

INTERNAL MEMORANDUM

Your Ref.: P/23/0053

Our Ref.: 23/0053

To: Town Planning – Development Control

FAO: Huw Roberts

From: Engineering and Highways – Highway Development Control

Please ask for: Martyn Tanner

Date: 31/03/2023

OBSERVATIONS BY THE ENGINEERING AND HIGHWAYS DIVISION IN RESPECT OF DEVELOPMENT AFFECTING EXISTING OR PROPOSED PUBLICLY MAINTAINED HIGHWAY

PROPOSED DEVELOPMENT

Residential development (200 units), engineering works, access formation, landscape, drainage and associated works at Dragon Park Abercanaid Merthyr Tydfil

PLANNING HISTORY

None indicated on consultation letter. The Transport Assessment advises of application ref. P/17/0144 for a mixed use development comprising 160 dwellings and approximately 1ha of employment land alongside associated infrastructure and the provision of public open space. The application was withdrawn by the applicant in August 2021.

HIGHWAY ASSESSMENT

The proposal is for the residential development of 200 houses on part of the former Hoover Factory to the north of Abercanaid. The development also includes improvements to the means of access at the south of the site by means of a new roundabout and an emergency access to the north.

Access

Vehicular access to the development will primarily be achieved from the south of the site with access from the north available via an emergency access. As indicated on the submitted External Layout plan, the existing roundabout to the south of the site is to be improved as part of the development.

A new roundabout is to be provided to the south of the development which is considered an acceptable means of access, subject to detailed design of the roundabout and compliance with the DMRB in terms of geometry. The alignment of the emergency access to the north of the development runs parallel to the existing highway and connects at an acute angle. The emergency access should be re-aligned to join the existing public highway at an angle as close as possible to 90 degrees. It is considered that the alignment of the emergency access can be addressed as part of the detailed design process and ensured via condition.

The documents submitted in support of the application include a Transport Assessment (TA). The TA provides a comprehensive assessment of the proposals transport impact on the existing highway network.

Transport Assessment

Modal Split

Based off of census data, the TA notes that 68% of residents that live within the vicinity of the site travel to work by private motor vehicle, with a further 10% travelling as a passenger. The TA also notes that 11% walk or cycle and 9% utilise public transport.

Walking and Cycling

The TA includes figure 3.2 which identifies the location of facilities and amenities within 2km of the proposed development, as below:

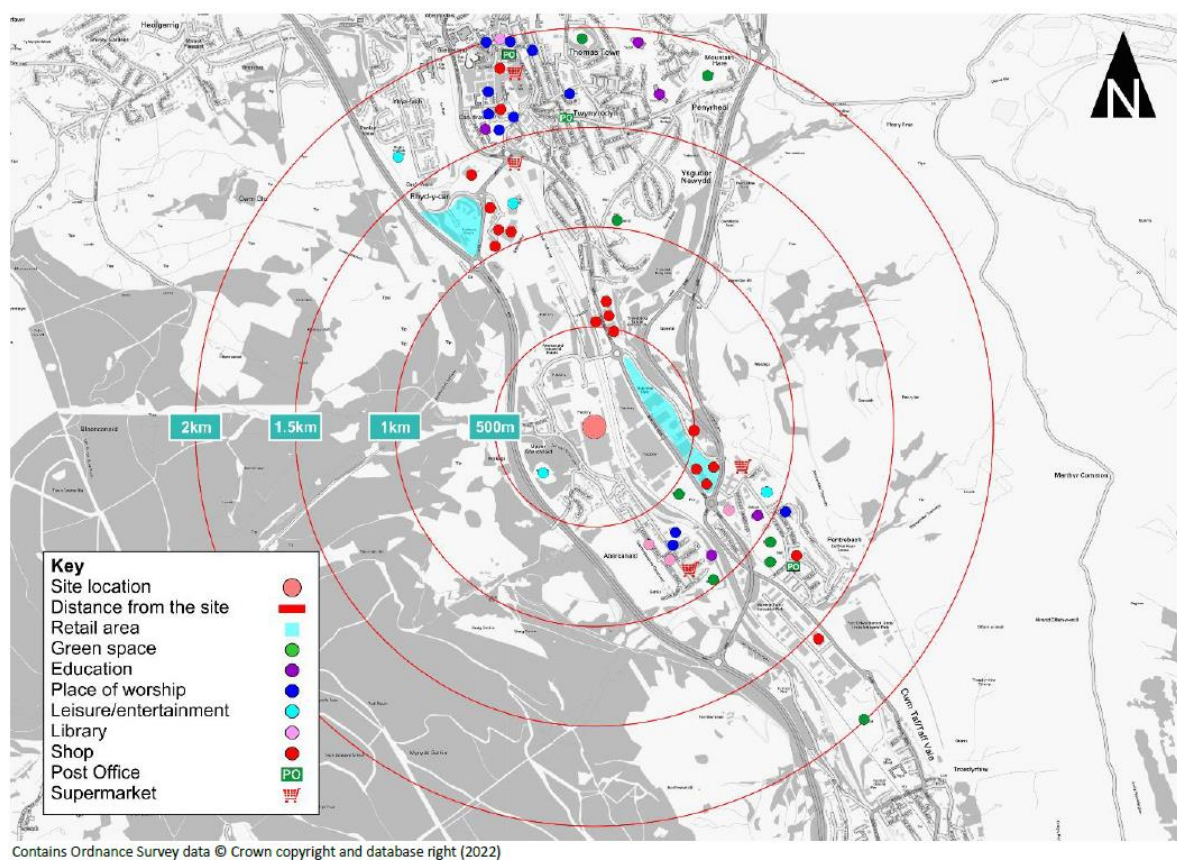


Figure 3.2 Local amenities within walking distance

The above indicates various distances from the site 'as the crow flies' and not via available walking routes. Nevertheless, there are numerous facilities and amenities located within an acceptable walking distance from the proposed development and the local highway network includes sufficient pedestrian facilities to encourage trips to such facilities and amenities on foot.

The TA includes figure 3.3 which identifies the location of designated cycle routes, a number of which form part of the National Cycle Network (NCN), as below:

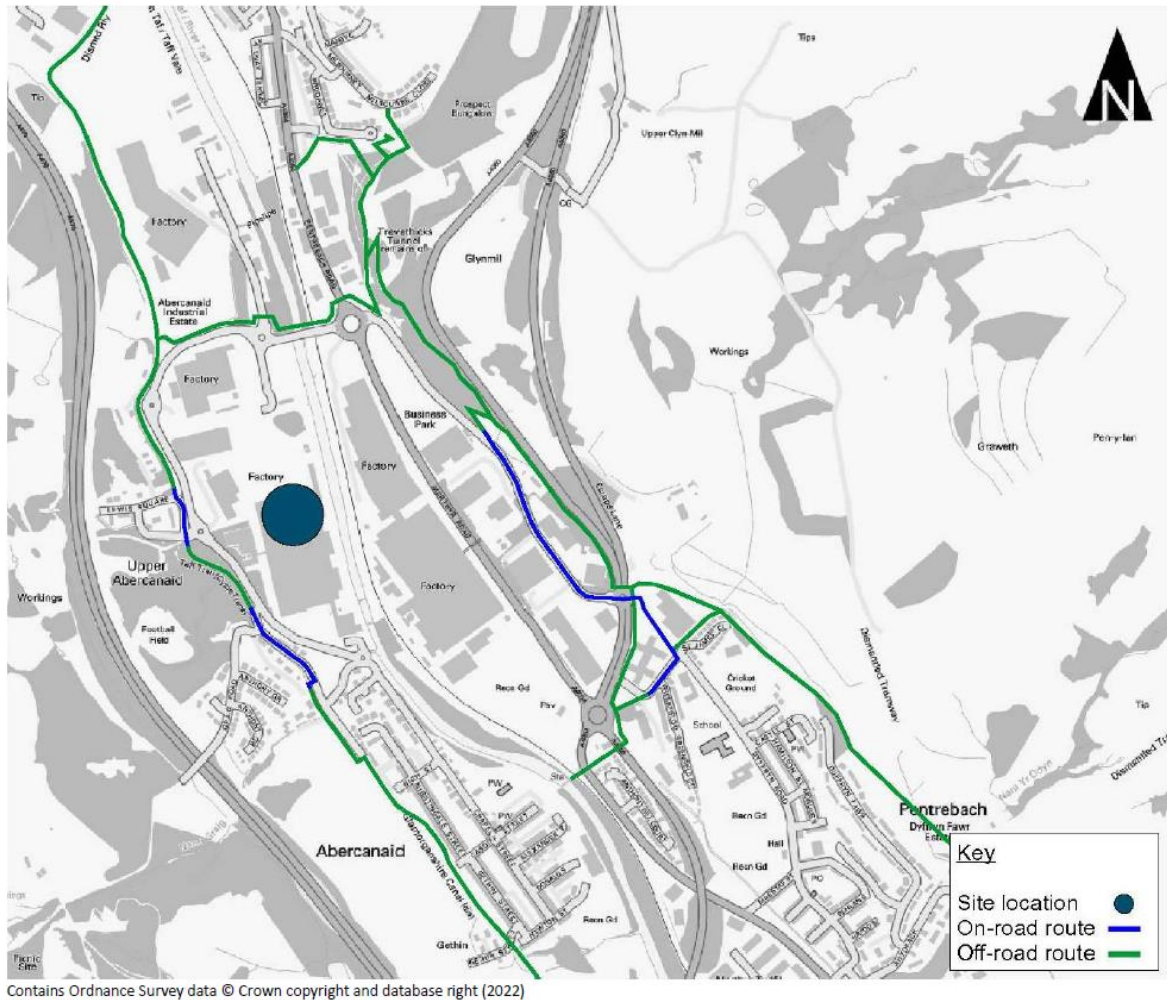


Figure 3.3 Local cycle routes

As can be seen from the above, the site is within easy cycling distance of numerous designated cycling routes. Although no designated routes connect directly to the proposed development the local highway network within the vicinity of the development is sufficient to accommodate on-street cycling. As such, the facilities and amenities identified on figure 3.2 above are also readily accessible by cycle and the available designated cycle routes, particularly those that form part of the NCN, encourage trips further afield.

Public Transport

The TA includes figure 3.6 which indicates the locations and routes of numerous public transport services within the vicinity of the proposed development, as below:

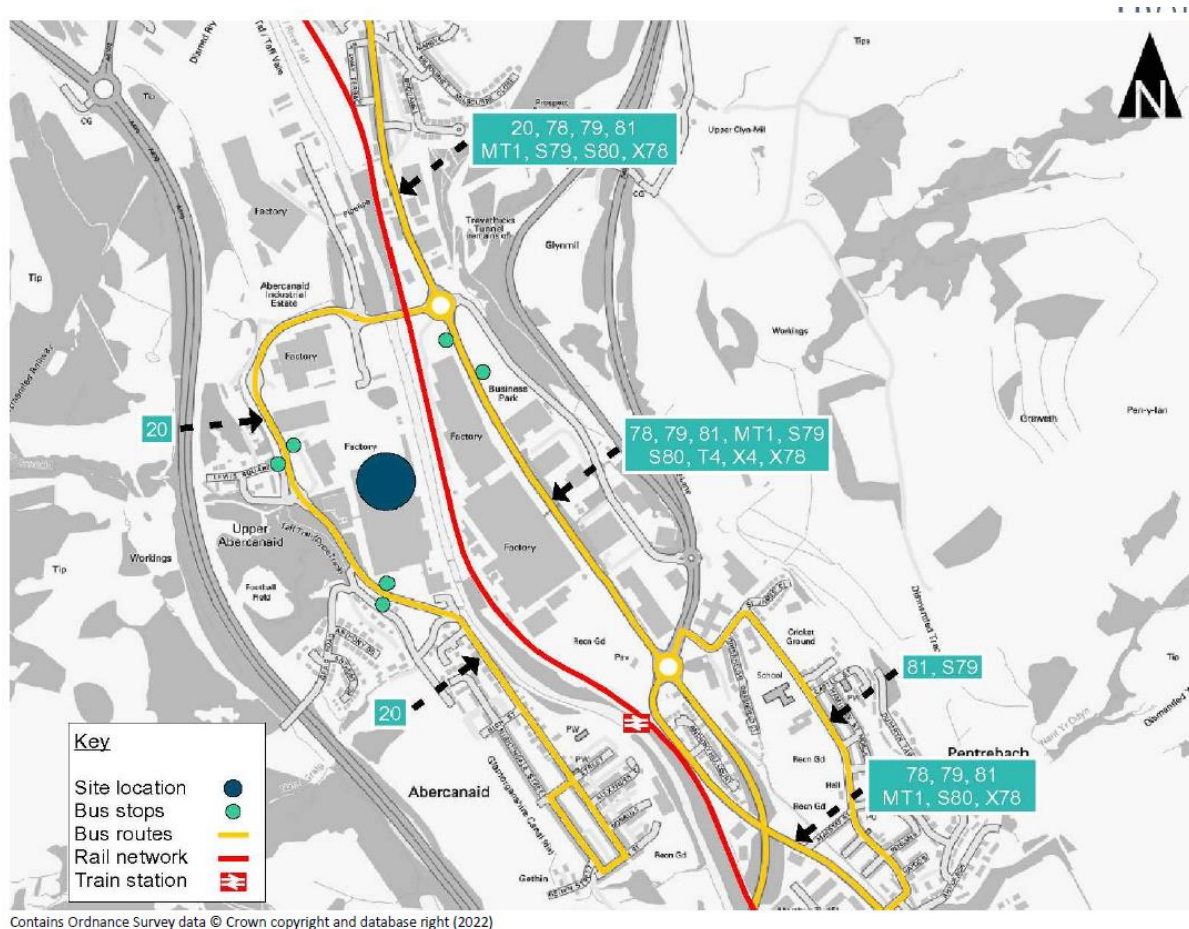


Figure 3.4 Local public transport infrastructure

The nearest bus stops located to the proposed development are located to the west of the development on Abercanaid Road. However, these stops are served by route 24 which runs only 4 services a day in each direction between 0930 and 1730. Nevertheless, the development is within walking distance of other stops located on the A4054 Merthyr Road which provide a regular service to Merthyr Tydfil Bus Station and further afield. Furthermore, Pentrebach train station is located within walking distance which provides a regular service between Merthyr Tydfil and Cardiff. As such, the development is considered to be sufficiently served by public transport.

Private Motor Vehicles

The local highway network within the vicinity of the site is generally considered safe. The TA identifies 20 Road Traffic Collisions (RTCs) within the 5 year period between 2016 and 2020 (inclusive) that resulted in a total of 32 injuries. The location of the accidents along with a summary of resultant injuries as shown in figure 3.5 and table 4.5 of the TA respectively, as below:



Figure 3.5 Personal injury collision data

Table 3.5 Summary of personal injury collision data

Year	No. of collisions resulting in personal injury			Total number of casualties	No. of collisions involving vulnerable users			
	Fatal	Serious	Slight		Cyclist	Child	Motorcycle	Pedestrians
2016	0	1	1	4	0	0	1	2
2017	0	1	6	10	1	1	1	0
2018	0	0	5	8	0	1	2	1
2019	0	0	4	8	0	0	0	1
2020	0	1	1	2	2	0	0	0
Total	0	3	17	32	3	2	4	4

As can be seen from Figure 3.5 above the only accident hotspots are the roundabout junction between the A470 and the A4060 and the roundabout junction between the A4054, A4102 and Lower High Street. The roundabout junction between the A470 and the A4060 fall under the remit of the Welsh Government. Nevertheless, the trip generation associated with the proposed development assessed in the next section are not envisaged to result in an undue adverse impact on highway safety at aforementioned roundabout junctions.

Trip Generation and Growth Rates

The TA advises that the TRICS trip generation database has been consulted in order to predict the likely level of trips generated by the proposed development. The trips rate have been split between

the proposed 180 open market dwelling and 20 affordable dwellings. The TA advises that the proposed 180 open market dwellings would result in up to 111 vehicle movements in the AM peak (0800 to 0900) and 112 movements in the PM peak (1700 to 1800), with a total of 964 vehicle movements throughout the day. The 20 affordable dwellings would result in up to 10 vehicle movements in the AM peak and 7 movements in the PM peak, with a total of 79 vehicle movements throughout the day.

In total, the proposed development is anticipated to generate 121 vehicle movements in the AM peak and 118 vehicle movements in the PM peak, with a total of 1,042 vehicle movements throughout the day. This level of trip generation is considered representative of the proposed development. The TA also includes consideration of future NTM traffic growth rates for the anticipated year of opening (2025) and the year of opening plus 10 years (2035) for both the AM and PM peak periods. The NTM growth factors are shown in Table 5.4, as below:

Table 5.4 NTM growth factors

Period	NTM growth factors
2022 to 2025	
Weekday AM	1.0287
Weekday PM	1.0283
2022 to 2035	
Weekday AM	1.1226
Weekday PM	1.2222

When applying the above growth factors to the planned year of opening in 2025, the AM Peak would increase to 124 trips and the PM peak would increase to 111 trips. Traffic flows in 2035 are predicted to increase to 136 trips in the AM Peak and 144 trips in the PM peak.

Junction Capacity Analysis

The TA also includes junction capacity analysis of numerous junctions in the vicinity of the proposed development. The junctions assessed are as follows and the location of each is shown on Figure 6.1 of the TA:

- Junction 1 – A470/A4060 roundabout
- Junction 2 – A4060/A4054 Merthyr Road roundabout
- Junction 3 – A4054/Pentrebach Road roundabout
- Junction 4 – The Willows/northern site access roundabout
- Junction 5 – Merthyr Self-Storage access roundabout
- Junction 6 – Stanfield Close/southern site access roundabout
- Junction 7 – A4054 High Street/Lower High Street/A4102 roundabout



Figure 6.1 Scope of junction capacity analysis

The junction capacity analysis concludes that all but 3 of the junctions within the study area have sufficient capacity to accommodate the anticipated trip generation associated with the proposed development. The 3 junctions likely to face issues are junction 1, 2 and 7.

Junction 1 – A470/A4060 roundabout is already operating close to capacity, and with the added trip generation associated with the proposed development the operation of the roundabout increases above capacity. The effect on this junction is detailed in table 6.1 of the TA, as below:

Table 6.1 Capacity analysis summary – A470/A4060 roundabout

	Base				Base + development				
	8am-9am		5pm-6pm		8am-9am		5pm-6pm		
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue	
2022									
A470 north	0.28	<1	0.72	3					
A4060	0.41	1	0.76	3					
A470 south	0.69	2	0.59	2					
2025									
A470 north	0.29	<1	0.74	3	0.29	<1	0.75	3	
A4060	0.43	1	0.80	4	0.44	1	0.81	4	
A470 south	0.71	3	0.60	2	0.71	3	0.61	2	
2035									
A470 north	0.32	1	0.83	5	0.32	1	0.83	5	
A4060	0.48	1	0.95	14	0.49	1	0.96	15	
A470 south	0.78	4	0.66	2	0.78	4	0.67	2	

Junction 2 – A4060/A4054 Merthyr Road roundabout is also operating close to capacity. Again, with the added trip generation associated with the proposed development the junction will operate above capacity in 2035. The effect on this junction is detailed in table 6.3 of the TA, as below:

Table 6.3 Capacity analysis summary – Junction 2: A470/A4060 roundabout

	Base				Base + development			
	8am-9am		5pm-6pm		8am-9am		5pm-6pm	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
2022								
A4060 east	0.46	1	0.58	1				
A4060 south	0.62	2	0.65	2				
A4054 west	0.45	1	0.48	1				
Merthyr Road	0.24	<1	0.73	3				
2025								
A4060 east	0.46	1	0.63	2	0.48	1	0.60	2
A4060 south	0.63	2	0.67	2	0.64	2	0.69	2
A4054 west	0.46	1	0.50	1	0.47	1	0.51	1
Merthyr Road	0.25	<1	0.77	4	0.29	<1	0.78	4
2035								
A4060 east	0.52	1	0.67	2	0.53	1	0.67	2
A4060 south	0.71	3	0.76	3	0.72	3	0.78	4
A4054 west	0.52	1	0.56	1	0.52	1	0.57	1
Merthyr Road	0.29	<1	0.88	8	0.33	1	0.89	8

Junction 7 - A4054 High Street/Lower High Street/A4102 roundabout is already operating above capacity. The additional trips associated with the proposed development contribute to the deterioration in operation of the roundabout going forward. The effect on this junction is detailed in table 6.9 of the TA, as below:

Table 6.9 Capacity analysis summary – Junction 7: A4054 High Street/Lower High Street/A4102 roundabout

	Base				Base + development			
	8am-9am		5pm-6pm		8am-9am		5pm-6pm	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
2022								
Lower High Street	0.37	1	0.60	2				
A4054 High Street	0.56	1	0.78	4				
A4102	0.27	<1	0.35	1				
A4054 north	0.45	1	1.05	49				
2025								
Lower High Street	0.38	1	0.62	2	0.38	1	0.63	2
A4054 High Street	0.58	1	0.81	4	0.62	2	0.82	5
A4102	0.28	<1	0.36	1	0.29	<1	0.37	1
A4054 north	0.47	1	1.09	73	0.47	1	1.12	88
2035								
Lower High Street	0.42	1	0.68	2	0.43	1	0.69	2
A4054 High Street	0.65	2	0.90	8	0.69	2	0.92	9
A4102	0.32	1	0.41	1	0.33	1	0.42	1
A4054 north	0.52	1	1.24	162	0.53	1	1.26	180

Whilst there are issues associated with the 3 aforementioned junctions, as a result of the proposed additional trips associated with the proposed development, no one arm of any on junctions 1 and 2 will have an increased queue length greater than 1 vehicle in the AM and PM peak periods. With this in mind, the effect of the additional trip generation on junctions 1 and 2 is considered negligible.

Junction 7 currently has queue lengths on the A4054 Avenue De Clichy arm of 49 during the PM Peak. Not accounting for the proposed development this is anticipated to increase to 73 vehicles by 2025 and 162 vehicles by 2035. Including the additional trips arising from the proposed development these queue lengths are anticipated to increase to 88 vehicles in 2025 and 180 vehicles in 2035, an increase in queue length of 15 and 18 vehicles respectively.

Whilst the capacity analysis of the junction gives cause for concern. The junction is already operating above capacity in its current state and the junction will be operating significantly above capacity in 2025 and 2035 with or without the additional traffic arising from the proposed development. As such, upgrading of the roundabout junction would be required regardless of the proposed development and relatively minor impact associated with the proposed development can be catered for as part of routine highway improvement works to be undertaken by the Highway Authority in the future.

Internal Circulation

Vehicular Circulation

Internal vehicular circulation is catered for by a 5.5m carriageway width. The sections of new highway to be offered for adoption include sufficient turning areas to allow vehicles enter and exit cul-de-sacs in a forward gear. Numerous junctions lack sufficient junction radii of 6m, namely those in the vicinity of plots 11, 25, 84, 115, 135 and 176, which gives cause for concern. However, it is considered that this issue can be addressed during the detailed design stage / technical approval process and ensured via the full engineering design and detail condition provided in the recommendation below.

Numerous dwellings are to be served via private shared access. The number of dwellings served off each private access does not exceed 5 dwellings. Some of the private shared access lack sufficient turning areas in accordance with standard detail 104, which gives cause for concern. Nevertheless, as per the junction radii issue mentioned above, this issue can be addressed as part of the detailed design process.

There are some instances where proposed SuDS features protrude into the highway and create carriageway narrowings and chicane like features. These features are limited and give no significant cause for concern and would act as traffic calming features. Nevertheless, the chicane like features should include kerb radii of 12m. This again can be addressed as part of the detailed design process.

Pedestrian Circulation

Pedestrian circulation is catered for by 2m wide segregated pedestrian footways. There are numerous occasions where dwellings, such as plots 115 to 122 front directly onto the carriageway with no segregated pedestrian footway facilities, which gives cause for concern. Nevertheless, given these sections of highway serve less than 50 dwelling there is scope for these sections to be constructed as shared surfaces to overcome this concern. Sufficient un-controlled pedestrian footway facilities will also be required at junctions and where the segregated pedestrian footway facilities cross from one side of the road to the other. It is considered that these issues can be addressed during the detailed design stage / technical approval process and ensured via the full engineering design and detail condition provided in the recommendation below.

Parking

Vehicular Parking

The proposed development consists of 200 residential dwellings, comprising of 22 no. 1 bed dwellings, 22 no. 2 bed dwellings, and 156 no. 3+ bedroom dwellings. Of the 200 dwellings, 20 are to be affordable units, consisting of 13 no. 1 bedroom dwelling and 7 no. 2 bedroom dwellings.

Wales Parking Standards 2008 sets out a parking requirement of 1 space per bedroom (maximum requirement of 3 spaces) for residents and 1 space per 5 dwelling for visitors. As such, the proposed development of 22 no. 1 bed dwellings, 22 no. 2 bed dwellings and 156 no. 3+ bedroom dwellings equates to a requirement of 534 spaces for residents plus 40 spaces for visitors.

The development provides for 493 total spaces for residents, a shortfall of 41 spaces, which equates to 92% of the development's requirement. No one individual plot has a shortfall greater than 1 space. Considering the Wales Parking Standards 2008 set out maximum requirements and there are opportunities available for on-street parking, the shortfall in off-street parking provision for residents of 41 spaces across the entire development gives no significant cause for concern.

No designated visitor spaces are provided; however, there are sufficient opportunities for short term visitor parking to be accommodated on-street.

Cycle Parking

The proposed development primarily consists of individual dwelling houses. For these properties, it is considered that cycle parking can be accommodated within the curtilage of each property.

There are a total of 24 flats proposed, consisting of 22 no. 1 bedroom dwellings and 2 no. 2 bedroom dwellings. In accordance with the Wales Parking standards 2008, apartments have a long term cycle parking requirement of 1 stand per 5 bedrooms. The flats have a total of 26 bedrooms, and, therefore a requirement of 5 stands. The stands should be sited evenly across the locations of the proposed flats. A condition is included to ensure adequate cycle parking is provided.

RECOMMENDATION

No highway objection is raised subject to the following condition(s):

1. Notwithstanding the approved plans, development shall not commence until full engineering design and details of the proposed internal highway layout together with its junctions onto the existing highway network have been submitted to and approved in writing by the Local Planning Authority.

REASON: to ensure the adequacy of the proposed development, in the interests of highway safety and the free flow of traffic.

2. No Development shall take place, including any works of site clearance, until details have been submitted to and approved in writing by the Local Planning Authority that provide for:
 - a. The means of access into the site for all construction traffic;
 - b. The parking of vehicles of site operatives and visitors;
 - c. The management of vehicular and pedestrian traffic;
 - d. The loading and unloading of plant and materials;
 - e. The storage of plant and materials used in the construction of the development; and
 - f. Wheel cleansing facilities; and

The approved details shall be adhered to through the construction of the development unless agreed otherwise by the Local Planning Authority.

REASON: in the interests of safety and the free flow of traffic.

3. The off-street parking provision for vehicles and cycles indicated on approved drawing number "PS-01 Rev A" together with integral garages shall remain for the purpose of vehicular and cycle parking only unless agreed otherwise with the Local Planning Authority.

REASON: to ensure vehicles are parked off the public highway, in the interests of highway safety and the free flow of traffic.

4. Surface water run-off from the private areas of the proposed development shall not discharge onto the public highway or connect to any highway drainage system unless agree otherwise with the Local Planning Authority.

REASON: In the interests of highway safety and to prevent over capacity of the existing highway drainage system.

NOTES

1. The Developer would be required to enter into legally binding agreements (S38 and S278 of Highways Act 1980) to secure the proper design and implementation of the proposed works to the existing highway and the internal roads, footways and highway drainage, including appropriate bonds and fees.



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