

22/10/20

Please find enclosed the following documents to accompany the Application for an Environmental Permit at Bwlch y Moch, Tremadog. LL49 9SN

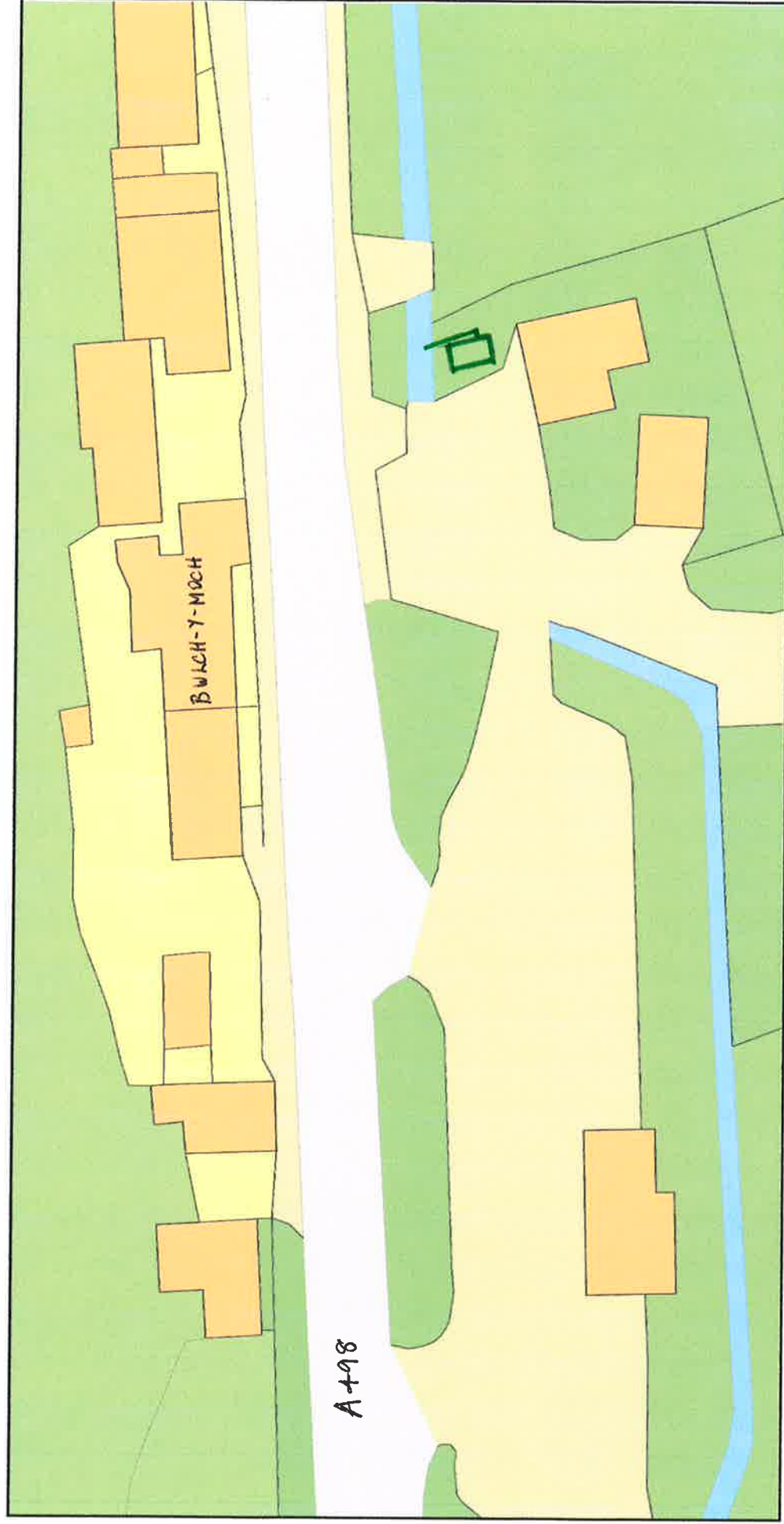
* site plan. Ref: EJ01

* sewage treatment plant information and specifications for a Marsh Industries 25 PE Shallow Ensign Ultra System.
being the intended system for use on this site.

Ref: EJ02

* Cheque for £150 being the application fee.

Plan of LL49 9SN, Tremadog.



Sewage Treatment Plant
and outlet pipe

Plan Produced for: Ann Jones

Date Produced: 20 Oct 2020

Plan Reference Number: TQRQM20294084755913

Scale: 1:500 @ A4

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(<https://marshindustries.co.uk/>)



Shallow Ensign:Ultra™

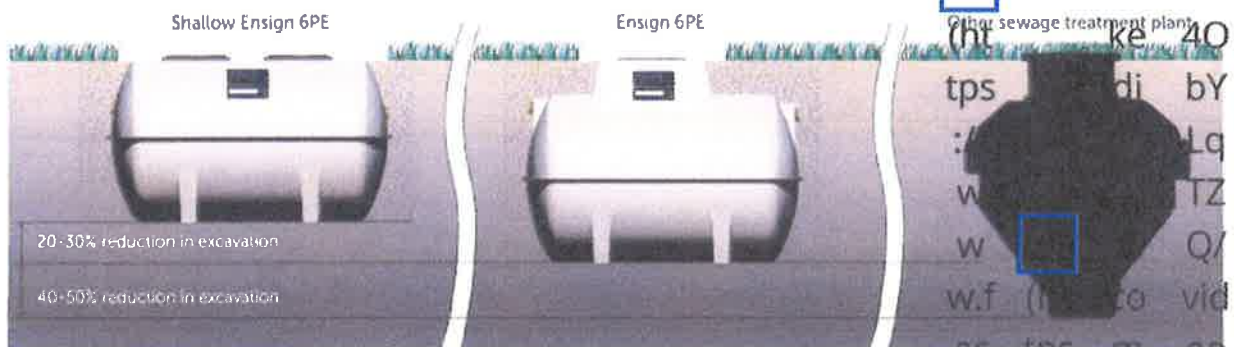
Advanced sewage treatment plant (6-35PE)

[Enquiries](#) ([/contact-us/](#))

Shallow Ensign Ultra sewage treatment plants

Common sewage treatment plants on the market often exceed 2.3m high. Marsh Industries offer a range of Shallow Ensign Ultra sewage treatment plants from 4-35PE that are only 1.6m in height, meaning installation is not only possible, but easier and safer too.

*Shallow Ensign's are often favoured when hard rock site conditions mean deeper alternatives, involving costly and time-consuming excavation.



Marsh Ensign

The Marsh Ensign is widely regarded as one of the most efficient, reliable and economical sewage treatment plants on the market.

The standard Ensign has been adapted to improve reliability and the Ensign:Ultra has been adapted to provide the same level of performance with the same level of noise and odour. The Ensign:Ultra has been adapted to provide the same level of performance with the same level of noise and odour. The Ensign:Ultra has been adapted to provide the same level of performance with the same level of noise and odour.



(<https://marshindustries.co.uk/>)

ing performance

Tested and approved to BSEN12566-3/A1:2009 all Ensign units provide treatment well within national consent requirements. Published test results of 11.5:19.2:8.4mg/ltr (BOD:suspended solids:ammonia), with influent concentrations on test higher than those chosen by most competitor plants, effectively equates to 97% pollutant removal.

Unrivalled choice

Ranging in size from 4 to 50 PE in Ultra, Standard and Shallow versions of each, and with a wide range of ancillaries, almost all site, consent and budget requirements can be met by units from the range.

Why choose the Marsh Ensign?

End users, merchants and installers alike recommend the Ensign range due to its ease of installation, reliability, and cost-effective operation and maintenance. All units are backed by technical support from local contacts.



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Operating principle

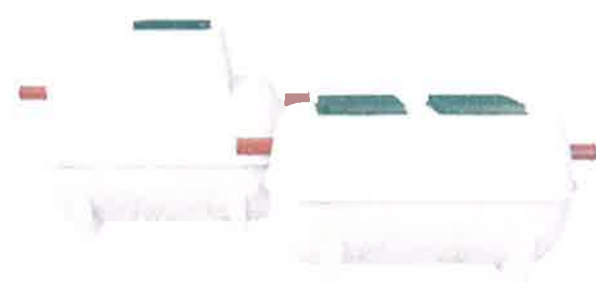
In addition to anaerobic digestion taking place in the primary settlement chamber, the Ensign:Ultra unit allows the clarified water to pass into a second 'aeration' chamber [3] where it is treated to remove the dissolved constituents. Here aerobic bacteria, supported by diffused air and mobile media, ensures full treatment is achieved before the treated effluent and 'sloughed off' bacteria flows to a final settlement chamber [10]. The final effluent is then discharged to the drainage field or watercourse via a Polylok filter.

KEY

1. Inlet
2. Primary settlement chamber
3. Aeration chamber
4. Compressor with alarm
5. Compressor housing (External or internal options)
6. RCD / Electrical connection
7. PVC pressure pipe for diffuser(s)
8. Bio-media
9. Stainless steel mesh
10. Final settlement chamber

Solution

Ensign / Ensign:Shallow



Application

Intensive biological treatment for domestic dwellings

End users, merchants and installers recommend the Ensign range due to its ease of installation, reliability and cost-effective operation and maintenance.

The Ensign:Shallow is often favoured when hard rock site conditions make deeper tank installations impractical, thus removing costly and time-consuming excavation.

Read more (<https://marshindustries.co.uk/products/ensign-ultra-sewage-treatment-plants/>)

People served

6-50

Performance (BOD:SS:NH3 mg/ltr)

11.5:19.2:8.4

CE approval

BS EN
12566-3



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TANK FEATURES



ENSIGN:ULTRA



SHALLOW ENSIGN:ULTRA

1

Inlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation. Optional risers to increase invert depth are available.

4

Advanced compressor with alarm

Near silent compressor ensures minimal running, maintenance and servicing costs. Integral alarm detects low pressure in air line.

5

Compressor housing (External or internal options)

The compressor can be housed internally or externally with no difference in cost. *External recommended to increase compressor life, and supplied as standard on 4PE, shallow and pumped outlet versions.*

6

RCD / Electrical connection

The RCD box provides easier installation and provides a higher degree of safety.

7

PVC pressure pipe / diffuser(s)

Provides a protective conduit for the air diffuser line. Can be easily removed for maintenance and cleaning.

8

Bio-media

High specification bio-media (310m³ per m²) and membrane diffusers ensure even circulation to eliminate 'dead spots'. The bio-media is contained by a stainless steel securing mesh to ensure no migration during handling or potential flooding.

9

Stainless steel mesh

Retains media in aeration chamber during transportation and handling, and in the event of flooding.

11

32mm sludge return

Larger diameter sludge return prevents the possibility of blockages and improves system circulation. Provides higher effluent quality whilst balancing flow over a 24 hour period or periods of intermittent use.

12

Unique Polylok tertiary filter (Ensign:Ultra unit only)

The Polylok tertiary filter reduces suspended solids and BOD by a further 40% helping to extend drainage field life.

13

Outlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation. *Optional pumped outlets are available.*

14

Impermeable lid

Heavy duty lid/frame improves strength and durability whilst blending into the surrounding environment.

SPECIFICATIONS

Ensign:Ultra								Shallow Ensign:Ultra							
Model	Length	Width	Height	Inlet		Outlet		Model	Length	Width	Height	Inlet		Outlet	
(mm)		(+/-100mm)		Invert	Ø	Invert	Ø	(mm)		(+/-100mm)		Invert	Ø	Invert	Ø
4	1600	1332	1575	540	110	600	110	6	2860	1912	1600	500	110	575	110
6	2602	1650	1935	550	110	625	110	8	2860	1912	1600	500	110	575	110
8	2602	1650	1935	550	110	625	110	10	2860	1912	1600	500	110	575	110
10	2602	1650	1935	550	110	625	110	12	2860	1912	1600	500	110	575	110
12	2860	1912	2139	550	110	625	110	16	3400	1912	1600	500	110	575	110
16	2860	1912	2284	720	110	800	110	20	4200	1912	1600	500	160	575	160
20	3650	1912	2284	720	160	800	160	25	4200	1912	1600	500	160	575	160
25	3650	1912	2284	770	160	850	160	30	5200	1912	1600	500	160	575	160
30	4200	1912	2284	770	160	850	160	35	5200	1912	1600	500	160	575	160
35	4200	1912	2284	770	160	850	160								
40	5200	1912	2284	770	160	850	160								
45	5200	1912	2284	770	160	850	160								
50	5200	1912	2284	770	160	850	160								

Notes:

- > Larger population sewage treatment plants may be supplied as multiple tank configurations. For precise tank sizes and configurations, please contact Marsh Industries
- > All dimensions in mm

PROTOCOL ON PRODUCT TYPE TESTING



Czech

Registration No. 1017 - CPR - 05.686.914, Revision No. 2

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/105/EEC, this protocol is issued for the construction product:

Domestic Wastewater Treatment Plant

Type range: Marsh Uni Ensign; Marsh Uni Ensign Shallow

Types: 6PE, 10PE, 12PE, 16PE, 20PE, 26PE, 30PE, 38PE, 40PE, 48PE, 60PE

MARSH INDUSTRIES LIMITED

Units 3-13 Little Addington Business Park, Irthlingborough Road,
Little Addington, Kettering NN14 4AS United Kingdom
VAT Ident. No.: GB86588943

Place of production: See above

TÜV SÜD Czech s.r.o. performed the initial testing of the respective product characteristics described in Annex ZA of the standard

EN 12566-3:2005+A1:2009

The results of the tests are given in the Evaluation Report Reg. No. 05.686.262 from 20 April 2012 and in the inspection Report No. 06.431.719 from 1 February 2013, which are integral parts of this Protocol on product type testing.

Evaluation of tests:

Essential characteristics	Performance	Harmonised TS
Treatment efficiency on typical 3 day leaving BOD ₅ = 0.45 kg/kg	BOD ₅ 97.4 % 11.5 mg O ₂ /l COD _{cr} 91.0 % 71.5 mg O ₂ /l SS 89.1 % 18.2 g/l N-AM 21.0 % 0.4 mg/l P _{total} 47.0 % 0.7 g/l	EN 12566-3:2005+A1:2009 Annex D
Waterproofness (water test)	Passed	EN 12566-3:2005+A1:2009
Styrene behaviour (penetration)	Passed	EN 12566-3:2005+A1:2009
Durability	Passed	EN 12566-3:2005+A1:2009

This Protocol was first issued on 3 May 2012 as the Protocol on product type testing according to CPD.

Prague, 11 July 2013



on behalf of Notified Body 1017
Jana Bělohradská
Head of Certification Department