The Parish Council of Leckhampton with Warden Hill

Cheltenham, Gloucestershire

Clerk: Mrs A.J.Winstone, 7 Aldershaw Close, Up Hatherley, Cheltenham, GL51 3TP
tel. 01242 518008 email – leckwardenhillpc@btinternet.com

Mr M Redman
Director Built Environment
Cheltenham Borough Council
Municipal Offices
Promenade
Cheltenham
GL50 9SA

27 February 2014

Dear Mr Redman,

Reference: Planning Application 13/01605/OUT by Bovis Homes and Miller Homes to build up to 650 new homes on land at Leckhampton

Response from Leckhampton with Warden Hill Parish Council

The Council objects very strongly to the application on the following grounds:

1. **Conflict with Cheltenham Local Plan**. The application is contrary to the existing, valid Cheltenham Local Plan (2nd review 2006) and it runs counter to the intention of the Local Plan in its specific policy on the land at Leckhampton in which Cheltenham Borough Council supported the conclusion of the Inspector that the intrinsic value of the land should be protected as a resource for its recreational, landscape, wildlife and archaeological interest. These issues have been well explained in the objections dated 9 January lodged by Martin Horwood, MP for Cheltenham.
2. **Pre-emption of JCS.** The application attempts to pre-empt the current process of consultation and refinement of the emerging Joint Core Strategy. The inclusion in the draft JCS of strategic developments on the land at Leckhampton is highly controversial. It was based on incorrect projections for population and employment growth and apparent ignorance of the very serious implications for traffic congestion and pollution, as explained in the Council's submission to the JCS Consultation attached at Appendix 2. The applicants seek to use the current shortfall in the housing land supply to justify early determination. But, as is well argued in the submission by Lufton and Associates, Chartered Planning Consultants, dated 28 October 2013, there is no immediate pressure on Cheltenham Borough Council to permit this application just to address the current short-term housing supply requirements; a positive determination at this time when the JCS is being refined would be contrary to the first core planning principle at paragraph 17 of the NPPF.
3. **Conflict with Neighbourhood Plan and Local Green Space Application.** The application is contrary to the emerging Neighbourhood Plan as described in the Neighbourhood Planning Concept that was submitted to Cheltenham and Tewkesbury Borough Councils in August 2013 by Leckhampton with Warden Hill Parish Council and Shurdington Parish Council respectively and which is attached at Appendix 1. The Concept includes a Local

4. **Harm to the setting of the AONB.** The proposed development would seriously harm the setting of the AONB including the iconic view from Leckhampton Hill and the Cotswold Way National Trail as well as the view of Leckhampton Hill from the A46. This is explained in detail by Natural England and the Cotswold Conservation Board in their objections to the application. Natural England states: 'There are viewpoints of the highest sensitivity along the Escarpment of the Cotswold AONB, such as the Devil's Chimney. The view from the Devil's Chimney gives panoramic views across the Vale which would be interrupted by the proposed development. The scale of the potential development would significantly change the view from an open, rural expansive view to a predominantly urban view of the edge of Cheltenham'. Paragraphs 115 of the NPPF states that: 'Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty'.

5. **Strong public opposition.** There is extremely strong public opposition to the development. In the exit poll which the Parish Council conducted at the exhibition held by the developers, 94% of people were opposed or strongly opposed the development. In addition, all elected representatives of the area at District and County level are also strongly opposed and so is Martin Horwood, Cheltenham's MP, and Alex Chalk, the prospective Conservative parliamentary candidate for Cheltenham.

6. **Insufficient provision of schooling.** The application includes a new primary school, but this would not be built until a later stage in the development. In the meantime there would be no primary provision for the first 300 or so homes. Warden Hill Primary School and Leckhampton Primary School are both full and there is a shortfall in primary school places in Cheltenham because of the second generation post-war bulge. For secondary schooling, Balcarras and Bournside are always over-subscribed. They are both academies and cannot be forced to expand. Balcarras has insufficient land to expand anyway.

7. **Flood risk.** Warden Hill has been flooded on many occasions, most recently in 2007 when parts of Warden Hill were flooded to a depth of over 1 metre and houses were badly contaminated with swept-out sewage. Flood defences were improved in 2010 to protect against flooding from the south-west tributary of Hatherley Brook, but there remains the risk of flooding from the main tributary, which flows through the site of the proposed development. The main tributary frequently floods gardens in St Michaels Road, and some of the 2007 flooding of Warden Hill came from the direction of the main tributary. The Council is concerned that the proposed development would remove the option of building a flood alleviation scheme on the Leckhampton fields should this be needed to protect south Cheltenham in future from the effects of climate change. The Council is also concerned that the balancing ponds proposed by the applicants in the Flood Risk Assessment and Drainage Strategy (FRADS) may not give adequate protection from heavy rain falling on already saturated ground, as in 2007. As stated on page 26 of the FRADS, the balancing ponds will be cut well below the water table and there is uncertainty over the effects of underground water flow and hydrostatic pressure, especially if climate change produces frequent periods like this winter and last where the water table comes up to the surface for many weeks. Gardens in Woodlands Road across the A46 from the site of the proposed balancing ponds are flooded frequently by underground water flowing under the A46; one house was flooded inside in 2007 and again recently according to local residents. This demonstrates there are significant underground flows in the vicinity of the proposed ponds. The Council is concerned that the applicants may also be underestimating the groundwater flooding on the fields. The

8. **Traffic congestion.** As discussed below in Annex A, the traffic problems that would be created by the proposed development are very serious and the applicants have been unable to find any solution to them. The Transport Assessment contains many weaknesses and omissions, as identified in the objections submitted on 22 October 2013 by Robert Williams of Entran Traffic Consultants, who has advised the Council. The traffic system in south Cheltenham is fragile and the extra traffic from the 650 new households would make it unstable during the morning peak traffic period. The 650 homes would directly add about 195 vehicles to the A46 queue, extending the queue down to Shurdington. But disruption to traffic flow through Church Road would add several hundred more vehicles. The traffic queue could then extend to the A417 roundabout and affect traffic on the A417. If one also includes the extra traffic from the 300 homes at the SD2 site, which is included in the Tewkesbury Local Plan, the queue seems certain to threaten the A417. The Council has made many traffic surveys and studied and modelled the traffic problems in considerable detail, as have the applicants, and no way has been found to mitigate the problems.

9. **Damage to the local economy.** The traffic congestion that would be caused if the development was allowed to proceed would make it much harder to travel into Cheltenham on the A46. This would do serious damage to local economy. The great importance of transport to the local economy and the damage that traffic delays cause to local companies and employment are being emphasised by Gloucester County Council in the case for the A417 Loop road to reduce delays on the A417. The green setting of Cheltenham is also hugely important for attracting new companies into the town. These economic issues are covered in more detail in the Council's submission on the draft JCS at Appendix 2.

10. **Traffic pollution.** Measurements by Cheltenham Borough Council show that nitrogen dioxide (NO2) pollution levels exceed the EU-permitted limit of 40 micrograms per cubic metre near the A46 junction with Moorend Park Road. Although data has not been gathered over a full year, CBC has stated that the pollution at this location is likely to exceed the limit throughout the year. The NO2 pollution in Church Road also exceeds the EU limits in the winter months. The argument is sometimes made that the traffic pollution in Cheltenham is not as bad as in parts of London and in some other UK towns and cities. However, three important issues need to be considered in the context of the present application:

    a) Medical and epidemiological evidence is showing that the current limits on vehicle pollution may need to be reduced substantially (ref.1). WHO is recommending that the level for pm2.5 nanoparticles must be reduced by a factor of 2.5. This would mean that pm2.5 near the Moorend Park Road junction, Church Road and along the A46 will be over the pm2.5 limit. Compared to NO2, pm2.5 is more pervasive and persistent, and in urban areas background levels are not much lower than roadside levels (ref.2); pm2.5 from a long A46 queue can be swept up into Cheltenham by the prevailing SW wind.

    b) The European Commission in 2012 rejected the UK government's plea for further time to introduce anti-pollution measures and in 2013 the UK Supreme Court ruled that the UK government is failing its legal duty on air pollution. Following this ruling, the Commission launched legal proceedings against the UK in February 2014 (ref. 3). Many UK towns and cities now face the risk of multimillion euro fines (ref. 4). The Localism Bill includes clauses that would allow the UK government to pass EU fines on to regional and local authorities and the proportion passed would be relative to the degree to which each authority has power to tackle the problem and has failed to do so. It is one thing to have a pollution problem and to be taking steps to reduce it, but quite another to approve developments that would make bad pollution levels worse. Cheltenham Borough Council could face substantial fines and EU prosecution.

c) As well as the pollution danger to residents, there is also a health risk to drivers and passengers inside vehicles (ref. 5). Tests have shown that the majority of pollutants inside a car originate from the vehicle immediately in front. The type of situation in the A46 queue with vehicles nose to tail at an average gap of 3 to 4 metres between vehicles is particularly bad. Some vehicles, notably buses, also ingest their own emissions, and studies have shown that the worst pollution levels can be inside buses in the queue. Cyclists and motor cyclists would also experience high pollution levels (refs. 6-8).

Conclusion: For the reasons set out in sections 1 to 10 and in Annex A below and Appendices 1 and 2, the Parish Council believes that Cheltenham Borough Council has no choice other than to reject the application. The Parish Council also believes that the same reasons will force the JCS to be revised to remove the land at Leckhampton from the list of potential strategic development sites.

Yours sincerely

Dr Adrian Mears CBE
Chairman of the Council

References

1. "'Safe' levels of air pollution could still be harmful", NHS Dec. 2013. http://www.nhs.uk/news/2013/12December/Pages/Safe-levels-of-air-pollution-could-still-be-harmful.aspx
2. "London average air quality levels", Greater London Authority, Feb. 2014 http://data.london.gov.uk/datafiles/environment/air-quality-london.xls
3. "EU Commission launches legal action over UK air quality", BBC News 20 Feb 2014 http://www.bbc.co.uk/news/science-environment-26257703
4. "UK Cities Face Ban on Heavily Polluting Traffic", Guardian, 28 June 2012. www.theguardian.com/environment/2012/jun/28/uk-cities-ban-polluting-traffic#history-link-box
5. "A Driver's Exposure to Traffic Pollution", Clarke R, U of Nottingham, 1998. http://etheses.nottingham.ac.uk/3664/1/Thesis_All.pdf
6. "The exposure of cyclists, car drivers and pedestrians to traffic-related air pollutants". www.ncbi.nlm.nih.gov/pubmed/7591177
7. "Differences in cyclists and car driver's exposure to air pollution from traffic in the city of Copenhagen". http://www.ncbi.nlm.nih.gov/pubmed/11712590
8. "Determination of personal exposure to traffic pollution while travelling by different modes". NZ Transport Agency research report 457 Nov 2011 http://www.nzta.govt.nz/resources/research/reports/457/docs/457.pdf

Appendices:

1. Neighbourhood Plan Concept submitted in August 2013 by Leckhampton with Warden Hill and Shurdington Parish Councils to Cheltenham and Tewkesbury Borough Councils.
2. Joint Core Strategy Consultation: Comments by Leckhampton with Warden Hill Parish Council dated 12 December 2013.

Annex A:

Why the traffic problems preclude any major housing development on the Leckhampton fields.

1. Introduction

The evidence in this annex is largely contained in the Neighbourhood Plan Concept, which was submitted jointly by Leckhampton with Warden Hill Parish Council and Shurdington Parish Council to Cheltenham and Tewkesbury Borough Councils in August 2013 and is included at Appendix 1. Annexes 2 and 3 of the NP Concept analysed the traffic implications for the various strategic developments under consideration in the draft Joint Core Strategy (JCS) as this was emerging in summer 2013. The purpose in Annex A is to analyse the traffic problems specifically for the context of the current application for 650 new homes on the Leckhampton fields.

2. Traffic surveys and model

The crucial traffic problems arise in the workday peak morning period from 07:30 to 09:15. To properly understand the traffic system, the Parish Council has conducted a large number of surveys of the peak morning traffic between 07:00 and 09:30 at all the main junctions along the A46 from the A417 to the Moorend Park Road junction and at various locations in Leckhampton. The surveys along the A46 were carried out mainly in February and March 2013 and are described in Annex 3 of the NP Concept at Appendix 1. Six surveys were also carried out at the junction of Church Road and Kidnappers Lane in September/October 2012 and other surveys have been conducted in Farm Lane at the Church Road and Brizen Lane junctions in March/April 2013. The data from the A46 surveys was used to build a computer model of the inward traffic flow on the A46, which was validated by Robert Williams, Director of Entran traffic consultants. The model is described in Annex 3 of the NP Concept.

3. What causes the traffic queue?

The reason the A46 queue forms is that the junction of the A46 with Moorend Park Road has a maximum throughput capacity of about 900 vehicles per hour in each direction on the A46. This capacity also depends on how much traffic is crossing or joining the A46 from Moorend Park Road. From about 08:15 to 08:45, the capacity drops to around 750 vehicles per hour as more of the traffic light cycle is taken up by the Moorend Park Road traffic. The queue starts to form at around 07:40 when the vehicle arrival rate on the A46 exceeds the maximum junction capacity. It grows quickly, reaching the Woodlands Road junction in 5 to 10 minutes. The growth then slackens and the queue grows slowly to a final length of 0.8 to 1.3 km. The queue typically persists to around 09:00, although if the traffic is light the queue can be much shorter and dissipate quite quickly.

4. How the 650 new homes would affect the A46 traffic queue

The traffic from the 650 new homes would affect the A46 queue in two ways. First, vehicles from the new homes travelling into Cheltenham through the Moorend Park Road junction would add directly to the A46 queue. Secondly, the longer A46 queue would cause traffic to start diverting from Shurdington via Leckhampton Lane and Church Road in order to bypass the queue. This would destabilise the traffic flow through Church Road. What happens if Church Road jams is discussed in sections 5 to 12 below.

To calculate how many vehicles would be added directly to the queue by the 650 homes, the Council has used a mobilisation figure of 0.6 vehicles per household during the peak period. This is the mobilisation figure used by the applicants in their traffic modelling. It is consistent with the morning traffic flow that the Council measured in traffic surveys at the Lanes Estate, which is adjacent to the site of the proposed development and also to the SD2 and Brizen Farm sites. Using 0.6 vehicles per household and making a best estimate of the proportion that would travel into Cheltenham on the A46 (as discussed in Annex 3 of the NP Concept at Appendix 1) the 650 homes would directly add about 195 extra vehicles to the A46 queue.

As the queue lengthens beyond each junction, traffic wanting to leave at that junction becomes trapped in the queue, adding further to the queue length. This is taken into account in the traffic model. The model shows that the traffic from the 650 homes would extend the queue to a length of 2.6 km taking it to the Leckhampton Lane junction in Shurdington.

Whilst application 13/01605/OUT is only for 650 homes it is linked through the applicants' illustrative masterplan to the proposed development of 300 houses on the SD2 site, which is already included in the Tewkesbury Local Plan. The SD2 application was previously rejected at a planning appeal because it was deemed to be too isolated and unsustainable without the development now proposed in the present application. If the present application were permitted, approval for the SD2 application would seem likely. Adding the traffic from the 300 SD2 homes would increase the length of the A46 queue by a further 1.1 km, taking the queue through Shurdington to the Badgeworth Lane junction. There would be around 450 vehicles in the queue, of which around 320 were due to the developments. The model calculates that from the end of the queue it would take vehicles nearly an hour to reach the centre of Cheltenham.

5. How traffic would be likely to bypass the A46 queue

The A46 traffic model allows the queue speed to be calculated at each point along the A46 and it predicts that from the Leckhampton Lane junction in Shurdington vehicles in the queue would take about 35 minutes to reach the Moorend Park Road junction. However, drivers can bypass the queue by turning right onto Leckhampton Lane and continuing through Church Road and into Cheltenham either via Leckhampton Road or via Moorend Park Road. This bypass route is slightly longer in distance but would take less than 10 minutes provided that traffic was flowing freely through Church Road.

There would in fact be two bypass routes that drivers could take: one via Leckhampton Lane through Church Road to Leckhampton Road and the second via Leckhampton Lane and Farm Lane and then back to the A46 through the proposed development to the new traffic light controlled junction at the north end of the site, which would be close to the front of the A46 queue. The first route would be quicker, but once a long traffic queue built up in Church Road drivers would be tend to divert instead onto the second route.

Drivers would judge which route to take based on their experience of past congestion. Until about 07:45, most drivers would remain on the A46 knowing that the traffic queue would still be quite short when they reached it. After 07:45, drivers would increasingly decide to divert onto Leckhampton Lane and might choose which route to take at the junction with Farm Lane by observing the length of the traffic queue ahead of them into Church Road. If Church Road jammed up, they would all tend to use the Farm Lane route.

The traffic model shows that if all the vehicles heading to the Moorend Park Road junction diverted onto Leckhampton Lane this would add an extra 8.2 vehicles per minute on average to the 4.1 vehicles per minute that currently turn onto Leckhampton Lane. Such a three-fold increase in the traffic would be likely to jam Church Road as discussed in section 10 below.

6. Importance of Church Road to the Cheltenham traffic system

It is important to appreciate the vital role that Church Road plays in Cheltenham's traffic system and the consequences if Church Road jams up. The route through Church Road allows traffic to flow between south/south-east Cheltenham and west Cheltenham/A46/A417/M5/Gloucester without having to go through the town centre or through the Moorend Park Road junction.

The traffic flow in Church Road was surveyed by the Parish Council at the Kidnappers Lane junction on six mornings between 10 September 2012 and 1 October 2012. The surveys covered all five weekdays and a second Thursday survey was done because on the first Thursday the traffic jammed up (the cause of this is not known). The data from these surveys are in Table A.2.1 of the NP Concept at Appendix 1.

The surveys showed that each workday around 1320 vehicles used Church Road between 07:30 and 09:00, with 675 vehicles travelling in the SW direction (clockwise round Cheltenham) and 650 in the NE direction (anti-clockwise). Without Church Road, the majority of these vehicles would have to travel instead via the Moorend Park Road junction. The clockwise flow through Moorend Park Road would mainly turn left onto the A46; some might continue straight ahead if drivers were heading to west Cheltenham, the M5 or Gloucester. Either way, the vehicles would take up more of the traffic light cycle and would reduce the throughput for the A46 traffic, roughly on a 1:1 basis. The anti-clockwise flow would travel up the A46, adding to the A46 queue. Most vehicles would turn right onto Moorend Park Road. They would have to wait to cross the outbound A46 traffic flow and because there is only a short right turning lane they would hold up the rest of the traffic. This would mean the inward and outward A46 traffic could not cross simultaneously and would need separate traffic light periods. Overall, this could reduce the capacity of the junction to as little as 200 vehicles per hour and add of the order of 800 extra vehicles to the queue length. Such a small throughput would also mean that a long queue of outward travelling vehicles would form back through the centre of Cheltenham.

7. Reason that traffic in Church Road is liable to gridlock

The section of Church Road between Kidnappers Lane and the Leckhampton Road is narrow. Most of the houses on the north side of the road have no space for off-road parking and vehicles are parked along the north side of the road. They park on the pavement as much a possible, but even so it is hard for vehicles to pass in both directions. If a jam happens it is normally resolved quickly by drivers squeezing past each other. More protracted jams do occur occasionally and would be more frequent if the traffic levels were to increase. Mark Power of Gloucestershire Highways has emphasised the importance of keeping any extra traffic away from Church Road and this has been a key issue for the applicants. As Mark Power has also made clear, there is no way to mitigate the traffic difficulties in Church Road, because the road is hemmed in by housing and by the scarp of Leckhampton Hill and the AONB.

8. Current situation

Fortunately, very few drivers currently use Church Road to bypass the A46 queue. This has been confirmed by surveys made by the applicants using number plate tracking and also by the Parish Council by measuring the driving times by the two routes. The Parish Council found that as long as the A46 queue does not extend beyond the Kidnappers Lane junction, the bypass route offers no advantage. However, if the A46 queue reaches as far as the Up Hatherley Way roundabout, the bypass route becomes about 6 minutes quicker. At present, drivers in Shurdington deciding whether or not to use the bypass route do not know how long the A46 queue will be when they reach it. So they tend to choose to stay on the A46. However, the A46

queue does not need to become much longer before drivers can decide with confidence that it would be quicker to use the bypass route.

9. Effect of general increases predicted in traffic levels

Even without any further housing development, the A46 traffic queue is expected to increase by around 75 vehicles because of the general increase in traffic predicted by Department for Transport as the economy recovers. This would increase the queue length by about 0.6 km and make the bypass route clearly quicker for drivers reaching the Leckhampton Lane junction in Shurdington after about 08:15. It was on this argument that it was concluded in the NP Concept that there is no scope for any housing development on the Leckhampton fields that would significantly increase the traffic flow into the Moorend Park Road junction.

10. How close is Church Road to gridlock?

The traffic flows measured in the Council's traffic surveys in Church Road are shown in Table A.2.1 of the NP Concept at Appendix 1. Some indication of the maximum capacity of Church Road can be gleaned by looking at when a significant traffic queue forms waiting to enter the narrow section of the road. It appears that when the combined throughput in both directions is less than 16 vehicles per minute, the traffic generally flows well and any queue is short. When the combined throughput exceeds 16 vehicles per minute there is roughly a 50% chance that a substantial queue will form. The maximum throughput capacity seems to be around 19 to 20 vehicles per minute, though it is not clear that this could be sustained for long.

The survey data for 13 September 2012 also indicates how the flow can collapse due to congestion. Because cars and vans can squeeze past each other, the road is only likely to jam absolutely if a large vehicle is trying to get through in the peak period. The road has a 7.5 ton limit, but occasionally an articulated lorry or other very large vehicle does attempt to come through and it then depends on the traffic coming in the other direction stopping soon enough or reversing back. With a larger pressure of vehicles trying to get through, it would be more likely that reversing back would not be possible and the road could then lock up completely.

A more common scenario is for the throughput to progressively decline as the road becomes more congested and vehicles have increasing difficulty passing each other. Long queues then build back along Church Road towards Leckhampton Lane, along Kidnappers Lane and across and along Leckhampton Road. This was the situation for the traffic survey on 13 September 2012. In fact, even on a normal morning when the traffic is flowing well through Church Road, a short queue does frequently spread back to the Leckhampton Road. So it is easy for problems in Church Road to spread back and block Leckhampton Road.

11. Direct traffic to Church Road from 650 homes

As discussed below in section 13, the applicants have proposed measures by which they believe they can limit the number of vehicles flowing to Church Road from the 650 new homes to an average of around 0.75 vehicles per minute in the peak period. It would also be important, however, that a big group of vehicles did not arrive at the same time. Also, as discussed in section 13, the measures are controversial and are unlikely to work well or to be acceptable in terms of road safety.

12. Effect of traffic diverting onto the bypass route and the impact on the A417

As noted in section 5, there would be two routes by which traffic could bypass the A46 queue: one via Leckhampton Lane through Church Road to Leckhampton Road and the other via

Leckhampton Lane, Farm Lane and through the proposed development to the traffic light controlled exit near the head of the A46 queue. Vehicles using the Farm Lane route would all contribute to the A46 queue because they would still be passing through the Moorend Park Road junction. Vehicles using the Church Road route would also contribute if they then continued via Moorend Park Road but not if they continued via Leckhampton Road to the Bath Road. The Council's traffic surveys at the Moorend Park Road junction indicate that the traffic through Church Road would split roughly half-half between these two routes. So provided that the Church Road traffic did not jam up, the bypass route could significantly reduce the length of the A46 traffic queue, probably by around 60 vehicles (0.5 km).

On days when Church Road jams up, the situation would be similar to that already described in section 6 with the traffic diverting via the A46 and the Moorend Park Road junction. The clockwise traffic flow would add to the length of the A46 queue on a 1:1 basis by reducing the junction capacity for the A46 traffic. The anticlockwise traffic would flow back to the A46 via Farm Lane and the development. The overall outcome would depend on how badly Church Road jammed and at what stage this happened. A partial gridlock similar to that on 13 September 2012 and starting at about 08:10 would be likely to add somewhere around 270 vehicles to the A46 queue and around 130 vehicles to queues in Church Road, Moorend Park Road and at the exits onto the A46 from the development. This assumes that the traffic light sequences at the A46 intersections are set to avoid huge queues building up on Moorend Park Road and within the development. The traffic model indicates that the 270 vehicles added to the A46 queue would probably cause the A46 queue to extend as far as the A417 junction by about 08:55, although this depends on how quickly traffic flows adjust. This is without including the traffic from the 300 homes on the SD2 site or the general increased traffic levels predicted by the Department for Transport. Both of these would make the queue substantially worse as well as increasing the probability of Church Road jamming.

One might be able to mitigate the impact on the A417 by adding an extra queuing lane along the eastbound carriageway, but this would be expensive and would not necessarily prevent the queue reaching back onto M5 junction 11A. One could also widen the A46 south of Shurdington to allow a two lane queue on the A46, but again this would be expensive.

13. Proposed mitigation measures – reducing the traffic to and from Kidnappers Lane

To limit the number of vehicles coming to Church Road from the new development, the applicants have proposed closing Kidnappers Lane, creating an alternative route through the new development and making this deliberately torturous with multiple bends to discourage traffic flow. The hope is to discourage the through traffic that currently flows along Kidnappers Lane between Church Road and Up Hatherley Way. The flow is important because it links east and south-east Cheltenham to west Cheltenham and to the A40 and M5 junction 11. The combined flow on this route between 07:30 and 09:00 is of the order of 200 vehicles. The aim would be to reroute these 200 vehicles via the Moorend Park Road junction in order to reduce the traffic through Church Road so that Church Road is less likely to jam.

There are several problems with this proposal:

- The route via the Moorend Park Road junction is longer in distance and there are delays in both directions in queuing at the Moorend Park Road junction, particularly for traffic going anticlockwise round Cheltenham. So to discourage the through traffic, one would need to inject a long delay into the Kidnappers Lane route. This is not practicable and one could not delay the through traffic without also delaying vehicles from the development and existing housing along Kidnappers Lane, Farm Lane and the Lanes Estate. Re-routing via the Moorend Park Road junction would add to the A46 queue.

- Making the route through the development tortuous would create a serious hazard to children, pedestrians and road users.
- As Mark Power of Gloucestershire Highways pointed out at the public meeting on the application, it is difficult to get approval to close roads and it is not at all clear that approval would be granted to close Kidnappers Lane.

14. Proposed mitigation measures – reducing traffic to and from Leckhampton Lane

The applicants have sought ways to reduce the traffic in Church Road flowing via Leckhampton Lane. They outlined three possible approaches in their public exhibition in February 2013, but none of these works and the application and Transport Assessment leaves the issue vague. The three approaches considered were:

1 (a) To close Leckhampton Lane. This is impossible because of the vital importance of the Church Road – Leckhampton Lane route to Cheltenham's traffic system, as discussed in section 6 above.
(b) To alternatively close Leckhampton Lane just to traffic travelling in the NE direction. This would add around 400 vehicles to the A46 queue and would extend the queue beyond the A417 junction and onto the A417.

2 To route the traffic travelling NE on Leckhampton Lane back to the A46 by closing the access to Church Road. This would mean routing around 400 extra vehicles through the Moorend Park Road junction, with the same consequences as (1b) above. It would also be routing this traffic through the proposed development with attendant safety risks.

3 To impede the traffic travelling NE on Leckhampton Lane in order to remove the time advantage of this route compared with staying in the A46. The applicants have suggested using a string of chicanes along Leckhampton Lane. However, it is not practicable to inject a delay of at least 15 minutes needed to compensate for the increased delay in the A46 queue. If the chicanes were made sufficiently dangerous to be a deterrent, they would be likely to cause traffic accidents, including head on collisions. Also because the chicanes would be permanent they would create a 24-hour traffic hazard.

15. Proposed mitigation measures – more use of public transport

The applicants propose that significant mitigation might be achieved through more use of public transport. However it seems doubtful that buses will make a substantial contribution to reducing the traffic even if they are routed through the proposed development. Whilst, buses are an attractive option for travelling to the centre of Cheltenham for shopping later in the day, most commuters in the peak period are heading elsewhere and choose the flexibility and convenience of driving. Residents driving into Cheltenham from the proposed 650 homes will be able to join the A46 very near the front of the A46 queue. So they will not suffer significant delay and will have little incentive to use a bus. In several traffic surveys that the Parish Council carried out at the Kidnappers Lane / A46 junction, no residents from the Lanes Estate were observed to board the number 10 bus, even though this is a regular service with a bus every 10 minutes at that time of day. It is hard to see why it would be much different for residents in the proposed development.

16. Proposed mitigation – use of park-and-ride

The drivers who might have an incentive to use buses are those who are stuck at the back of the A46 queue. But this only applies if travel by a park-and-ride bus offers a big time advantage. Because there is no space on the A46 for a dedicated bus lane, the bus would be stuck in the

same queue as the cars. Widening the A46 to provide a bus lane would be very expensive and it would be necessary to bypass Shurdington. So this option is unlikely to be affordable and in any case experience with park-and-ride schemes elsewhere in Cheltenham shows that they do not succeed easily. It has also been suggested that a park-and-ride could be located near the Up Hatherley Way roundabout. However, by the time drivers reach this point, their remaining journey time is quite short. So, it would require some other incentive, such as making parking in Cheltenham or at their place of work seriously expensive. The problem is that such measures would deter people from working or travelling into Cheltenham and would hurt the economy.

17. Proposed mitigation – use of alternative routes into Cheltenham

The applicants have suggested that vehicles could travel by other routes to avoid the A46 queue. It is hard to see what these could be. To the west, the route via the M5 and A40 is very congested and Badgeworth Lane is a poor alternative to the A46 because vehicles would still have to travel into Cheltenham from Hatherley on already congested roads. To the east the only alternative route would be via the A417 to the Air Balloon roundabout and then into Cheltenham via Leckhampton Hill. This route is substantially longer in distance and the congestion up Crickley Hill and at the Air Balloon roundabout is notorious. The route down Leckhampton Hill has a 7.5 ton restriction and a quite dangerous curve below Salterley Grange. The proposed A417 Loop road would reduce the congestion on the A417 but make the route still longer, and even with the Loop, the traffic climbing up Crickley Hill would still be quite slow. It is also against the Highways Agency policy for the strategic highway network to be used for local travel and the case with the Highways Agency and Government for the A417 Loop road could be weakened if Cheltenham were allowing developments that would increase the local traffic on the Loop road.

18. Fundamental unsustainability

The analysis in this Annex has only concerned how the proposed 650 homes would increase the formation and length of the traffic queues. There is another issue over how long the congestion would persist. The existing queue on the A46 forms from 07:40 to 07:55, but typically persists for another hour until there is sufficient spare capacity in the system to allow it to dissipate. If the A46 traffic queue extends to the A417 or even to Shurdington, it will take much longer to dissipate. The A46 is the trunk route to the A417. There is little point in pleading the economic importance of the A417 Loop if the congestion on the A417 up Crickley Hill is merely replaced by congestion on the A46 and spreading from the A46 onto the A417. The traffic system in south Cheltenham is fragile because there is so little road capacity for vehicles to travel in and out of Cheltenham from the south. This cannot be altered. It is a fundamental limitation due to geography and Cheltenham's layout. The system is close to breaking. It is vital to keep it functioning by not overloading it more.

19. Conclusion

The Parish Council has been a member of the applicants' local forum and has given a great deal of detailed consideration to the traffic issues. The Council has explored various potential solutions to the traffic problems. But no ideas have been found to be feasible. The Parish Council is therefore absolutely convinced that these traffic problems are so severe and intractable that they not only prohibit the present application but also preclude any development that would significantly increase the net traffic flow into Cheltenham through the Moorend Park Road intersection in the peak traffic period.