

**Site Condition Report in support of Application for an
Environmental Permit for the Operation of a Waste
Processing and Recycling Centre at Unit 11, Kemys Way,
Swansea Enterprise Park, Swansea, SA6 8QF**

Document Reference: CTL SCR01

C.T.Lewis Ltd

**Site Condition Report in support of
application for an Environmental Permit
for the Operation of a Waste Processing
and Recycling Facility at Unit 11 and
The Former Engine House, Kemys Way,
Swansea Enterprise Park, Swansea,
SA6 8QF**

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1. Executive Summary:

C.T. Lewis Ltd (formerly trading as ASC Recycling) are proposing to expand their waste processing and recycling centre at Unit 11, Kemys Way, Enterprise Park, Swansea, West Glam, SA6 8QF onto The Former Engine House Unit on the opposite side of Kemys Way. This will trade under the business name, 'C.T.Lewis Ltd.

The facility will accept:

- General Commercial and Domestic Waste – including mixed wood, metal, plastics and inert hardcore.

Controls in place include:

- An impermeable surface at the site;
- A sealed drainage system discharging to foul sewer via a full retention hydrocarbon separator;
- Covered areas for the quarantine of Hazardous Wastes pending appropriate disposal;
- A 2.4m palisade fence on all perimeters of the two plots;
- A weighbridge for the weighing of waste in and out of the facility;
- Offices with welfare facilities where documents can be prepared and retained.

The Competent Person for C.T.Lewis is currently Mr David Reginald Puckett who holds a WAMITAB, Managing Transfer Operations – Clinical or Special Waste (Level 4) – TSS4 qualification.

As part of this application Mr Joseph Lewis has made a commitment to undertake the following units under the Operator Competence Award Scheme with the Waste Management Industry Training and Advisory Board:

- 4TSMNH6 – NVQ Units 1NH, 2NH, 3, 4TMNH, 6TMNH and 8NH

The key technical standards applicable to these activities are **'Getting the Basics Right' and EPA 5.06 – Guidance for the recovery and disposal of hazardous and non hazardous waste.**

Due to the presence of non-industrial premises within 200m of the site it is proposed to operate the facility under a Bespoke Permit.

2. Introduction:

C.T.Lewis are currently operating a non-hazardous waste transfer and recycling centre (trading under the name A S C Recycling) at Unit 11, Kemys Way, Swansea Enterprise Park, Swansea, SA6 8QF.

C.T.Lewis are proposing to expand the business onto a site on the opposite side of the road at The Former Engine House Unit also on Kemys Way. This site will be used for the tipping, sorting and storage of Controlled Wastes.

3. The Sites:

The two sites sit either side of Kemys Way which is within the Swansea Enterprise Park. The majority of the premises in the vicinity of the sites are heavy industry or waste but there are some lighter industrial and commercial premises, including a mobile phone shop which is approximately 200m from the Former Engine House site. Unit 11 is on the southern side of Kemys Way whilst the Former Engine House is on the northern side. Both sites are level and surfaced with concrete. The drainage at the Former Engine House is sealed and discharges via a hydrocarbon interceptor.

Unit 11 covers an area of approximately 465m² and the Former Engine House, approximately 1407m².

Site grid reference: SS 67487 97314

3.1 Historical Mapping:

Historical mapping is available for the site, from 1884 onwards. Available mapping is as follows:

1:10,560 Scale Maps:

- 1884 - Maps show the site as being rough pasture or farmland. There is a railway line labelled Swansea Vale Section approximately 175m to the west. There is a feature to the SE of the site which is labelled Marsh Pit Colliery. The land is labelled 'Liable to Flooding'.
- 1900 - There has been significant development around the site. The Beaufort Tin Plate Works has been constructed to the SW of the site and the railway is now labelled Moriston Branch. The area to the east of the site is labelled 'liable to floods'. A ditch is shown which passes through both sites. The flow illustrated on the ditch is north to south.
- 1921 - There has been a small amount of development around the site but nothing in the direct vicinity. Marsh Pit Colliery is now marked as disused. The ditch which crosses the site has been diverted but still crosses the Unit 11 site.
- 1938 - A track or road has been constructed on the alignment of the now Kemys Way. This leads to a development immediately west of the sites. The ditch crossing the area of the site appears to have either been filled or culverted as part of this development.
- 1949 (aerial photo) - There has been some further development at the site but due to the quality of the photo it is not possible to determine what the buildings are but they do appear to have large railway sidings attached to the development. There is also a development to the east of the site which does not appear on the 1938 map. Again it is difficult to assess what this might be, from the aerial photos.
- 1952 - There has been further development to the west of the site. This is labelled as 'Trav Cran'. This development seems to have been constructed on a filled area, with the area now occupied by the site being extensively filled. It is likely that the fill

material used would have been a waste product from the steel making and tin plating works around the site. This material is likely to be furnace ash or slag. Tanks are marked in the general area of the Former Engine House site.

1:10,000 Scale Maps:

- 1964 – There is not much change on this map from the previous one. The development to the SE seems to have reduced in size and there has been a rapid expansion of housing in the area marked Winsh-Wen.
- 1976 (produced by Russian Military, text in Russian) – The development to along Kemys Way and around the site appears to have changed, becoming more of an industrial estate. A large circle is evident on the site to the north of the site, this is probably a gas holder.
- 1980 – Filling around the site has progressed south. This development north of the site is now labelled 'Wales Gas Industrial Estate'. Swansea Vale Spelter Works to the east of the site has disappeared.
- 1989 – Ferryboat Close can now be seen and there has been further development at the site with it looking very similar to its current form and being labelled 'Morrison South Industrial Estate'. The railway to the west of the site has disappeared.
- 1993 – The site remains unchanged, although there is further development around it.
- 2006 – There are now buildings evident on the Unit 11 site.
- 2009 – The Former Engine House site is now joined to the site to the north of it and there is a building on the site.

1:2,500 Scale Maps:

- 1876 – 1881 – Swansea Vale Section railway marked to the west of the site. Tramway to the south. Area to the north of the site is marked 'Liable to Flooding'.
- 1899 – As above.
- 1917 – 1919 – Ditch has been diverted around the site, railway now marked as 'Morrison Branch'.
- 1942 – 1943 – Ditch has disappeared. Development has commenced at the site with fill being placed to raise ground levels. It is unclear how much the level of the ground has been raised but from the maps it appears to be in the region of 1m – 1.5m. The Engine House can be seen with several tanks to the east of it. There is a large tank on the site of Unit 11.

1:1,250 Scale Maps:

- 1946 (aerial photo) – The engine house is evident in the photo.
- 1948 – The area to the north of the site is now marked Gas Works. The building directly to the north of the engine house is marked 'Gas Purifier'.
- 1948 – 1950 – No significant changes from the above map.
- 1954 – 1966 – Many of the buildings around the site have disappeared and the area which is now the Industrial estate is marked 'Works'. Many of the areas around the site are marked as 'slag heap'.
- 1962 – 1987 – The Wales Gas Industrial Estate has appeared to the north of the site. Kemys Way and Ferry Boat Close are now evident. The engine house has been demolished and the layout of the industrial estate is close to its current layout.
- 1992 – Slight change to boundary of Unit 11.

3.2 IPPC Regime:

Unit 11 Kemys Way is currently register under a Waste Management License in the name of A.S.C. Recycling Ltd with Mr Steve Lorey and Mr Colin Lewis as the license holders. The reference for this Waste Management License is EAWML 34260.

3.3 Geology:

From British Geological Survey (BGS) plans of the area, it appears that the superficial geology is Flandrian alluvium in the form of clay, silt sand and gravel. This extends in a band along the eastern side of the River Tawe. The underlying bedrock is Swansea Member, mudstone, siltstone and sandstone from the westphalian period. There are no known faults crossing or occurring within 100m of the site, although the underlying rocks could potentially be fractured.

3.4 Groundwater:

The site overlies a minor aquifer but this is likely to be fractured rocks of low permeability. The site does not sit within a source protection zone.

3.5 Statutory Designations:

There are no statutory designated sites within 1km of the site but there are several areas of adopted green belt, including the section of land immediately south of the site.

3.6 Pollution Incidents:

There have been seven reported substantial pollution incidents in the vicinity of the site but none of these has occurred within 250m of the site.

3.7 Mining:

A report on the status of the site has been obtained from the Coal Authority which states 'according to the records in our possession, the property is not within the zone of likely physical influence on the surface from past underground workings.' It also states that the property is not in the likely zone of influence of any present underground coal workings.

3.8 Potential for Existing Ground Contamination:

Five soil samples were taken from the sites, three from the Former Engine House site and two from Unit 11. Samples were taken from soils around the periphery of the sites as the sites are concrete covered and in order to maintain the integrity of these surfaces it was not desirable to puncture the concrete. A sample location plan can be seen in Appendix B. Samples were sent to Anchem Laboratories for analysis. The results are tabulated below:

Determinand	Sample Reference:					CLEA SGV (mg/kg)	ICRCL Table III (mg/kg)
	45745/ 1	45745/ 2	45745/ 3	45745/ 4	45745/ 5		
pH	7.3	7.5	7.5	7.9	7.6	N/A	N/A
% Material passing a 2mm sieve	40	41	39	57	52	N/A	N/A
Total Oil	11	10	18	106	273	N/A	N/A
Copper (as CU)	152	134	143	353	1435		250
Cadmium (as Cd)	2	2	<1	4	7	230	
Nickel (as Ni)	24	30	21	52	156	1800	
Zinc (as Zn)	833	729	368	1034	2233		1000
Lead (as Pb)	283	278	219	459	1227	750	
Chromium (as Cr)	26	19	25	47	126	5000	
Arsenic (as As)	29	33	30	44	83	640	

Note: CLEA SGV = Contaminated Land Exposure Assessment, Soil Guideline Values – prepared by the Environment Agency and DEFRA.

ICRCL 70/90, Table III = Inter Departmental Committee for the Redevelopment of Contaminated Land, Guidance 70/90 – Notes on the restoration and aftercare of metalliferous mining sites for pasture and grazing, Table III – Phytotoxic impacts.

A sample location plan can be seen in Appendix B.

From the results above it can be seen that the soils at the site are broadly pH neutral and are sandy in nature. There are slightly elevated levels of hydrocarbons at the site with a maximum of 230mg/kg in Sample 5.

We have compared the sample results against the relevant Contaminated Land Exposure Assessment, Soil Guideline Values (CLEA SGV) for Commercial Properties. Where no CLEA SGV threshold values are available, we have used the ICRCL 70/90, Table III threshold levels. There are elevated levels of copper, nickel, zinc, lead, chromium and arsenic.

Zinc levels in Sample 5 were 2233mg/kg which is more than double the ICRCL trigger threshold of 1000mg/kg but it should be borne in mind that this threshold is for phytotoxic uptake. Zinc is not very volatile or reactive and is therefore not particularly environmentally available (hence its use as a coating for other metals to prevent corrosion)

From the review of historic maps and aerial photos of the site it can be seen that fill has been placed onto the site to raise it above flood water levels at the site. Due to the presence of several iron, steel and copper working facilities in the vicinity of the site, it is likely that the fill material used is likely to have been waste products from these facilities. It would therefore be fair to expect elevated levels of metal contamination.

The neutral pH of soils at the site will reduce the likelihood of these contaminants being taken into solution by groundwater and leaching from the soils.

Considering workers exposure to these contaminants – workers will be present on site for an 8 – 10 hour shift 6 days per week. Workers are isolated from exposure to soils at the site via an impermeable concrete surface which will virtually negate exposure to soils and contaminants contained therein.

This impermeable surface will also prevent rain water seeping into soils and mobilising contaminants.

4. The Process:

These wastes will be stored/processed in the following ways:

Household, Industrial and Commercial Waste:

Waste tipping, separation and storage will predominantly be carried out at the new facility at the Former Engine House site. Unit 11 will predominantly be used for the storage of empty bins and skips and the parking of waste collection vehicles. The Permit should however allow that either site can be used for the tipping, processing and sorting of waste.

Waste will be received into the facility in skips or bins. These will predominantly be tipped into bays situated at the eastern end of the Former Engine House site although dependant on capacity some waste will still be processed in the existing Unit 11 facility. The waste will be sorted using a combination of mechanical and manual sorting. Waste will be separated

into waste streams composed of waste fractions of the same composition i.e. wood, metals, plastics, inert hardcore, plant waste, plasterboard, etc.

Any wastes which are not covered by the Environmental Permit for the facility will be moved to the quarantine area (situated at the Former Engine House) for storage prior to disposal in line with requirements for the waste type. Examples of wastes which are not accepted by the facility are:

- Hazardous Waste
- WEEE
- Asbestos
- Liquid Wastes
- Powder wastes

Form EPB: Application for an environmental permit – Part B New Permit
Table 5a – Types and amounts of waste.

Installation or waste facility reference.	Waste Facility
Schedule 1 activity or waste facility	Waste Facility
Annex IIA or IIB (disposal and recovery codes) description	D13, D14, D15, R4, R5, R13
Capacity	4999 tonnes/yr
Hazard Code	H5, H14
Waste Code	Description
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 04	Metallic packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 07	Glass packaging
15 01 09	Textile packaging
16 01 17	Ferrous metals
16 01 18	Non-ferrous metals
16 01 19	Plastic
16 01 20	Glass
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks and ceramics other than those mentioned in 17 01 06
17 02 01	Wood
17 02 02	Glass
17 02 03	Plastic
17 04 01	Copper, bronze, brass
17 04 02	Aluminium
17 04 05	Iron and steel
17 04 07	Mixed metals
17 04 11	Cables other than those mentioned in 17 04 10
17 05 04	Soil and stones other than those mentioned in 17 05 03

17 08 02	Gypsum-based construction materials other than those mentioned in 17 08 01
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03.
20 01 38	Wood other than that mentioned in 20 01 37
20 01 39	Plastics
20 01 40	Metals
20 02 02	Soil and stones

5. Controls:

Controls will be put in place in the form of operational procedures and secondary controls in the form of design and construction of the site.

Quality control in terms of waste segregation will be controlled by Colin Lewis under guidance from the Environment Agency. C.T.Lewis have a TCM / Manager who holds a relevant WAMITAB Qualification.

Offices for the processing and storage of paperwork are provided on either site with the main office being situated on the Former Engine House Site. There are currently toilet and wastewater facilities at the site which are connected to the main sewer. These will be maintained throughout the sites operation.

5.1 Fugitive Release Control Plan:

Fugitive releases will be controlled through the implementation of the following measures:

Both sites are surfaced with steel reinforced impermeable concrete. Drainage is via a sealed system discharging via a hydrocarbon separator. In the case of the Former Engine House Site, this is situated on the adjoining site but C.T.Lewis have gained the site owners written consent for the use of this separator. The separator discharges into a foul sewer for which the owners have a discharge consent.

Any wastes included within loads which the facility is not licensed to receive i.e. hazardous wastes, plant wastes, WEEE, asbestos, etc will be moved to a quarantine area within the site boundary to await onward disposal appropriate to that waste. Waste being quarantined will be stored in containers suitable for that waste i.e. sealed drums, pallets with shrink wrap, etc. All unacceptable wastes will be handled with care to ensure that no damage resulting in the release of hazardous substances occurs. Wastes will be inspected daily to ensure that no degradation has occurred, which could result in the release of hazardous substances.

Hand washing and toilet facilities are provided in the office buildings on either site.

Both sites are fenced on all sides with a 2.4m high palisade fence. There are heavy duty palisade gates at both sites which are locked at the end of the working shift. This should ensure there is no unauthorised access to the yard and hence no tampering with stored waste or equipment.

The key operational controls will be in the way in which wastes are handled and sorted. All sorting will be undertaken within the sorting bays at the eastern end of the Former Engine House site. This will minimise noise and dust and will reduce the likelihood of wastes being windblown around the site.

Loads will be assessed when they enter the facility with all wastes which are not accepted under the Environmental Permit for the facility being removed from bins and skips and

moved to the quarantine area for storage pending disposal. Loads will also be assessed for their potential to generate dust with observations being made for materials and substances composed of fine particulates. If loads are identified as having potential to generate dust they will be damped down using a sprinkler on a high pressure hose prior to being tipped.

Noise will be minimised through good practice i.e. not over revving engines, minimising drop heights for materials, restricting working hours, minimising impacts between objects and adopting an attitude of being a 'good neighbour'.

Regular litter picks of the site will be undertaken to retrieve all windblown and deposited waste. Housekeeping will be maintained to a high standard through daily inspection.

An Environmental Management System has been produced for the site which identifies all likely environmental impacts resulting from the operations to be undertaken at the facility.

The key technical standards applicable to these activities are ***Getting the Basics Right and EPR 5.06 – Guidance for the recovery and disposal of hazardous and non hazardous waste.***

Please also refer to the Environmental Management System for the proposed facility. Document Reference **EMS2010**.

6. Competence:

C.T.Lewis employ Mr David Reginald Puckett as their Competent Person. Mr Puckett holds a WAMITAB, Managing Transfer Operations – Clinical or Special Waste (Level 4) – TSS4 qualification.

Further to this Mr Joseph Lewis has made a commitment to undertake the following units under the Operator Competence Award Scheme with the Waste Management Industry Training and Advisory Board:

- 4TSMNH6 – NVQ Units 1NH, 2NH, 3, 4TMNH, 6TMNH and 8NH

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Appendix A – Site Location Plan

SITE LOCATION PLAN

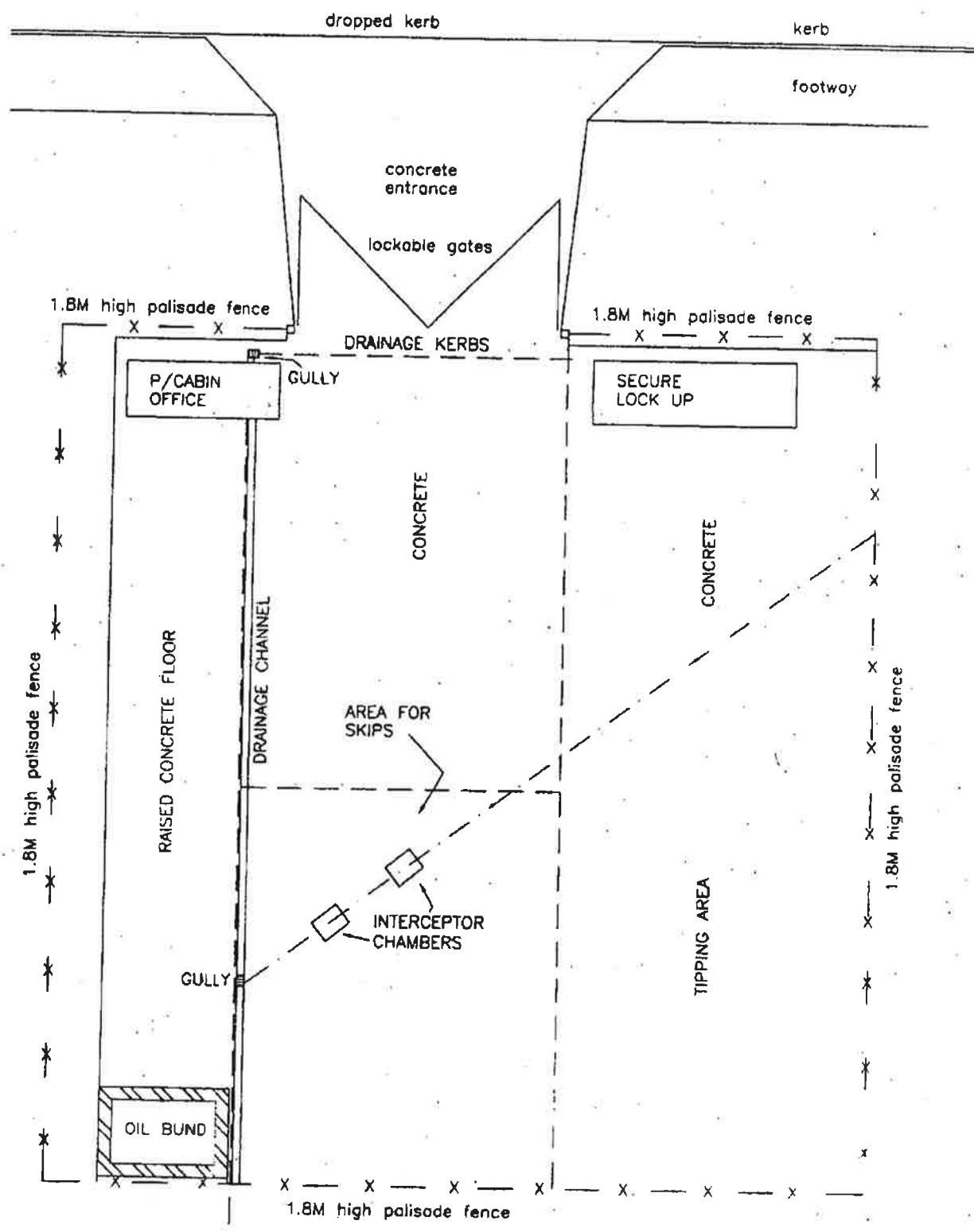
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10/10/2010

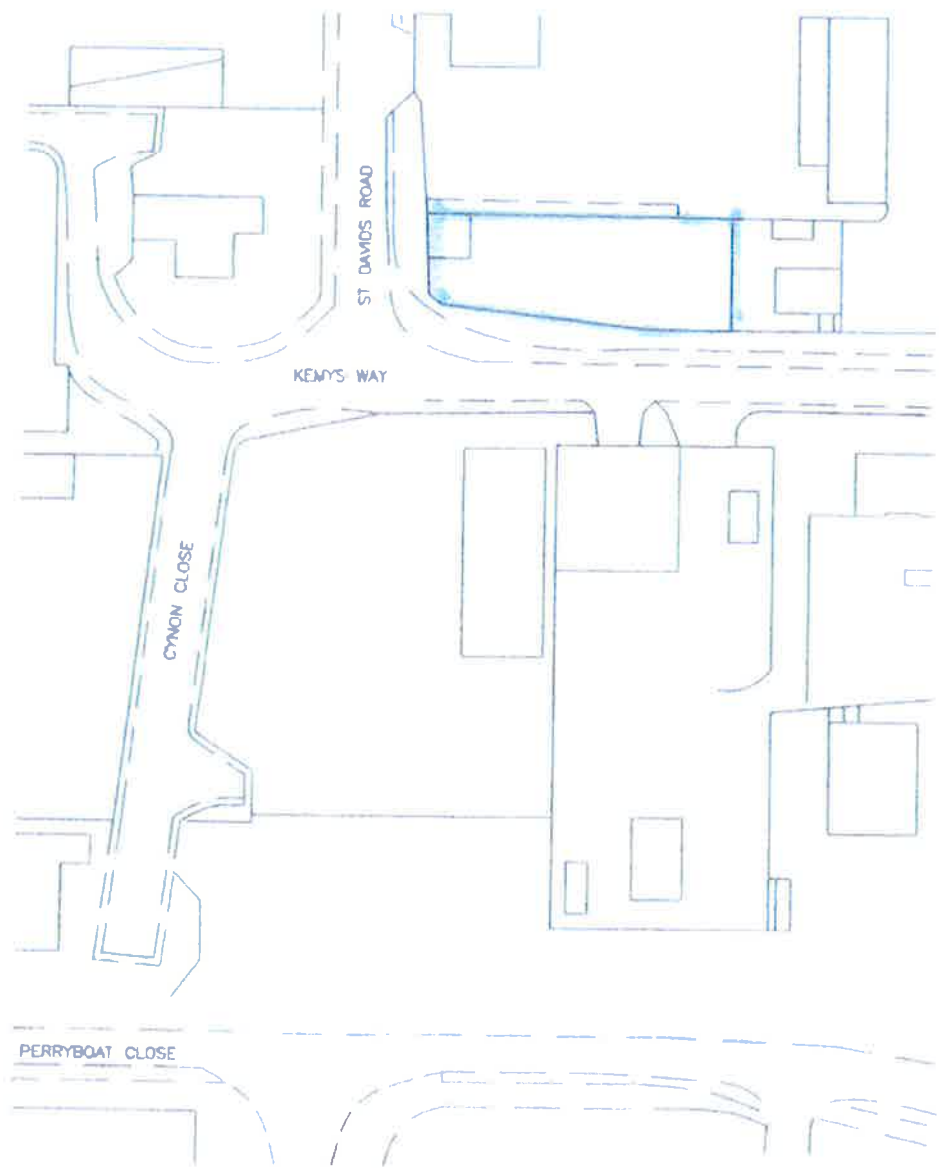




UNIT 11 KEMYS WAY SITE LOCATION PLAN

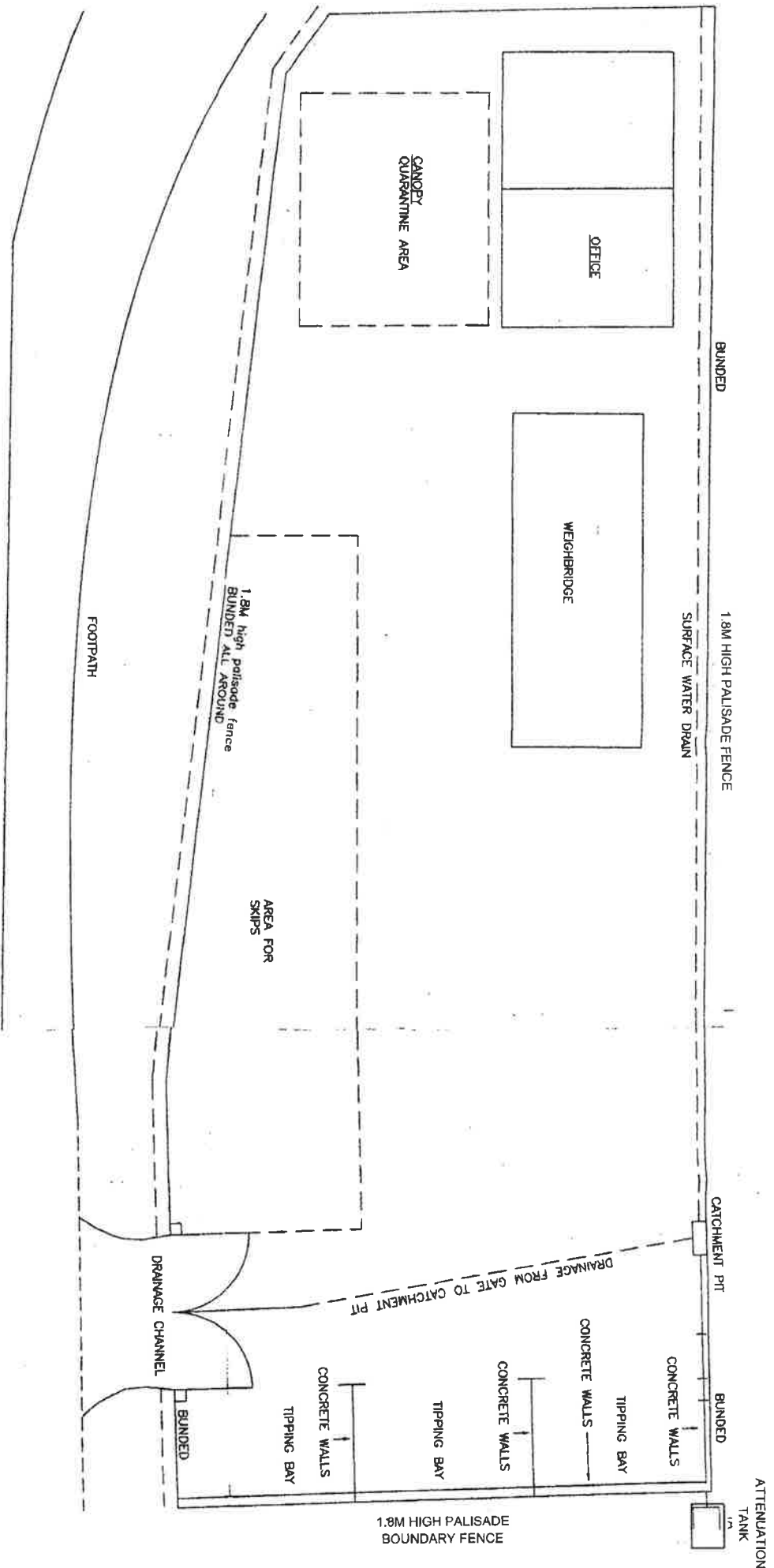


UNIT 11 SITE LAYOUT PLAN



FORMER ENGINE HOUSE SITE
LOCATION PLAN

FORMER ENGINE HOUSE SITE PLAN



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Appendix B – Soil Sampling Location Plan

SOIL SAMPLING LOCATION PLAN



10/10/2017

