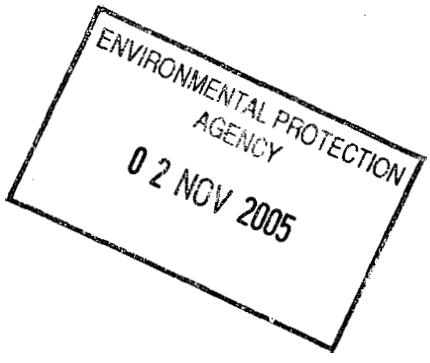
212-1

Bedminster®
THE 610-ENERGY TECHNOLOGY COMPANY

Bedminster International Limited
Oyster *Point*, Temple Road, *Blackrock, Co.* Dublin, Ireland

Telephone: +353 1 279 9575 Facsimile: +353 1 279 9589 E-mail: info@bedminster.com

WWW.BEDMINISTER.COM



Mr. Breen Higgins
Inspector
Office of Licensing & Guidance
Environmental Protection Agency
Johnstown Castle Estate
County Wexford

28 October 2005

Re: Waste Licence Application Register No. 212-1

Dear Mr. Higgins

I refer to the Agency letter dated 18/10/05 in relation to waste licence application register no. 212-1. Please find attached response to information request..

Yours sincerely

Peter Carey

Response to EPA Information Request

(i) Provide a map showing the location of the discharges to surface water and the location of the candidate Special Areas of Conservation.

Response to Question
A map showing the location of the discharge to surface water and the location of the candidate Special Areas of Conservation is provided in Figure 3.1.

The River Suir from below Thurles to Cheekpoint (confluence with the Barrow/Nore) is designated as a cSAC (candidate Special Area of Conservation). Roger Goodwillie, who carried out a terrestrial flora and fauna study outlined the location of the candidate Special Areas of Conservation. His report, which was attached as Appendix 2 of additional information submitted in July states in **Section 3.1 Designations** that:

'The site is bordered by the Lower River Suir candidate SAC (Code No 2137) whose boundary is the drain below the river embankment. The river is designated for its otter, fish and invertebrate populations, for its birdlife (geese), for marginal river habitats especially wet woodland and reedbeds, and for its rare plants.

The site does not contain special organisms apart from the otter (on the outer embankment) and visiting greylag geese. No plants listed on the Flora Protection Order 1999 currently occur though *Groenlandia densa* did *so* in the past.'

He further states in **Section 4 Impact of Development,** that:

'Since the project is located in the existing buildings there will be no change in the land use of the open areas described above and essentially no impact on the present flora and fauna. **The quality of effluent released (to the estuary) will be subject to licence by the EPA and will not have detrimental effects. Any enrichment of the field drains, from whatever source, will lead to greater growth of vegetation but is unlikely to result in further floral change. Water movement is to the north, away from *Groenlandia* sites on adjacent land.'**

RPS **MCOS** carried out the study **of** the aquatic environment attached as Appendix **3** of the additional information submitted in July and state that:

'The Suir is tidal upstream to Twomilebridge, approximately 2km east of Clonmel. Carrick on Suir is the freshwater limit, i.e. downstream of this point has a saline influence. Nutrient concentrations are effected by salination below the freshwater limit.'

RPS MCOS further state that:
'The Urban Wastewater Treatment Directive (91/271/EEC) is implemented by the Urban Wastewater Treatment Regulations 2001 **(S.I.** No 254 of 2001). The regulations apply to urban wastewater discharges for agglomerations from 2000 p.e., where plants are required to comply with specific performance and quality standards. While the regulations do not specifically apply

to the proposed facility, they are considered to be the best benchmark for ensuring there is not a detrimental impact on receiving waters due to a wastewater discharge.

The effluent from the proposed treatment plant will meet the requirements of the UWWT regulations for key pollutants, including requirements for total phosphorus and total nitrogen (the parameters responsible for eutrophication), which must be met for sensitive areas. Therefore **it is considered that the effluent is suitable to discharge to sensitive waters and should not give rise to an additional impact on the river Suir.** Should the application for the composting facility be successful, the effluent quality will be subject to licence by the **EPA.'**

(ii) Provide details (names, location and activity) of the sources of the waste for treatment in the Sequencing Batch Wastewater Treatment Plant.

Response to Question

It is intended that the waste for treatment in the wastewater treatment plant will be primarily sourced in the South East Region. In particular untreated waste arising from within the River Suir catchment and upstream of the facility will be targeted by AES for treatment at the facility in Portlaw. The Three Rivers Project noted that *"industrial sludges (e.g. from food processing, animal slaughter, rendering, pig and poultry production) and sludges/slurries generated by agricultural livestock are all a potential nutrient resource and a potential source of pollution to ground and surface water courses''* for the Suir Catchment and its sub-catchments. In addition, wastes generated at facilities, which for some reason or another are not meeting emission limit values, e.g. may be over capacity, or due to the discharge are giving rise to water quality problems, will be targeted. Legislation is becoming more stringent in relation to the form of materials that can be spread onto land and there is a need for a facility to further treat effluents, which previously could be spread on land. In all cases EPA permission will be sought in advance of accepting the waste at the wastewater treatment plant.

Trade Effluent

Leachate from the composting process, contaminated runoff from the wheel-wash area and domestic effluent from the canteen, toilets etc. will be treated at the existing wastewater treatment plant. A total of 60,000 tonnes/yr of wastewater will be accepted at the wastewater treatment plant. The following types and quantities of wastewater will be brought in by tankers and treated at the plant:

Category: EWC 02 02 Waste from preparation and processing of meat, fish and other foods of animal origin
Subcategory: EWC 02 02 01 Sludges from washing and cleaning [Waste from preparation and processing of meat, fish and other foods of animal origin]
Subcategory: EWC 02 02 99 Waste not otherwise specified [Waste from preparation and processing of meat, fish and other foods of animal origin]
Category: EWC 02 05 Waste from the Dairy Products Industry
Subcategory 02 05 **99** wastes not otherwise specified [Waste from the Dairy Products Industry]
Category: EWC 02 **07** Waste from production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa).
Subcategory: EWC 02 **07** 01 Wastes from washing, cleaning and mechanical reduction of raw materials. [Waste from production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa).]
Other non-hazardous effluents suitable for onsite treatment

The wastewater to be treated will typically be from the following industries - brewery and food processing. No specific contract has been established with any facility at this point in time, however a number of potential sources, which would benefit from the use of the wastewater treatment plant at the Portlaw facility have been identified.

Given commercial sensitivities the names of the organisation, which produce suitable effluent for the wastewater treatment plant in Portlaw, cannot be divulged. However, this information can be provided as confidential information if required. It is considered that even without revealing the names of organisations, the information provided below will be of assistance to the Agency in determining why this plant is needed and justifies the licensing of the wastewater treatment plant in Portlaw given the range of effluent discharges and lack of secondary treatment facilities, which discharge into waters in the Suir/Suir Estuary.

An analysis and risk assessments of the main River Suir and the Suir Estuary, carried out under obligations to the EU Water Framework Directive, indicate that these water bodies are "At Significant Risk" from particular "Point Sources" which are not subject to secondary wastewater treatment. It is these "Point Sources" from industries/organisation producing effluent (in particular, domestic, brewing, dairy and meat processing) not subject to secondary wastewater treatment that have been identified as suitable for treatment in the proposed wastewater treatment plant in Portlaw. The licensing of the wastewater treatment plant in Portlaw, with a 15,000 PE capacity should go some way in reducing the "At Significant Risk" categorisation of these particular point source discharges to waters in the Suir/Suir Estuary. .

Discharges to the River Suir
Section 4 Discharges
At present there are 29 industries discharging directly, under licence from Section **4** of the Local Government (Water Pollution Act), into watercourses, which flow into the Suir River Basin District.

These 29 include the effluent from

- 1 Abattoir
- **3** Dairy Plants
- 13 Hotels/Schools etc., producing domestic type sewage

At present all such wastewaters are being discharged to watercourses.

IPPC Discharges
In relation to IPPC industries in the Suir River Basin District, it appears that there are 10 such industries, including brewing, paper/wood pulping and meat processing, authorised to allow discharges to watercourses in the Suir River District.

Section 16 Discharges / WWTPs
There are also 70 industries discharging to sewer, under licence from Section **16** of the Local Government (Water Pollution Act), these sewers feed Wastewater Treatment Plants, which ultimately discharge into the Suir River Basin District. **Of the 12 Urban Waste Water Treatment Plants, which are going to discharge into the Suir River Basin District it appears that only 5 have the capacity to process waste waters to a "secondary" level of treatment.**

It is clear from the above information on point discharges to the River Suir Catchment that the South East Region needs additional wastewater treatment plant capacity with secondary treatment in order to prevent further deterioration in the existing status of waters and to achieve at least "good

status" in relation to all waters by 2015 in accordance with the Water Framework Directive requirements.

This is further emphasised by examining the characterisation and (Risk) analysis of Irish Water Bodies in the latest information provided by www.wfdireland.ie (Water Framework Directive Ireland **GIS** database), from which at significant risk is associated with point sources that do not have secondary wastewater treatment.

(iii) Provide a statement on the suitability of the Sequencing Batch Reactor Wastewater Treatment Plant to treat these wastes.

Response to Question

The wastewater to be treated will be typically from the following industries - brewery and food processing. The typical characteristics of these wastewaters, which are presented in Table 1 below, are similar to tannery wastewater (Table 2), which was previously treated at the plant.

Parameter	Range	Maximum
PH	4.5 – 12	12
COD	2000 – 6000 mg/l	2500 mg/l
BOD	1200 – 3600 mg/l	2100 mg/l
TSS	200 – 1000 mg/l	900 mg/l
TDS	1500 – 3700 mg/l	4000 mg/l
Nitrogen	25-80 mg/l	
Phosnhorous	10-50 mg/l	

PH		12.5
Ammonia	70	50
Nitrates	0	0
SS	8000	7620
BOD	3820	2850
COD	18900	14500
Chlorides	5210	4548
Sulphides	1400	1200
Chromium (Total Cr)	14.6	10
Chromium (Total Cr vi)	0	0
Phosphorous (total)	21.24	15.39
Phosphorous (Ortho)	14.22	10.92
Oils, Fat, Grease	1800	1000

The sequencing batch reactor (SBR) process is a form of activated sludge treatment in which aeration, settlement, and decanting can occur in a single reactor. The process employs a five-stage cycle: fill, react, settle, empty and rest. Waste water enters the reactor during the fill stage; it is aerobically treated in the react stage; the biomass settles in the settle stage; the supernatant is decanted during the empty stage; sludge is withdrawn from the reactor during the rest stage; and the cycle commences again with a new fill stage.

The advantages of SBR systems include:

- High quality effluent achievable;
- Ideally suited for wide flow and influent quality variations;
- Requires less operator attention than most other mechanical systems; and
- Operational flexibility, which can be used for nitrification, denitrification and phosphorus removal.

Treatment Potential

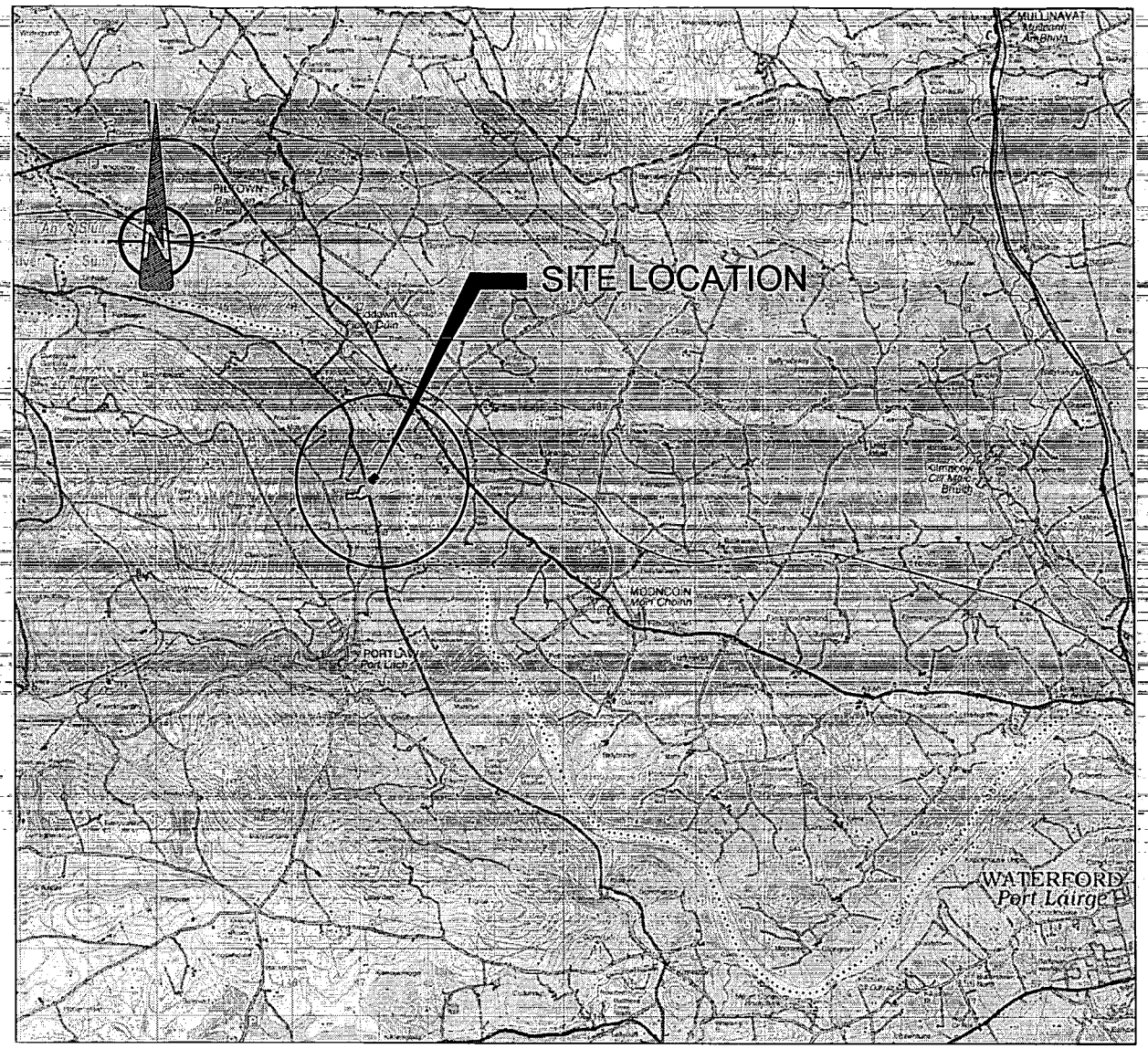
The characteristics of the wastewater to be treated are similar and in most cases have lower concentrations that that previously treated at the wastewater treatment plant. **As** stated above in all cases **EPA** permission will be sought in advance of accepting the waste at the wastewater treatment plant. In addition in order to accurately predict the treatability of the specific wastes, a sampling regime will be undertaken to determine exact quality parameters in the untreated effluents arising prior to acceptance.

It is intended that a competent and experienced company in the wastewater treatment sector will commission and initially operate the wastewater plant. During the commissioning period it will be required that the discharge licence standard be satisfied for the plant.

Non-Technical Summary

The information provided in this response does not impinge on the non-technical summary provided previously.

Article 16 reply. W0212-01



LOCATION MAP (Scale 1/100,000)

LOCATION MAP (Scale 1/5000)

NOTES

1. This drawing is the property of RPS-MCOS Ltd., it is a confidential document and must not be copied, used, or its content divulged without prior written consent.
2. All Levels refer to Ordnance Survey Datum, Malin Head.
3. DO NOT SCALE, use figured dimensions only, if in doubt ask.

Proposed Site Boundary

Additional Lands Leased

Location of Facility within Site

OSI Map Reference:
Waterford 5497-D & 5562-B

Environmental Protection Agency
Waste Licensing
Received
02 OCT 2005
Initials

Ordnance Survey Ireland
Ordnance Survey Ireland Licence No. EN0033804 and EN0005004 Copyright Government of Ireland

No.	Date		Amendment / Issue	App.
P01	Nov04		EIS	TM

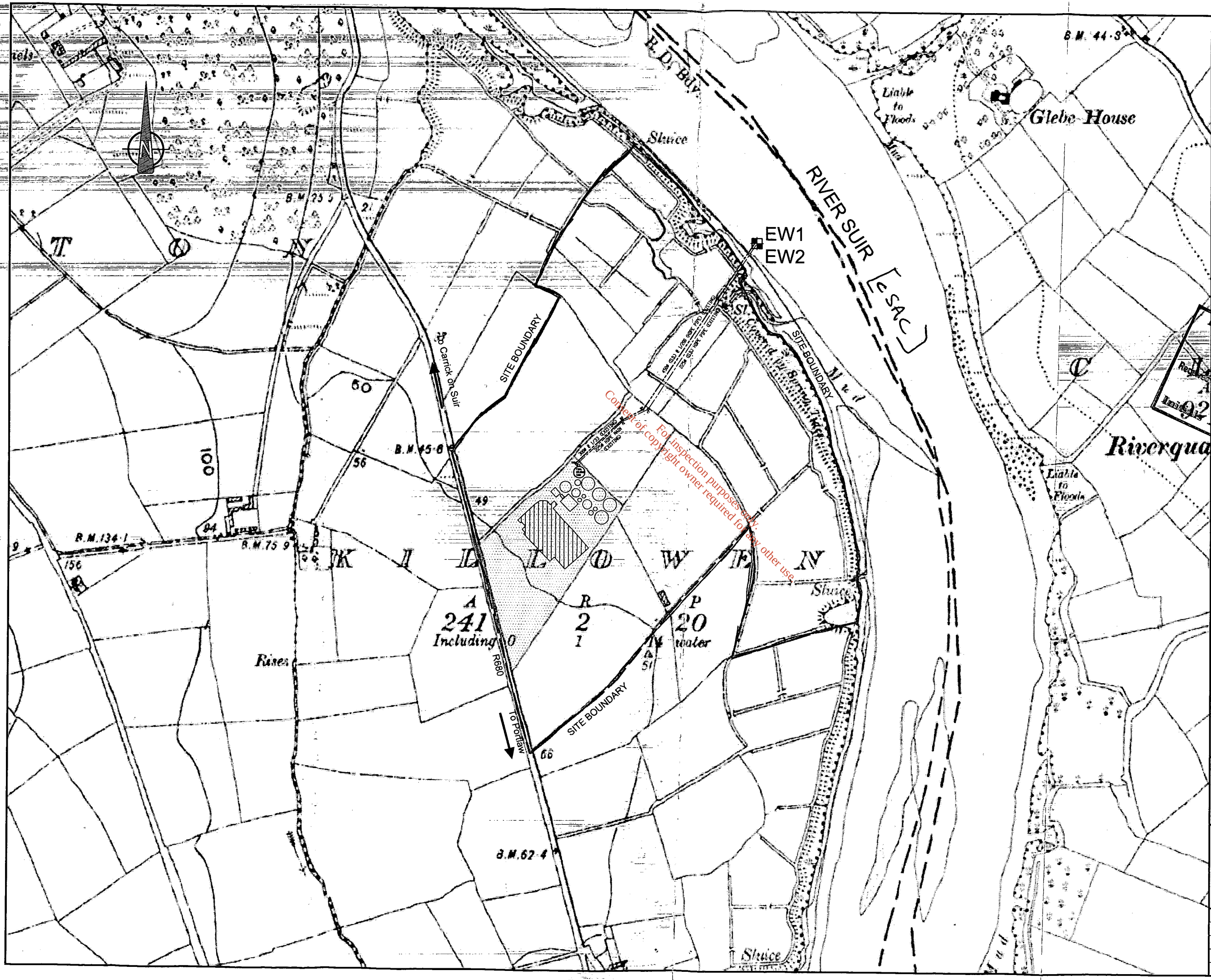
Client:
AES Ltd.

RPS MCOS
RPS-MCOS Ltd., West Pier Business Campus, Dun Laoghaire, Co. Dublin, Ireland.
T: +353 1 288 4499 - F: +353 1 283 5676
E: rpsmcos@rpsgroup.ie W: www.rpsmcos.ie

Project:
WASTE LICENCE APPLICATION AT KILLOWEN, PORTLAW, Co. WATERFORD ENVIRONMENTAL IMPACT STATEMENT

Title:
SITE LOCATION MAP

Drawn by:	PH	Job No:	MDC0182
Checked by:	MC	File No:	MDC0182Fig2-1.dwg
Approved by:	TM	Drg. No:	Figure 2.1
Scale:	As Shown		
Date:	Oct 2004		



NOTES

1. This drawing is the property of RPS-MCOS Ltd., it is a confidential document and must not be copied, used, or its content divulged without prior written consent.
2. All Levels refer to Ordnance Survey Datum, Malin Head.
3. DO NOT SCALE, use figured dimensions only, if in doubt ask.

Proposed Site Boundary

Location of Facility within Site

OSI Map Reference:
Waterford 5497-D & 5562-B

EW1 Treated Effluent Discharge

EW2 Surface Water Discharge

No.	Date		Amendment / Issue	App.
P01	Nov04	EIS		TM

Client: AES Ltd.

RPS mcos
RPS-MCOS Ltd., West Pier Business Campus, Dun Laoghaire, Co. Dublin, Ireland.
T: +353 1 288 4499 - F: +353 1 283 5676
E: rpsmcos@rpsgroup.ie W: www.rpsmcos.ie

Project: WASTE LICENCE APPLICATION AT KILLOWEN, PORTLAW, Co. WATERFORD ENVIRONMENTAL IMPACT STATEMENT

Title: LOCATION OF DISCHARGE POINTS TO RIVER SUIR

Drawn by:	PH	Job No: MDC0182
Checked by:	MC	File No: MDC0182Fig3-1.dwg
Approved by:	TM	Drg. No: Figure 3.1
Scale:	1/5000	
Date:	Oct 2004	