



Housing Health and Safety Rating System (HHSRS)

Group A
Protection Against
Accidents

Example A6.2
Pre-1920
Ground-floor Flat
(Non-HMO)

Vulnerable Group
Persons of all ages

Multiple Locations
No

Related Hazard Falls on the Level	A1	Related Hazard Damp and Mould Growth	B11
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Case Studies

Hazard A6
Collisions, Entrapment
and Ergonomics



Dwelling

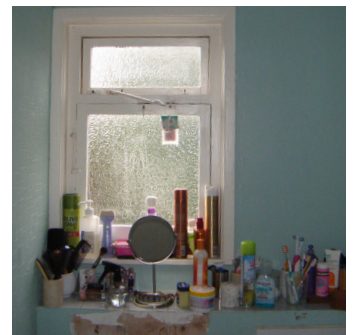
Description

This is a large, three-storey, stone-built Victorian house which has been converted into self-contained flats. The ground-floor flat has its bathroom at the rear of the building. Within this room, the bath, wash-hand basin and WC are all close to one another along the external wall, to minimise the pipe runs to a soil pipe in the corner of the room.



1
Front elevation of property

Photo: pxl.store
Shutterstock.com



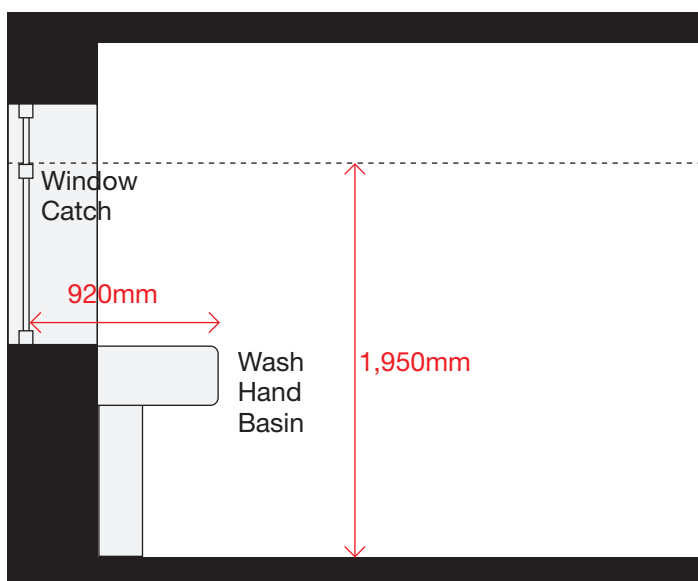
2
Bathroom window over
the wash-hand basin

Deficiencies

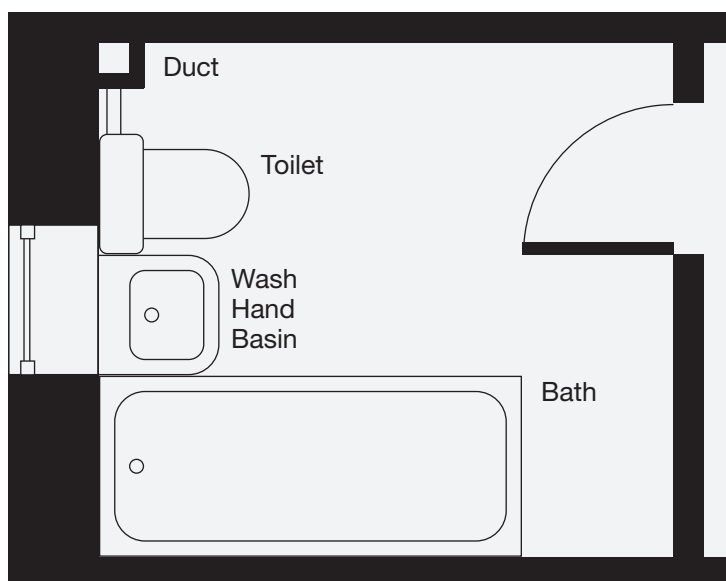
Description

The window is set on the external face of the thick, rear stone wall and has an internal tiled shelf at the back of the wash-hand basin in addition to the windowsill. The window itself comprises a fixed light with a shallowly opening top-hung casement above, both fitted with obscure, single-pane glazing which is not safety glass. The hinges have rusted, meaning a firm push or pull is needed when opening or closing the window.

The window catch on the opening light is positioned above the deep-tiled sill, in such a position that anyone wishing to use it has to lean across the combined depth of the sink, shelf and windowsill. Closing the catch on the window requires the window to be pulled, then the handle to be pushed against the frame to engage the catch. The opening window provides the sole means of ventilation for the bathroom, which suffers from mould growth.



3
Vertical section of
bathroom



4
Plan view of
bathroom

Relevant Baseline Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject	Score	BI	Baseline Indicator
1 Structural Condition	0 1 2 3	1.1	Externally, every foundation, roof, ridge line, flashing, fascia, soffit and barge board, exterior staircase, exterior wall/fence shall be safe to use and capable of supporting the intended design loads and load effects and shall be in a proper state of structural repair. Internally, every wall, floor, ceiling, inside stair, porch, accessory structure, door, window and window glass shall be safe to use and capable of supporting the intended design loads and load effects, and shall be in a proper state of structural repair.
4 Sanitary Facilities: Bathroom	0 1 2 3	4.8	Ventilation for the bathroom must be provided by mechanical extraction that is ducted to the outside of the building, in line with Baseline Indicator 16.1.
8 Internal Doors	0 1 2 3	8.1	Internal doors leading between areas of a single dwelling must provide a sufficient barrier to the spread of smoke and fire (where appropriate). Any glazing in doors must respond safely to collision and must be designed for functionality to avoid strains or entrapment when in use, and must be maintained in good repair. All bathrooms and WC room doors must be fitted with a suitable lock and must not contain clear glass.
11 Security	0 1 2 3	11.5	All door and window frames and furniture shall operate properly and be in a good state of repair, with no open joints or compromised seals between the windows/doors and adjacent walls.
13 Guards	0 1 2 3	13.1	Every stairway, porch, patio, landing, balcony walkway, terrace and hall located more than 600mm above an adjacent area shall have a structurally sound guard, between 900mm and 1100mm high, measured vertically from the floor. The guard shall be firmly fastened, capable of supporting normally imposed loads and in good condition. Balusters with a minimum thickness of 10mm shall be placed at intervals that do not allow passage of a sphere greater than 100 mm in diameter. There shall be no climbable cross-pieces.
	0 1 2 3	13.2	All windows with an opening section greater than 100mm, through which a person may fall a single storey or more, shall have a fall-prevention device that restricts opening to less than 100mm. It must be possible to overcome this restriction easily when the windows in question are required to be escape windows, under the building regulations.

Relevant Baseline
Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject		Score				BI	Baseline Indicator
16	Ventilation	0	1	2	3	16.1	The air exhausted from a bathroom, WC room, kitchen, clothes dryer or basement must be provided by mechanical ventilation or by a correctly designed and installed natural ventilation system, as required by Part F of the Building Regulations. In addition, it shall not be vented into any other parts of the building's habitable space or an attic; such air shall discharge directly to the outdoors but not near any intake on the building exterior.
		0	1	2	3	16.4	All means of ventilation shall be maintained in good repair and working order.

Other Relevant Matters

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Score					Matters affecting Likelihood of Harm
0	1	2	3		Door-closers
0	1	2	3		Door location
0	1	2	3		Door headroom
0	1	2	3		Window design
0	1	2	3		Window location
0	1	2	3		Headroom or projections
0	1	2	3		Amenity position
0	1	2	3		Amenity space
0	1	2	3		Kitchen worktops
0	1	2	3		High-level storage
0	1	2	3		Electric switches
0	1	2	3		Electric sockets
0	1	2	3		Light fittings

Score					Matters affecting Harm Outcomes
0	1	2	3		Door-closers
0	1	2	3		Door location
0	1	2	3		Door headroom
0	1	2	3		Window design
0	1	2	3		Window location
0	1	2	3		Headroom or projections
0	1	2	3		Amenity position
0	1	2	3		Amenity space
0	1	2	3		Kitchen worktops
0	1	2	3		High-level storage
0	1	2	3		Electric switches
0	1	2	3		Electric sockets
0	1	2	3		Light fittings

Likelihood of Harm

Scale Points

Likelihood of harm from this hazard over the next twelve months

Very Likely		1 in 1
		1 in 2
		1 in 3
		1 in 5
Likely	Example Dwelling	1 in 10
		1 in 20
		1 in 30
	National Average	1 in 50
Unlikely		1 in 100
		1 in 200
		1 in 300
		1 in 500
Very Unlikely		1 in 1,000
		1 in 2,000
		1 in 3,000
		1 in 5,000
Score 1 in 10		

Justification of Scoring

Likelihood of Harm

The top-hung casement window is the only means of ventilating the room. Given the layout of bathroom amenities and the position of the openable window, it is incredibly challenging for occupants to reach and open. In addition, the hinges have rusted, making opening and closing even more of an ordeal, and the handle must be secured tightly against the frame before it can engage the catch. The window catch is positioned above the tiled shelf and sill, which has the additional obstacle of the sink positioned in front.

There is therefore an increased risk of strains from reaching across the wash-hand basin and then pulling and pushing at the window from an awkward angle to overcome resistance from the rusted hinges. It may necessitate balancing on the toilet pan or the bath to reach the handle. The force required to overcome the rusted hinges could cause fingers to be trapped between the window and frame, or a hand to slip from the handle and hit the glass, resulting in lacerations and risk of blood loss from damaging an artery or vein near the wrist. In practice, the window will be opened less often, thereby increasing likelihood of harm from the related hazard Damp and Mould Growth.

As such, the likelihood of an event resulting in harm over the next 12 months is increased from the national averages.

Harm Outcomes

Extreme		Severe		Serious		Moderate		
Death, permanent paralysis, etc.		Heart attack, serious fractures, etc.		Chronic stress, severe concussion, etc.		Broken fingers, moderate cuts, etc.		
Very Likely	50.0	Very Likely	50.0	Very Likely	50.0	Example Dwelling	78.0	
	30.0		30.0		30.0			
	20.0		20.0		Example Dwelling	20.0		
Likely	10.0	Likely	10.0	Likely			10.0	
	5.0		5.0		5.0			
	2.0		Example Dwelling		2.0	2.0		
Unlikely	1.0	Unlikely	1.0	Unlikely	1.0	These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%		
	0.5		0.5		0.5			
	0.2		0.2		0.2			
Very Unlikely	0.1	National Average	0.1	Very Unlikely	0.1			
	Example Dwelling + National Average		0.0		0.0			
Score		Score		Score			Score	
0.0%		2.0%		20.0%			78.0%	

Justification of Scoring

Harm Outcomes

'Severe' and 'Serious' harms have been increased to reflect the higher risk of injury as a result of the glazing shattering if the top-hung casement is pushed or pulled too hard. Also taken into consideration is possible injury caused by trying to reach the window catch.

Safety Ratings

Scenario 1
As described in this document

Key

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
	Low	100

Likelihood of Harm 1 in 10			
Extreme 0.0%	Severe 2.0%	Serious 20.0%	Moderate 78.0%
Category	Band	Score	
1 Legal duty to take action	High	10,000	
2 Discretion to take action	Medium	1,000	
	Example Dwelling	878	
	Low	100	
	National Average	51	

Score
878

Scenario 2

After works meeting baseline indicators

Likelihood of Harm
1 in 50

Extreme 0.0%	Severe 2.0%	Serious 20.0%	Moderate 78.0%
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Category	Band	Score
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1 Legal duty to take action	High	10,000
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2 Discretion to take action	Medium	1,000
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Example Dwelling	176
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Low	100
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National Average	51
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Score

176**Scenario 3**

After further improvements

Likelihood of Harm
1 in 100

Extreme 0.0%	Severe 0.1%	Serious 5.0%	Moderate 94.9%
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Category	Band	Score
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1 Legal duty to take action	High	10,000
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2 Discretion to take action	Medium	1,000
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Low	100
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National	51
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Example Dwelling	25
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Score

25**Justification of Scoring**

After works meeting baseline indicators

Works to comply with the baseline indicators would require repair of the catch to allow the window to be operated in the manner intended, making it easier to open the casement and therefore reducing some of the risk related to having to push or pull with significant force. Installation of a mechanical extract fan with overrun or humidity control would remove or reduce the need to open the window. However, the layout of the bathroom and position of the window is still an issue, and therefore the likelihood remains high, as does the risk of collision and fall.

Justification of Scoring

After further improvements

Relocating the amenities by moving the wash-hand basin to the side wall opposite the bath would remove any obstruction to the window for opening, closing and cleaning purposes. This would improve the score to a value better than the national average.

Other Relevant Legislation and Guidance

Updates

Matters for consideration listed in this section were correct at the time of publication. For the most up-to-date legislation and guidance in these areas, please visit the [gov.uk](https://www.gov.uk) website.