Springfield, Linlithgow
Proposed Residential Development
Transport Statement

April 2014

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1. INTRODUCTION

Background

1.1 Transport Planning Ltd has been appointed by CALA Homes Ltd to advise on transport related issues associated with the proposed development of a site located south of the A803 (Blackness Road), Springfield, Linlithgow.

1.2 The site is bounded to the north by the A803 and to the east, south and west by existing residential developments.

1.3 Development of the site is likely to consist of up to 50 residential dwellings.

1.4 Figure 1 in Appendix A illustrates the sites location whilst a site layout plan prepared by CALA Homes Ltd is also included in Appendix A.

Report Content

1.5 On 27th March 2014, Transport Planning Ltd. met with West Lothian Council to discuss the scope of this assessment. Broad agreement was reached over the approach to the study area extents and report content.

1.6 The assistance of West Lothian Council transportation during scoping is acknowledged.

1.7 Particular issues raised during scoping covered the following items which are discussed in this report:

- pedestrian and cycle links around the site;
- the extent of the study area for traffic;
- the methodology to estimate generated traffic;
- assessment and layout of the site access; and
- the requirement to provide a Transport Statement and not a full Assessment as the proposal is for up to 50 dwellings, some way under the formal Assessment threshold of 100 dwellings.

1.8 This Transport Statement therefore considers the application site in terms of its accessibility and in line with the nationally established hierarchy of travel modes. It considers:

- accessibility by foot, cycle and public transport;
- traffic generation; and
- form and operation of vehicular access.
2. **ACCESSIBILITY**

**Introduction**

2.1 This Chapter provides an overview of the current accessibility and public transport provision at the application site. Each mode of transport will be discussed in accordance with the hierarchy of modes established in SPP (Paragraph 169 – ‘Opportunities for personal travel should be prioritised by mode in the following order – walking, cycling, public transport, car and other motorised vehicles’).

**Pedestrians and Cyclists**

2.2 The main pedestrian routes surrounding the application site have been assessed with the Government’s ‘Transport Assessment Guidance’ publication in mind. This suggests that an appropriate pedestrian catchment can be established using journey times of 20 – 30 minutes.

2.3 The overall title of pedestrian covers fit and able bodied people, disabled people, with or without the use of wheelchairs, the infirm, the elderly and those who have children in push-chairs or buggies. The following sections and paragraphs will deal with pedestrian access and will concentrate on external routes and linkages adjacent to the applicant site, with consideration being given to the different groups that make up ‘pedestrians’.

2.4 The proposed development will involve pedestrians making the return trip to or from e.g. work, the town centre, bus stops, schools etc. A walking distance of 1,600m (20 minutes) to reach local facilities is considered within Planning Advice Note 75 and this distance takes in almost the entire eastern area of Linlithgow as shown in the accessibility diagram produced as Figure 2 of Appendix A.

**Connections to external path network**

2.5 The site is bounded by the A803 Blackness Road which affords onward footway connections west towards the town centre. The site can connect with the existing footway.

2.6 The west of the site is bounded by the lane that leads from the A803 to the small housing development at Springfield Grange. The development is able to provide informal connections to the existing lane at two points:

- At the southern end of the site, access can be gained to the Springfield Grange lane (which effectively acts as a shared surface). The lane permits onward connections southwards to the wide network of paths that currently exist in the Springfield area affording connections with e.g. local shops and Springfield Primary School.
Springfield Grange access – site on right

Connection to Springfield path network
Springfield path network

Springfield path network
At the northwest of the site, opportunities exist to create a link westwards to Grange Knowe and this, in turn, also affords links at its southern end to the Springfield path network.

2.7 The wider Springfield area contains a network of permeable walk and cyclable pathways that afford links towards *inter alia*:

- Springfield Primary School / Bonnytoun Nursery and Springfield Community Wing;
- Barons Hill and hence the railway station and Regent Centre; and
- local shopping at Springfield Court.

2.8 Figure 2 in Appendix A illustrates that the site also lies within an area populated by several core paths.

2.9 These core paths offer additional linkages and recreational opportunities, in particular the Linlithgow Loch Circular and the Union Canal Water Path.

2.10 The Union Canal path offers a good quality cycle opportunity linking Linlithgow with Edinburgh City Centre to the east and Falkirk to the west.

2.11 In consultation leading up to the application, residents have raised a pathing issue and that relates to the condition of the existing path that leads westwards from Grange Knowe / south of the A803. The applicants have confirmed they would be willing to make a financial contribution towards the surfacing of this link.
Path for upgrading contribution lies to right of treeline – carriageway is Grange Knowe

**Schools**

2.12 Springfield Primary School lies within walking distance of the site and is the catchment primary. The school catchment plan is included in Appendix A.

2.13 West Lothian Council provide school transport for secondary pupils if their walk to school is outside a 2 mile threshold. Linlithgow Academy lies within this threshold. The secondary catchment plan is also included in Appendix A.

**Public Transport Access**

**Bus service provision**

2.14 Springfield Road, to the east of the site, carries several bus stops affording onward travel to Linlithgow, with occasional services calling at Blackness and Bo’ness.

2.15 The location of the closest bus stops (within 400m) is shown in Figure 2 (Appendix A). The frequency of bus routes at the time of writing is summarised in Table 2.1.

<table>
<thead>
<tr>
<th>Service</th>
<th>Route</th>
<th>Typical Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Linlithgow Town Service</td>
<td>30 mins</td>
</tr>
<tr>
<td>49</td>
<td>Linlithgow – Bo’ness</td>
<td>120 mins</td>
</tr>
</tbody>
</table>

2.16 Further services including First’s flagship 38 service are available close to the Regent Centre.
2.17 The existing town service operates within Springfield on a clockwise loop, meaning the bus to town passes the site heading east, before turning right into Springfield. As part of the site access provision, it is proposed to provide a double D island crossing point on the A803 (similar to those that already exist) and associated bus stop on the north side of the road.

_Rail provision_

2.18 Linlithgow railway station lies on the Edinburgh – Glasgow and Edinburgh – Dunblane lines with typical service provision of 4 services per hour in each direction.

2.19 Park and ride is available at four locations:

- the station car park;
- the station (adjacent to TESCO) car park;
- sports club car park; and
- on street.

2.20 Spaces for park and ride in the car parks closest to the station are available until around 0800 and spaces at the sports club car park can generally be found throughout the day.
3. **TRAFFIC GENERATION**

**Existing Road Network**

*Blackness Road*

3.1 Blackness Road is a single carriageway road locally connecting Linlithgow with the M9 at Burghmuir junction. Where it passes the site, Blackness Road lies within a 40mph zone, though this changes to 30mph farther to the west of the site.

3.2 Classified junction surveys at Springfield Road (east end) / A803 have been carried out.

3.3 The weekday AM and weekday PM peak periods have been extracted from these junction surveys. The weekday AM network peak hour period was found to occur between 0745 and 0845 with the weekday PM peak hour found to occur between 1545 and 1645.

3.4 The turning movements at the junction (plus those passing the site) during these two peak hours are shown in Diagrams 1a&b respectively (Appendix B). The 2014 traffic count data was fully classified by vehicle type, with HGVs and PCVs shown in
Diagrams 2a&b (Appendix B). This has allowed the count data to be converted into standard Passenger Car Units (PCU’s) for the purposes of assessment as shown in Diagrams 3a&b (Appendix B).

**Years of assessment and traffic growth**

3.5 The Government publication ‘Transport Assessment Guidance’ notes at para 2.9 the following:-

- *The assessment years will be year of opening or completion for developments with short construction periods (say up to 2 years), and year of opening (or first full year) plus year of completion for developments which are phased over 3 or more years.*

- *No future year transport growth will be applied beyond year of opening or first year of assessment. The assumption is that any growth prior to opening year should apply since nothing is being done as a consequence of the development to influence this, but that beyond that time the emphasis should be on the applicant/developer addressing the impacts of their additional transport movements and ensuring that measures are in place to deal with those specific impacts.*

3.6 The practical consequence of that advice is that traffic growth will be applied to surveyed background flow up until the year of opening of the development and then development traffic will be added to that to establish the traffic profile for junction testing for the complete development.

3.7 The only circumstances that would warrant interim capacity testing would be if junction upgrades were proposed to be developed on a phased basis and that is not the case at this site.

3.8 The year of opening could be 2015, but for onerous testing an additional years’ worth of traffic growth (i.e. opening 2016) has been assumed.

**Traffic growth**

3.9 Traffic growth is linked to the economy and an element of this is directly attributable to the likelihood of future development within the surrounding area. Due to the nature of the adjacent area, the National Road Traffic Forecasts (NRTF) ‘Low’ growth factor, obtained from the Department of the Environment, Transport and the Regions, is considered appropriate and will be used to predict future background traffic levels on the local road network for the future year of opening. The ‘low’ growth factor between the years of 2014 and 2016 corresponds to an overall growth factor of approximately 1.036% and this has been applied to the 2014 flows to give 2016 predicted traffic flows.

**Traffic generation**

3.10 Arising from the scoping discussions, it was requested that an estimate of the likely traffic generation associated with the development be provided. Agreement was reached on the surveying of a similar area to establish likely trip generation and travel patterns at the site.
Residential area traffic survey

3.11 A traffic survey of the Grange Knowe / Grange View area has allowed vehicular trip rates to be established for the 68 privately owned residential properties accessed via Grange Knowe, as shown in Table 3.1 below.

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Weekday AM Peak</th>
<th>Weekday PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arrive</td>
<td>Depart</td>
</tr>
<tr>
<td>Car Driver (Grange Knowe / View)</td>
<td>0.117</td>
<td>0.382</td>
</tr>
</tbody>
</table>

3.12 The trip rates above were then used to illustrate the likely trip generation of up to 50 dwellings on the application site. These trips (distributed as per the existing split of trips at Springfield Road) have been allocated to the network as shown in Diagrams 5a&b (Appendix B).

3.13 Applying that surveyed trip rate information to a development of 50 dwellings would result in the vehicle trips shown in Table 3.2 below:

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Weekday AM Peak</th>
<th>Weekday PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arrive</td>
<td>Depart</td>
</tr>
<tr>
<td>Car Driver</td>
<td>6</td>
<td>19</td>
</tr>
</tbody>
</table>

Design year projected traffic flows

3.14 The trips associated with the proposed residential development have then been added to the 2016 projected traffic flows to create design year total traffic flows for the weekday AM and PM peak periods. The total design year traffic flows are shown in Diagrams 6a&b (Appendix B).

Junction analysis

3.15 The performance of the site access and the Springfield Road / A803 junctions has been measured using three standard outputs for the transport research laboratory traffic analysis program PICADY - Ratio of Flow to Capacity (RFC), Maximum Queuing (Q) and Inclusive Queuing Delay (IQD).

3.16 Where possible, geometric parameters of the junctions were measured on-site, with the physical layouts confirmed by OS mapping.

3.17 The output files for the PICADY 5.0 assessments are included in electronic format within Appendix C.

3.18 The scenarios that have been tested are as follows:

1. Design year weekday AM Peak projected + proposed residential development
2. Design year weekday PM Peak projected + proposed residential development
Springfield Road/ A803 priority junction

3.19 The layout of this priority junction is shown in Sketch TP180/SK/001 (Appendix D). Table 3.2 below summarises the PICADY results for scenarios 1 and 2.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>A803 (east)</th>
<th>Springfield Road</th>
<th>A803 (west)</th>
<th>Incl Queuing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RFC (pcu)</td>
<td>Queue (min/pcu)</td>
<td>Delay (min/pcu)</td>
<td>RFC (pcu)</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.491</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.264</td>
</tr>
</tbody>
</table>

3.20 The assessment indicates that the junction operates satisfactorily during the weekday morning and evening peak periods with a maximum RFC of 0.491 and a 1 vehicle queue occurring on the Springfield Road approach.

Site Access/ A803 priority junction

3.21 The form of the proposed access junction is discussed in the next section of this report.

3.22 The indicative layout of the proposed priority junction is shown in Sketch TP180/SK/002 (Appendix D). Table 3.3 below summarises the PICADY results for scenarios 1 and 2.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>A803 (east)</th>
<th>Site Access</th>
<th>A803 (west)</th>
<th>Incl Queuing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RFC (pcu)</td>
<td>Queue (min/pcu)</td>
<td>Delay (min/pcu)</td>
<td>RFC (pcu)</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.046</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.022</td>
</tr>
</tbody>
</table>

3.23 The assessment indicates that the junction operates satisfactorily during the weekday morning and evening peak periods with a maximum RFC of 0.046 and a 0 vehicle queue occurring on the site access approach.
4. FORM OF VEHICULAR ACCESS

Roundabout

4.1 CALA originally asked that a roundabout located at the existing priority junction of Springfield Road with the A803 be considered for access to the site.

4.2 We understand that this request arose from community comments relating to the performance of the existing junction, passing vehicle speeds and the ability to enable access into the fields to the north of the A803 for future development purposes.

4.3 In relation to the operation of the existing junction, the capacity threshold ‘ratio of flow to capacity’ (the point where capacity issues begin to reveal themselves) occurs when the RFC reaches 0.85. The previous section of this report illustrates that the maximum RFC in any scenario tested reaches 0.491, well within the capacity threshold.

4.4 Vehicle speeds passing the site were obtained over a period of seven days (15th to 21st March) through the use of an automatic counter. The data obtained showed that the eastbound 85th percentile recorded speed was 46.4mph whilst the westbound 85th percentile was recorded as 41.3mph.

4.5 Mean speeds were recorded as 41.7mph and 37.2mph respectively.

4.6 The posted limit is 40mph, however the available sightlines at the existing junction at Springfield Road exceed those that would be appropriate for passing traffic speeds of 50mph (as do those at the proposed site access).

4.7 From the available speed data and the available geometry, there is no reason to provide a roundabout to interrupt traffic flow. The available geometry exceeds that which would be appropriate for the recorded passing speeds.

4.8 Finally, the suggestion has been made that a roundabout could be located at Springfield Road (east) which would enable site access to the application site whilst protecting access to the fields to the north. The practical consequence of that would be to provide a roundabout capable of being five leg, with three legs (A803 west / Springfield Road and the site access) located within a 90 degree quadrant of the roundabout.

4.9 Owing to minimum criteria requirements for turn in / turn out radii, that would drive the size of the roundabout upwards to accommodate suitable geometry. To contextualise this, the current width of the main A803 carriageway at Springfield Road is 10.6m. The last five leg roundabout that Transport Planning was directly involved in the provision of is 44m in diameter (Sainsbury’s Kelso).

4.10 The scale of the solution would unnecessary and completely out of proportion to the scale of development proposed.
Priority Junction

4.11 The proposed access solution is relatively simple. Sketch TP180/SK/002 in Appendix D illustrates how, with a minor degree of realignment of the existing kerbline in front of the site, development of the site would see the layout of the A803 (Blackness Road) reconfigured around the point of access to widen the existing hatching into a ghost island and allow a right turn facility similar to the access into the nearby Springfield Grange and Springfield Road.

4.12 The new access location is shown indicatively and retains a degree of flexibility in its final east / west location as sufficient frontage and junction spacing (and sightlines) exist to enable this to become a detail of the eventual Roads Construction Consent application.

4.13 From the point of view of possible future roundabout provision at Springfield Road, the site access junction location meets spacing criteria with the existing Springfield Road junction and it does not therefore prevent the later provision of a four leg roundabout should the site opposite be developed. A four leg roundabout would be far less space hungry than a five leg junction and the development proposal therefore takes simple access to the site whilst enabling the roundabout location to be protected should it be delivered in the future.

Existing double D island at Springfield Road
Existing right turn slot into Springfield Grange

Rightward visibility from approximate position of new site access
Leftward visibility from approximate position of new site access
5. SUMMARY AND CONCLUSION

Summary

5.1 Transport Planning Ltd has been appointed by CALA Homes Ltd to advise on transport related issues associated with the proposed development of a site located south of the A803 (Blackness Road) Springfield, Linlithgow.

5.2 The site is bounded to the north by the A803 and to the east, south and west by existing residential developments.

5.3 Development of the site is likely to consist of up to 50 residential dwellings.

5.4 This Transport Statement examines sustainable transport with a view to maximising the developments access to walking, cycling and public transport opportunities.

5.5 The Statement also examines the form of the site access.

5.6 The site is accessible by non-car modes with direct opportunities to connect with existing foot, cycle and bus networks available.

5.7 Road access can be taken from the A803 (Blackness Road) through provision of a simple T-junction and extension of existing ghost island arrangements.

Conclusion

5.8 This report has assessed the transport issues surrounding the development site and it is concluded that there are no transport accessibility reasons why the site should not be developed.
APPENDIX A

Figure 1 - Site Location Plan

Site Layout Plan

Figure 2 – Wider Accessibility Plan

School Catchment Plans