

Fire Statement Form

Deal Ground & May Gurney Site

Bracondale, Norwich



Design stage:

Planning Gateway 1

21st June 2023

MUK10130 – Issue 01

Application information

Scope of Fire Statement

Deal Ground and May Gurney is an extensive residential development located between the River Wensum and River Yare in south-east Norwich. This features a mixture of both residential dwellinghouses and residential mixed-use apartment buildings.

In accordance with the application guidance provided for Planning Gateway One, this fire statement report considers only those residential blocks featuring either seven residential floors or any single residential floor located at greater than 18 m above ground level on the lowest side of the building.

The proposed buildings at Deal Ground and May Gurney which meet the above condition for the application of Planning Gateway One are located within the Wensum Edge portion of the site, as summarised in Sections 5 and 6 of this report. All other buildings proposed at the Deal Ground and May Gurney sites that are not detailed within this Planning Gateway 1 Fire Statement are considered to be outside the scope of this form. The fire strategy for all buildings remains subject to review and approval by an appointed building control body during the detailed design and Building Regulations approval process.

1. Site address

Site address line 1: Deal Ground & May Gurney Site

Site address line 2: Bracondale

Site address line 3:

Town: Norwich

County:

Postcode:

2. Description of proposed development

Description of proposed development including any change of use (as stated on the application form):

The proposal seeks the approval of the reserved matters for application ref: 12/00875/O and 2011/0152/O in relation to scale, layout, appearance and landscaping pursuant to outline planning application (full details of access) for a mixed development consisting of a maximum of 670 dwellings; a local centre comprising commercial uses (A1/A2/A3): a restaurant/dining quarter and public house (A3/A4); demolition of buildings on the May Gurney site (excluding the former public house); an access bridge over the River Yare; new access road; car parking; flood risk management measures; landscape measures inc earthworks to form new swales and other biodiversity enhancements including the re-use of the Grade II Listed brick Kiln for use by bats.

3. Person completing the fire statement

Name of person completing the fire statement (as Section 15.), relevant qualifications and experience:

Mr Andrew O.M. Ballantyne, on behalf of Mu.Studio (UK) Ltd.

Andy is a Chartered Engineer registered with the Engineering Council by the Institute of Fire Engineers, being a Full Member of the Institute of Fire Engineers with Membership number 00056660.

Andy graduated from the University of Edinburgh with the First Class Master's degree in Structural and Fire Safety Engineering. Prior to this, Andy also received a Batchelor's degree in Architectural Design from the University of Dundee.

Following graduation, Andy has worked in fire safety engineering for circa 9 years, based primarily in the London and surrounding area and undertaken numerous commercial, residential, and governmental projects of varying scale and complexity.

4. Consultations

State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this:

No fire safety consultations regarding this planning application have been undertaken to date. Further consultation with the local fire and rescue service expected to be completed by the appointed building control body during detailed / technical design.

5. Site layout plan

Site layout plan with block numbering as per building schedule referred to in Section 6 (consistent with other plans drawings and information submitted in connection with the application)

Site layout plan is:

Inserted in Form

Below is the overall site masterplan. Only the Wensum Edge portion of the development features blocks with residential floors at greater than 18 m above. A more detailed layout of the Wensum Edge area is also included overleaf, with the various blocks identified.



The principles, concepts and approach relating to fire safety

6. Building schedule

<i>Site information</i>	<i>Block 1</i>	<i>Block 2 – Residential</i>	<i>Block 2 – Car Park</i>	<i>Block 2 – Commercial</i>
<i>(a) block no. as per site layout plan</i>	Block 1	Block 2	Block 2	Block 2
<i>(b) block height (m)</i>	23.0 m	22.4 m	22.4 m	22.4 m
<i>number of storeys excluding those below ground level</i>	8 storeys	8 storeys	8 storeys	8 storeys
<i>number of storeys including those below ground level</i>	8 storeys	8 storeys	8 storeys	8 storeys
<i>(c) proposed use (one per line)</i>	Residential flats, maisonettes, studios	Residential flats, maisonettes, studios	Car Parking	Shop / Office / Restaurant
<i>(d) location of use within block by storey</i>	Ground to 7 th Floor	Ground to 7 th Floor	Ground	Ground
<i>Building information</i>				
<i>(e) standards relating to fire safety/ approach applied</i>	BS 9991	BS 9991	BS 9991	Approved Document B Vol 2
<i>(f) balconies</i>	Class A2-s1, d0 or better	Class A2-s1, d0 or better	No balconies	No balconies
<i>(g) external wall systems</i>	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better
<i>Resident safety information</i>				
<i>(h) approach to evacuation</i>	Stay put	Stay put	Simultaneous	Simultaneous
<i>(i) automatic suppression</i>	Yes - residential sprinklers, full	Yes - residential sprinklers, full	Yes - commercial sprinklers, full	Yes - commercial sprinklers, full
<i>(j) accessible housing provided</i>	M4(2)	M4(2)	N/A non resi	N/A non resi

<i>Site information</i>	<i>Block 3/4</i>	<i>Block 5 – Residential</i>	<i>Block 5 - Commercial</i>
<i>(a) block no. as per site layout plan</i>	Block 3/4	Block 5	Block 3/4
<i>(b) block height (m)</i>	18.1 m	19.0 m	19.0 m
<i>number of storeys excluding those below ground level</i>	7 storeys	7 storeys	7 storeys
<i>number of storeys including those below ground level</i>	7 storeys	7 storeys	7 storeys
<i>(c) proposed use (one per line)</i>	Residential flats, maisonettes, studios	Residential flats, maisonettes, studios	Shop / Office / Café
<i>(d) location of use within block by storey</i>	Ground to 6 th Floor	Ground to 6 th Floor	Ground
<i>Building information</i>			
<i>(e) standards relating to fire safety/ approach applied</i>	BS 9991	BS 9991	Approved Document B Vol 2
<i>(f) balconies</i>	Class A2-s1, d0 or better	Class A2-s1, d0 or better	No balconies
<i>(g) external wall systems</i>	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better
<i>Resident safety information</i>			
<i>(h) approach to evacuation</i>	Stay put	Stay put	Simultaneous
<i>(i) automatic suppression</i>	Yes - residential sprinklers, full	Yes - residential sprinklers, full	Yes - commercial sprinklers, full
<i>(j) accessible housing provided</i>	M4(2)	M4(2)	N/A non resi

<i>Site information</i>	<i>Block 6 – Residential</i>	<i>Block 6 – Car Park</i>	<i>Block 6 – Commercial</i>
<i>(a) block no. as per site layout plan</i>	Block 6	Block 6	Block 6
<i>(b) block height (m)</i>	18.1 m	18.1 m	18.1 m
<i>number of storeys excluding those below ground level</i>	7 storeys	7 storeys	7 storeys
<i>number of storeys including those below ground level</i>	7 storeys	7 storeys	7 storeys
<i>(c) proposed use (one per line)</i>	Residential flats, maisonettes, studios	Car Parking	Shop / Office / Café
<i>(d) location of use within block by storey</i>	Ground to 6 th Floor	Ground	Ground
<i>Building information</i>			
<i>(e) standards relating to fire safety/ approach applied</i>	BS 9991	BS 9991	Approved Document B Vol 2
<i>(f) balconies</i>	Class A2-s1, d0 or better	No balconies	No balconies
<i>(g) external wall systems</i>	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better
<i>Resident safety information</i>			
<i>(h) approach to evacuation</i>	Stay put	Simultaneous	Simultaneous
<i>(i) automatic suppression</i>	Yes - residential sprinklers, full	Yes - commercial sprinklers, full	Yes - commercial sprinklers, full
<i>(j) accessible housing provided</i>	M4(2)	N/A non resi	N/A non resi

7. Specific technical complexities

Explain any specific technical complexities in terms of fire safety (for example green walls) and/or departures from information in building schedule above:

The scheme will generally meet the expectations of the utilised design guidance of BS 9991 (as augmented by ongoing changes to Approved Document B with regards to automatic suppression, external wall construction, evacuation alert systems, etc).

All apartments within Blocks 1 – 6 will be covered by a residential sprinkler system due to the height of the buildings. In blocks featuring non-residential areas no greater than 100 m², the residential system may also serve the ancillary areas. In Blocks 2, 5 & 6, larger non-residential areas will be present that are to be protected using commercial suppression to BS EN 12845.

Where undercroft car parking is present beneath Blocks 2 & 6, these will also be supported by automatic suppression. This is to be suitably specified for use in this unheated / external space.

With suppression provided within each of the blocks, the single level apartments will be designed using open-plan guidance to mitigate the need for internal protected hallways. The internal arrangement of the apartments will be subject to ongoing development, with open-kitchens to be supported by fire engineering analysis if presenting a variation from fire safety design guidance. Duplexes featuring living areas at the upper floors and bedrooms at the lower floor may also consider open-plan arrangements (open stairs at the upper level), where supported by fire engineering analysis.

All areas of each block will typically be served by at least two protected escape stairs. The exception to this is at 1st floor of Block 2, and 1st and 3rd floors of Block 3/4, where certain areas are served by a single stair. Each area served by a single stair is located at less than 11 m above ground level, and the single stair arrangement will meet the expectations of BS 9991 with respect to the overall height of the building.

In Block 6, a single occupied floor located at greater than 18 m above ground level will be present. This floor is also the upper level of the duplex apartments, such that no common areas are present at a floor greater than 18 m in height. As such, it is considered that a full firefighting shaft need not be provided within this block, though access to the upper level of the duplex apartments will be expected to meet the maximum hose-laying distances where measured from the dry riser outlet at the floor below.

8. Issues which might affect the fire safety of the development

Explain how any issues which might affect the fire safety of the development have been addressed:

Fire safety issues are to be addressed through suitable implementation of fire safety guidance (BS 9991 predominately, supplemented by Approved Document B as appropriate). A short summary for each block is provided below:

- Block 1: Apartments supported by suppression to BS 9251 and detection and alarm to BS 5839-6. Common area access via open deck leading to one of two protected stairs, one of which is a firefighting shaft. Ancillary areas located at Ground floor are typically accessed from outside air. Structural fire resistance rating of at least 60 minutes, and materials that meet Regulation 7(2) of the Building Regulations for external walls and attachments.
- Block 2: Apartments supported by suppression to BS 9251 and detection and alarm to BS 5839-6. Maisonettes at Ground and First floors featuring escape windows from the upper level. Penthouse duplexes provided with protected internal stairs. Common area access via either open decks or internal corridors with natural smoke venting, leading to one of four protected stairs, one of which is a firefighting shaft. Ancillary areas located at Ground floor are typically accessed from outside air. Structural fire resistance rating of at least 60 minutes, and materials that meet Regulation 7(2) of the Building Regulations for external walls and attachments.
- Block 3/4: Apartments supported by suppression to BS 9251 and detection and alarm to BS 5839-6. Maisonettes at Ground and First floors featuring escape windows from the upper level. Duplexes at upper floors provided with protected internal stairs. Common area access via either open decks or internal corridors with natural smoke venting, leading to one of three protected

stairs, one of which is a firefighting shaft. Ancillary areas located at Ground floor are typically accessed from outside air. Structural fire resistance rating of at least 60 minutes, and materials that meet Regulation 7(2) of the Building Regulations for external walls and attachments.

- Block 5: Apartments supported by suppression to BS 9251 and detection and alarm to BS 5839-6. Common area access via open deck leading to one of two protected stairs, one of which is a firefighting shaft. Ancillary areas located at Ground floor are typically accessed from outside air. Structural fire resistance rating of at least 60 minutes, and materials that meet Regulation 7(2) of the Building Regulations for external walls and attachments.
- Block 6: Apartments supported by suppression to BS 9251 and detection and alarm to BS 5839-6. Upper level duplexes provided with protected internal stairs. Common area access via either open decks or internal corridors with natural smoke venting, leading to one of four protected stairs, one of which is a firefighting shaft. Ancillary areas located at Ground floor are typically accessed from outside air. Structural fire resistance rating of at least 60 minutes, and materials that meet Regulation 7(2) of the Building Regulations for external walls and attachments.

9. Local development document policies relating to fire safety

Explain how any policies relating to fire safety in relevant local development documents have been taken into account:

No specific additional fire safety requirements above-and-beyond the expectations of Planning Gateway One and the Building Regulations are understood to be expected by the local planning authority.

Emergency vehicle access and water supplies for firefighting

10. Fire service site plan

Explanation of fire service site plan(s) provided in 14, including what guidance documents have informed the proposed arrangements for fire service access and facilities?:

Fire service access to the site is provided via the new roads being constructed at the development. These are to be sized and have carrying capacity for a pump-type fire appliance in accordance with the expectations of BS 9991 / local requirements. The road network provided as part of the Deal Ground and May Gurney phase of works offers turning via the loop arrangement within the Wensum Edge area.

Access to the building firefighting shafts or stair cores featuring a dry rising are to be available within a maximum of 18 m from an appliance hardstanding area to the dry riser inlet and a maximum of 18 m for the horizontal section of dry riser in accordance with the expectations of BS 9991 and BS 9990 respectively.

The car parks and commercial units at Ground floor will be accessible directly from outside, with hose laying from the fire appliance hardstanding areas.

For buildings with common areas at greater than 18 m in height (being Blocks 1 – 5), the internal firefighting features are informed by the expectations of BS 9991 and more recent contemporary guidance, including the following:

- Firefighting stair of at least 1,100 mm in clear width
- Firefighting lift to BS EN 81-72
- Dry rising mains to BS 9990
- Natural or mechanical smoke control systems to meet the expectations of BS 9991
- An evacuation alert system to BS 8629
- Firefighting signage within the common areas

11. Emergency road vehicle access

Specify emergency road vehicle access to the site entrances indicated on the site plan:

Access for firefighting pump appliances will be available to the site via the new road network being constructed in support of the proposed buildings. This will have initial access from Bracondale, with a new link road and bridge constructed to connect to the Wensum Edge area. The layout of the Wensum Edge area features a ring-road that would allow multiple fire appliance to pass through the site without reversing or turning.

Access to within 18 m of the firefighting entrance / dry riser inlet for each of the blocks will typically be from the main ring road, or via an access road and turning area to the rear of Block 1. For Block 2 and Block 3/4, access for a pumping appliance is also required within the car parking areas, with the associated swept path analysis also included in Section 14. Access into the car park will be via an underpass below the building above, which will have a two-storey clearance in order to be adequate for the height of a pumping appliance.

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?:

Yes

12. Siting of fire appliances

Fire appliances will be able to use the new road network, car parks, and access roads around the buildings as hardstandings in an emergency. The road also provides ample room for multiple fire appliances to attend the site and park adjacent to the various buildings.

13. Suitability of water supply for the scale of the development proposed

The blocks are located at a brownfield site that will be extensively developed, including the introduction of new water supplies to the site. New private fire hydrants are to be provided across the site in accordance with BS 9990, being in sufficient number and positioning such that all buildings are within 90 m of at least one fire hydrant.

Nature of water supply:

Hydrant (private)

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?:

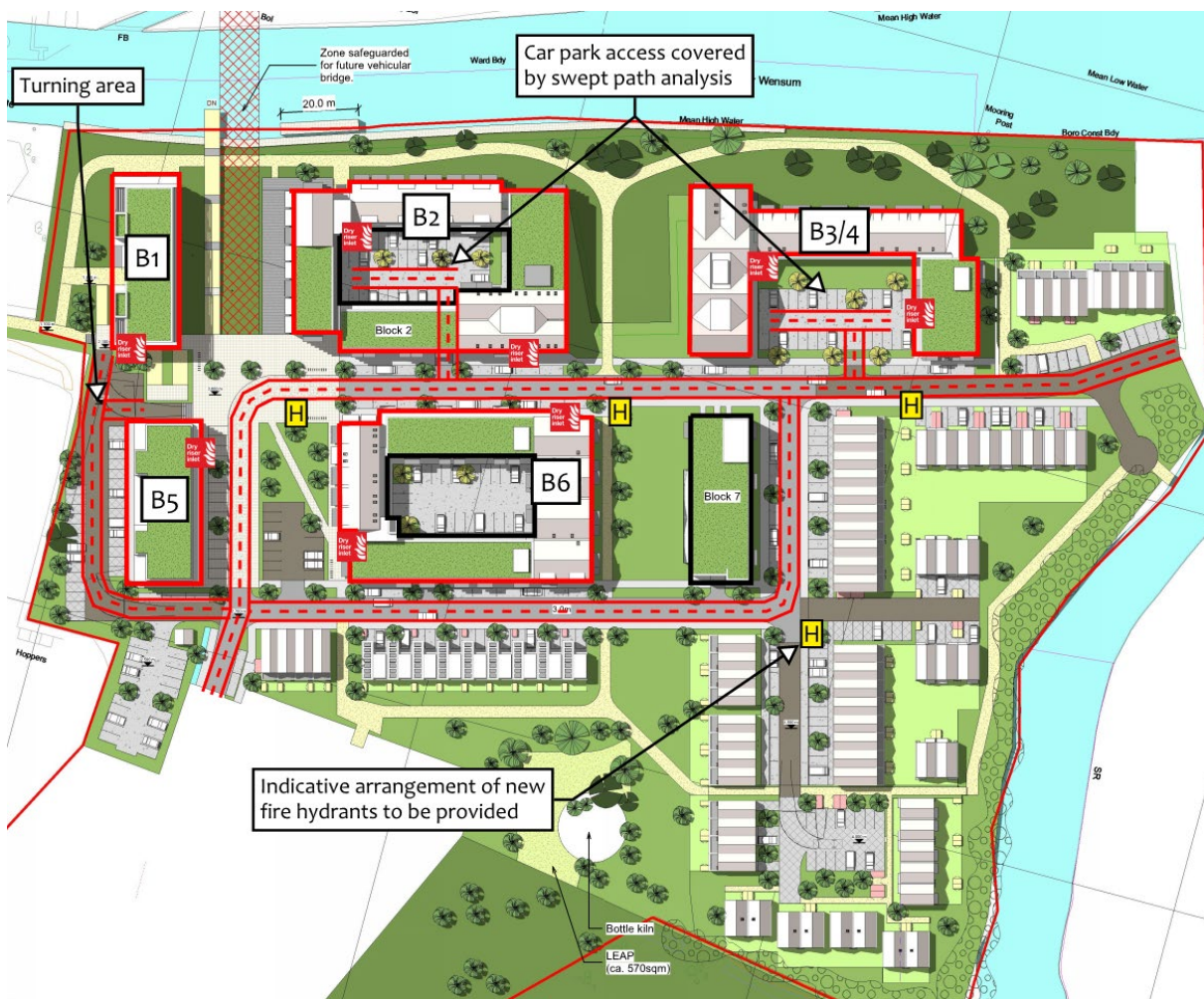
No

14. Fire service site plan

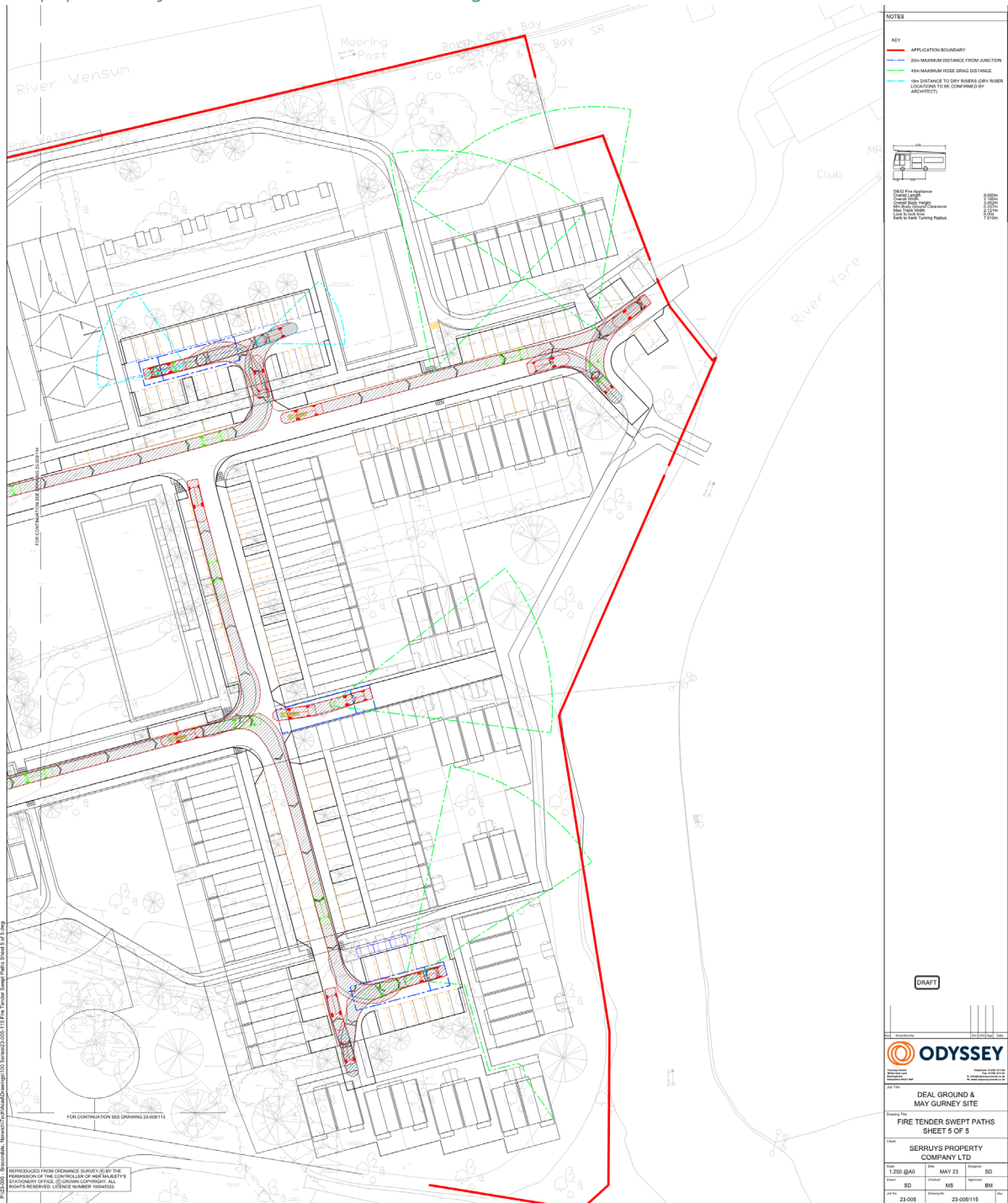
Fire service site plan is:

Inserted in Form

Fire service access plan indicating vehicle routes, approx. fire hydrant provisions, and dry riser inlet locations:



Swept path analysis for east side of Wensum Edge area:



Author and issue record

15. Signature

16. Date

21st June 2023

17. Issue record

Project: MUK10130: Deal Ground & May Gurney site, Bracondale, Norwich

Report: Planning Gateway 1 Fire Statement Form

Client: Serruys Property Company Ltd, The Hub, Atlas Works, Lenwade. NR9 5SN

Issue	Date	Description
01	21.06.23	Initial issue

Author: Andy Ballantyne BArch MEng CEng MIFireE PMSFPE
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