

Casita, Beaumaris - Foul Drainage Options and Cost Review

Addendum 1 – Cae Mair Uchaf Connection Cost

Site: Casita, Allt Goch Bach, Beaumaris, LL58 8AZ

Author: Amy Brooke MSc

Company: Britannia Homes 2 Limited

Date: 24th September 2024

1. Introduction

Following a meeting with Garmon Lewis and Eurnyn Roberts (Natural Resources Wales), it was requested that Option 2 from the original cost review report was investigated further to establish the connection costs of this location, in order to confirm that connecting in Cae Mair Uchaf would be unfeasible and impractical as an option for foul drainage connection.

This report addendum sets out a summary of the works that would be required to connect in this location and provides estimated costs for the scheme.

2. Summary of Works

Despite, manhole 8650 in Cae Mair Uchaf (marked (B) on the route plan in Appendix A) being the closest connection point to Casita, it is located in the garden of a third party property and connects to a drain run that goes through other third party gardens, and down the highway in Cae Mair, at a diameter of 100mm \varnothing until it gets to the A545 main road. Welsh Water have advised Britannia Homes 2 that in order to capacitate the additional foul flows from Casita, the 100mm sewer that runs from Cae Mair Uchaf down to the A545 would need upgrading to 152mm.

To connect to this location, the following steps would need to be taken:

1. Excavate material onsite and install a Type 2 sewage pumping station, including kiosk, valve chamber and inlet manhole
2. Excavate approx. 29m of earth in landscaped area of the site and then excavate approx. 118m of tarmac drive area to install pumping main up to the “Allt Goch Bach” highway.
3. A road closure would then need putting in place while excavations and pumping main installations are carried out to go from the Casita site entrance up to manhole 8560 in Cae Mair Uchaf.
4. Easements would need to be sought to gain access into four private third-party properties, to upgrade approx. 175m of 100mm \varnothing sewer up to a 152mm \varnothing sewer, in order to capacitate the foul sewage flows expected from Casita.
5. On the granting of easements, the slabs, paving, gardens and walls would need to be removed, a road closure put in place and the highway of Cae Mair excavated to relay the upgraded UC gravity pipe down to manhole 0704.
6. Twelve new 1200 \varnothing manholes would need installing down the line of the new drain run.
7. The gardens and driveways of the third-party properties would then need reinstating and the highway and driveway to Casita re-surfaced.
8. Welsh Water would then need to adopt the pump station, pumping main and upgraded gravity sewer.

The cost of the above works has been quoted by JBF Group to be **£586,377.00**. Please see a breakdown of the costs attached in Appendix B.

3. Conclusion

The costs of connecting to the sewer in Cae Mair Uchaf (manhole 8650) are greater than the cost of connecting in the main road at manhole 0701 (Option 3). There are also more risks of unforeseen costs with this connection location as it involves works in third-party land and the route of the sewer may differ than what is shown on the drainage map when it comes to excavating. Aside from the high cost, these works would also be subject to the 12-month (minimum) Hydraulic Modelling Assessment at an additional cost of £13,028.53, as well as a potentially lengthy legal process in seeking easements for the drainage improvement works.

It is therefore considered that connecting to the sewer at Cae Mair Uchaf would also be unfeasible and impractical. Connecting to an on-site treatment plant with soakaway into the neighbouring field would be the most cost effective, practical, and environmentally beneficial option.

Appendix

Appendix A – Route to Public Sewer Connection at Cae Mair Uchaf



Appendix B – Cost Breakdown for Connection to Sewer in Cae Mair Uchaf

Dominic Brooke

Quotation no. Q19956
24th Sept 2024

Dear Dominic,

Re: Option 2 Cae Mair Uchaf.

Thank you for your enquiry in respect of the above work. We are pleased to provide the following quotation for the completion of that work.

Our contract engineers believe they have given a considered value for money response to your enquiry, but should you have any suggestions or ideas as to how we can carry out the work more economically, we would be more than happy to discuss them with you.

Yours sincerely,

For and on behalf of
JBF group

Gwyn Jones

Civils Manager

Mobile: 07775 670994

Email: gwyn@jbfgroup.co.uk



Scope of Work

The supply of all Labour, plant and materials to undertake the following works in accordance with the enquiry documentation. recent meetings. emails.

- We have made suitable allowances for the following whilst undertaking the works
 - Completion of all works in accordance with CDM 2015, STS policies and HSEQ policies
 - Provision of a Clause 31 program with monthly updates
 - Supervision of works.
 - All plant and equipment
 - All fuel including refueling facilities

Scope of works

- Construct, packaged Pumping station
- Installation of pumping main in fields private drive and highway.
- **Work on private land.**
- Connections to 4 nr properties
- Removal of existing slabs. Paving, turf and garden walls
- Reinstatement to Landowners approval
- Traffic management
- Fees for adoption
 - Testing of pipework

Total sum of above £586,377.00 incl VAT

Exclusions

- Permanent Fencing.
- Over pumping of existing sewerage to make connections
- Flow meter and Chamber
- Any other works not explicitly detailed above
- Site security
- Disposal off site of any non-inert material (rates provided allow for inert material acceptable at local transfer station and exclude and hazardous disposal / landfill taxes)
- Diversion of any services not explicitly detailed

Program



To be agreed

Assumptions

- Any variations in the scope of work would be charged at our standard day work rates and would be invoiced monthly.
- Welfare facilities provided by the client
- No weekend working allowed for.
- We will have uninterrupted work with no access issues.
- Electrical supply for pumps to be provided by client within 25m of pumping station

Terms

To be agreed



Casita - Cae Mair Uchaf Foul Connection Costs

Ref	Description	Qty	Unit	Rate	Total
Packaged Pump Station and Rising Main					
1.0	Excavation and disposal of suitable material Installation of Type 2 sewage pumping station and kiosk - valve chamber 4m deep and reinstate including fencing,gates , permeable area ,inlet manhole	1	SUM	£88,000.00	£ 88,000.00
2.0	95mm ø pumping main (900mm cover) in field. Excavation, pipe bedding & surround, back fill and reinstate.	29	m	£85.00	£ 2,465.00
3.0	95mm ø pumping main in private tarmac drive (900mm cover). Excavation, removal of surplus material, backfill with pipe bedding, type 1 subbase and tarmac reinstatement.	118	m	£240.00	£ 28,320.00
4.0	95mm ø pumping main in council highway (900mm cover). Excavation, removal of surplus material, backfill pipe bedding, type 1 subbase and tarmac reinstatement.	38	m	£280.00	£ 10,640.00
5.0	1200 ø manhole chamber with baffle plate	1	nr	£5,500.00	£ 5,500.00
Works in Private Land					
6.0	1200 ø manholes, 1050mm deep to invert, benching, step irons, heavy duty cover and frame, concrete surround Depth n.e 1.5m	12	nr	£5,000.00	£ 60,000.00
7.0	Establish line of existing 100mm ø sewer in private land including easements through estimated 4nr households and third party land agent fees	1	SUM	£50,000.00	£ 50,000.00
8.0	Remove existing slabs, paving, turf and garden walls in private land	1	SUM	£10,000.00	£ 10,000.00
9.0	Relay 100 ø UC gravity pipe in 150 ø gravity pipe at 2m centres	175	m	£600.00	£ 105,000.00
10.0	Reinstate gardens and driveways to landowners approval	1	SUM	£25,000.00	£ 25,000.00
Further Developers Costs					
9.0	Traffic Management	1	SUM	£6,000.00	£ 6,000.00
10.0	Road Closure	1	SUM	£2,500.00	£ 2,500.00
11.0	Preliminaries	1	SUM	£20,000.00	£ 20,000.00
12.0	Service Crossings	40	nr	£400.00	£ 16,000.00
13.0	Disposal of excavated rock	30	m3	£60.00	£ 1,800.00
14.0	Welsh Water fees and adoption	1	SUM	£10,000.00	£ 10,000.00
15.0	Electric Supply to Pump Station	1	item	£3,000.00	£ 3,000.00
Sub Total					£ 444,225.00
Contingency @ 10%					£ 44,422.50
TOTAL					£ 488,647.50

TOTAL	£	488,647.50
<u>VAT@20%</u>	£	97,729.50
TOTAL	£	586,377.00