Fire Risk Assessment

Description

This fire assessment is in support of application DC/25/0286 at 'Old Stables'. The application comprises refurbishment, internal alteration and change of use of the existing building at 'Old Stables' to provide 5 bedspaces for students with special educational needs, as well as conversion, internal alterations and change of use of the existing annex and garages to provide an additional residential unit with 4 bedspaces.

The existing property is currently a private residential dwelling. The proposed alterations and change of use will enable the building to be utilised as residential accommodation to support existing pupils at New Barn School.

Existing Building and Location

The application site lies in the countryside approximately 1 mile to the west of Broadbridge Health and is one of several properties accessed via the Rapkyns Care Centre entrance from the A281 Guildford Road.

New Barn School is the first building encountered when accessing the site. Much of the rest of the site is taken up by Rapkyns Care Home which is adjacent to New Barn School to the west. The care home includes a number of modern two-storey buildings.

'Old Stables' is accessed from a private drive, opposite the New Barn School site and south of Guildford Road. The site contains a large residential property, with a number of outbuildings ancillary to the main residential use and extensive grounds. The existing Old Stables property is a former stables and granary, which has been converted to a large 5 bedroom private house. It is set in extensive grounds with stables, outbuildings and a 2 bedroom annex building.

Proposals

The proposals consist of change of use of the existing buildings, to meet the demands for residential accommodation to support New Barn School, and include:

- 5 no. pupil bedrooms, all with ensuite facilities in the main house
- Communal dining, kitchen, living spaces and conservatory
- Associated laundry and toilet facilities
- Conversion of annexe and garages to a new 4 bed unit including living room, dining, kitchen and laundry spaces

Occupancy

The property will be registered as accommodation for young people in the age range of 7-19 years. The main house will have 5 bedspaces and the annex 4.

Care staff would serve the needs of the children in the houses but would not be resident at the site. Staff work in 3 shifts – early: 7:30am–3:30pm, late: 3:00pm–11:00pm and sleep in / waking nights: 9:30pm–7:30am. For each unit there would usually be 2-3 staff on duty for the early shift, 3 for the late shift and 2 for the overnight period.

Autistic young people and fire safety

As detailed in the introduction, the proposed alterations and change of use will enable the building to be utilised as residential accommodation to support existing pupils at New Barn School.

New Barn School is an independent special school for girls and boys aged between seven and nineteen years of age. All pupils have an education, health and care plan related to autistic spectrum disorders and associated difficulties. The fire strategy for the proposals therefore needs to take into consideration of the specific needs of the type of students who will occupy the buildings.

Children and adults on the autistic spectrum and with other special needs may have unexpected reactions to a smoke alarm or a fire. Autism spectrum conditions are lifelong developmental differences that affect how people communicate and interact with the world. Each person with autism has a distinct set of strengths and challenges. Some people with autism may require significant support in their daily lives, while others live entirely independently.

Autistic young people may be likely to hide in a fire situation to get away from the noise and the unexpected situation. Autistic people may resist moving during a fire emergency, so they need to be reassured and to be given repeat instructions. The emergency procedure/escape plan should be described in advance, using a step by step approach. A specific staff member will be assigned to each young person with autism and be responsible for getting them out in the event of a fire.

A reaction to the noise of a smoke alarm or a fire can be to run away. When autistic children and adults are in this 'flight mode' they may become oblivious to other dangers, such as road traffic or a barrier tape, and run towards a different danger. Young people must be supervised even after evacuation.

Children and adults with autism and anxiety may become frightened in response to sensory stimuli. They may feel overwhelmed due to sensory overload. This may manifest itself in different ways such as repetitive behaviour such as rocking or repeating words. Some individuals with autism have difficulty telling people what's scaring them, so may show fear with extreme avoidance of a situation. For example, someone might refuse to go to a place after experiencing the noise and confusion of a smoke alarm and fire drill. As a result, people with sensory sensitivity may have strong reactions to stimuli such as fire alarm sirens or flashing lights.

Exposure to sensory stimuli may make someone feel completely overwhelmed, and the understandable result can be a meltdown. Meltdown symptoms can include shouting, screaming, crying, and lashing out. Shutdowns are also caused by sensory overload and anxiety and during these times the person becomes still, and unable to communicate or move ('freeze' situation). Some autistic people may show signs of distress before having a meltdown, which is sometimes referred to as the 'rumble stage'. At this stage, there may still be a chance to prevent a meltdown by helping the person use calming strategies such as putting on headphones and removing potential triggers.

The specific needs of young people with autism have been considered as part of this Fire Risk Assessment and Safety Strategy.

Risk Assessment

Environment and buildings
The existing building to be refurbished is of traditional construction. The school have a well-established estates team and operate an established programme of maintenance, which will extend to the property at 'Old Stables'.

Occupancy levels will be low and there will be a member of staff awake on duty all night. This mitigates the risk of residential accommodation.

Fire safety and fire protection
A full emergency detection, alarm and escape system will include smoke and heat detectors, alarm call points, interlinked sounders, emergency lighting and fire signage situated throughout the building. The school will carry out regular training and all students will be prepared in advance for possible fire evacuation.

Consequences/impact of fire
A fire could impact the school community and disrupt provision of care. The school have strong management, expertise and professional support to deal positively with such a situation so the impact on pupils would be kept to a minimum. The school also provide residential accommodation at Clockhouse and Farmhouse, which could provide alternative accommodation in a temporary or emergency situation.

Fire Safety Strategy

The proposed fire strategy should be considered alongside fire strategies for the main New Barn School site and other nearby residential units provided within the school estate.

Specific measures included in the proposals:

Staff to prepare an individual action plan for each student in the proposed accommodation to consider their likely reaction to a fire alarm and how that can be best managed. This may include preparatory discussions, a buddy system for reassurance, graded exposure, practicing the route multiple times with the alarm at lower volume, wearing ear defenders and rehearsed calming strategies.

Each bedroom is to be enclosed in fire resisting construction (under ADB to a minimum REI 30) with fire resisting doors. Every corridor serving bedrooms is to be a protected corridor. Ancillary accommodation including kitchens, laundry rooms and day rooms are also to be enclosed by fire resisting construction (minimum REI 30).

Each storey will be approached through a protected lobby or protected corridor. The annexe is a single storey development and the main building is two storeys. Locations of the protected corridors can be seen on the attached fire strategy plans.

Any duct work that passes between zones will have a fire rated collar and / or fire damper which will shut to prevent rapid spread of the fire.

All escape routes will be provided with self-closing fire doors, fitted with automatic closing devices. Magnetic hold open devices will be fitted to high usage fire doors to allow them to be held open

during general use and to close in the event of a fire. This reduces the risk of building occupants manually propping open fire doors, which will then not close in the event of a fire.

The building will be fitted with an appropriate fire warning system. The fire alarm will be designed to BS5839 Part 1 category L1. The system will be a fully addressable system, wired in fire resistant cable. Smoke detectors will be fitted to all circulation spaces, bedrooms, principal habitable rooms and within 3m of every bedroom door. Heat detectors will be provided to all kitchen spaces.

A system of emergency lighting will be provided to cover both internal and external escape routes.

The building will have a no smoking policy. A suitable fire assembly point will be identified.

Bespoke fire training and fire evacuation drills will be provided for the pupils and staff.

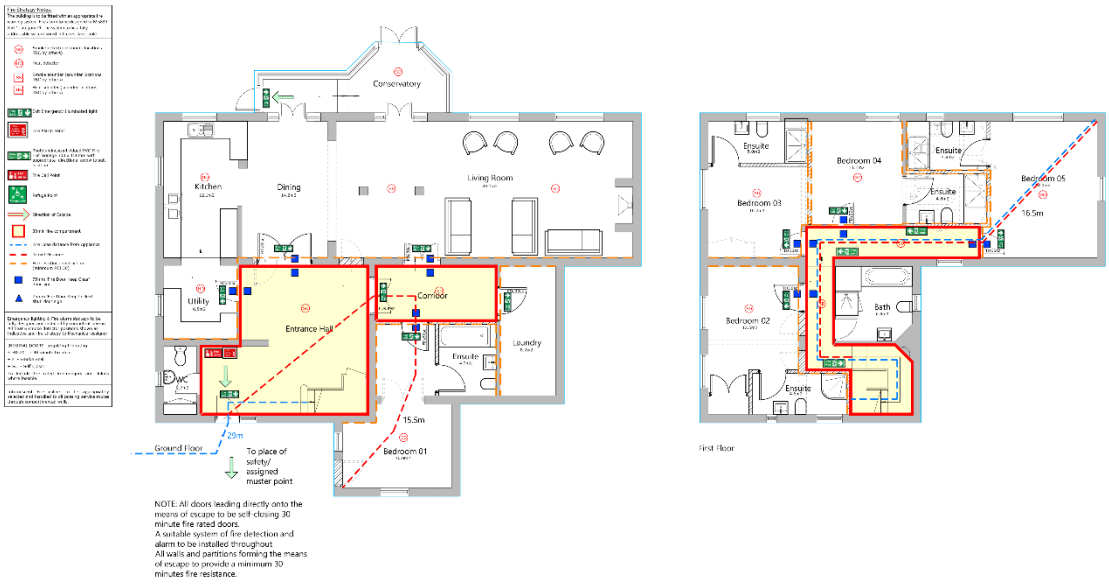


Image 1.1 (above) Proposed fire strategy plans – main building

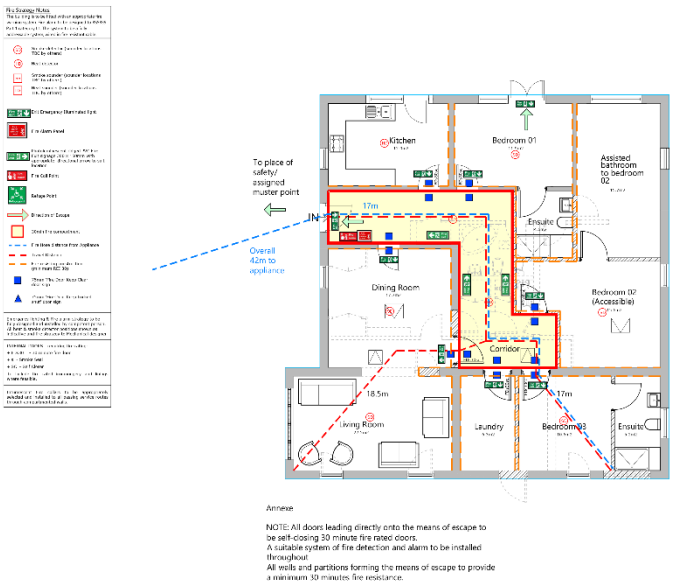


Image 1.2 (above) Proposed fire strategy plan – annexe

Conclusion

These measures are well proven, provide a good level of passive protection, meet Building Regulations requirements and offer good value for money for the school client.

The design strategy at planning stage is to achieve the required fire safety through passive and management measures. This will ensure that pupils are supported to evacuate safely in the event of a fire, with the added benefit of transferable coping strategies that they can use in other buildings in the future.