WYG Transport Planning

Barrow Borough Council

Stoneleigh Close, Barrow-in-Furness

Technical Note

RT101247-1

WYG
Executive Park
Avalon Way
Anstey
Leicester
LE7 7GR

April 2017

Copyright © WYG EPT Ltd 2017

REPORT CONTROL

Project:	Stoneleigh Close, Barrow-in-Furness
Client:	Barrow Borough Council
Job Number:	A101247
File Origin:	N:\Projects\A101247 - Stoneleigh Close, Barrow in Furness\reports\A101247 - Stoneleigh Close Transport Note.docx

Document Checking:

Primary Author	Rob Holland	Initialled:	RJH

Contributor	-	Initialled:	-

Review By	Alistair Gregory	Initialled:	ASG

Issue	Date	Status	Checked for Issue
1	24 Feb 2017	Draft	ASG
2	03 April 2017	Final Draft	ASG
3	06 April 2017	Final	ASG
4			

Contents

1 Introduction

1.1.1 WYG has been appointed by Barrow Borough Council to undertake a desk-based assessment of the suitability of land at the end of Stoneleigh Close, Barrow-in-Furness for a residential development of approximately 20 dwellings. This assessment covers transport and highways issues. The site location is shown in **Figure 1**.

Figure 1 – Site Location

1.1.2 The content of this report is as follows:

- Chapter 2 summarises existing conditions on Stoneleigh Close.
- Chapter 3 calculates trip generation for a 20 dwelling development.
- Chapter 4 assesses development impact.
- Chapter 5 concludes the report.

2 Existing Conditions

2.1 STONELEIGH CLOSE

2.1.1 Stoneleigh Close is a cul-de-sac with an existing carriageway width of approximately 5.5m and serves 16 detached dwellings. Stoneleigh Close is accessed via Rating Lane and both roads have a 30mph speed limit. A footway is located adjacent to the northern side of the Stoneleigh Close. The full width of Stoneleigh Close is adopted public highway.

2.2 DESIGN GUIDANCE

2.2.1 Cumbria County Council (CCC) in their capacity as the Local Highway Authority have confirmed that their current design guidance is titled 'Layout of New Residential Developments' and dated December 1996. However, a new design guide document titled 'Cumbria Design Guide' has been prepared in draft form and is due to be consulted on in March 2017. The 1996 guidance document is not based on the latest national guidance contained in the Manual for Streets and the Manual for Streets 2 and as such, is now outdated in its approach. The 'Cumbria Design Guide' has been substantially informed by these national documents and is considered the appropriate guidance to refer to for the purpose of this Technical Note, particularly as the intention is for CCC to adopt the Cumbria Design Guide in due course.

2.2.2 Using the information in the Cumbria Design Guide, Stoneleigh Close has some of the characteristics of a 'Primary Street' and some of the characteristics of a 'Secondary Street'. The characteristics of both street types are shown in **Table 1** and both allow for Stoneleigh Close to serve more than 16 dwellings. It is worth noting that there are a number of roads of a similar type to Stoneleigh Close that are accessed from Rating Lane and serve more than the 16 dwellings currently on Stoneleigh Close.

Table 1: Cumbria Design Guide Street Types

Primary Street	Secondary Street
Links other roads which in combination give access to in excess of 300 dwellings if more than two access points are provided.	Up to and including 300 dwellings.
20mph (maximum) target speed.	20mph (maximum) target speed.
Footway width: 2000mm (both sides of carriageway).	Footway width: 2000mm.
Carriageway width: Assume 5500mm (6000mm if bus route, widening to 6750mm if on-street parking is to take place).	Carriageway width: 4800mm (3700mm minimum and only at non-access frontages) – provide passing places every 40m where width is reduced.
Largest vehicle: HGV.	Largest vehicle: Pantechnicon (removals vehicle).
Direct access to dwellings served by existing roads are permissible if speeds are within a 30mph limit.	Direct access to dwellings permissible if speeds are within a 30mph limit.
Limited on-street residential and visitor parking to be designed into the layout.	Limited on-street residential and visitor parking to be designed into the layout.

2.3 VEHICLE SWEPT PATHS

2.3.1 Drawing A101247-35-18-002 shows vehicle swept paths along Stoneleigh Close and also at the Stoneleigh Close/Rating Lane junction. A large car, refuse vehicle and pantechnicon have been used.

2.3.2 The drawing demonstrates that the existing Stoneleigh Close carriageway is wide enough for two large cars to travel in opposing directions along the full length of Stoneleigh Close. Refuse vehicles and pantechnicons would be required to cross onto the opposite side of the carriageway to the direction they are travelling when negotiating the bends in the carriageway. Given the infrequent nature of these movements and the low speed/lightly trafficked nature of Stoneleigh Close, this is considered to be acceptable and typical of such an environment.

2.3.3 At the Rating Lane/Stoneleigh Close junction, left turn movements in and out of the junction have been considered. This is because left turn movements are more onerous than right turn movements. Large cars are able to turn in and out of Stoneleigh Close without entering the

opposite side of the carriageway of either Rating Lane or Stoneleigh Close. Refuse vehicles are required to enter the opposite side of Stoneleigh Close when turning left in but do not enter the opposing side of the carriageway for any other movements at the junction. Pantechnicons are required to enter the opposite side of Stoneleigh Close when turning left in and are also required to enter the opposite side of Rating Lane when turning left out. Given the infrequent nature of these movements, this is considered to acceptable and typical of such an environment. The same situation is likely to apply at other existing junctions off Rating Lane serving more dwellings than Stoneleigh Close.

3 Trip Generation

3.1 TRIP RATES

3.1.1 Trip generation for a development of 20 residential dwellings has been estimated using the online version of the TRICS database. Multi-modal trip rates have been used with the trip rate for each mode being obtained separately. Trip rates for the residential land use were obtained using trip rates for 'Houses Privately Owned'. Trip rates for 'Houses Privately Owned, are higher than for other residential types in the TRICS database and therefore provide a robust estimate of future trip generation. At this stage (i.e. prior to understanding dwelling types), this is considered to be the most appropriate approach to take.

3.1.2 Trip rates have been obtained for the periods 08:00-09:00 and 17:00-18:00 hrs. These periods are the peak periods for 'Houses Privately Owned'. A summary of the weekday AM and PM peak hour trip rates as well as daily trip rates are shown in **Table 2.**

Table 2: Peak Hour Trip Rate (Per Dwelling)

Mode	AM			PM		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	0.146	0.368	0.514	0.319	0.184	0.503
Taxis	0.004	0.004	0.008	0.003	0.002	0.005
OGVs	0.004	0.003	0.007	0.001	0.001	0.002
PSVs	0.000	0.000	0.000	0.000	0.000	0.000
Cyclists	0.002	0.017	0.019	0.017	0.008	0.025
Vehicle Occupants	0.183	0.535	0.718	0.414	0.238	0.652
Pedestrians	0.048	0.180	0.228	0.095	0.047	0.142
Public Transport Users	0.002	0.010	0.012	0.011	0.003	0.014
Total People	0.235	0.742	0.977	0.536	0.296	0.832

3.2 TRIP GENERATION

3.2.1 Using the trip rates presented in **Table 2** the estimated trip generation for a 20 dwelling development is summarised in **Table 3**.

Table 3: Peak Hour Trip Generation

Mode	AM			PM		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	3	7	10	6	4	10
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	0	0	0	0	1
Vehicle Occupants	4	11	14	8	5	13
Pedestrians	1	4	5	2	1	3
Public Transport Users	0	0	0	0	0	0
Total People	5	15	20	11	6	17

3.2.2 As demonstrated in **Table 3** the estimated trip generation of a 20 dwelling development is minimal.

4 Development Impact

4.1 INTRODUCTION

4.1.1 This Chapter considers the impact of a 20 dwelling development in terms of:

- Existing road alignment
- Highway impact
- Road Safety

4.2 EXISTING ROAD ALIGNMENT

4.2.1 As outlined in **Section 2.2** the width of Stoneleigh Close is such that it has some of the characteristics of a 'Primary Street' and some of the characteristics of a 'Secondary Street'. Roads with a width of 5.5m can accommodate a much greater volume of traffic than the volume of traffic associated with the existing number of dwellings on Stoneleigh Close. The width of Stoneleigh Close is therefore suitable for providing access to an additional 20 dwellings.

4.2.2 One of the bends in Stoneleigh Close has a tight radius. This is not considered to be a constraint to further development (and increased traffic) accessed via Stoneleigh Close. The Cumbria Design Guide encourages the use of bends of this nature as a means of calming traffic.

4.3 HIGHWAY IMPACT

4.3.1 As outlined in **Table 3**, the increase in trips as a result of a 20 dwelling development would be minimal. Stoneleigh Close has sufficient width to accommodate such an increase. The Rating Lane/Stoneleigh Close junction does not have any existing capacity issues and would be able to accommodate an additional 20 dwellings. It is considered that Stoneleigh Close could accommodate trip generation from more than 20 dwellings but the site area will limit the scale of development before transport and highway reasons do.

4.3.2 The scale of development being considered for the site is such that the highway impact of the development would require no further consideration beyond the Rating Lane/Stoneleigh Close junction as part of any planning application.

4.4 ROAD SAFETY

4.4.1 There have been no recorded personal injury accidents on Stoneleigh Close or at the Rating Lane/Stoneleigh Close junction during the last 5 years (2012 – 2016). The modest increase in traffic expected as a result of a development of 20 dwellings would not therefore contribute to any existing road safety problems.

4.4.2 In addition to consideration of recent accidents on Stoneleigh Close, a road safety review of the alignment of Stoneleigh Close and its junction with Rating Lane has been undertaken following the general principles and approach taken in a formal Road Safety Audit. This approach seeks to identify any issues with the existing layout that would require improvement in order for a 20 dwelling development to be acceptable in road safety terms.

4.4.3 Stoneleigh Close has a consistent carriageway width and whilst the alignment is such that forward visibility is restricted in places, this is in accordance with the guidelines in the draft Cumbria Design Guide and national guidance in the Manual for Streets and Manual for Streets 2. The presence of a speed reducing bend is considered a positive factor in this instance as it should assist in reducing vehicle speeds. The alignment of Stoneleigh Close is not therefore considered to be a road safety issue and there is no road safety reason to suggest that the alignment of Stoneleigh Close means it cannot accommodate the minimal increase in traffic associated with an additional 20 dwellings.

4.4.4 It is noted that there are a number of trees located in the verge adjacent to Rating Lane. These may restrict visibility for drivers of vehicles exiting Stoneleigh Close. Although the increase in traffic from an additional 20 dwellings would be minimal, the Local Highway Authority may consider the increase to be such that the impact of trees on visibility splays becomes a concern. There may therefore be a requirement for the two nearest trees to the junction to be removed. This being said, the trees are unlikely to restrict visibility completely as there are gaps between the trees. If there were no trees present, good visibility would be available in both directions from Stoneleigh Close. The trees appear to be mature trees and as such, any removal would be subject to checking their status.

4.5 CONCLUSION

4.5.1 Other than a possible requirement to remove a couple of trees (subject to checking their status) on Rating Lane in the vicinity of its junction with Stoneleigh Close, the development impact of an additional 20 dwellings on Stoneleigh Close is not considered to require any further mitigation.

There are no issues with the existing road alignment or road safety to indicate that Stoneleigh Close cannot accommodate an additional 20 dwellings.

4.6 FUTURE SITE LAYOUT

4.6.1 In order to accommodate an additional 20 dwellings Stoneleigh Close could be extended, maintaining its existing width into the site, with a footway provided adjacent to one side of the carriageway.

4.6.2 Alternatively, a development comprising an additional 20 dwellings could be served from a shared surface street.

5 Summary

5.1.1 This report has been prepared to assess the suitability of land at the end of Stoneleigh Close, Barrow-in-Furness for a residential development of approximately 20 dwellings.

5.1.2 Stoneleigh Close is a cul-de-sac with an existing carriageway width of approximately 5.5m and serves 16 detached dwellings. Stoneleigh Close is accessed via Rating Lane and both roads have a 30mph speed limit. A footway is located adjacent to the northern side of the Stoneleigh Close. The full width of Stoneleigh Close is adopted public highway.

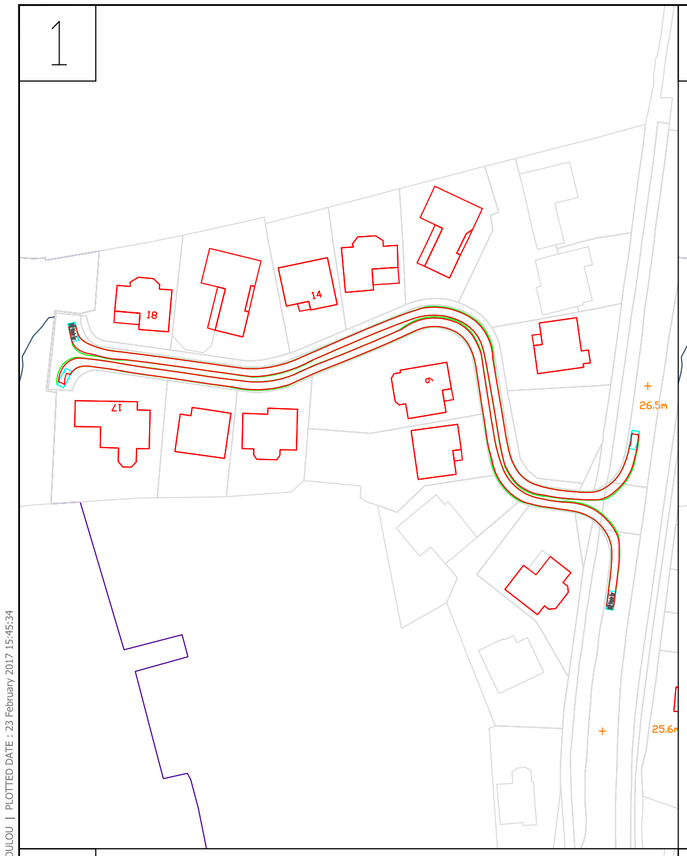
5.1.3 Using the information in the Cumbria Design Guide, Stoneleigh Close has some of the characteristics of a 'Primary Street' and some of the characteristics of a 'Secondary Street'. Both street types allow for Stoneleigh Close to serve more than 16 dwellings. Stoneleigh Close has a consistent carriageway width and whilst the alignment is such that forward visibility is restricted in places, such an alignment is encouraged in the draft Cumbria Design Guide and national guidance in the Manual for Streets and Manual for Streets 2. The presence of a speed reducing bend is considered a positive factor in this instance as it should assist in reducing vehicle speeds and improving safety.

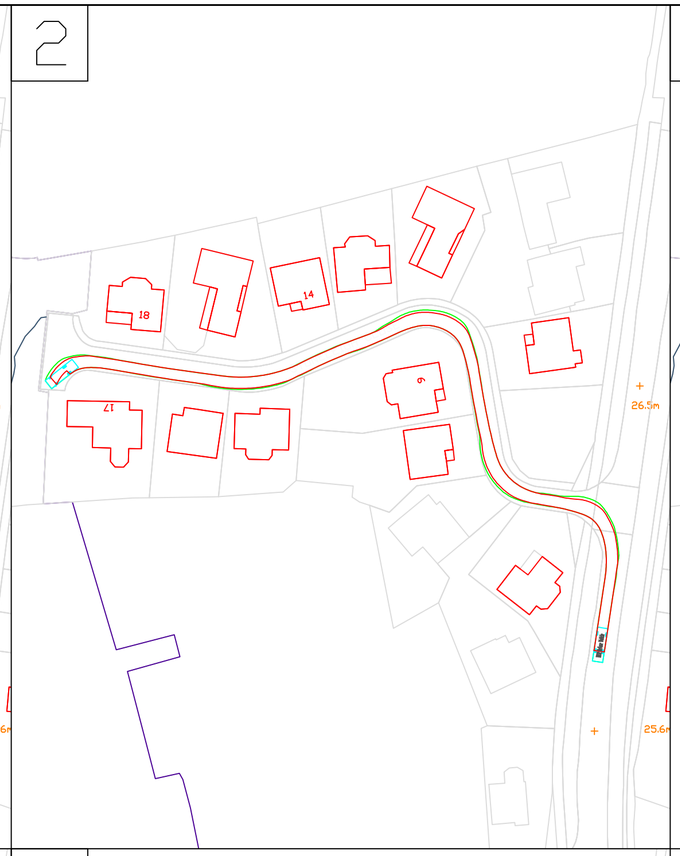
5.1.4 There are a number of roads of a similar type to Stoneleigh Close that are accessed from Rating Lane and serve more than the 16 dwellings currently on Stoneleigh Close.

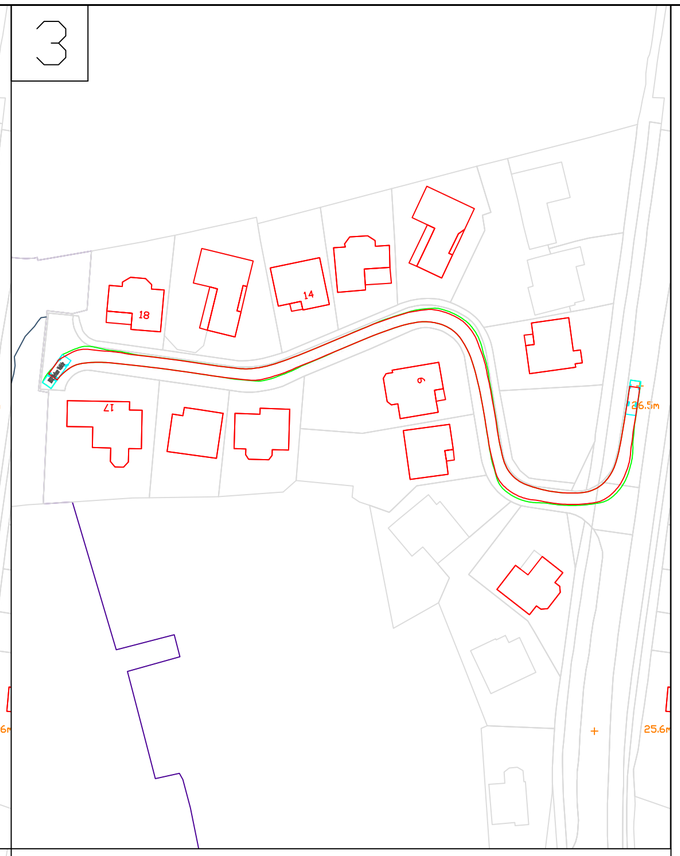
5.1.5 The estimated trip generation for a 20 dwelling development is minimal. Other than a possible requirement to remove a couple of trees (subject to checking their status) on Rating Lane in the vicinity of its junction with Stoneleigh Close, the development impact of an additional 20 dwellings on Stoneleigh Close is not considered to require any further mitigation. There are no issues with the existing road alignment or road safety to indicate that Stoneleigh Close cannot accommodate an additional 20 dwellings. It is considered that Stoneleigh Close could accommodate trip generation from more than 20 dwellings but the site area will limit the scale of development before transport and highway reasons.

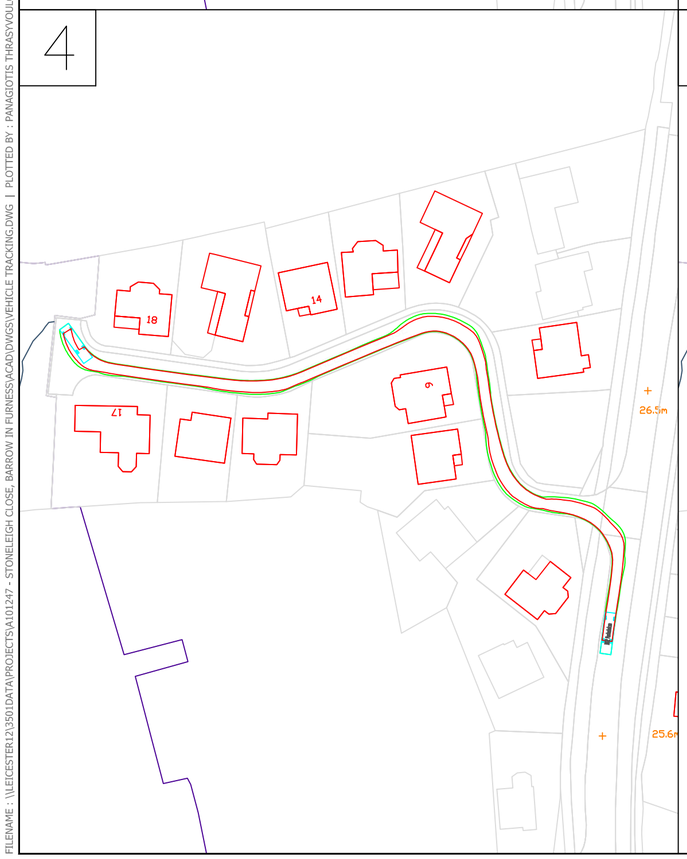
5.1.6 In order to accommodate an additional 20 dwellings Stoneleigh Close could be extended, maintaining its existing width into the site, with a footway provided adjacent to one side of the carriageway. Alternatively, a development comprising an additional 20 dwellings could be served from a shared surface street.

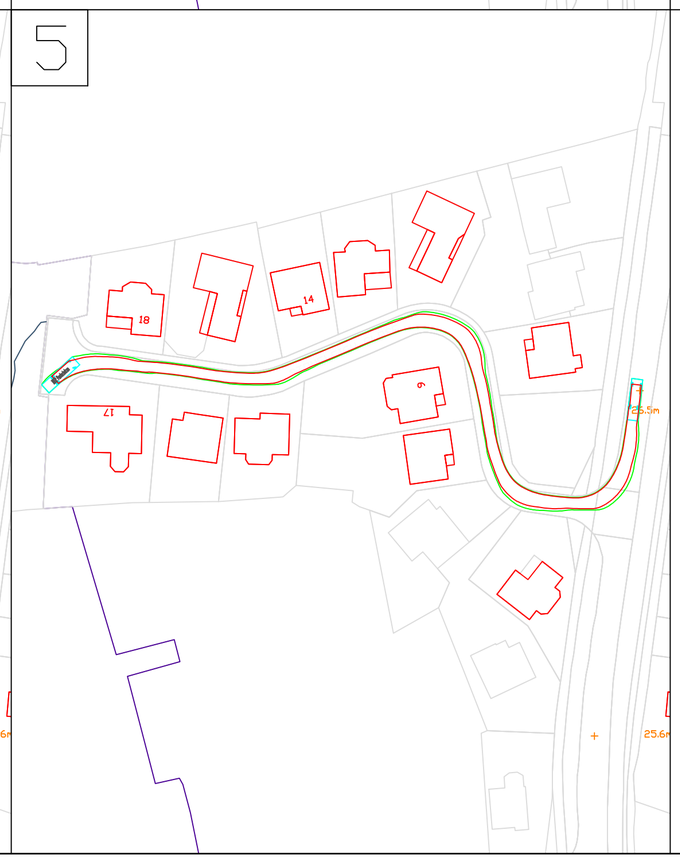
Drawing A101247-35-18-002











DO NOT SCALE: CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ANY OMISSIONS OR ERRORS

KEY:

VIEW 1: DB32 PRIVATE CAR

VIEW 2 & 3: DB32 REFUSE VEHICLE

VIEW 4 & 5: DB32 PANTECHNICON

REV	DESCRIPTION	BY	CHK	APP	DATE

Client:

Barrow Borough Council

EXECUTIVE PARK
AVALON WAY
ANSTEY
LEICESTER
LE7 7GR
TEL: +44 (0)116 234 8000
FAX: +44 (0)116 234 8001
e-mail: leicester@wyg.com

Project:

Stoneleigh Close, Barrow in Furness

Drawing Title:

Vehicle Tracking

Scale @ A2	Drawn Date	Checked Date	Approved Date
1:1000	PT 23/02/17	RJH 23/02/17	RJH 23/02/17

Project No.	Office	Type	Drawing No.	Revision
A101247	35	18	002	

© WYG Group Ltd.

FILENAME - \\LEICESTER1\2\350\DATA\PROJECTS\A101247 - STONELEIGH CLOSE, BARROW IN FURNESS\ACAD\DWGS\VEHICLE TRACKING.DWG | PLOTTED BY - PANAGIOTIS THRASYVOULOU | PLOTTED DATE - 23 February 2017 15:45:34