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Directorate For Planning, Growth And Sustainability

The Gateway
Gatehouse Road
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Date: 28th May 2021
Your ref: 15/00314/AOP

Sent to: devcontrol.av@buckinghamshire.gov.uk

Dear Sirs,

Re: South West Milton Keynes, Updated Transport Assessment

Location: Land South Of The A421 West Of Far Bletchley North Of The East West Rail Link And East Of Whaddon Road Newton Longville

Outline planning application with all matters reserved except for access for a mixed-use sustainable urban extension on land to the south west of Milton Keynes to provide up to 1,855 mixed tenure dwellings; an employment area (B1); a neighbourhood centre including retail (A1/A2/A3/A4/A5), community (D1/D2) and residential (C3) uses; a primary and a secondary school; a grid road reserve; multi-functional green space; a sustainable drainage system; and associated access, drainage and public transport infrastructure.

Thank you for your letter dated the 8th July 2020 in which you requested comment for the above application. Further to the response provided on the 13th April 2021 I write based on the receipt of further consultation documents received relating to Highways and to provide details of conditions, works and contributions.

An objection letter was received on 13th April 2021 from Milton Keynes Council (MKC) in which several points were raised in relation to the methodology employed in the Transport Assessment and issues at several specific junctions. These items are addressed within this response.

1. Extent of Assessment Work

MKC have stated their agreement between BC and MKC that the applicant would progress a Transport Assessment (TA) and then Transport Response Notes (TRNs) using a traditional approach which does not refer to wider network traffic modelling, and noted in their letter that the applicant has the options to either:

- Take the conclusions of its TA at face-value and seek to mitigate them in the usual way – e.g. by reducing travel demand and physically mitigating the residual traffic impacts; or,
- If it is to argue the case that traffic would redistribute across the highway network, reducing specific predicted junction/link impacts, it must provide a comprehensive assessment of how much traffic would divert, to where, and with what effects.

MKC then indicate that based on their assessment of TRN3 widespread congestion between junctions along the A421 between Bottledump roundabout and central Milton Keynes would occur. The analysis is considered by MKC to be sufficient so that queues from one junction would often extend back and block the exit of the upstream junction and that the residual impact is shown to be severe with significant reduction in performance even with the mitigation measures in place. Whilst it is acknowledged by BC highways that some arms at certain junctions would worsen even with mitigation,

that overall, all junctions would see improvements in terms of queues and delay when considered holistically across both peak periods and across the wider network. The basis of severe impact as detailed by MKC is on the blocking back and interaction between junctions, the MKC review and assessment of blocking back has been accounted for as a worst-case scenario, whereby all vehicles would queue in the nearside lane only on dual carriageway sections where the straight-ahead movements can occur from two lanes. This is not considered to be a viable conclusion on which to base an assessment. It is BC highways opinion, and which formed the basis of our own assessment that more even queuing is likely to occur, especially during busy peak periods, with drivers and vehicles 'filling' the available road space. Where blocking back has been noted by MKC for each junction this has been noted and responded to in the following individual junction sections. In conclusion, based on more equal queuing assessment it is the opinion of BC highways then the impact of the development would not be covered as severe, and therefore in accordance with Plan:MK and NPPF policies.

MKC then note that the impact on the network is defended in the TA on the basis that, in practice, there will be some redistribution of traffic on the grid road network and that the applicant provides no analysis to show whether the spare capacity exists on alternative routes so, although this may be a possibility, it cannot be accepted as a 'solution' to the predicted issues. BC highways confirm that the assessment of the impact on the assessed network has not relied on any re-routing with all flows sustained on the A421 and Buckingham Road.

It is BC highways opinion that the methodology used provides a robust interrogation of the junctions under review and is likely to represent a worst-case scenario. It is accepted that this may result in movements to adjacent roads however, AECOM strategic modelling of the MKC network forecasts widespread congestion and delay across the highway network within Milton Keynes, as evidenced within the junction modelling with a number of junctions already operating over capacity. By implementing the mitigation package, as detailed in TRN3, it has been shown that overall, most junctions will operate at the same level or better than the current layout using the Do Nothing scenario. It is the view of BC highways that the mitigation proposals along the A421 have the potential to attract greater use, drawing traffic away from currently congested roads, in addition to taking some movements away from the A421 to others following improvements to the local network, with the most likely outcome that this would balance across the surrounding network and that overall changes in route would be limited. As such a wider network model is not considered a requirement and the development of a suitable micro-simulation model, or localised update of the MKMM to be unnecessary and at this stage in the application to be disproportionate.

BC highways consider that the data collection and subsequent calibration of the junction models is a robust and accepted methodology with no requirement for further assessment or extended modelling.

2. Policy

MKC specify that the development is contrary to Plan:MK and NPPF policies. The first proposed non-compliance is with paragraph 111 of the NPPF, which requires the provision of a TA for developments which will generate significant amounts of movement '*so that the likely impacts of the development can be assessed*'. It is MKC position that evidence base relating to the MKC highway network comprises of part of the 2020 TA and TRN3 and that the Applicant argues that these documents over-predict impacts on the highway network, but provides no further assessment to quantify the extent and effect of any wider re-distribution of trips upon which it relies to mitigate the predicted severe operational impacts. It is BC highways opinion that the Application does comply with the NPPF, with the response to the methodology used, limited re-distribution and the requirement for further wider area modelling responded to in Section 1.

MKC also refers to paragraph 7 of the NPPF and then paragraph 8 which identifies three linked strands to sustainable development – economic, social and environmental objectives. It is MKC position that the level of queuing and delay on the A421 and Buckingham Road, as predicted by WSP in TRN3, would have significant impacts across these strands, including:

- The economic impact on Milton Keynes and Buckinghamshire arising from severe congestion on the A421.

- Social impacts arising from mobility constraints on local residents, delays to public transport services and constraints to emergency vehicle access.
- Environmental impacts including new queues outside of local schools, stationary traffic on the A421, and unknown effects due to re-routing of vehicles across the wider network (not assessed in the TA/TRN or in the Environmental Statement (ES)).

As detailed in Section 1 the MKC analysis of queues and congestion are the worst case of single lane queueing on dual carriageways and is not considered appropriate for the basis of assessment. As such the congestion as stated by MKC is extremely unlikely to occur and BC highways would not consider the impact to be severe. MKC also raise issue with non-compliance with NPPF paragraph 102 that requires that '*the potential impacts of development can be addressed*' and that '*the environmental impacts of traffic and transport infrastructure can be identified, addressed and taken into account*'. The Environmental Impacts have been assessed independently from the Highways Department and a separate response would have been provided on this issue in relation to compliance and acceptability.

MKC also referenced paragraph 104, which states that policies should '*identify and protect...routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development*', paragraph 108 which requires that '*any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree*'. It is MKC's position that the mitigation, as currently proposed, fails to achieve this and, as indicated subsequently, may not be deliverable. BC highways do not agree with this position with regard to the appropriateness of the mitigation to meet these requirements nor their deliverability. Detailed response with regard to the mitigation is provided in Section 3 of this letter. In terms of Highway Safety each mitigation proposal has been subject to a Road Safety Audit, with a designers response provided that would mitigate those issues raised, there is no evidence of severe impact on Highway Safety grounds.

MKC also reference paragraph 110, in that the NPPF requires that developments '*allow for the efficient delivery of goods, and access by service and emergency vehicles*', and then further stipulates that that the application is refused planning permission given the predicted severe operational impact (contrary to NPPF paragraph 109), and in light of its likely economic, social and environmental impacts which extend across Local Authority boundaries and fail to meet the NPPF definition of sustainable development. As stated previously, it is BC highways opinion that the Application does comply with NPPF, with the response to the methodology used, severity of impact and the requirement for further wider area modelling responded to above and in Section 1.

3. Junction Model Updates

i. Junction 1: Buckingham Road/Sherwood Drive/Water Eaton Roundabout

MKC raised a number of points in relation to the relocation of street furniture, including lighting columns to suit revised kerb lines or removal of verge. Whilst these points are raised in the Road Safety Audit, it is considered that details of this nature fall within the scope of the later detailed design stage(s) and s278 review and discussions, and that mitigation could be identified at this later stage to ensure appropriate lighting levels could be maintained. BC highways have no concern that all these matters can be satisfactorily resolved.

MKC raises concern over the relocation of the northern bus stop layby and distance from the existing pedestrian refuge island. The bus shelter would be approximately 40 m east of its current location and would be located at the end of the two-lane section with a combined stacking space of 160 m (or 28 vehicles). Whilst there is a potential for blocking to occur back to the roundabout there is significant storage space to cater for waiting vehicles for what would likely be relatively short stay stopped buses. In regard to the distance from the crossing, it is not considered that the additional 40 m is an excessive distance to access a safe crossing location.

Some comments were provided on the geometric layout of the junction, specifically the entry path curvature on Buckingham Road (E) and visibility for Water Eaton Road. No issues were raised on either of these items in the Road Safety Audit (RSA), nor I am aware of any related collisions that relate

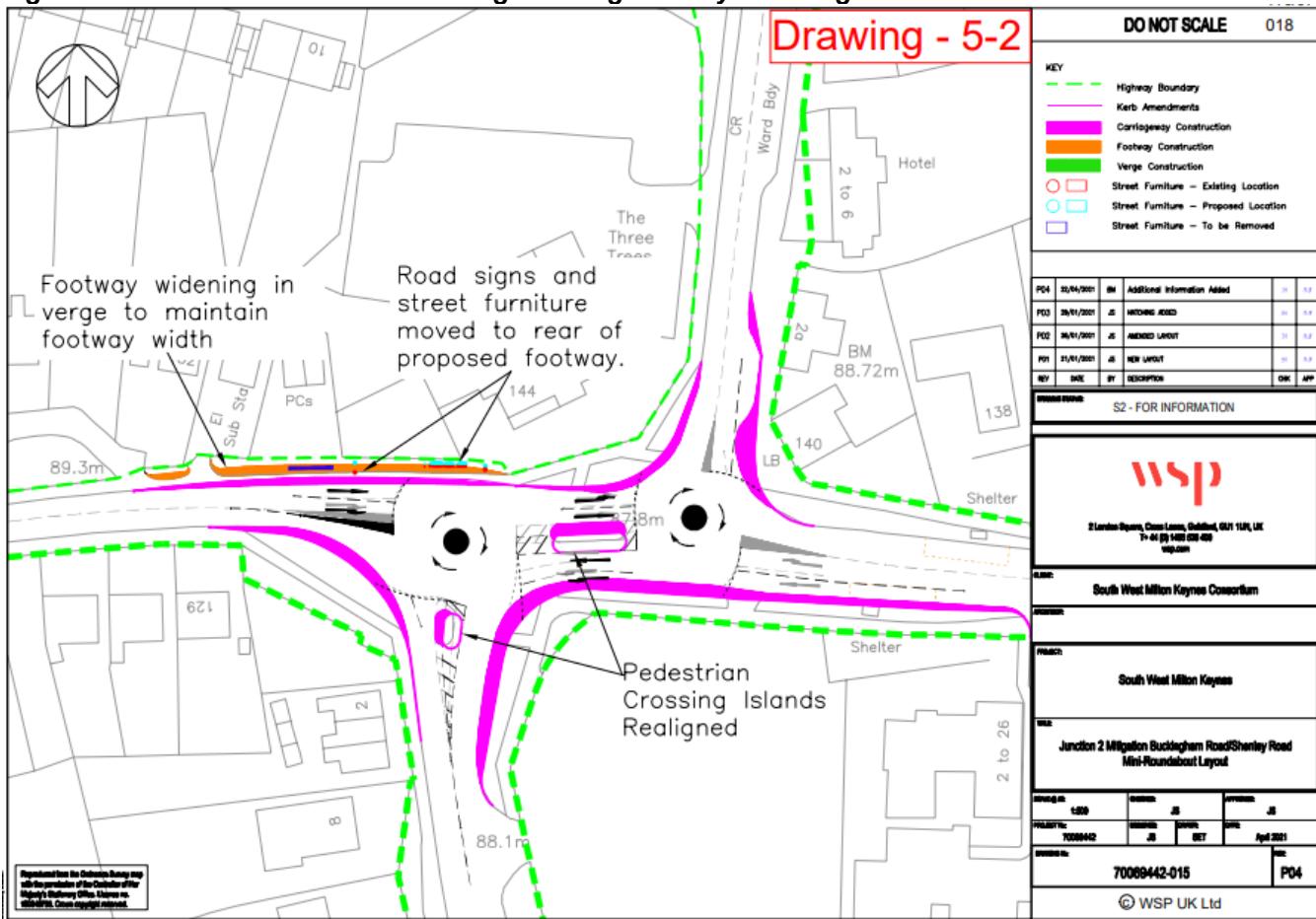
to these geometric parameters. The collision review in the updated TA (2014 to 2019) shows that no collisions have occurred on Water Eaton Road and what appears to be two slight collisions on Buckingham Road (E).

BC highways conclusion for Junction 1 has not altered on review of the objection received. In that an independent Stage 1 RSA has been undertaken and the Council is satisfied that the problems identified can be resolved during detailed design. It is considered that the proposed mitigation scheme offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF.

ii. Junction 2: Buckingham Road / Shenley Road Mini-Roundabout

MKC noted the loss of around half the width of the footway on the northern side of Buckingham Road, to the west of the junction to allow the mitigation scheme. This item was raised in the BC highways letter dated 13th April 2021, with the Applicant provided an amended drawing (70069442-15 P04) denoting that conversion of verge to footway to maintain levels of effective footway width that resolves this concern.

Figure 1: Junction 2 – Amended drawing showing footway widening



MKC raises concern over the loss of the parking bay on Shenley Road and whether pedestrian refuge islands would be retained. Both items were raised within the Road Safety Audit, with what BC highways officers consider appropriate responses / mitigation that would be implemented at the detailed design stage and could be covered as part of the s278 design and approval process. There is no direct requirement to detail this mitigation on planning-stage drawings. However, the Applicant has informed BC that the layout proposed, whereby a vehicle cross-over is provided over a footway before a driveway, would be compliant with guidance in Manual for Streets regarding pedestrian cross-falls

An issue was also raised that in the mitigation proposal the approach from Newton Road (southern arm) aims drivers in the right-hand lane directly at the central island. This could make manoeuvring around the island difficult, with a further point that the forward visibility to pedestrians waiting to cross

on the eastern side of Newton Road is worsened by the proposals. Neither item was raised a potential issue within the Road Safety Audit, nor do BC officers consider these to be items of concern, in particular the location of the right-turn lane. It should also be noted that as the junction is a double mini-roundabout, motorists have to negotiate each junction as if they are separate junctions. Therefore, the intentions of a motorist would not be apparent until they had exited the Shenley Road mini roundabout. The maximum visibility requirement is therefore from the exit of the Shenley Road mini-roundabout not from the middle of the mini-roundabout as suggested by the image provided in the MKC consultation response. Vehicle speeds are likely to be in the region of approximately 15mph through the junction at this point, which would mean when applying MfS, a 17m SSD would be required, which is available.

Lastly, MKC noted that development traffic would lead to a significant increase in queuing and delay on the westbound approach to the eastern roundabout from Buckingham Road. The increase in queuing on Buckingham Road would block back as far as Cottingham Grove to the east, which would block an additional six side roads, two bus stops, multiple property accesses, a signalised crossing outside of a school. This was raised in the BC highways response on the 13th April 2021, and that while the queueing and delay on this arm in the PM would be extended, the remaining arms on the eastern roundabout would have improved or similar results. At the western junction in the AM queues and delay are reduced with Buckingham Road (W) seeing queue reductions from 60 to 33 vehicles and delay reducing from 7 to 2.5 mins. Newton Road is also expected to see an improvement, with queues and delay reducing by over half.

The conclusion BC highways reached for J2 is the same as per the letter dated 13th April 2021. Concerns over footway and pedestrian provision have been resolved / responded to and that the proposed mitigation scheme offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development with several items of objection already shown to be resolved.

iii. Junction 5: Tattenhoe Roundabout

MKC noted several issues with the proposal of Tattenhoe roundabout. The first being the lack of indication for the intention to reduce the speeds on approach to the roundabout as part of the signalisation, in that where the 85th percentile speed on the approach roads are greater than or equal to 104kph (65mph), a signal-controlled roundabout shall not be provided. The Applicant has provided details of the peak hour 85th percentile speeds from the 2020 surveys, these are provided in Table 1 and show that these are below the 65mph threshold and that signal control would be appropriate.

Table 1: 2020 85th Percentile Peak Hour A421 Approach Speeds to Tattenhoe Roundabout

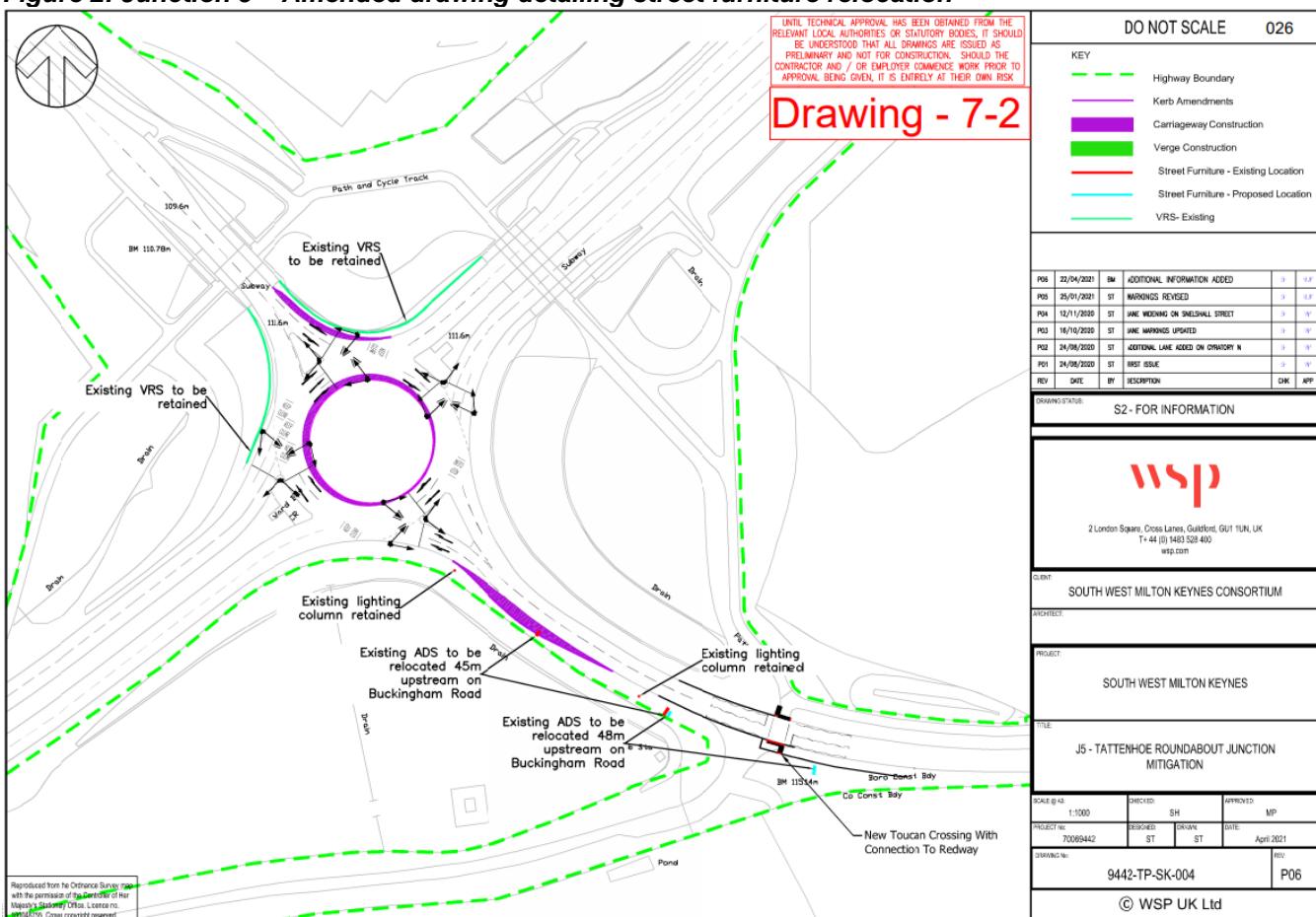
Peak Hour/Location	Eastbound (west of junction)	Westbound (east of junction)
AM Peak (07:45-08:45)	58.9mph	62.4mph
PM Peak (17:00-18:00)	57.4mph	60.7mph

MKC expressed their opinion of a flaw within the model construction concerning lane lengths that have been used for the gyratory, the resulting stacking capacity of these links and the use of Uniform Queues for analysis purposes instead of Mean Max Queue (MMQ). With regard to the use of Uniform Queues these are considered to be the appropriate model output for use, as the roundabout is and should be coordinated effectively with arrivals platooned and non-random. The internal arms remain below 80% DoS, therefore random and oversaturated delay/queuing is not of concern. This is detailed in the LinSig modelling software guidance. Further inspection of the model has been performed with regard to lane lengths and these are appropriate. BC highway officers are confident that the proposed scheme is feasible and that partial blocking may occur every other cycle, but this would be for a matter of seconds before clearing and removing any potential congestion through the roundabout. The junction design would be further optimised and calibrated on site and adjustments made to ensure that queues do not build up that would block the operation of the junction

MKC also raised concerns about lack of guide markings, 'Keep Clear' markings, vehicle tracking and relocation of street furniture. The vehicle tracking was raised in the Road Safety Audit with appropriate mitigation to resolve the concerns and it is considered that this could be addressed as part of the s278

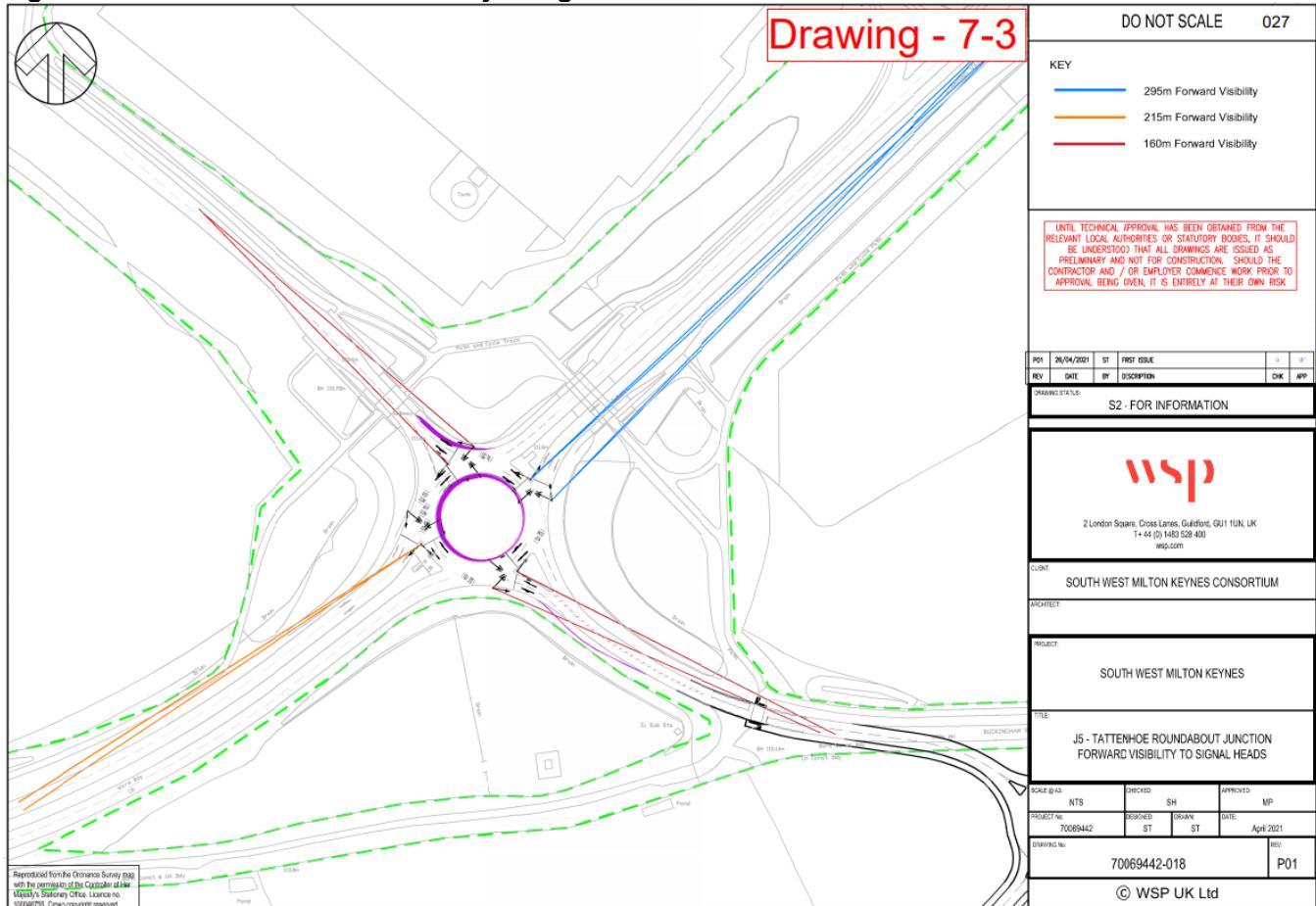
detailed design and approval process. Likewise, final lane markings are not considered to be essential elements as part of overall junction feasibility analysis and would be addressed through the s278 process. The use of keep clear markings at part-time traffic signals can be incorporated into the design and are a viable option as set out in the Traffic Signs Manual. In regard to the relocation of street furniture the Applicant has produced an updated drawing (9442-TP-SK-004 P06) to illustrate how the existing street furniture would be relocated appropriately within the scheme.

Figure 2: Junction 5 – Amended drawing detailing street furniture relocation



The issue of attaining clear visibility to the new traffic signals was also raised by MKC. The requirement of visibility of the signal heads would be similar requirements for the existing priority-controlled layout and would continue to be so outside of peak times. However, the Applicant has provided forward visibility measurements for all arms at the junction, as detailed on drawing 70069442-018 P01, and this shows the required visibility can be achieved, especially when considering that on Buckingham Road, the presence of the site access roundabout will significantly reduce vehicle speeds on this approach.

Figure 3: Junction 5 – Forward visibility to signal heads



Two items were raised in relation to the amended geometric layout of the junction. The entry path radius on the NW approach and the sharp taper on V1 Snelshall Street. Neither item was raised in the RSA as potential issues and BC highways officers consider that these should not lead to objection, with the entry path radius change being very minor. As for the taper on V1 Snelshall Street, the taper has been designed to maximise queuing space and the existing junction suffers from over-running of the verge during the peak hours and the amended kerb line seeks to address this existing issue.

At the recent Planning Appeal for the Milton Keynes Application 15/00619/FUL further comments were provided on the flare lengths used on the A421 Standing Way arms and the modelling De-silver values. This has resulted in further examination of the model / design and sensitivity testing has been performed. A revised scenario with shorter flare to allow for 3 pcu on the eastern arm nearside lane and 2 pcu on the western arm nearside lane was run. This provided DoS and Queue Results as shown in Table 2 for the A421 Standing Way approaches.

Table 2: J5 Tattenhoe Roundabout – A421 Entry Flare sensitivity test

Arm Description	AM Queue	AM DoS	PM Queue	PM DoS
A421 Standing Way (W) Left Ahead	28	100%	13	87%
A421 Standing Way (W) Ahead	28		13	
A421 Standing Way (E) Ahead Left	9	81%	12	84%
A421 Standing Way (E) Ahead	9		11	

When comparing the sensitivity test to the DN 2033 existing layout it is evident that the A421 West queue would worsen slightly (from 32 to 46 vehicles) but this is not considered to be significant with the RFC and DoS both being 100% in the AM. There would still be improvements in the PM compared to DN 2033. The A421 East arm would see similar results for the AM but still obtain improvements in the PM compared to DN 2033. With regard to the De-silver queues the rate is left up to the discretion of the

modeller. While these values should not be unnecessarily high, the values in the model appear to have been used reasonably and the effect on changing these to the queue at the start of the green is largely unchanged with no discernible impact on the results.

The conclusion BC highways reached for J5 is the same as per the letter dated 13th April 2021. Concerns over geometric design, junction suitability and modelling concerns have been reviewed and, in our opinion, resolved / responded to. The mitigation proposal offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF and would not be considered severe.

iv. **Junction 6: Bottledump Roundabout**

MKC raised several concerns with regard to the proposed modelling and mitigation for Bottledump roundabout. The first related to the flare length of zero being used in the Lane Simulation model. The lack of flare is based on a requirement made by BC highways. There is a known issue in the Junctions 9 software in the lane simulation model where the double counting of flare will negatively impact on the results. An independent review by JCT Consultancy was performed in 2018 that demonstrated the issue in a number of examples where removal of the flare provided greater comparison with observed queues. Therefore, it is considered appropriate to remove the flare in this instance.

MKC raised concern over potential collisions within the circulatory carriageway and that some movements were missing. The Applicant has provided additional swept path analysis (drawings 70069442-004-ATR-005 P01 and 70069442-004-ATR-006 P01) and these demonstrate that there are no issues with potential vehicle collisions at the junction with the amended geometry.

Figure 4: Junction 6 – Additional vehicle tracking (drawing 70069442-004-ATR-005 P01)

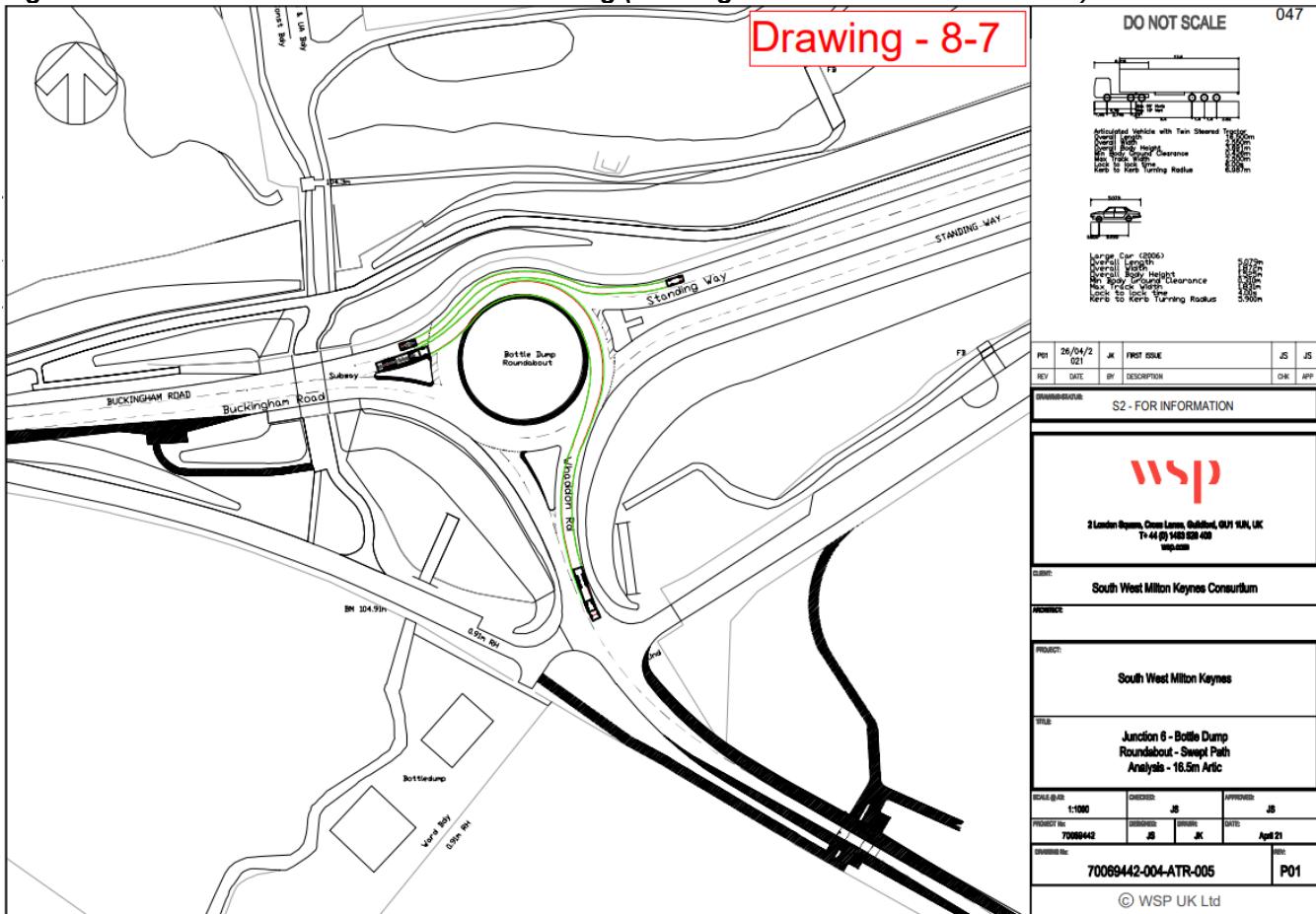
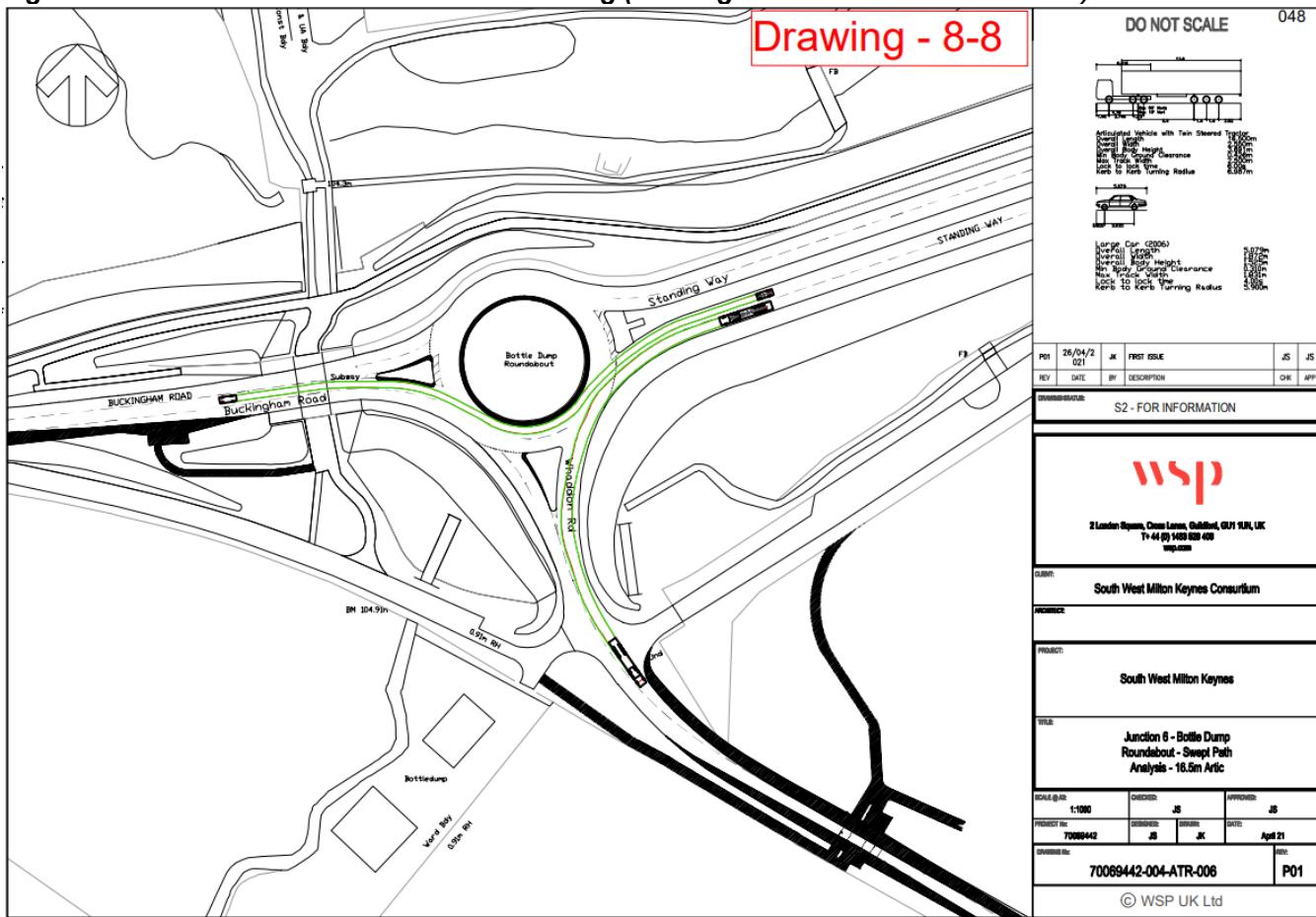


Figure 5: Junction 6 – Additional vehicle tracking (drawing 70069442-004-ATR-006 P01)



MKC also noted that the nearside kerb on the A421 westbound approach is already over-run by large vehicles turning left into Whaddon Road, but remains unaltered in the WSP design. This is considered to be an existing issue with no proposed changes to the kerbline on this approach. Whilst two straight-ahead movements will be possible as part of the mitigation proposal, which has been appropriately tracked, with a minor revision to the central island of the roundabout proposed as part of the mitigation this will provide additional circulatory carriageway space and help to alleviate the existing issue of HGVs over-running the nearside kerb on the eastern arm of the junction. A scheme does not have to remedy existing issues and there is no required mitigation for this arm.

Concern was also raised in relation to the potential worsening of entry path curvature. The overall geometric changes are relatively minor and would result in a small change in curvature. This issue was not raised in the RSA.

MKC raised several concerns with regard to the proposed Pegasus crossing on Whaddon Road on the approach to the junction. These cover elements predominantly raised in the Road Safety Audit, in respect of which BC officers have accepted the proposed mitigation and will continue to review as part of detailed design process.

The conclusion BC highways reached for J6 is the same as per the letter dated 13th April 2021. Concerns over modelling and geometric design have been reviewed and, in our opinion, resolved / responded to. The mitigation proposal offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF and would not be considered severe.

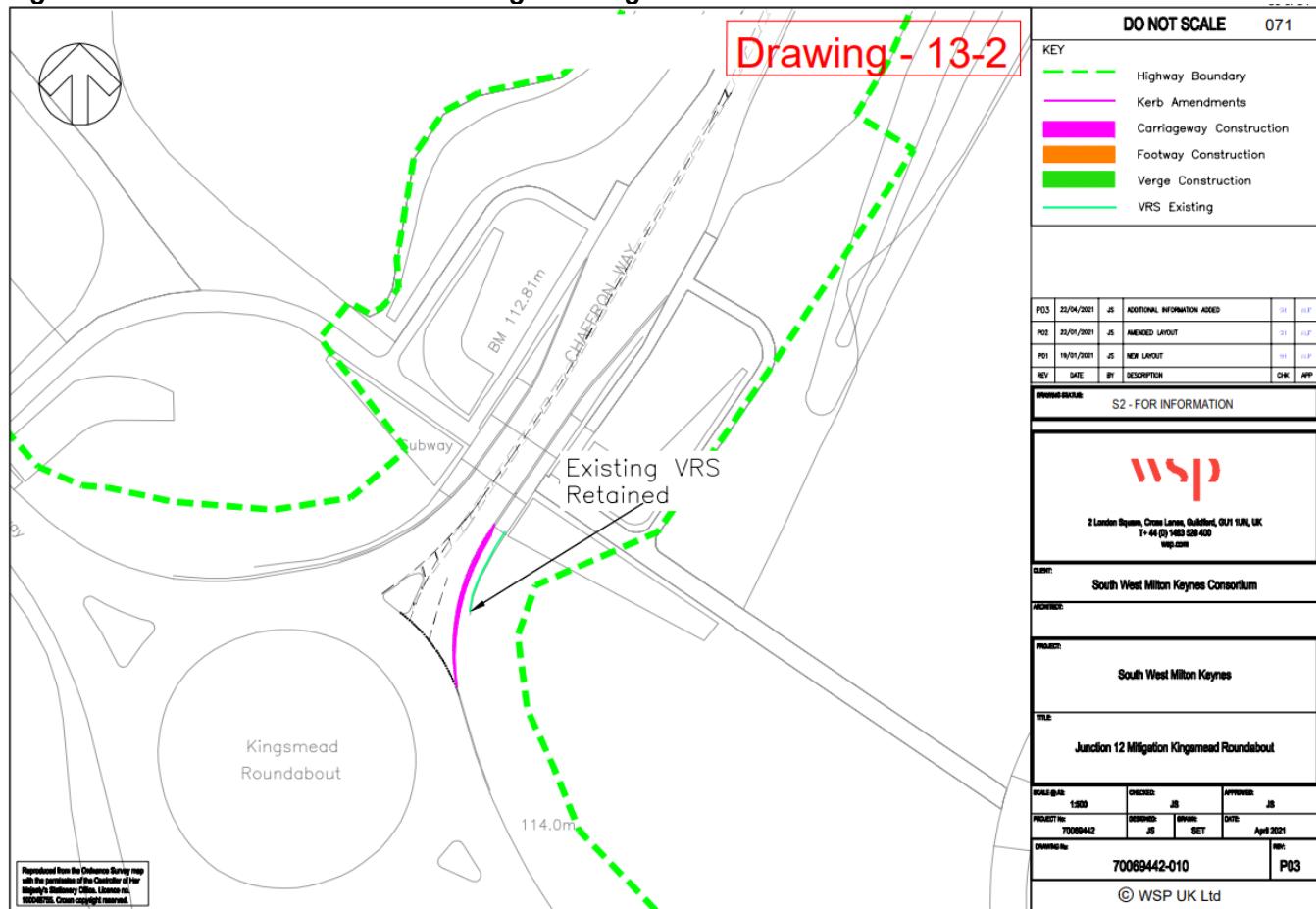
v. Junction 12: Kingsmead Roundabout

MKC raised three concerns with regard to J12, all relating the proposed geometric changes of the mitigation scheme on the Chaffron Way approach (no changes are required on any of the three remaining arms or circulatory carriageway). The first related to the nearside widening and sharpness of

the taper. BC highways have no specific concern over the taper at this location and no issue has been raised by the RSA.

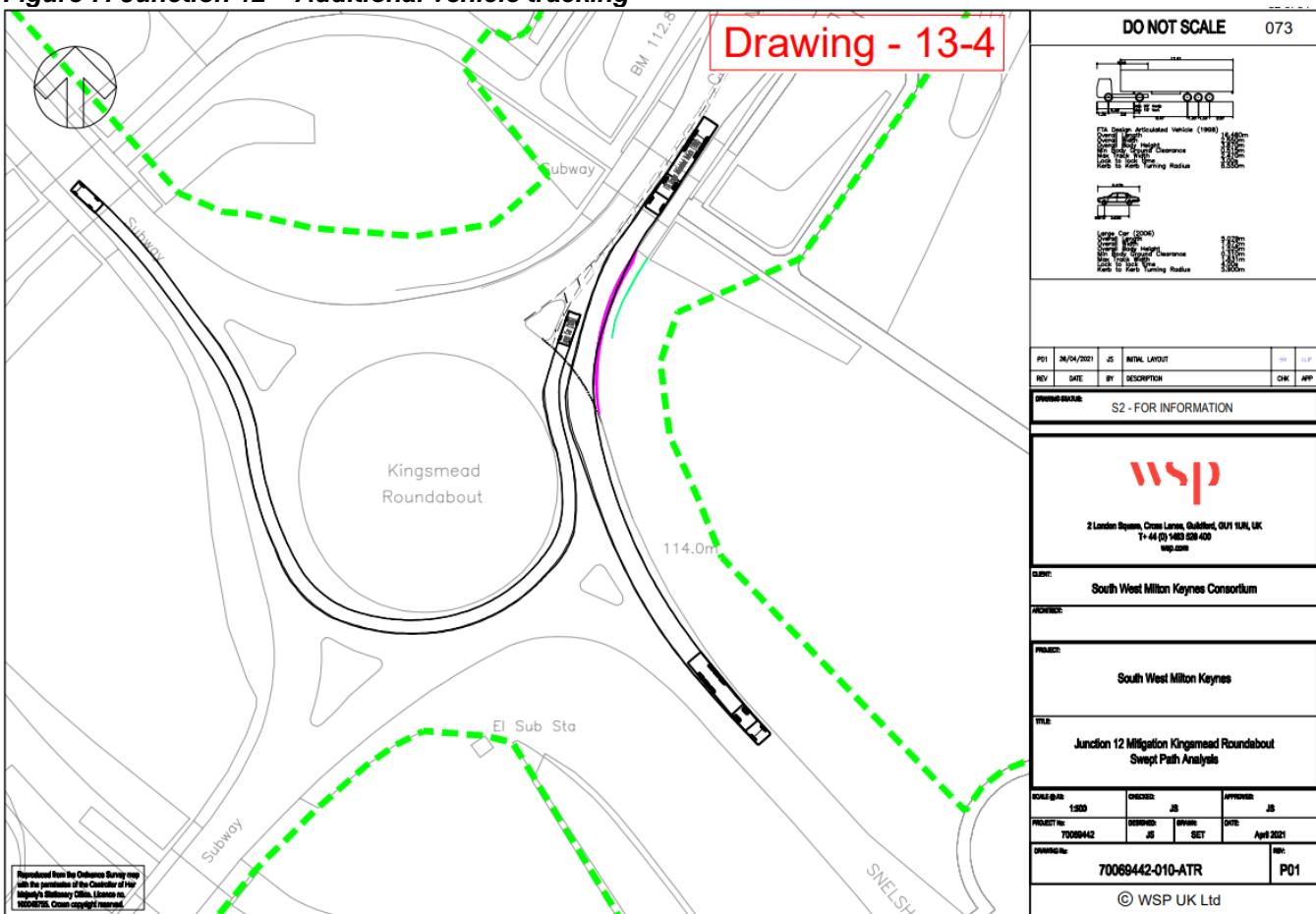
Concern was also raised in relation to the position of the Vehicle Restraint System (VRS) on Chaffron Way and the revised kerbline as its position on the plan appears to be further from the carriageway edge than is the case in reality. The Applicant has produced a drawing showing the location and distance to the VRS (70069442-10 P03) and it has been confirmed that a 1.2m setback from the amended carriageway edge can still be achieved to the VRS which is in accordance with relevant standards.

Figure 6: Junction 12 – Amended drawing detailing location of VRS



Lastly, a concern was raised over the lack of tracking as the RSA noted the potential for side-swipe collisions on the junction. As detailed in the BC highways previous response on 13th April 2021 the junction is being improved to slightly widen Chaffron Way; this should not cause any issues with vehicle movements with additional space provided to perform required movements. However, the Applicant has produced vehicle tracking for Chaffron Way which is detailed on drawing 70069442-010-ATR P01 and this confirms that there is not issue with conflict in the circulatory carriageway.

Figure 7: Junction 12 – Additional vehicle tracking



The conclusion BC highways reached for J12 is the same as per the letter dated 13th April 2021. Concerns over geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. The mitigation proposal offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF and would not be considered severe.

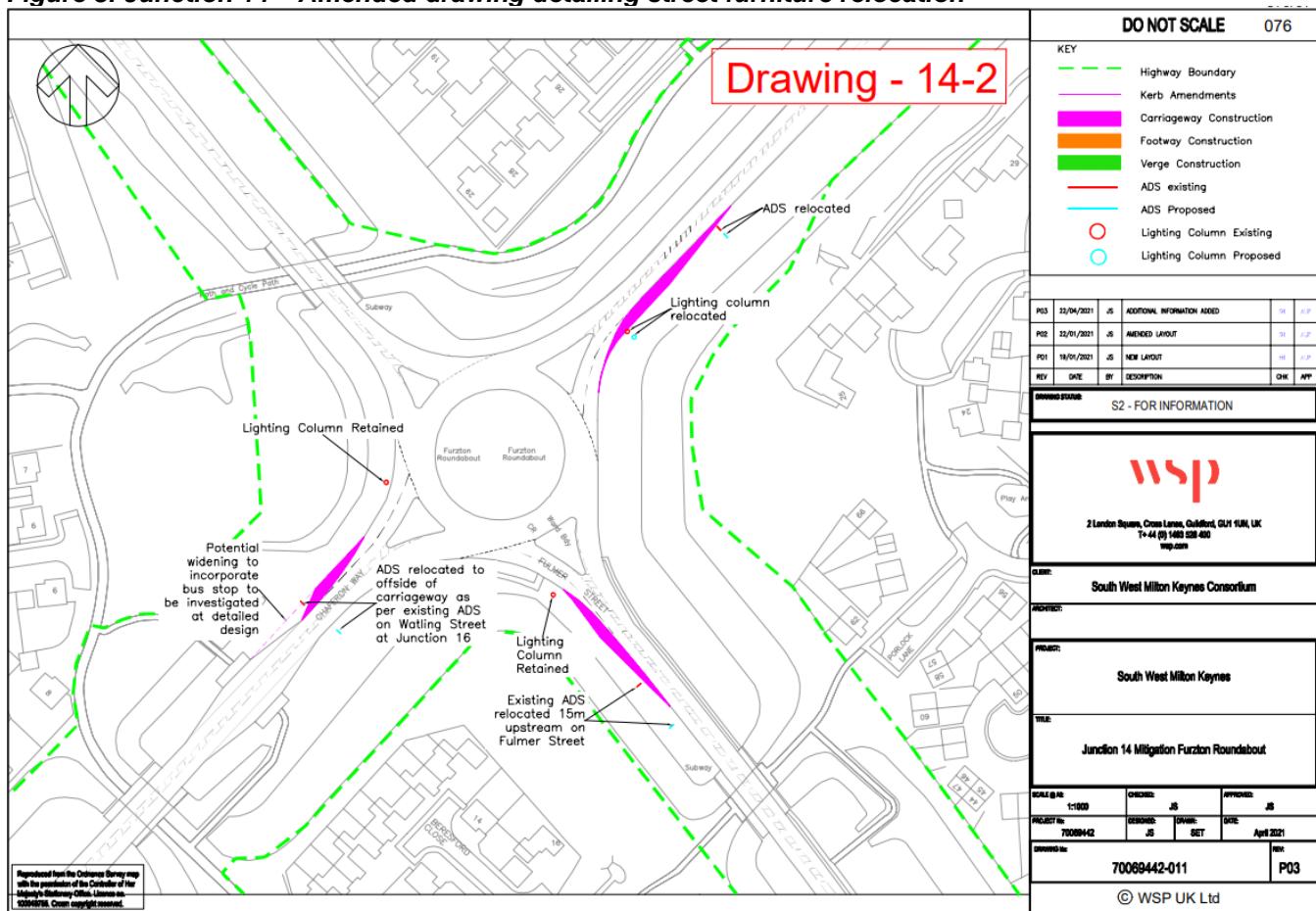
vi. **Junction 14: Furzton Roundabout**

MKC raised three concerns with regard to J14, all relating the proposed geometric changes of the mitigation scheme. The first related to the sharpness of the taper to the east of the bus stop on Chaffron Way. BC highways have no specific concern over the taper at this location and no issue has been raised by the RSA.

The issue of relocated street furniture was also raised. The realignment / movement of street furniture are considered details that fall within the scope of the later detailed design stage(s) and s278 review and discussions. However, the Applicant has produced an updated drawing to illustrate how the existing street furniture would be relocated within the scheme which does not identify any concerns.

The final point revolves around the area of widened carriageway on the western arm of Chaffron Way which may be obscured from view on approach if a bus is using the bus stop immediately upstream. BC highways do not consider this to be a concern and it was not raised as part of the Road Safety audit. At the same location the comment was provided that consideration should be given to whether the nearside lane would better extend from the bus stop itself (with appropriate markings to control inappropriate use of the bus stop). This is considered to be something that could be considered further at detailed design. As a Traffic Regulation Order would not be required for a Bus Stop clearway the impact of providing appropriate markings would be a design choice only.

Figure 8: Junction 14 – Amended drawing detailing street furniture relocation



The conclusion BC highways reached for J14 is the same as per the letter dated 13th April 2021. Concerns over geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. The mitigation proposal offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF and would not be considered severe.

vii. Junction 15: Bleak Hall Roundabout

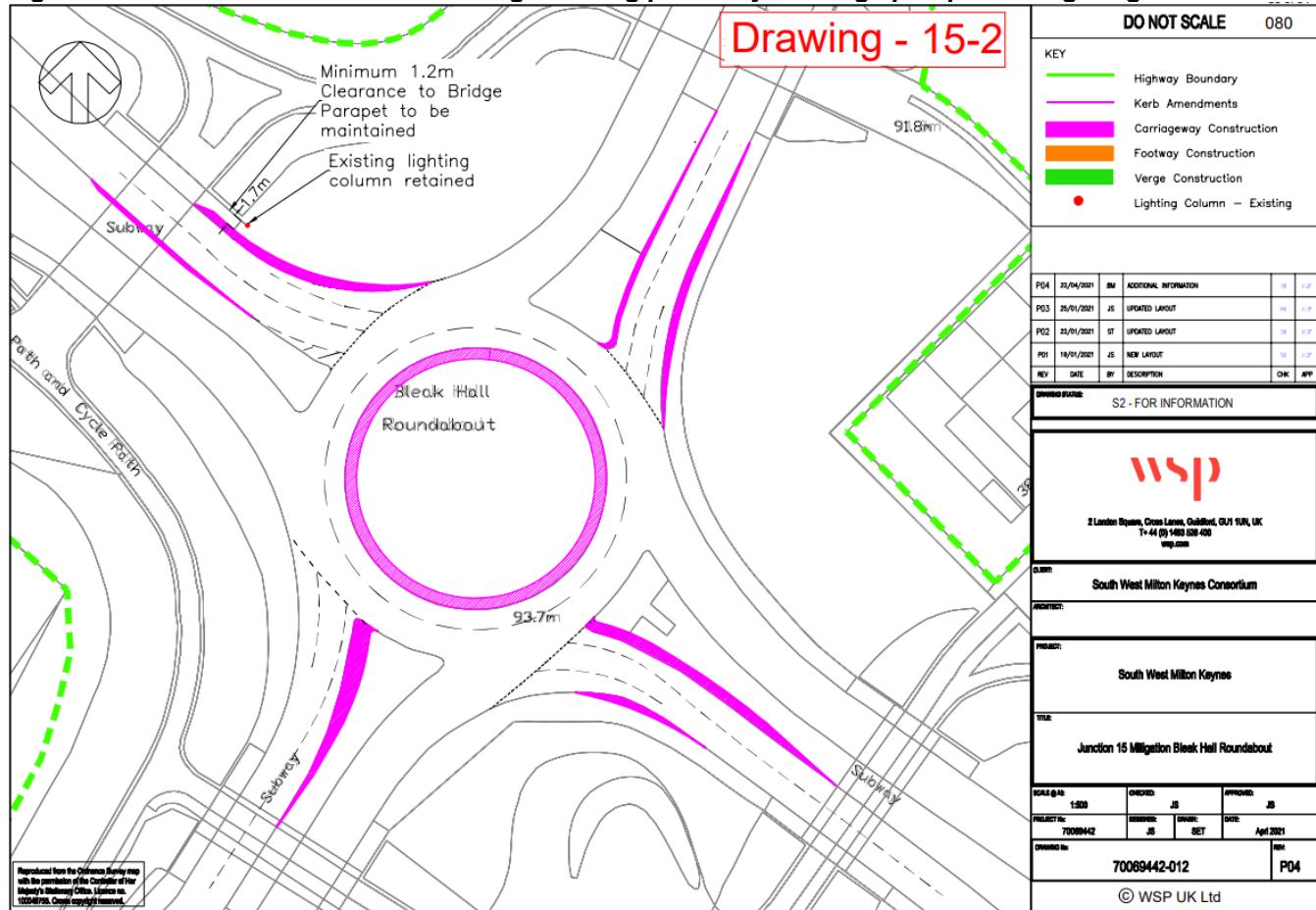
MKC raised several concerns with regard to J15. The first element raises concern over no indication being provided of lane allocations, vehicle tracking and circulatory carriageway width and use. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021 as detailed in our letter of the 13th April 2021. This indicated that the new nearside entry lane on A421 Standing Way would be lane left-turn only and thereby allowing for a narrower circulatory traffic provision, as already exists for the current three lane entries. On review of this information no concerns were raised with the majors movement considered to be able to be completed satisfactorily.

The next issues relate the revised geometric layout of the junction, in that the widening on Standing Way leads to the right hand lane on approach having an entry angle of greater than the DMRB-recommended 60 degrees. Also, on all four approaches, the entry path curvature is worsened by the proposals and vehicles may enter the roundabout at a higher speed. Neither issue was raised as part of the RSA process and BC highways have reviewed these elements and do not consider these to be a road safety issue.

A point was also raised over the widening on the north side of Grafton Street (NW approach arm), which appears to be partially on the subway structure. Also, the distance from the carriageway edge to the railings on the bridge would need to be reduced, as well as the distance to the lighting column in this location. The realignment / movement of street furniture are considered details that fall within the scope of the later detailed design stage(s) and s278 review and discussions, however the Applicant

has produced a revised drawing (70069442-012 P04) that shows an offset of 1.7m (minimum 1.2 m clearance required) is still achievable to the bridge parapet and lighting column.

Figure 9: Junction 15 – Amended drawing detailing proximity to bridge parapet and lighting column



Reference was also made to blocking to J16 Elfield Roundabout, Leadenhall Roundabout and back to and through the upstream Coffee Hall Roundabout in the MKC letter. This has been accounted for as a worst-case scenario with all queues in the nearside lane, as detailed and responded to in Section 1. The BC highway queueing review shows no blocking of the referenced junction but did note that queues would be potentially close to J16 but are not predicted to physically block exit movements.

The conclusion BC highways reached for J15 is the same as per the letter dated 13th April 2021. Concerns over the geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. Queuing is not anticipated to block between junctions. Increases in queueing and delay are expected on some arms of the junction as detailed in the 13th April 2021 BC highways letter, but overall, the junction will experience positive improvements in terms of queuing and delay when considering all arms and both peak periods. The mitigation proposal offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF and would not be considered severe.

viii. ***Junction 16: Elfield Park Roundabout***

MKC raises concern in relation to no indication being provided of lane allocations, vehicle tracking and width of the circulatory traffic. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021. The tracking indicates where a new third entry lane has been provided these would be left-turn only with what is considered to be acceptable vehicle tracking that shows movements can be performed without conflict.

Concern was also raised over non-tangential road markings and flatter entry paths increasing vehicle speeds through the roundabout. A high level review of the collision review in the updated TA details the collision record from 2014 to 2019 does not indicate a current high speed issue or that this may lead to

increases in collisions, nor was the potential impact raised in the RSA process and therefore are not considered to be road safety concerns with the new design.

Issue was raised with the stand-alone modelling which does not recognise exit-blocking on the A421 (N) arm in the AM peak hour. As discussed in the J15 review the exit blocking by MKC has been determined with all queues forming in a single lane on the dual carriageway, this is not considered to be a viable conclusion and the BC highways review indicates blocking will not occur to J16.

Increases in queuing on the A421 (S) entry arm in the AM peak, and on the A421 (N) arm in the PM peak were also raised as a reason for objection with the MKC review indicating the additional queuing on the A421(S) entry arm is predicted to cause queuing back to, and through, the upstream J17 Emerson Roundabout. Likewise, development traffic would add to pre-existing queuing on the A421(N) approach which blocks back through the upstream J15 Bleak Hall Roundabout. As discussed, the exit blocking by MKC has been determined with all queues forming in a single lane on the dual carriageway, BC highways analysis of the queuing has indicated that no blocking to J17 would occur with adequate stacking space provided.

In the BC highways response dated 13th April 2021 it was recorded that BC highways registered concern over the potential blocking back to J15 Bleak Hall roundabout. The Applicant provided a response on 7th April 2021. This highlighted further review of the junction flows used in the model and that only a slight reduction (5%) in network flow would result in no blocking back. It is agreed that a robust growth has been applied to the flows used in the modelling, with TEMPRO growth factor over 15% along with higher banded of employment rates to provide a 'worst case' flow scenario. The Applicant also made reference to the Department for Transport's 'Appraisal and Modelling Strategy – A Route Map For Updating TAG During Uncertain Times' (July 2020) which recommends the use of scenarios to assist with modelling future outcomes. Although the DfT has yet to publish updated forecasts, there is a clear indication of a downward trend in trips to account for the lower economic output. Based on the new analysis and documentation provided, and considering new information pre-pandemic that likely future growth will be reduced it was considered that the potential for blocking would be limited and in fact unlikely to occur by the 2033 assessment year.

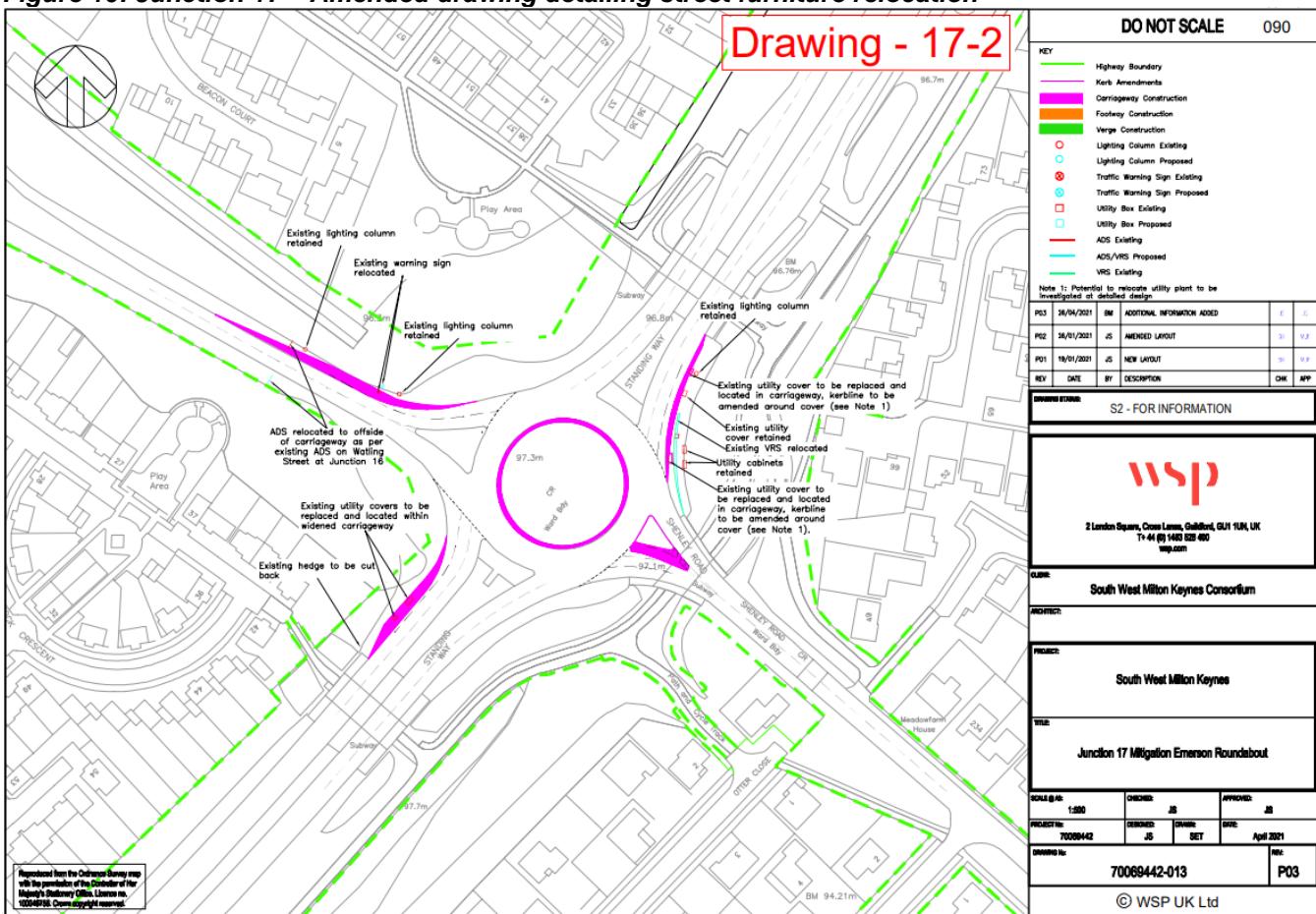
The conclusion BC highways reached for J16 is the same as per the letter dated 13th April 2021. Concerns over geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. It is considered that the proposed mitigation scheme offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF with overall improvement in capacity terms. The issue of blocking back to J15 Bleak Hall roundabout has been discussed and clarified.

ix. Junction 17: Emerson Roundabout

MKC noted that proposed widening of the Shenley Road approach into the existing splitter island would result in an approach geometry which reduces deflection and may not accord with standards. Shenley Road is a 30 mph speed limit approach until approximately 35 metres from the junction. If the entry deflection is reduced, which BC highways do not consider to be the case, this would not result in a significant increase in vehicle speeds on the final approach to and into the roundabout based on the approach road layout and speed limit. This was not raised in the RSA for the junction.

MKC also raised an issue on the Standing Way (S) approach, the proposed widening includes a sharp flare which may not accord with design standards. Also, the widening would require the removal of a hedgerow and re-siting of street furniture / statutory undertakers' equipment (street furniture relocation would also impact other arms). BC highways have no specific concern over the tapers at this location and no issue has been raised by the RSA. With regard to the existing vegetation and utilities on this arm, the vegetation is overgrown and can easily be removed. The Applicant has provided additional information on drawing 70069442-013 P03 to illustrate how the existing street furniture would be relocated within the scheme and this does not raise any concern.

Figure 10: Junction 17 – Amended drawing detailing street furniture relocation



MKC raises concern over the potential impact on the adjacent highway trees on Fulmer Street due to the addition of an extended flare. BC officers' review of the widening on this arm indicates that no tree removal would be required, with satisfactory distance from the edge of the main carriageway and tree trunks being retained.

MKC also noted that on Standing Way (N) the proposals indicate widening through the provision of a sharp flare to the immediate south of the overbridge, which may not accord with highway design standards. BC highways have no specific safety concern over the tapers at this location and no issue has been raised by the RSA.

MKC raises concern over no indication being provided of lane allocations, vehicle tracking and circulatory traffic. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021 that indicates the new entry lane on Shenley Road would be a nearside lane left-turn only, thereby allowing for a narrower circulatory traffic provision as already exists for the current three lane entries. Furthermore, the vehicle tracking has shown that the movement of larger vehicles can be achieved with no issue or conflict.

MKC raises concern over flatter entry paths increasing vehicle speeds through the roundabout. A high-level review of the collisions in the updated TA details the collision record from 2014 to 2019. This review of the results did not indicate that entry speed to be a significant contributor to the existing collisions, nor was the potential impact raised in the RSA and therefore the geometric changes as detailed are considered to represent a road safety concern.

Issue was also raised in relation to the A421(N) exit in that this would be blocked by traffic from Junction 16 Elfield Park Roundabout. As detailed in the J16 review blocking to J17 in the MKC analysis has been accounted for as a worst-case scenario, whereby all vehicles would queue in the nearside lane only. This is not considered to be a viable conclusion and the BC highways analysis of the

queuing has indicated that no blocking to J17 would occur with adequate stacking space provided with no exit restriction in place.

Further modelling result concerns were raised in that the A421(S) exit would be blocked by traffic queuing from Junction 18 Windmill Hill roundabout. Also, increased queuing on both Standing Way approaches in the AM peak hour is predicted. In the PM peak worsening queues on Shenley Way and both Standing Way approaches with queuing on the Standing Way (N) arm increasing significantly to the extent that it would block the exit from the upstream J16 Elfield Park roundabout. The blocking back from J18 and to J16 is again based on single lane queuing and the analysis of on more equal queueing performed by BC highways indicates that no blocking back between junctions would occur.

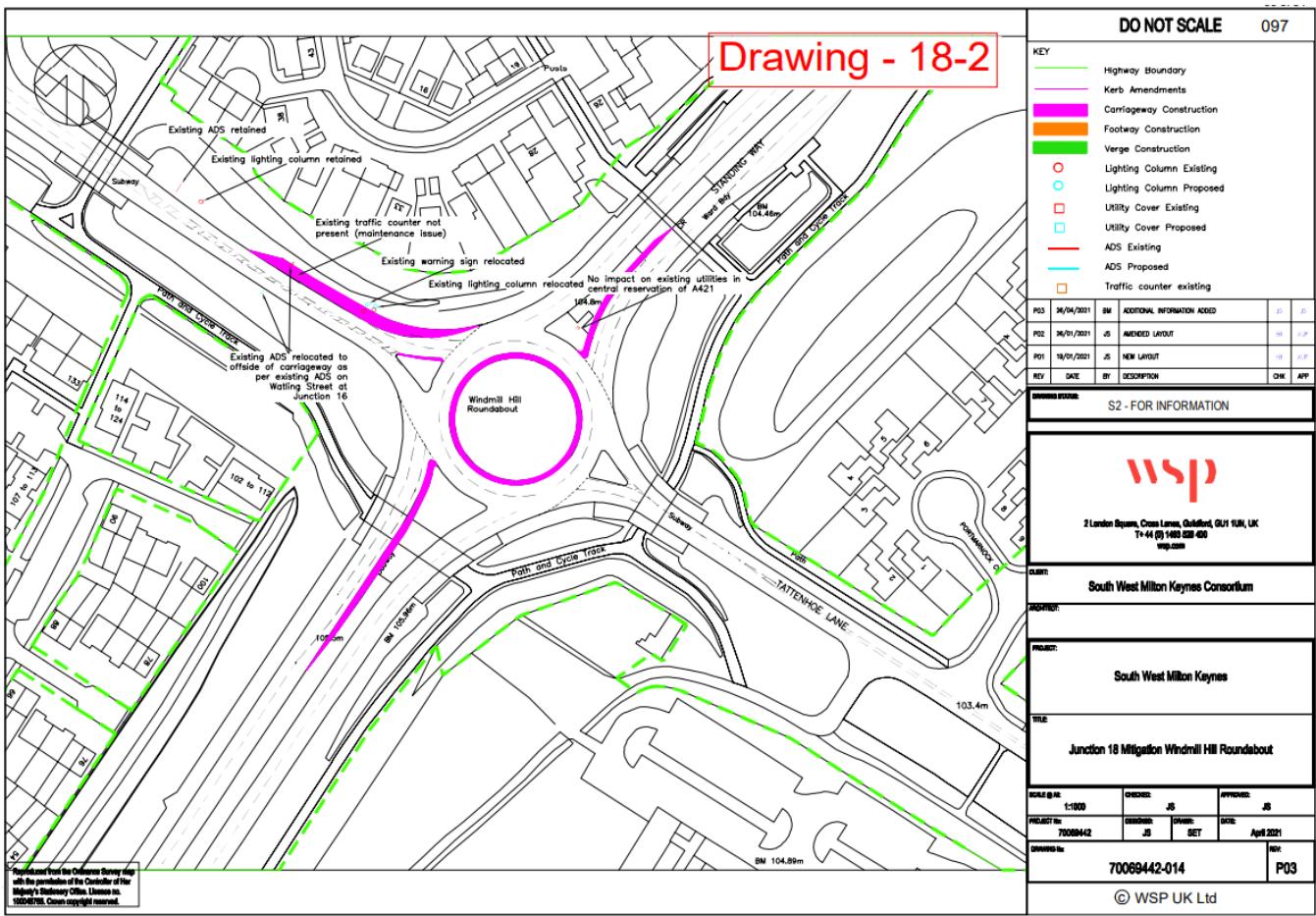
BC highways raised concern over the predicted negative impact on demand weighted Junction Delay in the PM and the resultant long queues on A421 Standing Way (N). The Appellant provided a response in a letter dated 7th April 2021. This provided details of a potential further mitigation measures that could be deployed at the junction, this involved conversion of the junction to part-time signal control. The Applicant does not consider that the further mitigation measures are required, with the TRN3 mitigation scheme showing overall junction improvement. The part-time signals are offered on a 'Monitor and Manage' basis and only implemented when considered necessary to do so. The S278 agreement could be developed to allow the flexibility for this approach. BC highways would support the use of the 'Monitor and Manage' approach to implement the design as and only if necessary, with the required trigger point to be determined by the respective parties.

The conclusion BC highways reached for J17 is the same as per the letter dated 13th April 2021. Concerns over geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. It is considered that the proposed mitigation scheme offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the NPPF with overall improvement in capacity terms. The issue of blocking back to adjacent junctions has been discussed and clarified with none considered likely with the potential 'Monitor and Manage' option a viable alternative option.

x. **Junction 18: Windmill Hill Roundabout**

MKC noted that the mitigation scheme would require re-siting of street furniture, an ADS, and electronic traffic count equipment and that the ability to relocate should be confirmed at the planning stage. Whilst it is considered that this would be addressed as part of the s278 detailed design and approval process the applicant has produced a further drawing (7069442-014 P03) detailing relocation requirements and indicates that this can be resolved with no further issues.

Figure 11: Junction 18 – Amended drawing detailing street furniture relocation



Concern was also raised about the lack of directional / guidance markings and no vehicle tracking along with the widened entries in relation to the width of the circulatory carriageway. Vehicle tracking was provided by the applicant in a letter 7th April 2021 that indicates the new entry lane on Tattenhoe Street would be left-turn only, thereby allowing for a narrower circulatory lane provision as already exists for the current three lane entries. Furthermore, the vehicle tracking has shown that the movement of larger vehicles can be achieved with no issue.

Concern was also raised in relation to the potential worsening of entry path curvature. A review of the collision review in the updated TA d did not indicate entry speed to be a contributor to the existing collisions, nor was the potential impact raised in the RSA and therefore the geometric changes as detailed are considered to represent a road safety concern.

Lastly, MKC raised concern over the proposed mitigation works result in increased AM peak hour queuing on both Standing Way approaches. In the PM peak hour, the predicted queue on Standing Way (N) would increase almost sevenfold, reaching the exit of the upstream Emerson Roundabout. As detailed in the response of the 13th April 2021 the demand weighted Junction Delay reduces in the AM from 225.69 to 163.86 seconds and in the PM from 136.59 to 133.11 seconds when compared to the 2033 DN existing layout. Tattenhoe Street would see a marked improvement operating under practical capacity (RFC of 0.85) with negligible queues and delay. Tattenhoe Lane would still operate above capacity but with an improvement in capacity operation and reduction in queues and delay. A421 Standing Way (N) would see an increase in queuing and delay, as well as A421 Standing Way (S) in the AM. Overall junction delay is reduced in both peaks, however no blocking of major node junctions is predicted to occur based on the BC highways more equal queue analysis.

The conclusion BC highways reached for J18 is the same as per the letter dated 13th April 2021. Concerns over geometric design have been reviewed and, in our opinion, resolved / responded to as detailed above. It is considered that the proposed mitigation scheme offers a viable alternative and is proportionate and reasonably related in scale to the impact of the development, as required by the

NPPF with overall improvement in capacity terms. The issue of blocking back to adjacent junctions has been discussed and clarified with none considered likely.

xi. Junction assessment conclusions

The overall conclusion from the MKC objection was to recommend that Buckinghamshire Council objects to the proposed development on traffic impact grounds, given the severe transport impacts predicted by the applicant in its TA/TRNs at locations which provide immediate and more strategic access between the BC and MKC highway networks.

BC highways are content that the network junction assessment has been performed via the use of industry standard modelling software with the base models undergoing a rigorous calibration process and that the comprehensive mitigation package for the local junctions, as detailed in TRN2 and TRN3, will reasonably accommodate the impact of the Proposed Development on the local junction network. This is taking into consideration the flows used are the 'worst case' scenario. The mitigation modelling with development traffic has shown that overall, most junctions will operate at the same level or better than the current layout using the DN scenario, whilst noting that some arms may perform worse but when considering each junction as a whole across both peak periods improvements can be observed and would therefore not be considered as a severe impact. It is further considered that concerns over geometric design and subsequent impacts on road safety have been reviewed and, in our opinion, resolved / responded to within this response with no severe impact in terms of queueing, delay or safety.

MKC stated that they would be liaising with the applicant on these matters and to discuss the scope of the additional work required which is likely to include additional mitigation design, network modelling and revisions to assessment documents including the ES. As detailed above the mitigation proposals are considered to offer viable, and deliverable, alternatives to the current road layout and are proportionate and reasonably related in scale to the impact of the development. In terms of network modelling, including a revised and widened area, is not considered proportionate to the development considering the robust modelling that has already been performed and analysed.

4. Agreed conditions, works and contributions

Further to the letter of 13th April 2021 and mindful of the above, the Highway Authority has no objection to the proposals subject to the obligations subject to a Section 106 Agreement and matters to be secured by condition below:

Obligations:

A421 Corridor Improvements - A contribution to be confirmed towards corridor improvements on the corridor of land and road, within Buckinghamshire Council jurisdiction, known as the A421 between Buckingham and Milton Keynes (index linked).

Newton Longville Traffic Calming A contribution to be confirmed towards the design, consultation, and implementation of a traffic calming scheme in the village of Newton Longville to mitigate the impact of the development traffic (index linked).

Bus Service Provision - An obligation to enter into a Service Level Agreement with a bus operator in line with the Public Transport Framework Specification dated 2nd March 2017, to a maximum agreed value to encourage sustainable modes of travel between the site and Milton Keynes and to support the aspirations and targets set out in the Travel Plan.

Travel Plan – To submit for approval a Detailed Travel Plan (for all land uses) in general accordance with the approved Travel Plan Framework and Buckinghamshire Council's Travel Plan Guidance for Developers. The approved Detailed Travel Plan shall be implemented upon occupation of the development and will be subject to annual review thereafter.

Travel Plan Monitoring - £5,000 (index linked) towards the auditing for each of the commercial and residential travel plans (£1,000 per annum for a minimum period of five years (index linked)). If after 5 years the Travel Plans have not met their agreed targets, the Travel Plan monitoring period will be **extended** for a further 5 years and a further contribution of **£5,000** for each land use (index linked) will be required.

Upgrade to Footpath 19 Parish of Newton Longville - A contribution to be confirmed is required for the Off-site improvement of the footpath and associated bridge(s) between the site and the path to the footway between Nos. 36 and 38 Whaddon Road, Newton Longville of a 2m wide granite to dust path (or similar appropriate alternative) to provide greater connectivity between Newton Longville and the site.

Whaddon - A contribution to be confirmed towards road safety improvements through Whaddon village.

Cycle Parking Provision – A financial contribution to be confirmed to provide additional cycle parking at or within the vicinity of Bletchley Station and at other key locations to encourage sustainable modes of travel between the site, key attractors and the railway station and to support the aspirations and targets set out in the Travel Plan.

Highway Works – An obligation to enter into a Highway Works Delivery Plan to secure the delivery of the following works:

- 1) Improvements to Bottle Dump Roundabout and a Pegasus crossing on Whaddon Road in general accordance with drawings 70069442-004 Rev. P05 and to include CCTV camera provision and variable message signs.
- 2) Improvement to Whaddon Road/A421 Roundabout in general accordance with drawing 70069442-005 Rev. P04.
- 3) Improvement to the A421/Nash Road/Winslow Road roundabout in general accordance with drawing 70069442-008 Rev. P04.
- 4) Site Access to Whaddon Road in general accordance with drawing D014 Rev. D.
- 5) Site Access to Buckingham Road to include toucan crossings on Buckingham Road (East) and the development access road in general accordance with drawing 0017D.
- 6) Improvements to Weasel Lane from Whaddon Road south-east to the property Weasels.

It should be noted that all highway works are subject to detailed design, including the Road Safety Audit process. Unless otherwise agreed by the Buckinghamshire Council, each Highway Agreement shall be subject to the following requirements:

- Payment of a bond, cash deposit, surety or other form of guarantee or security in respect of the works;
- Payment of the Buckinghamshire Council's legal costs in preparing and settling the Highway Agreement;
- Payment of the Buckinghamshire Council's engineers fees in the administration and inspection of the works that are subject to the Highway Agreement;
- Payment of any costs associated with new or amended Traffic Regulation Orders and commuted sums for further maintenance of adoptable highway items.

Grid Road Reserve – That the land identified for the grid road reserve is to be safeguarded and dedicated as highway in order to not prejudice the ability of the Buckinghamshire Council to deliver this scheme in the future. This will need to specify ongoing maintenance responsibilities of the verge and planting, either in the form of a commuted sum or a landscaping licence.

NLO/19/1 – An obligation to dedicate a public bridleway along the alignment of Footpath NL0/19/1 between Weasel Lane and the railway line, under Section 25 of the Highways Act.

Weasel Lane – A contribution to be confirmed to resurface Weasel Lane outside the red line, from Whaddon Road south-east to the property Weasels' to provide improved connectivity to the wider rights of way network for leisure purposes.

Requisite highway improvements are to be secured under Section 278 Agreement, rather than a financial contribution.

Planning Conditions

As stated previously, this Highway Authority considers that planning conditions are necessary to secure the following:

1. Construction Traffic Management Plan
2. Internal Infrastructure
3. Bus Service Phasing Plan
4. Whaddon Road Site Access Junction
5. Whaddon Road Site Access Visibility
6. Buckingham Road Site Access Junction
7. Framework Travel Plan

It should be noted that Milton Keynes Council has also recommended that transport related conditions be applied to any planning permission granted. Details of which are to be confirmed.

Informatics:

Any subsequent planning consent as a result of this application will be subject to highway related planning informatics. These will be provided with the detailed conditions.

5. Conclusion

Upon further review and analysis undertaken in response to the MKC consultation letter, the points raised have been resolved / responded to, and BC highways consider the assessment methodology to be appropriate and that the development impact is not considered to be severe. **The Council therefore concludes that the outline application is acceptable to the Highway Authority subject to appropriate transport planning conditions and a Section 106 Agreement to secure the appropriate works and contributions.**

If you have any queries regarding any of the above, please do not hesitate to contact me.

Yours sincerely



**James Bedingfeld
Highways Development Management
Planning Growth & Sustainability**

Please note:

This advice is given at officer level only and is based on the facts and information you have supplied. It must be understood that the final decision on any planning application that may be submitted in the future rests with the Planning Authority.

