

Accessible Homes Guidance



Levitt Bernstein
People.Design



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Introduction

Introduction

The importance of accessible housing and the purpose of this study

The vision for Ebbsfleet is to develop homes, streets and neighbourhoods where our residents can live happily and healthily together through all life's stages. A key aspect to achieving this ambition is to ensure we provide homes that are accessible to everybody, regardless of their age, life choices and abilities. These homes must be usable by parents with young children with pushchairs, older people with some mobility requirements, and those who are reliant on wheelchairs and other mobility devices to live comfortably within their homes.

This guidance is intended to support developers in improving the accessibility of their homes, by demonstrating how common house types can meet the requirements of Approved Document M, Requirement M4 Category 2 (M4(2)) in future phases of Ebbsfleet.

It was commissioned by EDC and led by Julia Park, an architect specialising in housing design and research. Julia has worked at Levitt Bernstein for over 30 years and is now a consultant to the practice. She has championed good housing throughout her career and devised the formula for the 'Nationally Described Space Standard' (NDSS).

The NDSS was one of the outcomes of a government-led review of housing standards which ran from 2010 to 2015. That exercise also led to a three-tier standard for accessible housing. Prior to that, 'Approved Document M' (ADM) had only comprised a baseline standard which was widely felt to be inadequate. As a result of the five-year review, that baseline was retained as the first tier of the new Approved Document M Volume 1. The regulation and the new ADM came into force and the provisions for each of the three tiers took effect on 1st October 2015, alongside the NDSS. Minor changes were also made to the regulations governing energy, water, and security.

The NDSS was specifically devised to support the middle tier of the three standards set out in Approved Document M Volume 1. This standard, described as 'Accessible and adaptable dwellings', and commonly referred to as 'M4(2)' or 'Category 2', is designed to make life easier for everyone regardless of age and mobility. It is not intended to be adequate for people who rely on a wheelchair for their mobility, but it will help many of those who use a wheelchair some of the time.

While the NDSS and M4(2) are intended to be mutually supporting they are not tied together. Both the space standard and the two upper levels of accessibility need to be individually invoked by local planners, subject to their ability to prove that there is 'local need', and that their imposition would 'not prove a barrier to building more homes'.

In 2020, the Government consulted on making M4(2) the minimum standard for new houses. Despite overwhelming support in principle (most respondents recognised the need for

exceptions for example a flat above a small shop which cannot reasonably achieve step-free access) the change has not yet been introduced, but it is still expected.

Currently, all new homes in Ebbsfleet are required to meet the NDSS but only 20% are required to meet M4(2) and, so far, the vast majority have been apartments, rather than houses. While some developers have been happy to build to M4(2), others have voiced concerns around market attractiveness and cost. The third tier, (M4(3)) is intended for people who use a wheelchair all or most of the time. These homes need significantly more space but are only needed by a small minority of the population.

This study is split into two parts. Section 1 looks at three developer house types which are commonly built in Ebbsfleet and tests the feasibility of 'upgrading' them to meet M4(2), and Section 2 offers three very different house plans for discussion, all of which meet M4(2).

Why accessible housing matters

Despite the fact that we have known for centuries that ageing often means a loss of mobility, the idea that new housing should be more accessible was only taken seriously in the 1990s. Life expectancy rose substantially during the 20th century, and it was clear that something as simple as steps up to the front door (for decades seen as a status symbol) were a barrier to a growing number of people; not only older people, but also those with mobility problems, wheelchair users and anyone who use a wheelchair, pram or pushchair. Importantly, no one is disadvantaged by a level threshold.

The climate emergency adds weight to the case for building more accessible homes. Buildings account for almost half of all carbon emissions. The embodied carbon makes it vital that all new buildings are as energy efficient and inclusive as possible and designed for a long life. Experts appear to agree that we must aim to ensure that future homes are designed and built for a 200-year life. Over that period, it would be reasonable to expect that every home

would be occupied by at least one person who needs a wheelchair or has significant mobility problems. But this is not just an issue for the occupants themselves. Over two centuries many hundreds of other people are likely to cross the threshold of every home as visitors - relatives, friends, and others. All will not only benefit from the step-free access and wider front door but also the wider hallways and larger WC, which help people to retain dignity and independence or receive help. Their ability to access all parts of the ground floor without a level change will enhance their experience of the house. They will find the light switches, sockets, and windows easier to reach, and the stairs able to accommodate a stair lift.

These simple changes can make a huge difference to people who live with mobility issues and want to stay connected to family and friends but worry that attempting to visit a home they don't know well could cause anxiety or embarrassment, or simply prove too difficult to manage.

Taking down barriers

EDC have commissioned this guidance to address the perceptions and barriers that are holding back the delivery of more M4(2) compliant homes within Ebbsfleet. While some of the resistance may be about extra cost (and that should not be ignored) it may also be that they fear the internal layouts will be compromised as a result.

Many of the homes being delivered are narrow-fronted terraces (less than 5m wide internally) and therefore very deep in plan. This generic typology is relatively simple to build and makes good use of land. However, as a consequence of the depth, there is often little daylight in the middle of the plan. It is more difficult to incorporate the wider doors and hallways and the larger WC needed to improve accessibility. Narrow fronted homes also tend to be less flexible and therefore offer less choice.

The guidance illustrates three typical narrow fronted house types and develops alternative layouts that upgrade them from M4(1), (the baseline) to M4(2), ideally in the same footprint and with floor plans that are as good, or better, than the original layouts.

It is worth noting that all three of the typical plans have been designed with a kitchen and a combined sitting/dining room. It is generally recognised that a kitchen/dining room and a separate sitting room is widely preferred as it offers two 'social spaces' and avoids having to take food and drink to another room; one which is usually carpeted. It also makes working and studying from home easier, particularly if two or more family members are working at the same time. The guidance layouts therefore test the feasibility of providing a kitchen/dining room as well as upgrading from M4(1) to M4(2). As this is generally more difficult than providing the living/dining arrangement adopted by the developer, it poses a greater challenge.

Aiming higher and offering more variety

The second part of the study offers three very different house types for discussion and reflection. All were designed by Levitt Bernstein. Variety is important; we all have different ideas about how we wish to live and there are many alternatives to narrow frontages, many of which offer better room to room connections (or 'flow') a sense of generosity and more daylight. Wider frontages also mean wider gardens. That creates more opportunities for play, planting, food growing and supporting nature; simple benefits that have been reinforced by our experience of Covid.

Summary of the requirements of M4(2) for houses

Entrance storey

Approach route

- step-free access to private front entrance (maximum ramp 1:12)
- at least 900mm wide
- gate to have at least 850mm clear opening width, with at least a 300mm nib to the leading edge

Landing outside main private entrance

- nominally level (max gradient 1:6)
- motion-activated lighting
- landing covered for at least a width of 900mm, and a depth of 600mm

Main private entrance

- accessible threshold
- at least 850mm clear door opening
- at least a 300mm nib to the leading edge, and maximum 200mm reveal depth on the leading side of the door

Hall width

- at least 900mm wide, but localised narrowing to 750mm permitted

Internal doors

- at least a 300mm nib to leading edge of all doors at entrance level

Internal door and hall widths

- in a 900mm wide hall, a door that is approached head on must have a clear opening width of at least a 750mm
- in a 900mm wide hall, a door that is not approached head on must have a clear opening width of at least 800mm
- in a 1200mm wide hall, a door that is not approached head on must have a clear opening width of at least a 750mm
- in a 1050mm wide hall, a door that is not approached head on must have a clear opening width of at least a 775mm

Living room

- a room suitable for socialising (which may be a sitting room, kitchen/dining room or dining room) must be located on the entrance level
- glazing to principal window to start at, or below, 850mm floor level
- glazing to at least one window handle to be 450-1200mm above floor level

Kitchen

- at least 1200mm clear space in front of kitchen units and appliances

WC / cloakroom

- WC must be located at entrance level
- minimum size 1450mm x 1800mm
- basin must not impede access to the WC
- provision for level access shower
- walls to be strengthened to support grabrails if and when needed

Stairs

- minimum 850mm wide

Door to garden

- as for main front door but need not be covered

Switches, sockets and controls

- located 450-1200mm above floor level
- at least 300mm in from an inside corner
- handles of other windows (excluding the window to the living room) to be 450-1400mm above floor level

Upper storeys

Landing

- at least 900mm wide but localised narrowing to 750mm permitted
- door and hall widths as entrance storey but door nibs not required on upper floors

Principal bedroom (may be any double bedroom with a bathroom on the same floor)

- at least 750mm clear route to both sides and the foot of the bed
- at least 750mm clear route to the window
- bed to be shown as 1500mm wide and 2000mm long

Twin bedroom (or other double)

- at least 750mm clear route to one side of every bed
- at least 750mm clear route to the window
- single beds to be shown as 900mm wide and 1900mm long, and double beds as 1350mm wide x 1900mm long

Single bedroom

- at least 750mm clear route to one side of each bed
- at least 750mm clear route to the window

Bathroom

- the bathroom must be located on the same storey as the principle bedroom
- there must be easy access to the WC, bath and basin

Switches, sockets, and controls etc

- controls must be located 450-1200mm above floor level and at least 300mm in from an inside corner
- windows handles must be located 450-1400mm above floor level

Note: This summary describes the broad scope of the provisions required to meet M4(2) but not the full detail. For a detailed understanding consult Approved Document M Volume 1.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/540330/BR_PDF_AD_M1_2015_with_2016_amendments_V3.pdf

All plans in this document are drawn at a scale of 1:75 when printed at A4

Developer house plans and
alternative options for discussion

House Type A

Developer Plan

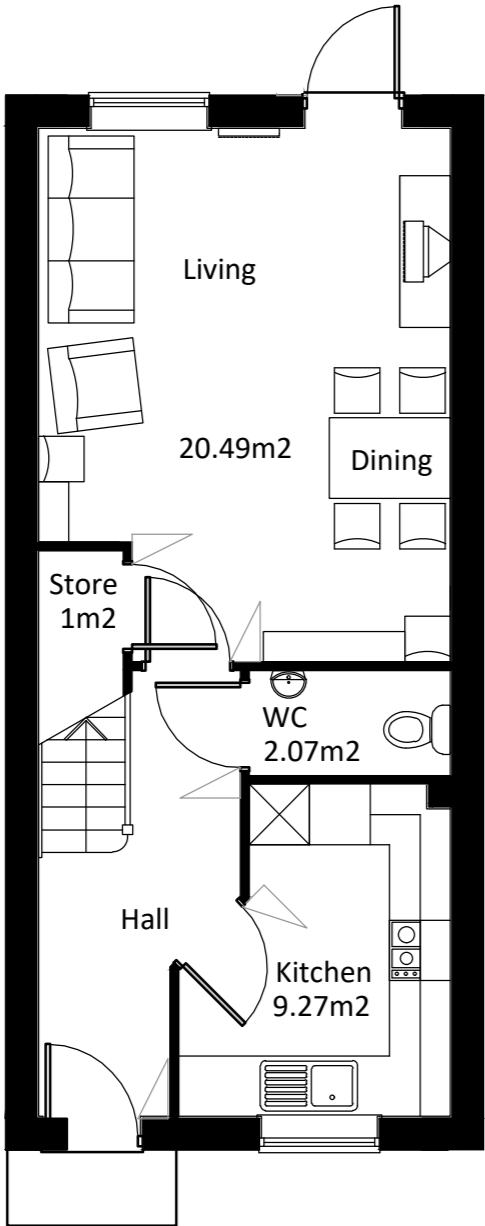
2 storey, 2 bedroom house with 4 bedspaces

4.1m wide and 9.8m deep

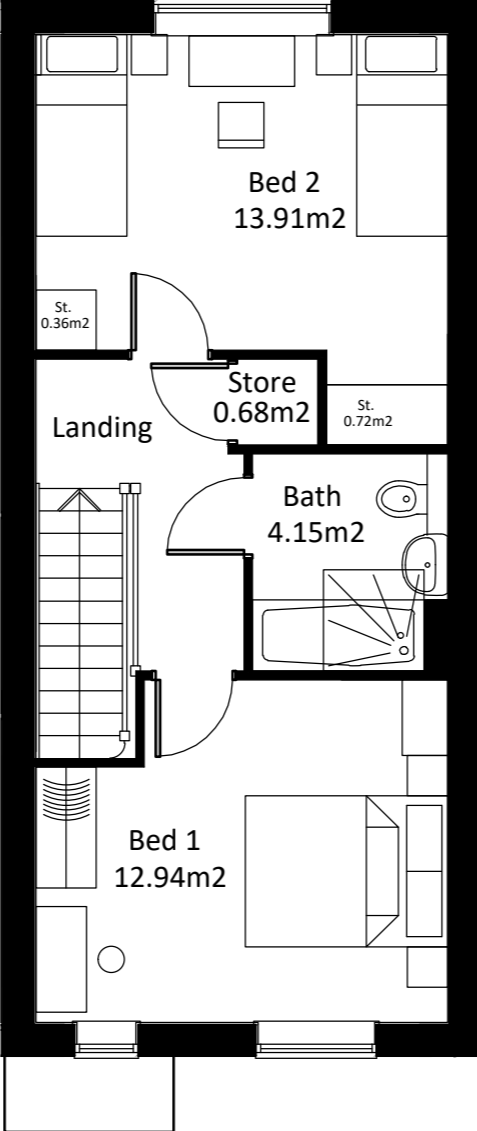
Total floor area: 80.4m²

Accessibility: M4(1)

The NDSS requires a minimum of 79m² for this house type



Ground Floor



First Floor

Alternative Floor Plan: 1

2 storey, 2 bedroom house with 4 bedspaces

4.1m wide and 9.8m deep

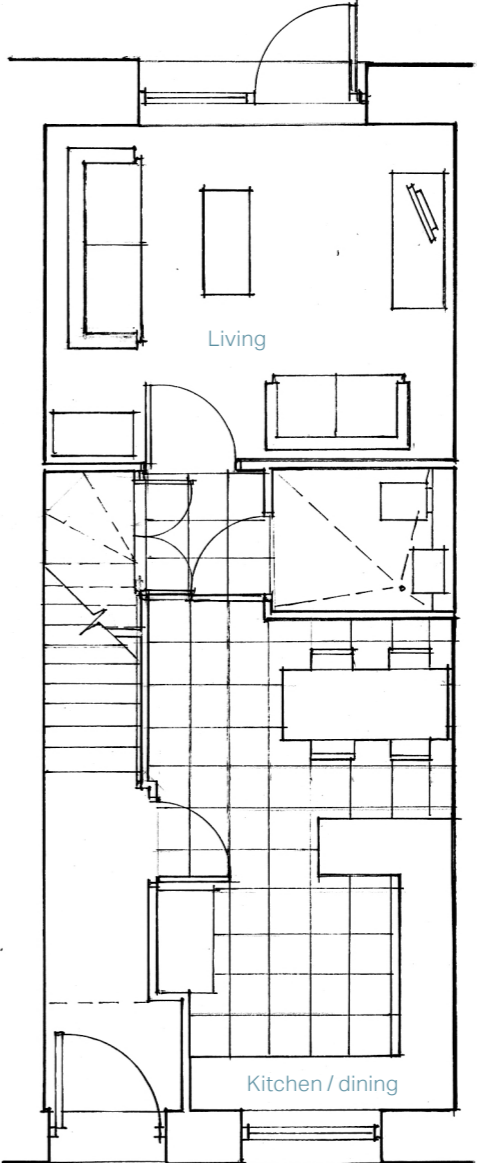
Total floor area: 80.4m²

Accessibility: M4(2)

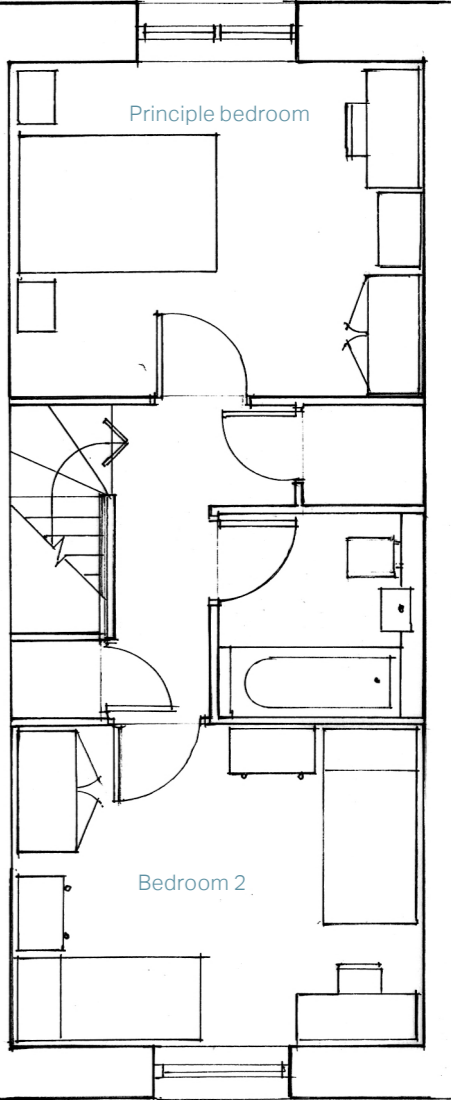
Key differences:

- complies with the provisions of M4(2) and offers the larger WC although that is not required for M4(2) in a two bedroomed home
- ground floor redesigned to provide two family rooms (kitchen/dining instead of living/dining)
- first floor layout modified to suit the modified ground floor and create more rectilinear rooms which are easier to furnish

Living room: 13.0m²
 Kitchen/dining room: 15.2m²
 Principle bedroom: 13.0m²
 Bedroom 2: 12.6m²



Ground Floor



First Floor

Alternative Floor Plan: 2

2 storey, 2 bedroom house with 4 bedspaces

4.1m wide and 9.8m deep

Total floor area: 80.4m²

Accessibility: M4(2)

Key differences:

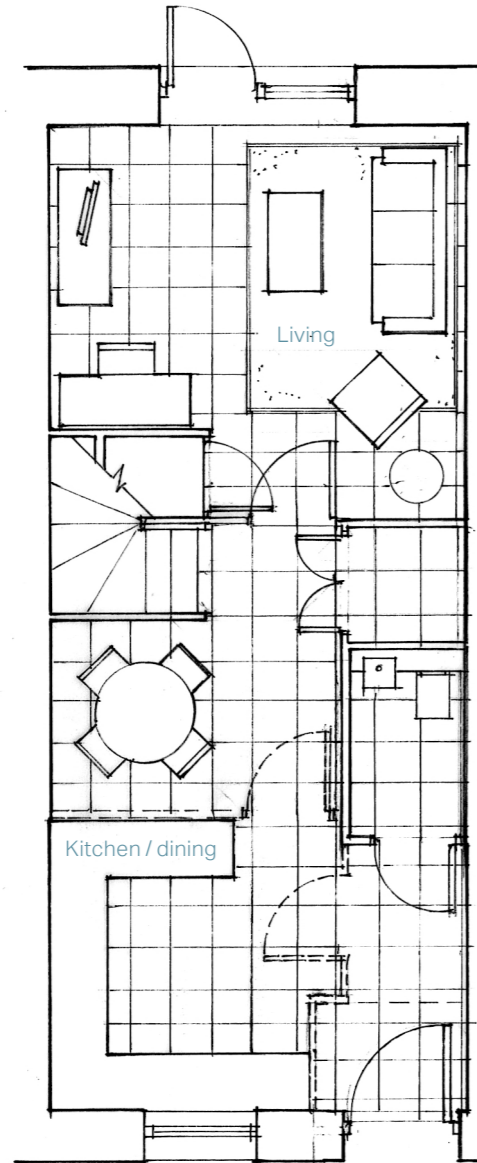
- complies with the provisions of M4(2) and offers the larger WC although that is not required for M4(2) in a two bedroomed home
- ground floor redesigned to provide two family rooms (kitchen/dining instead of living/dining)
- first floor layout modified to suit the modified ground floor.

Living room: 14.3m²

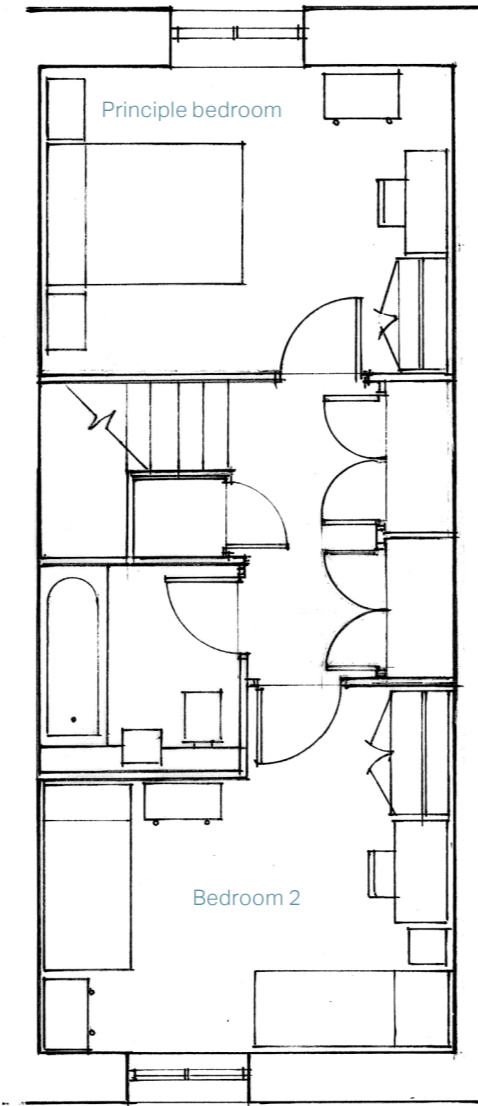
Kitchen/dining room: 17.9m² including entrance hall
(14.6m² without)

Principle bedroom: 12.0m²

Bedroom 2: 12.6m²



Ground Floor



First Floor

House Type B

Developer Plan

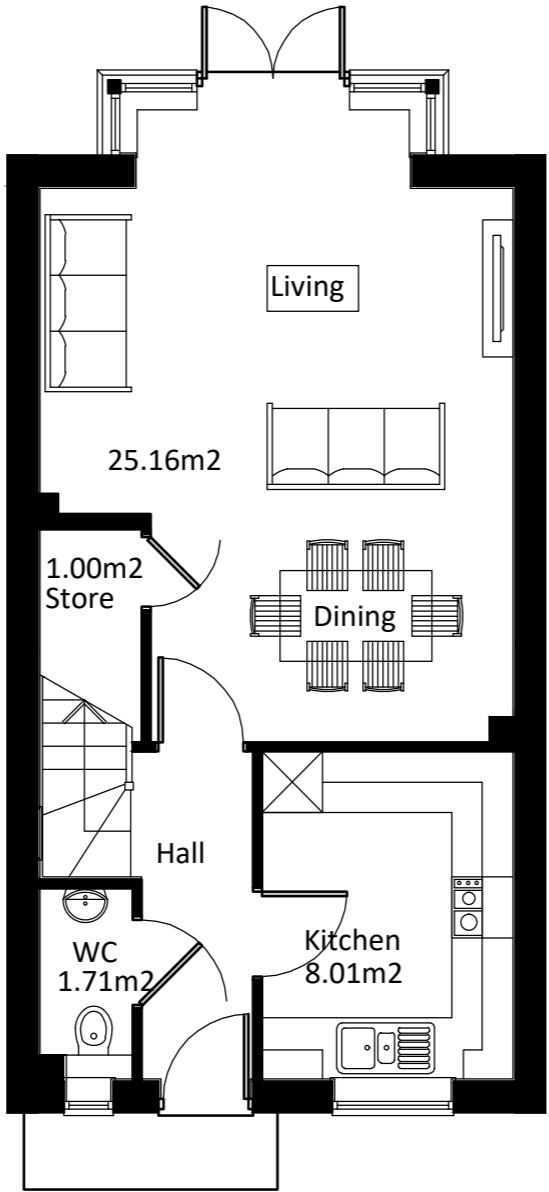
3 storey, 4 bedroom house with 6 bedspaces

4.7m wide and 8.9m deep (excluding bay)

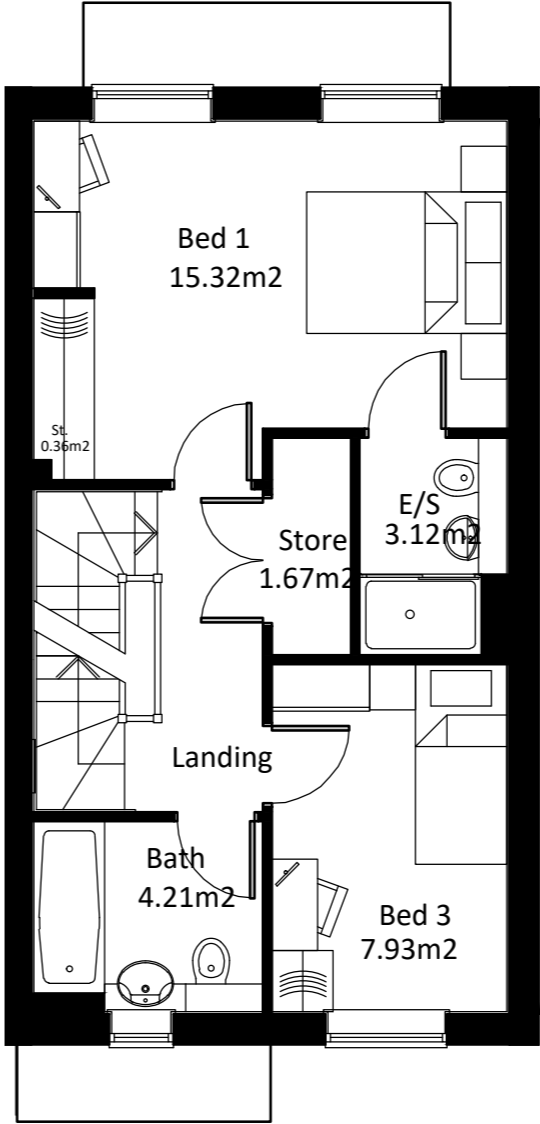
Total floor area: 114 m²

Accessibility: M4(1)

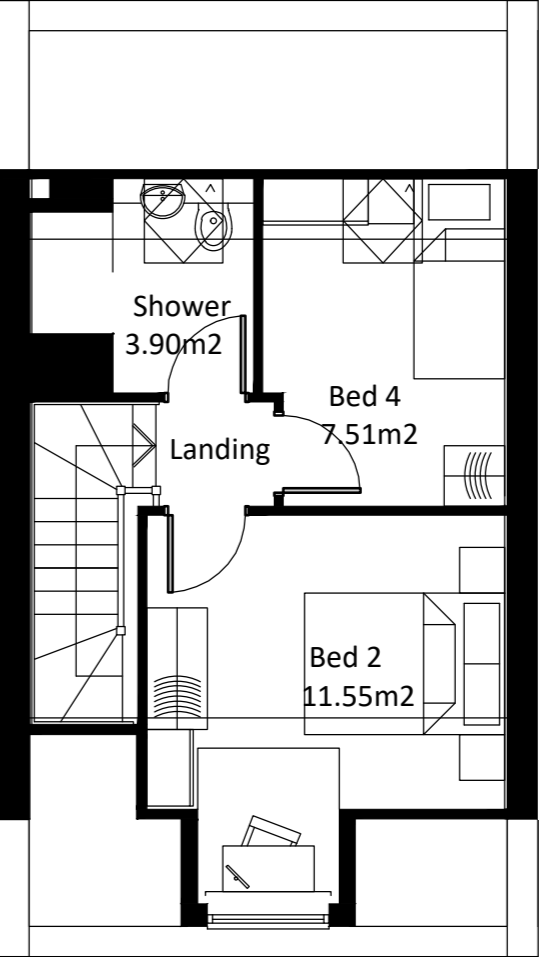
The NDSS requires a minimum of 112m² for this house type



Ground Floor



First Floor



Second Floor

Alternative Floor Plan:

3 storey, 4 bedroom house with 6 bedspaces

4.7m wide and 8.9m - 10.4m deep

Total floor area: 122m²

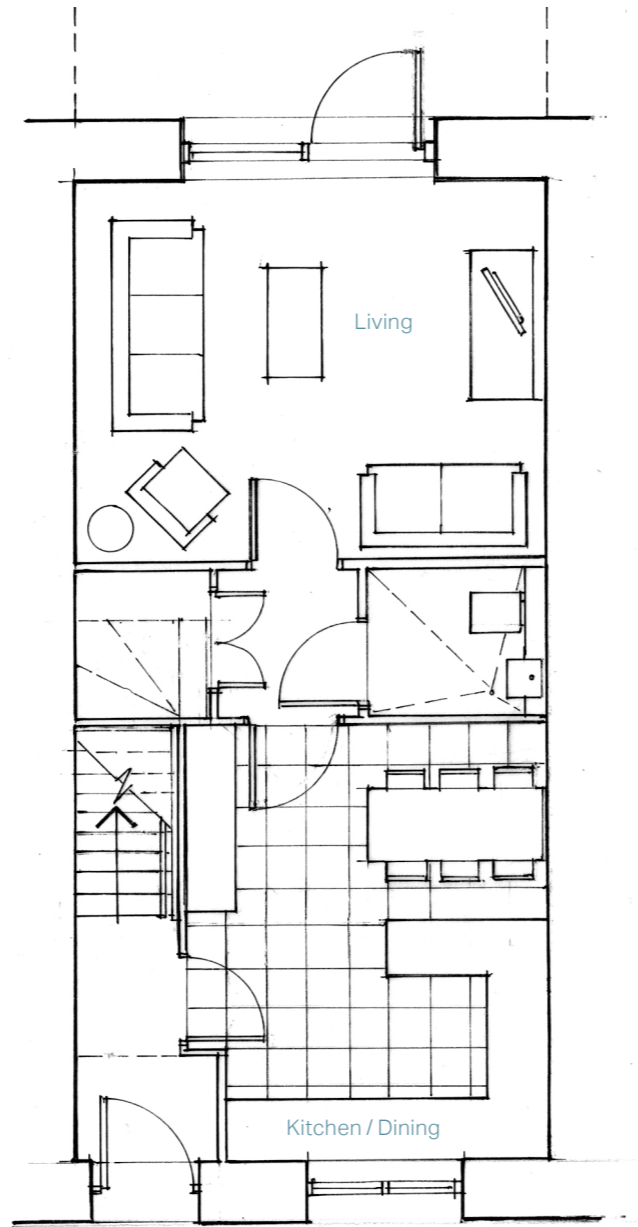
Accessibility: M4(2)

Key differences:

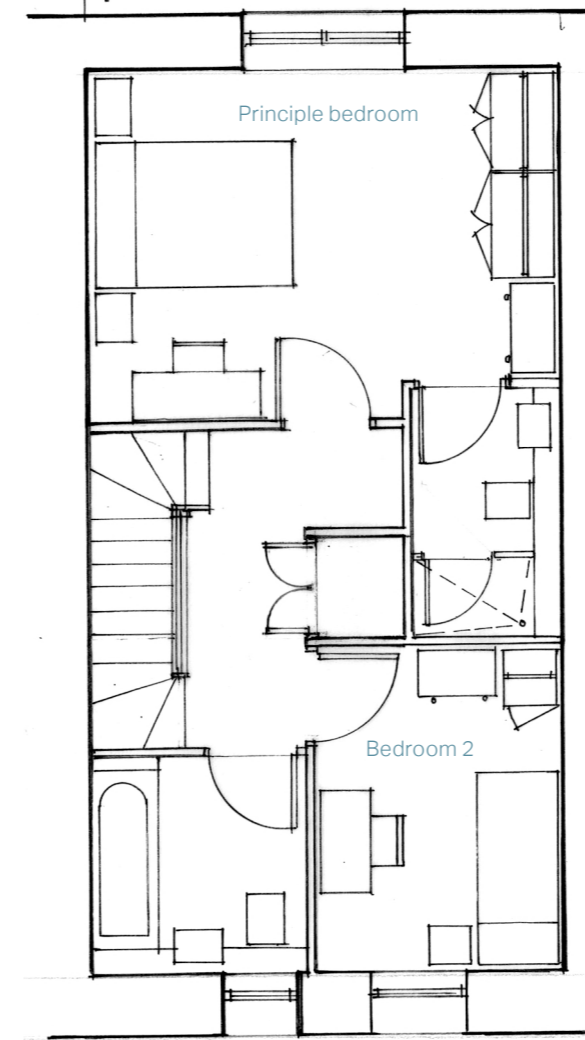
- complies with the provisions of M4(2), including larger WC
- ground floor extended by approximately 1.5m and low roof added (note that it could also be a flat roof providing a small terrace to the bedroom above)
- ground floor redesigned to provide two family rooms (kitchen/dining instead of living/dining)
- upper layouts modified and top floor bedroom 4 extended to accommodate a dormer window instead of a rooflight which increases the overall floor area slightly although it remains within the overall envelope.

Living room: 17.1m²
Kitchen/dining room: 14.7m²

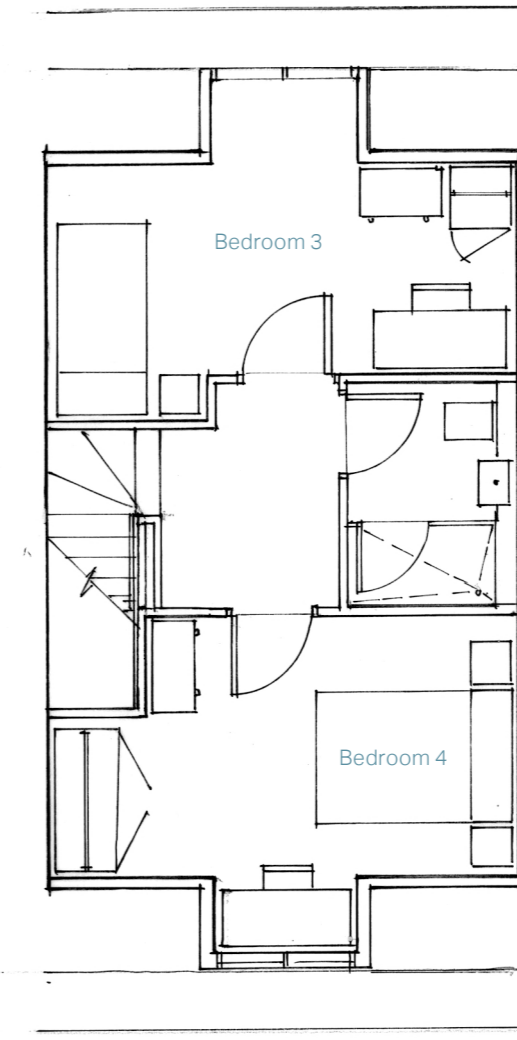
Ground Floor



First Floor



Second Floor



Principle bedroom: 15.7m²
Bedroom 2: 11.6m²
Bedroom 3: 11.8m²
Bedroom 4: 8.0m²

House Type C

Developer Plan

3 storey house with up to 5 bedrooms and 8 bedspaces

4.7m wide and 8.9m deep (excluding bay)

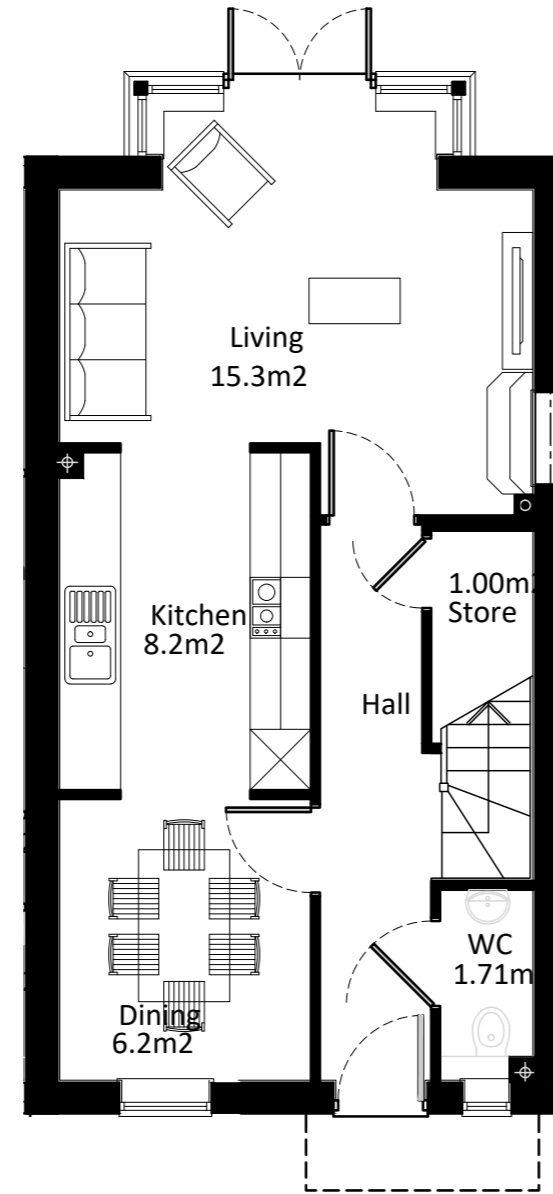
Total floor area: 127m²

Accessibility : M4(1)

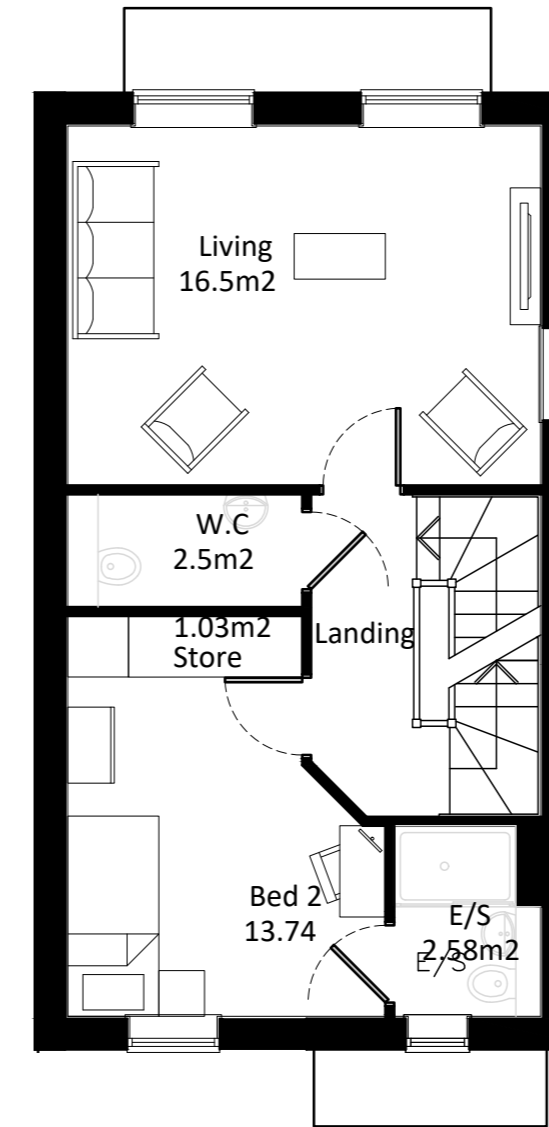
The NDSS requires a minimum of 103m² for a 3 storey house with 4 bedrooms and 5 bedspaces, 112m² for 4 bedrooms with 6 bedspaces and 134m² for 5 bedrooms with 8 bedspaces.

This house type shows 4 bedrooms with 5 bed spaces (note that 2 bedrooms are labelled 'bedroom 2'). However, the additional sitting room shown on the first floor is quite likely to be used as a bedroom and the bedroom on the first floor is furnished as a single although large enough to be a double and is served by an ensuite. This means this house could have 5 bedrooms for up to 8 people.

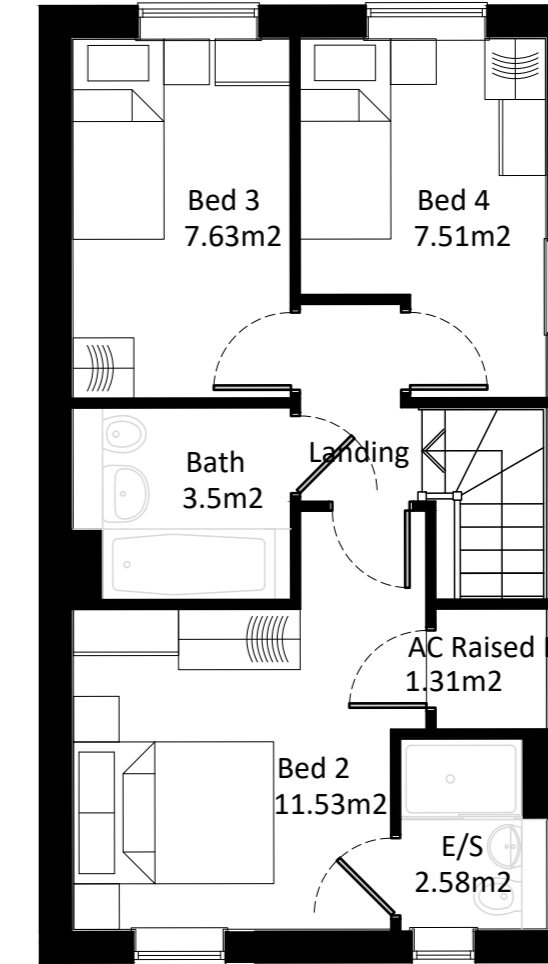
The use of these rooms should be clarified, in order to be sure that the overall floor area meets the NDSS. The number of bedrooms and bedspaces are crucial in this regard and the amount of built-in storage required is also directly related to the number of bedrooms in home.



Ground Floor



First Floor



Second Floor

Alternative Floor Plan:

3 storey house with up to 5 bedrooms and 7 bedspaces

4.7m wide and 8.9m - 10.4m deep

Total floor area: 129m²

Accessibility : M4(2)

Key differences

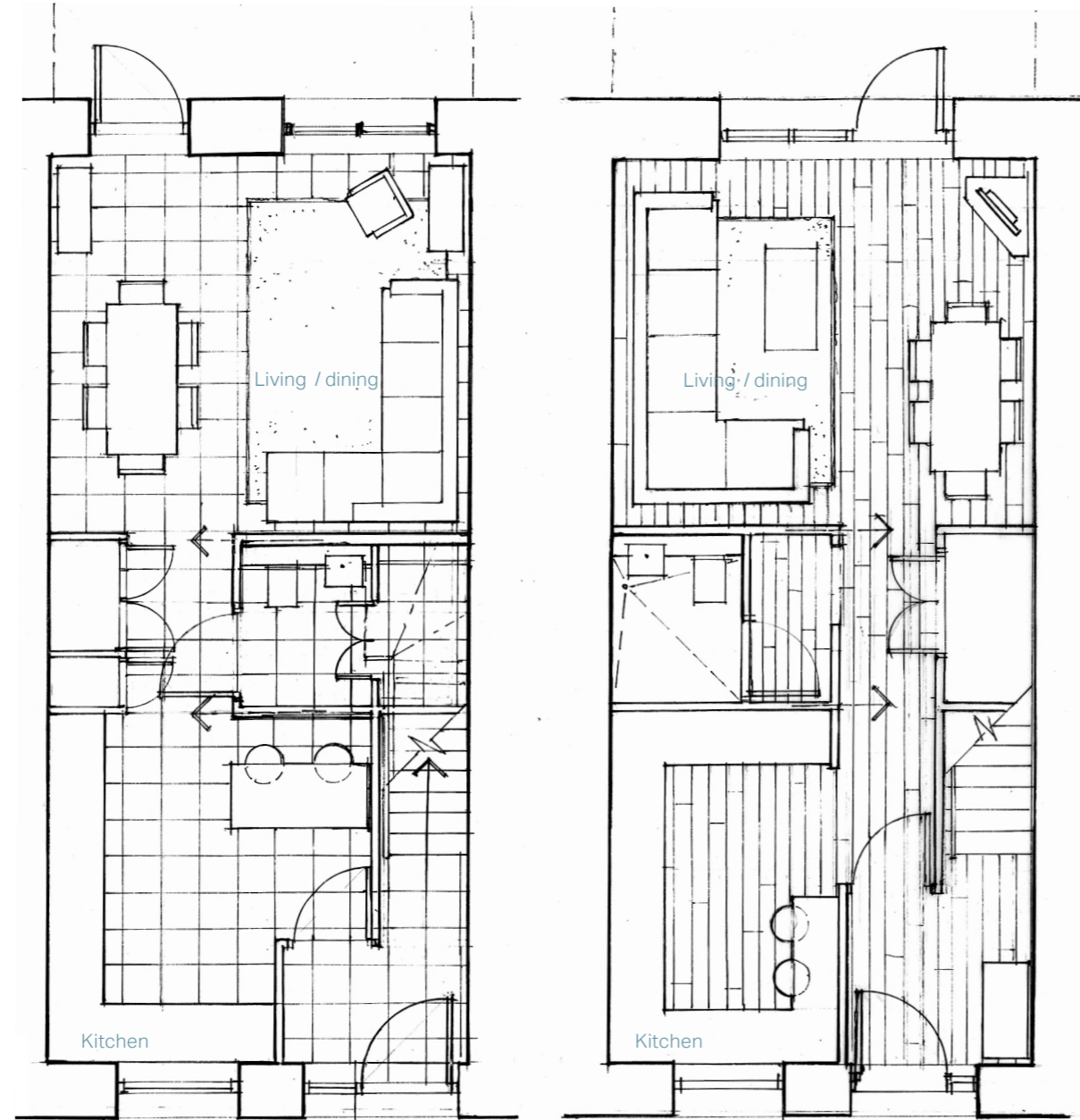
- complies with the provisions of M4(2), including larger WC
- ground floor extended by approximately 1.5m and low roof added (which could provide a small terrace to Bedroom 2)
- ground floor redesigned to provide two family rooms (kitchen/dining instead of living/dining)
- as a 'worse case scenario' the room at the rear of the first floor is shown as a double bedroom and therefore enough storage for 7 people has been provided
- the single bedroom's ensuite has been changed into a study at first floor

Option 1

Living / dining: 19.7m²
Kitchen: 12.7m²

Option 2

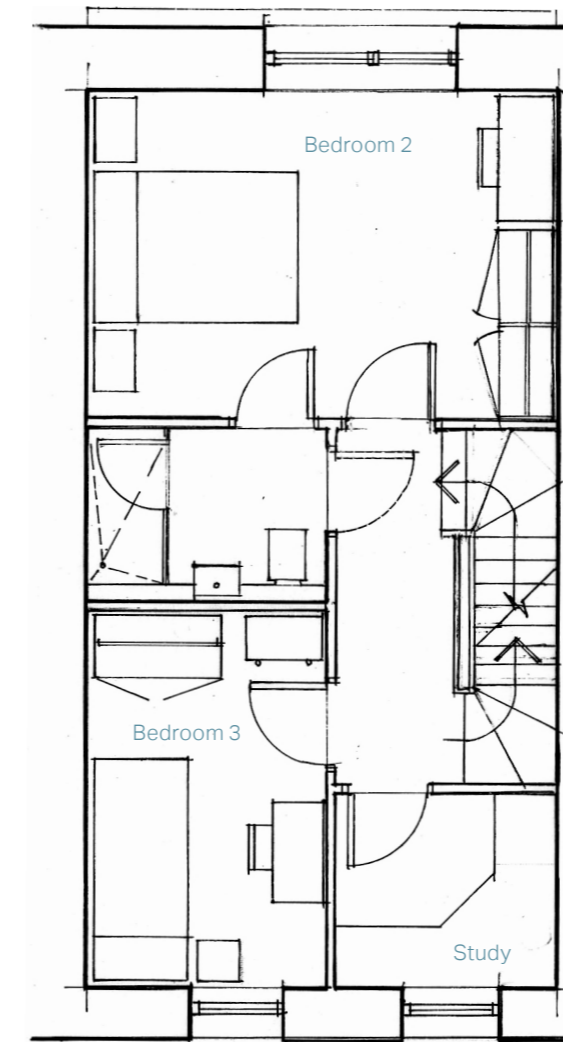
Living / dining: 19.2m²
Kitchen: 10.0m²



Ground Floor Option 1

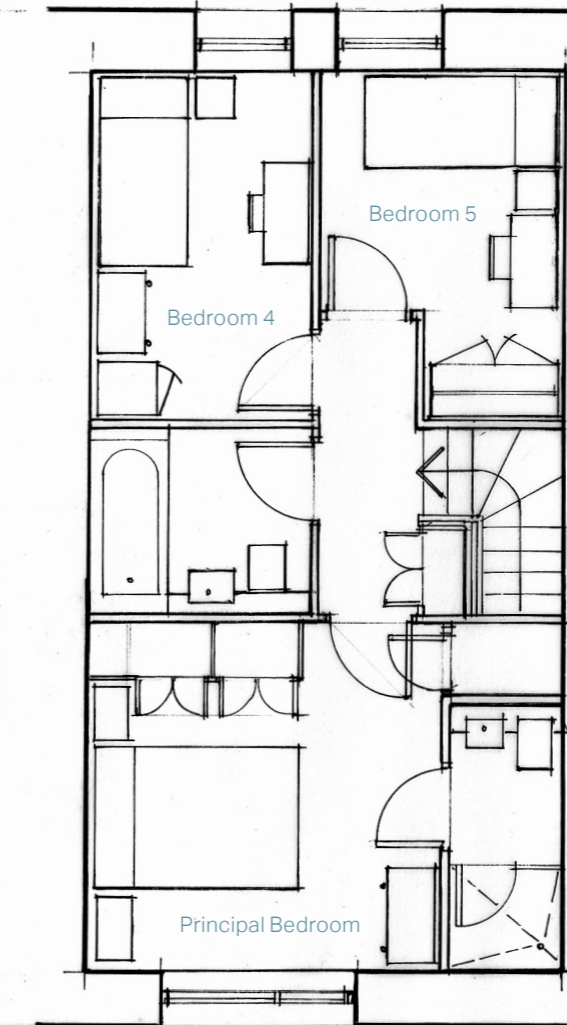
Ground Floor Option 2

Bedroom 2: 15.5m²
Bedroom 3: 9.2m²



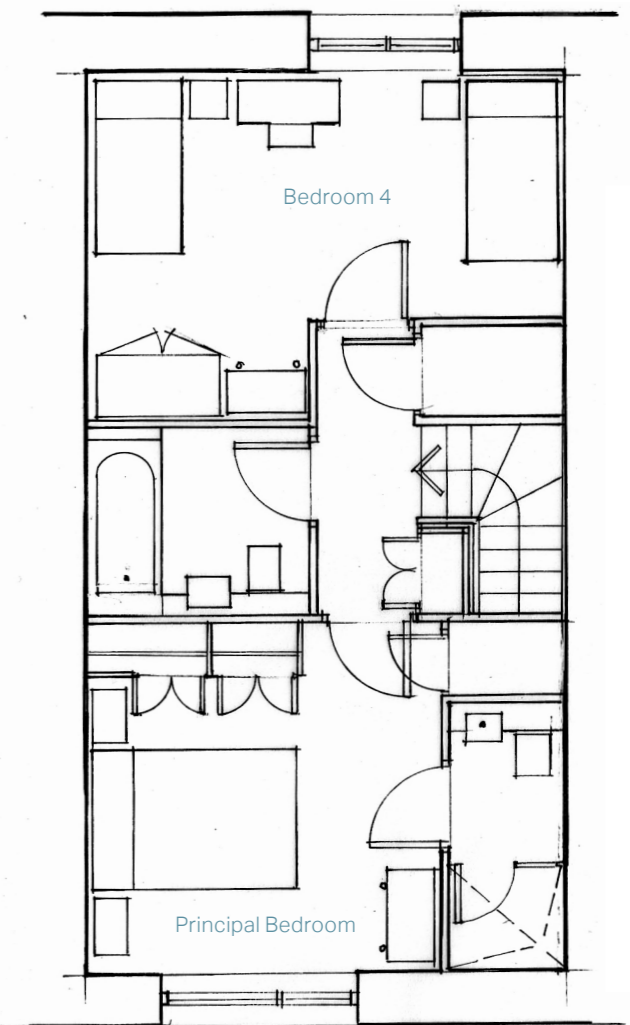
First Floor

Principal Bedroom: 12.3m²
Bedroom 4: 7.5m²
Bedroom 5: 7.5m²



Second Floor Option 1

Principal Bedroom: 12.3m²
Bedroom 4: 13.8m²



Second Floor Option 2

New house plans as alternatives

New house Type 1

Flexible 2-storey house

2 storey, 3 bedroom house with 5 bedspaces

5.5.m wide and 8.5m deep (all options)

Total floor area 93.5m²

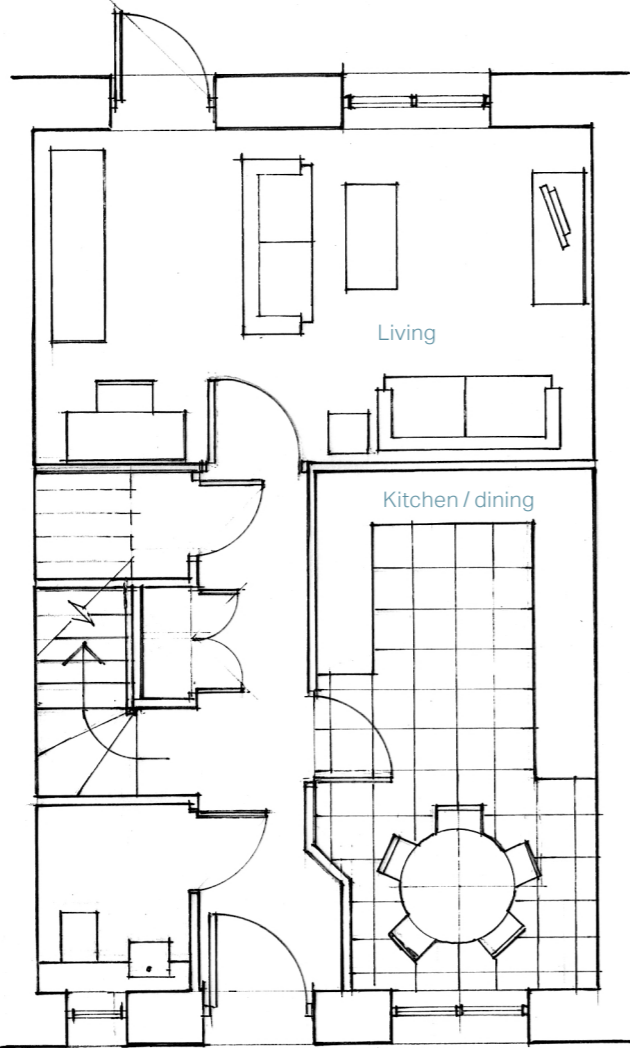
Accessibility : M4(2)

The NDSS requires a minimum of 93m²

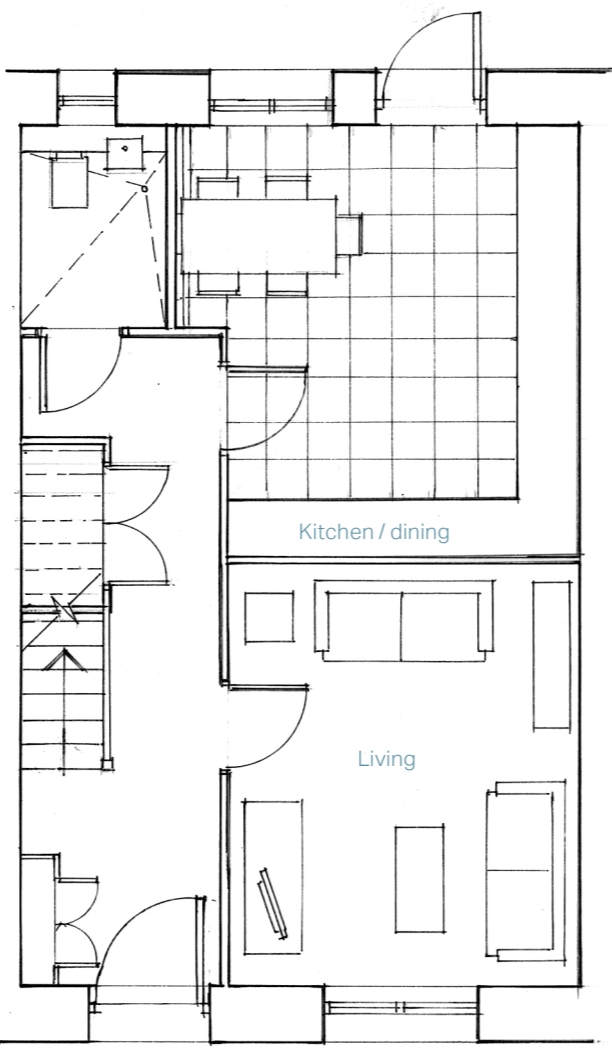
House type 1 demonstrates what a fairly modest increase in frontage can achieve.

Its main benefit is that the ground floor can be configured in a number of different ways.

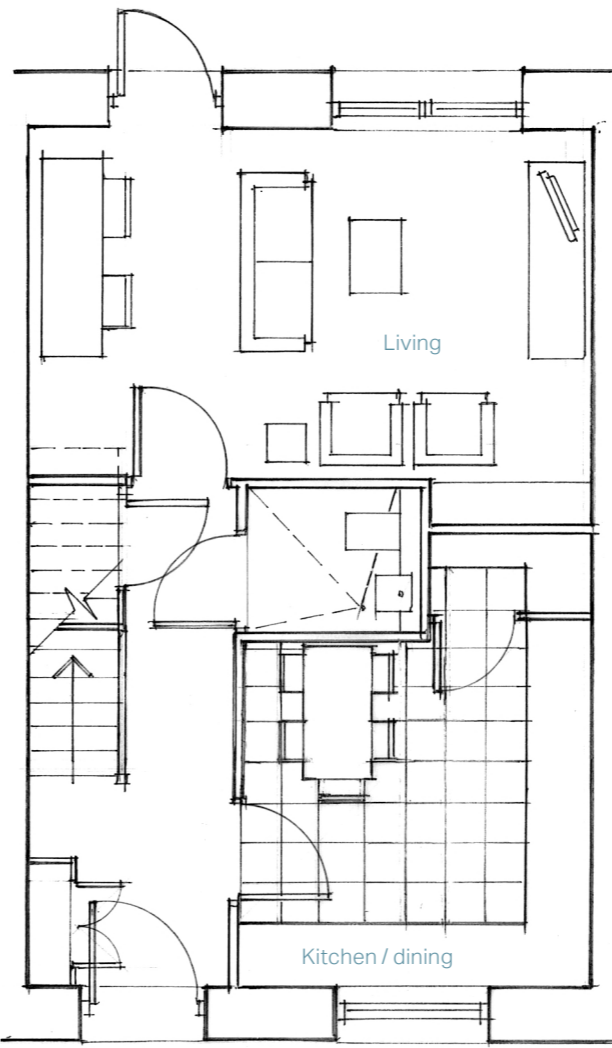
In principle the four versions of the ground floor shown here can all be achieved with the same first floor which has been optimised This allows buyers more choice, is likely to attract a more diverse market and the standardisation of the first floor should result in some economy of scale.



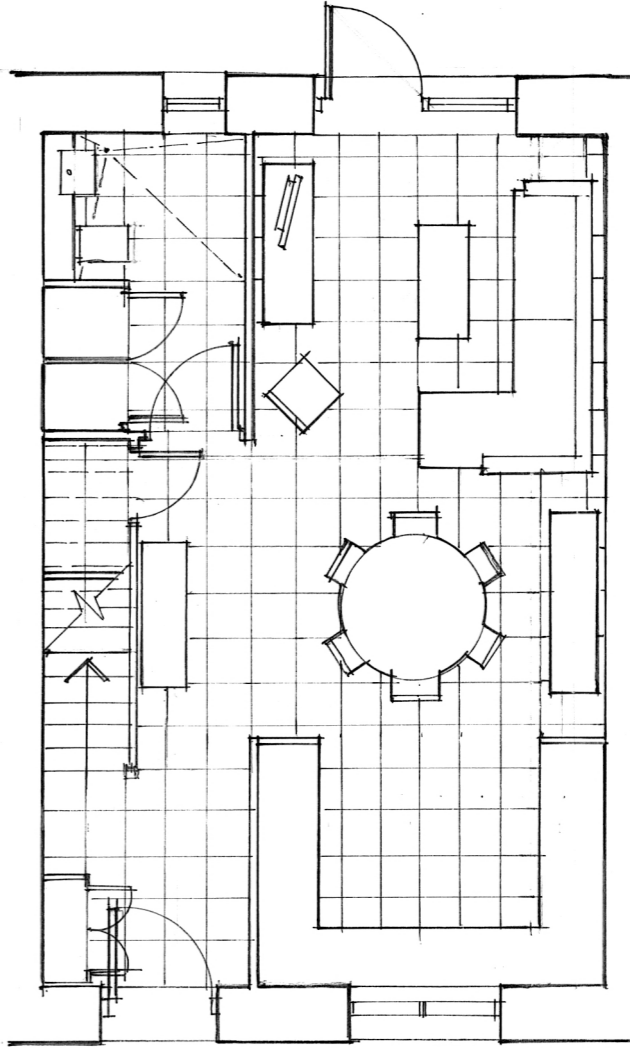
Ground Floor Option 1
Living room: 18.2m²
Kitchen/dining: 13.6m²



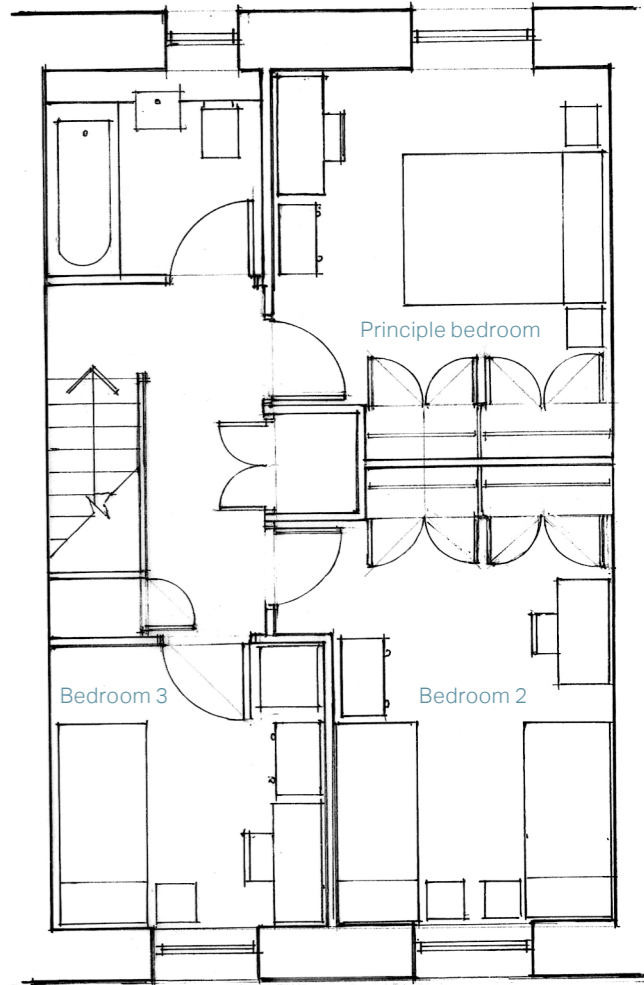
Ground Floor Option 2
Living room: 14.6m²
Kitchen dining: 15.7m²



Ground Floor Option 3
Living room: 19.4m²
Kitchen dining: 13.4m²



Ground Floor Option 4
Open plan so not calculated.



First Floor
Principal bedroom: 12.4m²
Bedroom 2: 12.8m²
Bedroom 3: 7.5m²

New house Type 2

Wider and shallower house

2 storey, 4 bedroom house with 6 bedspaces

7.7m wide and 7.5m deep

Total floor area 115.5m²

Accessibility : M4(2)

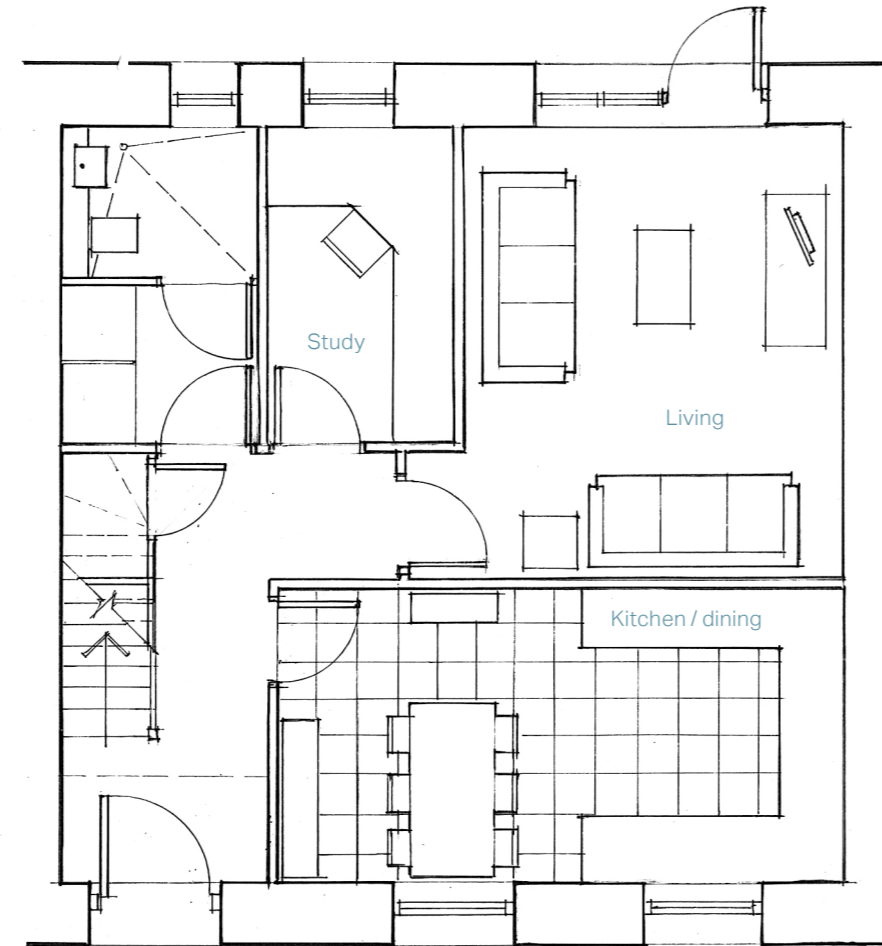
The NDSS requires a minimum of 106m² for the house type

This wide frontage house will look and feel more generous than a narrow-fronted home of the same size.

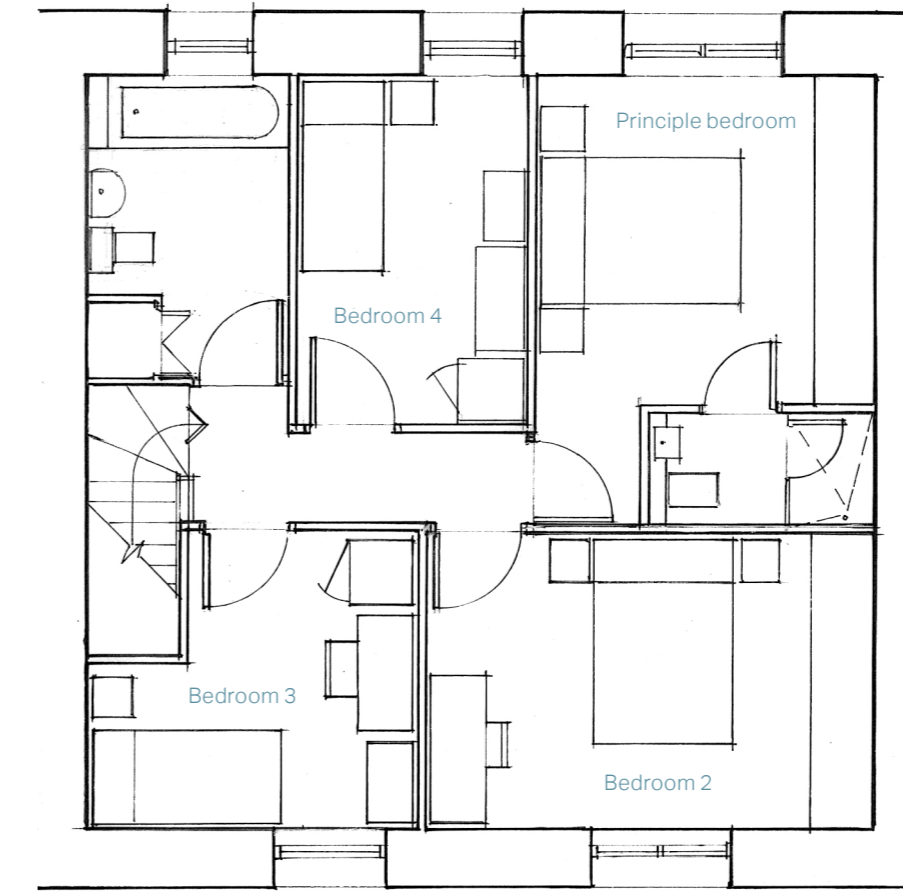
It has well-proportioned rooms which relate well to each other, and the circulation is efficient but wide enough to feel pleasant.

As the pressure is on the first floor in this house type, there is room for a dedicated study on the ground floor and a small utility room (which allows the washing machine to be taken out of the kitchen). This space also acts as a lobby to the WC which is therefore more discreetly located.

Living room: 17.4m²
Kitchen/dining: 16.4m²
Study: 5.8m²



Ground Floor



First Floor

Principal bedroom: 12.0m²
Bedroom 2: 12.9m²
Bedroom 3: 8.2m²
Bedroom 4: 7.9m²

New house Type 3

Articulated house with parking

2 storey, 2 bedroom house with 4 bedspaces

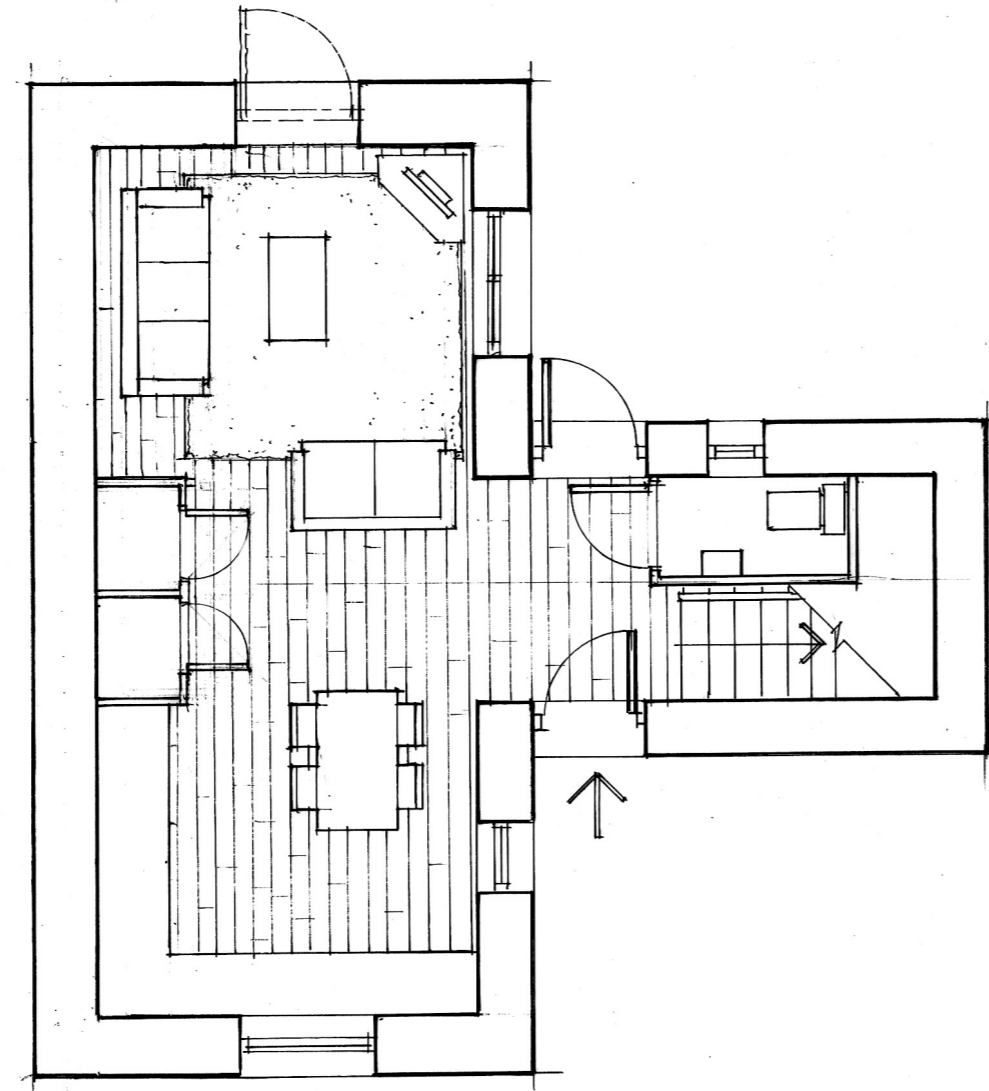
Total floor area 82.6m²

Accessibility : M4(2)

The NDSS requires a minimum of 79m² for this house type

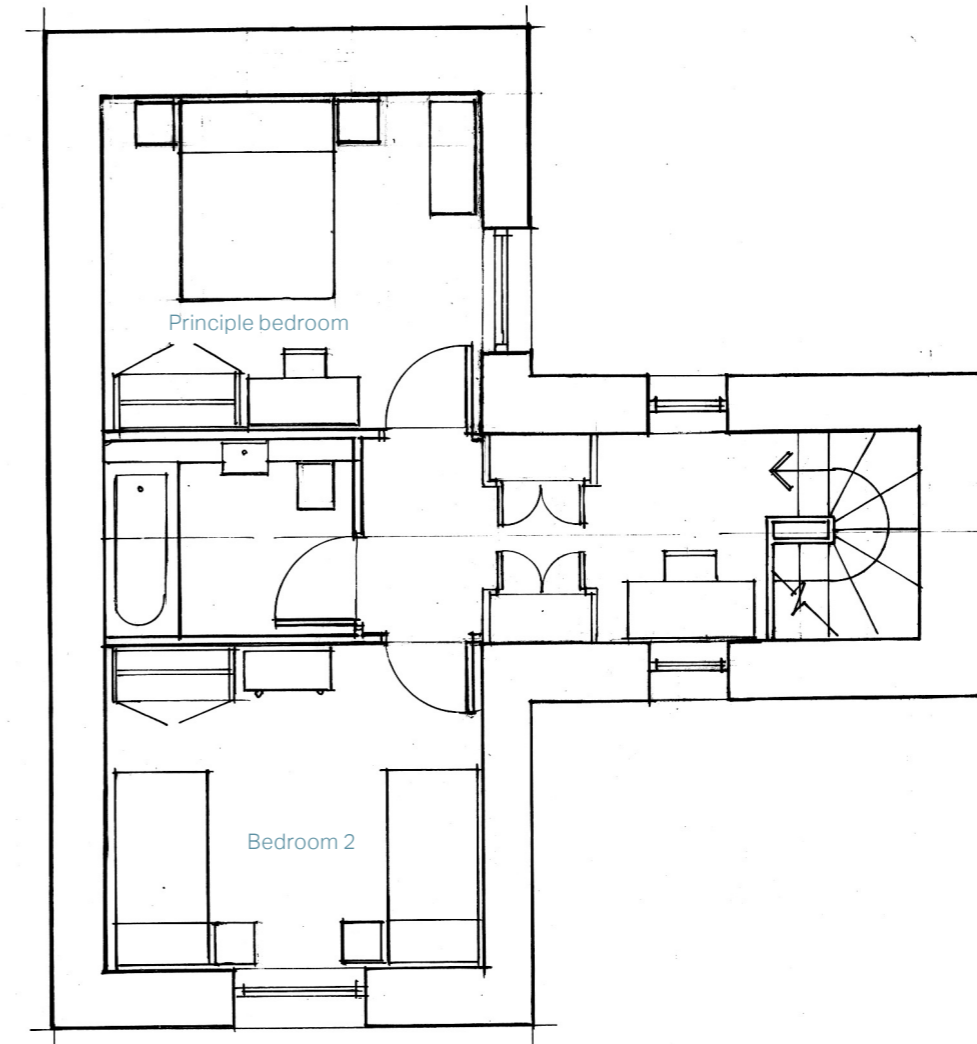
At first glance house Type C looks improbable with its convoluted envelope. However, when grouped to form a terrace it make sense. As shown here, the houses can be handed or not handed depending on the context and orientation. The broken façade is more interesting than the usual continuous flat frontage and allows for in-curtilage parking.

The very simple layout of the plan offers something different on the inside too. The bedrooms are separated from the living areas and the landing can accommodate a small desk. Windows can be placed in almost every orientation which helps to optimise the aspect and manage privacy.



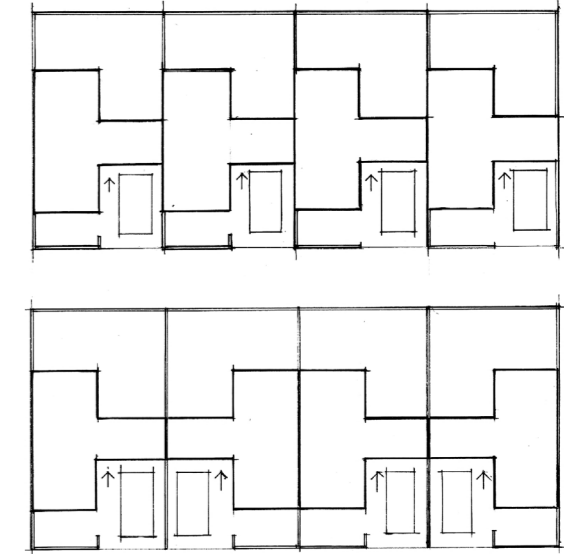
Ground Floor

Living/dining/ kitchen: 29.6m²



First Floor

Principle Bedroom 11.7m²
Bedroom 2 11.7m²



Key plans demonstrating how the houses can be grouped to form terraces and incorporate parking.

Conclusion

Conclusion

This guidance demonstrates that it is possible to upgrade from M4(1) to M4(2) for the most common narrower house types used within Ebbsfleet, without compromising on the general functionality or amenity of house layouts. As noted earlier, all of the guidance layouts include a kitchen/dining room and a separate sitting room as an alternative to a combined sitting/dining room and separate kitchen. This is likely to be more desirable to a wider range of people and should therefore be aimed for.

House Type A showcases two very different alternative layouts within the original internal envelope. In both three-storey houses (Types B and C) the floorplan is lengthened slightly, as there is limited benefit in the bay window/door feature and more value in extending the whole room. This also creates an opportunity to provide a balcony on the first floor.

In House Type B, the proposals include a dormer window on the back of the first floor, to ensure all habitable rooms have a view to the outside world and not reliant on a rooflight. The dormer only increases the overall floor by circa 1m², and as it remains within the overall envelope and mirrors the dormer at the front of the house, the extra cost should be modest.

In House Type C the room at the rear of the first floor could be used as a second sitting room or a fifth bedroom, but has been assumed to be a bedroom in the illustrated layout. It should be noted that the only bathroom in this house type is on the top floor which is far from ideal, particularly for under-fives and older people for whom a small ensuite on the first floor is not a practical alternative.

The second part of this exercise offers three very different house types which demonstrate the benefits of wider frontages and more articulated footprints. They are a very small sample of what is possible, intended to offer food for thought and move the conversation on. All three clearly demonstrate that the proportions of a house often make a considerable difference to the feel of the home.

For example, wide frontage homes (generally defined as at least 5m wide but ideally 5.5m+) allow daylight to penetrate to the middle of the plan and the layouts often feel more generous. Long, narrow halls can usually be avoided and the connections between different spaces are often better too. They also tend to offer more layout options, and therefore more initial choice, with greater flexibility over time. This matters because peoples' preferences often vary widely and change over time. For example, households with older children, or sharers, often want good separation between rooms, whereas younger or older couples may prefer a more open plan arrangement.

It should be noted that these layouts are schematic only and would need more detailed work should any of them be developed further. However, it is clear that collectively, we can and should, do better. To that end seven simple recommendations are offered to all developers involved in future phases of house building in Ebbsfleet.

Working closely with the planning team throughout the process:

- Make M4(2) your starting point for all new homes.
- Liaise with EDC's planning team to identify which house type could be developed to be M4(3) compliant, with the aim of achieving at least 5% of new homes compliant with M4(3).
- Consult existing and new residents about their preferences and reflect the feedback in future phases of development.
- Use house types that are wider (i.e. greater than 5m) and shallower to enable greater flexibility in layouts, make it easier to meet the requirements of M4(2), and improve the daylight in rooms.
- Offer more initial choice in layout, and build in flexibility for the future.

Take account of context, micro-climate, orientation, and outlook when selecting house types, paying particular attention to fenestration.

Carry out, or commission an outside expert, to undertake long-term post-occupation evaluation (POE) as a means of understanding the views of your end users and use their experience as a learning tool.