Application 20/01781/FUL. Land South of Shurdington Road, Leckhampton Submission by Leckhampton with Warden Hill Parish Council

1. Introduction and recommendations

Application 20/01781/FUL is a sequel to an earlier application by Miller Homes jointly with Bovis Homes (13/01605/OUT) submitted in September 2013 for 650 dwellings and associated development on the Leckhampton Fields. That application was refused by Cheltenham Borough Council in 2014 and the subsequent appeal in 2015 was refused by the Secretary of State in April 2016. The grounds for the refusal both by Cheltenham Borough Council and by the Secretary of State were primarily based on landscape damage and severe cumulative traffic congestion and the same issues arise in the case of application 20/01781/FUL.

The joint Bovis-Miller application 13/01605/OUT formed part of the Leckhampton Strategic Allocation that was proposed in the draft Gloucester-Cheltenham-Tewkesbury Joint Core Strategy (JCS). This proposed allocation was for around 1200 dwellings with around 830 in Cheltenham Borough and another 370 in Tewkesbury Borough on the part of the Leckhampton Fields west of Farm Lane. The proposed allocation was found to be unsound by the JCS Examiner, Inspector Elizabeth Ord, in 2016 on landscape grounds. Inspector Ord expressly recommended that any development on the Leckhampton Fields should be confined to the areas NE, NW1, NW2, NW3 and NN in the map below that Inspector Ord used in making her recommendations. These areas are collectively referred to as the Northern Fields. Inspector Ord did not consider the issue of traffic congestion and stated that as she had relied on the assurances by Gloucestershire Highways over traffic congestion elsewhere in the JCS area it would be inconsistent not to rely on them for Leckhampton.

The proposed development west of Farm Lane by Redrow Limited (on the land marked on the map as WCG1, WCG2 and LF) was permitted by Tewkesbury Borough Council in 2016. The planning decision was taken to the High Court by the Leckhampton Green Land Action Group (LEGLAG) through judicial review but the Court permitted the development because although Inspector Ord had found it to be unsound in her preliminary findings in December 2015 TBC had granted planning permission before Inspector Ord's made her interim findings in summer 2016.

The present application by Miller Homes is located primarily on the Northern Fields in accordance with Inspector Ord's JCS recommendation but it also proposes development on the areas R2 and R3 where Inspector Ord concluded that development was unacceptable on landscape grounds. The R2/R3 area is also part of the area identified by the Secretary of State in 2016 as valued landscape that should be protected and enhanced in accordance with the National Planning Policy Framework (NPPF).

Para 170 Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)



Map 1 as submitted to the JCS Examination in 2015. The map shows the Local Green Space as refined in 2015 and examined by Inspector Elizabeth Ord as part of the Examination of the Gloucester-Cheltenham-Tewkesbury Joint Core Strategy in 2015 and 2016. Inspector Ord explicitly used this map in her findings on Leckhampton, recommending that on landscape grounds any development needed to be limited to areas NE, NW1, NW2, NW3 and NN, excluding area HB along Hatherley Brook. Inspector Ord rejected development on areas R2, R3 and SH on landscape grounds. Importantly the boundary of the area SH (the smallholdings) does not follow the public footpath but rather the northern fence of the strip of smallholdings along the north side of the footpath. The Parish Council welcomes the application in terms of providing more housing including 40% affordable housing that is much needed. The Council believes it will be a good development in which to live. But the Council has to object to the application on grounds of unacceptable damage to valued landscape in respect of areas R2 and R3 as discussed below in section 2. The Parish Council also has to object to the application on grounds of severe cumulative traffic congestion as discussed below in section 3.

Traffic congestion and the protection of the valued landscape and amenities of the Leckhampton Fields including the smallholdings and footpaths are the two main areas of concern among local residents. Some residents, particularly in Warden Hill, are also concerned that the proposed development could increase the risk of flooding. This is discussed below in section 6.

The Council's main recommendations are:

- A. The proposed development on the valued landscape areas R2 and R3 should be removed. The boundary hedge at the north end of R2 needs to be enhanced with tall trees to screen the housing north of R2 from view from Leckhampton Hill.
- B. Because of the failure of the traffic mitigation that was the condition for including the development in the Cheltenham Plan and the high risk of severe cumulative traffic congestion, the development needs to be refused for the present until the traffic impact from the new secondary school and other existing development is sufficiently clear and the cumulative traffic congestion is shown to be acceptable.
- C. The valued landscape and interesting character of the smallholdings area needs to be protected on both sides of the smallholding footpath and a sufficiently high screening hedge and trees provided along the northern border of the smallholdings to hide the development from view from the public footpath. The proposals need further work between Miller Homes and the Parish Council.
- D. The treatment of ecology issues is generally good, but some surveys need updating particularly regarding dormice. The protection of hedgehogs also needs addressing. An enforceable Landscape and Ecology Management Plan (LEMP) and Construction Ecological Management Plan (CEMP) should also be produced. A Biodiversity Net Gain Report would be helpful.
- E. There are possible flooding risks that need to be kept in mind during development, notably the risk to properties on the north side of the A46 from water flowing from the Northern Fields including flows under the A46. With climate change there is a possible risk that very heavy run-off down Hatherley Brook from a major storm could cause flooding in residential area west of the A46 along the course of the Brook. The future vulnerability along Hatherley Brook needs to be checked since development on the Northern Fields will remove the option to use the land to hold flood water back if needed.
- F. Consideration should be given to making the development more supportive of CBC's aspirations for Carbon Neutral Cheltenham and for promoting cycling by connecting the cycle ways externally.
- G. The Council also recommends that roads in the development should be given historic names relating to the field names and the use of the Northern Fields for agriculture since Saxon times.

2. The valued landscape

The Leckhampton Fields were identified as valued landscape in the Secretary of State's findings from the Bovis-Miller Appeal Inquiry in September 2015. The case that the fields qualified as valued landscape was put to the Inquiry by the Parish Council and was based both on the intrinsic landscape quality of the fields themselves and also their impact on the view from Leckhampton Hill.

The areas R2 and R3 are part of the valued landscape and Inspector Ord in her findings also recommended against allowing any development there. The Cheltenham Plan however included R2 and R3 in the proposed development allocation. The reason for this is unclear but it was not necessarily in conflict with the JCS or with the valued landscape since R2 and R3 could be included in the allocation as amenity space that adequately protects the valued landscape. However, the proposal by Miller Homes to build housing on R2 and R3 is clearly in conflict with the requirement in NPPF paragraph 170 to protect and enhance valued landscape.

In 2016 CBC rejected the application by Robert Hitchins Ltd to build around 45 dwellings on land east of Kidnappers Lane on the grounds of the damage to the valued landscape. Unlike the area R2/R3 the Hitchins site was not itself part of the valued landscape. It was the impact of the development on the valued landscape of Lotts Meadow and Kidnappers Lane that formed the grounds for refusal. This refusal was upheld by Inspector Bridgwater at appeal. In the case of R2/R3 the proposed development is actually in the area of valued landscape as well as affecting the surrounding areas and the view from Leckhampton Hill. So the grounds for rejection are even stronger.

CBC rejected a second application by Robert Hitchins for an estate of 25 houses on the same site east of Kidnappers Lane, again on the grounds of the damage to the valued landscape. However, at appeal CBC decided to withdraw its case. Partly this was because of CBC's lack of a 5 year land supply but it was also on the view of CBC's landscape consultant that the new secondary school along Farm Lane weakened the grounds of valued landscape because of the likely urbanising effect on Kidnappers Lane. Because CBC withdrew it case from the appeal and the Parish Council could not take the financial risk of continuing alone the issue of whether or not the valued landscape would be significantly degraded by the new school was not tested. However, even if the new secondary school has harmed the valued landscape this is not grounds for allowing the valued landscape to be harmed elsewhere. The right balance must be struck between providing new housing and conserving the valued landscape.

In its case on valued landscape at the Bovis-Miller appeal in September 2015 the Parish Council made clear that it did not include the Northern Fields in the valued landscape and would welcome development there. The Northern Fields do have landscape merit and the importance of the so-called Pig Field view of Leckhampton Hill across the Northern Fields from the junction of Kidnappers Lane and the A46 was cited in CBC's evidence for refusing the Bovis-Miller application. But the Northern Fields are more distant from Leckhampton Hill and are also screened by trees along Kidnappers Lane, Hatherley Brook and the smallholdings. So provided that a well screened urban edge was maintained and also enhanced along the northern boundary of R2 the Parish Council believed that the Northern Fields could be excluded from the valued landscape. Building on area R2/R3 as proposed in the application would, however, break through the screened urban edge.

The Parish Council also proposed in its 2015 public consultation that sympathetic ruralstyle development could be possible on the old nurseries on area ON. This is the land where Robert Hitchins now have permission for 25 dwellings. The Parish Council worked with Hitchins on this but was hoping to achieve a community farmstead form of development that would fit better into the landscape rather than the estate type of development that Hitchins actually proposed. The Hitchins development, even though it is designed to have a more rural layout and incorporate screening trees, now makes it all the more important to avoid development on R2/R3.

The impact on the view from Leckhampton Hill was a key issue both in the Bovis-Miller appeal and in the JCS Examination. As cited in evidence to the Appeal, Leckhampton Hill is a nationally significant viewpoint, one of only 28 viewpoints in England and 47 in the whole of Great Britain identified in the tourist information in the 4 miles to the inch and 3 miles to the inch AA roadmap of Great Britain (see Annex 1). This is the most widely owned tourist guide to Britain and identifies in each location the most significant tourist attractions.

In the view from Leckhampton Hill, Cheltenham sits in the middle-ground, adding considerably to the interest and beauty of the view and fitting well into the landscape because of Cheltenham's high degree of tree cover. But it is crucial that the view is not a view of Cheltenham with hills in the background but rather a landscape that Cheltenham is part of. This is why the Leckhampton Fields between Leckhampton Village at the base of the scarp and the urban edge are so important, ensuring that the urban edge does not come too close to the Hill. The extensive public consultation that the Parish Council carried out in January 2015 as an input to CBC's study on local green space showed how greatly the view from Leckhampton Hill is valued by so many residents. In seeking to defend that view the Parish Council has been fighting a battle for the people of Cheltenham as much as for the residents in the Parish.

Removing the proposed housing on area R2/R3 would reduce the number of dwellings from 350 to 306, a reduction of 44 (5 bedroom x 3, 4 bedroom x 11, 3 bedroom x 18, and 2 bedroom x 12). However the allocation for up to 350 dwellings in the Cheltenham Plan on land north of Kidnappers Lane also includes the 12 dwellings on the Bovis Homes development in area NE and the 25 dwellings on the Robert Hitchins land in area ON. So the removal of the 44 houses on R2/R3 would still leave 343 overall on land north of Kidnappers Lane also as specified in the Cheltenham Plan.

To meet the full 350 in the Cheltenham Plan it might be possible for Miller Homes to accommodate a further 7 on the Northern Fields. Alternatively, if the whole of the group of 15 dwellings proposed in the application straddling the boundary of R2 and NE (7 in NE and 8 in R2) were permitted this would bring the total to 351 dwellings. To be acceptable this would require planting a new boundary hedge in line with the existing boundary of the smallholdings with a good density of semi-mature tall trees to provide screening as quickly as possible.

The Council therefore recommends that to protect the valued landscape and Leckhampton Hill and for consistency with previous planning decisions and with the recommendations of the JCS the application by Miller Homes should be refused. But a revised application with housing confined just to the Northern Fields could be permitted, subject to being sustainable from the point of view of cumulative traffic congestion and protection of the valued landscape including the valued landscape of the smallholdings.

3. Traffic congestion

The Miller Homes application is part of an allocation in the Cheltenham Plan for up to 350 dwellings together with the new secondary school. When CBC agreed to include the secondary school in the draft Cheltenham Plan in December 2017 there was particular concern about the impact it would have on the long morning traffic queue inwards on the A46 at the junction with Moorend Park Road (MPR). This traffic queue has the potential to become very much longer and together with the traffic congestion in Church Road was the reason for the Secretary of State's finding of severe cumulative traffic congestion in rejecting the Bovis-Miller Appeal in April 2016. So in deciding to include the new secondary school in the Cheltenham Plan CBC imposed the condition that it must not lead to severe cumulative traffic congestion.

This issue was covered again at the transport hearing in the examination of the Cheltenham Plan by Inspector Wendy Burden in February 2019. At the hearing Miller Homes and GCC Education jointly presented a proposed mitigation scheme to solve the traffic problem by adding an additional inward lane at the A46/MPR junction. The A46 has a single inward lane, but very close to the junction it splits into two lanes. The addition of a third short right turning lane in place of the existing traffic island had already been included as a mitigation measure for the traffic generated by the 377 dwellings on the Redrow development west of Farm Lane, but has not yet been implemented. The revised scheme presented by Miller Homes and GCC Education proposed instead to make the straight ahead and left turning lanes longer. This could enable the junction throughput to be increased by allowing more left turning vehicles to enter the longer left turning lane when the lights were red and to move ahead in parallel with the vehicles in the straight ahead lane when the traffic lights turned green. This increased the throughput by 3 to 4 vehicles in each cycle adding up to around 100 vehicles per hour.

There was no time at the hearing to investigate the feasibility of the proposal, but Inspector Burden concluded on the basis of the scheme that the new secondary school could be included in the Cheltenham Plan provided that the scheme worked successfully and gave sufficient increase in throughput. Subsequently however the collaboration between Miller Homes and GCC Education broke down and GCC Education proceeded independently with its school application and abandoned the mitigation scheme.

At a meeting between the Parish Council and Miller Homes on 9 March 2020 Miller Homes were still putting forward the scheme in order to cope with the impact of their development. But the problem with the scheme is that there is insufficient road width to accommodate the additional lane. Miller believed that they could make the inwards lanes around 2.7 metres wide by maximally squeezing the width of the single outgoing lane. However this was difficult because of the risk of collisions between the opposing traffic schemes. In the present application Miller are now proposing that the lanes should be 2.5 metres wide. A 2.5 metre land width is the minimum width allowed for roads that are car-only. But the A46 is a major road with a bus route and buses are 2.55 metres wide as also are large lorries. A refrigerated lorry can be up to 2.6 metres wide. Government guidance is that: 'Where roads are wide enough the bus lane should be 4.25 metres wide and the minimum preferred width is 4m; this allows buses to overtake cyclists safely and reduces the likelihood of interference from general traffic in the adjacent lane. The minimum recommended width is 3 metres'.

Clearly the mitigation measure with the lanes 2.5 metres wide is infeasible and the application therefore fails to meet Inspector Burden's condition for allowing the allocation of the Miller development plus the secondary school to be included in the Cheltenham Plan. Since the secondary school now has planning permission this means that it is the Miller Homes application that now falls outside the approved Cheltenham Plan.

The question therefore is whether the application is still feasible even after removing the houses on R2/R3. The Parish Council discussed the issue with Chris Mead and Mike Sendall of GCC Highways at a meeting in January 2020. The Parish Council in its submission on the secondary school had proposed that the scheme might be made feasible by acquiring a strip of land about 1.5 metres wide from the front gardens of the 4 large houses closest to the junction. However Chris Mead said that GCC was against using compulsory purchase and also that the scheme might not in fact provide suitable mitigation. He observed that Cheltenham has the worst traffic problem in Gloucestershire and that too often a road improvement in one location just causes more traffic or makes the congestion worse elsewhere.

The A46 / MPR junction limits the flow of traffic into central Cheltenham on the A46, helping to manage the traffic flow in central Cheltenham. The A46 queue with its single lane provides a safe way to hold back the traffic. The long queue also helps to deter commuting and deter parents from taking children to school by car. The Secretary of State however took the position in the 2016 findings of the Bovis-Miller appeal that people must be able to commute and to take their children to school at the appropriate time. Certainly there is evidence cited by the Department of Transport that where congestion has forced people to commute at inconvenient times such as much earlier in the morning this has adversely affected the local economy. This is the reason that the Cheltenham Chamber of Commerce objected to the Bovis-Miller application in 2014.

The key question is how much extra traffic the secondary school will add in the peak morning period, but this is very uncertain. What matters most is what happens in the autumn and spring terms and on wet days. These are the months that the queue is worst and on wet days is already likely to extend beyond the Up Hatherley Way roundabout. Once the queue extends beyond the roundabout the traffic in the queue wanting to turn left at the roundabout becomes trapped in the queue and in this way the queue lengthens faster. Before Covid-19 intervened the queue was now starting south of Brockworth. But it was not a solid queue. It has a gap south of Shurdington caused by the flow being held back at the A46/A417 roundabout and another gap north of Shurdington caused by traffic queuing through Shurdington. If traffic in the queue that wants to turn off becomes trapped the congestion escalates and the queue can become solid right to the A417 or further. This was illustrated by flow modelling in the Parish Council's evidence to the Bovis-Miller Inquiry.

There is considerable uncertainty over the school catchment. The catchment used in modelling the traffic for the school planning application was considerably different and more benign than the catchment that was actually announced in July after the school planning application had been permitted. The catchment as now defined covers

primarily Leckhampton Ward, College Ward and Charlton Park Ward extending beyond Sandy Lane to the boundary of the Balcarras School catchment and taking in what is referred to as the Leckhampton Triangle, the gap between the catchments of Bournside School and Balcarras School. This gap has widened over the years because of increasing population and because of parents locating their homes close to Balcarras School because of its high academic achievement and rating as OFSTED outstanding.

Detailed discussion of the traffic issues and possible mitigation is contained in the attached Annexes 2 and 3. Annex 2 is the submission on the secondary school that the Parish Council made to the consultation on the Cheltenham Plan in 2018 and anticipated the catchment that has now been announced. It discusses not only the traffic issues but also analyses routes for walking and cycling to the school. Annex 3 is the submission made to the GCC consultation on the new school in 2019 and is based on the more benign catchment actually used for the traffic modelling by GCC Education. It discusses several possible mitigations including the extra lane at the A46/MPR junction and also altering the catchment so that it is much more local. This requires adjusting the catchments between the new school and Bournside. The traffic surveys by the Parish Council showed that there is a fairly quick route to Bournside School from the Leckhampton Triangle area via Old Bath Road, A40 and Park Place and The Park. Annex 3 also discusses the limitations of any alternative routes for A46 traffic via Warden Hill Road, Alma Road and Hatherley Road, all of which are congested with long queues in the morning peak period.

Since Balcarras is managing the new secondary school the hope is that the new school will also be outstanding. If so this could encourage parents to relocate closer to the new school allowing the catchment to be more local. But for the present many pupils will be travelling 1 to 2 miles to the school and there is no public transport available from these areas. As noted in Annex 2, the Parish Council investigated with Stagecoach the feasibility of having a school bus. But the cost was too great for parents to bear and GCC would not provide free transport.

The important features of the traffic problem as discussed in the Annexes are as follows:

- Church Road is very congested in the morning school run period and this is likely to worsen with the expansion of Leckhampton Primary School to 3 form entry. GCC has estimated that the expansion will add around 90 double journeys to the school each morning by parents bringing children to school by car.
- Because of the congestion in Church Road many drivers who previously used Church Road as a route round south Cheltenham have over the past five years switched to the route via the A46/MPR junction. As a result the queue on Moorend Park Road (MPR) has lengthened and the MPR traffic has taken up an increasing proportion of the traffic light sequence. Based on 2019 traffic surveys at the junction, the throughout for inward traffic on the A46 has fallen by over 100 vehicles per hour in the peak period since the surveys that the Parish Council made at the junction in 2013.
- Pupils coming to the school by car from the Leckhampton Triangle will mainly use the route along the A46 because Church Road is saturated. Each car turning left at the A46/MPR junction takes up time that otherwise could allow one car or perhaps more to pass inwards through the junction on the A46. On the return

journey via the A46 each car adds one car to the A46 queue. Moreover if too many cars want to turn right from the A46 onto MPR this completely blocks the traffic further back where it is single lane. So as noted in Annex 2, one car travelling to the school and back via the A46/MPR junction could on average add 2 to 5 additional vehicle lengths to the A46 queue. Moreover if the end of the queue reaches beyond the Up Hatherley Way roundabout the effect would be even greater because of turning off traffic being trapped in the queue.

 On the assumption used in the context of the Bovis-Miller application that each new household adds 0.6 vehicles on average to the morning peak traffic with 50% going into Cheltenham and 50% elsewhere, it takes 3.3 new homes to contribute one car to the queue. So 120 parents travelling to and from the school via the A46 and MPR adding one vehicle length each way are equivalent to 792 new homes. Adding this to the 377 new homes west of Farm Lane and the 37 approved on the Leckhampton Fields brings the total to the same level as the 1200 homes proposed for the JCS Leckhampton strategic allocation that was the basis for the Secretary of State's finding of severe cumulative traffic congestion. Therefore the secondary school alone based on the catchment as now announced could lead to severe cumulative traffic congestion even without any development on the Northern Fields.

It is often argued that school run traffic does not cause so much disruption to the traffic system because it is more concentrated in time. However, the A46 queue forms from about 07:20 and lasts until 09:20 or later. So extra vehicles add to the queue whatever time they join it in the peak period. Moreover if many vehicles join at the same time they drive the end of the queue beyond the Up Hatherley Way roundabout and cause more trapping of vehicles in the queue. So concentrated school run traffic can cause more harm than if it were spread over a longer part of the peak morning period.

There is of course a great deal of uncertainty about what will actually happen, but optimistic assumptions are already built into the school traffic assessment by GCC that a very high proportion of pupils will travel to and from the school by foot or cycle. Even for these optimistic assumptions and based on a more benign catchment the traffic modelling for the school planning application predicted 141 parent car arrivals at the school in the morning peak period.

Therefore unless the mitigation measure at the A46/MPR junction can be made to work by acquiring the extra land, the proposed development must be refused on the basis of severe cumulative traffic congestion at least until there is more clarity about the impact of the secondary school. The secondary school will not reach full capacity until the intake in September 2025. But the position could be fairly clear by the end of 2024. Even then, however, it could still show that the traffic congestion is severe.

The Parish Council therefore recommends that the application needs to be refused for the present and Miller Homes need to acquire the extra land required to make the A46/MPR mitigation scheme viable.

4. Smallholdings (area SH)

As can be seen from Map 1, the boundary of the Local Green Space as submitted to public consultation in January 2015 ran along the northern fence of the line of smallholdings on the north side of the smallholding footpath. This was the map used by Inspector Ord in her JCS findings on Leckhampton. In February 2019 at the Leckhampton hearing in the examination of the Cheltenham Plan, Miller Homes proposed to Inspector Burden that the LGS boundary should be moved to lie along the footpath thereby running through the smallholdings. Inspector Burden referred to John Rowley who replied that the boundary did not go through the smallholdings and Inspector Burden dismissed Miller Homes' proposal. However, when the revised draft local plan was published the boundary had been moved to lie along the public right of way. John Rowley confirmed that this had been done in error because the footpath looked like a more obvious boundary. The error was discovered too late to correct because the local plan had already gone out to final consultation. John Rowley pointed out however that the inclusion of the northern strip of the smallholdings in the LGS would only protect the land from being built on whereas much stronger protection was provided by the valued landscape.

The smallholdings on both sides of the footpath are part of the varied and interesting landscape character than contributes to the valued landscape. The footpath is also very heavily used by local residents for walking and dog walking and it is very important to retain its rural character as part of its amenity as a local walking route. This requires retaining the strip of smallholdings as part of the valued landscape and screening the housing development north of the smallholdings from view from the footpath by planting trees and a new hedge along the boundary. The plan for the site therefore needs to be amended to provide this.

The application proposes using the southern part of the smallholdings as a community meadow and orchard and for allotments. The smallholdings are still used for sheep and hens but have largely fallen into disuse because in recent years the smallholders have been offered such short leases of the land that some felt it was not worth their while to continue. It is uncertain whether the smallholders will move back if offered longer leases. The proposed conversion of the southern part of the smallholdings to a community orchard and allotments retaining the old orchard has ecological and landscape merit.

The Council therefore recommends that further work is needed. At an earlier meeting between Miller Homes and the Parish Council it was agreed that once Miller Homes published its final plan for the smallholdings it would consult further with the Parish Council and the Parish Council would in turn consult local residents as part of neighbourhood planning.



View 1: Satellite view of smallholdings and areas R2 and R3



View 2: Close up of the northern strip of the smallholdings and footpath



View 3: Satellite view of the line of trees along Hatherley Brook with the triangular area R3 to the right of the trees and the rectangular area R2 further right

5. Ecology

The Ecology report gives comprehensive assessment and recommendations for ecological mitigation and enhancement for protected species, backed by a fairly comprehensive array of ecological surveys, analysis and reports. It covers in some detail the issue of recreational pressure on surrounding sites of nature concern, notably the Cotswold Beechwoods SAC, Badgeworth SSSI, Leckhampton & Charlton Kings Common SSSI. The green space planned in the development and particularly the availability of the Leckhampton Fields Local Green Space should greatly help reduce any impact of the development on the SAC. This was an issue raised strongly by Natural England at the examination of the Cheltenham Plan in 2019.

The retention of orchards, stream corridors and hedgerows/rough grassland (where feasible) is welcomed as are the plans to create native habitat areas - traditional orchard using local fruit varieties and creation of allotments (both good for wildlife as well as community function), hedgerows, woodland patches and meadow planting. Further details should be given in a Landscape and Ecology Management Plan (LEMP) for the site to ensure that these habitats (retained and new) will be created and managed/maintained appropriately.

The LEMP needs to be created and agreed before any development begins on the site. It should specify key issues such as the correct seed used and soil type considered for

establishment of wild flower meadows. It should be long term and ensure that suitable habitat for all species identified on the site is provided and enhanced. It should also provide details on timing so that habitat creation/enhancements are started early on in the development process, especially as reptiles will need suitable tall grassland habitat to be translocated into. Himalayan balsam is growing in the brook and control of this species needs to be considered in the LEMP.

While the ecology survey and many protected species surveys have been updated, the dormouse survey and great crested newt surveys were last undertaken in 2017 and the breeding bird surveys were last undertaken in 2010. These surveys need to be updated, most especially the dormouse surveys in the light of dormice being found in 2019 on the site of the new secondary school. The dormouse population may have been encouraged to move northwards along Hatherley Brook following the disturbance and habitat damage caused by the very dense Redrow development west of Farm Lane where dormice were also found. Should dormice be present now on the Northern Fields this will have implications for the hedgerow/woodland retention and planting plans. These surveys need to be updated before any development begins and the dormouse survey ought to be done before planning approval is granted and certainly before any development begins.

A Construction Ecological Management Plan (CEMP) is needed with details on mitigation for each species highlighted as being present on the site. This should include a detailed lighting plan, informed by bat activity surveys, to ensure that bat foraging habitats (hedgerows, wood and stream) are not illuminated and that appropriate types of lighting are used. This is especially important as particularly light sensitive species such as lesser horseshoe and barbastelle bats have been recorded.

No consideration has been given to the need to protect hedgehogs, which were found on the site of the new secondary school. As this species is highly endangered and a NERC Priority Species, mitigation and enhancements for this species should be considered in the CEMP (such as the creation of 13x13cm holes at base of fences to allow hedgehog passage through gardens and the creation of log piles/hedgehog homes).

Biodiversity Net Gain (BNG) analysis is expected to become mandatory from spring 2021 and should be considered for this development. The consultants should prepare a BNG report using the DEFRA BNG Metric calculations, looking at habitats lost versus habitats created and considering their ecological values and areas. BNG calculations were undertaken for the secondary school site and proved a useful tool in highlighting natural habitats and hedgerows to be retained and planted. The BNG calculations will ensure that the proposed green infrastructure plans result in positive BNG for the development.

The Parish Council therefore recommends that some surveys need updating particularly regarding dormice, the protection of hedgehogs needs addressing, and an enforceable Landscape and Ecology Management Plan (LEMP) and Construction Ecological Management Plan (CEMP) should be produced. A Biodiversity Net Gain Report would be helpful.

6. Flood Risk

Leckhampton Hill, because of its height and position, receives very heavy and intense rainfall. This has been measured by the Parish Council for many major storms over the past 15 years at a location on the lower scarp above Leckhampton Village with an elevation of 100 metres. The measurements show that the rainfall intensity on the scarp tends to be two to three times higher than in central Cheltenham and in the Severn Valley generally and care needs to be taken to use the right rainfall predictions for developments on or close to the Hill and to evaluate the likely runoff. This was a finding from the session on flood risk at the examination of the Cheltenham Plan in February 2019 in relation to the serious flooding of properties at Leckhampton View, a newly built development on the scarp at the top of Leckhampton Road that was flooded on 12 June 2016. The flooding was caused by a 5 year storm with an estimated rainfall of 30 mm on the scarp and lasting about 45 minutes.

The Hill experiences intense short storms with rainfall averaging 40 to 45 mm/hour and with durations of 45 to 75 minutes. They occur about every 5 years on average but more frequently in the past decade. The Hill also experiences longer storms the most notable being the storm on 20 July 2007 when 130 mm of rain fell in 8 hours with a peak rainfall of 23 mm over an hour. That storm was part of several days of heavy storms that caused the worst flooding of the Severn Valley for over 200 years and flooded many parts of Cheltenham. The 20 July storm followed a heavy storm the previous day that saturated the ground.

The 20 July 2007 storm was assessed as a 57 year storm in the Flood Risk Assessment by Halcrow dated August 2010 for the Warden Hill Flood Relief Works (CBC planning reference 10/01427/). Warden Hill was flooded by Warden Hill Stream, a small watercourse that starts on the land west of Farm Lane and flows down through Brizen Farm. The flood defences installed in 2011 are designed to protect against flooding by holding the flood water on the land at Brizen Farm and they also have conduits to carry water away safely.

In addition to the flooding in Warden Hill, around 60 dwellings in south Cheltenham were also flooded from Hatherley Brook and Moorend Stream. This is relevant because development on the Northern Fields will remove any option to protect in the future against flooding from Hatherley Brook by holding flood water back on the Northern Fields in the same way that the Warden Hill scheme holds back water on the Brizen Farm land.

The Leckhampton Fields contain a mix of lias clay with deposits of alluvial soil, sand and gravel. Some houses north of the A46 opposite the Northern Fields experience flooding in their gardens and reportedly internally in at least one case. The flooding appears to be caused by water flowing under the A46 from the Northern Fields. This was considered in the flood risk analysis for the 2013 Bovis-Miller application along with the risk that underground flow could perforate the balancing ponds. The conclusion then was that it is impossible to predict what may happen and remedial measures will be needed if problems arise either to the balancing ponds or the housing north of the A46. One concern of residents is that the foundations of the roads and drainage on the site could pick up underground flows and channel them down to the A46.

From the specifications given, the three balancing ponds appear to have sufficient capacity to handle a worst case storm of about 100 mm. For example, pond C serves a

stated impermeable area of 3.34 ha and for a 100mm storm the pond would need to capture 3340 cu metres of rainfall. The ond has a stated capacity of 2880 cu m and an outflow of 23.5 litres per second. The difference of 460 cu metres could be handled by the outflow if the storm was spread over at least 5.5 hours. Given the distance of the site from Leckhampton Hill this seems a reasonable assumption to take at least for a 30 year storm. If in an extreme storm the balancing ponds were to overflow into Hatherley Brook the amount of overflow would be small compared to the flow from Leckhampton Hill.

The Flood Risk analysis considers that on the basis of the Environment Agency flood risk map there is very low risk of flooding to any houses on the development. However, given the flooding of Leckhampton View in 2016 and the large catchment of Hatherley Brook on the scarp of Leckhampton Hill it would be prudent to make a more detailed assessment of the likely flooding of Hatherley Brook in future major storms rather than just relying on the Environment Agency. The Parish Council has therefore made the following rough assessments. As the detailed land profile of the Northern Fields is missing from the published Flood Risk assessment the Parish Council has had to use the less precise data from the OS 1:25000 map.

The catchment of Hatherley Brook south of Church Road has an area of about 200 ha. This lies largely on the impermeable lias clay scarp but includes the more permeable limestone on the top of the Hill which dips at 3 degrees to the east. However the top of Leckhampton Hill is very steep and most of the rainfall will run off. In the storm of 20 July 2007 the ground was already well saturated by a storm on 19 July. When the peak of the storm arrived several hours into the storm the ground would have been completely saturated. The peak rainfall that day was 23 mm over an hour, quite a lot less than the 40 mm per hour that typically occurs for shorter 5 year storms. For the 23 mm per hour rainfall and assuming 50% runoff from the catchment into Hatherley Brook the inflow into the brook would have been about 6400 litres/sec during the peak rainfall. This is shown in Table 1A and extrapolated to a 30 year storm and 100 year storm with and without adding 40% for climate change. These extrapolations are necessarily crude because it is not clear whether for a more major storm the peak rainfall and the total rainfall should be scaled in the same ratio or whether the duration of the storm would be longer or shorter.

Without CC	mm/hr	Litres/sec	Without CC	Mm/hr	litres/sec
30 year storm	19	5280	30 year storm	29	11249
50 year storm	23	6389	50 year storm	35	13611
100 yr storm	30	8306	100 yr storm	46	17694
Incl +40% for CC	mm/hr	Litres/sec	Incl +40% for CC	Mm/hr	litres/sec
30 year storm	27	7392	30 year storm	40	15748
50 year storm	32	8944	50 year storm	49	19056
100 yr storm	42	11628	100 yr storm	64	24772

Tables 1A (left) and 1B (right)

Table 1B shows the inflow assuming 70% capture of the runoff into Hatherley Brook and peak rainfall of 35 mm/hr for a 50 year storm without climate change which accords more closely to the rainfall in the shorter intense storms with around 40 mm/hr

Stroom profile	Witho	out climate ch	ange	With +40% for climate change		
Square sided stream bed plus sloping margins for overflow	Church Rd to Footbridge	Footbridge to Kidnappers Lane	Kidnappers Lane to A46	Church Rd to Footbridge	Footbridge to Kidnappers Lane	Kidnappers Lane to A46
Length of section (m)	239	442	375	239	442	375
Top elevation (m)	84.5	80.0	73.5	84.5	80.0	73.5
Bottom elevation (m)	80.0	73.5	67.5	80.0	73.5	67.5
Drop (m)	4.5	6.5	6.0	4.5	6.5	6.0
Channel base width (m)	1	1	1	1	1	1
Channel base depth (m)	0.7	0.7	1.2	0.7	0.7	1.2
Slope of margins (1 in)	27	16	32	27	16	32
Stream gradient (1 in)	53	68	63	53	68	63
Manning co-efficient	0.18	0.18	0.18	0.18	0.18	0.18
30 year storm						
Width of overflow (m)	18.4	13.8	20.8	21	16	24
Depth incl overflow (m)	1.38	1.56	1.85	1.48	1.70	1.95
Max overflow depth (m)	0.68	0.86	0.65	0.78	1.00	0.75
Channel area (sq m)	13.9	13.5	15.4	17.8	17.7	20.0
Wetted perimeter (m)	39.23	30.05	45.02	44.43	34.46	51.42
Hydraulic radius (m)	0.35	0.45	0.34	0.40	0.51	0.39
Mean velocity (m/s)	0.38	0.39	0.34	0.41	0.43	0.37
Flow (litres/sec)	5320	5309	5276	7383	7644	7457
50 year storm						
Width of overflow (m)	19.8	14.9	22.6	23	17	26
Depth incl overflow (m)	1.43	1.63	1.91	1.55	1.76	2.01
Max overflow depth (m)	0.73	0.93	0.71	0.85	1.06	0.81
Channel area (sq m)	16.0	15.5	17.9	21.1	19.8	23.1
Wetted perimeter (m)	42.03	32.26	48.62	48.43	36.47	55.43
Hydraulic radius (m)	0.38	0.48	0.37	0.44	0.54	0.42
Mean velocity (m/s)	0.40	0.41	0.36	0.44	0.45	0.39
Flow (litres/sec)	6377	6407	6442	9278	8892	9082
100 year storm						
Width of overflow (m)	22	16.5	25.1	25.1	18.9	28.7
Depth incl overflow (m)	1.51	1.73	1.98	1.63	1.88	2.10
Max overflow depth (m)	0.81	1.03	0.78	0.93	1.18	0.90
Channel area (sq m)	19.4	18.7	21.7	25.0	24.2	27.8
Wetted perimeter (m)	46.43	35.46	53.62	52.63	40.27	60.83
Hydraulic radius (m)	0.42	0.53	0.40	0.47	0.60	0.46
Mean velocity (m/s)	0.43	0.44	0.38	0.46	0.48	0.42
Flow (litres/sec)	8296	8253	8325	11575	11609	11617

Table 2A Manning Equation calculation for flow rates shown in Table 1A

Stroom profile	Witho	out climate ch	nange	With +40% for climate change		
Square sided stream bed plus sloping margins for overflow	Church Rd to Footbridge	Footbridge to Kidnappers Lane	Kidnappers Lane to A46	Church Rd to Footbridge	Footbridge to Kidnappers Lane	Kidnappers Lane to A46
Length of section (m)	239	442	375	239	442	375
Top elevation (m)	84.5	80.0	73.5	84.5	80.0	73.5
Bottom elevation (m)	80.0	73.5	67.5	80.0	73.5	67.5
Drop (m)	4.5	6.5	6.0	4.5	6.5	6.0
Channel base width (m)	1	1	1	1	1	1
Channel base depth (m)	0.7	0.7	1.2	0.7	0.7	1.2
Slope of margins (1 in)	27	16	32	27	16	32
Stream gradient (1 in)	53	68	63	53	68	63
Manning co-efficient	0.18	0.18	0.18	0.18	0.18	0.18
30 year storm						
Width of overflow (m)	24.7	18.6	28.2	28.2	21.2	32.2
Depth incl overflow (m)	1.61	1.86	2.08	1.74	2.03	2.21
Max overflow depth (m)	0.91	1.16	0.88	1.04	1.33	1.01
Channel area (sq m)	24.2	23.5	26.9	31.2	30.1	34.6
Wetted perimeter (m)	51.83	39.67	59.83	58.84	44.88	67.83
Hydraulic radius (m)	0.47	0.59	0.45	0.53	0.67	0.51
Mean velocity (m/s)	0.46	0.47	0.41	0.50	0.52	0.45
Flow (litres/sec)	11112	11149	11117	15582	15541	15528
50 year storm						
Width of overflow (m)	26.7	20.1	30.5	30.5	22.9	34.8
Depth incl overflow (m)	1.69	1.96	2.15	1.83	2.13	2.29
Max overflow depth (m)	0.99	1.26	0.95	1.13	1.43	1.09
Channel area (sq m)	28.1	27.2	31.2	36.3	34.9	40.1
Wetted perimeter (m)	55.84	42.68	64.43	63.44	48.29	73.03
Hydraulic radius (m)	0.50	0.64	0.48	0.57	0.72	0.55
Mean velocity (m/s)	0.48	0.50	0.43	0.53	0.54	0.47
Flow (litres/sec)	13548	13569	13537	19060	18932	18920
100 year storm						
Width of overflow (m)	29.6	22.3	33.9	33.7	25.4	38.6
Depth incl overflow (m)	1.80	2.09	2.26	1.95	2.29	2.41
Max overflow depth (m)	1.10	1.39	1.06	1.25	1.59	1.21
Channel area (sq m)	34.2	33.2	38.2	44.0	42.6	49.0
Wetted perimeter (m)	61.64	47.09	71.23	69.85	53.30	80.64
Hydraulic radius (m)	0.56	0.70	0.54	0.63	0.80	0.61
Mean velocity (m/s)	0.52	0.53	0.46	0.56	0.58	0.50
Flow (litres/sec)	17646	17687	17697	24662	24714	24676

 Table 2B
 Manning Equation calculation for flow rates in Table 1B

In Tables 2SA and 2B the Council has used Manning's equation to estimate how much the Brook will overflow and the maximum depth of flooding for the cases shown in Tables 1A and 1B. This is based on the approximate channel profile and gradient derived from the height contours on the OS 1:25000 map. The rate of flow and degree of flooding depends on the friction applied to the flow by the channel. This is represented in Manning's equation by the Manning roughness coefficient. A value of 0.18 has been taken for this, which is a composite of the value of 0.1 for natural vegetation, 0.2 for wood/forest and 0.26 for pasture and for grass in a built-up area. The higher the value one takes for the Manning coefficient the slower is the flow and the deeper and more extensive is the flooding. The drag depends on the amount of contact between the flow and channel. This is represented by the hydraulic radius, which is the channel area divided by the wetted perimeter.

Uncertainties over what value to assume for Manning's coefficient, over how climate change will affect peak rainfall and over the percentage of runoff captured by the Brook make any calculation very approximate. With that proviso, Manning's equation gives the results shown Tables 2A and 2B for the width of overflow each side of Hatherley Brook and for the maximum depth of flooding in the overflow area. The profile of the brook is modelled as a rectangular section for the stream bed with the surrounding margins sloping up with uniform gradient.

The Brook has been divided into three sections as shown. The central section between the footbridge and Kidnappers Lane has a higher gradient and narrower stream profile. For each section the top and bottom elevation and the channel width and slope are derived from the contours on the OS 1:25000 map. In Tables 2A and 2B the width of overflow shown in bold has been adjusted to bring the resulting flows given by Manning's equation into very close match to the flows in Tables 1A and 1B.

The contours in the OS 1:25000 map indicate that on the Northern Fields the Brook currently flows along a shallow 'valley' about 1.5 to 2 metres deep and 50 to 100 metres wide. Table 2A show that even for a 100 year storm with +40% for climate change the flooding should all be contained in this space and not produce wider flooding. However, on the Land Use Plan there are some houses quite close to the Brook; one only 12 metres away, another at 18 metres and others at around 25 metres. To see whether these might be vulnerable to flooding one needs the detailed map of the planned ground levels as some land is to be raised to provide gravity feed to the balancing ponds.

For the higher flow rates in Table 2B the situation looks more risky with a predicted width of overflow of around 39 metres each side of the brook in the case of a 100 year storm with +40% for climate change. One could also argue that a Manning constant of 0.26 (the value for pasture and grass in housing development) would be a more appropriate value than 0.18 for the Northern Fields. This would also make the flooding worse. These calculations are obviously crude but they do indicate that properties close to the brook might be vulnerable to flooding despite what is shown on the Environment Agency flooding map.

For any major storm the flood water will overtop the A46 because of the limited capacity of the culvert under the A46. But even in the worst case it should not have sufficient depth to reach to Woodlands Road and Salisbury Avenue and then flow down into Warden Hill. There might, however, be some downstream risk to Merestones and areas further west along Hatherley Brook and this should be assessed because the development will remove any future option to use the Northern Fields to hold back flood water in order to protect the residential areas downstream in the same way that Brizen Farm land has been used to protect Warden Hill.

7. Air Quality, Carbon Neutral Cheltenham and promoting cycling

Measurements of nitrogen dioxide (NO2) levels in the vicinity of the A46/MPR junction show that they can exceed the permitted limit of 40 μ g m-3 in certain months but are below but close to the permitted limit when averaged over a year. These measurements were made in the past by CBC and in the last two years by Parish Council using a professional monitoring service. The high level comes from the traffic queues in both directions on the A46 and in both directions on Moorend Park Road. If one looks at the extra traffic that is likely to be generated by the new secondary school and by the proposed Miller Homes development it is fairly likely that together they might take the annual average above the permitted limit just in that location. But one cannot be sure of this because the amount of traffic to the school in the morning and afternoon period is so uncertain.

The Air Quality Report concludes from air quality monitoring and modelling that the impact of the Miller Homes development on the NO2 levels will be negligible. It is not clear how much reliance can be placed on this because of various technical weaknesses in the methodology used.

- 1) The majority of the location of the receptor sites are identified incorrectly so all the modelling in invalidated.
- 2) Incorrect data for all 4 sites used in model verification. Again, this invalidates the modelling process, on which the report is based.
- 3) The methodology fails to follow DEFRA guidance in LAQM.TQ16 regarding dispersion modelling. The modelled results fall way outside the margins given by DEFRA of acceptable levels of error.

.Evidence for these deficiencies is provided in Appendix 1 submitted separately.

Although the Air Quality Report concentrates mainly on dust and on NO2 levels, these are not the only issues. Of increasing concern is the danger of particulates. These arise from vehicle engines, particularly diesel, and also from brakes and other moving parts. They will not reduce in the same way as NO2 when petrol and diesel cars are phased out. The Air Quality Report considers the published background levels of particulates but does not appear to consider the impact of traffic on the A46.

Nitrogen dioxide is inflammatory. It is very harmful in high concentrations and that it is the reason for the short term exposure limit of 200 μ g m-3 over an hour. But low levels of NO2 are fairly safe. In contrast, particulate expose is cumulative, particularly for very small particulates that are difficult for the body to remove and pass deep into the lungs, into the blood stream and into cells, causing cancer, cardiovascular disease, mental impairment and other adverse impacts in children and adults. Importantly, unlike NO2, fine particulates persist for a long time in the air and spread very widely. So a traffic queue down the A46 generates particulates that are blown by the prevailing south-west wind up the A46 into Cheltenham and add to the background across the local area. The background levels quoted in Table 6.3 for pm2.5 are between 9.4 and 11.0 μ g m-3 and this is well below the limit quoted for pm2.5 of 25 μ g m-3. But the World Health Authority has long advised that 25 μ g m-3 is far too high and that the limit ought to be at 10 μ g m-3

3 or lower. The evidence is that there is no safe exposure level to pm2.5, especially for children.

Another factor that is not considered in the Air Quality Report is the hazard to drivers and passengers in cars and buses who are exposed to particularly high levels of pollution from other vehicles in the traffic queue that is sucked in and concentrated inside their vehicle.

The real message on the air quality not explained in the Air Quality Report is the importance of avoiding long queues of slow moving traffic, particularly on the A46.

On the issue of Carbon Neutral Cheltenham, the Parish Council has been in contact with Cllr Max Wilkinson in his role as Cabinet member for climate change and the Parish Council has also noted the submission on the application by Vision 21. The application proposes to build the new houses only to current government energy and emission specifications and this seems a great pity. The Parish Council recognises that CBC has no power currently to enforce stronger energy standards. However the Government is considering new restrictions on gas boiler installation and so the situation could be different if approval of the application were delayed because of the issue of severe cumulative traffic congestion.

It is not clear whether Miller Homes may give purchasers of houses the option to have a more carbon neutral and sustainable technology. But the public is becoming increasingly concerned over climate change and many purchasers may want to move towards a zero carbon lifestyle.

Both for carbon neutrality and for reducing traffic congestion it is important to promote more cycling. The Parish Council recommends that the cycle tracks in the development need to be better connected externally. In particular the cycle track would be much more useful for encouraging cycling to the new secondary school if it connected to Merlin Way as recommended in the survey of cycle routes to the school in Annex 2.

The Parish Council therefore recommends that the application needs to do more to address both the need for reducing carbon emissions and the need to increase cycling and to support cycling to the new secondary school.

Annex 1

The 47 viewpoints identified in the AA 4 miles to the inch road atlas of Great Britain and also in the AA 3 miles to the inch atlas. 28 are in England, 6 in Wales and 13 in Scotland.

Page	Ref.			E	W	S
5	R4	Dunkery Beacon	Exmoor, Somerset	1		
6	E8	Wellington Monument	Blackdown Hills, Somerset	1		
7	P10	Bulbarrow Hill	Dorset	1		
8	E7	Pepperbox Hill	Hants	1		
8	K14	Bernbridge Down	Isle of Wight	1		
9	Q9	Dunction Hill, South Downs	W Sussex	1		
10	C5	Epsom Down, North Downs	Surrey	1		
12	G5	Foel Eryr	Pembrokeshire		1	
14	F7	Sugar Loaf	Black Mts., Monmouthshire		1	
14	J14	Portishead	Severn Estuary, N. Somerset	1		
14	K7	Symonds Yat Rock	Gloucestershire	1		
15	P8	Robinswood Hill	Gloucestershire	1		
15	Q7	Barrow Wake	Gloucestershire	1		
15	R7	Leckhampton Hill	Gloucestershire	1		
15	T14	Barbary Castle	Marlborough Downs, Wiltshire	1		
16	D1	Magpie Hill	Warwickshire	1		
16	F11	Wittenham Clumps	Oxfordshire	1		
18	H15	One Tree Hill	Essex	1		
20	N4	Town Hill	Powys		1	
21	U8	Clee Hill	Shropshire	1		
22	K14	Central Forest Park	C. Stoke	1		
23	L12	Windmill Hill	Worcestershire	1		
23	M9	Barr Beacon	Birmingham	1		
23	Т6	Beacon Hill	Leicestershire	1		
28	B5	South Stack	Anglesey		1	
28	K4	Great Orme Head	Conwy		1	
29	S9	Waun-y-Llyn	Flintshire		1	
30	H11	Mersey View	Cheshire	1		
31	P9	Werneth Low	Derbyshire	1		
31	R7	Holme Moss	Peak District, Derbyshire	1		
31	T11	Hathersage Booths	Peak District, Derbyshire	1		
32	B14	Highoredishy	Derbyshire	1		
36	J9	Sutton Bank	Yorkshire Moors, N Yorkshire	1		
37	P8	Hole of Horcam	Yorkshire Moors, N Yorkshire	1		
43	S4	Lyle Hill	Inverclyde			1
44	E3	Queen's View	E. Dunbartonshire			1
45	M4	Cockleroy	W. Lothian			1
45	R5	Blackford Hill	Edinburgh			1
46	H11	Scott's View	Eildon Hills, Border			1
46	J15	Carter Bar	Cheviot Hills, Border			1
49	U15	Queen Elizabeth Forest Park	Stirling			1
50	D6	Queen's View, Loch Tummel	Perth and Kinross			1
51	R5	Blackford Hill	Edinburgh			1
52	D8	Bealach-Na-Ba	Highlands			1
52	K14	Glen Garry	Highlands			1
56	J12	Knockon Cliff	Highlands			1
57	Q16	Struie Hill	Highlands			1
				28	6	13

Annex 2

LWWHPC submission to the Cheltenham Plan Consultation dated 9 April 2018 Analysis of the GCC proposal for a new secondary school in Kidnappers Lane

1. Background

Gloucestershire County Council has assessed that the shortfall in secondary school places across Cheltenham will become so serious by 2019 that it needs very urgently to build a new 900 student secondary school in south Cheltenham. According to Tim Brown (GCC Head of Education) speaking at the public meeting held by Leckhampton with Warden Hill Parish Council on 14 March 2018, there will be a shortfall of 154 places across Cheltenham for Year 7 students in September 2019 rising to 213 in 2021. GCC is proposing that the new school would be additional to the new secondary school already planned in north-west Cheltenham to serve the major housing development there under the Gloucester-Cheltenham-Tewkesbury Joint Core Strategy (JCS).

At the 14 March meeting some residents contested GCC's analysis and also questioned whether the increasing demand is really in south Cheltenham. Tim Brown's evidence on the demand seemed to depend more on the fact that the primary schools in south Cheltenham are full or nearly full rather than on demographics. Nationally there is an increased demand for secondary school places similar to that identified by GCC in Cheltenham, as Tim Brown pointed out at the meeting. But this national trend is substantially due to ethnic minority households with large families. Cheltenham has only a small ethnic minority population and very little in south Cheltenham. The problem in south Cheltenham may be due instead to families in other parts of Cheltenham choosing to send their children to the south Cheltenham schools, both primary and secondary.

Given GCC's figures on the scale of the shortfall, it seems very surprising that the requirement for the new school was not identified earlier and was not included in the JCS. However, GCC's decision on the school may have been opportunistic. The opportunity to locate the new school at Leckhampton only arose very recently. Until 2016 the land where it is now proposed to put the school was part of a strategic housing allocation for 1150 to 1250 new dwellings on the Leckhampton Fields proposed in the draft JCS. GCC had given an option to developers David Wilson Homes to build on the 6 hectares of land that GCC owned within this strategic allocation. However, in 2016 the JCS Inspector concluded that the Leckhampton strategic allocation was unsound and it was accordingly removed from the JCS. The 6 hectares of land owned by GCC will now be part of the Leckhampton Fields Local Green Space. This means that the land cannot be used for housing and this has created the potential for GCC to use it instead for a school playing field.

Whilst it is good that GCC has looked at this opportunity as a way of solving the shortfall across Cheltenham, there is a risk that GCC has embraced it too firmly without a proper understanding of the problems involved, particularly over traffic congestion. A sequential analysis was undertaken by consultants for GCC to decide on the best site for the school. But this was a very superficial study that ignored the key issue of traffic congestion and instead put a lot of weight on GCC's ownership of the playing field land

and on an argument that the extreme urgency of providing the new school by 2019 required locating it in Cheltenham rather than in Tewkesbury Borough because the Cheltenham Local Plan was some 6 months more advanced than the Tewkesbury Local Plan. This argument of urgency has since faded because according to Tim Brown the new school is now unlikely to open even partially until 2021.

Through ignoring the issue of traffic congestion, GCC's decision on where to locate the new school is seriously flawed. Nevertheless, Cheltenham Borough Council (CBC) agreed in December 2017 to include the new school in the Cheltenham Plan but with the proviso that this is subject to detailed traffic analysis being undertaken and proving that the proposed location is sustainable.

The Parish Council, based on its own traffic modelling and understanding of the traffic issues, is seriously doubtful that the school can be sustainable and is concerned that a decision could be pushed through that will have very bad consequences. The Parish Council is also very concerned that this will end up with many parents in the Parish and also in College and Charlton Park Wards being left with no local secondary school to which they can send their children. Many local parents are very worried about this as was evident at the meeting on 14 March.

Severe cumulative traffic congestion was one of the main grounds together with valued landscape on which the Secretary of State in 2016 rejected the appeal from Bovis Homes and Miller Homes to build 650 houses on the Leckhampton Fields, including on the land now proposed by GCC for the new school buildings. As discussed later in section 7, the extra traffic that would be generated by the new school if located on the proposed site could potentially create traffic congestion far worse than the severe cumulative congestion that was the basis for the Secretary of State's decision. This would be strong grounds for rejecting any planning application for the school and also for judicial challenge if the planning application were allowed.

Tim Brown said at the meeting on 14 March that a high level 15 year traffic profile had been done with no red flags identified. But high level traffic models are too large-scale to deal with the severe local congestion that is of concern in this case. GCC is now committed to undertake a full detailed traffic analysis and one purpose of this paper is to examine the issues that such an analysis would need to consider as well to provide an input to the Cheltenham Plan consultation.

2. Factors in the shortfall of education capacity in south Cheltenham

There are two secondary schools on the south side of Cheltenham: Bournside School with around 1800 students in the south-west of the town and Balcarras School with around 1200 students in Charlton Kings in the south-east of the town. The proposed site for the new school building is on the Leckhampton Fields at the junction of the A46 and Kidnappers Lane. The 6 hectares of land that GCC owns lie immediately south along Farm Lane. The site is 0.6 miles from Bournside School and 2.1 miles from Balcarras.

The shortfall in secondary school places in south Cheltenham is concentrated particularly in what is known as 'the Old Bath Road gap' (also known as the Leckhampton Triangle), which is the area that is mid-way between Bournside and Balcarras schools. This gap is partly due to the high educational standards of Balcarras and Bournside schools and particularly of Balcarras, which is not only Ofsted

Outstanding but is also rated highly in national league tables for GCSE and A-level results. Many parents move from other parts of Cheltenham to live, often temporarily, within the Balcarras catchment area when their children are reaching secondary school age. Parents in north Cheltenham also seek to send their children to schools in south Cheltenham and the primary schools in south Cheltenham are also full or nearly full.

An obvious question is whether it makes sense to locate a new secondary school on the south side of Cheltenham to meet a rising demand across the whole town. If children are travelling from north to south to attend schools this increases the problem of traffic congestion and pollution. Cheltenham is one of 33 boroughs and districts in the UK that have been ordered by the UK government to reduce high levels of pollution that exceed EU limits. Cheltenham is currently undertaking a strategic study into how to tackle its traffic congestion, which is forecast to become a lot worse because the development planned in the JCS will increase the size of Cheltenham by 20% by 2031. The proposed new school development at the location proposed will exacerbate this.

Balcarras School has recently changed its sibling admission policy to avoid parents moving temporarily to live close to Balcarras in order to get their first child admitted to the school and then moving away again and using the sibling admission policy to secure places at Balcarras for their other children. Under the new admission policy, parents have to continue to live within the Balcarras catchment area. Despite this, however, the Balcarras catchment area has shrunk to a radius of only 0.8 miles and is set to shrink further. It is this shrinking of the Balcarras catchment that has widened the 'Old Bath Road' gap.

One answer to the shortfall that would be very welcome to parents would be to expand Balcarras School, which borders open land. However, Balcarras and Bournside schools are both academies and are outside the direct control of the County Council. If the secondary schools in north Cheltenham were of the same excellence as Balcarras there would be less reason for parents in the north of the town to send their children to school in the south. But that is much easier said than done, and the outstanding academic results at Balcarras may reflect the professional and highly aspirational families in its catchment area as well as the excellence of the school itself.

3. The proposed new school and its site

GCC proposes that the new secondary school will have 900 students covering school Years 7 to 11 but will not include a sixth form (Years 12 and 13) because currently there is still a small surplus of sixth form capacity in Cheltenham. A sixth form might be added to the school at a later date and Years 7 to 11 may also need to expand to serve the demand from planned housing development in Cheltenham that is in the Local Plan but does not yet have planning approval. This means that the size of the proposed school could increase to around 1200, making it similar in size to Balcarras School.

Balcarras School is one of the organisations bidding to operate the new school. The hope is that the winner of the competition to run the school will achieve the same level of excellence as at Balcarras. This would help to reduce the artificial situation created by parents moving very close to Balcarras and could possibly help to redistribute the catchment areas. This could help the Balcarras catchment to expand again rather than shrinking further. However, as with the schools in north Cheltenham, to create a school with the outstanding performance of Balcarras is easier said than done. So assessing

the impact of the proposed school on the traffic congestion has to be based on the current situation and on the shrinking Balcarras catchment area, as explained by Tim Brown on 14 March.

The proposed site for the new school is on the Leckhampton Fields, which are largely valued landscape and subject to protection under paragraph 109 of the National Planning Policy Framework (NPPF) which says 'The planning system should contribute to and enhance the natural and local environment by: protecting and enhancing valued landscapes....'. The 6 hectares proposed for the school playing field is also in the Leckhampton Fields Local Green Space (LGS) which under the NPPF is equivalent to Green Belt in terms of planning protection. According to recent case law, planning permission would be unlikely to be granted for a private playing field in Green Belt and this is also likely to apply to LGS as having equivalent protection under the NPPF. However, permission might exceptionally be granted in the case of a school playing field, although this might be subject to legal challenge. As LGS and valued landscape, the playing field would need to be kept as green field and there could be no buildings, floodlighting or artificial grass, or other development. There would also presumably be the same constraints on use as for a playing field in Green Belt. The public right of way across the land would need to be preserved and is an important part of the Leckhampton Fields Circular Walk and network of footpaths. The hedgerows and trees along Kidnappers Lane by the school would need to be enhanced to protect the valued landscape and rural character of Kidnappers Lane and to appropriately screen the school buildings from view from Leckhampton Hill, as was previously planned if the site had been used for housing.

The proposed location for the school buildings themselves is on part of the land along the A46 identified as being suitable for housing development in the Joint Core Strategy. This is subject to protecting the valued landscape to the south and the important views towards Leckhampton Hill from the A46. Through neighbourhood planning, the Parish Council has been working with the developer, Miller Homes, on how to achieve the required protection. There is an important viewpoint known as the 'Pig Field View' at the corner of the A46 and Kidnappers Lane immediately northwest of the proposed site of the school buildings.

Miller Homes are fighting the proposed school and it seems very likely that compulsory purchase of the land will be required. Compulsory purchase could be refused or could be very protracted because of the issue of severe traffic congestion.

4. Effect of the school on traffic congestion

The adverse effect on the traffic congestion due to students coming to the school by car would depend greatly on where they came from. A return trip from Warden Hill or Up Hatherley west of the school would not add to the A46 traffic queue if it went via Woodlands Road and down the A46 to the school and returned via Up Hatherley Way. In contrast, a return trip to the school from the areas to the east via Moorend Park Road (MPR) and the MPR/A46 junction could add the equivalent of 2.5 to 5 cars to the A46 queue, depending on how difficult it is to turn right from the A46 into Moorend Park Road on the return journey.

CBC officers have estimated that the school traffic could be accommodated by reducing the number of houses in the planned Miller Homes development by 120 dwellings, from

370 to 250. However this reduction hugely underestimates the scale of the traffic problem. In modelling the peak morning traffic on the A46, the standard assumption is that 0.6 cars are added to the traffic (mobilised) for each dwelling. That standard assumption was used by both the developers and the Parish Council in the case of the Bovis-Miller application and appeal. The further assumption for the location of the Miller Homes development is that half of these vehicles go inwards into Cheltenham or elsewhere. This means that it takes 3.3 new dwellings to add one additional car to the morning traffic queue on the A46 into Cheltenham. Hence, one car journey there and back to the school via the MPR/A46 junction, by adding 2.5 to 5 cars to the A46 queue, would be equivalent to adding 8 to 16 new houses on the Miller Homes site. Reducing the number of houses on the site from 250 to zero would on this basis only compensate for around 16 to 32 there-and-back car journeys to the school via the A46/MPR junction.

The proposed site is served by the number 10 bus route with a bus every 10 minutes during school hours. This bus service was a factor in the sequential analysis for selecting the site. But the number 10 bus, which runs up the A46 to the MPR/A46 junction and then to The Park, would just connect the school to areas of Cheltenham close to Bournside School from which students would be attending Bournside. It therefore has little relevance for the new school. There is no public transport link to the areas that have the shortfall in second school capacity, which are to the east in Leckhampton, College and Charlton Park wards. Students from these areas would therefore be likely to come to the school by car, particularly from those areas more than 1.5 miles walking distance from the site, but even from distances of a mile.

It is therefore important to examine how to encourage students to travel to the school by foot and bicycle and also to examine which car routes to the school would add least to the traffic congestion. This is covered in sections 5 to 7 below.

5. Possible safe walking and cycling routes

The site proposed for the new school building is shown by the star on the left side of the map below. The 6 hectares of land proposed for the school playing field are directly to the south of the school along Farm Lane on the other side of the Kidnappers Lane from the school building. Kidnappers Lane runs from the A46 diagonally through the Leckhampton fields to its T-junction with Church Road. The A46 (Shurdington Road) is the dark-coloured highway running diagonally SW to NE in the top left corner of the map. The roundabout at the top of the map is the Bath Road roundabout at the junction of Shurdington Road and Leckhampton Road. Leckhampton Road runs roughly north-south in the centre of the map. Moorend Park Road (MPR) is the road through the area marked N crossing the A46 in the direction of The Park. The number 10 bus route referred to earlier runs up the A46 to the intersection of the A46 and Moorend Park Road and then turns left and continues round The Park and into Cheltenham.

In the morning peak period, a long traffic queue of vehicles travelling into Cheltenham forms on the A46 south-west from the A46/MPR junction. The flow of traffic into Cheltenham on the A46 exceeds the capacity of the junction in the peak morning period. The maximum throughput of the junction for the A46 traffic is normally around 900 vehicles per hour but this falls during the peak period because a larger fraction of the traffic light cycle is taken up by vehicles crossing or turning left and right from Moorend Park Road. Increasing the traffic through the junction from Moorend Park Road increases the MPR share of the traffic light cycle and thereby further reduces the throughput of the traffic on the A46. In this way additional traffic on Moorend Park Road through the junction lengthens the A46 traffic queue as discussed earlier.



On the map, Church Road is the road running from the bottom left corner past St Peter's Church and through area A (Leckhampton Village) to a double roundabout junction with Leckhampton Road. It continues into Charlton Lane on the other side of Leckhampton Road and this road continues round to Charlton Kings providing the only route round south Cheltenham other than using the A40 and A46 through the centre of town. Traffic through Church Road also connects via Kidnappers Lane and a short stretch of the A46 to Up Hatherley Way, providing a route to the M5 junction 11 and to Gloucester.

Church Road and Kidnappers Lane are narrow lanes and are dangerous for cycling even for adults in the morning peak period. Kidnappers Lane is also dangerous for walking because it is a narrow country lane, kept so as valued landscape, and it is necessary to walk in the road. Kidnappers Lane also has a high traffic level in the peak morning period from 07:45 to 09:00. Hence, Church Road and Kidnappers Lane do not provide safe routes for students to access the proposed new school.

On the map, the Old Bath Road runs from the A40 (Thirlestaine Road) at area K to join Leckhampton Road at area B. Old Bath Road too is a somewhat hazardous road with quite high levels of traffic and speeding and neither the Old Bath Road nor Leckhampton

Road provide really safe on-road cycle routes. Leckhampton Road however has wide pavements that could provide enough room for parallel pedestrian and cycle lanes. There is a problem of large tree roots from the avenue of large trees on both sides of Leckhampton Road. These roots make the pavement uneven and hazardous in places for cycling. But the pavement could be resurfaced to cover smoothly over the roots.

In using pavement area for cycle lanes there is always the problem of how to cross side roads safely. Drivers on the side roads tend to see cyclists on the main road but less easily notice cyclist on the pavement area. So, whilst some use of Leckhampton Road could be made for cycle routes, it would probably be better as far as possible to use routes through side roads where it may be possible to cycle safely on the roads themselves.

The map shows several routes marked in red through the various community areas. These routes avoid main roads and might provide sufficiently safe routes for cycling. They all connect to area O and would need a route from area O to the school. For walking this could possibly be along the existing footpath through the Smallholdings if it were extended to the school. This is shown by the red line on the map. For cycling a separate cycle track would be needed. This could possibly be provided as part of the housing development by Miller Homes. The smallholdings path would not be suitable for cycling because it is only a footpath on private land and is heavily used by walkers and dog walkers.

The various potential cycling routes, described starting from area O, are as follows:.

Route 1A – from/to areas A and B:

Merlin Way – Peregrine Road – Burrows Field and Moorend Stream footpath to Church Road (COMMUNITY A – Leckhampton Village); then via Collum End and Liddington Road to COMMUNITY B (Leckhampton Road south, Leckhampton Hill and Pilley South)

Route 1B – from/to areas Q, A, B:

Merlin Way – Peregrine Road – Arden Road – Hall Road (COMMUNITY Q – Hall Road / Arden Road) to Church Road (COMMUNITY A – Leckhampton Village), across Church Road at the school crossing patrol and via Thompson Drive, Giffard Way and Liddington Road to COMMUNITY B (Leckhampton Road south, Leckhampton Hill and Pilley South). Route IB could also extend down Old Bath Road to areas C, D, E and F, although route 2A probably provides a better route because of the risk of cycling on-road in Old Bath Road.

Route 2A – from/to areas C, D, E, F, G and I.

Merlin Way – Peregrine Road – Arden Road – Hall Road – across Leckhampton Road via traffic light controlled crossing – south up Leckhampton Road to Charlton Lane and Pilley Lane (COMMUNITY C – west Pilley) – east via Pilley Lane to Old Bath Road and COMMUNITY D (east Pilley) and then via Everest Road, Southfield Approach and Littledown Road (COMMUNITY E – Southfield Manor area), further to Sandy Lane and then north on Sandy Lane to COMMUNITY F (Sandy Lane and Bafford). This route could also extend along Sandy Lane to COMMUNITY I, with the advantage compared with Route 3A below of avoiding Charlton Lane and Greenhills Road which forms part of the high traffic route round south Cheltenham that continues through Church Road.

Route 2B – from/to areas C, D, E, F, G and I.

This route follows route 1B to Leckhampton Road at Liddington Road. It then continues down Leckhampton Road to Pilley Lane (COMMUNITY C – west Pilley) – east via Pilley Lane to Old Bath Road and across to Everest Road COMMUNITY D - east Pilley; then via Everest Road, Southfield Approach and Littledown Road (COMMUNITY E – Southfield Manor area), on to Sandy Lane and then north on Sandy Lane to COMMUNITY F (Sandy Lane and Bafford). As with route 2A, route 2B may also provide a safer route than route 3 below to COMMUNITY I (Moor End) by avoiding Charlton Lane and Greenhills Road.

From	To proposed	new school	To Balcarras To Bournsi	
Area	Direct line (miles)	By cycle or on foot (miles)	Direct line (miles)	Direct line (miles)
Α	0.7	1.0	1.5	1.2
В	1.0	1.3	1.4	1.5
С	0.9	1.2	1.3	1.3
D	1.0	1.5	1.1	1.5
Е	1.3	1.8	1.0	1.7
F	1.4	2.1	0.8	1.7
G	1.0	1.2	1.1	1.4
Н	1.1	1.3	1.0	1.4
Ι	1.3	1.5	0.8	1.7
J	1.4	2.0	0.9	1.6
K	1.1	1.6	1.2	1.3
L	0.9	1.1	1.4	1.0
Μ	0.7	0.8	1.6	0.8
Ν	0.5	0.5	1.7	0.8
0	0.3	0.4	1.7	0.7
Р	0.7	0.9	1.4	1.1
Q	0.6	0.7	1.5	1.0

Table 1: Straight line distance of each community area from the proposed new school and from Balcarras and Bournside schools and the distance by the suggested cycling/walking routes in the case of the proposed new school.

Route 3A – from to areas P, G and I:

Merlin Way – Peregrine Road – Arden Road – Hall Road – across Leckhampton Road via traffic light controlled crossing – Treelands Drive and Southcourt Close (COMMUNITY P) – via footpath along the old railway line (wide enough path to potentially be made into a dual footpath / cycle track) to Old Bath Road at Pilley Bridge (COMMUNITY G – Pilley Bridge and Charlton Lane east), then via Greenhills Road to COMMUNITY I – Moor End). The section of this route between Southcourt Close and the footpath along the old railway is too narrow to be a dual footpath / cycle track and students would need to dismount for this short section.

Route 3B – from/to areas P and H:

This route follows route 3A to the footpath along the old railway line. It takes the north branch of this footpath to Mead Road and across to Old Bath Road and COMMUNITY H (Mead Road, central Old Bath Road and Charlton Park Gate). Again, this branch of the footpath is too narrow for a dual footpath /cycle track and students would need to dismount.

Route 4 – from/to areas P, M, L, K and J:

From Merlin Way via Peregrine Road and Moorend Grove across Moorend Park Road at the mini-roundabout and continuing north on Moorend Road. Then via Moorend Crescent to COMMUNITY M (Leckhampton Parish north) and via Croft Street and across Leckhampton Road to Fairfield Avenue (COMMUNITY L - Naunton Park West), then via Fairfield Avenue / Fairfield Road to Fairfield Parade and Naunton Crescent, then via Naunton Lane and Naunton Park Road to COMMUNITY K (Naunton Park East) and COMMUNITY J (Charlton Park).

Route 5: from/to areas O and N:

Merlin Way / Allenfield / Osprey Way (COMMUNITY O – Birdland) to Moorend Park Road (COMMUNITY N – Moorend Park Road area).

These routes could all serve as walking routes as well as cycling routes provided there was no conflict between the cycling and walking. This means that the cyclists would have to dismount on any sections that were footpath only. This might be difficult to enforce given recent experience of cyclists using the footpath from Church Road to Burrows Field cycling and endangering walkers despite GCC 'No cycling' notices on the path. For walking it would also be possible to use the pavements on the major roads including Church Road, Leckhampton Road, Charlton Lane, Old Bath Road.

6. Improvements needed to footpaths and cycle routes

The likelihood of students cycling to the school will depend very much on whether the routes are safe. It is essential to provide safe crossings and probably traffic light controlled crossings on the major roads with high traffic flow, namely Leckhampton Road, Church Road and Old Bath Road. It is also important to have a good surface to cycle on with no potholes. Good lighting would be needed for use in winter months in afternoon/evening.

<u>Route 1A</u>: This route involves installing a cycle track along the west and south-west boundary of Burrows Field similar to the existing cycle track along the south-east boundary. The existing footpath between Burrows Field and Church Road should be retained as a footpath with cyclists dismounting over this stretch but its surface needs to be improved to be suitable for school shoes. The pavement on the south-east side of Church Road between the Moorend Stream footpath and Collum End Rise is wide enough to provide space for a cycle track to avoid the need to cycle on Church Road. However a means would be needed for students to safely cross Church Road. A simple marked crossing might be sufficient together perhaps with introducing a 20 mph speed restriction in Church Road through Leckhampton Village.

<u>Route 1B</u>: This route is an alternative to route 1A and would enable students to cross Church Road at the traffic patrol that serves Leckhampton Primary School. Its disadvantage is that it would be risky for students to cycle down Hall Road during the period that parents are bringing children by car to the Primary School.

<u>Route 2A</u>: This route uses the side roads as far as Hall Road. There is a safety issue that parents bringing their children by car to Leckhampton Primary School park in Arden Road. But the route is far safer than cycling along the very narrow section of Moorend Road. There is an existing kerbside cycle track along the east side of Hall Road from Arden Road to the traffic light controlled crossing on Leckhampton Road. Currently this cycle track is very often blocked by parked cars and it would require double yellow lines to prevent the parking. The pavement along Leckhampton Road and Pilley Lane is wide enough that it could be split into a cycle lane and a walking lane. It would need resurfacing and suitably covering over the tree roots. Some way for students to safely cross Charlton Lane may be needed. The route uses the road in Pilley Lane and Everest Road as the pavements are not wide enough to accommodate a cycle lane. Pilley Lane, Everest Road, Southfield Approach and Littledown Road are side roads with relatively low traffic volumes.

<u>Route 2B</u>: This route provides an alternative to route 2A following route 1A to Liddington Road and then down the west side of Leckhampton Road to the traffic light controlled crossing near Pilley Lane; then along Pilley Lane, Everest Road etc. as in route 2A. The advantage of route 2B is that it avoids the need to cross Charlton Lane at the very busy Church Road - Leckhampton Road - Charlton Lane multi-roundabout. It might be possible for the route to be on-road between Liddington Road and Pilley Lane because there are usually no parked cars along this stretch of the road. The pavement is also wide enough to accommodate a cycle track if the tree roots are covered over.

<u>Routes 3A and 3B</u>: This route is on-road along Treelands Drive, Southcourt Drive and Southcourt Close. From the end of Southcourt Close it would use the existing footpath to and along the old railway line. The section along the old railway line is wide enough to be split into separate cycling and walking tracks. It would require resurfacing over its full width. This applies similarly to the branch of the footpath section north across Mead Road to Old Bath Road, but as noted already this section and that to Southcourt Close, are too narrow to include a cycle track and cyclists would need to dismount and walk on these sections. A traffic light controlled crossing would be required on Old Bath Road at Pilley Bridge.

<u>Route 4</u>: This route is on road but requires a traffic light controlled crossing in order to cross Leckhampton Road safely at Fairfield Avenue and also to safely cross Old Bath Road at Naunton Park Road.

<u>Congestion and safety in Merlin Way area</u>: All of the routes 1 to 5 converge at Merlin Way. This would produce a very large number of cyclists and pedestrians on what is just a residential side-road. Residents in Merlin Way and adjacent roads are expressing great concern about this. For safety and to reduce as far as possible the impact on residents it would be essential to avoid any students coming by car being dropped off in Merlin Way or its locality. This might require making Peregrine Road and Osprey Road 'Residents Access Only' during the time that students are coming to school and enforcing this restriction with cameras and fines. It would be important to make it easy to drop students off on Moorend Park Road itself. The road is just wide enough for a dropping off bay on the north side opposite Osprey Road. Currently cars park along this section of Moorend Park Road and so it would need to be double yellow lines to make it

available for dropping off. A safe crossing would also be needed across Moorend Park because traffic travels quite fast despite there being speed bumps.

It is well worth encouraging dropping off at this location rather than taking students all the way to the school because the route from the Bath Road roundabout down the A46 and left onto Moorend Park Road, dropping off at Osprey Road and returning via Leckhampton Road is the one route by car from areas A to Q that does not add to the A46 and Church Road traffic congestion.

7. Travel to the proposed new school by car

Looking at each of the areas A to Q: from areas A, B, C, D, E, F, G, H, I, O, N, P and Q, cars would be certain to travel to the school via Church Road or via Moorend Park Road. From areas J, K, L, M cars might alternatively travel via Shurdington Road (A46). This is significant because a route down the A46 to the school via the MPR/A46 junction would add nothing to the A46 traffic queue on the outward journey. A round trip route down the A46 from the Bath Road roundabout, turning left at the MPR/A46 junction and dropping students off in Moorend Park Road opposite Osprey Road and returning via Leckhampton Road, as discussed above in section 6, would add nothing at all to the A46 queue. This makes a route via Thirlestaine Road (A40) and the A46 attractive for reducing the impact on the traffic congestion. Unfortunately, however, there is a disincentive against using this route from areas G, H, I, J and K because of the traffic already queuing in Thirlestaine Road, in part caused by students coming by car to Cheltenham College senior and preparatory schools.

Areas A to Q comprise roughly 10% of the size of Cheltenham in terms of residential area. So, as a rough estimate, this would indicate that there will be around 600 students of year 7 to year 11 secondary school age in the catchment area A to Q, discounting those attending private schools and Pate's Grammar School. Around 420 of the 600 will be in the areas from which cars would be almost certain to travel to the school via Church Road or via Moorend Park Road. As discussed above, even the other 180 are probably as likely to travel via Church Road or Moorend Park Road as by the Thirlestaine Road / A46 route. So as a rough estimate, around 500 of the 900 students would be likely, if they came to the school by car, to travel via Church Road / Kidnappers Lane or via Moorend Park Road / A46.

Based on the average national trip rates by car for secondary schools of 20% to 40% and taking into account that there is no public transport connecting the proposed school to areas A to Q, it is reasonable to estimate that a third of students will come by car and more in poor weather. For areas close to the school, most would probably walk or cycle, except in bad weather. From areas D, E, F, I, J and K, most students would be likely to come by car.

From observation of students travelling to Bournside School in the morning, very few students from the areas east of Shurdington Road seem to cycle. Realistically, therefore, whilst one should encourage cycling and walking, not least for the health benefit of the exercise, it would be rash to depend on achieving any substantial level of cycling given that attempts to promote cycling in Cheltenham have so far not met with huge success.

Overall, therefore, a reasonable estimate would be that typically around 200 students from areas A to Q will travel to the school by car and around 165 of these will travel via

Church Road / Kidnappers Lane or via the Moorend Park Road. There are several detailed routes they could take and these have different impacts on the traffic congestion. The worst route is a there-and-back journey via the MPR/A46 junction already considered in section 4, which would add 2.5 to 5 cars to the A46 queue. If all 165 students travelled by this route the impact would be equivalent to building 1300 to 2600 new homes on the Leckhampton Fields. Even allowing that there would be some car sharing so that the number of car journeys would be less, the impact would be far higher than from the 650 houses in the proposed Bovis-Miller development that was rejected by the Secretary of State on the grounds of severe cumulative traffic congestion.

It might be thought that travelling there and back to the school via Church Road would not add to the A46 queue, but this is not so. Church Road and the A46 are a coupled traffic system. If Church Road is congested drivers facing the choice in Leckhampton Road whether to opt for the Church Road route or the route via Moorend Park Road and the MPR/A46 junction will choose the latter, which as already noted adds about 1.2 cars to the A46 queue by prolonging the MPR portion of the traffic light cycle. Similarly the worse the congestion becomes in Church Road, the more drivers in the other direction will switch from the A46 - Kidnappers Lane – Church Road route to the A46 – Moorend Park Road route which would have a very severe impact on the MPR/A46 junction if a lot of cars are turning right from the A46 onto Moorend Park Road and blocking the rest of the queue behind.

It is worth noting that there is no easy way to mitigate the traffic problems. Church Road is narrow, winding and hemmed in by housing and by the scarp of Leckhampton Hill. The MPR/A46 junction is confined by housing and the traffic stream can only split into two lanes very close to the junction. There may be sufficient road width to add a third lane at the lights. But because this lane would be so short it would just allow two or three additional cars per traffic light cycle. If more than five or six cars want to turn right at the junction into Moorend Park Road the right turning lane is filled and the right turning traffic then blocks all the other traffic. This is why it is very important not to have a lot of cars returning from the school up the A46 and turning right into Moorend Park Road.

There is no public transport to the school from areas A to Q and particularly from those areas that are over 1.5 miles from the new school. If a school bus route were provided and if it were well used this could considerably reduce the number of students coming by car. A suitable bus route might be: Thirlestaine Road – Old Bath Road – Charlton Lane East / Greenhills Road – Sandy Lane – Highlands Road – Littledown Road – Southfield Approach – Everest Road – Pilley Lane – Leckhampton Road to Bath Road roundabout – Shurdington Road to the school. This route could also continue via Up Hatherley Way – Caernarvon Road – Warden Hill Road to Bournside School and back via the A40 to Thirlestaine Road, thereby enabling students to travel to Bournside School as well as to the new school.

On the question of providing public transport, Tim Brown said at the public meeting on 14 March that public transport is only offered if the journey is at least 2 miles for primary and at least 3 miles for secondary. So it would not be provided for areas A to Q. It is conceivable that parents might be prepared to pay for a bus service if it were organised by the school or by GCC, but it would need to be cheap to parents. A survey of the views of local households was conducted by the Conservative Party in March and in answer to a survey question about public transport the great majority of parents said that they

would not send their children to the school by public transport. Parents might form car pools and take it in turns to take several students to the school, but in practice these arrangement rarely work well or endure.

8. Access from Warden Hill and Up Hatherley

This analysis has concentrated on pupils coming to the school from the areas east of the A46. As noted earlier, car travel to the school from the Warden Hill and Up Hatherley areas would be much easier from a traffic point of view, particularly if vehicles used a clockwise circuit via Woodlands Road, down the A46 to drop off at the school and returning via Up Hatherley Way. Students could also easily walk to the school from these areas. The traffic light controlled junction that will be needed at the intersection of Kidnappers Lane and the A46 should provide a way for students to safely cross the A46 to and from the school. Installing a footbridge across the A46 has also been suggested. A cycle track is being constructed along Up Hatherley Way from the west to as far as Caernarvon Road. At the meeting on 14 March, Tim Brown spoke in favour of extending this cycle track to the A46 and up the A46 to the site of the new school.

Based on the estimate of 600 of the 900 students coming from the areas A to Q and 80 from the Redrow Estate (area R) and from area S, there would be around 220 students from Warden Hill and Up Hatherley. This number would seem appropriate to the areas of Up Hatherley and Warden Hill that are closer to the new school than to Bournside.

9. Conclusion

The analysis shows that traffic congestion from students travelling to the new school by car appears certain to be very serious. Even in good weather conditions the traffic congestion would be likely to be comparable to the severe cumulative traffic congestion that caused the Secretary of State to reject the Bovis-Miller housing application. In wet weather the impact on the highway network could be devastating.

Pollution is also an issue and it is worth noting that measurement of the pollution level made by GCC outside Leckhampton Primary School in Church Road in March 2017 in the 08:00 to 09:00 period when children were travelling to school showed levels twice as high as at any other Gloucestershire school where measurements were made and sufficiently close to the EU limit for short-term NO2 exposure to be cause for concern. The Parish Council has recently purchased a mobile pollution monitor with which to carry out further measurements.

This paper has looked at the scope for students to cycle to the school and has identified possible cycle routes serving all areas A to Q that might make cycling to and from the school sufficiently safe and attractive. However it would be unsafe to rely on substantial levels of cycling given that few students cycle to Bournside from areas east of the A46.

For those areas that are within a mile of the school, many or most students may walk whereas most students from further away and particularly for walking distances of 1.5 miles or more will come by car because there is no public transport connecting the proposed site to areas A to Q or apparently any plans to introduce a service.

A better approach would be to expand Balcarras School or to adjust the shape of its catchment area sufficiently to accommodate areas E, F, H, I and J, which are the areas

that are closer to Balcarras than to the proposed new school and the areas from which students would be most likely to travel by car to the proposed new school. This would require of the order of 200 additional places at Balcarras across years 7 to 11 for these areas.

The Parish Council also put to Tim Brown at the meeting on 14 March that a way to greatly reduce the traffic problem would be to start the school day at 10:00 rather than at 09:00 so that the traffic from travel to the school does not overlap the morning peak congestion. There is also educational benefit in having this later school day because teenagers have a shifted body clock and are more awake and able to learn with a school day shifted later by one or two hours. Results across several countries from schools operating a later school day have shown that this significantly improves academic achievement. It is also argued by sleep experts that teenagers are suffering from sleep deprivation because of school starting times being too early and that this is damaging their mental and physical health.

Tim Brown said at the 14 March meeting that operating schools across Cheltenham with differing start times would create difficulties, but agreed that the idea should be considered. The survey conducted by the Conservative Party, referred to earlier, has shown that there is good public support from local people for a later school starting time.

10. Recommendation for the Cheltenham Plan

The sequential analysis on which GCC relied in making its decision on the location of the proposed school did not consider the traffic issues and GCC's decision is flawed. If the school is included in the Cheltenham Plan it must be accompanied at this stage with appropriate reservations to protect Cheltenham from being forced into accepting the school at this location if the traffic problems cannot be resolved.

The issues in section 3 relating to constraint on the playing fields due to valued landscape, LGS and the need to protect views of Leckhampton Hill from the A46 will need to be part of any planning approval but should also be made clear in the Cheltenham Plan.

If the proposed school is permitted, the proposed development of 200 to 250 new dwellings by Miller Homes on the land along the A46 adjacent to school should be postponed until the new school is up and running at full capacity and the impact on the traffic system is known in practice. This means waiting probably until 2027 given that the start date for the school has slipped from 2019 to 2021.

Attention needs to be given to the density of traffic in the vicinity of the school. The spine road through the new Redrow estate in Farm Lane creates a new traffic route from the A46 at Shurdington via Leckhampton Lane and the spine road to the A46 at Kidnappers Lane by the new school. Many drivers are likely to use this new route to bypass the peak morning traffic queue on the A46 and this flow will add to the complexity of traffic flow around the school.

Realistically, given the severity of the traffic issues, there is a high likelihood that it will not be possible to locate a new secondary school at the proposed site, or at least such a large secondary school. GCC therefore needs to have good contingency plans for other ways to handle the shortfall in secondary school places. It is an obvious question, given the traffic issues, whether it would not be better for the school to be half the proposed size and for its catchment to be more local so that far fewer students would come to the school by car. A school of half the size proposed would still be sufficiently large to cover the full secondary school curriculum for years 7 to 11. Coupled with a modest expansion of Balcarras to cover areas east of the Old Bath Road and possibly a similar modest-sized secondary school elsewhere in Cheltenham, this might provide a more viable long term solution. It is one of the options that GCC should be carefully considering given the high risk that severe traffic congestion will make the 900 pupils school unsustainable at the proposed site.

CBC should examine proactively any problems that may be constraining Balcarras School from expanding or otherwise extending its catchment area to 1 mile in the west direction to take in all of Charlton Park that is closer to Balcarras than to the Kidnappers Lane site. Presuming that GCC did not include the new school in the JCS because it was planning to handle the shortfall partly by expanding the existing secondary schools in Cheltenham, it is likely that some expansion at Balcarras is not wholly out of the question, particularly if Balcarras should win the competition to operate the new school.

The question of whether the demand for more secondary school places now and in the future is really arising in south Cheltenham or in other parts of Cheltenham and being exported to south Cheltenham was not resolved at the meeting on 14 March and deserves clarification.

Cllr. Dr Adrian Mears CBE Chairman Leckhampton with Warden Hill Parish Council 9 April 2018

Annex 3:

LWWHPC submission on traffic congestion to the GCC consultation on the proposed new secondary school, dated 14 October 2019

1. Concerns over severe traffic congestion

The public feedback from the exhibitions on the school proposals earlier this year shows that local people are divided fairly evenly between supporting the proposed new school, opposing it and being undecided. Even those who support the school are in many cases concerned about the traffic implications, and for most of those who oppose the new school it is the traffic congestion that is their biggest worry.

The Application identifies two main routes for travel to the school: the A46 (Shurdington Road) and Church Road. The traffic congestion on both routes is already very bad in the peak morning traffic period. The A46 is the major route into Cheltenham from the south and south-west; Church Road is the major route round the south side of Cheltenham. The congestion affects not only local residents but also the ability of people to commute into Cheltenham from areas south and west via the A46, A417 and M5, and to travel round Cheltenham without needing to travel through the centre of the town. So it affects the economy of Cheltenham and also to a lesser extent of Tewkesbury, Cotswold, Stroud and Gloucester since Cheltenham Borough Council agreed in December 2017 to include the new secondary school in the Cheltenham Plan it was specifically on condition that the school's impact on the traffic system was shown to be acceptable. Inspector Wendy Burden in examining the Cheltenham Plan in February 2019 reinforced this condition.

There are two main concerns over the traffic congestion. One is about worsening the congestion in Church Road and increasing the likelihood of gridlock. This happens from time to time and blocks the traffic also on Charlton Lane and Leckhampton Road, with long queues in all direction. There are also concerns about the levels of pm2.5 and other traffic pollution in Church Road and possible impact on pupils at Leckhampton Primary School but more measurement is needed of the pm2.5 levels to properly assess this.

The other main concern is the risk that the traffic queue on the A46 could become very long with unacceptable journey times into Cheltenham from the A417. It is the A46 that connects Cheltenham to the A417 and Church Road that connects areas in the east of Cheltenham to the A46, A417 and M5 south. The £0.5 billion upgrade of the A417 should strengthen the Cheltenham economy and the area needs to have good connectivity to the A417.

1.1 Church Road

In the morning peak period Church Road is at maximum capacity. The traffic surveys in Church Road carried out by the Parish Council since 2012 show that the congestion in the school-run period to Leckhampton Primary School has worsened since 2012 and has caused the traffic throughput to fall. Church Road is narrow with parked cars in parking bays on the north side of the road because the Edwardian terraced houses have

no off-road parking. In the morning peak period the traffic initially flows alternately in each direction at reasonable speed, but in the school-run period the congestion prevents this and the traffic travels in a solid queue in each direction. These two queues have great difficulty in passing each other, with some vehicles having to mount the pavement and some drivers afraid to proceed. This causes the traffic to flow very slowly and reduces the overall throughput by 15% to 20%. Trying to add yet more traffic in the school run period would not increase the throughput and might make it decrease further. The situation will also be made worse by the expansion of Leckhampton Primary School from two form entry to three form entry, which according to GCC's estimates will add a further 88 double parent journeys by car to Leckhampton Primary and 13 additional staff journeys.

For these reasons it is not realistic to envisage Church Road providing a major access route to the new school. Parents bringing pupils by car will instead choose the longer but quicker route to the school via Moorend Park Road (MPR) and the A46, and even if some do try to travel via Church Road this will just displace other traffic from Church Road onto the MPR route. Therefore the A46 is the only viable route to the new school by car and as shown later this has a considerable impact on the A46 traffic queue. It may also have an impact on the traffic flow and congestion in Kidnappers Lane and Farm Lane near the proposed school and on the traffic flow at the junction of Kidnappers Lane with the A46.

1.2 A46 queue

The traffic queue on the A46 occurs in the workday peak morning period south-west from the junction of the A46 with Moorend Park Road (MPR). It forms by about 07:20 and extends to the junction of the A46 with Kidnappers Lane (0.5 miles) by about 07:45. Generally by about 08:15 the queue reaches as far as the Up Hatherley Way roundabout (0.86 miles) and sometimes further. On 24 September 2019, when the Parish Council was making a traffic survey and when the weather was wet, the queue was observed at 08:18 to have extended south of the Up Hatherley Way roundabout as far as the eye could see from the roundabout, probably at least 200 metres judging from the long line of car headlights. This would be a queue length of 1 mile or 200 vehicles at the average vehicle separation of 8 metres that has been measured in past traffic surveys.

Importantly, once the A46 queue extends beyond the Up Hatherley Way roundabout the traffic waiting to turn left onto Up Hatherley Way is trapped in the queue. This trapping causes the queue to lengthen more quickly. The same would happen again if the queue were to extend beyond the Leckhampton Lane junction with traffic turning off at Leckhampton Lane becoming trapped and again at the Badgeworth Lane junction. So the scenario is that as the queue becomes longer due to extra vehicles from development or from the school, it would trap more and more traffic and grow faster as a result.

1.3 Limited alternative routes to the A46

The A46 has single lanes inwards and outwards, with no scope for a bus lane. As noted already it is the only major route into Cheltenham from the A417, the other route via Leckhampton Hill being winding and narrow in places and having a 7.5 ton weight restriction. There are no easy alternative routes to the A46 for traffic heading to central Cheltenham. The Badgeworth Lane turn off south of Shurdington provides a route to the

west of Cheltenham but drivers then have to come into central Cheltenham on Hatherley Road or the A40, both very congested routes in the peak period. Leckhampton Lane north of Shurdington provides a route via Church Road and Leckhampton Road, but as noted already Church Road is very congested and the expansion of Leckhampton Primary School will make this worse. Leckhampton Lane also provides a route via Farm Lane to the A46 at Kidnappers Lane, passing the site of the proposed new secondary school. But because this route returns to the A46 it would not shorten the queue but would make it longer because traffic wanting to turn off at Up Hatherley Way would be trapped longer in the queue. North of Shurdington there is Chargrove Lane, but this is a narrow country lane where it is difficult for vehicles to pass and the route again means driving into Cheltenham via Hatherley Road.

At the Up Hatherley Way roundabout the traffic can turn onto Up Hatherley Way and travel into Cheltenham via Hatherley Road, Warden Hill Road or Alma Road. In the 08:00 to 09:00 period all of these routes are congested and have long journey times. Traffic surveys by the Parish Council show average journey time from the Up Hatherley Way roundabout to the A46 at Montpellier Terrace in the 08:00 to 09:00 period to be 18 minutes via Alma Road, 20 minutes via Warden Hill Road (passing the entrance of Bournside School) and 20 minutes via Hatherley Road. The journey time on the A46 is about 15 minutes and so there is no reason for drivers to divert onto these other routes if they are heading for central Cheltenham. It is also a 3.2 mile journey via the Hatherley Road route compared with 1.6 miles on the A46.

If, however, the journey time on the A46 is longer for some reason, as happened in 2018 when the A46 was being resurfaced, traffic does switch to these alternative routes. In this regard it is worth noting that if many cars returning from the new school were injected into the A46 queue at Kidnappers Lane this might increase the journey time on the A46 sufficiently to make the alternative routes quicker, at least towards the end of the school-run period. This could help to reduce the length of the A46 queue. But it would be wrong to think of this as in any way a solution to the traffic problem. The three alternative routes are really just one route because they all converge onto Hatherley Road and to the traffic light controlled junction of Hatherley Road with the A40. Diverting the A46 traffic makes this very congested and slow route into Cheltenham that much worse and also impacts the flow in both directions on the A40. For the Cheltenham traffic system as a whole it is certainly better for the traffic to be able to continue on the A46 rather than diverting.

2. Secretary of State's Findings on Severe Traffic Congestion

These alternative routes including the route via Church Road and the various other mitigation schemes were considered and rejected as solutions in the 2015 appeal by Bovis Homes and Miller Homes to build 650 new dwellings on the Leckhampton Fields east of Kidnappers Lane. The Secretary of State rejected the Bovis-Miller appeal on the ground of severe cumulative traffic congestion and also on the ground of the damage to the valued landscape. The Secretary of State also in the appeal findings criticised Gloucestershire County Council for its complacency on the traffic congestion and noted that although the worst congestion is largely confined to the morning peak period this is the time when the most people have to travel and have no option to travel at other times.

The cumulative traffic congestion in the Secretary of State's findings refers to the cumulative effect of the new housing developments that were being proposed in the

Gloucester-Cheltenham-Tewkesbury Joint Core Strategy. At the time of the Bovis-Miller Application in 2013 and of the Appeal inquiry in 2015, the JCS included a Leckhampton strategic allocation of around 1200 new homes on the Leckhampton Fields, and there was also a planned development of 1500 new homes at North Brockworth. The Bovis-Miller Application for 650 new homes was part of the proposed 1200 strategic allocation as also was the application by Redrow to build 377 new homes on land west of Farm Lane. GCC also planned to build around 180 new homes on its land at Farm Lane as the third part of the strategic allocation. This land is now the site for the proposed new school.

Since 2015 the development at North Brockworth has been approved and is proceeding, but the proposed Leckhampton strategic allocation was removed from the JCS in July 2016 by Inspector Elizabeth Ord, primarily on landscape grounds reflecting the valued landscape and the impact of development on the view from Leckhampton Hill. Although Inspector Ord was aware of the Secretary of State's findings on traffic congestion she did not consider this issue in her findings because she concluded that valued landscape alone was a strong enough reason to find the Leckhampton strategic allocation to be unsound.

Removing the strategic allocation reduced the planned development on the Leckhampton Fields from 1200 down to around 627, comprising the 377 homes currently being built by Redrow on Farm Lane and the 250 proposed in the emerging Cheltenham Plan to be built by Miller Homes on land adjacent to the school site. Additionally around 200 new homes are now planned at Shurdington and vehicles from these would also add to the A46 traffic.

3. Can the school avoid creating severe traffic congestion?

As noted in the Application, Miller Homes are proposing to build 363 new dwellings rather than the 250 in the Cheltenham Plan and this would erode even further any capacity to allow traffic to the new school. However, for the purpose of assessing the traffic issues it is right to take the figure of 250 that is in the emerging Cheltenham Plan rather than the developer's aspirations. Overall, therefore the number of new homes adding to the traffic congestion is now around 440 fewer (1200–377–250–133) than applied in 2015 at the time of the Bovis-Miller Appeal. The figure of 133 is an estimate for the 200 new homes at Shurdington taking into account that because they are further away they may contribute less to the A46 traffic queue than the housing on the Leckhampton Fields.

To see how much margin the 440 fewer houses provide in terms of traffic, one must convert housing numbers into vehicles. The assumption in the traffic modelling by Bovis-Miller for their application in 2013 was that each new household would add 0.6 vehicles to the traffic in the peak morning period. The GCC traffic consultant has confirmed in discussions with the Parish Council on the school that this is a sensible figure to take. On the assumption that half of the cars would travel into Cheltenham on the A46 and half in other directions not contributing to the A46 traffic queue, each new household was deemed to contribute on average 0.3 vehicles to the A46 queue. Hence 440 new households would be equivalent to 132 extra vehicles in the queue. In comparison, the Application forecasts a trip number to the school of 314 in the morning period (141 double trips by parents plus 32 one-way staff trips). Comparing 314 with 132 shows how challenging it is for the school to avoid creating severe cumulative traffic congestion.

Moreover, it would be wrong to think that it would be satisfactory if the traffic congestion is kept at the severe level. The traffic impact of the school must be small enough to keep the congestion well below severe.

4. Errors in the traffic modelling

According to the Application, the traffic modelling predicts that the school will not create severe traffic congestion. However, the modelling is flawed. The survey data used in the modelling was, according to the Application, gathered over a period of three weeks Monday to Friday from 2 July 2018 to 20 July 2018. Although this was still in term time for state schools it is not a typical time for traffic congestion in Cheltenham. The traffic congestion is at a minimum in the July-August period partly because schools are on holiday including in July for private schools, the University is on holiday, many people who work in Cheltenham are on holiday, and so forth. The traffic flow northbound on the A46 that was used for the modelling was 623 vehicles over the 08:00 to 09:00 period. This level of traffic would not have led to any queue on the A46 because it is less than the throughput capacity of the junction, which is between 670 and 1000 vehicles per hour inwards depending on the volume of traffic on Moorend Park Road and how much this takes up of the traffic light sequence.

The Parish Council has been helped in assessing the Paramics modelling by Ken Manley, Director of MHL Consulting Engineers. He has advised that the trip generation has very questionable assumptions about the modal split towards walking and cycling and on how the trip count will reduce over the period up to 2026, especially considering that the assumption about how many pupils will walk or cycle to school is already very ambitious. He also comments that looking at some of the junctions with heavier traffic flows the model is predicting speed being reduced by 40%, journey times increased by 47% and queuing increased by 30%, and although the report refers to these as acceptable impacts, the Local Authority should look very hard at this.

A second error in the traffic analysis in the Application is that it assumes that the large volume of traffic flowing via Pilley Lane and Charlton Lane will be able to travel to the school via Church Road. As noted already this will not be possible because, as discussed earlier, Church Road is already saturated in the school-run period and will be made even worse by the expansion of Leckhampton Primary School.

5. How much extra traffic would the secondary school create?

The Parish Council has independently analysed the likely car travel to the school based on the forecast journeys in Transport Appendix C of the Application that have been used by GCC's consultants for the traffic modelling. The Parish Council's analysis is shown in Table 1A. It predicts a modal split of 19% by bus, 57% by foot and cycle and 24% by car. If one also adds to the proposed catchment the year 7 to 11 pupils likely to come from the 377 new Redrow homes the modal split becomes 18% by bus, 60% by foot and cycle and 22% by car, assuming all of these pupils will walk the short distance to the school.

In Transport Appendix C the number of pupils adds up to 1083 and adding the pupils from the Redrow estate would bring it to 1158 based on the assumption that with 3, 4 and 5 bedroom houses the estate will generate 0.2 year 7 to 11 pupils per household. Normalising the numbers down to the school size of 900 the number of pupils arriving by

car works out at 213 without the Redrow Estate pupils and at 199 if they are included. If 50% of these pupils car-share two or three to a car, as assumed in the Application, the forecast number of parent cars arriving at the school works out as 149 or as 139 if the Redrow pupils are included.

These figures are in good agreement with the figure of 141 parent arrivals forecast in the Application. However, the estimate of 57% of pupils coming by foot or cycle in Table 1A is based on the assumption that for a walking distance of 1.6 km (1 mile) 80% of the pupils will walk or cycle. This may be realistic for good weather but is over-optimistic for cold or wet days. The Application quotes the Institution of Highways Transportation (IHT) publication "Guidelines for Providing Journeys on Foot", which identifies 500 metres as a 'desirable' walking distance when planning for journeys to Schools, identifies 1 km walking distance as 'acceptable' and identifies 2 km as the 'preferred maximum'. This means that 1.6 km is well beyond 'Acceptable' and closer to 'Preferred maximum'. According to the National Travel Survey 'Travel to School 2014', the national average is for 40% of secondary school pupils to walk or cycle to school with 23% coming by public transport and 29% coming by car. It would therefore be prudent to take a higher figure than 22% or 24% for pupils travelling by car. If one were to take the figure of 29% and assumed 50% car sharing two or more to a car, the figure for parent arrivals at the school would rise to 183.

The key question is how many of the parent arrivals, whether around 141 or 183, would add to the A46 queue and by how much. A journey there-and-back to the school through the A46/MPR junction on the A46 in both directions does not add to the A46 queue on the outward journey but only on the return journey. In contrast, a there-and-back journey to the school via Moorend Park Road (MPR) would add at least two cars to the A46 queue, one by taking up more of the traffic light sequence on the outward journey turning from MPR onto the A46 and the other through being part of the A46 queue on the return journey. In addition, returning cars waiting to turn right at the junction from the A46 onto MPR could block the junction. The mitigation to add a short right-turning lane at the junction that is part of the package for the Redrow development and is referred to in the Application would not help sufficiently if many parents were returning at much the same time via the A46 and MPR, as is quite likely. The Parish Council has not included this risk in its assessment of the likely traffic impact, but it needs to be kept in mind.

A journey to the school and back on the A46 but not passing through the A46/MPR junction, can also add to the length of the queue by taking up space in the queue and also increasing the extent to which vehicles wanting to turn off at the Up Hatherley Way roundabout get trapped in the queue. Even a short journey in the queue from Up Hatherley Way to the school adds to the queue length by again holding back more of the traffic waiting to turn left onto Up Hatherley Way at the roundabout. A car journey from Shurdington to the school would add to the queue length both by occupying space in the queue and by holding back the left turning traffic. Therefore one needs to take account of the traffic that is in transit to the school in the queue as well as the traffic that actually uses the A46/MPR junction.

Both impacts are analysed in Table 1A. With the 50% car sharing assumption, the journeys through the A46/MPR junction add 105 vehicles to the queue or 98 vehicles with the Redrow estate included in the catchment. The effect of vehicles transiently in the queue, mainly pupils travelling from Shurdington, is to add 6 more vehicles. This is a small effect as it is assumed that almost all the pupils would travel by bus or walk.

These figures assume in line with Transport Appendix C that the traffic from roads to the east through Pilley Lane and Charlton Lane can all travel to the school through Church Road and Kidnappers Lane. However, as discussed earlier, Church Road will not provide a usable route because it is already saturated in the school-run period and the extra traffic will need to travel instead via Moorend Park Road and the A46. Table 1B shows that the effect of this is to increase the number of vehicles added to the A46 queue from 111 to 189 or from 104 to 178. The measured average vehicle spacing in the queue is about 8 metres and so this would add around 0.9 miles to the queue. Taking into account trapping of vehicles in the queue, the queue could become even longer.

6. Impact of housing development and Leckhampton Primary School

On top of these numbers for the school, the completion of the Redrow development of 377 homes is likely to add around 75 more cars to the queue and the 1500 new dwellings at North Brockworth could add another 80 assuming that 20% of vehicles from this development head into Cheltenham on the A46, howbeit with some turning off at Badgeworth Lane to destinations in west Cheltenham. Together with the impact of the secondary school this would bring the number of added vehicles to around 340, giving an extra queue length of 1.7 miles. If one made the more conservative assumption that 29% of children would come to the new school by car, in line with the national averages as discussed earlier, the number of vehicles added to the queue would increase to the order of 230 and the total number to the order of 380, equating to a queue length of 1.9 miles.

These estimates do not include the further 75 vehicles that could be added by the 250 new homes on the Leckhampton Fields included in the emerging Cheltenham Plan if this development is approved. Nor does it include the 40 vehicles from the 200 new homes at Shurdington in the emerging Tewkesbury Plan. Also not included is the potential impact of expanding Leckhampton Primary School which by worsening the congestion in and around Church Road could divert further traffic onto the route via Moorend Park Road.

This all adds up cumulatively to a bleak scenario in the peak traffic period and that is the reason that the Secretary of State found in 2016 that the cumulative traffic congestion was sufficiently severe to refuse the Bovis-Miller housing development. Whilst the alternative routes via Hatherley Road would reduce the full length of the queue this would increase the traffic burden on these already congested routes and the A40. So the Secretary of State's finding should also be applied to the application for the new school. The Application must therefore be rejected and a new one submitted that has a much smaller impact on the traffic congestion.

7. Ways to improve the traffic congestion

7.1 Adjust the secondary school catchments

There are several possible ways to achieve this improvement. The first, which may be hinted at within the current Application and which we understand may be favoured by Balcarras School as sponsors for the proposed school, would be to make the catchment much more local and to include many homes in Warden Hill and Up Hatherley that are within 15 to 20 minutes walking distance of the school. The Application states that:

'Balcarras School have a strictly adhered admissions policy based on priority for pupils living in a local geographic area to the School, with those living closer to the School receiving higher priority for admission. With this in place, the furthest distance a pupil lives from Balcarras School is 0.9 miles. Taking this forward to the proposed new School, Balcarras School are confident that the catchment for the proposed new Secondary School will be very similar to that of Balcarras School. It is also likely that there will be some overlapping with the catchments of Bournside School and Balcarras School.'

Table 2 shows walking distances to the school site from various locations in Cheltenham and also direct line distances to the school site and to Balcarras School and Bournside School. The routes shown as bold numbers are those identified in the Application as the primary local walking routes to the school. The routes identified by letters are other routes from residential areas that connect to one of the primary routes. The primary route 6 is from the west end of Salisbury Avenue via Farmfield Road, A46, Kidnappers Lane and Farm Lane. It has a walking distance of 0.72 miles and a direct line distance of 0.66 miles. Route 7.1 from The Park has a walking distance of 0.79 miles and a direct line distance of 0.63 miles. Route 5 from the Up Hatherley Way roundabout has a walking distance of 0.53 miles and a direct line distance of 0.34 miles. Route V from Warden Hill Road via Winchester Way, Canterbury Walk and route 7.1 has a walking distance of 0.88 miles and a direct line distance of 0.78 miles. These four routes provide good walking access from the areas of Warden Hill and Up Hatherley bounded by Caernarvon Road, Warden Hill Road and the south and east perimeter of Bournside School. Including these areas in the catchment of the new school and also including the Merestones area south of The Park would create further capacity at Bournside School that could be used to reduce the traffic problem.

The proposed catchment as detailed in Transport Appendix C and on the Postcode Boundary Catchment map is widely spread over nine postcode areas (pupil percentage in brackets): GL50 1 (2.3%), GL50 2 (3.8%), GL51 3 (2.8%), GL51 4 (10.0%), GL52 2 (3.0%), GL52 6 (13.4%), GL53 0 (28.3%), GL53 7 (23.5%) and GL53 9 (12.8%). It is conspicuous that the GL51 3 area contributes only 2.8% despite Warden Hill and the east part of Up Hatherley being within easy walking distance of the school. Other parts of the proposed catchment in central and north Cheltenham are over 4 km from the proposed new school and would be better assigned to Bournside School. For the areas in GL52 1, GL52 6 and in GL53 7 around Sandford Park and the Bath Road the journey by the number 10 bus to Bournside would be 1.2 km shorter than to the new school. The number 94U bus also operates to The Park and provides a bus route to Bournside from GL52 6 areas whereas travel to Kidnappers Lane requires changing from the 94U onto the number 10 bus.

Pupils coming via Thirlestaine Road (A40) mostly by car can reach Bournside School much more easily via Suffolk Road, Park Place and The Park than to the new school via the congested Bath Road shopping area and the A46 to Kidnappers Lane. Importantly again, the route to Bournside has no effect on the A46 queue in either direction. The journey times from the A46 / Thirlestaine Road junction to Rowena Cade Avenue for the rear access to Bournside School varied between 1.9 minutes and 2.9 minutes for five journeys measured by the Parish Council in the 08:00 to 09:00 period in October 2019.

The Parish Council has also measured journey times by car from Pilley Bridge via the route of Old Bath Road, Thirlestaine Road, Suffolk Road, Park Place. Again this route

has no impact on the A46 queue. The measured journey times from Pilley Bridge to Rowena Cade Avenue varied from 6.8 to 8.7 minutes for five journeys measured between 08:00 and 09:00. So it appears that Bournside School could reasonably cover the roads in the so-called Leckhampton Triangle east of Old Bath Road where there is the particularly serious shortfall in secondary education capacity according to Tim Browne, GCC Director of Education, in speaking at the public meeting on the proposed school in 2018. The Parish Council understands Bournside School may have proposed this idea some years ago.

Because the schools are academies and control their own admissions, a binding agreement between them on catchments and on avoiding traffic impacts on the A46 queue and Church Road must be firmly in place before any revised Application is permitted. The traffic issues are too serious for the catchments to be left to chance or just to the goodwill of the schools.

7.2 Increase the throughput of A46/MPR junction

A second option on traffic would be to increase the throughput of the A46/MPR junction. At the Cheltenham Plan Examination in February, GCC and Miller Homes appeared to be jointly offering this option. But despite agreeing at the Examination to provide more details to the Parish Council they subsequently refused to do this and it appears they may have abandoned this option, or possibly never seriously considered it. Until the recent change in road marking at the junction, there was a short left-turning lane in parallel with the straight-ahead lane. Having the two lanes allows both traffic streams to approach the junction in parallel rather than in series. However, the left turning lane only had enough length for 2 vehicles because there was no road space for a longer lane. More recently the left turning lane has been removed in order to provide a dedicated short lane for traffic turning right. The Redrow mitigation, referred to in the Application, does little more than restore the short left turning lane that has been lost. But if one could make the left turning lane longer, this would increase the throughput of the junction in each traffic light cycle by up to as many left turning cars as could fit into the lane.

The problem with this option is that the road width is too narrow to permit a longer left turning lane and it would be necessary to purchase two or maybe 3 metres of extra width from the front gardens of houses on the west side of the road in order to extend the lane and also provide the proposed cycle/footpath to the new secondary school. There are four houses that are well set back from the road and that could potentially provide the required extra width and sufficient extra lane length to hold 4 or possibly even 5 left turning cars. The traffic surveys by the Parish Council show there are typically 25 to 30 cycles per hour in the peak period and in most cases there are sufficient left turning vehicles in each cycle to fill this extra length of lane. So it would be possible in this way to increase the junction throughput by100 or possible as much as 125 vehicles per hour. This improved throughput would also apply before and after the school run period and the improvement over the duration of the queue each morning might reduce the queue length by 200 or more vehicles. The Parish Council has suggested this option to Chris Mead, GCC Director of Planning, in discussion.

7.3 Expand Balcarras school

A third option, which the Parish Council has consistently recommended to GCC and in its evidence to the Cheltenham Plan Examination, is to expand Balcarras School sufficiently to cover the shortfall in the Leckhampton triangle east of Old Bath Road. An expansion by around 300 places (2 forms of entry) would probably be sufficient and would still leave Balcarras School smaller than Bournside School. Balcarras is an outstanding school that is very popular with parents and it is government policy to encourage expansion of such schools. It also backs onto open land which although it lies in the AONB could be used to enlarge the playing fields. Expanding Balcarras School might also allow the new secondary school to be reduced to a size much more suitable to its constrained location and possibly the saving in cost could be applied to fund the expansion of Balcarras.

8. Need to avoid over-expanding the school capacity

The Parish Council believes that it may also be worthwhile to look again at the projected education need to check critically that such a large new secondary school is really required. The Parish Council is reluctant to put too much emphasis on this question of educational need for fear that it might divert attention from the major issue of the traffic congestion. But in 2015, when GCC was planning to sell its land in Farm Lane for housing, the Parish Council together with Councillor Iain Dobie as the County councillor for Leckhampton and Warden Hill tried to convince GCC up to the highest level that it should retain this land for playing fields for a potential secondary school. This reflected concerns that had been raised by many members of the public since 2011 about the shortfall in secondary education. In its response GCC insisted resolutely that no new school was needed. GCC also did not at any time raise the issue of the need for the new school in the JCS. It must therefore be presumed that GCC did have a plan for handling the projected increases in year 7 to 11 pupils without needing a new school in south Cheltenham and this suggests that there must still be an option to make the new school smaller. The Parish Council has made its own analysis of the education need, taking into accounts government projections for this area of Gloucestershire. This is set out in the separate Annex to the Council's submission.

If the new school with a size of 900 pupils did result in too large a capacity in Cheltenham there would be the risk that to fill all the places pupils might be coming from longer distances and this could add to the traffic congestion. So the Parish Council recommends that the GCC Planning Committee must make very sure that the long term need is correct.

9. Recommendations

This analysis shows that based on the present Application the school would be likely to create severe cumulative traffic congestion. As stated in the Secretary of State's findings on the Bovis-Miller appeal in 2016, GCC must guard against being complacent over the traffic congestion in the peak traffic period. The application should therefore be refused and a new application produced that carries much less risk. As suggested above, there are options that could greatly reduce the traffic impact.

The school run imposes a huge burden on the traffic system. It is very important to provide sufficient education capacity. But it is also very important to provide enough new housing and to protect valued landscape, which is also an issue for the school although not addressed in this annex. With new housing there is no way to avoid creating more traffic; people have to travel to work and to schools. But with this new school there is a

choice over traffic creation and it is the responsibility of both the County Council and the schools to minimise the traffic impact as resolutely as possible.