Deddf Adnoddau Dwr 1991
fel y'i diwygiwyd gan Ddeddf yr Amgylchedd 1995
Caniatâd Gollwng
Tystysgrif Daliwr

ASIANTAETH YR AMGYLCHEDD

Rhan A AMGEN RHONDDA LTD

At: COMPANY DIRECTOR
BRYN PICA LANDFILL SITE
LLWYDCOED
ABERDARE CF44 0BX

DS: I gorff corfforedig mae teitl y swydd yn bwynt cysylltu.
Dyddiad Cychwyn Daliwr: 31/07/01

Mae **Asiantaeth yr Amgylchedd** ("yr Asiantaeth") yn cadarnhau drwy hyn mai/bod y sawl a enwyd uchod yw/yn ddaliwr cofrestredig uy caniatâd AN0308301 Cyhoeddwyd Caniatâd: 31/07/2001

Natur y gollwng: TTEC Trade effluent - Treated effluent - Continuous
yn SS9816094160 NANT Y GWYDDON LANDFILL SITE GELLI

Nodyn: Dylid cadw'r dystysgrif hon gyda'r ddogfen ganiatâd i gyfeirio ati yn y dyfodol. Os byddwch yn trosglwyddo cyfrifoldeb y gollwng i rywun arall, rhaid i chi gyflwyno'r caniatâd iddo ef neu hi a dweud wrth yr Asiantaeth cyn pen 21 diwrnod. **Ni all y daliwr wadu cyfrifoldeb y gollwng, ond gall cofrestriad y daliwr gael ei drosglwyddo i olynydd.** I wneud hynny, byddwch cystal â llenwi'r ffurflen isod, ei datgysylltu a'i dychwelyd i'r cyfeiriad a nodir. Os methwch drosglwyddo'r caniatâd, hyd yn oed os nad ydych ar y safle mwyach, gallwch fod yn agored yr un fath i gael eich erlyn am lygru. Os trosglwyddwch y caniatâd ond heb ddweud wrthom, byddwch yn cyflawni trosedd. Os bydd gennych ymholiadau, byddwch cystal â chysylltu â swyddfa Asiantaeth yr Amgylchedd yn lleol.

Rhan B **Llenwch mewn priflythrennau bras neu deipio.**

At:

Deddf Adnoddau Dwr 1991: Hysbysiad am drosglwyddo caniatâd gollwng

Caniatâd: AN0308301

Cyhoeddwyd Caniatâd: 31/07/2001

Enw: AMGEN RHONDDA LTD
Cyfeiriad: COMPANY DIRECTOR
BRYN PICA LANDFILL SITE
LLWYDCOED
ABERDARE CF44 0BX

Yr wyf fi/Yr ydym ni* drwy hyn yn hysbysu'r Asiantaeth nad fi/ni/nad wyf/ydym mwyach yw/yn* Ddeiliad y caniatâd uchod. Caiff/Cafodd hwnnw ei drosglwyddo i: *dilewch yn ôl yr angen

Enw(au) y Daliwr/Dalwyr newydd:
Cyfeiriad:

Cod Post:

Dyddiad Trosglwyddo i'r Daliwr/Dalwyr newydd: .....

Llofnodwyd:..... **Dyddiedig:** .....

Enw Enw (priflythrennau bras):..... **Safle:** .....

JWE/5/96

(i'w lenwi wrth lofnodi ar ran cyrff corfforaethol)

Water Resources Act 1991
as amended by the Environment Act 1995
Consent to Discharge
Certificate of Holder

ENVIRONMENT AGENCY

Part A

To: AMGEN RHONDDA LTD
COMPANY DIRECTOR
BRYN PICA LANDFILL SITE
LLWYDCOED
ABERDARE CF44 0BX

NB: For a body corporate the job title is a point of contact.
Holder Start Date: 31/07/01

The **Environment Agency** ("the Agency") hereby confirm that the above named person is a/the registered holder of consent AN0308301 Consent Issued: 31/07/2001

Nature of Discharge(s); TTEC Trade effluent - Treated effluent - Continuous
at SS9816094160 NANT Y GWYDDON LANDFILL SITE GELLI

Note: This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else you must pass the consent to them and tell the Agency within 21 days. **Responsibility for the consent cannot be disclaimed by the holder but the registration of holder may be transferred to a successor.** To do this please complete the form below, then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you may still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries please contact your local Environment Agency office.

Part B **Please complete in block capitals or type.**

To:

Water Resources Act 1991: Notice of transfer of consent to discharge

Consent: AN0308301
Consent Issued: 31/07/2001

Name: AMGEN RHONDDA LTD
Address: COMPANY DIRECTOR
BRYN PICA LANDFILL SITE
LLWYDCOED
ABERDARE CF44 0BX

I/We* hereby serve notice on the Agency that I/we* am/are* no longer a/the* Holder of the above consent which will be/was* transferred to:

* delete as appropriate

Name(s) of new holder(s):
Address:

Post Code:

Date of Transfer to new Holder(s); .....

Signed:..... **Dated:**.....

Name (block capitals): ..... **Position:** .....
(to be completed when signing on behalf of corporate bodies)

JWB/5/96

RECYCLED

CONSENT NO.	AN0308301

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

WATER RESOURCES ACT 1991

SECTION 88 - SCHEDULE 10

(AS AMENDED BY THE ENVIRONMENT ACT 1995)

CONSENT TO DISCHARGE

TO: The Managing Director
Amgen Rhondda Ltd
Bryn Pica
Llywncoed
Aberdare CF44 0BX

The **ENVIRONMENT AGENCY** ("The Agency") in pursuance of its powers under the Water Resources Act 1991 **HEREBY CONSENTS** to the making of a discharge **OF TRADE EFFLUENT,** as follows:

Site Drainage

FROM: Settlement Lagoons

AT: Nant y Gwyddon Landfill Site, Gelli, Rhondda

TO: The Nant y Gwyddon

HEREAFTER SUBJECT TO the conditions set out in the following schedule:

Site Drainage; Settlement Lagoon Discharge: Schedule No. AN030830101
Site Drainage; Storm Overflow Discharge: Schedule No. AN030830102

Subject to the provisions of Paragraphs 7 and 8 of Schedule 10 of the Water Resources Act 1991, no notice shall be served by the Agency, altering this consent without the agreement in writing of the Consent Holder, during a period of 4 years from the date this consent takes effect.

This consent is issued and takes effect on the 31st day of July 2001

Signed .....
Team Leader Water Quality Consents

Asiantaeth yr Amgylchedd Cymru
Ty-Abacus, Parc Busnes Llaneirwg, Llaneirwg, Caerdydd, CF3 0EY
Ffon: 029 20770088 Ffacs: 029 20798555

Environment Agency Wales
Abacus House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY
Tel: 029 20770088 Fax: 029 20798555

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	**AN0308301**
SCHEDULE NO.	**AN030830101**
DATE ISSUED	31/7/01

CONDITIONS OF CONSENT TO DISCHARGE

Site Drainage – Settlement Lagoon Discharge ("the Discharge")

FROM: Settlement Lagoons

1. (a) The Discharge shall not contain any poisonous, noxious or polluting matter or solid waste matter.

(b) Provided that the Discharge hereby consented is made in accordance with the following conditions of this consent, such discharge shall not be taken to be in breach of condition (a) above by reason of containing substances or having properties identified in and controlled by these conditions.

NATURE

2. The Discharge shall consist solely of trade effluent comprising of site drainage from Nant y Gwyddon landfill site, a total catchment area of 117,500 square metres.

LOCATION

3. The Discharge shall be made in the manner and at the place specified as:

(a) discharging via a 200mm diameter pipe;

(b) discharging to the Nant y Gwyddon;

(c) at National Grid Reference SS 9816 9416;

(d) shown marked 'Consent Point' on plan AN0308301 attached as Annex 1.

CONSENT NO.	**AN0308301**
SCHEDULE NO.	**AN030830101**

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

SAMPLING POINT

4. A sample point shall be provided and maintained at National Grid Reference SS 9816 9416, as shown marked 'Sample Point A' on Plan AN0308301, so that a representative sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown that any sample of the Discharge taken at the said sampling point is a sample of what was discharging into controlled waters.

VOLUME

5. The volume of the Discharge shall not exceed 778 cubic metres per day.

6. The rate of discharge shall not exceed 9 litres per second.

7. A flow measurement structure shall be provided and maintained to enable the daily volume and instantaneous flow rate of the Discharge to be measured or determined as required.

COMPOSITION

8. The discharge shall not contain more than:

   (a) 50 milligrammes per litre of suspended solids (measured after drying at 105°C).

   (b) 5 milligrammes per litre of mineral oil.

   (c) a pH value of 9 pH units or less than a pH value of 6 pH units.

   (d) 5 milligrams per litre ammoniacal nitrogen (expressed as N)

   (e) 30 milligrams per litre chemical oxygen demand (COD)

CONSENT NO.	**AN0308301**
SCHEDULE NO.	**AN030830101**

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

MAINTENANCE

9. The water treatment facility shall be maintained in an efficient operational condition at all times.

10. As far as is reasonably practicable, the treatment lagoons shall be operated so as to prevent:

    (i) any matter being present in the Discharge, other than matter specifically covered by numerical conditions in this schedule, to such an extent as to cause the receiving waters, or any waters of which the receiving waters are a tributary, to be poisonous or injurious to fish in those waters, or to the spawning grounds, spawn or food of fish in those waters, or otherwise cause damage to the ecology of those waters; and

    (i) the Discharge from having any other adverse environmental impact.

RECORDING AND REPORTING

11. The Consent Holder shall establish and operate a documented maintenance programme and record all non-routine actions undertaken that may have adversely affected effluent quality. Copies of the programme shall be made available for inspection by the Agency's Officers on request.

12. The Consent Holder shall carry out a monitoring programme to be agreed in writing with the Agency.

13. The Consent Holder shall report the results of the monitoring programme in a format and at a frequency to be agreed in writing with the Agency.

CONSENT NO.	**AN0308301**
SCHEDULE NO.	**AN030830102**
DATE ISSUED	31/7/01

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONDITIONS OF CONSENT TO DISCHARGE

Site Drainage – Storm Water Discharge ("the Discharge")

FROM: Balancing Pond

1. (a) The Discharge shall not contain any poisonous, noxious or polluting matter or solid waste matter.

   (b) Provided that the Discharge hereby consented is made in accordance with the following conditions of this consent, such discharge shall not be taken to be in breach of condition (a) above by reason of containing substances or having properties identified in and controlled by these conditions.

NATURE

2. The Discharge shall consist solely of trade effluent comprising of site drainage from Nant y Gwyddon landfill site, a total catchment area of 117,500 square metres.

LOCATION

3. The Discharge shall be made in the manner and at the place specified as:

   (a) discharging via a 640mm diameter pipe;

   (b) discharging to the Nant y Gwyddon;

   (c) at National Grid Reference SS 9816 9416;

   (d) shown marked 'Consent Point' on plan AN0308301 attached as Annex 1.

CONSENT NO.	AN0308301
SCHEDULE NO.	AN030830102

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

SAMPLING POINT

4. A sample point shall be provided and maintained at National Grid Reference SS 9816 9416, as shown marked 'Sample Point B' on Plan AN0308301, so that a representative sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown that any sample of the Discharge taken at the said sampling point is a sample of what was discharging into controlled waters.

VOLUME

5. The Discharge shall commence when and only for as long as the balancing pond is fully utilised and the rate of flow into the balancing tank exceeds 9 litres per second.

COMPOSITION

6. As far as is reasonably practicable, the treatment lagoons shall be operated so as to prevent:

   (i) any matter being present in the Discharge, to such an extent as to cause the receiving waters, or any waters of which the receiving waters are a tributary, to be poisonous or injurious to fish in those waters, or to the spawning grounds, spawn or food of fish in those waters, or otherwise cause damage to the ecology of those waters; and

   (ii) the Discharge from having any other adverse environmental impact.

MAINTENANCE

7. The water treatment facility shall be maintained in an efficient operational condition at all times.

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Eich cyf/Your ref. AN0308301

Ein cyf/Our ref. ACSC/CUST/SW/PJ/AN0308301

Dyddiad/Date: 2nd August 2001

The Managing Director
Amgen Rhondda Ltd
Bryn Pica
Llywncoed
Aberdare
CF44 OBX

Dear Sir/Madam,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) APPLICATION FOR CONSENT TO DISCHARGE AT NANT-Y-GWYDDON LANDFILL SITE BY THE MANAGING DIRECTOR, AMGEN RHONDDA LTD FROM PREMISES AT GELLI, RHONDDA.
APPLICATION NO'S. AN030830101 AND AN030830102

Further to your application the Agency has decided that consent should be given subject to conditions. I enclose the Agency's formal consent to discharge trade effluent from a settlement lagoon serving Nant-y-Gwyddon, Gelli, Rhondda.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. The charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet.

If you consider that the conditions imposed by the consent are unreasonable you have a right of appeal to the National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Notice of an appeal must be given in writing within three months of this notification and must be accompanied by a statement of the grounds of appeal.

Asiantaeth yr Amgylchedd Cymru
Ty Abacus, Parc Busnes Llaneirwg, Llaneirwg, Caerdydd, CF3 0EY
Ffon: 029 20770088 Ffacs: 029 20798555
www.environment-agency.gov.uk

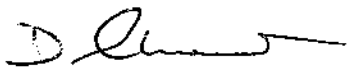
Environment Agency Wales
Abacus House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY
Tel: 029 20770088 Fax: 029 20798555
www.environment-agency.gov.uk

If granted, a consent under Schedule 10 of the Act, covers water quality considerations only. It does not alter the need to obtain any other consents or approvals which might be required in connection with your proposal under other legislation. For example it does not give any right or permission to discharge where land is not owned by the applicant.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This is to ensure that the rights and charges associated with the Consent are transferred to the new holder. A Certificate of Holder notice will be sent to you shortly which is designed for this purpose, and should be kept safely with the Consent until required.

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact David Williams, Team Leader Environment Protection, on 029 20 770088 quoting extension 2106.

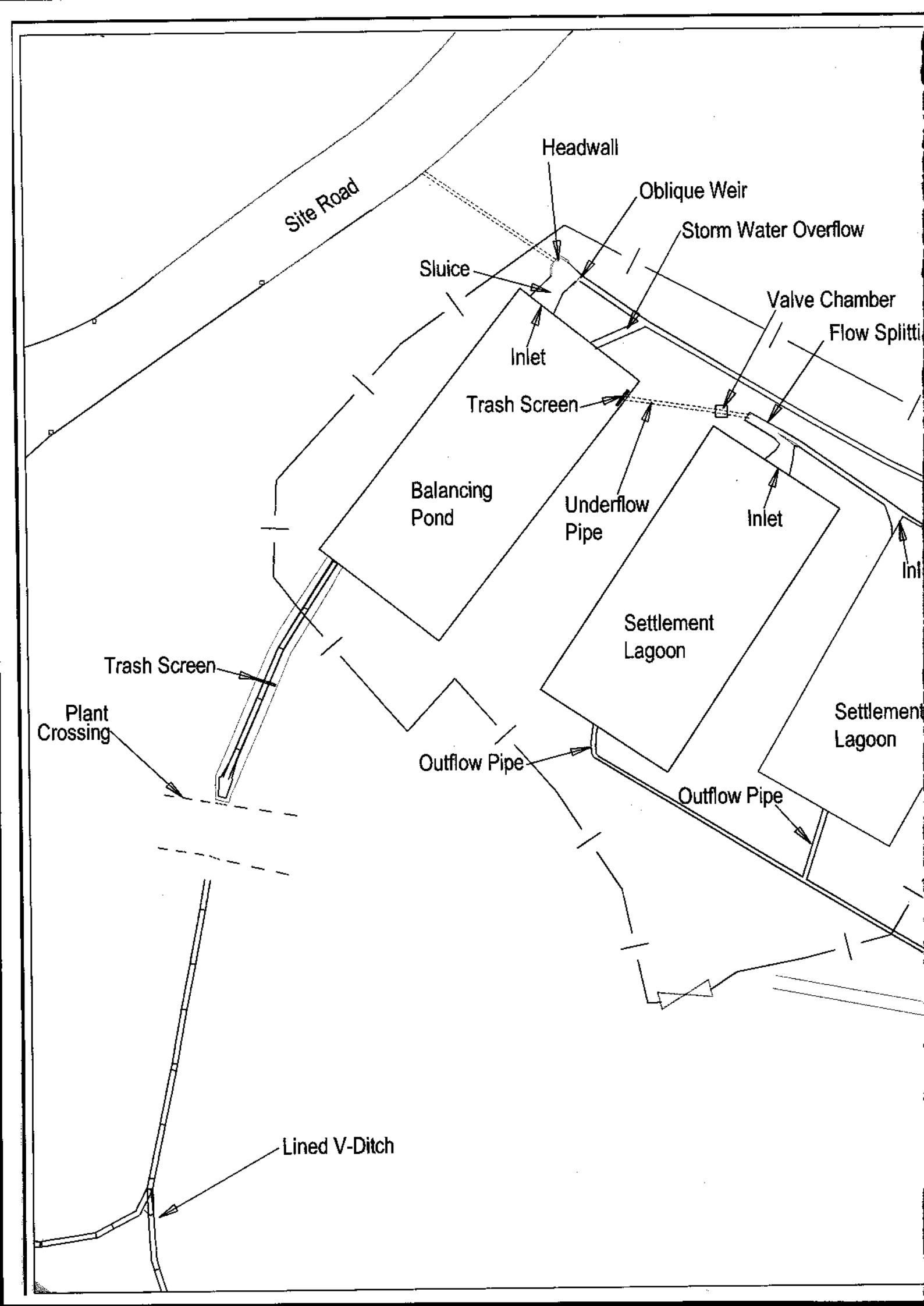
Yours sincerely,



David Charrett
Team Leader Customer Contact

Asiantaeth yr Amgylchedd Cymru
Ty Abacus, Parc Busnes Llaneirwg, Llaneirwg, Caerdydd, CF3 0EY
Ffon: 029 20770088 Ffacs: 029 20798555
www.environment-agency.gov.uk

Environment Agency Wales
Abacus House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY
Tel: 029 20770088 Fax: 029 20798555
www.environment-agency.gov.uk

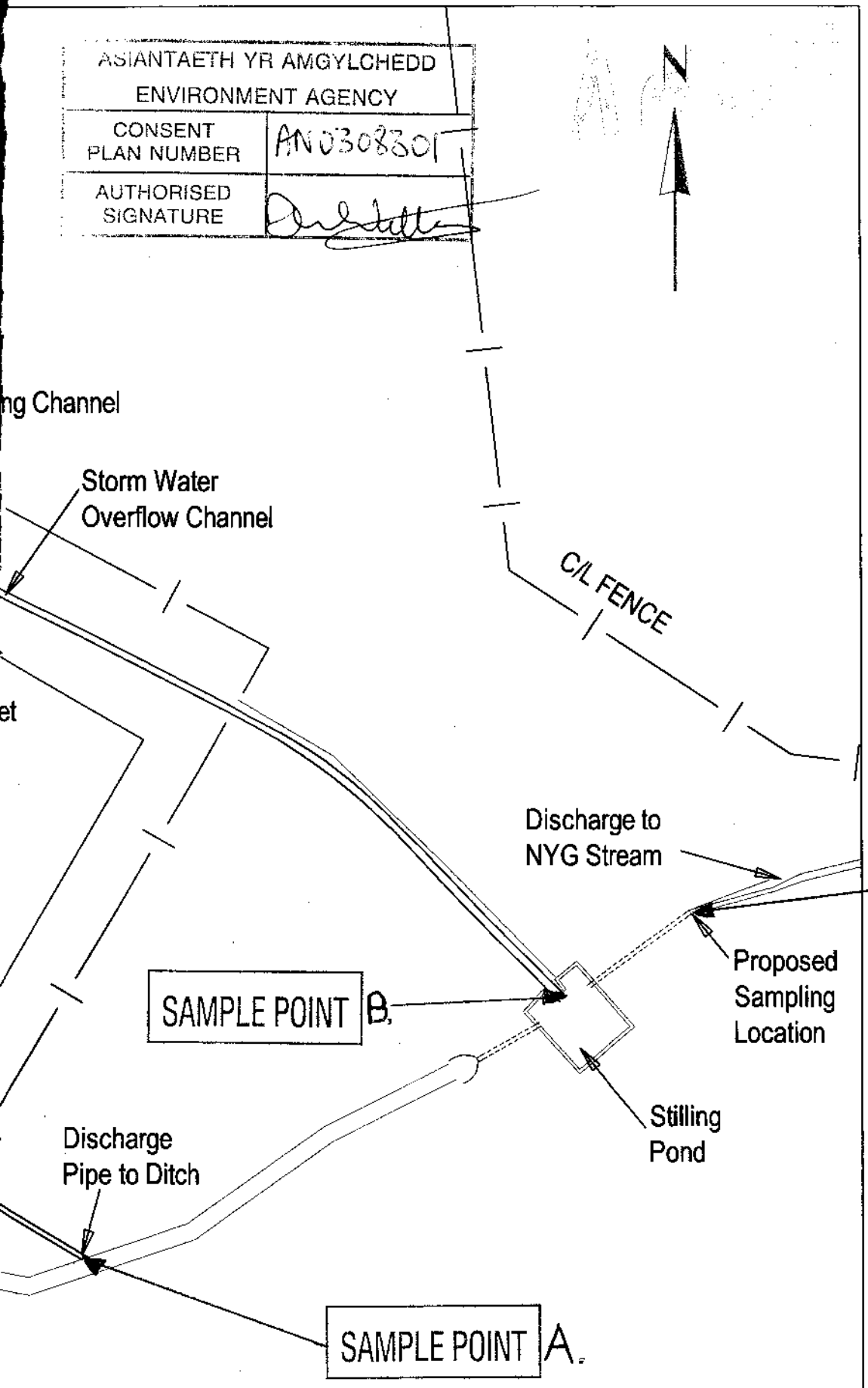

Site Road
Headwall
Oblique Weir
Storm Water Overflow
Sluice
Valve Chamber
Flow Splitti
Inlet
Trash Screen
Balancing
Pond
Underflow
Pipe
Inlet
Inl
Settlement
Lagoon
Trash Screen
Plant
Crossing
Outflow Pipe
Settlement
Lagoon
Outflow Pipe
Lined V-Ditch

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

CONSENT PLAN NUMBER	AN030830I
AUTHORISED SIGNATURE	

Notes

ANNEX 1



KEY

========== Underground Pipe

United Downs, St. Day
Redruth, Cornwall, TR16 5HU
Tel. 01209 820936
e-mail office@enl.co.uk

Site

Nant-y-Gwyddon Landfill

Title

Diagram Showing
Surface Water Lagoons

Rev	Date	Nature of Revision

	Originator	Checked	Authorised
Inits	SJ		
Date	13/03/01		

Scale: NOT TO SCALE

Sheet:

Drawing No: 0030125/500/004

Rev:

Gelli Tip Landfill Site
Lagoon

ENVIRONMENT AGENCY

WATER RESOURCES ACT 1991 (schedule 10)

(as amended by the Environment Act 1995)

Application for new consent/variation to an existing consent* to discharge

(* delete as appropriate)

Regional/Area Address:	*Official Use Only* *Dist/Area Ref:* EEPZ *Application No.* ATV030830/ *Date Received:* 05-02-01 *Fee Received:* £1290-00

Each applicant must complete the main form and may need to complete a separate annexe if appropriate. Please look through the form and read the notes carefully before you complete it. Processing of your application will be aided by full and accurate completion of all the relevant sections and provision of the necessary plans. If you have any queries regarding the form please contact the person given in the notes.

NOTE:
All information contained within this application will be made available on the public register unless there is a request to withhold any of it. Any such request should provide a full justification stating why the information needs to be withheld.

1 SITE ADDRESS

1.1 Address or other sufficient description of land or premises to which this application applies.

AHGEN RHONDDA LTD NANT Y GWYDDON LANDFILL.
HYNYDD Y GELLI.
GELLI
RHONDDA.

Post Code: CF41 7TL.

2 DETAILS OF DISCHARGE(S)

2.1 State the nature of the discharge(s) (see note i and ii) - tick one or more boxes as appropriate:-

Sewage Effluent - volume of 5 cubic metres per day or less

Sewage Effluent - volume greater than 5 cubic metres per day **(complete annexe 1)**

Sewage Effluent discharged under storm or emergency conditions **(complete annexe 2)**

Cooling Water **(complete annexe 3)**

Trade Effluent *(including site drainage)* **(complete annexe 3)**

Others *(please specify)*

2.2 Please state the maximum quantity it is proposed to discharge in any one day 777.6 m
Briefly state how this figure was calculated (see note ii).

9 l/s from settlement lagoons

2.3 a) Indicate proposed means of discharge - tick as appropriate and show on plan:- 003012S/SOC
(for 1, 2 & 3 please state dimensions below)

1. Pipe	☑	4. Borehole	☐	7. Sub-Irrigation System	
2. Channel	☐	5. Well	☐	8. Combination of 6. & 7.	
3. Culvert	☐	6. Soakaway	☐	9. Other *(please specify below)*	

BALANCE 4 SETTLEMENT LAGOONS, OVERFLOW TO OPEN CHANNEL, 4 STILLING TO PIPE DISCHARGE - 640mm diameter

b) National Grid Reference(s) of point(s) of discharge (see note iii). SW7.

S S / 8 1 6 1 / 4 1 6 7 *(please indicate on accompanying plans)*

2.4 a) The Agency will normally require adequate provision for the taking of samples of the disc
in a safe and convenient manner at any time. Please indicate the means proposed (see not
tick as appropriate and show on plan:-

At the outlet ☑ At a manhole or sampling chamber ☐

Other *(please specify)*

b) National Grid Reference(s) of sampling point(s). (If different from 2.3 b) above)

☐☐ / ☐☐☐☐ / ☐☐☐☐ *(please indicate on accompanying plans,*

c) What flow measurement facilities will be provided (see note v)?
Please give details.

SEE DETAILS OF PROPOSED V NOTCH WEIR.

2.5 a) Type of Treatment Plant(s) to be used *(please specify make and model)* - tick as appropriate:-

Septic Tank ☐ Package Sewage Treatment Works ☐ Other ☑

BALANCE & SETTLEMENT ~~TANK~~ LAGOONS - SEE DETAILS

b) Will the treatment process involve the use of any chemicals (eg ferric salts, polyeletrolytes) Y/~~N~~
If yes please give details.

POLYELECTROLYTE FLOCCULANT AS NECESSARY - DETAILS PROVIDED

2.6 a) On what date do you anticipate the discharge will commence? IMMEDIATE / /

b) If you require the consent for a limited time period please give dates; from: / /

to: / /

c) If the discharge is not continuous please detail the period/circumstances when it will occur.

DEPENDANT ON RAINFALL EVENT - SEE CALCS

2.7 a) Are there any existing consents for discharge from the premises (see note vi)? ~~Y~~/N
If yes, please give the reference numbers *(Any further information should be given in section 5.3).*

b) Has any person had a Prohibition Notice served on them in respect of this site? ~~Y~~/N
If yes, please give the reference number.

SITE DETAILS

3.1 Please give the name of the relevant Planning Authority.

RHONDDA CYNON TAFF
PLANNING OFFICE
CRAWSHAY STREET, TON PENTRE CF41 7EP.

3.2 Please give details of the premises - tick as appropriate:-

1. Single Dwelling	☐	6. Fish Farm	☐
2. Multiple Dwellings	☐	7. Mineral Workings	☐
3. Industrial Premises	☐	8. Water Services plc STW	☐
4. Vehicle Parking Area	☐	9. Water Supply	☐
5. Commercial Premises *(please specify)*	☐	10. Other *(please specify)*	☑
		LANDFILL SITE	

3.3 Please indicate source of the water supply - tick as appropriate:-

1. Well ☐
2. Borehole ☐
3. Precipitation (eg. rain or snow) ☑
4. Mains *(please state water supply company)* ☐

5. River *(please give name below)* ☐
6. Estuary *(please give name below)* ☐
7. Coastal Water *(please give name below)* ☐

4 DETAILS OF RECEIVING ENVIRONMENT

4.1 Receiving Medium - tick the category(s) to which the proposed discharge(s) is(are) to be made:-

1. Estuarial Water (tidal river or stream) ☐
2. River or Stream (non-tidal) ☑
3. Canal ☐
4. Lake, Loch or Pond ☐
5. Into Land ☐
6. Onto Land ☐
7. Directly into Groundwater ☐
8. Coastal Water (see note vii) ☐

State name of receiving water if known:

NANT Y GWYDDON

4.2 In the case of sub-irrigation systems, soakaways or boreholes:- N/A

(a) Is any part of the system within 5 metres of the boundary of the premises? Y/

(b) Is any part of the system within 10 metres of a watercourse? Y/

(c) Is any part of the system within 50 metres of a borehole or spring? Y/

(d) For wells and boreholes state dimension(s) in metres.

(e) For sub-irrigation systems, soakaway pits, wells and boreholes, state maximum depth in metr

(f) For boreholes, state details of lining in metres:

(i) Depth of lining

(ii) Depth of perforated lining

(iii) Depth of unperforated lining

(g) A percolation test must be carried out in accordance with British Standard BS6297:1983. Have the results been provided? Y

4.3 Is there a foul sewer available to which the discharge(s) could be made (see note viii)? ☒
If yes, please give the reasons it is not practical to connect to it (eg. distance, flow etc.).

5 DETAILS OF APPLICANT AND OTHER INFORMATION

5.1 (See general notes and note ix)

(a) Full name and postal address of applicant. This should be the person who will become the consent holder should consent be issued.

* NIGEL BRINN
* MANAGING DIRECTOR.
* HAGEN RHONDDA LTD.
* BRYN PICA.
* LLWYDCOED.
* ABERDARE
Post Code: CF44 0BX.

Daytime Telephone Number: 01685 870770.

Company Registration Number (if appropriate): 3687641

(b) Agent (if any) - Full name and postal address.

* EN 1 LTD.
* 6 KEW COURT.
* PYNES HILL.
* RYDON LANE
* EXETER.
*
Post Code: EX2 5AZ.

Contact Name and Daytime Telephone Number: MORAG AIKEN 07881 818293.

5.2

Please give full name and address to which bills should be sent if different to that given above:

* SEE 5.1 (a).
*
*
*
*
*
Post Code:

Daytime Telephone Number:

5.3 Are there any other factors to be taken into account? Please continue on a separate sheet if necessary.

DECLARATION

I/We:

1. apply under the Water Resources Act 1991 (as amended by the Environment Act 1995) for cc to discharge, as described in this Application. "This Application" means this page, all the pages of this form and any attached annexes, the attached plan(s), any other sheets attached, ar other written information supplied to support the application.

2. enclose the required application fee, payable to the Environment Agency (see note x).

3. enclose 3 copies of the plan(s) and location maps with all relevant information clearly m (see note xi).

4. will pay required advertising costs (see note xii).

5. confirm that I/we* will notify the Environment Agency of any changes in the information application which might be material to the continuation of the consent.

6. confirm that the information given in this application and any questions which the Envirc Agency may have about it is/will* be true to the best of my/our* knowledge, information and and am/are* not aware of any other facts or information which might affect the granting of sent, or conditions which might be put on it (see note xiii).

7. confirm that I/we* will pay any annual charges due should a consent be granted YES/NO*. please indicate who will by completing section 5.2 above (see note xiv).

(* Delete as appro

SIGNED: Nigel Brinn **PRINT NAME:** NIGEL BRINN

ON BEHALF OF: AMGEN PHENOMIX LTD **DATED:** 01/02/0

---o O o---

CONFIDENTIALITY

I/we apply for commercial confidentiality and enclose a full written justification (see note xv).

SIGNED: ..... **DATED:** .....

PLEASE RETURN THIS FORM TO THE ADDRESS GIVEN ON THE FRONT PAG

ENVIRONMENT AGENCY

ANNEXE 1

SEWAGE EFFLUENT GREATER THAN 5 CUBIC METRES PER DAY

Please complete this annexe if you are proposing to discharge more than 5 cubic metres per day of sewage effluent (if the effluent is to contain a trade component Annexe 3 should also be completed).

Official Use Only
Application No.

1. Site Name.

2. Please detail the type and number of treatment units you are proposing to use.

3. Volume, rates and overflow settings. (Please give volumes in cubic metres per day or litres per second as indicated below)

a) Maximum flow to full treatment. (see note (ii) in main guidance notes for population equivalents) — m^3/d

b) Dry weather flow of discharge(s). — m^3/d

c) Average daily flow. — m^3/d

d) Maximum rate of discharge(s) — l/s

4. Will there be provisions for storm/emergency discharges? Y/N
If yes, please complete Annexe 2.

5. a) Will any self monitoring take place? Y/N
If yes, please give details.

b) Will automatic sampling equipment be provided? Y/N
If yes, please give details of type and location *(please indicate on plan)*.

6. a) Please state the maximum population served by the treatment works.

b) Please give reasons for any variations in population eg. holiday resort, training area, seasona industry etc. and detail the periods/times involved.

c) Please state type of catchment/site being served eg. residential, resort, industrial etc.

7. Will a maintenance agreement be set up to manage the sewage works? (see note b) Y
If yes, please give details.

8. Does the effluent contain a trade component? Y/
If yes, please complete appropriate section on Annexe 3 for authorised discharges of trade effluent to the sewerage system.

Notes (see also the notes attached to the main form):

a) For significant sewage treatment plants full details of the plant design, dry weather flow and Biochemical Oxygen Demand load, along with information on all discharges from the works must be included in order for the application to be processed. Flow monitoring will normally be required for such discharges and details of siting and type of flow recorders should be provided.

b) The Agency require a single body or company to be responsible for the discharge and any bills raised under the Charges for Discharges Scheme. Where multiple dwellings under different ownership are connected to the same system a management company should be set up.

ENVIRONMENT AGENCY

ANNEXE 2
SEWAGE EFFLUENT DISCHARGED IN STORM OR EMERGENCY CONDITIONS

Please complete this annexe if you are proposing to make a discharge of sewage in emergency or storm conditions (if the effluent is to contain a trade component then Annexe 3 should also be completed)

Official Use Only
Application No.

1. Site Name.

2. State the type of discharge - tick as appropriate:-

- Storm tanks ☐
- Combined Sewer Overflow from sewerage system ☐
- Combined Sewer Overflow from pumping station ☐
- Emergency overflow from sewerage system ☐
- Emergency overflow from pumping station ☐
- Other *(please specify)* ☐

For effluents discharging from sewage treatment works, is the storm/emergency effluent discharged via the same outlet as the treated effluent? Y/N

If no please give: a) the National Grid Reference of the treated effluent outlet.

☐☐/☐☐☐☐/☐☐☐☐

b) the consent or application number covering the treated effluent discharge.

If yes please give the National Grid Reference of the storm/emergency sampling point (see notes)

☐☐/☐☐☐☐/☐☐☐☐

For effluents discharging from combined sewer overflows, is the discharge via a dedicated pipe? Y/N

If no please give the National Grid Reference of the overflow into the sewer.

☐☐/☐☐☐☐/☐☐☐☐

5. Overflow settings

a) Overflow setting to storm tanks.

b) Maximum flow to storm tanks.

c) Overflow setting to storm sewage overflow.

d) Maximum flow to storm sewage overflow.

6. Storage capacity

a) Volume of Storm Tanks.

b) Retention time of storm tanks at maximum flow. hc

c) Storage capacity of sewer/wet well. $m^3/$

7. Please provide full details of the design criteria that have been used to support this application.

8. Will facilities be provided to raise alarms (eg. telemetry)? Y
If yes, please give details.

9. Will facilities be provided to prevent the discharge of gross solids? Y
If yes, please give details (for screens give bar spacing or aperture).

10. What provisions will be made to deal with:

a) power failure (eg. standby generators)?

b) mechanical breakdown (eg. standby pumps)?

c) rising main failure?

d) tanker access?

Notes (see also the notes on the main form):

f the design criteria must be provided in order for the application to be determined. If you have
t what information is required please contact the person given in notes attached to the main for

ENVIRONMENT AGENCY

ANNEXE 3
TRADE EFFLUENT DISCHARGES

Please complete this annexe if you are proposing to discharge trade effluent (this includes site drainage).

Official Use Only
Application No.

1. Site Name.

NANT Y GWYDDON LANDFILL

2. a) Describe in full the trade effluent and the process(es) from which it arises.

SITE DRAINAGE.

b) Please state the type and number of treatment units you are proposing to use *(if site drainage please include details of oil/petrol interception facilities).*

N/A

3. **Rainfall Dependent Discharges**

a) Is the volume going to be rainfall dependent? Y/~~N~~

b) If yes, please give the total area drained. 117500 m²

c) Please give details of any activities which occur in the drainage area which could contaminate surface water (see note b)

LANDFILL OPERATIONS - ACCIDENTAL UNCONTROLLED LEACHATE ESCAPE

4. **Rainfall Independent Discharges**

a) What is the maximum rate of discharge? l/s

b) What is the average daily flow? m³/d

c) For discharges where the source of supply is other than mains water:

i) give the abstraction licence number.

ii) give the National Grid Reference of a point where the influent can be sampled.

☐☐ / ☐☐☐☐ / ☐☐☐☐ *(please mark on the plan)*

5. a) Will any self monitoring take place? Y/N

If yes, please give details.

MONTHLY – FIELD – pH, CONDUCTIVITY, WATER TEMP, DISSOLVED OXYGEN
" LAB – " " " " "
COD, AMMONIACAL NITROGEN, CHLORIDE.

b) Will automatic sampling equipment be provided? Y/N

If yes, please give details of type, frequency and location *(please indicate on plan).*

6. a) Please state the maximum temperature in degrees Celsius of the effluent when discharged if different from ambient.

AMBIENT

b) Will the discharge be monitored for temperature? Y/N

If yes, please give details of type and location *(please indicate on plan).*

7. Has an application for Authorisation been made for a 'prescribed process' as defined in Part 1 of the Environmental Protection Act 1990? Y/N

If yes, please complete the following:

a) The application reference.

c) Contact name of case officer.

8. a) Please indicate if any of the specified substances given below or their compounds will be present in the effluent and if so at what maximum concentration (please give values in micrograms per litre - ug/l). Please see note c. N/A

SUBSTANCE	CONCENTRATION (ug/l)			SUBSTANCE	CONCENTRATION (ug/l)		
	Max	Min	Mean		Max	Min	Mean
Iron				Lead			
Arsenic				Malathion			
Atrazine				Mercury			
Azinphos-ethyl				Nickel			
Azinphos-methyl				PCB's			
Boron				PCSD's			
Cadmium				Parathion			
Carbon tetrachloride				Parathion-methyl			
Chloroform				Pentachlorophenol (PCP)			
Chromium				Perchloroethylene			
Copper				Permethrin			
Cyanide				pH < 5.5 or > 9.0			
Cyfluthrin				Phosphorus			
DDT				Polychlorinated biphenyls			
1,2 Dichloroethane				Simazine			
Dichlorvos				Sulcofuron			
Dioxins				Tetrachloroethylene			
Drins (eg. Aldrin, Dieldrin)				Tributyltin compounds			
Endosulfan				Trichlorobenzene			
Fenitrothion				Trichloroethane			
Fenthion				Trichloroethylene			
Flucofuron				Trifluralin			
Hexachlorobenzene (HCB)				Triphenyltin compounds			
Hexachlorobutadiene (HCBD)				Vanadium			
Hexachlorocyclohexanes (HCH's)				Zinc			

b) Are there any other significant chemical components used on site which may be contained in the effluent, including biocides or additives? Y/N

If yes, please give details.

UNCONTROLLED LEACHATE OUTBREAK

Notes (see also the notes attached to the main form):

a) *For direct trade effluent discharges, full details of the type of the effluent are required (eg. cooling water from air conditioning units), along with typical analytical details and the results of any toxicity studies on the effluent or its constituents. In certain circumstances the Agency may require that specific samples be taken and tests and analysis carried out. The Agency is empowered to recover any costs incurred as a result of special studies.*

b) *Possible sources of contamination include oil/chemical storage areas, vehicle loading/unloading areas, heavy vehicle parking areas and oil/petrol filling points. Any other potential sources of contamination should be detailed.*

c) *Where discharges of trade effluent take place to a sewerage system, as covered by this application, please give details of all authorised discharges of substances listed in table 8 overleaf.*

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

ANNEXE 4
WELSH REGION SUPPLEMENTARY INFORMATION ANNEXE

Please complete this annexe for <u>every</u> proposed discharge.

<u>Official Use Only</u>
Application No.

<u>For all proposed discharges:</u>

1. Site Name.

NANT Y GWYDDON LANDFILL.

2. Is this application being made to reinstate a lapsed Consent?

~~Y~~/N

If so, please state the Number of the lapsed Consent:

IMPORTANT: If you are in need of advice on either part of question 2, please contact the Agency Regional Consents Section on 01222 770088.

3. If the proposed discharge is to be made down a pipe, channel or culvert (as given in Section 2.3 in the main application form), please state the <u>diameter</u> (including units):

640 MM.

4. Please indicate the anticipated cost of the proposed scheme, including any alternatives which may have been considered:

ALREADY DESIGNED & CONSTRUCTED – SEE DESIGN DETAILS & CALCS.

5. Is there any trade effluent component in the proposed discharge?

~~Y~~/N

If yes, please confirm here that you have completed and enclosed Annexe 3: *Tick*

6. Will the proposed discharge be pumped or made under gravity? (please circle):

~~Pumped~~ / Gravity

If pumped, please state the maximum pump rate in l/sec:

l/s

For proposed discharges of sewage in storm or emergency conditions:

7. Please confirm here that you have completed and enclosed both Annexes 1 and 2: *Tick*

8. Please state:

Population served (head)	
Consumption (l/head/day) default = 180	
Infiltration (m^3/day)	
Industrial effluent flow (m^3/day)	
Dry Weather Flow (m^3/day)	
SOCA (l/sec)	
Predicted spill frequency (per annum)	

IMPORTANT NOTES FOR ALL CONSENT APPLICATIONS:

1. **Whoever signs the declaration on the main application form takes responsibility for the discharge, and will become the registered consent holder, if consent is given. In the case of a 'body corporate' (e.g. a public limited company ('plc'), limited company, local authority), the 'body corporate' will be the registered consent holder, and the person with the delegated authority to sign on behalf of the 'body corporate' should give their job title.**

2. **Agents making an application on behalf of a client, must attach their clients written authority.**

3. **If the name and/or address of the applicant changes after submission of this application to the Environment Agency, the applicant must inform the Agency in writing.**

en 1 ltd
environmental management

6 kew court, pynes hill
rydon lane, exeter, EX2 5AZ
phone / fax 01392 444720

united downs, st. day
redruth, cornwall, TR16 5HU
phone / fax 01209 820936

e-mail office@en1.co.uk

Ref : 0030125/300

Mr David Walters
Environment Agency Wales
Rivers House
St. Mellons Business Park
St. Mellons
Cardiff
CF3 0LT

Date: 2 February 2001

Dear Mr Walters

Re: Nant y Gwyddon, Amgen Rhondda Ltd
Discharge Consents

Further to discussions with David Williams we are pleased to enclose Discharge Consent Applications for the following discharges:

- Gelli Tip Lagoon – 1,
- Balancing and Settlement Lagoons – 2,

As you are aware, the design and construction of these lagoons was undertaken prior to Amgen Rhondda's involvement in the site and therefore the information is relatively limited or based on assumptions.

We understand that an application fee of £645 per discharge consent is due which Amgen Rhondda Ltd shall pay directly in due course.

We hope that the information provided meets your requirements however should you have any queries please do not hesitate to contact the undersigned.

Yours sincerely
On behalf of en 1 ltd

Morag Aiken

Morag Aiken
Project Manager on behalf of Amgen Rhondda Ltd
c.c Nigel Brinn, Amgen Rhondda Ltd
David Williams, EA, Cardiff

2.2 Discharge Quantity
Rainfall Intensity Calculations

Assent to
D. Williams
19/8/98

INTERIM PROGRAMME AND SCHEMES 1998

Nant y Gwyddon Remediation

Rhondda Waste Disposal Ltd

August 1998

Report No : 3077-4

SURFACE WATER DRAINAGE SCHEME

RUN-OFF CALCULATIONS

Addressing the problems of gas emission and volume of leachate production by extensive capping will increase the volume of surface run off produced by the site and the speed of response to a rainfall event.

The newly capped landform will shed water in two catchments. The first and larger will shed water towards the site access road. The area of the catchment will vary according to the level of progress on permanent capping in 1998. The permanent capping will shed relatively less volume when compared with the temporary capping. The smaller catchment will collect water from the southern side of the site. The catchments are shown on drawing no 3077/4/10. There is another catchment on the site which lies to the west of those assessed. This collects water upgrade of the tipped wastes against a bund and discharges via a pump into the site underdrainage system at manhole L21. The underdrainage system discharges direct to the Nant y Gwyddon stream and has not caused a problem to date.

The volume of rainwater developed by a moderate rainfall event at the site will be far in excess of the capacity of a simple lagoon system to treat effectively. Consideration has therefore been given to designing a system incorporating a flow balancing facility which will accept surges on demand and avoid major rainfall events scouring the treatment lagoons. Initially consideration has been given to a system that can be readily accommodated in the area available. The arrangement of this system is shown drawing 3077/4/1. As the drift cover on the site is thin it would require some trial pitting to establish the feasibility of lagoon construction in the locations proposed. If there is insufficient drift material available then imported colliery shale will be needed to construct suitable settling ponds.

The system proposed would comprise a 20 m x 10 m nominal flow balancing lagoon with a 2 metre active depth for the southern system and a 30m x 15 m nominal flow balancing lagoon with a 2 metre active depth for the northern system. The northern flow balancing lagoon would feed two 30 m x 15 m nominal settlement lagoons capable of being arranged in parallel or series. These lagoons would be capable of treating 9 litres/second of run off. The southern flow balancing lagoon would be served by a single 30 m x 15 m nominal settlement lagoon and this would be capable of treating 4.5 litres/second. The arrangement of the lagoons is shown in drawings 3077/4/7 and 3077/4/8

The systems have been assessed against various storm events on the following pages. The catchments are shown on drawing no 3077/4/10. In summary the catchment systems will address the following storms:-

Return Period	Northern Catchment Duration (hrs)	Southern Catchment Duration (hrs)
M2	1.4	1.0
M1	1.9	1.5
M0.5	3.2	2.5

As the vegetative cover on the restoration increases and the area of temporary capping which (as a worse case) it has been assumed sheds 100% of rainfall is reduced the systems will serve progressively longer events. An initial tabulation has been included for the restored site once vegetation has been established. It indicates that both systems will be adequate to deal with a one hour M0.5 storm without further modification. In the shorter term the quality of the output of the settlement system and the frequency of operation of the storm by pass should be monitored to check the performance of the system. The use of polyelectrolyte flocculant may be considered if the quality of the effluent from the treatment lagoons proves unsatisfactory.

Nant y Gwyddon
Flow Balacing Lagoons

Requirement for immediate use 1998

Northern Catchment	45300	Run off %	
Temporary Capping sqm	32500	100	32500
Restored Soils on 1 in 3 slope sqm	2800	68	1904
General Site Area (including roadway)	10000	90	9000
			0

Catchment		sqm	43404	43404	43404	43404	43404	43404	43404	43404	43404	43404
Storm			M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	8.4	12.8	18.3	25.9	31.9	45.8	62.9	84.8	131.8	153.9
Rainfall Intensity		mm/hr	16.80	12.80	9.15	6.48	5.32	3.82	2.62	1.77	1.10	0.92
Volume produced during storm		cum	365	556	794	1124	1385	1988	2730	3681	5721	6680
Discharge to settlement ponds		l/s	9	9	9	9	9	9	9	9	9	9
Discharge to settlement ponds		cum/hr	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Discharge during storm		cum	16	32	65	130	194	389	778	1555	3888	5443
Accumulated Balance			348	523	729	995	1190	1599	1953	2125	1833	1237
Capacity of flow balance		cum	900	900	900	900	900	900	900	900	900	900

Southern Catchment	32750		
Temporary Capping sqm	0	100	0
Restored Soils on 1 in 3 slope sqm	17500	68	11900
Restored Soils on 1 in 10 slope sqm	3500	63	2205
Rough Grassland/Quarry area Area	11750	65	7637.5
			0

Catchment		sqm	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5
Storm			M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	8.4	12.8	18.3	25.9	31.9	45.8	62.9	84.8	131.8	153.9
Rainfall Intensity		mm/hr	16.80	12.80	9.15	6.48	5.32	3.82	2.62	1.77	1.10	0.92
Volume produced during storm		cum	183	278	398	563	694	996	1368	1844	2866	3346
Discharge to settlement ponds		l/s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Discharge to settlement ponds		cum/hr	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Discharge during storm		cum	8	16	32	65	97	194	389	778	1944	2722
Accumulated Balance			175	262	365	498	596	801	979	1066	922	625
Capacity of flow balance		cum	400	400	400	400	400	400	400	400	400	400

Nant y Gwyddon
Flow Balacing Lagoons

Requirement for Immediate use 1998

Northern Catchment	45300	Run off %	
Temporary Capping sqm	32500	100	32500
Restored Soils on 1 in 3 slope sqm	2800	68	1904
General Site Area (including roadway)	10000	90	9000
			0

Catchment		sqm	43404	43404	43404	43404	43404	43404	43404	43404	43404	43404
Storm			M1	M1	M1	M1	M1	M1	M1	M1	M1	M1
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	11	16	23	32.3	39.4	55.3	76.6	103.3	160.7	187.4
Rainfall Intensity		mm/hr	22.00	16.00	11.50	8.08	6.57	4.61	3.19	2.15	1.34	1.12
Volume produced during storm		cum	477	694	998	1402	1710	2400	3325	4484	6975	8134
Discharge to settlement ponds		l/s	9	9	9	9	9	9	9	9	9	9
Discharge to settlement ponds		cum/hr	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Discharge during storm		cum	16	32	65	130	194	389	778	1555	3888	5443
Accumulated Balance			461	662	933	1272	1516	2011	2547	2928	3087	2691
Capacity of flow balance		cum	900	900	900	900	900	900	900	900	900	900

Southern Catchment	32750		
Temporary Capping sqm	0	100	0
Restored Soils on 1 in 3 slope sqm	17500	68	11900
Restored Soils on 1 in 10 slope sqm	3500	63	2205
Rough Grassland/Quarry area Area	11750	65	7637.5
			0

Catchment		sqm	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5
Storm			M1	M1	M1	M1	M1	M1	M1	M1	M1	M1
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	11	16	23	32.3	39.4	55.3	76.6	103.3	160.7	187.4
Rainfall Intensity		mm/hr	22.00	16.00	11.50	8.08	6.57	4.61	3.19	2.15	1.34	1.12
Volume produced during storm		cum	239	348	500	702	857	1202	1665	2246	3494	4075
Discharge to settlement ponds		l/s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Discharge to settlement ponds		cum/hr	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Discharge during storm		cum	8	16	32	65	97	194	389	778	1944	2722
Accumulated Balance			231	332	468	637	759	1008	1277	1468	1550	1353
Capacity of flow balance		cum	400	400	400	400	400	400	400	400	400	400

Nant y Gwyddon
Flow Balacing Lagoons

Requirement for immediate use 1998

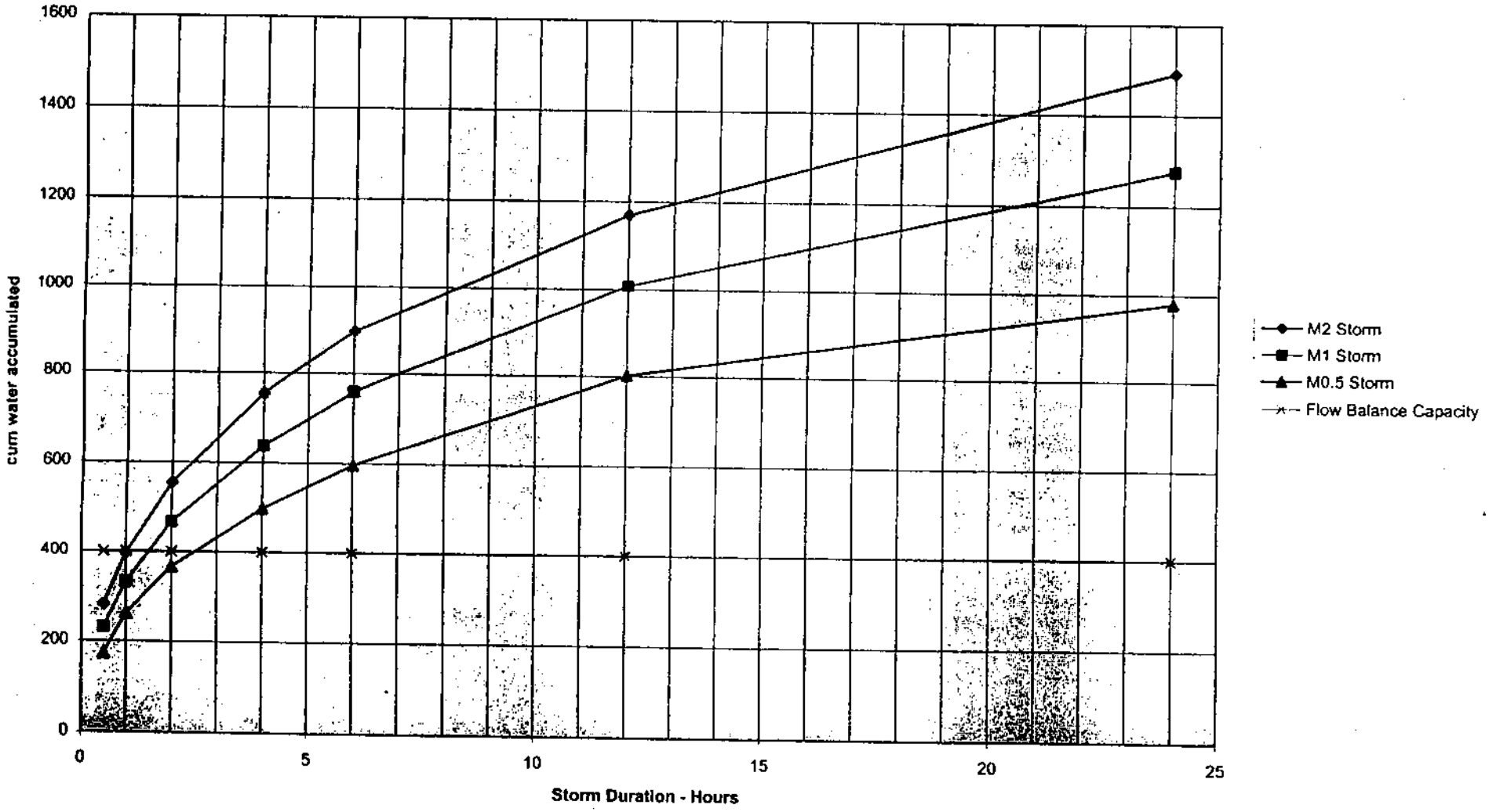
Northern Catchment	45300	Run off %	
Temporary Capping sqm	32500	100	32500
Restored Soils on 1 in 3 slope sqm	2800	68	1904
General Site Area (including roadway)	10000	90	9000
			0

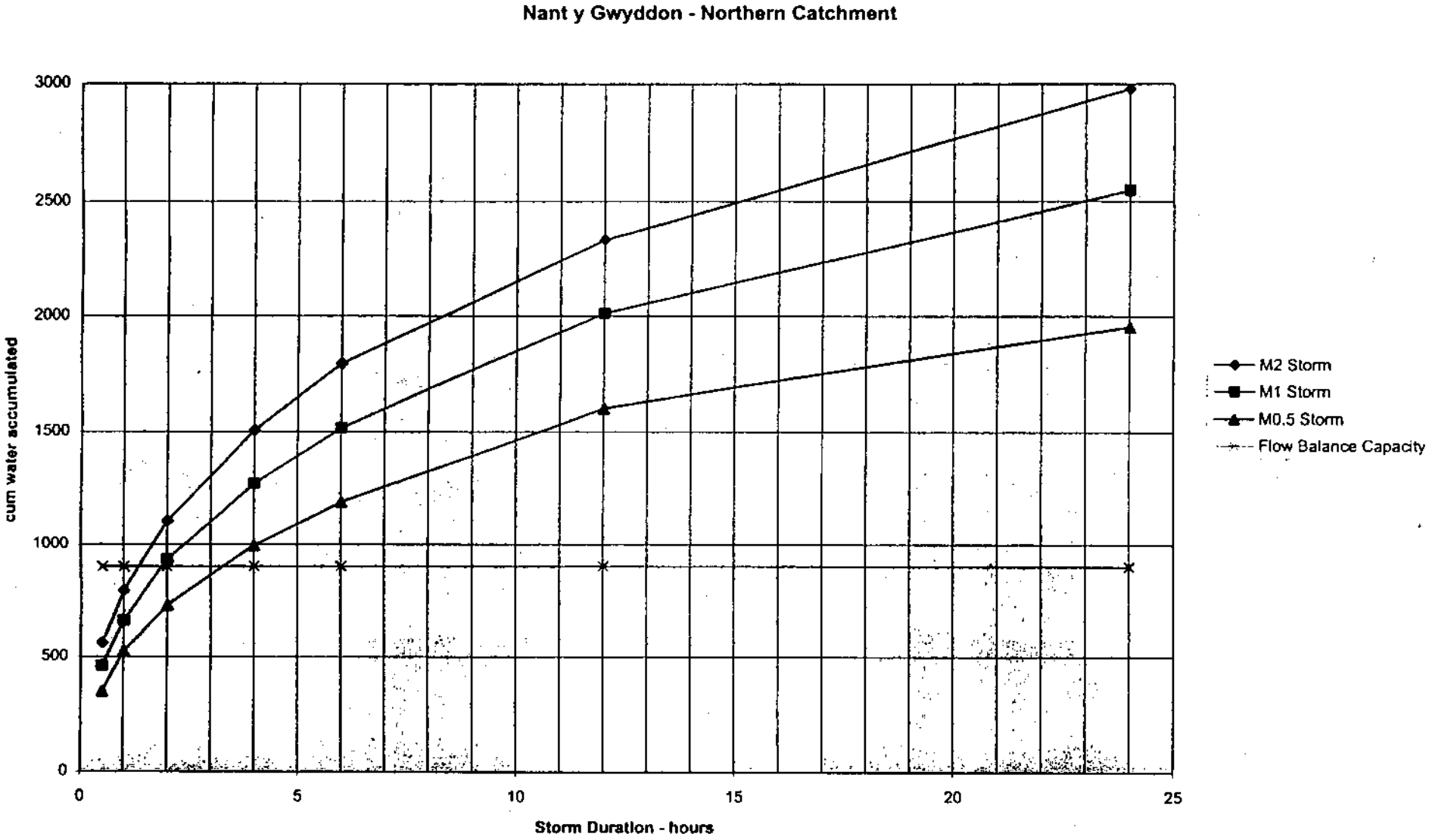
Catchment		sqm	43404	43404	43404	43404	43404	43404	43404	43404	43404	43404
Storm			M2	M2	M2	M2	M2	M2	M2	M2	M2	M2
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	13.3	19	27	37.7	45.7	62.7	86.5	117.5	183.3	213.8
Rainfall Intensity		mm/hr	26.60	19.00	13.50	9.43	7.62	5.23	3.60	2.45	1.53	1.27
Volume produced during storm		cum	577	825	1172	1636	1984	2721	3754	5100	7958	9280
Discharge to settlement ponds		l/s	9	9	9	9	9	9	9	9	9	9
Discharge to settlement ponds		cum/hr	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Discharge during storm		cum	18	32	65	130	194	389	778	1555	3888	5443
Accumulated Balance			561	792	1107	1507	1789	2333	2977	3545	4068	3837
Capacity of flow balance		cum	900	900	900	900	900	900	900	900	900	900

Southern Catchment	32750		
Temporary Capping sqm	0	100	0
Restored Soils on 1 in 3 slope sqm	17500	68	11900
Restored Soils on 1 in 10 slope sqm	3500	63	2205
Rough Grassland/Quarry area Area	11750	65	7637.5
			0

Catchment		sqm	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5	21742.5
Storm			M2	M2	M2	M2	M2	M2	M2	M2	M2	M2
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	13.3	19	27	37.7	45.7	62.7	86.5	117.5	183.3	213.8
Rainfall Intensity		mm/hr	26.60	19.00	13.50	9.43	7.62	5.23	3.60	2.45	1.53	1.27
Volume produced during storm		cum	289	413	587	820	994	1363	1881	2555	3985	4649
Discharge to settlement ponds		l/s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Discharge to settlement ponds		cum/hr	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Discharge during storm		cum	8	16	32	65	97	194	389	778	1944	2722
Accumulated Balance			281	397	555	755	896	1169	1492	1777	2041	1927
Capacity of flow balance		cum	400	400	400	400	400	400	400	400	400	400

Nant y Gwyddon - Southern Catchment




Nant y Gwyddon - Northern Catchment
cum water accumulated
3000
2500
2000
1500
1000
500
0
0
5
10
15
20
25
Storm Duration - hours
M2 Storm
M1 Storm
M0.5 Storm
Flow Balance Capacity

Nant y Gwyddon
Flow Balacing Lagoons

Final Restoration

Northern Catchment	117500	Run off %	
Temporary Capping sqm	0	100	0
Grassed Restored Soils on 1 in 3 slope sqm	33500	58	19430
Grassed Restored Soils on 1 in 10 slope sqm	84000	55	46200
General Site Area (including roadway)	0	90	0
			0

Catchment		sqm	65630	65630	65630	65630	65630	65630	65630	65630	65630	65630
Storm			M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	8.4	12.8	18.3	25.9	31.9	45.8	62.9	84.8	131.8	153.9
Rainfall Intensity		mm/hr	16.80	12.80	9.15	6.48	5.32	3.82	2.62	1.77	1.10	0.92
Volume produced during storm		cum	551	840	1201	1700	2094	3006	4128	5565	8650	10100
Discharge to settlement ponds		l/s	9	9	9	9	9	9	9	9	9	9
Discharge to settlement ponds		cum/hr	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Discharge during storm		cum	16	32	65	130	194	389	778	1555	3888	5443
Accumulated Balance			535	808	1136	1570	1899	2617	3351	4010	4762	4657
Capacity of flow balance		cum	900	900	900	900	900	900	900	900	900	900

Southern Catchment	57375		
Temporary Capping sqm	0	100	0
Grassed Restored Soils on 1 in 3 slope sqm	21125	58	12252.5
Grassed Restored Soils on 1 in 10 slope sqm	24500	55	13475
Rough Grassland/Quarry area Area	11750	65	7637.5
			0

Catchment		sqm	33365	33365	33365	33365	33365	33365	33365	33365	33365	33365
Storm			M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5	M0.5
Duration		hr	0.5	1	2	4	6	12	24	48	120	168
Rainfall		mm	8.4	12.8	18.3	25.9	31.9	45.8	62.9	84.8	131.8	153.9
Rainfall Intensity		mm/hr	16.80	12.80	9.15	6.48	5.32	3.82	2.62	1.77	1.10	0.92
Volume produced during storm		cum	280	427	611	864	1064	1528	2099	2829	4398	5135
Discharge to settlement ponds		l/s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Discharge to settlement ponds		cum/hr	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Discharge during storm		cum	8	16	32	65	97	194	389	778	1944	2722
Accumulated Balance			272	411	578	799	967	1334	1710	2052	2454	2413
Capacity of flow balance		cum	400	400	400	400	400	400	400	400	400	

2.4 Proposed Sampling Details

Surfacewater Sampling.

Best Practice sampling requirements as taken from *EnvirosAspinwall Phase 1 Review.*

Field Measurements:

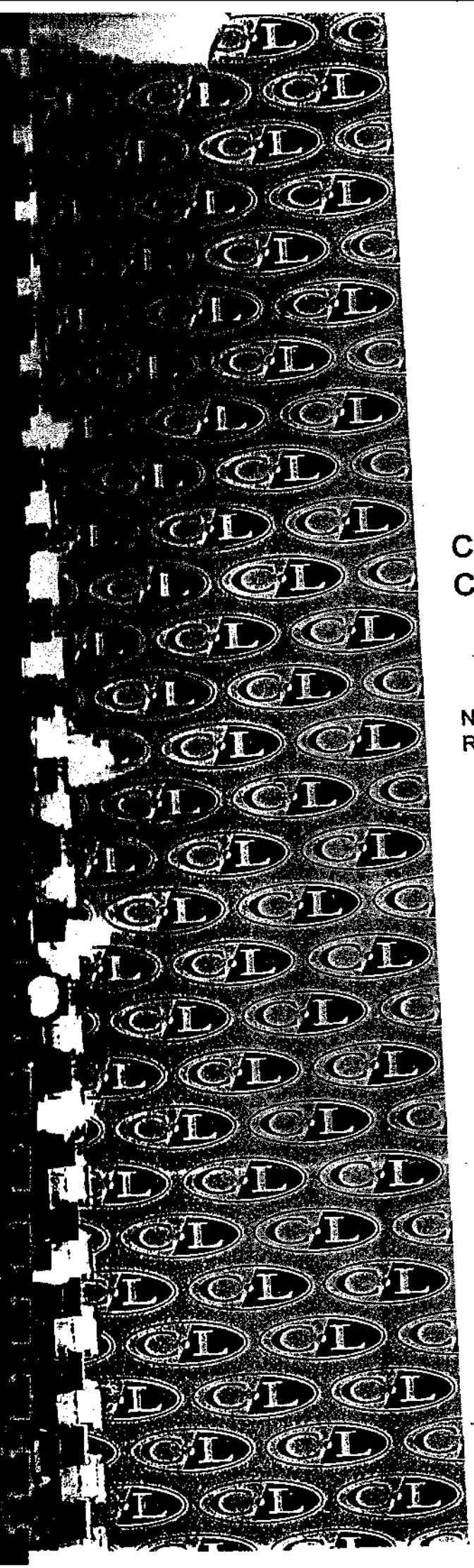
Best Practice Monthly
P.H.
Conductivity
Water Temperature
Dissolved Oxygen

Laboratory Measurements:

Best Practice Monthly
Chemical Oxygen Demand
Ammoniacal Nitrogen
Chloride

Note: Best practice taken from WMP4.

2.5a Details of Drainage Scheme



CL Associates

CONTRACT REMEDIATION AND CAPPING WORKS

Nant-y-Gwyddon Landfill Site
Rhondda

Carried out for : Rhondda Waste Disposal Ltd

September 1998

Report No : 3077/5

method approved by the Engineer, and similarly joined to the perforated pipes fr
the downslope section. Both ends shall be capped.

12. SURFACE WATER DRAINAGE

12.1 General

12.1.1 The areas of permanent and temporary capping will create a significant volume of surface drainage during rainfall events. The Contractor shall install the following drainage infrastructure to enable the increased volumes of water to be discharged to the Nant y Gwyddon watercourse:-

- A headwall, manhole and pipework to carry water caught on the temporary capping to the trapezoidal section watercourse near the wheel bath
- A ramp and lined watercourse to carry water caught on the temporary capping to the southern perimeter ditch
- Refurbishment of the southern perimeter ditch
- Replacement of the 250mm pipework adjacent to the wheel bath with 600mm pipework
- Connection of the southern perimeter ditch with the eastern perimeter ditch
- Connection of the run off from the permanent capping to the eastern perimeter ditch

12.1.2 The excavation for the construction of the surface water treatment area will be carried out under contractual arrangements not part of this document which will be still in progress whilst the Contract works are being undertaken. The Contractor shall not interfere with these and shall agree a programme of execution from the works outlined in this Contract such that no delays are caused to the lagoon excavation works. The Contractor shall construct the following drainage channels and infrastructure for the lagoons:-

- Balancing lagoon underflow pipe and valve and associated concrete installation including trash screen (excavation not part of this document)
- Valve chamber

- Underflow splitting channel
- Underflow ditch connections to the settlement lagoons
- * Balancing lagoon discharge ditch
- Settlement lagoon discharge ditches
- * Storm Water Channel, Balance Lagoon inlet and weir
- * Balance lagoon inlet sluice
- * Stilling pond

12.1.3 Unless otherwise described in the Contract or agreed by the Engineer, all pipes to be used shall be black twin walled polypropylene or HDPE. The Contractor shall ensure that pipes are not subject to deterioration due to sunlight during the period between manufacture and installation in the Works. All pipes delivered to Site shall be stored in a compound and off the ground by means of pallets or similar.

12.1.4 The Contractor shall construct and commission the flow balance lagoon infrastructure at the earliest possible point in the contract (bulk excavations by others). Thereafter whilst the settling lagoons are being prepared the Contractor shall maintain the underflow pipe closed and the balance lagoon shall be used as a settling lagoon. Relief from the effects of a storm event shall be achieved by using a 100 mm weir in the base of the storm water channel to divert water into the flow balance lagoon. The weir will be overtopped in heavy rainfall events allowing excess rainfall to be discharged to the Nant y Gwyddon stream. Once the full water treatment system is commissioned the height of the weir shall be increased to 400mm to divert water from all but the most extreme events to be treated.

12.1.5 Items marked with an asterik in clauses 12.1.1 and 12.1.2 above are on the critical path of items that should be completed before the temporary capping is laid.

12.2 Culvert from Temporary Capping to Trapezoidal Channel

12.2.1. The Contractor shall construct a culvert between the temporary capping area at points A and the trapezoidal channel at point B as shown on Drawing No. 3077/5/1. The culvert shall be a 600mm ID black twin walled polypropylene or HDPE to a manhole adjacent to the main haul road and a 600mm Class M concrete pipe for the road

crossing. The layout of the culvert shall be as shown on Drawing No. 3077/5/5B. The inlet end of the culvert shall be installed in a headwall as shown on Drawing No. 3077/5/5C. The pipe shall be connected to the temporary cap by the use of the seam sealing tape used to connect the sheets of capping or other product approved by the Engineer. The culvert shall be laid through the bund of waste on a bedding of Screened Gelli Fill at least 300mm thick. The bend to the west of the bund shall be constructed using slow (22.5°) bends. Once the culvert is placed it shall be surrounded by further Screened Gelli Fill and the whole of the bund filled to its original profile. The front edge of the tip shall be profiled to a smooth gradation between floor and bund. The temporary capping shall be carried to a minimum of 1200mm above the invert of the culvert. The temporary capping shall be held in place by a layer of 40 mm down fill placed carefully at least 300 mm thick as shown on Drawing No. 3077/5/5C and 2 metres either side of the culvert.

12.2.2 The culvert shall be connected to a 1500mm internal diameter shallow manhole located adjacent to the haul road. The manhole shall be constructed to the detail shown on Drawing No. 3077/5/5A. The Contractor shall import selected fill to support the pipe where it crosses the small valley feature near the site of the manhole.

12.2.3 A Class M 600mm Internal Diameter Concrete Culvert shall be installed in a trench from the manhole across the main haul road as shown on Drawing No. 3077/5/5D. All arisings shall be removed to the active tipping area on site. The trench shall be at least 1000mm wide and 1000mm deep. The culvert shall be surrounded and the trench filled with with C30/20 rapid hardening concrete. The Contractor shall carefully break out the side of the trapezoidal channel so that the pipe invert can be arranged to match the channel floor The Contractor shall ensure that the traffic using the tip is not obstructed by his operations and provide steel plates 25mm thick of sufficient size to bridge the trench for at least 7 days after placement to protect the concrete. The Contractor shall make good any damage caused to the flexible road surface during the installation and trim the pipe to match the side of the channel and reinstate the any overbreak that has taken place in trimming the channel.

12.2.4 The Contractor shall note that the at least three services run in the road verges. The electricity supply for the lamp standards and the rising and falling water mains. The

Contractor shall locate these services before any work takes place and arrange for their reinstatement with the minimum of down time after they have been severed.

12.2.5 The Contractor shall lay the culvert in a trench 1 metre wide. The base of the trench shall correspond to the invert levels shown on drawing 3077/5/5B plus an allowance for 150mm of colliery shale bedding for the culvert on along its full length. The pipe trench shall be backfilled (and surcharged if necessary) to provide at least 500mm cover to the top of the pipe. The Contractor shall provide Screened Gelli Fill placed in 300mm layers and rolled to provide support for the pipe between the site haul road and the road to the active area on the tip. The Contractor shall also provide Screened Gelli Fill to ensure that there is at least 1 metre cover over the pipe where it crosses the road to the active tipping area and extend the fill either side of the pipe as necessary to grade the road to the satisfaction of the Engineer.

12.3 Ramp and Ditch from Temporary Capping Area to Southern Perimeter Ditch

12.3.1 The Contractor shall provide and lay Screened Gelli Fill in the location marked C on the Site Plan Drawing No. 3077/5/1 to form a ramp and ditch to convey run off from the temporary capping to the southern perimeter ditch. The fill material shall be laid in 300mm layers and compacted with 4 passes of a Bomag BW6 towed roller or similar approved by the Engineer to an even grade between the low point on the corner of the temporary cap and the southern perimeter ditch. The surface of the ramp shall be 3 metres wide and the sides shall be no steeper than 1 in 2.5. The ditch shall be 600 mm deep with a 600mm base and 1 in 1 sides and shall be cut in the surface of the ramp. A three metre wide strip of EnviroCover shall be laid into the ditch course and weighed down either side of the ditch to line the watercourse. The centre line shall be weighed down with 40 mm aggregate in the base of the ditch.

12.4 Refurbishment of the Southern Perimeter Ditch

12.7.1 Run off from the Permanent Capping will be collected in a lined ditch at the base of the slope. At the lower end of this ditch the contractor shall construct a headwall from 2m x 1m x 1m gabion baskets as shown on drawing no. 3077/5/5G. A 2 metre length of 600mm twin wall HDPE or polypropylene pipe shall be connected to a shallow manhole as shown on Drawing No. 3077/5/5A and this shall in turn be connected to a run of 600mm twin wall HDPE or polypropylene pipe which shall be placed along the line shown on drawing no 3077/5/5H. The pipe shall be installed in a trench 1.0 metre wide by 1.2 metres deep and surrounded by a minimum of 150mm of Screened Gelli Fill on all sides. Where the pipe crosses the service road the cover on the pipe shall be increased to 1 metre

12.8 Balancing Lagoon Underflow Pipe and Associated Infrastructure

12.8.1 The Contractor shall construct the headwall structure shown on drawing no. 3077/5/2A in the outlet channel to the flow balancing lagoon. The Contractor shall supply the pipe to carry the underflow which shall be a 100mm ID Galvanised heavy duty steel pipe. It shall be fitted with a flange at the point where it emerges into the valve chamber. The Contrctor shall supply a 100 mm flanged heavy duty brass gate valve which shall be fitted to the end of the galvanised steel pipe. The pipe shall be laid on a bed of Type 1 Granular Sub Base minimum thickness 150mm whilst the concrete headwall is cast and shall be covered to a depth of 150mm with the same material once the concrete is cured. The remainder of the pipe trench shall be filled with selected imported material compacted in layers not exceeding 300mm.

12.9 Valve Chamber

12.9.1 The contractor shall install a 1200mm shallow manhole to the specification shown on Drawing No. 3077/5/5A at the position marked valve chamber on Drawing No. 3077/5/2. The manhole shall be constructed to an internal height of 1.5 metres with the surface of the manhole approximating to 309m AOD. The Contractor shall arrange for the outfall from the manhole to be a single length of 200mm ID concrete pipe which shall be connected to the underflow splitting channnel. The valve shall be fitted with a

baffle plate to reduce the velocity of the flow into the manhole as shown on Drawing No. 3077/5/2E.

12.10 Underflow Splitting Channel

12.10.1 The channel from the valve chamber shall be excavated as an open ditch 500mm wide and 300mm deep and lined with a thickness of 100mm of C20/20 concrete for a distance of 4 metre as shown on Drawing No. 3077/5/2B. At a distance of approximately 1 metre from the valve chamber the floor of the channel shall be raised in the centre to divide the flow into two equal parts. The flows will be separated completely by setting a line of engineering bricks in the centre of the channel commencing at 2 metres from the valve chamber.

12.11 Underflow Ditch Connections to Settling Lagoons

12.11.1 The channels to the settlement lagoons shall be constructed as a simple unlined channel in the bedrock approximately 300mm wide and 200mm deep. The inlet to the lagoon shall be arranged as an apron as shown on Drawing No. 3077/5/2F. The inlet wier shall be formed in concrete rather than the timber specified.

12.12 Balancing Lagoon Discharge Ditch

12.12.1 The Contractor shall form a channel of finished trapezoidal section 800mm base, 1500mm top and 800mm high from the outlet of the balancing lagoon to the to the Discharge Ditch. The Channel shall either be formed from precast concrete sections or by casting the length in situ. If in situ concrete is used the minimum allowable thickness of placed concrete shall be 150mm. If precast trapezoidal section units are used these shall be bedded according to the manufacturer's recommendations. The Contractor shall submit his proposals for approval by the Engineer.

12.13 Settlement Lagoon Discharge Ditches

12.13.1 The discharge channels from the settlement lagoons shall be constructed as a simple unlined channel in the bedrock approximately 300mm wide and 200mm deep. The outlet from the lagoon shall be arranged as an apron as shown on Drawing No. 3077/5/2F. Where the channel is formed in superficial material it shall be formed as a ditch. The ditch shall be 500 mm deep with a 500mm base and 1 in 1 sides. The ditch shall be connected to the stilling pond.

12.14 Storm Water Channel, Balance Lagoon Inlet and Weir

12.14.1 The Contractor shall construct a lined ditch from the outfall of the crossing point outside the fitting shop to the stilling pond. The dimensions of the channel shall be 500mm base and 800mm deep. The channel shall be installed to the line and invert levels shown on Drawing No. 3077/5/2. The Contractor shall incorporate a branch channel to the balance lagoon into the construction. Diversion of the water shall be achieved by installing an oblique (45° to the direction of flow) 100mm wier in the base of the main channel. This will divert low to medium flows to the balance lagoon whilst allowing storm events to by pass the balance lagoon whilst the remaining lagoons are under construction. Once the full water treatment system is commissioned the height of the wier shall be increased to 400mm to divert water from all but the most extreme events to be treated. The section of the channel which connects to the outfall of the crossing point culvert shall be formed in situ using C30/20 concrete a minimum of 200mm thick and shall incorporate a transition curve to divert the water into the standard units. The layout of the transitional curve shall be agreed with the Engineer on site.

12.14.2 The Contractor shall construct the final 4 metres of lined ditch before the stilling pond with a minimum thickness of 200mm of C30/20 concrete supporting the slabs. A393 reinforcing fabric shall be placed in the concrete on the base and sides as specified for the sluice gate (drawing no 3077/5/2D) over the last 4 metres and shall provide shuttering if necessary to support the concrete as it sets. The cover on the reinforcing fabric shall be a minimum of 75mm.

12.15 Balance Lagoon Inlet Sluice

12.15.1 The inlet channel to the Balance Lagoon shall be fitted with a sluice gate which may be used if it is necessary to divert flow away from the balance lagoon. The sluice gate shall be 500mm high and shall be installed in a slot created on each side of the lined ditch as shown on Drawing No. 3077/5/2D. The slot shall be 75 mm deep in all directions. The lined ditch either side of the sluice gate shall be laid on a full bed and side support of 150mm thickness of C30/20 concrete incorporating a layer of A393 reinforcing mesh as shown on Drawing No. 3077/5/2D. The sluice gate shall be a 75 mm thick piece of timber cut to the profile of the slot. The sluice shall be arranged so that when it is in place all of the water is confined to the main channel.

12.16 Stilling Pond

12.16.1 The Contractor shall construct a stilling pond in the location shown in Drawing No. 3077/5/2. The Contractor shall excavate a level area 5 metres by 6 metres to at least 0.5 metres into bedrock or 295.5 m AOD whichever is the lower. Material arising from this excavation shall be stored nearby for later use. The resulting excavation shall be lined with two lengths of 1mm LLDPE at right angles followed by two lengths of wicking geotextile at right angles. The entire base shall be covered with gabion baskets wired together. The remainder of the structure shall be installed as shown on drawing no 3077/5/2G. All baskets shall be constructed from heavy duty plastic coated wire and shall be mutually wired together in accordance with the manufacturers recommendations. The arisings from the original excavation and sufficient Screened Gelli Fill to provide a bund width of 3 metres at the top of the structure and a batter of 1 in 3 to existing ground shall be compacted against the sides of the structure to provide a containment. The stilling pond shall be joined to the short length of channel over the leachate service line using precast concrete channels as specified in clause 12.15 above.

12.17 Removal of Manhole L16

12.17.1 The Contractor shall remove leachate manhole L16, located in the western edge of the waste in its entirety. A cross section of the manhole is shown on drawing no. 3077/5/7. The Contractor shall excavate in waste to expose the liner and create a working area sufficient to remove the manhole and install bunding to exclude leachate from the working area. The connections to the above liner and below liner drainage system shall be severed and the manhole concrete structure removed. Extreme care shall be taken that this operation does not damage the adjacent liner. Notwithstanding this, should any damage occur it shall be fully repaired to the Specification. The Contractor shall reinstate the below liner drainage pipe with a section of similar size and strength and backfill with a similar material to that used for the existing pipe bedding compacted to the satisfaction of the Engineer. A new section of 2.5mm HDPE smooth liner to a similar specification to that used on the existing basal liner shall be installed to full CQA procedure. The liner shall be covered with a layer of 40mm down material screened from Gelli Tip or imported. The above liner drainage shall be reinstated with an HDPE pipe to match the existing and covered with a prism of 40mm down material screened from Gelli Tip or imported as elsewhere on the site.

drawing no. 3077/5/4B as necessary. The disconnected ends shall be temporarily capped using polythene whilst they are disconnected.

14) Correction Section 4 clause 9.4.4. Replace Drawing No 3077/5/4C with Drawing No 3077/5/4D&E.

15) Add to Section 4 Clause 10.3. "Before any fill material is placed at the toe of the permanent capping, all accumulated litter at the base of the slope shall be transported to the active tipping area."

16) Correction Section 4, clause 12.2.3, 3rd sentence. The trench shall be at least 1200 mm wide and there shall be at least 150 mm of concrete below the pipe and 300 mm above it.

17) Amend Section 4 clause 12.2.3. Replace "1000 mm wide and 1000 mm deep" with "1200 mm wide and 1200 mm deep."

18) Amend Section 4 clause 12.5.1. Add a new 2nd sentence:

"It is considered possible that the 250 mm pipe may be left in place and an alternative pipe installed immediately north of it."

Replace 2nd sentence with "The Contractor shall either replace the culvert with a 600 mm ID Class M concrete pipe or augment it by installation of a 600 mm ID Class M concrete pipe." Add new sentence "In either case it shall be installed to a line and specification to be agreed by the Engineer complete with headwalls at each end and any necessary connections to the wheel bath structure or the upstream and downstream trapezoidal channels."

19) Correction Section 4, clause 12.6.1. Replace "clause 9.3" with "clause 12.3".

20) Correction Section 4, clause 12.7.1. Replace entire clause as follows:-

Run off from the Permanent Capping will be collected in a lined ditch at the base of the slope. At the lower end of this ditch the Contractor shall construct a headwall as shown on drawing no. 3077/5/5G. A 2 metre length of 450 m twin wall HDPE or polypropylene pipe shall be connected to a shallow manhole as shown on Drawing No. 3077/5/5A and this shall in turn be connected to a run of 450 mm twin wall HDPE or polypropylene pipe which shall be placed along the line shown on drawing no. 3077/5/5H. The pipe shall be installed in a trench 1.0 metre wide by 1.2 metres deep and surrounded by a minimum of 150 mm Screened Gelli Fill on all sides. Where the pipe crosses the service road the cover on the pipe shall be increased to 1 metre. The pipe shall terminate in a headwall constructed by setting it between two gabion baskets (2m x 1m x 1m each), at the eastern perimeter ditch at point D on the site plan 3077/5/1. The opposite bank (on the eastern side of the ditch) shall be protected by the installation of three gabion baskets (2m x 1m x 1m) set on a geotextile base to replace the existing bank material. The location of the manhole may be altered by the Engineer to suit conditions prevailing as a result of any regrading necessary to accomodate the installation of the permanent

capping material. The gabion baskets shall be filled with 100 mm - 150 mm stone. Any soil excavated shall be distributed around the structures as directed by the Engineer.

21) Amend Section 4 clause 12.12.1, second sentence. Delete the words "either" and "from precast concrete sections or".
Delete the 4th sentence in its entirety.
Add to the end of the 3rd sentence .....150 mm , "in line with Drawing No 3077/5/5A."

22) Amend Section 4 clause 12.14.1 as follows:

Add in first sentence after ....lined ditch "in accordance with drawing 3077/5/5J."
Amend penultimate sentence, replace "divert" with "guide" and replace "standard units" with "storm water channel."

23) Amend Section 4 clause 12.14.2, 2nd sentence after "...4 metres and" add "the Contractor"

24) Amend Section 4 clause 12.16.1, last sentence to read "The stilling pond shall be joined to the short length of channel over the leachate service line using a lined ditch 0.5.metres wide and 1.0 metre deep with sides angled to match the trapezoidal channel. The lined ditch to be as specified in clause 12.14 above."

25) Amend Section 4 clause 12.17.1 13th line. Before "layer" add the words "300 mm."

26) Add to Section 4 a new clause 12.18

12.18 Safety Measures

12.18.1 Incrementally upon completion of bulk excavation for each of the lagoons in the Water Treatment Area the Contractor shall erect and maintain a temporary high visibility safety barrier fence and a lifebuoy around the excavations.

27) Add new clause. Section 4 Clause 12.19

"Power Cable Duct from New Gas Flare Plinth to Eductor Tank

The Contractor shall install a 100 mm diameter PVC cable duct between the new gas flare plinth and the Eductor Tank. The duct will generally run ooverground and be secured to the gas vent pipe by suitable metal straps or bands."

2.5b Flocculant Details

DREW INDUSTRIAL DIVISION

ALPRETON TRADING ESTATE
SOMERCOTES
DERBYSHIRE
DE55 4LR
Telephone: 01773 604321
Fax: 01773 606901

SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE/PREPARATION : Decabloc A1, A2, A3, A4, A7 C2, N1. A1L, A2L, A3L, A4L, A7L, C2L, N1L

2. COMPOSITION/INFORMATION ON INGREDIENTS :

Substance	Concentration	Health Effect
Acrylamide Polymer	-	-
Sodium Carbonate	25 - 50%	Xi - irritating to eyes

3. HAZARDS IDENTIFICATION : Irritating to eyes
Prolonged exposure may cause irritation to skin

4. FIRST AID MEASURES :

Skin and Eyes	Wash eyes with copious amounts of water for 15 minutes Wash skin with soap and water
Ingestion	Give water to drink
Inhalation	Not applicable

5. FIRE FIGHTING MEASURES :

Extinguishing media	Water, dry foam or CO_2
Special protective equipment	None required
Special hazards	None expected

6. ACCIDENTAL RELEASE MEASURES : Shovel up and place in waste disposal container. Note that spills are very slippery when wet. Flush with copious amounts of water and add inert absorbant (e.g. Sand).

7. HANDLING AND STORAGE :

Ventilation	Store in ventilated area
Precaution	Store under dry conditions

8. EXPOSURE CONTROLS/PERSONAL PROTECTION :

Respiratory protection	Not normally required
Protective equipment	gloves advisable
Special equipment	None

9. PHYSICAL AND CHEMICAL PROPERTIES :

Appearance	Solid briquette, Yellow Colour - 'A' Type Green Colour - 'C' Type Pink Colour - 'N' Type
Odour	Slight ammoniacal
pH	(1% Solution) = Circa 9.0
Boiling point	Not applicable
Flash point	Not applicable

10. STABILITY AND REACTIVITY :

Stability	Stable
Conditions to avoid	None
Incompatibility	None under normal conditions
Hazardous decomposition products	Ultimate thermal decomposition may yield ammonia and oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION : Essentially low toxicity acute LD_{50} >5 g/Kg (rat)

12. ECOLOGICAL INFORMATION : Estimated LC50 bluegill sunfish, 96 hour >100 mg/L;trout, 96 hour >100 mg/L

13. DISPOSAL CONSIDERATIONS : Incinerate or landfill

14. TRANSPORT INFORMATION : Not regulated

15. REGULATORY INFORMATION : Not regulated

16. OTHER INFORMATION :

ISSUE 8049/B

SIGNED .....

DATE 25 SEPT 93

DREW INDUSTRIAL DIVISION

ALFRETON TRADING ESTATE
SOMERCOTES
DERBYSHIRE
DE55 4LR
Telephone: 01773 604321
Fax: 01773 606901

DECABLOC® A2L Anionic flocculant briquette

Use

DECABLOC A2L is highly effective as a flocculating agent for raw water and industrial waste water clarification. This polymer has found wide usage in many industrial processes where rapid and complete liquid/solids separation is desired.

Features

DECABLOC A2L briquette is a solid, high molecular weight, low-medium anionic polyelectrolyte, suitable for use in many diverse areas.

Appearance	: yellow coloured briquettes
Dimensions	: 16x16x8 cm
Weight	: approx. 3 kg/briquette
Flash Point	: none

These data are to be seen as typical values and should not be considered as specifications.

Feeding

DECABLOC A2L briquettes are simple to use on small applications where conventional flocculation treatment would be impractical and uneconomical. The briquettes are simply placed in a mesh cage in the water flow, thereby eliminating costs for dosing equipment.
Feeding rate will be affected by physical parameters like flow, temperature and available block surface. Your Drew representative will assist you in finding the most practical way of applying the product.

Handling precautions

DECABLOC A2L should be stored in a cool, dry place. Wear suitable gloves and use dustproof goggles when handling the product.
In case of spillage the floor may become slippery. Clean-up procedure: scoop up into a suitable container and wash remainder away with plenty of water (large quantities should not be flushed into the sewer). If the floor remains slippery, clean the area with an industrial detergent.
Before use review the Material Safety Data Sheet for additional information.

Transport classification

A.D.R. : not classified
IMDG : not classified
U.N.nr : not classified

Labelling for handling

Symbol : Xi, Irritant
R-phrases : 36, Irritating to eyes and skin
S-phrases : 22/26

Packaging

DECABLOC A2L is packed in cartons containing 8 briquettes, nett weight approximately 25kg per carton.

Revision 0, 9802

en 1 ltd
environmental arrangements

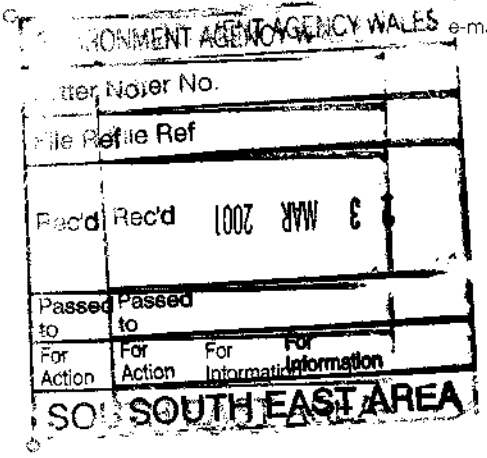
6 kew court, pynes hill
rydon lane, exeter, EX2 5AZ
phone / fax 01392 444720

united downs, st. day
redruth, cornwall, TR16 5HU
phone / fax 01209 820936

e-mail office@en1.co.uk

Ref : 0030125/300

Mr David Walters
Environment Agency Wales
Rivers House
St. Mellons Business Park
St. Mellons
Cardiff
CF3 0LT



Date: 22 March 2001

Dear Mr Walters

Re: Nant y Gwyddon, Amgen Rhondda Ltd
Discharge Consents Applications AN0308301 & AN 0308201

Further to our letter dated 12th March 2001 please find enclosed a plan showing the layout of the surface water lagoons at Nant y Gwyddon Landfill site.

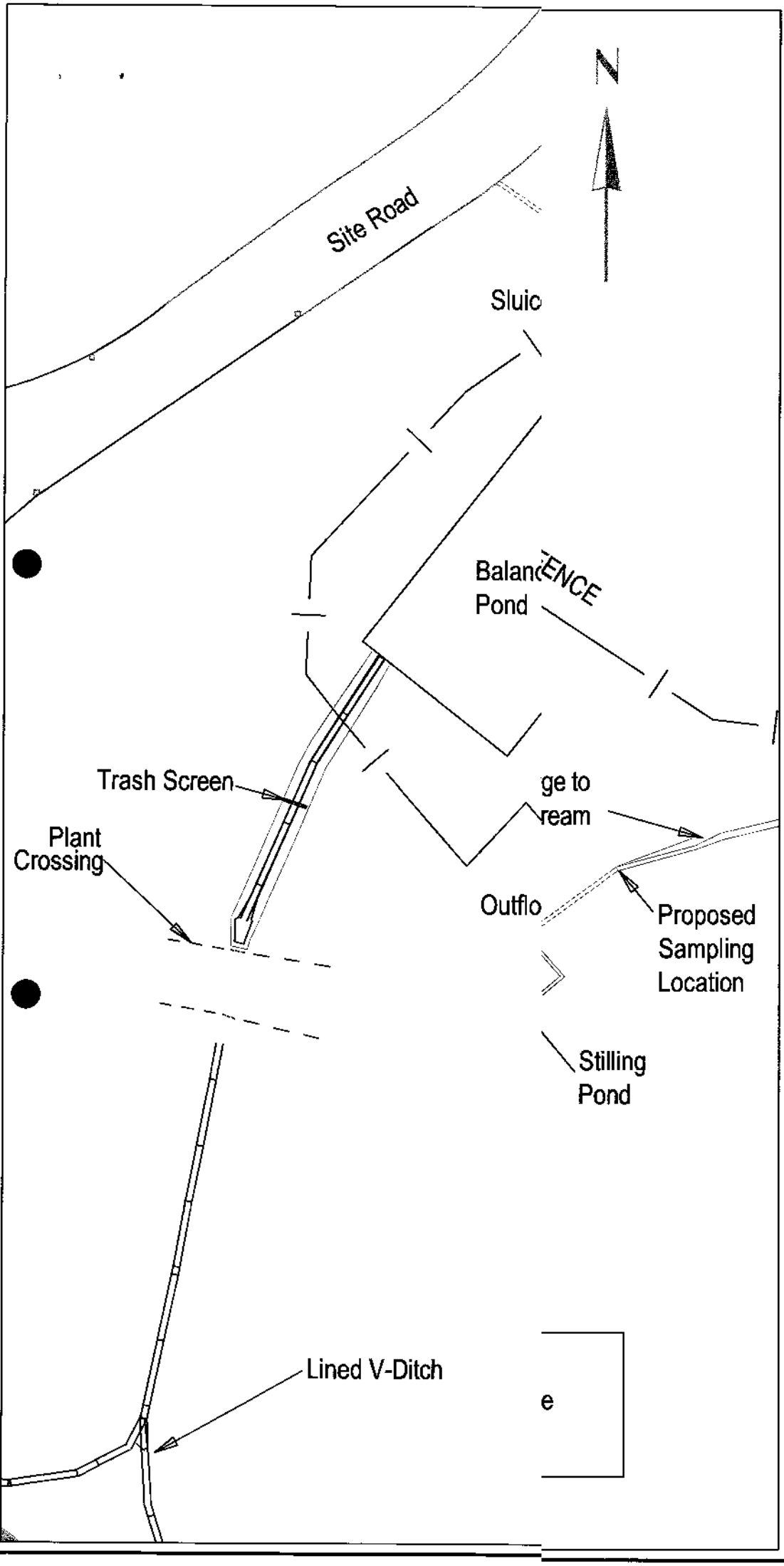
We hope that the information provided meets your requirements however should you have any queries please do not hesitate to contact the undersigned or Matthew Wilson (tel 01579 321837).

Yours sincerely
On behalf of en 1 ltd

pp Morag Aiken
Project Manager on behalf of Amgen Rhondda Ltd

Encl: Drawing No 0030125/500/004 Nant y Gwyddon Surface Water Lagoons

c.c Nigel Brinn, Amgen Rhondda Ltd
Ruth Tipping, Michelle Coles, Environment Agency Cardiff



Notes

United Downs, St. Day
Redruth, Cornwall, TR16 5HU
Tel. 01209 820936
e-mail office@enl.co.uk

Site

Nant-y-Gwyddon Landfill

Title

Diagram Showing
Surface Water Lagoons

Rev	Date	Nature of Revision

	Originator	Checked	Authorised
Inits	SJ		
Date	13/03/01		

Scale

NOT TO SCALE

Sheet

Drawing No

0030125/500/004

Rev

en 1 ltd

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phone / fax 01209 820936

e-mail office@en1.co.uk

Ref : 0030125/300

Mr David Walters
Environment Agency Wales
Rivers House
St. Mellons Business Park
St. Mellons
Cardiff
CF3 0LT

Date: 22 March 2001

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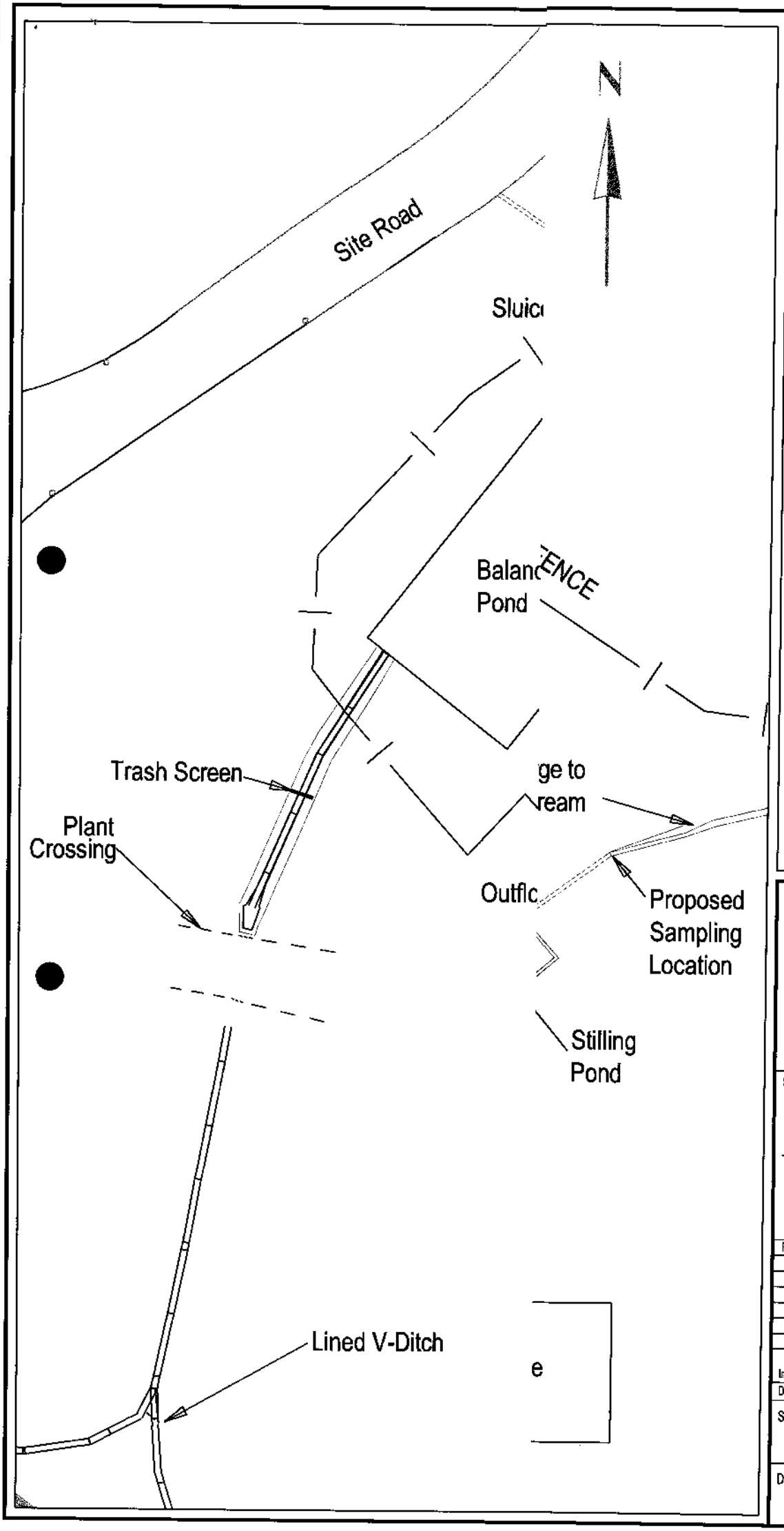

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Encl: Drawing No 0030125/500/004 Nant y Gwyddon Surface Water Lagoons

c.c Nigel Brinn, Amgen Rhondda Ltd
Ruth Tipping, Michelle Coles, Environment Agency Cardiff

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Eich cyf/Your ref.

Ein cyf/Our ref. SE/ACSC/MC/AN0308201 & AN0308301

Dyddiad/Date: 2 May 2001

FAO: Morag Aiken
EN1 Ltd
6 Kew Court
Pynes Hill
Rydon Lane
Exeter
EX2 5AZ

Dear Ms Aiken

WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) APPLICATION FOR CONSENT TO DISCHARGE TRADE EFFLUENT AND SPOIL TIP SITE DRAINAGE FROM NANT Y GWYDDON LANDFILL, MYNYDD-Y-GELLI, GELLI, RHONDDA.
APPLICATION NO'S: AN0308201 & AN0308301

We now acknowledge receipt of your full application and application fee. Application AN0308201 is now valid from 23rd March 2001 and application AN0308301 is now valid from 14th March 2001. Please quote the above application number in any communication with us.

We have 4 months, from the date of receipt, to determine your application. You may not start to discharge without our consent. We will do all we can to deal with your application quickly but if by 23rd July 2001 and the 14th July 2001 respectively, you have not been advised of our decision, the application is deemed refused and you are entitled to appeal to the National Assembly for Wales. However, if appropriate, an extension to the 4 month determination period may be agreed between us in writing.

The Agency is required to advertise the application unless it is considered that the proposed discharge is unlikely to have an appreciable effect on the receiving watercourse. This would involve placing an advert and a notice in the London Gazette at your expense. You will be contacted again shortly should advertising be necessary.

If granted, a Consent under Schedule 10 of the Act, cover water quality considerations only. It does not give any right or permission to discharge where land is not owned by the applicant. In addition, for discharges to watercourse, it does not imply the suitability, with regard to volumetric capacity, of the receiving watercourse. It is the responsibility of the applicant to identify and negotiate, with the riparian owners as necessary, any requirement for downstream improvement works. Failure to do so could result in a Common Law action by the riparian owner.

Cont'd/...

Asiantaeth yr Amgylchedd
Ty Abacus, Parc Business Llaneirwg, Llaneirwg, Caerdydd CF3 0EY
Cyferiad DX 121375, Ffon 029 20770088, Ffacs 029 20798555, GTN 7-26 X 1000

Environment Agency
Abacus House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY
DX Address 121375, Tel 029 20770088, Fax 029 20798555, GTN 7-26 X 1000

Details of your application for consent are placed on a public register, kept by the Agency and open for inspection by the public.

If you have any further quiries please do not hesitate to contact us quoting your application number AN0308201 & AN0308301.

Yours sincerely

S. Wilkes

PP **RUTH TIPPING**
Customer Contact Team Leader

Please ask for Michelle Coles

en 1 ltd
environmental management

6 kew court, pynes hill
rydon lane, exeter, EX2 5AZ
phone / fax 01392 444720

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Ref : 0030125/300

Mr David Walters
Environment Agency Wales
Rivers House
St. Mellons Business Park
St. Mellons
Cardiff
CF3 0LT

Date: 2 February 2001

Dear Mr Walters

Re: Nant y Gwyddon, Amgen Rhondda Ltd
Discharge Consents

Further to discussions with David Williams we are pleased to enclose Discharge Consent Applications for the following discharges:

- Gelli Tip Lagoon – 1,
- Balancing and Settlement Lagoons – 2,

As you are aware, the design and construction of these lagoons was undertaken prior to Amgen Rhondda's involvement in the site and therefore the information is relatively limited or based on assumptions.

We understand that an application fee of £645 per discharge consent is due which Amgen Rhondda Ltd shall pay directly in due course.

We hope that the information provided meets your requirements however should you have any queries please do not hesitate to contact the undersigned.

Yours sincerely
On behalf of en 1 ltd

Morag Aiken

Morag Aiken
Project Manager on behalf of Amgen Rhondda Ltd
c.c Nigel Brinn, Amgen Rhondda Ltd
David Williams, EA, Cardiff