



# Good Practice Guide for Residential Development Roads

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EAST RENFREWSHIRE COUNCIL

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EAST RENFREWSHIRE Roads & Transportation (Traffic & Lighting)

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# INTRODUCTION

0



## 0.1 Introduction

This **Good Practice Guide** has been prepared by East Renfrewshire Council Roads Service (hereafter referred to as 'ERC Roads Service' or 'the Roads Service') and sets out guidance for developers and designers for the **provision of roads infrastructure, including the design and construction**, of all new roads associated with **residential development** proposals within The East Renfrewshire Council area.

The document embraces the principles of the Scottish Government policy document Designing Streets, and the Society of Chief Officers of Transportation in Scotland (SCOTS) National Roads Development Guide, offering interpretation of those policies within a local context.

The principal aims of this guide are to ensure that **all roads are functional and safe for all users** whilst, at the same time, setting out principles to be considered to ensure that appropriate road design/layouts are obtained to enable subsequent adoption by the Council as public roads.

## 0.2 National Policy Context



### 0.2.1 Designing Streets & Creating Places

The principles set out by Scottish Government in Designing Streets, a policy and guidance document published in 2010, promote people and a sense of place over the movement of motor vehicles. The document emphasises intelligent, location-specific street design rather than a rigid application of design standards.

Designing Streets provides high-level design guidance for all planning practitioners in Scotland and can be a material consideration in determining planning applications and appeals.

Designing Streets sits alongside Creating Places, Scottish Government's guidance document which promotes the principles of context, identity and character in design and sets out the role of the planning system in delivering these aspirations. Designing Streets and Designing Places are the Scottish Government's two key policy statements on design and placemaking.

Designing streets states that street design should be based on balanced decision-making and must adopt a multidisciplinary collaborative approach.

This Good Practice Guide embraces the principles of Designing Streets and Creating Places, and offers interpretation of those policies within a local context.

The six qualities of successful places are set out in Designing Places as being:

## **Distinctive**

Design that makes the best use of site attributes and respects and enhances the character of surrounding buildings, streets and green networks to create places that have a sense of identity.

## **Welcoming**

Places that encourage social interaction, where it is easy for people to find their way around and access local services in a walkable neighbourhood.

## **Adaptable**

Places that can support a mix of compatible activities with built in flexibility so that they can adapt to changes in the future.

## **Easy to move around and beyond**

Street design that considers all users and is well connected into existing movement networks, putting people and place before vehicular movement.

## **Safe and Pleasant**

Attractive, well managed and appropriately scaled places designed to encourage activity and overlooked by surrounding buildings and active frontages. With clear definition of public and private spaces, where parking does not dominate and there is natural traffic calming.

## **Resource Efficient**

Development designed to make best use of resources, achieve high environmental performance and minimise impacts on the built or natural environment.



# NATIONAL ROADS DEVELOPMENT GUIDE



## 0.2.2 National Roads Development Guide

The [National Roads Development Guide \(NRDG\)](#) was prepared by the Society of Chief Officers of Transportation in Scotland (SCOTS) in 2015.

The NRDG follows the same principles as set out in *Designing Streets*, clarifies the circumstances in which it can be used and addresses the interface with other roads.

This NRDG is considered the technical enabler to *Designing Streets* and **sets out the processes for obtaining statutory consents**, including Roads Construction Consents (RCCs).

This Good Practice Guide embraces the principles and much of the best practice outlined in NRDG, with a specific focus on residential developments, providing additional detail and local context. For aspects of development planning related to commercial developments, NRDG remains the primary guidance.

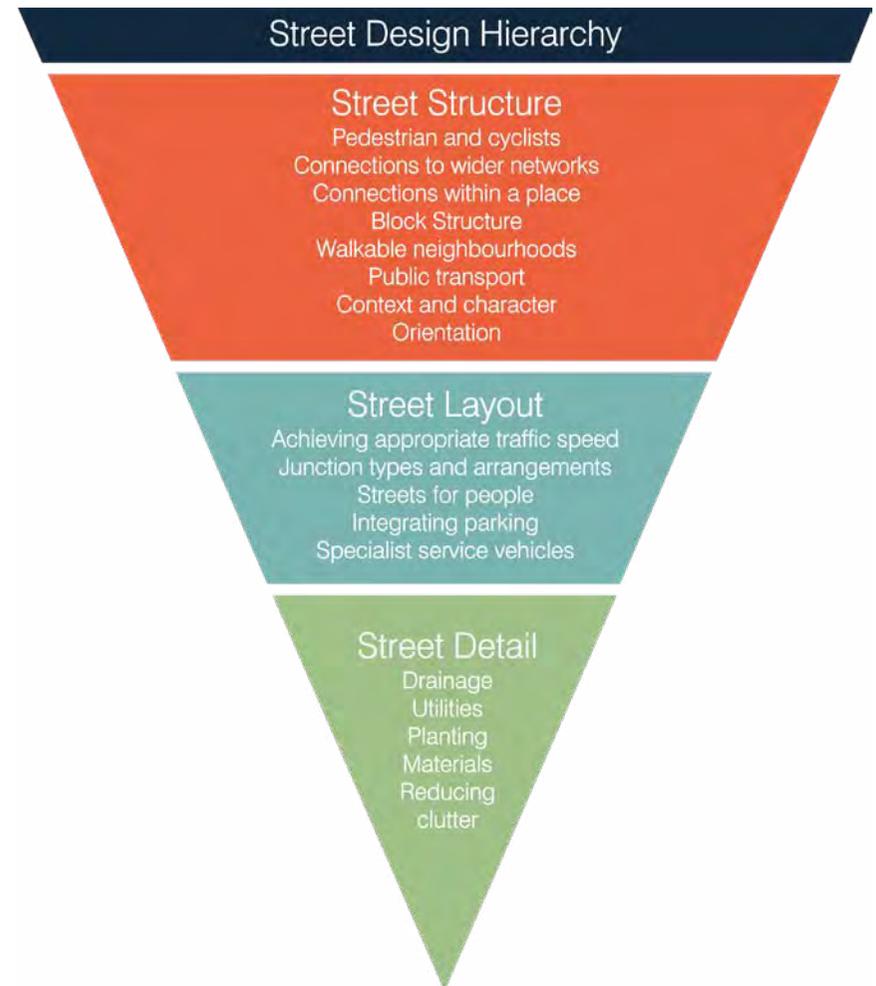
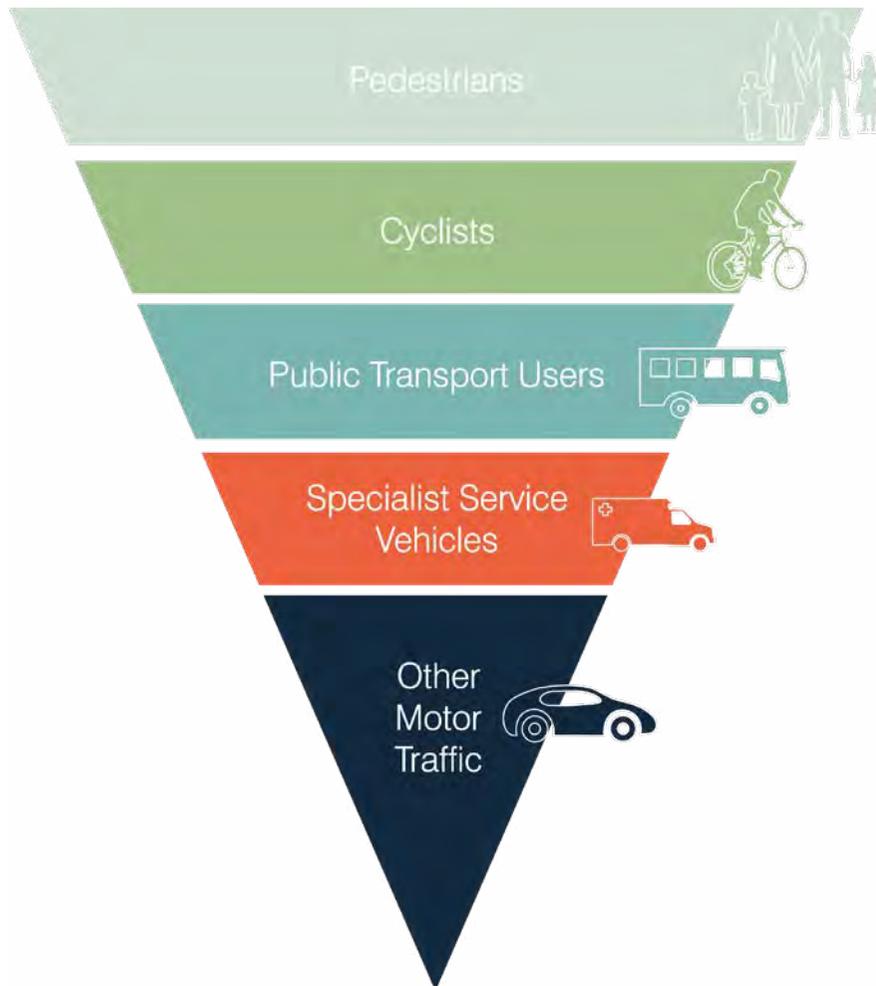
While the purpose of our document is to follow on from NRDG and not supersede it, there are a small number of areas where ERC Roads Service's Good Practice Guide departs from the standards set out in NRDG.

A tabular list of variations between the Good Practice Guide and NRDG has been submitted to SCOTS and is included as [Appendix H](#).

**0.2.3 The Route User and Street Design Hierarchies**

Designing Streets and the National Roads Development Guide promote a route-user hierarchy with pedestrians at the top, leading to a street design hierarchy which considers the needs of pedestrians first in the design of any road layout.

**This Good Practice Guide supports this hierarchy as a core principle of Designing Streets.** Within this core principle, the Roads Service requires that developments are safe and functional for all road users.



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### 0.3 Local Policy Context

The [Local Development Plan](#) is the primary document which sets out the development strategy, key policies and proposals for development and use of land in East Renfrewshire. ERC's [Local Development Plan 2](#) is currently being progressed and will guide development in East Renfrewshire up to 2029.

There are also various [Supplementary Planning Guidance](#) notes which have been prepared and adopted by the Council to support the Local Development Plan and provide more guidance on specific policy areas. These documents form a statutory part of the Local Development Plan.

This Good Practice Guide complements and provides further technical details to the Council's Local Development Plan Supplementary Planning Guidance **Residential Street design June 2015**.

A list of some of the more pertinent guidance documentation is described within [Appendix B](#).

## 0.4 Good Practice Guide for Residential Development Roads

ERC Roads Service's Good Practice Guide for Residential Development Roads follows the same principles introduced in *Designing Streets* and *NRDG*, providing detail on the practicalities of delivering these principles in the context of a local residential development.

East Renfrewshire like all local authorities in Scotland, has unique circumstances within its "Roads" environment and in addition to providing general design guidance this document seeks to address specific areas which reflect local situations/circumstances.

### 0.4.1 Aims & Objectives of this Document

In providing this guidance, East Renfrewshire Council (ERC) recognises that a rigid application of standards is not commensurate with the ethos of *Designing Streets* and does not seek to compromise the quality or the sense of place. Instead, the intention is to **promote harmony between streets as places** without losing sight of the essential need for **functionality and road safety**.

As stated in *NRDG*,

***"This Guide follows the same principles introduced in *Designing Streets* with a change in policy to move away from a standards-based approach to one where designers, planners and roads engineers collaborate to develop a design-led solution."***

This Good Practice Guide is intended to be an aid to that collaboration.

The core aims of this document are:

- To provide guidance and, where appropriate, set out a minimum requirement which should be used in the design of new roads, footways, footpaths, service strips and driveways, and in the alteration of existing road layouts.
- To provide developers and designers with a clear and consistent understanding of ERC Roads Service's requirements.
- To provide all necessary guidance to ensure the development is acceptable for Planning Permission, Roads Construction Consent (RCC) and (if appropriate) adoption by East Renfrewshire Council as Roads Authority.

## 0.4.2 The Five Core Principles

The issues around good road design are dependent on location and context. Any layout may vary in design standards from one circumstance to another. In assessing the design of new roads infrastructure, East Renfrewshire Council will give due consideration to the following **five core principles**:



These five principles provide a framework which should be used when considering road design as part of a planning application and road construction consent application.

## 0.4.3 Overall Design Considerations

Subsequent pages of this document incorporate fine points of detail of the various elements of road design, but for the design in an overall context, the designer should note the following broad principles:

- The Roads Service should be consulted at an early stage of the design to minimise abortive work. The design of any development must consider not only the layout of the proposed housing but also the proposed road layout, including parking and street lighting at the same time, as these features are all interdependent and should not be designed in isolation.
- The developer must provide detailed information at the planning stage to ensure that a subsequent RCC application, reflecting the design, will not alter the layout approved under the planning permission in keeping with Designing Streets.
- Developers are encouraged to consider innovative and new design techniques.
- There are various (Roads) Legislation that must be adhered to within the design, construction and subsequent operation of the road network in a proposed development. A list of the more relevant Statutory Acts and Regulations is described in [Appendix A](#). Please note that this list provided is not exhaustive.
- Similarly, there are various (Roads) Design Guidance documentation which should also be considered (where relevant) when designing the proposed development road layout. A list of some of the more pertinent guidance documentation is described within [Appendix B](#). Please note that this list provided is not exhaustive.
- In respect to the Road Safety and Functionality qualities, it is imperative to highlight the economic benefits of ensuring that the proposed road design is such that minimises the risk of road traffic accidents taking place (this is a statutory requirement under [Section 39\(3c\) of the Road Traffic Act 1988](#)). Full details of Road Accident and Casualty Cost can be found within [Appendix C](#).
- The assertion within Designing Streets that “its technical advice is aimed particularly at residential and lightly trafficked streets...” is endorsed by East Renfrewshire Council. Where a development is accessed off existing roads, consideration must be given to the function of the road. Roads which have a high movement function and a low place function, such as link roads or roads formerly described as ‘distributor roads’ are all situations where the principles of this document should take priority over Designing Streets.
- Departures or relaxations from the guidance contained within this document may be considered on an individual basis relating to the site specific conditions and nature of the proposed development. It will be the responsibility of the developer to provide evidence in support of proposals which do not conform to the guidance provided in this document. Developers should ensure that East Renfrewshire Council are consulted early in the process as to whether any departures or relaxations will be possible. [Appendix D](#) contains a pro forma where such departures or relaxations can be recorded.
- The schematic diagrams contained within this document are for reference purposes only to demonstrate the key elements of road design and associated infrastructure where appropriate. While some of the schematics indicate a simple house and driveway adjacent to either a standard carriageway or shared surface layout, this does not preclude the designer’s commitments in respect of creating a “sense of place”.
- While the road layout is required to be designed with safety, functionality, serviceability, construction and future maintenance in mind, the character and ambience of the development must also be considered in the overall design. As stated in [NRDG](#), **“the key to a successful design is ensuring that the correct balance between place and movement is struck.”**
- The relationship between the road layout, car parking, street lighting, building arrangement and the surrounding space are all important in creating a “sense of place” and this Service would not be adverse to bespoke road layouts subject to fulfilling the principles set out within this document.

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#### 0.4.4 Development “Virtual Audit” Process

One important recommendation the Roads Service would put forward is prior to submission, the **developer should self-audit their proposal**. Developers/designers should undertake a functionality and safety audit by virtually “walking around” their development and identifying all potential risks.

Developers should envisage themselves living in the development and ask pertinent questions such as those given on page 19.

These are only a few of many questions that the developer should ask themselves when self-auditing their proposal. Any issues identified should preferably be designed out prior to formal submission. This Service has developed checklists, to assist with such matters, both for the Planning and RCC submissions ([Appendix E](#) & [Appendix F](#)).



## 0.4.5 Terminology

It is important that a consistent terminology is used when referring to roads, carriageways, footways, footpaths, cycle tracks and cycle lanes in all submission documentation and drawings. A consistent, recognised terminology will enable the Roads Service to correctly assess the submission and reduces the possibility of misinterpretation. The following statutory terminology, as given in the [Road \(Scotland\) Act 1984](#) (RSA) Sections 151(1) & 151(2) and [Traffic Signs Regulations and General Directions 2016](#) (TSRGD) Schedule 1, should be used.

- **“Road”**- any way (other than a waterway) over which there is a public right of passage and includes the road’s verge, and any bridge (whether permanent or temporary) over which, or tunnel through which, the road passes; and any reference to a road includes a part thereof;
- **Carriageway** - where over a road the public right of passage includes such a right by a vehicle, other than a right by pedal cycle;
- **Footway** - where over a road the public right of passage is by foot only and is associated with a carriageway;
- **Footpath** - where over a road the public right of passage is by foot only and is not associated with a carriageway;
- **Cycle Track** - where over a road the public right of passage is by pedal cycle only, or by pedal cycle and foot only;
- **Cycle Lane** - part of a carriageway of a road reserved for pedal cycles which is separated from the rest of the carriageway.

The [National Roads Development Guide](#) includes the following additional non-statutory definitions for routes other than for motor vehicles (Part 1, 1.1.1, pg. 14).

- **Cycleways** - a cyclist route that adjoins a carriageway;
- **Shared surfaces** - low trafficked single level street that serves a range of user types, normally limited to residential streets where traffic speeds do not exceed 10 mph.

[Cycling by Design 2021](#) expands upon the RSA/TSRGD definitions of ‘cycle lane’ and ‘cycle track’ to provide the following non-statutory sub-divisions.

**Cycle lane** a lane within the cross section of the road carriageway for use by cycle users. A cycle lane may be either:

Advisory – separated from motor traffic by road markings.

Permissible for motor traffic to drive or stop in;

Mandatory – separated from motor traffic by road markings.

Not permissible for motor traffic to drive or stop in;

Segregated – separated from motor traffic by physical means.

**Cycle track** a track that is separate from the road carriageway for use by cycle users. A cycle track may be either:

Stepped cycle track – adjacent to the road carriageway and separated vertically from both the road carriageway and the footway;

Cycle track at footway level – adjacent to the road carriageway and separated vertically from the road carriageway. Pedestrians and cycle users may share the space or may be separated from each other within it;

Remote or detached cycle track (commonly known as a cycle path) – a route that is not adjacent to the road carriageway. Pedestrians and cycle users may share the space or may be separated from each other within it.

Each gives an increasing level of protection from motor traffic and comfort for cycle users.



# DEVELOPMENT OVERVIEW

1



## 1.0 Introduction

The purpose of this section is to offer guidance for designers with a view to achieving a consistent approach to overall development design, including the proposed development interface with the existing road network.

**Departures from the good practice contained in this section may be considered in certain circumstances but must be detailed and justification provided to allow the Roads Service to make an assessment.**

[Appendix D](#) contains a pro forma where such departures can be recorded.

For any Planning submission, the developer/designer should preferably provide a '**Design Statement**' that should include a brief description of the proposed site including location, current land use and location of any existing access or accesses. The site should be described in terms of size, shape and topography and include any relevant history of the existing development and, if appropriate, ownership details. The Design Statement should address among other things, how the hierarchy of movement as set out in [Designing Streets](#) has been created, how the speed of motor vehicles will be regulated in the development and how links to existing active and sustainable transport links will be created where appropriate.

The submission for the planning process should include the necessary drawings, relevant documentation and supporting information (if any) to enable the Roads Service to make an informed response.

Full details of the drawing standards, the drawings required for assessing the application and a full check list of issues to be considered by the designer at the planning application stage is included in [Appendix E](#).

It should be noted that the above information will allow the Roads Service to provide a standard method of response to the Development Management Services' request for observations on a planning application.

## 1.1 Road Network

### 1.1.1 Existing Roads

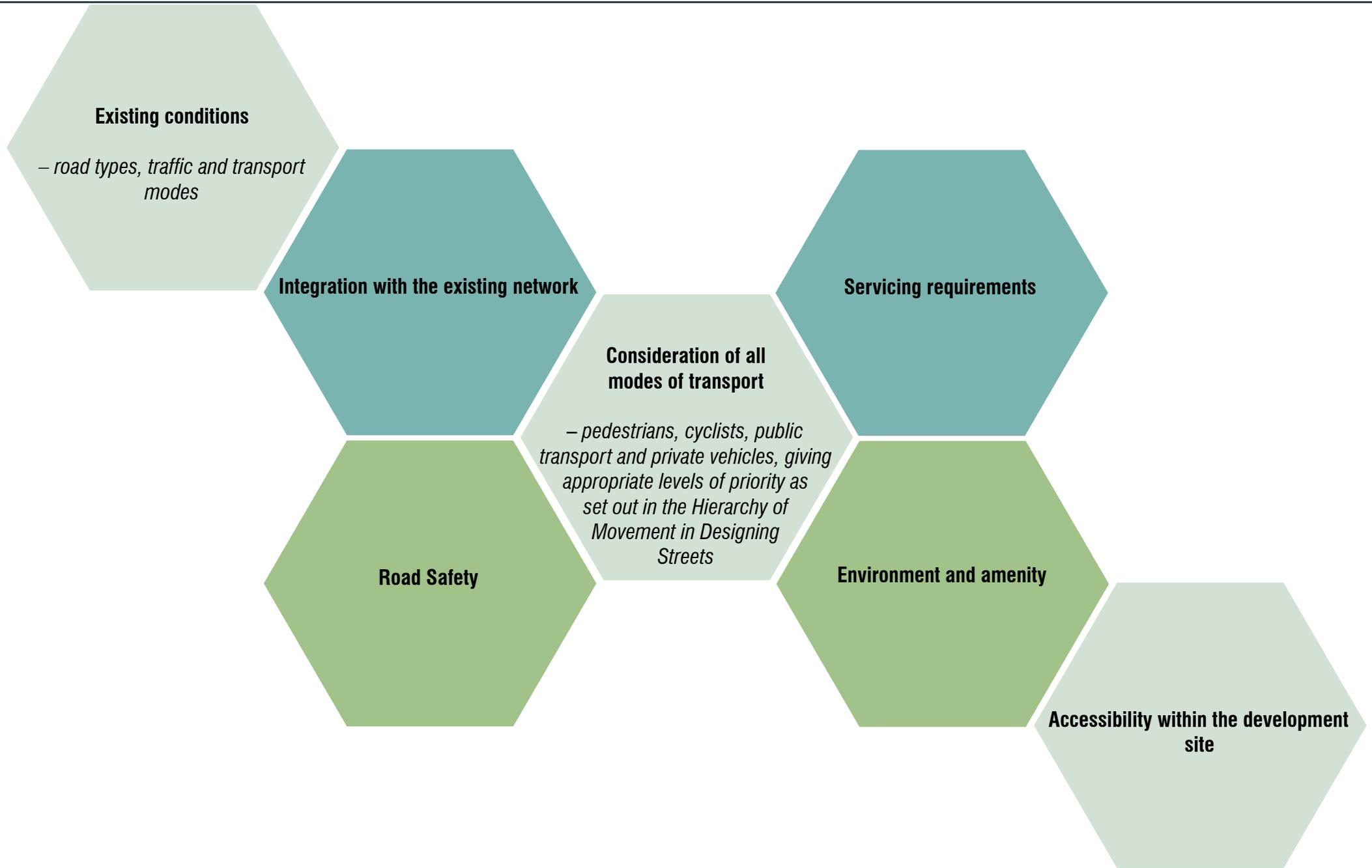
In terms of this document there are two types of “New Development Roads” to consider: Main Roads and local Residential Roads.

- A **Main Road** in this instance can be defined as where the destination is likely to be a specific area. A Main Road will serve to move traffic from local residential roads to serve areas of commerce, employment and link between residential areas etc. The design speed of this category of road will generally be 30mph or greater with or without individual frontage access.
- A local **Residential Road** in this instance can be defined as a road serving wholly residential properties, i.e. where the destination is likely to be an individual street address. The design speed of this category of roads will generally be 20mph with multiple frontage access. Carriageway widths are generally not less than 5.5m except where in areas of localised road narrowing such as in shared surface lanes where a carriageway width of 3.75 metres may be acceptable.

A schematic layout of this principle is shown in Figure 1.1.

### 1.1.2 New Development Roads

The design of road layouts is a complex process, due to the number of considerations that need to be taken into account. However, for new development roads, the developer needs to ensure that the design takes account of:



## 1.2 Existing Road Infrastructure

### 1.2.1 Junction(s) with Existing Road Network

The layout, type and location of the proposed junction(s) with the existing road network will need to be examined in detail, initially by the designer and subsequently by East Renfrewshire Council (ERC) in considering an application, taking due cognisance of observations and recommendations within the Transport Assessment or Transport Statement (refer to [Section 1.4](#)). Any new major/minor priority junctions or roundabouts, connected with the proposed development, must be designed in accordance with appropriate Design Guidance as set out in the DMRB.

### 1.2.2 Junction Spacing

The recommended **minimum spacing between junctions on the same side of the carriageway on a Main Road is 100 metres** (centre line to centre line).

Where **junctions are on the opposite sides of a Main Road**, the recommended **minimum spacing between such junctions is 50 metres** (centre line to centre line).

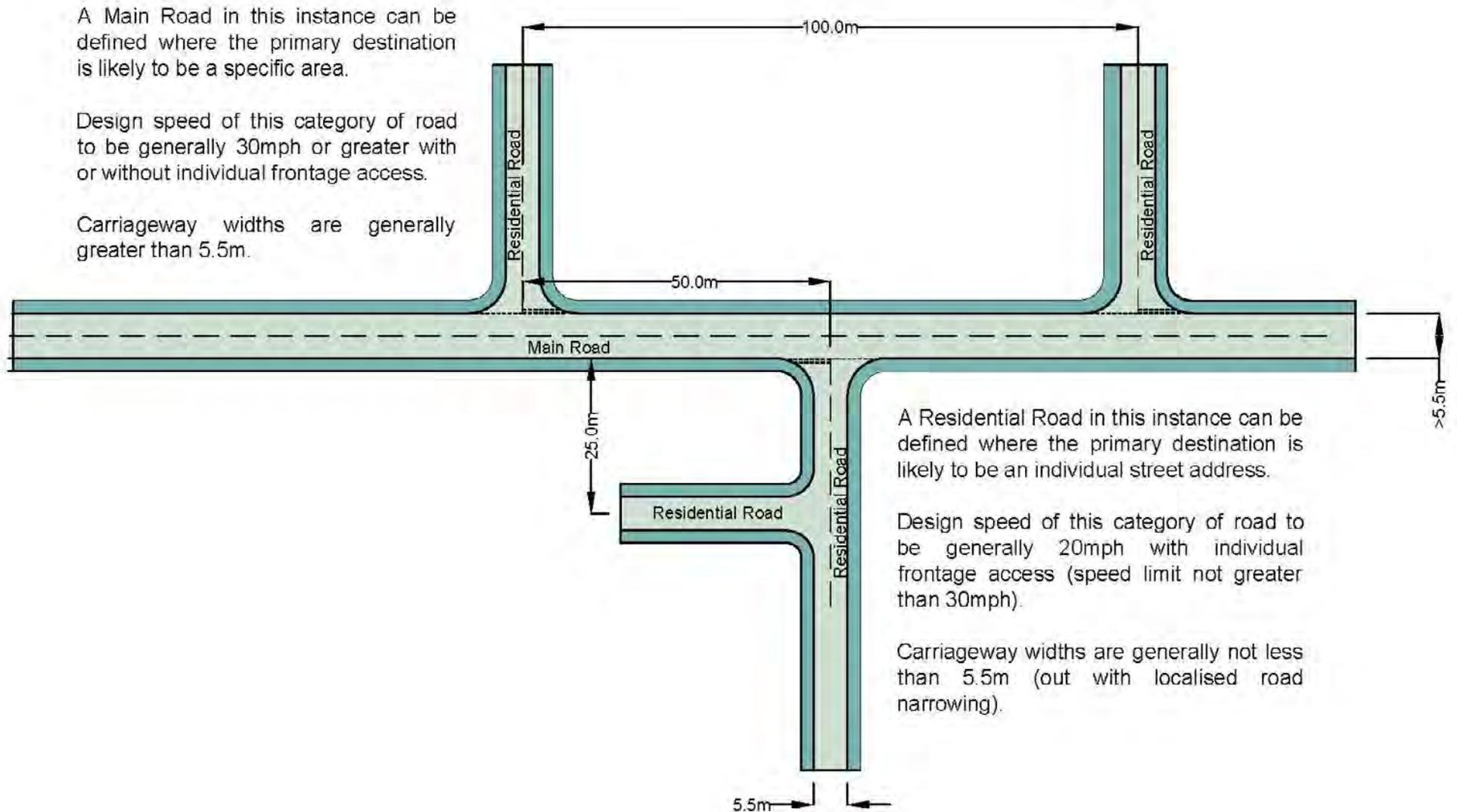
Departures or relaxations from these aforementioned standards may be considered on an individual basis relating to the context and placement of the junction and to what the additional road network will serve. It will be the responsibility of the developer to provide evidence in support of any departure and to demonstrate that such departure will not compromise road safety.

It will be at the discretion of the Roads Service as to whether such departure or relaxation will be accepted or not.

Where a Residential Road meets the Main Road, the minimum junction spacing between the first junction within the residential road network and the Main Road will be 25 metres (kerb line to centre line). There will be no relaxation in standards with this minimum junction spacing.

A generic layout of the conditions and descriptions of the terms of 'Main Road' and 'Residential Road' are shown in Figure 1.1.

Figure 1.1, Junction Spacing



### 1.2.3 Number of Proposed Accesses

It is preferable that any proposed development has a **minimum of two accesses onto the existing road network**. This is to allow uninterrupted access to/from the development when one access is closed for an unforeseen emergency or planned resurfacing works.

If one access is proposed, the developer must provide further information how maintenance on the single access will be carried out while maintaining full entry/exit to the development. It should be highlighted that this is part of the designer's responsibilities under the [CDM regulations 2015](#).

### 1.2.4 Visibility and Sightlines

Clear sightlines, from any new development access road, are essential to enable drivers, exiting the road, to check in both directions for vehicular traffic before safely joining the adjacent public road. **That is from a point 'x' metres back from the edge of the carriageway, there should be an unrestricted view, above a height of 1.05 metres, for a distance of 'y' metres in both directions**. A junction visibility splay is defined as: 'x'- metres, by 'y'- metres, by 'z'- metres as shown in Figure 1.2.

**The 'x' distance on the residential road (side road) is dependent on the traffic volume in estimated vehicles per hour (v.p.h.). The 'y' distance is determined by the main road type based on the speed limit in place.** The 'z' value always relates to a height of 1.05 metres.

The peak vehicle flows are those on the residential (secondary) road; the speed limit is that which is currently in place on the Main (Primary) Road and the visibility standards are shown in Table 1.1.

Any existing or proposed buildings, structures, fencing, landscaping features (soft or hard), trees, vegetation, etc., within the visibility splay (shown hatched in the above diagram) should be provided and thereafter maintained in perpetuity, at a height of not more than 1.05 metres.

Consideration must also be given to the vertical topography of the existing or proposed land form within any desired visibility splay or forward sight stopping distance.

Figure 1.2 Junction visibility and splay principles

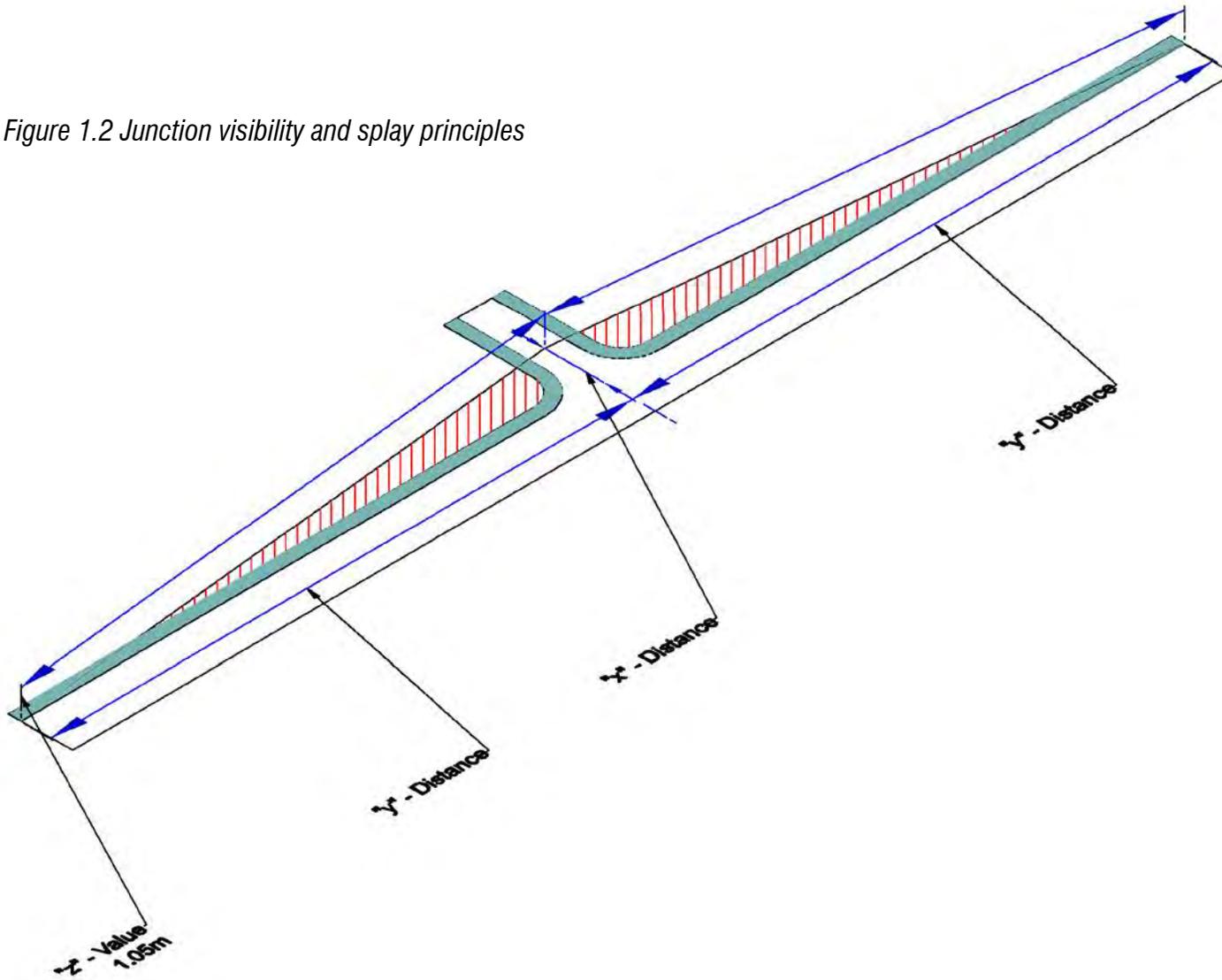


Table 1.1

The 'x' distance is measured from the nominal edge of the Main Road along the centre-line of the residential (secondary) road.

Peak flows (v.p.h)	'x' - distance
Up to 40 v.p.h.	2.5 metres
Up to 300 v.p.h	4.5 metres
In excess of 300 v.p.h.	9.0 metres

The 'y' distance is measured from the nominal centre line of the residential road along the kerb/verge edge of the Main Road.

Speed Limit	'y' - Distance
30 mph	90 metres
40mph	120 metres
50 mph	160 metres
60 mph	215 metres
70 mph	295 metres

## 1.2.5 Forward Sight Stopping Distances

The developer must demonstrate that the appropriate forward sight stopping distance (FSSD) is achievable on the existing road network either side of the proposed junction. Table 1.2 gives the required FSSD for the speed limit in place on the existing road fronting the proposed development.

Table 1.2

Speed Limit in place on the existing Main Road	Recommended Forward Sight Stopping Distance
30 mph	90 metres
40 mph	120 metres
50 mph	160 metres
60 mph	215 metres
70 mph	295 metres

**No buildings, structures, fencing, landscaping features (soft or hard), trees, vegetation, etc., above 1.05 metres in height will be accepted within any forward visibility splays.** The provision of the FSSD should also consider the vertical profile of the existing carriageway.

## 1.2.6 Pedestrians and Cyclists

**It is ERC's policy, reflecting Designing Streets Hierarchy of Movement, to promote and enable active/sustainable travel.** New residential developments must therefore be **designed to incorporate a network of high quality pedestrian and cycle links and connect to existing facilities.** It may be necessary for the Developer to construct at his own expense new facilities outwith a development in order to connect to the wider active travel network, public transport facilities or schools and other local services.

**In residential areas, pedestrian and cycle provision should be safe, coherent, direct, comfortable and attractive and useable by all.** Designers should aim to satisfy these principles.

In terms of cycle lanes, the requirement for such a facility should be discussed with ERC at an early stage in the planning process. Developers are also advised to refer to [Transport Scotland's 'Cycling by Design'](#) when designing cycle facilities.

Shared footway and cycleway facilities may be considered following assessment of pedestrian/cycle volumes, potential impact on those with disabilities and local circumstance (such as nearby shops, schools or other community facilities or areas with high footfall).

Within larger residential developments, shared road surfaces are generally limited to secondary and tertiary routes (as referred to within [Section 2.1.2](#)).

It should be noted that where an existing footway/footpath is being upgraded to accommodate cyclists the promotion of a redetermination of use Traffic Regulation Order (TRO) will be required.

The adoption of new remote footpaths or shared footpaths/cycle paths will only be considered where they provide significant links to houses, schools, other local facilities or link two public roads. Such facilities should be accessible to all and in no circumstance would footpaths with steps/stairs be adopted. Footpaths or shared footpaths/cycle paths eligible for adoption should be constructed as part of the associated Road Construction Consent. Where such facilities are not eligible for adoption, the developer or nominated representative or Factor will be responsible for their future maintenance.

Where pedestrian and vehicular flows are high, it may be necessary to provide a controlled pedestrian crossing. The type of controlled crossing and its location will need to be provided to the satisfaction of ERC as Roads Authority. The provision of a new controlled pedestrian crossing also requires by statute to be advertised by the Council, the developer will be required to pay all costs incurred with the promotion of the relevant notices under the [Road Traffic Regulation Act 1984 \(S23\)](#).

## 1.2.7 Development Site Construction Traffic

Construction traffic associated with developments can lead to potential damage to existing public roads. In the likelihood of such an event, a Local Roads Authority has the powers, under the terms of [Section 96 of the Roads \(Scotland\) Act 1984](#), to seek extraordinary expenses incurred in maintaining roads damaged by heavy vehicles or traffic.

The developer may be required to undertake a Road Assessment Condition Survey of the existing road. Usually, the survey shall be undertaken jointly with the Council, in order to agree the survey results. A Final Road Condition Survey would be undertaken to identify any necessary reinstatement work that can be reasonably

attributed to the new development

Effective wheel washing facilities must be provided and all construction site vehicles must pass through the wheel washing before leaving the site to join the adjacent public road. It should be noted that there is an obligation in terms of [Section 95 of The Roads \(Scotland\) Act 1984](#) for the construction site contractor for this development to ensure that any material, of whatever nature, deposited from their vehicles onto the public road is removed as soon as reasonably practicable.

The construction site should include an appropriate level of off-road car parking for all vehicles associated with the project during the extent of the building works. **Under no circumstances should any of the aforementioned vehicles be allowed to stop or park on the adjacent public Road.**

Where a temporary site construction access is required for the new development, under the terms of [The Roads \(Scotland\) Act 1984](#), the applicant must apply to this service for a Section 56 'Road Opening Permit' to carry out the works, which will be at the applicant's expense.

## 1.3 Site Specific Legislation

### 1.3.1 Integration with Existing Roads Infrastructure

Where there is a requirement, as a direct result of the proposed development, to extend, upgrade or alter the existing public road infrastructure a Road Construction Consent (Section 21 of the [Roads \(Scotland\) Act 1984](#)) or a Road Opening Permit ([Section 56 of the Road \(Scotland\) Act 1984](#)) will be required.

#### 1.3.1.1 Roads Construction Consent

Road Construction Consent (RCC) will be required for new roads or extension to existing roads irrespective of whether it is intended to be offered for adoption.

An application for an RCC should be submitted at least 3 months prior to the commencement of construction. Full details of the necessary drawing standards, the drawings required for assessing the application and a full check list of issues to be considered by the designer is included as [Appendix F](#). The check list should preferably be completed by the applicant and should accompany the RCC Application.

It will be a condition of any RCC that the construction be completed within the period specified in the Consent. This period will generally be not less than 3 years. Further extensions to an RCC may be granted as necessary.

It should be noted that the granting of an RCC does not imply that ERC accepts any design responsibility with regards to the proposed development.

#### 1.3.1.2 Road Opening Permit

Section 56 of the [Roads \(Scotland\) Act 1984](#) gives statutory requirements in respect to the control of works and excavations on the public road network. If works are to be undertaken on the public road, an application must be made in writing to the roads authority.

### 1.3.2 Traffic Regulation Orders (TRO)

#### 1.3.2.1 Permanent Orders

Depending on circumstances, there may be occasions when a Traffic Regulation Order (TRO) is required to be promoted in conjunction with a proposed development. A TRO could be required to:

- Introduce an Order or Orders prohibiting or restricting the use of a road by vehicular traffic (e.g. speed limits, waiting & loading restrictions, prohibition of movement, no entry, one way orders, re-determination of use etc.),
- Stop up a road (e.g. either through Roads legislation - dangerous or unnecessary routes or Planning legislation – necessary to allow development to be carried out with a relevant planning permission granted)

The procedure required to implement a permanent TRO is governed by [The Local Authorities' Traffic Orders \(Procedure\) \(Scotland\) Regulations 1999](#) as amended, and generally only the Council has the authority to promote a TRO under the terms of Section 1 of the [Road Traffic Regulations Act 1984](#).

Promoting a TRO can be a lengthy process taking between 6 and 24 months depending on whether any objections are received and if these can be resolved without the TRO having to be considered

by an independent reporter. Developers should therefore enter into discussions with the Council as soon as possible over the requirement for any TROs. It should also be noted that the developer will be required to pay all costs (plus administration costs) associated with promoting said orders.

### 1.3.2.2 Temporary Orders & Temporary Restrictions Notices

Temporary TROs and Temporary Restriction Notices may also be required in order to carry out road works or utility and infrastructure improvements in conjunction with a new development.

The procedure required to implement a Temporary TRO and Temporary Restriction Notice is governed by The Road Traffic (Temporary Restrictions) Procedure Regulations 1992 as amended, and generally only the Council has the authority to promote a Temporary TRO and Temporary Restriction Notice under the terms of Sections 14 & 15 of the Road Traffic Regulations Act 1984 as amended by the Road Traffic (Temporary Restrictions) Act 1991.

Temporary Traffic Regulation Orders are effectively for restrictions, prohibitions, or road closures extending beyond 5 days up to (generally) a maximum of 18 months.

Temporary Restriction Notices are generally for restrictions, prohibitions, or road closures up to a maximum of 5 days with no further extension permitted.

Where a Temporary TRO or Restriction Notice is required, the developer must notify the Council in writing a minimum of 8 weeks in advanced of the proposed commencement date for a Temporary Traffic Regulation Order and 4 weeks in the case of Temporary Restriction Notice. The written request must include details of the

proposed start date, duration of, reason for and location of the restriction, prohibition, or closure. All costs incurred in promoting a Temporary TRO or Temporary Restriction Notice (plus administration costs) will be recharged to the Developer/Applicant.

If a Temporary TRO or Restriction is subsequently promoted it will be the responsibility of the developer to make his own arrangements for signing the restriction, prohibition, or road closure and resultant diversion route. A proposed signing plan detailing the diversion route must be submitted to the Roads Service for approval.

### 1.3.3 **Other Statutory Procedures**

If any other statutory obligations, as required by Local Authority Legislation, are necessary in relation to the proposed development, the developer should advise the Council as soon as this requirement becomes apparent. Such statutory obligations include proposals to construct Road Humps or other similar traffic calming features (although such measures are not recommended within Designing Streets – a Policy Statement for Scotland) on the existing adoptable Road Network.

Only after the Council has satisfied statutory obligations required under Sections 36 to 40 of the Roads (Scotland) Act 1984 as amended, the Roads (Traffic Calming) (Scotland) Regulations 1994 and the Road Humps (Scotland) Regulations 1998, may an agreement be put in place to permit any Developer to introduce such measures on the existing adoptable Road Network.

All costs incurred by the Council (plus administration costs) in undertaking such works will be recharged to the Developer/Applicant.

## 1.4 Consultation and Supporting Information

A **Transport Assessment** or **Transport Statement** may be required in support of any Planning Application. Guidance on the preparation of such a document is given within Transport Scotland's [Transport Assessment Guidance](#) June 2012 (or any subsequent amendment). Any Transport Assessment or Transport Statement should identify the existing transport infrastructure and travel characteristics associated with the site and also propose measures to improve the infrastructure and services to encourage sustainable travel to and from the development site.

### 1.4.1 Road Safety Audit(s) (RSA)

Safety Audits should be considered in relation to the proposed road layout or changes/connection to the existing road infrastructure. Safety Audits should be undertaken in line with the principles endorsed within document [GG119 \(Road Safety Audit\)](#) of the Design Manual for Roads and Bridges (DMRB) (or subsequent amendment). Where appropriate, further advice can be found within the RSA Guidelines 2008 published by the Chartered Institution of Highways & Transportation (CIHT).

### 1.4.2 Flood Risk Assessment (ERC/SEPA)

Applicants are advised to first check if the proposed development site is considered to be at risk of flooding from the [SEPA flood maps](#).

Applicants should also liaise with ERC regarding any known flooding issues on their application sites. ERC may ask for a Flood Risk Assessment (FRA) on specific sites due to local known flood issues not reflected on the SEPA flood maps.

It is recommended that an appropriate level of FRA be carried out as soon as the site is considered for development. The level of FRA required should be discussed with the Council prior to submitting a planning application. Guidance on levels is included in [CIRIA C624: Development and Flood Risk Guidance for the Construction Industry](#). The FRA should be completed by a professional with relevant experience in flood risk and drainage design.

Guidance on the requirements for a FRA can be found in [SEPA's Technical Flood Risk Guidance for Stakeholders](#).

### 1.4.3 Drainage Impact Assessment (Scottish Water/ERC/SEPA)

Drainage of the proposed site should be considered at the planning stage and include proposals for drainage during construction. The Drainage Impact Assessment (DIA) should cover foul and surface water and the developer should liaise with Scottish Water and the Council from the outset.

The [Water Environment \(Controlled Activities\) \(Scotland\) Regulations 2011 \(CAR\)](#) make SuDS a requirement for all new developments. All surface water should be drained according to the principles of Sustainable urban Drainage Systems. Specifications of SuDs should refer to current guidance such as CIRIA C697 [The SuDS Manual, Sewers for Scotland 4](#) (or latest edition) and [SuDS for Roads](#). [SEPA's Simple Index Approach](#) should also be used to ensure appropriate treatment of the surface water is obtained through SuDS.

ERC will review and comment on the proposals for road drainage and management of overland flows, however the Developer is required to demonstrate and provide evidence from Scottish Water that the proposed surface water, land drainage, sewerage treatment and discharge from the proposed development will be acceptable and can be accommodated within the existing infrastructure.

Proposed drainage systems that outfall to a watercourse or culvert needs to have permission from both the Council and SEPA, where CAR is applicable. Outflow from the site should not exceed the Greenfield Runoff estimate or 8 litres/s/ha.

Further details of surface water drainage requirements are found in [Section 3.7.1](#).

#### 1.4.4 Drainage Strategy

The Developers may be required to provide a drainage strategy detailing **surface water SUDs treatment**, **surface water attenuation** requirements and **surface water discharge** methodology (see [Section 3.7.1](#)).

#### 1.4.5 ERC Cleansing Service

With specific reference to refuse collection, **ERC Cleansing Services** should be consulted at the earliest opportunity. For details on relevant Roads issues refer to [Section 2.3](#).

#### 1.4.6 Public Transport (SPT)

All **Public transport facilities** should be considered in relationship to the proposed development (i.e. location of existing or new bus stops if applicable).



# INTERNAL DEVELOPMENT LAYOUT

# 2



## 2.0 Introduction

The purpose of this section is to offer guidance for designers with a view to achieving consistency of approach with regard to the hierarchy of the proposed development roads, the internal road layout and the provision of road infrastructure such as street lighting.

**Departures from the good practice contained in this section may be considered in certain circumstances but must be detailed and justification provided to allow the Roads Service to make an assessment.** [Appendix D](#) contains a pro forma where such departures can be recorded.

**The road network fulfils a number of functions, ranging from the strategic movement of high volumes of traffic to vehicle accesses for individual premises and enabling active travel.**

It is not the intention of this document to dictate the exact road layout that must be provided by a developer but there is a requirement to take account of certain standards and recommendations, as set out in this good practice document.

It is essential that the road layout is not considered as a separate entity but as an integral part of the overall design proposals for the whole development as set out in [Designing Streets](#).

## 2.1 Road Hierarchy

### 2.1.1 Designing Streets

The internal street pattern should be designed in compliance with Designing Streets. The internal road network should be formed with a distinctive street typology/hierarchy reflecting local circumstances and topographical constraints and ultimately aid in the creation of a safe and pleasant environment for all users.

The internal road network must be designed to regulate traffic speeds in order to create safer, more pedestrian and cyclist friendly developments. Changes in the horizontal alignment of roads and the use of shared surface sections are the preferred method for reducing speeds rather than traditional traffic calming measures.

**The internal street pattern should consist of short, curved or irregular inter connecting street lengths with houses/ house plots being used to influence the design of the horizontal road layout and produce a self-enforcing low speed layout.** Long continuous runs of house alignments creating a road length of in excess of 60 metres are discouraged as this may encourage higher speeds.

### 2.1.2 Primary, Secondary & Tertiary Routes

It is essential that a primary route, used in larger developments where there are secondary and tertiary routes branching off, is clearly identifiable and be of a similar standard/design (including materials) throughout. **Primary routes should not 'turn corners' with a secondary or tertiary route continuing on the alignment of the original primary direction.**

Secondary and Tertiary routes thereof should be of a distinct and differing nature/design.

In terms of connection a secondary residential route should be accessed from a primary route and similarly a tertiary route should be accessed from a secondary route. Tertiary routes should preferably not be accessed from a primary route.

**Primary residential routes should be of a flexible construction with footway provision. Secondary routes may be of a flexible construction (with pedestrian provision) or a shared surface construction. Tertiary routes should preferably be a short link or loop with a shared surface construction.**

### 2.1.3 Shared Surface Provision

**It should also be understood that shared surfaces are only one component of the principles of designing streets and should not be solely relied as a panacea to regulate the speed of motorised traffic. Layouts must incorporate vertical elements such as buildings, walls, planting in order to regulate the speed of motorised traffic.**

While shared surfaces are an effective and widely used component of the principles of Designing Streets, there remains an element of public perception of pedestrian vulnerability. Concerns have also been expressed over reduced mobility for wheelchair and pram users and uncertainty for the visually impaired with regard to the absence of clear and delineated defensive zones.

Additionally, block paved areas represent a greater maintenance burden to the Council, than flexible surfaced roads. As such, the extent and continuous length of shared surface should be given particular design consideration.

The use/extents of block paving are context/location specific and will be examined on an individual basis. Where shared surfaces are introduced, they should be constructed in block paviours. "Coloured" asphalt or similar materials will not be accepted on shared surface areas.

The Developer should carefully consider the location of the transition from standard asphalt carriageway with footways onto the shared surface carriageway both for vehicular and pedestrian traffic (See [Section 2.2.8](#)). Safe areas for pedestrians must also be considered where houses are accessed directly from a shared surface.

### 2.1.4 Functional Design & Layout

The design and layout of the road network, including any on-street parking and curtilage, off-street, parking areas should be functional to allow safe manoeuvrability of vehicles particularly to and from driveways, private accesses and private courtyards. The road layout, parking and house types should be considered together as interdependent factors.

### 2.1.5 Culs-de-sac

Designing Streets encourages layouts which are permeable and interconnected. Consequently, culs-de-sac are discouraged. Where they are considered essential they must have suitable turning facilities designed such that service vehicles such as refuse collection vehicles are not required to reverse to turn i.e. in the form of a turning circle (refer to [Section 2.3.2](#)). **It should be highlighted at this stage that the use of “hammer-head” turning facilities (where reversing manoeuvres are required to be undertaken) within adoptable “shared surface” culs-de-sac (where pedestrian movement/activity within the shared surface is encouraged) are unlikely to be accepted on the grounds of road safety** unless it can be proven they are safe and/or other mitigating measures are introduced (see [Section 2.3.4](#)).

## 2.2 Internal Layout and Infrastructure

### 2.2.1 Roads & Accesses

For the purpose of this document and for consistency of terminology, a distinction is drawn between (i) Public Road, (ii) Private Road, (iii) Access, (iv) Shared Driveway and (v) Driveway.

It is necessary to make a distinction between private accesses/private roads and public roads: private accesses are controlled by the owner(s) and there is no public right of passage whereas roads (public or private) have a public right of passage.

#### 2.2.1.1 Maximum Number of Dwellings Associated With a Shared Access

**The desirable maximum number of dwelling units associated with an access/shared driveway shall normally be two however dispensation to allow up to three properties to share an access/driveway may be accepted if it is of a suitable width at the immediate point of access with an alignment which will allow opposing traffic to pass.** Suitable turning facilities should also be provided on the access/driveway to allow all vehicles to enter and exit in a forward gear.

This represents a departure from the [National Roads Development Guide](#) which allows for up to five dwellings, but it is the opinion of the Roads Service that the intensification of use and the subsequent increase of manoeuvres and vehicle movements is an increased risk and may be detrimental to road safety. While the risk associated with 2-3 plots per shared driveway may be manageable, beyond such the risk potentially starts to become unacceptable. To allow four or more

plots onto a shared driveway sets a precedent which this Service is keen not to establish.

Furthermore, there is increased likelihood that visitors, delivery vehicles etc. may access and/or indiscriminately park within a shared driveway which further exacerbates the potential road safety risk. It is also the Road Service’s view that with multi property shared access there is the potential for future maintenance, servicing and refuse collection disputes and requests for the Council to intervene and resolve.

Up to 20 flats in a housing court can be served by an access which, as there is no right of public access will remain private, will not require Construction Consent and will not be available for adoption. Individual parking courtyards associated with a housing court generally should serve up to a maximum of 10 vehicles (see [Section 3.6](#)).

The continuation/extension of a public right of way including public footpaths through and using a private access (including shared driveways) is not permitted.

It should also be noted that with a multi property shared access that there is the potential for future maintenance difficulties and possible neighbourhood disputes.

Any more than three properties (20 in a housing court) must be served by a road whether public or private. The intention to construct a private road should be indicated at the planning stage. Construction Consent and submission of a Road Bond are required to construct a road whether it is to remain private or to be offered for adoption.

A formal management system for the maintenance of any private road will be necessary and will be required in perpetuity.

Table 2.1

	<b>Right of Public Access</b>	<b>Road Construction Consent Required</b>	<b>Adoptable</b>	<b>Maximum number of properties to be served</b>	<b>Part of Bond</b>
<b>Public Road</b>	Y	Y	Y	No Limit	Y
<b>Private Road</b>	Y	Y	#	No Limit	Y
<b>Private Access/Parking courtyard</b>	N	N	N	3 Houses or 20 Flats	N
<b>Shared Driveway</b>	N	N	N	3 Houses	N
<b>Driveway</b>	N	N	N	1 Property	N

# - Built to adoptable standard. Developer’s choice if they wish to apply for adoption.

Table 2.1 is a summary of the options.

### 2.2.1.2 Communal Footpaths in Private Areas including Parking Courtyards

The Roads Service will **continually look for a minimum 2m clear footpath to consider such for adoption**. While Private Parking Courtyards would not be considered for adoption, the Roads Service strongly recommends that developers nevertheless provide a minimum 2m clear footpath to ensure adequate access for all residents (and public services such as Royal Mail) to their front door, access which is properly lit and maintained.

Experience tells us that problems will arise with sub-2m footpath leading to complaints from residents (which should be dealt with by the developer, as such footpaths would remain private if not designed and built to adoptable standards), particularly where there is the potential for a vehicle (parked in the adjacent perpendicular spaces) to overhanging the pathway (with its front wheels touching the kerb). A potential protrusion of a vehicle over the pathway of 500mm is therefore a reasonable estimation, which in turn could result in the useable pathway width being reduced.

Department for Transport's Inclusive Mobility 2005 Guidance indicates that "someone who does not use a walking aid can manage to walk along a passage way less than 700mm wide, but just using a walking stick requires greater width than this: a minimum of 750mm. A person who uses two sticks or crutches, or a walking frame needs a minimum of 900mm, a blind person using a long cane or with an assistance dog needs 1100mm. A visually impaired person who is being guided needs a width of 1200mm. A wheelchair user and an ambulant person side-by-side need 1500mm width". Above widths do not take into account the opposing passage of two pedestrians or further obstruction such as refuse bins etc.

From Transport Scotland's publication Roads for All – Good practice Guide for Roads it is also highlighted that "The minimum width of a footway is to be 2000 millimetres in normal circumstances, since this width allows two wheelchair users to pass. In existing constrained environments and where obstacles are unavoidable, an absolute minimum width of 1500 millimetres may be used without the requirement of a Departure from Standard".

To obtain the minimum width of 2m, in areas of potential vehicle protrusion over the prospectively public footway/footpath we do recommend a desirable minimum width of 2.5m but an absolute minimum width of 2.0m must be obtained.

### 2.2.2 **Horizontal Alignment Tracking**

In relation to the servicing of the development, tracking of the horizontal alignment of the proposed road layout by a large refuse vehicle/pantechnicon should be undertaken in both directions to ensure that such vehicles can manoeuvre around the development without over-run of footways, pedestrian safe areas, verges, garden areas etc. Swept path drawings of these movements will need to be submitted to this service for examination. Drawings should show all potential movement paths by large vehicles through the development (i.e. in both directions).

In the interest of road safety the tracking and design of the road layout should also take into cognisance, the provision for two way traffic (i.e. for a large vehicle and a car) to pass each other at key locations throughout the development, and preferably this should be demonstrated on the tracking drawing(s).

### 2.2.3 Traffic Signals & Crossing Facilities

Traffic signals including controlled pedestrian crossing facilities (Puffin, Toucan & Zebra crossings), relating to the development proposals and on prospectively public roads will be adopted by the Council for future maintenance by the Roads Service, provided they have been installed in accordance with the Road Construction Consent and to the satisfaction of the Council. Traffic signals must be commissioned, tested (including the provision of electrical test certificates) and appropriate phases set before the Council will adopt them.

Similar conditions are imposed on any new traffic signal infrastructure (including controlled pedestrian crossings) that require to be installed on the existing public road network as the consequence of the development i.e. Transport Assessment requirements or as part of any [Section 75 \(Town and Country Planning \(Scotland\) Act 1997\)](#) agreement. Prior to the provision of any new pedestrian crossing on an existing road, the proposals must be advertised under [Section 23 of the Road Traffic Regulation Act 1984](#). This exercise will be carried out by the Council at the developer's expense.

The introduction of any new traffic signals including controlled pedestrian crossing facilities can have on-going costs in terms of future maintenance and replacement. A Section 48 Agreement as per the [Roads \(Scotland\) Act 1984](#) may be required to be entered into to establish contributions from the developer towards future maintenance of such infrastructure.

### 2.2.4 Traffic Signs & Road Markings

Only Scottish Ministers or the relevant Roads Authority may cause or permit traffic signs to be placed on or near any public road.

Accordingly, proposals for the erection of any traffic sign or the laying of any road marking must have prior approval from the Council, who may give advice as to type, colour and text height required.

Designing Streets encourages a relaxation in the provision of signage and road markings in certain circumstances in order to reduce the perception of motor vehicle dominance and minimise clutter. Whilst the Roads Service embraces these aims and objectives, the developer must seek agreement with the service with regard to what signs and markings are to be provided and where relaxations can be granted.

The developer shall be required to install, at their own expense, all necessary traffic signs and associated road markings, deemed necessary for the development. This could include alterations to existing signs and markings on the adjacent road network.

The developer should note that the erection of private signs within the public road boundary or attached to street furniture requires Council approval. The Roads Authority has the powers to remove such private signs, with associated costs of doing so chargeable to the person responsible for their erection.

### 2.2.5 Street Lighting

Street lighting should be examined at the earliest opportunity especially with regards to the positioning of lighting columns etc. Consideration should be taken within specific shared surface areas in respect to the protection of such lighting columns. New lighting columns will not be permitted directly within a block paved area without any protection and generally they will also be discouraged from being attached to buildings.

### 2.2.6 Off Road Parking Areas

Where off-road parking areas are provided for residents only, they will not be considered for adoption. These areas will need to be privately maintained. Footway provision, where applicable preferably should be provided to the front of the parking area(s).

### 2.2.7 Traffic Calming

Where it is not possible to construct development roads that are self-enforcing in terms of promoting lower speeds, traffic calming measures may be required. As physical traffic calming measures are contrary to the ethos of Designing Streets, the Developer will be required to demonstrate/justify why it is not possible to produce a layout which embraces the principles of Designing Streets in terms of regulating the speed of traffic.

It may also be necessary to install traffic calming measures on roads out-with the development site. Where such measures are required to be fitted retrospectively to existing roads they must be advertised which will be carried out by the Council at the developers' expense.

The type of traffic calming measures to be used should be discussed as early as possible with ERC Roads and Planning as some measures can have on-going costs in terms of future maintenance and replacement. A Section 48 Agreement as per the [Road \(Scotland\) Act 1984](#) may be required to be entered into to establish contributions from the developer towards future maintenance of such infrastructure.

### 2.2.8 Footway Transition to Shared Surface

The **termination of footways and their transition onto a shared surface arrangement must be situated in a safe and sensible location** where both drivers and pedestrians are clear of the switch from segregated to shared facilities. It is preferred that **such features are not located directly at junctions where drivers are likely to be concentrating on their manoeuvre** and may not be fully aware of pedestrians transitioning onto the carriageway. It should also be noted that **vehicular and pedestrian transitions may not always be located adjacent to each other**. Pedestrians should also preferably be led such as not to transition onto a shared surface with their backs to traffic. They both should be able to see each other.

Transitions should also be designed to accommodate people with differing needs whether this is people with visual impairments, those with mobility impairments or those with young children.

### 2.2.9 Winter Maintenance

The reversing of vehicles involved in winter maintenance has Health and Safety implications and is strongly discouraged. Therefore such vehicles are unlikely to undertake gritting/ploughing within culs-de-sac that do not have appropriate turning circles/hammer-heads.

### 2.2.10 Public Utilities & Service Strips

All services, normally with the exception of sewers and water mains are required to be located in service strips. Service strips should

be located within the bounds of the public road network within the limits of footways and/or adoptable verges and located on both sides of the carriageway to limit the number of connections across the carriageway. Service Strips should be a minimum of two metres in width. In shared surface layouts, services must still be located within land eligible for adoption. The provision of Service Strips will also be required in courtyards whether adopted or otherwise.

The surface of service strips must form an integral part of the road network and be able to be maintained the Council. Where there is the risk of vehicles overrunning the (verge) service strip, suitable protection must be provided.

Service strips must be clearly delineated to establish limits of public/private responsibility. Where the Service strip is a grass verge, no other vegetation planting (including the provision of trees) or the provision of any fencing, walls or other ornamental features will be permitted in such.

The position of manholes located in the carriageway must be considered in order to remove the requirement to close the road in order to undertake repairs. Particular attention should be taken to avoid positioning the manholes in wheel tracks to stop them being continuously hit and compromising the integrity of the manhole and to avoid noise nuisance. Ironwork/manholes should be kept out of pedestrian/cycle desire lines where there is the potential for slip/trip hazards particularly at pedestrian/cycle crossings.

### **2.2.11 Statutory Undertakers**

The provision of services must be considered at the earliest possible opportunity with Statutory Undertakers consulted to establish what is required to enable all aspects of the layout/

development roads, buildings and other structures and landscaping to be designed accordingly.

### **2.2.12 Landscaping**

In the interest of road safety landscaping, both existing and proposed, should be carefully examined to ensure that they do not compromise relevant visibility splays or forward sight stopping distances. If land necessary for visibility splays is held in private ownership, the owner will be responsible for ensuring any vegetation is maintained so that it does not compromise visibility. Under the [Roads \(Scotland\) Act 1984](#), ERC has the right to remove/reduce in height any vegetation compromising visibility and recover costs from the owner. Full details of visibility splays are given under ([Section 1.2.4](#)) and ([Section 3.5](#)).

### **2.2.13 Trees & Tree Pits**

Trees can make a valuable contribution to the quality of place, health, wellbeing as well as delivering essential ecosystem services. If carefully planned from the outset, trees can also contribute towards regulating driving behaviour. Developers are encouraged to explore ways of incorporating trees in appropriate circumstances within the street environment. However careful consideration should be taken to the positioning of such trees to ensure that such will not compromise visibility splays (including driver/pedestrian inter-visibility); cause undue obstruction for all road users, in particular those with visual impairments or mobility issues; or compromises manoeuvrability of vehicles. Careful thought/design should also be taken to how the trees will be maintained in perpetuity; prevention of future damage to the adjacent road infrastructure by roots etc.; and suitable placement to minimise associated leaf fall blocking or causing drainage issues. Please note any proposed trees and their associated tree pits that are to be located within the carriageway area will not be adopted. Trees

and tree pits should also be protected by appropriate kerbing.

## 2.3 Large Vehicle Manoeuvres

There is a road safety risk with the movement of large vehicles, such as refuse collection vehicles (RCV's) through a residential development, particularly where reversing manoeuvres are involved.

Neighbourhood Services require that the road layout is designed so that refuse collection vehicles do not have to undertake a reversing manoeuvre to turn.

The Health and Safety Executive (HSE) endorses the '[Waste Industry Safety and Health Forum's](#)' guidance on waste collection. Their formal guidance document recommends that local authorities should take account of the Health and Safety of collection crews, pedestrians and other road users at the initial design stage of residential developments. Important aspects to consider include:

- Eliminating or reducing the need for RCV's to reverse,
- The street layout and width of roads,
- Distance loads have to be moved,
- Housing density.

The guidance also recommends that steps should be taken to work with planners, clients and other organisations to reduce the need for reversing and build in turning circles and roads that are wide enough.

The British Standard - BS 5906:2005 '[Waste Management in Buildings Code of practice](#)', Section 10, states that: "**Roads should be arranged so that collecting vehicles can continue mainly in a forward direction**".

If reversing is unavoidable and the area cannot accommodate a 21 metre turning circle then waste storage container collection points should be located so that the reversing distance for a Refuse Collection Vehicle should not exceed 12 metres.

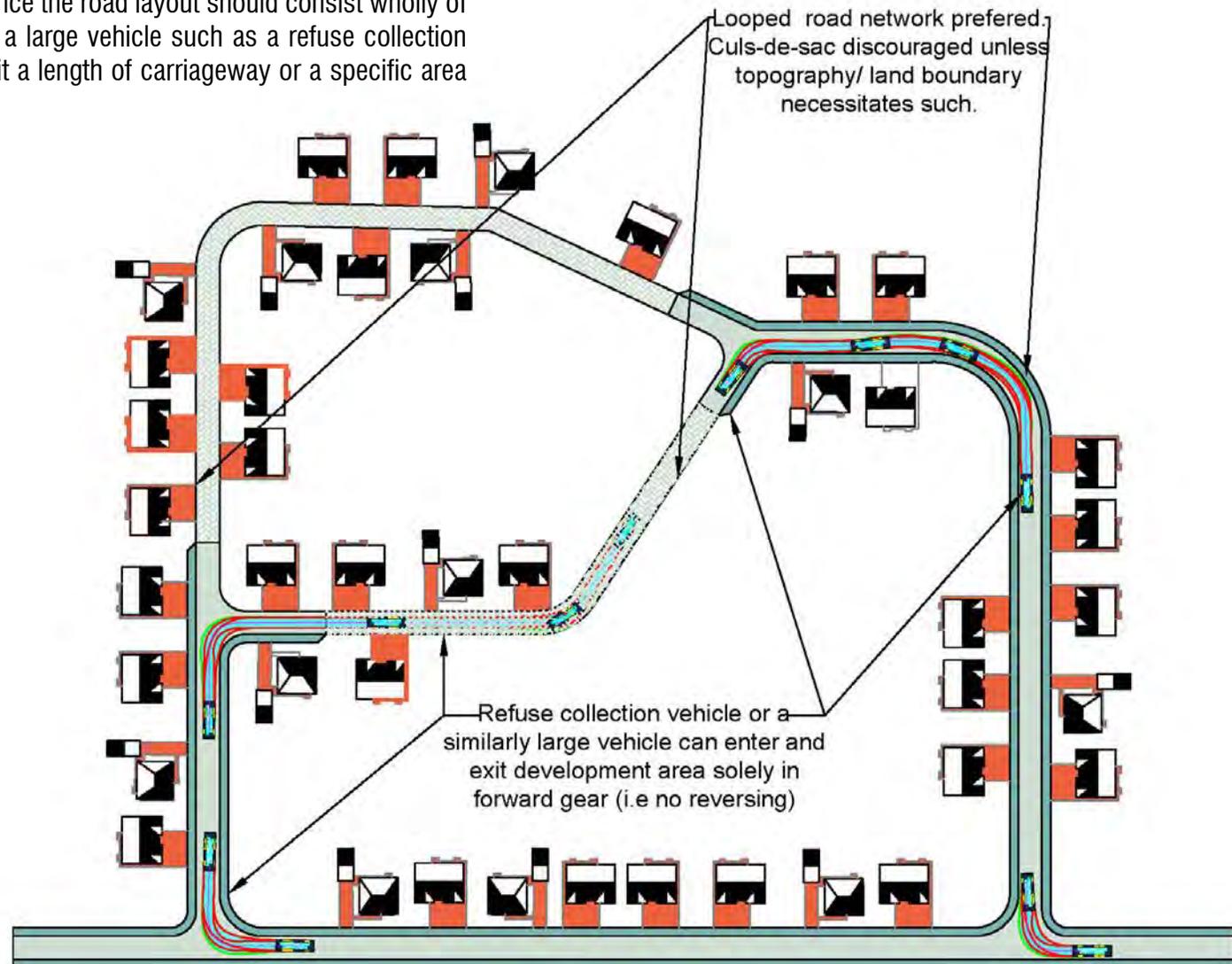
The various options to minimise such reversing movements are described below in order of appropriateness as considered by the Roads Service and Neighbourhood Services.



### 2.3.1 Option A - Designing Streets

As highlighted within “Designing Streets – A Policy Statement for Scotland” - **conventional culs-de-sac, are strongly discouraged**. The requirement therefore for reversing manoeuvres of large vehicles within culs-de-sac should preferably be “designed out” and in the first instance the road layout should consist wholly of continuous loops where a large vehicle such as a refuse collection vehicle can enter and exit a length of carriageway or a specific area solely in forward gear. Refer to Figure 2.1.

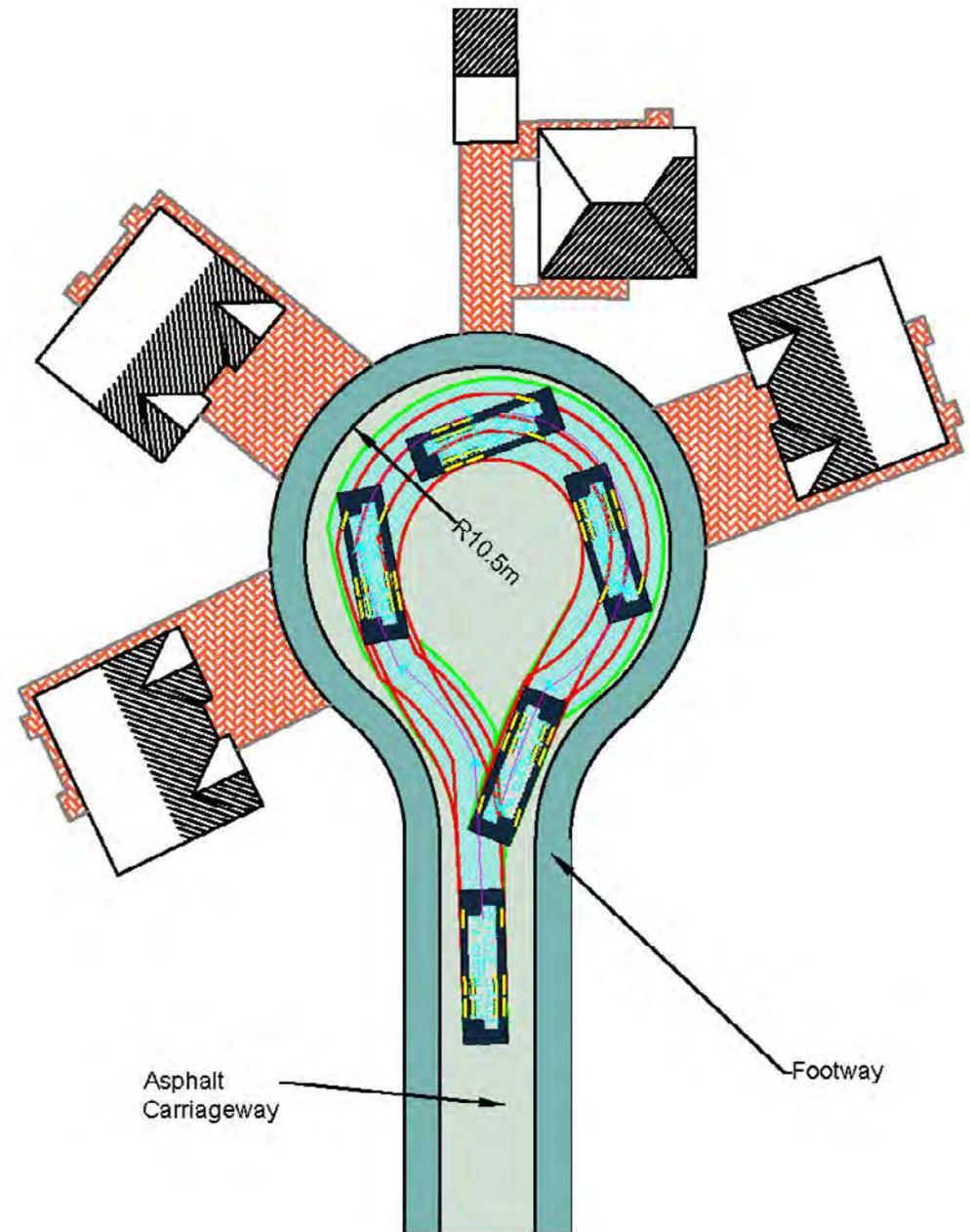
Figure 2.1 Loop layout



### 2.3.2 Option B - Standard Carriageway Cul-de-sac

Where the topography, boundary or other constraints of a site and the subsequent road layout necessitates the requirement for culs-de-sac, they should be **constructed with a suitable sized dimensioned turning circle area** (minimum radius **10.5 metres**) with a **2 metre** wide surrounding footway (i.e. allowing a large vehicle such as a refuse collection vehicle to turn solely in forward gear). The central island (if provided) should be a minimum of **8 metres** in diameter with a **2 metre** wide over-run (**12 metres** diameter overall). The turning circle allows a vehicle to turn without reversing and therefore allows a driver to observe at all times the movement of vulnerable traffic (pedestrians/cyclists) in front and around them. Refer to Figure 2.2.

Figure 2.2 Turning circle preference

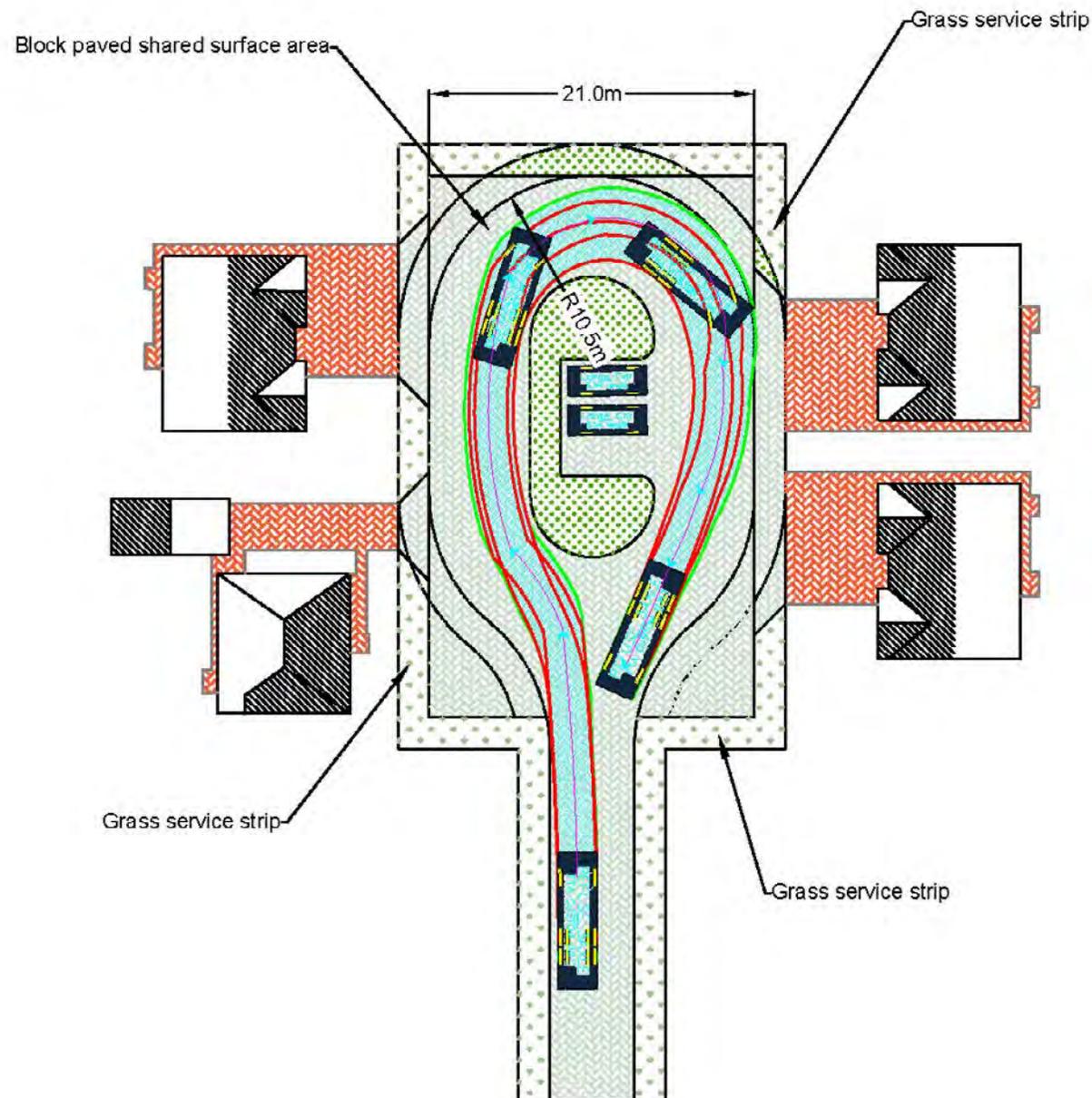


### 2.3.3 Option C - Shared Surface Cul-de-sac

Where the cul-de-sac is incorporated within a shared surface area, to eliminate the risk of reversing vehicles coming into conflict with vulnerable traffic (pedestrians/cyclists) that have congregated within the carriageway area, **only a turning circle area will be permitted.** This will again allow a vehicle to enter and exit the cul-de-sac in forward gear without the need to undertake reversing manoeuvres. Similar to a standard carriageway cul-de-sac the turning circle area should have a nominal minimum radius of **10.5 metres** but in this case there should be further **2 metre** wide strip to allow overhang of the turning vehicle. This “overhang area” may be in the service strip but in no circumstance will the overhang of the turning vehicle be incorporated within garden space, driveways, public space or private landscaped areas. Refer to Figure 2.3.

Subject to careful consideration being given to creating a sense of place, the central island (if provided) may be designed such as to incorporate visitor parking facilities.

Figure 2.3 Turning circle shared surface preference



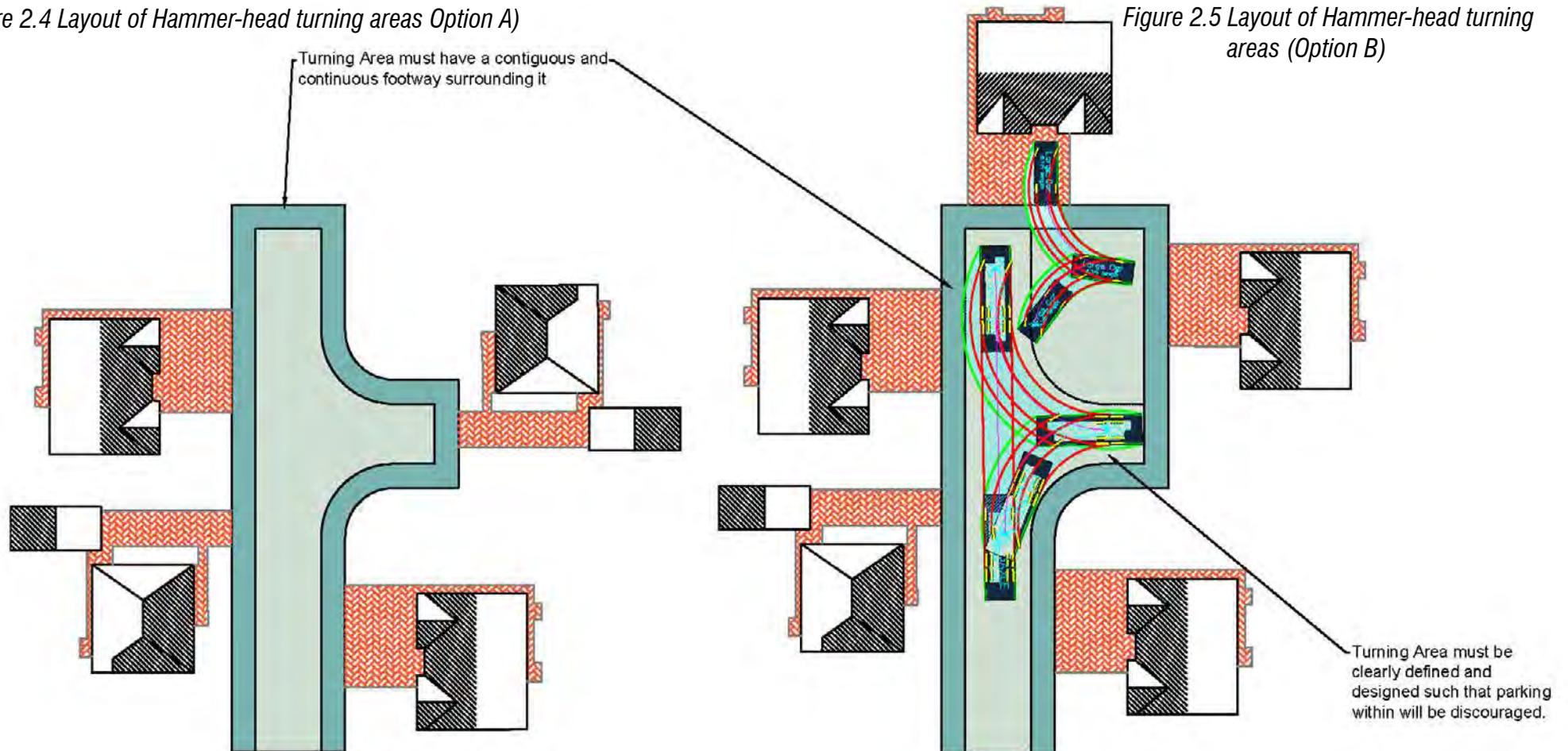
**2.3.4 Option D – Hammer-head Cul-de-sac**

Where the applicant/developer considers that (i) a cul-de-sac is essential to their design, and (ii) a turning circle within that cul-de-sac is considered to be inappropriate, he should provide written design justification for this. In this event, a **“hammer-head” arrangement may be considered, as a last resort.**

A “hammer-head” arrangement will be considered only if the cul-de-sac/turning area has a refuge area for pedestrians. This gives pedestrians a “safer” refuge area when vehicles, particular larger vehicles such as refuse collection vehicles are undertaking reversing manoeuvres to turn. The layout of the turning head(s) are shown in the Figures 2.4 & 2.5.

Figure 2.4 Layout of Hammer-head turning areas Option A)

Figure 2.5 Layout of Hammer-head turning areas (Option B)



It must be emphasised that **“hammer-head” turning facilities, without footways, will NOT BE ACCEPTED within a SHARED SURFACE arrangement.**

### 2.3.5 Private Culs-de-sac

Where none of the above arrangements can be implemented, a separate bin storage collection area must be provided which can be accessed directly from the adjacent “through” public road.

## 2.4. Refuse Collection and Management

### 2.4.1 Consultation with Neighbourhood Services

With specific reference to refuse collection, East Renfrewshire Council Neighbourhood Services should be consulted at an early stage in the design of new residential developments.

### 2.4.2 Service Requirements & Storage

East Renfrewshire Council operates a four bin collection policy in order to meet its obligations under the [Waste \(Scotland\) Regulations 2012](#) and the National Charter for Household Recycling and as a result of these requirements arranges an uplift of two bins per week. Waste collection/bin locations should be considered at an early stage in the design of new residential developments and should be able to accommodate a minimum of 4 x 2-wheeled bins per household.

In addition, it should also be noted that flatted developments and communal properties generally use communal, larger bins for waste and recycling. It is therefore recommended that bin stores or bin storage areas are also considered in the design of all new residential developments.

### 2.4.3 Refuse Collection

In accordance with the [British Standard 5906:2005 “Waste Management in Buildings Code of Practice”](#) refuse collectors should not normally be required to move 2-wheeled waste storage containers (240 litre bins) for a distance of more than 15 metres from the collection point to the Refuse Collection Vehicle (RCV). This distance is reduced to **10 metres** for 4-wheeled waste storage containers larger than 240 litres.

It should also be noted that bin storage areas and bin stores should not be located more than **30 metres** from any dwelling.

### 2.4.4 Shared Surface Collection Points

In shared surface areas where there is no evident footway or kerbside, inappropriately placed bins for collection may compromise vehicle movements and sightline requirements. Safe designated off-road collection areas must be provided for each property adjacent to the shared surface street or courtyard which must be readily accessible by a RCV.

## 2.4.5 Private Access Collection Points

For all properties which will be served by a private road/access it should be noted that the collection point for waste storage containers requires to be immediately adjacent to the nearest adopted public road taking account of the requirements for refuse collection above. Collection vehicles will not access private roads/accesses or driveways, in these circumstances a road-end collection point should be designed to store the bins awaiting collection.

## 2.4.6 Refuse Bin Storage & Collection Areas

In the interest of road safety no proposed bin storage or collection area located in such a way that interferes with any necessary sightline or forward sight stopping distance will be accepted.

## 2.4.7 Temporary Collection Arrangements

For phased development, where properties are to be occupied prior to the adoption of roads, it may be necessary to make temporary arrangements for the storage and collection of waste and recycling at the boundary of the development. Developers should note that RCV's may not access incomplete roads that do not meet the necessary standard for adoption.

## 2.4.8 Refuse Collection Vehicles (RCV's)

Developers should note that RCV's are unlikely to access roads that do not meet the standard for adoption.

Neighbourhood Services would also prefer that the road layout design is such that RCV's do not have to undertake a reversing manoeuvre to turn.

If reversing is unavoidable and the area cannot accommodate a **21 metre** turning circle then waste storage container collection points should be located so that the reversing distance for a RCV should not exceed **12 metres**. Reversing manoeuvres by an RCV in a shared surface area will not be permitted.

## 2.4.9 Swept Path Analysis

In relation to the servicing of the new development a Swept Path analysis of the horizontal alignment will be required to demonstrate that a Refuse Collection Vehicle (3 axle [twin rear]) can safely manoeuvre throughout the development without any over-run of any footways, verges, garden areas or driveways.

# INTERNAL ROAD DESIGN STANDARDS

# 3



### 3.0 Introduction

The purpose of this section is to offer guidance for designers with regard to road design in new housing developments to provide a safe and functional road layout, and to ensure that road design is considered as a key element of the layout.

**Departures from the good practice contained in this section may be considered in certain circumstances but must be detailed and justification provided to allow the Roads Service to make an assessment.** [Appendix D](#) contains a pro forma where such departures can be recorded.

### 3.1 Widths

#### 3.1.1 Standard & Shared Surface Carriageways

Generally the carriageway width for the internal road network shall be 5.5 metres. However a minimum width of 6.0 metres will be required on potential bus routes and depending on the scale of the development, at the immediate point of access. These widths allow unobstructed two way flow of traffic along the road in question.

On secondary and tertiary residential roads this width may be reduced to 3.5 metres where road narrowing's are introduced as 'traffic management or traffic calming features' however 5.5 metres wide inter-visible 'passing places' should be provided at no more than 60 metre intervals

#### 3.1.2 Road Narrowing(s) at Junctions

In the interest of road safety, to allow unrestricted manoeuvrability and to prevent possible "localised" congestion for both standard and shared surface roads, no road narrowing(s) (carriageway widths less than 5.5 metres) will be accepted at junctions and/or within the first 10 metres of each junction leg.

#### 3.1.3 Road Narrowing(s) at Driveways

Similarly to above, road narrowing(s) will not be accepted directly opposite driveways except in a shared surface environment where the driveway access (where appropriate) forms part of the necessary 5.5 metre carriageway width.

Refer to Figures 3.1 & 3.2.

Figure 3.1 Carriageway widths associated with a shared surface road

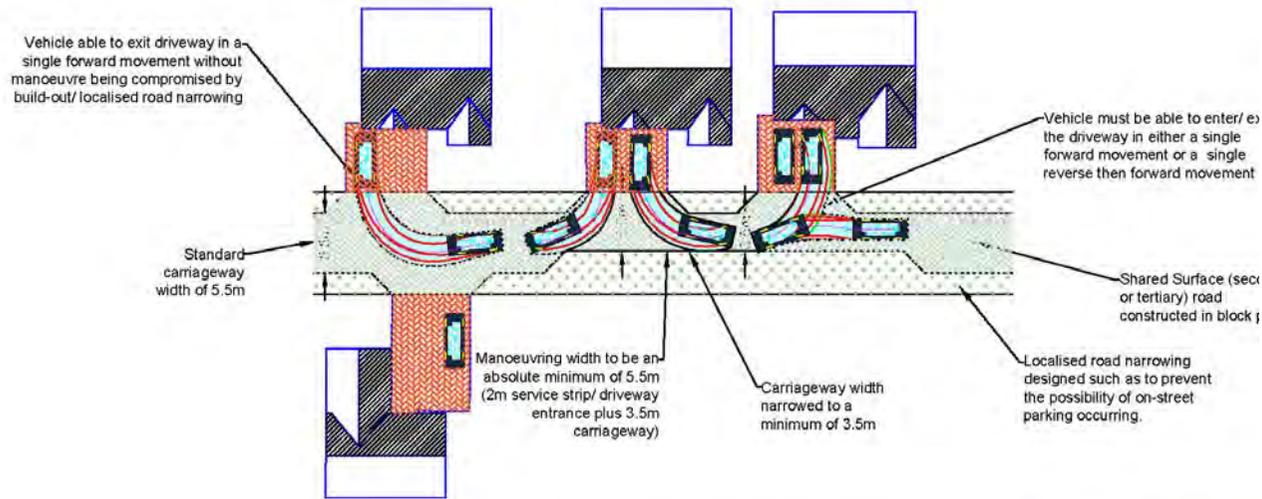
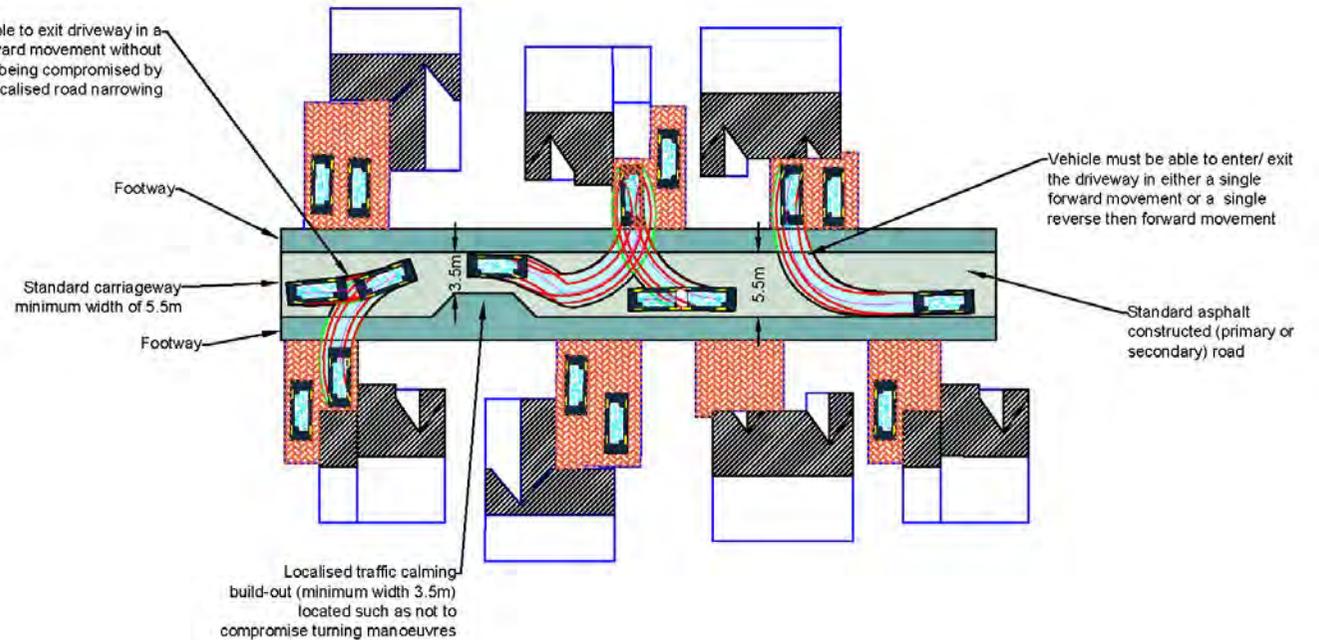


Figure 3.2 Carriageway widths associated with a standard asphalt carriageway with footways



### 3.1.4 Footways, Footpaths, Cycle Tracks, Cycle Lanes & Shared Surfaces

It is important that a consistent terminology is used when referring to footways, footpaths, cycle tracks and cycle lanes in all submission documentation and drawings. A full breakdown of terminology can be found in the Introduction to this document.

- Footway - where over a road the public right of passage is by foot only and is associated with a carriageway;
- Footpath - where over a road the public right of passage is by foot only and is not associated with a carriageway;
- Cycle Track - where over a road the public right of passage is by pedal cycle only, or by pedal cycle and foot only;
- Cycle Lane - part of a carriageway of a road reserved for pedal cycles which is separated from the rest of the carriageway.
- Cycleways - a cyclist route that adjoins a carriageway;
- Shared surfaces - low trafficked single level street that serves a range of user types, normally limited to residential streets where traffic speeds do not exceed 10 mph.

Footways adjacent to the carriageway should generally have a minimum width of 2.0 metres, increased to 3.0 metres (minimum) for shared pedestrian/cycle use. These widths may need to be increased at those locations or the provision of segregated facilities considered, where high levels of pedestrian/cycle flow are expected. Relaxations in footway/cycleway widths are at the Council's discretion.

Where the volume and/or speed of traffic are expected to be high it is recommended that a 0.3 metre wide (minimum) separation strip is provided between the footway/cycleway and the carriageway. It is recommended that this strip should be constructed in a contrasting material to encourage segregation.

Footpaths remote from the road network should also have a minimum width of 2.0 metres however, where possible all paths should be designed to a pedestrian/cycle shared use width of 3.0 metres (minimum). As most off-carriageway routes for cyclist are used by pedestrians, the potential for cyclist-pedestrian conflict is an important issue that should also be addressed. Relaxations in footpath/cycleway widths will be at the Council's discretion.

Adoptable footways, footpaths, cycleways should be accessible to all and as such all routes which link places or destinations should be step free; be of appropriate gradient and constructed in a bound flexible material.

Care should be taken when integrating signage, lighting columns and other street furniture to reduce pedestrian obstruction and ensure maximum benefit for all road users.

### 3.1.5 Verge Widths

All road verges, including those containing surface water drainage systems or acting as a service strip, should be a minimum of 2 metres in width.

## 3.2 Horizontal Alignment

Bespoke road layouts will be considered with and alongside layouts incorporating standard horizontal geometry. Notwithstanding, the design of the road layout must be able to accommodate the necessary forward sight stopping distance visibility splays, junction visibility splays, appropriate carriageway widths etc. In addition **the road layout should be able to allow the largest vehicle which will regularly use the development, such as a 3 axle refuse collection vehicle, to manoeuvre around the proposed road layout without any overrun of adjacent footway, verge, and garden or landscape area and also allow traffic to pass in the opposing direction at regular key locations.**

### 3.2.1 Forward Sight Stopping Distance (FSSD)

#### 3.2.2.1 Introduction

Forward visibility is equivalent to the distance for a driver to react/stop if a hazard is sighted ahead. For residential roads the object height is generally taken as 0.6 metres visible from a driver's eye height of 1.05 metres. The forward visibility (Forward Site Stopping Distance) depends on vehicle speeds.

#### 3.2.2.2 Principles

Generally the minimum FSSD for the majority of residential road is 25 metres. This relates to the stopping distance for a vehicle travelling at 20mph ([Designing Streets](#)).

A departure from the above standard may be considered on an individual basis relating to the context and placement of the route being examined and where the design of the whole street influences

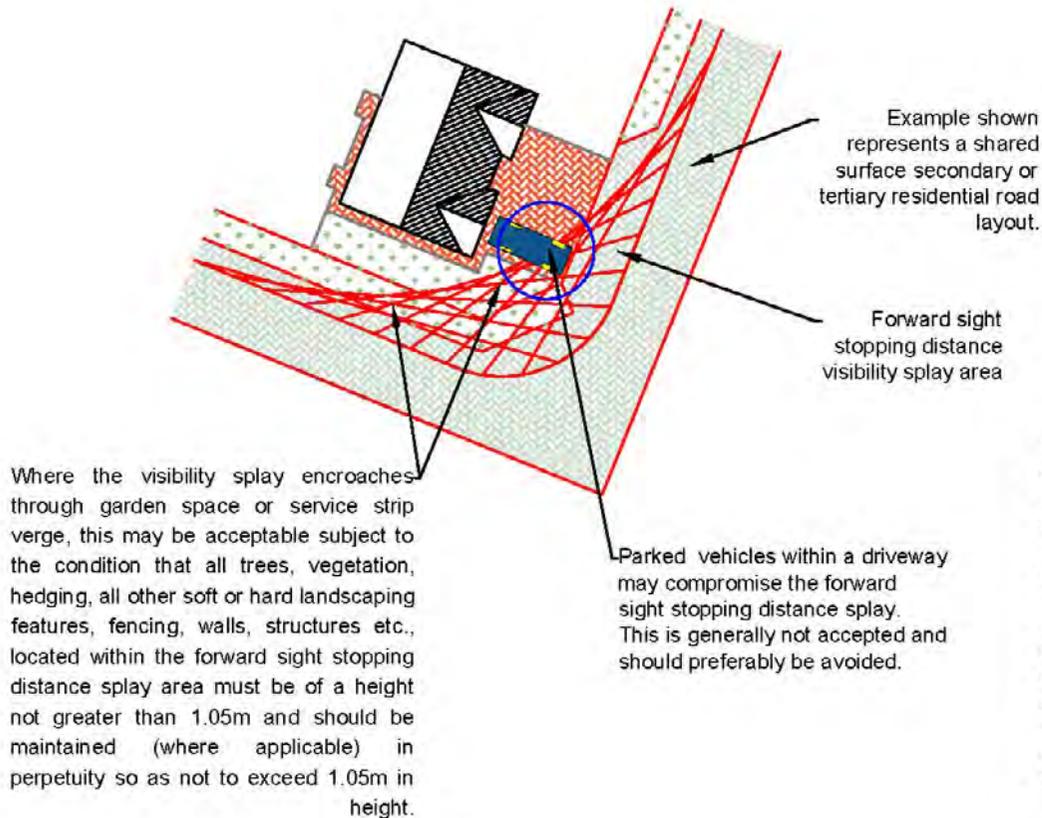
the speed of traffic. For example in certain circumstances a FSSD of 20 metres on a “secondary” or “tertiary” shared surface residential road serving a relatively low populated area with light flows may be acceptable.

Notwithstanding the above, the minimum FSSD for a “primary” route within a residential area (generally defined as being an asphalt carriageway with associated footway/cycleway) will generally remain at 25 metres.

Where a larger development incorporates a core spine road (generally a residential road greater than 5.5m in width and having contiguous/continuous verges footways/cycle ways and verges), the minimum FSSD shall preferably be not less 60m. A departure from this standard to an absolute minimum of 45m may be considered on an individual basis again relating to the context and placement of the route being examined.

Any existing or proposed walls, fences, structures, trees, hedging, vegetation, landscaping features, etc., within the FSSD visibility splay should be provided and thereafter maintained in perpetuity, at a height of not more than 1.05 metres. It is generally also not acceptable for buildings, driveways and visitor parking bays to be provided within the FSSD visibility splay areas. FSSD visibility splays through parking spaces should be avoided where possible, but could be acceptable in certain circumstances, dependant on location and where achieving required visitor parking provision is not possible otherwise. Refer to Figure 3.3.

Figure 3.3a Forward Sight Stopping Distance visibility splays within a shared surface road



### 3.2.2 Procedure

The forward sight stopping distance (FSSD) visibility splay is determined by generating an offset line 1.5 metres from the (nominal) nearside kerb line and then creating a FSSD visibility line, by measuring a distance equivalent to the FSSD along the offset line, from one point (a) of to second point (b). By creating multiple FSSD visibility lines along the offset line, a visibility splay area can be determined.

Figure 3.3b Forward Sight Stopping Distance visibility splays within a standard asphalt road

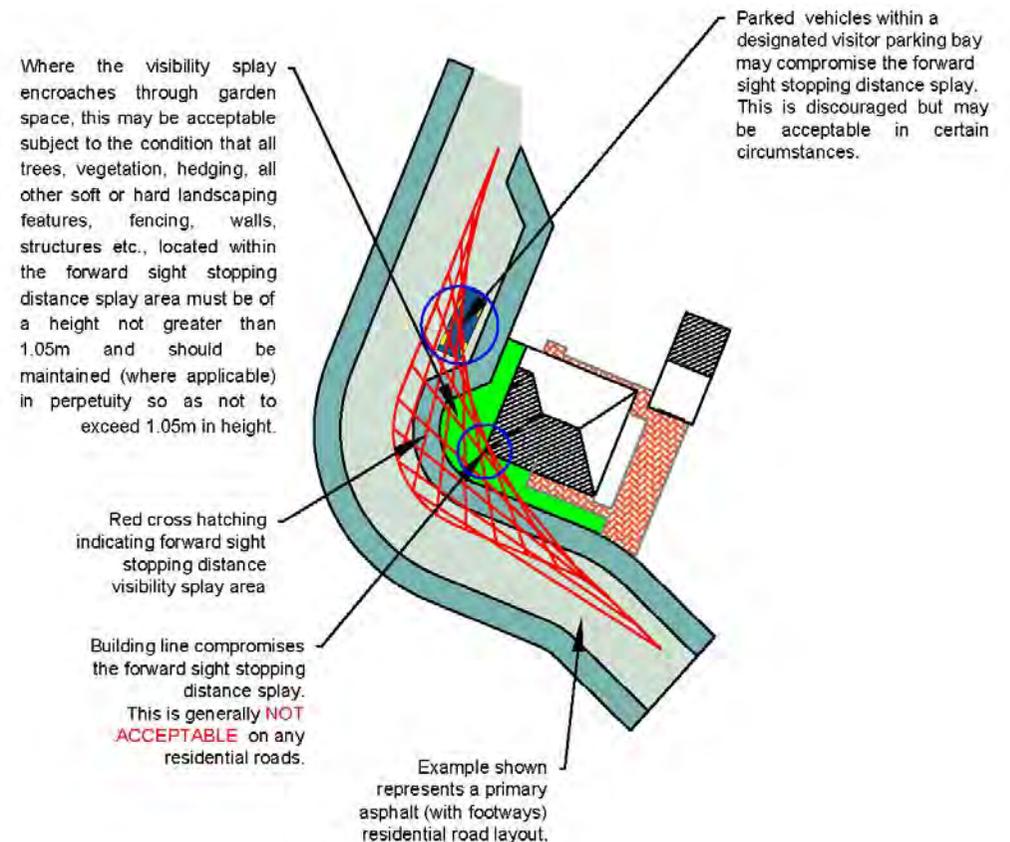
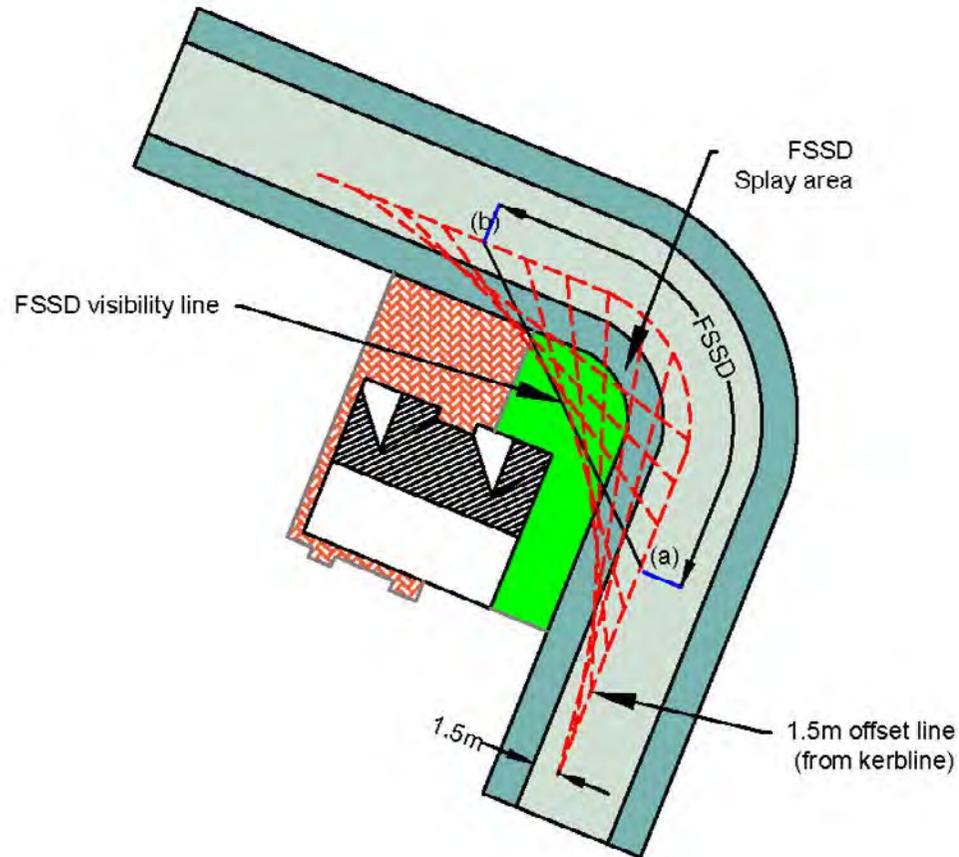


Figure 3.4 Principles in creating Forward Sight Stopping Distance visibility splay



### 3.2.3 Turning Areas

#### 3.2.4.1 General

It is desirable for residential road layouts to be designed so that large vehicles (particularly Refuse Collection Vehicles) do not need to reverse (refer to [Section 2.3](#)). Wherever possible the road layout should consist wholly of continuous loops where a large vehicle such as a Refuse Collection Vehicle can enter and exit a length of carriageway or a specific area solely in forward gear.

#### 3.2.4.2 Turning Circles

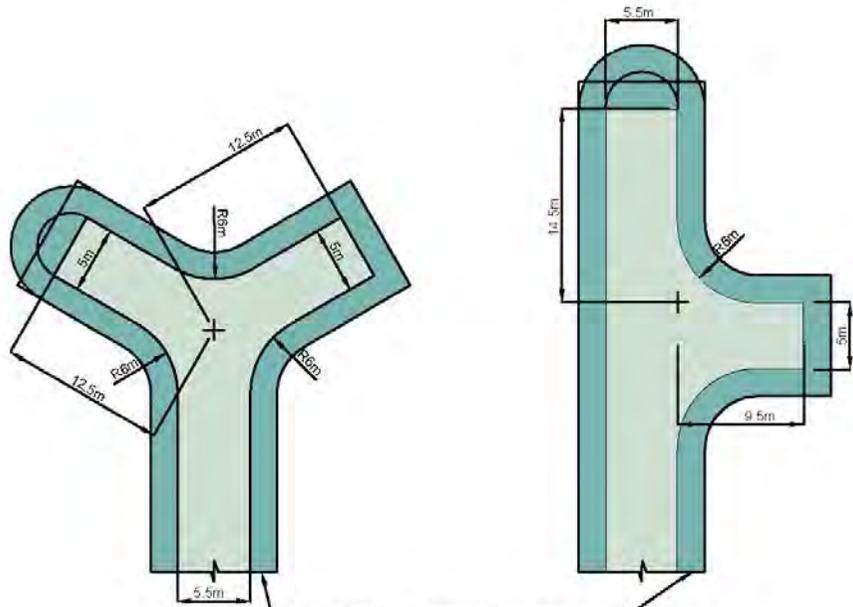
Where the topography and boundary of a site and the subsequent road layout necessitates the requirement for culs-de-sac they should preferably terminate in turning circles. The turning circle should be based on a 21 metre diameter circle therefore allowing a large vehicle to turn solely in a forward gear. Typical layouts are shown previously within [Section 2.3.3](#) & [2.3.4](#) of this document.

#### 3.2.4.3 Hammer-head Turning Heads

Where the constraints of the site preclude the provision of a turning circle, “hammer-head” turning heads may be considered if they are designed to the minimum dimensions and requirements.

It should be noted that “hammer-head” turning facilities, without footways, will not be accepted within a shared surface arrangement. Refer to Figures 3.5 & 3.6.

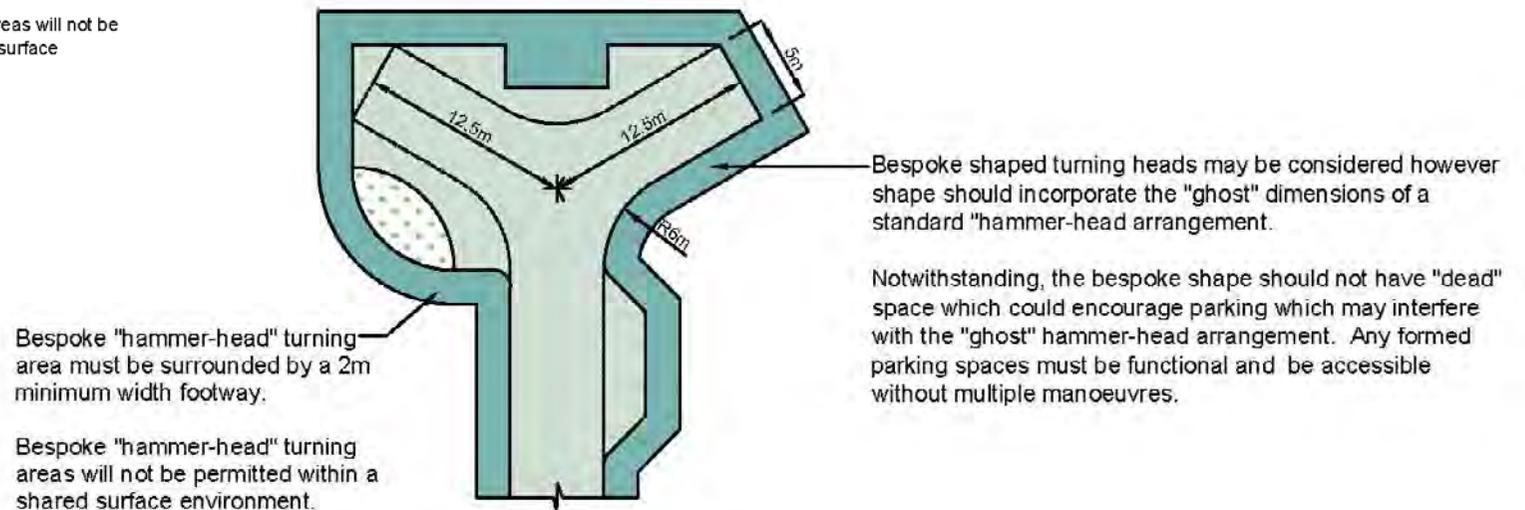
Figure 3.5 Standard hammerhead turning facility dimensions



"Hammer-head" turning areas must be surrounded by a 2m minimum width footway.

"Hammer-head" turning areas will not be permitted within a shared surface environment.

Figure 3.6 Bespoke hammerhead turning facility dimensions



### 3.3 Vertical Alignment

#### 3.3.1 Maximum Gradients

The maximum vertical gradient for internal development roads shall be 8% for a standard asphalt carriageway construction and 7% for a shared surface carriageway construction.

Where the major road is a main road, the approach gradient on the minor arm should be not greater than 2% for a distance of at least 12 metres back from the junction. Refer to Figure 3.7.

At other locations, the gradient of the minor road on approach to the major road should not exceed 5% over the last 5 metres where it is rising towards the major road and should not exceed 4% where it falls towards the major road. Refer to Figure 3.8.

Figure 3.7 Gradients on residential road approaching a Main Road

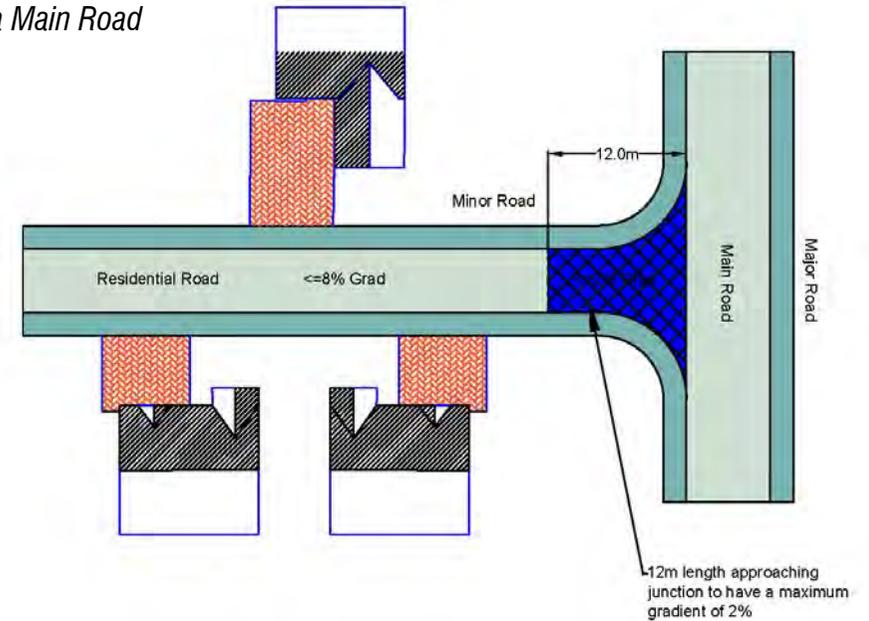
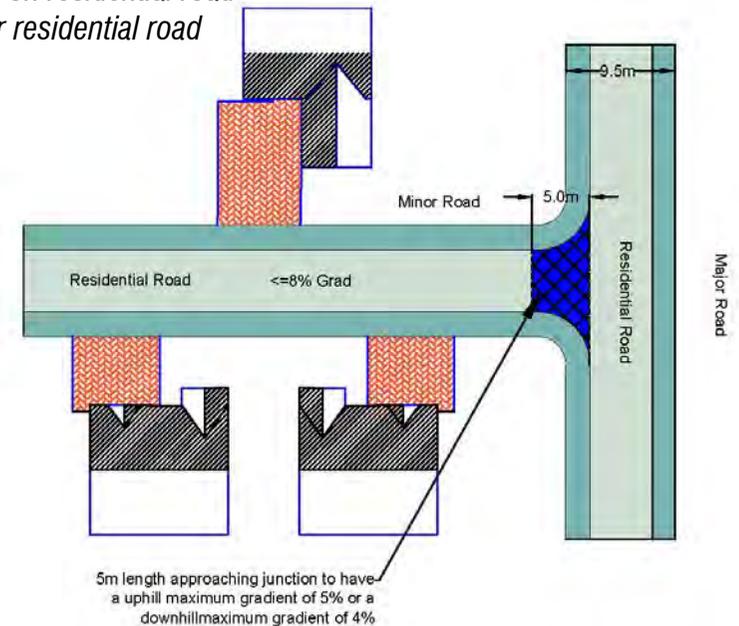


Figure 3.8 Gradients on residential road approaching another residential road



### 3.3.2 Minimum Gradients

The minimum vertical gradient for internal development roads shall be 1% for a standard carriageway construction and 1.25% for a shared surface carriageway construction.

### 3.3.3 Footways & Footpaths

Longitudinal gradients on footways and footpaths should not exceed 8% and the crossfall should not exceed 2.5%.

### 3.3.4 Cycle Tracks

The desirable maximum gradient of a cycle track should be 3% with the absolute maximum of 5%. Gradients over 5% should be designed as ramps with a maximum gradient of 7%.

When designing ramps and other relevant elements of a cycle track, cognisance should also be made in respect to providing suitable turning areas at points where the ramp (or similar feature) turns 90 degrees or turns 180 degrees back on itself (or any other relevant angle). Such turning areas should be designed based on the swept path of a cycle (i.e. the cyclist's dynamic envelope or space needed in motion) at low speed. [Table 5.1 of Local Transport Note 01/20](#) gives advice on the minimum turning circle of various types of bicycles/bicycle combinations.

Crossfall should not exceed 2.5%. For vertical clearance, a minimum of 2.7 metres headroom should be provided.

## 3.4 Road Junctions

### 3.4.1 Junction Spacing

In the interest of road safety junction spacing within an internal road networks should not be less than 25 metres (kerb to kerb). Refer to Figure 3.9.

### 3.4.2 Crossroads

**'Staggered' or T junction layouts are generally preferred over 'Crossroad' junction layouts.** As well as the potential for drivers misunderstanding the priority through a crossroad junction, they are also less likely to have as significant a speed reduction effect on traffic (in all directions) as staggered T junction layouts.

Notwithstanding the generic 25 metres junction spacing requirement, spacing between staggered junctions within a bespoke arrangement may be reduced to a minimum of 10 metres (kerb to kerb). This minimum spacing discourages the potential of a "straight through racing line" manoeuvre occurring. The preferred stagger arrangement is right hand junction prior to a left hand junction. Refer to [Figure 3.10](#).

### 3.4.3 Junction Styles

#### 3.4.3.1 Standard Junction Radii

The minimum desirable junction radii between differing road hierarchy are as detailed in Table 3.1

#### 3.4.3.2 Bespoke Junctions

The junction may be of a bespoke layout and be of a non-standard arrangement, be a nodal feature and have a square or "tight radii corners". If such a layout is proposed, consideration should be given

as to how large vehicles such as refuse collection vehicles will be able to negotiate such corners without the need to ‘over-run’.

Consequentially, the shape of the bespoke junction should preferably be able to accommodate a “ghost” radius (or vehicle tracking) as dimensioned within the above Table 3.1.

Refer to Figure 3.11.

Table 3.1

Principle Road Hierarchy	Side Road Hierarchy	Junction Radius
Main Road	Primary Residential Road	9 metres or 7.5 metres
Primary Residential Road	Primary Residential Road	6.0 metres
Primary Residential Road	Secondary Residential Road	4.5(#) metres
Secondary Residential Road	Secondary/Tertiary Residential Road	4.5(#) metres
Tertiary Residential Road	Tertiary Residential Road	4.5(#) metres

(#) Subject to confirmation that a large vehicle; such as a Refuse Collection Vehicle can safely manoeuvre around the corner without the need to overrun etc.

Figure 3.9 Junction spacing on a residential road layout

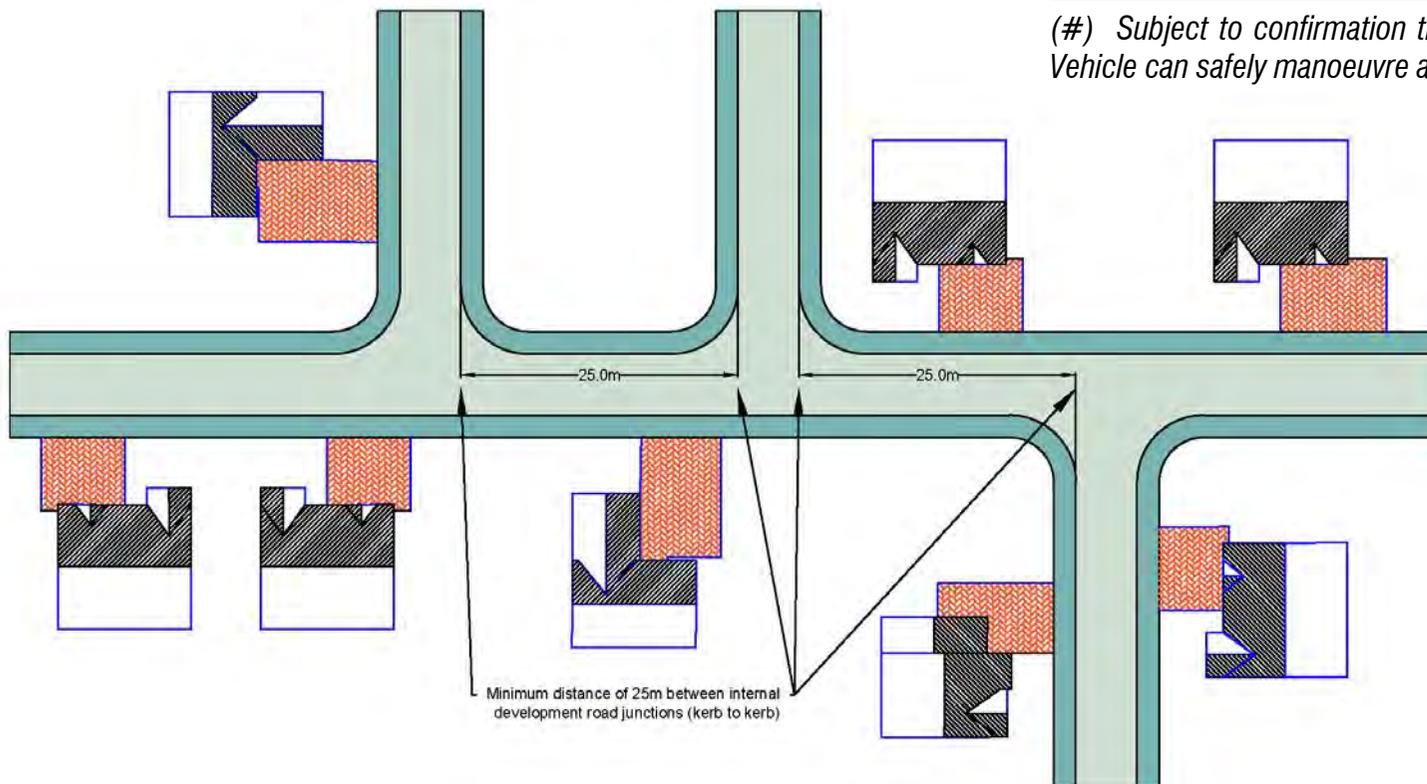


Figure 3.10 Typical layout of a staggered junction

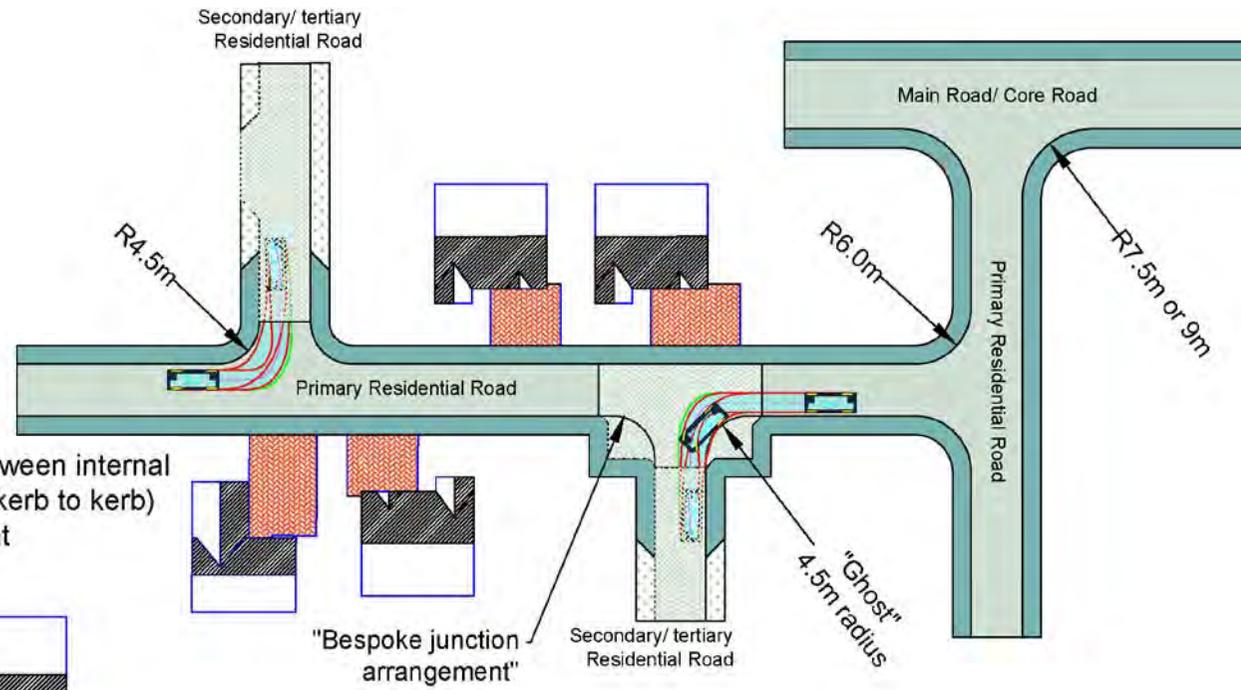
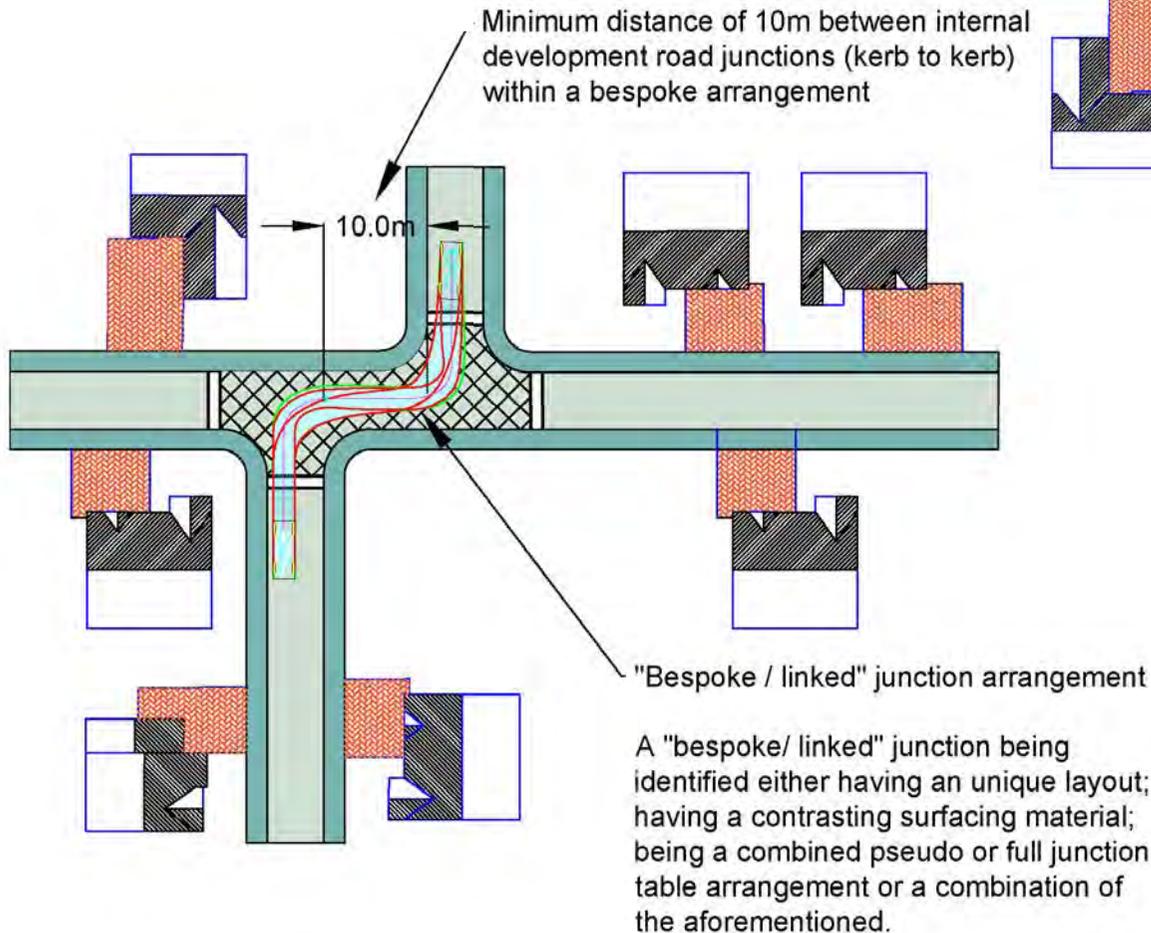


Figure 3.11 Typical Junction radii

### 3.4.4 Junction to Driveway – Spacing

In the interest of road safety it is recommended that driveways (where provided) are not located within 10 metres of a junction. Drivers following a vehicle which is performing a turning manoeuvre may misinterpret their intentions and subsequently fail to maintain a safe distance. An exception to this condition would be for driveways located on the opposite side from a junction leg.

Generally due to the increased traffic levels, for the first driveway encountered on a residential primary road after exiting from a Main Road, a minimum distance of 15 metres will be required. Refer to Figure 3.12.

Careful consideration should also be given regarding the juxtaposition of driveways with junctions located on the apex of bends and where the priority is around the bend. With such arrangements there is the possibility of drivers misinterpreting traffic either turning into the junction or the driveway. Similarly drivers exiting from the driveway may reverse/turn into the side road before exiting onto the primary route.

In light of these issues and in the interest of road safety it must be emphasised that driveways should not be located within 10 metres of the junction. Refer to Figure 3.13.

Figure 3.12 Spacing of a driveway away from a junction

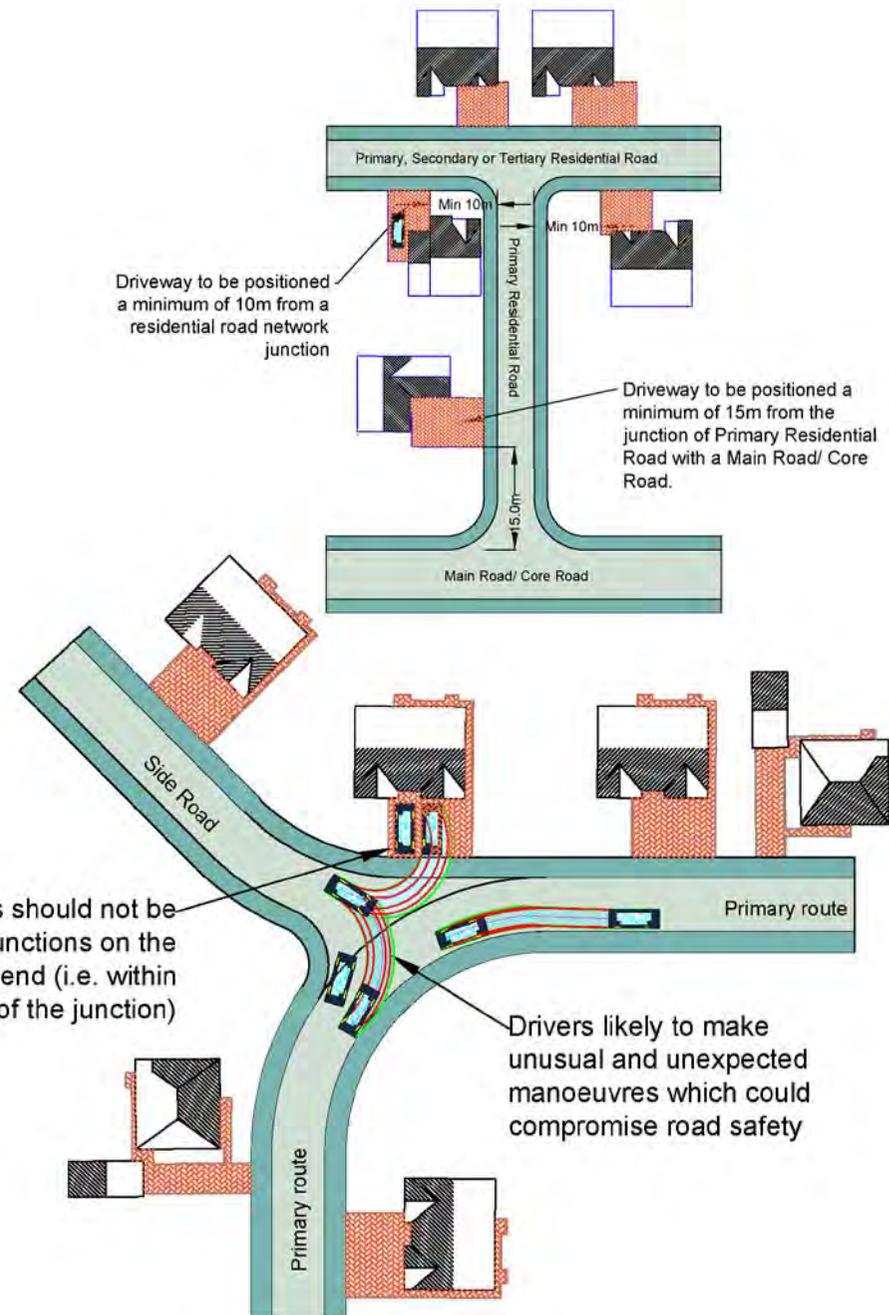


Figure 3.13 Spacing of a driveway on a junction bend

### 3.4.5 Junction to Parking Bay - Spacing

On-road, lay-by (visitor) parking bays should be positioned at least 10 metres away from a junction. Drivers following a vehicle which is performing a turning manoeuvre either into the adjacent junction or the parking bay may misinterpret their intentions and subsequently fail to maintain a safe distance. In addition vehicles parked within the parking bay may compromise junction visibility splays (refer to Section 3.5.1). Refer to Figure 3.14.

Figure 3.14 Spacing of lay by away from a junction

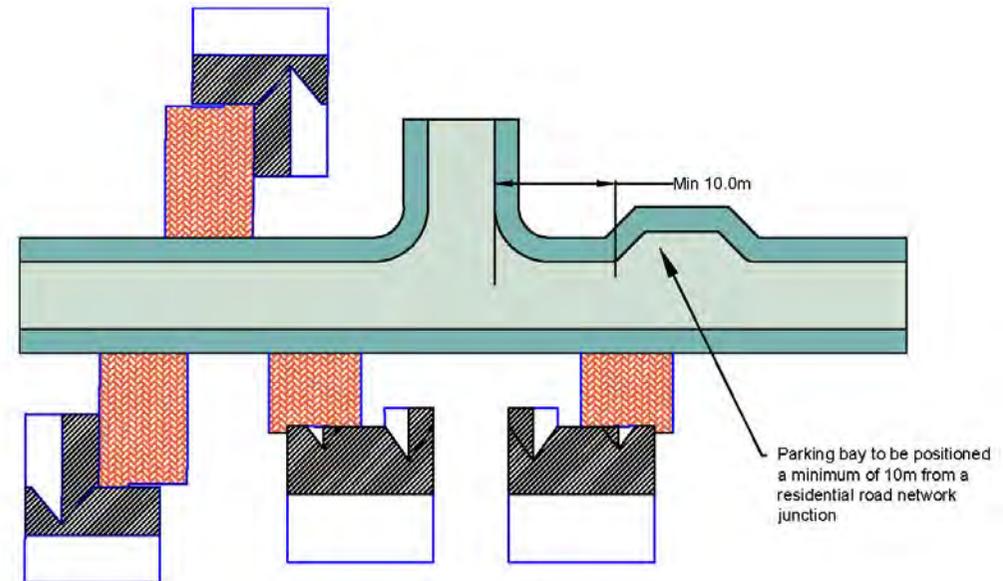
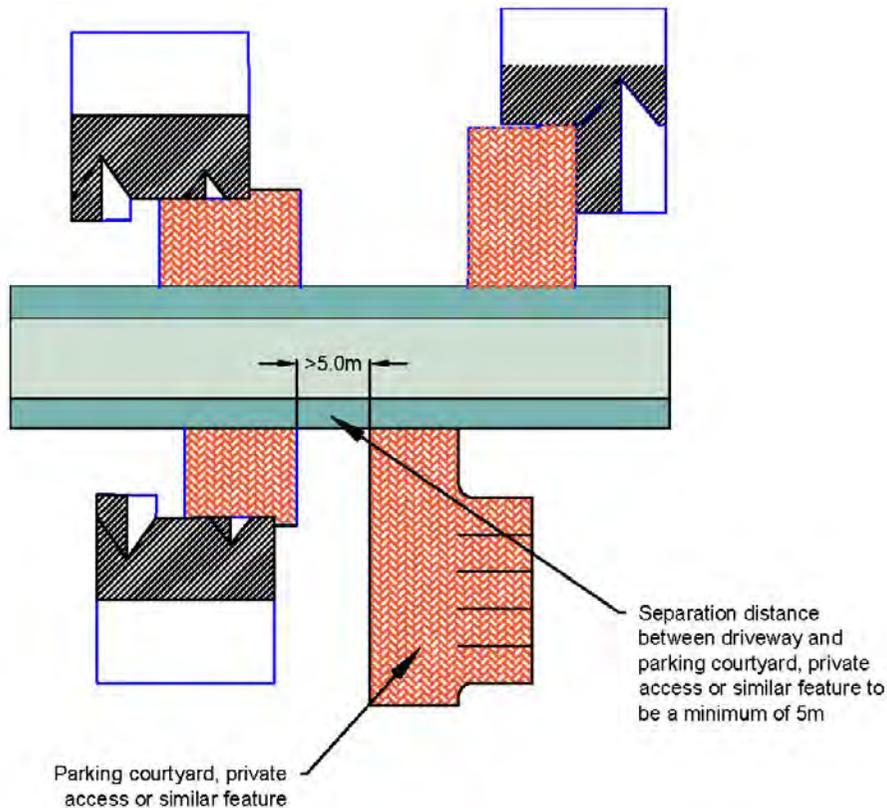


Figure 3.15 Spacing of a courtyard access away from a driveway



### 3.4.6 Parking Courtyard to Driveway – Spacing

The minimum spacing between driveways and parking courtyards/private accesses should be 5 metres.

If any driveway is located closer than 5 metres to any private parking courtyard or shared access then there is a danger that following vehicles may misinterpret their intended manoeuvre from the public road into the driveway or other parking area. Refer to Figure 3.15.

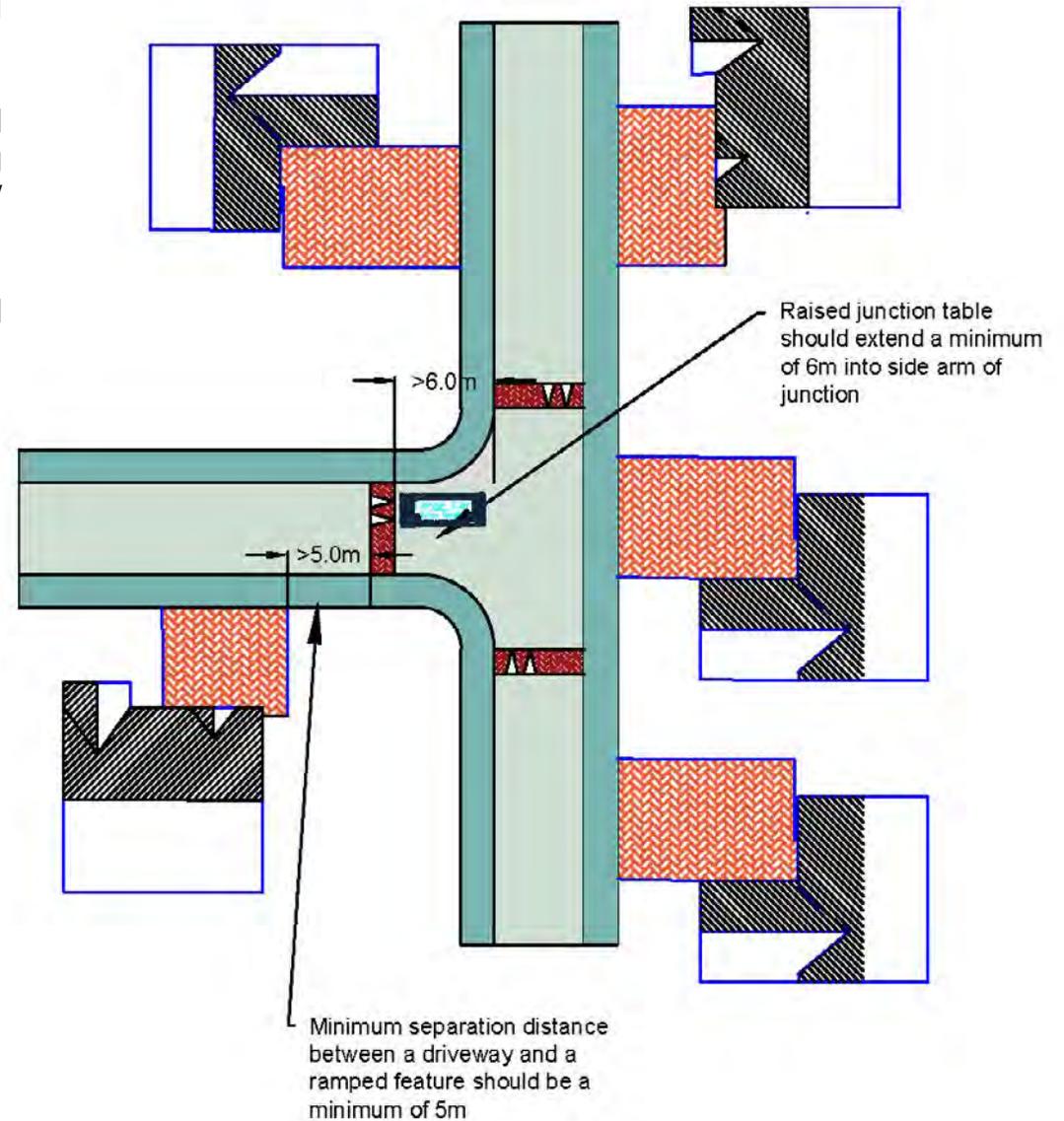
### 3.4.7 Raised (Junction) Tables & Vertical Traffic Control Measures

Where provided raised junction tables should extend at least 6 metres into each road leg of a junction. This is to ensure that a vehicle will not be positioned on a ramp if giving way at the junction.

It is advisable that vehicles do not drive over the ramp of a vertical traffic control measure at an askew angle (such as manoeuvring around a junction or entering/exiting a private courtyard area/driveway).

Consequently junctions or driveways within 5 metres of a speed control ramp should be avoided. Refer to Figure 3.16.

Figure 3.16 Spacing of a driveway away from a vertical ramp feature



### 3.4.8 Transition between standard asphalt and shared surface (block paved) carriageways

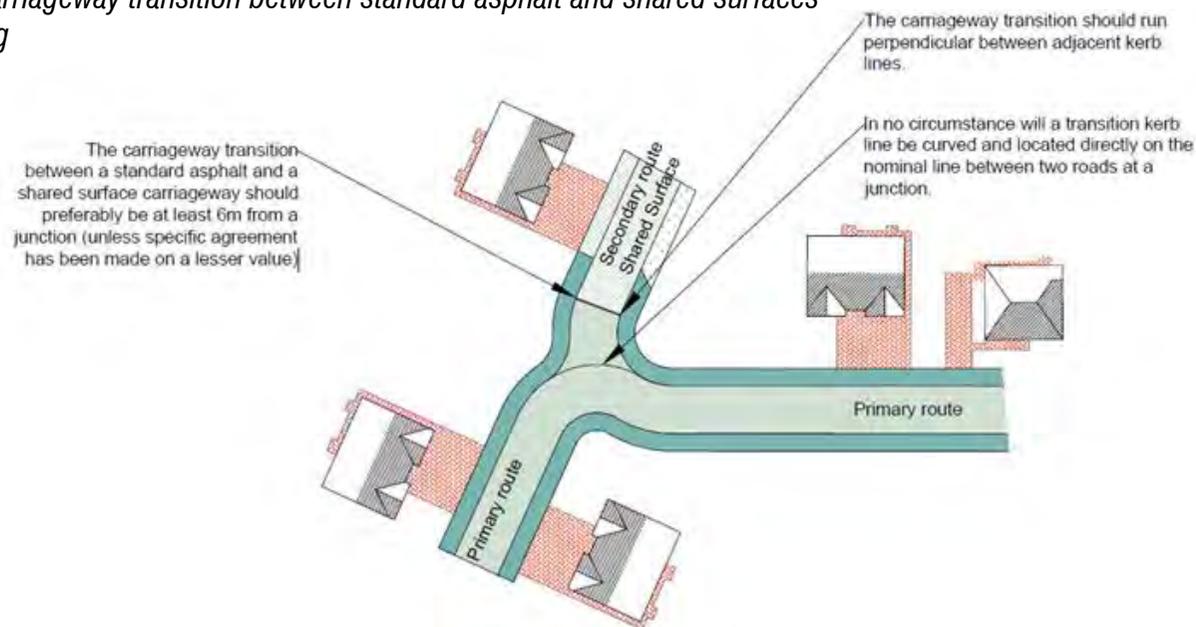
Vehicles (including and particularly cyclists) should not be required to cross over a transition between an asphalt and block paved carriageway (which will generally either be ramped or be a kerb line with a minimum 20mm upstand) at an askew angle. Crossing a transition at an askew angle may cause the driver/ cyclist to become unbalanced and momentarily lose control. This is a potential road safety risk and is undesirable in a situation where the vehicle/cyclists is giving way or manoeuvring through a junction.

A transition between a standard asphalt and a block paved carriageway immediately at a junction is therefore not acceptable unless there

are certain mitigating circumstances that prevent the transition being located away from such a position. A transition located on curved junction mouth will not be acceptable in any circumstance. Further to the latter, it may also be impractical to construct a transition ramp or kerb line following a horizontal curve.

A transition between a standard asphalt and a shared surface carriageway should therefore be preferably at least 6m from a junction (unless specific agreement has been made on a lesser value). Carriageway transitions should also run perpendicular between adjacent kerb lines thus ensuring vehicles travel over such at right angles to such. Refer to Figure 3.17.

Figure 3.17 Carriageway transition between standard asphalt and shared surfaces (blocked paving)



## 3.5 Visibility and Sightlines

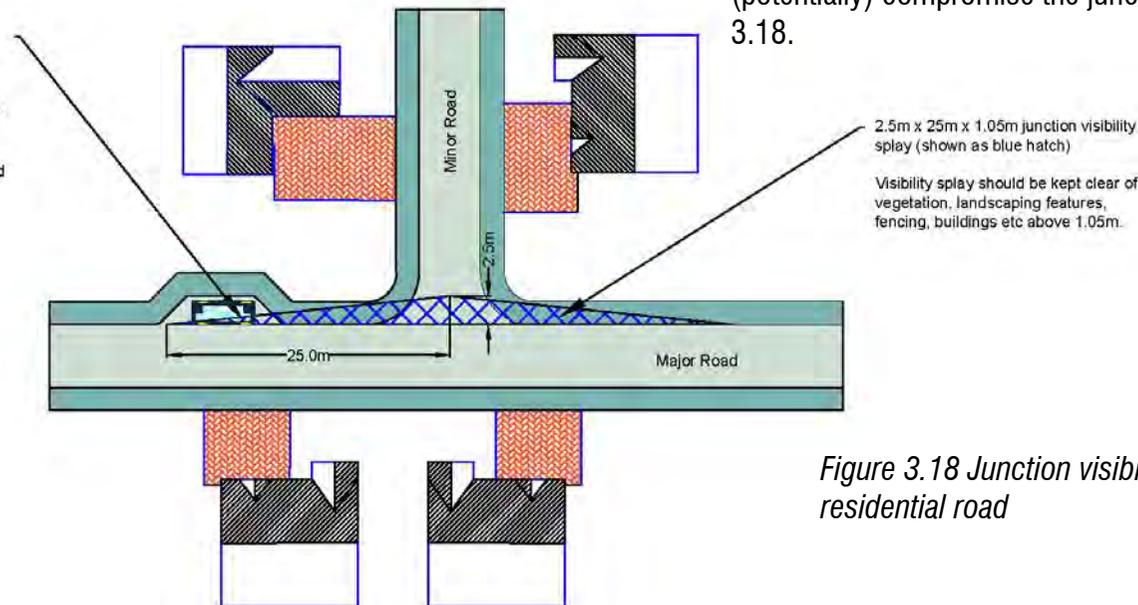
### 3.5.1 Internal Road Junctions

Clear sightlines, from any new internal road junctions, are essential to enable drivers, exiting the road, to check in both directions for vehicular traffic before safely joining the adjacent road. That is from a point 'x' metres back from the road edge there should be an unrestricted view, above a height of 1.05 metres, for a distance of 'y' metres in both directions. A junction visibility splay is defined as: 'x'- metres, by 'y'- metres, by 'z'- metres.

**In the interest of road safety, a minimum visibility splay of 2.5 metres x 25 metres must be provided and thereafter maintained in perpetuity, at all internal road junctions.** Any existing or proposed buildings, structures, fencing, landscaping features (soft or hard), trees, vegetation, etc., within the visibility splay should be maintained in perpetuity, at a height of not more than 1.05 metres.

Where the major road is a primary residential road it will not be acceptable for (the potential of) a parked vehicle to compromise the junction visibility splay.

If the major road is a secondary or tertiary road and traffic flows/speed are relatively low, it may be permissible for the visibility splay to be relaxed if there is a greater need to provide visitor parking provision. The latter situation will however be determined on an individual site to site basis.



If the visibility splay intersects any private garden space it should be conditioned within the property missives that the aforementioned conditions regarding the maximum height of any obstructions, within the splay, are complied with.

The designer should endeavour to ensure that allocated (curtilage) and unallocated (visitor) parking spaces are located to ensure that any vehicles parked within do not compromise the visibility from any new internal road junction. However, it is recognised that there may be circumstances where there will be a balance between obtaining adequate visitor parking (therefore minimising on-street parking and associated road safety risks) and obtaining unobstructed junction visibility. If the major road is a secondary or tertiary road and the traffic flows/speed are relatively low, it may be permissible for the required visibility splay to be relaxed if there is a greater need for visitor parking provision.

Notwithstanding the above, where the major road is a primary residential road it will not be acceptable for parked vehicles to (potentially) compromise the junction visibility splay. Refer to Figure 3.18.

Figure 3.18 Junction visibility for a residential road to a residential road

### 3.5.2 Driveways, Shared Driveways & Courtyards

**In the interest of road safety, a minimum visibility splay of 2.0 metres x 20 metres must be achieved between individual driveways, parking courtyard accesses and shared driveways and the adjacent carriageway.** Any existing or proposed buildings, structures, fencing, landscaping features (soft or hard), trees, vegetation, etc., within the visibility splay should be provided and thereafter maintained in perpetuity, at a height of not more than 1.05 metres.

If the visibility splay intersects any private garden space it should be conditioned within the property missives that the aforementioned conditions regarding the maximum height of any obstructions, within the splay, are complied with.

It is recommended that in terms of road safety that allocated (curtilage) and unallocated (visitor) parking spaces are located in such a way that any vehicles that are parked within such spaces should not compromise the visibility from any individual driveways, parking courtyard accesses and shared driveways. Each occurrence of which, will however be examined and determined on an individual basis.

### 3.5.3 Driveways & Pedestrians

**To ensure an adequate and safe inter-visibility between vehicles exiting from a driveway and pedestrians on any adjacent footway or carriageway, a visibility splay of 2 metres back from the edge of the driveway ('x' distance) and 5 metres in either direction from the edge of the driveway ('y' distance) should be provided.**

No obstructions above a height of 1.05 metres will be accepted in either direction within the aforementioned splay.

Refer to Figure 3.19.

### 3.6 Parking Design Standards

In residential areas car parking should always be considered as part of the overall design. All car parking areas must be located appropriately so the **parked vehicles do not impede traffic flow or compromise road safety.**

The layout and position of any parking space, parking area and indeed driveway should all be functional to allow safe manoeuvrability of vehicles to and from such facility.

Designers are encouraged to give **early consideration to the provision and design of driveways.**

For details of the recommended residential parking design standards, necessary parking provision and detailed driveway design for each type of property refer to [Section 4](#) – Residential Car Parking.

### 3.7 Drainage

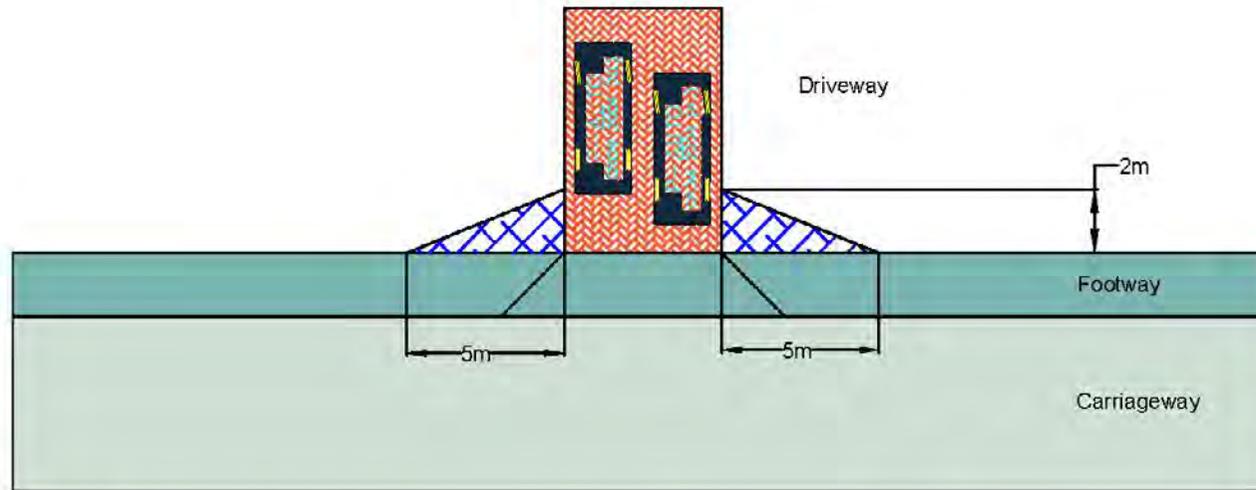
#### 3.7.1 Drainage Requirements

The applicant should also note that drainage requirements should be considered in relation to:

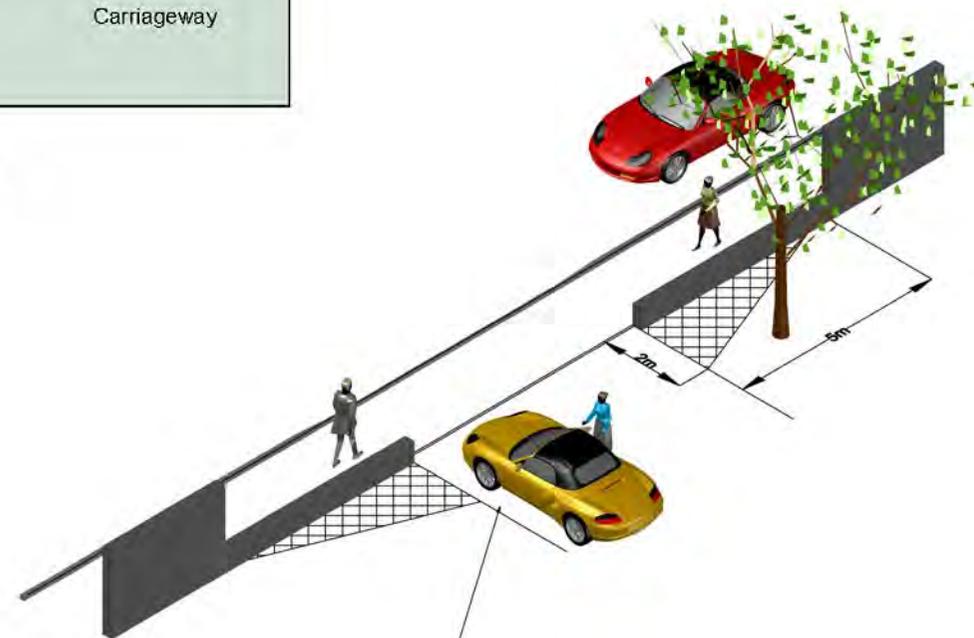
- surface water discharge,
- attenuation requirements,
- treatment,
- SUDS requirement.

After attenuation/treatment, the recommended maximum outflow from the development site into any relevant outfall should not exceed 8 litre/s/ha or other specified discharge rate which must not exceed

Figure 3.19 Inter visibility splay required between a driveway and adjacent footway



Driveway visibility splay (for Pedestrian movements). No vegetation, landscaping features, fencing etc above 1.05m in height will be accepted within this splay. (Note:- footway may not be present for shared surface layouts)



Visibility Splay formed from points between 2m back from heel line and 5m along heel to be kept clear of any walls, hedges, fencing, vegetation, landscaping etc above 1.05m in height. This is to allow drivers to be able to see pedestrians (and vice versa) walking along the adjacent footway.

the greenfield run-off rate. These matters should be addressed in a Drainage Strategy if submitted in support of a planning application.

### 3.7.2 Drainage Systems

Drainage systems should reflect the most sustainable approach with a preference to above ground SuDS. Therefore the road network should drain to grass filter strips, stone filled filter trenches or swales. Or drain via gullies and other off-lets for discharge to trenches, swales etc.

It should be noted that despite drainage networks being sized to current standards, overland flows during extreme events should be considered. The developer is required to show how these flows will be managed for up to and including a 1 in 200 year event plus climate change to reduce the risk of flooding to property. Adoption and maintenance regimes must be highlighted at this stage.

#### Roof and curtilage drainage

East Renfrewshire Council will not adopt drainage that includes roof or curtilage drainage. If road drainage is combined with roof and curtilage, Scottish Water and the Council may enter a shared agreement through Section 7.

#### Road Drainage

Notwithstanding, the ownership/maintenance of drainage systems solely containing road surface water including gullies, manholes, connection “tails” between gullies, swales, filter trenches etc and all associated infrastructure may revert to the responsibility of East Renfrewshire Council’s Road Service upon formal adoption by the Council as Roads Authority.

### 3.7.3 Surface Water Run-off

It is an offence under section 99 of The Roads (Scotland) Act 1984 to discharge water from a private area onto the public road network. Therefore, surface water run-off must be contained within areas such as driveways, courtyard accesses or paved gardens by sloping them away from the public road or by means of a suitable positive drainage system (due to maintenance issues permeable block paving is not considered as a primary positive drainage system).

# RESIDENTIAL PARKING PROVISION

# 4



## 4.0 Introduction

The purpose of this section is to offer guidance for designers with a view to achieving a consistency of approach with regard to residential parking in new housing developments, and to ensure that parking is considered as a key element of the design layout as per [Designing Streets](#).

In residential areas car parking should always be considered as part of the overall design. All car parking areas must be located appropriately so the parked vehicles do not impede traffic flow or compromise road safety. **The layout and position of any parking space, parking area and indeed driveway should be functional to allow safe manoeuvrability of vehicles to and from such facility. Multiple reversing manoeuvres are strongly discouraged.**

For details of the necessary residential parking provision for each type of property refer to [Section 4.2](#) – ‘Residential Parking Provision’.

Where the provision of parking is inappropriate, which could mean too few spaces, or spaces are poorly located on bends for instance or opposite a narrow carriageway such that manoeuvrability is compromised or hazardous, or visitor spaces are too remote from the dwelling they serve, there is a likelihood that the parking spaces will not be utilised for their intended purpose. This could lead to an increase in on-street parking and a potential compromise of road safety and street functionality if the layout does not provide opportunities for safe on street parking.

Full parking provision for any proposed residential development should be provided as per the requirements as detailed in [Table 4.1](#) & [Table 4.2](#). [Appendix G](#) contains a pro-forma detailing how such provision can be recorded.

Designers are encouraged to give early consideration to the provision and design of driveways.

**Developers/Designers should endeavour to provide as much driveway detail, as possible at Planning Stage.** Where only notional information has been provided, Planning Consent may be granted but subsequent detailed information as would be required for RCC may reveal inadequate house spacing or inadequate distance from house to road.

**Departures from the good practice contained in this section may be considered in certain circumstances but must be detailed and justification provided to allow the Roads Service to make an assessment.**

[Appendix D](#) Contains a pro forma where such departures can be recorded.

## 4.1 Parking Design Standards

### 4.1.1 Categories of Parking

Car parking in residential developments should normally be provided as a mixture of two categories: Allocated Parking Spaces and Unallocated Parking Spaces.

#### 4.1.1.1 'Allocated Parking Spaces'

Allocated Parking Spaces are generally for residents and are directly associated with individual residential properties. It should be noted that no allocated parking spaces, in any circumstance will be adopted by the Council as Roads Authority.

They will either be provided within the 'curtilage' of the property; within the road space 'on-road'; or within a dedicated 'parking courtyard'.

In addition, they should be closely positioned to their relative properties. If external driveways or separate parking areas are too remote from the property they serve, it is unlikely that residents will park there and will subsequently park their vehicles on the carriageway adjacent to their property thereby potentially impeding the flow of traffic and interfering with visibility splays to the detriment of road safety.

#### 4.1.1.2 'Unallocated Parking Spaces'

Unallocated Parking Spaces are generally provided to meet the short stay demands, usually for visitors.

They will either be provided within the road space 'on-road'; or within a dedicated 'parking courtyard'.

These spaces should be distributed throughout the development relative to the density/type of house units to which they serve. The

maximum distance from any one dwelling to the nearest visitor parking space should preferably not exceed 30 metres. This may result in an increased number of visitor spaces above the minimum requirement.

While parking spaces, associated directly with the prospectively adopted public carriageway, will also be adopted, it should be noted that parking courtyards are highly unlikely to be adopted.

### 4.1.2 Types of Parking

Car parking for residential developments will either be provided within the 'curtilage' of the property; within the road space 'on-road' (if they are clearly defined and delineated); or within a dedicated 'parking courtyard'.

- Curtilage Parking – A parking space or spaces within the grounds or area surrounding a house or other place where a person lives usually provided in the form of a driveway (refer to [Section 4.3 – 'Driveway Design Standards'](#)).
- On-Road Parking – Generally will be provided as part the public road network either as a dedicated space within the carriageway, a bay or bays adjacent and parallel to the main carriageway or as bays perpendicular to and accessed from the adjacent public road (refer to Sub Section 3).
- Parking Courtyard – An area, off-road, designated as a car park which could be a mixture of allocated and unallocated spaces. For details of the recommended parking courtyard standards (refer to Sub Section 4).

**4.1.3 On-road Parking**

**4.1.3.1 Parallel Parking**

Where a parking bay is provided parallel to the carriageway, the length of the bay(s) should be in multiples of 6 metres in length x 2.5 metres in width.

If the parallel parking bay is provided within a shared surface area it should have hardstanding areas located to the rear and sides of the bay. These hardstanding areas should be a minimum of 1.2 metres in width with a suitable transition (dropped kerb) to allow pedestrians

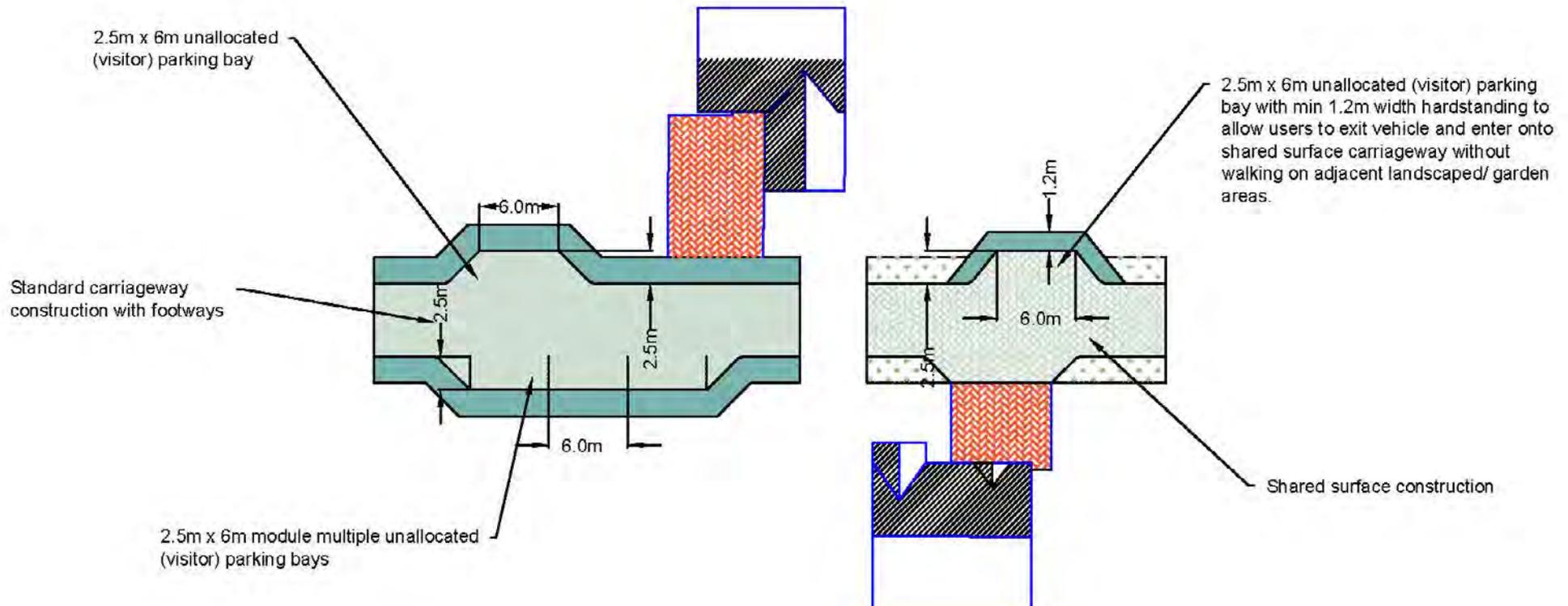
(particularly with mobility difficulties) to safely transfer onto the shared surface.

The kerb alignment at the transition from the longitudinal kerb line and the splay at the start and end of the lay by should preferably be a 1 metre radius kerb. Refer to Figure 4.1.

**4.1.3.2 Perpendicular Parking (Allocated)**

Where the parking bays are perpendicular to the carriageway and are allocated space(s) the absolute minimum size of a bay should be 2.5 metres x 5.0 metres and located behind the line of the public footway,

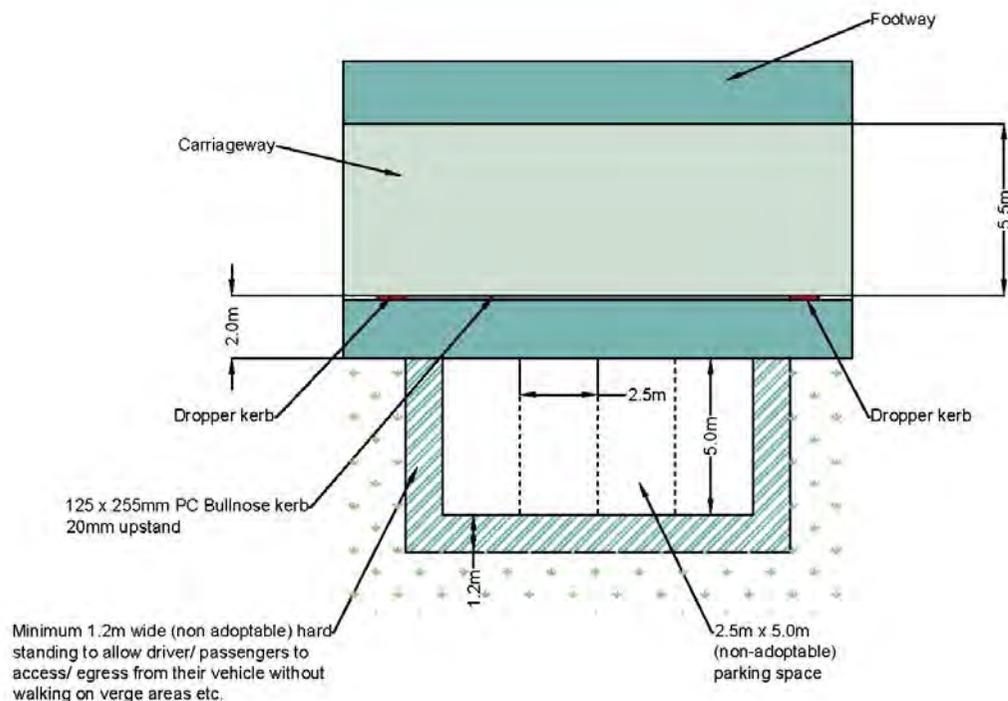
Figure 4.1 Layout of unallocated (visitor) parking bays



verge or service strip. A minimum 1.2 metre wide hardstanding should be provided to the side and rear of the bays to allow driver/passenger(s) to leave or access the vehicle without having to walk on any adjacent verge or garden area.

It should be noted that these allocated parking spaces, in any circumstance will not be adopted. Refer to Figure 4.2

Figure 4.2 Layout of non adoptable perpendicular parking lay-bys



#### 4.1.3.3 Perpendicular Parking (Unallocated)

Where the parking bays are perpendicular to the carriageway and are unallocated space(s) the absolute minimum size of the bays should be 2.5 metres x 5.0 metres and associated with the carriageway and footway (if provided) to the rear. Notwithstanding the above, and to allow safe manoeuvrability, perpendicular parking bays located off a 5.5 metre wide road should be set back a further 0.5 metres therefore creating a 6.0 metre wide manoeuvrability aisle.

To prevent vehicle overhang obstructing a footway/footpath at the rear of the parking bays it is recommended that the footway/footpath be widened to a minimum width of 2.5 metres. Where no footway is proposed to the rear or side of any bays (i.e. within a shared surface environment) a minimum 1.2 metre wide hardstanding should be provided to allow driver/passenger(s) to leave or access the vehicle without having to walk on any adjacent verge or garden area. Refer to Figures 4.3 & 4.4

#### 4.1.3.4 Perpendicular Parking (Shared Surface Areas)

Important Note: **Care must be taken with regards to the positioning of perpendicular bays in shared surface areas.** Particular concern is raised within shared surface areas where vehicles with restricted visibility are reversing out of such bays and who may come into conflict with vulnerable road users such as pedestrians or cyclists.

Figure 4.3 Layout of adoptable perpendicular lay by with surrounding footway

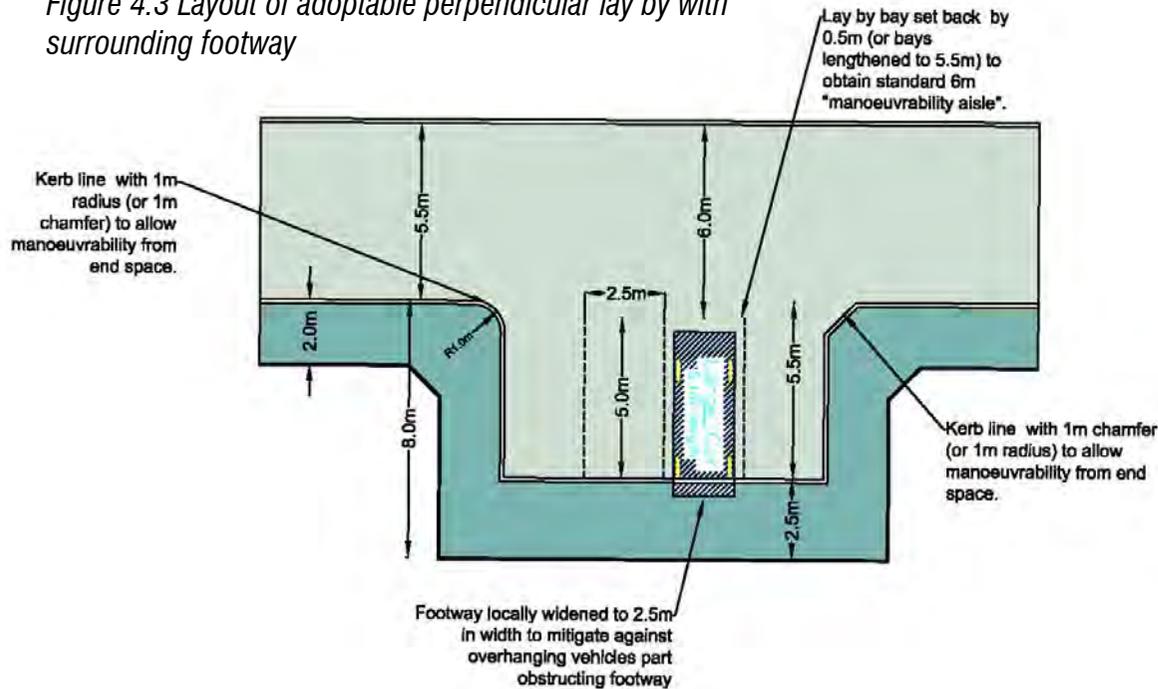
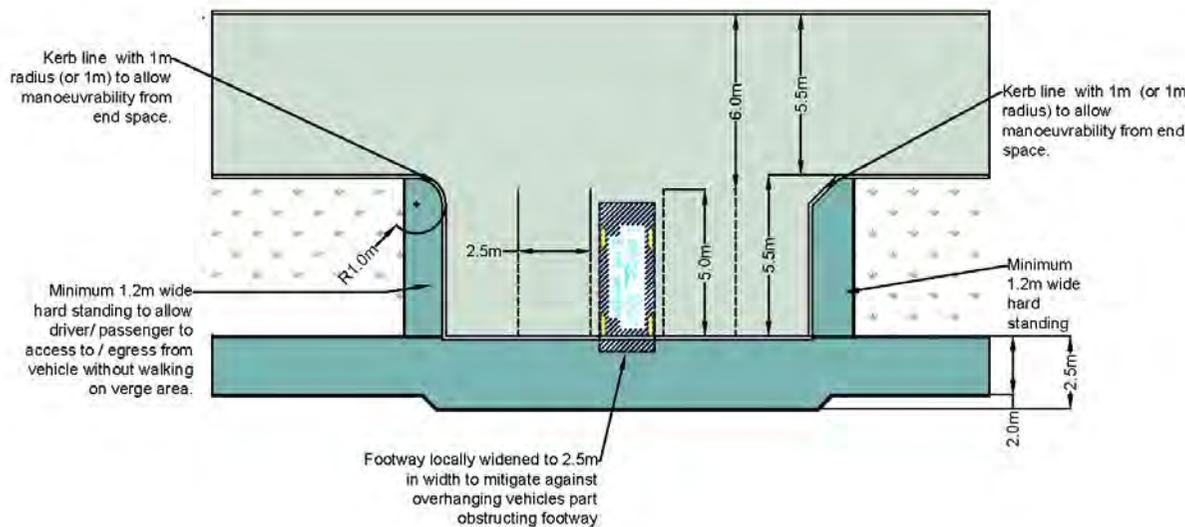


Figure 4.4 Layout of adoptable perpendicular lay by with footway to rear



#### 4.1.4 Parking Courtyard

Parking Courts can be provided if it is ensured these are well overlooked by more than one dwelling, and have suitable long term maintenance arrangements in place. Parking Courtyards will generally not be adopted.

The parking courtyard access with the adjacent carriageway should preferably be 6m in width (absolute minimum of 5m). This is primarily to allow opposing vehicles to safely pass each other out with the public road. A narrower access could result in traffic stopping/queuing or reversing back onto the main carriageway to allow another vehicle to exit.

Parking bays within a car park or parking court should also be a minimum of 5 metres in length by 2.5 metres in width with a 6.0 metre (minimum) wide manoeuvrability aisle to allow a vehicle to reverse out of a space and continue in a forward gear when leaving the car parking area.

Parking bays should preferably be at right angles to the associated entry and exit aisle.

Where the end of an aisle, between two rows of parking bays, terminates with no vehicular access then the aisle should be extended past the last two bays by a minimum of 1.5 metres to allow vehicles to safely manoeuvre when exiting these bays. The kerb alignment at the corner of the end parking bay with the aisle should have a 1.0 metre radius or 1.0 metre chamfer to assist with manoeuvrability from the end bays.

If a footway is to be provided to the rear of the courtyard parking bays, it should be widened to a minimum width of 2.5 metres to allow for overhanging vehicles partly obstructing the footway (see [Section 2.2.1](#)).

Where no footway is proposed to the rear or side of any bays a minimum 1.2 metre wide hardstanding should be provided to allow driver/passenger(s) to leave or access the vehicle without having to walk on any adjacent verge or garden area. Refer to Figure 4.5

**The layout of the Courtyard parking must be safe and functional with an access aisle of sufficient width so that vehicles are not required to undertake multiple reversing movements to turn prior to leaving the parking area.**

Parking bays ‘tagged’ onto the end of a courtyard ‘access aisle’ are strongly discouraged to avoid vehicles having to carry out such manoeuvres or indeed having to reverse fully through the courtyard and then reverse onto the nearby public road to turn. These manoeuvres have significant and self-evident road safety implications. Refer to Figure 4.6

Figure 4.5 Layout of (private) parking courtyards 1

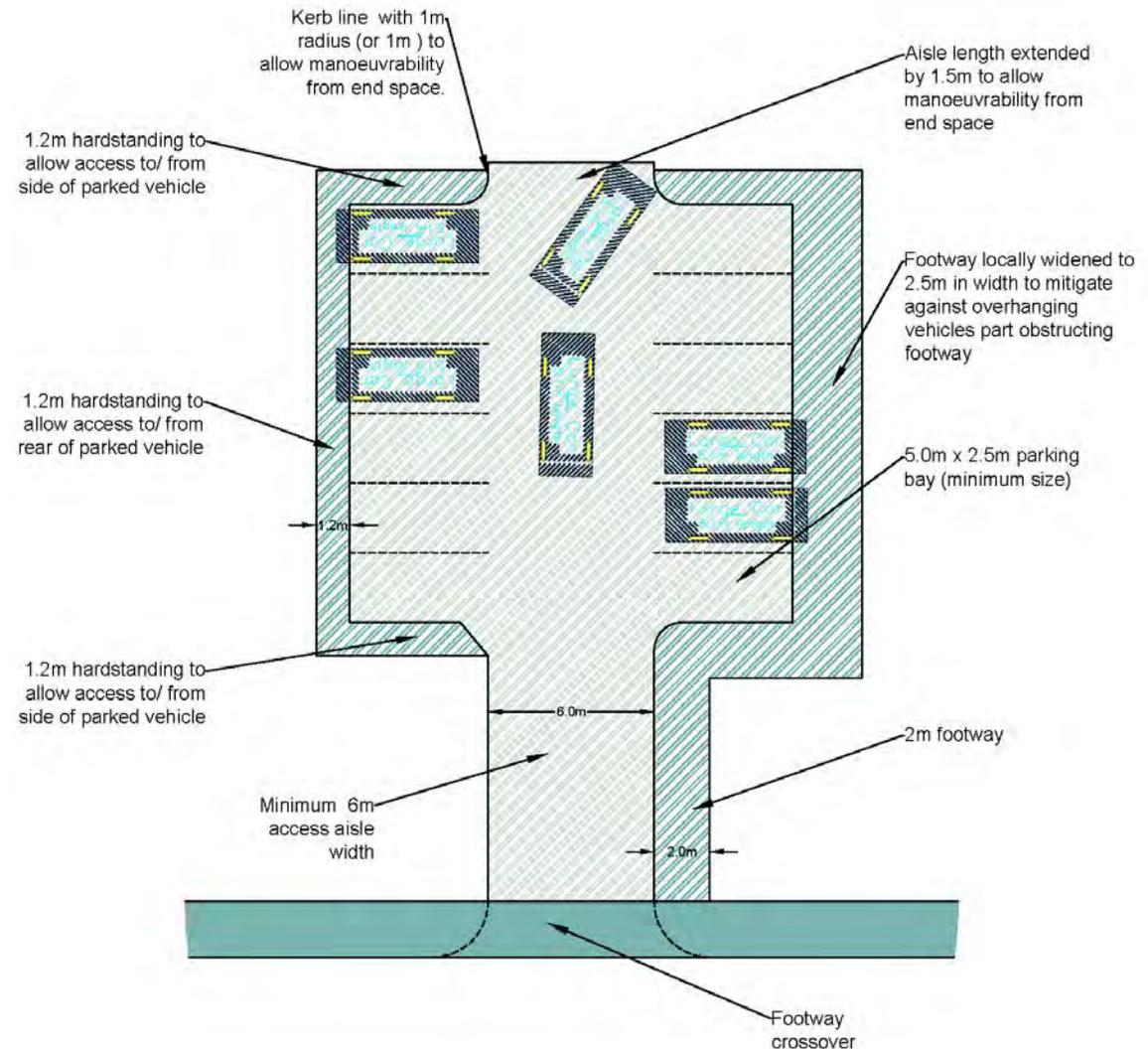
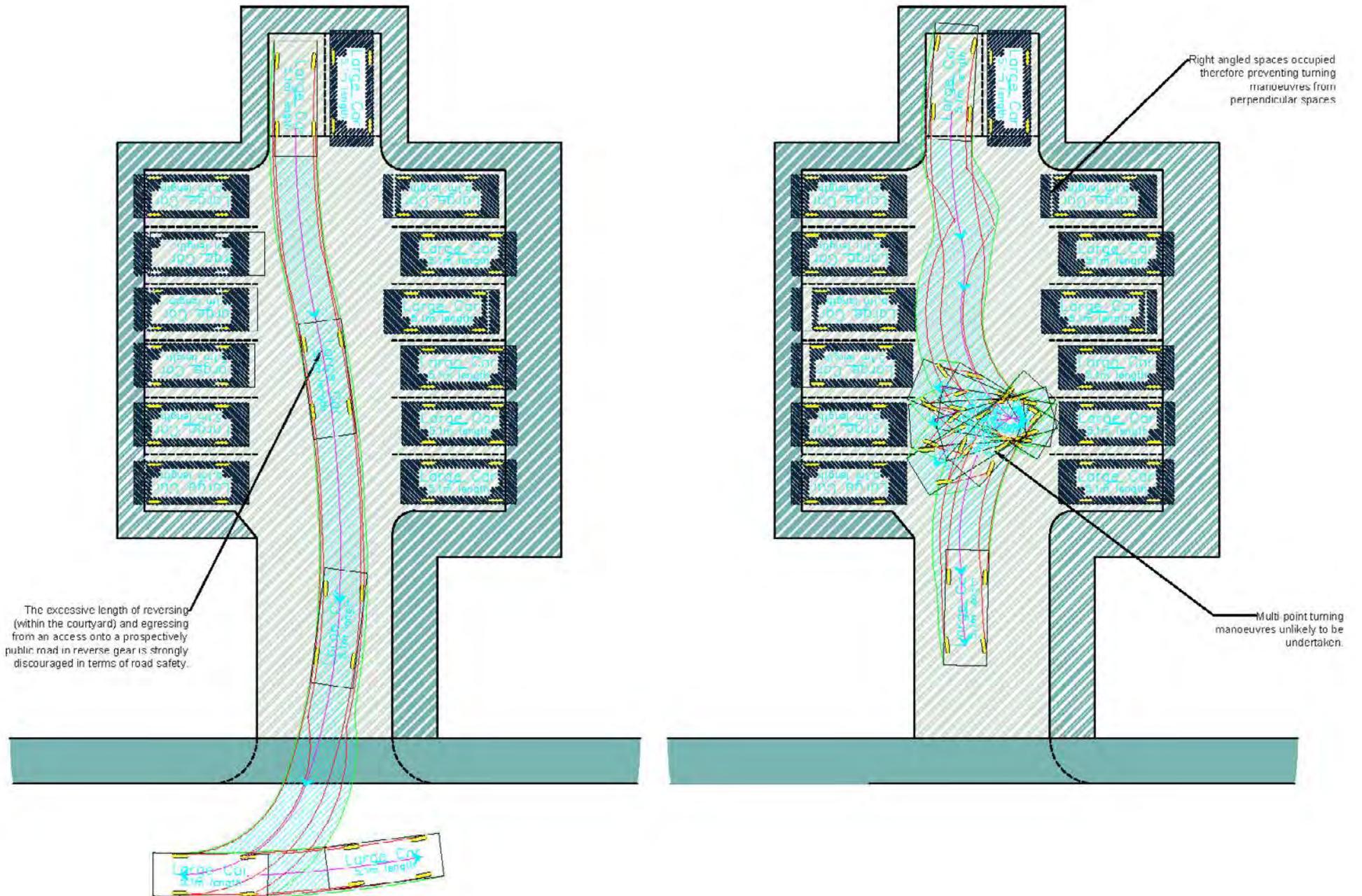


Figure 4.6 Layout of (private) parking courtyards 2



#### 4.1.5 Bespoke arrangements

Novel and bespoke parking courtyard arrangements will be considered subject to any proposal incorporating the fundamental design criteria as highlighted previously; appropriate vehicle manoeuvrability into parking bays; providing and maintaining the relevant visibility splays, including forward sight stopping distances and car parking provision.

#### 4.1.6 Electric vehicle charging points

East Renfrewshire Council is currently working to the national legislated target of being carbon net zero by 2045. ERC's Climate Change Strategy and Action Plan, outlining how the Council will achieve those targets, is due for publication in 2021.

Scottish Government are promoting the use of ultra-low emission vehicles (ULEVs) and aim to phase out the need for new petrol and diesel cars and vans by 2032, ahead of the UK Government's 2035 target ("[Road to Zero strategy](#)"). This policy shift will necessitate a significant increase in the uptake of battery electric, hybrid electric, and range-extended electric vehicles.

The number of ULEVs (cars) registered in Scotland has increased substantially in recent years: at the end of 2020 there were 20,855 ULEVs (cars) registered in Scotland, compared to only 132 at the end of 2011 ([Scottish Transport Statistics, Table 13.8](#)).

National planning policy ([Scottish Planning Policy 2014](#)) states that 'consideration should be given to how proposed developments will contribute to fulfilling the objectives of Switched On Scotland' and that 'electric vehicle charge points should always be considered as part of any new development and provided where appropriate.'

ERC's [LDP2 Policy D11: Electric Charging Infrastructure](#) states that 'Major residential proposals will be required to incorporate electric vehicle charging points within every dwelling with a garage or driveway' (something that is echoed in the [National Roads Development Guide](#): section 3.6.4 (f)) 'and make provision within visitor or communal parking spaces. Where residential dwellings do not have parking within their curtilage, provision should be made for charging points on-street or within communal parking spaces.'

Consideration should therefore be given by developers to providing electric vehicle charging point infrastructure for all dwellings, and how this would be accommodated within courtyard parking areas. As well as considering the functionality and future maintenance of such infrastructure, the developer must ensure the safety of all road users, in particular pedestrians and those with visual impairments or mobility issues, by minimising footway clutter, and avoiding obstructions and potential hazards (such as trailing cables). Developers should also ensure that facilities do not interfere with visibility splays at junctions.

## 4.2 Residential Parking Provision

### 4.2.1 East Renfrewshire Council Parking Provision

The minimum residential development provision for East Renfrewshire Council is shown in Table 4.1.

Table 4.1

Condition	Minimum Provision/Unit	
	Allocated Parking Spaces	Unallocated Parking Spaces (#)
1 Bedroom with no curtilage/allocated spaces	0	1.65
1 Bedroom with curtilage/allocated spaces	1	0.65
2 or 3 Beds with no curtilage/allocated spaces	0	2.25
2 or 3 Beds with curtilage/allocated spaces	2	0.25
4 Bedrooms with two curtilage/allocated spaces	2	0.50
4 Bedrooms with three curtilage/allocated spaces	3	0.10
All 5 or more Bedrooms	3	0.10
(#) - The unallocated minimum provision may also require an additional supplement as per the condition set out in section 4.2.5 and Table 4.2		

A relaxation in the parking allocation may be considered on an individual basis where development is in a sustainable location and where supporting evidence is provided to that effect.

### 4.2.2 Other Parking Provision

This document is primarily focussed on providing guidance and local context for new residential developments. For aspects of development planning related to commercial developments, urban redevelopment, rural conversions etc., the NRDG remains the primary guidance.

### 4.2.3 Studies & Open Areas above Garages

Studies/open room space above detached garages will be counted against the bedroom size of a property, that is a 4 bedroom plus study property will be examined as a 5 bedroom property in terms of the relevant parking allocation.

### 4.2.4 Driveway (Allocated) Parking Spaces

Allocated parking spaces should be located in such a manner to enable all vehicles to access the carriageway directly from the driveway where relevant without the need to remove other parked vehicles. Where this is not feasible inappropriate on-street parking is likely to occur when a vehicle is displaced to allow another to exit the driveway.

### 4.2.5 Unallocated Parking Supplement

An additional unallocated parking supplement has therefore been imposed on each “tandem” and “h-shaped” driveway/garage arrangements to compensate for where vehicles are required to park on the carriageway to allow other vehicles to enter or exit the driveway/garage arrangement. Refer to Table 4.2.

#### 4.2.6 Flatted or Terraced Units

There will be no relaxation of parking allocation for flatted or terraced units.

#### 4.2.7 Affordable Housing

Generally the parking allocation for affordable housing will be equivalent to that of main stream housing as per the recommended allocation shown in Tables 4.1 & 4.2. However a relaxation in the parking allocation may be considered on an individual basis where supporting evidence is provided. i.e. the development is close to local amenities or good public transport links.

Table 4.2

Condition	Supplement
<b>(Double) Garages</b> which are not perpendicular to the carriageway <i>(i.e. multiple vehicles in the driveway will require to be fully removed before a vehicle can exit the garage)</i>	0.65 unallocated spaces per unit
<b>Tandem (triple) driveways</b> <i>(i.e. potential displacement of two vehicles)</i>	0.65 unallocated spaces per unit
<b>Tandem (double) driveways</b> <i>(i.e. definite potential displacement of one vehicle)</i>	0.35 unallocated spaces per unit
<b>“h-shaped” or similar driveway</b> including driveways with (double) garages <i>(i.e. possible potential displacement of one vehicle)</i>	0.20 unallocated spaces per unit

#### 4.2.8 Single Garages

Integral single space vehicle garages do not count towards being an allocated, curtilage space.

This condition supersedes previous guidance given within East Renfrewshire Council’s SPG – Residential Street design which stated “Integral garages will not count as car parking spaces unless they meet a minimum size of 7 metres by 3 metres with clear access dimensions of 2.1 metres width and 1.98 metres height”.

External, remote single space vehicle garages with a minimum size of 7 metres (length) by 3 metres (width) with clear access dimensions of 2.1 metres width and 1.98 metres height may count towards an allocated curtilage space, subject to their location and driveway arrangement.

A carport will be counted as a parking space provided it is shown that suitable space to allow driver and passengers to exit is provided. Generally, these should meet the same dimensions as garages of 7 metres by 3 metres with clear access dimensions of 2.1 metres width and 1.98 metres height.

#### 4.2.9 Double Garages

The absolute minimum size of a double space vehicle garage should be 7.0 metres x 6.0 metres. (Internal size)

Integral vehicle garages greater or equal to 7.0 metres (length) x 6.0 metres (width) (internal size), may be considered as a single allocated curtilage space. Integral vehicle garages less than 7.0 metres x 6.0 metres (internal size) will not count towards being an allocated, curtilage space.

External remote vehicle garages 7.0 metres x 6.0 metres (internal size) or greater may count towards two allocated curtilage spaces, subject to their location and driveway arrangement.

#### 4.2.10 Cycle Parking

[Designing Streets](#) states that “cycle parking can be provided in a number of ways such as: within garages; bespoke cycle storage; communal areas in flats; and on-street cycle racks”.

For residential flatted properties, the minimum recommended cycle parking provision should be 2 spaces per flat within secure enclosed storage facilities. This may be reduced to 1 space per flat where communal storage is provided. One visitor space per 10 flats should also be provided outside or near the main entrance. This latter provision may be in the form of a (or multiple) Sheffield Stands.

The level of cycle parking provided for a particular development will be influenced by whether the site is within an urban or rural location. An urban location, particularly one that is well connected to external cycle routes, would usually justify higher cycle parking provision than a more rural location. Developments which incorporate, or are in

close proximity to, trip attractors (such as shops, eateries, education establishments, places of worship etc.) would also justify higher cycle parking provision.

Communal cycle parking should be well-located, convenient, well-lit, overlooked, and sheltered. This is especially where cycle parking is likely to be long-term in nature. More detailed information can be found in the Scottish Government’s publication [Cycling by Design](#).

As well as considering the functionality and future maintenance of such infrastructure, the developer must ensure the safety of all road users, in particular pedestrians and those with mobility issues, by locating facilities clear of pedestrian routes and minimising footway clutter, obstructions and potential hazards (such as overhanging cycles). Developers should also ensure that facilities do not interfere with visibility splays at junctions.

## 4.3 Driveway Design Standards

### 4.3.1 Driveways General

#### 4.3.1.1 Vehicle Access

Vehicle access to driveways of individual dwellings located on a standard carriageway/footway arrangement should be by means of a dropped kerb footway crossover. Within a shared surface environment access will be taken directly from the carriageway.

Any proposed vehicle access crossings (VAC) from an existing public road, to accommodate an access to a driveway, will require to be constructed in accordance with the Roads Service Specification. The applicant should be advised that under the terms of [The Roads \(Scotland\) Act 1984](#), they must apply to ERC Roads Service for a Section 56 'Road Opening Permit' to carry out the works, which will be at the applicant's expense.

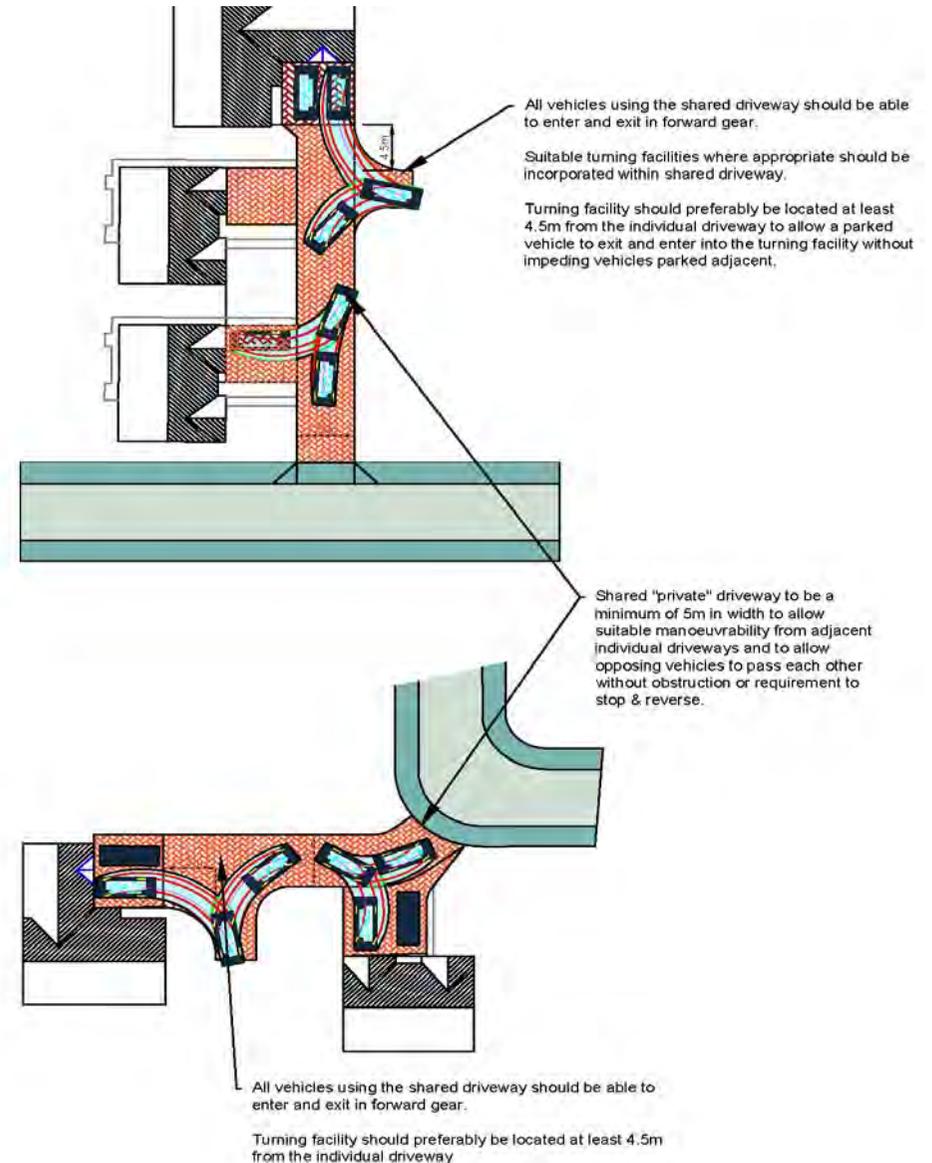
Where relevant, such work will include the installation of new 'drop kerbing', alteration to the public footway and again where relevant the provision of a delineation kerb along the property boundary line, across the driveway access, to distinguish between the public and private responsibility.

#### 4.3.1.2 Shared Driveway Layout

Where a shared driveway is required to serve more than one property the proposed vehicle access should be a minimum of 5 metres in width to allow suitable manoeuvrability from adjacent individual driveways and to allow opposing vehicles to safely pass each other when entering or exiting the shared driveway.

All vehicles using the shared driveway should be able to enter and exit in forward gear and where appropriate suitable turning facilities should be incorporated within the shared driveway. Such turning

Figure 4.7 Layout of (private) shared driveway



facility should preferably be located at least 4.5 metres from the individual driveway (perpendicular to the shared driveway) to allow a parked vehicle to exit and enter into the turning facility without impeding vehicles parked adjacent. Refer to Figure 4.7

### 4.3.1.3 Driveway Construction

Steep gradients, which render the proposed driveways unsuitable for car parking, are not recommended (desirable maximum gradients should not exceed 10%). Notwithstanding, consideration should be taken to ensure the vertical profile of the driveway as it meets the public footway/carriageway does not result in vehicles grounding etc.

The driveway should be fully surfaced, either block paved, slabbed or surfaced with a flexible asphalt/DBM construction. The use of loose chippings as a driveway surface is strongly discouraged, as such deleterious material is likely to be carried onto the adjacent footway/carriageway which will have consequential and associated road safety issues.

It is an offence under [section 99 of The Roads \(Scotland\) Act 1984](#) to discharge water from a private area onto the public road network. Therefore, surface water run-off must be contained within driveways, (not just driveways, within curtilage) by sloping them away from the public road or by means of a suitable positive drainage system. Due to maintenance issues permeable block paving is not considered as a primary positive drainage system.

If it is the applicant's intention to install gates at the proposed entrance they must operate inwards or if opening outwards the gates must be set back from the edge of the public footway or carriageway so that their operation will not interfere with movements on the adjacent footway or carriageway at any time.

Where gate pillars, walls, fences or hedges are proposed, they should be located to the rear of the visibility splay, or maintained at a maximum height of 1.05 metres if located within the splay

## 4.3.2 **Driveway Lengths**

### 4.3.2.1 Issues

If the length of a driveway is not appropriate or functional, for example if it is not long enough for a vehicle to park fully within, allow the user access to the boot or engine compartment of the vehicle and (where relevant) to allow access to the front/rear of the property, then there is the increased risk of the driveway not being utilised. Vehicles parking out with the driveway may compromise the allocated parking quota for the plot/development and subsequently result in additional on-street parking.

Inappropriate on-street parking, especially in a shared surface area can aggravate road safety due to vehicles obstructing the free movement of traffic (both pedestrian and vehicular), restricting forward sight stopping/junction visibility splays and reducing the inter-visibility between drivers and pedestrians crossing or in proximity to the parked vehicle(s).

If the driveway is also too short in length, such vehicles parked within may encroach onto/over the adjacent footway/shared surface area and therefore compromise/obstruct the movement of traffic and pedestrians. Pedestrians, where obstructed may be forced to walk onto the carriageway/trafficked route with the obvious road safety consequences.

**4.3.2.2 Single Vehicle Length Driveways**

The absolute minimum length of a driveway accommodating a single vehicle (or multiple vehicles parked parallel to each other) should be not less than **6.0 metres** in length.

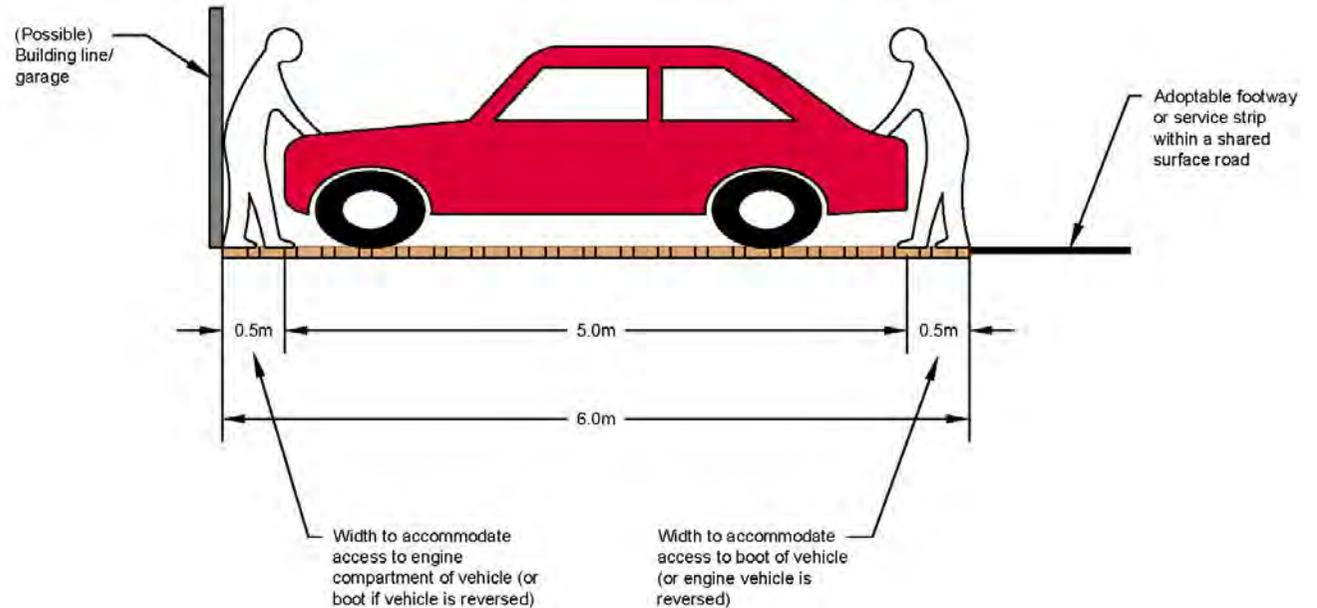
The 6.0 metres is based on a large car length of 5.0 metres plus an additional length of 0.5 metres either end to accommodate movement around the vehicle including access to the boot or engine compartment of the vehicle. Refer to Figure 4.8

**4.3.2.3 Single Vehicle Length Driveways with Pedestrian Access**

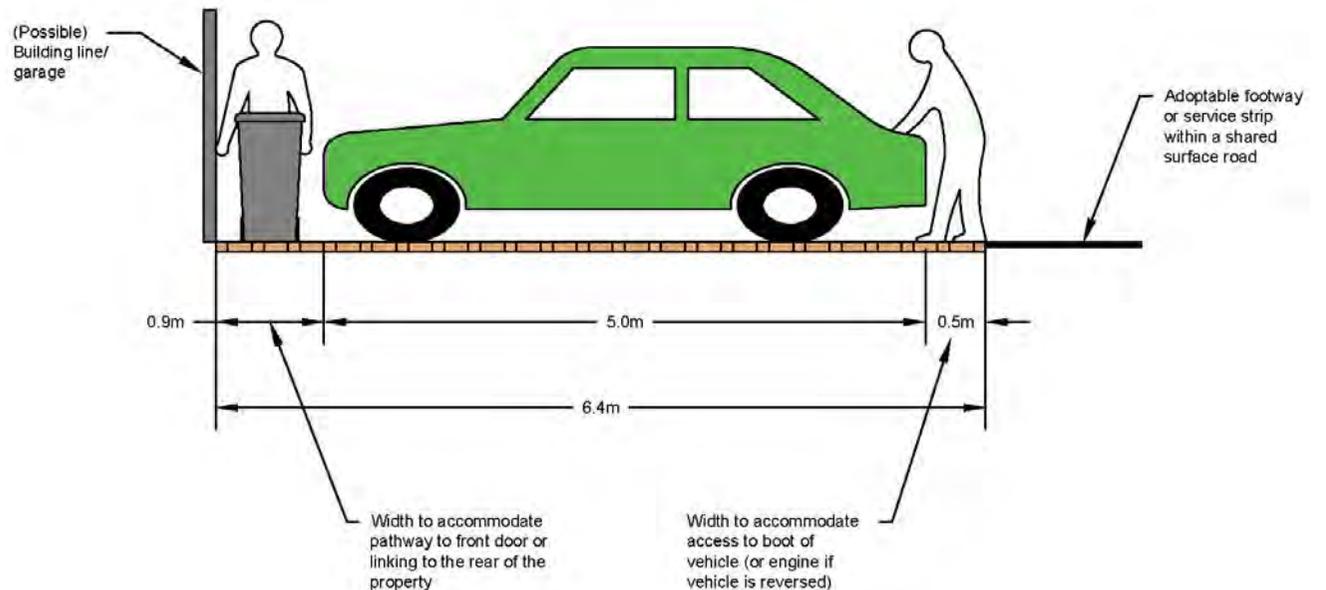
Where space is required at the end of the driveway to accommodate a pathway to access the front door/rear of the property, the desirable length of the driveway should be increased 6.4 metres

This is to accommodate the 0.9 metre pathway and a 0.5 metre access area at the end of a 5.0 metre long, large car. Refer to Figure 4.9

*Figure 4.8 Acceptable length of a single vehicle driveway with no pathway at front*



*Figure 4.9 Acceptable length of a single vehicle driveway with pathway at front*



4.3.2.4 Tandem (end to end) Length Driveways

The absolute minimum length of a driveway accommodating two vehicles in a tandem arrangement (i.e. end to end) should be not less than 11.5 metres in length.

The 11.5 metres is based on large car lengths of 5.0 metres plus additional lengths of 0.5 metres either end and between the vehicles to accommodate movement around and access to the boot or engine compartment of the vehicles. Refer to Figure 4.10.

4.3.2.5 Tandem (end to end) Length Driveways with Pedestrian Access

Where the driveway incorporates two vehicles parked end to end with a transverse path at the rear to allow access to the front door or the rear of the property, the desirable length should preferably be increased to 11.90 metres where there is a pathway at the end of the driveway. Refer to Figure 5.5.

Figure 4.10 Acceptable length of a double vehicle (tandem) driveway with no pathway at front

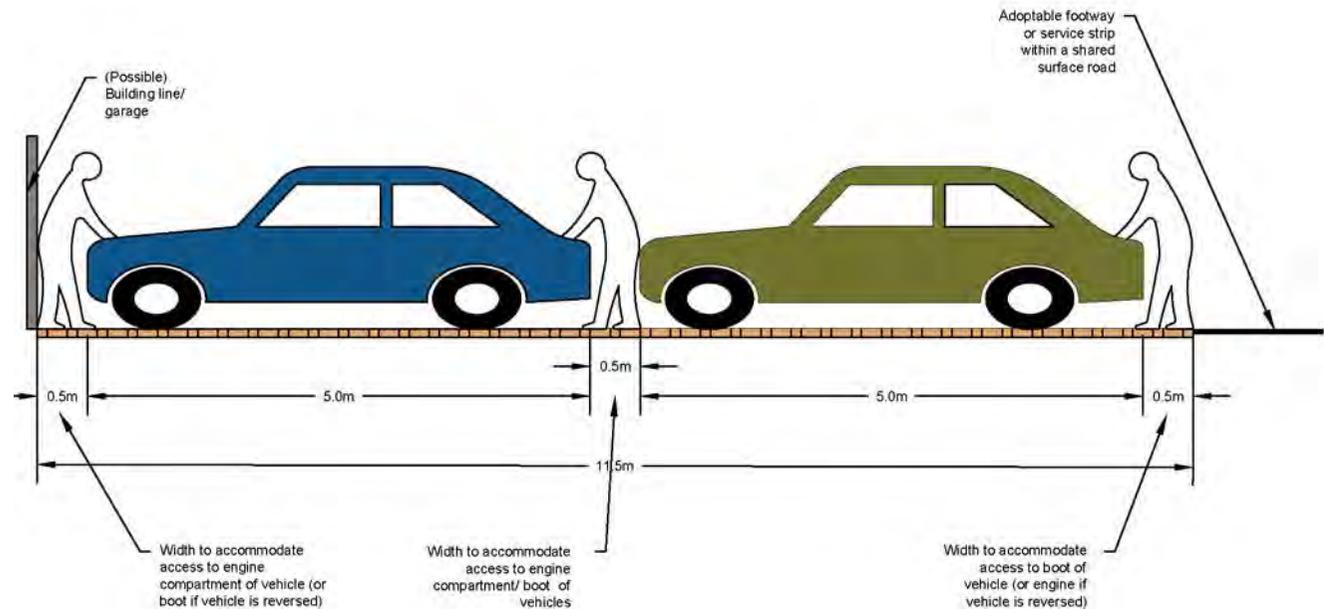
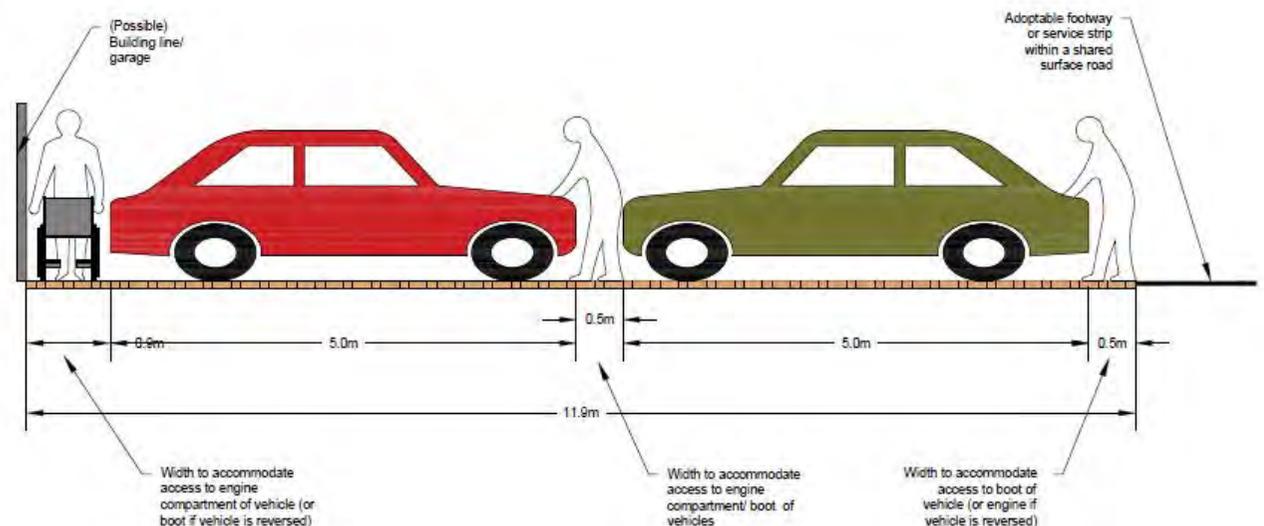


Figure 4.11 Acceptable length of a double vehicle (tandem) driveway with pathway at front





### 4.3.3 Driveway Widths

#### 4.3.3.1 Issues

If the width of a driveway is not appropriate or functional, for example if it is not of a suitable width to allow the driver/passengers access to or egress from the vehicle and (where relevant) to allow access to the front/rear of the vehicle/property, then there is an increased possibility that this driveway space will not be used.

Vehicles not parked in their driveway may compromise the allocated parking quota for the plot/development and subsequently result in additional on-street parking occurring. Additional on-street parking, especially in a shared surface area can aggravate road safety due to vehicles obstructing the free movement of traffic (both pedestrian and vehicular), restricting forward sight stopping/junction visibility splays and reducing the inter-visibility between drivers and pedestrians crossing or in proximity to the parked vehicle(s).

The justification for these standards are to provide a functional width of driveway to allow access to parked vehicles in the driveway and to maintain access to the rear/front of the adjacent property particularly where separate paths are not provided.

#### 4.3.3.2 Single Vehicle Width Driveways Minimum Width

The absolute minimum width of a single car width driveway should not be less than 3.0 metres based on an average car width of 1.9 metres plus 0.55 metres either side to allow access.

Alternatively the 1.9 metres wide vehicle, may be effectively positioned to one side, giving a 0.9 metre wide pathway (again to accommodate access to the rear of the vehicle/property such as to move refuse bins or let a wheel chair pass etc.) and a 0.2 metre hard strip on the other. It should be noted that for the latter, access to the vehicle is likely to be obtained from one side only. Refer to Figures 4.13 & 4.14.

Figure 4.13 Absolute minimum width of a single vehicle wide driveway 1

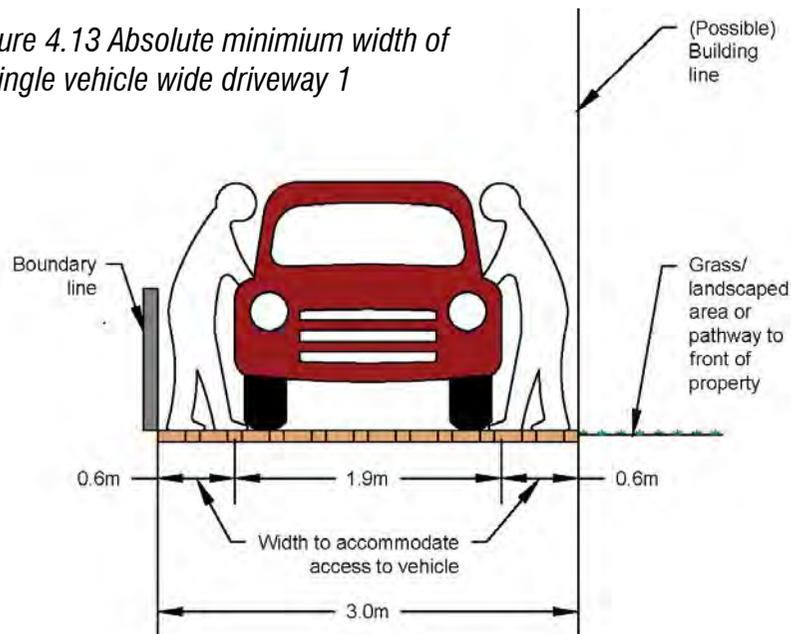
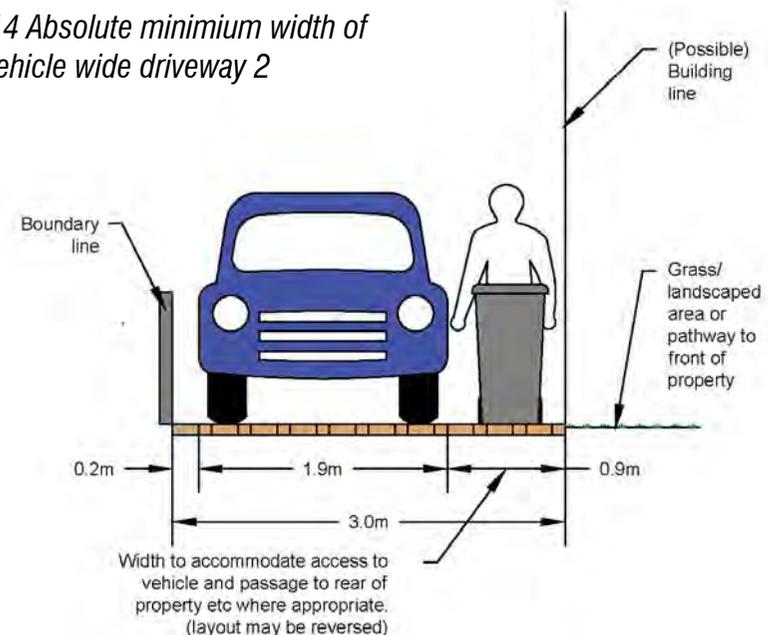


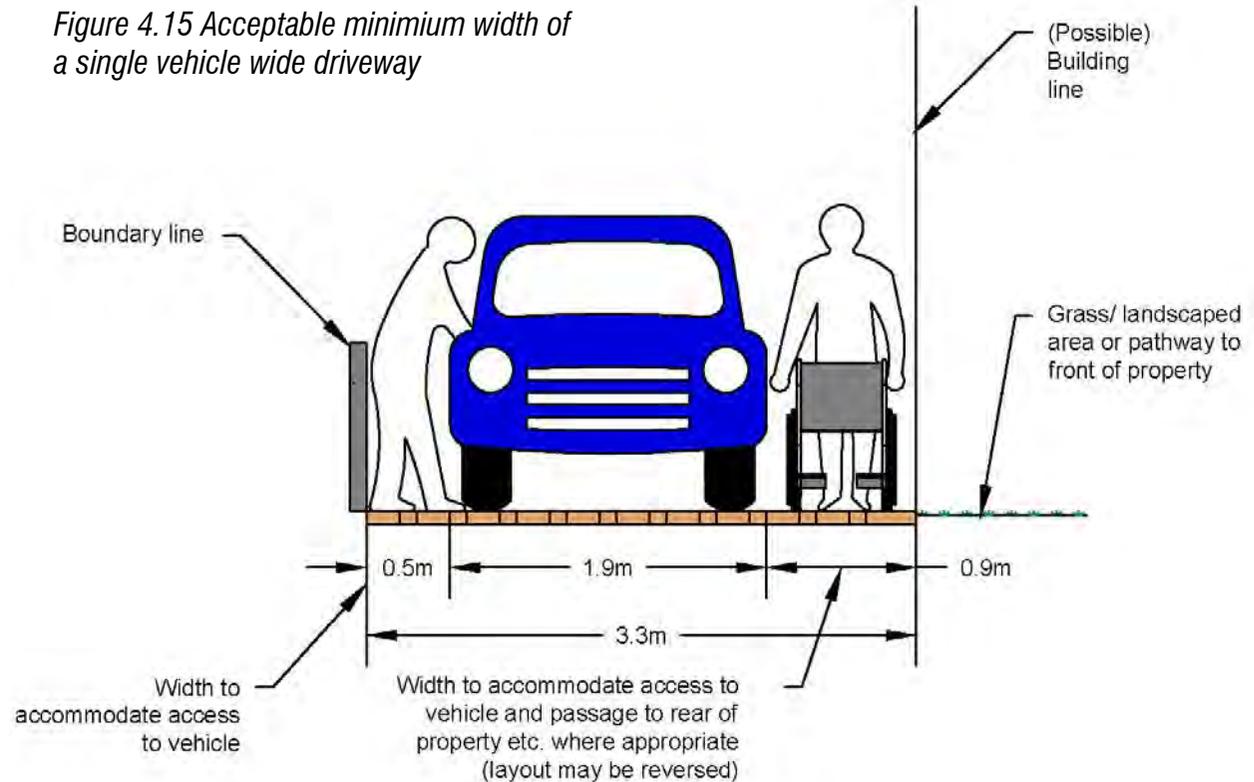
Figure 4.14 Absolute minimum width of a single vehicle wide driveway 2



## Preferred Width

The preferred width of a driveway (or part thereof) accommodating a single vehicle (or multiple vehicles in a tandem arrangement) should be not less than 3.3 metres in width.

The driveway width of 3.3 metres is based on an average car width of 1.9 metres, plus an additional width of 0.9 metres on one side to accommodate pedestrian access to the property (i.e. to allow a wheelchair to pass or the removal of refuse bins etc. from the rear of the property to the footway/collection point) and 0.5 metres on the opposite side to allow a passenger/driver to access/egress, to/from the vehicle. Refer to Figure 4.15.

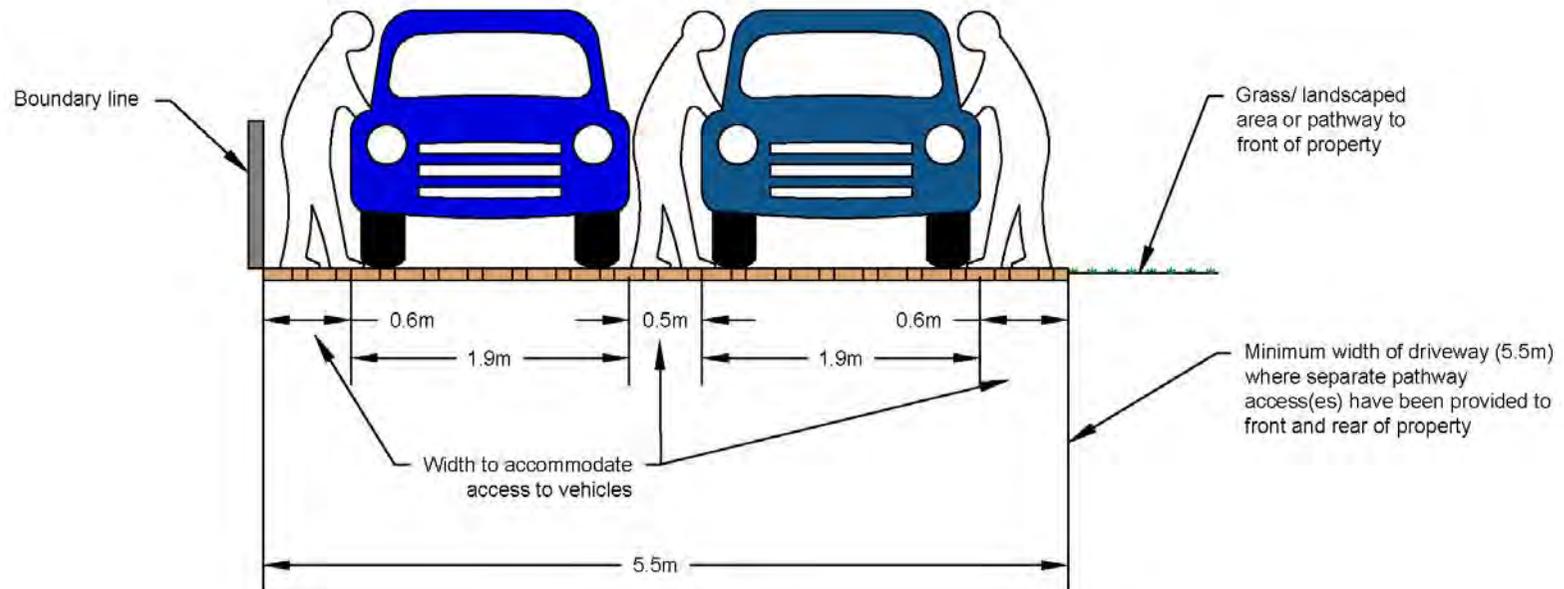


4.3.3.3 Double (side by side) Vehicle Width Driveways

The width of a driveway accommodating two vehicles side by side should not be less than 5.5 metres in width where a separate, remote, pedestrian access path(s) are provided to the front and rear of the property.

The double width driveways are also based on an average car width of 1.9 metres plus a width of 0.5 metres between vehicles and 0.6 metres either side to allow access/egress to the vehicles. Where an additional width is required at the side of the vehicles to allow a pedestrian access route to the property, the 0.6 metres should be increased to 0.9 metres. Refer to Figure 4.16.

Figure 4.16 Acceptable minimum width of a double side by side vehicle wide driveway (no paths front/rear of property)



The width of a driveway accommodating two vehicles side by side should not be less than 5.8 metres in width where the driveway is required to accommodate a single combined pedestrian route to the front/rear of the property. Refer to Figure 4.17.

The width of a driveway accommodating two vehicles side by side should not be less than 6.1 metres in width where the driveway is required to accommodate two separate access routes to the front and rear of the property either side of the driveway. Refer to Figure 4.18.

#### 4.3.3.4 Triple (side by side) Vehicle Width Driveways

The concept of driveway widths to accommodate three vehicles parked side by side is similar to the double (side by side) vehicle width driveways detailed above.

The width of a driveway (or part thereof) accommodating three vehicles side by side should not be less than 7.9 metres in width where separate, remote, pedestrian access paths are provided to the front and rear of the property.

The triple width driveways are also based on an average car width of 1.9 metres plus a width of 0.5 metres between vehicles and 0.6 metres either side to allow access/egress to the vehicles.

Where an additional width is required at the side of the vehicles to allow a pedestrian access route to the property, the 0.6 metres should be increased to 0.9 metres.

The width of a driveway (or part thereof) accommodating three vehicles side by side should not be less than 8.2 metres in width where the driveway is required to accommodate a single combined pedestrian route to the front/rear of the property.

The width of a driveway (or part thereof) accommodating three vehicles side by side should not be less than 8.5 metres in width where the driveway is required to accommodate separate access routes to the front and rear of the property either side of the driveway.

#### 4.3.3.5 Driveway with ramped approach to front door.

Where a driveway incorporates a ramped pedestrian access to the front door of the property, there must be a minimum of 0.6m between the nominal vehicle space of the driveway and the ramped approach. The side slopes of the ramped approach may be incorporated within the aforementioned 0.6m “access area” however neither the ramped approach itself nor the side slopes should encroach on the nearest vehicle space to the ramped approach of the driveway.

Refer to Figures 4.19 and 4.20.

#### 4.4.4 Driveway Dimensions

Table 5.1 is a summary of the recommended minimum dimensions for residential driveways

The justification for these minimum driveway widths are to provide a functional driveway that will allow access to vehicles parked in the driveway and to maintain access to the rear/front of the adjacent property particularly where separate paths are not provided.

Where a ramped (step free) pedestrian access to the front door of the property is proposed a wider driveway, to that recommended in the table, may be required. However there must still be a clear minimum 0.6 metre wide access area between the nominal parking space of the driveway and pedestrian section of the ramp. The ‘side slopes’ of the ramp may form part of the recommended 0.6m wide access area.

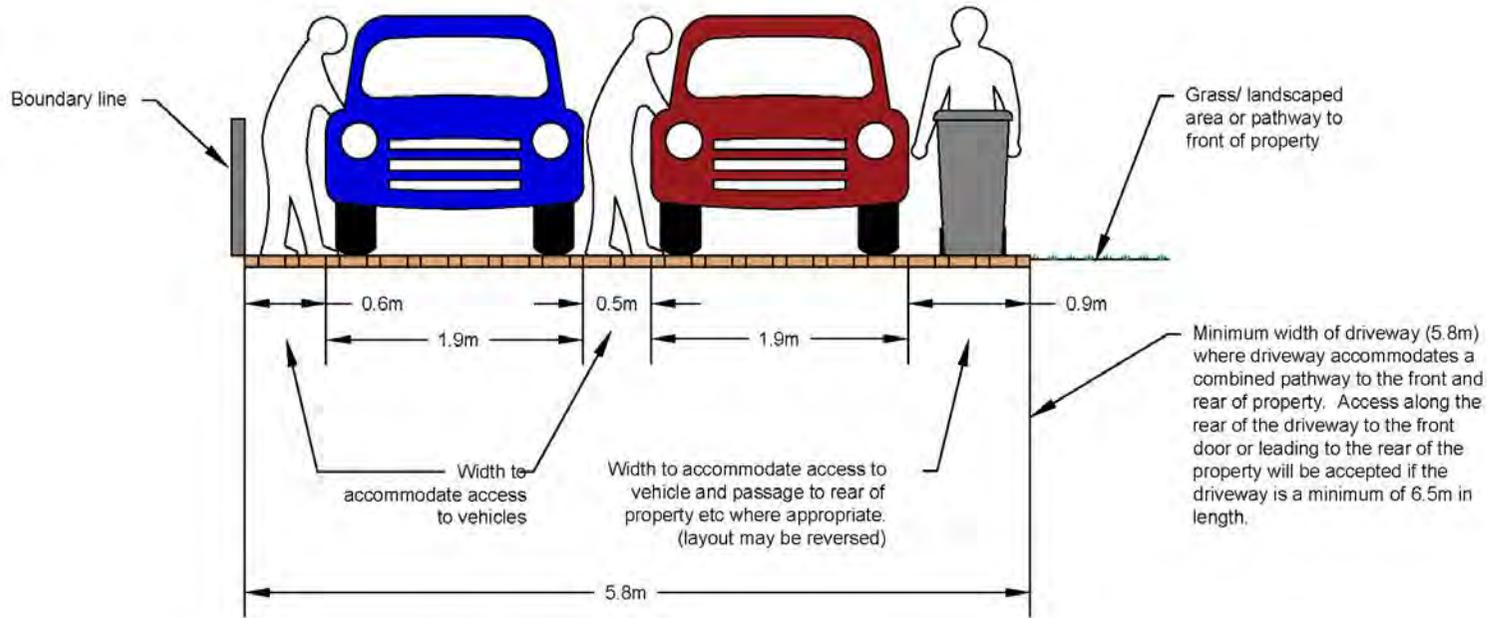
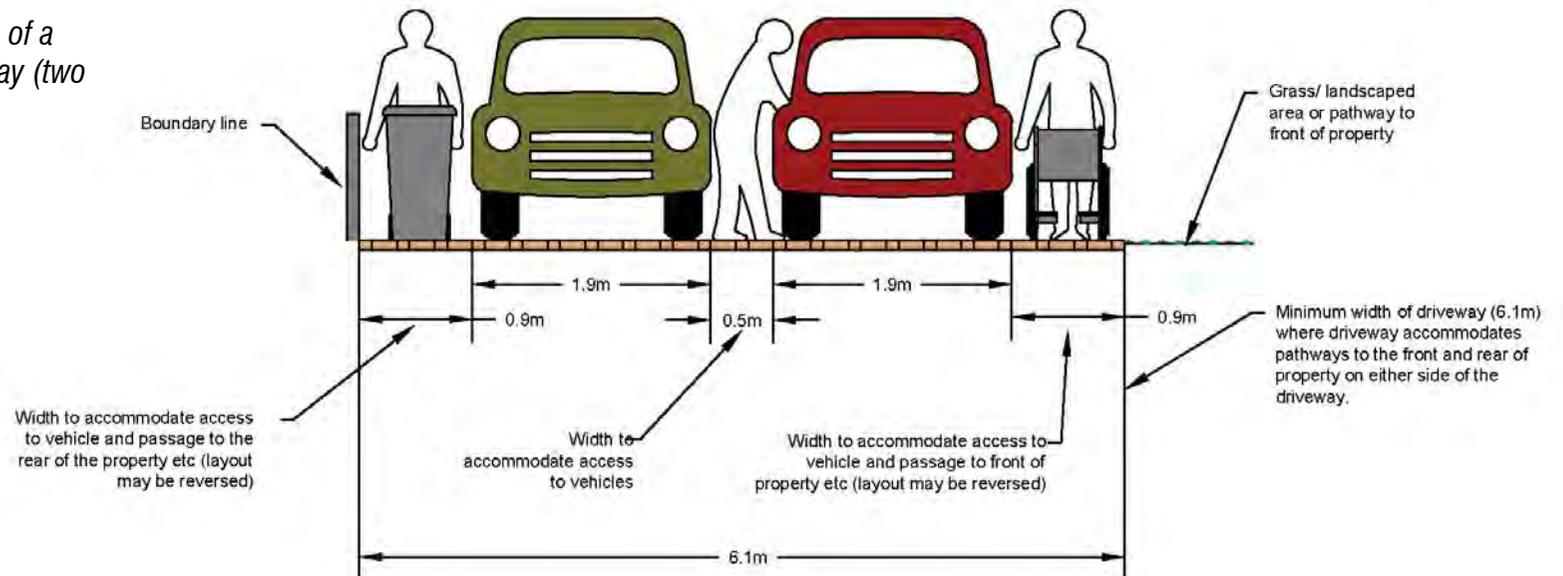


Figure 4.17 Acceptable minimum width of a double side by side vehicle wide driveway (one path required to front/rear of property)

Figure 4.18 Acceptable minimum width of a double side by side vehicle wide driveway (two paths required to front/rear of property)



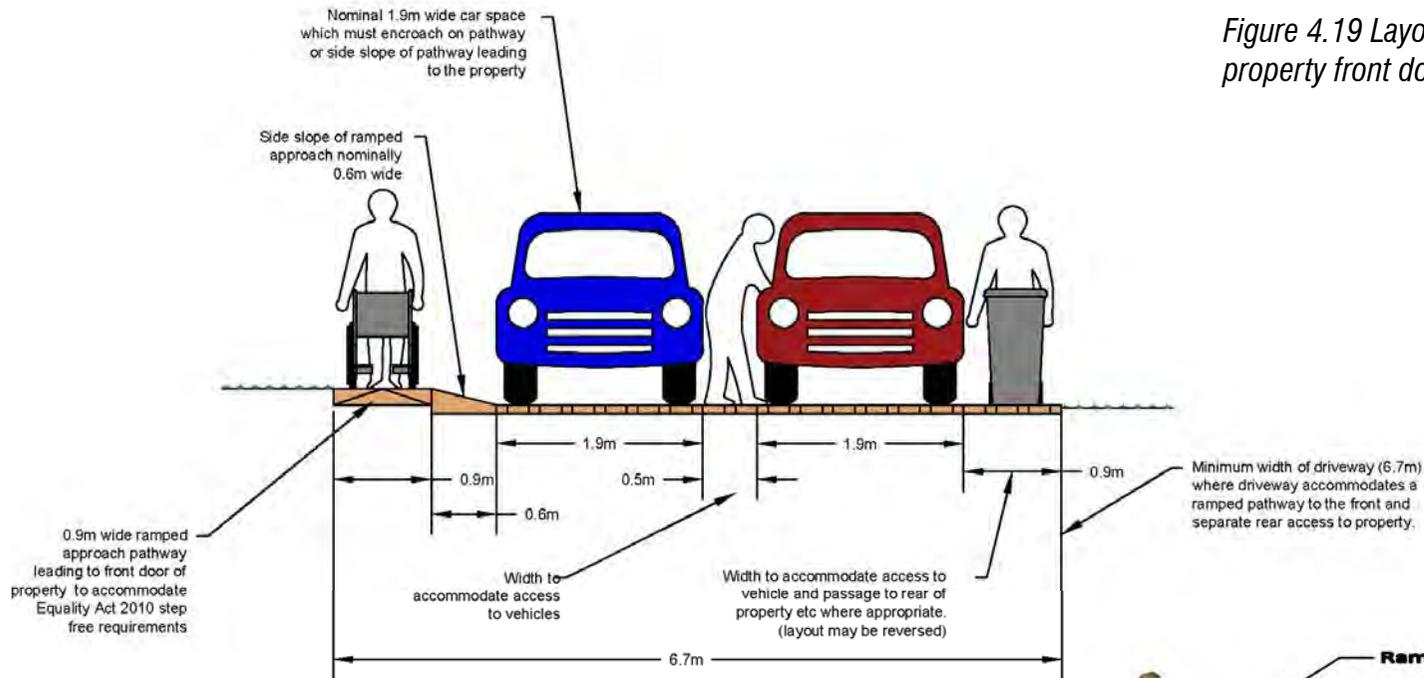


Figure 4.19 Layout of driveway with ramped access to property front door

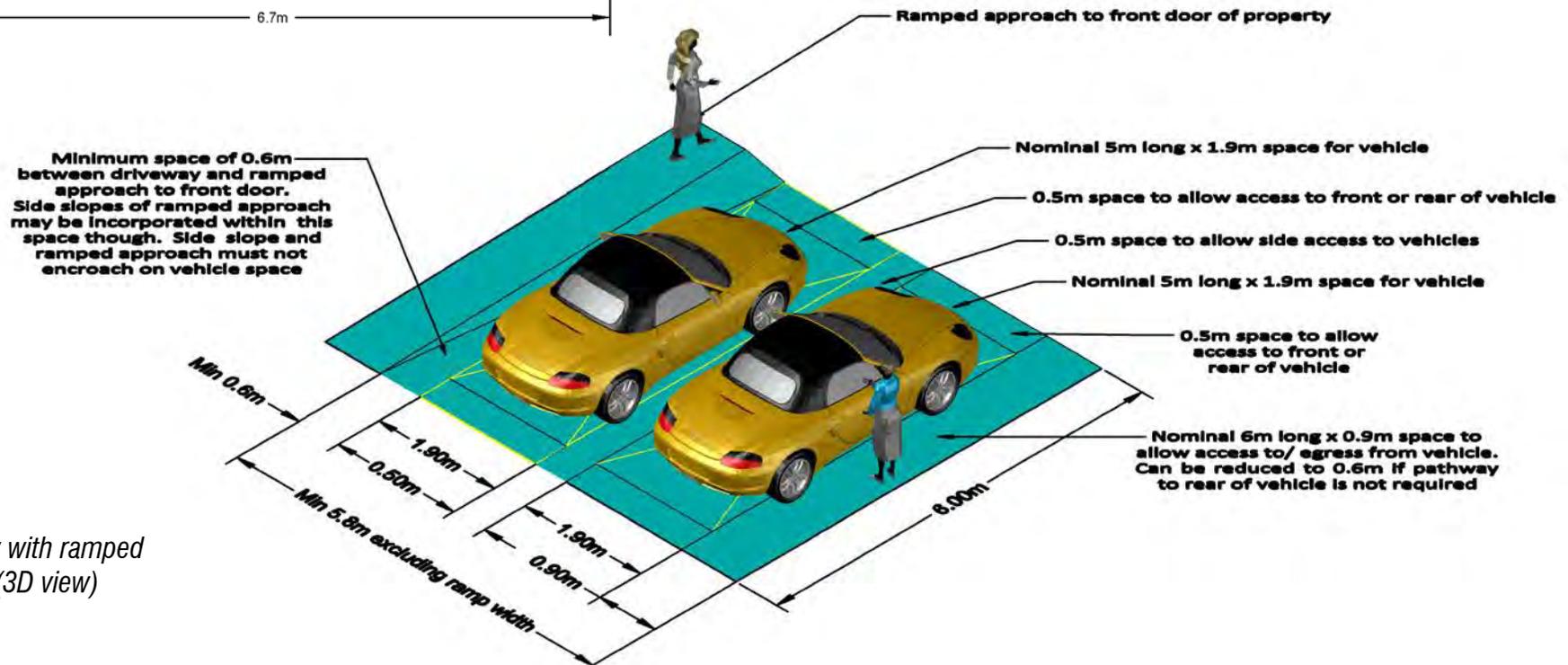


Figure 4.20 Layout of driveway with ramped access to property front door (3D view)

Table 5.1

Minimum Driveway Lengths		
Driveway Type	Remote, with no pedestrian requirement	With pedestrian requirement to rear of driveway
Single vehicle length with or without any other parallel parking	6.0 metres	6.4 metres
Tandem – Double vehicle length	11.5 metres (+ 5.5m/extra lengths)	11.9 metres

Minimum Driveway Widths			
Driveway Type	Remote, with no pedestrian requirement	With single pedestrian route to property	With 2 separate pedestrian routes to property
Single	3.0 metres	3.3 metres	NA
Double	5.5 metres	5.8 metres	6.1 metres
Triple	7.9 metres	8.2 metres	8.5 metres

# APPENDIX

# A

**Roads  
Legislation  
Documents**

## Roads Legislation Documents

This Appendix contains a list of Statutory Legislation which may be utilised in connection within the examination of developer proposals through both the Planning Application and Road Construction Consent processes.

### ACTS

#### [Road \(Scotland\) Act 1984](#)

An Act to make provision as regards roads in Scotland, and for connected purposes.

Key Sections in relation to this Service’s Good Practice for Development Roads are as follows:

Section 21	Requirement of consent for new roads built other than by roads authority
Section 56	Control of works and excavations
Section 59	Control of obstructions in roads
Section 68	Powers of roads authorities to stop up roads by order
Section 83	Prevention of obstructions of view at corners, bends and junctions
Section 85	Control of builders’ skips on road
Section 91	Local Authorities rights to remove/reduce in height any vegetation compromising visibility
Section 95	Deposit of mud from vehicles on roads
Section 96	Extraordinary expenses in repairing roads damaged by heavy vehicles etc.
Section 99	Prevention of flow of water onto public roads
Section 100	Damage to roads etc.

This list is not exhaustive and all sections of the Roads (Scotland) Act, where relevant, must be acted upon.

#### [Road Traffic Regulation Act 1984](#)

An Act to consolidate the Road Traffic Regulation Act 1967 and certain related enactments, with amendments to give effect to recommendations of the Law Commission and the Scottish Law Commission.

Key Sections in relation to this Service’s Good Practice for Development Roads are as follows:

Section 14	Temporary prohibition or restriction of traffic on roads
Section 64	General provisions as to traffic signs
Section 81	General speed limit for restricted roads

This list is not exhaustive and all sections of the Roads Traffic Regulations Act 1984, where relevant, must be acted upon.

#### [Road Traffic Act 1988](#)

An Act to consolidate certain enactments relating to road traffic with amendments to give effect to recommendations of the Law Commission and the Scottish Law Commission.

A Key Sections in relation to this Service’s Good Practice for Development Roads is as follows:

Section 39 - Powers of Secretary of State and local authorities as to giving road safety measures. Particular attention is given to sub section 3c that in pursuance of their duty each local authority; “in constructing new roads, must take such measures as appear to the authority to be appropriate to reduce the possibilities of such accidents when the roads come into use”.

Hence the requirement of this Service to diligently scrutinise of submitted proposal through both the Planning Application and Road Construction consent

processes to ensure the development in terms of the road layout is Functional, Safe, Serviceable and Maintainable.

This list is not exhaustive and all sections of the Roads Traffic Act 1988, where relevant, must be acted upon.

#### [Road Traffic Act 1991](#)

An Act to amend the law about road traffic

#### [New Roads and Street Works Act 1991](#)

An Act to amend the law relating to roads so as to enable new roads to be provided by new means; to make new provision with respect to street works and, in Scotland, road works; and for connected purposes.

#### [Road Safety Act 2006](#)

An Act to make provision about road traffic, registration plates, vehicle and driver information, hackney carriages and private hire vehicles, and trunk road picnic areas.

#### [Transport \(Scotland\) Act 2005](#)

An Act of the Scottish Parliament to provide for the setting up and functions of new transport bodies and to enable the Scottish Ministers to discharge certain transport functions; to provide further for the control and co-ordination of road works and for the enforcement of the duties placed on those who carry them out; to set up national concessionary fares schemes; and to make other, miscellaneous modifications of the law relating to transport.

#### [Traffic Calming Act 1992](#)

An Act to make provision about the carrying out on highways of works affecting the movement of vehicular and other traffic for the purposes of promoting safety

and of preserving or improving the environment; and for connected purposes.

## REGULATIONS

#### [Traffic Signs Regulations & General Directions 2016](#)

A statutory Instrument which prescribes the design and conditions of use of traffic signs on or near roads in England, Scotland and Wales.

#### [The Traffic Signs \(Amendment\) \(England and Wales\) Regulations and General Directions 2017](#)

This Instrument amends the Traffic Signs Regulations 2016 (“the amended Regulations”) and the Traffic Signs Directions 2016 (“the amended Directions”), together cited as the Traffic Signs Regulations and General Directions 2016 – SI 2016/362 (“TSRGD 16”), to correct errors and improve clarity. This amendment is relevant to England and Wales only.

#### [The Traffic Signs \(Amendment\) \(Scotland\) Regulations and General Directions 2017](#)

This Instrument amends the Traffic Signs Regulations 2016 (“the amended Regulations”) and the Traffic Signs Directions 2016 (“the amended Directions”), together cited as the Traffic Signs Regulations and General Directions 2016 – SI 2016/362 (“TSRGD 16”), to correct errors and improve clarity. This amendment is relevant to Scotland only.

#### [The Security for Private Road Works \(Scotland\) Regulations 1985](#)

These Regulations amend the Security for Private Road Works (Scotland) Regulations 1985 (“the principal Regulations”) which made provision for the lodging of security with the local roads authority in respect of the construction of certain private roads.

#### [The Road Humps \(Scotland\) Regulations 1998](#)

These Regulations revoke the Road Humps (Scotland) Regulations 1990 and replace them with new provisions, as a result of which the roads authority have

more freedom to design and install road humps.

### [The Roads \(Traffic Calming\) \(Scotland\) Regulations 1994](#)

These Regulations prescribe the traffic calming works which a roads authority may construct in a road maintained by them.

### [The Road Humps and Traffic Calming \(Scotland\) Amendment Regulations 1999](#)

These Regulations amend:

(a) The Roads (Traffic Calming) (Scotland) Regulations 1994 (“the 1994 Regulations”) which prescribed the traffic calming works which a roads authority may construct in a road maintained by them, and

(b) The Road Humps (Scotland) Regulations 1998 (“the 1998 Regulations”) which make provision as to the construction and maintenance of road humps.

### [The Local Authorities’ Traffic Regulations Order \(Procedures\) \(Scotland\) Regulations 1999](#)

These Regulations prescribe the procedure to be followed by local traffic authorities in Scotland for making the main types of traffic and parking orders under the Road Traffic Regulation Act 1984

### [The Local Authorities’ Traffic Regulations Order \(Procedures\) \(Scotland\) Amendment Regulations 2008](#)

These Regulations amend the Local Authorities’ Traffic Orders (Procedure) (Scotland) Regulations 1999 which prescribe the procedure to be followed by local traffic authorities in Scotland for making the main types of traffic and parking orders under the Road Traffic Regulation Act 1984

### [The Stopping Up of Roads and Private Accesses and the Redetermination of Public Rights of Passage \(Procedure\) \(Scotland\) Regulations 1986](#)

These Regulations prescribe the procedure to be followed by local traffic authorities in Scotland for the purposes of stopping up a road.

### [Roads Vehicles \(Construction & Use\) Regulations 1986](#)

These Regulations consolidate (with amendments) the Motor Vehicles (Construction and Use) Regulations 1978 as amended and the Motor Vehicles (Construction and Use) (Track Laying Vehicles) Regulations 1955 as amended.

A Key Section in relation to this Service’s Good Practice for Development Roads is as follows:

Part IV – Conditions Relating to Use (Section F – Avoidance of Danger), 103 - Obstruction

This list is not exhaustive and all sections of the Roads Vehicles (Construction & Use) Regulations 1986, where relevant, must be acted upon.

### [The Roads Vehicles Lighting Regulations 1986](#)

These Regulations re-enact the Road Vehicles Lighting Regulations 1984 with modifications

### [The Pedal Cycles \(Construction and Use\) Regulations 1983](#)

These Regulations give requirements as to Pedal cycles.

This list of Acts and Regulations is not exhaustive and may be expanded upon.

# APPENDIX

# B

## Guidance Documents

## Guidance Documents

This Appendix contains a list of Guidance documentation which may be utilised in connection within the examination of developer proposals through both the Planning Application and Road Construction Consent processes.

### EXTERNAL DOCUMENTATION

#### [Design Manual for Road & Bridges](#)

The Design Manual for Roads and Bridges (DMRB) contains information about current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads, including motorways. The DMRB has been prepared for trunk roads and motorways however the use of this documentation by local roads authorities is often seen as best practice.

#### [The Manual of Contract Documents for Highway Works](#)

The Manual of Contract Documents for Highway Works (MCHW) contains the primary documents required for the preparation of contracts for trunk road works.

The Department of Transport/Department for the Environment Transport Regions (DETR) produce numerous guidance notes and some of these are described below. This list is not exhaustive and can be expanded upon.

#### [Traffic Signs Manual](#)

Department of Transport Guidance for traffic authorities on the use of traffic signs and road markings. This guidance is split into the following chapters:

#### [Traffic Signs Manual Chapter 1 Introduction](#)

Traffic Signs Manual Chapter 2 Informatory Signs (currently a work in progress)

#### [Traffic Signs Manual Chapter 3 Regulatory Signs](#)

#### [Traffic Signs Manual Chapter 4 Warning Signs](#)

#### [Traffic Signs Manual Chapter 5 Road markings](#)

#### [Traffic Signs Manual Chapter 6 Traffic Control](#)

#### [Traffic Signs Manual Chapter 7 The Design of Traffic Signs](#)

#### [Traffic Signs Manual Chapter 8 Part 1 Road works and temporary situations - design](#)

#### [Traffic Signs Manual Chapter 8 Part 2 Road works and temporary situations - operations](#)

#### [Traffic Signs Manual Chapter 8 Part 3 Road works and temporary situations - update](#)

#### [Local Transport Notes](#)

Department of Transport produces Local Transport Notes which summarise the latest and most important ideas about traffic management issues and provide guidance for local authorities. The following guidance notes are currently available:

#### [Traffic calming \(LTN 1/07\)](#)

Local transport note on the design, effectiveness and installation of traffic calming measures.

#### [Traffic management and streetscape \(LTN 1/08\)](#)

This guidance is for those involved in the design of traffic management schemes. It aims to improve how streets look by encouraging design teams to reduce the amount of traffic signs, road markings and street furniture.

#### [Signal controlled roundabouts \(LTN 1/09\)](#)

Guidance for people involved in the design and operation of signal-controlled roundabouts.

#### [Design and use of directional traffic signs \(LTN 1/94\)](#)

Information about the design rules for creating directional informatory traffic signs.

#### [Keeping buses moving \(LTN 1/97\)](#)

Local transport note about traffic management and how to help keep buses moving in urban areas.

#### [Cycle infrastructure design \(LTN 1/20\)](#)

Local transport note guidance on improving the safety for cyclists and pedestrians through design of cycle infrastructure.

#### [Pedestrian guard railing \(LTN 2/09\)](#)

This local transport note includes guidance for local authorities on the development of policy guidance on guard rails, how to assess if there's a need for pedestrian guard rails, using an audit trail for decisions and actions taken on guard rail schemes.

#### [How to develop safe streets for mixed use \(LTN 3/08\)](#)

This document reviews 10 schemes that were part of the mixed priority routes road safety demonstration project. It presents the lessons learnt from the project to help practitioners develop similar mixed priority routes.

#### [Traffic Advisory Leaflets](#)

Department of Transport produce Traffic advisory leaflets (TALs) which provide information and guidance for using traffic equipment and implementing traffic regulations and policies. The context and quantity of these TALs is extensive and a full list of current documents can be found [here](#).

Other guidance Notes:

#### [Guidance on the use of Tactile paving Surfaces 2021](#)

Guidance on installing and using tactile paving surfaces to help visually-impaired pedestrians recognise potential hazards and changes to the road.

#### [Highway Code](#)

A well recognised Code for advice, information, standards, traffic law for all road users including pedestrians, cyclists, horse users as well as drivers

#### [Scottish Government/Transport Scotland](#)

The Scottish Government/Transport Scotland provide guidance on a number of roads issues. Key Publications in relation to this Service's Good Practice for Development Roads are as follows.

#### [Scottish Government – Designing Streets](#)

Designing Streets is the first policy statement in Scotland for street design and marks a change in the emphasis of guidance on street design towards place-making and away from a system focused upon the dominance of motor vehicles. It has been created to support the Scottish Government's place-making agenda and is intended to sit alongside the 2001 planning policy document Designing Places, which sets out government aspirations for design and the role of the planning system in delivering these. Supplementing this policy by:

#### [Creating Places - A policy statement on architecture and place for Scotland](#)

This policy statement focuses on architecture and place and sets out the comprehensive value good design can deliver. It sets out six qualities of successful places, these being "Distinctive"; "Safe and Pleasant"; "Easy to move around"; "Welcoming"; "Adaptable" and "Resource efficient".

#### [Scottish Government Green Infrastructure; Design and Placemaking](#)

The content of the document builds on Designing Places and Designing Streets to give practical tips on incorporating green infrastructure in masterplans.

#### [Scottish Government - Cycling by Design 2021](#)

The document was designed to draw together and rationalise existing international

cycle design guidelines into a single comprehensive reference document which could be used as a source of sound technical advice.

## [Scottish Government/Transport Scotland – Transport Assessment Guidance](#)

The main objective of this guidance document is to assist in the preparation of Transport Assessments for development proposals in Scotland. This document sets out requirements according to the scale of development being proposed, from a local development which requires a simple Transport Statement providing an explanation of transport issues through to a major development where detailed technical analyses will be required in a Transport Assessment accompanied by a supporting Travel Plan.

## [Transport Scotland -Good Practice Guide on 20mph Speed Restrictions](#)

This document provides good practice on the introduction of 20mph speed limits.

## [Transport Scotland - Roads for All: Good Practice Guide for Roads](#)

This Good Practice Guide contains Transport Scotland's requirements for inclusive design in the construction, operation and maintenance of road infrastructure. Inclusive design is an approach which aims to create environments which can be used by everyone regardless of age or disability.

## [Transport Scotland - New Roads and Street Works Act 1991: Code of Practice for the Co-ordination of Works in Roads](#)

This Code of Practice is intended to help road works authorities carry out their duty to co-ordinate works in the road under section 118 of NRSWA, and undertakers to fulfil their duty to co-operate in this process under section 119 of NRSWA. In undertaking these duties to co-ordinate and co-operate, the road works authorities and undertakers shall be required to undertake all of their duties under NRSWA and supporting regulations and to apply any guidance provided in any other Codes of Practice issued or approved under NRSWA or such practice as appears to the Scottish Road Works Commissioner to be desirable.

This list is not exhaustive and a full list of all guidance is available from the Transport Scotland/Scottish Government

## [SCOTS Publications](#)

The Society of Chief Officers of Transportation Scotland (SCOTS) is a strategic body comprising of transportation professionals from all the 32 councils and the seven regional transport partnerships. The society's work involves improving performance and innovation in the design, delivery and maintenance of transportation systems. It is also SCOTS priority to improve the performance in the way things are done. This could be by developing best practice through publishing guidelines

Key Publications in relation to this Service's Good Practice for Development Roads are as follows:

## [National Roads Development Guidance](#)

SCOTS' purpose of this document is to:

- Provide guidance on how to obtain a Road Construction Consent;
- Provide a consistent, accessible and relevant source of information that links related detailed and complex Infrastructure requirements in one place;
- Support the Scottish Government Policy Designing Streets and expand this to address the interface with other roads. This national guide is considered the technical enabler to that policy document.
- Advocate a re-designation of road hierarchy to user hierarchy;
- Support the principles of adopting a multi-disciplinary approach and early engagement to achieve a balanced outcome based on a user function;
- Accommodate Local Authority variances, such as parking standards or road details. These local departures are intended to be easily identified and accessed and as such form a section appended to this baseline document;
- Advocate the creation of a review board and update procedure so that changes to legislation, best practice, codes of practice, guides and other such documents can be regularly included such that the guide is maintained efficiently and will provide a positive long-term legacy;
- Encourage high-quality environments that place a focus on people and enable developments to be designed on an individual methodology rather than following standard and rigid specifications where possible;
- Support a more holistic, integrated approach to the planning and approvals

process with early discussions between all parties actively encouraged.

#### [SUDs for Roads](#)

This technical guidance document is intended for use by roads engineers within local authorities, Transport Scotland, consulting engineers and by other professionals within the built environment involved with planning, design, construction, operation, adoption and maintenance of roads, surface water drainage and associated SUDS for new and existing developments.

This list is not exhaustive and a full list of all technical guidance is available from the SCOTS.

#### CIHT Publications

The Chartered Institution of Highways & Transportation (CIHT) represents and qualifies professionals who plan, design, build, manage and operate transport and infrastructure.

CIHT is the leading voice of the highways and transportation infrastructure profession. They are the prime source of advice for national and local government and other national and local government and other strategic stakeholders when they are seeking technical expertise and knowledge to guide future policy and investment. CIHT produces a number of technical guidelines and publications. CIHT's series of technical guidelines is recognised as authoritative advice on best practice. They are used by practitioners in many disciplines including highway and traffic engineers, transportation and town planners in both the public and private sectors

Key Publications in relation to this Service's Good Practice for Development Roads are as follows:

#### [Road Safety Audit 2008](#)

These Guidelines provide a comprehensive review of Road Safety Audit (Hard Copy available)

#### Collision Prevention & Reduction 2007

This document provides comprehensive and practical guidelines for policy-makers and practitioners in the field of Collision Prevention & Reduction.

#### Traffic Calming Techniques 2005

This document outlines the purposes for which traffic calming can be used, both as an approach in itself or as part of a wider and more holistic approach to traffic management. (Hard Copy available)

#### Providing for Journeys on Foot 2000

The main purpose of Guidelines for Providing for Journeys on Foot is to describe best practice in planning and providing for pedestrians within the existing UK legislative framework. (Hard Copy available)

#### Rural Safety Management 1999

These guidelines build on work to present procedures for safety management of rural roads (Hard Copy available)

#### [Streets and Transport in the Urban Environment](#)

Streets and Transport in the Urban Environment are a group of guidelines issued over the last few years updating elements of Transport in the Urban Environment (1997).

#### Cycle Audit and Cycle Review 1996

These guidelines will assist users to provide better facilities for cyclists.

This list is not exhaustive and a full list of all technical guidelines is available from the CIHT.

#### **Sustainable Drainage Systems, Flooding & Surface Water Drainage Documentation.**

The following documentation can give advice on SUDS/Surface Water Drainage/Flooding issues:

## [Sewers for Scotland 4rd Edition - Scottish Water](#)

A technical specification for the design and construction of sewerage infrastructure.

## [SUDs for Roads - SCOTS and SUDS Working Party and authored by WSP](#)

See SCOTS Guidance Notes.

## [Sewerage \(Scotland\) Act 1968 - legislative documentation](#)

## [The SUDS Manual \(C753\) – CIRIA](#)

## [Flood Risk Management \(Scotland\) Act 2009](#)

An Act of the Scottish Parliament to make provision about the assessment and sustainable management of flood risks, including provision for implementing European Parliament and Council Directive 2007/60/EC; to make provision about local authorities' and the Scottish Environment Protection Agency's functions in relation to flood risk management; to amend the Reservoirs Act 1975; and for connected purposes.

## [CIRIA C624: Development and Flood Risk Guidance for the Construction Industry](#)

## [SEPA's Technical Flood Risk Guidance for Stakeholders](#)

This list is not exhaustive and can be added to.

### **Sustrans**

## [Sustrans Design manual – Handbook for cycle friendly design April 2014](#)

This guidance from Sustrans aims to provide detailed technical advice on key issues around on and off highway cycle infrastructure

### **Other Authorities**

There are numerous other guidance notes produced by various parties which also

give good practice. These guidance notes deal with differing issues which can be utilised on similar aspects with East Renfrewshire Council. These include such items as:

## [Highland Council Access to Single Houses and Small Housing Development - supplementary guidance](#)

## [Transport for London Traffic Calming Measures for Bus Routes](#)

Strathclyde Partnership for Transport (SPT) Advice Note on Bus Stop Design (Hard copy available only)

This list is not exhaustive and can be added to.

### **East Renfrewshire Council Documentation**

The primary document which sets out sets out policies for development and use of land is the:

## [East Renfrewshire Council's Local Development Plan](#)

## [East Renfrewshire Council's Local Development Plan 2 - Proposed Plan](#)

There are also various [Supplementary Planning Guidance](#) notes which have been adopted by the Council. Such Supplementary Planning Guidance has been prepared to support the Local Development Plan and provide more guidance on specific policy areas. These documents form a statutory part of the Local Development Plan.

Key document in respect to this Service's Good Practice for Residential Development Roads is the [Supplementary Planning Guidance: Residential Street Design](#). This guidance is principally aimed at residential development of ten or more houses. This may be Greenfield or brownfield land. The Guidance equally informs good practice in supporting the improvement of existing situations. It is expected that

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this guidance document will complement the Residential Street Design SPG.

In addition Supplementary Planning Guidance has also been adopted for 3 Master Plan Sites as follows

[Maidenhill and Malletsheugh Master Plan](#)

[Barrhead South Master Plan](#)

[Barrhead North Master Plan](#)



# APPENDIX

# C

## Road Accident and Casualty Costs

## Road Accident and Casualty Costs

When assessing applications for development it is crucial to highlight the economic benefits of our statutory requirement placed on us under the [Roads Traffic Act 1988: Section 39 \(3\) \(c\)](#), where in constructing new roads (new developments), we must take such measures as appear to the authority to be appropriate to reduce the possibilities of accidents occurring when the roads come into use.

The following is based on the information contained in the Scottish Government's publication '[Reported Road Casualties Scotland 2020](#)' produced by Transport Scotland.

1. The Cost per Casualty by severity based on the average cost for Great Britain at 2020 costs (DfT statistics Table RAS60001):

The average cost per:

Fatally injured casualty is - £1,930,329

Seriously injured casualty is - £216,915

Slightly injured casualty is - £16,722

Average cost per casualty is - £75,711

2. The Cost per Accident for all roads in Scotland for 2020 (Statistical Table 10) are as follows:

A Fatal Accident cost - £2,194,180

A Serious Accident cost - £249,651

A Slight Accident cost - £25,545

Average cost per injury accident is - £178.031

(The cost per damage only accident was determined at - £2,333)

3. The Cost per Accident for built up roads in Scotland for 2020 (Statistical Table 10) are as follows:

A Fatal Accident cost - £2,152,333

A Serious Accident cost - £237,930

A Slight Accident cost - £25,951

Average cost per injury accident in built up areas - £137,095

(The cost per damage only accident was determined at - £2,128)

# APPENDIX

# D

## Departures or Relaxations from Standards

Departures or Relaxations from Standards – Pro Forma

LOCATION	REQUIREMENT as per (Good Practice Document)	DEPARTURE	MITIGATION	Acceptability of proposal (ERC USE ONLY)
Junction of Development Access/Smith St 	Visibility splays of 4.5m x 90m x 1.05m in primary and secondary directions	2.4m x 65m x 1.05m in secondary direction	Raised junction and speed tables provided that will reduce speeds below 30mph and allow a reduced visibility	

Table D1

# APPENDIX

# E

## Planning Applications

## Planning Applications

### A. Introduction

For assessing and providing Roads Observations on any relevant Planning Application, the following minimum information would require to be provided. The content described below is an indication and is not exhaustive and may be added to.

### B. Drawing Standards

All drawings accompanying the Planning Application which have a 'Roads' association should comply with the following Drawing Standards:

- All layout drawings should have a north point.
- Within the title box, all layout drawings should indicate the scale of the drawing at the chosen drawing paper size.
- All drawings must be fully legible when printed at the indicated drawing size and scale.
- An illustrated linear scale should be included on all layout drawings.
- All drawings should have a revision box, within which, each revision should be lettered and a brief description of the revision included. If the revision is complex and/or not instantly apparent, the revisions should be highlighted on the drawing. The corresponding revision letter should be included in the title box.
- Drawings issued electronically should be either in 'pdf' or 'dwg' formats.
- Each drawing issue should be accompanied by a drawing issue/register sheet recording the drawing title, drawing number, date of issue and, if appropriate, the revision letter.
- All drawing titles should be descriptive of the drawing's contents.
- Electronic drawing titles with 'pdf'/'dwg' suffixes should also be descriptive of the drawing content.
- All drawings shall be at a scale appropriate to its purpose. Generally proposed layouts and topographical surveys at 1:200 or 1:500, location plans at 1:1250 and details at 1:5, 1:10 or 1:20.
- For each specific design element, if the drawing is provided electronically, such information should be provided on separate layers to enable them to be switched

on/off as may be required.

- All of the above "proposed" layout drawings should accurately overlay the topographical survey to enable survey information to be referenced on/off and viewed as necessary.

### C. Drawings required for assessing Planning Applications

#### 1) Location Plan

An appropriate drawing showing the location of the proposed development in relation to the existing roads network should be provided. Street names/geographical named areas should also be included within this drawing.

#### 2) Existing Road & Proposed Development Road Hierarchy

An appropriate drawing should reference the existing public road network Hierarchy in terms of Main Roads and Residential Roads (as defined in Section 1 – Development Overview).

This or a similar drawing should also indicate the Hierarchy of the proposed development road network in relation to their Primary, Secondary and Tertiary (where appropriate) Routes (as defined in Section 2: B).

#### 3) Proposed Roads Geometry/General Arrangement

An appropriate drawing showing the geometry of the proposed development road network should be provided. Within this drawing the following information should be provided:

- Road alignment (including curve radii where appropriate)
- Carriageway, footway, footpath, cycle path and service strip dimensions.
- Junction layout and radii (where appropriate).
- Visibility splays at junctions of proposed development roads with the existing public road network.
- Visibility splays at internal junctions.

- Forward sight stopping distances
- Horizontal geometry and dimensions of bespoke nodal features/junctions etc. (where appropriate)
- Private Road alignment and dimensions (where appropriate)
- Private (Parking) Courtyard layout and dimensions (where appropriate)
- Driveway layout (including shared access) and dimensions (where appropriate). It may appear to be premature for ERC to seek driveway dimension information at planning stage, it is nevertheless a key element of any housing development. Where Planning approval has been granted without key driveway information having been provided, the Developer may only appreciate at RCC stage that there is insufficient house spacing to accommodate driveways.
- Indication of pathways (if not associated with driveway) from adjacent footway/ shared surface to front/rear doors of associated plots (where appropriate)

#### 4) Swept Path Analysis

An appropriate drawing showing the swept path analysis of the largest most commonly used vehicle to travel through the proposed development road network should be provided. This drawing should show all potential movement paths by such a large vehicle (in both directions) through the development. Generally the largest most commonly used vehicle to travel through a residential development will be a three axle refuse collection vehicle.

In addition to the aforementioned, additional tracking movements of a large family car entering/exiting bespoke driveways & courtyard areas of the residential development may also be required to demonstrate that manoeuvres to and from such features are functional and safe.

#### 5) Landscaping & Fencing Drawing

Where appropriate, drawings showing proposed landscaping and fencing associated with the development should be provided. This would enable the Roads Service to assess such features in relation to how they affect the functionality and safety of traffic (vehicular, cyclist and pedestrian) movements through the proposed

development road network. This particularly relates to junction visibility and forward visibility splays etc.

#### 6) Additional Drawings

The applicant should also include any other drawings that may be relevant to the submitted planning application.

### **D. Planning Application – Check Lists**

As consultee to the Planning process, the Roads Service will assess Planning Applications and respond directly to the Planning service. The following checklists will be utilised by the Roads Service to assess whether sufficient information has been submitted to permit a full appraisal. The Developer is encouraged to complete and submit this list to assist in identifying where any shortfall in information provided, may lead to delay or rejection of the application.

Checklist - General	Yes, No, N/A
Is there a <b>location plan</b> placing the proposed development in <b>local context</b> ?	
Has a <b>Design/Access Statement</b> been provided?	
Has a <b>Transport Assessment</b> (TA)/Transport Statement (TS) been provided?	
Is a <b>Travel Plan</b> required?	
Has a <b>Flood Risk Assessment</b> (FRA) been provided?	
Has a <b>Drainage Strategy</b> been provided?	
Is a <b>Road Safety Audit - Stage 1</b> required and if so has it been provided?	
Is a <b>Road Safety Audit - Stage 2</b> required and if so has it been provided?	
Have all <b>departures from good practice guide</b> been adequately justified?	

Layout	Yes, No, N/A
Have the correct <b>number of accesses</b> to the development been provided?	
Has " <b>Designing Streets</b> " been incorporated within the proposed layout?	
Does the internal road layout consist mainly of <b>continuous loops</b> ?	
Are the <b>visibility splays</b> between new development road and existing road acceptable?	
Are the <b>visibility splays</b> at internal road junctions acceptable?	
Are all the <b>forward sight stopping distances</b> on existing roads at the development access acceptable?	
Are all the <b>forward sight stopping distances</b> within the proposed internal road layout acceptable?	
Is the <b>junction spacing</b> between access to the development and existing junctions acceptable?	
Is the <b>spacing</b> between internal road junctions acceptable?	
Is the proposed <b>road hierarchy</b> evident and clear? i.e. primary, secondary & tertiary routes	
Are <b>road widths</b> indicated and acceptable?	
Are the <b>road junctions</b> functional or of an appropriate size/layout?	
Are the <b>courtyard squares</b> or bespoke <b>nodal points</b> /road layout functional in respect to all traffic movements including those for pedestrians, access to/from driveways and junction/through vehicular manoeuvres?	
Are the <b>courtyard squares</b> or bespoke <b>nodal points</b> /junctions adequately detailed?	
Are junctions suitable for <b>pedestrians and cyclists</b> ?	
Do all the <b>shared driveways</b> serve no more than 3 dwellings?	
Are shared driveways functional, of an adequate size and configured to minimise reversing movements?	
Have all <b>public paths</b> been located such as not to emerge onto a private accesses/shared driveway?	
Are all <b>surface materials</b> evident and clearly annotated?	

Layout	Yes, No, N/A
Are the extents of the <b>shared surface</b> (i.e. block paved) areas acceptable? i.e. not excessive in length.	
Does the overall <b>geometry</b> of the internal road layout mitigate against excessive speeds?	
Are the <b>speed restriction measures</b> (where appropriate) correctly located?	
Where provided, do the culs-de-sac have <b>adequate turning</b> ? i.e. preferably with a turning circle	
Have <b>service strips</b> been provided and correctly located?	
Do the <b>service strips</b> cover all properties within the development?	
Has a tracking drawing been provided for a large three axle refuse collection?	
If the internal road junction is to be used by buses, has a tracking drawing for a bus been provided?	

Parking	Yes, No, N/A
Has the Parking Provision Audit Pro-Forma ' <b>Appendix G</b> ' been submitted?	
Are there sufficient <b>allocated spaces</b> ?	
Is the driveway functional? i.e. no reversing onto node points, junctions or along footways	
Are <b>allocated spaces</b> located favourably to the dwelling? (not too remote)	
Are <b>driveways</b> wide enough for the number of vehicles?	
Are <b>driveways</b> long enough for the number of vehicles?	
Can pedestrians reach the front door of each property when parked cars are in place within the driveway?	
Can access be achieved to the rear of the property when cars are in place within the driveway?	
Are there sufficient <b>unallocated (visitor) spaces</b> , including the supplement for driveway configuration?	
Are the <b>visitor spaces</b> acceptably distributed throughout the development?	
Is each dwelling generally located within <b>30 metres</b> of a visitor parking space?	
Are all driveways located at least <b>10 metres</b> from a junction ( <b>15 metres</b> from a main access)?	
Can a driveway visibility splay of <b>2 metres x 20 metres</b> x 1.05m be achieved?	
Will parked vehicles in unallocated (visitor) spaces avoid compromising <b>sightlines</b> ?	
Can appropriate pedestrian/vehicle <b>inter-visibility</b> be achieved?	
Do all unallocated (visitor) spaces have adequate <b>hardstanding</b> around? (shared surface)	

Footway/Footpath Provision	Yes, No, N/A
Have all <b>footway widths</b> been indicated?	
Are the <b>footway/footpath links</b> within the development and to neighbouring developments acceptable?	
Are all properties adequately served?	
Are the prospectively <b>adoptable footpaths</b> all step-free?	

Drainage	Yes, No, N/A
Have <b>SUDS</b> features been included?	
Is there a suitable <b>outfall</b> for surface water to discharge into?	
Have the appropriate levels of <b>SUDS treatment</b> , as determined by <b>SEPA</b> , been provided?	
Is the discharge rate acceptable?	
Is a <b>CCTV</b> survey of existing drainage infrastructure necessary and if so has it been supplied?	
Is the internal surface water drainage contained within each plot?	

Landscaping/Fencing/Barriers	Yes, No, N/A
Are all proposed trees/hedging/landscaping located to avoid impacting on <b>sightlines</b> ?	
Are all proposed trees of an appropriate species and suitably root contained to ensure no negative impact on adoptable road, either overhead or underground?	
If landscaping/planting/fencing is proposed within visibility splays, is and will it be maintained in perpetuity, below <b>1.05 metres</b> in height?	
If <b>pedestrian guardrail</b> or <b>vehicle safety fencing</b> is proposed, is the type and extent acceptable?	

Road consents/agreements

The following consents (for information only) in terms of the Roads (Scotland) Act 1984 may be required depending on size, nature and location of development.

Sections of the Roads (Scotland) Act 1984	Yes, No, N/A
Section 21 - Road Construction Consent Application?	
Section 56 - Road Opening Permit?	
Section 68 - Road Stopping Up Order?	
Section 95 - Removal of Deposited Material be required?	
Section 96 - Damage to the Public Road?	

Please note that the aforementioned comments/check list are not exhaustive and in no way should they be deemed to be definitive. The rights of the Road's Service to add or amend comments will be retained.

# APPENDIX

# F

## Road Construction Consent Applications

## Road Construction Consent Applications

### A. Introduction

For assessing and providing Roads Observations on any subsequent Road Construction Consent Application, the following minimum information would require to be provided. The contents described below are an indication and are not exhaustive and may be added to depending on the nature and design of the proposed development.

### B. Drawing Standards

All drawings accompanying the Road Construction Consent Application should comply with the following Drawing Standards:

- All layout drawings should have a north point.
- Within the title box, all layout drawings should indicate the scale of the drawing at the chosen drawing paper size.
- All drawings must be fully legible when printed at the indicated drawing size and scale.
- An illustrated linear scale should be included on all layout drawings.
- All drawings should have a revision box, within which, each revision should be lettered and a brief description of the revision included. If the revision is complex and/or not instantly apparent, the revisions should be highlighted on the drawing. The corresponding revision letter should be included in the title box.
- Drawings issued electronically should either be in 'pdf' or 'dwg' formats. The Roads Service may subsequently request paper copies of each drawing.

- Each drawing issue should be accompanied by a drawing issue/register sheet recording the drawing title, drawing number, date of issue and, if appropriate, the revision letter.
- All drawing titles should be descriptive of the drawing's contents.
- Electronic drawing titles with 'pdf'/'dwg' suffixes should also be descriptive of the drawing content.
- All drawings shall be at a scale appropriate to its purpose. Generally proposed layouts and topographical surveys at 1:200 or 1:500, location plans at 1:1250 and details at 1:5, 1:10 or 1:20.
- For each specific design element, if the drawing is provided electronically, such information should be provided on separate layers to enable them to be switched on/off as may be required.
- All of the above "proposed" layout drawings should accurately overlay the topographical survey to enable survey information to be referenced on/off and viewed as necessary.

Please note that this list is not exhaustive and may be added to.

### C. Drawings required for assessing Road Construction Consent Applications

- 1) Location Plan  
An appropriate drawing showing the location of the proposed development in relation to the existing roads network should be provided. Street names/geographical named areas should also be included within this drawing.

2) Topographic Survey  
 This Survey drawing should include existing underground and overhead Public Utility Services. Where extensive PU layout information compromises the clarity of surface features, an additional survey drawing should be provided, i.e. (i) Topographical Survey and (ii) Topographical Survey with Services.

3) Proposed Roads Geometry/General Arrangement  
 An appropriate drawing showing the geometry of the proposed development road network must be provided. Within this drawing the following information should be provided:

- Road alignment (including curve radii where appropriate).
- Carriageway, footway, footpath, cycle path and service strip dimensions.
- Junction layout and radii (where appropriate).
- Visibility splays at junctions of proposed development roads with the existing public road network.
- Visibility splays at internal junctions.
- Forward sight stopping distances.
- Horizontal geometry and dimensions of bespoke nodal features/ junctions etc. (where appropriate).
- Private Road alignment and dimensions (where appropriate).
- Private (Parking) Courtyard layout and dimensions (where appropriate).

- Driveway layout (including shared access) and dimensions (where appropriate).
- Indication of pathways (if not associated with driveway) from adjacent footway/shared surface to front/rear doors of associated plots (where appropriate).

Please note that this list is not exhaustive and may be added to.

For electronic ('Dwg') drawings, the applicant should include dimensions, visibility splays and Forward Sight Stopping distances on separate layers.

4) Adoption Plan  
 This drawing should provide information showing all areas to be considered for adoption, duly coloured described below:

(Flexible) Carriageway	Orange (Acad Colour Index 30)
Footway	Red (Acad Colour Index 12)
Footpath	Red (Acad Colour Index 12)
Soft (grass verge) Service Strip	Green (Acad Colour index 3)
Hard (paved) Service Strip	Red Cross hatching (Acad Colour index 12)
Shared Surface Carriageway	Yellow (Acad Colour Index 2)

5) Horizontal Setting Out  
 Where appropriate, layout drawings showing the setting out details of the horizontal alignment of the proposed development road network should be provided. Information provided on such drawings should include the finish of all road surfaces; road chainages; easting and northing co-ordinates of road chainages/setting out points; horizontal

curve radii; horizontal curve bearing and angles; horizontal arc lengths; and tangential lengths.

6) Road Longitudinal Sections

Where appropriate, drawings showing longitudinal sections of each prospectively public road within the residential development and detailed with chainage; existing ground level; proposed alignment level; vertical alignment (proposed gradients, vertical curve length and vertical curve 'k' values); and horizontal alignment (curve radius) information, should be provided.

The substrata to a depth of 1.0 metre below the road should also be indicated where requested by the Roads Service.

The longitudinal Sections should also be cross referenced to the Proposed Levels drawing.

7) Proposed Levels

Where appropriate, a layout drawing should be provided showing all road centreline levels and road channel levels at 10 metre intervals, at peaks and troughs and at any other key location. Sufficient spot levels should be shown at non-standard road sections, i.e. node squares, to enable an assessment of how the proposed levels and drainage functions.

In addition, the proposed levels drawing should also indicated a) proposed road gully positions; b) direction of longitudinal fall arrows to allow an instant picture of proposed falls and drainage catchments; c) proposed contours; d) extents of cut & fill slopes; e) finished floor levels of houses (to indicate relation of houses to roads); and f) tie-in levels were new works tie-into existing.

8) Traffic Signing, Road Markings and Traffic Signals

Where appropriate, drawings should be provided showing all proposed

traffic signing and road markings envisaged to be implemented as part of the residential development. These drawings (if relevant) should also indicate all existing signs and road markings on any adjacent public road network, also highlighting whether such infrastructure is to be removed, retained or replaced.

All sign design and road marking should be referenced against the Traffic Signs Regulations and General Directions 2016 (as amended). All lengths and locations of road markings and sign positions should be clearly indicated on a location plan. Sign design details (including: sign dimensions; x-height(s); sign face reflectivity material; sign face substrate material) should be clearly indicated on this drawing or on a separate drawing as necessary. Details of the sign erection including proposed sign pole size and type (where appropriate) and sign illumination should also be provided.

Where traffic signals (including controlled crossings) are proposed, details of all signal head aspects; location of power supply pillar (haldo); location of traffic signal controller; details and indicative locations of traffic signal ducting; traffic signal pole footings (i.e. NAL sockets or approved equivalent); details and locations of traffic signal chambers; details and locations of detection equipment; details of stage diagrams and signal timings; and proposed mode of operation of the traffic signals should be provided.

9) Construction Details

Where appropriate, drawings should be provided showing details of all road construction elements associated with the proposed development road network.

These elements potentially include:

- Typical construction of asphalt carriageway; asphalt footways, footpaths, cycle paths; block paved shared surface roads. The

capping depth should also be indicated in such details.

- Cross section of asphalt surfaced road to verge to asphalt surfaced footway to soft' service strip/driveway/garden (or variants of).
- Cross section of block paved shared surface to block 'paved' service strip/'soft' service strip/driveway/garden (or variants of).
- Cross section of transition from asphalt surfaced road to block paved shared surface road
- Cross section of transition from asphalt surfaced road/block paved shared surface area to nodal junction or similar feature.
- Cross section of tie in detail from new to existing carriageway.
- Details and locations of dropped kerb arrangement at driveway entrances (vehicle footway crossing) and/or pedestrian crossing points.
- Detail of the proposed locations of public utility services.
- Details/cross sections of all the construction of traffic calming/ speed reduction features such as speed tables; junction tables; speed cushions etc.
- Details of all road kerbing (longitudinal and transverse), channel blocks, heel kerbing etc.
- Details of all other road infrastructure features such as bollards, pedestrian guard rail, vehicle restraint systems, street furniture etc.

- Details/construction/layout of parking bays, driveways; shared driveways; parking courtyard (both public and private); bespoke nodal features etc.

Please note that the above list is not exhaustive and can be added to

The above details (where appropriate) should include kerb sizes, types, bedding, foundation dimensions, material types with appropriate BS or specification references and compacted material thicknesses. Where features are to be "privately" maintained, they should be clearly annotated as such.

The drawing should also reference supporting documentation such as Site Investigation report, including CBRs, Site Investigation report, containing recommendations for capping thicknesses etc.

#### 10) Proposed Kerbing Layout

Where appropriate, drawings should be provided showing lengths of all proposed kerbing (including type and kerb face upstand) which should correspond with the kerbing detail shown within the Roads Construction Details drawings.

#### 11) Proposed Drainage Layout

Where appropriate, drawings should be provided showing the layout of foul and surface water drainage elements associated with the proposed development road network.

These elements potentially include:

- All lengths of proposed and existing foul and surface water sewers.
- All locations of foul and surface water sewer manholes.

- All locations of silt traps.
- All locations of gullies and connection pipes.
- All locations of all manhole disconnectors and connection pipes.
- All locations of cut-off drainage preventing discharge of surface water from driveway to public road/footway.
- All locations of attenuation tanks and all SUDS features, including ponds, basins, swales, filter trenches etc.
- Details and location of access tracks to serve SUDS features.
- Gully catchments areas.

Please note that the above list is not exhaustive and can be added to.

All sewer pipe lengths should be clearly annotated with the relevant pipe size, pipe gradient and direction of fall. All manholes should also be clearly numbered and should relate to a manhole schedule if provided. The drawing should also reference supporting documentation such as drainage calculations for pipe sizes and SUDS pond capacity etc.

All drainage features should be clearly annotated to whether they are vested to and maintained either by Scottish Water, a Private Developer/Factor or the Roads Service.

## 12) Drainage Longitudinal Sections

Where appropriate, drawings should be provided showing the proposed longitudinal sections of all foul and surface water sewers. These sections should indicate ground level, cover level to the sewer, sewer invert level, bedding details, sewer details and sewer lengths between all manhole positions.

All sewer lengths should be clearly annotated to whether they are vested to and maintained either by Scottish Water, a Private Developer/Factor or the Roads Service.

## 13) Manhole Schedule

Where appropriate, a drawing schedule of all proposed manholes should also be provided. This schedule should detail the manhole number; diameter or dimensions, its grid co-ordinates; its cover lever; depth to soffit; diagrammatic sketch of connections; code of pipe connecting into manhole (if relevant); inverts of pipes connecting into manhole; diameter of pipes connecting into manhole; manhole type; and manhole cover type.

The networks associated with the various manholes should be clearly annotated to whether they are vested to and maintained either by Scottish Water, a Private Developer/Factor or the Roads Service.

## 14) Drainage Construction Details

Where appropriate, drawings should be provided showing details of all relevant drainage construction elements associated with the proposed development road network.

These elements potentially include:

- Details of proposed manhole types.
- Details of proposed road gullies.
- Details of footpath gullies.
- Cross sections of sewer pipelines.
- Details of SUDS features, including ponds, basins, swales, filter

trenches, attenuation tanks, hydrobrakes, throttles etc. Pond details should indicate the permanent water level and water level in the 1 in 200 year event.

- Details of headwalls and inlet/outlets for basins or swales.
- Details of driveway access drains (or approved equivalent and where applicable)

Please note that the above list is not exhaustive and can be added to.

The aforementioned details should be clearly annotated to whether they are vested to and maintained either by Scottish Water, a Private developer/Factor or the Roads Service.

#### 15) Swept Path Analysis

An appropriate drawing showing the swept path analysis of the largest most commonly used vehicle to travel through the proposed development road network should be provided. This drawing should show all potential movement paths by such a large vehicle (in both directions) through the development. Generally the largest most commonly used vehicle to travel through a residential development will be a three axle refuse collection vehicle (RCV).

#### 16) Street Lighting Design

Within East Renfrewshire Council, Street Lighting Design forms an integral part of the Road Construction Consent. For all proposed developments a Street Lighting Design drawing should be submitted detailing the following:

- Location, where appropriate, of existing lighting columns to be retained or re-sited including any re-cabling required.
- Location of all lighting columns required within the site detailing

Specification manufacture and mounting height.

- Luminaire to be utilised on each column indicating manufacturer and product identity code and Colour Temp.
- Control pillar location including manufacturer and product identity code.
- Location and details of all ducting itemised with varying depths including necessary earth rods/mats.
- Electrical Schematic diagram detailing earth fault loop impedance Volt drop and all details of wiring.
- Design drawing indicating illuminance/luminance calculations as required.
- Any other information relative to the installation.

All proposed private street lighting infrastructure which will not be vested to and maintained by the Roads Service should clearly be annotated as such.

#### 17) Additional Drawings

Depending on the design aspects proposed for the development, the following additional drawings would be expected to be submitted if appropriate:

- Detailed structural design drawings will be required if bridges, retaining walls and other structures which are to be vested to and maintained by the Roads Service.
- Drawings showing roundabout horizontal design checks (in relation to TD16/93 Geometric Design of Roundabouts).

- Drawings showing all borehole & trial pit locations.
- Specific vehicle tracking drawings, e.g. tracking by a bus if roads within the development were to be utilised by such; tracking of a large car in and out of bespoke/shared driveway arrangements (i.e. to check the functionality of any such arrangements) etc.

The above list is not exhaustive and can be added to.

### **D. Road Construction Consent Application – Check Lists**

The following checklist will be utilised by Roads Service to assess whether sufficient information has been submitted to permit a full appraisal. The Developer is encouraged to complete and submit this list to assist in identifying where any shortfall in information provided, may lead to a delay or rejection of the application. Where a negative response is indicated on the checklist, it is likely that this is a departure from the Good Practice Guide and it is likely that Roads Service will seek design justification.

<b>Checklist - General</b>	<b>Yes, No, N/A</b>
Has the applicant provided sufficient information to permit a meaningful appraisal of the application?	
Has a drawing list been provided?	
Is there a layout indicating all relevant components of the application?	
Have all departures from standards been detailed and adequately justified?	
If a Road Safety Audit - Stage 2 is required, has it been provided?	
Will a Road Safety Audit - Stage 3 (opening of road(s)/completion of site) be undertaken?	
Will a Road Safety Audit - Stage 4 (1 year after opening of road(s)/completion of site) be undertaken?	
If a Roads (Scotland) Act 1984 Section 56 Road Opening Permit is required, has it been provided?	
If a Road Stopping Up Order under Section 68 Roads (Scotland) Act 1984 is required, has the process for this promoting this Order commenced/ been completed?	
If a Road (Scotland) Act 1984 Section 96 agreement regarding extraordinary expenses in repairing the road damaged by heavy vehicles traffic post construction is required, has it been entered into?	

<b>Location Plan Drawing</b>	<b>Yes, No, N/A</b>
Has a location plan placing the proposed development in local context been provided?	

<b>Topographic Survey Drawing</b>	<b>Yes, No, N/A</b>
Has a topographical survey been undertaken/drawing provided?	
Has existing public utility information been displayed on the topographic survey drawing?	

Horizontal Geometry/Road Layout Drawing	Yes, No, N/A
Access & General Layout	
Is the number of accesses from the existing road network into the development acceptable?	
Is the junction spacing between an access to the development and existing road junctions acceptable?	
Is the spacing between internal road junctions acceptable?	
Has the applicant incorporated "Designing Streets" within the proposed alignment?	
Is the proposed road hierarchy evident and clear? i.e. primary, secondary & tertiary routes	
Does the internal road layout consist mainly of continuous loops (i.e. minimum number of culs-de-sac)	
Are the extents of any shared surface arrangement (i.e. not excessive lengths) acceptable?	
Does the overall geometry of the development roads discourage against excessive speeds?	
Visibility	
Have the junction visibility splays between the new development roads and existing roads been indicated on the road layout drawing and do they meet minimum requirements?	
Have the junction visibility splays at all internal road junctions within the development been indicated on the road layout drawing and do they meet minimum requirements?	
Have the forward sight stopping distance visibility splays on the existing road at any new road junction been indicated on the road layout geometry drawing and do they meet minimum requirements?	
Have the forward sight stopping distance visibility splays been indicated on the road layout drawing at all relevant changes of the internal horizontal geometry and do they meet minimum requirements?	
Road Geometry	
Has all relevant road geometry (including for private roads) been indicated on the road layout drawing and does it meet minimum requirements?	
Have all road/footway/footpath/cycleway widths been indicated on the road layout drawing and do they meet minimum requirements?	
Has the horizontal alignment and dimensions of all bespoke nodal features/junctions been indicated on the road layout drawing and are they acceptable?	
Have the layout and dimensions of all (including private) courtyards/parking areas been indicated on the road layout drawing and are they acceptable?	
Have all public accessible footpaths been located such as not to emerge onto a private accesses/shared driveway?	
Are the prospectively adoptable footpaths all step-free?	

Horizontal Geometry/Road Layout Drawing	Yes, No, N/A
Have all the types/construction of road surfaces (including footways, footpaths, cycle ways) been clearly annotated on the road layout drawing and are they acceptable?	
Are the transitions (including provision of extending the footway into the shared surface away from the junction area where applicable) from a standard road layout to a shared surface arrangement acceptable?	
Where provided, are speed restriction measures correctly located (i.e. no ramped features within 5 metres of a driveway; no road narrowing adjacent to driveways etc.)?	
Do all culs-de-sac have adequate turning facilities (preferably turning circles)?	
Have pedestrian facilities (i.e. dropped kerbs) been provided at all junctions?	
Have all service strips been clearly identified on the road layout and are they correctly located and cover all properties?	
Have suitable delineation (kerb lines etc.) been provided between all prospectively public and private roads etc.?	
Unallocated/Visitor parking	
Are all on-street visitor parking laybys located at least 10 metre from a junction?	
Where not adjacent to a footway, do all unallocated visitor spaces have adequate hardstanding around them?	
Will parked vehicles in visitor spaces avoid compromising sightlines?	
Have 1 metre radius kerb transitions been provided at external angle splays to on-street unallocated visitor parking bays?	
Driveways	
Have all driveway dimensions (including those for shared driveways) been indicated on the road layout drawing and do they meet minimum requirements?	
Are all driveways located at least 10 metres from a junction (15 metres from a main access)?	
Can a driveway visibility splay of 2 metres x 20 metres be achieved?	
Can appropriate pedestrian/vehicle inter-visibility at all accesses/junctions be achieved?	
Have pathways been provided or are the driveways wide enough to allow residents to reach the front and rear entrances to their properties from the adjacent road?	
Do all the shared driveways serve no more than 3 dwellings?	
Are all the shared driveways of an adequate width/layout and configured to minimise reversing movements?	

Adoption Plan Drawing	Yes, No, N/A
Has an adoption layout plan been provided?	
Have all adoptable road elements within the adoption layout plan been coloured up with the appropriate index colours?	
Are all private/non adoptable areas clearly annotated as such?	

Horizontal Setting Out Plan Drawing	Yes, No, N/A
Has a horizontal setting out plan been provided?	
Does the horizontal setting out plan show all the proposed finishes of all road surfaces?	
Does the horizontal setting out plans show all road chainages; easting and northing co-ordinates of road chainages/setting out points; horizontal curve radii; horizontal curve bearing and angles; horizontal arc lengths and tangential lengths?	

Road Longitudinal Sections Drawing	Yes, No, N/A
Has a drawing showing the longitudinal sections of the proposed roads been provided?	
Does the longitudinal sections show proposed chainage; existing ground level; proposed alignment level; vertical alignment (proposed gradients, vertical curve length and vertical curve k values) and horizontal alignment (curve radius) information.	
Does the Road Longitudinal Sections Drawing make cross reference to the Proposed Level drawing, if relevant?	

Proposed Levels Drawing	Yes, No, N/A
Has a drawing showing levels of all the proposed roads been provided?	
Does the Proposed Levels Drawing show all road centreline levels and road channel/kerb levels at 10 metre intervals, at peaks and troughs and at any other key location?	
Does the Proposed Levels Drawing show proposed road gully positions?	
Does the Proposed Levels Drawing show direction of longitudinal fall arrows to allow an instant picture of proposed falls and drainage catchments	
Does the Proposed Levels Drawing show proposed contours (a separate drawing or layer may be required in this instance)?	
Does the Proposed Levels Drawing show the proposed extents of any cut & fill slopes;	
Does the Proposed Levels Drawing show proposed finished floor levels of houses (to indicate relation of houses to roads)	
Does the Proposed Levels Drawing show proposed tie in levels where new works abut existing	
To enable an assessment of how the proposed drainage functions, have sufficient spot levels been shown on the Proposed Levels Drawing at all non-standard road sections, i.e. node squares/junctions?	
Does the Proposed Levels Drawing make cross reference to the Road Longitudinal Sections Drawing, if relevant?	

Signing & Lining Drawing	Yes, No, N/A
Has a drawing showing levels of all the road signing, road marking & traffic signal details been provided?	
Does the drawing show all existing signage/road markings and whether such infrastructure is to be removed, retained, amended or replaced?	
Are all road makings and signs referenced against the Traffic Signs Regulations and General Directions 2016 (as amended)?	
All are new lengths of road markings and locations of new sign positions clearly indicated?	
Are all sign design details (including sign dimensions; x-height; sign face reflectivity material; sign face substrate material) clearly indicated?	
Have details of the sign erection i.e. proposed sign pole size, type and (where appropriate) sign illumination been included?	
Where traffic signals (including controlled crossings) are proposed, have details of all signal head aspects; location of power supply pillar (haldo); location of traffic signal controller; details and indicative locations of traffic signal ducting; traffic signal pole footings (i.e. NAL sockets or approved equivalent); details and locations of traffic signal chambers; details and locations of detection equipment; details of stage diagrams and signal timings and proposed mode of operation of the traffic signals been provided?	

Construction Details Drawing	Yes, No, N/A
Has a drawing showing all relevant road construction details been provided?	
Has the construction of all relevant asphalt carriageways; footways; footpaths; cycle ways, block paved shared surface roads been detailed?	
Where relevant, has a cross section between asphalt surfaced carriageway and verge and asphalt surfaced footway and soft' service strip/driveway/garden (or variants of) been provided?	
Where relevant, has a cross section between block paved shared surface carriageway and block paved service strip/soft' service strip/driveway/garden (or variants of) been provided?	
Where relevant, has a cross section of the transition from asphalt surfaced carriageway to a block paved shared surface carriageway been provided?	
Where relevant, has a cross section from either an asphalt surfaced or block paved shared surface carriageway to a bespoke nodal junction or similar feature been provided?	
Has a cross section of the tie in from new/carrageway to existing carriageway been provided?	
Where relevant, have details of the dropped kerb arrangements at driveway entrances (vehicle footway crossing) and pedestrian crossing points been provided?	
Where relevant, has a detail/cross section showing the location of public utilities within a service strip/beneath a footway been provided?	
Where relevant, have details/cross sections of the construction of traffic calming/speed reduction features such as speed tables; junction tables; speed cushions etc. been provided?	
Where relevant have details/construction/layout of parking bays, driveways; shared driveways; parking courtyard (both public and private); bespoke nodal features etc. been provided?	
Where relevant, have details of all road kerbing (longitudinal and transverse), channel blocks, heel kerbing etc. been provided?	
Within the relevant details, have kerb sizes, types, bedding, foundation dimensions, material types with appropriate BS or specification references and compacted material thicknesses been provided?	
Where relevant, have details of all other road infrastructure features such as bollards, pedestrian guard rail, vehicle restraint systems, street furniture etc. been provided?	
Where features/infrastructure are to be "privately" maintained, are they clearly annotated as such?	

Kerbing Layout drawing	Yes, No, N/A
Has a layout plan been provided showing all extents of differing kerb/channel blocks/heel kerbing been provided?	
Does the Kerbing Layout drawing make cross reference to the Construction Details drawing, if relevant?	

Proposed Drainage Layout Drawing	Yes, No, N/A
Has a drawing showing the layout of foul and surface water drainage elements associated with the proposed development road network been provided?	
Does the drawing show all lengths of proposed and existing foul and surface water sewers?	
Are all pipe lengths clearly annotated with the relevant pipe size, pipe gradient and direction of fall?	
Does the drawing show all locations of foul and surface water sewer manholes?	
Are all manholes clearly numbered and related to a manhole schedule if provided?	
Does the drawing show all locations of silt traps?	
Does the drawing show all locations of gullies and connection pipes?	
Does the drawing show all locations of all manhole disconnectors and connection pipes?	
Does the drawing show details of all cut-off drainage preventing discharge of surface water from driveway to public road/footway?	
Does the drawing show all locations of attenuation tanks and all SUDS features, including ponds, basins, swales, filter trenches etc.?	
Does the drawing show details and location of access track(s) to serve SUDS features?	
Does the drawing show all gully catchment areas?	
Does the drawing clearly annotate which features are vested to and maintained either by Scottish Water, a Private Developer/Factor or ERC Roads Service?	
Does the Proposed Drainage Layout drawing make cross reference to the Drainage Longitudinal Section drawing; the Manhole Schedule drawing and/or the Drainage Construction Details Drawing?	

Manhole Schedule Drawing	Yes, No, N/A
Has a drawing schedule of all proposed manholes been provided?	
Have all the manholes been provided with a relevant reference number?	
Have the manhole diameters or dimensions been provided?	
Have the manhole grid co-ordinates been provided?	
Have all cover levels been provided?	
Have the depths to soffit been provided?	
Have diagrammatic sketches of connections been provided?	
Have the codes of pipe connecting into manhole (if relevant) been provided?	
Have all inverts of pipes connecting into manhole been provided?	
Have the diameters of pipes connecting into manhole been provided?	
Have the type of manholes and the manhole cover type clearly annotated?	
Does the schedule clearly annotate which features are vested to and maintained either by Scottish Water, a Private Developer/Factor or ERC Roads Service?	
Does the Manhole Schedule make cross reference to the Proposed Drainage Layout Drawing; Drainage Longitudinal section drawing and/or Drainage Construction Details Drawing?	

Drainage Construction Details Drawing	Yes, No, N/A
Has a drawing showing drainage construction details been provided?	
Does the drawing show all details of all SUDS features, including ponds, basins, swales, filter trenches, attenuation tanks, hydrobrakes, throttles etc.?	
Where applicable, does the Suds Pond detail indicate the permanent water level and water level in the 1 in 200 year event?	
Does the drawing show details of the proposed manhole types	
Does the drawing show details of proposed road gullies	
Does the drawing show details of proposed footpath gullies, if relevant	
Have cross sections of the sewer pipelines been provided?	
Does the drawing show details of headwalls and inlet/outlets for basins or swales?	
Have details of driveway acco drains (or approved equivalent and where applicable) been provided?	
Does the drawing clearly annotate which features are vested to and maintained either by Scottish Water, a Private Developer/Factor or ERC Roads Service?	
Does the Drainage Construction Details make cross reference to the Proposed Drainage Layout Drawing; Drainage Longitudinal section drawing and/or Drawing Manhole Schedule?	

<b>Tracking Drawing</b>	<b>Yes, No, N/A</b>
Has a tracking drawing been provided for a large three axle refuse collection vehicle (RCV)?	
If the internal road junction is to be used by buses, has tracking of a bus along relevant lengths of road been provided?	
Are over-run areas required at junctions?	
Where bespoke/shared driveway arrangements has tracking of a large car in and out of such facilities been provided (i.e. to check the functionality of any such arrangements)?	

<b>Lighting Drawing</b>	<b>Yes, No, N/A</b>
Has a drawing showing the proposed street lighting design been provided?	
Does the drawing show the location, where appropriate, of existing lighting columns to be retained or re-sited including any re-cabling required?	
Does the drawing show the location of all proposed lighting columns required within the site detailing specification manufacture and mounting height?	
Does the drawing indicate the luminaire to be utilised on each column; the manufacturer and product identity code and colour temperature?	
Does the drawing indicate the Control Pillar location including manufacturer and product identity code?	
Does the drawing indicate the location and details of all ducting itemised with varying depths including necessary earth rods/mats?	
Does the drawing show an electrical schematic diagram detailing earth fault loop impedance Volt drop and all details of wiring?	
Does the drawing indicate illuminance/luminance calculations as required?	
Does the drawing indicate any other information relative to the installation?	
Does the drawing clearly annotate which street lighting infrastructure is to be vested to and maintained either by a Private Developer/Factor or ERC Roads Service?	

Additional Drawings	Yes, No, N/A
<p>Depending on the design aspects proposed for the development, the following additional drawings would be expected to be submitted if appropriate. Please indicate if such has been provided with this Road Construction Consent application.</p>	
<p>Detailed structural design drawings will be required if bridges, retaining walls and other structures which are to be vested to and maintained by ERC Roads Service.</p>	
<p>Drawings showing roundabout horizontal design checks (in relation to TD16/93 Geometric Design of Roundabouts)</p>	
<p>Drawings showing all borehole &amp; trial pit locations</p>	

# APPENDIX

# G

## Parking Provision Audit

**Parking Provision Audit – Pro Forma**

Table G1 - Columns 1 to 8

PLOT NO	HOUSE NAME	HOUSE STYLE	NO. OF B.ROOMS	GARAGE TYPE	TYPE OF DRIVEWAY	ALLOCATED SPACES REQD.	ALLOCATED SPACES PROVIDED
<i>Note 1</i> See below	<i>Note 2</i> See below	<i>Note 3</i> See below	<i>Note 4</i> See below	<i>Note 5</i> See below	<i>Note 6</i> See below	<i>Note 7</i> See below	<i>Note 8</i> See below
1	BANFF	Detached	4	Single Integral	Double Parallel	2	2
2	PORTSOY	Detached	5	Double External	Double Parallel	3	3
3	BUCKIE	Detached	5	Single Integral	h-shaped	3	3
4	CULLEN	Semi-detached	3	None	Double Tandem	2	2

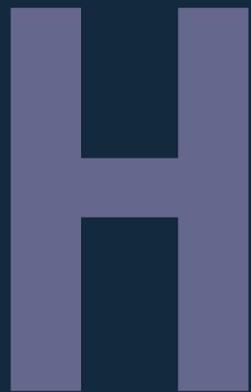
- Note 1 The plot number as represented on the associated layout plan.
- Note 2 The name of the house proposed for this plot.
- Note 3 The style of the house - (i.e. semi-detached; detached; terraced; flatted etc.).
- Note 4 The number of bedrooms associated with this house. - (including other rooms such as studies etc.)
- Note 5 The type of garage associated with this plot (i.e. none; Single Integral; Double Integral; Single External; Double External or other)
- Note 6 The type of the driveway proposed with this plot (i.e. Single Space; Double Parallel, Triple parallel; h-Shaped; Double Tandem; Triple Tandem; Courtyard; Bespoke Driveway or other)
- Note 7 Total no. of allocated parking spaces required (refer to Table 4.1)
- Note 8 Total Number of allocated parking spaces provided per plot (i.e. designated on-road; within curtilage driveway; private courtyard area or other)

Table G1 - Columns (1) + 9 to 15

PLOT NO	UNALLOCATED (VISITOR) SPACES REQUIRED	UNALLOCATED (VISITOR) PARKING SUPPLEMENT	TOTAL UNALLOCATED PARKING REQUIRED	PLOT WITHIN 30m of a SPACE	PARKING AREA or ZONE	TOTAL PARKING REQUIRED WITHIN INDIVIDUAL PARKING AREA	TOTAL PARKING PROVIDED WITHIN INDIVIDUAL PARKING AREA
<i>Note 1</i> See below	<i>Note 9</i> See below	<i>Note 10</i> See below	<i>Note 11</i> See below	<i>Note 12</i> See below	<i>Note 13</i> See below	<i>Note 14</i> See below	<i>Note 15</i> See below
1	0.5	0	0.5	Yes	A	0.5/1	1
2	0.1	0.2	0.3	Yes	A	0.3/1	0
3	0.1	0.2	0.3	Yes	B	0.3/1	0
4	0.25	0.35	0.6	No	B	0.9/1	0

- Note 9 The unallocated visitor parking required per plot type (refer to Table 4.1).
- Note 10 Unallocated (visitor) parking supplement depending on the type/layout of driveway (refer to Table 4.2).
- Note 11 Sum of unallocated parking plus unallocated supplement per unit.
- Note 12 Confirmation or not as to whether there is space(s) within 30 metres of the plot
- Note 13 Development should be divided into distinct areas/zones relative to the overall layout of the development with regards to the examination of the distribution of the unallocated parking throughout the development.
- Note 14 Total number of unallocated parking spaces required relative to the individual parking areas/zones as described in Note 13.
- Note 15 Total number of unallocated parking spaces provided relative to the individual parking areas/zones as described in Note 1.

# APPENDIX



## Variations to NRDG

**Variations to National Roads Development Guide (NRDG)**

While the ERC Good Practice Guide for Residential Development Roads (GPG) clarifies and expands on many items found within Designing Streets and the National Roads Development Guide, the following items have been identified as departures from or are unspecified within the aforementioned documents (items highlighted in orange are deemed significant variations).

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
1	Core Principles	Not applicable		ERC Core Principles when assessing the design of new roads infrastructure are Road Safety, Functionality, Serviceability, Construction & Maintenance.	Introduction P16
2	Virtual Audit Process	Not applicable		Encourage developers/ designers to self audit their proposal by virtually "walking around" their development and identifying potential risks by ask themselves pertinent questions such as would they be happy and feel safe living in this environment et-al?	Introduction P18
3	Junction spacing (new development roads to existing main roads)	Reference to Designing Streets/ DMRB	1.2	Minimum 100m (same side on a main road) Minimum 50m(on opposite sides of a main road) Absolute minimum 25m (first junction within a new development to the main road)	S1.2.2 P26
4	Minimum number of accesses to the development from existing road network	Unspecified		Two access are preferred but one will be accepted if there are significant site constraints	S1.2.3 P28
5	Junction visibility splays (new development to existing road network)	Reference to Designing Streets/ DMRB	2.2.6a	Varies depending on speed limit on main road and flow from development road but generally 2.5m x 90m for a side road flow of 40v.p.h onto a main road with speed limit of 30mph	S1.2.4 P284
6	Forward sight stopping distance on existing road network at new development junctions	Reference to Designing Streets/ DMRB	1.2	Varies depending on speed limit on main road but generally 90m on a main road with speed limit of 30mph	S1.2.5 P30

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
7	Culs-de-sac design	Where culs-de-sac are used in a layout they should terminate in turning circle. Where lack of space precludes the creation of a turning circle, turning (hammer) heads may be substituted	3.1.3	As NRDG but a hammer-head turning facility will only be considered if it has a suitable refuge area for pedestrians i.e. surrounding footway.  Hammer head turning areas will not be permitted in shared surface area.	S2.1.5 P39 S2.3.4 P49  S3.2.-3 P58
8	Number of dwellings associated with a shared driveway	Generally 5 or fewer dwellings will be served by a private access	2.1.4	Desirably two dwellings but an absolute maximum of three dwellings if safe and functional	S2.2.-1 P39
9	Number of properties that must be served from a road (private or public)	6 or more individual dwellings	2.1.4	Three or more house units or a housing courtyard serving 20 or more flatted units	S2.2.-1 P39
10	Width of footpaths in private courtyards serving properties	Unspecified		To be functional and to be considered for potential adoption such footpaths should be an absolute minimum width of 2m (2.5m desirable where overhang from parked cars is possible)	S2.2.1 P41
11	Footway transition onto shared surface carriageway	Unspecified		The transition from footways onto a shared surface must be situated in a safe and sensible location.  It is preferred that such features are not located directly at junctions.	S2.2.8 P43
12	Carriageway Widths	Widths varies	3.1.3	Generally the road width on a residential road shall be 5.5m (6m on a bus route) with local narrowings to 3.5m (where appropriate)	S3.1.1 P53
13	Road narrowings at junctions	Unspecified		No road narrowings will generally be permitted at or within 10m of a road junction	S3.1.2 P53
14	Road narrowings at driveways	Unspecified		No road narrowings will generally be permitted opposite driveways	S3.1.3 P53

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
15	Forward sight stopping distance on new residential roads	Reference to Designing Street	3.1.1	Generally 25m but relaxed to 20m on shared surface carriageways	S3.2.1 P56
16	Maximum gradients	Shared surface road maximum gradient of 8%	3.1.3	Maximum vertical gradient for internal development roads shall be 8% for a standard carriageway construction and 7% for a shared surface carriageway construction.	S3.3.1 P60
17	Maximum gradient at junctions	Gradient of road at junction with another residential road over the x-distance should not exceed 4%.	3.1.3	The gradient of the minor road on approach to a major road should not exceed 5% over the last 5m where it is rising towards the major residential road and should not exceed 4% where it falls towards the major road.	S3.3.1 P60
18	Minimum gradients	Channel gradients should not be flatter than 0.8%	3.1.3	Minimum vertical gradient for internal development roads shall be 1% for a standard carriageway construction and 1.25% for a shared surface carriageway construction.	S3.3.2 P6
19	Junction spacing (new internal development roads)	Reference to Designing Streets	2.2.6a	Junction spacing within an internal roads network should not be less than 25m (kerb to kerb). Spacing between staggered junctions within a bespoke arrangement may be reduced to 10m (kerb to kerb)	S3.4.1 P61 S3.2 P61
20	Junction styles	Reference to Designing Streets	3.1.1	Staggered or T junctions are generally preferred over 'Crossroad' junctions layout	2S3.4.2 P61
21	Standard Junction radii	Unspecified		Varies between 4.5 and 9m depending on junction hierarchy but generally either 4.5m or 6m	S3.4.3 P61

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
22	Junction to driveway spacing	Unspecified		<p>It is recommended that driveways are not located within 10m of a junction.</p> <p>Where the junction is between a residential road and main road/ core road, the minimum distance between driveway and junction on the residential road shall be 15m.</p>	S3.4.4 P64
23	Junction to parking bay spacing	Unspecified		Parking bays should be positioned at least 10m from a junction	S3.4.5 P65
24	Spacing between driveway and courtyard / private access	Unspecified		The minimum spacing between driveways and parking courtyards / private access should be 5m	S3.4-6 P65
25	Raised tables/ vertical traffic control measure designs	Unspecified		<p>The raised section of a junction table should extend at least 6m into each road leg of a junction.</p> <p>Driveways within 5m of a vertical speed control ramp should be avoided.</p>	S3.4.7 P66
26	Junction visibility splays (internal road network)	Reference to Designing Streets	3.1.1	A minimum visibility splay of 2.5m x 25m must be provided and thereafter maintained at perpetuity, at all internal road junctions	S3.5.1 P68
27	Access visibility splays (between driveways/ private accesses and internal road network)	Unspecified		A minimum visibility splay of 2.0m x 20m must be achieved between individual driveways, parking courtyards accesses and shared driveways and the adjacent carriageway	S3.5.2 P69
28	Driveway/ footway/ shared surface inter-visibility	Unspecified		A visibility splay of 2m back from the edge and 5m in either direction from the edge of driveway should be provided.	S3.5.3 P69

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
29	Parallel Parking bay sizes	Preferred bay size for cars = 5.5m x 2.9m	3.6.2	Where a parking bay is provided parallel to the carriageway, the length of the bays should be in multiples of 6m in length and 2.5m wide)	S4.1.3 P75
30	Perpendicular Parking design standards	Desirable bay size = 5.0m x 2.5m	3.6.2	Sizes of bays are per NRDG though where located of a 5.5m wide road, the nays should be set back a further 0.5m  Where vehicle overhang of an adjacent footway/ footpath is possible it is recommended that the footway/ footpath is increased in width to 2.5m	S4.1.3 P75
31	Parking Courtyards	Basic dimensions given	3.6.2	Parking bays minimum size 5m length x 2.5m width Aisle width minimum 6m Parking bays preferably at right angles to the entry/ exit aisle No end on parking at rear of entry/ exit aisle 1.2m wide hardstanding to rear and side (where appropriate) of parking bays should be provided end of entry/ exit aisle should be extended by 1.5m beyond last parking space to allow manoeuvrability out of such Kerbing alignment at the corner of end bays should have a 1m radius or 1m chamfer	S4.1.4 P77
32	Residential parking provision	1 bed unit - 1 allocated space 2-3 bed unit - 2 allocated spaces 4 bed unit - 3 allocated spaces Visitor/ unallocated spaces - 0.25 per unit	3.7 Class 9	1 bed unit - 1 allocated + 0.65 unallocated spaces 2/3 bed unit - 2 allocated + 0.25 unallocated spaces 4 bed units - either 2 allocated + 0.5 unallocated spaces or 3 allocated + 0.1 unallocated spaces 5 bed or more units - 3 allocated + 0.1 unallocated	S4.2.1 P81

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
33	Bedroom units/ Studies	Unspecified		In addition to designated bedrooms, studies and/ or other similar rooms (i.e. room space above garages) will be counted within the determination of number of bedrooms within a property.	S4.2.3 P81
34	Unallocated Parking supplements	Unspecified		<p>Double garages not perpendicular to the carriageway - additional 0.65 unallocated spaces per unit</p> <p>Tandem triple driveways - additional 0.65 unallocated spaces per unit</p> <p>Tandem double driveways - additional 0.35 unallocated spaces per unit</p> <p>h-shaped pr similar driveways including driveways with a double garage - additional 0.2 unallocated spaces per unit</p>	S4.2.5 P81
35	Garage provision and size	A garage can be counted towards a parking space allocation.	3.6.4f	<p>Integral single space vehicle garages do not count towards being an allocated curtilage space.</p> <p>Integral vehicle garages greater than 7m length x 6m width (double garage) may be considered as a single allocated space.</p>	S4.2.8 P82  S4B-7 S4.2.9 P83
36	Cycle parking provision	To be applied by the Local Authority	3.5.9	For flatted properties - minimum recommendation is two spaces per flat	S4.2.10 P83
37	Shared driveway design	Unspecified		Shared driveway accesses should be a minimum of 5m in width	S4.3.1 P84

Item	Description	Scots NRDG Standard	NRDG Ref	ERC GPG Standard	GPG Ref
38	Driveway Construction	Unspecified		Maximum gradient should not exceed 10% Driveway should be fully surfaced in either block paving or asphalt/ dense bituminous material Surface water from the driveway should not be discharged onto the (prospectively) public road Gates must not set back and not interfere with movements on the adjacent footway/ carriageway.	S4.3.1 P85
39	Driveway Length	Unspecified		Absolute minimum single vehicle length 6.0m (6.4m if access path is required at rear) Absolute minimum double vehicle (tandem) length 11m (11.9m if access path is required to rear)  Driveway length increased by modules of 5.5m for every additional vehicle	S4.3.2 P85
40	Tandem Parking	Tandem parking should be discouraged	3.6.4i	Tandem driveways would be supported in the right circumstances but will not be accepted in areas where there is local road narrowing, within junction nodal points and / or where there significant changes in horizontal alignment.	S4.3.2 P87

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## **Acknowledgement**

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