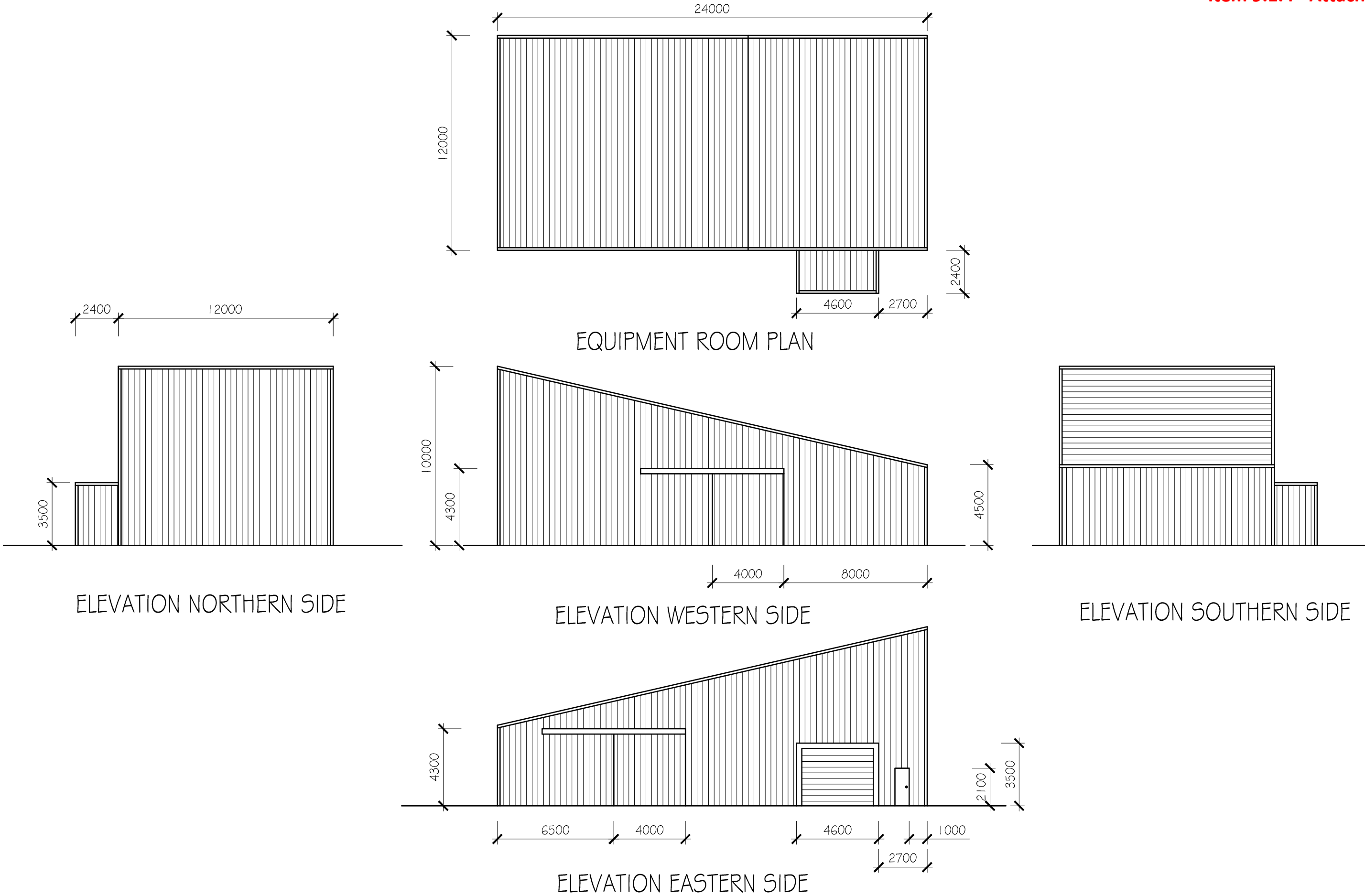


ELEVATION WESTERN SIDE

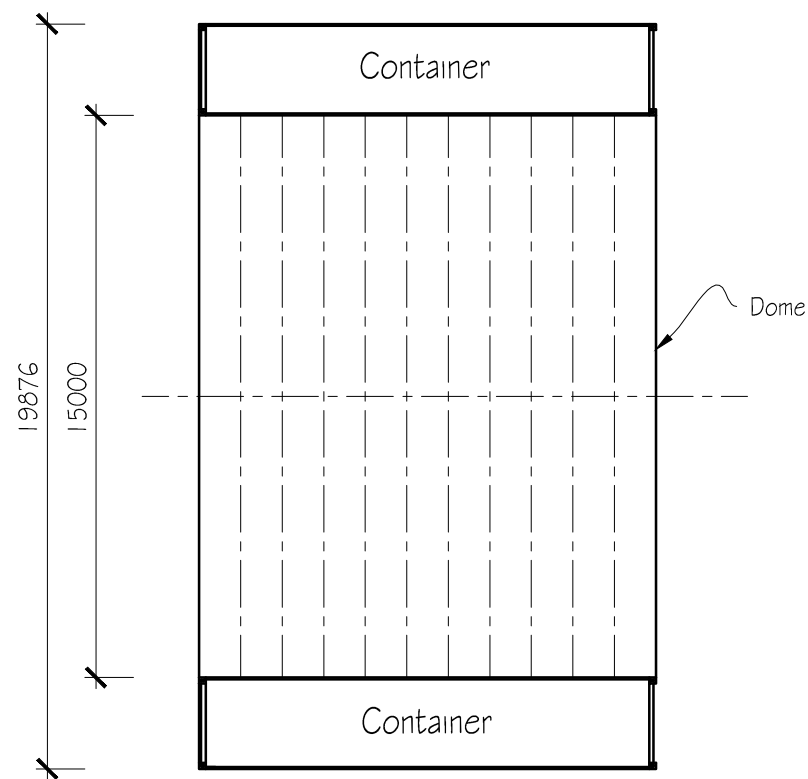


ELEVATION EASTERN SIDE

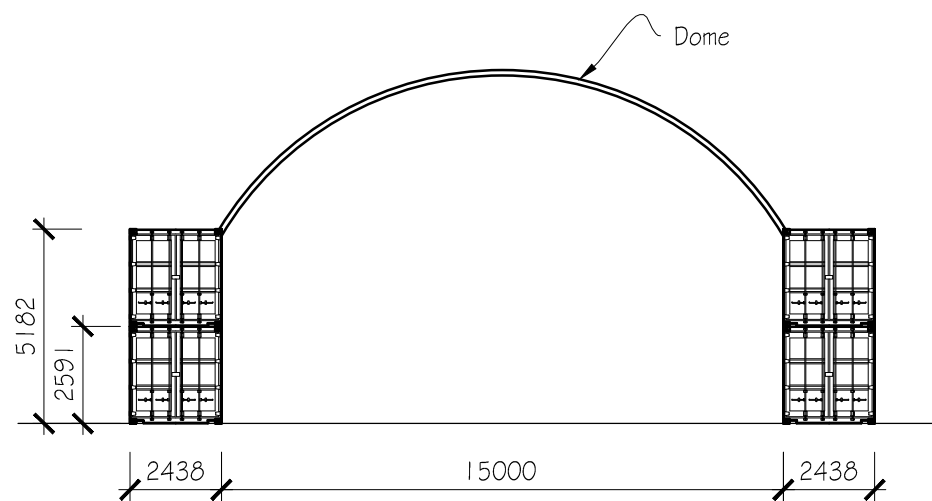
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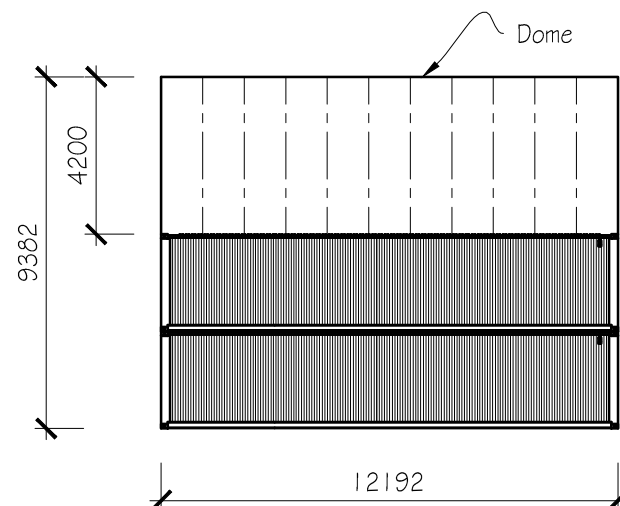
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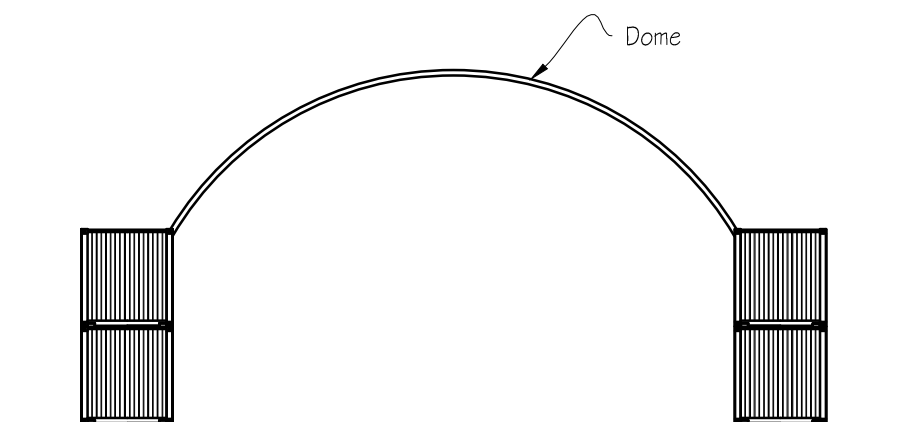
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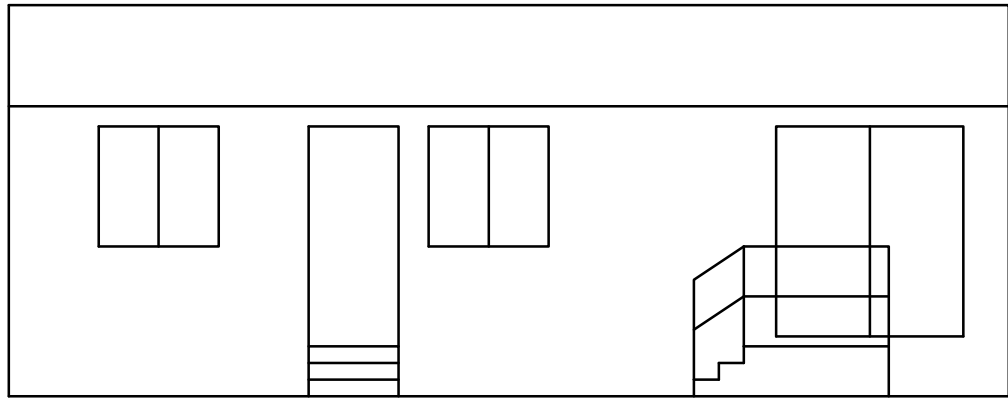


WESTERN ELEVATION

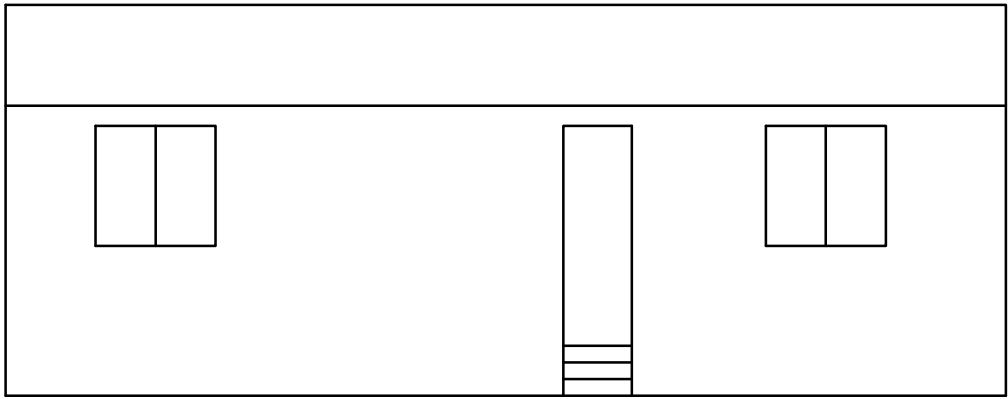


SOUTHERN END VIEW

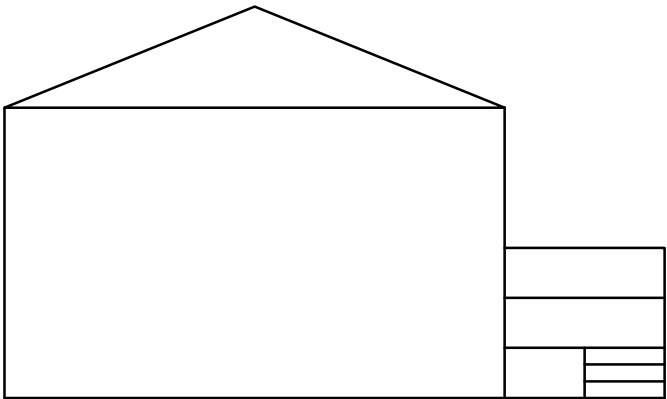
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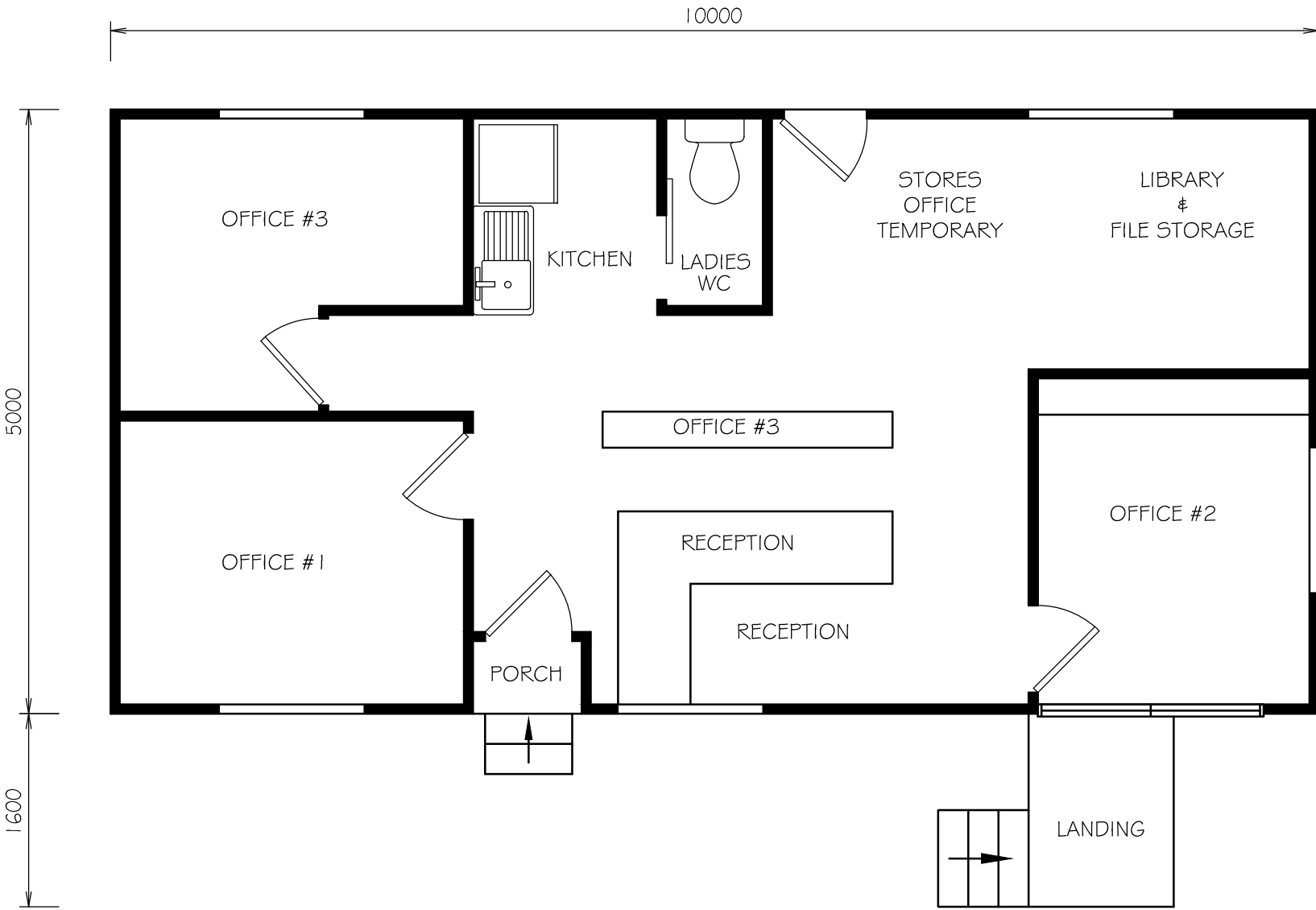
ELEVATION WESTERN SIDE



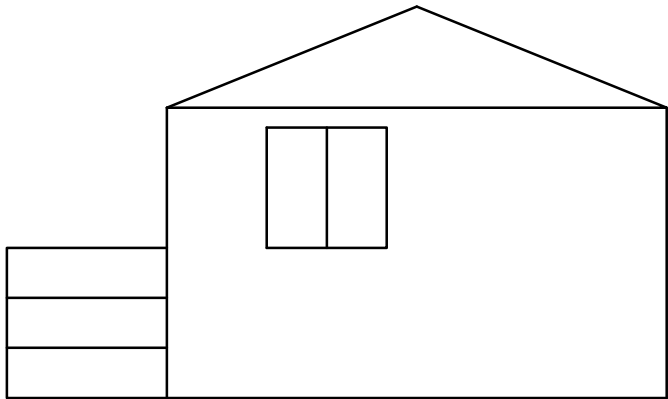
ELEVATION EASTERN SIDE



ELEVATION NORTHERN SIDE



LAMPSON SITE OFFICE PLAN



ELEVATION SOUTHERN SIDE

[illegible]

**ANNEXURE 5 –
TRAFFIC MANAGEMENT PLAN**



Access to the Lampson Australia Muchea site

Traffic Management Plan (TMP)

Purpose of this plan

This TMP has been developed to address the potential traffic impacts on the access and exit to Lampson Australia Muchea Site. Which include the following:

- Details of traffic Routes
- The number and Type of vehicles to be used from and with the site per day
- Speed limits to be observed along routes to and from the site
- Behaviour requirement for vehicle drivers to and from the site and within the site.

Details of traffic routes

Access to the Muchea site from the east and the west is via the Brand Highway. It is a state road and has 2 lanes with a speed limit of 110kph, classified as a primary distributor road with limited access acceptable to service individual properties. The traffic counts for 2014/2015 section of the Brand Hwy north of Muchea South Road. There was on average 3,900 vehicle movements per day (Monday to Saturday) for this section of the Brand Hwy.

With the future construction of the Perth to Darwin Highway the overall vehicle movements will reduce as there will only be the local traffic using the road.

The access road into the site is a dirt road that runs across a railway line. At the intersection of the railway line and the dirt road there is a stop sign. Once over the railway line it is a short distance to the main gate. There is ample area on both sides of the railway tracks for the trucks to enter and leave the site without blocking the railway crossing as shown in drawing number 502-01. 90% of the traffic leaving or entering the site do from a south direction.

The number and type of vehicles

The vehicle movements to and from the site during a standard day will be:

- Staff cars (light vehicle)
- General product deliveries (light vehicle)
- Lampson transport (heavy vehicles)

The estimated traffic movement associated with Lampson's daily work is summarised below.

- Staff Cars - 10 per day
- General product deliveries – Rubbish removal truck 1 per week and water truck 1 per month



- Lampson equipment – 1 x truck and trailer pocket road train (28m long) per month, 1 x truck and trailer 40' trailer (25m long) per month and 2 x truck and trailer (21m long) per week.

There will be days where there are no deliveries of product or Lampson equipment and other days where the maximum number of vehicle movements may be higher than the average stated above.

Traffic Noise

The following will be applied to minimise the traffic noise impacts:

- Apply and strictly adhere to low speed limits within site and access road (10kph)
- Ensure a clearly defined access road is available and that the road surface are adequately maintained
- Ensure all vehicles are fitted with adequate noise control equipment in good working order.
- Vehicles should not arrive or leave the site before 6:30am and after 5pm during the week and before 6:30am and after 3pm on weekends and public holidays

Speed limits

The speed limit on the Brand Highway is 110kph. All Lampson drivers will slow down and indicate and then turn into the site. Stop at the railway crossing, and when safe to do so, then cross the railway crossing and enter the Lampson yard where the speed is 10kph for site and access road. There will be clear and concise signage at the Lampson site.

Employees

The number of employee at the Lampson Site is average 10 per day. Lampson hours of work are from 6:30am to 5:00pm Monday to Friday and 6:30am to 3:00pm on weekends and public holidays.

**ANNEXURE 6 –
ENVIRONMENTAL MANAGEMENT PLAN**

Lampson (Australia) Pty Ltd

Environmental Planner

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Lampson (Australia) Pty Ltd

Outline

Normative Reference

Policy Ref

PN0003

Policy

Normative Reference

Description

ISO 14000 is a series of generic standards that are developed by the worldwide federation known as the International Organisation for Standardisation (ISO). These standards provide business with a structure for managing environmental impacts.

Purpose

Within the ISO 14000 series of standards, there are two types of standards:

- guidance and;
- requirements.

Scope

Guidance standards are descriptive documents intended to provide guidance only and the requirements standard ISO 14001 is intended to provide the system requirements.

Procedure

The following documents were used as reference during the preparation of the Environmental Management System (EMS): ISO 14001:2004 EMS – Requirements with guidance for use. ISO 14004:2004 EMS – General guidelines on principles, systems and support techniques.

Introduction

Policy Ref

PN0083

Policy

Introduction

Description

The Environmental Management System Manual includes the policies, procedures and forms that are to be used at Lampson (Australia) Pty Ltd to meet the requirements of the international standard ISO 14001:2004.

Purpose

The Environmental Management System (EMS) Manual has been developed and is used to document the organisation's environmental business practices that have been put in place to meet the environmental objectives of the organisation.

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

The manual includes the following specific sections:

- EMS Policies - Describing the high level strategy and intent
- EMS Procedures - Detailing the specific action that is required
- EMS Forms - The forms or reports that are to be used in each circumstance

The EMS Policies are divided into sections that correlate to the Environmental Management System sections of ISO 14001:2004 as follows:

- 4.1 General Requirements
- 4.2 Environmental Policy
- 4.3 Planning
- 4.4 Implementation and Operation
- 4.5 Checking
- 4.6 Management Review

The EMS Manual documents the policies, procedures and forms at Lampson (Australia) Pty Ltd that are in place to ensure the organisation is well placed to meet the environmental objectives of the organisation, as detailed in the Environment Policy.

The EMS Manual has been developed in accordance with the guidelines contained in ISO 14001:2004, the internationally recognised standard for environmental management systems.

The EMS Manual is used internally to guide the organisation's management and employees through the various requirements of ISO 14001:2004 that must be met and maintained in order to ensure compliance with the standard.

Scope

Policy Ref

PN0084

Policy

Scope

Description

Lampson (Australia) Pty Ltd has been operating since 1991 and is engaged in the business of:

HEAVY LIFT CRANES AND HEAVY TRANSPORTATION

This manual details the steps and processes that Lampson (Australia) Pty Ltd has implemented to meet its environmental objectives and to meet the requirements of ISO 14001: 2004, the international standard for environmental management systems.

Purpose

The purpose of this policy is to explain the general procedures relating to Scope

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees. The scope of the Environmental Management System (EMS) is as follows:

Geographical

The EMS covers all administration offices and operations in:

- Toronto NSW
- Gladstone QLD
- Muchea WA
- Karratha WA
- Melbourne VIC
- Sydney NSW

Functional

The EMS covers all normal business activities relating to the provision of:

- Heavy Lift Crane
- Heavy Transportation

Revision and issue status

| ISSUE NO. | SECTION NO. | REVISION NO. | DATE ISSUED | CHANGES MADE |
|-----------|---------------|--------------|-------------|-------------------------------------|
| 1. | Entire manual | A | | Final draft for review and approval |
| | | | | |
| | | | | |

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|--|--|--|--|--|
| | | | | |
| | | | | |

Procedure

The EMS Manual is applicable to the environmental aspects that the organisation has identified as those which it can control and those which it can influence.

The manual is a "controlled" document however "uncontrolled" copies can be distributed to any interested party.

The EMS Manual is intended to be used as a public document to demonstrate the organisation's commitment to minimising the environmental impact from its main business activities.

Terms and Definitions

Policy Ref

PN0085

Policy

Terms and Definitions

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Terms and Definitions

Purpose

The purpose of this policy is to explain the general procedures relating to Terms and Definitions

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Auditor - Person with the competence and qualifications to audit.

Environmental Aspect - Element of the company's activities, products or services that can interact on or with the environment.

Environmental Impact - Any change to the environment, whether adverse or beneficial, wholly or partially resulting from the company's environmental aspects.

Environmental Performance - Measurable results of the organisation's environmental management of its environmental aspects.

Environmental Policy - The organisation's statement of its overall intentions and direction related to its environmental performance.

Environmental Objective - Overall environmental goal that is consistent with the environmental policy that the organisation sets to achieve.

Interested Party - Individual or group concerned with or affected by the environmental performance of the organisation.

Prevention of Pollution - Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control pollution, in order to reduce any adverse environmental impacts.

Lampson (Australia) Pty Ltd

EMS POLICIES

General Requirements

Policy Ref

PN0087

Policy

General Requirements

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding General Requirements

Purpose

The purpose of this policy is to explain the general procedures relating to General Requirements.

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

The Policies that follow are identified with a reference to the specific ISO 14001:2004 section of the standard where appropriate.

The Managing Director is responsible for ensuring the establishment, implementation and maintenance of the Environmental Management System and for ensuring the environmental policy and the environmental objectives are defined and documented in the EMS Manual.

The process approach for the EMS shall integrate the business activities of the organisation, evaluate and document how the requirements of ISO 14001:2004 are fulfilled and incorporate a continual improvement philosophy.

Environmental Policy

Policy Ref

PN0088

Policy

Environmental Policy

Description

Lampson (Australia) Pty Ltd is striving for a sustainable future and as such, the organisation is committed to minimising the impact on the environment from its business operations.

Purpose

The purpose of this policy is to explain the general procedures relating to Environmental Policy

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

To support this objective, we will:

- Comply with applicable local, state, and federal environmental regulations
- Continually seek to improve the environmental performance of our business
- Engage employees, clients and suppliers in reducing the organisation's carbon footprint
- Train appropriate employees in sustainability management
- Maintain and support.
- Lead by example and aim to become advocates for sustainability in our sector
- Encourage the development of innovative sustainable products and services
- Adopt sustainable procurement practices
- Actively encourage and support our suppliers to adopt sustainable practices
- Measure and periodically report on our progress towards our sustainability goals
- Use finite resources, including paper, energy, fuel and water as efficiently as possible

In particular we will:

Emissions

- Calculate the carbon footprint of our business operations
- Minimise our carbon footprint through reduction strategies
- Promote energy efficiency to our employees, customers and suppliers
- Consider purchasing carbon offsets where appropriate

Waste

- Minimise waste by evaluating procedures to ensure they are as efficient as possible
- Actively promote recycling of paper, cardboard and other materials

Water

- Actively promote water conservation across the organisation

This policy is explained and discussed at the general induction training given to all new employees and has been communicated to all current employees. All employees are expected to know what the environmental policy means to them and how it affects their job or position within the organisation.

Signed: _____

Managing Director, Lampson (Australia) Pty Ltd

Date: _____

Review Date:

Lampson (Australia) Pty Ltd

Planning

Environmental Aspects

Policy Ref

PN0089

Policy

Environmental Aspects

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Environmental Aspects.

Purpose

The purpose of this policy is to explain the general procedures relating to Environmental Aspects

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process to identify environmental aspects and related environmental impacts that the organisation can control or have influence over.

A consistent risk analysis approach shall be used to determine the significance of the environmental aspects and impacts.

"EMS Procedure 1- Environmental Aspects" shall be used to identify how the organisation's business activities, products, and services impacts on the environment.

The identification of environmental aspects shall take into account the possible environmental impacts of normal business operations and business activities at the various stages of production or service delivery including:

- Design & development
- Manufacturing or implementation processes
- Monitoring the environmental performances of suppliers and contractors
- Transportation and business travel
- Waste management and treatment

All identified environmental aspects shall be maintained in a register and reviewed at least annually by the Managing Director using EMS Form "EF1 - Register of Environmental Aspects".

Legal & Other Requirements

Policy Ref

PN0090

Policy

Legal & Other Requirements

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Legal & Other Requirements.

Purpose

The purpose of this policy is to explain the general procedures relating to Legal & Other Requirements

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process to identify the current federal, state and local government environmental laws and regulations, industry codes of practice, and other contractual agreements that are applicable within the constraints of its normal business operating activities.

"EMS Procedure 2- Legal & Other Requirements" shall be used to identify the environmental legal and other requirements relevant to Lampson (Australia) Pty Ltd and the EMS.

"Form EF11 - Register of Environmental Legislations" shall be used by the relevant personnel to meet the requirements of this policy.

Objectives, Targets and Action Plans

Policy Ref

PN0091

Policy

Objectives, Targets and Action Plans

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Objectives, Targets and Action Plans.

Purpose

The purpose of this policy is to explain the general procedures relating to Objectives, Targets and Action Plans

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish and continually review environmental objectives, targets and action plans on a regular basis as part of the Environmental Management System (EMS).

"EMS Procedure 4 - Objectives, Targets and Action Plans" describes the process for setting objectives and targets to address the environmental aspects identified and ensure compliance with relevant environmental legislation and regulations.

The procedure also sets out guidelines for preparing action plans to achieve the objectives and meet the targets set.

Objectives, targets and action plans shall be developed for all relevant functions and levels of the organisation.

Objectives shall be measurable and practical, taking into account the business requirements of the organisation.

Targets shall be easily measurable and achievable but set at a level that challenges the organisation.

Action Plans shall have defined outcomes, a designated owner and an estimated timeframe. Refer EMS Form "EF4 - Environmental Action Plan".

Lampson (Australia) Pty Ltd

Implementation & Operation

Structure & Responsibility

Policy Ref

PN0070

Policy

Structure & Responsibility

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Structure & Responsibility

Purpose

The purpose of this policy is to explain the general procedures relating to Structure & Responsibility

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a system to define the relevant personnel to ensure the ongoing management, review and continual improvement of the Environmental Management System (EMS).

The Managing Director has appointed the OHS manager as the "EMS Executive" to take responsibility for the establishment, management and ongoing review of the EMS. The OHS Manager shall appoint an "EMS Manager" to assist in the establishment, management and ongoing review of the EMS.

The OHS Manager shall ensure that the EMS is established, implemented and maintained consistent with ISO 14001: 2004, and shall regularly report to the Managing Director on the performance of the system including recommendations for improvement.

"EMS Procedure 6 - Structure and Responsibility" shall be used to ensure the availability of resources and to assign roles, responsibilities and authorities of the personnel associated with the EMS.

Resources include human resources, infrastructure, financial, technological resources, and any others as required.

An Organisation Chart that displays the relevant management levels and positions that are included in the EMS shall be maintained and made readily available to all employees.

An Employee Register that details the name of the current incumbent in each position included in the EMS shall be maintained and made readily available to all employees.

Training, Competence and Awareness

Policy Ref

PN0071

Policy

Training, Competence and Awareness

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Training, Competence and Awareness

Purpose

The purpose of this policy is to explain the general procedures relating to Training, Competence and Awareness

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a system to ensure that persons occupying positions that are included in the Environmental Management System (EMS) are competent and able to perform the required tasks. Competence is ensured through appropriate education, training, and/or experience.

Training needs are identified as they relate to the EMS, the significant aspects, and the environmental legal and other requirements.

"EMS Procedure 7- Training, Competence and Awareness" details the various training provided to personnel involved in activities that affect the EMS. The procedure ensures that all employees are aware of the need to conform to all EMS policies and procedures and are aware of their specific EMS responsibilities.

Employees shall be made aware of the significant aspects and the legal and other requirements associated with their respective responsibilities, why improved performance is beneficial, and what the consequences of not following procedures and requirements are.

In addition to job-specific expertise and knowledge, all personnel included in the EMS (including contractors) shall be provided with general awareness on items such as the environmental policy and emergency response procedures.

Communications

Policy Ref

PN0072

Policy

Communications

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Communications

Purpose

The purpose of this policy is to explain the general procedures relating to Communications

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process to ensure effective internal and external communication of Environmental Environment System (EMS) requirements and related activities.

"EMS Procedure 8 - Communications" describes how internal communication related to the EMS is carried out within the various levels and locations of the organisation.

"EMS Procedure 8 - Communications" also describes how the organisation will communicate to external stakeholders and the general public on relevant EMS issues. In addition, the procedure covers environment related complaints from the general public and provides guidelines on responding accordingly.

EMS Documentation

Policy Ref

PN0073

Policy

EMS Documentation

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding EMS Documentation

Purpose

The purpose of this policy is to explain the general procedures relating to EMS Documentation

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process to adequately format all EMS documentation.

EMS documentation relates to the EMS Manual including the Environmental Policies, Environmental Procedures and Environmental Forms as well as objectives, targets, action plans, environmental records and any other document identified as needed for the achievement of the organisation's objective to minimise the environmental impact of its business activities.

"EMS Procedure 9 - EMS Documentation" provides details of the required format of all EMS Documentation.

Document Version Control

Policy Ref

PN0074

Policy

Document Version Control

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Document Version Control

Purpose

The purpose of this policy is to explain the general procedures relating to Document Version Control

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process for version control of all Environmental Management System (EMS) documentation.

EMS documentation relates to the EMS Manual including the Environmental Policies, Environmental Procedures and Environmental Forms as well as the objectives, targets, action plans, environmental records and any other document identified as needed for the achievement of the organisation's objective to minimise the environmental impact of its business activities.

"EMS Procedure 10 - Document Version Control" is used to ensure that only the most current version of all EMS Documentation is suitably authorised and available for distribution and provides guidelines for:

- Approving documents for adequacy prior to issue
- Reviewing and updating as necessary and re-approving documents
- Ensuring that changes and current revision status of documents are identified
- Ensuring that relevant versions of applicable documents are available at points of use
- Ensuring that documents remain legible and readily identifiable
- Ensuring that documents of external origin are identified and their distribution controlled, and
- Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose.

Operations Control

Policy Ref

PN0075

Policy

Operations Control

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Operations Control

Purpose

The purpose of this policy is to explain the general procedures relating to Operations Control

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a system for the operational controls related to the Environmental Management System (EMS).

Operational controls shall be put in place to ensure that the organisation can conform to the overall objectives contained in the EMS.

Operational controls relate to the activities where it is deemed that their absence could lead to deviations from the objectives contained in the EMS.

"EMS Procedure 13 - Operations Control" is used to establish, implement and maintain a system of operational control to ensure that the activities and processes that could have an impact on the environment are carried out under controlled conditions.

Emergency Preparedness & Response

Policy Ref

PN0076

Policy

Emergency Preparedness & Response

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Emergency Preparedness & Response

Purpose

The purpose of this policy is to explain the general procedures relating to Emergency Preparedness & Response

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process for the identification of potential emergencies and accidents that could impact the environment and be prepared to respond to actual situations.

By having a planned response to emergencies the organisation will be able to meet the strategic goal of minimising the negative impacts on the environment from business activities.

"EMS Procedure 14- Emergency Preparedness & Response" details the processes that shall be put in place to minimise the environmental impact from emergencies and accidents including the potential risk from the spill of pollutants and the release of hazardous materials into the environment.

Lampson (Australia) Pty Ltd

Checking

Monitoring & Measurement

Policy Ref

PN0077

Policy

Monitoring & Measurement

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Monitoring & Measurement

Purpose

The purpose of this policy is to explain the general procedures relating to Monitoring & Measurement

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process for monitoring and measuring the effectiveness of activities that have been undertaken at Lampson (Australia) Pty Ltd to meet the objectives detailed in the Environment Management System (EMS).

The monitoring and measurement process relates to the activities associated with the objectives, targets and environmental action plans defined in the environmental policy and detailed in "EMS Procedure 4 - Objectives, Targets & Action Plans".

"EMS Procedure 15 - Monitoring & Measurement" outlines the process for monitoring and measuring the effectiveness of activities that have been undertaken to meet the organisation's environmental objectives detailed in the EMS.

As a component of monitoring and measurement, the system of environmental alerts provides a check and balance for compliance to legal requirements.

"EMS Procedure 16 - Environmental Alerts" outlines the process to inform the regulators and manager of environmental alerts that have the potential of non-compliances with regulatory and other requirements.

Evaluation of Compliance

Policy Ref

PN0078

Policy

Evaluation of Compliance

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Evaluation of Compliance

Purpose

The purpose of this policy is to explain the general procedures relating to Evaluation of Compliance

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process for the evaluation of compliance with the applicable environmental legal and other requirements to which the organisation is required to abide by.

"EMS Procedure 17 - Evaluation of Compliance" outlines the methods to evaluate the compliance with applicable legal environmental requirements and with other requirements.

The procedure details the process to track the effectiveness of action taken to evaluate the compliance with applicable environmental legal requirements and with other requirements to which the organisation is required to abide by.

The procedure supplements the monitoring and measuring activities and completes the improvement action loop by providing a method for processing, tracking and analysing the effectiveness of any corrective and preventive actions undertaken.

Non-Conformance, Corrective and Prevention Action

Policy Ref

PN0079

Policy

Non-Conformance, Corrective and Prevention Action

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Non-Conformance, Corrective and Prevention Action.

Purpose

The purpose of this policy is to explain the general procedures relating to Non-Conformance, Corrective and Prevention Action

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a system to identify and correct actual and potential non-conformities that can impact the environment and respond effectively to actual situations.

"EMS Procedure 18 - Non-Conformances, Corrective and Preventative Action" outlines the process to identify and prevent actual and potential EMS non-conformities and to provide a process to correct them and take actions to mitigate their environmental impacts.

The procedure makes sure the non-conformances are not only first addressed to mitigate environmental impact, but that further investigation occurs to determine their cause, and action taken to avoid recurrence. Preventive actions are then those actions resulting from an evaluation as to why non-conformities occurred and taking action to prevent their recurrence.

Non-conformity is defined as non-fulfillment of an EMS requirement and includes environmental related complaints from the public, reported spills, environmental alerts, emergency events, and failures to comply with environmental management policy or procedure.

Control of Records

Policy Ref

PN0080

Policy

Control of Records

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Control of Records.

Purpose

The purpose of this policy is to explain the general procedures relating to Control of Records

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall establish, implement, document and maintain a process to control the records that are used in the Environmental Management System (EMS) to ensure the system is functioning and that the organisation is in conformance to ISO 14001: 2004 and to the EMS requirements.

"EMS Procedure 19 outlines the methods for the maintenance of environmental records to provide evidence of conformity to requirements and of the effective operation of the EMS.

The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of environmental records associated with the EMS including:

- EMS Reviews
- Environmental compliance records
- EMS Internal audit results
- Minutes of relevant meetings
- Records of communication with environmental regulatory agencies
- Non-conformity and incidence reports including records of emergency response
- Inspection, maintenance and calibration records
- Any completed EMS Forms
- Staff training and performance records

Internal Environmental Audits

Policy Ref

PN0081

Policy

Internal Environmental Audits

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Internal Environmental Audits.

Purpose

The purpose of this policy is to explain the general procedures relating to Internal Environmental Audits

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall conduct internal environmental audits at planned intervals to ascertain if the Environmental Management System (EMS) is regularly updated and maintained.

The internal environmental audits also seek to determine whether the EMS of Lampson (Australia) Pty Ltd conforms to the requirements of ISO 14001: 2004, the international standard relating to environmental management systems.

"EMS Procedure 20 - Internal Environment Audits" outlines the process for establishing an internal environmental audit program that will include an internal environmental audit schedule taking into account the importance of the areas to be audited, as well as the results of previous internal audits.

The procedure also ensures that internal environmental audit criteria, scope, frequency, methods, responsibilities and requirements for planning and conducting audits, and for reporting and maintaining results are defined and documented.

Management Reviews

Policy Ref

PN0082

Policy

Management Reviews

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding Management Reviews

Purpose

The purpose of this policy is to explain the general procedures relating to Management Reviews

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Lampson (Australia) Pty Ltd shall conduct a Management Review of the Environmental Management System (EMS) at planned intervals to ensure that the EMS is operating and functioning as planned, and is suitable, adequate and effective.

"EMS Procedure 21- EMS Management Reviews" describes the process of conducting a management review of the EMS at planned intervals to ensure that the Managing Director is in a position to ascertain if the EMS is operating and functioning as planned, and is suitable, adequate and effective.

The inputs for the EMS Management Review include results of internal audits, external communications, environmental performance, status of objectives and targets, status of corrective and preventive actions, follow up on actions from prior EMS Management Reviews, changing conditions or situations, and recommendations for improvement.

A record of discussions and outcomes shall be kept of the EMS Management Review including minutes of any meeting that is held to discuss the EMS Management Review.

Lampson (Australia) Pty Ltd

EMS PROCEDURES

Procedure 1 - Environmental Aspects

Policy Ref

PN0023

Policy

Procedure 1 - Environmental Aspects

Description

Details the guidelines for identifying and documenting the Environmental Aspects of Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to describe the process to identify the environmental aspects of the organisation's activities, operations, products or services that can interact with the environment.

Scope

The relationship between environmental aspects and environmental impacts is one of cause and effect where:

- an environmental aspect refers to an element of the organisation's activities, operations, products or services, which can have a beneficial or adverse impact on the environment.
- an environmental impact refers to the change, which takes place in the environment as a result of the aspect.

Responsibility

The Senior Manager is responsible for identifying the environmental aspects within the scope of this EMS, that can be controlled or those that can be influenced by taking into account planned or new activities, products and services.

Procedure

All relevant activities, processes and services which are identified as environmental aspects are documented using "Form EF1 - Register of Environmental Aspects" and any other appropriate diagrammatic or graphical means, where necessary for greater clarity.

As a guide, specific environmental aspects to be assessed could fall into the following:

- Direct use of transport fuels by vehicles on company business
- Direct use of water by employees in the workplace
- Direct use of paper/cardboard by employees in the workplace
- All forms of waste generated by employees in the workplace

A register of aspects identified shall be maintained and reviewed at least annually by the Managing Director. New aspects that should be added and any old aspects that should be deleted are recorded accordingly.

Selected environmental aspects are classified as Significant Aspects based on established criteria and are subject to relevant legislation, regulation or other permit requirements.

The criteria for environmental impact are detailed in "Form EF1 - Register of Environmental Aspects -Table of Aspect Frequency, Severity & Environmental Impact".

Records

Notes of activities are recorded and issued to summarise items such as the decisions taken, the actions taken, results, conclusions reached and next actions required, are retained as environmental records, per "EMS Procedure 19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 2 - Legal & Other Requirements

Policy Ref

PN0024

Policy

Procedure 2 - Legal & Other Requirements

Description

Details the guidelines for identifying and documenting the Legal & Other Requirements of Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to describe the process to establish a method to identify the applicable environmental legal and other requirements that are relevant to Lampson (Australia) Pty Ltd.

Scope

Reviews of federal, state and local government environmental laws and regulations, industry codes of practice, and other contractual agreements are undertaken within the constraints of the business operating parameters of Lampson (Australia) Pty Ltd.

References

- ISO-14001:2004, Section 4.3.2
- ISO-14001:2004, Section 4.5.2

Responsibility

The Senior Manager is responsible for the implementation and maintenance of this procedure and for establishing and maintaining an up-to-date listing of the environmental legislations and other regulations relevant to Lampson (Australia) Pty Ltd.

Procedure

The Senior Manager will establish and maintain an up-to-date listing of the environmental legislations and other regulations relevant to Lampson (Australia) Pty Ltd using Form EF11: Register of Environmental Legislations.

Environmental legal and other requirements relevant to Lampson (Australia) Pty Ltd are to be identified and evaluated for their significance associated with the activities, operations, products or services.

This will include:

- Legislative and regulatory requirements,
- Industry codes of practice,
- Agreements with public authorities,
- Non regulatory guidelines.

This Register of Environmental Legislations is to be reviewed at least on a quarterly basis. A subscription

to an environmental law updating service will be considered to assist with the above task.

Records

Records are retained consistent with "EMS Procedure 19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 3 - Legal Compliance

Policy Ref

PN0025

Policy

Procedure 3 - Legal Compliance

Description

Details the guidelines for identifying and documenting Legal Compliance of Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to ensure that Lampson (Australia) Pty Ltd has a documented means of evaluating compliance with relevant environmental legislation and regulations associated with its operations as defined by ISO 14001:2004.

Scope

This procedure covers the identification, correction and prevention of regulatory violations.

References

- ISO 14001:2004

Responsibility

The senior Manager is responsible for establishing a system to ensure that all relevant employees are aware of their duties regarding the compliance of all relevant laws and regulations.

The Senior Manager will monitor compliance with all relevant laws and regulations and will report any non-compliance to the Managing Director.

All Site Manager and Site Supervisor are responsible for knowing and complying with the environmental laws and regulations pertinent to their areas as well as having a working knowledge of the requirements of the organisation's EMS.

Procedure

Compliance assessments are accomplished through quarterly inspections conducted by Manager to ensure that permit conditions and other regulatory requirements associated with its operations are met on a continuous basis.

Periodic site visits are scheduled by the Managing Director to ensure that all personnel, equipment, and resources required to meet compliance activities are implemented correctly and effectively.

Site Manager and Site Supervisor shall undertake any actions that are identified from internal audits or as a result of new or modified regulations and permit conditions.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 4 - Objectives, Targets & Action Plans

Policy Ref

PN0026

Policy

Procedure 4 - Objectives, Targets & Action Plans

Description

Details the guidelines for identifying and documenting the Objectives, Targets & Action Plans at Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to describe the process of establishing the objectives, targets and action plans to achieve the commitments listed in the Environmental Policy and address the identified environmental aspects from the organisations normal business activities.

Scope

Objectives, Targets and Action Plans are established to meet the aims of the Environmental Policy. The Objectives, Targets and Action Plans that are established are consistent with legal and other requirements and show a commitment to continual improvement. The Objectives, Targets and Action Plans are developed with due consideration of the major environmental aspects that have been determined in "EMS Procedure 1 - Environmental Aspects".

References

- ISO-14001: 2004, Section 4.3.3
- ISO-14001: 2004, Section 4.5.2

Responsibility

The Senior Manager is responsible for co-ordinating the activities associated with the implementation and maintenance of this procedure covering Objectives, Targets and Action Plans.

The senior Manager is responsible for developing a DRAFT Objectives and Targets for each of the major environmental aspects identified in "EMS Procedure 1 - Environmental Aspects".

The Senior Manager is responsible for developing DRAFT Action Plans using "Form EF4 - Environmental Action Plan" that takes into account the frequency and severity of the environmental aspects identified.

The Senior Manager is responsible for taking the DRAFT Objectives, Targets and Action Plans to Managing Director for final approval and endorsement.

Procedure

Objectives

- An objective statement shall be developed for each major environmental aspect identified in "EMS Procedure 1 - Environmental Aspects".
- The objective statement should be clear and specific e.g. "We aim to reduce electricity usage in our Administration area"

Targets

- Targets shall be set for each major environmental aspect identified in "EMS Procedure 1 - Environmental Aspects".
- Targets should be readily measurable and set over a specific time e.g. "We aim to reduce electricity usage in our Administration area by 10% over the next 12 months"
- Targets should be achievable but should also stretch the organisation to achieve.

Action Plans

- Action Plans shall be developed to address each major environmental aspect identified in "EMS Procedure 1 - Environmental Aspects".
- Each program shall have a nominated owner, specific deliverables and an expected timeframe.
- Programs shall be listed on "Form EF4 - Environmental Action Plan"
- Progress to date shall be reported at each manager meeting and at least quarterly at Managing Director.
- Programs shall be updated or revised as decided by the managing Director.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 5 - Environmental Assessment

Policy Ref

PN0027

Policy

Procedure 5 - Environmental Assessment

Description

Details the guidelines for conducting Environmental Assessments at Lampson (Australia) Pty Ltd

Purpose

The aim of this procedure is to ensure that Lampson (Australia) Pty Ltd takes into account the environmental implications of any new products, services, processes, plant and equipment before the decision to proceed is taken.

Scope

This procedure applies to the designing or purchase of any new products, services, processes, plant and equipment, their use and eventual disposal by of Lampson (Australia) Pty Ltd.

References

- ISO-14001:2004, Section 4.3.3 & 4.3.4

Responsibility

The Site manager is responsible for managing the environmental assessment of any new products, services, processes, plant and equipment.

Procedure

We will evaluate the possible environmental impacts associated with the choice of any new products, services, processes, plant and equipment and will explore the use of alternatives that could be more environmentally responsible.

In designing any new products or services, we will ensure that their use and final disposal have minimum environmental impacts and when possible, incorporate features of recycling into the design.

In the production or implementation process, we will take steps to minimise waste generation, energy usage, water usage and use of transport fuels.

The environmental impacts of the entire process will be considered at every stage in order to achieve the objectives contained in the organisation's Environment Policy.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 6 - Structure & Responsibility

Policy Ref

PN0028

Policy

Procedure 6 - Structure & Responsibility

Description

Details the Structure & Responsibility for the management and ongoing review of the Environmental Management System (EMS) at Lampson (Australia) Pty Ltd

Purpose

The purpose of this procedure is to establish and assign roles, responsibilities and authorities of the personnel associated with the management and ongoing review EMS.

Scope

The positions, levels and committees contained in this procedure relate to Lampson (Australia) Pty Ltd.

References:

- ISO 14001:2004 International standard Clause 4.4.1

Procedure

An up to date Organisation Chart and Employee Register are available from the Human Resources area. Each of the following positions, levels and committees have responsibility for the functions described and are responsible for ensuring they are carried out either personally or by another designated authority.

Positions

Managing Director

- The Managing Director is the highest authority within the organisation at a Management level and the person ultimately responsible for approving the Environmental Management System (EMS).
- The Managing Director authorises and assigns the resources necessary to carry out the EMS planning, implementation, operation, and environmental monitoring activities. In particular the Managing Director will appoint a senior manager as the "EMS Executive" as a unique role or as part of a range of high level responsibilities.

Senior Manager

- The Senior Manager has been designated by the Managing Director as the "EMS Executive" with the responsibility to oversee the establishment, ongoing management and review of the EMS and is the person who is required to report to the Managing Director on any progress, opportunities for improvement or non-conformities. e.g. General Manager - Operations
- The Senior Manager is responsible for establishing and subsequently chairing the EMS Meetings.

- The Senior Manager heads the management team to formulate the environmental policy and overall sustainability objective.
- The Senior Manager commits to the development, implementation and maintenance of the EMS and approves the EMS Policies.
- The Senior Manager appoints personnel to and regularly reviews the performance of the EMS.
- The Senior Manager receives and reviews incident reports, corrective and preventive action plans for non-conformances that have or have the potential for a significant impact on the environment, on safety, on expenditures, and public reputation.

The Senior Manager co-ordinates the internal environmental audits.

Site Manager

- The Site Manager ensures compliance with environmental laws, regulations, company policies, and applicable codes of practice. e.g. Compliance Manager.
- The Site Manager maintains records and control documents used to ensure environmental compliance.
- The Site Manager serves in the role of "EMS Manager" and assists the Senior Manager in the establishment, ongoing management and review of the EMS.
- The Site Manager participates in regularly scheduled meetings to perform initial reviews of the EMS implementation phases.
- The Site Manager ensures that the EMS requirements described in the EMS Policies Manual and ISO 14001: 2004 are established, implemented and maintained.
- The Site Manager co-ordinates the maintenance of records to document and report on the performance of the EMS to the Senior Manager for review and make recommendations for improvements to the system.
- The Site Manager liaises with external agencies on matters relating to the EMS.
- The Site Manager liaises with the person responsible for the human resources function to ensure that all relevant job descriptions include details of the responsibilities and actions required to carry out the management, reporting and ongoing review of the EMS.

HR Manager

- The HR Manager ensures that all staff are adequately trained in their responsibilities and roles relating to the EMS.
- The HR Manager is responsible for identifying training requirements for each position relating to the EMS.
- The HR Manager is responsible for maintaining records of employee qualifications regarding their role relating to the EMS.
- The HR Manager ensures that employees are familiar with and have access to manuals, procedures, work instructions and records that relate to environmental issues.

All these personnel have the freedom, responsibility and authority to initiate action to:

- Prevent the occurrence of any EMS nonconformity,
- Identify and record any environmental quality problem,
- Recommend corrective action to improve the environmental performance of any product, system, and process,
- Control further processing or delivery of non-conforming operations until the deficiency or unsatisfactory condition has been corrected,
- Verify the implementation of corrective action.

OTHER EMPLOYEES - relates to all other employees in the organisation that do not have a specific environmental role assigned to them in the EMS. All other employees are responsible to:

- Discharge their duties in an environmentally responsible manner,
- Be aware of their roles and responsibilities with respect to the EMS and emergency preparedness and response,
- Respond to environmental incidents to the extent of their control only when it is safe to do so,
- Report any environmental incidents immediately to the supervisor of the area affected,
- Report any environmental alerts to their supervisor in a timely manner,
- Participate as required in the development and implementation of action plans,
- Be aware of the importance of conformance with environmental policies and procedures,
- Be aware of the significant environmental aspects of their work activities,
- Understand the effect on the environment of departing from specified operating procedures and the potential legal consequences to the employee and the organisation.

Job Descriptions

The job descriptions for all relevant positions include clear details of the responsibilities and actions required in relation to the management, reporting and ongoing review of the EMS. Refer "Environmental Form: EF6 - Job Description".

Consultants

External consultants and external expertise may be used where necessary; to assist internal resources achieve the organisation's EMS objectives. Specific tasks and agreed deliverables must be documented and signed before the commencement of the consultancy.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|------------|----------------|-----------|------|
| Written By | | | |

Procedure 7 - Training, Competence & Awareness

Policy Ref

PN0029

Policy

Procedure 7 - Training, Competence & Awareness

Description

Details the guidelines for Training, Competence and Awareness in relation to the environment and the EMS at Lampson (Australia) Pty Ltd.

Purpose

This aim of this procedure is to ensure that all employees receive the relevant level of training to allow them to competently carry out their roles and responsibilities as specified in the EMS and also to ensure that adequate training records are maintained.

Scope

This procedure applies to all full time, part-time, temporary and casual employees as well as permanent on-site contractors.

Responsibility

- The HR Manager will prepare and maintain job descriptions. The job descriptions identify education, experience and skills required for the job. Refer "EMS Form EF6 - Job Description".
- The HR Manager is responsible for identifying and organising the relevant level of training to ensure that employees can competently carry out their roles and responsibilities relating to the EMS (as specified in their job description).
- The HR Manager is responsible for ensuring that all employees receive basic sustainability awareness training and training on the organisation's high level environmental objectives, targets and action plans.

The HR Manager is responsible for ensuring that all relevant training records are accurately maintained.

Procedure

- The HR Manager will ensure that on commencement, all new staff receive training on:
 - Basic environmental and sustainability awareness
 - The environmental objectives, targets and action plans of the organisation
 - Their responsibilities in relation to the EMS and the consequences of not meeting their EMS obligations.
- The HR Manager will ensure that an initial skills audit or competency assessment of each employee is conducted, regarding their role and responsibility in relation to the EMS (as expressed in their job description) and will identify any skills or competency gaps.

- Where a skill or competency gap is identified, the P6 will organise appropriate training (either internal or external) and shall prioritise and schedule the training within a reasonable time frame.
- A record of all environmental training undertaken shall be maintained for each employee using "EMS Form EF8: Training Record".
- Annual performance reviews shall reflect the updated training history of each staff member and potentially identify any new training needs.

Records

The following records are retained as per "EMS Procedure 19: Control of Records".

- EMS Form EF6: Job Description
- EMS Form EF7: Employment Application Form
- EMS Form EF8: Training Record
- EMS Form EF9: Performance Review
- EMS Form EF10: Service Report

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 8 - Communications

Policy Ref

PN0030

Policy

Procedure 8 - Communications

Description

Details the guidelines for internal and external communications in relation to the environment and the EMS at Lampson (Australia) Pty Ltd.

Purpose

This aim of this procedure is to ensure that there is an effective communication strategy that enables the organisation to communicate with relevant internal and external stakeholders about the environmental management system and on any environmental matters relating to the normal business operations of the organisation.

Scope

The procedure applies to the requirements for both internal and external communication relating to the environmental performance of Lampson (Australia) Pty Ltd.

This procedure covers all communication from external sources regarding environmental matters and is to ensure that comments, concerns or complaints from external parties are addressed in a timely, accurate, efficient and consistent manner.

References

- ISO 14001:2004, Sections 4.4.3

Responsibility

- The PSite Manager has the main responsibility for the overall implementation of this procedure.
- The Site Manager is responsible for circulating environmental information within the organisation.
- The Site Manager is responsible for responding to any external requests on the organisation's environmental performance.
- The Site Manager is responsible for ensuring an adequate level of information publicly available is made available to all stakeholders and the general public.

All other employees receiving complaints or communications from external parties shall pass them to the Site Manager for investigation and action.

Procedure

Internal communications

- Communication to Managing Director on the high level environmental performance and any major non-conformances to the EMS are provided at least on a quarterly basis at scheduled meetings.
- Communication to all employees on the requirements of the EMS, the environmental objectives, targets and action plans and announcements of any major environmental achievement is provided through:
 - All staff emails
 - Notice boards in key locations
 - Toolbox Talk meetings

External communications

- Communication to the general public on the organisation's high level environmental objectives, targets and action plans and announcements of any major environmental achievement is provided through:
 - The organisation's website
 - Annual Report
 - Media Press releases issued in accordance with the organisation's Media Policy/Protocols and approved by the Managing Director.

Complaints

- Any employee who receives a comment, concern, or complaint from a customer or member of the public relating to the environment is required to refer the comment, concern, or complaint to the Site Manager. The name and address of the person, the nature of the issue, and the operating area involved is to be recorded.
- In case of an environmental complaint, the details of the complaint shall be recorded on "EM Form EF26: Environmental Complaint Form".
- The complaint shall be investigated in sufficient details for the likely source of the problem to be identified: this shall include consideration as to whether the incident is likely to create an environmental hazard.
- The Site Manager shall ensure that, regardless of the outcome and any intended action.
- If the complaint is found to be valid and justified, it should be treated as a Non-Conformity and treated in accordance with the "EMS Procedure 18 - Non-Conformances, Corrective and Preventative Action".

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 9 - EMS Documentation

Policy Ref

PN031

Policy

Procedure 9 - EMS Documentation

Description

Details the format for the Environmental Management System (EMS) Documentation at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to provide details of the required format for all EMS Documentation.

Scope

EMS documentation relates to the EMS Manual including the Environmental Policies, Environmental Procedures and Environmental Forms as well as objectives, targets, action plans, environmental records and any other document identified as needed for the achievement of the organisation's objective to minimise the environmental impact of its business activities.

References

- ISO 14001:2004, Section 4.4.5

Responsibility

- The Senior Manager is responsible for maintaining this procedure and establishing a consistent format for documenting the EMS Manual.
- The responsibility for the implementation of each procedure is identified in the individual approved and issued procedure.
- In a supporting role the Senior Manager is responsible for the provision of the documents and information required and necessary for the effective communication of environmental objectives.

Procedure

EMS Manual

The EMS Manual includes the policies and procedures that the organisation follows in order to meet the requirements of ISO 14001: 2004. The manual also includes the forms that are required to document and record critical activities. The EMS Manual is prepared by the Senior manager with assistance from Employee and the Managing Director. The manual is issued with the approval of the Managing Director and in accordance with "EMS Procedure 10 - Document Version Control".

Environmental Policy

The Environmental Policy is a statement of the organisation's commitment to minimising the impact on the environment from the organisation's business activities, products or services.

The Environmental Policy states the organisation's major environmental objectives which together with the other major strategic objectives are intended to ensure the long term sustainability of Lampson (Australia) Pty Ltd. The Environmental Policy is available to be viewed by all major stakeholders, including employees, suppliers and customers. The policy is reviewed annually by the Senior Manager and Managing Director to ensure that it continues to be relevant and effective.

Environmental Procedures (EP)

The Environmental Procedures are developed by the Senior Manager in consultation with the Managing Director and are issued in accordance with "EMS Procedure 10 - Document Version Control". Environmental Procedures describe in detail how the organisation will satisfy the requirements of ISO 14001: 2004. The Environmental Procedures include an aim, scope, list of references, responsibilities and records. The Environmental Procedures may be reviewed at any time to reflect a change in circumstances or improvements to the system, but in any case they will be reviewed at least annually by the Senior Manager and the Managing Director.

Environmental Forms (EF)

Environmental Forms are developed by the Senior Manager in consultation with the Managing Director and are issued in accordance with "EMS Procedure 10 - Document Version Control". The Environmental Forms provide the basis to record the necessary steps for each environmental-related activity in logical sequence so that the activities can be consistently repeated to the standard required in the procedures. Environmental Forms will be reviewed and updated as necessary to reflect changing circumstances in order to accurately describe each task.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 10 - Document Version Control

Policy Ref

PN0032

Policy

Procedure 10 - Document Version Control

Description

Describes the documentation version control procedures for the Environmental Management System (EMS) at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to ensure that only the most current version of all EMS Documentation is suitably authorised and available for distribution.

Scope

EMS documentation relates to the EMS Manual including the Environmental Policies, Environmental Procedures and Environmental Forms as well as objectives, targets, action plans, environmental records and any other document identified as needed for the achievement of the organisation's objective to minimise the environmental impact of its business activities.

References

- ISO14001: 2004 Section 4.4.4 & 4.4.5

Responsibility

- The Site Manager is responsible for ensuring an appropriate level of documentation version control is in place to ensure that only the most current version of the EMS Manual and related documents is available.

All other employees are responsible for reviewing the documents as they use them and submitting document change requests to update documents as necessary.

Procedure

EMS Manual

- The EMS Manual will be issued by the Senior Manager after checking that it has the appropriate authorisation.
- The EMS Manual will be issued to appropriate persons according to the need for relevant instructions to be available where they will assist the effectiveness of the Environmental Management System.
- A master copy of the EMS Manual will be available as a reference to all staff.
- Each version of the EMS Manual will be identified by a version number and "last date reviewed".
- Superseded or obsolete EMS Manuals will be marked "Superseded" and only used for reference and not as part of the normal operations of the EMS.
- Copies of the EMS Manual may be issued to persons outside the organisation only with the prior approval of

the Managing Director. These copies shall be in an un-modifiable form i.e. Hardcopy or PDF format.

- If the EMS Manual is maintained in electronic form it shall be backed-up at least weekly and a copy of the backup kept off site for security reasons.
- All environmental documents will be identified by a title, version number and date of issue.

EMS Procedures

- All environmental documents will be identified by a title, version number and date of issue.
- A record of approval will include the name and job title of the person who wrote the procedure and the relevant date. It shall also include the name and job title of the person who approved the procedure and the date of approval.
- Any revisions will include a description of the changes made, the sections affected and the revision date.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 11 - Review of Suppliers

Policy Ref

PN0033

Policy

Procedure 11 - Review of Suppliers

Description

Describes the guidelines regarding the Review of Suppliers at Lampson (Australia) Pty Ltd

Purpose

The aim of this procedure is to ensure that major suppliers are not in conflict with the organisation's environmental objectives and are not involved in activities or practices that could potentially pose a reputational risk to Lampson (Australia) Pty Ltd.

In addition this procedure ensures that any environmentally sensitive goods and services supplied to Lampson (Australia) Pty Ltd are properly identified and managed accordingly.

Scope

This procedure applies to all major suppliers providing goods and/or services to Lampson (Australia) Pty Ltd and to specific environmentally sensitive goods and services supplied to Lampson (Australia) Pty Ltd.

References

- ISO 14001:2004, Sections 4.4.6

Responsibility

The Site Manager is responsible for evaluating if any major supplier is in conflict with the organisation's environmental objectives and is involved in activities or practices that could potentially pose a reputational risk to Lampson (Australia) Pty Ltd.

The Site Manager is responsible for deciding which purchased goods or services have a significant environmental aspect.

Procedure

Supplier Review and Approval

All current major suppliers and any new prospective major supplier will be asked to complete "EMS Form EF12 - Supplier Sustainability Review" at least on an annual basis, in order to gain an understanding on the supplier's approach to the environment. In particular the supplier shall answer the following key questions:

- Does your company have a Commitment Statement or a Sustainability Charter that highlights the intention to minimise the impact on the environment from its business activities?
- Has your company ever been prosecuted or received an improvement notice regarding any breach of environmental legislation in the past 10 years?

- Does your company act ethically at all times when communicating and remunerating all parties that it has business dealings with including employees, contractors, suppliers, customers, government authorities and investors?

The Site Manager will evaluate the results of each Supplier Sustainability Review and will determine if the current or prospective supplier potentially poses a reputation risk to Lampson (Australia) Pty Ltd and if the supplier is a suitable fit to the organisation's commitment to the environment.

If the Site manager is of the view that any current or new prospective major supplier potentially poses a reputation risk to Lampson (Australia) Pty Ltd and is not a suitable fit to the organisation's commitment to the environment, the view shall be expressed to the Senior Manager who will then make a business decision on the approval of the supplier.

The Site Manager will ensure that current and prospective major suppliers are advised of the review process within a reasonable time period.

Managing environmentally sensitive goods and services

The Site Manager shall examine the "EMS Form1 - Register of Environmental Aspects" to determine if any goods or services purchased by Lampson (Australia) Pty Ltd have a significant environmental aspect. In making this assessment the following are taken into consideration:

- Whether the supplier or contractor is required to comply with any Environmental Regulations or Codes of Practice.
- The impact of the supplier's or subcontractor's operations on the environment, under normal, abnormal and emergency conditions
- The risk of an environmental incident created by the supplier's or subcontractor's operations on-site work that could cause an environmental impact for Lampson (Australia) Pty Ltd.

In appropriate circumstances we may ask to inspect the goods at the supplier's premises and if this is the case, such a request will be specified in writing. We will similarly arrange for our customer to inspect the goods or services at the supplier's premises if the customer so requires.

Records

Records are retained consistent with "EMS Procedure 19: Control of Records" including:

- "EMS Form EF 12: Supplier Sustainability Review"

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 12 - Regulatory Approvals

Policy Ref

PN0034

Policy

Procedure 12 - Regulatory Approvals

Description

Describes the process for seeking Regulatory Approvals at Lampson (Australia) Pty Ltd.

Purpose

This procedure describes the method to be implemented to secure the necessary approval from regulatory agencies for processes and activities at Lampson (Australia) Pty Ltd that could have a negative impact on the environment.

Scope

This procedure provides clear guidelines on environmental related activities at Lampson (Australia) Pty Ltd that require regulatory approval.

References

- ISO 14001:2004, Section 4.3.2
- ISO 14001:2004, Section 4.4.6

Responsibility

The Site Manager is responsible for ensuring that any environmental activity or process that requires regulatory approval is duly authorised by the relevant authority.

Where operations are identified as potentially requiring environmental permits the Site Manager shall manage the investigation and permit approval process by coordinating the necessary resources and personnel as appropriate and report to Managing Director.

Procedure

Where operations are identified as potentially requiring environmental permits the Site manager shall manage the investigation and permit approval process by coordinating the necessary resources and personnel as appropriate.

The Site manager shall develop a strategy to secure permits in concurrence with existing operational timing plans and shall communicate with the relevant regulatory agencies in writing and in a timely fashion.

The Site manager shall coordinate the preparation, submission and negotiation of permit applications. Permits obtained shall be reviewed to ensure that they adequately cover the operation(s) concerned.

The Site Manager will review the terms and conditions in new permits and modify or establish operational controls necessary to ensure compliance with the permit.

Records

Records will be retained as per "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
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Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |
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Procedure 13 - Operations Control

Policy Ref

PN0035

Policy

Procedure 13 - Operations Control

Description

Describes the system for Operations Control relating to activities and processes that affect the Environmental Management System (EMS) at Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to establish, implement and maintain a system of operational control to ensure that the activities and processes that could have an impact on the environment are carried out under controlled conditions.

Scope

Operational controls relate to operations and activities where it is deemed that their absence could lead to deviations from the objectives and targets contained in the Environmental Policy.

The organisation considers the different operations and activities contributing to its significant environmental and legal impacts when developing or modifying operational controls.

The Managing Director has the prime responsibility for ensuring adequate operational controls in place for activities and processes that could have an impact on the environment.

References

- ISO14001:2004, Section 4.4.6

Responsibility

The Managing Director has the prime responsibility for ensuring adequate operational controls are in place for activities and processes that could have an impact on the environment.

Procedure

The planning and development of operational controls shall follow the following process:

- High significance environmental impacts are identified for action.
- High significance legal impacts are identified for action.
- High significance items are candidates for Action Plans per procedure, "EMS Procedure 4 - Objectives, Targets and Action Plans".

Operational controls are to be developed for each Action Plan in order to ensure that the objectives and targets contained in the Environmental Policy are achieved.

Records

Records will be retained as per "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |
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Procedure 14 - Emergency Preparedness & Response

Policy Ref

PN036

Policy

Procedure 14 - Emergency Preparedness & Response

Description

The guidelines for ensuring that environmental impacts are considered when developing an Emergency Preparedness & Response Plan at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to detail the processes that shall be put in place to minimise the environmental impact from emergencies and accidents including the potential risk from the spill of pollutants or the release of hazardous materials into the environment.

Scope

This procedure applies to the environmental consequences of any emergency or accident at all Lampson (Australia) Pty Ltd locations that may result in the spill of pollutants or the release of hazardous materials into the environment while protecting the health of employees.

This procedure applies to spills where environmental incidents include accidental emissions to the atmosphere as well as accidental releases of pollutants and hazardous materials to water ways and land.

References

- ISO 14001:2004, Section 4.4.7

Responsibility

The Site Manager is responsible for organising an investigation and assessment on potential situations that may lead to emergencies/accidents and recommending preventive measures to mitigate the environmental impacts. All other employees are responsible for detecting and reporting dangerous situations that may lead to emergencies and assisting with emergency assessment and investigation.

Procedure

Details

Potential Emergencies/Accidents

Potential emergency situations and accidents that may occur at or near all Lampson (Australia) Pty Ltd locations include:

- Fire
- Explosion
- Toxic Gas leak

- Toxic chemical spill
- Natural disasters - lightning, earthquake, flood, extreme weather
- Structural failure
- Electrical power short-circuit
- Crash and collision
- Sabotage, vandalism, terrorist attack, etc.

Identifying significant environmental risks

All significant environmental risks arising from the potential emergencies or accidents listed above shall be identified and recorded. These may include details of the:

- Location, type and amount of any hazardous materials stored on-site
- Location, volume, age, secondary containment and inspection history of storage tanks
- Location, type and capacity of waste treatment facilities
- Location, types and magnitude of neighbourhood hazards
- Unloading, loading, transfer points for chemicals, transport fuel, oil

Emergency Preparedness

Based on the result of the identification of significant environmental risks arising from potential emergencies or accidents, a number of emergency preparedness resources and tools shall be put in place based on the likelihood and impact of the environmental risk. These may include:

- Spill absorbents, containment booms, neutralising chemicals
- Specific alarms and lighted emergency signs
- Specialised portable emergency equipment
- Specialised fire fighting equipment to deal with hazardous materials
- Protective gloves, goggles, suits
- Escape respirators, gas masks, self-contained breathing apparatus
- Training of emergency personnel to deal with environmental hazards

Emergency Response Plan

In addition to the above, the organisation has an Emergency Response Plan for all business locations to deal with all potential emergency or accident situations.

All employees have received sufficient training on the Emergency Response Plan and are aware of their responsibilities and action required in the event of an emergency or accident.

The emergency command structure, including specific personal responsibilities, reporting relationships, phone numbers for Emergency Response Team members, facility managers and supervisors are posted in strategic locations.

Emergency drills are held at least annually to simulate various types of emergencies. After a drill, emergency response team reviews effectiveness of procedures and revise them if necessary.

A copy of the Emergency Response Plan is available on request.

Post Emergency

Following an environmental emergency, the cause of the emergency and corresponding emergency procedures shall be reviewed. Corrective and preventative actions will be identified and implemented as necessary.

Where applicable, regulatory agencies shall be notified by the P4 of environmental incidents in accordance with "EMS Procedure 12: Regulatory approvals".

Records

Records will be retained as per "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |
| Approved By | | | |

Procedure 15 - Monitoring & Measuring

Policy Ref

PN0037

Policy

Procedure 15 - Monitoring & Measuring

Description

Details the procedures for monitoring & measuring the effectiveness of activities that have been undertaken at Lampson (Australia) Pty Ltd to meet the organisation's environmental objectives.

Purpose

The purpose of this procedure is to establish a system to monitor and measure the effectiveness of the organisation's actions to meet the objectives detailed in the EMS.

Scope

The monitoring and measurement procedures relate to the activities associated with the objectives, targets and environmental action plans defined in the environmental policy and detailed in "EMS Procedure 4 - Objectives, Targets & Action Plans".

References

- ISO14001:2004, Section 4.5.1

Responsibility

The Senior Manager is responsible for ensuring that effective procedures are put in place to monitor and measure the effectiveness of the activities that are undertaken at Lampson (Australia) Pty Ltd to meet the organisation's environmental objectives.

Procedure

Effective monitoring and measurement of environmental programs and management activities are based on the normal sequence of activities for:

- The initial review of the EMS
- The identification of significant impacts
- The setting of Objectives and Targets
- The development of Action Plans
- The identification of operational controls
- The monitoring & measuring of Action Plans

Action Plans

Progress on the environmental action plans is monitored and reported to managing Director at regular periods as defined in "EMS Procedure 4 - Objectives, Targets & Action Plans".

The outcomes and results of activities listed in the Action Plans are measured against the original targets to ascertain the effectiveness of the activities.

Any activity or initiative that is falling short of original estimates by more than 20% for the same timeframe shall be the subject of a report from the responsible employee that will include details on how results

Monitoring and measuring Carbon Emissions

The main carbon emissions relating to the business activities of the organisation shall be monitored and measured using a reliable carbon calculator or carbon management system that meets the requirements of ISO 14064 - the international standard for the quantification and reporting of greenhouse gas emissions.

The following activities that result in carbon emissions shall be monitored and measured:

- Use of electricity
- Use of gas
- Water Usage
- Use of transport fuels for vehicle travel
- Use of paper and cardboard
- Specific waste consigned to landfill
- General waste consigned to landfill

Use of renewable energy sources and/or green power and any recycling or other carbon offsetting will be taken into account in the total carbon footprint calculation.

Total carbon emissions shall be expressed as a unit of carbon dioxide equivalent (co2e) and reported on a full time equivalent basis and a per square metre basis to allow for a consistent comparison between reporting periods.

Non-conformances

The frequency and severity of Non-Conformance Reports shall be monitored as a guide to the effectiveness of the organisation's environmental activities. A marked decrease in the number of major non-conformances will indicate that the organisation's environmental action plans are being effective. However, an increase in the number of major non-conformances will indicate that the organisation's environmental action plans are ineffective and need to be revised and amended to address the increase in reportable environmental incidents.

Use of monitoring and measuring equipment

Staff using monitoring and measuring equipment must ensure that it is labeled to indicate that it has current calibration. The equipment will only be used in appropriate environmental circumstances that will not influence test results. Calibration records will be maintained using "EMS Form EF21 - Calibration Record".

Records

Records will be retained as per "EMS Form EF19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |

Policies and Procedures Prepared For: Lampson

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| Approved By | | | |
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Procedure 16 - Environmental Alerts

Policy Ref

PN0038

Policy

Procedure 16 - Environmental Alerts

Description

Details the process for all employees regarding Environmental Alerts at Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to establish a system to inform the regulators and Managing director of environmental alerts that have the potential of non-compliances with regulatory and other requirements.

Scope

This procedure is applicable to all departments, branches and work sites at Lampson (Australia) Pty Ltd.

References

- ISO14001:2004

Responsibility

The Site Manager is responsible for ensuring that systems are in place to capture and communicate Environmental Alerts that have the potential of becoming an EMS non-conformity.

The supporting roles and responsibilities of personnel involved in environmental alerts are further detailed in the details listed below.

Procedure

All employees have three basic responsibilities:

- Recognise the environmental alert problem
- Correct the problem, if possible, and report it to a higher authority
- If you cannot correct it, contact the area supervisor who will take proper corrective action.

When contacted by an employee regarding an environmental alert problem, the supervisor will:

- Assess the problem
- Take the appropriate corrective action
- If the supervisor cannot determine the appropriate action that should be undertaken, he/she must discuss it with their manager.
 - Once the situation has been addressed, the supervisor records all details including date, time, names of people involved, action taken (by whom), etc.

- This information is required to complete the corrective action process and any potential inclusion in a future Action Plan as detailed in procedure "EMS Procedure 4 - Objectives, Targets & Action Plans".
- The supervisor immediately forwards the information to the Site Manager.
- Upon notification of an environmental alert, the Site Manager reports to the Managing Director who determines whether the incident is to be reported to the regulatory agencies and follows the appropriate regulatory reporting requirements.
- If the incident is a potential non-compliance, the supervisor notifies their manager who reports the incident through the normal communications channels.
- If the incident involves a non-conformance to a certificate of approval, the supervisor notifies the Site Manager who Notifies the Managing Director who notifies the appropriate regulatory authority.
- The Site Manager reports all environmental alerts to the Managing Director.
- All Environmental Alerts are investigated per "EMS Procedure 18 - Non-conformances and Corrective and Prevention Action". The Site Manager prepares an environmental non-conformance report to continue the investigation process for the environmental alert.

Records

Records will be retained as per "Environmental Procedure 19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 17 - Evaluation of Compliance

Policy Ref

PN0039

Policy

Procedure 17 - Evaluation of Compliance

Description

Describes the process for the Evaluation of Compliance of environmental legislation and regulations relevant to Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to establish an effective system to evaluate the compliance with applicable environmental legal requirements and with other requirements to which the organisation is required to abide by.

Scope

The evaluation of compliance activities are associated with the environmental programs that result from the fundamental needs of the environmental policy, and from the assessments of environmental aspects, environmental impacts, and environmental legal & other requirements.

This procedure supplements the monitoring and measuring activities and completes the improvement action loop by providing a method for processing, tracking, following up on effectiveness of the corrective and preventive actions resulting from the environmental action reports.

References

- ISO14001:2004

Responsibility

The Site Manager is responsible for co-ordinating the activities necessary to evaluate the compliance with applicable environmental legal requirements and with other requirements to which the organisation is required to abide by.

Procedure

- The Site Manager co-ordinates a compliance review with the Managing Director at least once every 12 months.
- "EMS Form EF11 - Register of Environmental Legislation", is used and reviewed to ensure that the applicable requirements are current and have been addressed.
- "EMS Form EF4 - Action Plan", is used and reviewed to ensure that the appropriate improvement, corrective and preventive actions have been included and addressed in the relevant Action Plans.
- Evaluation of compliance findings are summarised and identified action items are followed up.

Records

Records will be retained as per "Environmental Procedure 19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 18 - Non-Conformances, Corrective and Preventative Action

Policy Ref

PN0040

Policy

Procedure 18 - Non-Conformances, Corrective and Preventative Action

Description

Details the process for all employees regarding EMS Non-conformances, Corrective and Preventative Action at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to outline the process to identify and prevent actual and potential EMS non-conformances and to provide a process to correct them and take actions to mitigate their environmental impacts.

Scope

Non-conformity is defined as non-fulfillment of an EMS requirement and includes environmental related complaints from the public, reported spills, environmental alerts, emergency events, and failures to comply with environmental management policy or procedure.

References

- ISO 14001: 2004 Section 4.5.3

Responsibility

The Site Manager is responsible for co-ordinating reports of EMS non-conformances and dealing with the appropriate manager or employee to ensure the non-conformity is addressed. The Site manager is also responsible for communicating any major non-conformity to the Managing Director who will communicate relevant regulatory as required.

All employees are responsible for reporting any EMS non-conformity as detailed below.

Procedure

- Any employee who detects an EMS non-conformity or environmental incident (including a spill or complaint from the public) must report it to the Site Manager.
- The incident is subsequently recorded on an "EMS Form EF2 - Non-Conformity Report".
- The Site Manager shall determine whether any long-term preventive action is necessary. The details of any further action shall be entered on the Non-Conformity Report and circulated to the relevant personnel.

- The Site Manager shall monitor the progress of the further action and upon completion, shall evaluate its effectiveness in preventing a repeat of the incident. The results shall be documented in the Non-conformity Report and discussed With the Managing Director.

Records

Records will be retained as per "EMS Form EF19 - Control of Records" including

- "EMS Form EF2 - Non-conformity Report"

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 19 - Control of Records

Policy Ref

PN0041

Policy

Procedure 19 - Control of Records

Description

Details the process for all employees regarding the Control of Records relating to the EMS at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to outline the methods for the maintenance of environmental records to provide evidence of conformity to requirements and of the effective operation of the EMS.

Scope

This procedure applies to the identification, collection, storage, protection, retrieval, retention time and disposal of environmental records associated with the EMS including:

- EMS Reviews
- Environmental compliance records
- EMS Internal audit results
- Meeting with the managing director
- Records of communication with environmental regulatory agencies
- Non-conformity and incidence reports including records of emergency response
- Inspection, maintenance and calibration records
- Any completed EMS Forms
- Staff training and performance records

References

- ISO 14001: 2004 Section 4.5.4

Responsibility

The Site Manager is responsible for ensuring that environmental records are maintained as detailed in this procedure.

The Site Manager is responsible for co-ordinating the suitable retention period for each type of environmental record and organising an environment record master list accordingly.

The Site Manager is responsible for approving access to environmental records to external parties.

All employees are responsible for collecting, storing and retrieving environmental records in accordance with this procedure.

Procedure

Record Storage

Environmental records associated with the EMS will generally make reference to the EMS and are filed with other documents relating to that section of the EMS. Alternatively they are filed in the Department which actions them.

All environmental records are stored and maintained in a way that will protect them from theft, loss or deterioration.

Environmental records will be legible and accessible.

Environment records that are maintained in electronic form it are backed-up at least weekly and a copy of the backup kept off site for security reasons

Record Access

All employees have ready access to the relevant environmental records that they need for carrying out their responsibilities as specified in the EMS.

Access to the organisation's environmental records is limited to employees and authorised visitors.

Unless agreed to contractually, the organisation does not provide access to environmental records to external parties unless prior approval is granted by the Managing Director.

Record Disposal

Records that are no longer required for daily use may be archived and the details recorded on "EMS Form EF22 - Archives Register".

The Site Manager ensures that an environment record master list is maintained, detailing the statutory period that records must be retained before they may be destroyed. Refer Form EF13: Environmental Record Master List.

Environmental Records that are required for legal and business purposes are not be destroyed without the approval of the Company Secretary.

Records

The following documents are kept as Environmental records:

- "EMS Form EF13 - Environment Record Master List"
- "EMS Form EF22 - Archives Register"

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |
| Approved By | | | |

Procedure 20 - Internal Environmental Audits

Policy Ref

PN0042

Policy

Procedure 20 - Internal Environmental Audits

Description

Details the guidelines for conducting Internal Environmental Audits on the Environmental Management System (EMS) at Lampson (Australia) Pty Ltd.

Purpose

The aim of this procedure is to detail the process for performing internal environment audits at Lampson (Australia) Pty Ltd in order to determine the effectiveness of the EMS.

Scope

Internal environmental audits at Lampson (Australia) Pty Ltd are carried out on a schedule established each year in order to ascertain if the EMS is regularly updated and maintained and to determine whether the EMS conforms to the requirements of ISO 14001:2004.

References

- ISO14001:2004, Sections 4.5.2 and 4.5.5

Responsibility

The Senior Manager is responsible for ensuring that a suitably qualified and experienced employee or contractor is appointed as the Internal Environmental Auditor in order to perform internal environmental audits.

The Internal Environmental Auditor is responsible for preparing an Internal Environmental Audit Plan for approval by the Managing Director and Senior Manager will carry out the internal environment audits according to the approved Internal Environmental Audit Plan.

All Employees are required to give their full co-operation to ensure that internal environment audits are carried out efficiently and transparently.

Procedure

Internal Environment Auditors

The Managing Director will appoint a suitably qualified and experienced employee or contractor to serve the role of Internal Environmental Auditor to perform internal environmental audits.

The Internal Environmental Auditor is the senior internal environmental auditor but other employees or contractors may be appointed or engaged to assist, depending on the workload. An employee appointed as

Internal Environmental Auditor or in an assisting role will not conduct internal environment audits within a department where they have previously held direct responsibilities.

Scheduling of Internal Environmental Audits

The Internal Environmental Auditor shall prepare an Internal Environmental Audit Plan that will detail what areas will be audited and when the audits will take place during the next twelve month period ahead.

Frequency of internal audits will depend on the importance of the activity being audited in achieving overall environmental aims. Audits may be conducted across all functions within one department or across all departments on one particular subject.

Internal Environmental Auditing Activities

The Internal Environmental Auditor will first review the outcome of any previous audit of the area concerned and check that there are no outstanding corrective or preventive actions.

The Internal Environmental Auditor will use "EMS Form EF24 - Internal Environmental Audit Report" to document areas where operations do not conform with the requirements of the EMS.

Prior to an audit the Internal Environmental Auditor will plan his or her activity by preparing a list of areas to inspect and questions to ask in relation to the operation of the EMS in each area.

Internal Environmental Audit Report

At the conclusion of each internal environmental audit the Internal Environmental Auditor shall prepare a report for the Senior Manager summarising audits carried out, the findings of any EMS non-conformities and resulting corrective actions or suggested improvements to current EMS procedures.

The Senior Manager will submit the Internal Environmental Auditor's report to the Managing Director and will also provide a summary of findings.

The Site Manager will ensure that issues requiring corrective action arising from the Internal Environmental Audit Report are included in the Action Plan.

Follow-up

The Site Manager will follow-up issues requiring corrective action arising from the Internal Environmental Audit Report to ascertain if they have been addressed effectively.

Records

The "EMS Form EF24 - Internal Environmental Audit Report" will be kept as an environmental record as per "EMS Procedure 19 - Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
| | | |

Record of Approval

| Task | Name/Signature | Job Title | Date |
|-------------|----------------|-----------|------|
| Written By | | | |
| Approved By | | | |

Procedure 21 - EMS Management Reviews

Policy Ref

PN0043

Policy

Procedure 21 - EMS Management Reviews

Description

Details the guidelines for conducting EMS Management Reviews at Lampson (Australia) Pty Ltd.

Purpose

The purpose of this procedure is to describe the process of conducting a management review of the EMS at planned intervals to ensure that the L1 is in a position to ascertain if the EMS is operating and functioning as planned, and is suitable, adequate and effective.

Scope

This procedure is in place to ensure that Management at Lampson (Australia) Pty Ltd have sufficient information to form a view on the effectiveness of the EMS and how the organisation is tracking against its environmental objectives.

References

- ISO 14001:2004, Section 4.6

Responsibility

The Senior Manager is responsible for providing the Managing Director with a verbal or written report on the effectiveness of the EMS and an update on the results of the organisation's environmental objectives at least on a semi-annually basis.

Procedure

The verbal or written report from the Senior Manager to the Managing Director will include an update on:

- Any actions outstanding from the previous EMS management review
- Any EMS non-conformities, public environmental complaints
- Any Internal Environmental Audit reports
- Progress towards the Objectives, Targets and Action Plans
- Any major proposed changes to the EMS Manual
- Any major review of environmental training needs
- Information on any other environmental issue as deemed appropriate

Records

Minutes of the meeting shall be retained as per "EMS Procedure 19: Control of Records".

Record of Revisions

| Revision Date | Description | Sections Affected |
|---------------|-------------|-------------------|
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Record of Approval

| Task | Name/Signature | Job Title | Date |
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| Written By | | | |
| Approved By | | | |

Lampson (Australia) Pty Ltd

EMS FORMS

EF1 - Register of Environmental Aspects

Policy Ref

PN0044

Policy

EF1 - Register of Environmental Aspects

Procedure

EF1 - Register of Environmental Aspects Form

| No. | Environmental Aspects | Environmental Impact | Estimated Frequency Note 1 | Estimated Severity Note 2 | Estimated Impact Note 3 | C02e Total Note 4 | C02e % Note 5 |
|-----|---|---|-------------------------------|------------------------------|----------------------------|----------------------|------------------|
| 1 | Electricity usage | Increase greenhouse gasses due to burning of fossil fuels | | | | | |
| 2 | Gas usage | Increase greenhouse gasses due to burning of fossil fuels | | | | | |
| 3 | Transport fuel usage - Vehicles | Increase greenhouse gasses due to burning of fossil fuels | | | | | |
| 4 | Transport fuel usage - Air Travel | Increase greenhouse gasses due to burning of fossil fuels | | | | | |
| 5 | Transport fuel usage - Taxis and Couriers | Increase greenhouse gasses due to burning of fossil fuels | | | | | |
| 6 | Paper and Cardboard usage | Use of tree based resources contributes to de-forestation | | | | | |
| 7 | Use of water | Using scarce natural resources | | | | | |
| 8 | Organic Waste - food etc. | Increases landfill which creates methane | | | | | |
| 9 | Glass, Metal and Plastic waste | Increases landfill which creates methane | | | | | |
| 10 | Liquid wastes | Pollutes waterways | | | | | |

| | | | | | | | |
|----|--------------------------------|--|--|--|--|--|--|
| | | and rivers | | | | | |
| 11 | General Waste | Increases landfill which creates methane | | | | | |
| 12 | Use of raw materials | May be using finite resources or contributing to land fill | | | | | |
| 13 | Wastewater discharges | Pollutes waterways and rivers | | | | | |
| 14 | Odour | Air pollution | | | | | |
| 15 | Air Emissions | Air pollution | | | | | |
| 16 | Storage of Hazardous Materials | Could lead to dangerous spills or fire risk | | | | | |
| 17 | Others (please specify) | | | | | | |

| Note 1 : Estimated Frequency | Factor | Note 2: Estimated Severity | Factor |
|---|--------|---|--------|
| Rare (less than once a year) | 1 | Minimal environmental impact | 1 |
| Probable (4 or less times a year) | 2 | Low environmental impact | 2 |
| Likely (5 to 10 times a year) | 3 | Moderate environmental impact | 3 |
| Common (almost monthly) | 4 | High environmental impact (violates environmental regulations) | 7 |
| Frequent (daily/weekly or more) | 5 | Severe environmental impact (emergency situations) | 10 |
| Note 3: Environmental impact = Frequency of occurrence × Severity | | | |
| Note 4: CO2e Total from Carbon Footprint Calculation | | | |
| Note 5: CO2e Percentage from Carbon Footprint Calculation | | | |

EF2 - Non-Conformity Report

Policy Ref

PN0045

Policy

EF2 - Non-Conformity Report

Procedure**EF2 - Non-Conformity Report**

| | | |
|---|------------|-------|
| Description of the Nonconformity (To be completed by the person detecting the non-conformity) | | |
| | | |
| Possible Causes (to be completed by the person detecting the non-conformity) | | |
| | | |
| Immediate Action (to be completed by the person detecting the non-conformity) | | |
| | | |
| Describe what was done to rectify the problem. Was product removed? Who was informed? | | |
| | | |
| Name: (of person detecting non-conformity) | Signature: | Date: |
| Action: Send form to EMS Manager | | |
| Investigation of Root Causes (to be completed by EMS Manager) | | |
| | | |

| | | |
|---|------------|----------|
| | | |
| Investigation Completed By: | Signature: | Date: |
| <i>Action: EMS Manager to discuss nonconformity with Department Manager</i> | | |
| Further Corrective Action Required And Taken (to be completed by Department Manager) | | |
| Preventive Action Taken (to be completed by Department Manager) | | |
| Action Taken By (Dpt. Manager Name) | Signature | Date |
| <i>Action: EMS Manager to check at next audit whether preventive action effective</i> | | Yes / No |

| | | |
|--------------------------------------|------------|-------|
| | | |
| Approved by : (Managing Director) | Signature: | Date: |

Decision Made (planning, design, production, marketing and disposal, where pertinent):

| |
|--|
| |
| |

Desirable Result:

| |
|--|
| |
| |
| |

Approved at Meeting held on:

| |
|--|
| |
| |
| |

| Action Required | Action taken by | Commencement date | Target Completion date | Actual Completion date |
|-----------------|-----------------|-------------------|------------------------|------------------------|
| | | | | |
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EF4 - Environmental Action Plan

Policy Ref

PN0047

Policy

EF4 - Environmental Action Plan

Procedure

EF4 - Environmental Action Plan

| | |
|---------------------------|---|
| Overall Objective: | The organisation is committed to minimising the impact on the environment from its business operations. |
|---------------------------|---|

In order to achieve this objective we will:

| Action Steps | Impact | Effort | By Who | By When |
|---|--------|--------|--------|---------|
| 1. Allocate responsibility of EMS Executive to a senior executive and arrange appropriate training | | | | |
| 2. Allocate responsibility of EMS Manager to a senior manager and arrange appropriate training | | | | |
| 3. Amend position descriptions for all roles to include sustainability | | | | |
| 4. Develop and seek approval for an Environmental Commitment Statement | | | | |
| 5. Develop an Environment Policy that complies with ISO 14001:2004 | | | | |
| 6. Develop Environmental Procedures that comply with ISO 14001:2004 | | | | |
| 7. Organise training to ensure all parties understand their roles and responsibilities as stated in the Environmental Policy and Procedures | | | | |
| 8. Organise sustainability awareness training workshops for employees across all sites | | | | |
| 9. Develop a basic sustainability module for the new staff induction program | | | | |

| | | | | |
|---|--|--|--|--|
| 10. Measure the carbon footprint of the organisation for the past year using a reputable carbon management system | | | | |
| 11. Set a carbon reduction target for next year based on the previous year calculation and communicate to all stakeholders | | | | |
| 12. Develop procedures to capture data to measure the carbon footprint of the organisation on an ongoing basis | | | | |
| 13. Review all waste management processes with a view to maximising re-cycling opportunities in order to minimise waste to landfill. | | | | |
| 14. Review all use of paper and cardboard with a view to minimising use. | | | | |
| 15. Conduct a water management awareness campaign for employees | | | | |
| 16. Develop a Sustainable Procurement Policy. | | | | |
| 17. Review all major supplies (materials, stationery etc.) to ascertain if there are more environmentally responsible alternatives within the same price range. | | | | |
| 18. Conduct a Sustainability review of all major suppliers to ensure there is no major conflict with the organisation's environmental objectives. | | | | |
| 19. Establish a register of all environmental legislation relevant to the organisation. | | | | |
| 20. Investigate a subscription service for updates on all environmental legislation relevant to the company | | | | |
| 21. Investigate the costs and benefits of seeking formal ISO 14001 accreditation from a reputable third party. | | | | |
| 22. Investigate the costs and benefits of becoming carbon neutral. | | | | |
| 23. Seek quotes on training an internal resource to conduct Internal Audits. | | | | |
| 24. | | | | |
| 25. | | | | |

| | | | | |
|-----|--|--|--|--|
| 26. | | | | |
| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

EF5 - Responsibility

Policy Ref

PN0048

Policy

EF5 - Responsibility

Procedure

EF5 - Responsibility

| Policy Ref: | Procedure Ref: | Description | Responsibility |
|-------------|----------------|---|-------------------|
| 4.2 | | Overall responsibility for the development and implementation of the environmental policy | Senior Manager |
| 4.3.1 | Procedure 1 | Overall responsibility for the determination of environmental aspects, and those that have the potential for causing significant impact on the environment. | Managing Director |
| 4.3.2 | Procedure 2 | Overall responsibility for identification of legal and other requirements. | Managing Director |
| 4.3.2 | Procedure 3 | Responsibility for ensuring all employees are aware of their regulatory duties. | Senior Manager |
| 4.3.3 | Procedure 4 | Overall responsibility for establishing objectives and targets. | Managing Director |
| 4.3.3 | Procedure 4 | Overall responsibility for implementing and monitoring the results of action plans according to the specified time-frames. | Senior Manager |
| 4.3.4 | Procedure 5 | Overall responsibility for managing the environmental assessment of any new products, services, processes, plant and equipment. | Senior Manager |
| 4.4.1 | Procedure 7 | Overall responsibility for ensuring the availability of resources essential to establish, implement, maintain and improve the EMS. | Managing Director |
| 4.4.2 | Procedure 7 | Overall responsibility for the identification and provision of training needs. | HR Manager |
| 4.4.3 | Procedure 7 | Responsibility for coordinating internal and external communication with regulatory agencies | Managing Director |

| | | | |
|-------|--------------|--|-------------------|
| 4.4.4 | Procedure 8 | Overall responsibility for the establishment and maintenance of the environmental management system documentation. | Senior Manager |
| 4.4.5 | Procedure 9 | Overall responsibility for the control of the EMS documents and those pertaining to compliance with ISO 14001: 2004 requirements. | Senior Manager |
| 4.4.6 | Procedure 10 | Overall responsibility for document version control. | Senior Manager |
| 4.4.5 | Procedure 11 | Overall responsibility for reviewing and evaluating current and new suppliers to ensure they are consistent with the organisations environmental objectives. | Site manager |
| 4.4.6 | Procedure 12 | Overall responsibility for establishing and implementing and reviewing procedures for compliance to regulatory approvals. | Site manager |
| 4.4.6 | Procedure 13 | Overall responsibility for the monitoring and measurement of key characteristics of its operational and activities that can have a significant environmental impact. | Managing Director |
| 4.4.7 | Procedure 14 | Overall responsibility for emergency preparedness, response and post-emergency evaluation for mitigating future emergencies | Site manager |
| 4.5.1 | Procedure 15 | Responsibility for ensuring that effective procedures are put in place to monitor and measure the effectiveness of the activities that are undertaken to meet the organisation's environmental objectives. | Senior Manager |
| 4.5.2 | Procedure 17 | Overall responsibility for establishing and implementing and reviewing procedures for compliance to regulatory approvals. | Managing Director |
| 4.5.3 | Procedure 18 | Overall responsibility for establishing and implementing procedures for dealing with actual and potential non-conformities | Senior Manager |
| 4.5.4 | Procedure 19 | Overall responsibility for establishing and maintaining environmental records. | Senior manager |
| 4.5.5 | Procedure 20 | Overall responsibility for conducting EMS audits. | Senior Manager |
| 4.6 | Procedure 21 | Overall responsibility for conducting EMS reviews. | Senior manager |

EF6 - Job Description

Policy Ref
PN0049

Policy
EF6 - Job Description

Procedure

EF6 - Job Description

| | |
|---------------|--|
| Job Title | |
| Department | |
| Reports To | |
| Prepared By | |
| Date Prepared | |
| Approved By | |
| Date Approved | |

| |
|---|
| Overview |
| |
| Essential Duties and Responsibilities <ul style="list-style-type: none"> |
| Supervisory Responsibilities <ul style="list-style-type: none"> |
| Qualifications <ul style="list-style-type: none"> |

EF7 - Employment Application Form

Policy Ref

PN0050

Policy

EF7 - Employment Application Form

Procedure

EF7 - Employment Application Form

The applicant is required to fill in all the information in this application form. The information you provide along with the personal interview will be used to make a decision on your suitability for the position.

Important note: Lampson (Australia) Pty Ltd is an EEO (Equal Employment Opportunity) employer and does not discriminate against any current or future employee.

Position applying for: _____

How did you find out about this position?

Applicant Details

Last Name _____ First name _____

Address _____

Suburb _____ State _____ P/code _____

Contact Phone () _____ Mobile _____

Do you drive? (This has no bearing on your employment) Yes / No Drivers licence number _____

Have you ever lost your driver's licence? (This has no bearing on your employment)

Date of Birth _____ Marital Status (optional) _____

Emergency contact (name) _____ Relationship to you _____

Contact Phone () _____ Mobile

Do you have any special medical conditions that may hinder your job tasks or are there any adjustments that we need to make to accommodate you? (This has no bearing on your employment)

List your qualifications related to this position and any relevant certificates, diplomas or other.

Briefly list your skills relating to this position

-
-
-
-

Provide previous employment details (start with your most recent)

Dates from / to: _____

Position _____ Employer _____

Address _____

Suburb _____ State _____ P/Code

Contact Person _____ Position _____ Phone _____

Can we contact this employer as part of our reference checking process? Yes / No

Position _____ Employer _____

Address _____

Suburb _____ State _____ P/Code

Contact Person _____ Position _____ Phone _____

Can we contact this employer as part of our reference checking process? Yes / No

Position _____ Employer _____

Address _____

Suburb _____ State _____ P/Code _____

Contact Person _____ Position _____ Phone _____

Is there any further information that you wish to add?

References

Provide three references including, names, contact numbers, relationship to you (e.g., supervisor)

1. Name _____ Contact Number _____ Relationship _____

2. Name _____ Contact Number _____ Relationship _____

3. Name _____ Contact Number _____ Relationship _____

Educational History

School attended _____ Date last attended _____

Highest level achieved _____

Major achievements at this level

-
-
-
-
-
-

Provide referee & contact number _____

Further education _____

Institution attended _____ Date attended _____

Course/s completed _____

Level achieved _____

Major achievements

-
-
-
-
-

Provide referee & contact number _____

Further education _____

Institution attended _____ Date attended _____

Course/s completed _____

Level achieved _____

Major achievements

-
-
-
-
-

From what date will you be able to start work? _____

What type of employment do you seek? [] full-time [] part-time [] casual [] contract

This job may require travelling. Do you have any concerns about travelling?

Have you ever applied for a position with this company? Yes / No

Have you worked for this company previously? Yes / No

Do you have a criminal record?

Yes / No

Employee Declaration

To the best of my knowledge, I believe that the above statements are true and correct. I understand that any deliberately false, misleading or incomplete statements may lead to my dismissal, if employed.

I, _____ give this company permission to conduct the relevant reference checks and obtain the required information from past employers and or other relevant parties. I understand that this will be done in an ethical and legal manner and will not compromise my current employment situation.

Signed _____

Date _____

Reference checks

| | Reference | Comments |
|---|-----------|----------|
| 1 | | |
| 2 | | |
| 3 | | |
| | | |
| | | |

Is a second interview required?

Yes/No

Date and Time:

Has the person been notified?

Yes/No

NOTES

EF8 - Training Record

Policy Ref
PN0051

Policy
EF8 - Training Record

Procedure

EF8 - Training Record

| | | | |
|---|-----------------------|-------------|--|
| Employee Name: | Date of Commencement: | | |
| Position: | Department: | | |
| Qualifications on Commencement: | | | |
| Date | Qualification | Institution | |
| Date | Qualification | Institution | |
| Date | Qualification | Institution | |
| WORK SKILLS ON COMMENCEMENT: (Work experience) | | | |
| <ul style="list-style-type: none"> | | | |

| Date Training Commenced | Duration Hrs/Days/Wks | Course Completed | Name Of Trainer Or Training Body |
|-------------------------------|--------------------------|------------------|-------------------------------------|
| | | | |
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Policies and Procedures Prepared For: Lampson

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

EF9 - Performance Review

Policy Ref

PN0052

Policy

EF9 - Performance Review

Procedure

EF9 - Performance Review

| KEY to Ratings | |
|----------------|--------------------------|
| 1 | Unsatisfactory |
| 2 | Needs Improvement |
| 3 | Meets Job Requirements |
| 4 | Exceeds Job Requirements |
| 5 | Outstanding |

| QUANTITY | N/A | 1 | 2 | 3 | 4 | 5 |
|----------------------------------|-----|---|---|---|---|---|
| Meets productivity standards | | | | | | |
| Completes work in timely manner | | | | | | |
| Strives to increase productivity | | | | | | |
| Works quickly | | | | | | |
| Achieves established goals | | | | | | |
| Overall | | | | | | |

| ENVIRONMENTAL | N/A | 1 | 2 | 3 | 4 | 5 |
|---|-----|---|---|---|---|---|
| Demonstrates accuracy and thoroughness | | | | | | |
| Displays commitment to excellence | | | | | | |
| Looks for ways to improve the environment | | | | | | |
| Applies feedback to improve performance | | | | | | |
| Monitors own work to ensure quality | | | | | | |
| Overall | | | | | | |

| JOB KNOWLEDGE | N/A | 1 | 2 | 3 | 4 | 5 |
|---|-----|---|---|---|---|---|
| Competent in required job skills and knowledge | | | | | | |
| Exhibits ability to learn and apply new skills | | | | | | |
| Keeps abreast of current developments | | | | | | |
| Requires minimal supervision | | | | | | |
| Displays understanding of how job relates to others | | | | | | |
| Uses resources effectively | | | | | | |
| Overall | | | | | | |

| PROBLEM SOLVING | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Identifies problems in a timely manner | | | | | | |
| Gathers and analyses information skilfully | | | | | | |
| Develops alternative solutions | | | | | | |
| Resolves problems in early stages | | | | | | |
| Works well in group problem solving situations | | | | | | |
| Overall | | | | | | |

| COMMUNICATIONS | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Expresses ideas and thoughts verbally | | | | | | |
| Expresses ideas and thoughts in written form | | | | | | |
| Exhibits good listening and comprehension | | | | | | |
| Keeps others adequately informed | | | | | | |
| Selects and uses appropriate communication methods | | | | | | |
| Overall | | | | | | |

| INITIATIVE | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Volunteers readily | | | | | | |
| Undertakes self-development activities | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| Seeks increased responsibilities | | | | | | |
| Takes independent actions and calculated risks | | | | | | |
| Looks for and takes advantage of opportunities | | | | | | |
| Asks for help when needed | | | | | | |
| Overall | | | | | | |

| ADAPTABILITY | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Adapts to changes in the work environment | | | | | | |
| Manages competing demands | | | | | | |
| Accepts criticism and feedback | | | | | | |
| Changes approach or method to best fit the situation | | | | | | |
| Overall | | | | | | |

| PLANNING & ORGANISATION | N/A | 1 | 2 | 3 | 4 | 5 |
|---------------------------------------|-----|---|---|---|---|---|
| Prioritises and plans work activities | | | | | | |
| Uses time efficiently | | | | | | |
| Plans for additional resources | | | | | | |
| Integrates changes smoothly | | | | | | |
| Sets goals and objectives | | | | | | |
| Works in an organised manner | | | | | | |
| Overall | | | | | | |

| CO-OPERATION | N/A | 1 | 2 | 3 | 4 | 5 |
|---|-----|---|---|---|---|---|
| Establishes and maintains effective relations | | | | | | |
| Exhibits tact and consideration | | | | | | |
| Displays positive outlook and pleasant manner | | | | | | |
| Offers assistance and support to co-workers | | | | | | |
| Works cooperatively in group | | | | | | |

| | | | | | | |
|-------------------------------------|--|--|--|--|--|--|
| situations | | | | | | |
| Works actively to resolve conflicts | | | | | | |
| Overall | | | | | | |

| JUDGEMENT | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Displays willingness to make decisions | | | | | | |
| Exhibits sound and accurate judgement | | | | | | |
| Supports and explains reasoning for decisions | | | | | | |
| Includes appropriate people in decision-making process | | | | | | |
| Makes timely decisions | | | | | | |
| Overall | | | | | | |

| DEPENDABILITY | N/A | 1 | 2 | 3 | 4 | 5 |
|--|-----|---|---|---|---|---|
| Responds to requests for service and assistance | | | | | | |
| Follows instructions, responds to management direction | | | | | | |
| Takes responsibility for own actions | | | | | | |
| Commits to doing the best job possible | | | | | | |
| Keeps commitments | | | | | | |
| Meets attendance and punctuality guidelines | | | | | | |
| Overall | | | | | | |

| INNOVATION | N/A | 1 | 2 | 3 | 4 | 5 |
|---|-----|---|---|---|---|---|
| Displays original thinking and creativity | | | | | | |
| Meets challenges with resourcefulness | | | | | | |
| Generates suggestions for improving work | | | | | | |
| Develops innovative approaches and ideas | | | | | | |
| Overall | | | | | | |

| | | | | | | |
|----------------|--|--|--|--|--|--|
| Summary Scores | | | | | | |
|----------------|--|--|--|--|--|--|

Plans for Improvement

Employee Comments

Employee Acknowledgement

I have reviewed this document and discussed the contents with my manager. My signature means that I have been advised of my performance status and does not necessarily imply that I agree with the evaluation.

| | |
|--------------------|-------|
| <hr/> | <hr/> |
| Employee Signature | Date |

Reviewer Comments

| | |
|--------------------|-------|
| <hr/> | <hr/> |
| Reviewer Signature | Date |

EF10 - Service Report

Policy Ref
PN0053

Policy
EF10 - Service Report

Procedure

EF10 - Service Report

| | |
|---------------------|---|
| Customer: | Date of Service: |
| Service Technician: | Reason For Service: [] Programmed [] Call-Out [] Return To Base |
| Job Number: | If Programmed, What Type? [] 1 Month [] 6 Month [] 12 Months |

| Item | Activity | Acceptance Criteria | Test Result | Checked Ok (Initial) |
|------|----------|---------------------|-------------|----------------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |

| |
|------------|
| Parts Used |
| |

| |
|----------------|
| Service Report |
|----------------|

Further action required?

Next service due:

| | | |
|-----------------|-----------------|----|
| Service Charge: | Labour (hrs.): | \$ |
| | Parts: | \$ |
| | Sundries: | \$ |
| | TOTAL: | \$ |

Signature of Service Technician

EF11 - Register of Environmental Legislations

Policy Ref

PN0054

Policy

EF11 - Register of Environmental Legislations

Procedure

EF11 - Register of Environmental Legislations

National

- ["The Environment Protection and Biodiversity Conservation Act 1999"](#)

Australian Capital Territory

- ["Environmental Protection Act 1997"](#)
 - The [Environment protection for business and industry](#) page covers the environmental legislation and codes of practice affecting ACT businesses.

New South Wales

- ["Protection of the Environment Operations Act 1997"](#)
 - Other [NSW environmental legislation](#)

Northern Territory

- ["Environmental Assessment Act 1982"](#)
 - [Environmental Protection Legislation](#)
 - [Environmental Assessments](#)

Queensland

- ["Environmental Protection Act 1994"](#)
 - Information for [Business and industry](#) .
 - [Voluntary environmental codes of practice](#) .

South Australia

- ["Environment Protection Act 1993"](#)
 - [Environment protection legislation](#)
 - [Codes of practice](#)

Tasmania

- ["Environmental Management and Pollution Control Act 1994"](#)
 - Information on [Environmental policies, publications, procedures and strategies](#)

Victoria

- ["Environment Protection Act 1970"](#)
 - Other VIC [Environmental legislation](#)
 - [Publications and Codes of practice](#)

Western Australia

- ["Environment Protection Act 1986"](#)
 - Information on environmental [legislation](#)

Register

[illegible]

EF12 - Supplier Sustainability Review

Policy Ref

PN0055

Policy

EF12 - Supplier Sustainability Review

Procedure

EF12 - Supplier Sustainability Review

| | |
|-----------------|------------------|
| Supplier Name | |
| Address | |
| Contact Name | |
| Contact Details | Phone: Email: |

| Area | Yes | No |
|--|-----|----|
| Does your company have a Commitment Statement or a Sustainability Charter that highlights the intention to minimise the impact on the environment from its business activities? | | |
| Does your company have an Environmental Policy that clearly communicates the key areas that the company will focus on in order to minimize its impact on the environment from its business activities? | | |
| Does your company have a Sustainable Procurement policy that favours the purchase of goods, products, materials and services that have a low impact on the environment? | | |
| Has your company measured its environmental impact of its business activities by conducting a formal carbon footprint review using reputable carbon management software? | | |
| Does your company have a detailed action plan on how it intends to reduce the carbon emissions and environmental impacts from its business activities? | | |
| Does your company have an internal "Sustainability Committee" or "Green Team" that plays an active role in looking to continually improve the environmental performance of your company? | | |
| Has your company facilitated any sustainability awareness education for | | |

| | | |
|---|--|--|
| staff, management and other key stakeholders? | | |
| Has your company ever been prosecuted or received an improvement notice regarding any breach of environmental legislation in the past 10 years? | | |
| Does your company regularly contribute to any community cause (or causes) by way of monetary or non-monetary assistance? | | |
| Does your company act ethically at all times when communicating and remunerating all parties that it has business dealings with including employees, contractors, suppliers, customers, government authorities and investors? | | |
| Please complete and return to: | | |

Lampson (Australia) Pty Ltd USE ONLY

| | |
|---|--|
| Supplier assessed as: <input type="checkbox"/> Approved <input type="checkbox"/> More Information Required <input type="checkbox"/> Unapproved | Assessed By: Date Assessed: Review Date: |
|---|--|

EF13 - Environment Record Master List

Policy Ref
PN0056

Policy
EF13 - Environment Record Master List

Procedure
EF13 - Environment Record Master List

| KEY for Item column: | | | | | |
|---------------------------|-----------|-------------------------------|---------|-----------|----------------------------|
| EM = Environmental Manual | | EP = Environmental Procedures | | | |
| EF = Environmental Forms | | AP = Action Plans | | | |
| Name of Recipient | Item Type | Rev No | Copy No | Date Sent | Statutory Retention Period |
| | | | | | |
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EF14 - Approved Suppliers List

Policy Ref
PN0057

Policy
EF14 - Approved Suppliers List

Procedure
EF14 - Approved Suppliers List

| Supplier/Contractor Details | Scope of goods/services provided | Basis of Approval | Comments |
|-----------------------------|----------------------------------|-------------------|----------|
| | | | |
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|-------------------------------------|-----------|------|
| Approved By (Purchasing Manager) | Signature | Date |
|-------------------------------------|-----------|------|

EF15 - Purchase Order**Policy Ref**

PN0058

Policy

EF15 - Purchase Order

Procedure**EF15 - Purchase Order**

| | |
|--|--|
| Address: Phone: Fax: | Order Placed on: Company Name: Company Address: Contact Name: Phone: Fax: |
| Order Number | |

DATE: ____/____/____

| LINE NO | DESCRIPTION OF ITEM | PART NO | QTY RQD | UNIT PRICE | EXTENDED PRICE |
|---------|---------------------|---------|------------|---------------|-------------------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |

| | | | | | |
|----|--|--|--|-------------|--|
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| | | | | Order Total | |

| | |
|--|------------------|
| Delivery Date Required | Delivery Address |
| SPECIAL REQUIREMENTS: Standards to be met, inspection requirements, acceptance criteria etc. ▪ ▪ ▪ ▪ ▪ | |
| ORDER PLACED BY: Name | Signature |

EF16 - Goods Received

Policy Ref

PN0059

Policy

EF16 - Goods Received

Procedure

EF16 - Goods Received

| | |
|-------------------------------|----------------|
| Supplier Name | |
| Description of Goods Received | |
| Received By | |
| Name | |
| Signature | |
| Date Received | ____/____/____ |

Delivery docket received? Yes / No

Quantity correct? Yes / No

If not correct, state quantity received

Goods match description on docket? Yes / No

If not, give description of goods received

Goods received in good condition? Yes / No

If not, state damage sustained

| |
|---|
| Goods Passed Receiving Inspection ■ ■ ■ |
| Stored in Bin Number: |

OR

| |
|---|
| Goods Failed Receiving Inspection ■ ■ ■ |
| Action Taken: |

EF17 - Requisition

Policy Ref
PN0060

Policy
EF17 - Requisition

Procedure

EF17 - Requisition

| Description Of Goods Required Include Any Special Characteristics Or Standards With Which The Goods Must Comply | Part Number If Known | Quantity Required | Job Number |
|--|-------------------------|----------------------|------------|
| | | | |
| | | | |
| | | | |
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| | |
|----------------------------|----------------------------------|
| Preferred Supplier: | Name Of Person Requesting Goods: |
| Preferred Delivery Method: | Date Of Requisition: |
| Date Required: | Requisition Approved By: |

EF18 - Contract Review Action

Policy Ref
PN0061

Policy
EF18 - Contract Review Action

Procedure
EF18 - Contract Review Action

| | |
|-------------------------------|--|
| Scope of Work | |
| Relevant Compliance Standards | |
| Delivery Requirements | |
| Pricing Details | |
| Resource Requirements | |
| Insurance Requirements | |
| Contract Risks | |

EF19 - Schedule of Environmental Audits

Policy Ref

PN0062

Policy

EF19 - Schedule of Environmental Audits

Procedure

EF19 - Schedule of Environmental Audits

For the Year _____

| Topic | ISO 14001: 2004 Section | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------------------------------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Environmental policy | 4.2 | | | | | | | | | | | | |
| Environmental aspects | 4.3.1 | | | | | | | | | | | | |
| Legal & other requirements | 4.3.2 | | | | | | | | | | | | |
| Objectives, Targets & Action Lists | 4.3.3 | | | | | | | | | | | | |
| Structure & responsibility | 4.4.1 | | | | | | | | | | | | |
| Training, Competence & Awareness | 4.4.2 | | | | | | | | | | | | |
| Communications | 4.4.3 | | | | | | | | | | | | |
| EMS Documentation | 4.4.4 | | | | | | | | | | | | |
| Document control | 4.4.5 | | | | | | | | | | | | |
| Operational control | 4.4.6 | | | | | | | | | | | | |
| Emergency preparedness & response | 4.4.7 | | | | | | | | | | | | |

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|---|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| Monitoring and measurement | 4.5.1 | | | | | | | | | | | | |
| Evaluation of compliance | 4.5.2 | | | | | | | | | | | | |
| Nonconformity, corrective & preventive action | 4.5.3 | | | | | | | | | | | | |
| Control of Records | 4.5.4 | | | | | | | | | | | | |
| Management review | 4.6 | | | | | | | | | | | | |

EF20 - Emergency Report

Policy Ref

PN0063

Policy

EF20 - Emergency Report

Procedure

EF20 - Emergency Report

| Description Of The Emergency (to be completed by the person detecting the emergency) | | |
|---|------------|-------|
| <ul style="list-style-type: none">■■■■■■ | | |
| Location: | | |
| Date & Time: | | |
| Possible Causes (to be completed by the person detecting the emergency) | | |
| <ul style="list-style-type: none">■■■■■■ | | |
| Emergency Response (to be completed by the person detecting the emergency) | | |
| Describe what was done in response to the emergency. | | |
| Name: (Of Person Detecting Emergency) | Signature: | Date: |

| | | |
|--|------------|-------|
| Send form to EMS Manager | | |
| Investigation Of Root Causes (to be completed by Safety Officer or EMS Manager/Environmental Manager) | | |
| | | |
| Investigation Of Emergency Response & Preparedness (to be completed by Safety Officer or EMS Manager/Environmental Manager) | | |
| | | |
| Investigation Completed By: (Name) | Signature: | Date: |

| |
|---|
| EMS Manager to discuss Emergency with Department Manager |
| Post Emergency Evaluation Summary |
| |

| | | |
|--|------------|----------|
| | | |
| Corrective Action Required And Taken (to be completed by Department Manager) | | |
| | | |
| Preventive Action Taken (to be completed by Department Manager) | | |
| | | |
| EMS Manager to check at next audit whether preventive action effective | | YES / NO |
| Action Taken By: (Depart Mgr. Name) | Signature: | Date: |

EF21 - Calibration Record

Policy Ref
PN0064

Policy
EF21 - Calibration Record

Procedure

EF21 - Calibration Record

| ITEM OF EQUIPMENT | EQUIP NO. | DATE CALIB'D | BY WHOM | RESULTS | CALIB'N PERIOD | DATE DUE |
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EF22 - Archives Register

Policy Ref
PN0065

Policy
EF22 - Archives Register

Procedure

EF22 - Archives Register

| Box No | Date Filed | Filed By | Summary of Contents | Destruction Date |
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EF23 - Management Review Record

Policy Ref

PN0066

Policy

EF23 - Management Review Record

Procedure

EF23 - Management Review Record

| No. | Item | Report/ Decision | Action (Name of person) | Target date for completion |
|-----|---|------------------|----------------------------|-------------------------------|
| 1 | Matters arising from last Management Review | | | |
| 2 | Results of internal audits | | | |
| 3 | External communications including complaints | | | |
| 4 | Environmental performance | | | |
| 5 | Objectives and Targets status | | | |
| 6 | Corrective & Preventive Actions status | | | |
| 7 | New developments in Environmental legislations & ISO 14001 requirements | | | |
| 8 | Recommendations for improvements | | | |
| | | | | |
| | Meeting closed at: | | | |

EF24 - Internal Environmental Audit Report

Policy Ref

PN0067

Policy

EF24 - Internal Environmental Audit Report

Procedure

EF24 - Internal Environmental Audit Report

| No. | Item | Report/ Decision | Action (Name of person) | Target date for completion |
|-----|---|------------------|----------------------------|-------------------------------|
| 1 | Matters arising from last Management Review | | | |
| 2 | Results of internal audits | | | |
| 3 | External communications including complaints | | | |
| 4 | Environmental performance | | | |
| 5 | Objectives and Targets status | | | |
| 6 | Corrective & Preventive Actions status | | | |
| 7 | New developments in Environmental legislations & ISO 14001 requirements | | | |
| 8 | Recommendations for improvements | | | |
| | | | | |
| | Meeting closed at: | | | |

EF25 - Terms of Reference for EMS Committee

Policy Ref

PN0086

Policy

EF25 - Terms of Reference for EMS Committee

Description

Lampson (Australia) Pty Ltd has guidelines for all employees regarding EF25 - Terms of Reference for EMS Committee

Purpose

The purpose of this policy is to explain the general procedures relating to EF25 - Terms of Reference for EMS Committee

The C1 has been established as an internal working committee of Lampson (Australia) Pty Ltd. Its purpose is to investigate and implement strategies to achieve the goals and objectives contained in the Environment Management System (EMS).

Objectives

The objectives of the Committee are to:

- Assist in the ongoing operation and continual improvement of the EMS.
- Review and make recommendations on the Environmental Policy.
- Review and make recommendations on the EMS procedures.
- Review environmental audit plans and reports.
- Set and review environmental objectives and targets.
- Conduct the EMS management review.

Scope

The following guidelines are to be adhered to by all employees, supervisors and employees.

Procedure

Authority

The C1 has the power only to recommend a course of action to the management.

Roles and Responsibilities

The role of the C1 is to consider matters within the defined scope and to provide recommendations and advice on environmental issues.

The C1 is charged with considering matters relating to the organization's environmental and sustainability goals, including:

- Environmental Sustainability
- Waste Management;
- Energy Efficiencies
- Water Usage
- Recycling Initiatives
- Review of Supplies and Packaging
- Staff Training and Awareness
- New product opportunities

Membership

Membership of the committee will be no less than 3 and no more than 5 employees. External consultants, clients or suppliers may be invited to attend meetings to advise the committee.

1. Appointment of Chairperson

The Chairperson of the C1 shall be appointed by the Committee, for a period of no more than two (2) years.

When the incumbent Chairperson has served out their two year appointment the position will be declared vacant and the Committee will appoint a new Chairperson. The retiring Chairperson is eligible to be re-elected.

In the absence of the appointed Chairperson from a meeting, the meeting will appoint an Acting Chairperson from the members present for the duration of that particular meeting.

2. Role of Chairperson

The Chairperson becomes the spokesperson on behalf of Committee in discussing matters relating to the Environment Committee with the Business Owners and other stakeholders.

3. Role of Committee Members

The role of a Committee Member is to consider and make recommendations on matters relating to achieving the organization's Environmental Goals.

4. Meetings

- 4.1. Quorum: The quorum for the C1 is half of the members plus one.
- 4.2 Frequency: Meetings are held at least every two months at a time determined by the committee.
- 4.3 Meeting Records: The Chairperson will ensure that minutes are recorded for each meeting.

5. Review

The C1 shall review these Terms of Reference at the first meeting of each calendar year.

EF26 - Environmental Complaint Form

Policy Ref

PN0069

Policy

EF26 - Environmental Complaint Form

Procedure

EF26 - Environmental Complaint Form

Complainant's Name: _____

Contact details: _____

Write your description of the nature of the complaint.

Date: _____

Time the incident occurred: _____

**ANNEXURE 7 –
SPILL MANAGEMENT PLAN**



Spill Response and Reporting

General spill response guidelines

Lampson see that all oil / chemical spills, regardless of size, must be contained and cleaned up in a safe and effective manner.

Oil spill response

Incidental spills are generally those where:

- The spill is small (e.g. less than 20 L)
- The spill can be easily contained and cleaned up
- The spill is unlikely to reach a waterway or storm water drain.
- Clean up procedures do not pose a health or safety hazard
- Proper response equipment is available for a safe clean up (e.g.

All spills must be report to the Site Manager and Supervisor. Site Manager to decide the appropriate response to incidental spills. Always fill out incident report after the clean-up.

Non-Incidental Spills are generally those where:

- The spill is large enough to spread beyond the immediate area
- The spill cannot be contained
- The spill may reach a waterway or storm drain
- The spill requires special equipment or training to clean up
- The spill poses a hazard to human health or the environment
- There is a danger of fire or explosion.

Report the spill immediately to the Site Manager and Supervisor. Site Manager or Supervisor to evacuate the site (if applicable) and to call emergency services if necessary.

Most spills in general will be clean up by Lampson employees. For all other spills where Lampson employees are unable to control or contain a spill release, emergency services will be called.



Oil spill response steps

Incidental spills

1. Secure the area
2. Control and contain the spill
3. Clean up the spill
4. Notify the Site Manager
5. Complete an incident form

Non-Incidental

1. Secure the area
2. Control and contain the spill
3. Notify the Site Manager
4. Contact emergency service and evacuate the site if necessary.
5. Site clean up
6. Complete an incident form

Spill Notification procedure

Site Manager must make contact with the Managing director for all spills so any additional notifications can be made as required.

Report Name: Property Stormwater Drainage Management Strategy
290 Brand Highway - Muchea

Project Title: Retrospective Approval for Operations on Lot 6 (H290)
Brand Highway Muchea



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| Revision | Description | Author | Checked | Approved | Date |
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1. PREAMBLE

Peritas Civil was commissioned by Allerding Associates on behalf of Lampson (Australia) Pty Ltd (**Lampson**), the landowners of Lot 6 (No. 290) Brand Highway, Muchea (**subject site**) to prepare a Stormwater Drainage Management Strategy in support of a retrospective application for planning approval to allow the continued operation of the 'Transport Depot' land use associated with the Lampson operations.

Lampson seeks to continue to occupy only a small (approximately 3ha) portion of the overall 39.131 ha site area. Refer to the Lampson Site Plan included at **Figure 1 & 2** showing the location of the Lampson operation at the subject site. The portion of the subject site that Lampson currently occupies is referred to within this report as the 'development area'.

The subject property is located immediately north of the Muchea Townsite and east of the Brand Highway at Lot 6 (No 209) Brand Highway and is located in the Ellen Brook catchment area. The site is located approximately 800m north of the centre of Muchea and approximately 44km north-west of the Perth CBD

The Chittering Landcare Centre website features a draft 'Catchment Management Plan', (CMP) for the Ellen Brook prepared in 2000 by Evangelisti & Associates (Aust) Pty Ltd this report has considered the general requirements referred to in this report. This report confines itself to those management aspects that the landowners actually have control over.

This report supports the planners report and application for retrospective approval for the Lampson facility as a "transport depot" and describes the layout of the property, the physical characteristics of the land in terms of soil type, slope, condition of rivers or streams and other physical features including dams, wood lots, vegetation, fences and any other physical improvements proposed.

This report also describes the current and intended use of the land as it relates to the proposed development and use of the land as a rural industry and transport depot. The plan provides site location details, size and scope of any proposed developments. It also gives an indication as to the reason the proposed developments are thought necessary.

The stormwater drainage strategy also covers the proposed extensions to the current facility being a 50m extension of the existing and storage hardstand area to the south.

Figure 1 – Existing Site Operations Area



2. INTRODUCTION

2.1 Property Location & Ownership

The subject site is located at Lot 6 (No 209) Brand Highway, Muchea and identified on Deposited Plan 13866 and Certificate of title Volume 1651, Folio 436. The property occupies a total area of 39.131 hectares. Refer to **Figure 2 & 3** below.

The property is owned by Lampson (Australia) Pty Ltd and has been used as a rural industry property for many years by previous owners.

The Shire's records indicate that industrial operations involving black granite works were operational from before 1988 to around 2000 when the land use changed to hay bailing operations. The historic Shire records provided by Lampson indicate that the black granite works included a number of structures at the site, however the type of structures and their location is unknown. We understand that the hay bailing operations continued to around 2012 when a fire destroyed a significant number of buildings on site. These previous activities are understood to have operated from the development area that Lampson currently occupies.

Based on a review of the aerial photography of the development area by Allering Associates for the period between 2009 and 2015, it is apparent that the development at the site occupied a significantly greater footprint to that which presently exists. A number of larger buildings were removed as a result of fire damage and based on discussions with Shire staff, the two main storage sheds which have been constructed in the development area were rebuilt by the previous owner following the fire. The Shire has no record of building permits being issued for the current buildings or those that existed at the site prior to the fire.

The current application before the Shire seeks to continue the use of the property as a storage depot Rural Industry.

Figure 2 – Site Location Plan

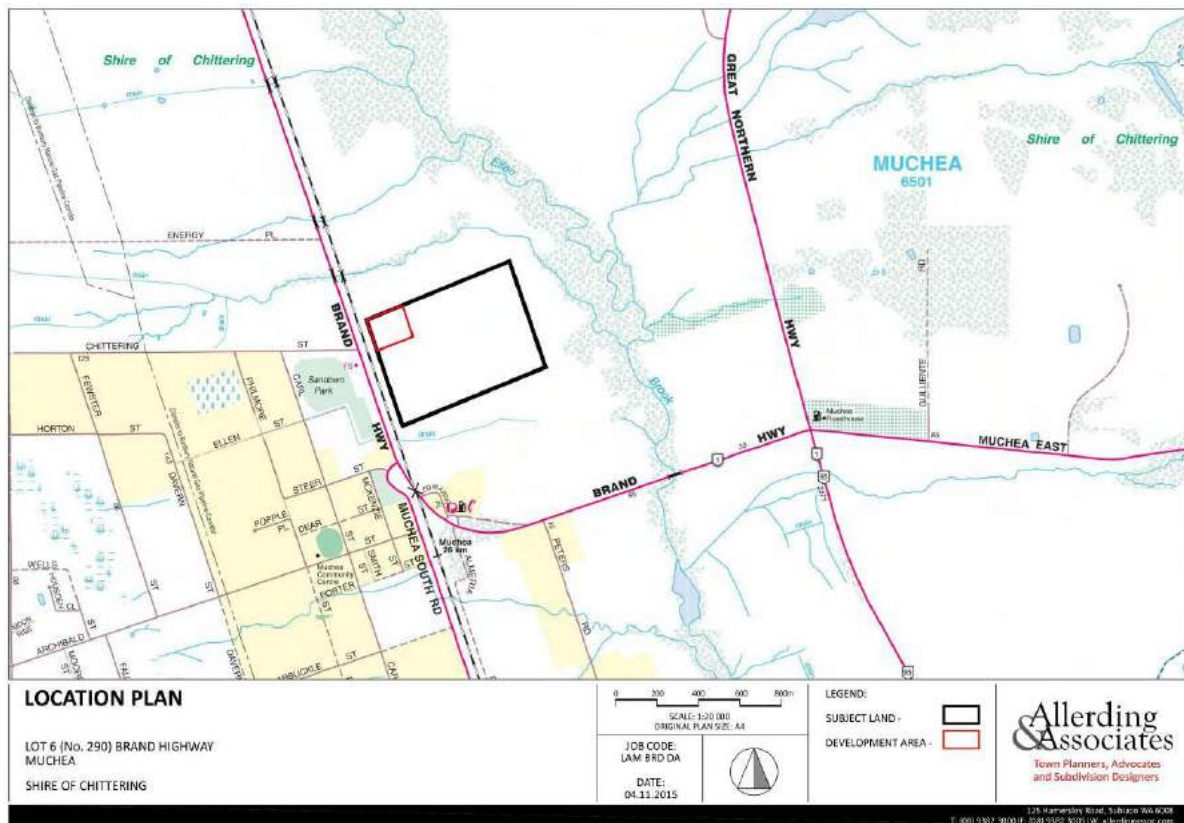


Figure 3– Aerial Photo of Subject Property



2.2 Property Ownership

Lampson (Australia) Pty Ltd is a supplier of Lifting and Transport equipment and related services. Nationally Lampson has operated since 1991 with their initial clients being from the petrochemical industry including BP, Shell, Ampol and Caltex. 24 years later Lampson services have been extended to include mining, civil, defence, oil, gas and other general industry.

Among the general supply of cranes and transport Lampson also specialises in Heavy Lift and Transport Services and are an original equipment manufacturer of the patented Lampson Transi-Lift Crane. The capacity of cranes within Lampson's fleet range from 30 tonnes to 3000 tonnes and are offered on long term bare and dry lease or on a project specific operated basis. The trailer range includes on-road semi-trailer and floats plus various off-road heavy transport crawlers and Self Propelled Modular Trailer types.

Lampson employs approximately 90 personnel nationally however the number fluctuates with industry demands. It is common to travel experienced personnel between sites and states in order to service their varied client base. Many of Lampson's site locations are in remote areas which further contributes to the variation of clientele.

2.3 Existing Land Use

As shown in the Aerial Photographs at **Figures 3** and **6**, the development area in the north-west corner of the subject site is currently occupied by Lampson for its transport depot operations. The remainder of the subject site is vacant.

A summary of the land use areas for the Subject land is presented in Table 2.1 below:

Table 2.1 – Land Use areas Summary

| Land Use | Area (ha) |
|--|---------------|
| Main Storage Buildings and roofed structures and tanks and associated infrastructure (Offices etc) | 0.248 |
| Unsealed access roads & unsealed pavements and hardstands (permeable pavements) | 1.500 |
| Concrete Hardstand areas and central laydown area | 0.313 |
| Verges to Facility area (vegetated in some instances but not formally landscaped) | 0.936 |
| Balance rural property | 36.134 |
| TOTAL | 39.131 |

2.4 Adjacent Land Uses

The neighbouring land to the north, south and east of the subject site is utilised as grazing and cropping land. The land to the north-west of the subject site is occupied by a quarry operator which undertakes the storage and distribution of stone from the site. To the west of the subject site is the Muchea Polocrosse Club at Sandown Park.

2.5 Site Contamination

The Department of Environment Regulation (DER) Contaminated Sites Register did not identify any recorded contamination at the subject site. There is no known contamination that has occurred as a result of the fire that occurred at the premises in 2012. Following the fire, those buildings that suffered fire damaged were removed and disposed of off-site.

2.6 Wetlands and Waterways

A review of the WA Atlas Wetland Management Category Mapping was undertaken which identified the subject site within a 'Multiple Use' wetland (refer to planning report for details. Multiple Use wetlands are generally described as 'wetlands with few remaining important attributes and functions', their respective management objectives involving:

Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare.

The existing wetland classification which exists over the subject site is not a barrier to its continued use on the basis of the previous development that has taken place on the site, but also in the context of the overall environmental management practices adopted.

As detailed in this report Lampson will implement a stormwater management strategy to ensure that runoff is captured and retained on-site following a storm event. Where necessary, the water will be treated to ensure that it does not negatively impact the groundwater resource.

2.7 Significant Vegetation

The Site has previously been completely cleared of all existing vegetation.

2.8 Regional Context - Property Catchment

The property ultimately forms part of the upper reaches of the Ellen Brook Catchment.

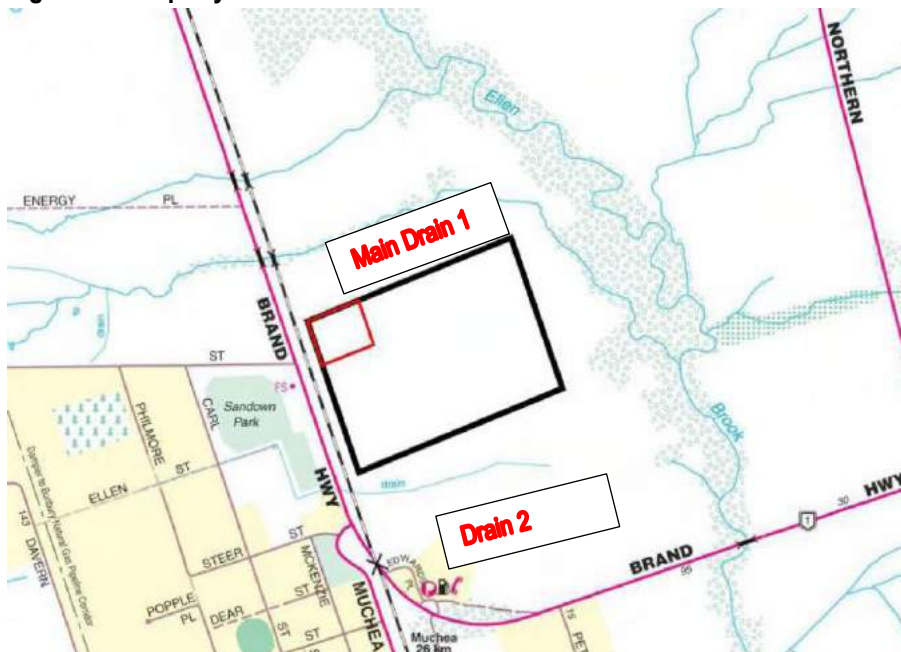
The Ellen Brook Catchment has an area of $\sim 720\text{km}^2$ and is significantly situated in the Chittering Shire area extending more or less north south $\sim 20\text{km}$ north of Perth.

The Ellen Brook Catchment forms part of the Avon Catchment which has a total area of $\sim 122,000\text{km}^2$. The Ellen Brook Catchment has been extensively cleared for agriculture, urban and industrial development although there is significant remnant bush remaining on the Bassendean sand land unit.

The property lies between two main catchments that effectively bypass the property, hence is not influenced by external catchments or incoming stormwater from other properties.

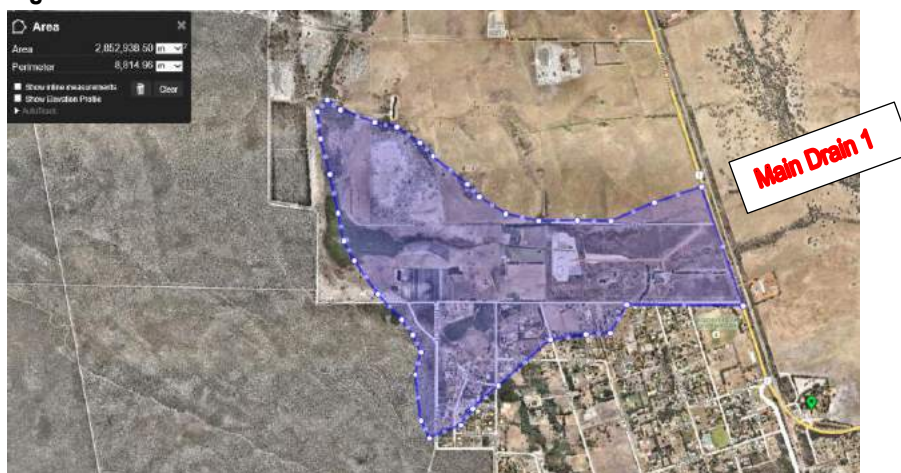
Referring to **Figure 4** below, it can be seen that a watershed/creek line labelled “**Main Drain 1**” bypasses the site to the north. A second watershed from the northern section of the Muchea townsite bypasses the property on the south, labelled “**Drain 2**” in **Figure 4** below.

Figure 4 – Property Catchment Location



The Main Drain 1 catchment west of Brand Highway can be seen in **Figure 5** below and has an approximate total area of 285.29 Ha.

Figure 5 – Main Drain 1 - Total Catchment



Below are details of the existing runoff features and watersheds for the subject site (**Figure 6 below**) and of the Operations Area in **Figure 7 below**

Figure 6 – Stormwater Drainage paths within Subject Property

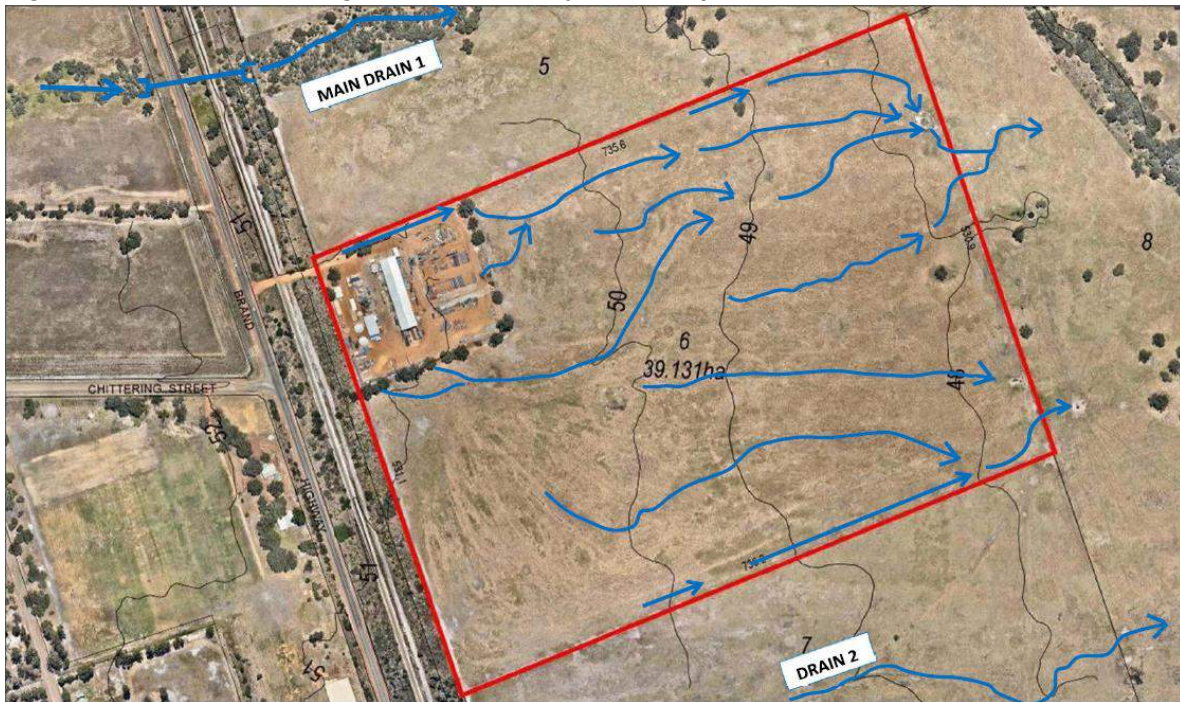


Figure 7 – Stormwater Drainage paths exit locations from the Facility Operations Area



3. BIOPHYSICAL INFORMATION – EXISTING ENVIRONMENT

3.1 Climate & Rainfall

The climate and rainfall of the property is typical of the Ellen Brook catchment and experiences a Mediterranean climate of hot dry summers and cool wet winters. Temperatures typically range from 17°C to 29°C in summer and from 9°C to 18°C in winter (Thurlow, et. al., 1986).

Average rainfall for the southern portion of the Ellen Brook catchment is 820mm/yr and this decreases to less than 660 mm/yr in the northern regions of the catchment (Hammond and Mauger, 1985). Ninety percent of the rainfall occurs between May and October. The break of season is usually mid-April to mid-May and the growing season lasts about seven months. Annual pan evaporation is 1934 mm and the average daily evaporation is 10.8 mm in January falling to 1.8 mm in June.

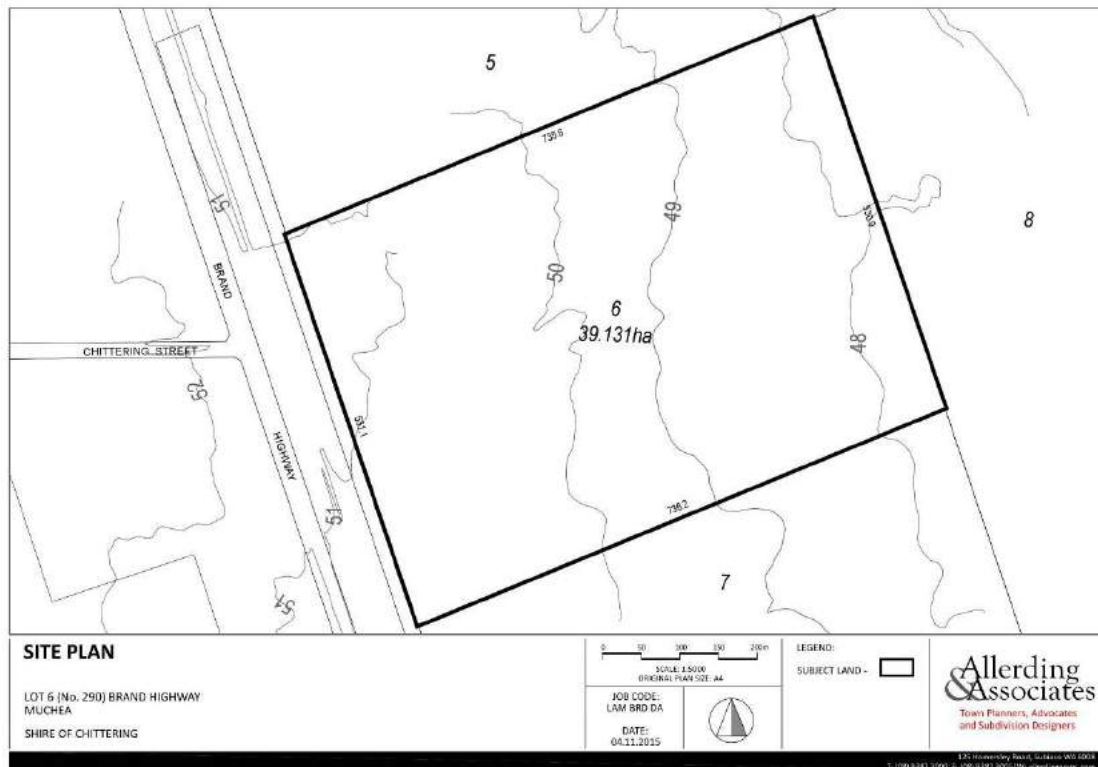
3.2 Topography

The subject land is currently used for a transport depot but these operations are only located on a very small portion (3ha out of 39.131 ha) of the site. The balance of the site is cleared pasture that is maintained in accordance with site zoning requirements.

The site is well graded and gently slopes from west to east with a high point at the north-western corner where the transport depot is located with a level of approximately RL 51m AHD to RL 58m AHD (Australian Height Datum) at the eastern boundary.

Gradients vary from 1 in 100 to 1 in 300 with an average slope of 1 in 200. Refer to the existing contour plan in **Figure 8** Below.

Figure 8 – Subject Land Topography



3.3 Geology and Soils

Whilst a formal Geotechnical investigation was not undertaken for this report, a desktop study utilising existing Geological Maps was used for a global review of general soil conditions.

Reference to the Geological Survey Map series indicates that the primary soil condition for the area is classified as Sand (S7 & S8) overlaying Sandy Gravels and clays. This is consistent with site observations. Soils are easily excavated and are very permeable in the surficial layers allowing good drainage via soakage and retention above groundwater.

The Western Australian Planning Commission's Bulletin 64, Acid Sulfate Soils (ASS) Maps shows the site is located in the Moderate to Low Risk of Actual (ASS) within 3m of the surface high to moderate risk of ASS at depths of >3m. I

In consideration of the topographical and geological location of the site coupled with the Moderate to Low Risk Classification of the site, and the proposed depth to which works are proposed (less than 2m) ASS is not considered to be a constraint on the site.

3.4 Groundwater

The groundwater levels move seasonally and is generally ~1.0 metre below ground level and the observed lateral movement is +/- 30cm.

3.5 Landscaping

The development area contains existing landscaping along the southern and eastern boundaries and a portion of the northern boundary.

The operations are screened from Brand Highway by existing mature vegetation within the road and rail reserves to the west of the subject site.

Due to the height of some of the cranes and machinery stored on site, landscaping will not completely screen the machinery from the public realm. However the physical setback of the external crane storage areas within the Lampson transport depot site from Brand Highway of around 100m ensures that the visual impact is considerably reduced and consequently does not result in any undue or adverse amenity impacts.

3.6 Land degradation hazards

Phosphorus

Preliminary analysis of the Agriculture Western Australia land resource data indicates that low lying soils with very low P binding capacity are most at risk of losing P to drainage. This assessment shows that most of the low lying areas along the central axis of the coastal plain are highly susceptible to phosphorus export. This is not surprising as the Ellenbrook catchment has been identified as one of the greatest contributors of phosphorus into the Swan River estuary.

There has been no application of phosphate fertiliser to date and none is proposed as part of the ongoing use of the property for the transport depot.

Nitrogen

Annual total nitrogen loads from the Ellen Brook catchment have been estimated at 77 tonnes which equates to seven percent of the total TN load to the Swan-Canning estuary (Donohue et al, 1994).

The pasture on the subject land whilst dominated by grasses does include nitrogen fixing plants that to date have not required nitrogenous fertiliser application.

Waterlogging

Preliminary analysis of the Agriculture Western Australia land resource data indicates that the land units most susceptible to waterlogging and seasonal inundation are associated with the central portion of the coastal catchment. Some of these very low-lying areas remain waterlogged from July to mid-September each year. These areas are highly productive in terms of pasture production in spring when plentiful water, light and nutrients stimulate lush pasture growth. Unfortunately these are the very areas that of most concern for nutrient export because they need draining to establish grazing pastures and consequently lose fertilizer nutrients to drainage.

The subject property has a gently undulating land surface with a low profile slope to the east discharging into the Ellen Brook with poorly defined creek systems on the property. Some pre-existing drains have been cleaned maintained to assist the water to move through the property without significantly altering the natural drainage system through the property.

The current drainage system does not restrict the flow of water through the site. The only seasonal flooding occurs in relation to the Main Roads culvert under Brand Highway to the north of the property and away from the property, where minor annual flooding occurs that is confined to the creek bed (Main Drain 1).

Salinity

The *Chittering Salinity and Erosion Study* published by Agriculture Western Australia represents the only significant source of data available on the extent of existing soil salinity and soil erosion problems within the Shire of Chittering. Along with land unit attribute data associated with the Agriculture Western Australia land resource mapping, this information may be used to determine land degradation 'hot spots' for salinity (both existing and potential) within the Shire.

There is no salinisation evident on the property.

4. SITE OPERATIONS MANAGEMENT ISSUES

4.1 General

Refer to the Planning Application prepared by Allering & Associates (dated November 2015) for a detailed summary of the operation of the site. Below is the site plan (**Figure 9**) showing the facilities (existing and proposed) on the subject site.

Figure 9 – Subject Land – General Site Layout of Facility Operations Area (Showing Current operations and Futuer expansion of the Facility hardsarnsd area)

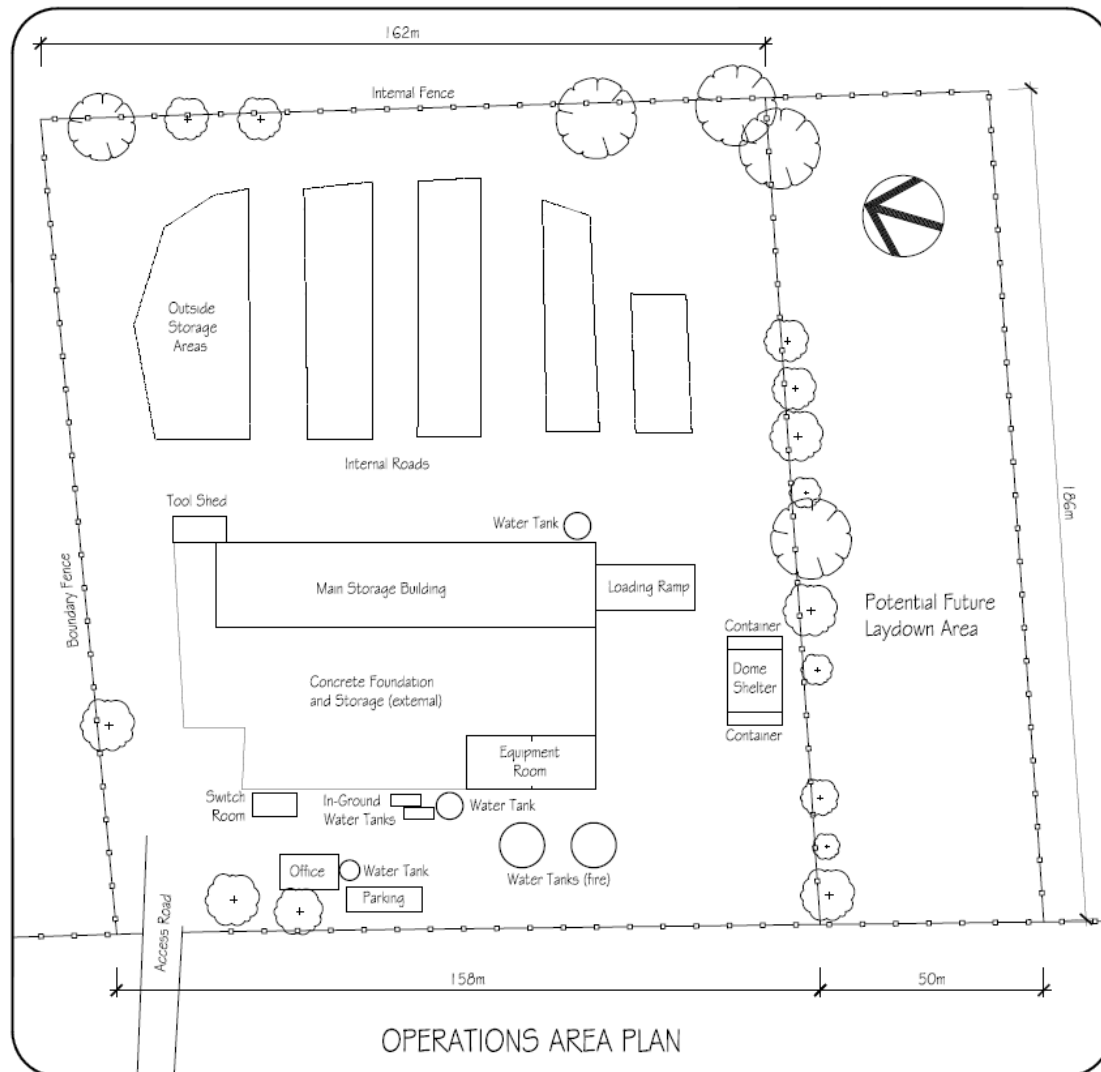
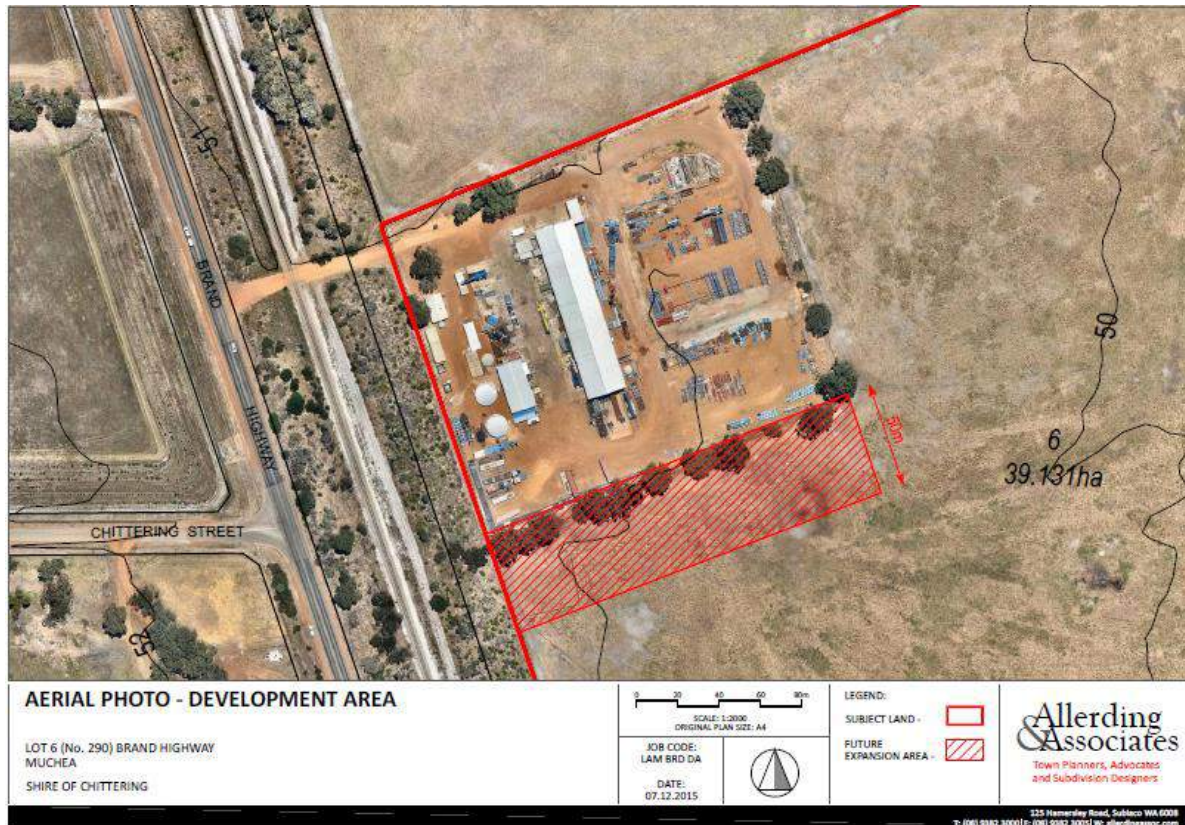


Figure 10 – Subject Land – Aerial with Future Expansion Area Highlighted



4.2 Surrounding Land use and interfaces

Refer to **Section 2.4** above for details of adjacent land uses.

4.3 Groundwater Management & Water Usage

As described earlier that facility has a low water usage and is adequately catered for by use of rainwater tanks. Groundwater is not extracted or used and there is no use of the shallow groundwater for agricultural pursuits.

4.4 Wetlands

As described earlier in this report, there are no natural wetlands on the property although there are several areas where runoff collects before overtopping shallow watershed areas in the very low relief landscape.

4.5 Hydrocarbon Contamination Management

The issue of hydrocarbon containment management has been considered in the planning and design of the development at 290 Brand Highway. The range of factors considered includes spills of diesel, accidental droplets of oils and greases from vehicles under maintenance (inside the storage sheds) and in storage on the open hardstands.

The first and most important safety and management measure is storage. The Owners have adopted a containerised storage system with a capture tank adjacent to the main storage shed with triple cell interceptor and pump-out facility bunded with interior capable of holding the volume of contents should there be a spill. Refer to site plan (**Figure 11**) indicating location of the external below ground containment tank (noted as “Oil Trap”).

The operational procedures for the site will further address any minor diesel or oil leakage from vehicles by constructing the hardstand from a thick layer of gravel (200-250mm) and in major traffic areas sealed or in concrete. The gravel will absorb accidental spills and confine the leakage to the gravel layer itself.

Should spills occur, the gravel will be removed to an approved disposal facility if the quantity of spillage (unlikely to occur) justifies this action.

The storage shed has a concrete floor that incorporates sealing and a drain point to provide a containment drain and connection to the external treatment tank adjacent to the workshop as described above.

Workshop spills will also be limited as handling and containment measures will include mobile storage units that will be placed under works areas when oils are being handled and will be limited to specified areas within the shed/workshop and service area facility.

The vegetated swales within the operations areas and other plant species, soil and water microbiota is a well-documented process as a way to naturally reduce the pollutants to 'safe' compounds. These will be considered when selecting the plantings in the soakage swales.

4.6 Dust

The nature of the laydown, (Concrete main hardstand for heavy traffic and tightly compacted and well-maintained gravel hardstand) will limit any dust generation issues. Additionally the have a limited traffic throughput and would be limited to loading / offloading operations at very confined and relatively intense /short periods of activity where equipment is being stored or brought in for maintenance. Adequate water is available on site should the need arise for watering or dust control, however, this is not considered an issue that the facility would need to address.

4.7 Surface Water Flows

Refer to section 4.8 & 4.9 for a more comprehensive discussion regarding stormwater management proposed for the site.

Generally site stormwater is conveyed utilising shallow open swales and open drains and existing watersheds/outfalls. A number of internal culverts have been placed in the operations area to allow access to the property and convey runoff to treatment and soakage zones in close proximity to the operations footprint. The shallow relief drains and watersheds in and through the property are well grassed and stable with no evident erosion issues. **Refer to Figure 11 below** and photos below for typical views of the property.

Figure 11 – Operations Area – Existing Stormwater Drainage Feature and catchment locations

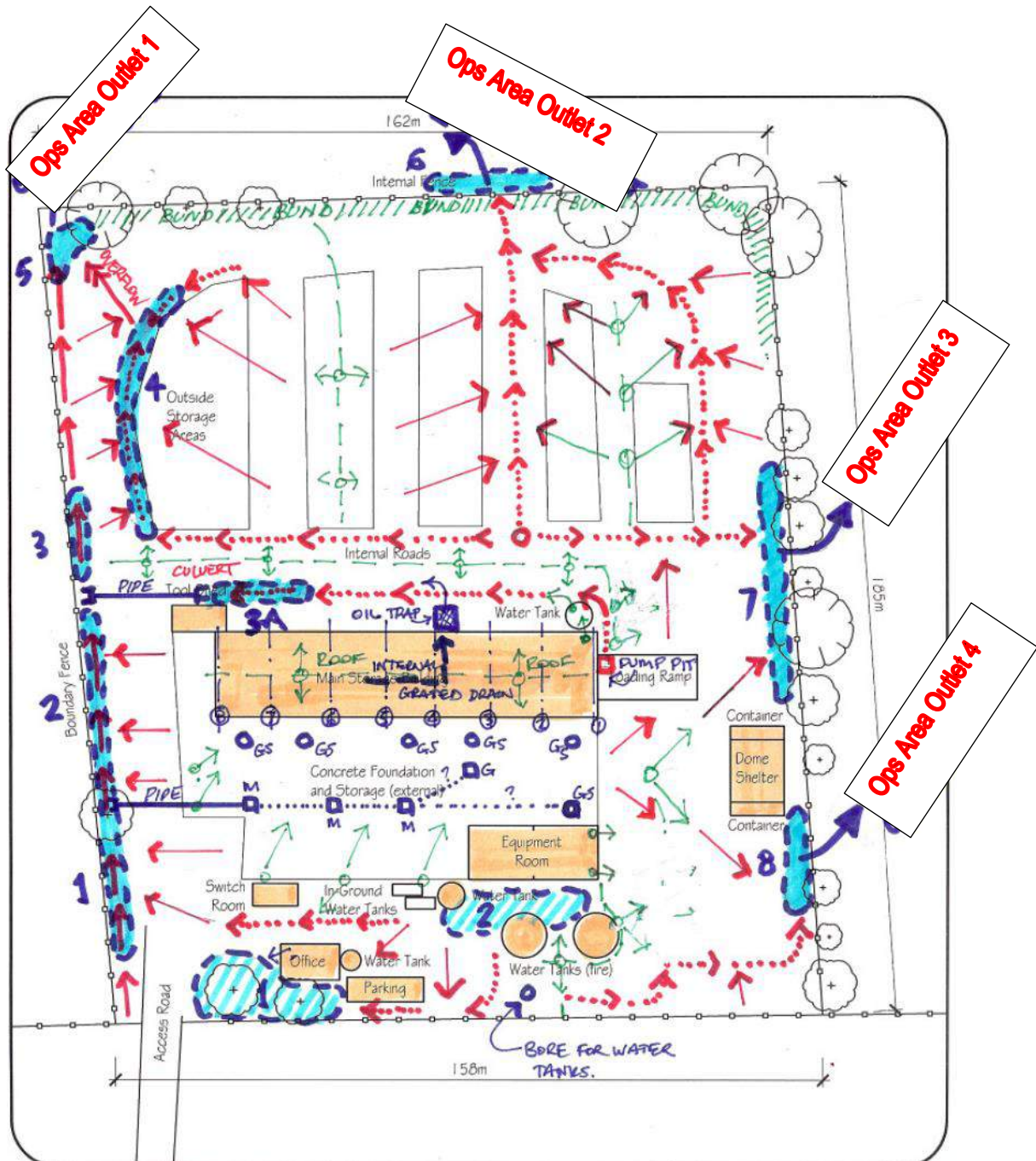


Figure 12 – LEGEND to FIGURE 11

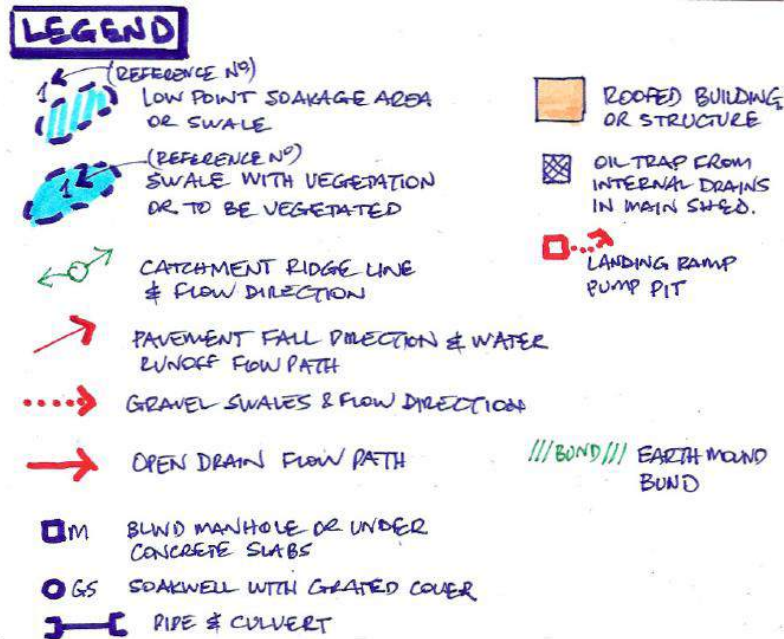


Photo A (Below) – Existing rural paddock generally east and south of the Operations Area (stable grassland with a series of natural watersheds and soakage areas as shown in **Figure 6** that overflow to the east boundary of the property.



Photo B (Below) – Existing stable gravel hardstand typical of Operations Area external pavement and storage area.



Photo C (Below) – Concrete Hardstand areas between Main storage shed and Offices with positive drainage collection system (gully and pipe network generally discharging to the north of the property to the boundary swale drains).



Photo D (Below) – Gravel swale within Storage hardstand area to contain runoff from adjacent storage areas.



Photo E (Below) – Partly vegetated swale within Storage hardstand area to contain runoff from adjacent storage areas.



Photo F (Below) – Piped outlet from concrete hardstand area and piped network between storage shed and offices. Swale area needs to be reshaped and additional planting added to assist as part of treatment train for sediment and nutrient trapping.



Photo G (Below) – Boundary swale along northern boundary of property.



4.7.1 Design Concept

The main objective of the design approach to be adopted for Lot 6 (No. 290) is to minimise stormwater conveyance after collection, and maximise the amount of stormwater which can be locally recharged and managed by direct infiltration to the superficial aquifer, in accordance with Department of Water (DOW) urban water management objectives. This in turn reduces the potential for entrained contaminants to be exported from the site in surface runoff to receiving water bodies, thereby reducing the risk of poor water quality in the downstream systems.

The site's roof runoff will generally be collected for re-use at individual facility allotments that have sufficient sand fill or permeable pavements or collected and piped to swales or open drains on site. Allowance has been made in the stormwater infiltration swales and basin sizing for the small additional contributing flows from the operating footprint of the transport depot and related facilities.

The drainage system will consist of:

- Water Harvesting rainwater tanks will contain the 1 in 1 year, 1 hour event with overflows to natural soakage area to recharge the groundwater.
- Concrete drainage culverts below the main access road and drainage swales strategically located to capture and attenuate post development flow to pre-development standards. The drainage swales and open drains within the development area are designed and are constructed in accordance with Local authority standards (typically to contain up to 1 in 20 year ARI flows). Any future extensions of the facility will be designed to accommodate a similar strategy based on relocation or extension of the existing swales and open drains within the Operations Area.
- Overland flow paths for major flows during severe storms. These flows will generally be contained within the operations areas but with overflows directed to the rural watersheds of the property and shallow natural swales in the topography that will convey peak flows across the stable pasture maintained in the balance of the property.

All storm flows up to and including the 1 in 100 year storm will be directed to either the existing soakage basins and /or proposed upgrade swales located throughout the site. The on-site retention and infiltration basin/swales will include an acceptable treatment train to strip nutrients which will help to limit the impact of the development upon the surrounding catchments water quality.

Wherever practically possible the design incorporates aspects of water sensitive design through the use of dry infiltration swales and basins & off shoulder drainage for roads to convey water to the natural watersheds and shallow swales that run through the site after provision of sediment traps at strategic locations at the exists to the operations footprint. Beyond the operations area the natural grasses and soakage areas across the site as detailed previously are an additional insurance to entrap nutrients and control discharge to required volumes.

Peak flow calculations for each of the **four** operations area outlets culverts indicate that they are all capable of handling the 20 year rainfall event, which is put into context by the fact that the Main Roads culvert under Brand Highway just meets the requirement to handle a 10 year rainfall event. The 20 year rainfall event is the standard used in agricultural planning.

The peak flow calculation used is:

$$Q_p = cA_d n \quad \text{where } Q_p \text{ is the peak flow, } A_d \text{ is the catchment area, and } c \text{ is the catchment coefficient, which varies according to vegetation cover and rainfall event.}$$

The peak flow then fits into the calculation allowing for the diameter of the pipe or open drainage swale system using a Western Australian Department of Agriculture formula:

$$v = \frac{1}{n} R^{2/3} s^{1/2} \quad \text{where } v = \text{average velocity of flow}$$

$$R = \text{hydraulic radius} = \frac{\text{cross sectional area}}{\text{wetted perimeter}}$$

$$s = \text{slope of bed}$$

$$n = \text{Manning's roughness coefficient}$$

As mentioned the Main Roads culvert system under the Brand Highway does cause flooding into adjacent properties during a rainfall event greater than the 10 year event but the subject site is independent of any other catchment systems and is self-contained in catering adequate for its own needs and any potential future extension to the facility.

There will be no extraction or use from any surface water flows from any water surface. There will be no damming or restriction on any surface water flow through the property.

The quality of the surface water leaving the property has not been monitored, however, based on the type of operations and small footprint is considered unnecessary for the application at hand or for the proposed extensions based on current and past operations performance. There are no problematic issues associated with this kind of facility operations that have necessitated strict surveillance.

4.8 Stormwater Management

This summarised Stormwater Management Strategy as described in context with the above water usage and other management initiatives addresses water usage, groundwater and stormwater management for this site.

This has been prepared in accordance with the design objectives outlined in *"Better Urban Water Management"* (2008) and seeks to:

- Maximise water conservation by minimising the amount of potable water used and buildings to achieve efficient water use;
- Provide water quality management by seeking to maintain post development annual discharge volumes and peak flows to predevelopment (rural) conditions and seeking to maintain the surface water and ground water quality to pre development levels; and

As described in **Section 2.7**- Property Catchment, the site does not have any entering waters and has adequate capacity in the existing property (due to the small operations footprint) to cater for the current and future operations needs of the transport depot facility.

A summary of the land use areas for the Subject land is presented in Table 5.1 below:

Table 5.1 (Previously 2.1) – Land Use areas Summary

| Land Use | Area (ha) |
|--|---------------|
| Main Storage Buildings and roofed structures and tanks and associated infrastructure (Offices etc) | 0.248 |
| Unsealed access roads & unsealed pavements and hardstands (permeable pavements) | 1.500 |
| Concrete Hardstand areas and central laydown area | 0.313 |
| Verges to Facility area (vegetated in some instances but not formally landscaped) | 0.936 |
| Balance rural property | 36.134 |
| TOTAL | 39.131 |

Catchment characteristics are summarised in table 5.2 below.

Table 5.2 – Sub-catchment Characteristics

| Catchment Description | Building area (m2) | Hardstand Area - Concrete (m2) | Hardstand Area - Gravel (m2) | Total Catchment area (m2) |
|---|--------------------|--------------------------------|------------------------------|--|
| Operations Area sub-catchment C1 | 235 | | 3,417 | 3,652 |
| Operations Area sub-catchment C1A | 180 | | 385 | 565 m2 - This area manages its own flow and soaks in situ (no overflow) |
| Operations Area sub-catchment C2 | 720 | 3,130 | 771 | 4,621 |
| Operations Area sub-catchment C3 | 780 | | 1,850 | 2,630 |
| Operations Area sub-catchment C4 | - | | 4,303 | 4,303 |
| Operations Area sub-catchment C5 | | | 642 | 642 |
| Operations Area sub-catchment C6 | | | 8,092 | 8,092 |
| Operations Area sub-catchment C7 | 120 | | 2,158 | 2,278 |
| Operations Area sub-catchment C8 | 445 | | 2,742 | 3,187 |
| Total Catchment Operations Area (excl. rural property balance 36.134 ha) | 2,480 | 3,130 | 24,360 | 29,970 |

Table 5.2A – Sub-catchment Characteristics (including Future Expansion of Operations Area)

| Catchment Description | Building area (m2) | Hardstand Area - Concrete (m2) | Hardstand Area - Gravel (m2) | Total Catchment area (m2) |
|---|--------------------|--------------------------------|------------------------------|---------------------------|
| Operations Area Catchments C1 – C9 | 2,480 | 3,130 | 24,360 | 29,970 |
| Operations Area sub-catchment C7A (Southern Expansion area to subcatchment C7) | | | 6,750 | 6,750 |
| Operations Area sub-catchment C8A (Southern Expansion area to subcatchment C8) | | | 2,550 | 2,550 |
| Total Catchment Operations Area (excl. rural property balance 32.207 ha) | 2,480 | 3,130 | 33,660 | 39,270 |

Table 5.3 Pre-development Catchment Flows (total Flows from Operations Area)

| ARI | Pre-development Parameter | Catchment Area = 39.131 ha |
|-----------------|---------------------------|----------------------------|
| | | Rational Method |
| 1-year | Q (m³/s) | 0.401 |
| | C | 0.207 |
| | tc | 32 mins |
| 10-year | Q (m³/s) | 0.929 |
| | Coefficient C | 0.259 |
| | tc | 32 mins |
| 100-year | Q (m³/s) | 1,759 |
| | Coefficient C | 0.299 |
| | tc | 32 mins |

The total volume of runoff is determined by the amount of rainfall less the losses, largely infiltration whilst the rate of runoff is determined by the slope and roughness (Manning's n) of the surface. The initial loss-continuing loss model has been adopted in the hydrological model with loss rates and roughness land types:

Table 5.4 - Catchment Characteristics

| Infiltration Land Type | Manning's n | Initial Loss (mm) | Proportional Continuing Loss (mm) |
|------------------------|-------------|-------------------|-----------------------------------|
| Short grass | 0.15 | 0.0 | Varies according to C-value |

A comparison of pre- and post-development flows indicates that the development of the subject land will not increase stormwater flows into the downstream environment:

Table 5.5 - Pre- and Post-Development Peak Discharges

| ARI (years) | Pre-Development Peak Discharge from Operations Area (m³/s) | Retained Volume on site (m³) | Post-Development Peak Discharge From Operations Area (m³/s) |
|--------------|--|------------------------------|---|
| 1-year ARI | 0.401 | | 0.401 (Balance retained on site) |
| 10-year ARI | 0.929 | | 0.929 (Retained on site) |
| 100-year ARI | 1,759 | | 1,759 (Retained on site) |

Post development catchment and infiltration swales (predominately immediately east of the Operations Area) are in similar proximity to areas where pre-development infiltration would have occurred, hence pre and post conditions are maintained. All storm events from the operations area catchments will be contained within the infiltration basins hence there will be no post development discharge from these catchments other than via infiltration.

The small amount of additional runoff generated from the roof of the services and maintenance facility is initially stored in rainwater tanks located adjacent to the storage shed and office (refer to photo below). This is also part of the rainwater harvesting and re-use initiatives utilised around the site wherever the opportunity is available.



Once the tanks are full and in cases of heavy downpours where they may be filled to capacity, the owners have connected the tanks to an overflow system that pipes the overflow to a recharge swale to the east of the storage shed.

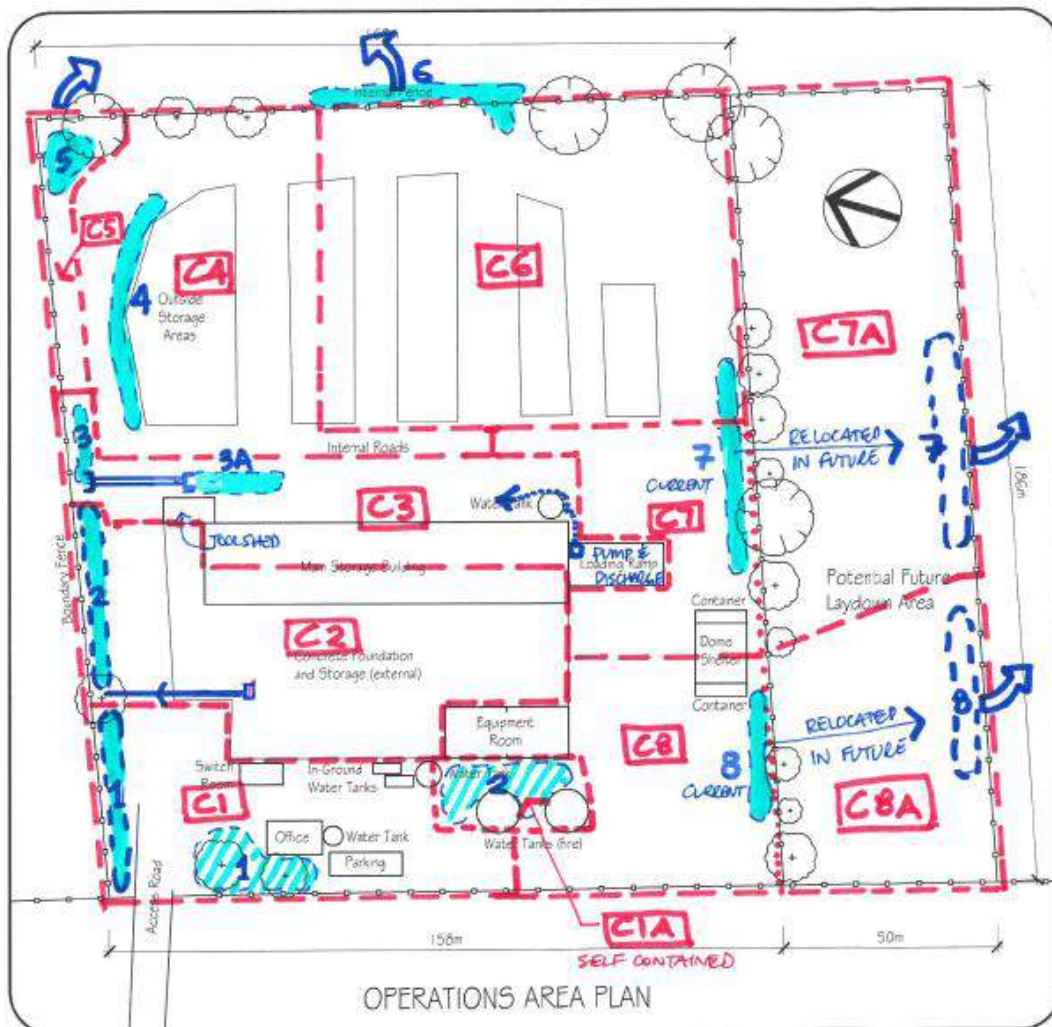
This overflows to other swales and open drains that make their way east to the ultimate overflow from the operations areas into the rear paddocks and to the natural watersheds across the property. It will be necessary to formalise some additional landscaping in the operations areas swales to enhance the natural nutrient capture of the balance of the property.

Swale revegetation is summarised in **Table 5.6** below:

Table 5.6 – Swale Revegetation Requirements

| Swale Location | Description | Swale Area (m2) | Revegetation Requirements |
|---|---|-----------------|--|
| Operations Area sub-catchment C1 (Northern Swale) | Existing Swale adjacent to and north of the entry road from the gates heading east | 200 | Existing Swale adequately sized and operating efficiently. |
| Operations Area sub-catchment C1 (Southern swale) | Existing Swale adjacent to the site offices and covered carpark structures south of the site entry gates | 250 | Existing Swale adequately sized and operating efficiently. No vegetation required. |
| Operations Area sub-catchment C1A | Existing soakage area between Equipment Room and Fire Tanks | 300 | Existing soakage area adequately sized and operating efficiently. No vegetation required. |
| Operations Area sub-catchment C2 | Existing swale/soakage adjacent to and north of the access track along the northern boundary of the facility and between piped outlets from catchment C2 & C3 | 200 | Existing swale/soakage area adequately sized and operating efficiently. |
| Operations Area sub-catchment C3 & C3A | Existing swale adjacent to and north of the access track along the northern boundary of the facility and downstream of piped outlets from toolshed area. Swale C3A from eastern side of the Main Storage Building and overflow from rainwater tanks and Loading Ramp area | 230 | Existing swale/soakage area adequately sized and operating efficiently. |
| Operations Area sub-catchment C4 | Existing swale adjacent to and north of the Outside storage area | 300 | Existing swale area adequately sized and operating efficiently |
| Operations Area sub-catchment C5 | Soakage area in north-east corner of the site. Not well defined but provides supplementary soakage to open drain along northern boundary linking swale 3 in catchment C3 to swale 5 and overflow to Outlet 1 | 450 | Existing soakage area to be expanded to provide required volume as noted in Table 5.7 below. Area to be vegetated. |
| Operations Area sub-catchment C6 | Existing swale adjacent to the eastern boundary | 200 | Existing swale adequately sized and operating efficiently. |
| Operations Area sub-catchment C7 | Existing soakage area east of the Dome Shelter adjacent to southern boundary. Requires re-shaping and vegetation to be added. Will be relocated when the future the facility and hardstand area is expanded southwards (see Figure 9) | 300 | Existing soakage area to be expanded to provide required volume as noted in table 5.7 below. Area to be vegetated. |
| Operations Area sub-catchment C8 | Existing soakage area west of the Dome Shelter adjacent to southern boundary. Requires re-shaping and vegetation to be added. Will be relocated when the future the facility and hardstand area is expanded southwards (see Figure 9) | 250 | Existing soakage area to be expanded to provide required volume as noted in table 5.7 below. Area to be vegetated. |
| Total Swale Areas Catchment Operations Area (m2) | | 2,680 | |

Figure 13 – Operations Area Subcatchment Plan



LEGEND

- (REFERENCE NO.)
LOW POINT SOAKAGE AREA OR SWALE
- (REFERENCE NO.)
SWALE WITH VEGETATION OR TO BE VEGETATED
- CATCHMENT RIDGE LINE & FLOW DIRECTION
- PAVEMENT FALL DIRECTION & WATER RUNOFF FLOW PATH
- GRAVEL SWALES & FLOW DIRECTION
- OPEN DRAIN FLOW PATH
- BLIND MANHOLE OR UNDER CONCRETE SLABS
- SOAKWELL WITH GRATED COVER
- PIPE & CULVERT
- ROOFED BUILDING OR STRUCTURE
- OIL TRAP FROM INTERNAL DRAINS IN MAIN SHED.
- LANDING RAMP PUMP PIT
- EARTH MOUND BUND

The volumes of runoff that are to be retained for the Operations Area for the respective return period storms are identified below in **Table 5.7. Calculations in Appendix 2.**

Table 5.7 – Operations Area Sub-Catchment Swale Summary – Required volumes

| Catchment Number | Catchm't Gross Area (m2) | Swale Area (m2) | ARI | TWL (mAHD) | Storage Volume (m³) | Surface Area at TWL (m²) | Swale / Soakage Area Details | |
|--|--------------------------|-----------------|--------|--|--|---------------------------------------|------------------------------|--------------------------------|
| | | | | | | | Base Level (m AHD) | Side Slope (v:h) |
| Operations area Catchment C1 Swale | 3,652 | 450 | 1-yr | N/A | Overflow soaks away without need for storage in swales | N/A as no storage depth Req'd (450m2) | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.01 | 6.0 | 450 | | |
| | | | 100-yr | RL 51.102 | 47.00 | 473 | | |
| Operations area Catchment C1A Swale | 565 | 300 | 1-yr | Overflow Area self-contained and soaks away without need for storage in swales | | | N/A | N/A |
| | | | 10-yr | Overflow Area self-contained and soaks away without need for storage in swales | | | | |
| | | | 100-yr | Overflow Area self-contained and soaks away without need for storage in swales | | | | |
| Operations area Catchment C2 Swale | 4,621 | 200 | 1-yr | N/A | N/A | N/A | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.27 | 59.0 | 242 | | |
| | | | 100-yr | RL 51.53 | 129.0 | 287 | | |
| Operations area Catchment C3 Swale | 2,630 | 230 | 1-yr | RL 51.02 | 4.0 | 233 | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.08 | 19.0 | 243 | | |
| | | | 100-yr | RL 51.19 | 48.0 | 262.0 | | |
| Operations area Catchment C4 Swale | 4,303 | 300 | 1-yr | RL 51.02 | 7.0 | 304.0 | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.01 | 30.0 | 318 | | |
| | | | 100-yr | RL 51.23 | 74.00 | 344 | | |
| | | | | | | | | |
| Operations area Catchment C5 Swale | 642 | 450 | 1-yr | N/A | N/A | N/A | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | N/A | N/A | N/A | | |
| | | | 100-yr | N/A | N/A | N/A | | |
| Operations area Catchment C6 Swale | 8,092 | 300 | 1-yr | RL 51.09 | 27.0 | 316 | RL51.00 | 1:3 with 5.0m wide base min. |
| | | | 10-yr | RL 51.27 | 87.0 | 351 | | |
| | | | 100-yr | RL 51.53 | 188.0 | 406 | | |
| Operations area Catchment C7 Swale | 2,278 | 300 | 1-yr | N/A | | | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.03 | 8.0 | 305 | | |
| | | | 100-yr | RL 51.08 | 25.00 | 315 | | |
| Operations area Catchment C8 Swale | 3,187 | 250 | 1-yr | RL 51.02 | 4.0 | 253 | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.08 | 20.0 | 263 | | |
| | | | 100-yr | RL 51.19 | 51.00 | 283 | | |

Table 5.8 Operations Area Sub-Catchment Swale Summary – Future Hardstand Expansions (Upgrade of swale requirements)

| Catchment Number | Catchm't Gross Area (m2) | Swale Area (m2) | ARI | TWL (mAHD) | Storage Volume (m³) | Surface Area at TWL (m²) | Swale / Soakage Area Details | |
|---|--------------------------|-----------------|--------|------------|---------------------|--------------------------|------------------------------|--------------------------------|
| | | | | | | | Base Level (m AHD) | Side Slope (v:h) |
| Operations area Catchment C7A Future Swale upgrade requirements | 9,028 | 600 | 1-yr | RL 51.03 | 15.0 | 607 | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.11 | 65.0 | 628 | | |
| | | | 100-yr | RL 51.25 | 159.00 | 667 | | |
| Operations area Catchment C8A Future Swale upgrade requirements | 5,737 | 250 | 1-yr | RL 51.06 | 16.0 | 261 | RL51.00 | 1:3 with 4-4.5m wide base min. |
| | | | 10-yr | RL 51.21 | 58.0 | 286 | | |
| | | | 100-yr | RL 51.43 | 125.00 | 328 | | |

4.9 Water Sustainability Initiatives

The site will be developed following “waterwise” principles with water conservation strategies for household use, irrigation and processing water with water recycling and re-use as a central feature.

4.10 Water Efficient Measures

4.10.1 Office Facility water efficiency

Any additions to the facility will be required to comply with the green start efficiency codes and standards.

There are a number of established landscape zones and are adequately catered for by current supply. New areas will be required to be established and it is envisaged that these will be provided with manual watering during the establishment phase. As the balance of the rural property has adequate capacity for additional in line treatment and soakage of runoff prior to discharging from the site to the east, this is considered adequate for current and future needs based on current operations and this application.

4.10.2 Water Supply & Water Recycling

The subject site is not connected to a reticulated water supply and relies on rainwater tanks fed from water captured on the roofs of sheds and a bore and tank system for fire fighting purposes. There are currently three rainwater tanks connected directly to the two sheds and the office building which provide an adequate supply of potable water for the business operations. Two large fire tanks located to the west of the smaller shed are connected to the fire fighting equipment on site and are maintained with an adequate level of water for fire fighting purposes at all times from the on-site bore located immediately west of the tanks.

4.10.3 Waste Water Management

The subject site is serviced by septic tanks. There is no reticulated sewer in the vicinity of the subject site and current operations are adequately catered for by the existing system. The site has a very low volume treatment requirement based on the small staff and operations personnel that are required to be at the facility at any one time.

5. CONCLUSIONS AND RECOMMENDATIONS

This report addresses the surface water collection and disposal strategy (Stormwater Management Strategy) in support of the operations undertaken on the subject site and has been prepared in line with the Shire of Chittering guidelines.

We summarise our findings and recommendations as follows:

- The site has no problematic soils or ASS issues that require attention in relation to the proposed operations and works.
- The proposed operations are based on maintaining strong environmental management of the catchment by:
 - Ensuring workshop and storage shed floor areas are internally collected and separated in an interceptor system prior to discharging to a soakage swale.
 - Storage of equipment and machinery and operations stock items (steel, timber miscellaneous equipment) is stored on a pavement base that captures all internal catchment runoff and directs it to a treatment area prior to discharging to the existing outfalls on the property to ensure that surface water is collected to containment ponds for soakage disposal.
 - Reuse of water along with water harvesting techniques adopted on site minimise the volume of water used.
 - Water Quality monitoring for surface water and stormwater entering the site and leaving the site is not considered necessary for the current operations, however, future applications may need to consider this if the usage footprint is extended substantially or land use changes.
 - Surface water conveyance through the property is further managed by monitoring of watershed and shallow swales and limiting any potential erosion by regular maintenance. Any new storage and surface water management features proposed will also be designed and constructed to ensure minimal maintenance is required.
 - Hydrocarbon contamination risk is rigidly managed by containerised capture and limiting risk to defined work areas so that any potential contamination is quickly managed and the risk of this occurring is minimised.
- Sustainability Initiatives will continue on site with the use of rainwater tanks, water recycling and recharge of clean waters and surface waters.
- Revegetation of swales within catchments C5, C7 and C8 will be required to ensure nutrient capture is sufficiently provided and maintained. **Refer to Table 5.6** for further details.

Based on the proposed measures and close monitoring processes that the proponents undertake and maintain the land is both capable of sustaining the operations to acceptable environmental standards. The existing and proposed enhancements to the collection and runoff containment system will adequately manage the stormwater runoff to maintain the balanced catchment requirements by limiting flows to pre-development conditions and to maintaining water quality within the area.

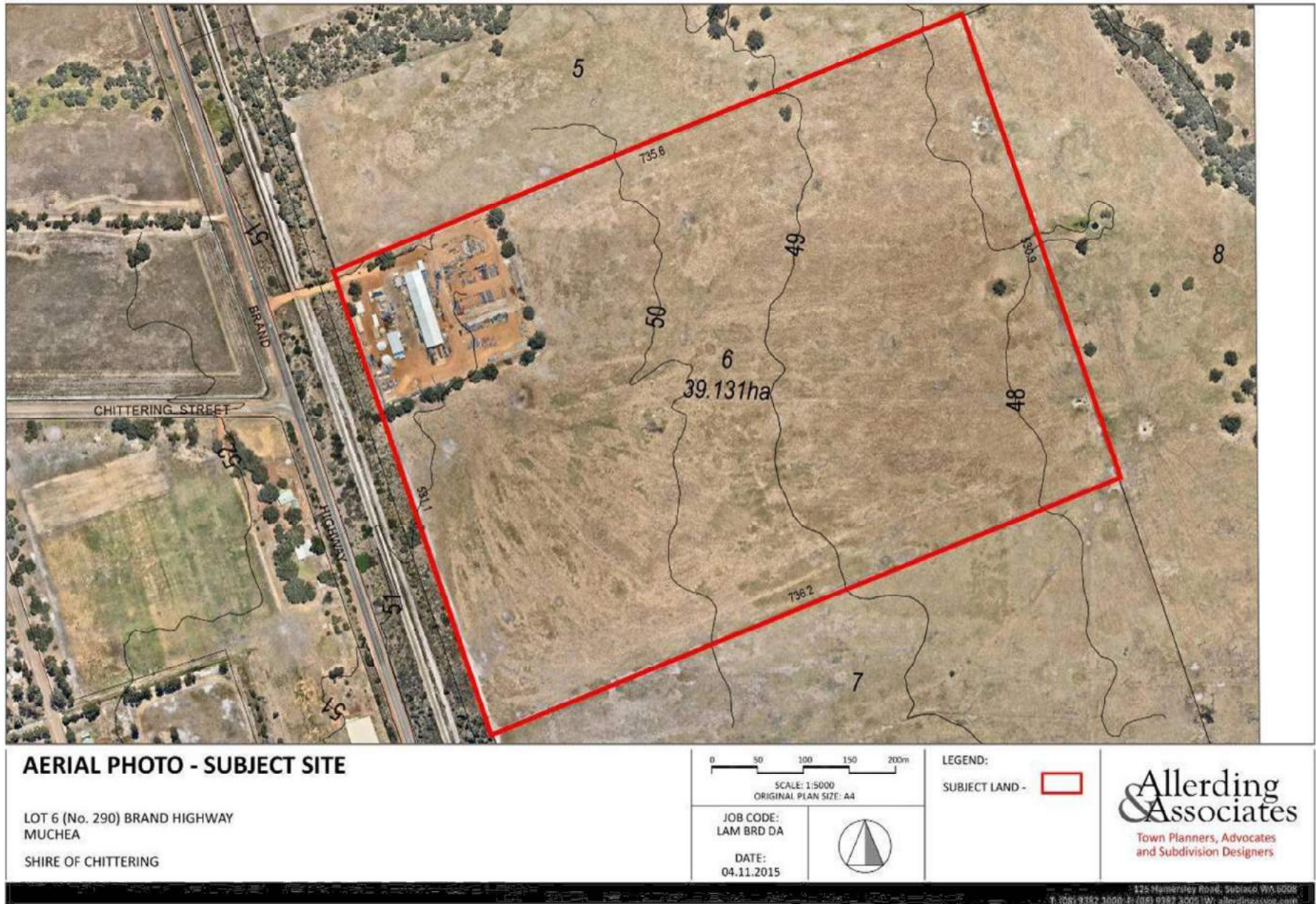
The proposed southern future extension of the hardstand area can be accommodated within the current facilities and stormwater treatment initiatives and would only require the relocation of drainage swales Nos. 7 & 8 (and sizes in accordance with the requirements shown in **Table 5.8** above) as noted previously with appropriate plantings to ensure any potential nutrients are managed within the treatment swales.

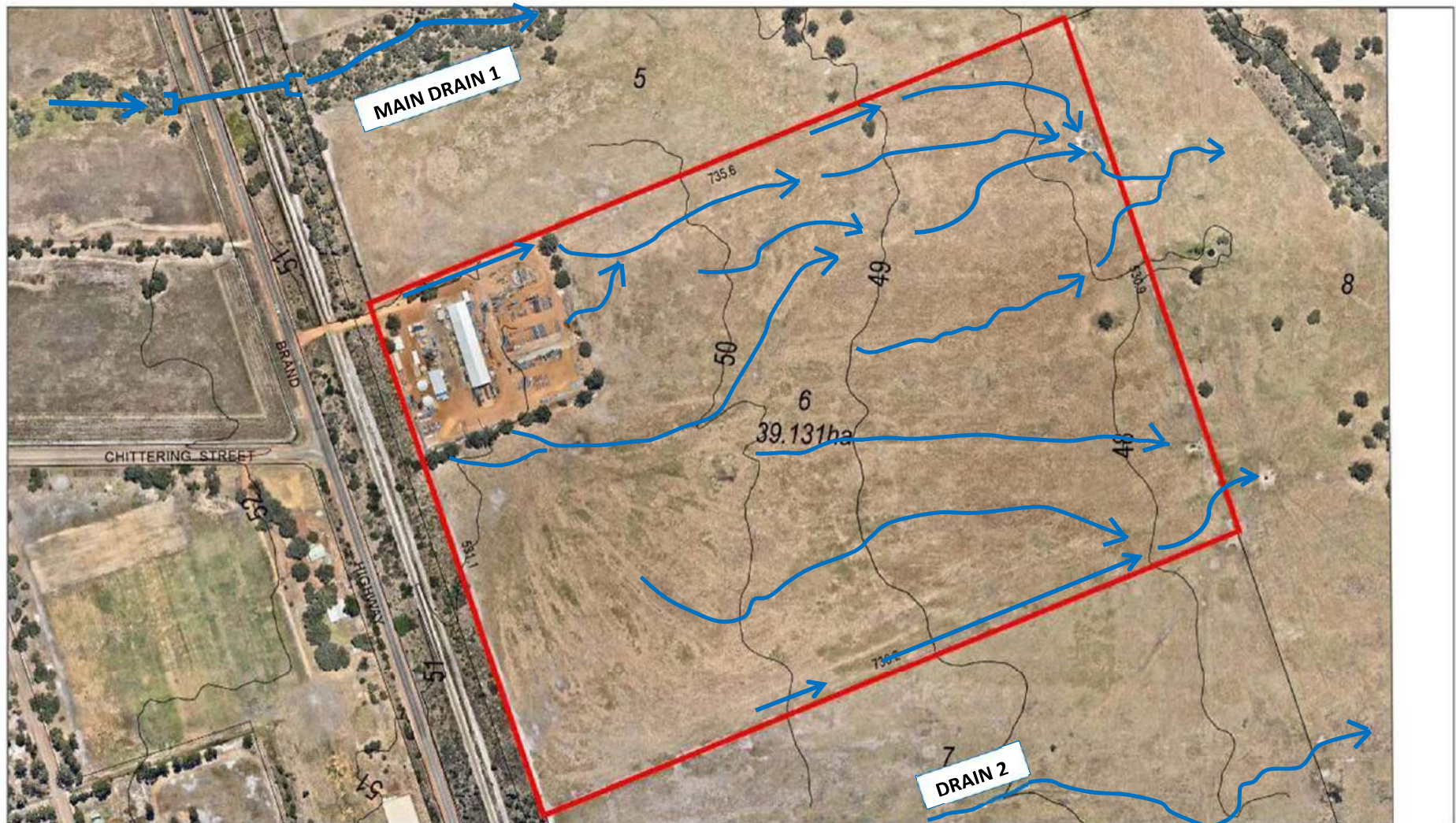
6. ACKNOWLEDGEMENTS

The following sources were used to prepare this report and are acknowledged to from part of references for this application:

- Application for Planning Approval – Retrospective “Transport depot”
Lot 6 (No 290) Brand Highway Muchea
Prepared by Allerding & Associates, November 2015

Appendix 1 – Drawings & Diagrams





AERIAL PHOTO - SUBJECT SITE

LOT 6 (No. 290) BRAND HIGHWAY
MUCHEA
SHIRE OF CHITTERING

0 50 100 150 200m
SCALE: 1:5000
ORIGINAL PLAN SIZE: A4

JOB CODE:
LAM BRD DA

DATE:
04.11.2015

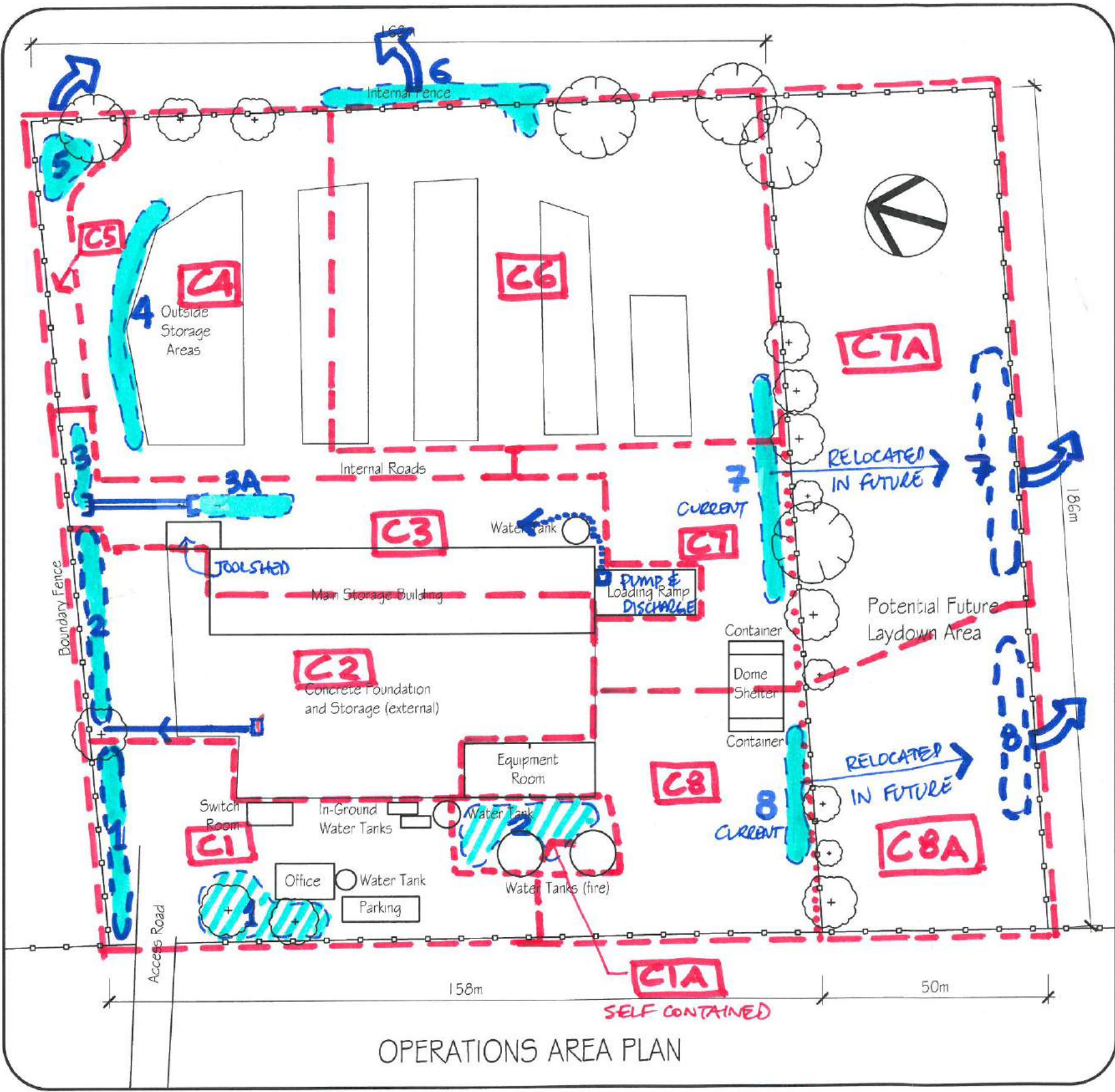


LEGEND:

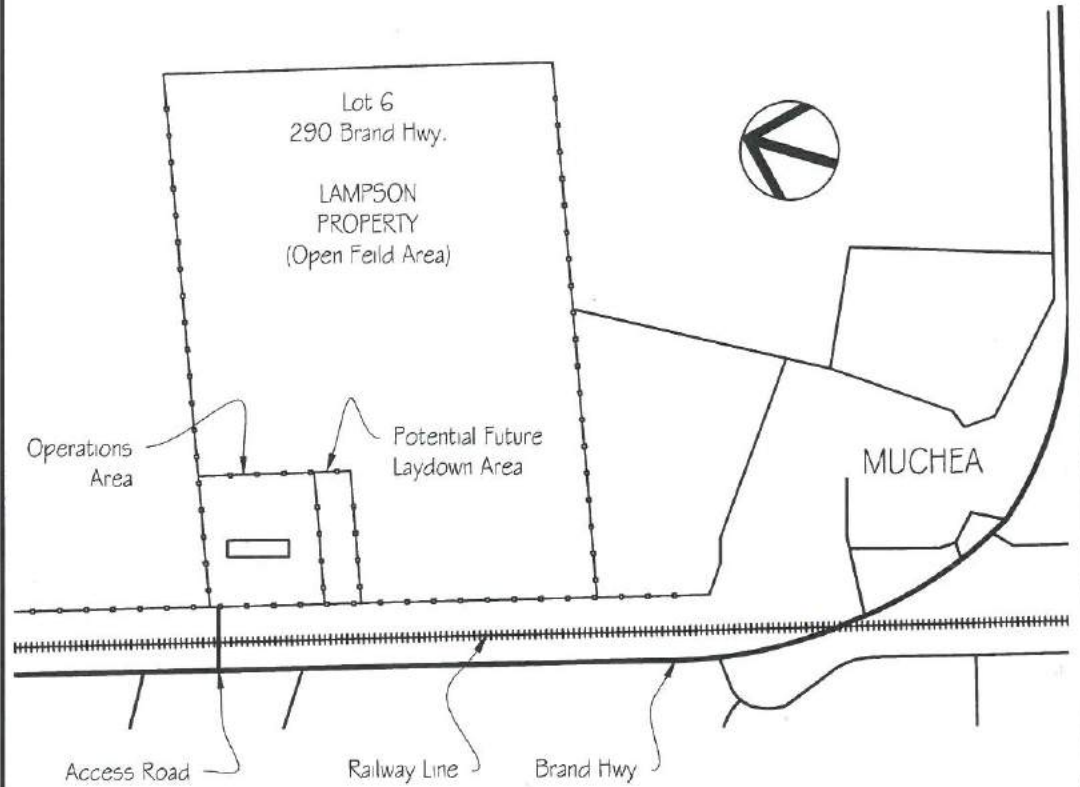
SUBJECT LAND - 

**Allerding
& Associates**
Town Planners, Advocates
and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 F: (08) 9382 3005 W: allerdingassoc.com



OPERATIONS AREA PLAN



LAMPSON SITE LOCATION PLAN

CATCHMENT PLAN

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Appendix 2 – Calculations

Runoff Coefficients

| | |
|-----------------------------------|-------|
| Catchment Area (km ²) | 0.391 |
| Mainstream Length (km) | 0.8 |
| Equal Area Slope (m/km) | 3.875 |
| Average Recurrence Interval | 1 |
| Rainfall Location | SWAN |

| | |
|------------------------------|-------------|
| Urban Rational Method | AR&R 14.5.5 |
| Impervious fraction f | 15% |
| I (10yr,1hr) | 28.5 |
| C (10yr,1hr) | 0.146 |
| Fy | 0.800 |
| C1 | 0.207 |

| | |
|--|---------------|
| WA Rural Regional Method | AR&R 5.4.7 |
| Clearing % (0-100) | 20 |
| <u>Jarrah Forest - lateritic soils</u> | |
| C10 | 0.050 |
| Fy | 0.608 |
| C1 | 0.030 |
| <u>Jarrah Forest - loamy soils</u> | |
| C10 | 0.301 |
| Fy | 0.396 |
| C1 | 0.119 |
| <u>Karri Forest - loamy soils < 15% cleared</u> | |
| C10 | Not available |
| Fy | 0.699 |
| C1 | Not available |
| <u>Wheatbelt - loamy soils > 75% cleared</u> | |
| C10 | Not available |
| Fy | 0.228 |
| C1 | Not available |
| <u>Wheatbelt - lateritic soils</u> | |
| C10 | 0.138 |
| Fy | 0.248 |
| C1 | 0.034 |

Peak Flow

| | |
|------------------------------|------------------|
| Time of Concentration Method | Friends Equation |
| Peak Flow Method | Urban Rational |
| Time of Concentration (min) | 47.9 |
| Fy | 0.800 |
| Runoff C | 0.207 |
| Rainfall I(1) (mm/hr) | 17.8 |
| Equivalent Area (ha) | 8.111 |
| Peak Flow Q(1) (l/s) | 401 |

| | |
|--|---------------|
| WA Rural Index Flood Method | AR&R 5.4.7 |
| Annual Rainfall P (mm) | 800 |
| <u>Jarrah Forest - lateritic soils</u> | |
| Q2 (m ³ /s) | 0.021 |
| Fy | 0.592 |
| Q1 (m ³ /s) | 0.013 |
| <u>Jarrah Forest - loamy soils</u> | |
| Q2 (m ³ /s) | 0.126 |
| Fy | 0.433 |
| Q1 (m ³ /s) | 0.054 |
| <u>Karri Forest - loamy soils < 15% cleared</u> | |
| Q2 (m ³ /s) | Not available |
| Fy | 0.614 |
| Q1 (m ³ /s) | Not available |
| <u>Wheatbelt - loamy soils > 75% cleared</u> | |
| Q2 (m ³ /s) | Not available |
| Fy | 0.087 |
| Q1 (m ³ /s) | Not available |
| <u>Wheatbelt - lateritic soils</u> | |
| Q2 (m ³ /s) | 0.210 |
| Fy | 0.087 |
| Q1 (m ³ /s) | 0.018 |

| | Runoff C for ARI | | | | | |
|--|------------------|-------|-------|-------|-------|-------|
| | 1 | 5 | 10 | 20 | 50 | 100 |
| Urban Rational Method | 0.207 | 0.246 | 0.259 | 0.272 | 0.293 | 0.299 |
| Jarrah Forest - lateritic soils | 0.030 | 0.043 | 0.050 | 0.057 | 0.065 | 0.071 |
| Jarrah Forest - loamy soils | 0.119 | 0.241 | 0.301 | 0.361 | 0.427 | 0.477 |
| Karri Forest - loamy soils < 15% cleared | N/A | N/A | N/A | N/A | N/A | N/A |
| Wheatbelt - loamy soils > 75% cleared | N/A | N/A | N/A | N/A | N/A | N/A |
| Wheatbelt - lateritic soils | 0.034 | 0.093 | 0.138 | 0.200 | 0.274 | 0.329 |

| ARI | 1 | 5 | 10 | 20 | 50 | 100 |
|-----------|-------|-------|-------|-------|-------|-------|
| Fy | 0.800 | 0.950 | 1.000 | 1.050 | 1.150 | 1.200 |
| Runoff C | 0.207 | 0.246 | 0.259 | 0.272 | 0.293 | 0.299 |
| I (mm/hr) | 17.8 | 28.9 | 33.0 | 38.8 | 47.1 | 54.1 |
| Q (l/s) | 401 | 774 | 929 | 1,146 | 1,500 | 1,759 |
| Prop Loss | 0.793 | 0.754 | 0.741 | 0.728 | 0.707 | 0.701 |
| Area (ha) | 39.1 | | | | | |
| tc (min) | 47.9 | | | | | |

Time of Concentration for Overland Flow

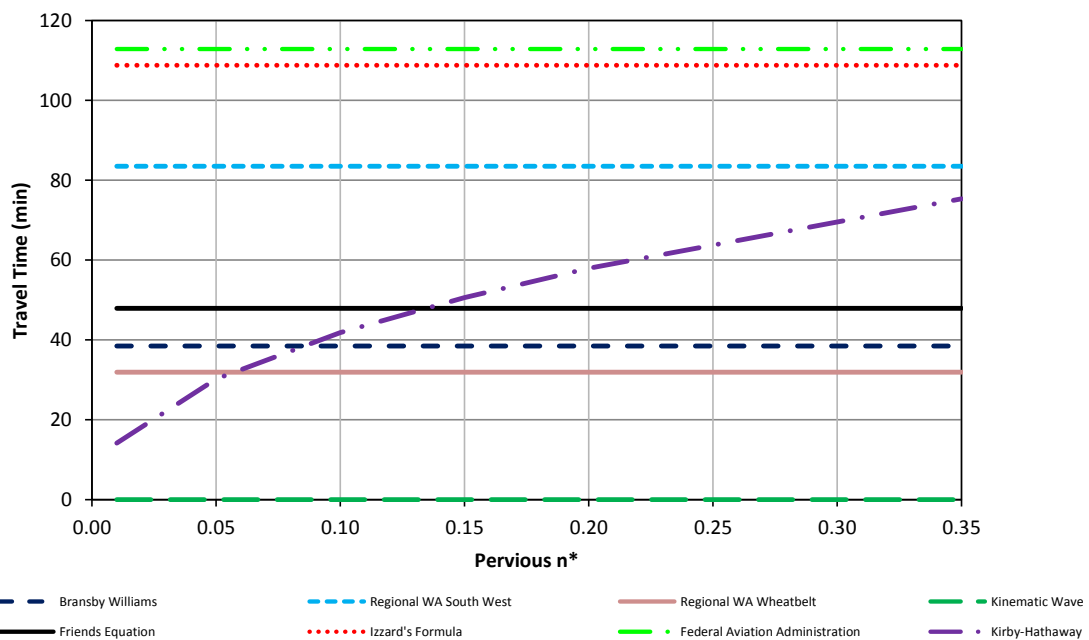
| | |
|-------------------------------|--------|
| Catchment Area (ha) | 39.131 |
| Mainstream Length (m) | 800 |
| Equal Area Slope (m/m) | 0.39% |
| Pervious Surface Roughness n* | 0.150 |
| Average Recurrence Interval | 1 |
| Rainfall Location | SWAN |

| Surface Roughness | Kinematic n* | Horton's Roughness |
|---------------------|--------------|--------------------|
| Smooth asphalt | 0.010 | 0.010 |
| Asphalt paving | 0.014 | 0.015 |
| Bare sand | 0.014 | 0.015 |
| Gravel | 0.020 | 0.020 |
| Bare clay/loam | 0.020 | 0.020 |
| Packed clay | 0.030 | 0.025 |
| Sparse vegetation | 0.100 | 0.035 |
| Short prairie grass | 0.150 | 0.040 |
| Light turf | 0.200 | 0.045 |
| Dense turf | 0.350 | 0.060 |
| Dense shrub/forest | 0.400 | 0.070 |

| | | |
|--------------------------------------|-------|--------------------|
| Time of Concentration (min) | | |
| Bransby Williams | 38.5 | AR&R 1987 Eqn 5.3 |
| Regional WA South West | 83.5 | AR&R 1987 Eqn 5.14 |
| Regional WA Wheatbelt | 31.9 | AR&R 1987 Eqn 5.23 |
| Kinematic Wave (sheet flow) | N/A | AR&R 1987 Eqn 14.2 |
| Friends Eqn (US Dept of Agriculture) | | |
| Horton's roughness | 0.040 | |
| Time of Concentration (min) | 47.9 | AR&R 1977 Fig 12.2 |
| Izzard's Formula | 108.8 | |
| Federal Aviation Administration | | |
| Runoff C | 0.207 | |
| Time of Concentration (min) | 112.9 | |
| Kirby Hathaway | 50.6 | |

Average (min) 50.5





| | Overland travel time for values of Pervious n* | | | | | |
|---------------------------------|--|-------|-------|-------|-------|-------|
| | 0.010 | 0.050 | 0.100 | 0.150 | 0.200 | 0.350 |
| Bransby Williams | 38 | 38 | 38 | 38 | 38 | 38 |
| Regional WA South West | 84 | 84 | 84 | 84 | 84 | 84 |
| Regional WA Wheatbelt | 32 | 32 | 32 | 32 | 32 | 32 |
| Kinematic Wave | N/A | N/A | N/A | N/A | N/A | N/A |
| Friends Equation | 48 | 48 | 48 | 48 | 48 | 48 |
| Izzard's Formula | 109 | 109 | 109 | 109 | 109 | 109 |
| Federal Aviation Administration | 113 | 113 | 113 | 113 | 113 | 113 |
| Kirby-Hathaway | 14 | 30 | 42 | 51 | 58 | 75 |



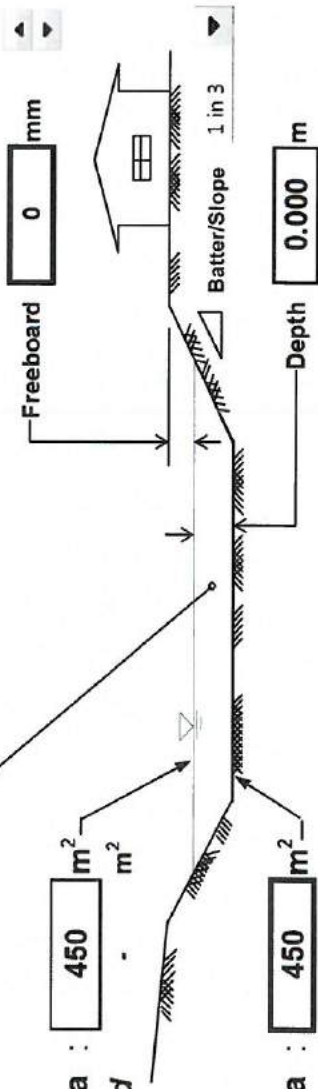
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

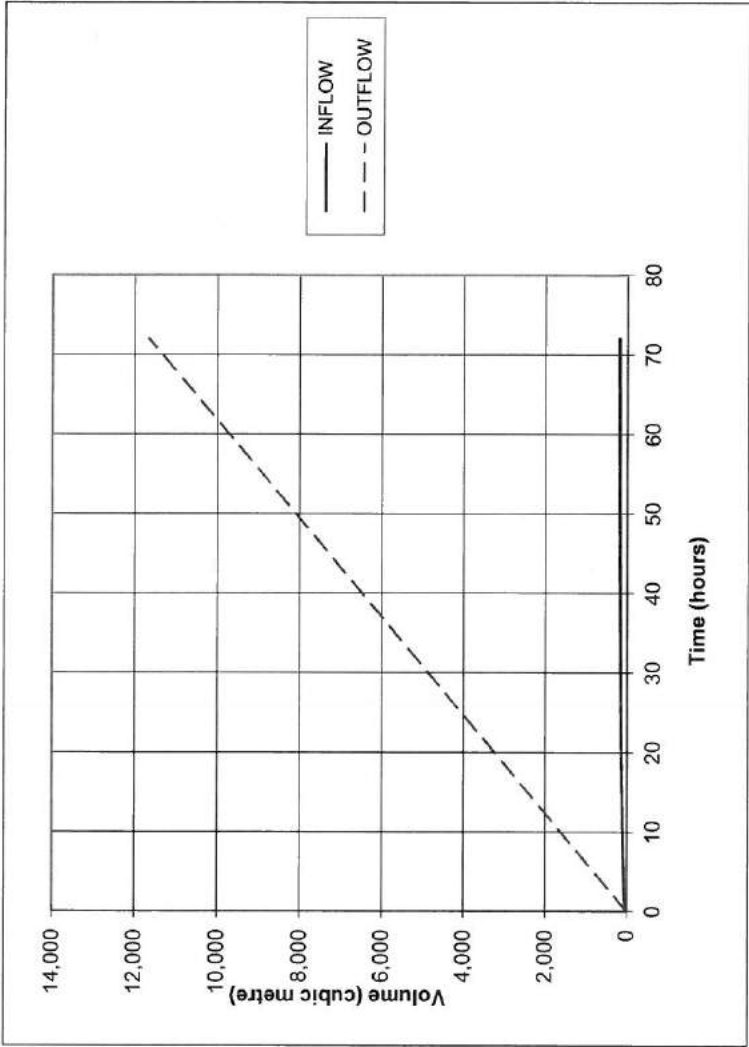
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 1 year | Design Intensity  : 2.0 mm/hr |

| | |
|---|--|
| Catchment Details Catchment Area : 3,652 m ² Run-off Coefficient : 0.80 Flow Rate : 1.6 L/s | Soil Characteristics : Fine Sand Infiltration Rate : 0.0001 m/s → 0.045 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|---|--|

| | |
|--|--|
| Storage Details Volume Required : 0 m ³ Total Surface Area : 450 m ² no freeboard Total Base Area : 450 m ² |  |
|--|--|

PERITAS CIVIL PTY LTD







| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|--------|---------------------|------------------|---------|
| | | Ground Infiltration | Allowable Outlet | |
| | m³ | m³ | m³ | m³ |
| 6 min. | 15 | 16 | 0 | -1 |
| 9 min. | 19 | 24 | 0 | -6 |
| 12 min. | 22 | 32 | 0 | -11 |
| 15 min. | 24 | 41 | 0 | -16 |
| 20 min. | 28 | 54 | 0 | -26 |
| 30 min. | 33 | 81 | 0 | -48 |
| 45 min. | 39 | 122 | 0 | -83 |
| 1 hour | 43 | 162 | 0 | -119 |
| 2 hours | 56 | 324 | 0 | -268 |
| 3 hours | 66 | 486 | 0 | -420 |
| 6 hours | 85 | 972 | 0 | -887 |
| 10 hours | 104 | 1,620 | 0 | -1,516 |
| 12 hours | 111 | 1,944 | 0 | -1,833 |
| 24 hours | 141 | 3,888 | 0 | -3,747 |
| 48 hours | 173 | 7,776 | 0 | -7,603 |
| 60 hours | 183 | 9,720 | 0 | -9,537 |
| 72 hours | 190 | 11,664 | 0 | -11,474 |

SUMP/SWALE VOLUME CALCULATOR

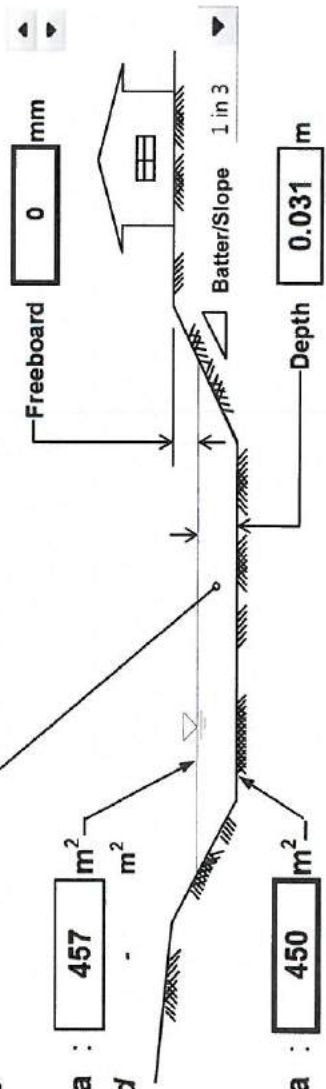
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 10 year | Design Intensity  : 3.5 mm/hr |

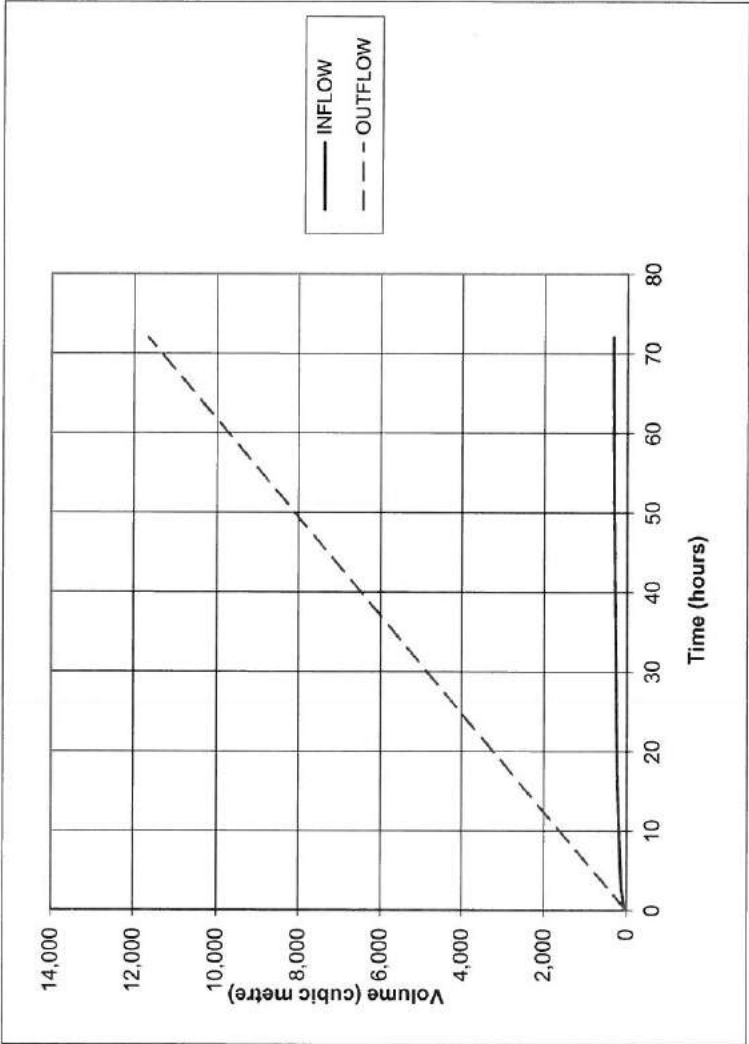
| | |
|--|---|
| Catchment Details | Soil Characteristics |
| Catchment Area : 3,652 m ² | Infiltration Rate : 0.0001 m/s → 0.045 m ³ /s (Total Soakage) |
| Run-off Coefficient : 0.80 | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 2.9 L/s | |

| |
|---|
| Storage Details |
| Volume Required at 6 minutes : 14 m ³ |
| Total Surface Area no freeboard : 457 m ² |
| Total Base Area : 450 m ² |



Freeboard : 0 mm
 Batter/Slope : 1 in 3
 Depth : 0.031 m

PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 30 | 16 | 0 | 14 |
| 9 min. | 38 | 24 | 0 | 13 |
| 12 min. | 43 | 32 | 0 | 11 |
| 15 min. | 48 | 41 | 0 | 8 |
| 20 min. | 54 | 54 | 0 | 0 |
| 30 min. | 63 | 81 | 0 | -18 |
| 45 min. | 73 | 122 | 0 | -48 |
| 1 hour | 80 | 162 | 0 | -82 |
| 2 hours | 104 | 324 | 0 | -220 |
| 3 hours | 120 | 486 | 0 | -366 |
| 6 hours | 153 | 972 | 0 | -819 |
| 10 hours | 184 | 1,620 | 0 | -1,436 |
| 12 hours | 196 | 1,944 | 0 | -1,748 |
| 24 hours | 249 | 3,888 | 0 | -3,639 |
| 48 hours | 307 | 7,776 | 0 | -7,469 |
| 60 hours | 324 | 9,720 | 0 | -9,396 |
| 72 hours | 337 | 11,664 | 0 | -11,327 |

SUMP/SWALE VOLUME CALCULATOR

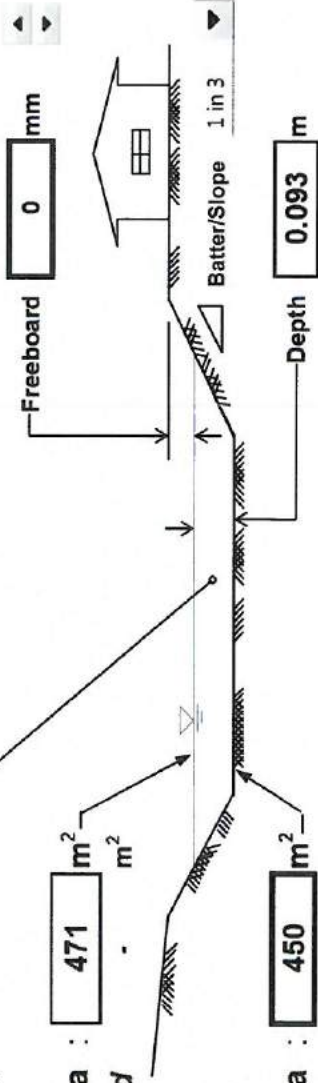
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|---|--|-------------------------------------|--|
| Location :  : CHITTING | | Storm Duration : 24 hours | |
| Storm Event :  : 100 year | | Design Intensity : 5.6 mm/hr | |

| | | | |
|--------------------------|----------------------|---|--|
| Catchment Details | | Soil Characteristics : Fine Sand | |
| Catchment Area : | 3,652 m ² | Infiltration Rate : | 0.0001 m/s → 0.045 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.80 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 4.5 L/s | | |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 12 minutes : | 43 m ³ |
| Total Surface Area : no freeboard | 471 m ² |
| Total Base Area : | 450 m ² |

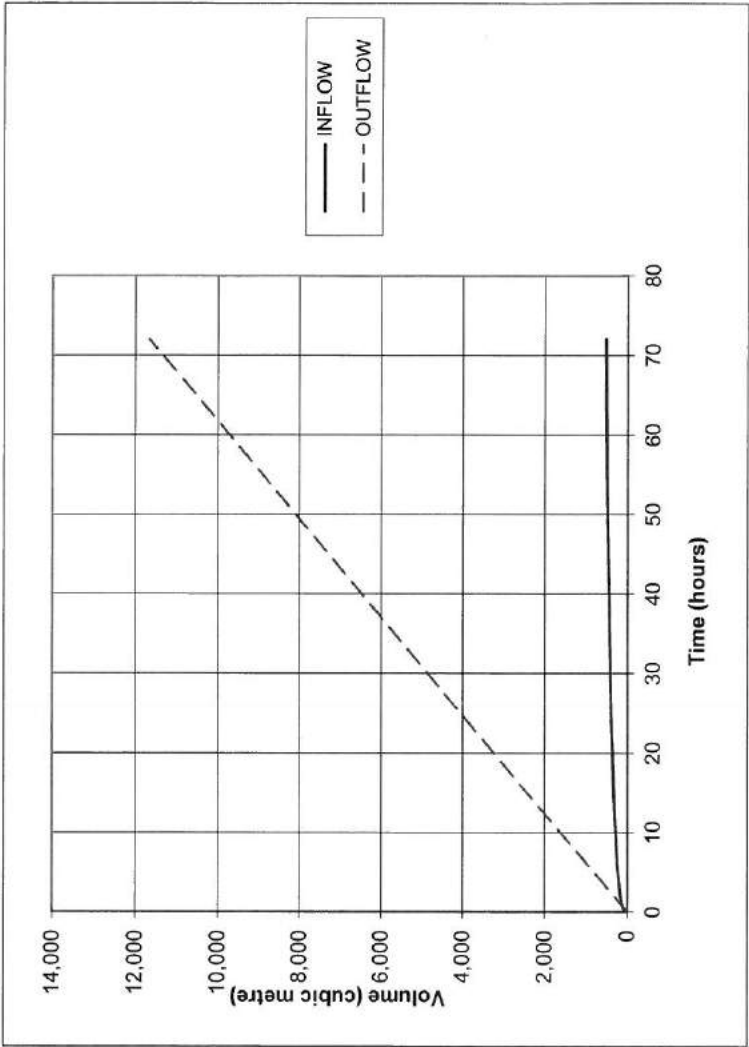


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.093 m

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 54 | 16 | 0 | 38 |
| 9 min. | 66 | 24 | 0 | 42 |
| 12 min. | 75 | 32 | 0 | 43 |
| 15 min. | 83 | 41 | 0 | 43 |
| 20 min. | 93 | 54 | 0 | 39 |
| 30 min. | 107 | 81 | 0 | 26 |
| 45 min. | 122 | 122 | 0 | 0 |
| 1 hour | 132 | 162 | 0 | -30 |
| 2 hours | 169 | 324 | 0 | -155 |
| 3 hours | 193 | 486 | 0 | -293 |
| 6 hours | 244 | 972 | 0 | -728 |
| 10 hours | 290 | 1,620 | 0 | -1,330 |
| 12 hours | 309 | 1,944 | 0 | -1,635 |
| 24 hours | 391 | 3,888 | 0 | -3,497 |
| 48 hours | 483 | 7,776 | 0 | -7,293 |
| 60 hours | 510 | 9,720 | 0 | -9,210 |
| 72 hours | 530 | 11,664 | 0 | -11,134 |

SUMP/SWALE VOLUME CALCULATOR

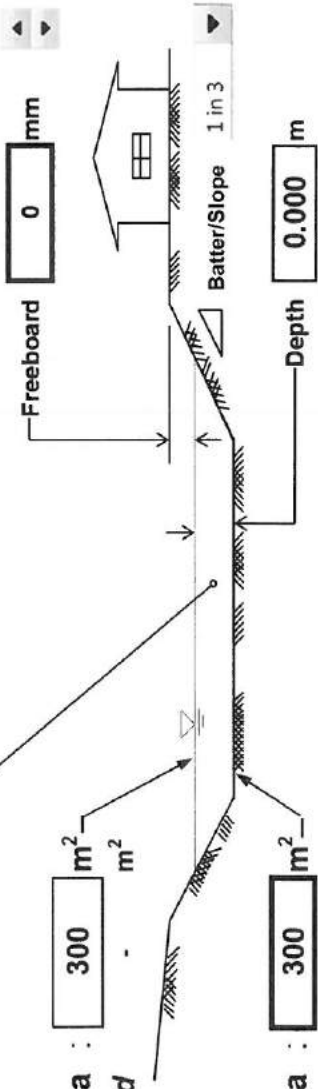
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

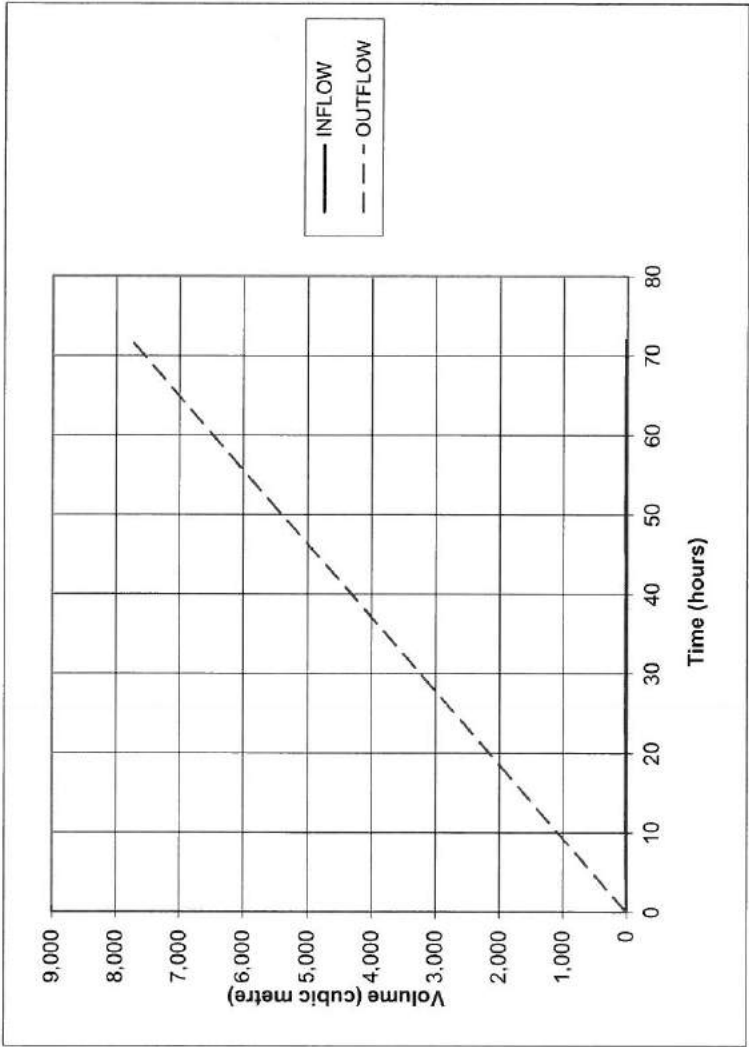
| | | | |
|---|--|--|--|
| Location  : CHITTERING | | Storm Duration  : 24 hours | |
| Storm Event  : 1 year | | Design Intensity  : 2.0 mm/hr | |

| | | | |
|--------------------------|--------------------|-----------------------------|---|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 565 m ² | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.80 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 0.3 L/s | | |

| | |
|------------------------|--------------------|
| Storage Details | |
| Volume Required : | 0 m ³ |
| Total Surface Area : | 300 m ² |
| no freeboard | |
| Total Base Area : | 300 m ² |



PERITAS CIVIL PTY LTD







| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|--------|---------------------|------------------|---------|
| | | Ground Infiltration | Allowable Outlet | |
| | m³ | m³ | m³ | m³ |
| 6 min. | 2 | 11 | 0 | -8 |
| 9 min. | 3 | 16 | 0 | -13 |
| 12 min. | 3 | 22 | 0 | -18 |
| 15 min. | 4 | 27 | 0 | -23 |
| 20 min. | 4 | 36 | 0 | -32 |
| 30 min. | 5 | 54 | 0 | -49 |
| 45 min. | 6 | 81 | 0 | -75 |
| 1 hour | 7 | 108 | 0 | -101 |
| 2 hours | 9 | 216 | 0 | -207 |
| 3 hours | 10 | 324 | 0 | -314 |
| 6 hours | 13 | 648 | 0 | -635 |
| 10 hours | 16 | 1,080 | 0 | -1,064 |
| 12 hours | 17 | 1,296 | 0 | -1,279 |
| 24 hours | 22 | 2,592 | 0 | -2,570 |
| 48 hours | 27 | 5,184 | 0 | -5,157 |
| 60 hours | 28 | 6,480 | 0 | -6,452 |
| 72 hours | 29 | 7,776 | 0 | -7,747 |

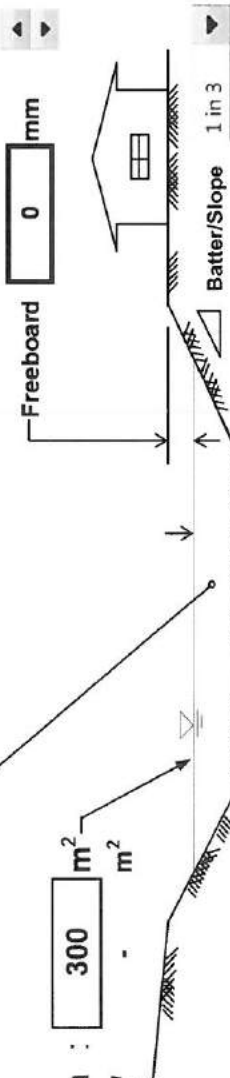
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

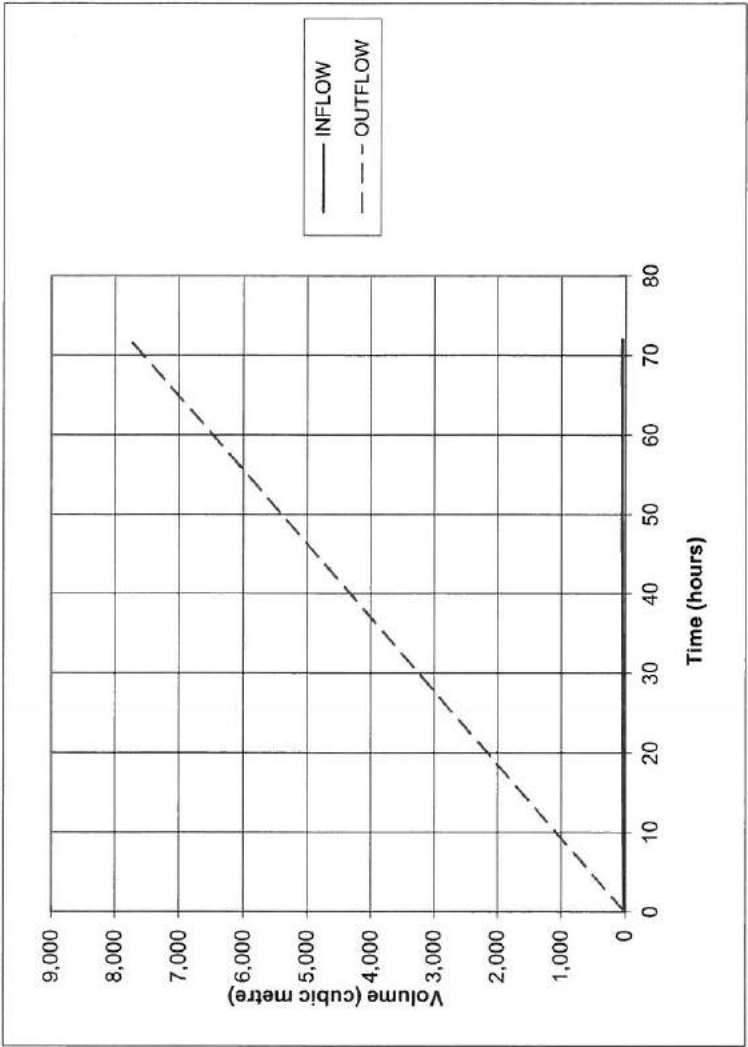
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 10 year | Design Intensity  : 3.5 mm/hr |

| | |
|--|---|
| Catchment Details | Soil Characteristics Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
| Catchment Area : 565 m ² Run-off Coefficient : 0.80 Flow Rate : 0.4 L/s | Soil Characteristics : Fine Sand |

| | |
|--|---|
| Storage Details | Volume Required : 0 m ³ |
| Total Surface Area : 300 m ² no freeboard | Freeboard : 0 mm  |
| Total Base Area : 300 m ² | Batter/Slope : 1 in 3 Depth : 0.000 m |

PERITAS CIVIL PTY LTD



| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 5 | 11 | 0 | -6 |
| 9 min. | 6 | 16 | 0 | -10 |
| 12 min. | 7 | 22 | 0 | -15 |
| 15 min. | 7 | 27 | 0 | -20 |
| 20 min. | 8 | 36 | 0 | -28 |
| 30 min. | 10 | 54 | 0 | -44 |
| 45 min. | 11 | 81 | 0 | -70 |
| 1 hour | 12 | 108 | 0 | -96 |
| 2 hours | 16 | 216 | 0 | -200 |
| 3 hours | 19 | 324 | 0 | -305 |
| 6 hours | 24 | 648 | 0 | -624 |
| 10 hours | 29 | 1,080 | 0 | -1,051 |
| 12 hours | 30 | 1,296 | 0 | -1,266 |
| 24 hours | 38 | 2,592 | 0 | -2,554 |
| 48 hours | 47 | 5,184 | 0 | -5,137 |
| 60 hours | 50 | 6,480 | 0 | -6,430 |
| 72 hours | 52 | 7,776 | 0 | -7,724 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

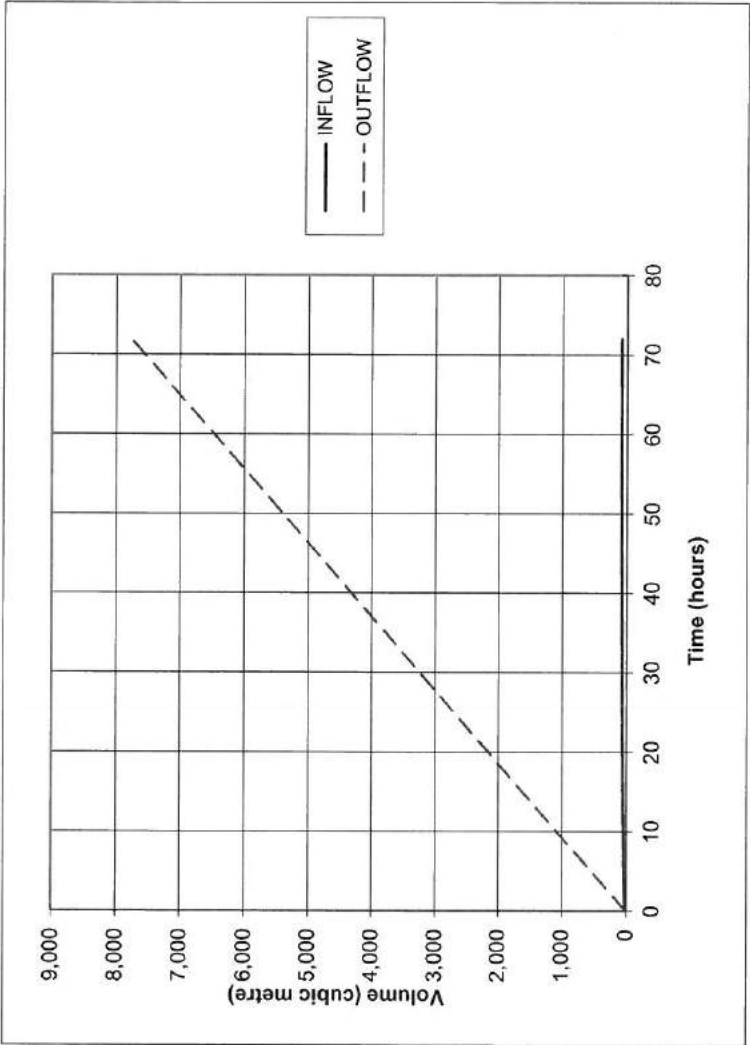
Design Rainfall Intensity

| | | | |
|-------------------------------|--|-------------------------------------|--|
| Location : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event : 100 year | | Design Intensity : 5.6 mm/hr | |

| | | | |
|--|-----------------------------------|--|--|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : 565 m ² | Run-off Coefficient : 0.80 | Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 0.7 L/s | | | |

| | |
|--|------------------------------|
| Storage Details | |
| Volume Required : 0 m ³ | Freeboard : 0 mm |
| Total Surface Area : 300 m ² | Batter/Slope : 1 in 3 |
| Total Base Area : 300 m ² | Depth : 0.000 m |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 8 | 11 | 0 | -2 |
| 9 min. | 10 | 16 | 0 | -6 |
| 12 min. | 12 | 22 | 0 | -10 |
| 15 min. | 13 | 27 | 0 | -14 |
| 20 min. | 14 | 36 | 0 | -22 |
| 30 min. | 17 | 54 | 0 | -37 |
| 45 min. | 19 | 81 | 0 | -62 |
| 1 hour | 20 | 108 | 0 | -88 |
| 2 hours | 26 | 216 | 0 | -190 |
| 3 hours | 30 | 324 | 0 | -294 |
| 6 hours | 38 | 648 | 0 | -610 |
| 10 hours | 45 | 1,080 | 0 | -1,035 |
| 12 hours | 48 | 1,296 | 0 | -1,248 |
| 24 hours | 61 | 2,592 | 0 | -2,531 |
| 48 hours | 75 | 5,184 | 0 | -5,109 |
| 60 hours | 79 | 6,480 | 0 | -6,401 |
| 72 hours | 82 | 7,776 | 0 | -7,694 |

SUMP/SWALE VOLUME CALCULATOR

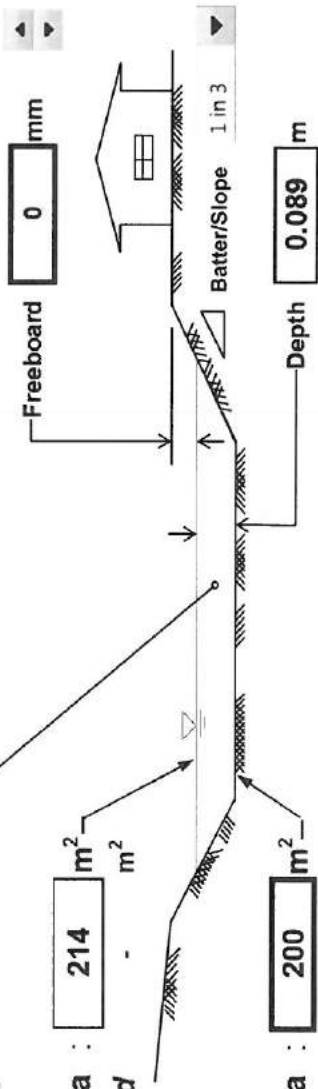
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | |
|--|--|
| Location  : CHITTING | Storm Duration  : 24 hours |
| Storm Event  : 1 year | Design Intensity  : 2.0 mm/hr |

| | | | |
|--------------------------|----------------------|-----------------------------|---|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 4,621 m ² | Infiltration Rate : | 0.0001 m/s → 0.02 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.95 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 2.4 L/s | | |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 14 minutes : | 18 m ³ |
| Total Surface Area no freeboard : | 214 m ² |
| Total Base Area : | 200 m ² |

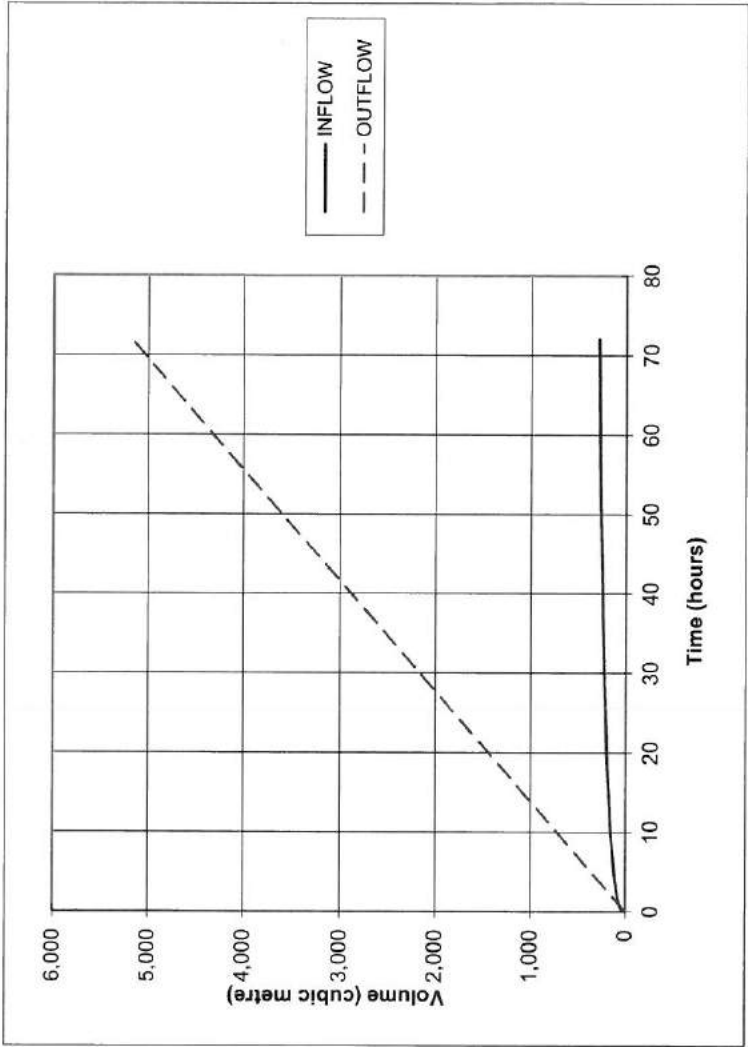


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.089 m

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 22 | 7 | 0 | 15 |
| 9 min. | 28 | 11 | 0 | 17 |
| 12 min. | 33 | 14 | 0 | 18 |
| 15 min. | 36 | 18 | 0 | 18 |
| 20 min. | 42 | 24 | 0 | 18 |
| 30 min. | 49 | 36 | 0 | 13 |
| 45 min. | 58 | 54 | 0 | 4 |
| 1 hour | 64 | 72 | 0 | -8 |
| 2 hours | 84 | 144 | 0 | -60 |
| 3 hours | 99 | 216 | 0 | -117 |
| 6 hours | 128 | 432 | 0 | -304 |
| 10 hours | 157 | 720 | 0 | -563 |
| 12 hours | 167 | 864 | 0 | -697 |
| 24 hours | 211 | 1,728 | 0 | -1,517 |
| 48 hours | 261 | 3,456 | 0 | -3,195 |
| 60 hours | 275 | 4,320 | 0 | -4,045 |
| 72 hours | 286 | 5,184 | 0 | -4,898 |

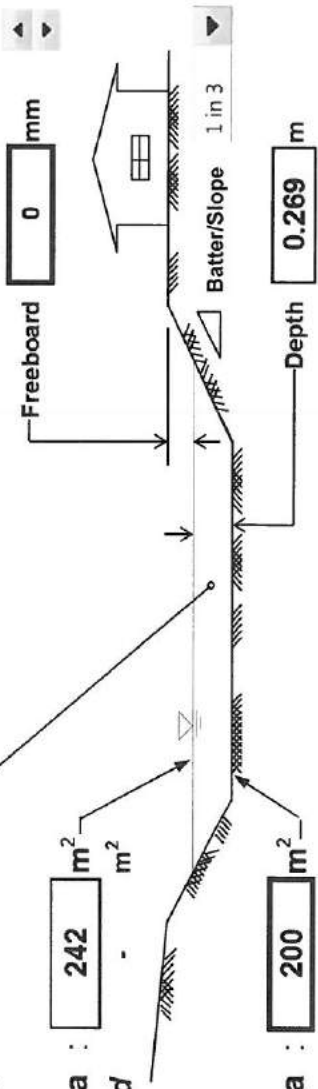
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

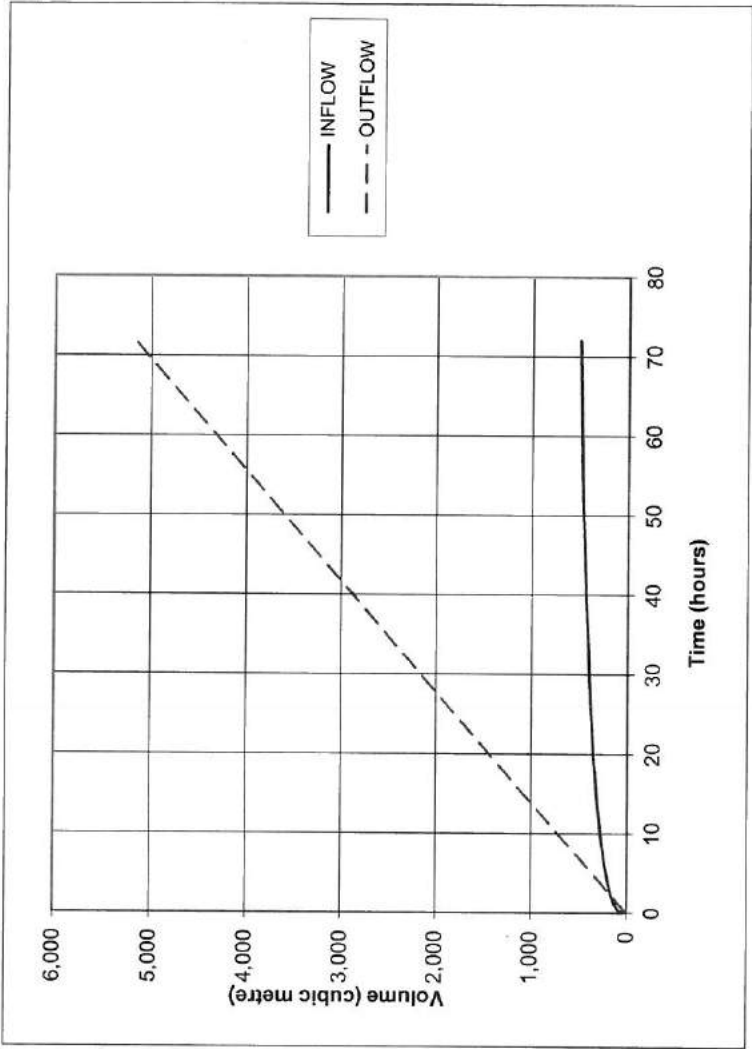
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 10 year | Design Intensity  : 3.5 mm/hr |

| | |
|--|--|
| Catchment Details Catchment Area : 4,621 m ² Run-off Coefficient : 0.95 Flow Rate : 4.3 L/s | Outflow Details Soil Characteristics : Fine Sand Infiltration Rate : 0.0001 m/s → 0.02 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|--|--|

| | |
|--|--|
| Storage Details Volume Required : 59 m ³ at 29 minutes |  |
| Total Surface Area : 242 m ² no freeboard | Depth : 0.269 m |
| Total Base Area : 200 m ² | |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 46 | 7 | 0 | 38 |
| 9 min. | 57 | 11 | 0 | 46 |
| 12 min. | 65 | 14 | 0 | 51 |
| 15 min. | 72 | 18 | 0 | 54 |
| 20 min. | 82 | 24 | 0 | 58 |
| 30 min. | 95 | 36 | 0 | 59 |
| 45 min. | 110 | 54 | 0 | 56 |
| 1 hour | 120 | 72 | 0 | 48 |
| 2 hours | 156 | 144 | 0 | 12 |
| 3 hours | 180 | 216 | 0 | -36 |
| 6 hours | 230 | 432 | 0 | -202 |
| 10 hours | 277 | 720 | 0 | -443 |
| 12 hours | 295 | 864 | 0 | -569 |
| 24 hours | 374 | 1,728 | 0 | -1,354 |
| 48 hours | 461 | 3,456 | 0 | -2,995 |
| 60 hours | 487 | 4,320 | 0 | -3,833 |
| 72 hours | 506 | 5,184 | 0 | -4,678 |

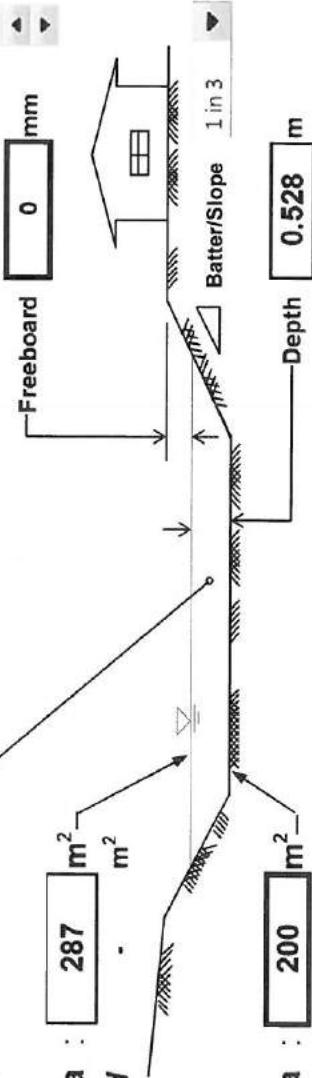
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

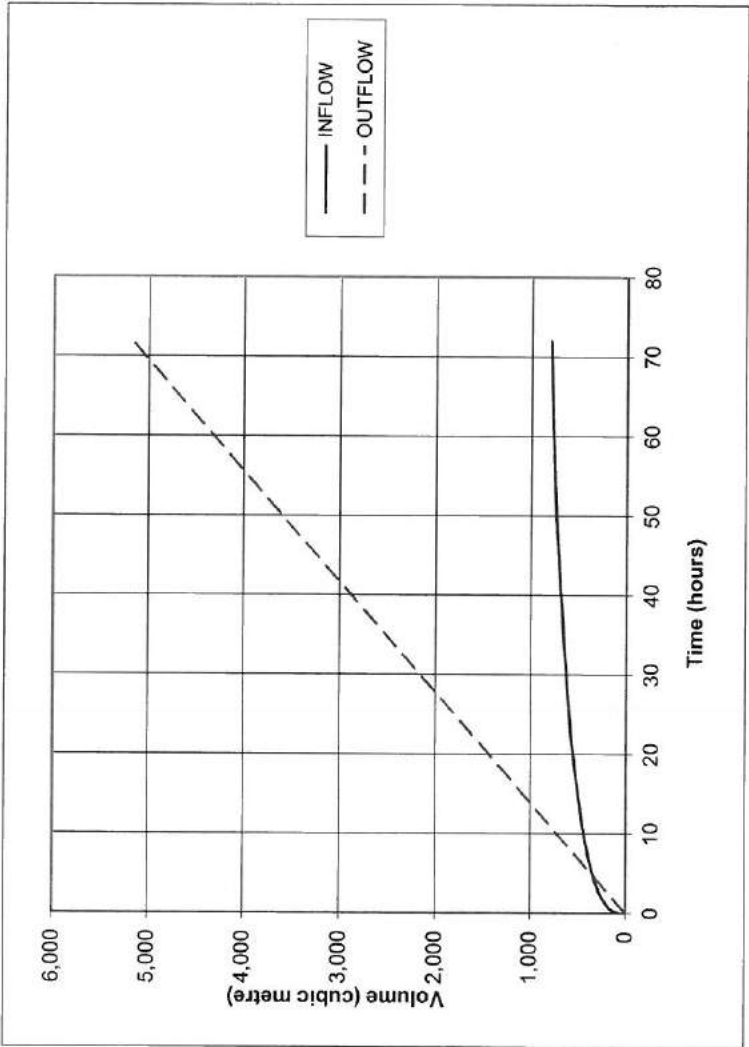
Design Rainfall Intensity

| | |
|--|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 100 year | Design Intensity  : 5.6 mm/hr |

| | |
|---|---|
| Catchment Details Catchment Area : 4,621 m ² Run-off Coefficient : 0.95 Flow Rate : 6.8 L/s | Soil Characteristics Infiltration Rate : 0.0001 m/s → 0.02 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|---|---|

| | |
|---|--|
| Storage Details Volume Required at 44 minutes : 129 m ³ Total Surface Area no freeboard : 287 m ² Total Base Area : 200 m ² |  |
|---|--|

PERITAS CIVIL PTY LTD









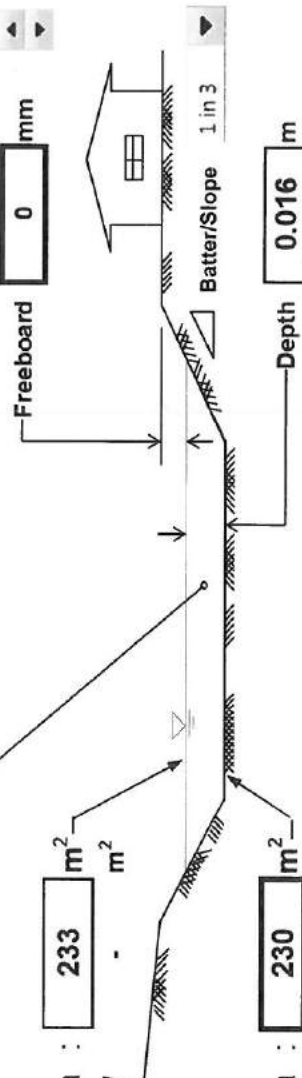


| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 81 | 7 | 0 | 74 |
| 9 min. | 99 | 11 | 0 | 88 |
| 12 min. | 113 | 14 | 0 | 99 |
| 15 min. | 125 | 18 | 0 | 107 |
| 20 min. | 140 | 24 | 0 | 116 |
| 30 min. | 161 | 36 | 0 | 125 |
| 45 min. | 183 | 54 | 0 | 129 |
| 1 hour | 198 | 72 | 0 | 126 |
| 2 hours | 253 | 144 | 0 | 109 |
| 3 hours | 291 | 216 | 0 | 75 |
| 6 hours | 367 | 432 | 0 | -65 |
| 10 hours | 436 | 720 | 0 | -284 |
| 12 hours | 465 | 864 | 0 | -399 |
| 24 hours | 588 | 1,728 | 0 | -1,140 |
| 48 hours | 725 | 3,456 | 0 | -2,731 |
| 60 hours | 766 | 4,320 | 0 | -3,554 |
| 72 hours | 796 | 5,184 | 0 | -4,388 |

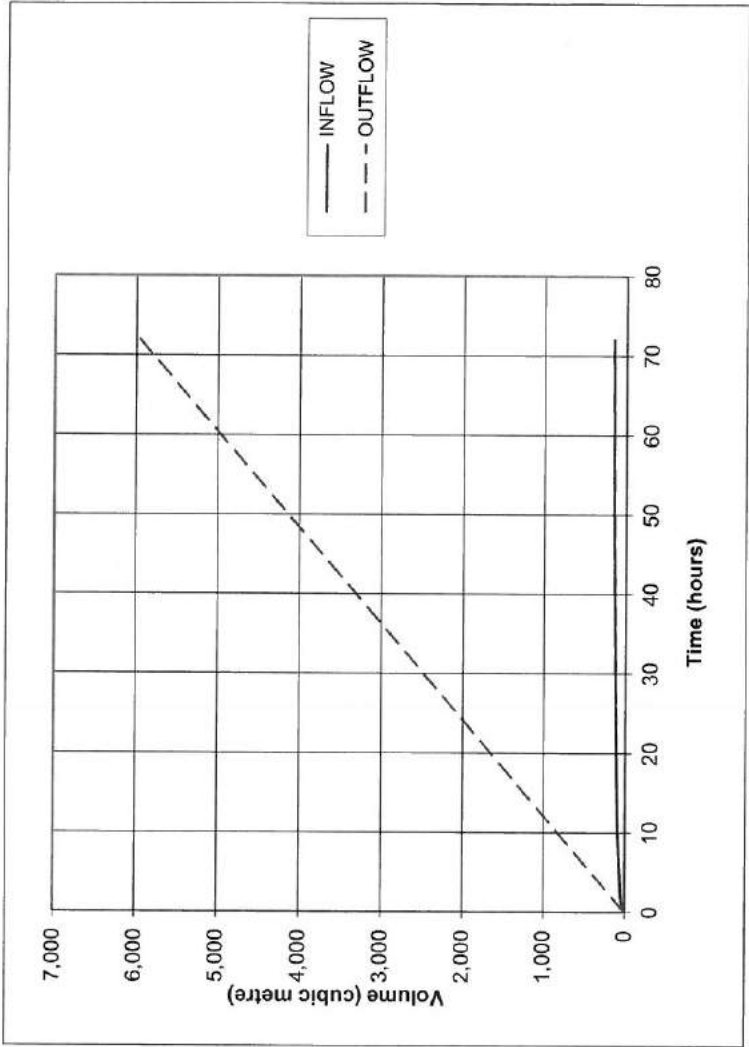
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|---|--|--|--|
| Location :  : CHITTING  | | Storm Duration :  : 24 hours  | |
| Storm Event :  : 1 year  | | Design Intensity :  : 2.0 mm/hr | |
| Outflow Details | | | |
| Catchment Details | | Soil Characteristics : Fine Sand  | |
| Catchment Area : 2,630 m ² | | Infiltration Rate : 0.0001 m/s → 0.023 m ³ /s (Total Soakage) | |
| Run-off Coefficient : 0.90 | | Additional Outlet : 0.000 m ³ /s | |
| Flow Rate : 1.3 L/s | | | |
| Storage Details | | | |
| Volume Required at 6 minutes : 4 m ³ | | Freeboard : 0 mm  | |
| Total Surface Area no freeboard : 233 m ² | | Batter/Slope : 1 in 3 | |
| Total Base Area : 230 m ² | | Depth : 0.016 m | |

PERITAS CIVIL PTY LTD







| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|--------|---------------------|------------------|---------|
| | | Ground Infiltration | Allowable Outlet | |
| | m³ | m³ | m³ | m³ |
| 6 min. | 12 | 8 | 0 | 4 |
| 9 min. | 15 | 12 | 0 | 3 |
| 12 min. | 18 | 17 | 0 | 1 |
| 15 min. | 20 | 21 | 0 | -1 |
| 20 min. | 22 | 28 | 0 | -5 |
| 30 min. | 27 | 41 | 0 | -15 |
| 45 min. | 31 | 62 | 0 | -31 |
| 1 hour | 35 | 83 | 0 | -48 |
| 2 hours | 46 | 166 | 0 | -120 |
| 3 hours | 53 | 248 | 0 | -195 |
| 6 hours | 69 | 497 | 0 | -428 |
| 10 hours | 85 | 828 | 0 | -743 |
| 12 hours | 90 | 994 | 0 | -904 |
| 24 hours | 114 | 1,987 | 0 | -1,873 |
| 48 hours | 141 | 3,974 | 0 | -3,834 |
| 60 hours | 148 | 4,968 | 0 | -4,820 |
| 72 hours | 154 | 5,962 | 0 | -5,807 |

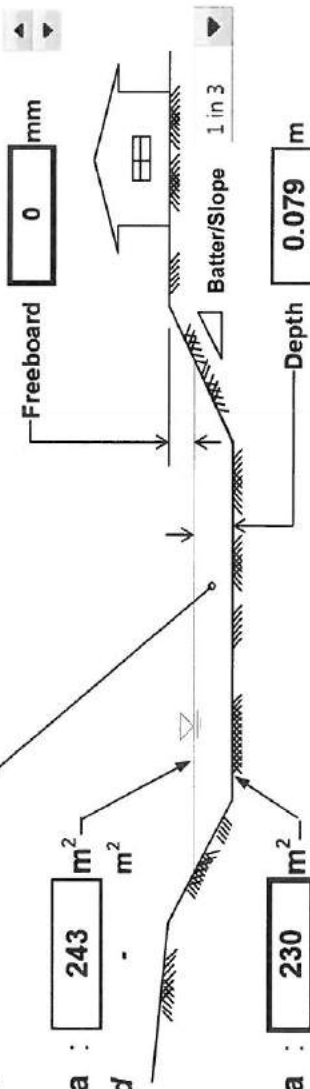
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

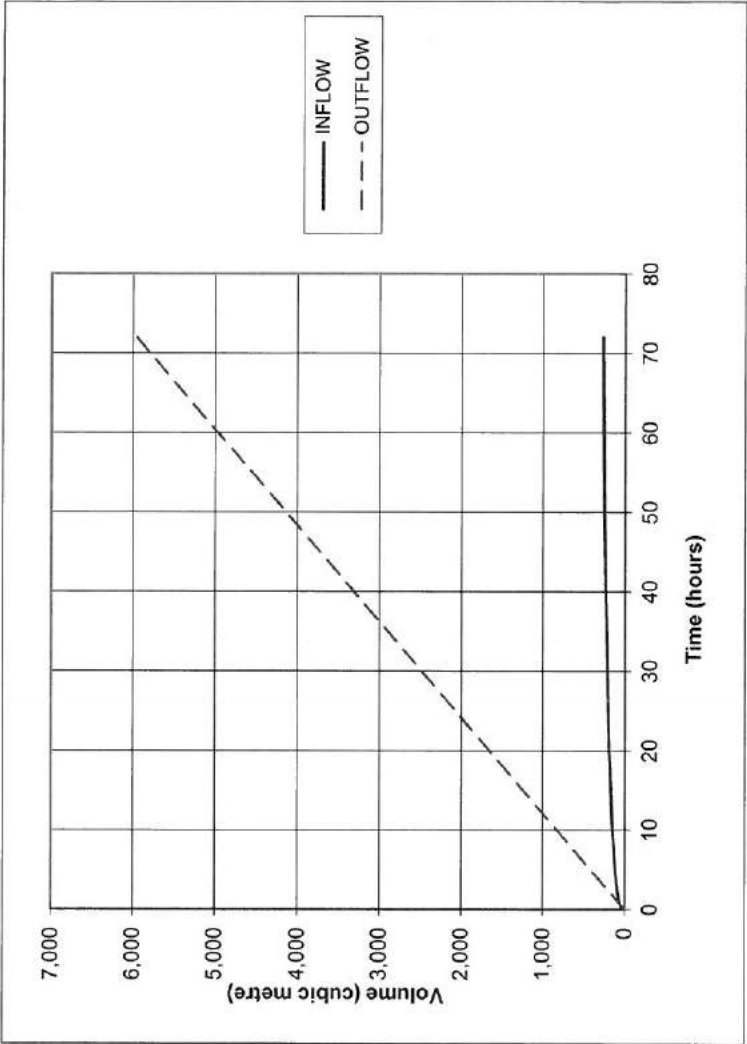
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 10 year | Design Intensity  : 3.5 mm/hr |

| | |
|--|---|
| Catchment Details Catchment Area : 2,630 m ² Run-off Coefficient : 0.90 Flow Rate : 2.3 L/s | Outflow Details Soil Characteristics : Fine Sand Infiltration Rate : 0.0001 m/s → 0.023 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|--|---|

| | |
|--|--|
| Storage Details Volume Required : 19 m ³ at 12 minutes |  |
| Total Surface Area : 243 m ² no freeboard | Depth : 0.079 m |
| Total Base Area : 230 m ² | |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m ³ | OUTFLOW | | STORAGE m ³ |
|----------|--------------------------|--|---------------------------------------|---------------------------|
| | | Ground Infiltration m ³ | Allowable Outlet m ³ | |
| 6 min. | 25 | 8 | 0 | 16 |
| 9 min. | 31 | 12 | 0 | 18 |
| 12 min. | 35 | 17 | 0 | 19 |
| 15 min. | 39 | 21 | 0 | 18 |
| 20 min. | 44 | 28 | 0 | 16 |
| 30 min. | 51 | 41 | 0 | 10 |
| 45 min. | 59 | 62 | 0 | -3 |
| 1 hour | 65 | 83 | 0 | -18 |
| 2 hours | 84 | 166 | 0 | -82 |
| 3 hours | 97 | 248 | 0 | -151 |
| 6 hours | 124 | 497 | 0 | -373 |
| 10 hours | 149 | 828 | 0 | -679 |
| 12 hours | 159 | 994 | 0 | -834 |
| 24 hours | 201 | 1,987 | 0 | -1,786 |
| 48 hours | 248 | 3,974 | 0 | -3,726 |
| 60 hours | 262 | 4,968 | 0 | -4,706 |
| 72 hours | 273 | 5,962 | 0 | -5,689 |

SUMP/SWALE VOLUME CALCULATOR

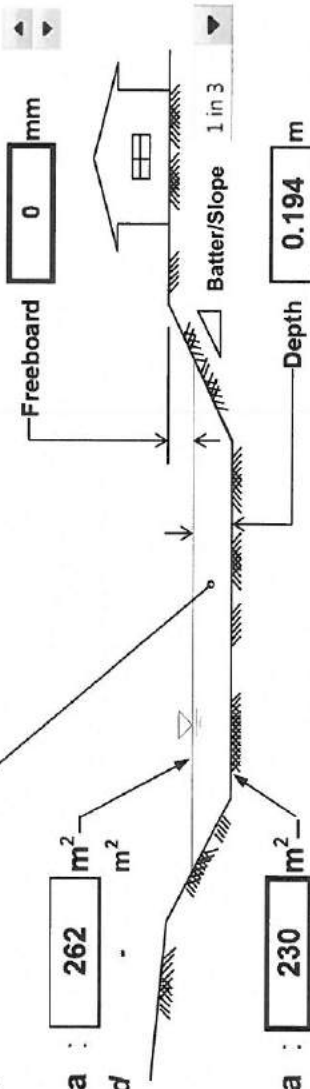
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|--|--|
| Location  : CHITTING | | Storm Duration  : 24 hours | |
| Storm Event  : 100 year | | Design Intensity  : 5.6 mm/hr | |

| | | | |
|--------------------------|----------------------|-----------------------------|--|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 2,630 m ² | Soil Type : | Fine Sand |
| Run-off Coefficient : | 0.90 | Infiltration Rate : | 0.0001 m/s → 0.023 m ³ /s (Total Soakage) |
| Flow Rate : | 3.7 L/s | Additional Outlet : | 0.000 m ³ /s |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 21 minutes : | 48 m ³ |
| Total Surface Area no freeboard : | 262 m ² |
| Total Base Area : | 230 m ² |

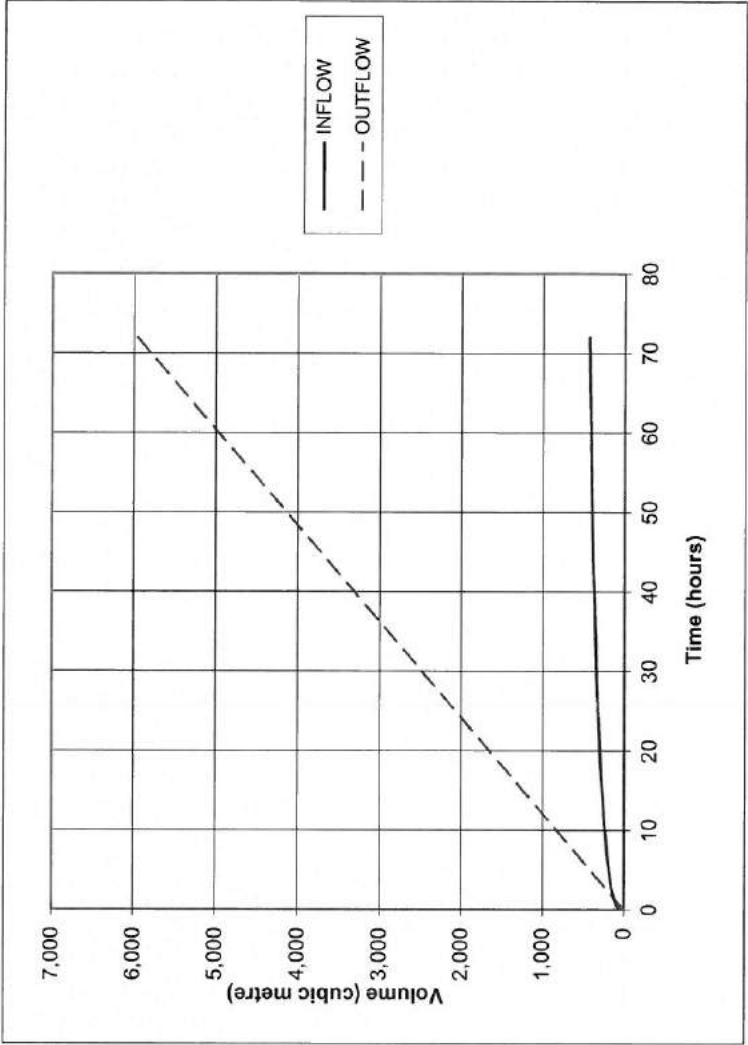


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.194 m

PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 44 | 8 | 0 | 35 |
| 9 min. | 54 | 12 | 0 | 41 |
| 12 min. | 61 | 17 | 0 | 45 |
| 15 min. | 67 | 21 | 0 | 47 |
| 20 min. | 75 | 28 | 0 | 48 |
| 30 min. | 87 | 41 | 0 | 45 |
| 45 min. | 99 | 62 | 0 | 36 |
| 1 hour | 107 | 83 | 0 | 24 |
| 2 hours | 137 | 166 | 0 | -29 |
| 3 hours | 157 | 248 | 0 | -92 |
| 6 hours | 198 | 497 | 0 | -299 |
| 10 hours | 235 | 828 | 0 | -593 |
| 12 hours | 250 | 994 | 0 | -743 |
| 24 hours | 317 | 1,987 | 0 | -1,670 |
| 48 hours | 391 | 3,974 | 0 | -3,583 |
| 60 hours | 413 | 4,968 | 0 | -4,555 |
| 72 hours | 429 | 5,962 | 0 | -5,532 |

SUMP/SWALE VOLUME CALCULATOR

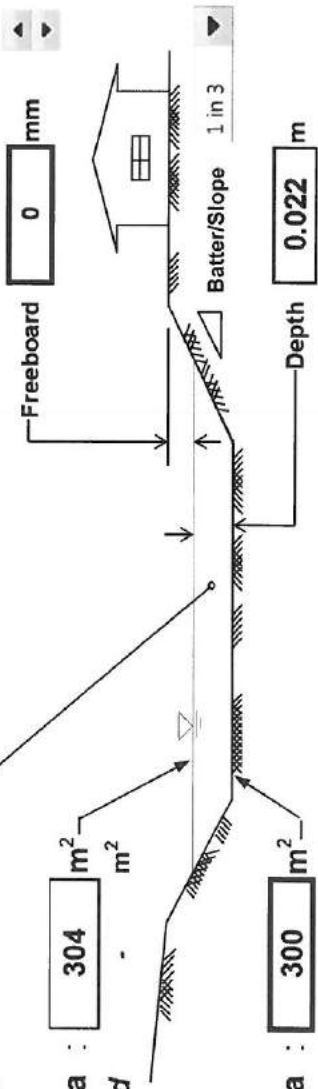
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 1 year | | Design Intensity : 2.0 mm/hr | |

| | | | |
|--------------------------|------------------------|-----------------------------|---|
| Catchment Details | | Soil Characteristics | |
| Catchment Area | : 4,303 m ² | Infiltration Rate | : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient | : 0.80 | Additional Outlet | : 0.000 m ³ /s |
| Flow Rate | : 1.9 L/s | | |

| | |
|---------------------------------|----------------------|
| Storage Details | |
| Volume Required at 6 minutes | : 7 m ³ |
| Total Surface Area no freeboard | : 304 m ² |
| Total Base Area | : 300 m ² |

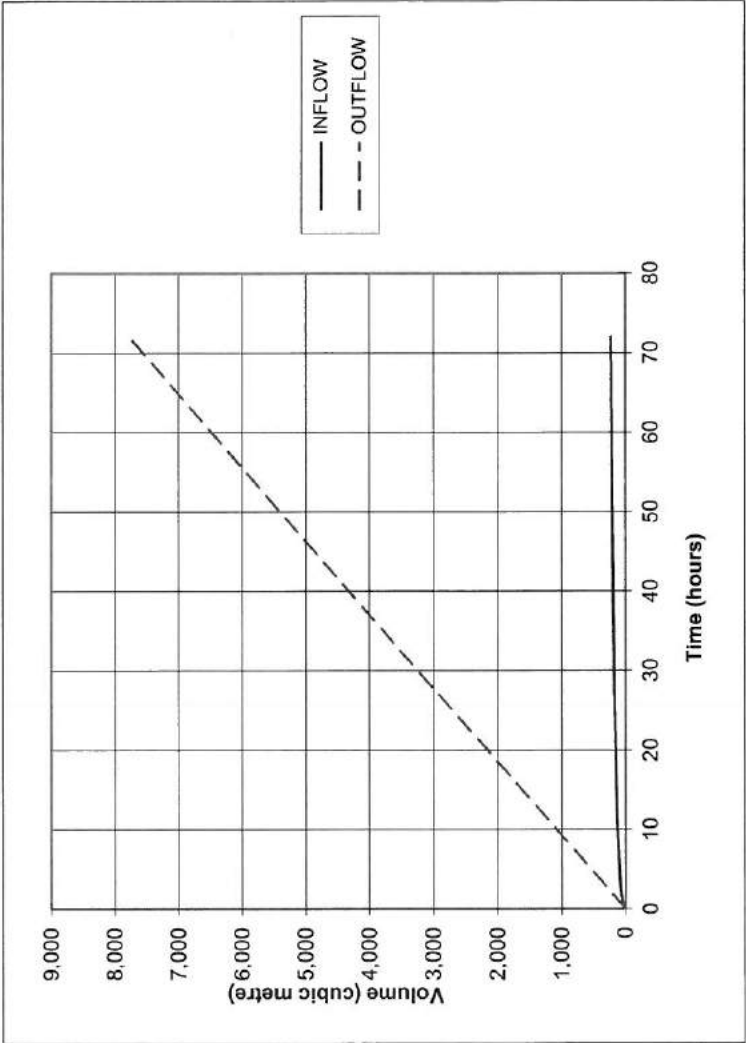


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.022 m

PERITAS CIVIL PTY LTD







| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|--------|---------------------|------------------|---------|
| | | Ground Infiltration | Allowable Outlet | |
| | m³ | m³ | m³ | m³ |
| 6 min. | 18 | 11 | 0 | 7 |
| 9 min. | 22 | 16 | 0 | 6 |
| 12 min. | 26 | 22 | 0 | 4 |
| 15 min. | 29 | 27 | 0 | 2 |
| 20 min. | 33 | 36 | 0 | -3 |
| 30 min. | 39 | 54 | 0 | -15 |
| 45 min. | 45 | 81 | 0 | -36 |
| 1 hour | 50 | 108 | 0 | -58 |
| 2 hours | 66 | 216 | 0 | -150 |
| 3 hours | 77 | 324 | 0 | -247 |
| 6 hours | 100 | 648 | 0 | -548 |
| 10 hours | 123 | 1,080 | 0 | -957 |
| 12 hours | 131 | 1,296 | 0 | -1,165 |
| 24 hours | 166 | 2,592 | 0 | -2,426 |
| 48 hours | 204 | 5,184 | 0 | -4,980 |
| 60 hours | 216 | 6,480 | 0 | -6,264 |
| 72 hours | 224 | 7,776 | 0 | -7,552 |

SUMP/SWALE VOLUME CALCULATOR

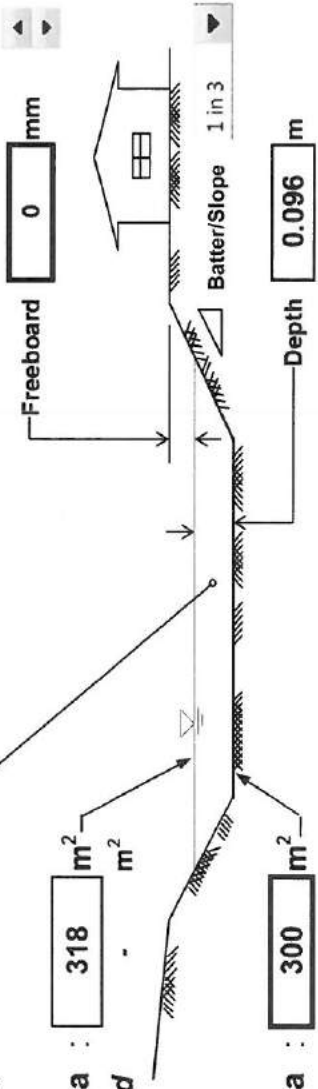
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

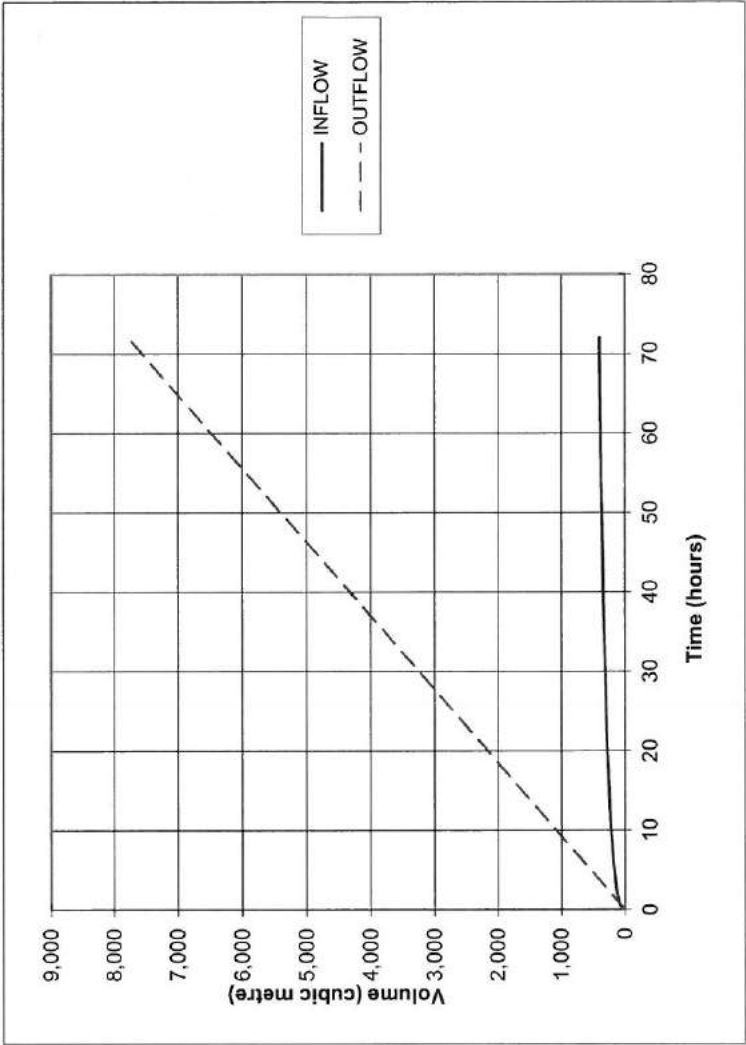
| | | | |
|---|--|--|--|
| Location  : CHITTERING | | Storm Duration  : 24 hours | |
| Storm Event  : 10 year | | Design Intensity  : 3.5 mm/hr | |

| | | | |
|--------------------------|----------------------|-----------------------------|---|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 4,303 m ² | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.80 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 3.4 L/s | | |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 14 minutes : | 30 m ³ |
| Total Surface Area no freeboard : | 318 m ² |
| Total Base Area : | 300 m ² |



The diagram illustrates a swale cross-section. A house is shown on the left. The swale has a freeboard of 0 mm. The batter/slope is 1 in 3. The depth of the swale is 0.096 m. The swale is shown with a 14-minute storage volume of 30 m³ and a total surface area of 318 m² (no freeboard). The total base area is 300 m².





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 36 | 11 | 0 | 25 |
| 9 min. | 44 | 16 | 0 | 28 |
| 12 min. | 51 | 22 | 0 | 30 |
| 15 min. | 57 | 27 | 0 | 30 |
| 20 min. | 64 | 36 | 0 | 28 |
| 30 min. | 75 | 54 | 0 | 21 |
| 45 min. | 86 | 81 | 0 | 5 |
| 1 hour | 94 | 108 | 0 | -14 |
| 2 hours | 122 | 216 | 0 | -94 |
| 3 hours | 141 | 324 | 0 | -183 |
| 6 hours | 180 | 648 | 0 | -468 |
| 10 hours | 217 | 1,080 | 0 | -863 |
| 12 hours | 231 | 1,296 | 0 | -1,065 |
| 24 hours | 293 | 2,592 | 0 | -2,299 |
| 48 hours | 361 | 5,184 | 0 | -4,823 |
| 60 hours | 382 | 6,480 | 0 | -6,098 |
| 72 hours | 397 | 7,776 | 0 | -7,379 |

SUMP/SWALE VOLUME CALCULATOR

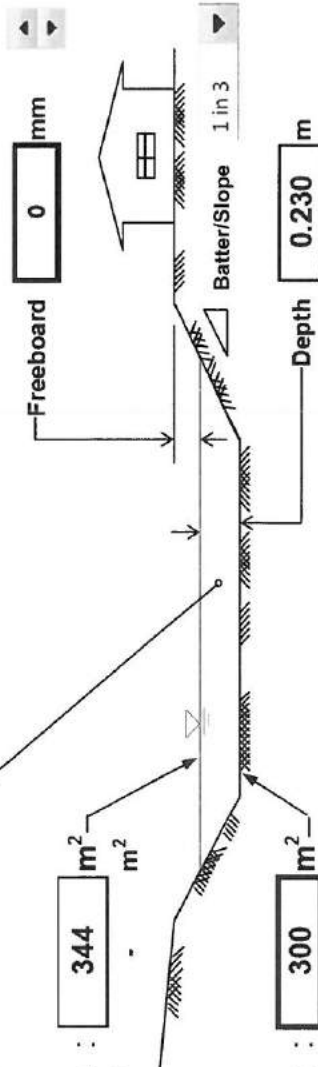
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

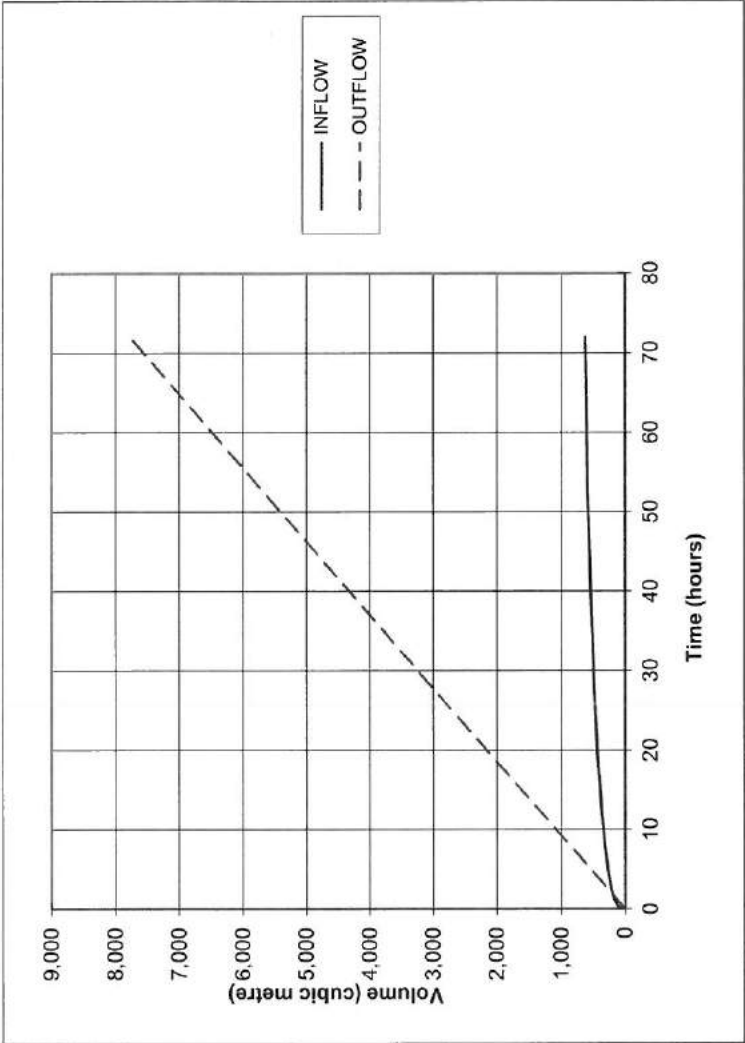
| | | | |
|---|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 100 year | | Design Intensity : 5.6 mm/hr | |

| | | | |
|--------------------------|------------------------|---|---|
| Catchment Details | | Soil Characteristics : Fine Sand | |
| Catchment Area | : 4,303 m ² | Infiltration Rate | : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient | : 0.80 | Additional Outlet | : 0.000 m ³ /s |
| Flow Rate | : 5.3 L/s | | |

| | |
|---------------------------------|----------------------|
| Storage Details | |
| Volume Required at 23 minutes | : 74 m ³ |
| Total Surface Area no freeboard | : 344 m ² |
| Total Base Area | : 300 m ² |



PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 63 | 11 | 0 | 53 |
| 9 min. | 78 | 16 | 0 | 62 |
| 12 min. | 89 | 22 | 0 | 67 |
| 15 min. | 98 | 27 | 0 | 71 |
| 20 min. | 109 | 36 | 0 | 73 |
| 30 min. | 126 | 54 | 0 | 72 |
| 45 min. | 143 | 81 | 0 | 62 |
| 1 hour | 155 | 108 | 0 | 47 |
| 2 hours | 199 | 216 | 0 | -17 |
| 3 hours | 228 | 324 | 0 | -96 |
| 6 hours | 288 | 648 | 0 | -360 |
| 10 hours | 342 | 1,080 | 0 | -738 |
| 12 hours | 364 | 1,296 | 0 | -932 |
| 24 hours | 461 | 2,592 | 0 | -2,131 |
| 48 hours | 569 | 5,184 | 0 | -4,615 |
| 60 hours | 601 | 6,480 | 0 | -5,879 |
| 72 hours | 624 | 7,776 | 0 | -7,152 |

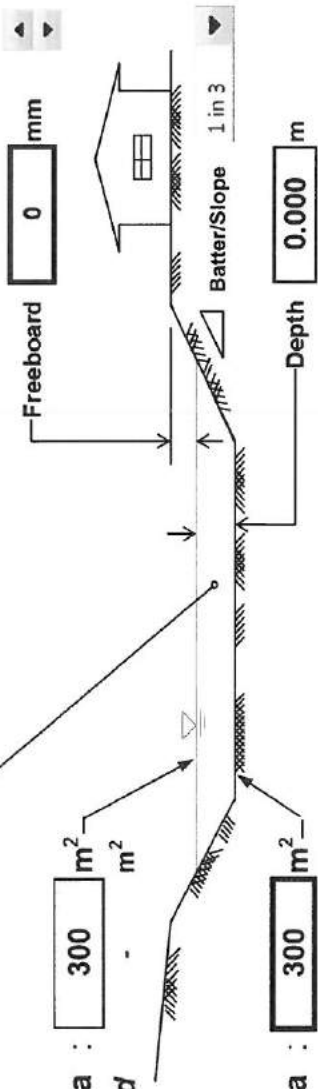
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

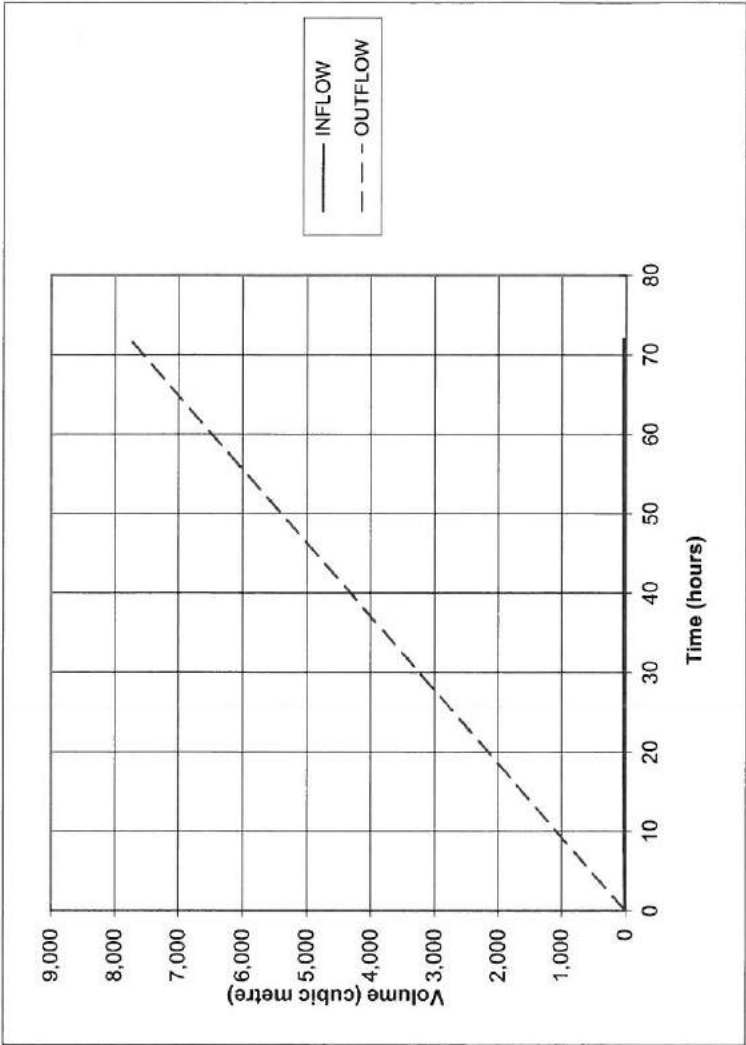
Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 1 year | | Design Intensity : 2.0 mm/hr | |

| | | | |
|--|-----------------------------------|--|--|
| Catchment Details | | Outflow Details | |
| Catchment Area : 642 m ² | Run-off Coefficient : 0.80 | Soil Characteristics : Fine Sand | Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Flow Rate : 0.3 L/s | | Additional Outlet : 0.000 m ³ /s | |

| | |
|--|--|
| Storage Details | |
| Volume Required : 0 m ³ |  |
| Total Surface Area : 300 m ² no freeboard | Batter/Slope : 1 in 3 |
| Total Base Area : 300 m ² | Depth : 0.000 m |

PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 3 | 11 | 0 | -8 |
| 9 min. | 3 | 16 | 0 | -13 |
| 12 min. | 4 | 22 | 0 | -18 |
| 15 min. | 4 | 27 | 0 | -23 |
| 20 min. | 5 | 36 | 0 | -31 |
| 30 min. | 6 | 54 | 0 | -48 |
| 45 min. | 7 | 81 | 0 | -74 |
| 1 hour | 8 | 108 | 0 | -100 |
| 2 hours | 10 | 216 | 0 | -206 |
| 3 hours | 12 | 324 | 0 | -312 |
| 6 hours | 15 | 648 | 0 | -633 |
| 10 hours | 18 | 1,080 | 0 | -1,062 |
| 12 hours | 20 | 1,296 | 0 | -1,276 |
| 24 hours | 25 | 2,592 | 0 | -2,567 |
| 48 hours | 30 | 5,184 | 0 | -5,154 |
| 60 hours | 32 | 6,480 | 0 | -6,448 |
| 72 hours | 33 | 7,776 | 0 | -7,743 |

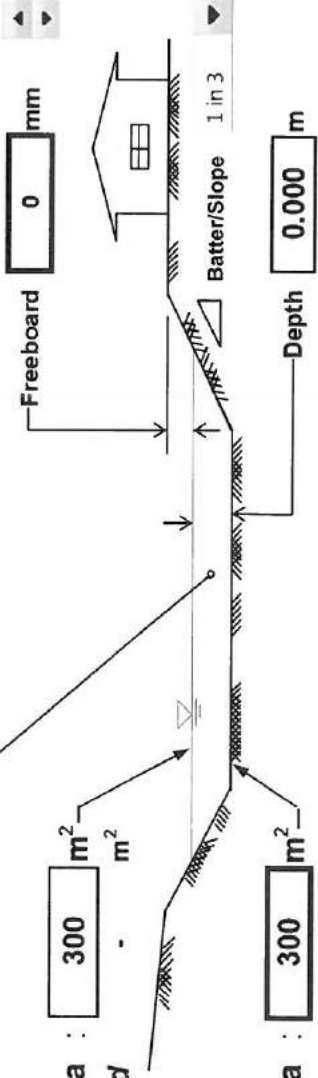
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

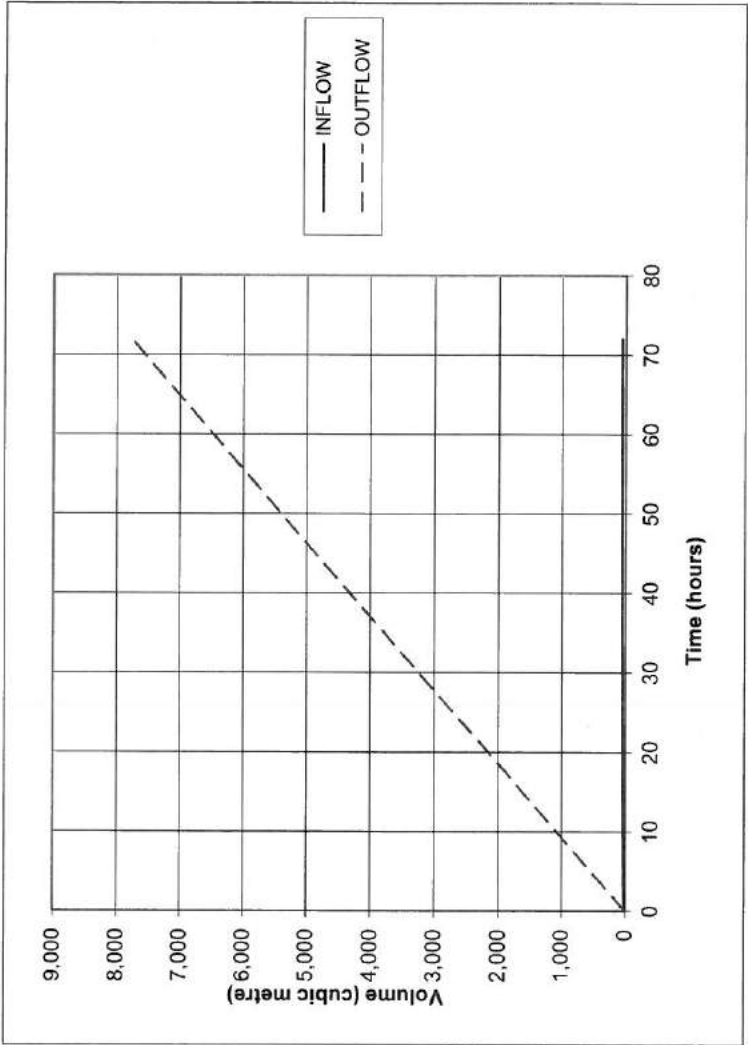
Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 10 year | | Design Intensity : 3.5 mm/hr | |

| | | | |
|--|-----------------------------------|--|--|
| Catchment Details | | Outflow Details | |
| Catchment Area : 642 m ² | Run-off Coefficient : 0.80 | Soil Characteristics : Fine Sand | Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Flow Rate : 0.5 L/s | | Additional Outlet : 0.000 m ³ /s | |

| | |
|---|--|
| Storage Details | |
| Volume Required : 0 m ³ |  |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 5 | 11 | 0 | -5 |
| 9 min. | 7 | 16 | 0 | -10 |
| 12 min. | 8 | 22 | 0 | -14 |
| 15 min. | 8 | 27 | 0 | -19 |
| 20 min. | 10 | 36 | 0 | -26 |
| 30 min. | 11 | 54 | 0 | -43 |
| 45 min. | 13 | 81 | 0 | -68 |
| 1 hour | 14 | 108 | 0 | -94 |
| 2 hours | 18 | 216 | 0 | -198 |
| 3 hours | 21 | 324 | 0 | -303 |
| 6 hours | 27 | 648 | 0 | -621 |
| 10 hours | 32 | 1,080 | 0 | -1,048 |
| 12 hours | 35 | 1,296 | 0 | -1,261 |
| 24 hours | 44 | 2,592 | 0 | -2,548 |
| 48 hours | 54 | 5,184 | 0 | -5,130 |
| 60 hours | 57 | 6,480 | 0 | -6,423 |
| 72 hours | 59 | 7,776 | 0 | -7,717 |

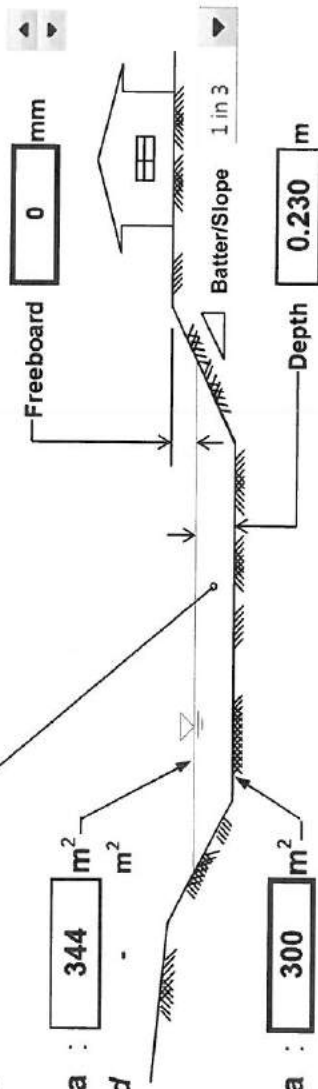
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

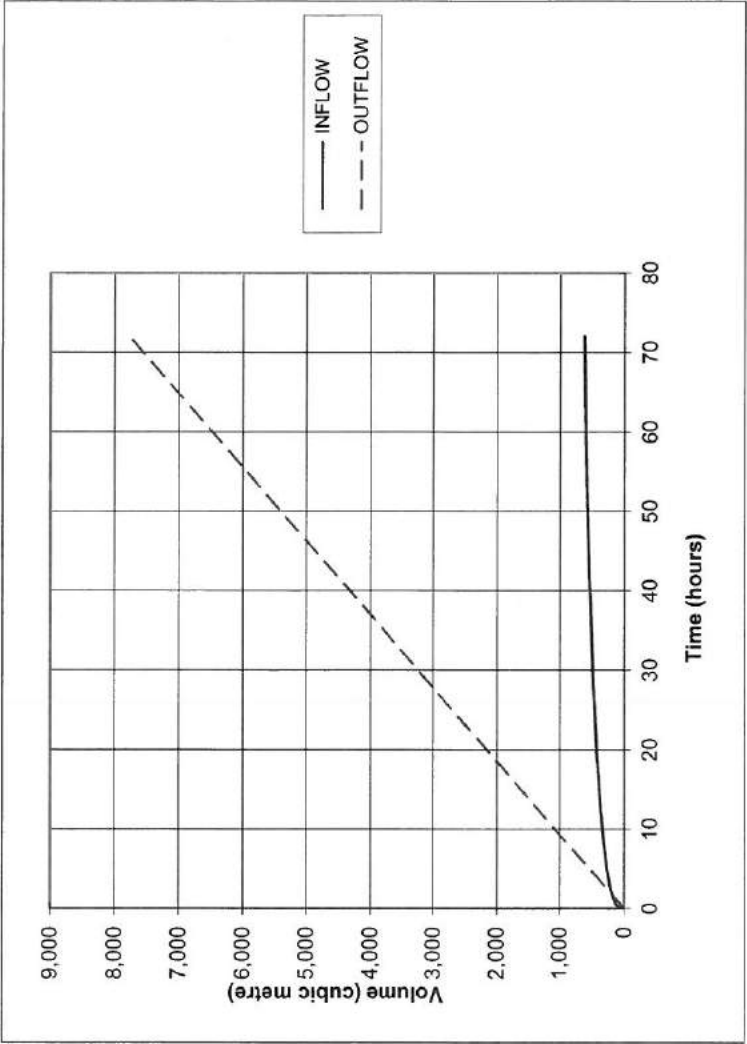
Design Rainfall Intensity

| | |
|--|--|
| Location  : CHITTING | Storm Duration  : 24 hours |
| Storm Event  : 100 year | Design Intensity  : 5.6 mm/hr |

| | |
|---|---|
| Catchment Details Catchment Area : 4,303 m ² Run-off Coefficient : 0.80 Flow Rate : 5.3 L/s | Outflow Details Soil Characteristics : Fine Sand Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|---|---|

| | |
|--|--|
| Storage Details Volume Required at 23 minutes : 74 m ³ Total Surface Area no freeboard : 344 m ² Total Base Area : 300 m ² |  |
|--|--|

PERITAS CIVIL PTY LTD







| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|----------------|---------------------|------------------|----------------|
| | | Ground Infiltration | Allowable Outlet | |
| | m ³ | m ³ | m ³ | m ³ |
| 6 min. | 63 | 11 | 0 | 53 |
| 9 min. | 78 | 16 | 0 | 62 |
| 12 min. | 89 | 22 | 0 | 67 |
| 15 min. | 98 | 27 | 0 | 71 |
| 20 min. | 109 | 36 | 0 | 73 |
| 30 min. | 126 | 54 | 0 | 72 |
| 45 min. | 143 | 81 | 0 | 62 |
| 1 hour | 155 | 108 | 0 | 47 |
| 2 hours | 199 | 216 | 0 | -17 |
| 3 hours | 228 | 324 | 0 | -96 |
| 6 hours | 288 | 648 | 0 | -360 |
| 10 hours | 342 | 1,080 | 0 | -738 |
| 12 hours | 364 | 1,296 | 0 | -932 |
| 24 hours | 461 | 2,592 | 0 | -2,131 |
| 48 hours | 569 | 5,184 | 0 | -4,615 |
| 60 hours | 601 | 6,480 | 0 | -5,879 |
| 72 hours | 624 | 7,776 | 0 | -7,152 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

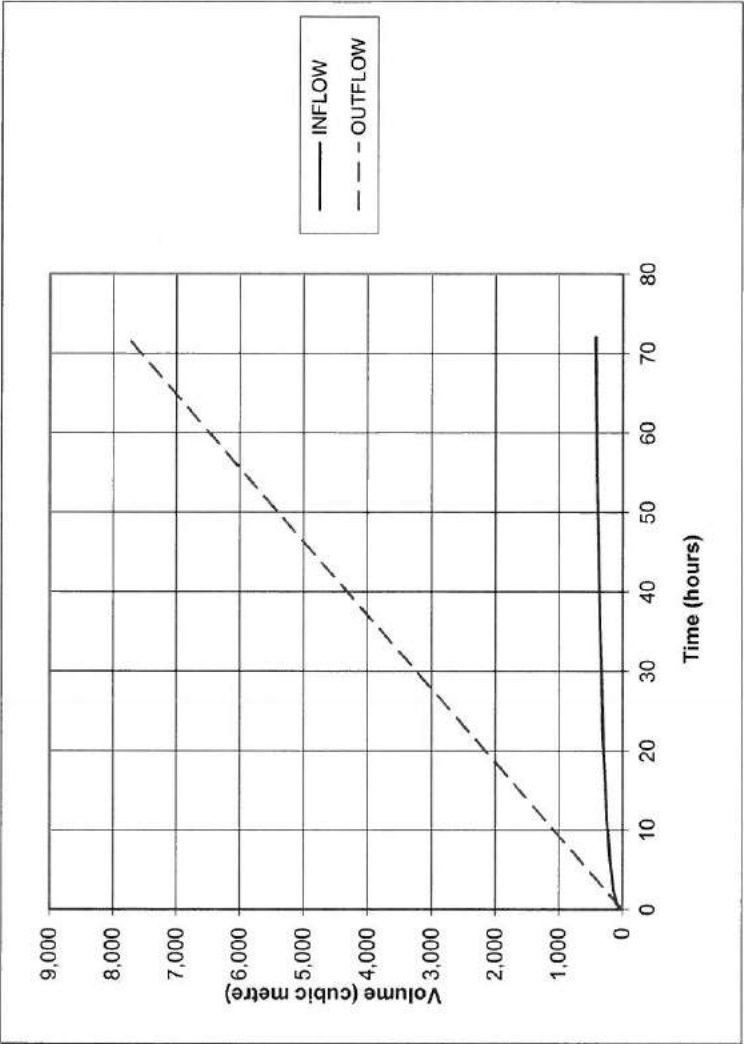
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 1 year | Design Intensity  : 2.0 mm/hr |

| | |
|--|--|
| Catchment Details | Soil Characteristics |
| Catchment Area : 8,092 m ² | Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient : 0.80 | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 3.6 L/s | |

| | |
|---|------------------------------|
| Storage Details | Outflow Details |
| Volume Required at 14 minutes : 27 m ³ | Freeboard : 0 mm |
| Total Surface Area no freeboard : 316 m ² | Batter/Slope : 1 in 3 |
| Total Base Area : 300 m ² | Depth : 0.087 m |

PERITAS CIVIL PTY LTD





| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|--------|---------------------|------------------|---------|
| | | Ground Infiltration | Allowable Outlet | |
| | m³ | m³ | m³ | m³ |
| 6 min. | 33 | 11 | 0 | 22 |
| 9 min. | 41 | 16 | 0 | 25 |
| 12 min. | 48 | 22 | 0 | 27 |
| 15 min. | 54 | 27 | 0 | 27 |
| 20 min. | 61 | 36 | 0 | 25 |
| 30 min. | 73 | 54 | 0 | 19 |
| 45 min. | 85 | 81 | 0 | 4 |
| 1 hour | 95 | 108 | 0 | -13 |
| 2 hours | 125 | 216 | 0 | -91 |
| 3 hours | 145 | 324 | 0 | -179 |
| 6 hours | 189 | 648 | 0 | -459 |
| 10 hours | 231 | 1,080 | 0 | -849 |
| 12 hours | 246 | 1,296 | 0 | -1,050 |
| 24 hours | 312 | 2,592 | 0 | -2,280 |
| 48 hours | 384 | 5,184 | 0 | -4,800 |
| 60 hours | 406 | 6,480 | 0 | -6,074 |
| 72 hours | 422 | 7,776 | 0 | -7,354 |

SUMP/SWALE VOLUME CALCULATOR

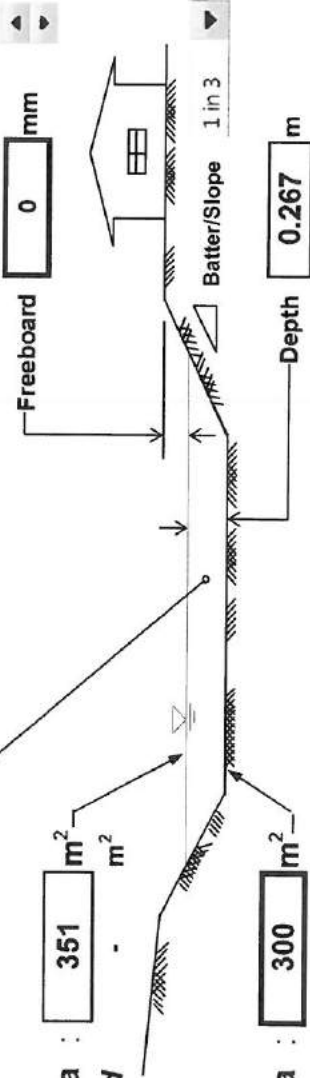
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 10 year | | Design Intensity : 3.5 mm/hr | |

| | | | |
|------------------------------|----------------------|-------------------------------|---|
| Catchment Details | | Outflow Details | |
| Catchment Area : | 8,092 m ² | Soil Characteristics : | Fine Sand |
| Run-off Coefficient : | 0.80 | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Flow Rate : | 6.4 L/s | Additional Outlet : | 0.000 m ³ /s |

| | |
|--|--------------------|
| Storage Details | |
| Volume Required at 28 minutes : | 87 m ³ |
| Total Surface Area no freeboard : | 351 m ² |
| Total Base Area : | 300 m ² |

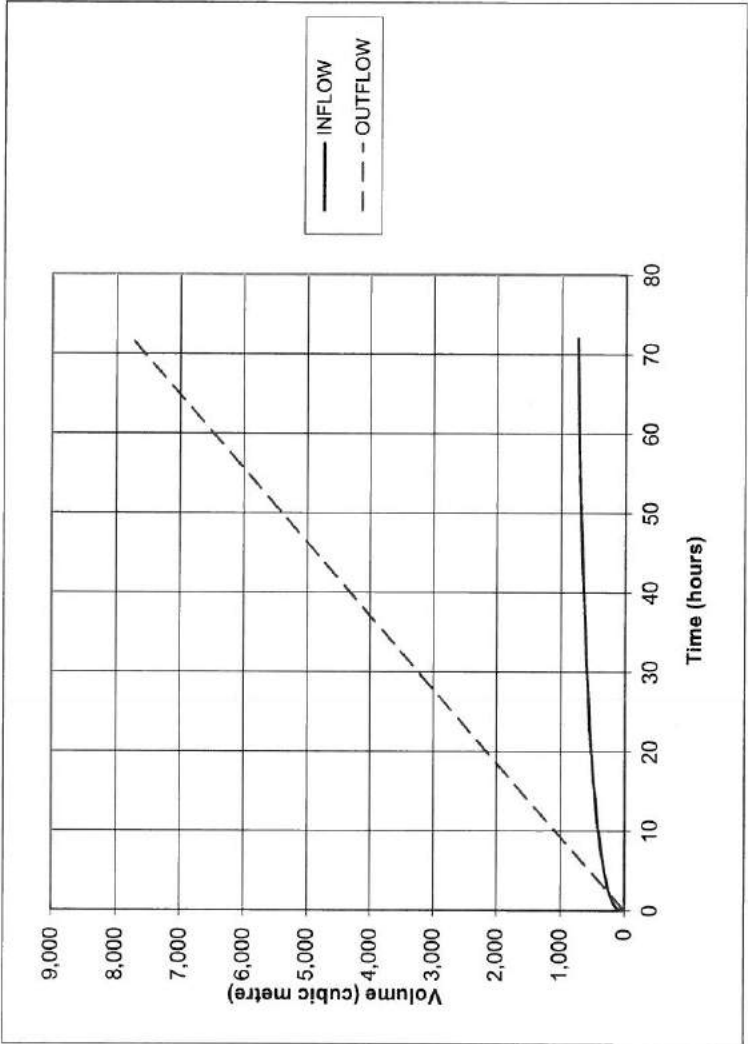


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.267 m

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 67 | 11 | 0 | 57 |
| 9 min. | 84 | 16 | 0 | 67 |
| 12 min. | 96 | 22 | 0 | 75 |
| 15 min. | 107 | 27 | 0 | 80 |
| 20 min. | 120 | 36 | 0 | 84 |
| 30 min. | 141 | 54 | 0 | 87 |
| 45 min. | 162 | 81 | 0 | 81 |
| 1 hour | 177 | 108 | 0 | 69 |
| 2 hours | 230 | 216 | 0 | 14 |
| 3 hours | 265 | 324 | 0 | -59 |
| 6 hours | 339 | 648 | 0 | -309 |
| 10 hours | 409 | 1,080 | 0 | -671 |
| 12 hours | 435 | 1,296 | 0 | -861 |
| 24 hours | 551 | 2,592 | 0 | -2,041 |
| 48 hours | 680 | 5,184 | 0 | -4,504 |
| 60 hours | 718 | 6,480 | 0 | -5,762 |
| 72 hours | 746 | 7,776 | 0 | -7,030 |

SUMP/SWALE VOLUME CALCULATOR

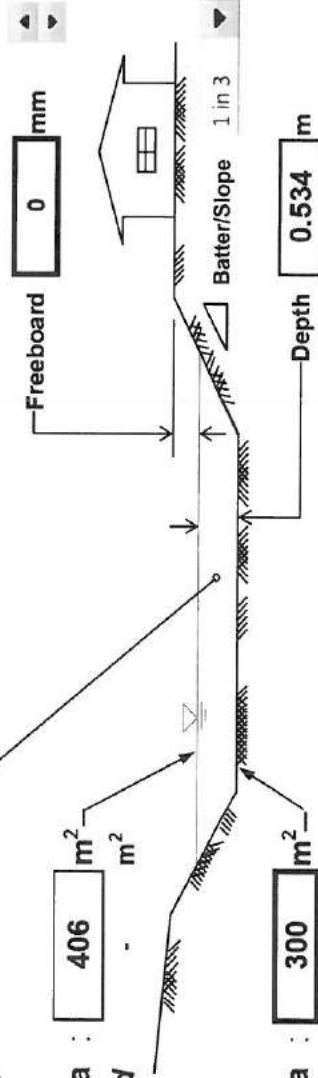
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|--|--|
| Location  : CHITTERING | | Storm Duration  : 24 hours | |
| Storm Event  : 100 year | | Design Intensity  : 5.6 mm/hr | |

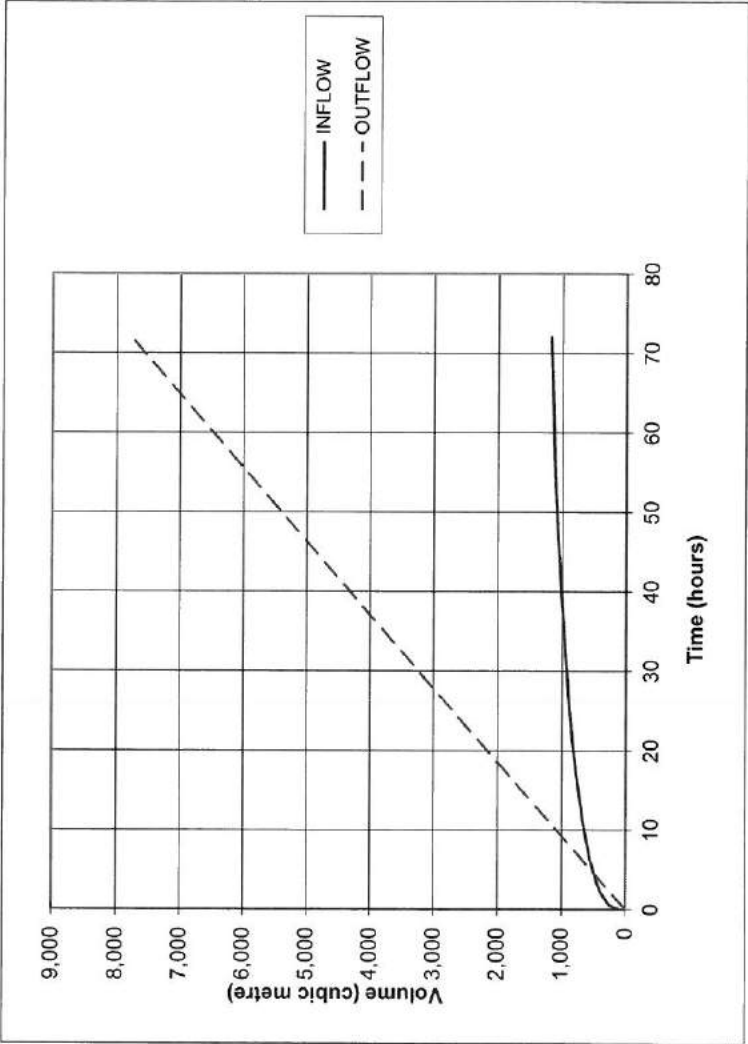
| | | | |
|--------------------------|----------------------|------------------------|---|
| Catchment Details | | Outflow Details | |
| Catchment Area : | 8,092 m ² | Soil Characteristics : | Fine Sand |
| Run-off Coefficient : | 0.80 | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Flow Rate : | 10.0 L/s | Additional Outlet : | 0.000 m ³ /s |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 44 minutes : | 188 m ³ |
| Total Surface Area no freeboard : | 406 m ² |
| Total Base Area : | 300 m ² |



The diagram illustrates a swale cross-section. A house is shown on the left. The swale has a freeboard of 0 mm. The batter/slope is 1 in 3. The depth of the swale is 0.534 m. The swale is shown with a 1 in 3 batter/slope and a depth of 0.534 m.

PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 119 | 11 | 0 | 108 |
| 9 min. | 146 | 16 | 0 | 130 |
| 12 min. | 167 | 22 | 0 | 146 |
| 15 min. | 184 | 27 | 0 | 157 |
| 20 min. | 206 | 36 | 0 | 170 |
| 30 min. | 238 | 54 | 0 | 184 |
| 45 min. | 269 | 81 | 0 | 188 |
| 1 hour | 292 | 108 | 0 | 184 |
| 2 hours | 374 | 216 | 0 | 158 |
| 3 hours | 429 | 324 | 0 | 105 |
| 6 hours | 541 | 648 | 0 | -107 |
| 10 hours | 643 | 1,080 | 0 | -437 |
| 12 hours | 685 | 1,296 | 0 | -611 |
| 24 hours | 867 | 2,592 | 0 | -1,725 |
| 48 hours | 1,070 | 5,184 | 0 | -4,114 |
| 60 hours | 1,130 | 6,480 | 0 | -5,350 |
| 72 hours | 1,174 | 7,776 | 0 | -6,602 |

SUMP/SWALE VOLUME CALCULATOR

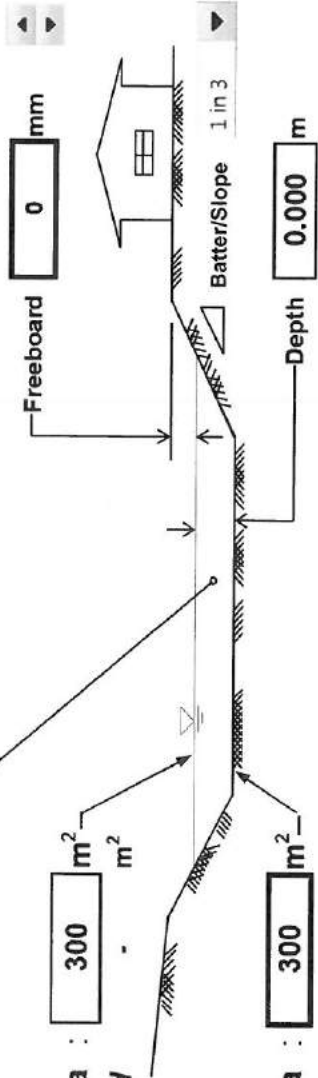
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|---|--|-------------------------------------|--|
| Location :  : CHITTING | | Storm Duration : 24 hours | |
| Storm Event :  : 1 year | | Design Intensity : 2.0 mm/hr | |

| | | | |
|--------------------------|----------------------|-----------------------------|---|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 2,278 m ² | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.80 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 1.0 L/s | | |

| | |
|------------------------|--------------------|
| Storage Details | |
| Volume Required : | 0 m ³ |
| Total Surface Area : | 300 m ² |
| no freeboard | |
| Total Base Area : | 300 m ² |

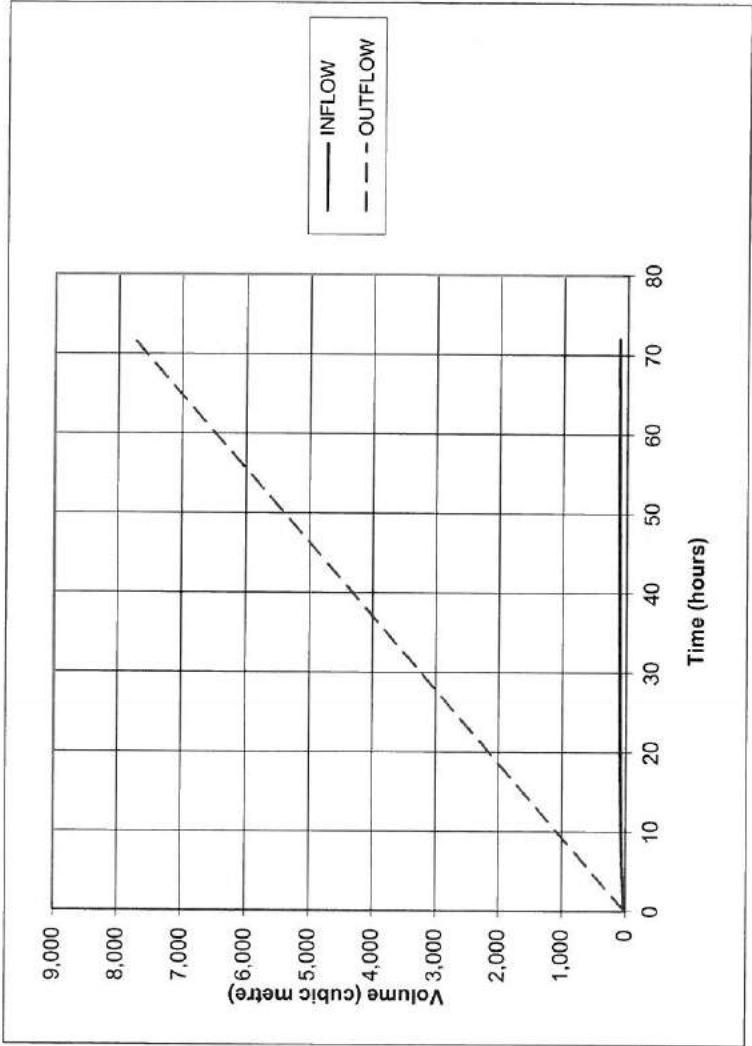


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.000 m

PERITAS CIVIL PTY LTD





| TIME | INFLOW m ³ | OUTFLOW | | STORAGE m ³ |
|----------|--------------------------|---------------------------------------|------------------------------------|---------------------------|
| | | Ground Infiltration m ³ | Allowable Outlet m ³ | |
| 6 min. | 9 | 11 | 0 | -2 |
| 9 min. | 12 | 16 | 0 | -5 |
| 12 min. | 14 | 22 | 0 | -8 |
| 15 min. | 15 | 27 | 0 | -12 |
| 20 min. | 17 | 36 | 0 | -19 |
| 30 min. | 21 | 54 | 0 | -33 |
| 45 min. | 24 | 81 | 0 | -57 |
| 1 hour | 27 | 108 | 0 | -81 |
| 2 hours | 35 | 216 | 0 | -181 |
| 3 hours | 41 | 324 | 0 | -283 |
| 6 hours | 53 | 648 | 0 | -595 |
| 10 hours | 65 | 1,080 | 0 | -1,015 |
| 12 hours | 69 | 1,296 | 0 | -1,227 |
| 24 hours | 88 | 2,592 | 0 | -2,504 |
| 48 hours | 108 | 5,184 | 0 | -5,076 |
| 60 hours | 114 | 6,480 | 0 | -6,366 |
| 72 hours | 119 | 7,776 | 0 | -7,657 |

SUMP/SWALE VOLUME CALCULATOR

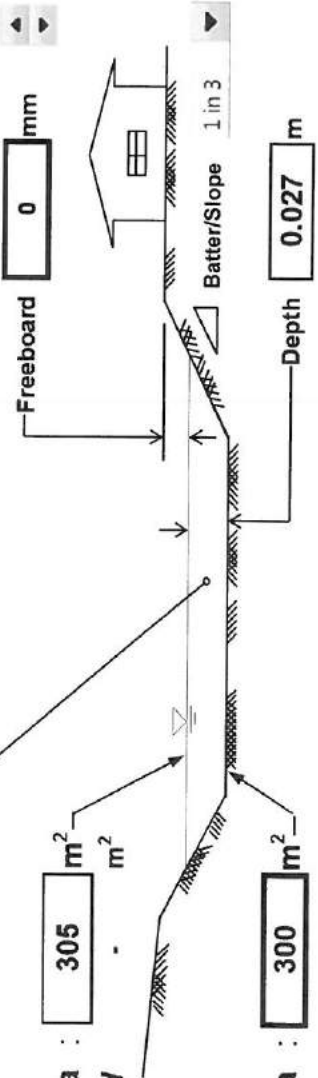
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTING | | Storm Duration : 24 hours | |
| Storm Event :  : 10 year | | Design Intensity : 3.5 mm/hr | |

| | | | |
|------------------------------|----------------------|-------------------------------|---|
| Catchment Details | | Outflow Details | |
| Catchment Area : | 2,278 m ² | Soil Characteristics : | Fine Sand |
| Run-off Coefficient : | 0.80 | Infiltration Rate : | 0.0001 m/s → 0.03 m ³ /s (Total Soakage) |
| Flow Rate : | 1.8 L/s | Additional Outlet : | 0.000 m ³ /s |

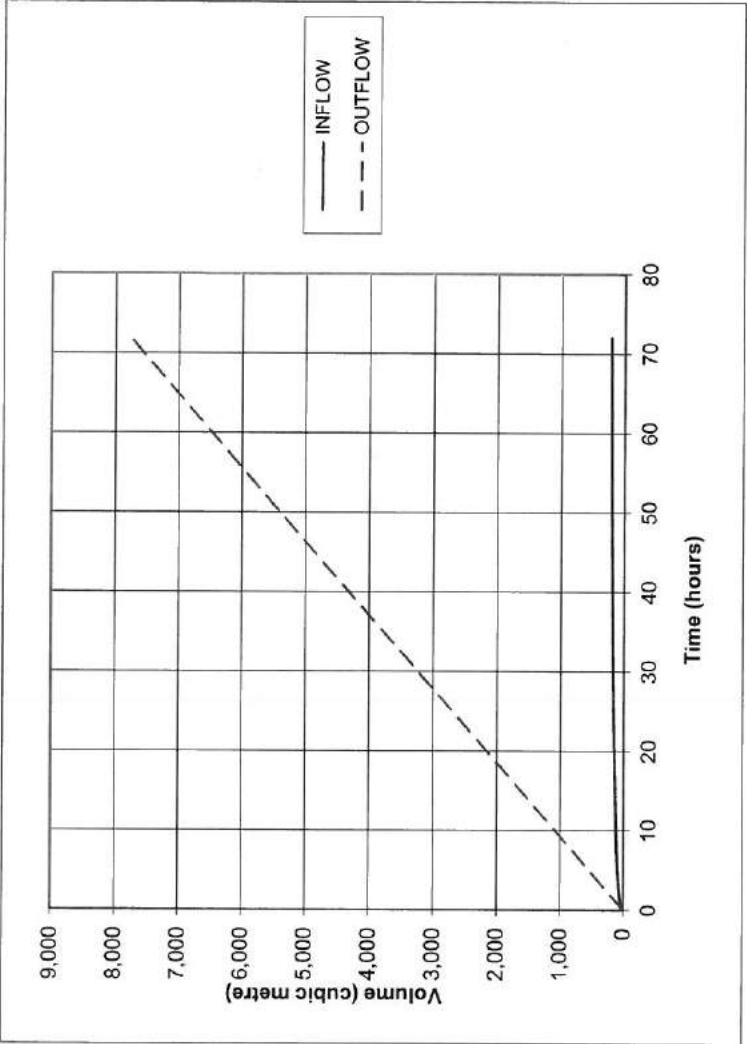
| | |
|--|--------------------|
| Storage Details | |
| Volume Required at 6 minutes : | 8 m ³ |
| Total Surface Area no freeboard : | 305 m ² |
| Total Base Area : | 300 m ² |



The diagram illustrates a swale cross-section adjacent to a house. Key features labeled include:

- Freeboard**: The vertical height above the water level.
- Batter/Slope**: The sloped side of the swale, noted as 1 in 3.
- Depth**: The vertical height of the water in the swale, shown as 0.027 m.

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 19 | 11 | 0 | 8 |
| 9 min. | 24 | 16 | 0 | 7 |
| 12 min. | 27 | 22 | 0 | 5 |
| 15 min. | 30 | 27 | 0 | 3 |
| 20 min. | 34 | 36 | 0 | -2 |
| 30 min. | 40 | 54 | 0 | -14 |
| 45 min. | 46 | 81 | 0 | -35 |
| 1 hour | 50 | 108 | 0 | -58 |
| 2 hours | 65 | 216 | 0 | -151 |
| 3 hours | 75 | 324 | 0 | -249 |
| 6 hours | 96 | 648 | 0 | -552 |
| 10 hours | 115 | 1,080 | 0 | -965 |
| 12 hours | 123 | 1,296 | 0 | -1,173 |
| 24 hours | 155 | 2,592 | 0 | -2,437 |
| 48 hours | 191 | 5,184 | 0 | -4,993 |
| 60 hours | 202 | 6,480 | 0 | -6,278 |
| 72 hours | 210 | 7,776 | 0 | -7,566 |

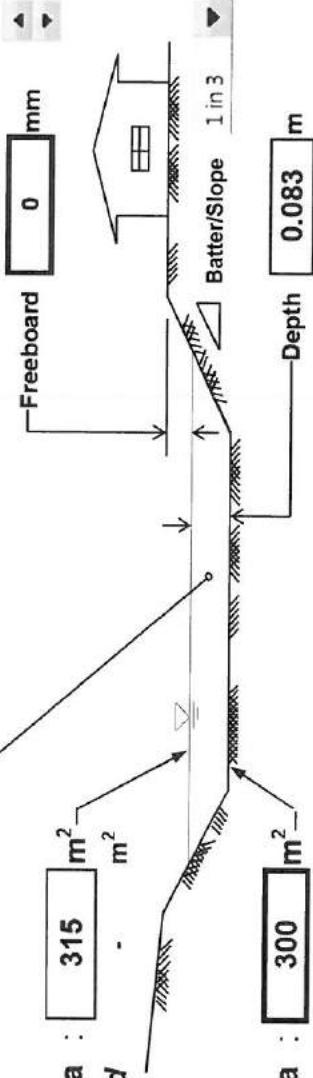
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

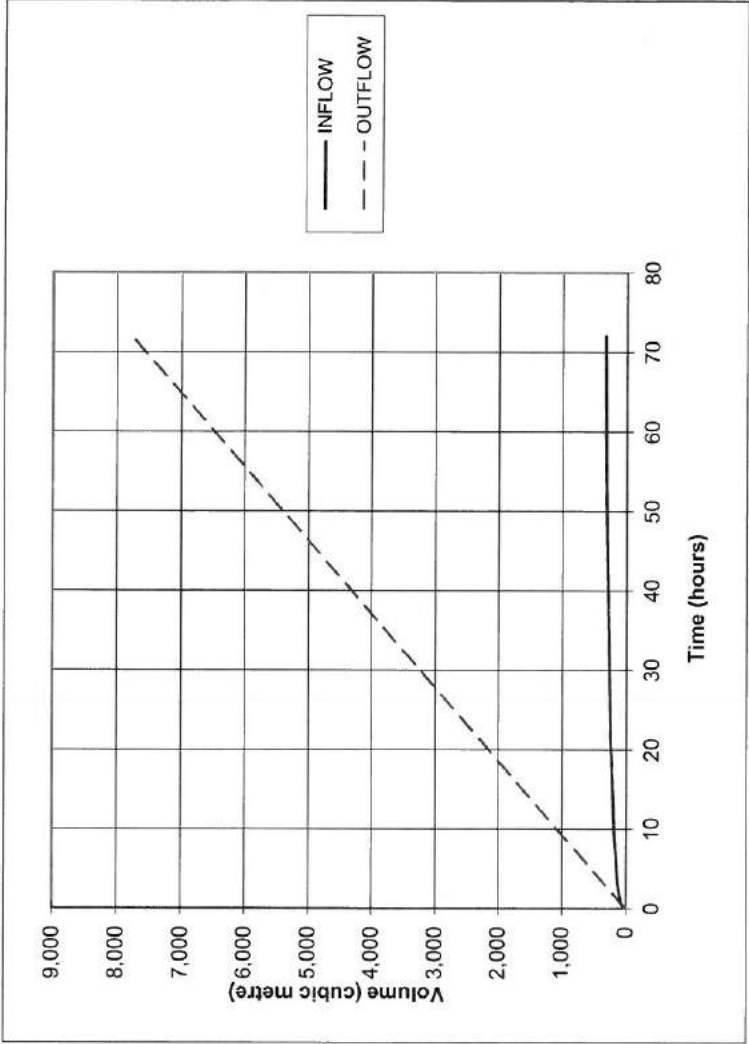
| | |
|--|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 100 year | Design Intensity  : 5.6 mm/hr |

| | |
|---|---|
| Catchment Details Catchment Area : 2,278 m ² Run-off Coefficient : 0.80 Flow Rate : 2.8 L/s | Outflow Details Soil Characteristics : Fine Sand Infiltration Rate : 0.0001 m/s → 0.03 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|---|---|

| | |
|--|--|
| Storage Details Volume Required at 12 minutes : 25 m ³ Total Surface Area no freeboard : 315 m ² Total Base Area : 300 m ² |  |
|--|--|

PERITAS CIVIL PTY LTD



| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|----------------|---------------------|------------------|----------------|
| | | Ground Infiltration | Allowable Outlet | |
| | m ³ | m ³ | m ³ | m ³ |
| 6 min. | 34 | 11 | 0 | 23 |
| 9 min. | 41 | 16 | 0 | 25 |
| 12 min. | 47 | 22 | 0 | 25 |
| 15 min. | 52 | 27 | 0 | 25 |
| 20 min. | 58 | 36 | 0 | 22 |
| 30 min. | 67 | 54 | 0 | 13 |
| 45 min. | 76 | 81 | 0 | -5 |
| 1 hour | 82 | 108 | 0 | -26 |
| 2 hours | 105 | 216 | 0 | -111 |
| 3 hours | 121 | 324 | 0 | -203 |
| 6 hours | 152 | 648 | 0 | -496 |
| 10 hours | 181 | 1,080 | 0 | -899 |
| 12 hours | 193 | 1,296 | 0 | -1,103 |
| 24 hours | 244 | 2,592 | 0 | -2,348 |
| 48 hours | 301 | 5,184 | 0 | -4,883 |
| 60 hours | 318 | 6,480 | 0 | -6,162 |
| 72 hours | 331 | 7,776 | 0 | -7,445 |



SUMP/SWALE VOLUME CALCULATOR

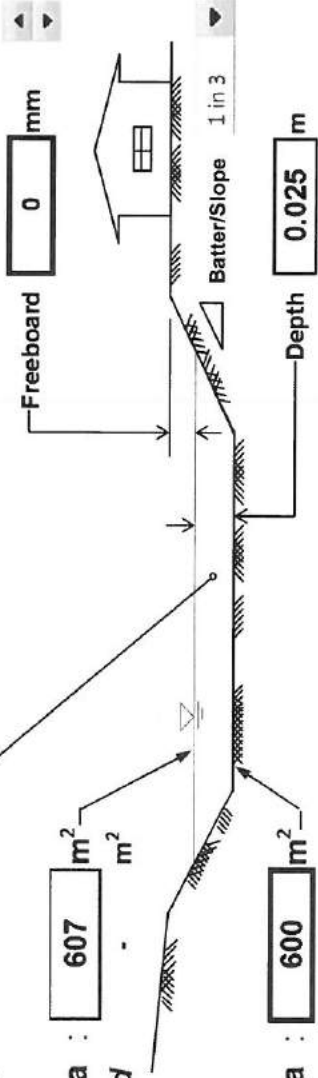
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

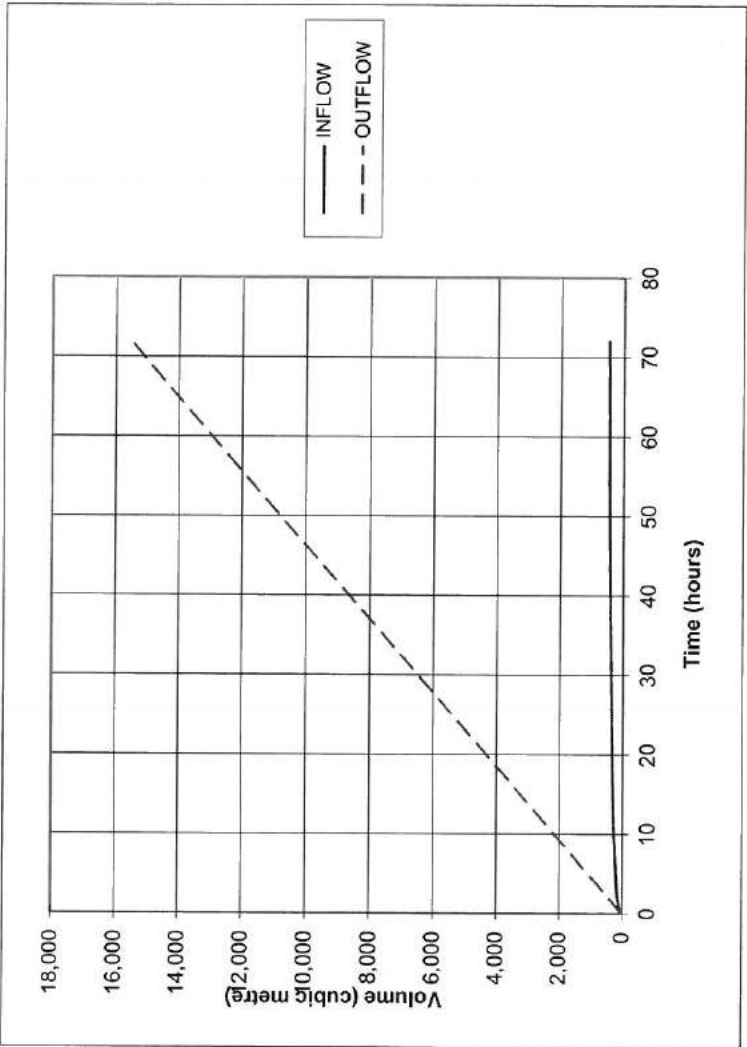
| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 1 year | | Design Intensity : 2.0 mm/hr | |

| | | | |
|--------------------------|------------------------|---|---|
| Catchment Details | | Soil Characteristics : Fine Sand | |
| Catchment Area | : 9,028 m ² | Infiltration Rate | : 0.0001 m/s → 0.06 m ³ /s (Total Soakage) |
| Run-off Coefficient | : 0.80 | Additional Outlet | : 0.000 m ³ /s |
| Flow Rate | : 4.0 L/s | | |

| | |
|---------------------------------|----------------------|
| Storage Details | |
| Volume Required at 6 minutes | : 15 m ³ |
| Total Surface Area no freeboard | : 607 m ² |
| Total Base Area | : 600 m ² |



PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 37 | 22 | 0 | 15 |
| 9 min. | 46 | 32 | 0 | 14 |
| 12 min. | 54 | 43 | 0 | 11 |
| 15 min. | 60 | 54 | 0 | 6 |
| 20 min. | 69 | 72 | 0 | -3 |
| 30 min. | 81 | 108 | 0 | -27 |
| 45 min. | 95 | 162 | 0 | -67 |
| 1 hour | 106 | 216 | 0 | -110 |
| 2 hours | 139 | 432 | 0 | -293 |
| 3 hours | 162 | 648 | 0 | -486 |
| 6 hours | 211 | 1,296 | 0 | -1,085 |
| 10 hours | 258 | 2,160 | 0 | -1,902 |
| 12 hours | 275 | 2,592 | 0 | -2,317 |
| 24 hours | 348 | 5,184 | 0 | -4,836 |
| 48 hours | 429 | 10,368 | 0 | -9,939 |
| 60 hours | 453 | 12,960 | 0 | -12,507 |
| 72 hours | 471 | 15,552 | 0 | -15,081 |

SUMP/SWALE VOLUME CALCULATOR

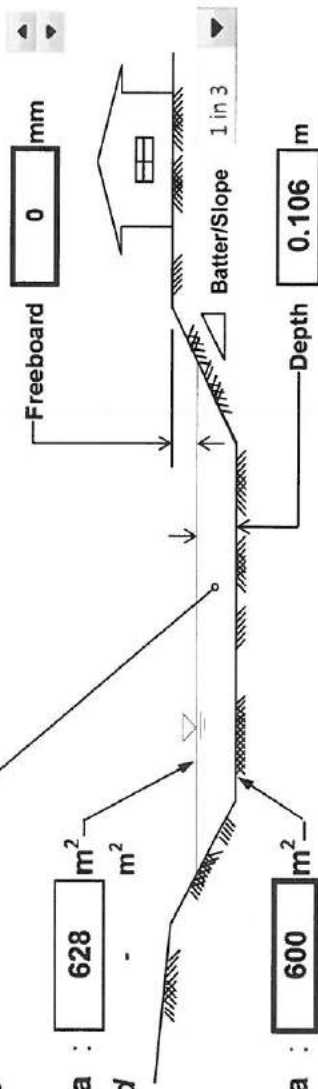
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 10 year | | Design Intensity : 3.5 mm/hr | |

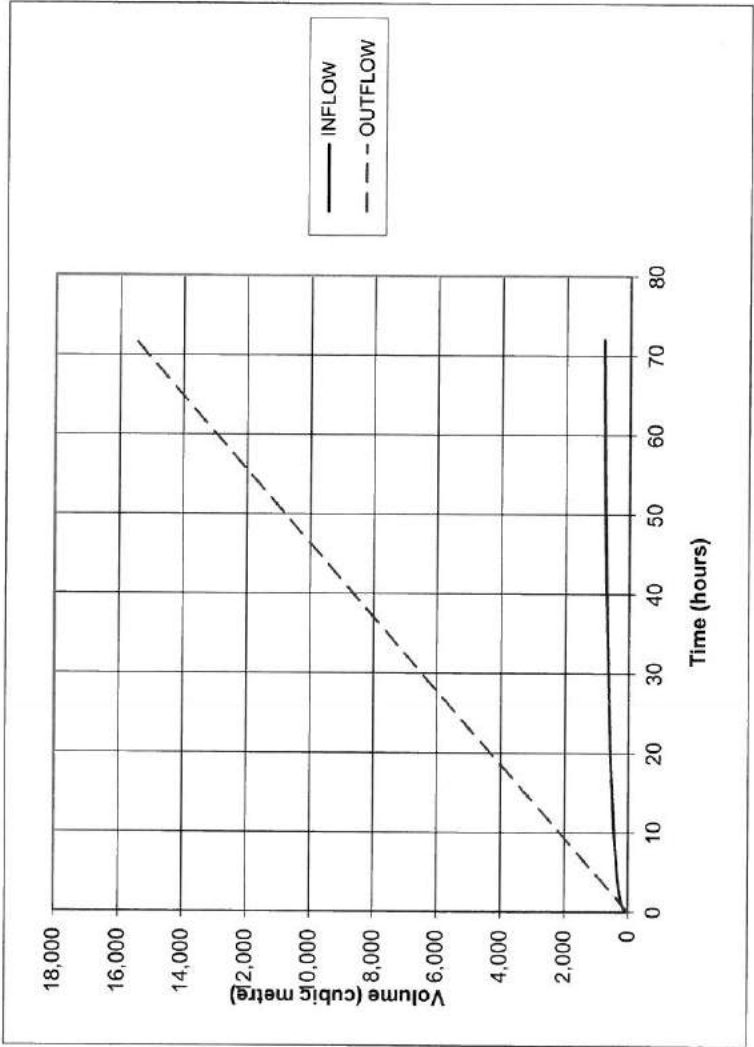
| | | | |
|------------------------------|----------------------|-------------------------------|---|
| Catchment Details | | Outflow Details | |
| Catchment Area : | 9,028 m ² | Soil Characteristics : | Fine Sand |
| Run-off Coefficient : | 0.80 | Infiltration Rate : | 0.0001 m/s → 0.06 m ³ /s (Total Soakage) |
| Flow Rate : | 7.1 L/s | Additional Outlet : | 0.000 m ³ /s |

| | |
|--|--------------------|
| Storage Details | |
| Volume Required at 15 minutes : | 65 m ³ |
| Total Surface Area no freeboard : | 628 m ² |
| Total Base Area : | 600 m ² |



The diagram illustrates a swale cross-section. A house is shown on the left. The swale has a freeboard of 0 mm. The batter/slope is 1 in 3. The depth of the swale is 0.106 m.

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 75 | 22 | 0 | 54 |
| 9 min. | 93 | 32 | 0 | 61 |
| 12 min. | 107 | 43 | 0 | 64 |
| 15 min. | 119 | 54 | 0 | 65 |
| 20 min. | 134 | 72 | 0 | 62 |
| 30 min. | 157 | 108 | 0 | 49 |
| 45 min. | 181 | 162 | 0 | 19 |
| 1 hour | 198 | 216 | 0 | -18 |
| 2 hours | 256 | 432 | 0 | -176 |
| 3 hours | 296 | 648 | 0 | -352 |
| 6 hours | 379 | 1,296 | 0 | -917 |
| 10 hours | 456 | 2,160 | 0 | -1,704 |
| 12 hours | 486 | 2,592 | 0 | -2,106 |
| 24 hours | 615 | 5,184 | 0 | -4,569 |
| 48 hours | 758 | 10,368 | 0 | -9,610 |
| 60 hours | 801 | 12,960 | 0 | -12,159 |
| 72 hours | 832 | 15,552 | 0 | -14,720 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

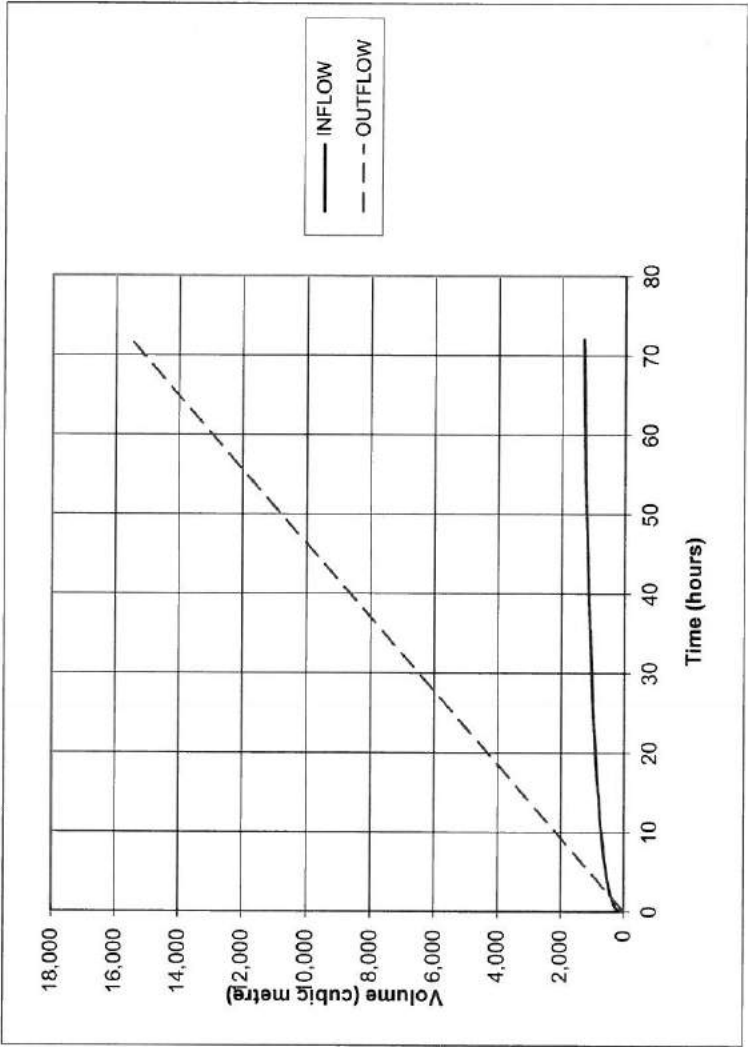
Design Rainfall Intensity

| | |
|--|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 100 year | Design Intensity  : 5.6 mm/hr |

| | |
|--|--|
| Catchment Details | Soil Characteristics |
| Catchment Area : 9,028 m ² | Infiltration Rate : 0.0001 m/s → 0.06 m ³ /s (Total Soakage) |
| Run-off Coefficient : 0.80 | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 11.2 L/s | |

| | |
|---|---|
| Storage Details | Volume Required at 24 minutes : 159 m ³ |
| Total Surface Area no freeboard : 667 m ² | Freeboard : 0 mm |
| Total Base Area : 600 m ² | Batter/Slope : 1 in 3 |
| | Depth : 0.251 m |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 133 | 22 | 0 | 111 |
| 9 min. | 163 | 32 | 0 | 131 |
| 12 min. | 187 | 43 | 0 | 143 |
| 15 min. | 205 | 54 | 0 | 151 |
| 20 min. | 230 | 72 | 0 | 158 |
| 30 min. | 265 | 108 | 0 | 157 |
| 45 min. | 301 | 162 | 0 | 139 |
| 1 hour | 326 | 216 | 0 | 110 |
| 2 hours | 417 | 432 | 0 | -15 |
| 3 hours | 478 | 648 | 0 | -170 |
| 6 hours | 604 | 1,296 | 0 | -692 |
| 10 hours | 718 | 2,160 | 0 | -1,442 |
| 12 hours | 764 | 2,592 | 0 | -1,828 |
| 24 hours | 968 | 5,184 | 0 | -4,216 |
| 48 hours | 1,193 | 10,368 | 0 | -9,175 |
| 60 hours | 1,260 | 12,960 | 0 | -11,700 |
| 72 hours | 1,310 | 15,552 | 0 | -14,242 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

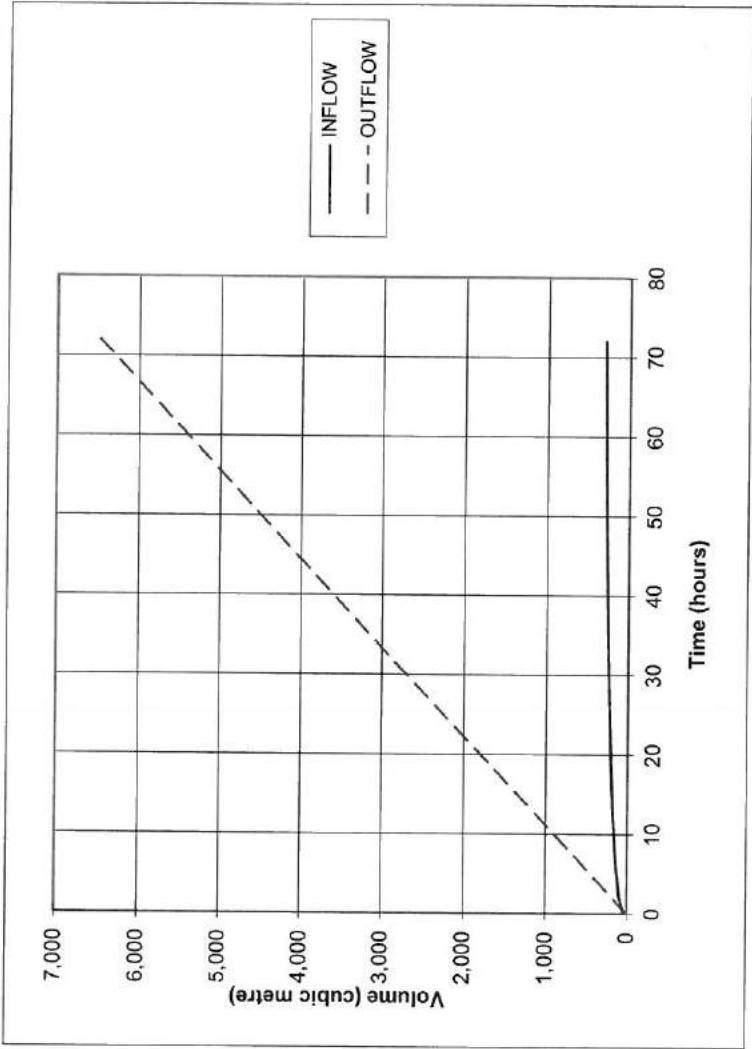
Design Rainfall Intensity

| | |
|---|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 1 year | Design Intensity  : 2.0 mm/hr |

| | |
|--|---|
| Catchment Details | Soil Characteristics |
| Catchment Area : 5,737 m ² Run-off Coefficient : 0.80 Flow Rate : 2.6 L/s | Infiltration Rate : 0.0001 m/s → 0.025 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |

| | |
|---|--|
| Storage Details | Outflow Details |
| Volume Required : 16 m ³ at 11 minutes Total Surface Area : 261 m ² no freeboard Total Base Area : 250 m ² | Freeboard : 0 mm Batter/Slope : 1 in 3 Depth : 0.063 m |

PERITAS CIVIL PTY LTD





| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 23 | 9 | 0 | 14 |
| 9 min. | 29 | 14 | 0 | 16 |
| 12 min. | 34 | 18 | 0 | 16 |
| 15 min. | 38 | 23 | 0 | 16 |
| 20 min. | 44 | 30 | 0 | 14 |
| 30 min. | 52 | 45 | 0 | 7 |
| 45 min. | 61 | 68 | 0 | -7 |
| 1 hour | 67 | 90 | 0 | -23 |
| 2 hours | 88 | 180 | 0 | -92 |
| 3 hours | 103 | 270 | 0 | -167 |
| 6 hours | 134 | 540 | 0 | -406 |
| 10 hours | 164 | 900 | 0 | -736 |
| 12 hours | 175 | 1,080 | 0 | -905 |
| 24 hours | 221 | 2,160 | 0 | -1,939 |
| 48 hours | 272 | 4,320 | 0 | -4,048 |
| 60 hours | 288 | 5,400 | 0 | -5,112 |
| 72 hours | 299 | 6,480 | 0 | -6,181 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

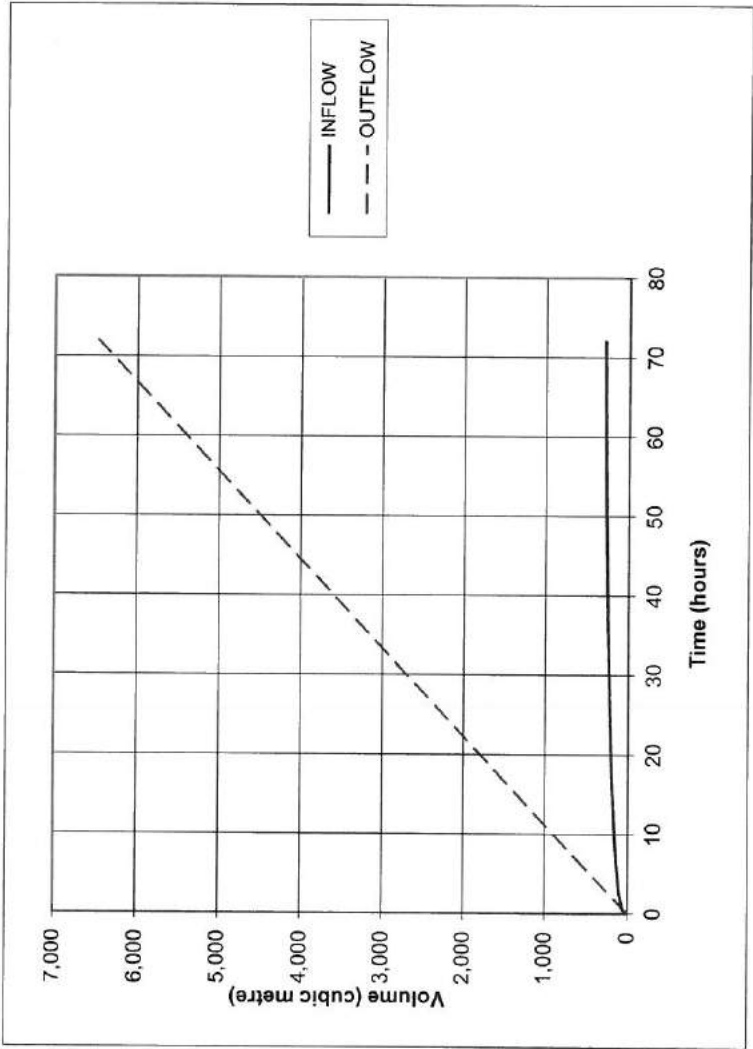
Design Rainfall Intensity

| | | | |
|--|--|-------------------------------------|--|
| Location :  : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event :  : 10 year | | Design Intensity : 3.5 mm/hr | |

| | | | |
|--|---|---|--|
| Catchment Details | | Outflow Details | |
| Catchment Area : 3,187 m ² | Soil Characteristics : Fine Sand | Infiltration Rate : 0.0001 m/s → 0.025 m ³ /s (Total Soakage) | Additional Outlet : 0.000 m ³ /s |
| Run-off Coefficient : 0.80 | Flow Rate : 2.5 L/s | | |

| | |
|--|------------------------------|
| Storage Details | |
| Volume Required at 12 minutes : 20 m ³ | Freeboard : 0 mm |
| Total Surface Area : 263 m ² no freeboard | Batter/Slope : 1 in 3 |
| Total Base Area : 250 m ² | Depth : 0.078 m |

PERITAS CIVIL PTY LTD







| TIME | INFLOW m ³ | OUTFLOW | | STORAGE m ³ |
|----------|--------------------------|--|---------------------------------------|---------------------------|
| | | Ground Infiltration m ³ | Allowable Outlet m ³ | |
| 6 min. | 27 | 9 | 0 | 18 |
| 9 min. | 33 | 14 | 0 | 19 |
| 12 min. | 38 | 18 | 0 | 20 |
| 15 min. | 42 | 23 | 0 | 19 |
| 20 min. | 47 | 30 | 0 | 17 |
| 30 min. | 55 | 45 | 0 | 10 |
| 45 min. | 64 | 68 | 0 | -4 |
| 1 hour | 70 | 90 | 0 | -20 |
| 2 hours | 90 | 180 | 0 | -90 |
| 3 hours | 105 | 270 | 0 | -165 |
| 6 hours | 134 | 540 | 0 | -406 |
| 10 hours | 161 | 900 | 0 | -739 |
| 12 hours | 171 | 1,080 | 0 | -909 |
| 24 hours | 217 | 2,160 | 0 | -1,943 |
| 48 hours | 268 | 4,320 | 0 | -4,052 |
| 60 hours | 283 | 5,400 | 0 | -5,117 |
| 72 hours | 294 | 6,480 | 0 | -6,186 |

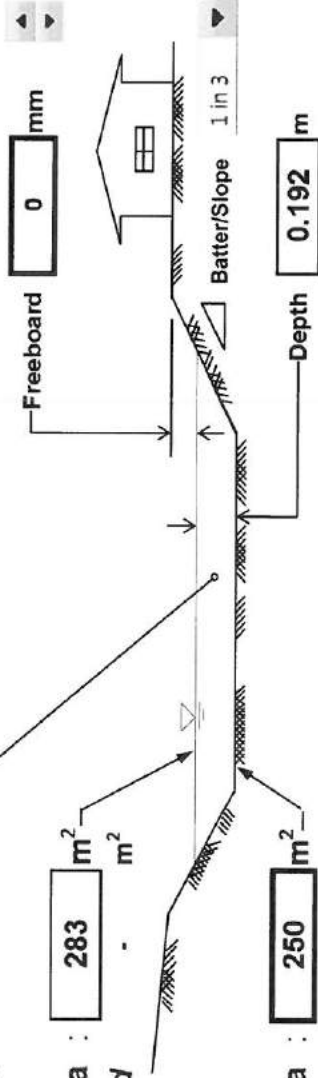
SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

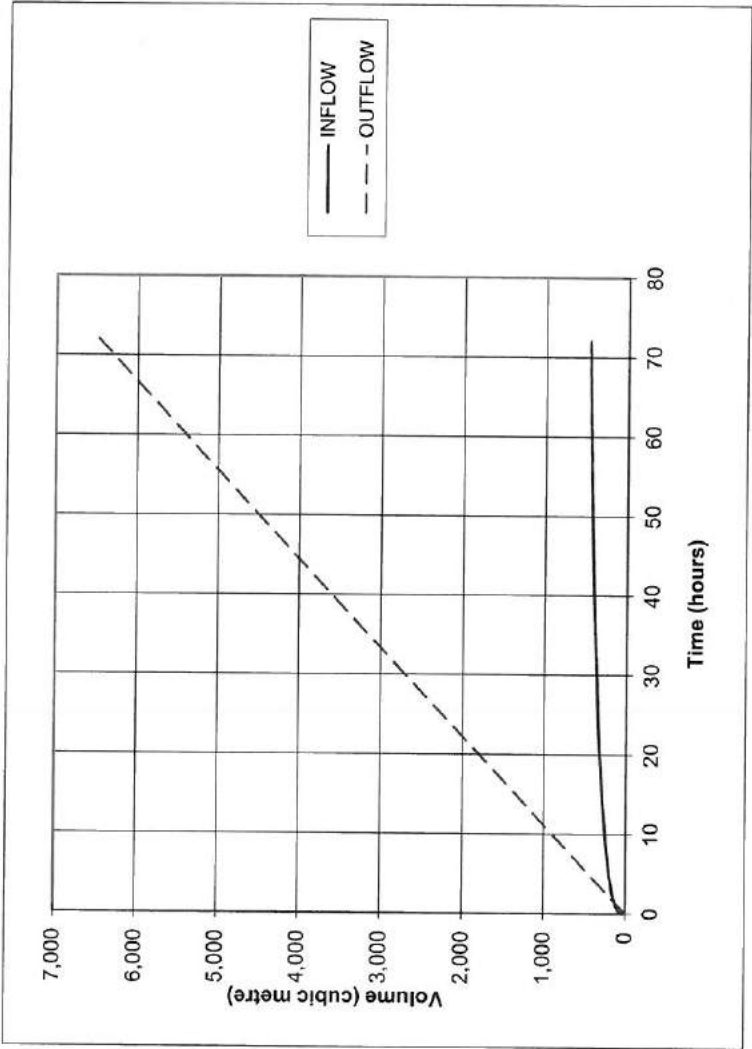
Design Rainfall Intensity

| | |
|--|--|
| Location  : CHITTERING | Storm Duration  : 24 hours |
| Storm Event  : 100 year | Design Intensity  : 5.6 mm/hr |

| | |
|---|--|
| Catchment Details Catchment Area : 3,187 m ² Run-off Coefficient : 0.80 Flow Rate : 4.0 L/s | Soil Characteristics Infiltration Rate : 0.0001 m/s → 0.025 m ³ /s (Total Soakage) Additional Outlet : 0.000 m ³ /s |
|---|--|

| | |
|--|--|
| Storage Details Volume Required at 21 minutes : 51 m ³ Total Surface Area no freeboard : 283 m ² Total Base Area : 250 m ² |  |
|--|--|

PERITAS CIVIL PTY LTD







| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 47 | 9 | 0 | 38 |
| 9 min. | 58 | 14 | 0 | 44 |
| 12 min. | 66 | 18 | 0 | 48 |
| 15 min. | 72 | 23 | 0 | 50 |
| 20 min. | 81 | 30 | 0 | 51 |
| 30 min. | 94 | 45 | 0 | 49 |
| 45 min. | 106 | 68 | 0 | 39 |
| 1 hour | 115 | 90 | 0 | 25 |
| 2 hours | 147 | 180 | 0 | -33 |
| 3 hours | 169 | 270 | 0 | -101 |
| 6 hours | 213 | 540 | 0 | -327 |
| 10 hours | 253 | 900 | 0 | -647 |
| 12 hours | 270 | 1,080 | 0 | -810 |
| 24 hours | 342 | 2,160 | 0 | -1,818 |
| 48 hours | 421 | 4,320 | 0 | -3,899 |
| 60 hours | 445 | 5,400 | 0 | -4,955 |
| 72 hours | 463 | 6,480 | 0 | -6,017 |

SUMP/SWALE VOLUME CALCULATOR

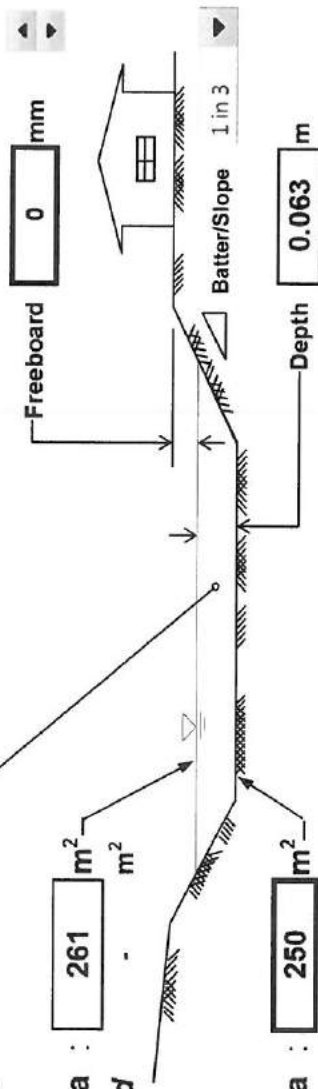
Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

| | | | |
|--|--|--|--|
| Location  : CHITTING | | Storm Duration  : 24 hours | |
| Storm Event  : 1 year | | Design Intensity  : 2.0 mm/hr | |

| | | | |
|--------------------------|----------------------|-----------------------------|--|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : | 5,737 m ² | Infiltration Rate : | 0.0001 m/s → 0.025 m ³ /s (Total Soakage) |
| Run-off Coefficient : | 0.80 | Additional Outlet : | 0.000 m ³ /s |
| Flow Rate : | 2.6 L/s | | |

| | |
|-----------------------------------|--------------------|
| Storage Details | |
| Volume Required at 11 minutes : | 16 m ³ |
| Total Surface Area : no freeboard | 261 m ² |
| Total Base Area : | 250 m ² |

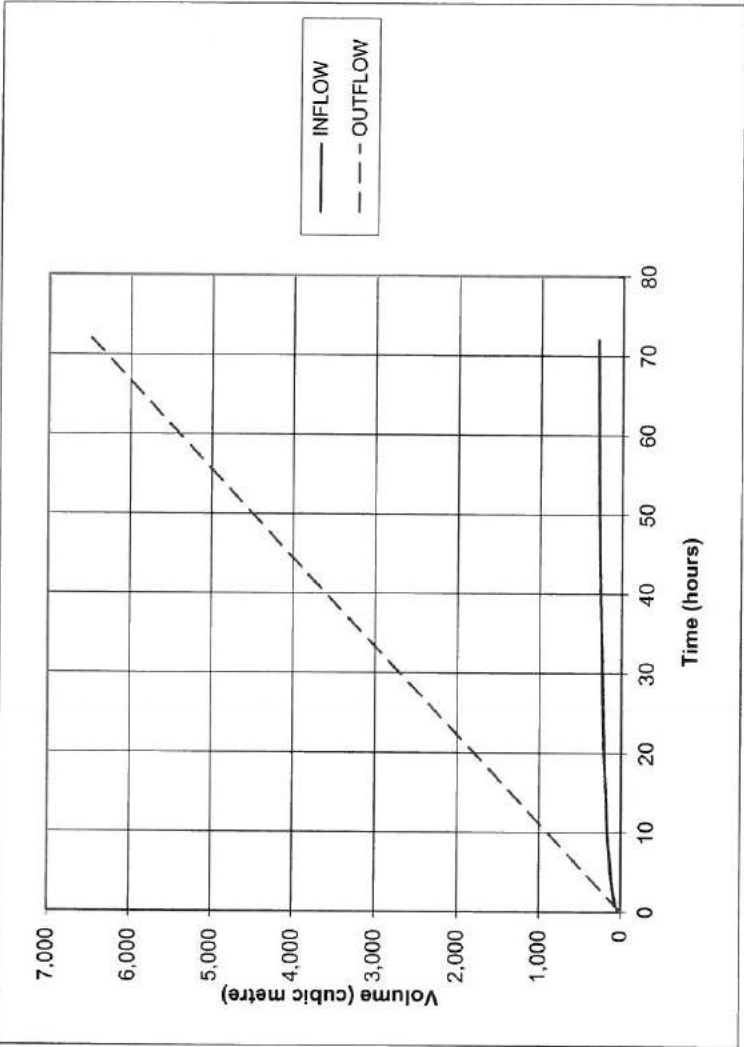


Freeboard : 0 mm

Batter/Slope : 1 in 3

Depth : 0.063 m

PERITAS CIVIL PTY LTD



| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|---------------------------|------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 23 | 9 | 0 | 14 |
| 9 min. | 29 | 14 | 0 | 16 |
| 12 min. | 34 | 18 | 0 | 16 |
| 15 min. | 38 | 23 | 0 | 16 |
| 20 min. | 44 | 30 | 0 | 14 |
| 30 min. | 52 | 45 | 0 | 7 |
| 45 min. | 61 | 68 | 0 | -7 |
| 1 hour | 67 | 90 | 0 | -23 |
| 2 hours | 88 | 180 | 0 | -92 |
| 3 hours | 103 | 270 | 0 | -167 |
| 6 hours | 134 | 540 | 0 | -406 |
| 10 hours | 164 | 900 | 0 | -736 |
| 12 hours | 175 | 1,080 | 0 | -905 |
| 24 hours | 221 | 2,160 | 0 | -1,939 |
| 48 hours | 272 | 4,320 | 0 | -4,048 |
| 60 hours | 288 | 5,400 | 0 | -5,112 |
| 72 hours | 299 | 6,480 | 0 | -6,181 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

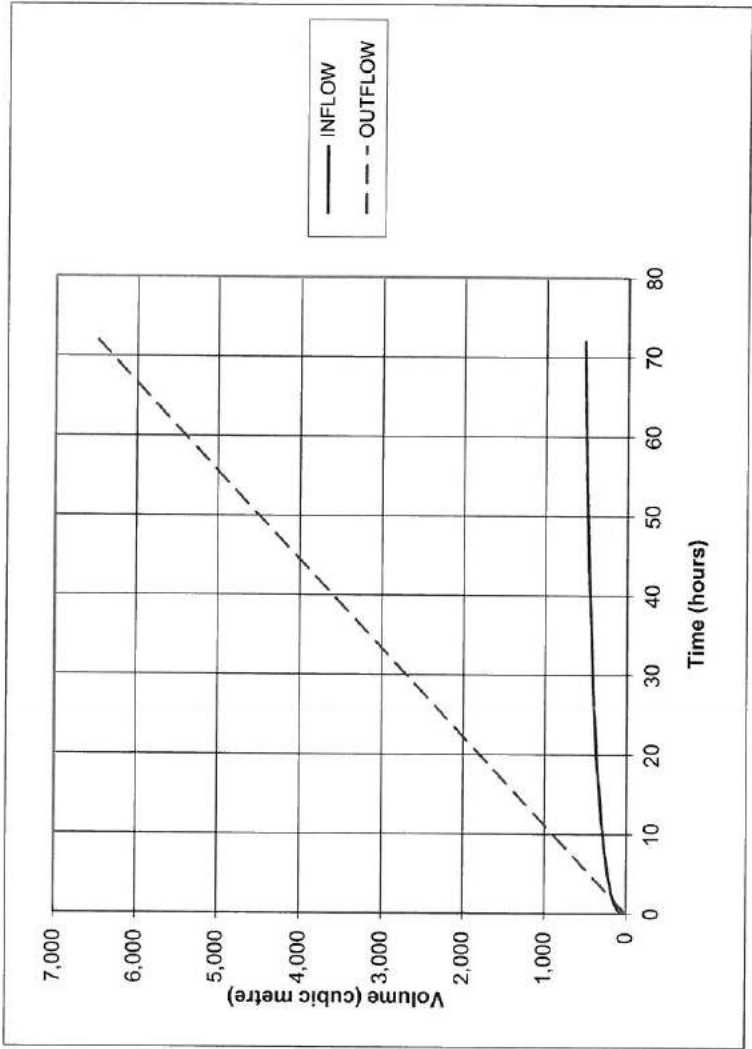
Design Rainfall Intensity

| | | | |
|------------------------------|--|-------------------------------------|--|
| Location : CHITTING | | Storm Duration : 24 hours | |
| Storm Event : 10 year | | Design Intensity : 3.5 mm/hr | |

| | | | |
|--|-----------------------------------|---|--|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : 5,737 m ² | Run-off Coefficient : 0.80 | Infiltration Rate : 0.0001 m/s → 0.025 m ³ /s (Total Soakage) | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 4.5 L/s | | | |

| | |
|---|------------------------------|
| Storage Details | |
| Volume Required at 24 minutes : 56 m ³ | Freeboard : 0 mm |
| Total Surface Area no freeboard : 286 m ² | Batter/Slope : 1 in 3 |
| Total Base Area : 250 m ² | Depth : 0.208 m |

PERITAS CIVIL PTY LTD



| TIME | INFLOW m³ | OUTFLOW | | STORAGE m³ |
|----------|--------------|------------------------------|---------------------------|---------------|
| | | Ground Infiltration m³ | Allowable Outlet m³ | |
| 6 min. | 48 | 9 | 0 | 39 |
| 9 min. | 59 | 14 | 0 | 46 |
| 12 min. | 68 | 18 | 0 | 50 |
| 15 min. | 76 | 23 | 0 | 53 |
| 20 min. | 85 | 30 | 0 | 55 |
| 30 min. | 100 | 45 | 0 | 55 |
| 45 min. | 115 | 68 | 0 | 47 |
| 1 hour | 126 | 90 | 0 | 36 |
| 2 hours | 163 | 180 | 0 | -17 |
| 3 hours | 188 | 270 | 0 | -82 |
| 6 hours | 241 | 540 | 0 | -299 |
| 10 hours | 290 | 900 | 0 | -610 |
| 12 hours | 309 | 1,080 | 0 | -771 |
| 24 hours | 391 | 2,160 | 0 | -1,769 |
| 48 hours | 482 | 4,320 | 0 | -3,838 |
| 60 hours | 509 | 5,400 | 0 | -4,891 |
| 72 hours | 529 | 6,480 | 0 | -5,951 |

SUMP/SWALE VOLUME CALCULATOR

Based on Rational Method - 2001 Australian Rainfall and Runoff

Design Rainfall Intensity

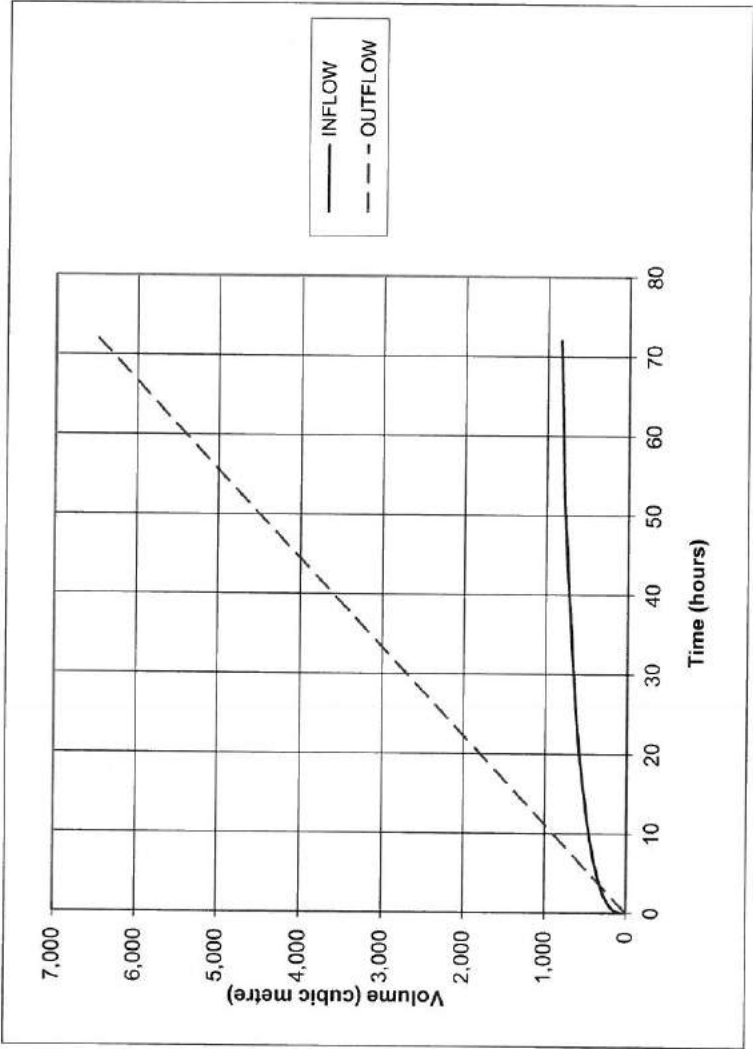
| | | | |
|-------------------------------|--|-------------------------------------|--|
| Location : CHITTERING | | Storm Duration : 24 hours | |
| Storm Event : 100 year | | Design Intensity : 5.6 mm/hr | |

| | | | |
|--|-----------------------------------|---|--|
| Catchment Details | | Soil Characteristics | |
| Catchment Area : 5,737 m ² | Run-off Coefficient : 0.80 | Infiltration Rate : 0.0001 m/s → 0.025 m ³ /s (Total Soakage) | Additional Outlet : 0.000 m ³ /s |
| Flow Rate : 7.1 L/s | | | |

| | |
|---|------------------------------|
| Storage Details | |
| Volume Required at 37 minutes : 125 m ³ | Freeboard : 0 mm |
| Total Surface Area no freeboard : 328 m ² | Batter/Slope : 1 in 3 |
| Total Base Area : 250 m ² | Depth : 0.431 m |

PERITAS CIVIL PTY LTD

| TIME | INFLOW | OUTFLOW | | STORAGE |
|----------|----------------|---------------------|------------------|----------------|
| | | Ground Infiltration | Allowable Outlet | |
| | m ³ | m ³ | m ³ | m ³ |
| 6 min. | 84 | 9 | 0 | 75 |
| 9 min. | 104 | 14 | 0 | 90 |
| 12 min. | 119 | 18 | 0 | 101 |
| 15 min. | 130 | 23 | 0 | 108 |
| 20 min. | 146 | 30 | 0 | 116 |
| 30 min. | 168 | 45 | 0 | 123 |
| 45 min. | 191 | 68 | 0 | 124 |
| 1 hour | 207 | 90 | 0 | 117 |
| 2 hours | 265 | 180 | 0 | 85 |
| 3 hours | 304 | 270 | 0 | 34 |
| 6 hours | 384 | 540 | 0 | -156 |
| 10 hours | 456 | 900 | 0 | -444 |
| 12 hours | 486 | 1,080 | 0 | -594 |
| 24 hours | 615 | 2,160 | 0 | -1,545 |
| 48 hours | 758 | 4,320 | 0 | -3,562 |
| 60 hours | 801 | 5,400 | 0 | -4,599 |
| 72 hours | 833 | 6,480 | 0 | -5,647 |



Appendix 3 – Photos

The following pages contain photos taken on site during our inspection on the 25 September 2015.

| | |
|--|----------------------------|
|  | <p><u>Photograph 1</u></p> |
|  | <p><u>Photograph 2</u></p> |
|  | <p><u>Photograph 3</u></p> |



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



Photograph 15



Photograph 16



Photograph 17



Photograph 18



Photograph 19



Photograph 20



Photograph 21



Photograph 22



Photograph 23



Photograph 24



Photograph 25



Photograph 26



Photograph 27



Photograph 28



Photograph 29



Photograph 30



Keeping the Balance

OUR REF: DL: HL: 10.9.10 12/00
Enquiries to: David Lawn, Shire Planner

8 June, 2000

The Manager
Milne Feeds Pty Ltd
103 -105 Welshpool Road
WELSHPOOL W A 6106

Attention: Andrew Forbes-Prior

Dear Sir

**LOT 6 BRAND HIGHWAY, MUCHEA
PLANNING CONSENT APPLICATION – HAY PRESSING**

I wish to advise that Council resolved to approve your application for Planning Consent to establish a hay pressing business on Lot 6 Brand Highway.

In granting approval Council has applied the following conditions: -

1. **Noise and dust levels are within the criteria as required by the EPA.**
2. **Appropriate measures being taken by the applicant to contain surplus hay (and other grass seeds) from entering neighbouring properties.**
3. **If the development, the subject of the approval, is not substantially commenced within a period of 12 months from the date of the approval, the approval shall lapse. Where an approval has lapsed, no further development shall be carried out without the further approval of Council having first been first sought and obtained.**
4. **The applicant develop a Fire Management Plan for the site in conjunction with the Chief Bush Fire Control Officer and Muchea Volunteer Bush Fire Brigade.**
5. **No discharges either into the air or onto the land from the operation.**
6. **Electricity is used to power the presses."**

A copy of Council's resolution is attached.

Once Council has received a copy of your Fire Management Plan appropriately endorsed by the Chief Fire Control Officer and the Muchea Volunteer Bush Fire Brigade, Council will issue you with your Planning Consent Approval Schedule.

If you require further information please contact Council's Planning Department by email on helen@chittering.wa.gov.au or telephone 08 95761044.

Yours faithfully



Ray Hooper
CHIEF EXECUTIVE OFFICER

Enc: Council Report

6.4.6 Planning Consent Application - Hay Processing (10.9.10 12/00)

| | |
|-------------------------|---------------------------------|
| DATE: | 23 May 2000 |
| LOCATION/ADDRESS: | Lot 6 Brand Highway Muchea |
| APPLICANT: | Milne Feeds Pty Ltd |
| OWNER: | Black Granite Pty Ltd |
| AUTHOR: | David Lawn, Shire Planner |
| DISCLOSURE OF INTEREST: | No |
| APPENDICES: | Letter from Applicant and Owner |
| DOCUMENTS TABLED: | Nil |

PRECIS:

Application to operate a Hay Processing Plant Lot 6 Brand Highway Muchea.

Comment/Background:

The applicant, Milne Feeds Pty Ltd, has made arrangement with Black Granite Pty Ltd, to seek approval for a hay processing plant on the premises. A lease will be formalised upon Black Granite obtaining consent for this use.

Zoning Compliance

The land is zoned Rural-General Farming Zone which allows rural industry as a Planning Consent. The hay processing operation fits into this category.

The consent of the rural industry does not affect the existing Special Use for Australian International Carbon.

Details:

| | |
|------------------------------|------------------------------|
| Zoning: | Rural 2 General Farming Zone |
| Policy Area: | Ellen Brook Catchment |
| Land Use: | Rural Industry |
| Lot Size: | NA |
| Area: | NA |
| Use Class: | Rural |
| No. of lots Proposed: | NA |

Statutory Environment:

Scheme compliant.

Policy Implication:

Compliant.

Strategic Implications:

Fits well with Ellen Brook Management Plan.

Financial Implications:

Standard Planning Consent Fee \$50.00

STAFF RECOMMENDATION

"That the application for Planning Consent for the Hay Processing Plant, by Milne Feeds Pty Ltd, on Lot 6 Brand Highway Muchea be approved with the following conditions:

- 1. Noise levels are within the criteria as required by the EPA.*
- 2. Appropriate measures being taken by the applicant to contain surplus hay (and other grass seeds) from entering neighbouring properties.*
- 3. If the development, the subject of the approval, is not substantially commenced within a period of 12 months from the date of the approval, the approval shall lapse. Where an approval has lapsed, no further development shall be carried out without the further approval of Council having first been first sought and obtained."*

180600

Moved Cr Bush/Seconded Cr Douglas

"That the application for Planning Consent for the Hay Processing Plant, by Milne Feeds Pty Ltd, on Lot 6 Brand Highway Muchea be approved as a hay pressing plant only with the following conditions:

- 1. Noise and dust levels are within the criteria as required by the EPA.***
- 2. Appropriate measures being taken by the applicant to contain surplus hay (and other grass seeds) from entering neighbouring properties.***
- 3. If the development, the subject of the approval, is not substantially commenced within a period of 12 months from the date of the approval, the approval shall lapse. Where an approval has lapsed, no further development shall be carried out without the further approval of Council having first been first sought and obtained.***
- 4. The applicant develop a Fire Management Plan for the site in conjunction with the Chief Bush Fire Control Officer and Muchea Volunteer Bush Fire Brigade.***
- 5. No discharges either into the air or onto the land from the operation.***
- 6. Electricity is used to power the presses."***

CARRIED [6 – 0]

ABSOLUTE MAJORITY REQUIRED: No

The resolution varied from the staff recommendation to ensure the application was only for a hay 'pressing' plant not hay 'processing' plant and to ensure that appropriate conditions were in place for the plant operations.

Appendix 6.4.6

BLACK GRANITE PTY LTD

ACN 009 144 816

Ref: 3378

11 May 2000

Shire of Chittering
PO Box 70
Bindoon WA 6502

Attention: Mr. David Lawn

Dear Sir,

Re: Lot 6 Brand Highway, Muchea.

We confirm that we have negotiated with Milne Feeds Pty Ltd, to lease to them part of the above property.

This negotiation is subject to a number of conditions, foremost of which is the Shire of Chittering approving of the proposed use.

The land is currently zoned Rural, with an approved Special Use of Industry-Carbon Products processing and associated uses.

Prior to 1999 the special use was Industry-Masonry Preparation.

Milne Feed's proposed use will still be industrial in nature but will involve the processing of hay and other agricultural products.

As the registered proprietor of the land, we hereby support Milne Feeds application for a change in use to "Industry-Hay Processing and associated uses".

Yours faithfully,

MJ. Oosterhof
Director

Suite 2, Majestic Rise, Cnr Kintail Road & Moreau Mews, Applecross, Western Australia
PO BOX 1065, Canning Bridge, Western Australia 6153
Telephone (08) 9316 1000 - Facsimile (08) 9316 0999

| |
|--|
| SHIRE OF CHITTERING RECEIVED 12 MAY 2000 |
| Officer DL |
| File 10.9.10 12/00 |
| Presented to Council:- |
| Date |
| Signature |

FAX TRANSMITTAL FORM

Date: 14 February 2000
 To: Mr David Lawn
 Company: Shire of Chittering
 Fax Number: 08 9576 1250
 From: Andrew J. Forbes-Pryer
 Subject: Hay Operations
 No of Pages: Two (Including This Page)

Time: 11:36am/pm

18 MAY 2000

DL

10.9.10

Dear David,

Thankyou for your time today, as discussed please find below an operational overview our Hay pressing operation.

The operation has been certified as compliant with the SQF2000 quality system and is constantly independently audited to ensure compliance.

The majority of our exports go to Japan, with developing markets in Korea, Malaysia and the middle east. Annual tonnage is approximately 35,000 tones of oaten hay.

The Hay plant employs a manager, clerk, engineer and twelve process workers. The process workers are all skilled to various levels.

Operational flow.

1. Hay is contracted under the supervision of our management who assists the farmer with crop selection planting times etc.
2. Crops are constantly monitored, cutting and baling is carried under our supervision to ensure that the highest quality standards are achieved.
3. Baled hay is core sampled by paddock number and scientifically tested for moisture, rye grass toxicity, and a range of other tests to determine its final grading.
4. Oaten hay is then graded; there are three grades with traditionally over 80% of our final purchases being premium grade. This can change depending on climatic conditions.
5. The majority of our Japanese customers travel to Australia to select their hay which is then reserved for their exclusive use.

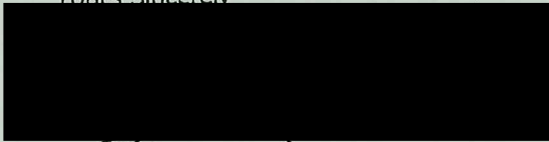
6. Depending on our customer requirements, the hay is then shipped to our pressing facility when it is again tested for moisture, any tests that exceed 12% result in the hay being rejected and returned to the farmer.
7. The Hay is stored in a shed to prevent any rain damage.
8. The baling operation does not use any additives or chemicals; It is simply a compressing operation where the 600kg bales are pressed into 40Kg cubes which are then loaded directly into 40 ft containers. The average tonnage per container is 25.76 tonnes.
9. The pressing operation generates a small amount of surplus hay. This hay is accumulated and collected by various horticultural organizations (Soils ain't Soils etc) where it is used to manufacture mulches
10. There are no discharges either into the air or onto the land from the operation.
11. There is no use of water in the pressing operation.
12. Electricity is used to power the presses.

David as I have explained the operation is inherently a simple one with no dangerous side effects or threats to the environment. WE envisage that the operation will continue to grow with the strong possibility that we will install another press in the future to handle a growing demand for larger bales which are used as raw materials in fibre deficient counties such as the middle east.

Should you require any amplification on the operational points outlined above please do not hesitate to contact me.

I look forward to a long association with the "Shire of Chittering" to our mutual benefit.

Yours Sincerely


Andrew J Forbes-Pryer,

MILNE FEEDS PTY LTD
A.C.N. 008 919 579



MINUTES OF THE ORDINARY MEETING OF COUNCIL
WEDNESDAY, 18 JULY 2012

9.1.3 Proposed Change of Use (Transport Depot) – Lot 6 (RN 290) Brand Highway, Muchea*

| | |
|----------------------------|---|
| Applicant | Brand Highway Pty Ltd |
| File ref | A3028 |
| Prepared by | Scott Penfold, Planning Officer |
| Supervised by | Azhar Awang, Executive Manager Development Services |
| Voting requirements | Simple Majority |
| Documents tabled | Nil |

| | |
|--------------------|---|
| Attachments | 1. Locality Plan 2. Site Plan and Applicants Submission 3. Site Photographs 4. Schedule of Submissions |
|--------------------|---|

COUNCIL RESOLUTION - 050712

Moved Cr Hawes / Seconded Cr Norton

That Council:

1. support the proposed transport depot at Lot 6 (RN 290) Brand Highway, Muchea, subject to the following condition:
 - (a) Approval being sought from Main Roads Western Australia and the Public Transport Authority for the proposed access to the Transport Depot and evidence of these approvals being provided to the Shire of Chittering.
2. upon completion of the above, delegates authority to the Chief Executive Officer to issue Planning Approval for the proposed transport depot at Lot 6 (RN290) Brand Highway, Muchea, subject to the following conditions and providing the following advice notes:
 - (a) The proposed railway crossing and intersection with Brand Highway to be designed and constructed in accordance with the engineering specifications of Main Roads Western Australia and the Public Transport Authority.
 - (b) Railway Road being constructed to the engineering specifications of the Shire of Chittering and the satisfaction of the Chief Executive Officer.
 - (c) A Traffic Management Plan, incorporating the potential number of vehicles and including hours of operation, being prepared, approved and implemented for the site by the Applicant to the satisfaction of the Chief Executive Officer.
 - (d) Short Term Laydown Zone and Transport Depot areas to be adequately filled, sealed and drained to minimise the impact dust on the surrounding properties be bunded and drained to catch hydrocarbons, to the satisfaction of the Chief Executive Officer.
 - (e) Short Term Laydown Zone and Transport Depot areas are to be setback 30m from lot boundaries and 100m from Brand Highway.
 - (f) The Applicant must obtain appropriate permits from Main Roads Western Australia for heavy haulage vehicle usage on all of the proposed access roads in the Restricted Access Vehicles network. The Applicant must apply in writing to the Shire of Chittering if they require use of Shire roads not on the Restricted Access Vehicle network.
 - (g) Evidence is provided to Council to the satisfaction of the Chief Executive Officer that the Transport Depot is located a minimum distance of 200m from all surrounding residences and sensitive land uses.



**MINUTES OF THE ORDINARY MEETING OF COUNCIL
WEDNESDAY, 18 JULY 2012**

- (h) Provision of satisfactory screening along the property boundaries to the satisfaction of the Chief Executive Officer within a period of twelve (12) months.
- (i) Satisfactory screening is implemented within the Railway Road, road reserve to provide screening for the existing Hay Australia use on the subject site to Brand Highway.
- (j) The proposed Landscaped Stormwater Runoff Purification Swale to include a Hydrocarbon Separator and a Nutrient Stripping Pond and to be constructed to the engineering requirements of the Shire of Chittering.
- (k) The provision of bunded wash down facilities, with stormwater and hard-stand water to be directed to a revegetated swale drain, to minimise the impact of any spills resulting from on-site servicing of vehicles and equipment.
- (l) The development shall comply with the *Environmental Protection (Noise) Regulations 1997*.
- (m) Off-vehicle storage of any products being transported is not permitted anywhere on site.
- (n) Any servicing of plant and equipment shall be carried out within a confined concrete floor area such as a shed, and such area shall have sufficient bunding and spill trays to minimise the impact from any spills as a result of onsite servicing.
- (o) Any further developments on site shall be the subject of subsequent planning applications/approvals.
- (p) If the development (the subject of this approval) is not substantially commenced within a period of two (2) years, or such other period as specified in the approval after the date of the determination, the approval shall lapse and be of no further effect.
- (q) Where an approval has so lapsed, no development shall be carried out without the further approval of the local government having first been sought and obtained.

Advice Notes

1. With regard to Conditions 2(c), (d), (e), (g), (k) and (l), the Applicant should contact the Shire's Engineering Department to obtain specifications and standards required for this site.
2. With regard to Conditions 2(i), (j), vegetation is to be maintained for a period of two summers from the implementation of the approval.
3. With regard to Conditions 2(i), (j), the Applicant is to liaise with Chittering Landcare regarding the species and distribution of planting.
4. This approval does not include the proposed Truck Maintenance Workshop, Warehouse or Administration Office shown on the Overall Site Plan, nor any other buildings on the site. A separate Application for Planning Approval will be required for any proposed buildings or additional land uses.
5. The Applicant has a right of review to the State Administrative Tribunal should the applicant be aggrieved by Council's decision. Such a review should be lodged to the State Administrative Tribunal Office within twenty-eight (28) days of Council's decision.

THE SUBSTANTIVE MOTION WAS PUT AND DECLARED CARRIED 5/0



MINUTES OF THE ORDINARY MEETING OF COUNCIL
WEDNESDAY, 18 JULY 2012

OFFICER RECOMMENDATION

Moved Cr Hawes / Seconded Cr Norton

That Council:

1. support the proposed transport depot at Lot 6 (RN 290) Brand Highway, Muchea, subject to the following condition:
 - (a) Approval being sought from Main Roads Western Australia and the Public Transport Authority for the proposed access to the Transport Depot and evidence of these approvals being provided to the Shire of Chittering.
2. upon completion of the above, delegates authority to the Chief Executive Officer to issue Planning Approval for the proposed transport depot at Lot 6 (RN290) Brand Highway, Muchea, subject to the following conditions and providing the following advice notes:
 - (a) The proposed railway crossing and intersection with Brand Highway to be designed and constructed in accordance with the engineering specifications of Main Roads Western Australia and the Public Transport Authority.
 - (b) Railway Road being constructed to the engineering specifications of the Shire of Chittering and the satisfaction of the Chief Executive Officer.
 - (c) A Traffic Management Plan being prepared, approved and implemented for the site by the Applicant to the satisfaction of the Chief Executive Officer.
 - (d) Short Term Laydown Zone and Transport Depot areas to be adequately filled, sealed and drained to minimise the impact dust on the surrounding properties to the satisfaction of the Chief Executive Officer.
 - (e) Short Term Laydown Zone and Transport Depot areas are to be setback 30m from lot boundaries and 100m from Brand Highway.
 - (f) The Applicant must obtain appropriate permits from Main Roads Western Australia for heavy haulage vehicle usage on all of the proposed access roads in the Restricted Access Vehicles network. The Applicant must apply in writing to the Shire of Chittering if they require use of Shire roads not on the Restricted Access Vehicle network.
 - (g) Evidence is provided to Council to the satisfaction of the Chief Executive Officer that the Transport Depot is located a minimum distance of 200m from all surrounding residences and sensitive land uses.
 - (h) Provision of satisfactory screening to a width of 30m along the property boundaries to the satisfaction of the Chief Executive Officer.
 - (i) Satisfactory screening is implemented within the Railway Road, road reserve to provide screening for the existing Hay Australia use on the subject site to Brand Highway.
 - (j) The proposed Landscaped Stormwater Runoff Purification Swale to include a Hydrocarbon/Nutrient Stripping Pond and to be constructed to the engineering requirements of the Shire of Chittering.
 - (k) The provision of wash down facilities, with stormwater and hard-stand water to be directed to a revegetated swale drain, to minimise the impact of any spills resulting from on-site servicing of vehicles and equipment.
 - (l) The development shall comply with the *Environmental Protection (Noise) Regulations 1997*.
 - (m) Storage of any products being transported is not permitted anywhere on site.
 - (n) Any servicing of plant and equipment shall be carried out within a confined concrete floor area such as a shed, and such area shall have sufficient bunding and spill trays to minimise the impact from any spills as a result of onsite servicing.
 - (o) Any further developments on site shall be the subject of subsequent planning applications/approvals.
 - (p) If the development (the subject of this approval) is not substantially commenced within a period of two (2) years, or such other period as specified in the approval after the date of the determination, the approval shall lapse and be of no further effect.



**MINUTES OF THE ORDINARY MEETING OF COUNCIL
WEDNESDAY, 18 JULY 2012**

- (q) Where an approval has so lapsed, no development shall be carried out without the further approval of the local government having first been sought and obtained.

Advice Notes

1. With regard to Conditions 2(c), (d), (e), (g), (k) and (l), the Applicant should contact the Shire's Engineering Department to obtain specifications and standards required for this site.
2. With regard to Conditions 2(i), (j), vegetation is to be maintained for a period of two summers from the implementation of the approval.
3. With regard to Conditions 2(i), (j), the Applicant is to liaise with Chittering Landcare regarding the species and distribution of planting.
4. This approval does not include the proposed Truck Maintenance Workshop, Warehouse or Administration Office shown on the Overall Site Plan, nor any other buildings on the site. A separate Application for Planning Approval will be required for any proposed buildings or additional land uses.
5. The Applicant has a right of review to the State Administrative Tribunal should the applicant be aggrieved by Council's decision. Such a review should be lodged to the State Administrative Tribunal Office within twenty-eight (28) days of Council's decision.

AMENDMENT

Moved Cr Norton / seconded Cr Mackie

That condition (j) be amended by separating the words '*Hydrocarbon/Nutrient*' so that it reads '*Hydrocarbon Separator and a Nutrient Stripping Pond*'.

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**

AMENDMENT

Moved Cr Norton / seconded Cr Rossouw

That condition (k) be amended by adding the word '*bunded*' before the words '*wash down*'.

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**

AMENDMENT

Moved Cr Norton / seconded Cr Mackie

That condition (d) be amended by including the words '*be bunded and drained to catch hydrocarbons,*' after the words '*surrounding properties*'.

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**



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AMENDMENT

Moved Cr Rossouw / seconded Cr Mackie

That condition (h) be amended to read as follows:

“Provision of satisfactory screening along the property boundaries to the satisfaction of the Chief Executive Officer within a period of twelve (12) months.”

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**

AMENDMENT

Moved Cr Hawes / seconded Cr Douglas

That condition (c) be amended by including the words *‘incorporating the potential number of vehicles and including hours of operation,’* after the words *‘Traffic Management Plan’*.

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**

AMENDMENT

Moved Cr Norton / seconded Cr Rossouw

That condition (m) be amended by including the words *‘Off-vehicle’* at the beginning of the condition.

**THE AMENDMENT WAS PUT AND DECLARED CARRIED 5/0
AND FORMED PART OF THE SUBSTANTIVE MOTION**

Background

Council has received an application for planning approval with regards to a proposed Transport Depot submitted by Brand Highway Pty Ltd.

A previous approval exists for a Rural Industry (hay pressing). The approval was granted on 8 June 2000. This approval applies to approximately 3ha of the site and is located in the north western corner and used by Hay Australia Pty Ltd. A number of other approvals relate to the site and the slow expansion of the hay pressing business.

The application provides limited details as to the operations, including the types of trucks using the transport depot, hours of operation proposed and the upgrades (if any) needed to the existing access situation.

Consultation

As part of the advertisement process required under *Town Planning Scheme No 6*, clause 9.4, letters were sent to all adjoining owners requesting feedback regarding the proposal. No feedback was received from the surrounding landowners.

The proposal was also forwarded to the following referral agencies for comment:

- Main Roads Western Australia (MRWA)
- Brookfield Rail (being the lessee/operator of the railway line neighbouring the property)
- Ellen/Brockman Integrated Catchment Group.



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Following the submission of Brookfield Rail and further liaison with the applicant, the proposal was also forwarded to the Public Transport Authority for its comment, as it is the approval authority for railway crossings, whilst Brookfield Rail is the lessee of its assets.

Details of the submission responses can be found in the Schedule of Submissions attached to this report. A short summary is provided below:

MRWA commented:

- Stacking on the railway crossing is to meet the requirements of MRWA.
- The existing access is designed and upgraded to the standards of MRWA at the applicants cost.
- The approval of the West Australian rail authority is sought for the proposal.

Brookfield Rail commented:

- The existing crossing used for access to Hay Australia is a private crossing.
- A Level Crossing Agreement does not exist for the private crossing, nor would one likely be supported.
- The close proximity of the level crossing and current issues with short-stacking to Brand Highway would preclude any extended/expanded use.
- It proposed the use of Railway Road, which is an unconstructed road reserve connecting to Edwards Place, Muchea, for access to both the proposed Transport Depot and Hay Australia as a resolution to the issues with the existing access.

The Public Transport Authority commented:

- It supported Brookfield Rail's submission.
- A Level Crossing Agreement was not in place and the crossing was not included in the level crossings register of the Public Transport Authority, hence may be an unapproved private crossing.

Statutory Environment

Local: *Shire of Chittering Town Planning Scheme No.6*

The zoning of the land is '**Agricultural Resource**'. The objectives of the zone are:

- *To preserve productive land suitable for grazing, cropping and intensive horticulture and other compatible productive rural uses in a sustainable manner.*
- *To protect the landform and landscape values of the district against despoliation and land degradation.*
- *To encourage intensive agriculture and associated tourist facilities, where appropriate.*
- *To allow for the extraction of basic raw materials where it is environmentally and socially acceptable.*

The proposed land use definition under scheme is listed as Transport Depot, which under the scheme has a definition of:

"means premises used for the garaging of two (2) or more motor vehicles, used or intended to be used for carrying of goods or persons for hire or reward, or for the transfer of goods or persons, and includes maintenance and repair of the vehicles, used but not for other vehicles"

This particular use is an "A" use under the scheme which means that the use is not permitted unless the local government has exercised its discretion by granting planning approval after giving special notice in accordance with clause 9.4.



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The proposal is also identified within the Water Prone Special Control Area of the Scheme. Clause 6.3.3 outlines the Planning Requirements as outlined below:

"The Local Government will impose conditions on any Planning Approval relating to-

- a) the construction and occupation of any dwelling or outbuilding;*
- b) the type of effluent disposal system used in this area shall be high performance with bacterial or nutrient stripping capability to the specifications of Council and the Health Department and shall be located in a position determined by Council;*
- c) minimum floor levels for any building above the highest known water levels;*
- d) any land use that may contribute to the degradation of the surface or sub-surface water quality;*
- e) no development other than for conservation purposes will be permitted within 30 metres of any natural water body;*
- f) damming, draining or other development which may alter the natural flow of surface water will not be permitted unless such works are part of an approved Catchment Management Plan."*

Clause 10.2 of the Scheme outlines the matters to be considered by the local government when considering an application for planning approval. Those relevant to the current application include:

- (e) any relevant policy or strategy of the Commission and any relevant policy adopted by the Government of the State;*
- (j) the compatibility of a use or development within its setting taking into consideration any Special Control Area;*
- (m) the likely effect of the proposal on the natural environment and any means that are proposed to protect or to mitigate impacts on the natural environment;*
- (o) the preservation of the amenity of the locality;*
- (p) the relationship of the proposal to development on adjoining land or on other land in the locality including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;*
- (q) where the proposed means of access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;*
- (r) the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;*
- (w) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved; and*
- (aa) any relevant submission received from any authority consulted under Clause 10.1.1.*

An outline of how the proposal addresses/does not address the above is included within the comments section of this report.

Policy Implications

Local: *Local Planning Policy 18 – Setbacks*

Local Planning Policy No.18 outlines the required minimum setbacks for development in the Shire of Chittering. Outlined in Section 5.7 (a) of the Policy are the setbacks applicable to buildings, dams and water tanks applicable in the **'Agricultural Resource'** zone:

Highway – 100m
Major Road – 50m
Other Road – 30m
Rear – 30m
Side – 30m

State: *Environmental Protection Authority Guidance Statement No.3 – Separation Distance Between Industrial and Sensitive Land Uses*



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The above document outlines the minimum separation distances required for industrial type land uses and other land uses considered sensitive, an example being residences. The document stipulates a minimum separation distance of 200metres for a Transport Vehicles Depot.

Financial Implications

Nil

Strategic Implications

The proposed Transport Depot is not specifically identified within the *Shire of Chittering Local Planning Strategy*.

The site is not identified within the *Muchea Employment Node Structure Plan 2011*. However, the proposed Loop Road of the Structure Plan will be located adjacent to the northern boundary of the site. Whilst the site currently has good transport connectivity, this is likely to improve as a result of the construction of the Perth-Darwin National Highway.

Site Inspection

Site inspection undertaken: Yes

Triple Bottom Line Assessment

Economic Implications

If approved, the proposal has the ability to generate employment for local residents and support local businesses with transport needs.

Social Implications

Given the type of proposal, there may be on-going complaints regarding noise from the residents of Muchea Village. It is suggested that this be monitored and any complaints received as a result of the approval of the application be acted upon directly with the applicant.

Environmental Implications

There are no known significant environmental implications associated with this proposal.

Comment

This application was originally submitted for a change of land use, with the Overall Site Plan submitted at a later date as requested by the officer. With regard to the buildings shown on the Overall Site Plan, it is recommended that Council does not offer its Planning Approval for these buildings. The Applicant has advised that these buildings are indicative only and has not provided details on size, colouring or other matters to be considered by Council. These buildings are able to be approved at a later stage should Council be supportive of the change of land use proposed.

Shire of Chittering Town Planning Scheme No.6

The proposed transport depot is zoned '**Agricultural Resource**' where Transport Depot is an "A" use. Council has the ability to determine the application based on its merit and in consideration of the submissions received during the advertising period.

With regard to the matters to be considered by the Local Government, outlined in the Scheme, the following comments which correspond to Clause 10.2 of the Scheme (outlined previously):

- (e) A review was undertaken of State and Local Government Policies. Those applicable have been outlined in the planning context of this item.



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- (j) The proposal lies within the Water Prone Special Control Area of the Scheme. As such it is subject to the planning considerations within the Special Control Area. As shown on the Overall Site Plan, the applicant proposes a Landscaped Stormwater Runoff Purification Swale to be located to the eastern, northern and southern lot boundaries. It was commented by the Ellen/Brockman Integrated Catchment Group that a Hydrocarbon/Nutrient Stripping Pond is implemented to treat drainage prior to entering a swale. It is recommended that Council require this two stage approach to treating run-off to ensure groundwater is not impacted by run-off.
- (m) As previously mentioned, it is recommended that Council require the applicant to integrate the two-stage drainage treatment system recommended by Ellen/Brockman Integrated Catchment Group.
- (o) The Overall Site Plan shows landscaping/screening being implemented along the northern, southern and eastern boundaries of the proposed Transport Depot. It was recommended by Ellen/Brockman Integrated Catchment Group that replanting occur to a width of 30m. It is recommended that Council require this replanting to occur in consultation with the Ellen/Brockman Integrated Catchment Group.

Although not shown on the Site Plan, liaison with the Applicant regarding the lack of screening on the frontage of Railway Road has occurred. The Applicant has advised that this was an oversight when the plans were being prepared and is supportive of this officer recommending the planting of screening vegetation in this location. This portion of the site is visible from Brand Highway (as shown in Attachment 3).

Upon site inspection, this officer also notes that the construction of Railway Road will remove a portion of remnant vegetation screening the Hay Australia Pty Ltd (hay pressing business) from Brand Highway. It is recommended that Council require vegetation to be replanted and maintained in road verge so that screening can be restored and the visual amenity of the locality is maintained.

- (p) As outlined previously, it is not recommended that Council offer its approval for the buildings shown on the Overall Site Plan. In regard to the size/scale of the proposed Transport Depot, whilst the proposal represents a significant size, there are no guidelines or restrictions in the Scheme or from State policy that limit this. The use of Transport Depot has been permitted to be established on '**Agricultural Resource**' zoned land throughout the Shire, although not at such a large scale.
- (q) Access represents the most important issues in regards to this application. Brookfield Rail has advised that it has no record of a Level Crossing Agreement being in place for access to the property. Given that, it does not support the extended/expanded use on the property, a position that is supported by the Public Transport Authority. Furthermore, the suggestion of the use of Railway Road for access via Edwards Place is not desirable, as based on the following:
- Railway Road is unconstructed and would require construction and clearing by the applicant for 350metres for access to the proposal;
 - The intersection of Edwards Place and Brand Highway is located in close proximity to the Muchea Level Crossing. Brookfield Rail has advised this officer verbally that if this option was to be supported, it would be required for an ALCAM (Australian Level Crossing Assessment Model) to be applied. This would determine the safety of the crossing, any upgrades required and if the intersection is a safe distance to ensure safe precautions can be applied;



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- The use of Edwards Place is not supported as this is a residential road servicing a small number of properties. There is likely to be complaints arising from noise, dust and hours of operation should this road be used for access; and
- The primary reason for the location of the proposed transport depot on Brand Highway would be to support heavy haulage vehicles serving the northern regions of the state. This could be used for oversized loads, long vehicles and other vehicles not considered appropriate on such a minor road.

Mains Roads Western Australia recommended that the proposed intersection is to its specifications and commented that the West Australian Rail Authority provides its approval for the use of the level crossing.

Based on the above, it is recommended that Council require the Applicant to gain the approval of Main Roads Western Australia and the Public Transport Authority (being the West Australian Rail Authority) as a condition of Planning Approval. If this is not forthcoming, the applicant will have to find a suitable alternative access to the satisfaction of the Shire of Chittering and other authorities or the proposed Transport Depot will be unable to proceed.

Comment was sought from the Engineering Department regarding the construction of Railway Road. Based on preliminary assessment, this does not seem to be an issue, provided it is constructed to the engineering specifications of the Shire of Chittering. It was also recommended that the applicant get the required permits from Main Roads Western Australia to use Railway Road for heavy haulage vehicles, which has been included as a condition of planning approval in the officer's recommendation.

It is recommended that Council require the submission of the Traffic Management Plan for the proposal, given that details regarding the access and egress from the site are not included in the proposal.

- (r) Details regarding the likely traffic flow from proposal have not been provided by the Applicant. However, it should be noted by Council that the approval of Main Roads Western Australia and the Public Transport Authority will require these details when considering the proposed access to the site. It will also be required that this is specified by the Applicant in the preparation of the Traffic Management Plan.
- (w) The Applicant has outlined in the Schedule of Submissions that landscaping/screening will be implemented as per the recommendations of the Ellen/Brockman Integrated Catchment Group.
- (aa) As per the above, submissions were received from the Ellen/Brockman Integrated Catchment Group, Main Roads Western Australia, Brookfield Rail and the Public Transport Authority (refer to the Schedule of Submissions in Attachment 4).

Local Planning Policy No 18 – Setbacks (LPP 18)

As outlined above, it is not recommended that Council issue its approval to the buildings outlined on the Overall Development Plan. LPP 18 relates specifically to the construction of buildings, dams and water tanks. However, in this case, it is recommended that Council impose similar setbacks, the number and size of vehicles possibly using the proposed Transport Depot is likely to merit increased setbacks.



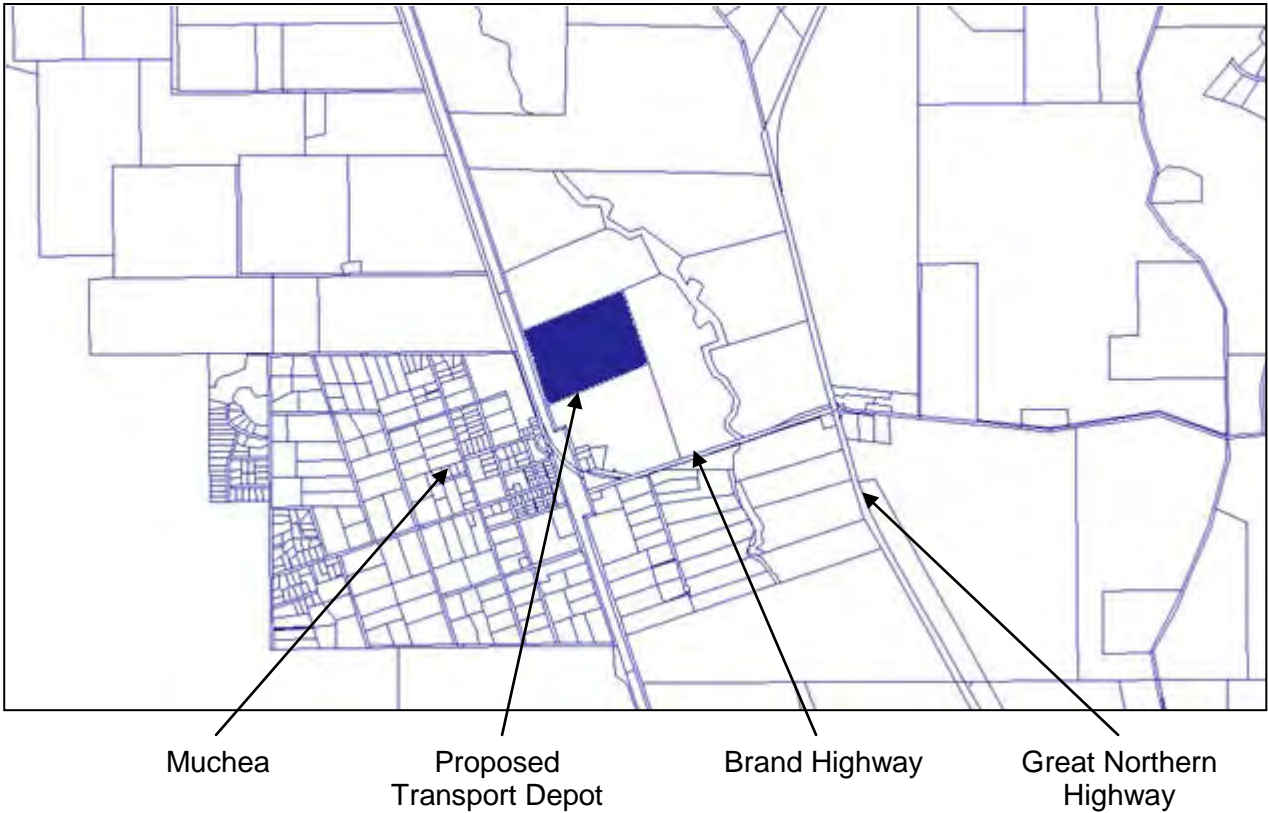
**MINUTES OF THE ORDINARY MEETING OF COUNCIL
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Environmental Protection Authority Guidance Statement No 3

Guidance Statement No 3 recommends a setback of 200metres to Transport Vehicles Depots from sensitive land uses. A review has been undertaken of the surrounding lots and it does not seem that sensitive land uses are located closer than 200metres. It is recommended that Council require the applicant to submit a plan showing nearby sensitive land uses and demonstrate that these are not within 200metres.

Attachment 1 – Locality Plan

Lot 6 (RN 290) Brand Highway, Muchea





BRAND HWY PTY LTD

A.B.N. 009 144 816

Ref: 120329BCSHIRECHITT

29th March 2012

Mr Brendan Jeans

Shire of Chittering

P.O Box 70

Bindoon W.A 6052

Dear Brendan,

Lot 6 Brand Highway Muchea

Application for Planning Approval to Allow "Transport Depot" (portion only)

Brand Highway Pty Ltd are the owners of Lot 6 Brand Highway Muchea and we seek Planning approval to enable a portion of the site to be used as "Transport Depot".

Property Description

Lot 6 comprises a 39ha parcel of rural land situated at the northern end of the Muchea Town site. More specifically, the property is located on the eastern side of Railway Road (unmade) approximately 1 kilometre north of the intersection of Brand Highway and Great Northern Highway. The property is accessed from Brand Highway across the rail line which runs parallel to the western boundary.

Existing Site Uses

We currently lease approximately 3ha of land in the northwest corner of the property to Hay Australia Pty Ltd. The land is improved with various buildings used in connection with a hay pressing business. Our current application for Transport Depot does not include this portion of the property.

The balance of the property comprises level to very gently sloping, cleared grazing land.

Zoning and Existing Approvals

The property is zoned "Agricultural Resource" under Town Planning Scheme No 6.

Planning approval to establish a hay pressing business ("Rural Industry") for portion of the site was obtained 8th June 2000.

We now seek approval for the balance of the property to be used as "Transport Depot". We understand that "Transport Depot" is an "A" classification under the Shire of Chittering Town Planning Scheme No 6 which requires local government discretion after giving special notice in accordance with the scheme.

Suite 2, Majestic Rise, 16 Moreau Mews, Applecross. Western Australia
PO Box 1065, Canning Bridge. Western Australia
Telephone (08) 9316 1000 - Facsimile (08) 9316 0999

Proposed Transport Depot Use

There are a number of reasons why we believe our site should be given planning support for use as a Transport Depot:

- 1) Situated on Brand Highway and in close proximity to the Great Northern Highway being major arterial linkages and freight routes to the north of Western Australia.
- 2) The site is adjacent to the proposed Industrial Loop Road which is proposed to link the Brand Hwy through to the Great Northern Highway and the Perth to Darwin Highway
- 3) The site is adjacent to the Midland Geraldton railway line
- 4) The site is adjacent to the Muchea Employment Node
- 5) Muchea is in close proximity to Perth's extended highway network providing an opportunity to capitalise on the limited number of transport depot facilities currently available to be leased in the established industrial precincts.

Possible Inter-Modal Facility

It may be worth considering that, in time, the Midland Geraldton railway line could provide access via an inter-modal facility in the vicinity of the subject lot that could link this precinct to port facilities at Oakagee and Fremantle/Cockburn and the general freight rail network. A transport depot in this location could take advantage of local demand for transport services including that of the Muchea Employment Node, demand for transport of large equipment to the Mid West and North West regions, demand from the surrounding agricultural area and further cater for spill-over from the metropolitan region.

Access

The property has an existing crossover to Railway Road in the northwest corner of the site which in turn links to Brand Highway across the railway line. It is proposed that this access be maintained as the primary point of ingress/egress.

Landscaping & Services

The land is relatively flat and can be suitably screened from Brand Highway through the planting of a vegetation strip along the front boundary. We understand that the north eastern end of the subject lot is situated in close proximity to a vegetation protection area however we are of the view that the proposed use would reduce the potential for nutrient runoff in comparison to the existing agricultural use. All storm water from the proposed use would be contained on site.

The site is already serviced by telephone and mains power.

Appendices

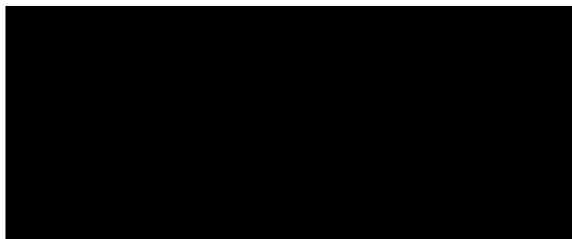
In support of our application we have included 3 copies each of the following:

- 1) Certificate of Title
- 2) Repeg and Contour Survey of the subject lot indicating the area proposed as "Transport Depot".
- 3) Extract from the Muchea Employment Node Structure Plan showing the proximity of the property to the proposed local distributor/industrial Loop Road.
- 4) Extract from the Shire of Chittering TPS 6 confirming "Transport depot" as an "A" classification under the Agricultural Resource zoning.
- 5) Extract from Schedule 1 of TPS 6 confirming the definition of "Transport Depot".
- 6) Landgate search showing the whole of the subject lot in relation to Railway Road.
- 7) Schedule 7 Form - application for planning approval.

Suite 2, Majestic Rise, 16 Moreau Mews, Applecross. Western Australia
PO Box 1065, Canning Bridge. Western Australia
Telephone (08) 9316 1000 - Facsimile (08) 9316 0999

Summary

We seek support from Shire of Chittering to this planning application allowing portion of Lot 6 Brand Highway Muchea to be used as "Transport Depot". We would welcome the opportunity to meet and discuss any aspects of our application should you have any queries.



132F

WESTERN



AUSTRALIA

| | |
|------------------------------------|--|
| REGISTER NUMBER 6/P13866 | |
| DUPLICATE EDITION 1 | DATE DUPLICATE ISSUED 2/5/2011 |

RECORD OF CERTIFICATE OF TITLE UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
1651FOLIO
436

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 6 ON PLAN 13866

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

BRAND HWY PTY LTD OF SUITE 2, MAJESTIC RISE, 16 MOREAU MEWS, APPECROSS
(AN L582056) REGISTERED 22 MARCH 2011

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

1. EXCEPT AND RESERVING METALS, MINERALS, GEMS AND MINERAL OIL SPECIFIED IN TRANSFER 6923/1933. AS TO THE SAID LOCATION 1352 ONLY SKETCH ON VOL 1651 FOL 436.
2. H070859 MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD REGISTERED 1.4.1999.
3. H632804 LEASE TO MILNE FEEDS PTY LTD OF 103-105 WELSHPOOL ROAD, WELSHPOOL EXPIRES: SEE LEASE. AS TO PORTION ONLY. REGISTERED 27.12.2000.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1651-436 (6/P13866).
PREVIOUS TITLE: 1651-430.
PROPERTY STREET ADDRESS: LOT 6 BRAND HWY, MUCHEA.
LOCAL GOVERNMENT AREA: SHIRE OF CHITTERING.

ANZ HAVE ORIGINAL

Attachment 3 – Site Photographs



Figure 1: View of driveway and level crossing from opposite on Brand Highway.



Figure 2: View of driveway from northern side on Brand Highway.



Figure 3: View of Hay Australia Pty Ltd from driveway.



Figure 4: View of proposed Transport Depot site from Brand Highway (south of Hay Australia).

Submissions for proposed Transport Depot – Lot 6 (RN290) Brand Highway, Muchea

| Name | Submission Comments | Applicant Response Comments | Officer Response Comments |
|-------------------------------|--|---|--|
| Mains Roads Western Australia | <ul style="list-style-type: none">Stacking on the railway crossing is to meet the MRWA requirements for the types of vehicle using the access and that the level of protection at the rail crossing complies with MRWA policy;The existing access is designed and upgraded to be suitable for the purpose to the specification of MRWA at the applicants cost; andThat the approval of the West Australian rail authority is sought for the proposal. | <p>The property has an existing approved point of access from Brand Highway.</p> <p>The comments of Main Roads are noted. The applicant will consult with Main Roads regarding vehicle movements and access to the site.</p> <p>The Applicant will liaise with the West Australian Rail Authority regarding the existing rail crossing.</p> | <p>Noted. It is included in the officer recommendation to Council to require all road upgrades and the railway crossing to be approved by Main Roads Western Australia and for the approval of the</p> |
| Brookfield Rail | <ul style="list-style-type: none">The lot fronts a gazetted road reserve (Railway Road), and use this road as its primary access yet it has a private level crossing across to Brand Highway. Brookfield Rial does not understand how this came to be and there does not appear to be a level Crossing Agreement in place for this.The crossing at 29.6km is a private crossing giving access to “Hay Australia”.It would seem that the new Railway Road could serve both Hay Australia and the propose new Transport Depot, thus allowing the closure of the existing crossing. The existing flashlight controlled crossing at 26.765km may need additional controls (hatching, etc.), or be upgraded to Boom Gates if the Railway Road links up with Brand Highway near the service station. There is a potential for vehicles to queue across the FL crossing while turning onto Railway Road.There are current problems with short-stacking at the 29.60km due to the close proximity of the crossing to Brand Highway. This will preclude any extended/expanded use.Given the intended use of the proposed facility (transport Depot), using a current crossing unsuitable for vehicles over 30m does not auger well for the road/rail interface. | <p>The Applicant notes that Brookfield Rail does not object to the planning proposal.</p> <p>With regard the alternative crossing located suggested by Brookfield Rail (incorporating access from Edward Place) the Applicant believes this to be unreasonable. The property has an existing approved point of access from Brand Highway and planning approval.</p> <p>The Certificate of Title describes the property as Lot 6 Brand Highway Muchea and the Lot has enjoyed direct access to Brand Highway for many years.</p> <p>The applicant has a pre-existing use right to cross the railway line at the point shown on the application plan. That crossing has been sign posted by relevant public authorities and has been in use for many years. The proposal in question does not fetter that right.</p> <p>It must be noted that land in rail lines are owned by the Crown and not by Brookfield Rail. By virtue of the Rail Freight System Act 2000, control of land in the rail system is vested in the CEO of the Public Transport Authority (PTA) under powers delegated by the Minister. In our opinion, Brookfield Rail are not in the position to legitimately raise an objection to an upgrade of a rail crossing if the rail corridor (i.e. the use and enjoyment thereof) is wholly unaffected by an upgrade of that crossing. It comes down to a question of traffic management on the roads with due regard to the existence of the rail and the traffic flows on the Highway in the design process. For that reason, the position of the MRWA (which is a public authority under the same Minister as the PTA) should be preferred to that of Brookfield Rail (i.e. the application should not result in a refusal but rather, appropriate conditions should attach).</p> | <p>It would be unreasonable and undesirable to require construction of Railway Road for access to this proposal, connecting to Edwards Place, Muchea. This intersection would likely be unsafe, due to close location to the existing level crossing at Muchea.</p> <p>Frontage of the property is to Brand Highway as Railway Road is unconstructed.</p> <p>Although the proposal does not fetter the right to use the crossing for Hay Australia, this proposal does significantly expand the use of the site, hence upgrades are likely to be required and the approvals of the necessary agencies to support the continued use.</p> <p>The proposal was referred to the Public Transport Authority (PTA), who are the vestee of the asset and hence have the final decision over crossings of it. The crossing is not listed in it register of level crossing, nor is a Level Crossing Agreement in place as advise by Brookfield. It is included in the officer recommendation to Council to require the approval of the PTA prior to allowing the use on the land and that all upgrades of the level crossing and intersection with Brand Highway to be to the specifications of the PTA and Main Roads Western Australia.</p> |

Submissions for proposed Transport Depot – Lot 6 (RN290) Brand Highway, Muchea

| | | | | |
|---------------------------------|-----------|---|---|--|
| Public Authority | Transport | The Public Transport Authority (PTA) supports and agrees to the submission prepared by Brookfield Rail. It is noted that a Level Crossing Agreement is not in place and the level crossing is not listed in the PTA’s level crossing register. Hence, the PTA is of the opinion that it may not be an approved crossing. | See above. | See above. |
| Ellen/Brockman Integrated Group | Catchment | <p>Following comments:</p> <ul style="list-style-type: none">• The proposal is within the palusplain of the Ellen Brook (Special Control Area);• Town Planning Scheme 6 – 6.3.3 – states that the local government will impose conditions on any planning approval within the special control area which may contribute to the degradation of the surface or sub surface water quality;• The Landcare Centre recommends that any area used as a transport depot should be sealed or hardstand with a slope to a hydrocarbon/nutrient stripping pond which drains to a swale. The Landcare Centre would recommend a defined site be established and when that is addressed the Landcare Centre would make further comment. The Landcare Centre would prefer the defined site was established as far to the west as is practicable to avoid impact on the Ellen Brook. Currently, with the whole area (39 hectares) designated as transport depot it is impossible to make informed comment.• Revegetation of the eastern, northern and southern boundaries of the block to a width of 30 metres and a density of 10,000 stems per hectare is recommended if this proposal is approved. Further advice can be obtained from the Chittering Landcare Centre.• There are no proposed buildings on site. If any toilet facilities are to be established on site they should have alternative septic systems such as eco max or biocycle wastewater treatment systems.• There is no made road to the south of the hay plant. Road trains or trucks entering will have to negotiate a right angle bend after the railway when accessing the site – at present the proposal does not designate an entrance;• Possible Intermodal facility – the proponent is advised that a strategic document from the WAPC Economic and Employment Lands Strategy recommends an intermodal facility be established at the Great Northern Gateway Industrial area in Bullsbrook;• The Landcare Centre recommends that a defined area be established before approval is granted for this proposal. | <p>A site plan submitted in conjunction with this response sets out in broad terms the proposed location of nutrient stripping swales and ponds.</p> <p>Further engineering detail specifying hardstand surface treatment, swale slope, contour, pond detail, imported nutrient stripping soil quantities, species lists and quantities will be provided as part of the building licence submission.</p> <p>Revegetation generally in accordance with the Ellen/Brockman Integrated Catchment Group recommendation has been incorporated within the new site plan.</p> <p>Eco max or Biocycle wastewater treatment systems will be incorporated into the building licence submission where necessary.</p> <p>With regards the access query, the Applicant has revised the site plan to incorporate direct access over the northern side of the “Hay Australia” tenancy.</p> | <p>Noted. As per the recommendation, a defined area was established for the Transport Depot by the applicant.</p> <p>The officer recommendation includes the following conditions relating to the implementation of the submission from the Ellen/Brockman Integrated Catchment Group: Conditions 9 – 12 requiring revegetation and appropriate drainage.</p> <p>With regards to the use of toilets, this proposal relates to land use and not buildings on the site. Assessment of effluent disposal systems will occur as part of future applications.</p> <p>With regards to the proposed access, the officer recommendation includes conditions requiring access to be to the satisfaction of the Shire of Chittering, Public Transport Authority and Main Roads Western Australia. The preparation and implementation of a Traffic Management Plan has also been recommended.</p> |



SHIRE OF CHITTERING

GREAT NORTHERN HIGHWAY, BINDOON, WESTERN AUSTRALIA 6502
P.O. BOX 70, BINDOON, W.A. 6502
TELEPHONE (09) 576 1044 FACSIMILE (09) 576 1250

OUR REF:DL:NIF: 10.9.10 - 8/96
YOUR REF: OOS/MUC
ENQUIRES TO: David Lawn, Planning Consultant

22 November 1996

The Manager
Roberts Day Group
P.O Box 1498
WEST PERTH W.A 6000

Attention: Mike Day

Dear Mike,

BLACK GRANITE - PROPOSED REZONING

I regret to advise that Council did not support the proposal to rezone lot 6 Brand Highway Muchea to Light Industrial zone as requested.

Council felt that the creation of an industrial area adjacent to Muchea Townsite is not acceptable. There was concern over the presentation of an industrial area along Brand Highway detracting from the overall ambience of the locality.

Yours faithfully,




Ray Hooper
CHIEF EXECUTIVE OFFICER

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| Department of Water | Assessed – no comments provided | Noted | Noted. |
| Ellen Brockman Integrated Catchment Group (submission 1) | <p>The Ellen Brockman Integrated Catchment Group in collaboration with Chittering Landcare Group makes the following comments regarding this proposal.</p> <ol style="list-style-type: none"> 1. Comment was made on a previous proposal for a transport depot dated 23rd May 2012 on this property. At that time the proponent was Hat Australia. 2. The site is situated on the Palusplain of the Ellen Brook (Special Control Area). This is characterised by high water table and flooding. Any extension of the hardstand area will need to take this into consideration. 3. Town Planning Scheme 6 - 6.3.3 - states that “the local government will impose conditions on any planning approval in the special control area which may contribute to the degradation of the surface or sub surface water quality.” | <p>Comments 1 to 3:</p> <p>The previous proposal for a transport depot dated 23rd May 2012 (prepared by a former operator or owner) comprised a total area of 30ha for the transport depot use. The current proposal occupies only a fraction of that area and is proposed to occupy the existing 3ha developed hardstand area plus an additional 1ha hardstand area for future expansion potential.</p> <p>Importantly, the current transport depot site is already developed with hardstand throughout the site and contains internal and external concrete hardstand areas capable of capturing hydrocarbons.</p> <p>In the site inspections undertaken during their preparation of the Stormwater Drainage Management Strategy, the Peritas Group noted that there was no evidence of flooding of the hardstand areas.</p> | <p>Noted. Whilst the retrospective transport depot does occupy a small portion of the property comparatively to the previously approved transport depot (which was not acted upon and has expired), the types of vehicles associated with the applicants retrospective transport depot are considerably large and may sit idle whilst not being utilised due to the downturn in the construction and mining industries. The probability of leakage and the unsealed nature of the gravel hardstand may indeed have some impact on the Ellen Brook Palusplain which has previously not been monitored on the site.</p> <p>Whilst the applicants representatives may not have seen evidence of flooding of the hardstand areas, the pervious nature of a large portion of the hardstand area (i.e unsealed) and the fact that the property is within an identified ‘Water Prone’ Special Control Area backs up the need for the extension to take into consideration this environmental aspect and appropriately plan for potential high rainfall events which may shift hydrocarbons not captured on the concreted surfaces.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>4. Any area used as a transport depot should be sealed with all stormwater directed to a hydrocarbon separation trap. Other hardstand construction should be sloped to ensure stormwater and contaminants from the site flow to a hydrocarbon/nutrient stripping pond which drains to a vegetated swale.</p> | <p>Comment 4:</p> <p>As noted in the Stormwater Drainage Management Strategy, all areas of the site report to a swale (in some cases already vegetated and in others to be constructed and vegetated as noted on the plans). The requirements of Comment 4 will be capable of being satisfied with the existing and proposed works recommended in the Stormwater Drainage Management Strategy.</p> <p>For clarity, Section 5.2 of Planning Application Report also notes that no servicing occurs in hardstand area to east of main shed. In addition, Section 5.2 notes that mechanical servicing or structural repair of crane equipment occurs within the main building with adequate spill response equipment readily available should spills occur (per Spill Management Plan included at Annexure 7 of the Planning Application Report). Any work conducted within the external concrete storage area to the western side of the main storage building will be subject to the same hydrocarbon and chemical management processes (see Section 5.8.1 of Planning Application Report) to those internally within the main building.</p> <p>Lampson would agree to a condition requiring that all servicing occur on concrete hardstand</p> | <p>Noted and agreed with the referral agency.</p> <p>Noted and agreed with the referral agency.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>5. While the toilet facilities are already established on site with a septic system it should have alternative septic systems such as eco max or biocycle wastewater treatment systems. Any extension to the toilets or ablution block will need to be an alternative treatment unit.</p> <p>6. An aerial image taken in 21st November 2015 indicates two areas of concern that should be checked and possible remediation undertaken. These areas are indicated on the attached aerial. They appear to be areas of hydrocarbon spill and according to the EMS supplied, all spills are to be cleaned up and disposed of in the correct manner and recorded. We suggest that the Shire take steps to inspect these areas to ensure compliance.</p> | <p>within the shed and on the concrete hardstand to the west of the main shed as required for larger items.</p> <p>Comment 5:</p> <p>No toilets are proposed as part of this development application. As such, any conditions relating to the upgrading of toilet facilities would not reasonably relate to the proposal.</p> <p>Comment 6:</p> <p>The area to the west (Area 1) of the site is a blackened area of concrete which remains from the fire from 2012 (refer historic aerial photos contained within Annexure 2 of the Planning Application Report). This has not been created by the Lampson operations and is not hydrocarbon staining.</p> <p>The area to the east (Area 2) of the site boundary is a low drainage point on the site (as evidenced by the green growth surrounding it). This drainage point has been reflected in the Stormwater Drainage Management Strategy.</p> | <p>Noted and acknowledged. Whilst this may be the case, follow-up with the Shire's Principal Environmental Health Officer will need to be undertaken as, due to the property being operated as a commercial premises then the need for appropriate waste management is need to be addressed and compliant with the requirements of the Department of Health/Shire of Chittering Health Local Laws.</p> <p>Noted.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>7. Any hydrocarbon spillage will enter the groundwater and flow towards the Ellen Brook creating a plume. A piezometer on the eastern boundary near the southern boundary needs to be installed and groundwater tested annually in spring to ensure that there is no hydrocarbon plume extending beyond the property boundary. All results to be forwarded to the Shire for compliance checking.</p> | <p>Comment 7:</p> <p>No hydrocarbon spillages have been reported by Lampson. The main workshop where mechanical servicing occurs has trapped grated drains that report to an external tank that can be pumped out as required. Refer to Section 4.5 (Hydrocarbon Containment Management) of the Stormwater Drainage Management Strategy.</p> | <p>Noted.</p> |
| | <p>8. The proposed extension area should be vegetated around the perimeter to protect it from stormwater flow and erosion of the hardstand if gravel or limestone is to be used for this purpose.</p> | <p>Comment 8:</p> <p>Lampson agree to provide vegetation in accordance with the Stormwater Drainage Management Strategy which recommends that swales within catchments C5, C7 and C8 are vegetated.</p> <p>It is also noted that the Peritas Group have confirmed that, based on their observations,</p> | <p>Noted. Agreed with the referral authorities comments.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>9. Approval should not be given without the provision of a suitable surface water and stormwater management plan. This is yet to be completed as stated (Paragraph 5.8.2) as it was not attached to the documents supplied. No surface water flows from the hardstand areas are allowed flow into existing drainage lines on the property that drain directly into the Ellen Brook.</p> | <p>adequate scour protection exists around the hardstand area. In addition, no erosion any consequence was observed during their site inspections.</p> <p>Comment 9:</p> <p>Provided and addressed in Stormwater Drainage Management Strategy.</p> | <p>Noted. Refer to applicant's response. The referral authority was provided with the Stormwater Management Plan after they had initially made their submission. The Shire requested they revise their referral response as detailed below.</p> |
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| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | Areas marked for inspection as possible hydrocarbon contamination. | | |
| Ellen Brockman Integrated Catchment Group (submission 2) | <p>1. The site is situated on the Palusplain of the Ellen Brook on the part of the block mapped as Yanga 14x soils. It is in Special Control Area of the Ellen Brook floodplain and, therefore, the site requires a formal geotechnical report to understand the permeability and lateral movement of water from the bioretention basins proposed.</p> <p>2. There is no comparison with known DOW monitoring bores in the area (GN21 Muchea).</p> | <p>Comment 1:</p> <p>The bioretention basins have been assessed by a qualified engineer (Peritas Group) and the recommendations are contained within the Stormwater Drainage Management Strategy. The Strategy did not recommend a geotechnical investigation to be undertaken.</p> <p>Comment 2:</p> <p>A review of the Department of Water's Water Information Reporting database provided no results of current or active monitoring bores in the locality surrounding the subject site which would provide an accurate reading of groundwater levels.</p> <p>However, the Peritas Group note that observations made at this and sites to the west of the subject site indicate that groundwater is approximately 1m below the hardstand areas.</p> | <p>Noted.</p> <p>Noted. The importance of the comparison between existing monitoring bores and monitoring of the groundwater surrounding the development itself should be considered as a high priority due to the groundwater being 1m below the hardstand area.</p> <p>The unsealed nature of the hardstands and the potential for hydrocarbon spillage consolidates the importance that ongoing monitoring and reporting should be undertaken by the applicant to ensure that no adverse impacts from the land use occur and impact the Ellen Brook flood plain.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>3. Storage of hydrocarbons and other chemicals requires bunded storage areas. This application is for a transport depot rather than a storage depot and this requires that such structure be in place in maintenance and storage areas.</p> <p>4. No design information is provided for the bioretention areas.</p> | <p>Comment 3:</p> <p>Refer to Section 5.8.1 (Hydrocarbon and Chemical Management) of the Planning Application Report and Section 4.5 (Hydrocarbon Contamination Management) of the Stormwater Drainage Management Strategy. It has been confirmed that a containerised storage system is in place for storage of hydrocarbons and other chemicals.</p> <p>Comment 4:</p> <p>The proposed swales and bioretention areas were assessed as adequate within the Stormwater Drainage Management Strategy. Should the Shire require further design detail.</p> <p>For clarity, the Peritas Group have explained that the bioretention areas are assessed and based on providing a minimum bioretention area of 2% of the impermeable area served by that structure. In the majority of cases the bioretention areas provided are in excess of 5-7% of the impermeable areas.</p> <p>Comment 5:</p> | <p>Noted.</p> <p>Noted and agreed with the referral authority's response.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>5. The monitoring bore is required in the south east corner of the transport storage and maintenance area and monitoring of this bore is required for hydrocarbons, depth to water table and nutrients. This should be sampled and analysed at least once a year to check for plumes. While contaminant plumes may be a low risk at present it will be a transport depot that could have changed circumstances in the future.</p> | <p>Based on the conclusions of the Stormwater Drainage Management Strategy, water quality monitoring for surface water and stormwater entering and leaving the site is not necessary for the current operations.</p> <p>It is unreasonable from a planning perspective to require conditions to address any future unconfirmed change of circumstances. Apart from the proposed hardstand extension, which will provide Lampson with a small area of extended storage for the continued operation of the current activities, there are no changes to the nature of the Lampson operations anticipated in the future. The proposal is for retrospective approval for a transport depot which comprises the distribution and storage of crane elements, rigging and jacking equipment.</p> <p>No refuelling occurs on-site and all servicing occurs in locations where adequate hydrocarbon management infrastructure is located. Any monitoring is therefore unnecessary in this instance.</p> | <p>Noted and agreed with referral authorities response. Whilst the applicant contends that this is unreasonable from a planning perspective, it is the Shire's role to ensure that no adverse environmental impacts are as a result of applications from which they are responsible for approving. Furthermore, the applicant has been undertaking an activity without the appropriate approvals in place and therefore requirements for them to undertake it.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| Main Roads WA | <p>Thank you for consulting Main Roads on the retrospective use and development of a Transport Depot at Lot 6 Brand Highway, Muchea.</p> <p>Main Roads has concerns that the road or edge of the seal could be damaged, and dirt and debris being tracking onto Brand Highway from the existing gravel crossover. As Main Roads considers that the current proposal would generate a high number of light vehicle and a low number of heavy vehicle turning movements in and out of the site. As information provided by the Shire of Chittering noted that there would be:</p> <ul style="list-style-type: none"> 10 staff employed at the transport depot, meaning there could be a total minimum of 20 staff car movements in and out of the site daily; and In association with the incoming and outgoing of deliveries of equipment there would be 1 truck and trailer pocket road train per month; 1 truck and 40 trailer per month; and 2 truck and trailers per week. <p>Additionally, the change in land use from hay bailing to transport depot represents a land</p> | <p>As noted in the Traffic Management Plan included at Annexure 5 of the Planning Application Report, the vehicle movements generated by the proposal include:</p> <ul style="list-style-type: none"> 10 Staff vehicles (20 movements per day); 1 rubbish removal per week (=0.14 per day); 1 water delivery per month (=0.033 per day); 1 truck/trailer pocket road train (28m) per month (=0.033 per day); 1 truck/trailer (25m) per month (=0.033 per day); 2 truck/tailer (21m) per week (=0.28 per day). (this equates to combined total of 20.5 movements per day) <p>The Roads and Traffic Authority NSW 'Guide to Traffic Generating Developments' does not provide a specific guideline for a transport depot land use, however by way of comparison, the guide suggests 4 daily vehicle trips per 100m2 gross floor area for warehouses. Based on the total floor area of approximately 1,933m2 across the two large sheds, the warehouse trip generation would result in approximately 77 trips per day. Therefore, whilst only a guide, this suggests that the proposal represents a low traffic generating development.</p> | <p>Noted and acknowledged.</p> <p>Whilst acknowledged the utilisation of the Roads and Traffic Authority NSW 'Guide to Traffic Generating Developments' is a comparative tool to ascertain the relatively low number of movements, as it is a guide in applications based in NSW and not WA then it should be dismissed.</p> <p>Main Roads have been provided with the relevant information pertaining to the application and as such have provided comment on that basis which the Shire, whom as the referral authority and 'experts' in this field with any conditions considered relevant and suggested by Main Roads as being included if the application were to be</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | use intensification for the site, as hay bailing operates seasonally, while the transport depot would operate annually. | <p>It is also considered that the former feed delivery operation that previously operated from this site may have generated greater year round traffic than the current land use. This is due to the infrequent nature of deliveries conducted from the site. When Nearmap aerial imagery of the crossover is observed between the years of 2009 and 2015, it is evident that there is greater discolouration of Brand Highway during use under the previous hay bailing operation than from the current transport depot use.</p> <p>On this basis, the contention from Main Roads that the land use generates a high number of light vehicle movements is, with respect, considered incorrect and based on an assumption of the former use, not a factual understanding.</p> <p>In addition, we have attached the Main Roads plan and timeline for the North-West Link project (Attachment 1). It is noted that the Muchea section of this project will divert Brand Highway to the north of the subject site. The timeline shows that this project will be completed by mid 2019. This suggests that the traffic numbers (and potentially the classification) of the section of Brand Highway adjacent to the subject site is likely to be reduced on the basis that the majority of traffic volume this road currently carries will be diverted to the north within the next 3 years. As a result of these changes, the control of this</p> | approved. |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>Accordingly, Main Roads has no objection to the retrospective development and use, subject to the imposition of the following conditions or similarly worded conditions:</p> <ol style="list-style-type: none"> 1. Prior to the Local Government issuing planning approval, at the cost of the landowner(s) the existing crossover onto Brand Highway shall be designed and upgraded in accordance with the standards and specifications of Main Roads WA. 2. Approval being sought from the Public Transport Authority for the design and upgrades to the existing crossover onto Brand Highway. 3. All maintenance of the existing crossover, including its surface and culvert shall be the responsibility of the landowner(s). <p>In relation to condition 1 Main Roads advises</p> | <p>road may also ultimately be given back to the Shire.</p> <p>As the Shire is the ultimate decision maker, with Main Roads providing recommendations, the Shire has discretion to the extent to which conditions are imposed. On this basis, we request that the Shire takes the future intent of this section of Brand Highway into account when preparing its recommendation. We also request the Shire to consider the low traffic generating nature of the current operation when considering conditions so that any requirement fairly and reasonably relates to the use.</p> <p>It is therefore requested that the Shire considers removing the requirement for the upgrading of the existing crossover, or alternatively considers a condition which enables the operator to upgrade the crossover to a rural standard (or standard to the Shire’s satisfaction) but ensures that the management of gravel on Brand Highway is addressed.</p> | |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>the landowner and the Shire of Chittering that:</p> <ul style="list-style-type: none">• We expect the crossover upgrades to be completed within a timeframe of 4 to 6 months from the date of this letter.• Crossover upgrade works should at a minimum involve clearing the culvert of debris and sealing the crossover up to the railway line crossing; and• Prior to the crossover not being upgraded the following statements apply;<ul style="list-style-type: none">• Main Roads accepts no immediate liability should there be any incident in relation to the crossover works not being completed. This includes additional gravel being deposited on the road due to increased traffic using the crossover.• Should the edge of the road be damaged Main Roads may charge the landowner for any maintenance works. | | |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>Independent of Main Roads comments, we will be shortly contacting the applicant and landowner to raise Main Roads concerns, as gravel being tracked onto Brand Highway has safety implications on the operation of Main Roads network and its users.</p> <p>Additionally, Main Roads notes that the current road to rail separation would support the use of vehicles up to 27.5m in length that is a Restricted Access Vehicle (RAV) 3 or 4 network combination. The proposed heavy vehicles used to deliver equipment to and from the site range from a RAV 1 to a RAV 4 network combination. From the information submitted, these vehicles would travel along Muchea South Road is not a part of the RAV network, and therefore 'As of Right' vehicles are only permitted to travel along Muchea South Road. For heavy vehicles travelling to and from the site seeking to use Neaves Road, alternate access can be sought from Rutland Road.</p> | | |
| Public Submissions | | | |
| Public A | <p>Lot 6 (290 Brand Highway) site</p> <p>a) Fencing to 1.8m height to rail corridor boundary must be installed</p> <p>b) No water run off – storm water</p> | <p>The site is currently secured by a 2m high electrified fence around the boundary of the development area. No further fencing is considered necessary.</p> <p>All stormwater will be retained on site to reflect pre-development flows. The Stormwater</p> | <p>Noted.</p> <p>Noted.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | <p>(drainage) to be contained within development site</p> <p>Level Crossing From a level crossing point of view there are no issues in terms of sighting distances or level of protection.</p> <p>The traffic management plan submitted states that all road traffic will stop at the stop sign, there is no higher control we could fit to an installation such as this as the traffic number simply do not justify the upgrade to active protection.</p> <p>[submitter's name, removed] specifies however that no vehicles in excess of 28m in length are to cross the crossing as there is insufficient standing room on the west side of the crossing to accommodate larger vehicles. The planning submission and traffic management plan specify vehicles no larger than 28m in length; however the business must comply with this.</p> <p>Lampson are required to enter into a Commercial Level Crossing Licence and an Interface Agreement. This is in accordance</p> | <p>Drainage Management Strategy provides further details on drainage throughout the site.</p> <p>No vehicles of more than 28m in length are proposed to access the site.</p> | <p>Noted.</p> |

| Agency Submissions | | | |
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| Submitter | Comment | Proponent Response | Shire Officer Response |
| | with the Rail Safety National Law 2015 and the fact that the crossing will require ongoing maintenance which Lampson are required to fund. | | |

*Note: Comments are as per original submission received by the Shire. Submission comments have not been edited unless for the purposes of confidentiality where necessary.

Images from site visit

Lot 6 Brand Highway, Muchea



Shire of Chittering – Local Planning Strategy, 2001 - 2015

INDUSTRIAL DEVELOPMENT (FIGURE 10)

Description/Location

The primary heavy industrial activity is restricted to Tiwest. The most immediate prospects for catalysts to promote industrial development are the State Livestock Centre at Muchea and the endeavours of the shire to develop a light industrial area.

The State Livestock Centre relocated from Midland will attract associated stock industry business and provide additional employment opportunities.

Two sites are designated for industrial/light industrial development:

- 1 Chittering – Great Northern Highway (light industrial)
- 2 Bindoon – Bindoon-Dewars Pool Road (light industrial)

Note: The Muchea Employment Node is designated as an Investigation Area only. The boundaries depicted on Figure 10 and the LPS map, are indicative only and subject to change following detailed investigation of all constraints.

Note: The Muchea Employment Node, as depicted on the North Eastern Corridor Extension Strategy and on Figure 10 and the LPS map, is subject to detailed assessment prior to any scheme amendment being supported by Council.

Council in supporting a scheme amendment, shall consult with all relevant government authorities and community groups.

Council may adopt a Development Plan outlining the various permissible land uses and environmental considerations, road access and traffic management of the precinct and clearly state on that plan the considerations and conditions for development.

Aims

- *To provide for local centres of service and employment*
- *Actively encourage the relocation of businesses to the light industrial area*
- *To ensure that all industrial/light industrial activities conform to best practice in environmental terms.*

Council shall require confirmation of the ability of the land to be properly serviced with water and electricity, prior to supporting any applications for rezoning, subdivision and development.

Note: The Muchea Employment Node is designated as an Investigation Area only. The boundaries depicted on Figure 10 and the LPS map, are indicative only and subject to change following detailed investigation of all constraints.

Note: The Muchea Employment Node, as depicted on the North Eastern Corridor Extension Strategy and on Figure 10 and the LPS map, is subject to detailed assessment prior to any scheme amendment being supported by Council.

Council in supporting a scheme amendment, shall consult with all relevant government authorities and community groups.

Council may adopt a Development Plan outlining the various land uses and environmental considerations, road access and traffic management of the precinct and clearly state on that plan the considerations and conditions of development.

Figure 10 – Industrial Employment Nodes

