

WEST SUSSEX COUNTY COUNCIL CONSULTATION

TO:	Arun District Council FAO: Mr. D. Easton
FROM:	WSCC - Highway Authority
DATE:	31 March 2022
LOCATION:	Bognor Regis Golf Club Downview Road Bognor Regis PO22 8JD
SUBJECT:	FP/274/21/OUT Outline planning application with all matters reserved, except means of access, for the erection of up to 480 new homes (C3), the formation of a new means of access onto Golf Links Road, together with the creation of new surface water drainage, new landscaping and habitat creation, ground works and other infrastructure and the retention and re-purposing of the retained club house (F2). This site also lies within the parish of Yapton, affects a Public Right of Way and is a Departure from the Development Plan. This application is subject to an Environmental Statement.
DATE OF SITE VISIT:	8 March 2022
RECOMMENDATION:	More Information Required
S106 CONTRIBUTION TOTAL:	£ (details TBC)

This is the WSCC County Highways (CHA) response to the outline planning application with all matters reserved, except means of access, for the erection of up to 480 new homes (C3), the formation of a new means of access onto Golf Links Road, together with the creation of new surface water drainage, new landscaping and habitat creation, ground works and other infrastructure and the retention and re-purposing of the retained club house (F2).

Site location and access.

The site is located approximately 3.4km north-east of Bognor Regis town centre. It is accessed from Downview Road at its northern end via a proposed continuation of Downview Road with a secondary (emergency) access shown off Golf Links Road. Shirley Drive (a private road) is found to the east of Golf Links Road.

Downview Road is predominantly a residential road running N-S and connecting (at its southern end) to the B2259 Felpham Way at the Downview crossroads (traffic signal junction). It is subject to a 20mph speed limit and has traffic management measures (raised cushions) along its length. Downview Road also provides access to other residential roads including Wroxham Way which in turn provides access to Downview Primary School.

To the north of the site is the A259 Felpham Relief Road. No access is proposed to the latter.

The site is bounded to the west by the Lidsey Rife, beyond which is the LEC Airfield and the Bognor-Barnham railway branch line. To the north the land is bounded by agricultural land and the A259 Felpham By-Pass. To the east there are existing residential properties of Felpham and to the south-west are open fields and Downview Primary School.

The TA states that the site covers an area of approximately 40ha and comprises the existing golf course, its club house and car parking with vehicular access taken from Golf Links Road.

With regard to the access junction/interface of the site access road with Downview Road/Golf Links Road and Shirley Drive, the design includes shared foot/cycleway on its eastern-side. In light of LTN 1/20 (Cycle Design and Infrastructure) produced by the DfT, the applicant should look into whether segregated foot and cycle provision can be provided for the site on both sides of the access road where it meets the existing Downview Road - possibly starting on Downview Road before they reach the site boundary - and, additionally, to explore whether cycle routes could extend from the site along Downview Road to Downview traffic signals (in both directions). Any revisions to the junction and provision of any works to Downview Road will require further Safety Auditing.

Access by sustainable modes of transport.

Walking and cycling – The site is accessible to a good network of footways along the local residential roads surrounding the site. On Downview Road, footways are provided on both sides from the junction with Golf Links Road to the crossroad junction with Felpham Way (B2259) and are mostly separated from the road by a verge. These footways connect with the footways on Felpham Way (B2259) which extend east and west and Felpham Road to the south.

Footways are provided on both sides of the Felpham Way (B2259) eastwards and provide access to a number of local facilities. To the west of the Downview Road junction a segregated footway/cycleway is provided on the southern side of the Felpham Way (B2259) which forms part of the South Coast Cycle Route.

Informal pedestrian crossings are available at various points along Downview Road and signalised pedestrian crossings are provided at the Downview Road / Felpham Way (B2259) junction and also on B2259 west of Downview Road.

There is also a shared footway/cycle route to the east of the site in the vicinity of the site which continues north through the new housing development to the east of the site (Public Footpath 154*). The applicant should look to provide connections to this from their site and through the site to Public Footpath 153* (and to be all off-road for pedestrians and cyclists) and, additionally, explore the provision of a foot and cycle path from the point the existing shared-use path meets Shirley Drive and continue this to the foot and cycle network at Downview Road and Golf Links Road.

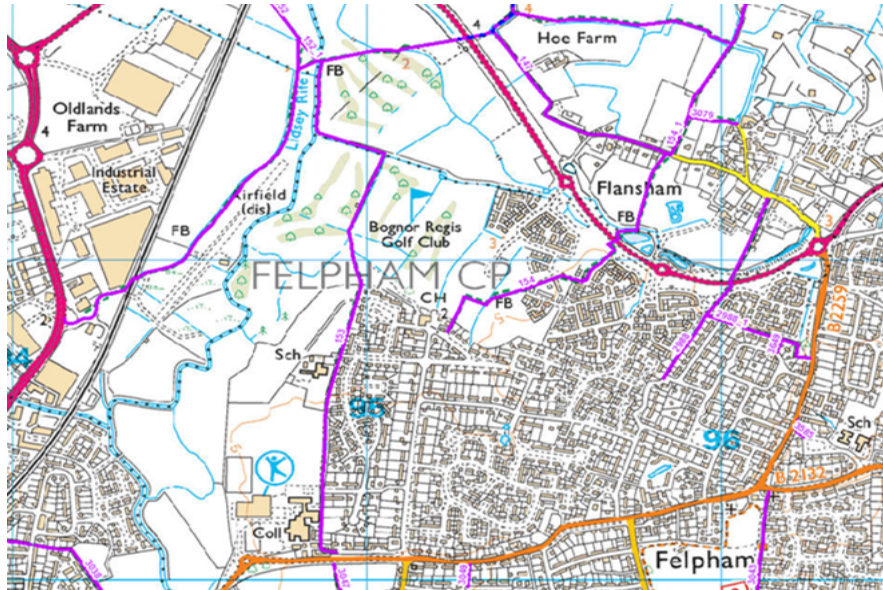
*(*The status of these paths will need altering to cater for new end users such as cyclists)*

Please also see comments made above under 'Site Location and Access' to do with improving the proposed junction arrangement with improved facilities for pedestrians and cyclists.

Public Rights of Way (PRoW).

There are a number of Public Rights of Way (PRoW) that are within close proximity to the site. Public Footpath No. 153 continues through the site from A259 to B2259.

The following diagram Taken directly from the TA (shown as Figure 4 in the TA) shows the existing PRoW within the vicinity of the site (PTO):



Public Footpath No. 153 continues on a north-south alignment through the site passing Downview Primary School and Felpham Community College to B2259 Felpham Way where a controlled signalised crossing provides a route to link with the existing footway/cycleway along the south side of B2259 and also the existing PRoW 3047 which continues southward into Felpham village via St. Mary's Church.

PRoW 153 between the site and Downview Primary School is an unsurfaced route that is a recreational route for local residents. It is gated at its junction with the school and leads into the existing golf course as shown in Photo 2 found in the TA.

There are also a number of other unsurfaced routes that lead off the PRoW covering the area to the western side of the site and also continue south to the Arun Leisure Centre. These routes appear to be in good condition and well used. Photo 3 in the TA shows the route.

The map extract found below (Figure 5 as found in the TA) shows both unsurfaced (in green and buff) and surfaced (yellow) routes close to the site:



As part of local transport improvements in the area, WSCC is undertaking feasibility work to widen the surfaced section of PRow route 153 to provide a shared footway/cycleway route. The scheme also includes the upgrading of the existing pelican crossing on Felpham Way to a Toucan Crossing for dual-use by pedestrians and cyclists.

PRow route 153 also joins the A259 Felpham Bypass to the north of the site where it joins with the existing footway cycleway that continues along the A259 and A29 into Bognor.

Commitment to provision of an LTN 1/20-compliant walking and cycling off-road paths from the school site (the WSCC route terminates at the northern end of the yellow line shown on the plan above) then on through the site to the existing shared-use path the runs along the eastern boundary of the site (PRow 154) – details to be submitted at any reserved matters/discharge of condition stage (affects PRow – Public Footpaths – 153 and 154) and to the new A259 Felpham By-Pass (which will extend the WSCC route) should be provided.

Measures to further enhance the opportunities for future connections are provided in **Section 5** of the TA. Please also see comment made by the CHA under sub-heading 'access by sustainable modes of transport – walking' above.

Further comments will be made separately about PRow by the WSCC PRow Team.

Public transport - The nearest bus stop is located approximately 270 metres to the southwest of the site access on Wroxham Way. This is served by bus service No. 67 (a five-seven minute walk from the site).

Additional bus routes are available from Felpham Way (B2259) named as the Downview Road bus stop located approximately 850 metres to the south of the site access and provides access to bus routes 69, 600 and 700 (a nine-eleven minute walk from the site).

With regard to route and frequencies of the services, Table 3.1 taken from the TA (and replicated below) shows the following:

Route No.	Route	Average Frequency (per hour)				
		Mon - Fri			Saturday	Sunday
		AM Peak	Off Peak	PM Peak		
67	Bognor Regis - North Felpham - Glenwood Estate	-	1	-	1	-
69	Wick – Pagham	-	1	-	1	1
600	Elmer – Chichester	2	2	2	1	1
700	Flansham Park – Portsmouth	5	6	6	4	0

Bus route 67 is operated by Compass Travel and provides access to Bognor Regis High Street and Glenwood Estate shops Monday – Saturday. However, the frequency of this service is just one bus every 2hrs between 09:00am and 17:00pm.

Bus Route 69, operated by Stagecoach PLC, provides an evening service (18:00pm – 20:00pm) Monday - Sunday between Seftor Farm at Barfoots of Botley to Wick. This service calls at Bognor Regis High Street, Middleton-on-Sea and Littlehampton.

Bus Route 600, also operated by Stagecoach PLC, provides a high-frequency service of one bus every 30mins every day between 07:00am – 20:00pm Monday - Saturday and between 09:00am and 19:00pm on Sundays. It serves key destinations including Chichester Bus Station, Pagham, Bognor Regis High Street & Middleton-on-sea.

Bus route 700 (again Stagecoach PLC) also provides a high frequency service of one bus every 20mins between 07:00am and 22:00pm Monday - Saturday. This route serves key destinations such as Portsmouth including the University of Portsmouth, Havant Bus Station, Emsworth, Chichester, North & South Bersted and Bognor Regis including the Station and High Street.

The applicant considers that the above information shows that there are a good number of bus services within easy walking distance of the site, which connect the site with a number of key areas and destinations including Bognor High Street and Railway Station, Pagham, Littlehampton, Middleton-on-sea, Chichester and Portsmouth.

As stated above, the nearest bus stop to the site is situated on Wroxham Way at its junction with Stalham Way which serves route 67 and is approximately 500m from the centre of the site (a five–seven minute walk). This service is operated by Compass Travel. This service is a local service between Bognor high street and the Felpham area providing a service every 2hr 20mins Monday to Saturday. In addition, the services on B2259 which are within a 10-15min walk of the site provide access to an additional 4 bus services which provide a high frequency of services linking with Bognor, Chichester and Portsmouth.

To encourage use of public transport by residents and others wishing to travel this way to and from the site, the applicants proposed that the bus stop on Wroxham Way near to the junction with Stalham Way be improved to include a raised kerb to make it easier for disabled, elderly and people with pushchairs to access the bus. There is insufficient room at this location to provide a bus shelter.

The applicant also proposes to upgrade the bus stops on B2259 east of the junction with Downview Road. The bus stop on the northern side has an existing cantilever bus shelter and this will be upgraded to include real-time information and the existing kerb raised to make access easier for disabled, elderly and people with pushchairs. The bus stop on the southern side is a simple bus flag arrangement, although there appears to be sufficient room to provide a cantilever bus shelter which would also include real-time information and raised kerbs.

With regard to raised kerbs, this is generally not done now as most buses now include air suspension which allows for the step height from roadside to the vehicle to be made level if necessary. This is certainly the case for the 600 and 700 services running along the B2259. Therefore they should be omitted from plans for Felpham Way. However, the applicant should check with Compass Travel what their requirements are as they operate different buses than Stagecoach PLC.

Additionally, any improvements to bus shelters, waiting facilities must be considered as part of the Safety Audit process. Applicant to consult with the Road Safety Audit Team and seek their written responses which should be forwarded to the LPA and CHA to consider.

Rail – Bognor Regis Rail Station is located approximately 3.1 kilometres (38min walk or 11min cycle) to the southwest of the site. Bognor Regis Rail Station is managed by Southern Railways. The station contains 184 secure cycle storage spaces as well as 99 car parking spaces.

The Station provides services to a range of locations including London Victoria, Barnham and Littlehampton. Table 3.2 in the TA (replicated below) outlines the frequency of services from Bognor Regis Rail Station:

Route	Average Frequency (per hour)				
	Mon - Fri			Saturday	Sunday
	AM Peak	Off Peak	PM Peak		
London Victoria	3	2	2	2	1
Barnham	4	4	4	4	2
Littlehampton	1	1	1	1	1

The above demonstrates that there is a regular service operating from Bognor Regis Rail Station throughout the day. This allows residents of the proposed development to be able to reach areas such as Barnham, Littlehampton, Chichester, Portsmouth and London although does occasionally require changes to be undertaken at Barnham for services running westwards, such as Chichester and Portsmouth.

Road safety.

Personal Injury Accident (PIA) data - was obtained by the applicants from Sussex Police for the latest five-year period from August 2016 to July 2021 covering the local area including the A259, B2259 and local residential roads to the south/east of the site. A copy of the Accident Data is included in Appendix 2 of the TA.

During the period interrogated, a total of 97 injury accidents were recorded within the study area, 20 of which were serious, one was fatal, and the rest were slight. Records do not include damage-only accidents nor those not reported to the police.

From scrutiny of the data close to the site, two serious accidents occurred at the junction between Felpham Road and Felpham Way. One serious accident occurred in the daylight and included a collision between a car and a bicycle.

One serious accident occurred along Felpham Way in the daylight and resulted from a collision between a car and a motorbike.

One fatal accident occurred in the daylight on Felpham Road near the junction with Felpham Way. It resulted from a collision between a goods vehicle and a bicycle.

One slight accident occurred on Downview Road at junction with Outerwhyke Road.

Road Safety Audit – A Stage 1 Road Safety Audit and accompanying Road Safety Audit Decision Log (Designer's Response) have been submitted alongside the planning application for the proposed junction works at the site access point.

The report raises three items needing attention. They are as follows:

1. '*Problem GENERAL throughout junction scheme extents*' – Insufficient drainage may result in single vehicle loss of control type collisions or a slip/fall hazard for pedestrians/cyclists (general, throughout the scheme).

Audit Team's Recommendation - The Audit Team recommends that at the next stage of design, new drainage appropriate for the proposed highway works is incorporated into the scheme proposals.

Designer's Response – Recommendation Agreed. At the detail design stage, a review of drainage will be undertaken.

CHA (Overseeing Organisation's Response) – Agree with Audit Team.

Agreed Action - That at the detail design stage, a review of drainage will be undertaken and that new and/or amended drainage for the proposed highway works is incorporated into the scheme proposals.

2. 'Problem 1' – Increased risk of kerb strikes and/or vehicle to pedestrians/cyclist type collisions (at junction with Downview Road).

Audit Team's Recommendation - The Audit Team recommend that vehicle swept paths are carried out to confirm that vehicles can safely negotiate the reduced kerb radii without overrunning footway/verge areas.

Designer's Response - The existing kerb radii are excessive for a residential area and encourage high vehicle speeds. The radii has been reduced to slow vehicle movements down and make it more accessible for pedestrians. vehicle tracking has been carried out and included in the TA.

CHA (Overseeing Organisation's Response) – Agree with Audit Team.

Swept-path diagrams (on drawing JNY10830-11 A) demonstrate that vehicles can negotiate the proposed junction arrangements but there is some overhang/sweeping-across into opposing lanes (but not on footway or verge areas) when a large vehicle (a refuse vehicle is shown) makes the manoeuvres.

However, the use of the junction by such vehicles would be infrequent, would be expected by locals and as such, highway users will react accordingly and visibility around the junction would be good which would assist. Therefore, the junction as currently submitted is acceptable to the CHA. However, if the junction is altered/amended following review of pedestrian and cycle comments made elsewhere in the CHA response to the planning application or at any other time prior to construction, then the junction should be 're-tracked' to demonstrate suitability.

Agreed Action - That any agreed junction arrangements proposed to access the site are suitably designed to ensure no overhang of vehicles onto any footways, cycleways nor verges.

3. 'Problem 2' – Increased risk of cyclist to pedestrian type collisions (where shared-use pedestrian and cycle facility joins access road).

Audit Team's Recommendation - The Audit Team recommend that the appropriate form of tactile paving and signing is provided where required.

Designer's Response – Recommendation Agreed. The detail of signage and tactile paving has been added to the proposed access arrangement.

CHA (Overseeing Organisation's Response) – Agree with Audit Team.

Agreed Action - That the appropriate form of tactile paving and signing is provided where required (to be checked again at detailed design/S38/278 stage).

Applicant to respond to the above comments contained under 'Overseeing Organisation's Response' and 'Agreed Action'.

In addition to the Road Safety Audit already undertaken and referred to above, the applicant should also provide Safety Audits for the following:

- All off-site highways works; and
- Bus stop improvements.

Traffic impact of development.

As part of pre-application discussions with West Sussex Council a scoping report was prepared which identified the proposed trip rates and distribution of the site which has been accepted by WSCC.

The applicants have set-out the proposed traffic movements expected to be generated by the development based on other similar sized developments in similar locations as well as reviewing the trips generated by the existing golf course.

The application is for 480 dwellings and 755sqm of community facilities. However, the TA assesses the impact for up to 500 dwellings plus the community facilities to demonstrate a robust assessment has been undertaken.

This TA considers the transport impact on the proposed development at key junctions on the local road network within the vicinity of the site. The extent of network has been based on the predicted increase in traffic movements assessing junctions where the increase in movements is greater than circa 30 two-way movements.

This assessment with development includes for the removal of the existing trips associated with the golf Course and the re-assignment of trips to the new Golf Course on land south of Grevatt's Lane as detailed in the TA accompanying the new golf course application. A copy of the Golf Course related trips is included in Appendix 10 found in the TA.

Study Area.

The TA has considered the impact of the development at the following local junctions:

- A29 Shripney Road / A259 Felpham Relief Road roundabout;
- Shirley Drive / Golf Links Road / Downview Road / proposed site access priority junction;
- A259/B2259 Flansham Lane/Hoe Lane roundabout;
- B2259/B2132 Middleton Road mini roundabout;
- B2259/Summerley Lane mini-roundabout;
- B2259/Downview Road/Felpham Road signalised junction;
- B2259/Drygrounds Lane Close roundabout;
- B2259/Upper Bognor Road/Ocean Hotel Road roundabout;
- B2259/High Street/Mostar Avenue roundabout; and,
- High Street/Gloucester Road mini roundabout.

Assessment Scenarios.

The applicant has said that development on the existing Bognor Regis golf course will only commence once the new Golf Course site is completed. The applicant's predicted timescales for both development sites are as follows:

- 2023 - Commencement with construction of new golf course site off Grevatt's Lane;
- 2026 - New golf course finished and construction of new residential development commences; and
- 2031 Residential development completed.

On the basis of the above, this TA includes a future assessment year of 2031 with the full development. This latter date also coincides with the end of the current Arun Local Plan

period. The 2031 assessment includes background growth from TEMPro and committed/allocated developments as follows:

TEMPro growth for the local area between 2021 and 2031 is 7% & 8% in the AM and PM Peaks respectively. The assumptions identified in TEMPro are that this includes for 366 Houses and 62 new jobs. In addition to the background growth, the following committed developments and strategic developments have also been added to the base 2031 flows:

- App Ref: Y/91/17/OUT – 250 Dwellings Land at Bilsham Road, Yapton;
- App Ref: AL/87/21/PL – 11,412sqm Employment Use at Oldlands Farm. Bognor Regis;
- App Ref: Y/92/17/OUT – 300 Dwellings, Land South of B2233 Main Road, Yapton;
- App Ref: F/4/20/OUT – 1,200 Dwellings, Ford Airfield (100% Occupation);
- Strategic Development – Land West of Bersted (2,500 dwellings + Employment); and
- Strategic Development – Land at Barnham, Eastergate & Westergate (3,200 dwellings and employment). Arun District Council has an aspiration for a higher number of dwellings on this site but to date, only 3000 have been tested in highways terms.

The 2031 assessment is therefore considered as a robust assessment as it is likely to be double counting through the use of TEMPro growth and overestimating the flows associated with the strategic sites.

The trips associated with the existing golf course as identified in Section 6 have been removed from the local road network. The new golf course trips to the proposed site south of Grevatt's Lane have been added onto the local road network for the future scenario based on the TA to support the proposed golf course site.

The above junctions have therefore been tested for the following scenarios during the morning and evening peak hours:

- 2021 observed;
- 2031 Base + Committed Development; and
- 2031 Base + Committed Development + Proposed Development.

Existing trips.

The assessment takes into consideration trips associated with the existing golf course and the proposed re-distribution of those trips on the local road network to the new golf course site proposed south of Grevatt's Lane. The existing trips have been based on the traffic survey that was undertaken at the site access and are provided in the table below.

	AM Peak			PM Peak		
	Arrivals	Departure	Two-way	Arrivals	Departures	Two-way
Bognor Regis Golf Course	29	1	30	3	18	21

The above trips have been assigned to the local road network as shown in Appendix 10 of the TA and removed from the local highway network for the proposed scenarios.

The proposed traffic movements to the new golf course are based on those provided in the TA submitted to support the proposed golf course application. Whilst the new site will be in a location which is less accessible to sustainable travel, a review of the TRICS database for standalone sites shows lower trips in the AM peak compared to the existing use, therefore it has been considered appropriate to use the existing trips for the new golf course site.

The re-distribution of movements has been based on post code data provided of existing members attending the site, details of the proposed re-distributed trips are also included in Appendix 10 found in the TA.

Proposed trip generation.

The traffic movements to and from the development have been based on trip rate information from the TRICS database which includes the following parameters;

- Region: South East;
- Range: 350 – 850 Dwellings;
- Location: Suburban Area, Edge of Town; and
- Subcategory: Residential Zone.

	AM Peak			PM Peak		
	Arrivals	Departure	Two-way	Arrivals	Departures	Two-way
Trip Rate (No. Dwellings)	0.120	0.396	0.516	0.308	0.200	0.508

The development proposes the re-use of the existing golf club buildings with the potential re-use is a community facility. The existing floor area is 755m² and the TRICS database has been used to obtain a typical trip rate that may be associated with this type of facility and the results are provided in the Table below:

	AM Peak			PM Peak		
	Arrivals	Departure	Two-way	Arrivals	Departures	Two-way
Trip Rate (Gross Floor Area)	0.279	0.093	0.372	0.163	0.435	0.598

A copy of the TRICS data is included in Appendix 9 found in the TA.

As stated above, the TA assesses the proposal based on 500 dwellings and 755m² community facilities. The resultant **vehicle** trips associated with this proposal in the peak periods is provided in the table below:

	AM Peak			PM Peak		
	Arrivals	Departure	Two-way	Arrivals	Departures	Two-way
500 Dwellings	60	198	258	154	100	254
Community Facilities	2	1	3	1	3	4
Total	62	199	261	155	103	259

Based on 500 dwellings and a community facility, this shows that the development would generate a total of 261 two-way trips in the AM Peak and 259 two-way in the PM Peak. The existing golf course generates 30 two-way trips in the AM Peak and 21 two-way in the PM Peak. Therefore, deducting the golf course traffic from the peak hours shown, the resultant impact locally will be **231** two-way in the AM Peak and **238** two-way in the PM Peak (Approximately four extra trips per-minute during these times compared to existing flows).

Distribution.

The distribution of traffic movements to and from the site has been based on the 2011 Journey-to-work Census database as set out in Table 2.2 found in the TA. Whilst the

mode of travel, post the COVID Pandemic has changed, the workplace destinations is considered to still be relevant. The use of this data has been confirmed as being acceptable in WSCC pre-app discussions.

The proposed development traffic flows are included in Appendix 10 found in the TA.

Impacts at junctions tested and proposed mitigation, where proposed.

- *A29 Shripney Road/A259 Felpham Relief Road roundabout* - The modelled results show that in 2031 with the strategic development sites, this junction could potentially exceed its design capacity. The change with the proposed development traffic shows a maximum change in Ratio of Flow to Capacity (RFC) of 0.04.
- *Shirley Drive/Golf Links Road/Downview Road/proposed site access priority junction* - The results show that this junction will operate well within its design capacity and will only have minimal impact on existing traffic movements on Golf Links or Shirley Drive.
- *A259/B2259 Flansham Lane/Hoe Lane roundabout* - The above results show that this junction is currently operating within its design capacity although in 2031 it will be operating close to its design capacity. The increase in RFC with development is 0.03 on arms that are close to capacity. An increased in RFC of less than 0.10 on arms that are close-to or exceeding capacity is considered negligible and not likely to materially affect the operation of this junction compared to the without development scenario.

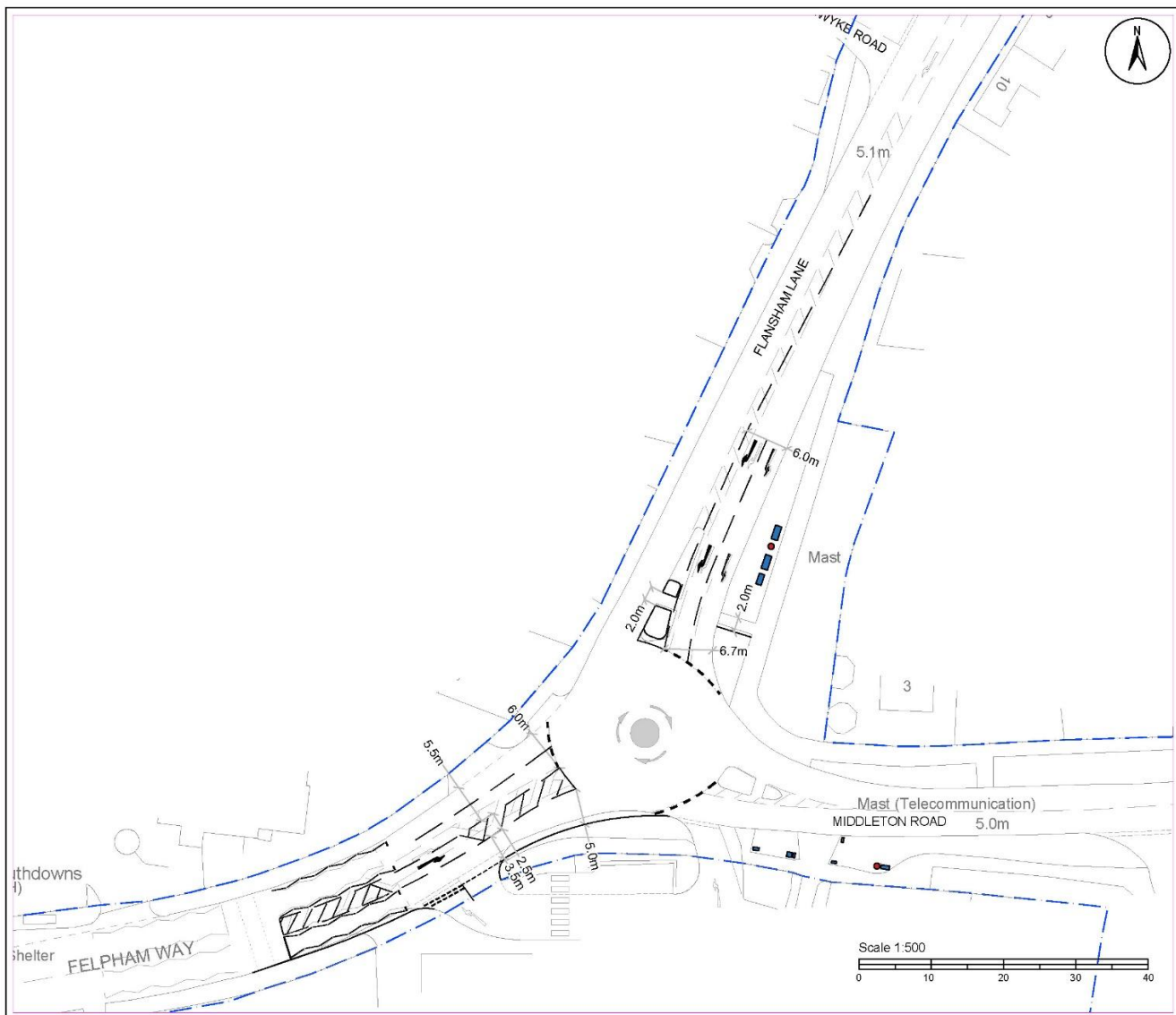
The main issue with the B2259 at this junction is that the approach width and lack of centreline markings for northbound traffic is such that it tends to lead to single lane queueing, whereas with some minor widening and road markings applied delineating a two-lane approach, this might have the effect of improving capacity at this junction. As such, the applicant should explore this, albeit being mindful of the need to also accommodate (and not prejudice) the adjacent cycling facilities. Any changes must be Safety Audited.

- *B2259/B2132 Middleton Road mini roundabout* - The applicant has said that the assessment of this junction has used the "Slope Intercept" values to reflect the observed queues more accurately. In this regard it is only possible to provide one value which means that it is not possible to accurately model the queues in both the AM and PM peaks.

Notwithstanding this, the results show that this junction is currently operating close to its design capacity. In 2031 without development, this junction is expected to exceed its design capacity.

The impact of the proposed development traffic will see a maximum RFC increase of 0.15 which will occur on the B2259 (West) arm of the junction in the AM Peak.

This junction is currently constrained with limited highway land available and a large number of statutory undertaker plant and access chambers, together with two mobile phone masts in this location. However, the applicants have said that it is possible to provide some improvements to the B2259 (west) arm which includes the widening of the approach to two lanes. Furthermore, it is possible to reduce the width of the island on B2259 (north) arm and increase the lane width of the existing two-lane approach, all of which are within the extent of public highway. A proposed arrangement is shown below (**Figure 8** and **Appendix 14** found in the TA).



As part of the improvements on the B2259(W) arm and B2259(N) arms, the proposed improvements show that whilst the junction is still likely to operate at or above its design capacity and that there may be a small increase in delay on the B2132 arm as a result of the improvements. However, the applicant considers that the overall impact of the development traffic on this junction is mitigated.

Looking at the traffic figures supplied by the applicant, some of these (predominantly B2259) appear somewhat large and unusual. As such, it is difficult to establish whether they are correct or not. Applicant to explain please.

Additionally, the proposed changes must be safety audited. Furthermore, swept path diagrams for a selection of vehicles should be provided for the access point to Tesco (western-arm) where the majority of the changes are proposed (and

take into account vehicles parked within the Tesco entrance which do occasionally lead to junction 'blocking').

- *B2259/Summerley Lane mini-roundabout* - The results show that this junction is operating close to its design capacity in the AM Peak on the B2259(E) arm, this arm exceeds its design capacity in 2031 in the AM Peak but remains within capacity in the PM Peak. The maximum change on B2259(E) in RFC is 0.02 and therefore the applicant considers that the development traffic is considered to be minimal. The other arms remain within capacity until 2031 with development.

Whilst there will be some additional delay at this junction with the development, the applicant considers that the traffic impact is not considered severe and therefore no mitigation measures are considered necessary at this junction.

- *B2259/Downview Road/Felpham Road signalised junction* - This junction is a signalised junction and has been modelled using LINSIG. The junction currently operates using MOVA 'Microprocessor Optimised Vehicle Actuation' which enables the junction to alter the green times and in turn operate more efficiently than a fixed cycle time system.

The applicant states that LINSIG does not currently allow for this type of operation in the modelling software therefore to provide a model that simulates as close as possible to the existing arrangement the signal timings have been based on a review of the observed signal timings. The assessments below include the average cycle time of 120 seconds and the maximum observed cycle time of 169 seconds.

The modelled results show that the junction is currently operating close to its design capacity in the AM Peak and exceeds its design capacity in 2031 with the proposed development traffic. Whilst MOVA will vary its cycle time to minimise the impact the 2031 considers the impact using both the average cycle time of 120 seconds and also the maximum observed cycle time of 169 seconds, with either option the junction is likely to exceed its design capacity although the applicant considers that in 2031 the longer cycle time will operate more regularly in the peak periods.

To improve the operation of this junction the proposal is to provide staggered crossing facilities on the Downview Road and the Felpham Road arms, this will remove the need for an all-round red stage when the pedestrian phase is called improving the operational capacity. All improvements shown are within the extent of public highway. This arrangement is shown in **Figure 9** below and included in **Appendix 14**.

they see fit. Given the frequency of right turning vehicles shown within the flow groups - particularly once the development has been completed - the 2031 figures show as much as 199 pcu/hr. This is too high and therefore the CHA cannot agree to this staging alteration on safety grounds.

Altering the staging to represent the current arrangement also has an effect on the model. Taking the above Scenario 13 as an example, the PRC changes from 11% to -25.5% which suggests some possible improvement. Unfortunately, the delays experienced increase greatly; 25.35 pcu/hr up to 140.76 pcu/hr. These delays are not acceptable in this scenario with eastbound queues predicted to be in excess of 550m, as a result of the high numbers of traffic turning right from the east.

Therefore, based on the work done to date for this junction, the CHA cannot accept what is currently proposed by the applicant. The applicant is, of course, invited to re-evaluate the scenarios here and/or to look to see if other options and/or changes might be available at the junction.

Additionally, any changes must be safety audited. Applicant to provide the Audit for the CHA to review. It is acknowledged that swept path tracking diagrams have been provided showing a bus and large fixed-axle HGV's. However, swept path diagrams for articulated vehicles should also be provided.

- *B2259/Drygrounds Lane Close roundabout* - The data supplied in the TA shows that this junction currently operates within its design capacity although there do appear to have been longer queues observed forming on B2259 Northbound during the AM Peak, although the PM Peak model reflects more closely the observed queues. Therefore, the additional queuing in the AM Peak may have been as a result of other delays or incidents on B2259 at the time of the survey.

The assessment shows that this junction will continue to operate well within its design capacity with the proposed development traffic.

- *B2259/Upper Bognor Road/Ocean Hotel Road roundabout* - The junction is shown to operate within its design capacity and will not be affected by the proposed development traffic.
- *B2259/High Street/Mostar Avenue roundabout* - The results show that this junction currently operates within its design capacity and will continue to operate within capacity with the proposed development.
- *High Street/Gloucester Road mini roundabout* - The results show that this junction is currently operating within its design capacity and will continue to operate within capacity with the proposed development traffic.

Multi-modal Movements.

Based on the 2011 Census data, the National Travel Survey data from the Department of Transport and the TRICS database the table below provides a typical daily profile of trips made by residents of a similar sized development, by trip purpose and the modes used.

Trip Purpose / Main Mode	Walk	Cycle	Car Driver	Car Passenger	Bus	Rail	Taxi
Work	18%	61%	58%	13%	38%	55%	0%
Education	39%	9%	8%	23%	27%	11%	15%
Shopping	22%	8%	16%	18%	18%	5%	17%
Leisure	21%	22%	19%	46%	18%	29%	68%

The above table shows that over the day the trip purpose varies, and modes associated with those trips will also vary. Residents that cycle will do so more for work related trips and leisure than other trip purpose. Similarly walking is highest for education trips, shopping and leisure. The use of public transport is primarily for work-related trips although a relatively high number are made for education and leisure purposes.

In order to encourage the use of the non-car modes the trip destinations need to be taken into consideration. The applicants consider that the location of the site benefits from being accessible to a good range of education and leisure uses and therefore the opportunity to see a lower level of car use is realistic. A more detailed review of potential trip change is considered in the Travel Plan.

Policy considerations.

Arun District Local Plan (Policy EMP DM2) sets out the policy requirements for the strategic employment sites 1-4 with Site 4 – LEC Airfield being the land adjacent to the proposed development site. The additional policy requirements for Site 4 are as follows:

"Any proposals relating to site 4-LEC Airfield and adjoining land must also ensure the following points are addressed. Measures for delivery of the link road between the A259 Felpham Way and the Bognor Regis Relief Road with reference to the safeguarded alignment in Policy T SP3 (Safeguarding the Main Road Network)."

Policy T-SP3 states:

"Safeguard the indicative lines of the following schemes, to support the delivery of planned growth through the Local Plan. These schemes are subject to design, consultation, and approval: F. Link Enterprise Bognor Regis Link Road."

An extract from part of a public consultation for the LEC Airfield site (Enterprise Bognor Regis promotional brochure) showed a potential route for the Link Road as shown below (taken from the TA):



The applicants state within the TA that the submitted planning application does not seek permission for this Link Road and as such, this has not been assessed in the EIA. However, a corridor of land has been identified at the northern extent of the site, consistent with the Bognor Enterprise illustration that the TA states would be safeguarded to facilitate the potential construction of that new road should it come forward in the future. The applicants also state that they anticipate that should planning permission be granted, any associated Section 106 Agreement would include obligations, including making this land available and financing the construction of that section of the Link Road (within the red line boundary only), for delivery either by the District or County Council and subject to certain triggers being hit and criteria satisfied. It concludes by saying that it would be the responsibility of other parties to secure planning permission for the Link Road and provide for its delivery on land outside of the application redline.

Parking.

The applicant states that parking on the site will conform to Arun District Council's parking standards as set out Section 4 of the TA. They also state that electric charging facilities (EV) will be provided at all properties that have a garage or driveway. On the latter subject, the applicant should be mindful of proposed changes to EV criteria and policy proposed by the UK Government which may require provision above the current WSCC and Arun DC standards. Furthermore, any spaces not 'actively' provided for will need to be 'passively' provided for to assist with future upgrading to 'active' points for charging.

Travel Plan.

In order to encourage new residents to travel to/from the site by more sustainable modes of travel, a site-wide Residential Travel Plan has been produced. The Travel Plan has been submitted as a separate document as part of this application and seeks to reduce single car occupancy and encourage the use of public transport, cycling and walking.

There are a range of facilities that are within easy walking or cycling distance of the site reducing the need for new residents to use their cars. The development proposal will include a network of footways/cycleways. The layout has been designed to allow cycling on roads where the volume of traffic movements and speeds will be low and also along dedicated off road routes which traverse the site.

The Travel Plan includes for a Travel Information pack to be issued to each household which will provide a range of information including:

- Walking and cycling routes;
 - Bus stop locations, routes, and timetables;
 - Train Station locations, routes, and timetables; and
- Web sites which include:

Journey Planner (all sustainable routes available for any journey)

www.transportdirect.info;

Cycle Journey Planner (with quietest, balanced and quickest route with average times) www.cyclestreet.net;

Cycle maps and cycle information - www.sustrans.org.uk;

Bus information via Traveline - www.traveline.org.uk;

Calorie calculator (gives you an idea on how many calories burnt by walking or cycling) www.eatwell.gov.uk/healthydiet/healthyweight/caloriescalculator;

Carbon calculator (this works out the equivalent amount of carbon used or saved when using a car / not using a car) - www.actionco2.direct.gov.uk/index.html;

and,

- Car Sharing schemes such as the westsussexcarshare.com scheme.
- The key aims of the Travel Plan are to increase walking and cycling as well as reducing single occupancy car travel.

In addition to the above, the applicant should:

1. consider inclusion of a car club;
2. provide a trip rate reduction target; and,
3. Include commitment to SAM surveys.

Both the Travel Plan and it's monitoring fee (currently £3,500 at the time of writing) will need to be secured within a S106 Agreement in accordance with WSCC policy.

S106.

This will be informed following receipt and considering of the additional information requested in this response.

Conclusion.

Based on the traffic data provided so far, in particular for the Downview traffic signal junction, the B2259/Flansham Lane/Hoe Lane junction and the B2259/Middleton Road junction, the CHA raises concerns with the impact that the additional development traffic would have on these junctions. The applicant is invited to respond to this in an

endeavour to try to overcome the concerns stated. Additionally, the following information is required in order that the CHA can consider other parts of the proposal further. The details of this can be found in the main body of this response but are summarised below:

1. Provision of amended plan/s showing the site access with foot and cycle revisions as mentioned (+ Safety Audit of the same).
2. Consideration of provision of a foot/cycle way from the point the existing shared-use path emerges from the adjacent housing estate to Shirley Drive and linking to Downview Road and Golf Links Road (+ Safety Audit of the same).
3. Consideration of extended cycle infrastructure on Downview Road (+ Safety Audit of the same).
4. Safety Audit for Downview Road/Felpham Way/Felpham Road junction changes and the same for the works shown at the junction of Felpham Way with Middleton Road (Tesco roundabout) + Designer's Response/Road Safety Audit Log.
5. Commitment to provision of an LTN 1/20-compliant off-road path for pedestrians and cyclists from the corner of the school site (Downview Primary) through the site to the existing shared-use path that runs along the eastern boundary of the site – details to be submitted at any reserved matters/discharge of condition stage (affects PRoW – Public Footpaths – 153 and 154) and also to a continuation of the path through to the A259.
6. Applicant to respond to the CHA comments found alongside the as-submitted Road Safety Audit comments made above in this response contained under 'Overseeing Organisation's Response' and 'Agreed Action'.
7. Bus stop improvements to be Safety Audited.
8. Commitment to provision of real-time passenger information to be provided at **all** bus stops.
9. Swept path vehicle analysis for articulated heavy goods vehicles to be provided for Downview Road/Felpham Way traffic signal junction works.
10. Swept path vehicle analysis for a selection of vehicles (including heavy good vehicles) at the revised access to Tesco adjacent to the B2259/Middleton Road junction.
11. Travel Plan update.

Please re-consult when the additional information is available to view, at which time the CHA will consider the proposal further.

Thank you.

Tim Townsend
West Sussex County Council – Planning Services