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ASIANTAETH YR
AMGYLCHEDD
ENVIRONMENT
AGENCY

WATER RESOURCES ACT 1991 (schedule 10)

(as amended by the Environment Act 1995)

Application for a new consent* to discharge

(* delete as appropriate)

Regional/Area Address: The Regional Finance Manager Environment Agency Welsh Region PO Box 425 St Mellons Business Park CARDIFF CF3 0LT	Official Use Only <i>Dist/Area Ref:</i> 1303 <i>Application No.</i> BPO339101 <i>Date Received:</i> 20/9/04 <i>Fee Received:</i> £743
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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 relevant sections and provisions 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 (see note xiii).

1 SITE ADDRESS

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

Lamphey WwTW

Post Code:

N/a

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 132 m³/day
 Briefly state how this figure was calculated (see note ii).

See spill frequency analysis in supporting documentation

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

- | | | |
|---|--------------------------------------|---|
| 1. Pipe <input checked="" type="checkbox"/> | 4. Borehole <input type="checkbox"/> | 7. Sub-Irrigation System <input type="checkbox"/> |
| 2. Channel <input type="checkbox"/> | 5. Well <input type="checkbox"/> | 8. Combination of 6 & 7 <input type="checkbox"/> |
| 3. Culvert <input type="checkbox"/> | 6. Soakaway <input type="checkbox"/> | 9. Other (<i>please specify below</i>) <input type="checkbox"/> |

150 mm NB

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

S	N	0	1	7	5	5	0	0	9	0	0
---	---	---	---	---	---	---	---	---	---	---	---

(*please indicate on accompanying plans*)

2.4 a) The Agency will normally require adequate provision for the taking of samples of the discharge in a safe and convenient manner at any time. Please indicate the means proposed (see note iv) - tick as appropriate and show on plan:

- At the outlet At a manhole or sampling chamber

Other (*please specify*) At overflow from storm tank

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

S	N	0	1	8	9	0	0	7	8	8
---	---	---	---	---	---	---	---	---	---	---

(*please indicate on accompanying plans*)

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

None

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

1 off storm storage tank

b) Will the treatment process involve the use of any chemicals (eg ferric salts, polyelectrolytes). If yes please give details. no

2.6 a) On what date do you anticipate the discharge will commence? 31/03/05

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.

during high rainfall events

2.7 a) Are there any existing consents for discharges from the premises (see note vi)? yes
If yes, please give the reference numbers (Any further information should be given in Section 5.3).

BG0022401

b) Has any person had a Prohibition Notice serviced on them in respect of this site? no
If yes, please give the reference number.

3 SITE DETAILS

3.1 Please give the name of the relevant Planning Authority.

Pembrokeshire County Council

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

- | | | | |
|---|--------------------------|----------------------------|-------------------------------------|
| 1. Single Dwelling | <input type="checkbox"/> | 6. Fish Farm | <input type="checkbox"/> |
| 2. Multiple Dwellings | <input type="checkbox"/> | 7. Mineral Workings | <input type="checkbox"/> |
| 3. Industrial Premises | <input type="checkbox"/> | 8. Water Services plc STW | <input checked="" type="checkbox"/> |
| 4. Vehicle Parking Area | <input type="checkbox"/> | 9. Water Supply | <input type="checkbox"/> |
| 5. Commercial Premises (please specify) | <input type="checkbox"/> | 10. Other (please specify) | <input type="checkbox"/> |

- 3.3 Please indicate source of the water supply - tick as appropriate: n/a
- | | | | |
|--|--------------------------|---|--------------------------|
| 1. Well | <input type="checkbox"/> | 5. River (please give name below) | <input type="checkbox"/> |
| 2. Borehole | <input type="checkbox"/> | 6. Estuary (please give name below) | <input type="checkbox"/> |
| 3. Precipitation (eg rain or snow) | <input type="checkbox"/> | 7. Coastal Water (please give name below) | <input type="checkbox"/> |
| 4. Mains (please state water supply company) | <input type="checkbox"/> | | |

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) | <input type="checkbox"/> | 5. Into Land | <input type="checkbox"/> |
| 2. River or Stream (non-tidal) | <input checked="" type="checkbox"/> | 6. Onto Land | <input type="checkbox"/> |
| 3. Canal | <input type="checkbox"/> | 7. Directly into Groundwater | <input type="checkbox"/> |
| 4. Lake, Lock or Pond | <input type="checkbox"/> | 8. Coastal Water (see note vii) | <input type="checkbox"/> |

State name of receiving water if known:

Pembroke River

- 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? | <input type="checkbox"/> Y/N |
| (b) Is any part of the system within 10 metres of a watercourse? | <input type="checkbox"/> Y/N |
| (c) Is any part of the system within 50 metres of a borehole or spring? | <input type="checkbox"/> Y/N |
| (d) For wells and boreholes state dimension(s) in metres. | <input type="text"/> m |
| (e) For sub-irrigation systems, soakaway pits, wells and boreholes, state maximum depth in metres. | <input type="text"/> m |
| (f) For boreholes, state details of lining in metres: | |
| (i) Depth of lining | <input type="text"/> m |
| (ii) Depth of perforated lining | <input type="text"/> m |
| (iii) Depth of unperforated lining | <input type="text"/> m |
| (g) A percolation test must be carried out in accordance with British Standard BS6297:1983.
Have the results been provided? | <input type="checkbox"/> Y/N |
- 4.3 Is there a foul sewer available to which the discharge(s) could be made (see note viii)? Y/N
- 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.

*Dwr Cymru Cyf

*Pentwyn Road

*Nelson

*Treharris

*Caerphilly

*

Post Code: CF46 6LY

Daytime Telephone Number: Hilary Ford 01437 769061

Company Registration Number (if appropriate): 2366777

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

*

*

*

*

*

*

Post Code:

Contact Name and Daytime Telephone Number:

5.2

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

*

*

*

*

*

*

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 consent to discharge, as described in this Application. "This Application" means this page, all the other pages of this form and any attached annexes, the attached plan(s), any other sheets attached, and any other written information supplied to support the application.
2. enclose the required application fee, payable to the Environmental Agency (see note x).
3. enclose 3 copies of the plan(s) and location maps with all relevant information clearly marked (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 in this 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 Environment Agency may have about it is/will* be true to the best of my/our* knowledge, information and belief and am/are* not aware of any other facts or information which might affect the granting of a consent, 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*. If no please indicate who will be completing section 5.2 above (see note xiv).

(* Delete as appropriate)

SIGNED:	<i>Hilary Ford</i>	PRINT NAME:	HILARY FORD
ON BEHALF OF:	<i>Dws Cymau Cefn</i>	DATED:	<i>17.9.04</i>

CONFIDENTIALITY

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

SIGNED:	DATED:
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PLEASE RETURN THIS FORM TO THE ADDRESS GIVEN ON THE FRONT PAGE



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.

Lamphey WwTW

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

1 off 40 m³ storm retention tank

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). | 208 m ³ /d |
| b) Dry weather flow of discharge(s). | 78 m ³ /d |
| c) Average daily flow. | 97.5 m ³ /d |
| d) Maximum rate of discharge(s) | 2.5 l/s |

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

Yes

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

No

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

No

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

500 PE

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

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

Residential

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

no

8. Does the effluent contain a trade component?

no

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.*



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 Annexe 3 should also be completed).

Official Use Only
Application No.

1. Site Name.

Lamphey WwTW

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)

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

yes

If no please give:

a) the National Grid Reference of the treated effluent outlet.

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

BG0022401

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

S	N	0	1	8	9	0	0	0	7	8	8
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4. For effluents discharging from combined sewer overflows, is the discharge via a dedicated pipe?

N/a

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

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

5. Overflow settings

- | | |
|--|---------|
| a) Overflow setting to storm tanks | 2.4 l/s |
| b) Maximum flow to storm tanks (instantaneous) | 7.0 l/s |
| c) Overflow setting to storm sewage overflow | l/s |
| d) Maximum flow to storm sewage overflow | l/s |

6. Storage capacity

- | | |
|--|-------------------|
| a) Volume of Storm tanks | 40 m ³ |
| b) Retention time of storm tanks at maximum flow | 1.6 hours |
| 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.

Storm tank sized for 68 l/head +15%, Full details in supporting documentation.

8. Will facilities be provided to raise alarms (eg telemetry)?

yes

If yes, please give details.

Spill event recorder on telemetry

9. Will facilities be provided to prevent the discharge of gross solids?

yes

If yes, please give details (for screens give bar spacing or aperture).

6mm x 6mm Copa sac in storm overflow

10. What provisions will be made to deal with:

a) power failure (eg standby generators)?

Generator provided for process pumps

b) mechanical breakdown (eg standby pumps)?

Main process pumps are duty/standby

c) rising main failure?

N/a

d) tanker access?

available

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

Full details of the design criteria must be provided in order for the application to be determined. If you have any queries about what information is required please contact the person given in notes attached to the main form.



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ANNEXE 4
WELSH REGION SUPPLEMENTARY INFORMATION ANNEXE

Please complete this annex for every proposed discharge.

Official Use Only
Application No.

For all proposed discharges:

1. Site Name.

Lamphey WwTW

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

no

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 of the main application form), please state the diameter (including units):

150 mm NB

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

£350,000

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

no

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)

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

For proposed discharges of sewer in storm or emergency conditions:

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

8. Please state:

Population served (head)	500
Consumption (l/head/day) default = 180	130
Infiltration (m ³ /day)	13
Industrial effluent flow (m ³ /day)	0
Dry Weather Flow (m ³ /day)	78
Soc A (l/sec)	8.8
Predicted spill frequency (per annum)	< 1%

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' (eg 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.**

CONSENT NO.

BP0339101



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AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

WATER RESOURCES ACT 1991

SECTION 88 – SCHEDULE 10

(AS AMENDED BY THE ENVIRONMENT ACT 1995)

CONSENT TO DISCHARGE

TO: Environment Quality Scientist
Dŵr Cymru Cyfyngedig
Pentwyn Road
Nelson
Treharris
CF46 6LY

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 SEWAGE EFFLUENT**, as follows:

Settled Storm Sewage

FROM: LAMPHEY WASTEWATER TREATMENT WORKS

AT: LAMPHEY, NEAR PEMBROKE, PEMBROKESHIRE

TO: PEMBROKE RIVER

SUBJECT TO the conditions set out in the following schedule(s):

Settled Storm Sewage

Schedule No. BP0339101 01

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 on the 23rd day of March 2005
and takes effect on the 31st day of March 2005

Signed

Team Leader – Regulatory Water Quality



CONSENT NO.	BP0339101
SCHEDULE NO.	BP0339101 01
DATE ISSUED	23 rd March, 2005



ASiantaeth Yr
Amgylchedd Cymru
ENVIRONMENT
AGENCY WALES

CONDITIONS OF CONSENT TO DISCHARGE

Settled Storm Sewage ("the Discharge")

**FROM: LAMPHEY WASTEWATER TREATMENT WORKS, LAMPHEY,
NEAR PEMBROKE, PEMBROKESHIRE**

NATURE

1. The Discharge shall consist solely of settled storm sewage.

LOCATION

2. The Discharge shall be made in the manner and at the place specified as:
 - (a) discharging via a 150 millimetre diameter pipe;
 - (b) discharging to the Pembroke River;
 - (c) at National Grid Reference SN 01758 00900;
 - (d) shown marked 'Consent Point' on Plan BP0339101 attached as Annex 1.

SAMPLE POINT

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference Reference SN 01890 00788, as shown marked 'Sampling Point' on Plan BP0339101, or some other point as agreed in writing with the Agency, so that a representative spot 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 being discharged into controlled waters.

VOLUME

4. (a) The Discharge shall occur when and only for as long as, the storm tank(s) are full. The discharge of storm sewage to the storm tank(s) shall only occur when the rate of flow at the storm sewage separating weir is in excess of 2.4 litres per second due to rainfall and/or snow melt and shall consist only of flows in excess of this figure. The storm tank(s) shall be emptied automatically and their contents returned for full treatment as soon as practicable after cessation of the overflow to the storm tank(s).
 - (b) The capacity of the storm tank(s) shall be at least 40 cubic metres.



CONSENT NO.	BP0339101
SCHEDULE NO.	BP0339101 01



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Amgylchedd Cymru
Environment
Agency Wales

COMPOSITION

5. (a) The Discharge shall not contain a significant quantity of solid matter having a size greater than 6 millimetres in more than one dimension.
- (b) The Discharge shall not be comminuted or macerated to achieve the standard in (a) above.

WORKS OPERATION

6. (a) The works shall be operated and the effluent shall be treated in a manner which, so far as reasonably practicable, minimises the polluting effects of the discharge made from the works on controlled waters;
- (b) This condition does not require any alteration of the works or a change in the type of treatment used.

UNUSUAL WEATHER CONDITIONS

7. (a) No inspection of the sewage treatment works, made at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not the condition C of this consent schedule have been complied with.
- (b) For the purpose of this condition "unusual weather conditions" shall include:
- (i) low ambient temperatures as evidenced by effluent temperatures of 5°C or less, or by the freezing of mechanical equipment in the works;
 - (ii) significant snow deposits;
 - (iii) tidal or fluvial flooding;
 - (iv) weather conditions causing unforeseen loss of power supply to the sewage treatment which could not be ameliorated by the reasonable provision and operation of standby generation facilities.
- (c) On any occasion where unusual weather conditions adversely affect the operation of the sewage treatment works, the Consent Holder shall use its best endeavours to mitigate that adverse effect.
- (d) For an inspection of the sewage treatment works to be considered for the purposes of (a) above, the Consent Holder shall notify the Agency by telefax or telephone as soon as unusual weather conditions are known to have adversely affected operations and shall confirm the circumstances in writing as soon as possible thereafter (and in any event within 14 days of the occurrence of such conditions). That notification shall include a full description of the unusual weather conditions and their impact on the operation of the works.



CONSENT NO.	BP0339101
SCHEDULE NO.	BP0339101 01



ASiantaeth Yr
Amgylchedd Cymru
ENVIRONMENT
AGENCY WALES

RECORDING AND REPORTING

8. (a) The Consent Holder shall establish and operate a documented maintenance programme and record all non-routine actions undertaken that may have adversely affected the operation of the storm tanks. Copies of the programme shall be made available for inspection by the Agency's officers at all reasonable times.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions that may have adversely affected the operation of the storm tanks.

SUBSTANTIAL CHANGE

9. A discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the discharge on controlled waters as a result of a new or altered discharge of trade effluent into the works.
- 9.1 A discharge of trade effluent into the works is new if -
- (a) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or
- (b) it is made by a third party and the discharge is authorised on or after that date.
- 9.2 A discharge of trade effluent into the works is altered if -
- (a) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of effect of this consent; or
- (b) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- 9.3 An increase in the polluting effects of the Discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristic of the Discharge which is specifically regulated by other conditions of this consent but it may be significant if it is caused by a change in some other characteristic of the Discharge.
- 9.4 For the purposes of this condition "trade effluent" means -
- (a) any discharge by the sewerage undertaker other than
- (i) domestic sewage from premises connected directly or indirectly to the works; or
- (ii) surface water run-off;



CONSENT NO.	BP0339101
SCHEDULE NO.	BP0339101 01



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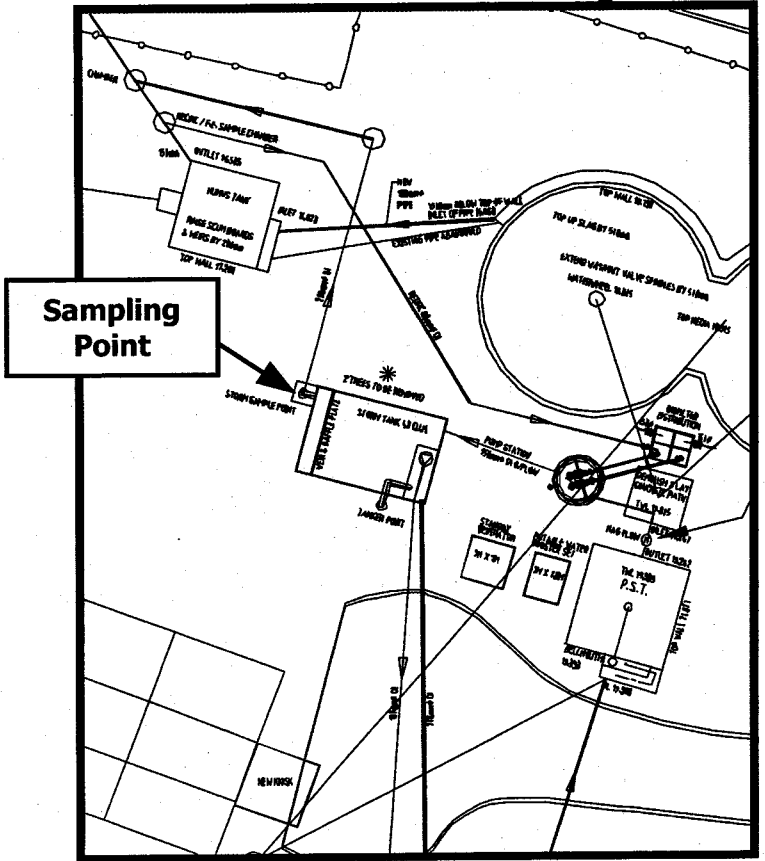
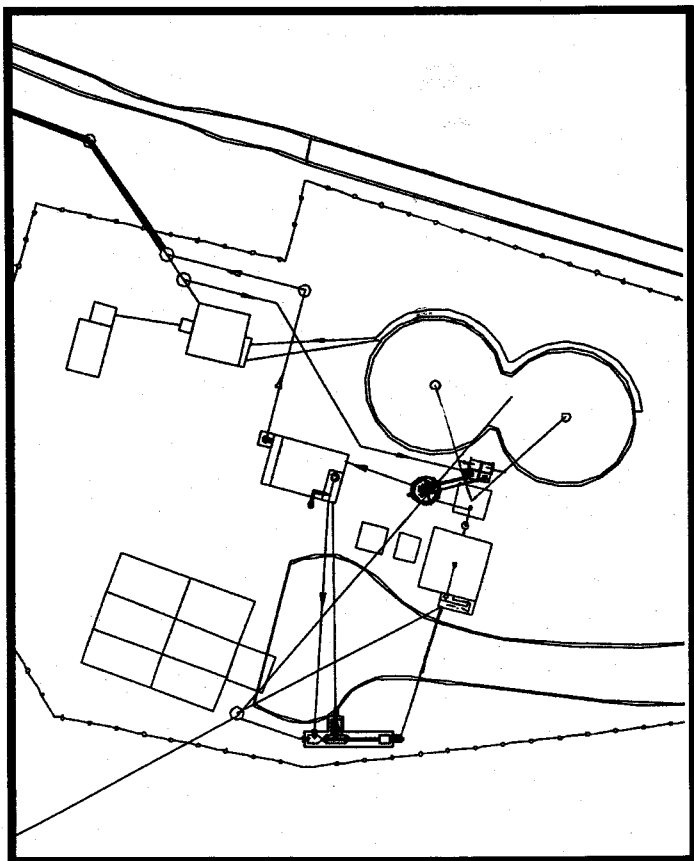
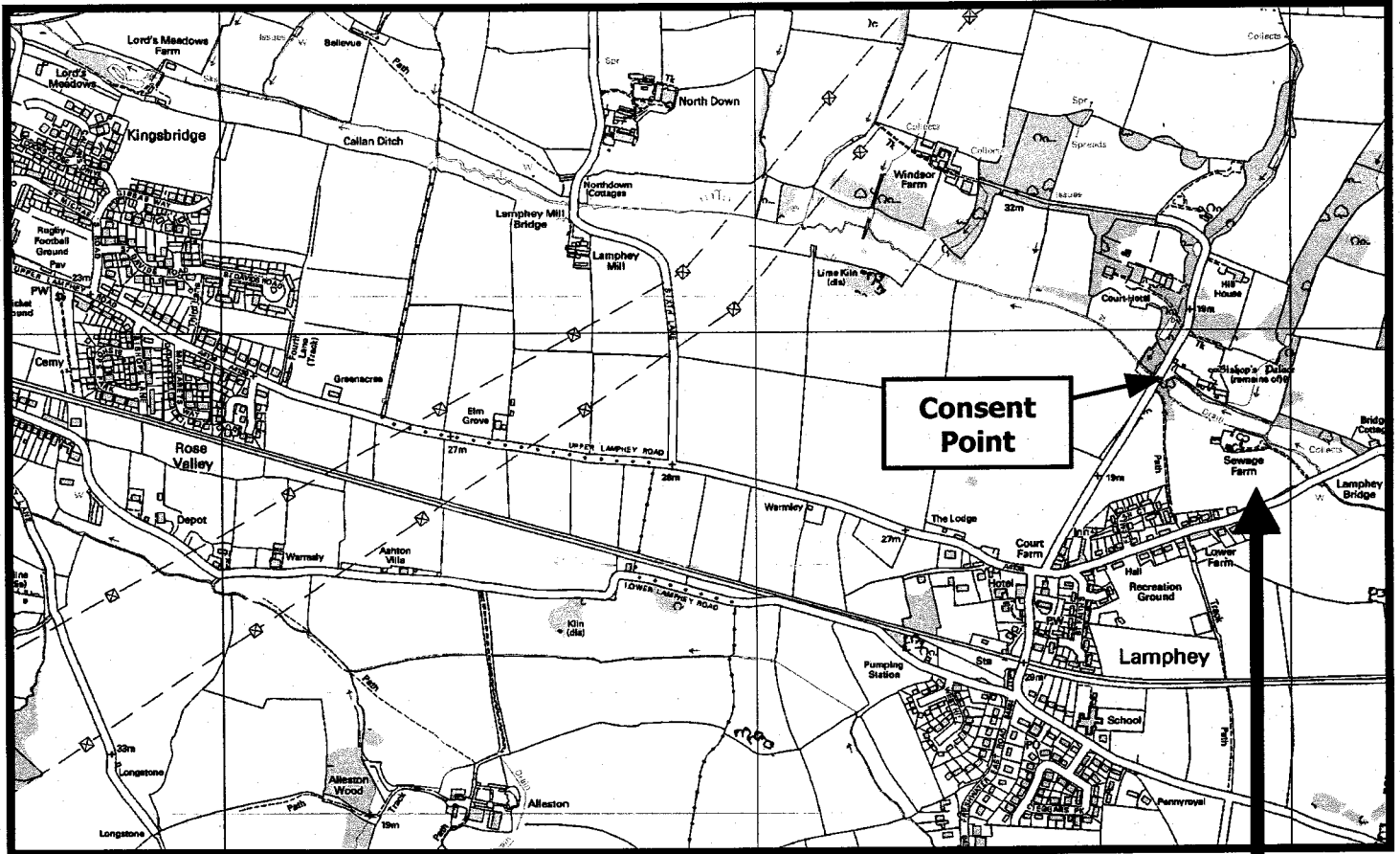
- (b) any discharge by a third party which is authorised under Chapter III of Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.

UNAUTHORISED DISCHARGES

10. A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (a) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.
- (b) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under section 87 of the Water Resources Act 1991.



LAMPHEY WWTW SETTD/STORM LAMPHEY, NEAR PEMBROKE, PEMBROKESHIRE





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AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Ein cyf/Our ref. EA/LK
Eich cyf/Your ref.

Dyddiad/Date: 29 March 2005

Environment Quality Scientist
Dŵr Cymru Cyf
Pentwyn Road
Nelson
Treharris
CF46 6LY

Dear Sir/Madam

**WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995)
APPLICATIONS FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT BY DŴR
CYMRU/WELSH WATER.**

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 sewage effluent from please see attached sheet.

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.

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.

Continued...

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

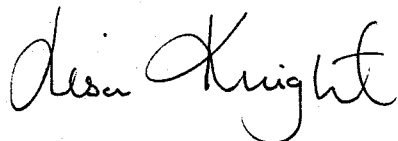
Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511



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 is enclosed, 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 Stuart Thomas, Team Leader Regulatory Water Quality Consents, Environment Agency Wales, Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ.

Yours faithfully



LISA KNIGHT
Authorisations Officer

Direct dial 01792 325577

Direct fax 01792 325530

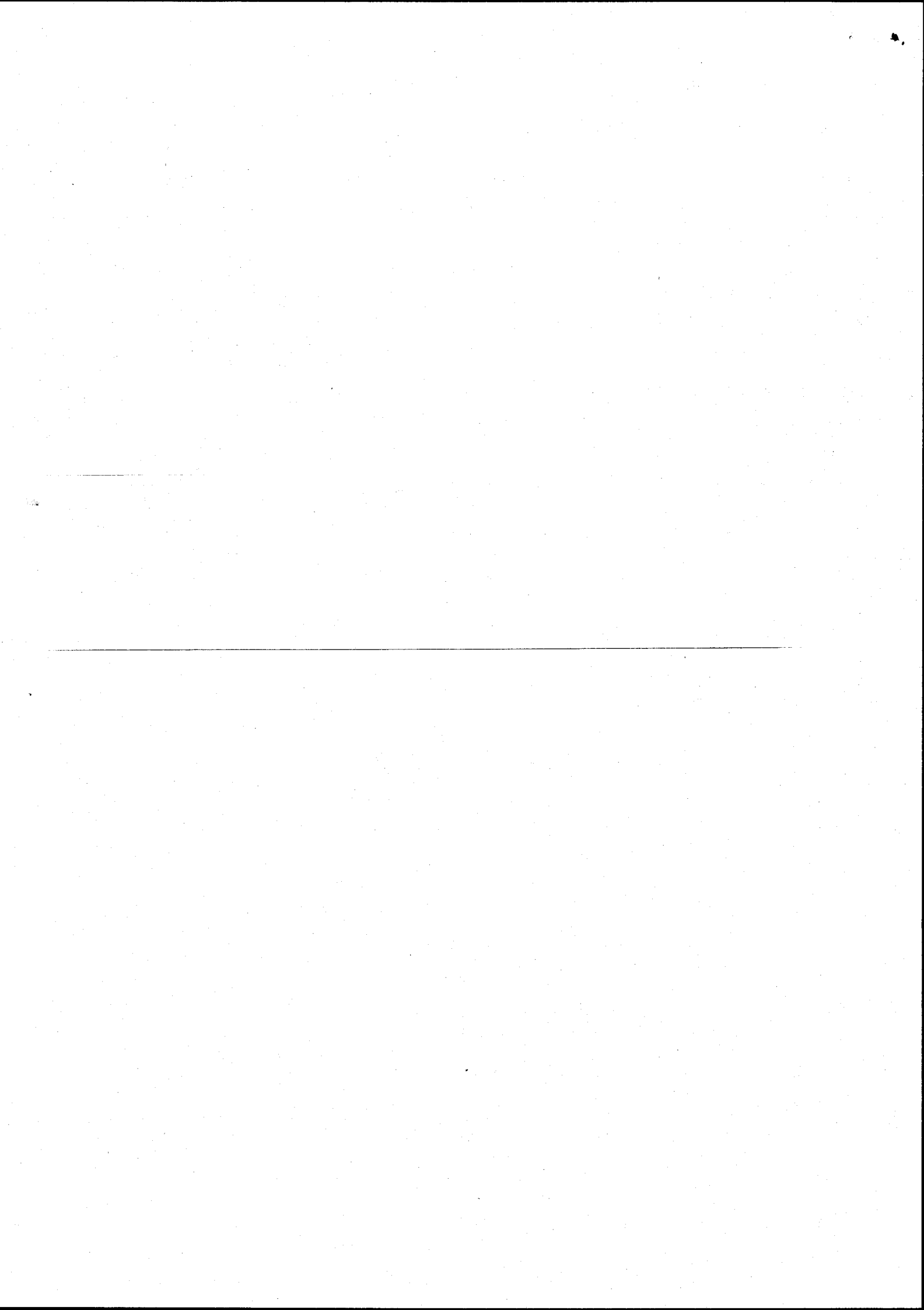
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Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511

**CONSENTS TO DISCHARGE SEWAGE EFFLUENT BY DŴR
CYMRU/WELSH WATER**

Consent Number	Discharge site
BP0339101 New Application	Lamphey WWTW
BP0341601 New Application	George IV CSO 23 WWTW
BW0600701 Variation	Lamb & Flag CSO 4
BP0340501 Variation	Penrhos CSO 10
BP0341701 Variation	B4599 Road Bridge, Heol Eglwys, Ystradgynlais
BW0600301 Variation	Rugby club CSO 13 D/S
BW2303501 Variation	Bridge Street CSO 21





ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Eich cyf/Your ref. EA/LK/BP0339101
Ein cyf/Our ref.

Dyddiad/Date: 31 March 2005

Ms Carol Fielding
Conservation Officer
Countryside Council for Wales
Plas Gogerddan
Aberystwyth
Ceredigion
SY23 3EE

Dear Ms Fielding

**WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995), APPLICATION FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT FROM LAMPHEY WWTW BY DWR CYMRU CYF
APPLICATION NO: BP0339101**

Thank you for your comments on the above discharge consent application. The Environment Agency has taken account of your comments and has decided that a consent should be granted with conditions. A copy of the consent is enclosed for your information.

Yours sincerely

LISA KNIGHT
Authorisations Officer

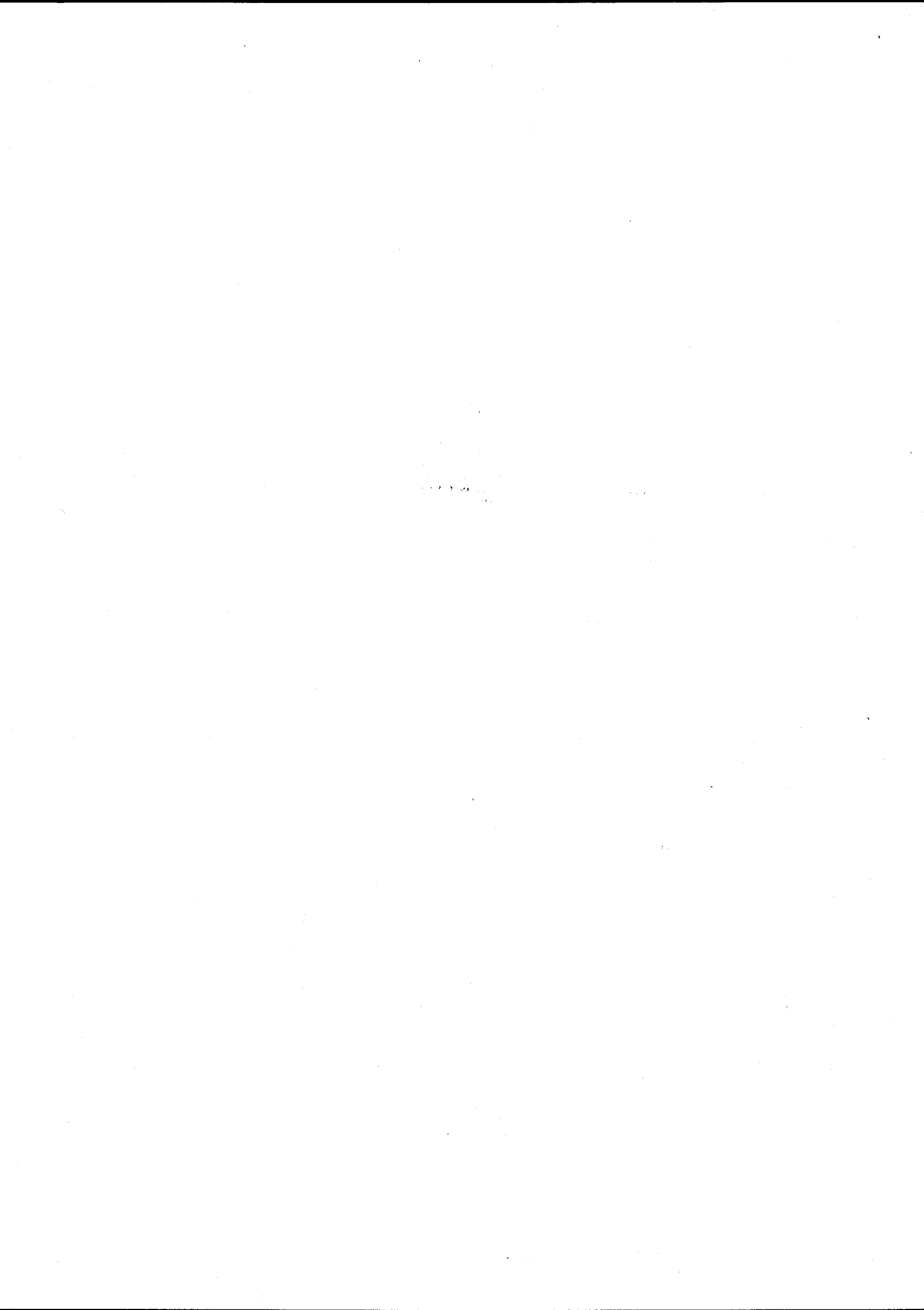
Direct dial 01792 32557
Direct fax 01792 32553

Enc

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511





PR
Ein cyf/Our ref.
Eich cyf/Your ref.

2/CS/LL/BP0339101;BG0022401



ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Dyddiad/Date: 14 October 2004

Dwr Cymru Cyf
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Dear Sir/Madam

WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995)

**APPLICATIONS TO DISCHARGE SEWAGE EFFLUENT BY DWR CYMRU CYF FROM LAMPHEY WWTW (Final effluent & storm effluent), LAMPHEY, PEMBROKESHIRE
APPLICATION NOS: BP0339101 (Final effluent) & BG0022401 (Storm effluent)**

I acknowledge receipt of your completed applications received on 20 September 2004 together with your application fees totalling £1,486. Please quote the above application numbers in any communication with us.

The legislation allows us 4 months from the date of receipt to determine your applications. However, an extension to the 4-month period may be necessary if we require further information to determine your applications or if agreed between us in writing. You will be advised if this proves necessary.

We will do all we can to deal with your applications quickly, but if by **20 January 2005** (or such longer period as explained above), you have not been advised of our decision then the application will be deemed to be refused. You will have a right of appeal to the National Assembly for Wales.

If granted, the consent of the Agency to make a discharge covers water quality considerations only. Should you require any advice on other consents, permissions, licences etc regulated by the Agency, please do not hesitate to contact me.

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

Yours faithfully

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511





12.

Documentation Supporting Consent Application for Lamphey WwTW



CONTENTS

INTRODUCTION

1. The design basis, Feasibility Report doc C885/6.1/01/001
2. Storm Spill Frequency Analysis, doc C885/6.1/01/002
3. A Process Flow Diagram of the system, drg No C885/1002
4. Location map showing the outfall discharge location, drg No C885/2005
5. Site plan showing the treated effluent and storm sampling points, drg No C885/2006



Introduction

The village of Lamphey is approximately 5 miles east of Pembroke.

Flows from approx 50% of the catchment gravitate to a pumping station that pumps across the railway line to joint the remainder of the gravity system to the treatment plant that is situated on the edge of the village.

Treated effluent and storm overflows gravitate to an outfall terminating in the Pembroke River.

Any flows in excess of 3DWF will spill to a storm retention tank having a volume of 40 m³. Volumes in excess of this capacity will spill to the treated effluent outfall.

Biological treatment of settled sewage is provided by rock media trickling filters.

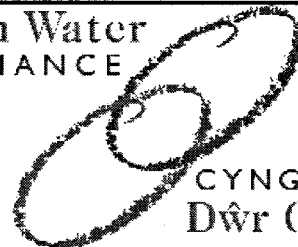
Final settlement is provided by a single pyramidal flow humus tank discharging via a final sample chamber to the treated effluent outfall.

Flow measuring and recording facilities in accordance with EA flow measuring policy are provided.



Meica Processes
 Parc Y Splott WwTW
 Llansteffan Road
 Johnstown
 Carmarthen SA31 3QU
 Tel 01267 221131
 Fax 01267 221167

Welsh Water
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CYNGHRAIR
 Dŵr Cymru

Document Cover Sheet

Project Title	Lamphey WwTW
Project Number	C 885
Client	DWR CYMRU/WELSH WATER
Document Reference Number	C885/6.1/01/001

Lamphey WwTW

Feasibility & Outline Design Report

Rev.	Date	Description/Purpose	Prepared	Checked ¹			Approved for Issue ²	
				Mech	Proc	Elect	EM	PM
0	11.05.04	First issue	MR	SR	MR	BB	AJW	SW
A	28.05.04	Revised process solution	MR	SR	MR	BB	AJW	SW
B	29.07.04	Revised scope of solution	MR	SR	MR	BB	AJW	SW
C								
D								

Notes

1. Relevant Disciplines to initial
2. EM – Engineering Manager, PM – Project Manager



CONTENTS

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2. EXISTING WORKS.....	4
3. SITE OBSERVATION.....	4
4. FLOW AND LOADS.....	5
5. PROCESS ISSUES.....	5
6. SCOPE OF WORKS.....	6
7. RECOMMENDATION.....	6
FEASIBILITY AND OUTLINE DESIGN REPORT ACCEPTANCE SHEET.....	7

APPENDIX

- Process calculation sheet, doc C885/6.1/100/02/A
- Existing pfd, drg C885/1000
- Proposed pfd, drg C885/1002



Summary

Lamphey WwTW is identified on the Amp3 spreadsheet for upgrading to meet water quality objectives. There is also significant growth identified in the Pembrokeshire udp.

The report contains recommendations for plant improvements to meet the requirements.



1.0 Introduction

Lamphey WwTW treats the sewage from the village of Lamphey which includes a Hotel, pub and infants school.

The sewerage from south of the railway line (equivalent to about 50% of the load) is collected at a pumping station from where it is pumped under the railway to join the gravity sewer to the works.

The outfall from the works discharges to the Pembroke river some 160m from the works.

The works has the following current discharge consent conditions:

BOD	65mg/l	95%ile
TSS	70 mg/l	95%ile

The Amp3 spreadsheet suggests an indicative consent of

BOD	20 mg/l	95%ile
TSS	30 mg/l	95%ile
Ammonia	5 mg/l	95%ile

2.0 Existing Works Description

All the flows arriving at Lamphey WWTW are via gravity sewers.

The works comprises: inlet macerator, primary tank, twin biological filters with rock media, Humus tank fitted with 'hot wax' and outfall to the river.

There is no sample chamber.

The humus and primary tanks are desludged to the pump sump from where the sludge is pumped to the old drying beds that are used for sludge storage.

3.0 Site Observations

The treatment works should easily meet the current BOD consent, however the humus tank is seriously undersized and compromises works consent

Primary tank is reported to be overloaded with sludge at times.

The biological filters, appear to operate satisfactorily, without any moss or weed growth, the distributors are satisfactory.

The existing Humus tank is seriously overloaded and has been fitted with the 'hot wax' clarifiers, these require hosing at least twice a week and thus put the consent at risk.

There is no sample chamber, the EA sample at the outfall point to the river.



Sludge storage is contained in the old drying beds that have limited capacity and are not covered.

The existing PFD is shown on attached drawing C885/1000

4 Flows and Loads

A flow and load survey has been carried out (28.01.04 to 24.02.04) the results have been used to support the design basis.

The design basis summarised below does not take into account the projected growth included in the Pembrokeshire UDP. Proposals have been included in the Amp4 programme to accommodate future growth.

Details of the process design are included in the appendix.

	BASIS	VALUE
Population Equivalent (PE)	Flow	500
Dry Weather Flow (DWF)	m ³ /day	78
	l/s	0.9
3DWF	m ³ /d	208
	l/sec	2.4
SOC A	m ³ /d	758
	l/sec	8.8
BOD Load	kg/day	30
SS Load	kg/day	30
NH ₃ – N Load	kg/day	4.0

5 Process issues

Due to hydraulic restrictions the treatment flow rate should be limited to 3DWF with excess flows being spilt to a storm retention tank. Spill frequency analysis suggests that the receiving watercourse quality will not be significantly effected.

The existing process stream is capable of treating a proportion of the load predicted by the design basis it is therefor recommended that the depth of media in the filters is increased to provide adequate capacity to treat the design load.

The EA have confirmed that the value of the consent determinants as



BOD	20 mg/l	95%ile
TSS	33 mg/l	95%ile
Ammonia	5 mg/l	95%ile

Operating with a DWF of 134 m³/d, as the DWF is now projected at a lower figure we would expect the above determinants to be more relaxed.

6 Scope of Work

The following items are suggested to be costed for the revised treatment works,

Inlet screen 6mm x 6mm complete with washer dewaterer, sized for 20 l/s.

Flow split to spill all flows greater than 2.4 l/s to a storm retention tank.

40m³ storm retention tank complete with return pump rated at 1 l/s.

Refurbishment of existing primary tank scum boards and stilling drum.

Conversion of existing siphon chamber to pumping sump.

Duty/standby lift pumps rated at 2.5 l/s @ 1m lift.

Raise walls fo existing filters by 0.5m.

Fit 0.5 spool piece to raise distributor.

Add 0.5m of slag media to each filter (total 160 m³)

New recirc pump rated at 2.7 l/s.

New recirc pipework.

Flow measuring and recording

Sample chamber

Improved 3 phase power supply (cables exist)

Interconnecting pipework, ducts, etc.

Control, instrumentation and telemetry.

7 Recommendation

That the above works be costed so that the scheme can be put forward to scheme definition and approval to construct.

8 Assumptions



That the existing filter beds are in good clean condition and will operate satisfactorily when increased in depth as proposed.

Existing sludge storage facilities are satisfactory for continued operation without improvement.

That if the humus or primary tanks require any refurbishment this will be carried out by UU under their maintenance budget.



Feasibility Report Acceptance Sheet

We confirm that we have discussed the content of the Lamphey WwTW Feasibility Report and that we are in agreement with the conclusions and recommendations.

Aled Daniel, Manager United Utilities

..... Date

Stuart Worts, Meica – Process - Project Manager

..... Date



APPENDIX

- Process calculation sheet, doc C885/6.1/100/02/A
- Existing pfd, drg C885/1000
- Proposed pfd, drg C885/1002



LAMPHEY WwTW

consent BOD:SS 65/70

DWF = 65 m3/d,

PARAMETER

design basis horizon

Resident Population served (P)

13.08.04 CONVENTIONAL PLANT

MINIMUM - OPTION A

document C885/6.1/100/02/A

created by MR

checked by AJW

UNITS

date

pop.

500

based on house count 225@2.5=563

Design Flows

Tourist pop served(T)

pop.

0

Day visitors(V)

pop.

0

Peak population served

pop.

500

Per capita BOD contribution Residents

kg/h.d

0.06

Per capita BOD contribution Tourists

kg/h.d

0.04

Per capita BOD contribution Visitors

kg/h.d

0.02

per capita resident TSS contribution

kg/h.d

0.06

per capita tourist TSS contribution

kg/h.d

0.06

per capita Amm-N contribution Residents

kg/h.d

0.008

per capita Amm-N contribution Tourists

kg/h.d

0.006

per capita Amm-N contribution Visitors

kg/h.d

0.003

per capita domestic flow(G)

l/h.d

130

per capita tourist flow

l/h.d

100

per capita visitors flow

l/h.d

25

total residents flow (PG)

m3/d

65

total tourists flow (Tg)

m3/d

0

total visitors flow (Vg)

m3/d

0.0

Infiltration (I)

m3/d

13.0

20 %

industrial flow (E)

m3/d

0.0

Dry weather flow (PG + Tg + Vg + I + E)

m3/d

78

PG+I+E

Consent DWF = 65 m3/d

l/s

0.9

Average Flow

m3/d

98

l/s

1.1

0.82 measured during survey

Full Flow to Treatment(3DWF)

m3/d

208

3PG+I+3E

set FFT to 3DWF

l/s

2.4

Full Flow to Treatment(6DWF)

m3/d

403

l/s

4.7

Formula A=(PG+I+E)+1.36P+2E

m3/d

758

normal peak measured = 2.0 l/s

l/s

8.8

storm peak measured = 7 l/s

Storm tank capacity (2hrs at 3DWF)

m3

17.3

storm tank capacity (68 l/h)

m3

34.0

add 40 m3 storm tank

LOADS

Total BOD Load

kg/d

30.0

BOD Concentration at Average Flow

mg/l

308

Total TSS load

kg/d

30.0

TSS concentration at Average Flow

mg/l

308

Total Amm-N Load

kg/d

4.0

Amm-N concentration at Average Flow

mg/l

41.0

Primary Treatment

% removal

Settled BOD load

25

kg/d

23.6

includes return liquors

Settled BOD Concentration

mg/l

242

Settled TSS load

50

kg/d

15.8

Settled TSS concentration

mg/l

308

Settled Amm-N load

0

kg/d

4.2

includes return liquors

Settled Amm-N concentration

mg/l

43.1

primary sludge mass

kg/d

14.3

Flow split

%

100.0

Number of tanks

1.0

Type of tank

square

diameter

m

0.0

Size

m

3.4

Area

m2

10.4

Volume based on

1.5 depth

m3

15.6

Upflow rate

m/h

0.8

at FFT

Retention time

h

1.8

Biological treatment

secondary BOD load

kg/d

23.6

secondary BOD concentration

mg/l

308

secondary TSS load

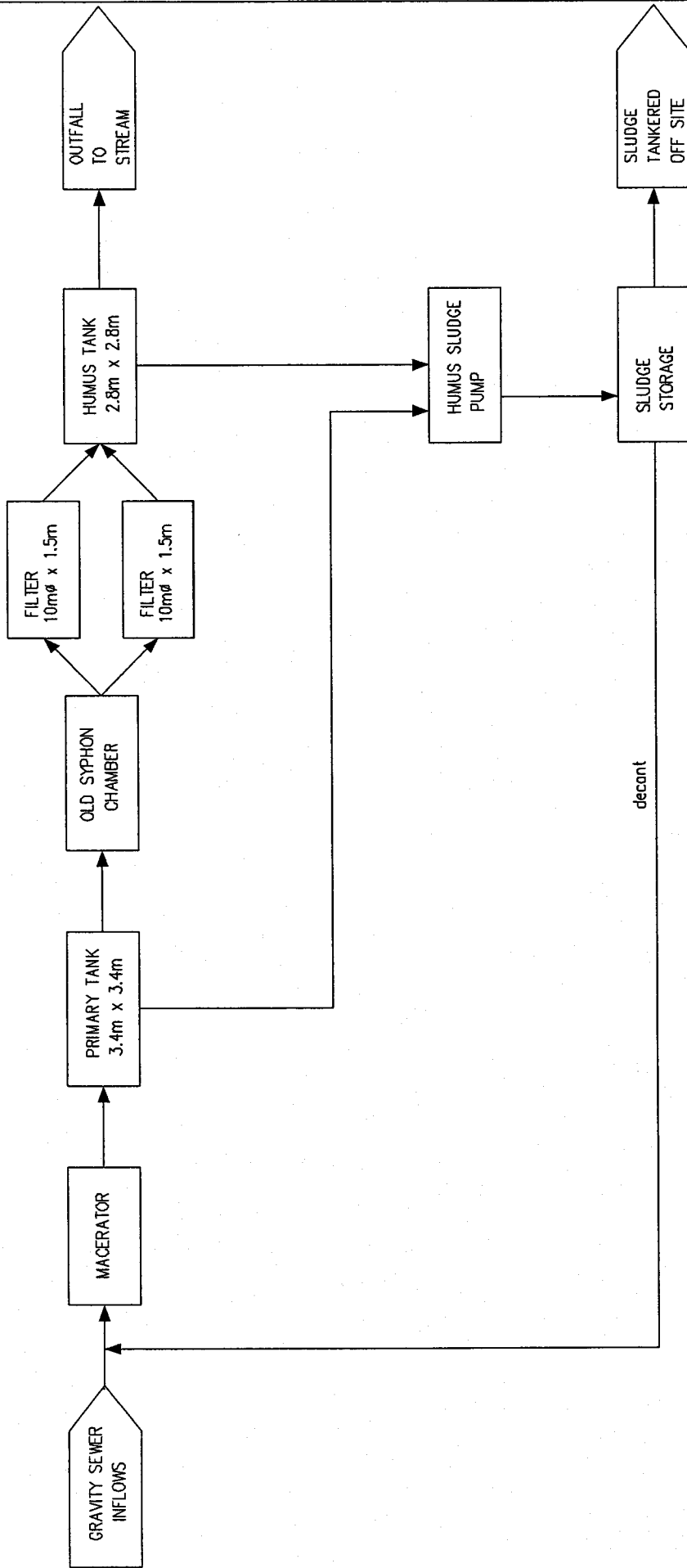
kg/d

15.8



secondary TSS concentration		mg/l	
secondary Amm-N load		kg/d	4.20
secondary Amm-N concentration		mg/l	
biol. sludge mass (@0.7kg/kg BOD removed)		kg/d	15.7
Number of filters			2.0
Media		rock	
Diameter		m	10.00
Depth		m	2.00 increased depth
Surface area		m ²	157.10
Volume		m ³	314.20
BOD loading		kg/m ³ /d	0.08 OK for 20/30
hydraulic loading		m ³ /m ² /d	2.57
Amm-N loading		kg/m ³ /d	0.01
minimum wetting		m ³ /m ³ /d	0.75 m ³ /m ² /d
recirc flow		l/s	2.73 check existing duty
Final Settlement	% removal		
Final BOD load	95	kg/d	1.18
Final BOD concentration		mg/l	12.1
Final TSS load	90	kg/d	1.58
Final TSS concentration		mg/l	16
Final Amm-N load	0	kg/d	4.20
Final Amm-N concentration		mg/l	43.1
Flow split		%	100.0
Number of tanks			1.0
Type of tank		square	
diameter		m	0.0
Size		m	2.8
Area		m ²	6.8
Volume based on	1.5 depth	m ³	10.2
Upflow rate		m/h	1.3 at FFT
Retention time		h	1.2
Sludge Production			
total sludge mass		kg/d	30.0
total sludge volume @2%ds		m ³ /d	1.5



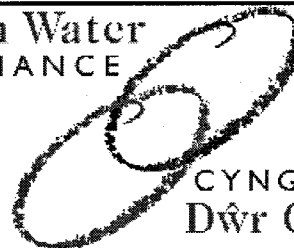


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	 DWR CYMRU WELSH WATER	Project LAMPHEY W.W.T.W.	
 Wales Water Capital Alliance	Title EXISTING P.F.D.		
 Cynghraif Cymru DWR Cymru	Client DWR CYMRU WELSH WATER	Scale a3 LOCAL	Date 14/04/01
P. FOR APPROVAL	Author CAOENUR	MR MR	Date 14/04/01
Description P. FOR APPROVAL	Appr. MR	Date 14/04/01	Date 14/04/01



Meica Processes
 Parc Y Splott WwTW
 Llansteffan Road
 Johnstown
 Carmarthen SA31 3QU
 Tel 01267 221131
 Fax 01267 221167

Welsh Water
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CYNGHRAIR
 Dŵr Cymru

Document Cover Sheet

Project Title	Lamphey WwTW
Project Number	C 885
Client	DWR CYMRU/WELSH WATER
Document Reference Number	C885/6.1/01/002

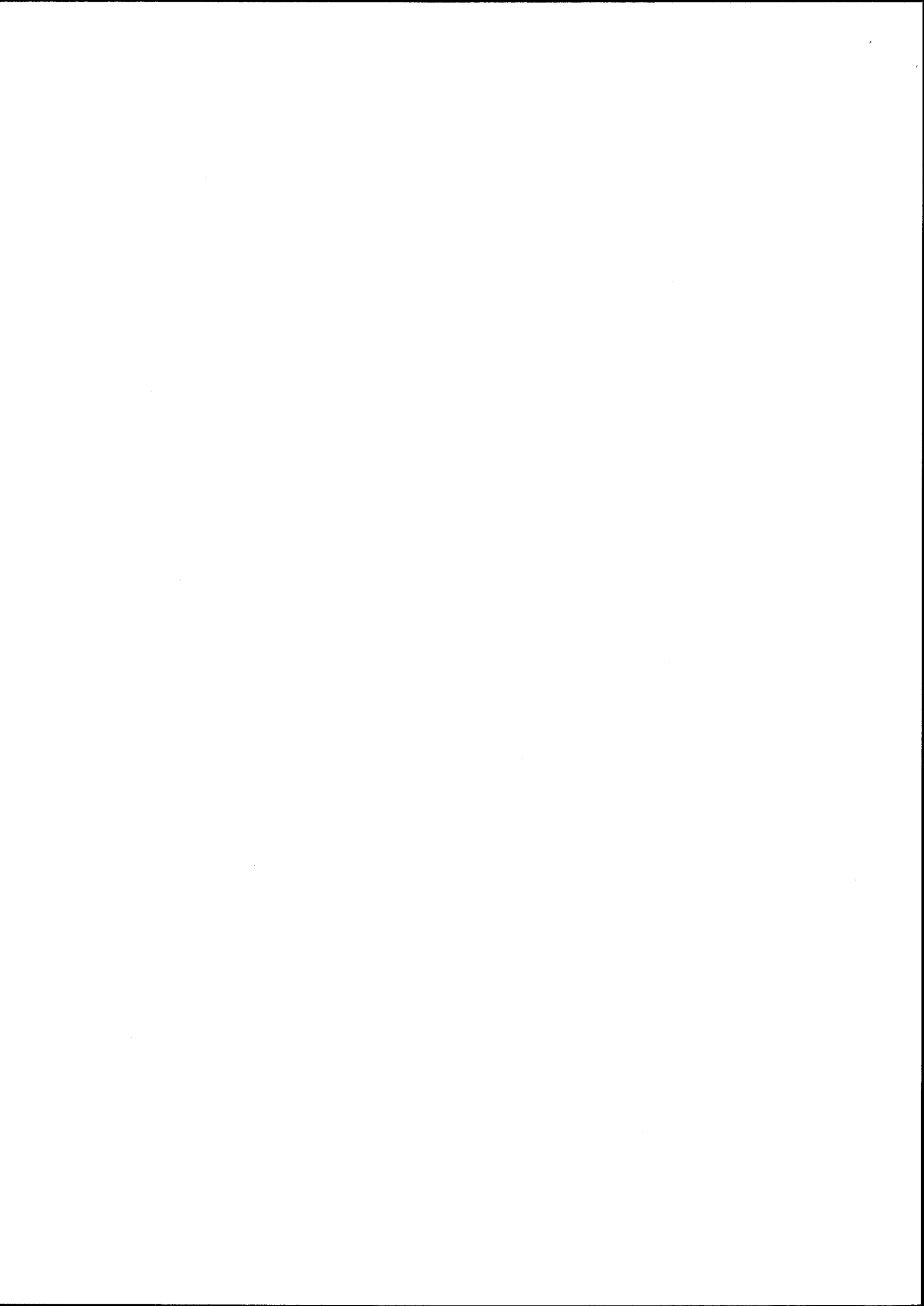
Lamphey WwTW

Spill frequency analysis

Rev.	Date	Description/Purpose	Prepared	Checked ¹			Approved for Issue ²	
				Mech	Proc	Elect	EM	PM
0	28.07.04	First issue	MR		MR		AJW	SW
A								
B								
C								
D								

Notes

1. Relevant Disciplines to initial
2. EM – Engineering Manager, PM – Project Manager



LAMPHEY – C885 – SPILL FREQUENCY

1.0 Introduction

- 1.1 Lamphey WwTW serves the catchment from the village of Lamphey.
- 1.2 At the works it is proposed to treat flows equivalent to 3DWF spilling all greater flows to a 40 m³ storm retention tank.
- 1.3 Storm water would be returned for treatment through the works once flows reduce. Storm flows in excess of 40 m³ will spill direct to the existing outfall.
- 1.4 The EA require a prediction of spill frequency for consideration of the consent limits.

2.0 Methodology

- 2.1 Under the Environment Agency guidelines for spill frequency analysis, this site was assessed using the South West Series of the Annual Time Series Rainfall data, this data was made 'catchment specific' using the guidelines published by WRc.
- 2.2 Meica Process Limited commissioned a flow monitoring survey of this site which was undertaken by Titan Environmental Surveys. The resultant report and flow information was used to verify that the model was producing accurate results.

3.0 Population and Flow Assessment

- 3.1 The population within this catchment has been assessed as 500.
- 3.2 The daily water consumption has been assumed to be 130 litres/head/day, with an occupancy rate of 2.5 persons per property for permanent residential properties.
- 3.3 Infiltration has been calculated from base flow measured and is equivalent to 20%.
- 3.4 The maximum flow for treatment in the existing plant is 2.4 l/s (equivalent to 3DWF) Flows in excess of this will overflow to the 40m³ storm tank.

4.0 Results Summary

- 4.1 The attached analysis suggests that the number of spills will be less than 1% and will thus have no detrimental effect on river water quality.
- 4.2 Estimates for impenetrable area are those normally expected from this type of small rural catchment.

Martyn Robinson
28.07.03



**SPILL FREQUENCY ANALYSIS LAMPHEY WwTW - minimum
Results of Annual Time Series Rainfall Assessment**

Event No	Date	Total intensity (mm)	Rainfall duration (hr)	Average intensity (mm/hr)	Maximum intensity (mm/hr)	peak storm flow		Total storm inflow (m ³)	DWF (l/s)	Total foul flow (m ³)	Total inflow (m ³)	Peak sewer flow (l/s)	FFT (l/s)		Spill to Storm Tank volume (m ³)	Storm tank volume (m ³)	Overflow to watercourse (m ³)	spill time (hrs)
						Q = 2.78.C _r R ^{1.4} A (l/s)	flow (l/s)						2.40 (m ³)	2.40 (m ³)				
1	08/10/1964	1287.4	8.15	2.63	34.2	7.4	216.1	0.9	26.4	242.5	8.3	70.4	172.1	40.0	132.1	4.98		
2	20/07/1973	903.0	5.65	2.66	23.4	7.5	151.6	0.9	18.3	169.9	8.4	48.8	121.0	40.0	81.0	3.02		
3	25/09/1963	876.4	5.32	2.75	28.8	7.7	147.1	0.9	17.2	164.3	8.6	46.0	118.4	40.0	78.4	2.83		
4	20/01/1960	864.6	10.32	1.40	16.2	3.9	145.1	0.9	33.4	178.5	4.8	89.2	89.4	40.0	49.4	3.51		
5	09/12/1961	879.6	9.32	1.57	28.2	4.4	147.6	0.9	30.2	177.8	5.3	80.5	97.3	40.0	57.3	3.62		
6	20/11/1974	937.2	7.15	2.18	22.8	6.1	157.3	0.9	23.2	180.5	7.0	61.8	118.7	40.0	78.7	3.58		
7	23/09/1963	969.0	8.15	1.98	34.8	5.5	162.6	0.9	26.4	189.0	6.4	70.4	118.6	40.0	78.6	3.94		
8	25/07/1973	632.4	1.65	6.39	51.0	17.9	106.1	0.9	5.3	111.5	18.8	14.3	97.2	40.0	57.2	0.89		
9	23/01/1960	1074.0	8.32	2.15	15.0	6.0	180.3	0.9	27.0	207.2	6.9	71.9	135.3	40.0	95.3	4.40		
10	11/12/1961	1098.6	14.48	1.26	32.4	3.5	184.4	0.9	46.9	231.3	4.4	125.1	106.2	40.0	66.2	5.20		
11	10/11/1974	902.4	10.48	1.44	42.6	4.0	151.5	0.9	34.0	185.4	4.9	90.5	94.9	40.0	54.9	3.80		
12	05/06/1964	875.4	10.15	1.44	36.0	4.0	146.9	0.9	32.9	179.8	4.9	87.7	92.1	40.0	52.1	3.60		
13	26/08/1956	783.6	13.15	0.99	39.0	2.8	131.5	0.9	42.6	174.1	3.7	113.6	60.5	40.0	20.5	2.05		
14	10/09/1963	460.2	8.65	0.89	73.2	2.5	77.2	0.9	28.0	105.3	3.4	74.7	30.5	40.0	0.0	0.00		
15	22/03/1970	747.0	7.32	1.70	49.8	4.8	125.4	0.9	23.7	149.1	5.7	63.2	85.8	40.0	45.8	2.68		
16	11/02/1973	1232.4	14.82	1.39	36.0	3.9	206.8	0.9	48.0	254.9	4.8	128.0	126.8	40.0	86.8	6.22		
17	06/06/1964	675.0	10.50	1.07	9.6	3.0	113.3	0.9	34.0	147.3	3.9	90.7	56.6	40.0	16.6	1.54		
18	08/09/1963	416.8	4.32	1.60	38.4	4.5	69.6	0.9	14.0	83.6	5.4	37.3	46.3	40.0	6.3	0.39		
19	07/10/1964	481.2	11.32	0.71	45.0	2.0	80.9	0.9	36.7	117.6	2.9	97.8	19.8	40.0	0.0	0.00		
20	24/09/1963	423.6	4.65	1.52	23.4	4.2	71.1	0.9	15.1	86.2	5.1	40.2	46.0	40.0	6.0	0.39		
21	13/12/1961	285.6	4.00	1.19	53.4	3.3	47.9	0.9	13.0	60.9	4.2	34.6	26.3	40.0	0.0	0.00		
22	12/06/1964	567.6	6.32	1.46	19.2	4.1	92.9	0.9	20.5	113.4	5.0	54.6	58.8	40.0	18.8	1.28		
23	01/12/1961	728.4	13.32	0.91	18.6	2.5	122.3	0.9	43.2	165.4	3.4	115.1	50.3	40.0	10.3	1.12		
24	06/10/1964	640.8	5.32	2.00	15.0	5.6	107.1	0.9	17.2	124.4	6.5	46.0	78.4	40.0	38.4	1.91		
25	04/05/1962	798.6	8.93	1.48	8.4	4.1	133.1	0.9	28.9	162.0	5.0	77.2	84.9	40.0	44.9	3.01		
26	03/09/1963	964.2	15.15	1.06	19.8	3.0	161.7	0.9	49.1	210.8	3.9	130.9	79.9	40.0	39.9	3.74		
27	30/04/1963	866.4	11.15	1.29	10.8	3.6	144.8	0.9	36.1	181.0	4.5	96.3	84.6	40.0	44.6	3.44		
28	07/12/1961	771.0	16.32	0.79	10.2	2.2	129.8	0.9	52.9	182.7	3.1	141.0	41.7	40.0	1.7	0.21		
29	12/12/1961	388.8	5.00	1.30	18.6	3.6	65.3	0.9	16.2	81.5	4.5	43.2	38.3	40.0	0.0	0.00		
30	11/11/1974	316.8	6.48	0.81	39.0	2.3	52.9	0.9	21.0	73.9	3.2	56.0	17.9	40.0	0.0	0.00		
31	23/01/1960	602.4	12.33	0.81	10.8	2.3	101.1	0.9	39.9	141.1	3.2	106.5	34.5	40.0	0.0	0.00		
32	25/08/1956	319.8	3.32	1.59	23.4	4.4	53.2	0.9	10.8	63.9	5.3	28.7	35.2	40.0	0.0	0.00		
33	15/07/1973	382.2	2.65	2.39	11.4	6.7	63.8	0.9	8.6	72.4	7.6	22.9	49.5	40.0	9.5	0.39		
34	20/04/1963	387.4	6.00	0.80	18.0	2.2	48.3	0.9	19.4	67.8	3.1	51.8	15.9	40.0	0.0	0.00		
35	01/08/1956	486.0	5.00	1.62	7.2	4.5	81.6	0.9	16.2	97.8	5.4	43.2	54.6	40.0	14.6	0.89		
36	30/03/1970	315.6	5.00	1.05	11.4	2.9	52.9	0.9	16.2	69.1	3.8	43.2	25.9	40.0	0.0	0.00		
37	14/07/1973	769.2	14.65	0.87	16.2	2.4	128.3	0.9	47.5	175.8	3.3	126.6	49.2	40.0	9.2	1.05		
38	18/07/1973	547.2	6.15	1.48	11.4	4.1	91.7	0.9	19.9	111.6	5.0	53.1	58.4	40.0	18.4	1.24		
39	03/03/1970	442.8	6.65	1.11	9.0	3.1	74.3	0.9	21.5	95.9	4.0	57.5	38.4	40.0	0.0	0.00		
40	21/01/1960	382.2	6.15	1.03	9.0	2.9	63.8	0.9	19.9	83.7	3.8	53.1	30.6	40.0	0.0	0.00		
41	19/03/1970	256.8	3.48	1.22	8.4	3.4	42.8	0.9	11.3	54.0	4.3	30.1	24.0	40.0	0.0	0.00		
42	08/05/1962	220.2	3.15	1.16	8.4	3.2	36.8	0.9	10.2	47.0	4.1	27.2	19.8	40.0	0.0	0.00		
43	10/05/1962	166.2	0.65	4.15	12.0	11.6	27.2	0.9	2.1	29.3	12.5	5.6	23.7	40.0	0.0	0.00		
44	19/11/1974	803.4	11.32	1.18	10.8	3.3	134.5	0.9	36.7	171.2	4.2	97.8	73.4	40.0	33.4	2.81		



**SPILL FREQUENCY ANALYSIS LAMPHEY WwTW - minimum
Results of Annual Time Series Rainfall Assessment**

Event No	Date	Total intensity (mm)	Rainfall duration (hr)	Average intensity (mm/hr)	Maximum intensity (mm/hr)	peak storm flow Q = 2.78.C _v .C _r iA (l/s)	Total storm inflow (m ³)	DVWF (l/s) 0.90	Total foul flow (m ³)	Total inflow (m ³)	Peak sewer flow (l/s)	FFT (l/s) 2.40	Spill to Storm Tank (m ³)	Storm tank volume (m ³)	Overflow to watercourse (m ³)	spill time (hrs)
45	05/10/1964	467.4	7.32	1.06	25.8	3.0	78.1	0.9	23.7	101.9	3.9	63.2	38.6	40.0	0.0	0.00
46	02/01/1960	357.6	8.82	0.70	11.4	2.0	62.2	0.9	28.6	90.7	2.9	76.2	14.5	40.0	0.0	0.00
47	05/06/1964	327.0	3.65	1.50	5.4	4.2	55.1	0.9	11.8	67.0	5.1	31.5	35.4	40.0	0.0	0.00
48	13/07/1973	328.8	6.00	0.90	17.4	2.5	54.4	0.9	19.4	73.8	3.4	51.8	22.0	40.0	0.0	0.00
49	29/08/1956	352.8	6.15	0.95	15.0	2.7	58.8	0.9	19.9	78.8	3.6	53.1	25.6	40.0	0.0	0.00
50	10/12/1961	394.2	5.50	1.19	10.8	3.3	66.2	0.9	17.8	84.0	4.2	47.5	36.5	40.0	0.0	0.00
51	01/01/1960	250.2	11.32	0.37	8.4	1.0	42.0	0.9	36.7	78.7	1.9	97.8	0.0	40.0	0.0	0.00
52	11/03/1970	211.8	3.48	1.01	10.2	2.8	35.5	0.9	11.3	46.8	3.7	30.1	16.8	40.0	0.0	0.00
53	04/12/1961	180.0	2.15	1.40	9.6	3.9	30.2	0.9	7.0	37.2	4.8	18.6	18.6	40.0	0.0	0.00
54	09/10/1964	305.4	7.48	0.68	13.2	1.9	51.3	0.9	24.2	75.5	2.8	64.6	10.9	40.0	0.0	0.00
55	02/11/1974	201.6	2.15	1.56	11.4	4.4	33.8	0.9	7.0	40.8	5.3	18.6	22.2	40.0	0.0	0.00
56	03/12/1961	288.6	11.82	0.41	9.6	1.1	48.4	0.9	38.3	86.7	2.0	102.1	0.0	40.0	0.0	0.00
57	11/11/1974	285.0	6.65	0.71	18.6	2.0	47.8	0.9	21.5	69.4	2.9	57.5	11.9	40.0	0.0	0.00
58	19/07/1973	252.0	3.32	1.27	8.4	3.5	42.3	0.9	10.8	53.1	4.4	28.7	24.4	40.0	0.0	0.00
59	10/03/1970	157.8	2.15	1.22	9.0	3.4	26.5	0.9	7.0	33.5	4.3	18.6	14.9	40.0	0.0	0.00
60	30/03/1970	171.0	1.98	1.44	11.4	4.0	28.7	0.9	6.4	35.1	4.9	17.1	18.0	40.0	0.0	0.00

Summary

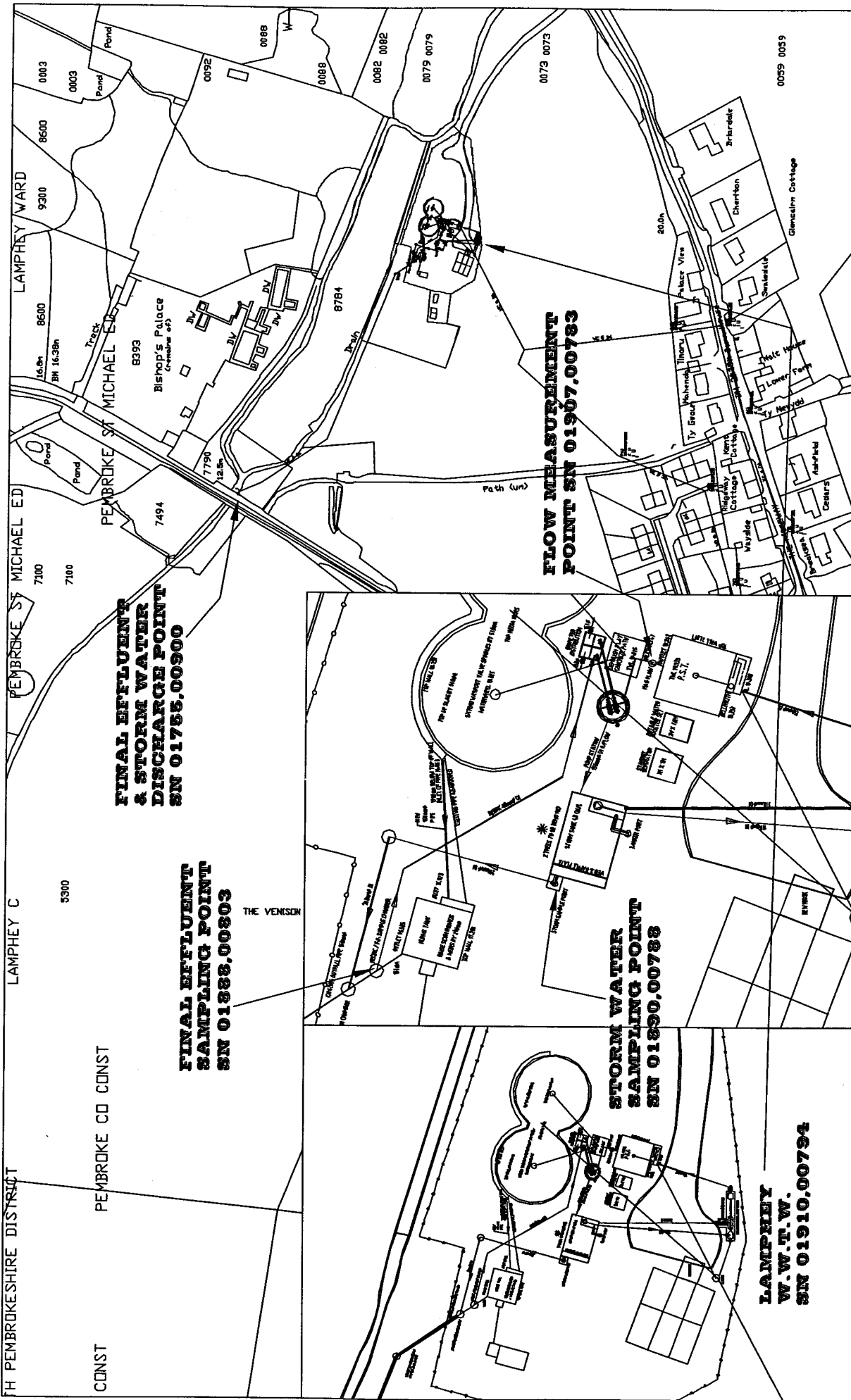
77.73 total hours

number of spills from works	ie. < 1%	30
number of spills (>50m3) from works		12

Notes

1. Rainfall events are the Annual Time Series Rainfall for the South-West region.
2. Due to the low number of spills, only the first 60 storms have been assessed.
3. Peak storm flow has been calculated using the Wallingford Procedure, Modified Rational Method, with impermeable area of 43 m²/house
4. Total storm inflow = peak storm flow x storm duration
5. DVWF = dry weather flow from calculations
6. Total foul flow = DVWF x storm duration
7. Total inflow = total storm inflow + total foul flow
8. FFT = flow to treatment, maximum rate x storm duration
9. When inflow > FFT spill to watercourse will only occur
10. Total number of properties in catchment = 225





 Welsh Water Capital Alliance	 Cymru Cyfeir Dŵr Cymru	 Dŵr Cymru WELSH WATER	 MEICA PROCESS LTD	Project Code: C885	Drawing No.: C885/2006	Issue: A
				Client: DŴR CYMRU WELSH WATER	Project: LAMPHEY W.W.T.W.	Title: SITE LAYOUT SHOWING LOCATION OF DISCHARGE & SAMPLING POINTS
A. FOR APPROVAL	Description:	Date: 15.9.04	Scale: A1	Datum: LOCAL	Sheet: 11:2500	Date: 11:2500

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MEICA PROCESS LTD
 Unit 15, Stryd y Castell, Llanidloes, Powys, SA11 3BU
 Tel: 01502 07913
 Fax: 01502 22181

LAMPNEY W.W.T.W.
 SN 01910.00794

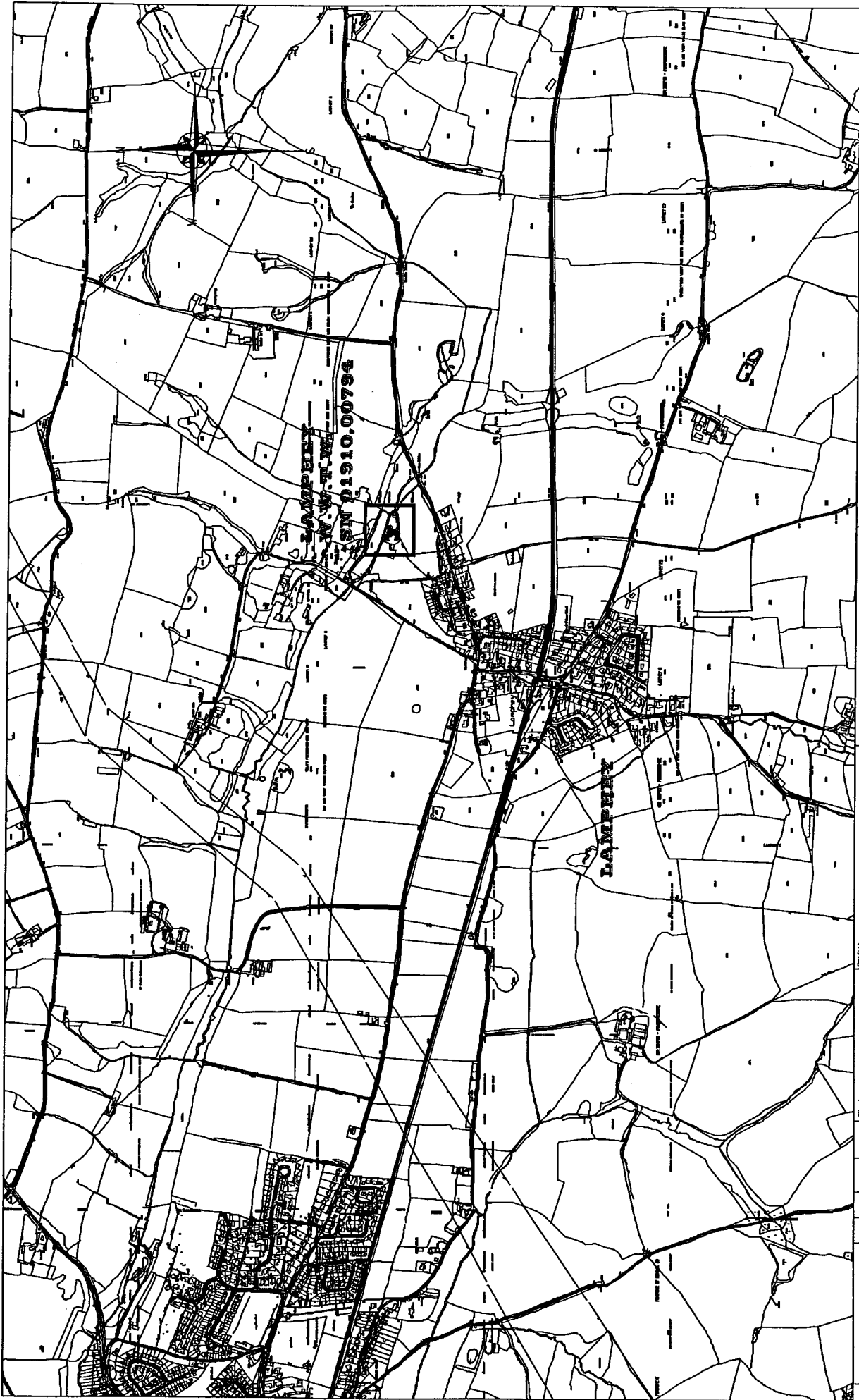
STORM WATER SAMPLING POINT
 SN 01890.00788



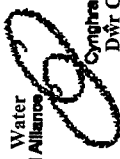
FINAL EFFLUENT SAMPLING POINT
 SN 01888.00803

FINAL EFFLUENT & STORM WATER DISCHARGE POINT
 SN 01755.00900

FLOW MEASUREMENT POINT SN 01907.00783





A FOR APPROVAL Description	AH	MR	16.8.04	Date	Scale at	Datum	LOCAL	
	Client DWR CYMRU WELSH WATER		Project LAMPHEY W.W.T.W.		Title LOCATION PLAN			
Welsh Water Capital Alliance				 DWR CYMRU WELSH WATER		 MEICA PROCESS LTD		
 Cynghrair Cymdeith Dŵr Cymru				Project Code C885				Drawing No. C885-2005
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DŴR CYMRU
WELSH WATER

Gwaith Trin Dŵr Gwastraff Pont Myrddin
Pont Myrddin
Hwlfordd
Sir Benfro SA61 1JL

Ffôn: +44 (0)1437 765 460
Ffacs: +44 (0)1437 762 552
Safle gwe: www.dwrcymru.com

Merlins Bridge WWTW
Merlins Bridge
Haverfordwest
Pembrokeshire SA61 1JL

Tel: +44 (0)1437 765 460
Fax: +44 (0)1437 762 552
Web site: www.dwrcymru.com

Ms. Anne Sennett
Environment Agency Wales
Maes Newydd
Llandarcy
Neath Port Talbot
SA10 6JQ

17th September 2004

Tel: 01437 769061

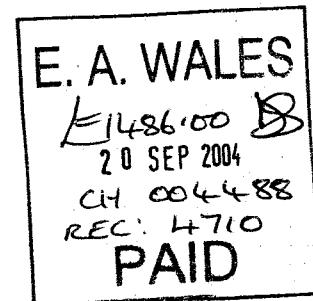
Dear Madam

X 2 sep dis charges
Application for Discharge Consent – Lamphey WwTW FE and Storm, (Llansaint WwTW FE and Storm. *2 sep discharge*

Please find enclosed application forms, fee and supporting information in respect of the above discharges which are AMP3 programme quality improvements.. A new consent is required for the storm discharge at Lamphey, As no alterations are being made to the existing, consented, emergency discharge of treated sewage at Llansaint, no application is made for any variation to the existing consent.

Yours faithfully

Hilary Ford
Area Consents and Regulation Scientist







ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Ein cyf/Our ref. 2/CS/LL/BP0339001 & BP0339101
Eich cyf/Your ref.

Dyddiad/Date: 27 September 2004

Hilary Ford
Area Consents and Regulation Scientist
Dwr Cymru Cyf
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Dear Ms Ford,

**WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995)
APPLICATIONS FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT (FINAL &
STORM/EMERGENCY) FROM LAMPHEY WwTW & SEWAGE EFFLUENT FROM LLANSAINT
WwTW (FINAL & STORM /EMERGENCY) BY DWR CYMRU CYF
APPLICATION NOS: BP0339001 & BP0339101; BP0339201 &BP0339301**

Thank you for your applications for consent to discharge final and storm/emergency effluent & your two sets of application fees of £1486 each. They are receiving consideration and you will be hearing from us again shortly. Please state application numbers BP0339001(Lamphey final effluent), BP0339101 (Lamphey storm/emergency effluent), BP0339201 (Llansaint final effluent) or BP0339301 (Llansaint storm/emergency effluent) in any correspondence with us relating to these applications.

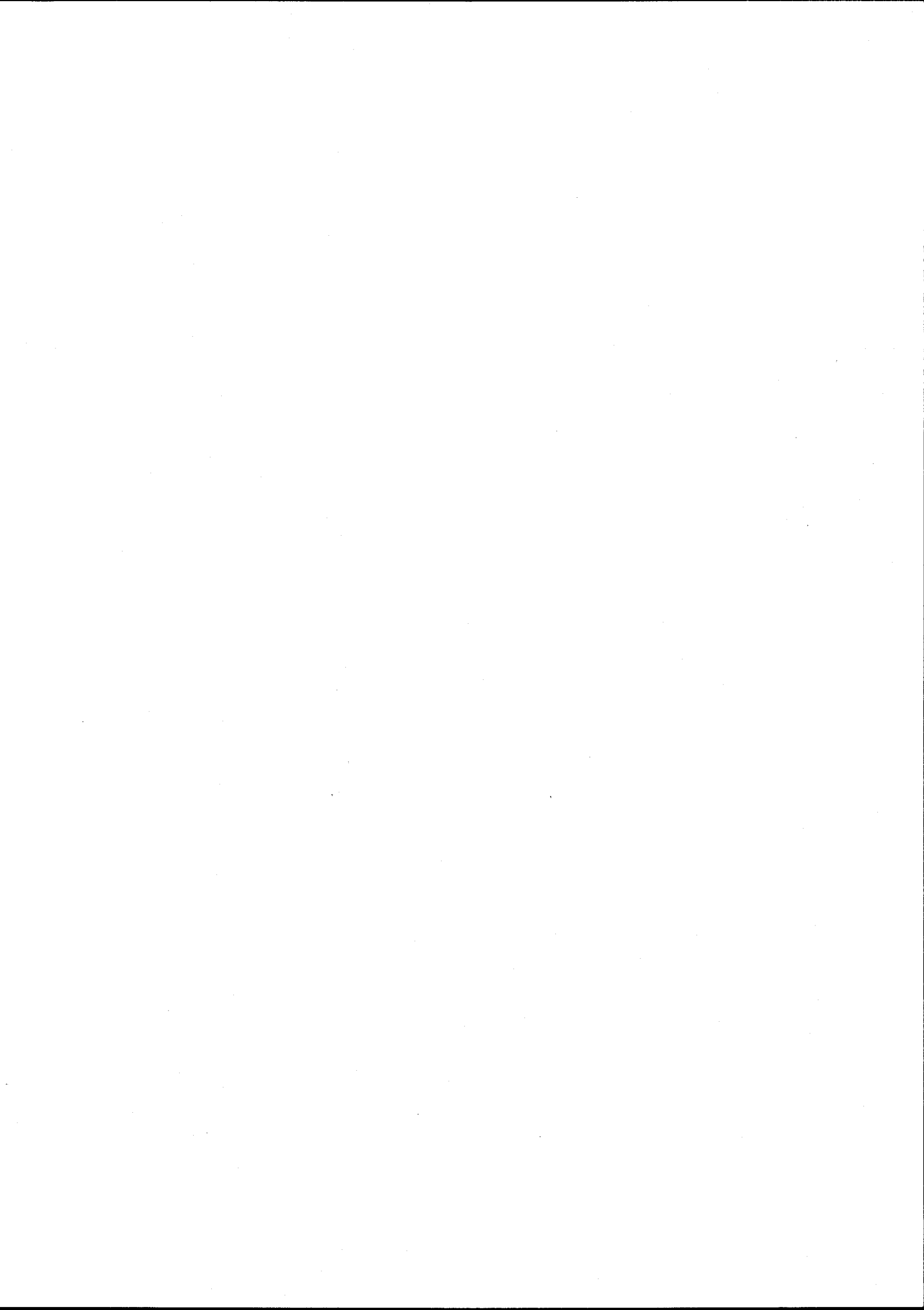
Yours sincerely

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511





Ein cyf/Our ref. 2/CS/LL/
Eich cyf/Your ref.



ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Dyddiad/Date: 28 September 2004

Hilary Ford
Area Consents and Regulation Scientist
Dwr Cymru
Merlins Bridge WWTW
Merlins Bridge
Haverfordwest
Pembrokeshire
SA61 1JL

Dear Ms Ford,

**WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995)
APPLICATIONS FOR VARIATION OF CONSENT TO DISCHARGE SEWAGE EFFLUENT BY DWR
CYMRU CYF FROM LLANDOVERY, LLANSAIN, LAMPHEY, TREGARON & CWMTAWEL
WwTW**

We thank you again for the recent applications sent to us for variation of consent. Unfortunately they were assigned new numbers by mistake. Could you please refer to the older assigned numbers used on the application forms you sent us in any correspondence relating to these applications. Apologies for these.

Yours sincerely

A handwritten signature in cursive script that reads "L. Lewis".

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511



