

Our Case Number: ABP-322166-25



An
Coimisiún
Pleanála

Brendan Mulligan
52 Dún na Mara
Renmore
Co. Galway
H91KDA3

Date: 21 August 2025

Re: Proposed residential development for Corrib Causeway, Dyke Road
Corrib Causeway, Dyke Road, County Galway

Dear Sir / Madam,

An Coimisiún Pleanála has received your recent submission in relation to the above-mentioned proposed development and will take it into consideration in its determination of the matter.

Please note that the proposed development shall not be carried out unless the Commission has approved it or approved it with conditions.

If you have any queries in relation to the matter please do not hesitate to contact the undersigned officer of the Commission at laps@pleanala.ie

Please quote the above mentioned An Coimisiún Pleanála reference number in any correspondence or telephone contact with the Commission.

Yours faithfully,

pp. K. McGuffigan

Lauren Griffin
Executive Officer
Direct Line: 01-8737244

AA01

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From: Brendan Mulligan <mulliganbrendan56@gmail.com>

Sent: Tuesday 19 August 2025 12:21

To: LAPS <laps@pleanala.ie>

Subject: An Coimisiún Pleanála Case Ref. No.: ABP-322166-25, Proposed residential development for Corrib Causeway, Dyke Road, Galway

Caution: This is an **External Email** and may have malicious content. Please take care when clicking links or opening attachments. When in doubt, contact the ICT Helpdesk.

A chara,

Please find attached my submission in response to Galway City Council's, the applicant, submission dated 29 July 2025.

Please acknowledge receipt of this email.

Le gach dea ghuí,

Brendan Mulligan

52 Dún na Mara,
Renmore,
Galway,
H91 KDA3

Sent by email only.

An Comisiún Pleanála,
64 Marlborough Street,
Dublin 1,
D01 V902.

19 August 2025

Your Case Number: ABP-322166-25

Your Reference: Proposed residential development for Corrib Causeway,
Dyke Road, Galway.

Applicant: Galway City Council

A chara,

Further to your letter dated 30 July 2025. I welcome the opportunity to make a submission on the response, dated 29 July 2025, received from Galway City Council.

Firstly, I draw An Coimisiún Pleanála's attention to an error in Galway City Council's response, prepared by Brock McClure. In the first sentence of the text box on page 16, Section 2.4 Wastewater Capacity, in which *the "primary issues cited include: Frequent significant spills from stormwater overflows: 13 stormwater overflows included in EPA Waste Water Discharge Licence Ref. D0050-1 granted in 2010 and a further 113 known stormwater overflows on the drainage network which are unlicensed."* In my submission, dated 12 May 2025, I referred to 13 known stormwater overflows which were unlicensed, not 113!

Secondly, I note that the facts that I presented in detail in my submission have not been challenged by the applicant nor have the serious deficiencies that I highlighted in the wastewater drainage network, downstream of where the wastewater from this proposed development will connect, been addressed at all.

The applicant's response has been simply to state that it *"is not in a position to assess or carry out works on infrastructure that falls within Uisce Éireann's remit."* For the applicant, Galway City Council to suggest that it is not *"in a position to assess or carry*

out works on infrastructure.....” is nonsense. Until the 31 December 2013, Galway City Council was completely responsible for the wastewater drainage and stormwater drainage networks in Galway City. After Irish Water became the holder of the Wastewater Discharge Licence on 01 January 2014, Galway City Council was responsible for the operation and maintenance of the wastewater drainage network, and the Mutton Island Wastewater Treatment Plant (WWTP), under a Service Level Agreement with Irish Water (renamed Uisce Éireann on 31 December 2022) until very recently. Galway City Council could have read the Galway Drainage Area Plan (DAP) Stage 1, 2 and 3 reports, all three of which were completed by June 2024, and informed itself fully as to the deficiencies in the wastewater drainage network, as I myself have done.

Representatives of Galway City Council participated in the preparation of the Galway Drainage Area Plan and would have had more detailed local knowledge of the wastewater drainage network and its deficiencies than either the employees of Uisce Éireann or Ryan Hanley consulting engineers, the authors of the Galway DAP.

Galway City Council remains solely responsible for stormwater drainage in Galway city. It is stated in the response that *“While the concerns about overflows and siphon capacity are acknowledged, these relate to the wider public wastewater network and remain the responsibility of Uisce Éireann.”* This ignores the contribution that stormwater is making to the wastewater drainage network and Galway City Council’s obligation to collaborate with Uisce Éireann in addressing the problem with frequent discharges of polluting matter into the estuary of the River Corrib and Inner Galway Bay, Special Areas of Conservation, through both licenced and unlicensed Stormwater Overflows.

I respectfully request that An Coimisiún Pleanála acquaints itself with the content of the Galway Drainage Area Plan Stage 4 Strategy, Optioneering and Future Solutions Design Report, April 2025. I obtained a copy of this report, and associated maps and documents, on 31 July 2025 by means of an Access to Information on the Environment Request to Uisce Éireann. I enclose sections of this report which are relevant to the provision of wastewater drainage services to the site of this proposed development, for the convenience of An Coimisiún Pleanála.

The site of the proposed development is close to the junction of the Dyke Road and the Headford Road. The Confirmation of Feasibility issued by Uisce Éireann is typical of such Confirmations of Feasibility issued to developers proposing to undertake developments within the Galway Agglomeration. That is the case even where it is evident, from the now fully complete Galway Drainage Area Plan, which has been in preparation since 2016, that there is insufficient or no capacity within the wastewater

drainage network to take the volume of wastewater from the proposed development **and** convey it to the Mutton Island Wastewater Treatment Plant for treatment without it being discharged through Stormwater Overflows downstream. The Confirmations of Feasibility are usually subject to a requirement that a short section or sections of the existing network are upgraded by Uisce Éireann but funded by the applicant developer. This is the case in relation to this proposed development where it is stated that the applicant developer, Galway City Council, would have to fund:

"A 20m Approx. foul sewer network upgrade from 150mm diameter to 225mm diameter is required to cater [for] the proposed development at the start of Dyke Road and Wood quay."

Works to be carried out by Uisce Éireann and works to be carried out by Uisce Éireann in collaboration with Galway City Council to accommodate current and additional wastewater flows including those from this proposed development

In Section 5. DETAILED FLOOD RISK INTERVENTIONS of the Galway DAP Stage 4 Report *"detailed interventions have been completed for High Confidence Risks at reported and predicted (modelled) flooding locations."* This section includes the *"preferred/ recommended option for each intervention zone has been advanced for inclusion in the Strategic Recommended Options Model as described in Section 9."*

In Section 6. DETAILED ENVIRONMENTAL RISK INTERVENTIONS of the Galway DAP Stage 4 Report *"detailed interventions have been completed for all environmental risks within the Study Area, primarily related to SWOs."* This section includes that *"the preferred option for each intervention has been advanced for inclusion in the Strategic Recommended Options Model as described in Section 9."*

I set out below, in summary form, the interventions recommended in both Section 5 and Section 6 of the Galway DAP Stage 4 Report that are directly relevant to the provision of adequate wastewater capacity to service this proposed development.

1. Works recommended in Section 5.16. D0050_01_RCZ_16 - Lid/Argos

Section 5.16. D0050_01_RCZ_16 - Lid/Argos of the Galway Drainage Area Plan Stage 4, copy attached, addresses flooding risks (reported and predicted) within the catchment in which this proposed development will be located. One of the root causes of flooding risks identified is:

- *"Hydraulic incapacity of the sewer network downstream, particularly around St. Brendan's Avenue resulting in surcharge backup;"*

Two intervention options were assessed as part of the DAP Stage 4 report to alleviate the basement flooding issues. Option 2 was selected as the recommended option.

Option 2:

- *“Involves the installation of a NRV [non-return valve] on the low-lying sewer” and*
- *encompasses the upgrade of approximately 877 meters of combined sewer, increasing the diameter from 450mm to 600mm, as well as the regrading of 40 meters of existing combined sewer (600mm) on St Bridget’s Place Lower, St Bridget’s Avenue, Wood quay, Mary Street and Bowling Green. These improvements aim to enhance sewer capacity and facilitate better surcharge management.”*

Replacing an existing 450mm diameter sewer with a new 600mm diameter sewer would increase the capacity of the sewer by 75% approximately.

The works proposed in Option 2 by Uisce Éireann are significant. If the proposed development is constructed and occupied before Uisce Éireann carries out the proposed works to the combined sewer the additional wastewater arising would exacerbate the flooding risks.

2. Frequent discharges from the Long Walk SWO

Section 6.24. Long Walk SWO of the Galway Drainage Area Plan Stage 4 addresses the frequent discharges of significant volumes of polluting matter into the estuary of the River Corrib, a Special Area of Conservation. In Table 6-129: Long Walk SWO – Environmental Compliance Assessment, it is recorded that the annual spill frequency is 50 and the Annual Spill Volume is 63,383m³. That is equivalent to the volume of more than 25 Olympic swimming pools. The Waste Water Discharge Licence only permits discharges through Stormwater Overflows during ‘Unusual Weather Conditions’. The report finds that:

“Furthermore, the area around Long Walk contains the largest concentration of complaints of reported pollution incidents within the Galway City area. The root cause of the environmental risks associated with SWO were investigated during Stages 3 and 4 and the following were identified as the primary factors attributing to these risks:

- *Tidal inflow in the network in the vicinity.*
- *Hydraulic incapacity in the network downstream of the SWO.”*

The Galway DAP Stage 4 Report considers 3 Options for reducing spills at the Long Walk SWO. Option 3 includes the provision of a new Siphon (133m of 750mmØ) and associated chambers in addition to surface water separation. The need for a third

siphon was first identified in 2007 by Galway City Council and the EPA was made aware of this as part of the application process for the Waste Water Discharge Licence. Had this third 750mm siphon been provided it would have increased the capacity to transfer wastewater under the River Corrib by 75% relative to the combined capacity of the existing two siphons, which are 525mm and 675mm in diameter.

The Galway DAP Stage 4 Report concludes, in relation to Option 3, that *"This option did not meet the required risk reduction standards,"*

Option 2 is the recommended solution in the Galway DAP Stage 4 report as *"Only Option 2 fully meets the risk reduction requirements for SWO spills". Option 2 includes the following extensive works:*

- *The installation of approximately 6.8Km of surface water sewer (300/400/600/900mmØ) to facilitate separation of surface water from combined sewer upstream and reduce surcharge in the combined network, and*
- *Stormwater storage "in the form of online storage via combination of upgrading of the existing sewer network, provision of new twin/relief pipework downstream and oversized online storage pipework."*

It is noted in Table 9-11: Strategic Recommended Model Phasing of the DAP Stage 4 report that Option 2 will require *"some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority).* The collaboration of Galway City Council is required as the provision of storm water drainage is a matter for Galway City Council. There is no evidence that Galway City Council has agreed to take responsibility for the very significant stormwater drainage works included in Option 2. Representatives of Galway City Council attended ten out of eleven Progress Meetings between 20 January 2023 and 16 November 2023, both dates inclusive. They were absent from Progress Meeting no. 42 on 21 September 2023 and Progress Meetings no. 45 to 56 from 17 January 2024 to 16 January 2025. However, it is recorded in the minutes of Progress Meeting no. 54 on 19 November 2024 that Conor Skehan, representing Galway City Council (but an employee of Uisce Éireann), *"has confirmed that he will be assuming the role of GCiC [Galway City Council] point of contact for this project, taking over from Pádraic Mac Giolla Bhríde".* Pádraic Mac Giolla Bhríde had represented Galway City Council at seven meetings between 20 January 2023 and 16 November 2023, either on his own or with other colleagues. While Conor Skehan attended the final two further Progress Meetings, on 19 December 2024 and 16 January 2025, he was apparently representing Uisce Éireann, not Galway City Council, according to the minutes of those meetings.

I respectfully suggest that An Coimisiún Pleanála make the appropriate enquiries to establish to its satisfaction that Galway City Council has agreed to collaborate with Uisce Éireann in delivering the necessary extensive stormwater drainage works required as part of Option 2 in the Medium/Long Term. It is not known if the applicant, Galway City Council, has sought the substantial capital funding necessary to undertake these works. An Coimisiún Pleanála might seek clarification from the applicant as to when these necessary extensive stormwater drainage works might be expected to be completed. For instance, has the applicant even advised the Department of Housing, Local Government and Heritage about these works and indicated what estimated capital funding will be necessary to carry them out? Have any steps been taken by the applicant to engage a consulting engineer to undertake the detailed design of the works? Given the nature and extent of these works in the city centre, and the associated disruption, the execution of these works will be likely to take a very considerable time.

Phasing of the Works

The works proposed under 1 and 2 above are not included within the works proposed as prioritised interventions included in Section 4. PRIORITY INTERVENTIONS of the Galway DAP Stage 4 report.

In Section 9.5. Phasing of the Works, copy attached, An Coimisiún Pleanála will note that the works proposed under 1 and 2 above are included in the “Medium/Long Term” category. The Medium/Long Term category is “for actions planned for more than 5 years post-DAP completion.” See Table 9.11: Strategic Recommended Model Phasing. The relevant entries in the Table are highlighted.

The reason for the Medium/Long Term phasing to the necessary works in 1 above, Works recommended in Section 5.16. D0050_01_RCZ-16Lidl/Argos, is as follows:

“Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.”

The reasons for the Medium/Long Term phasing to the necessary works in 2 above, the Frequent Overflows from the Long Walk SWO, are:

- Option involves extensive network upgrades in a busy city area that may require customer/ stakeholder engagement and buy-in along with a more comprehensive and time-intensive design process.
- Option involves some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timelines.

I submit that An Coimisiún Pleanála consider the proposed development to be premature, given that there is no prospect of the necessary interventions to provide adequate capacity in the wastewater drainage network within the next 5 years and no certainty as when they might be expected to be completed beyond that 5-year horizon.

A decision to refuse permission on the grounds of inadequate capacity in the wastewater drainage network would be consistent with An Coimisiún Pleanála's decision in June 2025 to refuse permission for a development in Bearna, within the Galway Agglomeration, Case Reference ABP-319686-24, for the reason that *"it is considered that it has not been demonstrated that there is adequate collection/conveyance capacity in the foul sewer network in Bearna to cater for the effluent generated by the proposed development."*

The condition of the larger of the two existing siphons under the estuary of the River Corrib has been ignored in the DAP Stage 4 report, as it was in the DAP Stage 3 report.

I expressed serious concern in my earlier submission about the lack of any reference to the condition of the two existing siphons and in particular to the very poor structural condition of the larger of the two siphons in the DAP Stage 3 Report. During a survey of both siphons by McBreen Environmental in early May 2024, several structural defects were discovered in the larger of the two siphons. I submitted a copy of the survey report with my earlier submission. This resulted in the structural condition of the larger siphon being given a Grade 5, the worst grade on a scale of 1 to 5. Grade 5 indicates that:

"Best practice suggests that this pipe is at risk of collapse at any time. Urgent consideration should be given to repairs to avoid failure."

Remarkably, the Galway DAP Stage 4 Report, April 2025, again makes no reference whatsoever to the condition of the siphons as reported by McBreen Environmental in May 2024. The recommended solution, having ruled out the inclusion of a third larger siphon, to the problem of frequent overflows from the Long Walk SWO relies on the continuing use of the two existing siphons. No remedial works to the larger siphon are proposed. The risk of collapse of the larger siphon is neither acknowledged nor addressed.

As is the case for the wastewater arising from all developments in Galway east of the River Corrib and from Oranmore, all the wastewater arising from this proposed development will have to pass through the Long Walk SWO chamber and the two existing siphons under the estuary of the River Corrib to get to the Mutton Island WWTP. The two siphons could be fairly described as being the most critical assets in Uisce Éireann's portfolio in the Galway Agglomeration, but it appears they have not merited

any risk assessment whatsoever at any stage in the Galway DAP process which has gone on for the past 9 years.

As there are already very frequent overflows of very significant volumes of untreated wastewater from the Long Walk SWO it means that any additional wastewater connected to the wastewater drainage system, upstream of the Long Walk SWO, will actually be discharged, untreated, into the estuary of the River Corrib, a Special Area of Conservation. This is and would be a flagrant breach of the Wastewater Discharge Licence and thus be an offence.

It would also compromise the achievement of “good” water quality status by 2027 as required to comply with the Water Framework Directive.

There is, as of now, no evidence that Uisce Éireann proposes to carry out urgent remedial works to the larger of the two siphons which has several structural defects. There is no evidence either that Uisce Éireann has advised the EPA of the perilous condition of the larger of the two existing siphons.

Uisce Éireann’s Capital Investment Plan proposal (2025-2029)

The Board of Uisce Éireann approved the submission of its Capital Investment Plan proposal (2025-2029) to the Commission for the Regulation of Utilities (CRU) on 22 October 2024. It has not been published so it is not known what investment, if any, is proposed for the wastewater infrastructure in the Galway Agglomeration over the 5 years to 2029. The “Short Term” timeline in the Galway DAP Stage 4 Report runs for 5 years from the date of publication of the report which was April 2025. Almost 10 months after the capital investment plan proposal was submitted to the CRU, it appears it has not yet been approved. Almost 8 months of the first year of the 5-year investment plan period, 2025-2029, has already elapsed.

Conclusion

In conclusion, the applicant has not demonstrated that there is adequate collection/conveyance capacity in the foul sewer network in Galway city to cater for the effluent that will be generated by this proposed development. The Galway Drainage Area Plan has confirmed that there is inadequate capacity in the network in sections through which the wastewater from the proposed development would have to be conveyed for treatment at the Mutton Island WWTP.

If this development was to proceed in advance of completion of the works recommended in Section 5.16 of the Galway DAP Stage 4 report it would exacerbate the flooding risk identified therein.

If this development was to proceed it would contribute to a continuance of, and an increase in, discharges of polluting matter into the estuary of the River Corrib, a Special Area of Conservation. This would comprise the achievement of “good” water status by 2027, as required to comply with the Water Framework Directive.

There is no evidence that that Galway City Council, the applicant, has agreed to collaborate with Uisce Éireann in delivering the necessary extensive stormwater drainage works required as part of Option 2 to reduce the frequent overflows at the Long Walk SWO and achieve compliance with the Waste Water Discharge Licence.

There are grounds to be seriously concerned about the structural condition of the larger of the two existing siphons under the estuary of the River Corrib, the failure to recognise this risk to a critical asset in the Galway DAP and the lack of any proposed measures in the Galway DAP to address this particular risk.

Taking all the above into account, I respectfully submit that An Coimisiún Pleanála should refuse permission for this proposed development.

Mise, le meas,

Brendan Mulligan

Attachments: DAP Stage 4 Report – Section 5.16. D0050_01_RCZ_16 – Lid/Argos
 DAP Stage 4 Report – Section 6.24. Long Walk SWO
 DAP Stage 4 Report – Section 9.5. Phasing of Works

5.16. D0050_01_RCZ_16 – Lidl/ Argos

High Confidence Intervention Zones D0050_01_RCZ_16 is located in the City Centre Sub catchment of Galway City as shown in Figure 5-79. This Intervention Zone covers an area of 29.21ha extending from Newtownsmith Road north-eastwards as far as the Cooke's Terrace off Bohermore. The reported flooding risks within the zone is sited in Water Lane behind the [REDACTED]

The root cause of the flooding risks (reported and predicted) was investigated during Stages 3 and 4 and the following were identified as the primary factors attributing to the flooding:

- Shallow depth of service connection from the [REDACTED] and the downstream combined sewer towards St. Bridget's Place Lower;
- Inundation of sewer network downstream, particularly around St. Brendan's Avenue resulting in surcharge backup;
- Hydraulic incapacity of the sewer and poor grading downstream as far as Newtownsmith Road;
- Bottlenecks, blockages and sediment build up within the network.

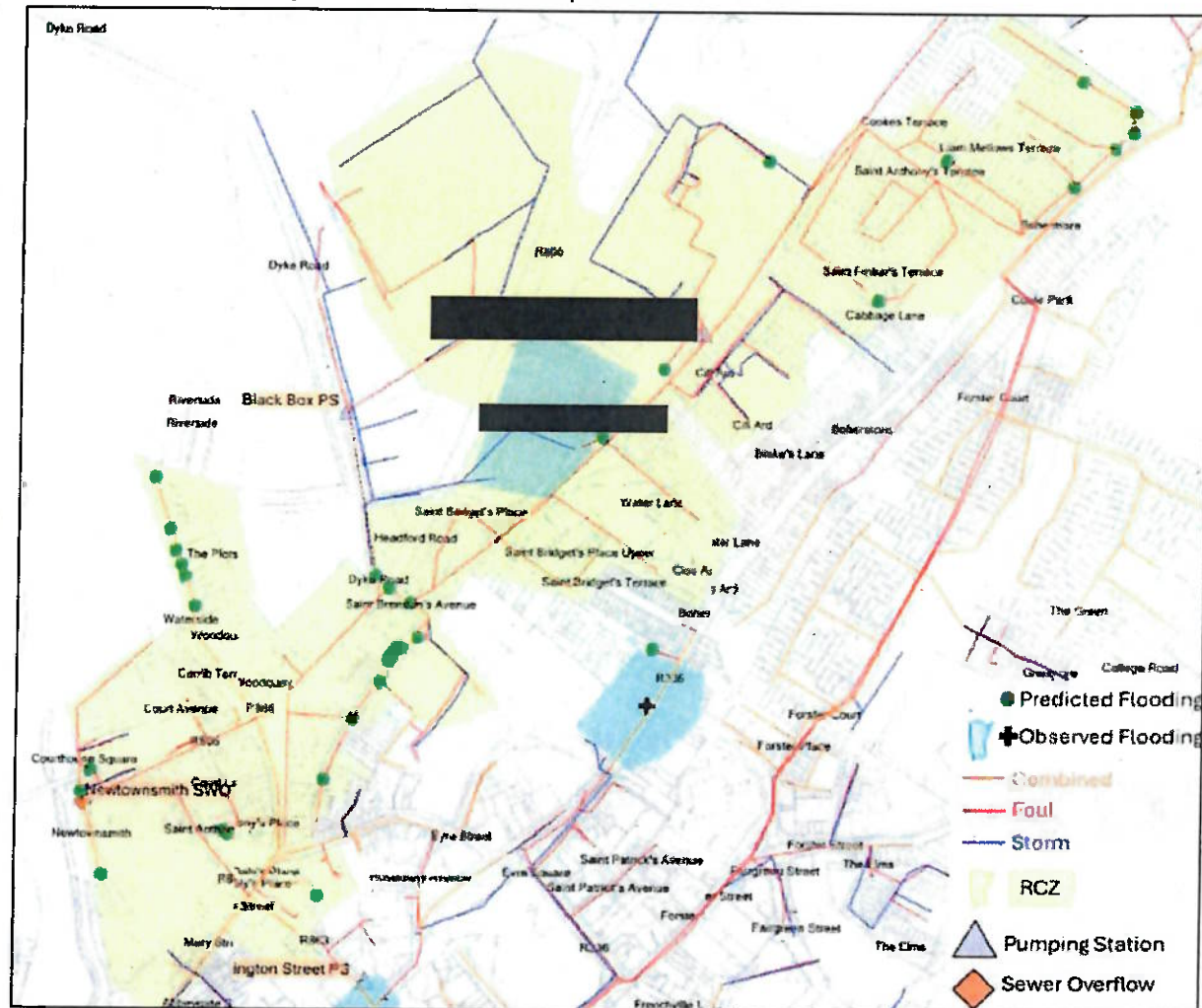


Figure 5-79: D0050 01 RCZ 16 – Overview

5.16.1. Options Overview

Initial model testing of interventions was undertaken during Stage 4 to identify potential mitigation options for reducing flooding within D0050_01_RCZ_16. The following two intervention options were assessed to alleviate the basement flooding issues:

- Option 1:
 - Install NRV on the outlet of manhole SM30251806 to prevent surcharge backup to the low-lying sewer within the [REDACTED]
- Option 2:
 - Install NRV on the outlet of manhole SM30251806 to prevent surcharge backup to the low-lying sewer within the [REDACTED]
 - Foul sewer upgrade/ replacement (approximately 917m total) on St. Bridget's Place Lower, St. Bridget's Avenue, Woodquay, Mary Street and Bowling Green to increase sewer capacity and facilitate surcharge management.

5.16.2. Option 1

Option 1 involves installation of an NRV on manhole SM30251806 to prevent surcharge backup and flooding at the low lying sewer within the [REDACTED] as shown in Figure 5-80 below and on Table 5-52.

Figure 5-80: D0050_01_RCZ_16 – Option 1



Table 5-52: D0050_01_RCZ_16 – Upgrades Proposed as Part of Option 1

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New NRV	City Centre	N/A	N/A	1	N/A	225mm

While the option successfully eliminated flood risk at the reported flooding location within the [REDACTED], it does not significantly alleviate surcharging or predicted flooding in the downstream network. Flooding results for a 30 Year Return Period Design Storm event immediately downstream of the [REDACTED] are shown graphically on Figure 5-81 below. As illustrated, surcharging downstream persists despite the upgrade works.

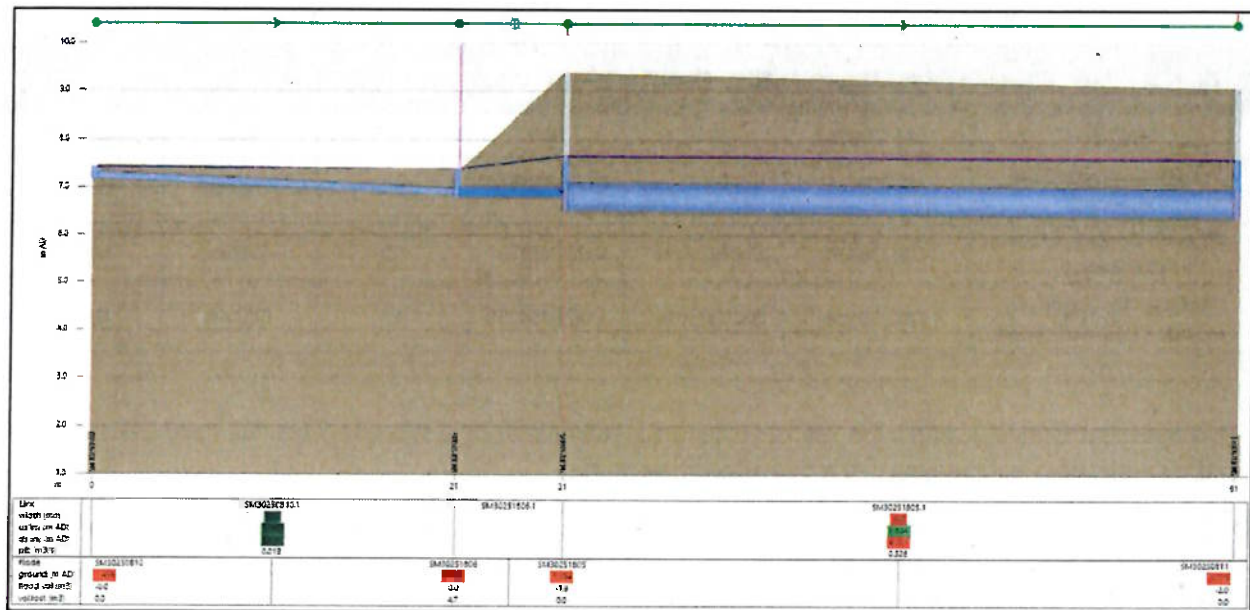


Figure 5-81: D0050_01_RCZ_16 – M30 Design Storm Long Section – Option 1

5.16.3. Option 2

Similar to Option 1, Option 2 involves installation of a NRV on the low-lying sewer within the [REDACTED]. Additionally, Option 2 encompasses the upgrade of approximately 877 meters of combined sewer, increasing the diameter from 450mm to 600mm, as well as the regrading of 40 meters of existing combined sewer (600 mm) on St. Bridget's Place Lower, St. Bridget's Avenue, Woodquay, Mary Street, and Bowling Green. These improvements aim to enhance sewer capacity and facilitate better surcharge management.

Figure 5-82: D0050_01_RCZ_16 – Option 2

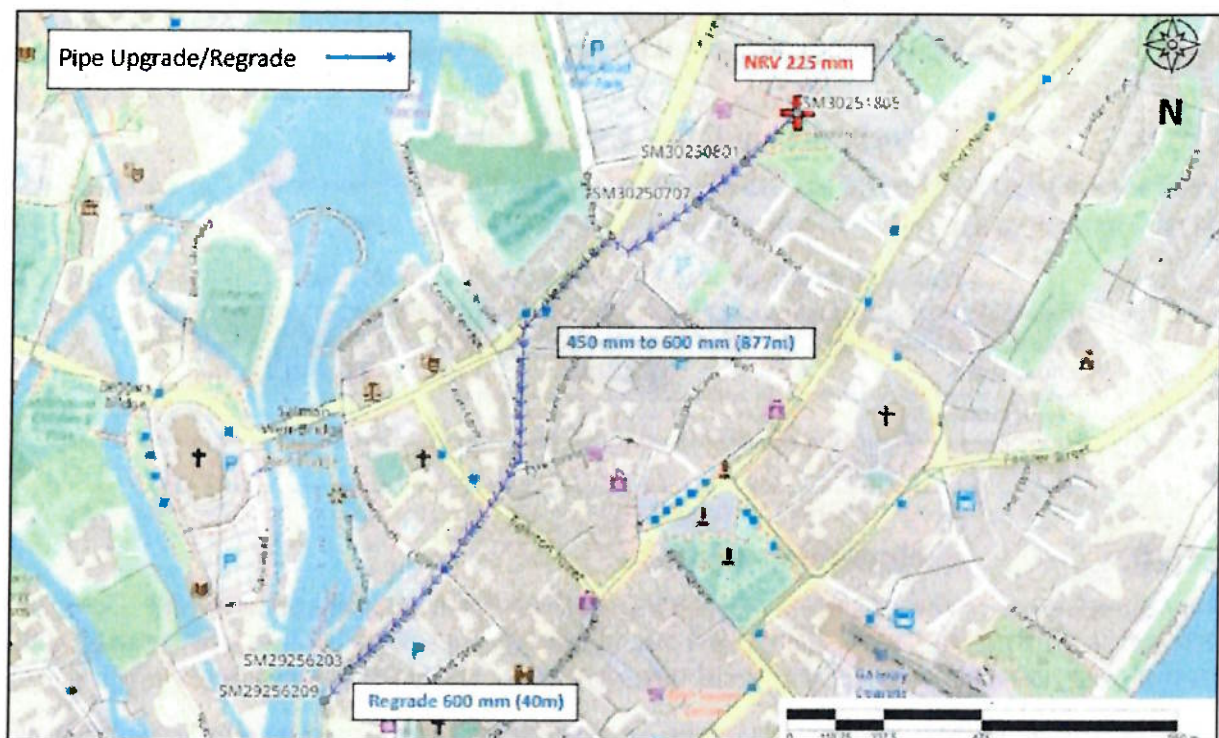
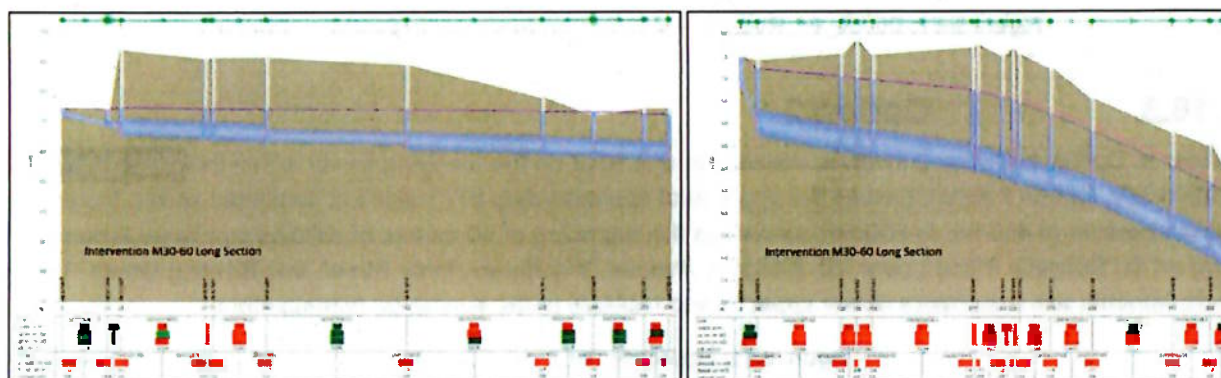


Table 5-53: D0050_01_RCZ_16 – Upgrades Proposed as Part of Option 2

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New NRV	City Centre	N/A	N/A	1	N/A	225mm
Pipeline Upgrade (Foul/ Combined)	City Centre	SM30251805	SM29256203	805	450mm	600mm
Pipeline Upgrade (Foul/ Combined)	City Centre	SM30250801	SM30250707	72	450mm	600mm
Pipeline Replacement/ Regrade (Foul/ Combined)	City Centre	SM29256203	SM29256209	40	600mm	600mm

This option successfully meets the risk reduction requirements at reported and predicted flood risk locations and also alleviates surcharging in the downstream network.

Flooding results for a 30 Year Return Period Design Storm event along two downstream sewer legs are shown graphically on Figure 5-83 below. As shown, while some surcharging remains, predicted flooding downstream has been eliminated following the upgrade works.

**Figure 5-83: D0050_01_RCZ_16 – M30 Design Storm Long Section – Option 2**

5.16.4. Preliminary Cost Estimates

As detailed in Section 3.3.5, the UÉ IPS was used to estimate the CAPEX (Project Total), 20 Year Delta OPEX and WLC for each option. Table 5-54 below provides a summary of these costs.

Table 5-54: D0050_01_RCZ_16 – Whole Life Costs – All Options

Element	Option 1	Option 2
Total CAPEX		
20-Year OPEX		
20-Year Whole Life Cost		

5.16.5. Recommendation

Two options were assessed to alleviate reported and predicted flooding issues associated with Intervention Zone D0050_01_RCZ_16. Option 2 fully meets risk reduction requirements and has been selected as the recommended option for inclusion in the Strategic Recommended Options Model detailed in Section 9.

It is noted that at the time of writing this report and post the detailed intervention modelling stage, the Operations & Maintenance teams confirmed that the NRV proposed for this option has already been installed. Given that this is a strategic solution and considering that the NRV cost is minimal relative to the overall cost

of Option 2, it is deemed prudent to maintain this intervention as is. This ensures the option remains viable for future NRV replacement if required.

6.24. Long Walk SWO

Long Walk SWO (WWDL Ref: SW019) is located on Long Walk in the city centre sub catchment approximately 200m south of Wolfe Tone Bridge. The SWO is located immediately upstream of two siphons (525mm and 675mm diameters) which run underneath the intertidal bed of the River Corrib and facilitate passing of flows from the east to the west of the River towards Mutton Island WWTP. The overflow is located within the siphon chambers on the eastern side of the river and discharges to the Corrib Estuary (transitional waters) to the southwest of the SWO chamber. The siphon chambers on the west side are located approximately 100m south of [REDACTED] and from there, flow is by gravity to the Mutton Island WWTP. The upstream catchment which drains through the siphon comprises most of the catchments east of the river Corrib, including Oranmore.

A simplified environmental compliance assessment of the overflow was conducted using the **Stage 4 Strategic Model**. The results are identified in Table 6-129 below.

A summary of the compliance assessment based on the current model is provided in Table 3-9.

Table 6-129: Long Walk SWO - Environmental Compliance Assessment

Long Walk SWO		
Type	SWO	
SWO Significance	Medium	
Annual Spill Frequency	50	
Annual Spill Volume (m ³)	63,383	
Formula A (l/s)	2,087	
Modified Formula A (l/s)	1,048	
Pass Forward Flow (l/s)	876	
Primary Compliance Criteria (DoEHLG Standards)	Assessment Criteria	Meets Requirements
	Does not cause significant visual or aesthetic impact and public complaints.	N
	Does not cause deterioration in water quality in the receiving water (Based on High Level Assessment - Refer to Section 3.4.2.1).	Y WFD Waterbody: Corrib Estuary (Receiving water has moderate status, however, UW is not considered a significant pressure and WFD status is Not at Risk)
	Does not give rise to failure in meeting the requirements of national Regulations on foot of EU Directives.	Y
	Does not operate in dry weather.	Y
Overall Compliance	Not Fully Meeting Compliance Standards	
Other Requirements	Maximum number of independent storm events discharged does not exceed 10 per year.	N
	PFF > Modified Formula A or in cases where Formula A is not passed forward, storage based on 2 hours at Modified Formula A – PFF to be provided.	N
Comments	Does not meet DoEHLG Criteria and spills exceed 10 on average per annum	

The SWO does not comply with current statutory requirements in Ireland (i.e. DoEHLG requirements) in the strategic design horizon and is predicted to spill more than ten times per annum which is secondary performance requirement. Furthermore, the area around Long Walk contains the largest concentration of

reported pollution incidents within the Galway City area. The root cause of the environmental risks associated with SWO were investigated during Stages 3 and 4 and the following were identified as the primary factors attributing to these risks:

- Tidal inflow in the network in the vicinity;
- Hydraulic incapacity in the network downstream of the SWO.

6.24.1. Options Overview

Initial model testing of interventions was undertaken during Stage 4 to identify potential mitigation options for reducing spills at Long Walk SWO. Given the location of the SWO on the downstream end of the Galway City DAP Study Area, numerous combinations of different upgrade options upstream (i.e. storage volumes, pass forward flow rates etc.) were tested together with hydraulically linked assets. Optimal solutions were identified upstream to limit flows to the Long Walk SWO. Based on these findings, all options described in this section incorporate the following recommended measures at key locations into the upstream model:

- D0050_01_RCZ_05 (Refer to Section 5.5);
- D0050_01_RCZ_07 (Refer to Section 5.7);
- Lough Atalia SWO (Refer to Section 6.6);
- Oranmore PS SWO (Refer to Section 6.7);
- Merlin Park PS 1 (Refer to Section 6.8);
- Moneenageisha SWO (Refer to Section 6.12);
- Sandy Road PS SWO (Refer to Section 6.13);
- Claddagh Quay SWO (Refer to Section 6.25).

While various options and upgrade combinations were evaluated in Stage 4, the following three intervention options emerged as the most promising solutions and were examined in detail:

- Option 1:
 - Provision of a New 10,000m³ Offline Stormwater Storage Tank;
 - Surface water separation of combined sewers including new 300/400/600/900mm $\varnothing$ surface water sewer (6.8km).
- Option 2:
 - New foul sewer (approximately 151m) and foul sewer upgrade/ regrade (approximately 574m) to improve hydraulic capacity and provide online storage downstream to promote flow diversion;
 - Surface water separation of combined sewers including new 300/400/600/900mm $\varnothing$ surface water sewer (6.8km).
- Option 3:
 - Provision of a New Siphon (133m of 750mm $\varnothing$) and associated chambers;
 - Surface water separation of combined sewers including new 300/400/600/900mm $\varnothing$ surface water sewer (6.8km).

6.24.2. Option 1

Option 1 involves the installation of a new 10,000m³ stormwater storage tank complete with storm return pumps, pipework and associated infrastructure as shown below. Furthermore, the option involves the installation of approximately 6.8km of surface water sewer (300/400/600/900mm $\varnothing$) to facilitate separation of surface water from combined sewer upstream and reduce surcharge in the combined network. For the purposes of modelling, contributing areas from roads and paved areas only have been removed within this catchment as well as some commercial premises (refer to Appendix E).

Figure 6-69: Long Walk SWO - Option 1 Foul/ Combined Upgrades

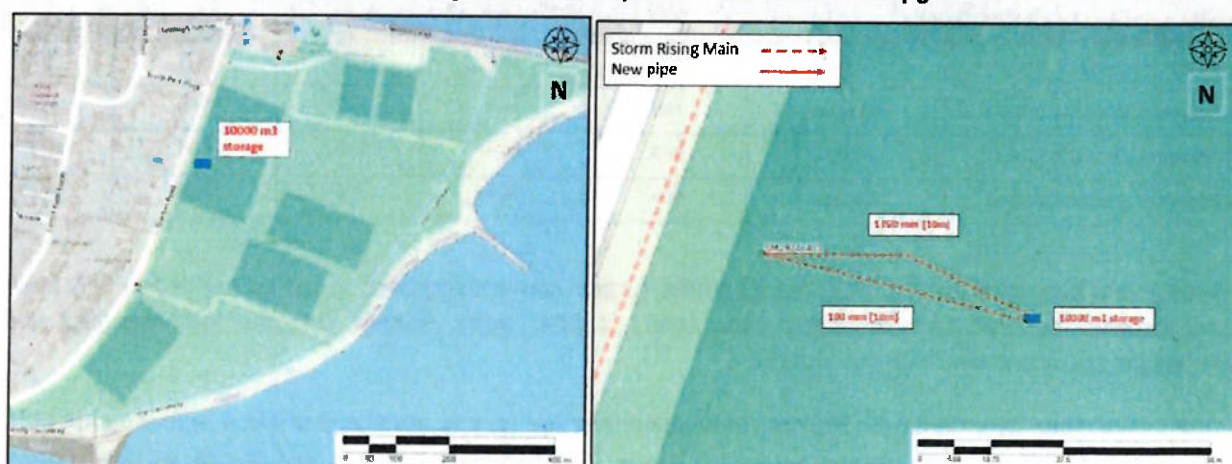


Figure 6-70: Long Walk SWO – All Options Surface Water Upgrades

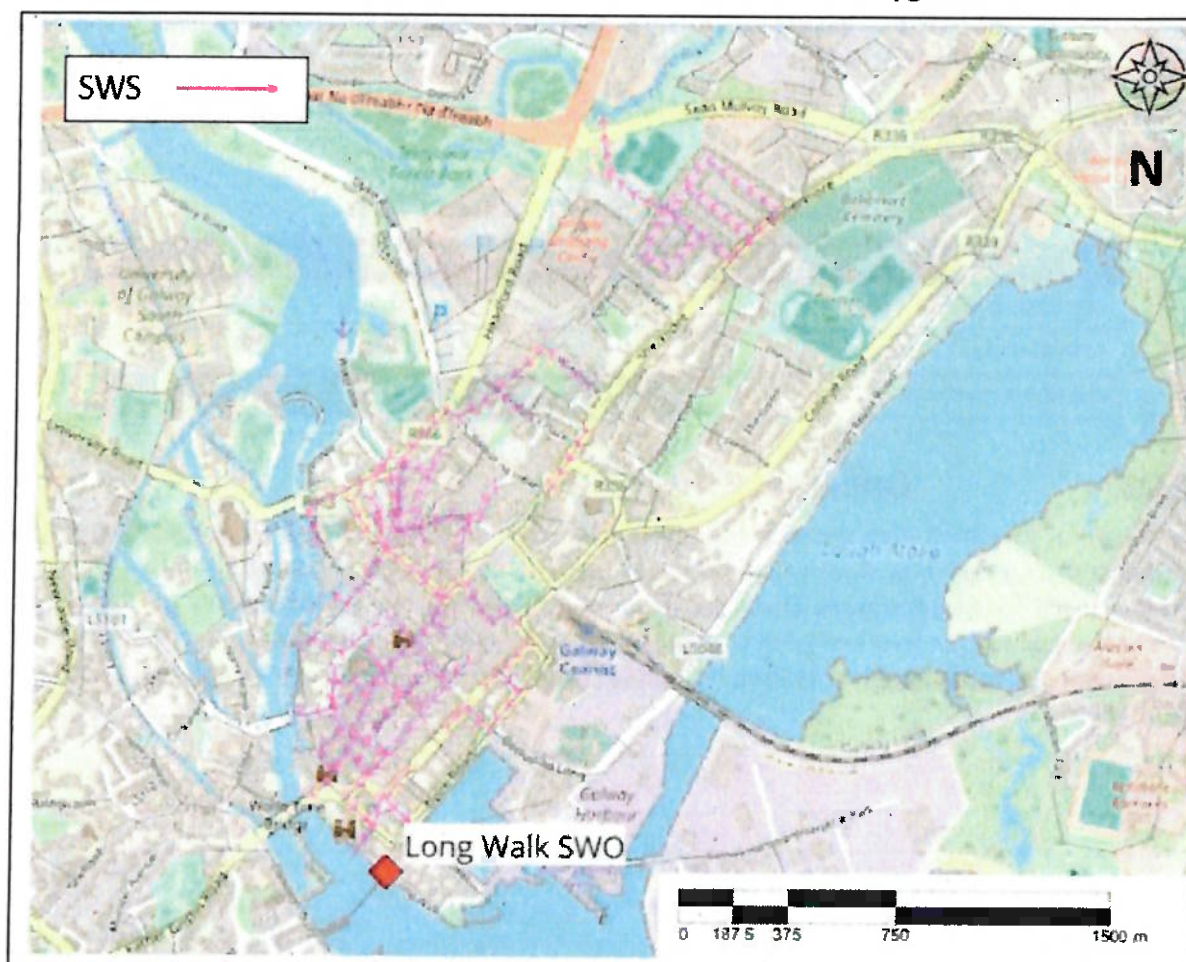


Table 6-130: Long Walk SWO - Upgrades Proposed as Part of Option 1

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New Storm Storage Tank with Storm Return Pumps	South Park	N/A	N/A	1	N/A	10,000m ³
Ancillary Upgrades: Control Panel, MCC, Telemetry, Fixed Screens etc.	South Park	N/A	N/A	N/A	N/A	N/A

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New Pipework (Surface Water)	Various	N/A	N/A	4250	N/A	300mm
New Pipework (Surface Water)	Various	N/A	N/A	1036	N/A	400mm
New Pipework (Surface Water)	Various	N/A	N/A	1060	N/A	600mm
New Pipework (Surface Water)	Various	N/A	N/A	459	N/A	900mm

Whilst this option did meet DoEHLG requirements, further network upgrades would be needed to fully meet environmental risk reduction requirements in terms of SWO spills. Furthermore, the following risks and challenges are associated with this Option:

- The drain down time for the new stormwater storage tank is in excess of UÉ's requirements (>12 hours) and in some instances during the 10-year TSR period the tank has not fully drained down before another storm event starts;
- Siting such a large tank within an amenity area may present a challenge at planning and construction stage. In addition to this, the site in question is located on reclaimed land and could present challenges with ground infiltration.

Environmental compliance results against DoEHLG criteria as well as TSR results for this option are summarised in Table 6-131 below.

Table 6-131: Long Walk SWO - Option 1 Results

Overflow Name	Long Walk SWO
Average Annual Spill Frequency	21
Average Annual Spill Volume (m³)	27,018
DoEHLG Compliance	Pass

6.24.3. Option 2

Like Option 1, Option 2 also involves the installation of approximately 6.8km of surface water sewer (300/400/600/900mmø) to facilitate separation of surface water from combined sewer upstream and reduce surcharge in the combined network. The option differs from Option 1 in that stormwater storage provided is in the form of online storage via a combination of upgrading of the existing sewer network, provision of new twin/relief pipework downstream and oversized online storage pipework. Works required as part of this option are shown below.

Figure 6-71: Long Walk SWO - Option 2 Foul/ Combined Upgrades (1)

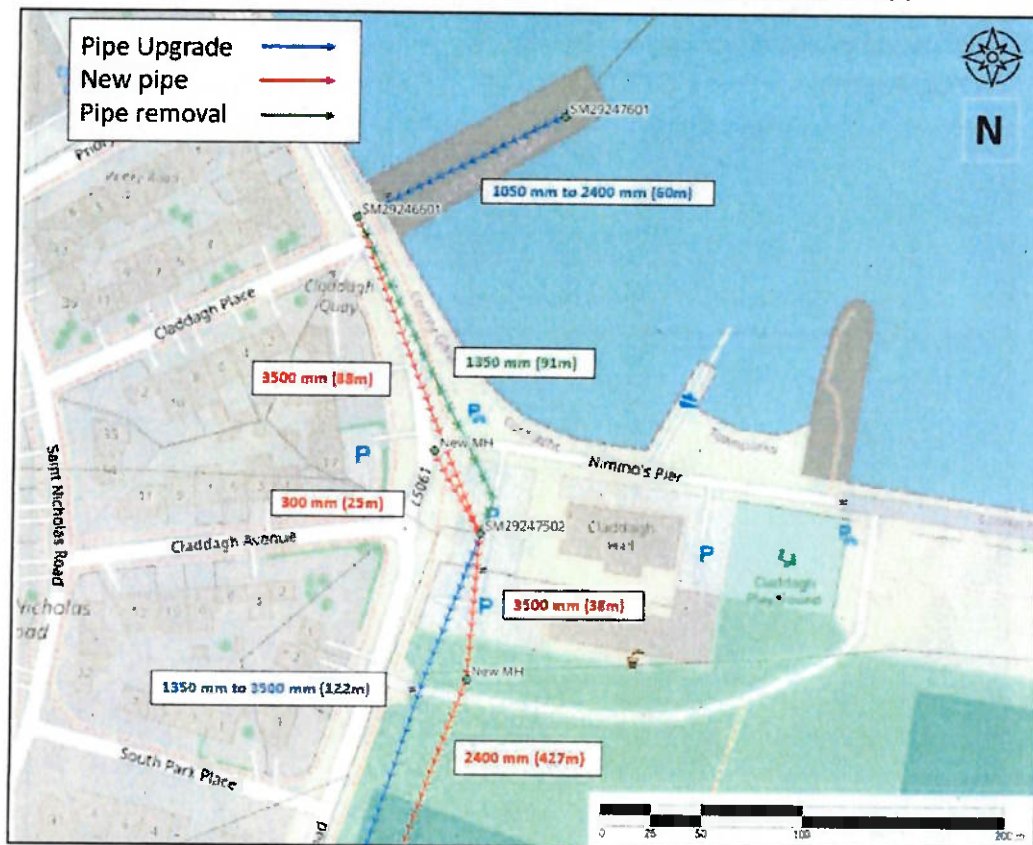


Figure 6-72: Long Walk SWO - Option 1 Foul/ Combined Upgrades (2)

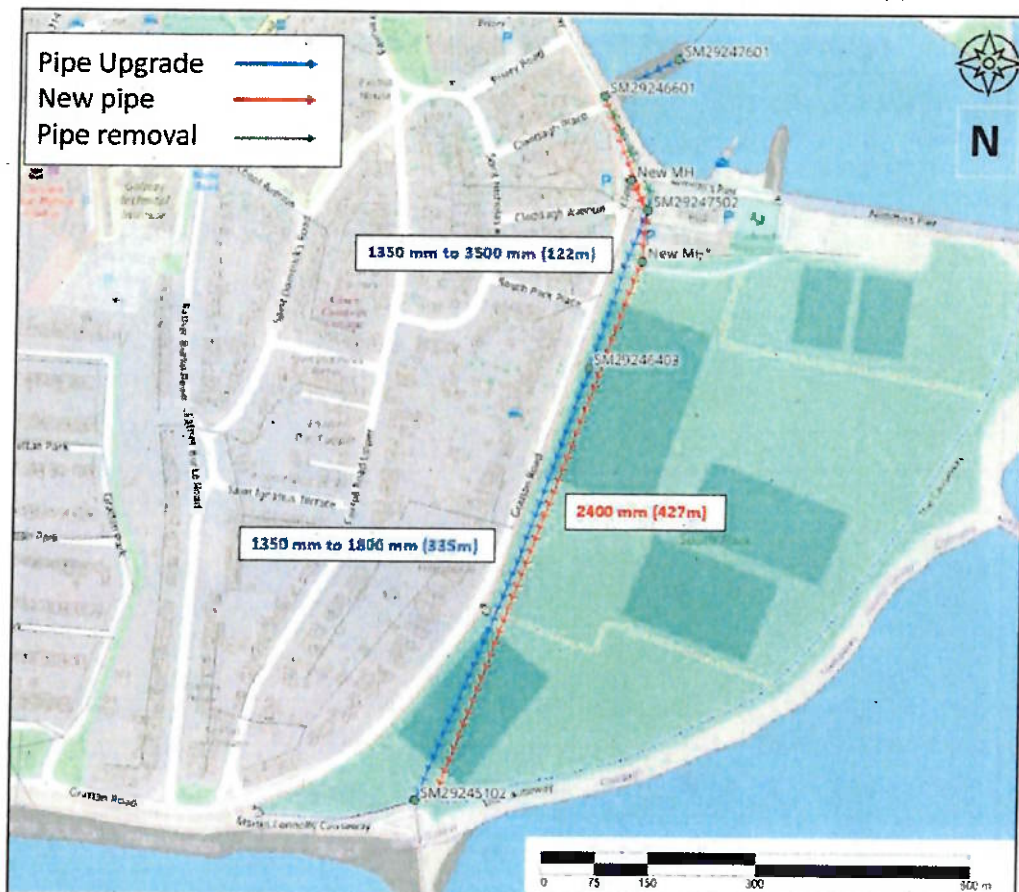


Figure 6-73: Long Walk SWO - Option 1 Foul/ Combined Upgrades (3)

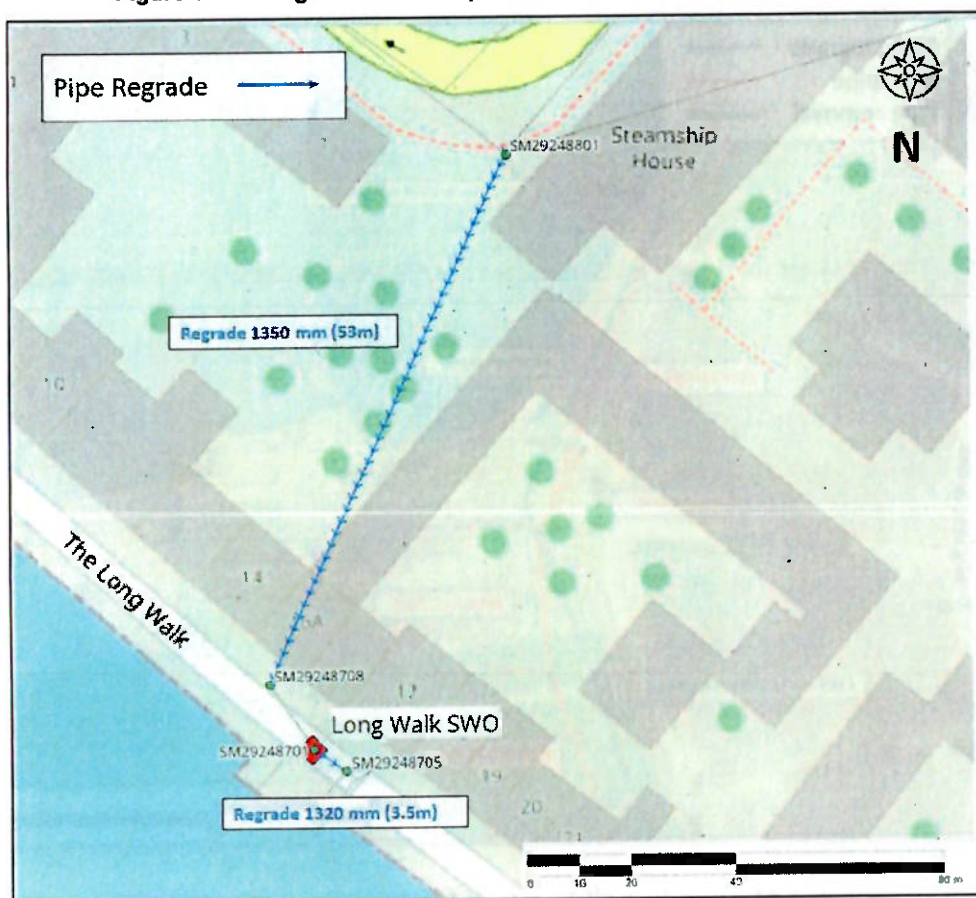


Figure 6-74: Long Walk SWO – All Options Surface Water Upgrades



Figure 6-75: Long Walk SWO - M30 Design Storm Long Section – Downstream of Siphon

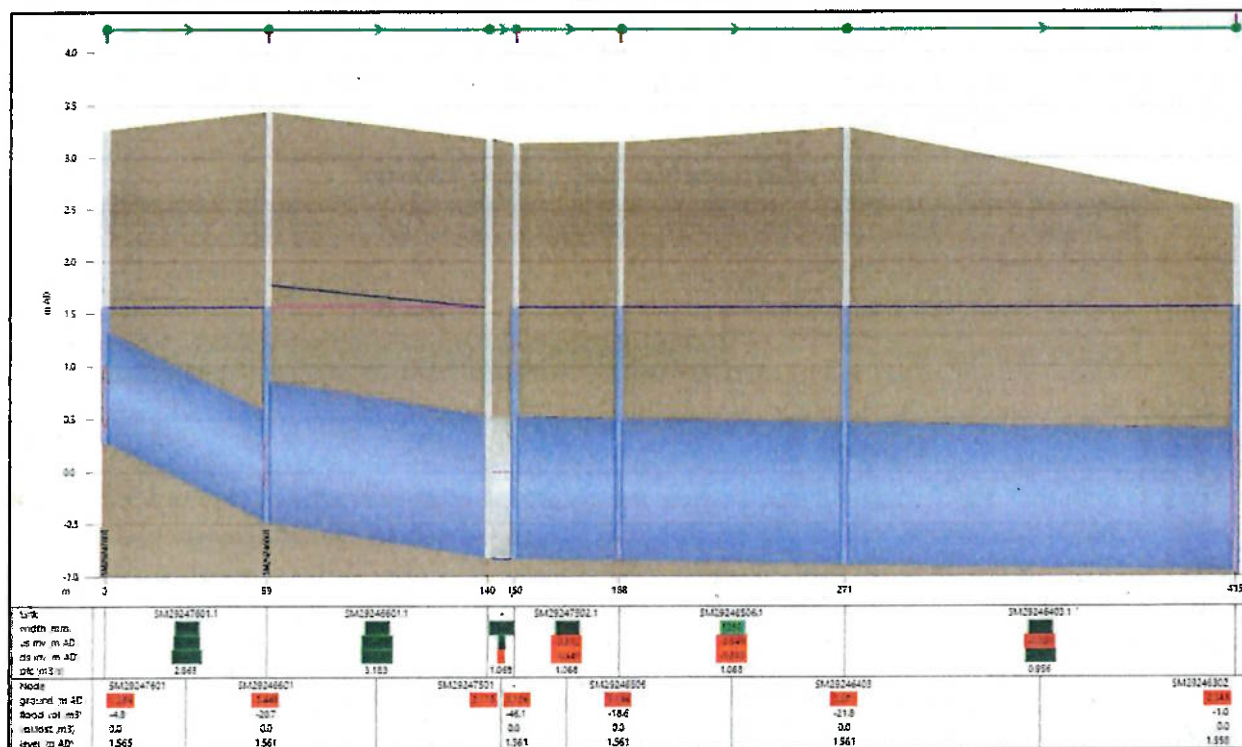


Table 6-132: Long Walk SWO - Upgrades Proposed as Part of Option 2

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New Pipework (Surface Water)	Various	N/A	N/A	4250	N/A	300mm
New Pipework (Surface Water)	Various	N/A	N/A	1036	N/A	400mm
New Pipework (Surface Water)	Various	N/A	N/A	1060	N/A	600mm
New Pipework (Surface Water)	Various	N/A	N/A	459	N/A	900mm
Pipeline Regrade (Foul/ Combined)	Long Walk	SM29248801	SM29248708	53	1350mm	N/A
Pipeline Regrade (Foul/ Combined)	Long Walk	SM29248701	SM29248705	3.5	1350mm	N/A
Pipeline Upgrade (Foul/ Combined)	Claddagh	SM29247601	SM29246601	60	1050mm	2400
Pipeline Decommissioning (Foul/ Combined)	Claddagh	SM29246601	SM29247502	91	1320mm	N/A
New Pipework (Foul/ Combined)	South Park/ Claddagh	SM29246601	SM29247502	88	N/A	3500mm
New Pipework (Foul/ Combined)	South Park/ Claddagh	New MH	SM29247502	25	N/A	300mm
New Pipework (Foul/ Combined)	South Park/ Claddagh	SM29247502	New MH	38	N/A	3500mm
Pipeline Upgrade (Foul/ Combined)	South Park/ Claddagh	SM29247502	SM29246403	122	1350mm	3500mm
Pipeline Upgrade (Foul/ Combined)	South Park/ Claddagh	SM29246403	SM29245102	335	1350mm	1800mm
New Pipework (Foul/ Combined)	South Park/ Claddagh	New MH	SM29245102	427	N/A	2400mm
Ancillary Upgrades including Fixed Screens	Long Walks SWO	N/A	N/A	N/A	N/A	N/A

This option successfully meets DoEHLG requirements and environmental risk reduction criteria concerning SWO spills. The additional downstream storage also complies with IW-TEC-800-01 standards (i.e. ensuring

either a PFF greater than Modified Formula A or, in cases where Formula A is not achieved, providing storage based on 2 hours at Modified Formula A).

Environmental compliance results against DoEHLG criteria as well as TSR results for this option are summarised in Table 6-133 below.

Table 6-133: Long Walk SWO - Option 2 Results

Overflow Name	Long Walk SWO
Average Annual Spill Frequency	5
Average Annual Spill Volume (m ³)	15,838
DoEHLG Compliance	Pass

6.24.4. Option 3

Similar to Options 1 and 2, Option 3 also involves the installation of approximately 6.8km of surface water sewer (300/400/600/900mm ϕ) to facilitate separation of surface water from combined sewer upstream and reduce surcharge in the combined network. Option 3 also includes for a new 750mm ϕ siphon across the river Corrib to increase the pass forward flow and reduce spills at the SWO chamber. Works require as part of this option are shown below.

Figure 6-76: Long Walk SWO - Option 3 Foul/ Combined Upgrades



Figure 6-77: Long Walk SWO - Option 3 Surface Water Upgrades

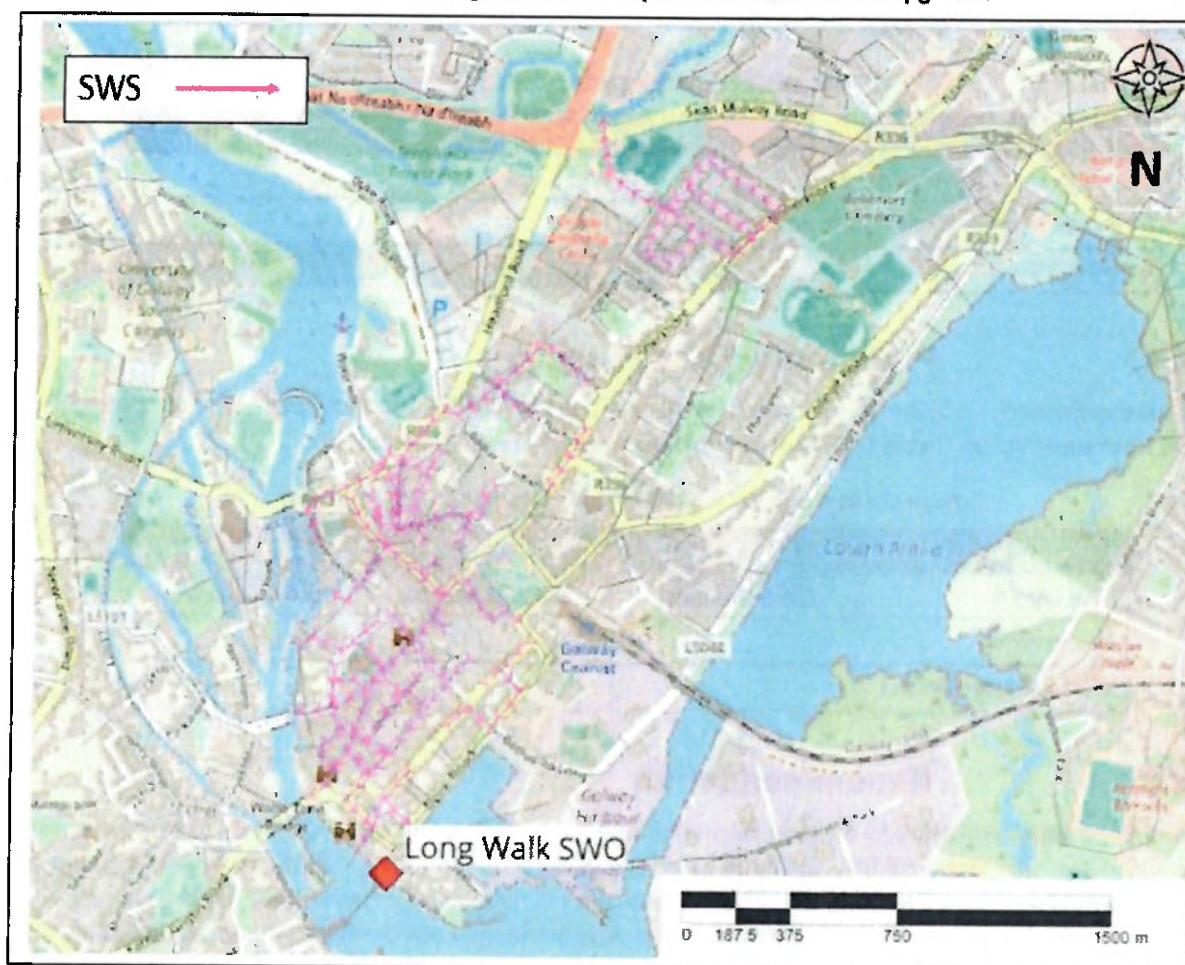


Table 6-134: Upgrades Proposed as Part of Option 1

Upgrade Type	Location/ Subcatchment	Upstream Manhole	Downstream Manhole	Quantity/ Length (m)	Current Size	Proposed Size
New Pipework (Surface Water)	Various	N/A	N/A	4250	N/A	300mm
New Pipework (Surface Water)	Various	N/A	N/A	1036	N/A	400mm
New Pipework (Surface Water)	Various	N/A	N/A	1060	N/A	600mm
New Pipework (Surface Water)	Various	N/A	N/A	459	N/A	900mm
New Siphon (Foul/ Combined)	Long Walk	SM29248707	SM29247601	133	N/A	750mm
Upgraded CSO Chamber and Reception Chamber	Long Walk and Claddagh Quay	SM29248707	SM29247601	2	N/A	250m³
Ancillary Upgrades including Fixed Screens	Long Walks SWO	N/A	N/A	N/A	N/A	N/A

This option did not meet the required risk reduction standards, indicating that additional network upgrades or storage would be necessary to achieve environmental risk reduction - preliminary testing suggested that the extent of additional upgrades would be similar to those in Option 2. Further analysis revealed that the primary cause of spills at the SWO was due to downstream surcharging between the SWO and Mutton Island WWTP, which backed up to the spill chamber. As a result, additional storage (as per Options 1 and 2) was identified as the most effective solution for addressing issues at the Long Walk SWO. Additionally, traversing the designated European Site within the [REDACTED] SAC would present environmental risks and challenges

Environmental compliance results against DoEHLG criteria as well as TSR results for this option are summarised in Table 6-135 below.

Table 6-135: Long Walk SWO - Option 2 Results

Overflow Name	Long Walk SWO
Average Annual Spill Frequency	22
Average Annual Spill Volume (m ³)	12,440
DoEHLG Compliance	Pass

6.24.5. Preliminary Cost Estimates

As detailed in Section 3.3.5, the UÉ IPS was used to estimate the CAPEX (Project Total), 20 Year Delta OPEX and WLC for each option. Table 6-136 below provides a summary of these costs.

Table 6-136: Long Walk SWO - Whole Life Costs – All Options

Element	Option 1	Option 2	Option 3
Total CAPEX			
20-Year OPEX			
20-Year Whole Life Cost			

6.24.6. Recommendation

Three options were evaluated to mitigate environmental risks associated with predicted spills at Long Walk SWO. Of these, only Option 2 fully meets the risk reduction requirements for SWO spills, while additional measures would be needed to bring the other options into full compliance. Additionally, Options 1 and 3 will likely face greater constraints regarding planning and environmental considerations. Based on these factors, Option 2 has been selected as the recommended solution for inclusion in the Strategic Recommended Options Model outlined in Section 9.

9.5. Phasing of Works

This section provides a proposed phased approach for implementing improvements detailed in the Strategic Recommended Options model. These preliminary, high-level suggestions require further detailed assessment to determine precise timing. Notably, some upgrades are essential to support anticipated development, though the timeline for this development is currently uncertain.

Additionally, certain improvements may be dependent on the concurrent completion of others. Therefore, Uisce Éireann is advised to re-evaluate these interdependencies before advancing individual work packages to the detailed design phase. The proposed interventions are organized by macro catchment, so each work package should undergo independent assessment during detailed design.

Table 9-11 below outlines the suggested timeline and the rationale behind the recommended implementation timing. The phasing is divided into two categories: "Short Term," for actions within 5 years of DAP completion, and "Medium/Long Term," for actions planned for more than 5 years post-DAP completion.

Table 9-11: Strategic Recommended Model Phasing

Intervention ID	Suggested Timeline	Primary Reasons for Timeline
D0050_01_RCZ_01	Short Term	Significant flood risk (>1,000m³ in 30 yr RP Storm) predicted within this intervention zone in both the current and short-term models (Refer to Table 3-4).
D0050_01_RCZ_03/04	Medium/ Long Term	- Comparatively small flood risk (in relation to other RCZs) predicted within this intervention zone in both the current and short-term models (Refer to Table 3-4). - Option involves some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timelines.
D0050_01_RCZ_05	Medium/ Long Term	- Comparatively small flood risk (in relation to other RCZs) predicted within this intervention zone in both the current and short-term models (Refer to Table 3-4). - Option involves some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timeline.
D0050_01_RCZ_06	Short Term	Uncomplicated and relatively low-cost solution that is considered feasible in the short term to mitigate current and short-term risks.
D0050_01_RCZ_07	Medium/ Long Term	Option involves extensive surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timeline.
D0050_01_RCZ_08	Short Term	Although the proposed upgrades are in the busy city centre, the scale of work required is comparatively modest. These upgrades would be beneficial in diverting flows away from the frequently surcharged Quay Street sewer.
D0050_01_RCZ_09	Short Term	Uncomplicated and relatively low-cost solution that is considered feasible in the short term to mitigate current and short-term risks.
D0050_01_RCZ_10	Medium/ Long Term	- Comparatively small flood risk predicted within this intervention zone in both the current and short-term models (Refer to Table 3-4). - Option involves extensive network upgrades that may require customer engagement and buy-in, along with a more comprehensive and time-intensive design process.
D0050_01_RCZ_11	Medium/ Long Term	- Comparatively small flood risk predicted within this intervention zone in both the current and short-term models (Refer to Table 3-4). - Option includes construction work that may present challenges in reconnecting backyard connections to the proposed new sewers, requiring careful planning and consideration. In the short term, Operational cleaning and jetting of these sewers is recommended as an interim measure for this intervention zone, as outlined in Section 8.1.1.
D0050_01_RCZ_12	Short Term	Uncomplicated and relatively low-cost solution that is considered feasible in the short term to mitigate current and short-term risks.
D0050_01_RCZ_15	Short Term	The scale of work required is comparatively modest with regard to the benefits in flood reduction in the current and short-term design horizons.
D0050_01_RCZ_16	Medium/ Long Term	Option involves extensive network upgrades in the busy city centre area that may require customer engagement and buy-in, along with a more comprehensive and time-intensive design process.
Michael Collins SWO	Short Term	- While the SWO currently complies with DoEHLG requirements, there are potential synergies with BusConnects Programme in the short term (see Section 6.2.4). - Uncomplicated and relatively low-cost solution that is considered feasible in the short term to mitigate risks.

Intervention ID	Suggested Timeline	Primary Reasons for Timeline
Renmore Park SWO/ Dublin Road SWO	Short Term	While the SWOs currently comply with DoEHLG requirements, discharges from both SWOs are predicted to significantly exceed 10 per annum in both the current and short-term design horizon (Refer to TSR Results in Appendix E).
Beach Avenue SWO & D0050_01_RCZ_13	Short Term	Discharges from the SWO are predicted to exceed 3 per bathing season and 10 per annum in the short-term horizon, indicating non-compliance with DoEHLG requirements (refer to TSR Results in Appendix E).
Mellow Park SWO	Medium/ Long Term	- SWO currently complies with DoEHLG requirements and discharges are not predicted to exceed 10 per annum in the short term design horizon. - Planning and land acquisition may be required for the new stormwater storage facilities, which could result in an extended timeline for design and approval processes.
Lough Atalia SWO	Short Term	- Potential synergies with BusConnects Programme in the short term as detailed in Section 4.1. - While planning and land acquisition may be required, utilising the new stormwater storage facilities to hold back flows could have benefits related to managing flow retention in the busy city centre subcatchment and addressing the poor performance of downstream SWOs, particularly at Long Walk and Claddagh Quay. - The NRV at Lough Atalia SWO significantly reduces predicted spill events. This aspect of the works offers a straightforward, low-cost solution that is feasible in the short term and effectively mitigates risks.
Oranmore PS SWO	Medium/ Long Term	While the SWO currently does not comply with DoEHLG, the interim solution recommended in Section 4.4 is deemed suitable for addressing the short-term needs.
Merlin Park 1 PS SWO & D0050_01_RCZ_130/132	Medium/ Long Term	The interim solution recommended for Oranmore PS in combination with Merlin Park PS is deemed suitable for addressing the short-term needs.
Merlin Park PS 2 SWO & D0050_01_RCZ_150	Medium/ Long Term	SWO currently complies with DoEHLG requirements and discharges are not predicted to exceed 10 per annum in the short term design horizon.
Glen Burren PS SWO	Medium/ Long Term	Overflow currently complies with DoEHLG requirements and discharges are not predicted to exceed 10 per annum in the short term design horizon.
Terryland River Valley PS SWO	Medium/ Long Term	SWO currently complies with DoEHLG requirements and 0 annual discharges are predicted in the short term design horizon.
Moneenageisha SWO	Medium/ Long Term	- While discharges exceed 10 per annum on average currently, the SWO currently complies with DoEHLG requirements. - Planning and land acquisition may be required for the new stormwater storage facilities, which could result in an extended timeline for design and approval processes. - Option involves extensive network upgrades in a busy city area as well as storage upgrades within private lands that may require customer/ stakeholder engagement and buy-in along with a more comprehensive and time-intensive design process.
Sandy Road SWO	Medium/ Long Term	- Risk increases associated with this pumping station are linked to the completion of significant upstream development, expected to occur largely in the medium term. Upgrades to the pumping station should be implemented as the development is realised. - Planning and land acquisition may be required for the new stormwater storage facilities, which could result in an extended timeline for design and approval processes.
Kingston Road SWO & D0050_01_RCZ_02	Medium/ Long Term	While the SWO currently does not comply with DoEHLG, the interim solution recommended in Section 4.3 is deemed suitable for addressing the short-term needs.
Gentian Hill PS SWO	Medium/ Long Term	- SWO currently complies with DoEHLG requirements and discharges are not predicted to significantly exceed 10 per annum in the short term design horizon. - Planning and land acquisition may be required for the new stormwater storage facilities, which could result in an extended timeline for design and approval processes.
Salthill SWO	Medium/ Long Term	SWO currently complies with DoEHLG requirements and discharges are not predicted to exceed 10 per annum in the short term design horizon.
Grattan Road SWO	Short Term	- SWO currently complies with DoEHLG requirements and discharges are not predicted to exceed 3 per bathing season or 10 per annum in the short term design horizon. - The proposed NRV offers a straightforward, low-cost solution that is feasible in the short term and effectively mitigates risks.
Dominick Street PS SWO	Short Term	- SWO currently exceeds recreational water discharge limits as predicted in the model and consequently does not comply with DoEHLG requirements. - Uncomplicated and relatively low-cost solution that is considered feasible in the short term to mitigate risks.
Parkavara PS SWO	Short Term	SWO currently exceeds recreational water discharge limits as predicted in the model and consequently does not comply with DoEHLG requirements.

Intervention ID	Suggested Timeline	Primary Reasons for Timeline
		Although construction and maintenance within the [redacted] grounds may introduce some complexity, the works are generally straightforward and low-cost, making them a feasible short-term solution to mitigate risks.
Dock Street SWO	Short Term	- SWO is currently predicted to spill in DWF and consequently does not comply with DoEHLG requirements. - Uncomplicated and low-cost solution that is considered feasible in the short term to mitigate risks.
Harbour Enterprise Park PS SWO	Short Term	Uncomplicated and low-cost solution that is considered feasible in the short term to mitigate risks.
Long Walk SWO	Medium/ Long Term	- Option involves extensive network upgrades in a busy city area that may require customer/ stakeholder engagement and buy-in along with a more comprehensive and time-intensive design process. - Option involves some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timelines.
Claddagh Quay SWO	Medium/ Long Term	- The interim solution completed in 2024 and described in Section 4.2 is deemed suitable for addressing the immediate short-term needs. - Option involves some surface water separation work and the installation of new surface water sewers, requiring coordination and design collaboration with the Local Authority (i.e., the responsible authority). This additional coordination is likely to extend the project timelines.
Mutton Island WWTW SWO	Medium/ Long Term	Proposed works at this SWO primarily address broader catchment risks, which are expected to increase due to growth and become relevant in the longer-term planning horizon.
D0050_01_HLRCZ_03	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.
D0050_01_HLRCZ_08	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.
D0050_01_HLRCZ_14	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.
D0050_01_HLRCZ_15	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.
D0050_01_HLRCZ_16	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.
SIP Alignment Upgrades (D0050_01_SIP_RCZ_03/ D0050_01_SIP_RCZ_30/ D0050_01_SIP_RCZ_79/ D0050_01_SIP_RCZ_106)	Medium/ Long Term	Lower confidence in risks which are associated with projected growth. The need for these upgrades should be reviewed and implemented as development progresses, if necessary.