74-76 SEVILLE STREET, FAIRFIELD EAST

Vehicle Waste Transfer Station & Resource Recovery Facility
Water Management Assessment

Prepared for:

Hassani Investments & Hussain Group Investments
c/o Hamptons Property Services
PO Box 954
EDGECLIFF NSW 2027

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Hassani Investments & Hussain Group Investments (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
630.18609-R08-v2.0	17 August 2020	Stephane Peignelin	Paul Delaney	Paul Delaney

EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Hamptons Property Services Pty Ltd (Hamptons) on behalf of Hassani Investments Pty Ltd & Hussain Group Investments Pty Ltd (H&H) to carry out a Water Management Study of a proposed Vehicle Waste Transfer Station and Resource Recovery Facility, to be located at 74-76 Seville Street, Fairfield East.

This report is intended to accompany the Environmental Impact Statement for the proposed Facility, and identifies site management and stormwater controls required to avoid adverse water quality impact on the adjacent Burns Creek. The report also provides responses to the potential water-related issues identified in the Secretary's Environmental Assessment Requirements. The potential impact is reduced by the proposal's utilisation of an existing industrial site and buildings.

Key findings from this report are as follows:

- The potential impact of the proposed Facility is reduced by the intended utilisation of an existing industrial lot with existing buildings, which does not involve any significant disturbance of soils, potential for erosion, potential to impact groundwater, or changes in hydrological behaviour of the site;
- Actual dismantling of vehicles will be carried out inside the buildings, with very low potential to pollute waters, due to the following factors: a) there is no run-off from these areas, b) the Flood Study by SLR identifies that the buildings have flood immunity in a 100 year (1% AEP) flooding event, c) there are operating procedures to capture fluids from vehicles, as well as to regularly clean up any spillages, and d) there is an existing grease trap near the boundary;
- There are several hardstand areas outside of the buildings. These are not to be used for storage of dismantled vehicles unless contained with weatherproof containers, but may be used for temporraay storage of damaged vehicles prior to processing. There is potential for automotive fluids, principally hydrocarbons, to leak onto the hardstand surfaces from damaged vehicles or vehicles being transported across the hardstand. Procedures for spill management will remove most spilt fluid, but an accumulation of hydrocarbons on the surface is likely to result in migration of hydrocarbons in runoff during rainfall. It is proposed to mitigate this with a treatment train which includes a) EnviroPod filters with hydrocarbon absorbing membranes, b) a new large oil/water separator to treat runoff from outdoor areas, and c) periodic cleaning of hardstand areas to remove build-up of hydrocarbons.
- Access roads and carparks are all existing impervious surfaces, and the runoff from these areas may contain a variety of pollutants requiring water quality devices typical for stormwater from roads. Runoff from these areas would be passed through a Gross Pollutant trap prior to discharge from site. The proposed oil/water separator will remove hydrocarbons and sediments;
- Large areas of the existing site are occupied by buildings, and the runoff from building roofs is considered to be comparatively clean and suitable for discharge without treatment, where not mixed with other site water. No capture and re-use is proposed since the site will have very low water use; and
- Proposed management practices include annual cleaning of hardstand surfaces to reduce potential accumulation of hydrocarbon staining, the use of adsorbent powders to soak up hydrocarbon spills, and a maintenance regime for water quality controls.

This report has been amended in some sections to address comments from Council following the EIS submission. Important areas of change or highlight are in <u>underlined text.</u>

CONTENTS

CONTENTS

DOCUMENT REFERENCES

TABLES

FIGURES

PHOTOS

1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Hamptons Property Services Pty Ltd (Hamptons) on behalf of Hassani Investments Pty Ltd & Hussain Group Investments Pty Ltd (H&H) to carry out a Water Management Study of a proposed Vehicle Waste Transfer Station and Resource Recovery Facility, to be located at 74-76 Seville Street, Fairfield East.

1.1 Objectives

The objective of this study is to identify a suitable strategy for management of water on site, which has acceptable environmental impact on the receiving environment of Burns creek, a tributary of Prospect Creek. The study also responds to relevant issues identified in the SEARS.

1.2 SEARS and Responses

There are many issues identified in the SEAR's which have higher relevance on other sites, but are less applicable to this site and the nature of proposed activities.

SEARS - Requirements	Response Reference in Report
NSW Planning & Environment – SEARS Key Issues - Soil and Water • A description of local soils, topography, drainage and landscapes • Details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000 • An assessment of potential impacts on floodplain and stormwater management and any impacts to flooding in the catchment • Details of sediment and erosion controls • An assessment of potential impacts on the quality and quantity of surface and groundwater resources • Details of proposed stormwater and wastewater management systems (including sewage), water monitoring program, and other measures to mitigate surface and groundwater impacts • A description and appraisal of impact mitigation and monitoring measures	Soils topography and landscapes – Section 2.3 Water usage refer Section 2.4 Flooding Impact – refer to separate SLR report. Erosion – Section 2.3 Water resources – Section 2.3 Proposed stormwater system –Section 6 Wastewater management – Section 2.5 Water monitoring program – Section 7 Impact mitigation – Sections 3, 4, 5, 6
OEH –Riparian Corridors Condition 9 The EIS shall: a. Include details of the method of treating stormwater runoff before discharging it into the riparian corridor; and b. Include details of where/if any services are located in the riparian corridors	Stormwater treatment - Sections 3, 4, 5, 6 Riparian Corridors – Section 2.4

SEARS - Requirements	Response Reference in Report
OEH – Water and Soils. Condition11 The EIS must describe background conditions for any water resources likely to be affected by the development including: a. Existing surface and groundwater b. Hydrology including volume, frequency and quality of discharge proposed at intake and discharge locations c. Water Quality Objectives (as endorsed by the NSW Government http://www.environmnet.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters d. Indicators and trigger values/criteria for the environmental values identified at(c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria, or targets endorsed by the NSW Government e. Risk based Framework for Considering Waterway Health Outcomes in Strategic Land-Use Planning Decisions http://www/environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning	The proposal will not utilise or affect any water resources, and does not propose any licensed intake or harvest of water. WQO's and ANZECC (2000) trigger value are described in Section 3 Risk-based framework – the site is an existing industrial site located in an industrial zone. Nevertheless, the assessment of water quality impact is consistent with the framework
OEH – Water Quality Condition 12 The EIS must assess the impacts of the development on water quality, including: a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. b. Identification of proposed monitoring of water quality c. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan)	Surface water quality – Refer Sections 3,4,5,6 Water quality monitoring- refer Section 7 Coastal Management Program – not relevant as the site is not coastal and not flood prone in a 100-year event.

SEARS - Requirements	Response Reference in Report
OEH – Hydrology Condition 13 The EIS must assess the impacts of the development on hydrology, including: a. Water balance including quantity, quality and source b. Effects to downstream rivers, wetlands, estuaries, marine waters, and floodplain areas c. Effects to downstream water dependent fauna and flora including groundwater dependent ecosystems d. Impacts to natural processes and functions within rivers, wetlands, estuaries, and floodplains that affect river system and landscape health, such as nutrient flow, aquatic connectivity, and access to habitat for spawning and refuge (ie river benches) e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options g. Identification of proposed monitoring of hydrological attributes	a. Water balance – the site does not use water for proposed waste management processes or environmental controls. The only water used is potable water for staff amenities b. c. d. e. g. – The proposal is on an existing developed industrial site, and there is no change in site imperviousness proposed. The only potential impact on riparian environments relates to water quality which is addressed in Sections 3,4,5,6 f. - Stormwater - Section 3,4,5,6. Wastewater - Section 2.3 g. Monitoring hydrology – not relevant to this Project
OEH – Flooding and coastal hazards – Condition 14	Refer to separate SLR Flooding Assessment
EPA – 3. Water Management Stormwater and wastewater management during both construction and operation must be included in the EIS. Consideration must be provided for the following: • Potential increase in the load going to stormwater from additional dust suppression activities; • Details of the flow of clean and contaminated water and how it will be diverted around the Premises; • Water storage capacity and water source for dust suppression; • What measures would the proponent employ to mitigate any impacts of contaminated and /or sediment laden water reaching stormwater and offsite receptors; and • Controls for increased sediment and mud tracking from vehicles leaving the premises during wet weather	The Project does not propose any site earthworks, the site is an existing fully impervious site with no surfaces from which sediment/mud could be tracked off site, and there are no activities on site for which dust suppression is proposed. Details of potentially contaminated water, and controls to mitigate impact are provided in Sections 3,4,5,6

2 PROJECT LOCATION AND DESCRIPTION

2.1 Site Location

The site of the proposed development is 74-76 Seville Street, Fairfield East – refer Figure 1.

This site is located within the catchment of Burns Creek, a tributary of Prospect Creek, within the Georges River catchment. The rear boundary of the project site adjoins Burns Creek, and has been previously filled so that it is elevated above the natural top of bank.

Figure 1 Development Site Location

2.2 Project Description

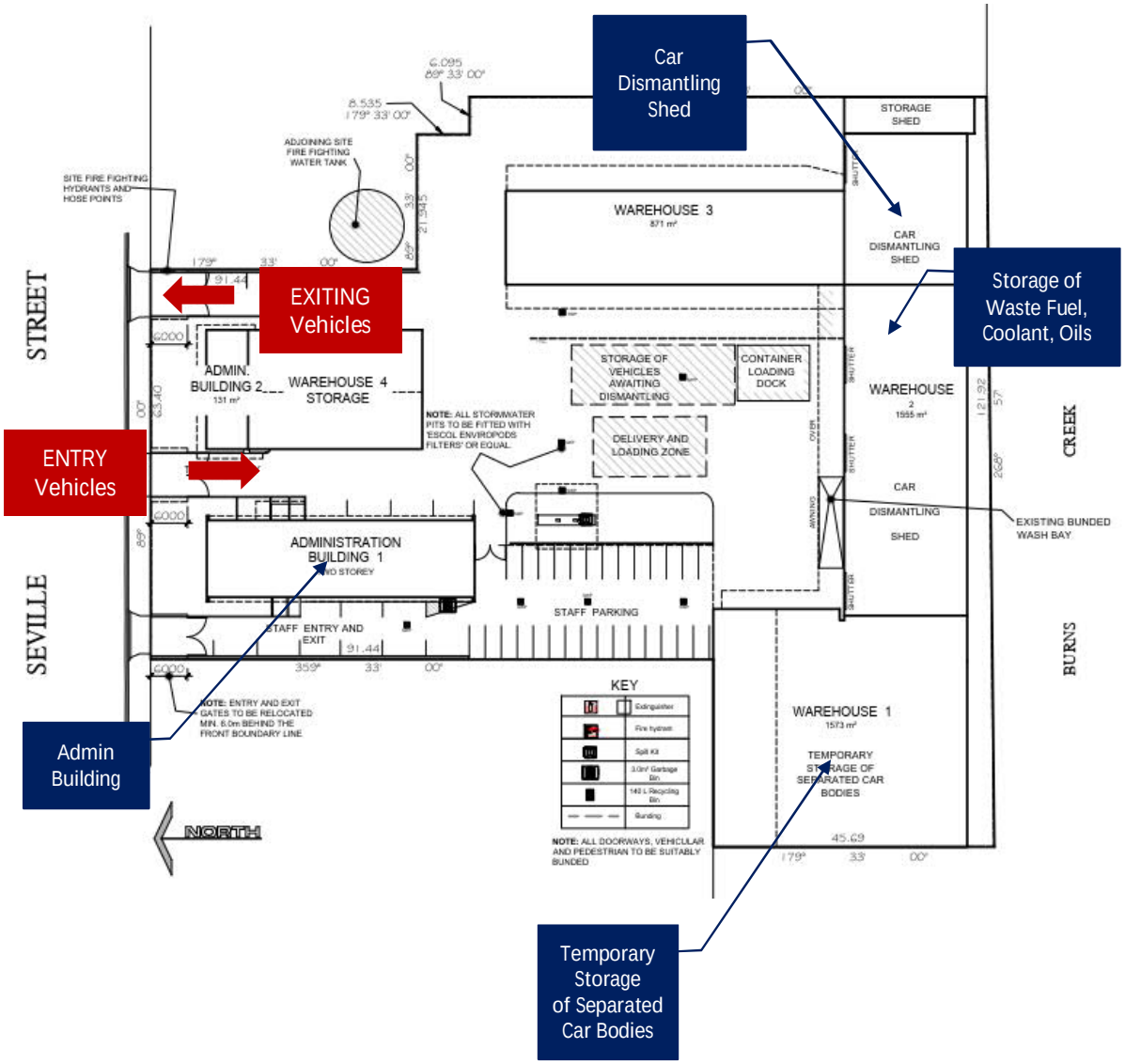
The proposed operation of the Facility generally comprises of the following:

- Delivery of used motor vehicles to the site, which are often in a damaged state;
- Dismantling of vehicles to recover the engine and gearbox including temporary storage;
- Subsequent sale and transportation off-site of separated engines, gearboxes, tyres and remaining car bodies by wholesale with no on-site retail; and
- Separation of waste material during dismantling process, including fuel, coolant fluids, engine oils, etc, and temporary storage awaiting subsequent collection of waste material for offsite recycling and/or landfill.

Dismantling is carried out under roof. During dismantling, vehicle fluids are drained and transferred into bunded storage vessels. Any liquid spills are attended to with spill kits comprising adsorbent materials.

Figure 2 shows the main operational functional areas of the proposed Facility.

Figure 2 Site Operational Functional Areas



2.3 Site topography, soils, and groundwater

The proposed Facility will utilise an existing industrial lot with existing buildings, and does not involve any significant disturbance of soils, changes in site levels, or other works that will alter the hydrological behaviour of the site.

The site has been previously filled and is generally flat, with minor falls across pavements to direct water to the existing stormwater system.

No significant excavation or ground reshaping is proposed as part of the development proposal, and the existing site is impervious, so there is no potential to impact on the following:

- Soils;
- Erosion;
- Potential Acid Sulphate Soils; and
- Groundwater behaviour.

2.4 Riparian Corridor

The existing site has been previously developed to the rear boundary, which backs onto Burns Creek.

The Project does not include any new works at the rear of the property or within the existing riparian corridor of Burns Creek.

2.5 Site Water Usage

The proposed Facility will utilise existing site staff amenities that have potable water and sewerage services supplied by Sydney Water. No new water or sewerage services are required, and the Project will be serviced by making satisfactory arrangements with Sydney Water for ongoing water and sewerage services.

The Project will not utilise any water on site for processing of waste, or dust control.

No water licenses are required for the Project.

3 SENSITIVITY OF RECEIVING ENVIRONMENT

The NSW Water Quality Objectives are the agreed environmental values and long-term goals for NSW's surface waters. The objectives are consistent with the agreed national framework for assessing water quality set out in the ANZECC 2000 Guidelines. These guidelines provide an agreed framework to assess water quality in terms of whether the water is suitable for a range of environmental values (including human uses). The Water Quality Objectives provide environmental values for NSW waters and the ANZECC 2000 Guidelines provide the technical guidance to assess the water quality needed to protect those values.

Water Quality Objectives (WQO's) for catchments in NSW are published on the Department of Environment Climate Change and Water website (http://www.environment.nsw.gov.au/ieo/). The published WQO's for urbanised parts of the Georges River catchment include 'Environmental values' as listed below.

- Protection of aquatic ecosystems;
- Visual amenity;
- Secondary contact recreation (short term objective); and
- Primary contact recreation (longer term objective).

Supporting information to the WQO's identifies that the urban waterways are considerably modified and although not pristine can be improved by stormwater programs and improvements in the environmental management of small industrial and commercial premises.

The Australian and New Zealand guidelines for fresh and marine water quality 2000, published by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) are referred to in this document as 'the ANZECC 2000 Guidelines'. These guidelines are available on the internet at www.deh.gov.au/water/quality/nwqms.

The ANZECC 2000 was superseded in 2018 by the Australian and New Zealand Guidelines (ANZG (2018)). The ANZG (2018) will eventually provide updated default water quality values across Australia. However, these have not yet been published for the Georges River catchment, and this assessment therefore refers to the ANZECC 2000 values.

For each environmental value, the guidelines identify particular water quality characteristics or 'indicators' that are used to assess whether the condition of the water supports that value.

The catchment receiving environment for Burns Creek is considered to be a 'slightly modified fresh water system'. Based on this classification, a protection level of 95 per cent for freshwater ecosystems, as recommended in the ANZECC Guidelines, is considered to be suitable for toxicants. ANZECC 2000 default trigger values for physical and chemical stressors for NSW east flowing lowland (<150m elevation) rivers are shown in Table 1.

Table 1 ANZECC Trigger Values – Environment

Parameter	Default Trigger Value for NSW lowland rivers (east flowing) for slightly disturbed ecosystems
Total Phosphorous TP (mg/L)	0.025
Total Nitrogen TN (mg/L)	0.35
pH	6.5 – 8.5
Salinity (µS/cm)	125 – 2200 NSW coastal rivers typically in the range 200-300 uS/cm
Turbidity (NTU)	6-50 Values at the high end of the range would be found in rivers draining slightly disturbed catchments and in many rivers at high flows
Total Suspended Solids	50mg/L** Professional judgement
Chemical contaminants and toxicants	See ANZECC 2000 Guidelines Table 3.4.1

The ANZECC 2000 guidelines for recreational water quality and aesthetics, for secondary contact such as boating and fishing, and visual recreational use, provide the following water quality triggers as shown in Table 2.

Table 2 ANZECC Trigger Values – Recreational

Parameter	Range of trigger values for NSW east flowing lowland rivers
Microbiological:	
• Faecal coliform	1000 organisms / 100mL
• Enterococci	230 organisms / 100mL
Physical and chemical:	
• Visual clarity	<20% reduction
• Toxic chemicals • Surface films	Toxic substances should not exceed the values in ANZECC 2000 Table 5.2.3 for general chemical, and Table 5.2.4 for pesticides. Oils and petrochemicals should not be visible as a surface film, nor detectable by odour.

The trigger values provided in the ANZECC Guidelines are intended to be an indicator of potential environmental problems measured in the ambient waters that receive stormwater. The ANZECC guidelines are not originally intended for direct application to the water quality of stormwater from individual sites or systems, although in the absence of better information they are commonly used in this manner.

4 CLASSIFICATION OF SITE WATER AND REQUIREMENTS FOR MANAGEMENT

There are a number of different areas within the site, which have with different levels of potential to pollute. These areas, the typical potential pollutants, and management requirements are described in Table 3.

Table 3 Catchment water characterisation and management requirements

Characterisation	Description	Primary Pollutants	Management Requirements
Hazardous Materials	Areas where hazardous materials are stored.	Cleaning agents / Spill control Oils removed from vehicles and stored in ICB's	Storage of hazardous materials should comply with relevant Australian Standards. Typically stored under roof and / or within a bulk tank. Must have bunds to contain accidental spillages, or be stored in a self-bunding container
Operational Dismantling Areas	Areas of the site where vehicles are dismantled, with high potential for hydrocarbon spills and drips.	Hydrocarbons (oils, greases, brake fluids and the like) as well as other automotive fluids	All dismantling activities must be carried out under roof. Hydrocarbons from vehicles captured and stored in containers for recycling. Containers for storing hydrocarbons for recycling should be kept within a bunded area. Use spill kits for hydrocarbon leaks.
Road Areas	Staff and visitor car parks, and site access laneways. These are all sealed surfaces.	Runoff may contain sediments and pollutants typical of road surfaces.	A Gross pollutant Trap is required to reduce sediments, nutrients and oils/grease prior to discharge to Council's stormwater system.
(Relatively) Clean Water - Building Roofs	Runoff from these areas generally has a very low pollutant load. These areas include rooves, and landscaped areas with established vegetation.	First flushes may contain elevated levels of nutrients (TN, TP) and sediments (TSS), with subsequent runoff usually much cleaner.	It is generally accepted that runoff from these areas does not require treatment, and can be discharged directly to the stormwater system.

5 EXISTING STORMWATER SYSTEM

The Project is located on an existing industrial site that has existing buildings and an existing stormwater system. SLR inspected the site on 28 February 2019 and made further observations about the existing drainage at site. Catchments have been classified as observed during SLR site inspection on 28 February 2019. These areas are described below and shown on Figure 3.

Figure 3 Existing Site and Catchment Plan

Roof 1 and 2 buildings accommodate the site offices and other facilities (Toilets, kitchen, etc.). Runoff from this catchment area does not require treatment and therefore drains directly into the Council stormwater system.

Historically the site had an operational fuel dispensing facility (Roof 3) which will now be used for storage space as shown in Photo 1. Runoff from the roof does not require treatment and therefore drains directly into Council stormwater system.

Photo 1 Old Fuel Dispenser (Bunded)

The fuel dispensing facility is no longer operational on site. The bowsers are within a bunded area which drains into an existing oil /grease trap as shown on Figure 2 (rear of Roof 4 building) and photographed during SLR site visit dated 28 February 2019.

Photo 2 Existing Oil/Grease Trap

SLR understands that this trap was used to separate potential hydrocarbon and TSS pollution from the site fuel dispensing facility prior to discharge into Burns creek (Photo 3). It was noted during SLRs site visit that the trap requires maintenance to ensure its efficiency in treating any potentially polluted inflow. Prior to the commencement of operations, the proponent should have the oil/grease trap cleaned out by a suitably qualified company, who should certify that the oil/grease trap is suitable for purpose, complies with relevant standards, and is in good working order. The proponent should also demonstrate that they have a suitable contract in place for ongoing maintenance of the oil/grease trap.

Photo 3 Burns Creek

The catchment area named Roof 4 includes the car disassembling workshop to the east and further car storage to the west. Runoff from the roof of this catchment area doesn't require treatment and therefore drains directly into the Council stormwater system. Any spill inside those sheds is managed using an adsorbent spill control powder (Photo 4 and Photo 5) and swept into drums which are later picked by an accredited party for disposal.

Photo 4 Roof 3 for Disassembly (with Proposed Spill Management)

Photo 5 Roof 3 – Proposed Spill Management Methods

Photo 6 shows the IBC tanks that will be used for storage of fluids drained from vehicles. These containers should be located within a bunded area, which has a storage volume of at least 110% of the volume of the containers located inside the bund. The latest architectural drawings indicate that this bunded area will be provided at the western end of Warehouse 2 – Car Dismantling Shed.

Photo 6 IBC Tanks for Spill Management

Photo 7 Roof 3 – Proposed Car Storage Area

The area within the catchment named Carparks & Driveways is separated to the rest of the site by an elevation difference (approximately 10cm) as well as grilled drains. This area is not used for dismantling cars or storage of disassembled car parts, and is unlikely to generate runoff contaminated by hydrocarbons any more than typical road or carpark areas. Runoff from this catchment area does not require any specialised treatment, but since it is mixed with runoff from other site areas will pass through a proposed new oil separator prior to discharge into the Council stormwater system. Photo 8 below shows the drain near the site entrance.

Photo 8 Site Entrance (showing Stormwater Drain)

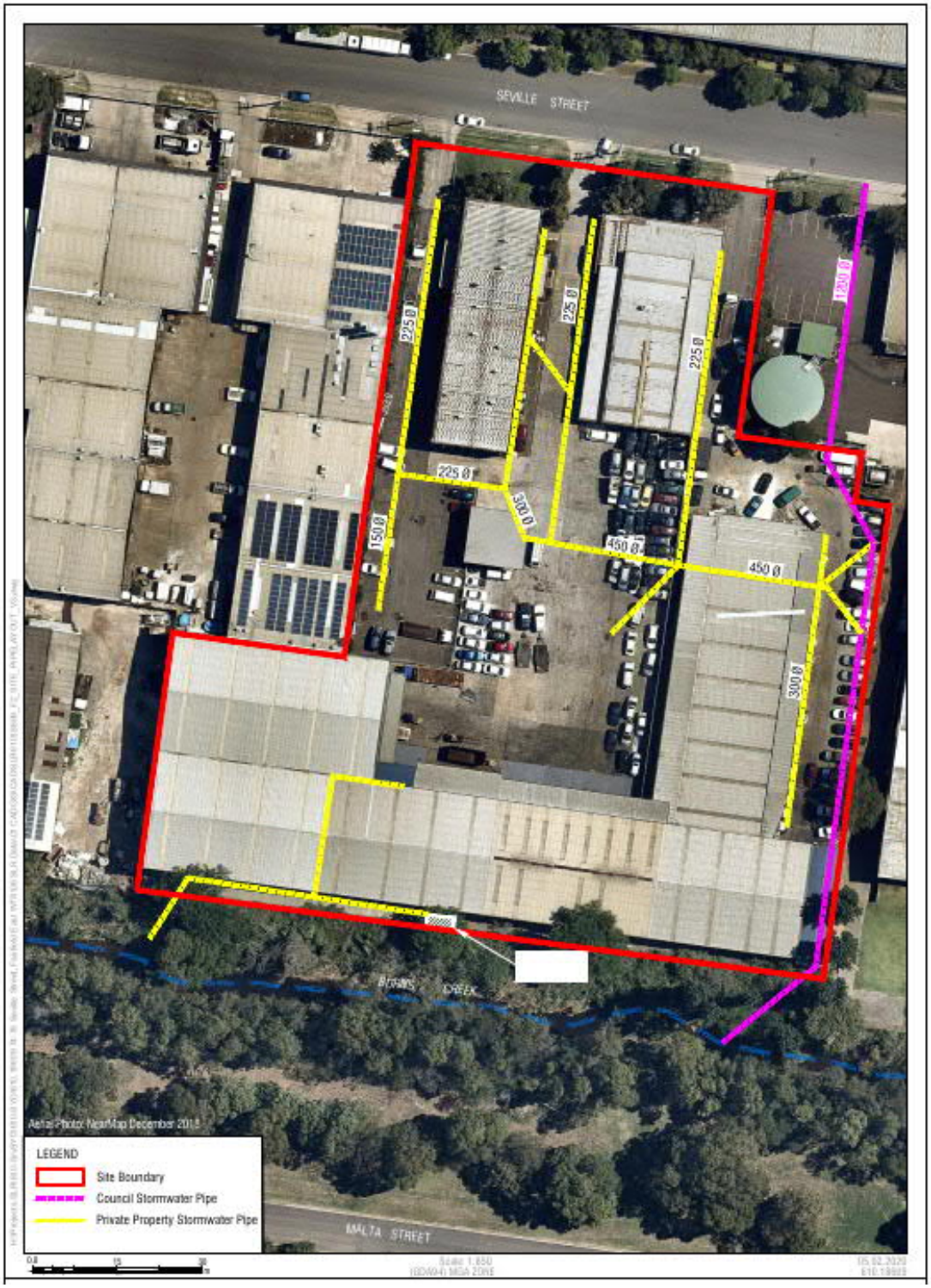
During SLR's site visit, one area was identified of concern and requires further controls in order to ensure compliance with environmental requirements. This area is the catchment named Hardstand which will be used as storage space for cars waiting disassembling. Runoff from this area drains into a succession of pits and pipes that ultimately lead to Council's stormwater system. Water quality controls will be required to manage the risk of hydrocarbons and other vehicular contaminants from this area entering Council's stormwater system and Burns Creek.

Spills from the hardstand area (Photo 9) are managed the same way as for the workshop using application of an adsorbent powder which is swept up and disposed off-site. This method works well in adsorbing most of the spilled fluid. However, some of the spilled fluid will remain on the surface of the hardstand, and will become a potential source of pollution during subsequent rainfall. Proposed measures to control the water quality from this area are described in Section 6 of this report.

Photo 9 Hardstand Area to be Used for Storage

During SLR's site inspection on 28 February 2019, the existing stormwater pipes and pits were observed as shown on Figure 4.

Figure 4 Existing Stormwater Layout



6 DESCRIPTION OF PROPOSED SITE WATER MANAGEMENT

6.1 Site Areas

Catchments have been classified in accordance with site activities, as observed during SLR site inspection on 28th February 2019. These areas are shown in Figure 5 and described in Table 4.

Figure 5 Proposed Site Catchment Areas

Table 4 Catchment areas, activities, capture and treatment

Designation	Catchment Area (ha)	Activities	Capture and treatment
CLEAN: Roof 1 & 2 (Offices) Roof 3 (Od Fuel Dispensing) Roof 4 (Disassembling and Storage)	0.67	Roof water directly connected to stormwater.	In the existing scheme of roof and stormwater drainage at site, most roof water is mixed with runoff from other areas. Discharge via proposed new oil/water separator/GPT.
DIRTY: - Hardstand	0.20	Hardstand for truck and front end loader manoeuvring, car storage (waiting disassembling).	Captured in existing stormwater pit and pipe system. Add Ecosol Enviropod with oil absorbent bags, to pit inlets within hardstand areas. Discharge via proposed new oil/water separator/GPT.
WASTE: Any areas used for storage of dismantled gearbox and engines	0.05		All dismantled parts to be stored under roof. Spills to be treated with spill kits.
ROAD: - Carparks / Driveways	0.34	Carpark / Driveways water directly connected to stormwater	Directly connected to stormwater. Add Ecosol Enviropod inserts with oil absorbent bags, to pit inlets within hardstand areas. Discharge via oil/water separator/GPT.

Proposed water quality controls for runoff from the hardstand area are as follows:

- Install Ecosol EnviroPod filters with oil absorbent bags inside the pits on the hardstand catchment as a primary treatment measure (see Section 6.1.1 for more information);
- Install an oil water separator trap to treat any polluted runoff from the area prior to discharge into the Council stormwater system as a secondary treatment measure (see Section 6.1.2 for details); and
- Implement a strategy to clean exposed impervious areas of any remaining hydrocarbons from paved surfaces (see Section 6.1.3 for details).

The carpark areas should have Enviropod filters added at the stormwater inlets, and will discharge from site via the oil-water separator/GPT.

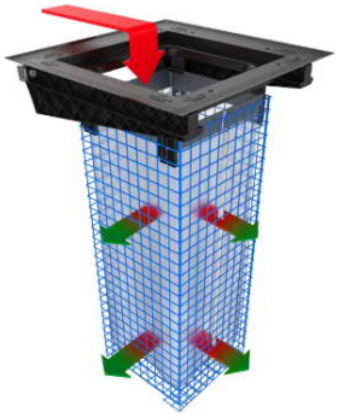
A part of Roof will discharge directly from site to Burns Creek. The remainder of the roof water will be captured in the existing pit and pipe stormwater system, and mixed with runoff from the hardstand, then discharge from site via the proposed oil-water separator/GPT.

6.1.1 Ecosol EnviroPod

SLR undertook a desktop study to find a primary treatment measure that can capture oil and grease from the hardstand catchment.

It is proposed to use EnviroPod filters with oil-adsorbent media, to be retrofitted to existing stormwater surface inlets. The Enviropods would have a 1000 micron polyester mesh screen. Figure 6 shows an EnviroPod as it would look like once set inside a stormwater pit.

Figure 6 EnviroPod



6.1.2 Oil Water Separator and Gross Pollutant Trap

Treatment of stormwater runoff is required prior to discharge from site, primarily to capture hydrocarbons, but also sediment loads, and, to a lesser extent, nutrients from car parking and hardstand areas.

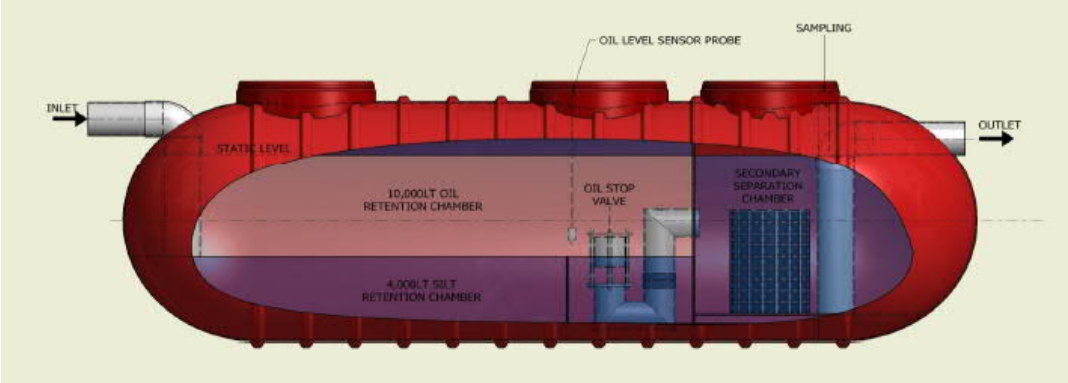
This can be best achieved by installation of a Class 1 dual chamber oil water separator such as that shown in Figure 7 which has a high storage volume which is able to capture sediment loads, as well as capture large volumes of oily water.

A suitable model would be an Aquator Model T20, which has a total storage volume of 20.8m^3, and a maximum flow rate of 50 L/s. The oil/water separator should be installed with a high flow bypass activated via an overflow weir in a pit upstream of the device.

The oil-water separator/GPT should be installed with a high flow bypass, for flows in excess of 50L/s. This would be subject to detailed design but could utilise a splitter pit with weir upstream of the device, with low flows directed to the device, and high flows to the existing 450mm stormwater pipe.

It is important to note that good maintenance of the trap is key to providing an efficient treatment of polluted runoff. That includes removing the accumulated sediments/sludge and hydrocarbons from the trap using an accredited party which will then safely dispose of the waste.

Figure 7 Oil water Separator and Gross Pollutant Trap



6.1.3 Cleaning of hardstand area

Hardstand areas may be subject to occasional hydrocarbon spills and should be cleaned 12 monthly to reduce potential build-up or coating of surfaces with oils or other substances that can provide a source of pollution during wet weather.

This assessment is not prescriptive on cleaning methods, but the methodology/procedure should comply with the following minimum requirements:

- Not occur during wet weather;
- Not utilise degreasing chemicals;
- Not allow dirty water from the cleaning process to runoff from the site;
- Utilise a pressure scrubber or sweeper capable of removing accumulated hydrocarbons from the surface. (Alternatively a waterless microbial based stain removal compound such as Bakcrete or Coverclean HC may be trialled on concrete surfaces);
- Include a vacuum system to remove excess water, which is to be removed from site by the cleaning contractor; and
- Cover at least 90% of the total area annually.

This requirement is not intended to be applied to the access roadway and staff car parking areas.

The proposed locations of water quality controls are shown in Figure 8.

Figure 8 Proposed Water quality Controls

7 MAINTENANCE AND MONITORING

7.1 Maintenance

Prior to the commencement of operations, the proponent should have the existing oil/grease trap cleaned out by a suitably qualified company, who should certify that the oil/grease trap is suitable for purpose, complies with relevant standards, and is in good working order. The proponent should also demonstrate that they have a suitable contract in place for ongoing maintenance of the existing oil/grease trap.

It is important that all site water quality controls be maintained so they continue to operate efficiently. Operational procedures for the site should include the following maintenance items:

- Clean and maintain oil/water separators (grease traps) by a suitably qualified contractor – at least 6 monthly;
- Replace or clean EnviroPod filters – 12 monthly; and
- Cleaning of hardstand vehicle storage areas – 12 monthly.

7.2 Monitoring

The EPA has advised that this site will not require an EPA license and will be regulated by Council.Water quality samples should be taken from the site discharge each 3 months, during wet weather, and analysed against the ANZECC trigger values.

During the first year of operation, a monthly sampling of discharge water quality is recommended. If the sampling indicates that water quality is not complying with the ANZECC trigger values, or any requirements in an EPA license, then this should be investigated and corrective measures implemented. The corrective measures may include improvements to site environmental procedures, and/or additional water quality controls.

Water quality sampling should be taken on each of the two discharge locations:

- The existing stormwater pit at the rear of the property, prior to discharge towards Burns Creek, and
- Prior to discharge into the Council stormwater easement

7.3 References

ANZECC 2000 The Australian and New Zealand guidelines for fresh and marine water quality, 2000, published by the Australian and New Zealand Environment and Conservation Council (ANZECC)

ANZG 2018 Australian & New Zealand Guidelines for Fresh & Marine Water Quality

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