

Submission

MONTPELIER DEVELOPMENT ASSOCIATION,

Montpelier, Co. Limerick

Design & Delivery Services

Limerick City and County Council

Merchants Quay

Limerick V94 EH90

November 25th 2019



Project 17101-001 Brookhaven, Montpelier, Co. Limerick

To Whom It May Concern

On behalf of the residents in the community of Montpelier, Co. Limerick, *Montpelier Development Association* is making this submission in relation to the proposed development of 12 residential units along with all associated works.

The overriding concern to the residents is the impact of these additional dwellings on existing residents with regard to flooding and wastewater treatment. The existing septic tank is not fit-for-purpose for the existing 16 residences. In this regard please see attached report from Dr. Eugene Bolton of Trinity Green.

On the proposal in Environmental & Heritage Considerations and in the planning report, it appears as if an outdated CFRAMS map dated July 2016 has been included. We attach link to June 2017 report¹ which clearly shows that the location of the existing septic tank in the area is located in a 1% AEP area that we know has been flooded in the past – see below and attached picture of local flooding. This was not shown on the July 2016 version so are concerned that non-current information has been used in assessing the feasibility and impact of this development. Furthermore as per picture, it is clear that part of the development site was affected during the November 2009 floods.

There has long been concern by residents about the workings of this septic tank and this issue was noted when raised at a public meeting in 2017 when the OPW public consultations on the Flood Risk Management Plan.¹ This report notes that issues were reported on the communal septic tank during flood events which was noted. These issues have not been resolved and remain of great concern to local residents.

¹ https://www.limerick.ie/sites/default/files/media/documents/2018-05/FRMP_Final2018_RiverBasin_25_26.pdf - pg 102

In Appendix D of the Civil & Structural Report (content number 6.4) a letter from Irish Water has been included dated 8th March 2018. Regarding Wastewater assessment, within this report Irish Water have stated that currently there is capacity for 5 out of the 10 proposed houses. This number of dwellings has now been increased to 12 in the plans. It further references that a detailed assessment of the wastewater treatment infrastructure in the area will be completed in the next 12 months. If this has been completed we believe this report should have been published rather than the original pre-approval letter. We are concerned that the feasibility of the 12 proposed dwellings with regard to wastewater capacity has not been published.

The planning report states that the lands are in the hydrological catchment of the River Shannon but that there are no impacts that can be considered significant with regard to the conservation objectives of the Lower Shannon SAC. There is an EPA discharge licence associated with the existing septic tank discharging to the river Shannon and require clarification as to how the additional load (increasing number of properties feeding this tank by 75%) will not impact on this Natura 2000 site.

The objectives of the guidelines for local Authorities in The Planning System and Flood Risk Managementⁱⁱ are to avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off². The site proposed for development is very steep and a number of properties ground level will be substantially higher than adjoining existing properties. We feel more details and assurances are required in ensuring no adverse impacts on existing properties as a result of this development.

Associated with this is the concern that there will be significant site preparation works required and the proposed hard landscaping which includes roads, footpaths, parking, garden walls and public lighting. The guidelines state that in considering planning for new or extensions to residential development the extent of hard surfacing and paving should be reduced as well as requiring the use of sustainable drainage techniques³. We would appreciate more details on how this risk will be managed to ensure no adverse impacts on existing properties.

We question the designation of Montpelier as a Tier 5 settlement in the County Development Plan. Tier 5 settlements supposedly have a range of community infrastructure that provide for convenience and daily needs of the local population and the surrounding area. They also provide some small-scale employment opportunities and local level community facilities, such as primary schools, churches, local sporting facilities and a community hall.

In Montpelier there is a community hall. A small oratory which used to have weekly church services but this has been reduced to once a month. There is no school, limited public transport and a small shop and pub in adjoining village of O'Briensbridge.

²

<https://www.opw.ie/media/Planning%20System%20and%20Flood%20Risk%20Management%20Guidelines.pdf>

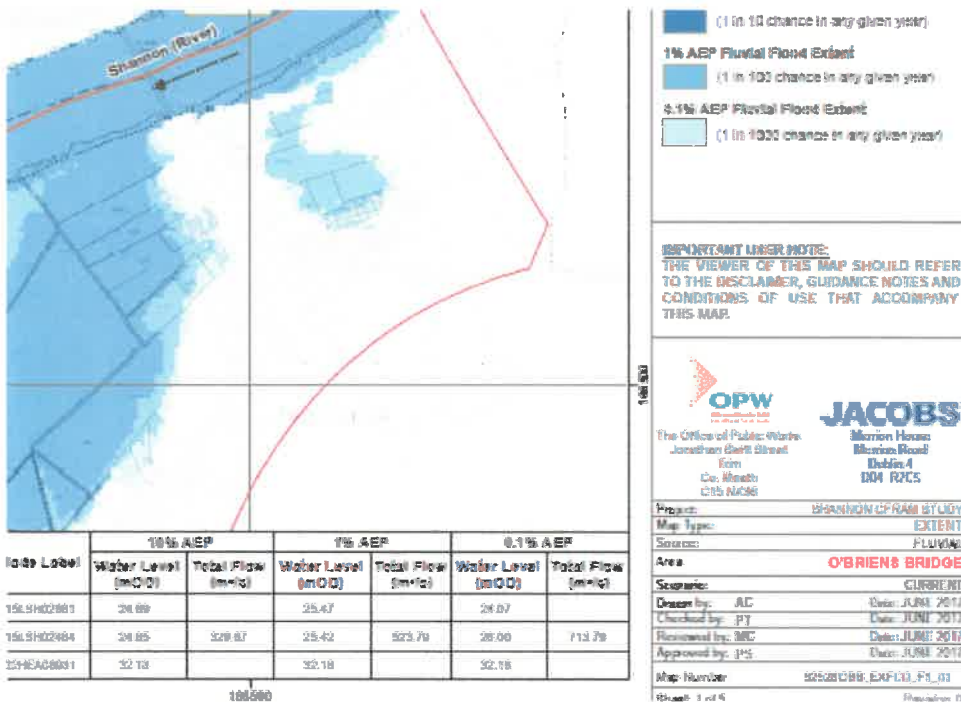
f – Pg 2
3

<https://www.opw.ie/media/Planning%20System%20and%20Flood%20Risk%20Management%20Guidelines.pdf>

f – pg 19

Objective SS 03: Capacity of town/village to absorb development. Included in this objective is the capacity (infrastructural, social, cultural and economic) of the village. It is our view based on the information above that the capacity of Montpelier in a number of these areas is incapable of supporting this proposed expansion of 12 residences. Objective SS 014 states that new community and social facilities shall be provided in conjunction with residential development as required. The current proposal does not appear to have any additional facilities included.

O'Briensbridge and Montpelier was one of the areas identified in OPW Flood Risk Management Plan 2018 as being in a flood risk area. In this report it states that there was no estimated increase in population in O'Briensbridge & Montpelier and it is this criteria that has been used in (pg 16) which states that whilst flood relief measured have been investigated a more detailed assessment of costs and benefits needs to be completed.



ⁱ https://s3-eu-west-1.amazonaws.com/docs.floodinfo.opw/pdf/shannon/uom_25/afa/obriens_bridge/01_ex/current/fluvial/s252_gobb_exfcd_f1_01.pdf - accessed 24/11/19

ⁱⁱ <https://www.opw.ie/media/Planning%20System%20and%20Flood%20Risk%20Management%20Guidelines.pdf> -- accessed 24/11/2019

Attachments –
 Report from Dr. Eugene Bolton, Trinity Green
 Site notice

Signed _____
 For Montpelier Development Association

Report on the Wastewater Treatment Plant

at

Brookhaven, Mountpelier, County Limerick

By

Dr. Eugene Bolton

Background

There is a group, of 16 houses in this development. It is located on the banks of the Shannon. The development is served by a Septic tank that discharges directly to the Lower River Shannon SAC immediately upstream of O'Brien Bridge. It is now proposed by Limerick City and County Councils to expand the development by the construction of an additional 12 social houses.

The Mountpelier Development Association and the residents of the Brookhaven Estate have some concerns regarding this proposal and in particular regarding the adequacy of the wastewater treatment and disposal as proposed. They have retained Trinity Green to form an opinion on the existing system and its suitability for the proposal as currently formulated.

Existing Plant

All the houses are connected into the existing system. This system is a septic tank. The tank discharges directly into the river Shannon. Limerick Councils applied to the EPA for a Wastewater Discharge Certificate of Authorisation . This application was granted (Ref No. A0499-01) with specific conditions.

Based on documentation submitted as part of this application the following facts emerge:

It is assumed that the PE for the current system is 49

The hydraulic loading is assumed to be 7500 litres/day

The Capacity of the tank is about 15,000 litres.

The tank discharges to the river via a 400mm open ended sewer discharging at the bank without any dispersal of the discharge plume.

The discharge point is within the "High probability" flood risk zone with the Septic Tank located in the "moderate" probability risk zone.

The Appropriate Assessment concluded that there were no significant negative impacts arising to the water quality in the lower river Shannon that were associated with the Mountpelier WWTP alone. This conclusion is based on the fact that there are 7500 litres of settled sewerage discharging to the river Shannon and there is sufficient dilution to ensure any impact on quality is reduced to acceptable levels by dilution. This does not address the impact on the local water quality at the point of discharge.

There is no detail available to the residents regarding the management of surface water. It is stated that there is no stormwater overflow from the Plant but no detail is given as to whether there is a separate stormwater collection system in the estate. It is unknown if the surface water is collected in a separate sewer and discharged to a soakaway or to the surface. It would seem from documentation that the surface water at least bypasses the tank though this is unproven.

On-Site Observations and Experience with this system

There have been issues with flooding in the area. This has resulted in water levels rising in the river and backflowing to the septic tank. In an attempt to overcome this issue the council

installed a valve that must be closed manually to stop the water backflowing into the tank. This backflow is possible because there is a direct discharge from the tank to the river. According to residents there was a percolation area which was far too small and this is now bypassed . The Council also raised the tank about 1m above the existing ground level. Unfortunately these measures are irrelevant when flood waters rise above ground level around the houses. In this instance floodwaters enter the tank via the sewer system manholes or gullies (greywater collection system – which are not watertight) so that the water level in the tank will rise to the water level in the river despite the valve being in the closed position.

When the valve is in the closed position it is functioning as a holding tank and must be emptied at least every 2 days if the above hydraulic assumptions are correct. This assumes the tank is assessable – which it sometimes is not - See Fig 1 photo of flooding in the area . For a 16 house scheme this is not practical and any delay in emptying will lead to backflow into the collection system with eventual contamination of area around the dwellings.

The tank may have a capacity of 15m³. The documentation submitted as part of the licence application suggests there is sufficient capacity for 100 PE. This gives a 24 hour retention. For a septic tank to effectively function this is not sufficient - based on SR6 of 1991, the EPA wastewater Treatment Manual of 2000 and the EPA Code of Practice 2009. At present, in theory there is a retention time of 48 hours. This should allow formation of a good crust but in fact there is normally no crust formation

Absence of a crust will allow escape of Odorous gasses. On the day of the site visit there were strong odours in the general area of the tank and residence confirmed that there are very strong odours on occasion from the tank.

It is noted and emphasised that there is a wide range of technologies available that will allow effective treatment of this type of waste stream prior to discharge.

Currently there is no effective treatment. In the EPA Code of Practice 2009 (*Wasterwater Treatment and Disposal Systems Serving Single Houses*) table E.1. in Appendix E states that a properly constructed septic tank will:

Retain and remove 50% or more of solids

Allow some microbial decomposition

Accept Sullage

Accept water containing detergents

Reduce clogging in the percolation area

Not fully treat domestic wastewater

Not work properly if not regularly maintained

Not significantly remove micro-organisms

Not remove more than 50% of BOD

Not operate properly if household hazardous substances are discharged to it

Not accommodate sludge indefinitely

Not operate properly if surface waters are discharged to it

Based on this and even if the tank were functioning as a septic tank it is totally unacceptable that effluent from such a device is discharged to the Environment. The above clearly states that a Septic Tank does not fully treat domestic wastewater. Yet Limerick County Council continues to discharge this untreated waste direct to surface water. The findings of the Tobin Report is not justification for continued discharge. This report states there is no negative

environmental impact directly due to the discharge alone. It is not possible to draw such a conclusion in the light of the above characteristics of a septic tank

The Residents have requested copies of sampling results both from limerick county Council and Irish water and none have been supplied. The council were the holders of the discharge Authorisation prior to the establishment of Irish water and yet have not supplied any information for the period during which they were responsible for the system

In order to confirm the pollution level in the discharge a sample was collected from a sampling chamber close to the River. This chamber is flooded and the quality of the sample is likely to be diluted somewhat compared to raw septic tank effluent. The result of the analysis is summarised in Table 1(results attached)

Table1- Results of sample analysis

Parameter	Concentration (mg/l)
BOD	341
COD	683
SS	260
Ammonia	65
E.coli	>200000 cfu/100ml

This is Septic Tank Effluent discharging into a river. Irrespective of the dilution 1Km downstream this is a health hazard at the point of discharge. There should be major concerns about discharging this into a river immediately upgradient of the Boat mooring point. This boat mooring point is less than 100m downstream of the discharge point and is used by the Dragon Boat project where Cancer patients and women in remission board the boats. It is possible that some users of this facility may not be in good health and should not be exposed to contaminated waters. This is also an area where swimmers enter the river in summer, so they are exposing themselves to water that is highly contaminated despite the dilution potential of the river and despite the fact that according to the Tobin Report there is no adverse Environmental impact.

In an attempt to reduce the impact of flooding a Berm has been put in place by the council between the tank and the river. This has been completed without any planning and with no environmental impact assessment

Impact of the proposal.

It is a fact that the septic tank is not a treatment system. At best it is operating as a poor primary settlement tank. It is located in the worst possible location as all the surrounding land slopes to where the tank is located – only the area towards the river is lower. It is incomprehensible that any type of treatment plant, septic tank or holding tank would be located in this location if this were a green field development. The natural flow of all surface water is towards the tank and the dwellings in the immediate area of the tank. If there has been flooding of the tank in the current arrangement the likelihood of further flooding is greatly increased as the surrounding lands are developed.

It is emphasised that the tank has been flooded resulting in raw sewerage contaminating flood waters around the dwellings. It is further emphasised that at present there is a risk to public health in particular to people who use the river as an amenity facility. The level of Microbial contamination in the discharge water as shown in Table1 makes it hazardous to be exposed to water in the vicinity of the discharge.

The conclusions of the Appropriate Assessment are valid for the general environment but it does not take account of the impact of the pollution plume in the immediate surrounds of the point of discharge.

Under the current proposal the level of pollution discharged from the system will more than double. This is because the tank becomes even less capable of achieving anything approaching an acceptable level of treatment. The higher the flow the lower the retention and therefore the poorer will be the level of treatment. If the current system is already discharging a level of microbial contamination that should not be accepted then the risk to public health will be even greater as the discharge is likely to double in volume and will be of poorer quality.

It is also likely that there will be an increase in the gases emitted from the tank. While the age of the waste will reduce the fact that there is a higher organic loading will mean the potential for emissions containing ammonia and hydrogen sulphate will increase. There will be a higher hydraulic throughput, and this will result in greater turbulence in the tank thus reducing further the propensity to form a crust – a fact that will further increase the risk of odours.

The mitigation measures that the council have undertaken to reduce the likelihood of the tank flooding are currently irrelevant for reasons outlined above and largely because the system will flood from ingress of surface water via manholes and gullies the level of contaminating sewerage in the flood waters doubles if the this proposal is implemented without proper arrangements for wastewater .

Dunlaoighre/Rathdowney County Council have issued Guideleines on Strategic Flood Risk Assessment. The proposed treatment system is located in a zone of High or Moderately high Flood Zone. It is consider that the proposed wastewater treatment system is classified as a Highly Vulnerable development as defined in the Flood Risk Management Guidelines (“*Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, **water and sewage treatment**, and potential significant sources of pollution (SEVESO sites, IPPC sites, etc.) in the event of flooding.*”)

Section 3.5 of the Flood Risk Management Guidelines (Zone A- High probability of flooding) states that “*Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of **essential infrastructure (Drainage Planning emphasis)** that cannot be located elsewhere, and where the Justification Test has been applied.*”

If a similar approach is adapted in this estate then this development as currently proposed cannot proceed.

It is noted that in an email to Councillor Collins and dated 04/11/2019 Irish water recognise that the current arrangement requires attention. However their proposal does not address the issue of ingress of surface water during flooding and as such the proposals will not protect the vulnerable dwellings even under current conditions.

In the documentation available on the proposed new development no detail is given on the wastewater other suggesting the existing system has capacity. As shown above the existing system is not fit for purpose at present even before there is any development. A full and meaningful appraisal of the management of wastewater in this estate is an absolute necessity before any development can be undertaken.

In relation to surface water a soakaway is proposed in the plans. Again, no detail is given. As the area is not significantly above flood water level the suitability of soakaways must be demonstrated as part of the planning process. The current management of surface water must also be clearly documented as no record of the existing drainage system has been made available. It would be reassuring if a CCTV survey of the surface water drainage system were completed to establish that there is no ingress of surface water into the sewer collection system. Neither the Tobin risk assessments or the documentation submitted to the EPA as part of the discharge Licence application address the issue of surface water drainage.

The Wastewater Discharge Certificate of Authorisation

This is issued by the EPA to the Council permitting the discharge of septic tank effluent to the River Shannon. While quality parameters are not specified in the Certificate there are conditions with which the council or now Irish Water should comply. In particular there is a requirement under section 2.3 for the holder to have available all relevant records. This includes records of the Biannual sampling. Having requested this information from Limerick County Council and Irish Water and not having received any documentation it is assumed this sampling has not been undertaken or has not been recorded.

In section 2.6 the Certificate holder is to prepare a statement as to the measures taken or adopted in relation to the prevention of damage to the environment. Such a document has not been made available to the Residents.

It is essential that all aspects of Condition number 3 are in compliance and that this information is made available to all interested parties and in particular to residents who need reassurance that the system is managed effectively.

Conclusion

The existing Plant is not fit for purpose. It is a risk to public health and is a source of environmental pollution.

The plant is a highly vulnerable asset and should not be located within a flood zone.

Measures taken to prevent contamination during flooding are ineffective

The plant is not a septic tank – having insufficient retention to facilitate anything other than settlement of gross solids.

The plant is a Nuisance – being a major source of odours

There is a wide range of technologies that would allow an acceptable level of treatment of wastewater prior to discharge.

It needs to be demonstrated that all conditions in the Certificate of Authorisation are being fully complied with by the holder

Residents have been totally ignored by the proposer of the project with no effort made to share any information that would help alleviate genuine concerns. The approach to date does not generate confidence in the Council or Irish Water in terms of proper management of the wastewater.

No new development can be contemplated without a detailed plan for the safe treatment and disposal of all the wastewater in Brookhaven

Likewise for surface water, there must be a clear plan that will protect current and future dwellings and prevent ingress of surface water into the sewer system

Signed 

Dr. Eugene Bolton
Senior Consultant
Trinity Green

21/11/2019

Appendix 1

Lab Results

Contact Name:	Eugene Bolton	Date Sampled:	18/11/2019
Customer Name:	Trinity Green	Date Received:	18/11/2019
Address:	Clonfert	Sample Location:	Limerick
	Maynooth		
	Co Kildare		
	Ireland	Sample Type:	WWTP Effluent
Sample Condition:	Satisfactory	Sample Description:	Effluent
Sample ID:	L6312	Grab/Composite:	Grab

TEST REPORT

Parameter	Result	Units	Method	Accreditation Status
Total BOD	341	mg/l O2	SOP-LTM-001	***
E.coli	>200000	cfu/100ml	SOP-LTM-024	***
COD	683	mg/l O2	SOP-LTM-002	***
Total Suspended Solids	260	mg/l	SOP-LTM-003	***
Ammonia	65.00	mg/l NH3-N	SOP-LTM-007	*

Comments:	
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Signed:

Niall Mathews

Date:

25/11/2019

Mr Niall Mathews - Laboratory Supervisor

The above results relate to the sample(s) tested.

This report shall not be reproduced unless all data is included and by agreement with The Water Lab.

Registered Office:
Unit C3
M4 Business Park
Celbridge, Co. Kildare

VAT No: 9672901T
CN: 449199

Tel: 01-6275656
www.thewaterlab.ie
info@thewaterlab.ie

* INAB accredited
** Accredited by Sub-con lab
*** Non-accredited

Version 03





Test Report Notes

Accreditation Status

Accreditation Status is denoted as follows:

- * INAB accredited to ISO 17025
- ** Accredited by Sub-con Lab to ISO 17025
- *** Non-accredited

Sub-contracted accreditation is provided by the sub-con lab's own accreditation provider.

Microbiological Analysis

The results obtained from microbiological testing in cfu/100ml should be interpreted as follows:

- | | |
|-----------------|---|
| 0 cfu/100ml | - Not detected in the volume of sample analysed |
| 1 - 3 cfu/100ml | - Less than 4 cfu/100ml detected |
| 4 - 9cfu/100ml | - Estimated result |

Sample results for Micro analysis tested outside 24 hours from the time of sampling may have impacted the validity of results.

This will be noted in the report comments section of the report if it applies to this sample.

LIMERICK CITY & COUNTY COUNCIL
PART 8 DEVELOPMENT
SITE NOTICE

PLANNING & DEVELOPMENT ACTS 2000 (as amended)
PLANNING & DEVELOPMENT REGULATIONS 2001 (as amended)
Part 8 Development

In accordance with Part XI of the Planning & Development Acts 2000 (as amended) and Part 8, Article 81 of the Planning and Development Regulations 2001 (as amended), notice is hereby given that Limerick City & County Council proposes to carry out the development described hereunder at the following site at Brookhaven, Montpelier, County Limerick.

The proposed development will consist of:

- (a) Provision of 12 no. residential units comprising; 3 no. single storey 2 bedroom dwellings; 4 no. two storey 2 bedroom dwellings, 5 no. two storey 3 bedroom dwellings;
- (b) Hard landscaping including roads, footpaths, parking, garden walls, and public lighting;
- (c) Soft landscaping including lawns, trees; and hedgerows;
- (d) Provision of new water connections, a foul sewer connection, and a surface water drainage system;
- (e) All associated site works.


In accordance with S.I 476, 2011, Section 250, Planning and Development (Amendment) (No. 3) Regulations, 2011, the Council has carried out a screening and it has been determined that an Appropriate Assessment is not required.

Limerick City & County Council has carried out an Environmental Impact Assessment (EIA) Screening Report and has determined that there is no real likelihood of significant effects on the environment. Accordingly, it has been determined that EIA is not required in respect of this proposed development. Nonetheless any person may within 4 weeks from the date of this notice apply to An Bord Pleanála for a screening determination.

Plans and particulars of the proposed development will be available for inspection from 14th October 2019 up to and including the 12th November 2019 during office hours at the Customer Services Desk, Limerick City & County Council, Merchant's Quay, Limerick, V94 EH90, and online at <http://mypoint.limerick.ie>.

Submissions and observations in relation to the proposed development, dealing with the proper planning and sustainable development of the area in which the development would be situated, will be accepted up to 5 p.m. on the 27th November 2019 in writing to Design & Delivery Services, Limerick City & County Council, Merchant's Quay, Limerick, V94 EH90 or online via <https://mypoint.limerick.ie>.

Note: Only submissions made in the above manner will be considered as valid submissions for the purposes of the Chief Executive's Report that will be presented to Council.

Signed: 
Joe Delaney - Director of Service
Limerick City & County Council,
Merchants Quay, Limerick

Date of Erection of Site Notice: 14th October 2019





*
SEPTIC
HOLDING
TANK

AERIAL
PHOTO
MONTPELIER
BROOKHAVEN
FLOOD
NOVEMBER
2009