



Allington Lane, Phase 3 DETENTION BASIN RISK ASSESSMENT

Vistry Western
July 2025

DOCUMENT CONTROL

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Appendix B Detention Basin Risk Assessment based on SuDS Manual Matrix

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1. INTRODUCTION

- 1.1. This Detention Basin Risk Assessment has been prepared on behalf of Vistry Southern in connection with proposals for a residential development in Fair Oak, Eastleigh. The residential development is located east of Allington Lane in the village of Fair Oak, Eastleigh. The location of the site is shown edged red on **Figure 1.1** below.



Figure 1.1: Site Location Plan

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- 1.2. A full planning permission for the development of 35 no. dwellings supported by the provision of associated infrastructure, hard and soft landscaping, open space and drainage was granted on 27 October 2022, subject to a number of planning conditions (Planning Ref: F/21/91132).

- 1.3. Planning condition 16 states:

“Within 2 months of the completion (including landscaping) of any ponds, lakes or above ground attenuation features forming part of the sustainable drainage system hereby approved, details of a risk assessment addressing the need for any fencing around the features shall be submitted to and agreed in writing by the Local Planning Authority. The submitted details shall include a timetable for implementation of any required fences and the approved details shall be carried out in full.”

- 1.4. The purpose of this report is to provide sufficient information to support the discharge of planning condition 16. The detention basin located within the surface water drainage scheme for the site prepared by PFA Consulting is set out in Drawing No. V063/55 and a copy is contained in **Appendix A** and described below.

2. DETENTION BASIN RISK ASSESSMENT

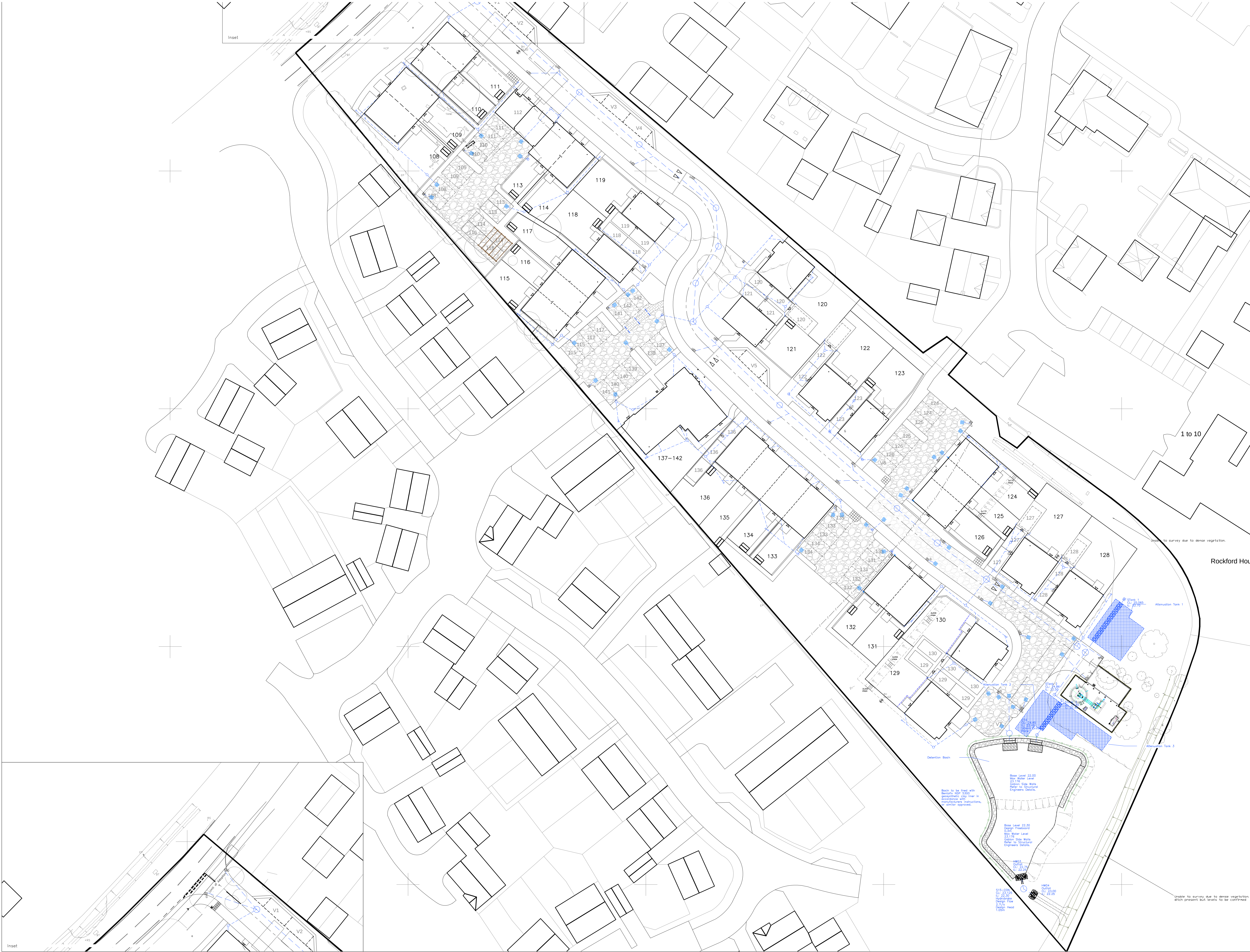
- 2.1. A basic risk assessment has been carried out below concerning the risks associated with the attenuation basin. A more comprehensive risk assessment using the risk assessment template contained within the SuDS manual has been included in **Appendix B**.
- 2.2. The risk assessments show that the fencing is an important factor in mitigating any risks posed by the detention basin by providing a visible barrier to the steepest sides of the basin.
- 2.3. The fencing around the steeper slopes of the basin will be installed within 2 months of the completion of the landscaping. Cross sections for the detention basin are shown in drawing no. V063/41 Rev C reproduced in **Appendix C**.
- 2.4. The risk assessments are intended to be living documents and should be reviewed regularly in line with any changes to the site, its users or following any incidents or accidents.

Table 2.1: Risk Assessment

Hazard	Risk	People at risk	Risk rating (low, medium, high)	Precautions / Controls	Risk after controls (low, medium, high)
Visibility of basin	Accidental entry in to basin, drowning	Site users, maintenance personnel	High	Fencing to prevent access to steepest parts of basin and provide additional visibility. Fencing to be installed within 2 months of the completion of the landscaping.	Low
Deep water	Drowning	Site users, maintenance personnel	Medium	Fencing to prevent access to steepest parts of basin, basin outlet has 1:3 slope to allow access for maintenance. Advisory signage to warn of rising water and steep sides. Life ring to be installed.	Low
Steep slope/uneven ground	Physical injury, trips	Site users, maintenance personnel	Medium	Fencing to prevent access to steepest parts of basin, basin outlet has 1:3 slope to allow access for maintenance	Low
Slips/trips/falls	Physical injury, death	Site users, maintenance personnel	Medium	Fencing to prevent access to steepest parts of basin, basin outlet has 1:3 slope to allow access for maintenance	Low
Fall from height in to basin	Physical injury, drowning, death	Site users, maintenance personnel	High	Fencing to prevent access to steepest parts of basin, basin outlet has 1:3 slope to allow access for maintenance. Advisory signage to warn of rising water and steep sides. Life ring to be installed.	Low

3. SUMMARY

- 3.1. This risk assessments contained above and in **Appendix B** address the need for fencing around attenuation basin and the details and timetable for which it will be installed.



FOR INFORMATION

This drawing is produced for initial discussion and illustrative purposes only, and should not be relied upon for tender or pricing purposes.

0m10m

Scale 1:250

North Arrow

DRAINAGE NOTES

1. All drainage works shall be constructed in accordance with the Design and Construction Guidance (DCG) published by Water UK. Any conflict between the proposals and the DCG then the DCG shall override.

2. Sewers and drains of different diameters should be laid soffit to soffit unless specified otherwise.

3. The Contractor shall verify the Invert levels of any existing inspection chamber/manhole or pipe, where drainage connections are to be made, prior to commencement of drainage works. Any discrepancies with levels and gradients shown on the construction issue drawings must be reported to PFA Consulting and the Contractor shall seek clarification regarding any construction issue prior to continuing the drainage works.

4. All dimensions shown in millimetres (mm) unless otherwise stated, and all levels relate to Ordnance Datum.

5. The backfilling of drainage trenches which are in close proximity to foundations must be in accordance with any special requirements set out by the Structural Engineer.

6. All in-situ concrete and precast concrete components shall be designed to BRE Special Digest 1 Concrete in aggressive ground. Concrete shall be to BS5500.

7. Pipes built into manholes should have a flexible joint as close as feasible to the external face of the structure and the length of the next rocker pipe should be:

Nominal Diameter (mm)	Rocker Pipe Length (M)
150 - 400	0.80
401 - 750	1.00
Over 750	1.25

8. Pipe materials to be twin wall plastic pipe which must comply with the following standards:

- Solid Wall PVC-U to BS EN 1401
- Spiral Wound Wall HDPE to EN 13476 Parts 1 & 2
- Structure-wall Thermoplastic to EN 13476 Parts 1 & 2
- Polypropylene to BS EN 1852

9. All gully tops and manhole covers shall comply with BS EN 124 and BS 7903. Class D400 covers shall be used in carriageways, parking areas, private drives and footways/pedestrian areas.

10. Manholes within the carriageway must be positioned such that covers are not located within the wheel tracks. The ideal positions are 1/4 of the carriageway width from either kerb line. However, consideration must be made for motorcyclists so as to prevent the manhole cover becoming a slip hazard, particularly in wet conditions.

11. The management and maintenance of all drainage features are the responsibility of the management company. This includes the detention basin, attenuation tanks, permeable subbase and all surface water drains with the exception of those located within individual property curtilages.

Key

Surface Water Sewer & Manhole to be adopted by the management company

Permeable Sub-Grade Construction to be maintained by management company

Attenuation Tank to be maintained by management company

Permeable Diffuser Unit

Rev

Date

Description

Drawn

Check

1

01/10/2024

Final Issue

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Client

Vistry Group

Project

Allington Lane Phase 3

Drawing Title

Drainage Management and Maintenance

Sheet 1 of 1

Rev #

Drawing No.

V063/55

E-Mail:

scosgrove@pfaconsulting.co.uk

A0

1 to 10

Rockford Hou

Attenuation Tank 1

Attenuation Tank 2

Attenuation Tank 3

Detention Basin

Basin to be fixed with permeable subbase in accordance with manufacturer's instructions or as approved.

Basin Level 22.00

Basin Level 22.30

Basin Level 22.30

Basin Level 22.30

Basin Level 22.30

ALLINGTON LANE, PHASE 3, FAIR OAK, EASTLEIGH

DETENTION BASIN RISK ASSESSMENT

Document Control

Issue	Ref	Prepared By	Checked By	Approved By	Date	Comments
1	V063-TN01	SLC	PMC	PMC	21.07.25	

1. SuDS Risk Assessment Matrix

Table 1.1: SuDS risk assessment matrix

		Consequence				
		Insignificant	Minor	Moderate	Major	Extreme
Likelihood		No injury or health effects	Minor injury or health effects	Injury but not life threatening Some ill health effects	Serious injury Dangerous near miss Serious ill health	Serious injury or death Serious life threatening disease
Almost certain (frequent)	Is expected to occur/ recur frequently or within a short period of time (most weeks or months)	M	M	H	E	E
Likely (probable)	Will probably occur/recur in most circumstances (several times a year)	L	M	H	H	E
Possible (occasional)	Will probably occur/recur occasionally (once every few years)	L	M	M	H	H
Unlikely (uncommon)	Uncommon might occur/recur at some time in the future	L	L	M	M	H
Rare (remote)	Unlikely to occur/recur May only happen in exceptional circumstances	L	L	L	L	M

Table 1.2: SuDS risk assessment matrix key

Risk	Action
Extreme risk (E)	Design stage – not acceptable – design must be changed Management stage – immediate attention and response needed to reduce the level of risk
High risk (H)	Design stage – not acceptable – design must be changed Management stage – attention and response needed to reduce the level of risk
Medium risk (M)	Design stage – review if it is practical and reasonable to change design to reduce level of risk Management stage – review options to see if there are practical and reasonable options to reduce risk
Low risk (L)	Design stage – acceptable – no changes required Management stage – no response needed to reduce level of risk, continue to review on regular basis

2. SUDS HEALTH AND SAFETY RISK ASSESSMENT CHECKLIST

Table 1.3

Site/system overview	
Site ID	Allington Lane Phase 3
Asset ID	Basin
Location	SU 48824 17929
SuDS component	Basin
Assessment date	
Date of next assessment	
Establish context	
General description of component and its operation	Attenuation basin with forebay
Identify potential hazards	Are hazards present? (Y/N)
Drowning or falling through ice in winter	Y - see table 1.4
Slips, trips and falls	Y – see table 1.5

Table 1.4: Risk assessment for drowning or falling through ice in winter

Consider factors that might affect: • the likelihood of people entering the water/accessing the ice • the potential consequence of entering the water/accessing the ice	Summary of influence of factor on likelihood of entry/access including justification (consider for children < 5 years, children ≥5 years, adults)	Summary of influence of factor on consequence of entry/access including justification (consider for children < 5 years, children ≥5 years, adults)
Environmental factors		
Proximity to populated areas: schools, inns, retail/tourism, picnic areas, play areas, car park, roads, especially attractive features likely to be visited	Unlikely – no direct access to pond from any populated area	Major
Features allowing or encouraging access (eg paths)	Rare – no paths although accessible	Moderate
Physical accessibility of proposed drainage feature: consider intended use and inadvertent access including of small children	Unlikely – fencing prevents / discourages access from vertical sides	Extreme
Visibility and natural surveillance of proposed drainage features	Rare – Regular maintenance of vegetation around pond Fence increases pond visibility	Extreme

Behavioural factors		
Category and volume of expected users: swimmers, anglers, walkers, drivers, specialist water users, General public, dog walkers, teenagers, accompanied/unaccompanied children	Rare - Low gradients in accessible areas and planting to discourage	Moderate
Nature of development housing, commercial, industrial etc	Rare - Residential	Extreme
Any known existing risks eg records of accidents posed by water/drainage features at or close to the site?	Rare - None known	Minor
Design factors – water's edge		
Type and nature of water-edge planting	Remote risk of undefined waters edge – to be planted and maintained to be in line with SuDS manual guidelines and maintenance and management set out in doc ref V063-DOC01	Major
Definition of water edge and nature of ground eg soft/hard	Remote risk of undefined waters edge – to be planted and maintained to be in line with SuDS manual guidelines and maintenance and management set out in doc ref V063-DOC01	Major
Natural obstacles, barriers/fencing	Remote risk – fencing around steepest parts of the basin to prevent/discourage entry	Moderate
Height of edge above water	Unlikely - although the highest edge above the max design water level is 1.3m, fencing will prevent access to steepest parts	Extreme
Gradient and extent of slopes above, at and below water level	Vertical side slopes obstructed by fencing, 1:3 slope on accessible entrance	Extreme
Design factors – water body		
Water depth profile	Uncommon - Maximum permanent water 300mm. Max water level is 1.176m. Life ring and advisory signage to be installed	Major
Water surface area	Uncommon - Maximum permanent water in forebay 300mm - not easily accessible due to fencing, remainder of pond will only contain water immediately after rainfall event	Moderate
Clarity	Uncommon - Maximum permanent water in forebay 300mm - not easily accessible due to fencing, remainder of pond will only contain water immediately after rainfall event	Major
Underwater obstacles or traps	Rare	Major

Potential currents, velocities	Rare	Moderate
Potential increase in depth of water and rate of rise	Rare	Extreme
Potential for ice formation and significant depth of water below in winter	Uncommon - Maximum permanent water in forebay 300mm - not easily accessible due to fencing, remainder of pond will only contain water immediately after rainfall event	Extreme
Public education		
Signage	Likely – advisory signage to warn of rising water levels and steep sides	Moderate
Community engagement strategies	Rare	Minor
Local education strategies (eg schools)	Rare	Minor
Overall assessment of likelihood of entry/access and consequences	Likelihood	Consequence
Children < 5 years Children ≥ 5 years Adults	Rare - Likely	Minor - Extreme

Table 1.5: Summary of risk assessment for drowning or falling through ice

Group	Likelihood of entry to water	Likely consequence of entry to water	Overall level of risk posed by the design	Further mitigation measures required	Action date	Final level of risk
Children < 5 years	Rare	Extreme	Medium	n/a		Medium
Children ≥ 5 years	Rare	Extreme	Medium	n/a		Medium
Adults	Rare	Extreme	Medium	n/a		Medium

Table 1.6: Risk assessment for slips/trips/falls

Factors that might affect likelihood of people slipping/tripping/falling	Summary of influence of factor on likelihood of entry/access including justification (consider for children < 5 years, children ≥5 years, adults)	Summary of influence of factor on consequence of entry/access including justification (consider for children < 5 years, children ≥5 years, adults)
Design factors – inlets and outlets or channels		
Headwall or channel location	Uncommon	Extreme
Headwall height or channel depth and width	Uncommon	Extreme
Slope of headwall or channel profile	Uncommon	Extreme
Channels - profile and risk of freezing water	Uncommon	Extreme
Design factors – surfaces		
Level changes	Unlikely	Minor
Surfacing materials	Unlikely	Minor

Table 1.7: Summary of risk assessment for slips/trips/falls

Group	Likelihood of slips/trips/falls/ other injury	Likely consequence of slips/trips/ falls/ other injury	Overall level of risk posed by the design	Further mitigation measures required	Action date	Final level of risk
Children < 5 years	Rare	Extreme	Medium	n/a		Medium
Children ≥ 5 years	Rare	Extreme	Medium	n/a		Medium
Adults	Rare	Extreme	Medium	n/a		Medium

