

# Corner Cottage Building Design Report



## Autism, Environmental and Building Design

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# Section One

## Location

Corner Cottage is a single-story bungalow located in Highcliffe-On-Sea, on the Dorset border, between the towns of Christchurch in Dorset and New Milton in Hampshire. The property was carefully selected as the location for Apple House to base their new learning disability residential service. Key indicators in selecting this location were:

- Located within the heart of a thriving community which offered all of the usual facilities to enable activities of daily living and society inclusion, including shops, bus links, train, health care services etc.;
- Situated on a normal residential street with no outwards indications of being different or of being a care home. This was identified as being crucial in affording integration within a community environment and acceptance amongst neighbours;
- Due diligence did not identify any other similar registered services within close proximity. Research identified the lack of cluster homes nearby and, in fact, a reduced provision overall in this sector and in this locale when compared to other similar towns [evidenced at Appendix 1 of this report];
- Plot size: Being situated on a large corner plot gave a sense of green space to all sides of the building. Consultation with a qualified architect and Christchurch Council confirmed sufficient land mass to extend the property sufficiently to offer the additional accommodation and ancillary space required while leaving ample garden space for recreation. Consideration of the importance of green space and outdoor recreation were key not only in choosing the right location, but in the design of outdoor space referred to later in this report; the document *Green Spaces: Outdoor Environments for Adults with Autism* [Appendix 2] was a useful resource in this regard.

## Section Two

### Autism and Environmental Design

Design considerations began before acquisition of the property and continued throughout the planning, consultation and construction phases. Giving due regard to the important work undertaken by the National Autistic Society, available on their website, works were tailored (where practicable) to give consideration to their recommendations. Underpinning all design decisions was a mindfulness of the unique environmental factors important when supporting individuals with autism. These include the following taken from the National Autistic Society website:

- **A significant proportion of autistic adults suffer from epilepsy, resulting in a need for:**
  - **Outward opening doors on WC/bath/shower rooms.** All bathroom and WC doors open outward.
  - **Avoiding sharp edges on domestic worktops and radiators:** Sharp worktop edges have been removed with corners softened and reinforced. Radiator covers have been fitted with soft cushion corner protectors. New furniture has been purchased with rounded corners wherever possible, with cushion protectors otherwise.
  - **Beds positioned away from windows, radiators and room entrances.** All beds will be positioned centrally in the bedrooms unless specifically directed as part of an individual's risk or support plans.
  - **At least one 'rapid empty' bath.** Wet rooms are provided except for one bath which was identified as the preference of an individual and formed part of the design process. This bath has a quick-emptying plug and drainage outlet.
  
- **Most autistic people experience difficulty in adjusting to changes in their environment. Fixtures and fittings that already exist when the person moves into a building are less likely to be targeted (i.e. fiddled with/wrenched/removed) than fittings which appear after they have become familiar with their environment. The planning and design process should be as painstaking as possible in order to minimize the need for change during the first year of occupancy. *What design process have you followed at Corner Cottage?***

Thorough consideration of the design of the internal and external environments began as soon as the property was identified. This continued with consultation with the architect, builder, psychiatrist and intensive support team as well as the National Autistic Society website and research. Walls were painted in a neutral colour so that residents could personalize their own space via their colour choices in accordance with their individual preferences.

In addition consideration was given to the existing environmental needs of the first person accepted for placement – for the purposes of this report, they are referred to as 001. Discussion on site was held with 001's parents as well as their wider support network in order to ensure furniture, colours and fittings were in line with their preferences, prevented anxiety triggers and would inspire them. An example of this was the colour yellow for a feature wall; yellow is their 'happy colour' and is important to 001 but not in a greater degree than one wall. It was important that 001's bed was positioned so that they had direct sight of their

television whilst the room should have ample storage for their collection of videos which are imperative to access. A special unit was purchased which accommodated their TV centrally with sufficient storage around it for their collection. This unit was sited before 001's move so that it formed a part of the 'fabric' of their room at the point of moving in.

Key general pieces of furniture were again sited before occupation so as to minimize change and avoid anxieties that could arise if spaces which were available at the point of moving in changed once new items were added. Furniture in communal areas was chosen carefully, giving thought to being modern and young-centric, non-institutional, robust and non-patterned. Flooring was replaced throughout, to remove old fashioned and highly-patterned parquet flooring with Karndene wood effect flooring. This improved the sense of light and space and flow. Rather than one dining table which would lead to enforced communal dining, two smaller tables were bought and situated apart so as to facilitate choice as to dining arrangements. The tables can also be pushed together should 'family-style' dining be the preference at times or all of the time. Consideration has also been giving to 'screening' one table for additional privacy during eating. The key point was to situate the furniture in the demarked zones before commencement of placements so as not to change space or add bulky furniture where it wasn't before.

Attempts have been made to try and anticipate the environmental needs of the three individuals Corner Cottage will support. However, there will inevitably be furniture/fittings which are required to be added in the future, for example items brought with an individual from their previous home setting. Sensitivity will be required if these are to be introduced into communal areas, thus careful planning will take place around this.

- **Building design can assist by providing clear sensory clues to what is likely to be required of each person in a specific area. *How does Corner Cottage design meet those needs? Factors to be considered include:***
  - **Avoidance of multi-function rooms (e.g. kitchen diners)** The home has been carefully designed to avoid multi-function rooms. Dining room, lounge and kitchen are separate while retaining a naturally flowing space as well as more than one access/exit door to each area.
  - **Clear demarcation of leisure and activity areas.** As part of the design planning, consultation took place on site with a psychiatrist and intensive support nurse with extensive autism and learning disability experience. Leisure space was explored and ideas exchanged culminating in the facilities offered at Corner Cottage. There is clear demarcation of each area; for example, exit doors to all principal rooms mark the boundary of that area, albeit hold-back magnets retain the fire doors in the open position to maintain space-flow. The intended purpose of each area is identifiable, e.g. there is not a dining table in the lounge or kitchen, nor is there a television in the dining space. A coloured archway indicates the link from lounge to dining space and this colour theme is continued within the dining area.

Bedrooms are also clearly defined by the addition of a 'front door' decal. Each is a different colour and number which adds to the sense of ownership of the individual's room and creates a boundary between communal and personal space.
  - **Avoidance of food preparation smells penetrating other areas.** The kitchen is fitted with an extractor hood above the oven as well as opening windows. There are closable doors to each side of the kitchen. The use of mechanical air fresheners could be considered if appropriate although care would need to be given to selecting fragrances as people with autism can be hypersensitive and overresponsive to

olfactory stimulation. Use of aromatherapy scents as a therapeutic benefit in autism is certainly of interest and an area for further exploration [ref: <https://iscentyouaday.com/tag/fragrance-and-autism/>]

- **Building design can assist in avoiding unnecessary stress in social settings. *How does Corner Cottage design meet these needs by providing:***

- **Wide corridors.** Avoiding narrow, closed-in spaces was important when choosing the right property and also informed decisions on design at the early planning stages. Corner Cottage does not have any corridors, instead is an open and light property. Consultation took place with the architect, builder and directors to alter the layout of the entrance lobby which originally comprised a corridor and was darker, enclosed and was not a fluid space.

It was important, as part of the design, not to have all bedrooms feeding from the lobby, hence a new extension was planned to the far side of the building encompassing the third bedroom with no corridor by which to access it. Consideration was also given to accessibility – a wheelchair user must be able to retain full access to all of their living space and facilities.

The building design work also included the widening of all doors at Corner Cottage. Permission for this was obtained through the Council's planning process and involved structural changes and meant that, not only were rooms accessible to wheelchair users or those using a wheelchair following a seizure, but also added to the sense of openness and space underpinning our design vision.

- **Large communal rooms with high ceilings.** Communal rooms at Corner Cottage are spacious and airy and light. Although it has not been possible to raise ceiling heights, care has been given to low, flush-fit light fittings. A further sense of height and light has been achieved in the lobby by adding a custom 'sky panel' to the ceiling.
- **A choice of exits from communal rooms.** No one communal room is served by only one exit. From the lounge one can access via double garden doors, the main lounge door, or via the dining room and then kitchen. From the dining room one can access via the lounge or the kitchen. From the kitchen one can access via one of two doors: to the hallway lobby or to the dining room.
- **One or two single-person alcove areas in communal rooms.** One of the design features of Corner Cottage is the provision of multiple places to be apart from others. Single-person areas can be found within, or created in: the dining room, lounge, cabin, external office, sensory zone or garden.
- **A choice of recreational rooms or areas.** As previously indicated, Corner Cottage has been carefully and considerately designed to offer multiple recreational areas. These include, lounge, dining area, external log cabin, demarked garden spaces and external office/activity/quiet zone. Flexibility is key in all areas.

## Section Three

### General Building Design

- **General design considerations. *How does Corner Cottage design meet these needs?:***
- **Large single-pane windows and large areas of glass in glazed doors should be avoided on safety grounds.** The existing windows retained feature leaded light double glazing which has been further reinforced with laminated sheeting. Where areas of glass are more substantial, for example the internal office and exit doors, kite-marked toughened glass is in situ.
- **Key locks should be provided to external doors, to each bedroom, any offices, food stores, kitchen, boiler rooms, domestic chemical stores (including cupboards used for that purpose) and rooms/cupboards containing electrical switchboards. To minimize the number of keys carried by staff and to enable residents to use keys, a lock system should be adapted as follows:**
  - **A master key system should be used for individual locks on all bedroom doors, food stores, kitchens, boiler rooms and electrical switchboards.** Corner Cottage is fitted with assistive technology. The three bedrooms have personal fob entry to afford the individual a greater degree of ownership of their personal space as well as access to specific external spaces such as the front and rear doors according to personal risk assessments. Fobs are programmed to only operate the bedroom door of each person meaning they cannot access another person's private space uninvited. Staff fobs will be master fobs operating all fob entry points and the system will be overseen by the register manager.
  - **A separate master key system for locks to external doors should be provided.** As outlined above, a master fob entry system is in place. Further, the master fobs of staff leaving employment or who are on extended leave will be cancelled electronically meaning they can no longer access the building.
  - **Separate keys for chemical stores and offices should be provided.** COSHH cupboards and office spaces will be operated by non-fob keys, the masters of which will be kept securely within a locked cupboard within the internal office.
  - **Multiple-use WC and bath/shower rooms should have a sliding bolt lock that can be opened from the outside in case of emergency.** We do not have multi-use bathrooms as each bedroom has its own private facilities. However, all bathroom doors (including the staff WC) are fitted with thumb-turn locks which can be opened externally in the case of an emergency.
- **External and ground floor doors and ground floor corridors must be wide enough to permit access by wheelchair, either for people with multiple disabilities or for access by staff using wheelchairs to assist someone recovering from an epileptic seizure. Where ground and floor levels change, shallow ramps should be provided in preference to steps.** The front door was originally accessed by a step. As part of the design process, this was remodeled to form a shallow ramp. All internal and external areas of the property have been redesigned to afford level access for wheelchairs. Externally, a patio was designed and built to form level access between the lounge and the garden. In order to avoid a sharp change in levels from the edge of the patio to the grass, a gentle sloping was

integrated into the patio to make all of the garden safe and accessible. This was then further extended to the external office/quiet space, linking the laundry room to the front and the cabin to the rear. The lawn areas were then raised via additional topsoil and new turf to again avoid a change in level from patio to grass.

- **Where building layout permits, a minimum of one ground floor room should be available for use as a bedroom for a wheelchair user.** All three of the bedrooms were designed with the architect to ensure all were wheelchair accessible.
- **The need to offer personal support, supervision and training in aspects of personal hygiene requires that at least some WC pans, hand basins and baths are positioned so that staff can stand beside the person they are assisting.** All bathrooms were remodeled or designed new with this in mind. All are spacious and allow staff to support while not hindering or crowding the individual during personal care.
- **The dignity and privacy of individual residents in the building requires that they be offered en-suite washing/WC/shower or bath facilities where possible.** As en-suite bathrooms were not originally within the property, careful design took place with the architect and builder to maximize space, reconfigure and add en-suite bathrooms to each room.
- **'Push bar to open' type fittings on external doors are unacceptable due to the risk of residents absenting themselves from the building at night.** None are present at Corner Cottage. Instead, external doors are served and secured via fob exit mechanism.
- **Mechanical door-closers are a continual maintenance problem due to the high proportion of people with autism who try to close the door against the braking mechanism. Swing free closers are cheaper in the long-run.** As part of the fire safety element of design, swing free closers were quickly identified as the preferred door mechanism on bedroom doors. Traditional fire doors are heavy and can be frustrating to a person with autism who may wish to close the door more quickly than a traditional mechanical door-closer will allow. Consideration was also given to individual preference regarding their individual bedroom door position; for example, it may be that there is a wish by the individual for the door to be left partly open at night or during the day. Fire doors to communal areas have been fitted with hold-back devices which automatically close in the event of fire alarm activation. This is so as to maintain an open environment and natural flow of space without obstruction. A ten-second delay has been programmed into the L1 fire alarm to allow a ten-second delay in the fire doors closing to ensure there is sufficient time to step through a doorway before doors close should the alarm be activated. This will be integral to the fire safety awareness training provided for service users and staff.



## Plumbing:

- **Every tap should be capable of isolation by use of ball-o-fix valves.** In situ where appropriate. In addition, all basins are fitted with thermostatic valves. These are integral within showers and bath.
- **Pipe runs should be boxed-in or ring-clipped at 12 inch intervals.** There are no exposed pipes.
- **Box-in WC cistern or fit cisterns with lockable lids.** All WCs in en-suites are fitted with locked cistern lids.
- **Provide a pumped return system on the domestic hot water to avoid both taps initially providing cold water.** Hot water system fully compliant with hot and cold water blended from pump.
- **Fit captive plugs to hand basins and baths or uprate standard plug and chain fittings.** All hand basins and baths in en-suites are fitted with captive plugs.
- **Install floor drains in bathrooms.** All bathrooms have floor drains installed.
- **Provide one rapid entry bath in communal bathroom.** There is no communal bathroom as all bedrooms have private facilities. The one bath has a quick-drain captive plug.
- **Replace or avoid plastic baths.** The bath is of fiberglass composite and is coated with enamel.
- **Provide lockable thermostats on each radiator.** All bedroom radiators are fitted with locked thermostats. Ambient temperature will be set in communal areas, adjusted by maintenance if necessary.
- **Provide large capacity domestic hot water storage or fit an Automatix mixer with the cold water supply to provide a pre-set water temperature.** A new commercial water tank and boiler have been installed. In addition, each hot tap is factory fitted with a thermostat controlling the hot water temperature to the regulation maximum. A maintenance programme is in place for the inspection and servicing of these thermostats.

## Electrical:

- **Use of anodized aluminium for all brass light switches and power socket face plates. Avoid use of domestic fittings in all rooms.** No brass switches or power sockets are on site.
- **Fit a discreet key switch isolator to power sockets in each bedroom.** N/A
- **Fit single power sockets in corridors for cleaning equipment, sufficient to avoid long lengths of trailing lead, and positioned to avoid trailing leads through fire doors.** A cordless vacuum cleaner will be in situ to avoid trailing leads and trip hazards.
- **Fit bathroom and WC lights adjacent to the door on the outside of the room. Avoid ceiling-mounted pull switches.** All bathroom and WC light switches are located adjacent to the door outside bathrooms. No ceiling-mounted pull switches on site other than emergency pull-cords to summon assistance.
- **Fit discreet emergency lights to external corners of the building.** Motion-activated sensor lighting is being installed externally.
- **Install light-and-motion activated floodlighting outside main entrances.** These are in place.
- **Fit main switchboard with a lockable cupboard.** This is in place.
- **Fit a key switch to power sockets for refrigerator, freezer, washing machine, dishwasher and any electric cooker.** These are in place.
- **Provide power to swing free door closers on all doors designated as ‘fire stop doors’ by a fire officer. It would be desirable to link door closers to the fire panel.** This has been done and all link to multi-zone fire panel.
- **Provide power to automatic release locks on external fire escape doors and link them to the fire panel.** This has been done and all link to multi-zone fire panel.
- **Install a staff ‘call system’ linked to the staff duty room and to a repeater on the ground floor.** These are in situ in bathrooms and linked back to the internal office.

## Glazing and Windows:

- **Fit shatterproof laminated or toughened safety glass to all windows and glazed doors.** All windows and doors have double glazing which is compliant with building regulations and British Standards for safety. Windows are either toughened glass or have shatterproof safety film applied.
- **Avoid large areas of glass without sub-division by strong glazing bars. This will ensure the visibility of each glass area, reduce the maintenance costs of replacing large areas of glass and support the window against impact.** All windows and glazed doors are double glazed, the external glazing being leaded-light thus increasing visibility. Additional safety film has been fitted internally to non-toughened glass. Many of the windows and doors are fitted with kite-marked toughened glass in compliance with building regulations.
- **Limit opening of all windows above ground floor level.** Not applicable.
- **Provide lockable windows on the ground floor.** All windows are lockable with keys on site. In addition opener restrictors are fitted where appropriate. Use of these restrictors will be based upon individual risk assessments.

## Carpentry:

- **Reinforce door frame fixings to above the domestic standard.** Hinges at Corner Cottage are substantial in order to support the weight of fire doors.
- **At minimum, use shuttering ply under plasterboard and skim for any room division. Fix partition walls to floor and ceiling joists.** Where there are new partition walls this has been done.
- **Provide doorstops and skirting behind all doors that open against a wall.** These are in place.

## Flooring and Floor Covering:

- **Where a building does not have concrete flooring...**All floors are concrete beneath the Karndene surface flooring.
- **Some residents may suffer periodic incontinence. Where bedroom and recreation room floors are of a timber construction...**All floors are concrete beneath the Karndene surface flooring.
- **Bathroom and kitchen floors should be covered in a non-slip, heavy duty vinolay. Where bathrooms are above ground floor level, or where they have timber floors, the vinolay should be turned up the walls and sealed to a curb and to all joints to prevent water penetrating the floor.** All floors are concrete but have nonetheless been fitted with non-slip commercial grade flooring with a return up the walls and sealed at joints.
- **Floor coverings in WCs should be vinolay, turned up the walls and sealed at all joints to prevent penetration of urine and water.** As above, all en-suite bathrooms have been fitted with a return up the walls and with sealed joints.
- **Where possible, bathroom floors should be formed to a slope sufficient to direct water away from the door and towards a drain set in the floor and linked to the waste outlet.** This has been done in all en-suite bathrooms.
- **Where possible, floors should be covered in single widths of carpet to avoid some residents' occasional tendency to 'pick' at the join.** No carpets present in the building.
- **Well-fixed floor plates and protective strips should be fitted to cover and protect joins in floor coverings in each doorway.** Joins only present between bathrooms and bedrooms. These are fitted with protective strips across the joints.
- **Where patterns are selected for floor coverings...**All flooring is without patterns in order to prevent obsessions around patterns related to the exact positioning of furniture and personal movement around the rooms.
- **Mat walls should be created at each exit door to the building, to accept and retain in place a suitable mat for cleaning footwear. This is most important on the garden side of the house.** Due to concrete floors it was not possible to create mat walls. However, absorbent matting has been fixed in situ with reflective rubber anti-trip guide edges.
- **Floor covering in dining areas should be in well-sealed woodblock. Flotex carpet or a good quality domestic vinolay are less satisfactory solutions for floors that will experience continual cleaning and wear from chair legs.** All communal areas are fitted with Karndene which has a 20 year guarantee from wear and tear. The flooring is sealed to its perimeter edges.

## Grounds and Fencing:

- **The number of car parking spaces provided should exceed the maximum required by the local planning authority. Staff shift overlap will require more than the basic provision. At least one bay should be wide enough to permit the parking of a minibus.** There are two driveway and parking areas at Corner Cottage. The driveway closest to the main entrance will be reserved for the primary vehicle, with further off-road parking and driveways also provided for DLA vehicles and/or staff parking. There is sufficient parking for more than four cars off-road and on-site.
- **Every effort should be made to provide a vehicle turning bay away from the main entrance, to avoid the need to reverse vehicles within the grounds of the building.** There is sufficient parking areas to avoid the need to reverse vehicles within the grounds of the building.
- **Grounds may need to be laid out in a way that prevents some residents from leaving the site and finding themselves at risk. Where possible, the body of the building should provide an enclosed area and be linked to a discreet side fencing to the perimeter.** New fencing formed a major part of the initial planning stages of the outside space. The rear garden has been fitted with 2.1m close-board fencing around the main perimeter adjoining the neighbouring property. The immediate neighbours were consulted at the outset and were delighted that 'their' boundary would have an old hedge with gaps replaced by new fencing at our expense. In addition we installed an area of fencing to the front of the neighbour's property so that it was in keeping for them with the new fencing on the boundary. Gates have been replaced with new and fitted with keypad entry system to secure the exit.
- **Boundary fencing should be a minimum of 1.75 metres high, with the effect softened by planting fast-growing hedges and trees.** Consultation took place with the immediate neighbours and also a property directly opposite the front elevation of Corner Cottage. Fencing was installed at a height of 2.1 metres. In addition, during consultation with the opposite neighbours, planting took place to improve their outlook. Planting included mature trees, fast-growing climbers, mature shrubs and bedding plants as well as seasonal hanging baskets and pots.
- **Where possible, the grounds should be laid out to provide both fine and wet weather surfaces for recreation. An open-sided covered area is a tremendous advantage, as some residents may need to spend time outside whatever the weather. Cover from rain is an obvious advantage, but some of the medications used to assist some people with autism can also cause over-sensitivity to strong sunlight.** The garden planning was comprehensive and well thought out. A log cabin was purchased and installed meaning the outside space could be utilized throughout the year. In addition, the garden space is such that it affords ample opportunity to create both sensory space and recreational activities such as trampoline/moving water/spinning and movement, etc. *Garden Spaces: Outdoor Environments for Adults with Autism* proved a useful reference tool and will form the basis of ongoing development of outdoor recreational opportunities at Corner Cottage. Individuals living at the service will be instrumental in the design of their own garden space to the degree that they wish or are able to be involved in its planning for their recreational aspirations.

- **The grounds should permit the development of a ‘private’ garden area, within the whole, allowing residents to choose privacy from observation by others, whilst remaining within the safety of the grounds.** The rear garden areas are enclosed by 2.1 meter fencing and are entirely private from intrusion or overlooking. The side boundary is adjacent to a wooded area and there are no windows of neighbouring properties visible within the garden boundary. There is sufficient space within the whole to create ‘private’ areas; these include two separate patio areas and a rear/side garden area which could be further screened from the main body of garden.
- **Changes in ground levels throughout the site should be met with ramps rather than steps so that wheelchairs to be used by people with multiple disabilities, or by staff assisting someone who has suffered an epileptic seizure [can access.]** Careful and meticulous planning and design has been undertaken with the outdoor space. Ground levels have been raised via topsoil and turf in order to mitigate a height disparity between patio and lawn. In addition, gentle slopes have been designed into the new patio areas in order to fuse the garden and building together.