Waterman Moylan
Engineering Consultants

Response to An Bord Pleanala Opinion relating to Item 1, 2 and 12

Strategic Housing Development (Reg. Ref ABP-311304-21)

Barrington Tower SHD, Brennanstown Road, Dublin 18

April 2022

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Engineering Consultants

Client Name: Cairn Homes Properties Ltd
Document Reference: 20-040r.013
Project Number: 20-040

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
1	April '22	L.Ruiz	E.Caulwell	Joseph Gibbons

Comments

Waterman Moylan
Engineering Consultants

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Content

1. Introduction

A pre-planning application was submitted by Cairn Homes Properties Ltd for a Strategic Housing Development at Brennanstown Road, Co. Dublin to An Board Pleanala with reference number ABP-311304-21.

This report has been prepared in response to feedback received during the tri-partite meeting with An bord Pleanala and Dun Laoghaire Rathdown County Council and in particular from the ABP Opinion which was issued following the meeting.

2. ABP Opinion

Item 1

A detailed statement, demonstrating how the proposed development will tie in safely with the wider road network, for the overall Brennanstown Road area, in particular the Brennanstown Wood development to the north west, and the future LUAS stop to the south, with regard to vehicular, pedestrian and cycle connections.

Response

In the immediate vicinity of the proposed development site, a narrow standard of footpath is provided along the northern side of Brennanstown Road, as seen in the image below. This footpath leads to Cabinteely Village to the east and Brennanstown Wood to the west. The pedestrian footpath to the east is not continuous as there is a 150m gap, beginning 300m east of the proposed development, therefore it would be necessary for pedestrians to walk along the road edge for a distance of 150m.

As noted in the accompanying Traffic and Transport Assessment and recognised in the ABP opinion, where they have sought how the proposed development will tie in safely with the wide road network and "in particular the Brennanstown Wood development to the west",

the main pedestrian route from site will be to the west towards the Brennanstown Wood development. Brennanstown Wood is a recently completed development and as part of the Brennanstown Wood development a section of the Brennanstown Road has been upgraded including the provision of a new roundabout at the main access to the development. The upgrade included a new footpath which ties into the existing footpath infrastructure along Brennanstown Road, to the east and west.

Details of the upgrade works are shown in Figure 1 below:-

Figure 1 – Brennanstown Road – Upgrade works completed as part of the Brennanstown Wood Development

The proposed development which is the subject of this application is located to the southeast of the Brennanstown Wood.

The proposed development has direct frontage along Brennanstown Road over a distance of 113m.

It is proposed to upgrade the section of Brennanstown Road along the site frontage to provide a new footpath on the southern side of Brennanstown Road of minimum width 2m. This new footpath will be located approximately 130m along Brennanstown Road east of the new footpath constructed as part of the Brennanstown Wood development.

There is an existing footpath on the north site of Brennanstown Road which connects the Brennanstown Wood footpath to the proposed new footpath which will be constructed as part of the subject application.

In order to improve pedestrian safety, it is intended to construct a signal controlled pedestrian crossing on Brennanstown Road to provide a safe crossing point from the existing footpath on the north side of Brennanstown Road to the proposed new footpath which is to be constructed along the site frontage.

The pedestrian crossing will be constructed on a raised table which will also provide traffic calming along the Brennanstown Road and will assist in reducing traffic speeds.

It is also proposed to construct a signal controlled junction at the main site entrance in order to provide safe vehicular access to the proposed development. This signal controlled junction will also assist in reducing traffic speeds as drivers slow down in anticipation of lights changing and indeed to stop when on red.

Figure 2 below, which is an extract from our enclosed Drawing No. 20-040/P017, shows the location of the proposed new footpath, raised signalised crossing and signal controlled junction together with the existing upgraded footpath completed as part of the Brennanstown Wood development.

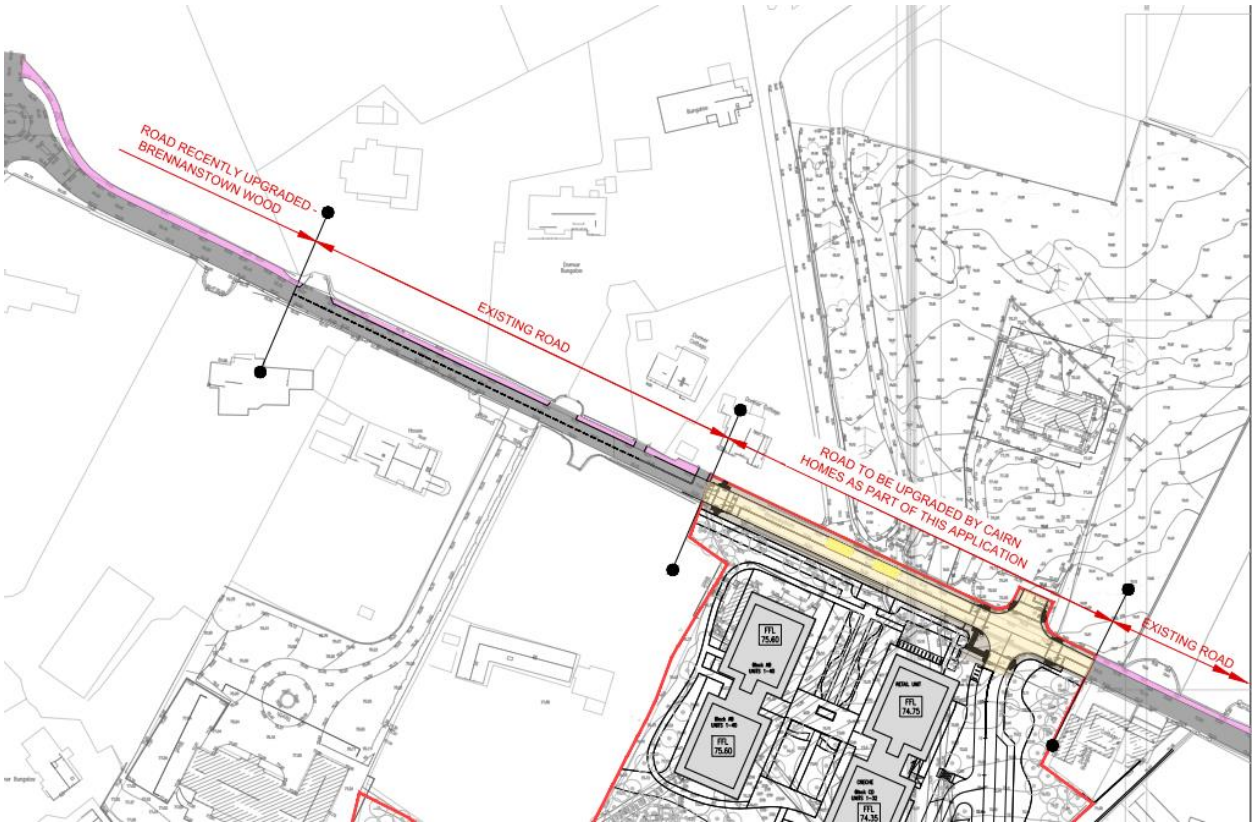


Figure 2 – Extract from Drawing No 20-040/P017

The drawing extract in Figure 2 shows that we will have a relatively short section of existing footpath (approximately 130m) which provides connectivity between our proposed new footpath and the existing footpath. The existing footpath which we are relying upon for the connectivity was proposed to be retained within Dun Laoghaire Rathdown County Councils (DLRCC) Part 8 proposals that they prepared for the Brennanstown Road upgrade.

These proposals, whilst not approved by the Elected Members of DLRCC, were considered appropriate by the DLRCC Roads Department and were put forward for approval.

See Figure 3 below which provides details of the Part 8 proposals which were put forward by DLRCC in respect of this section of roadway.

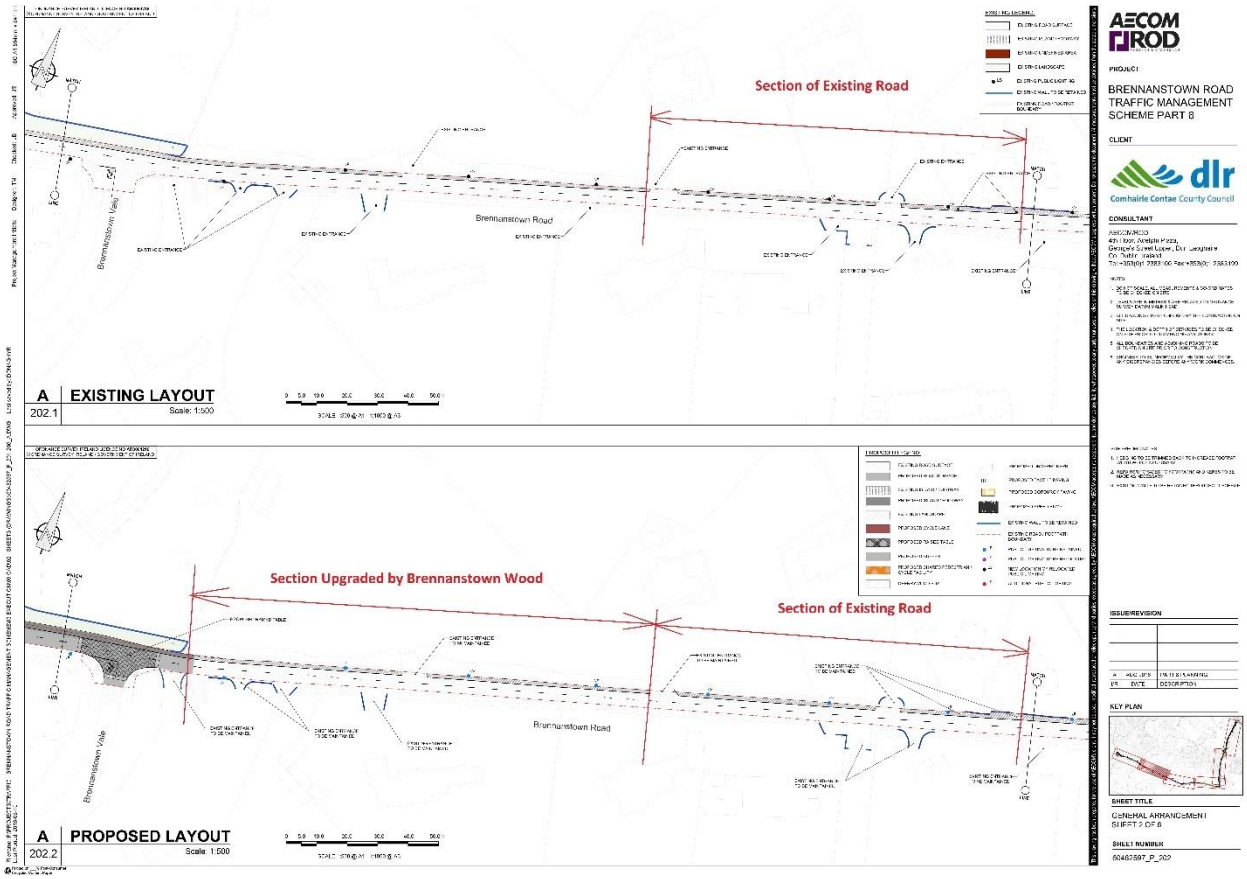


Figure 3 – DLRCC Brennanstown Road Upgrade Proposals

The existing footpath which will provide the connectivity is approximately 1.3m wide and does facilitate 2 pedestrian passing but it would not facilitate 2 people passing with pushchairs. However, the section of footpath is only 130m long and it is straight.

There is clear visibility along this footpath and approximately midway along there is a local widening at a property entrance where it is possible for the passing to occur. If someone with a pushchair is walking along the footpath they can clearly see ahead if there is someone else travelling along the footpath and can use the widening to facilitate safe passing. An image of the existing footpath in presented in Figure 4 below

Figure 4 – Existing Footpath to Provide Connection

The speed of traffic travelling along Brennanstown Road was raised during the tri-partite meeting by An Bord Pleanala and it was noted that lower traffic speeds make the road a safer environment for pedestrian and cyclists. In this regard the provision of the pedestrian crossing on the raised table together with the signalised junction at the main access to the site will assist in reducing the current speed of traffic on Brennanstown Road.

In order to understand the current traffic speeds along Brennanstown Road a traffic speed survey was undertaken over a period of 7 days at 2 locations along the road.

The traffic speed survey was carried out be a specialist firm (IDASO Ltd, the National Science Park, Mullingar, Co Westmeath) from Tuesday 07 December 2021 to Monday 13 December 2021 (both dates inclusive) and the results are included in Appendix A.

The first location is in front of the subject site. This is identified in Figure 5 below as “ATC B”.

The second location is to the northwest of Brennanstown Wood and is identified in Figure 5 a “ATC C”.

Please refer to Figure 5 overleaf.

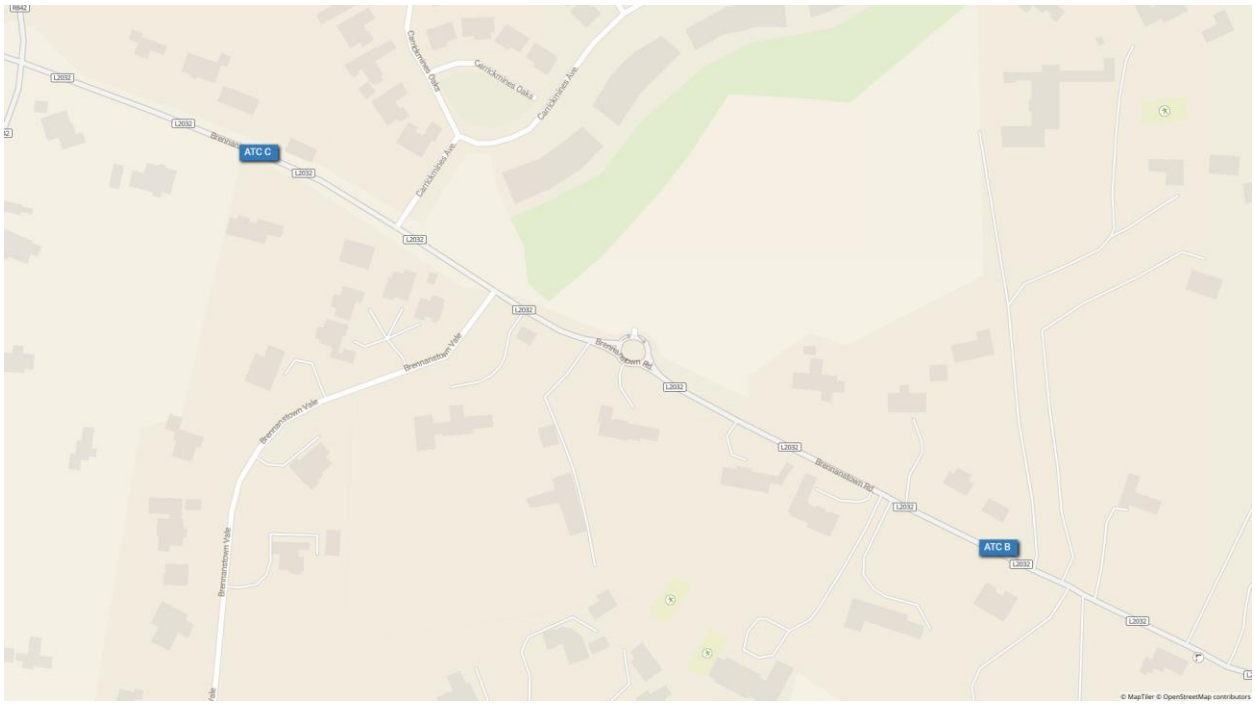


Figure 5 – Location of Automatic Traffic Counters.

The traffic speed survey showed that the average cumulative traffic speed (i.e. the average speed of traffic driving in both directions) recorded over 7 days along Brennanstown Road, in front of the subject site (at ATC B), was 45.52kph and the Cumulative 85th percentile speed was 53.55kph. The 85th percentile speed is the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point.

The average cumulative speed northwest of Brennanstown Wood, (ATC C) which was recorded over the 7 day period was 39.35kph and the 85th percentile speed was 46.72kph.

The surveyed location ATC C is within the area where Brennanstown Wood have undertaken upgrades on the public roads, which include raised tables at Brennanstown Vale and at Carrickmines Wood. The traffic speeds on this section of road are noticeably less with a 13.55% reduction in the cumulative average speed and 12.75% reduction on the 85th percentile speed.

On the basis of the reduction in traffic speeds at the upgraded section of Brennanstown Road (ATC C) the proposals for the subject site could reduce the current recorded traffic speeds as follows:-

a) Cumulative Average Speed – Reduction from 45.52kph to around 39.35kph

b) 85th Percentile Speed – Reduction from 53.55kph to around 46.72kph.

The proposed works would effectively reduce the cumulative average speed of the traffic on Brennanstown Road to below 40kph.

Access to the Brennanstown LUAS is to be provided through the proposed development. The access through the development will comprise dedicated safe pedestrian and cycle routes from the Brennanstown Road through the site to the Brennanstown LUAS Stop. Details of the pedestrian and cycle routes are

highlighted in Figure 6 below and are provided in better detail on the enclosed Architects/Landscape Architects drawings.

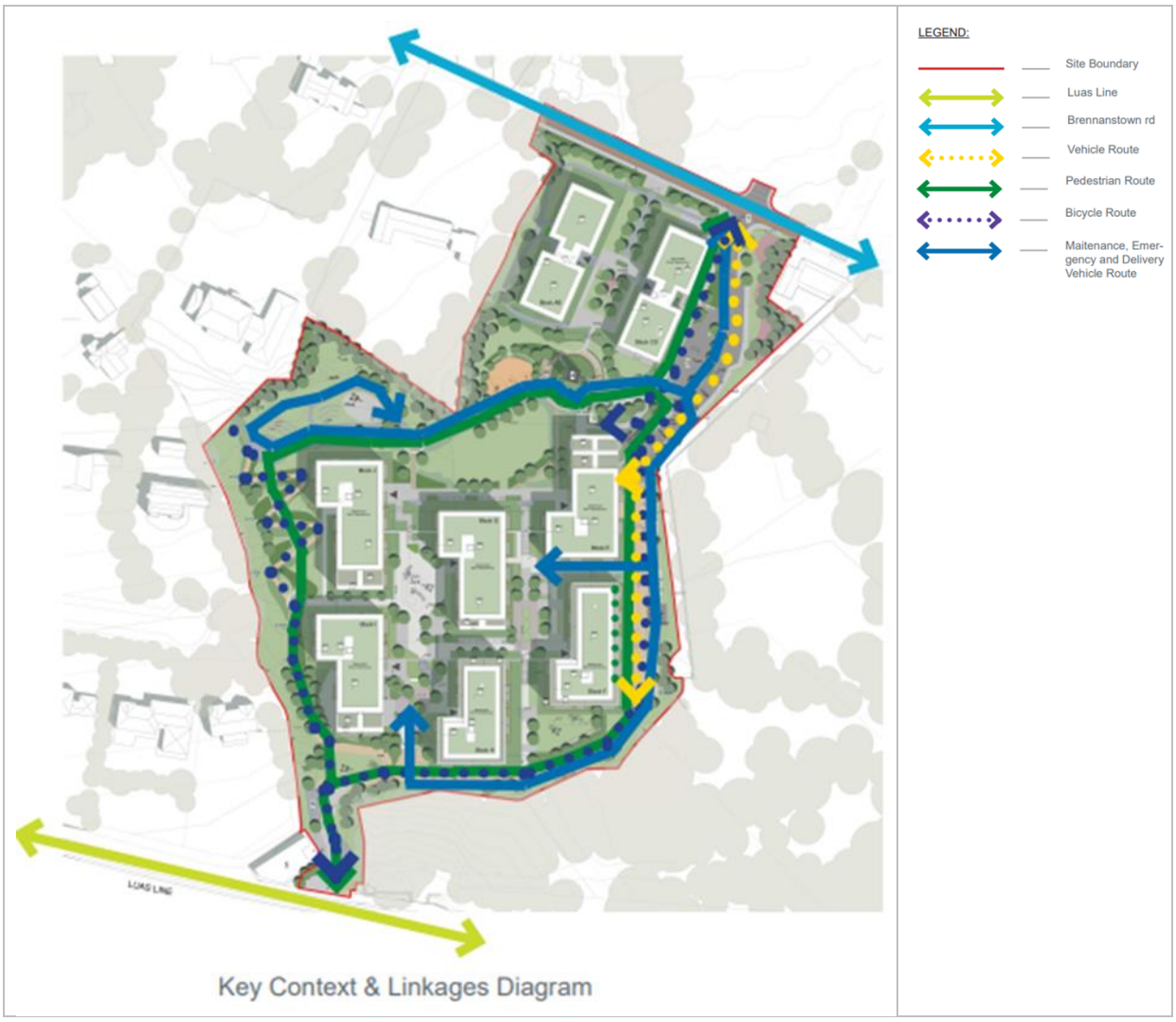


Figure 6 – Pedestrian and Cycle Routes Through the Proposed Development Site

In summary a new pedestrian footpath of minimum width 2m will be provided along Brennanstown to the front of the proposed development site. This footpath will be linked to the existing footpath on the north side of Brennanstown Road through the provision of a signalised controlled junction with pedestrian phasing on the eastern side of the Brennanstown Road and a raised table with a signalised pedestrian crossing on the western side.

The signalised pedestrian crossing will provide a safe crossing point for pedestrians. The raised table will assist in reducing traffic speeds which from 7 day surveys of the existing speeds are expected to be reduced to below 40kph.

The existing footpath on the north side of Brennanstown Road will provide the link to the existing footpath at Brennanstown Wood. This footpath is only a short length of 130m. The footpath is on average 1.3m wide which would be considered narrow however it is only over a short distance and it is straight so there is clear visibility along the footpath. There is an entrance about halfway along the footpath which provides a location for people pushing buggies to pass.

The reduction in traffic speeds anticipated as a result of the proposed works will assist in making this a safer route for both pedestrians and cyclists.

The provision of a signal controlled junction at the access to the site will improve safety for vehicles entering and leaving the site and will provide connectivity to the existing footpath along the north side of Brennanstown Road on the western side of the site. It will also further assist in reducing traffic speeds along the Brennanstown Road.

The proposed development has been carefully designed to incorporate pedestrian and cycle routes through the site to facilitate access to the Brennanstown LUAS stop details of which are set out on the enclosed Architects/Landscape Architects drawings.

Item 2

A detailed statement, with accompanying plans and drawings, setting out in detail, adequate, safe traffic / pedestrian facilities on Brennanstown Road to accommodate the scale and quantum of development proposed.

Response

Please refer to Item 1 above together with our enclosed drawing no. 20-040/P017 which shows how the proposed development will tie into the existing infrastructure. Please also refer to our Drawing No. 20-040/P014 which provides details for the proposed upgrade works to Brennanstown Road that are included with the current application. This includes a new 2m footpath along the site frontage, a new signalised junction with pedestrian phasing to provide connectivity to the existing footpath on the north side of Brennanstown Road together with a new raised table and signalised pedestrian crossing on the western boundary providing connectivity also to the footpath on the north side of the road. The measures proposed will reduce traffic speed on Brennanstown Road and provide for safe traffic movements into and out of the proposed development.

Item 12

A response to matters raised within the PA Opinion submitted to ABP on the 01st of October 2021. Including a response to issues raised in the Parks and Landscape report, the Housing Department report, the Transport Planning report, the Drainage report and the Conservation Officers Report.

Response

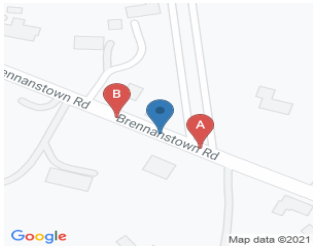
Please refer to reports by others for the response to issues raised in the Parks and Landscape report, the Housing Department report and the Conservation Officers Report.

The response to the Transport Planning report are dealt with in item 1 and 2 above.

Waterman Moylan have issued the proposed drainage design and drawings, including response to all items raised by DLRCC Municipal Services to ABP, to Johanne Codd and John Cunniffe in DLRCC. The latest email from DLRCC noted they have no further comment on the majority of the items and requested clarification on 3 items which was subsequently submitted to DLRCC and now forms part of this planning submission. At the time of writing, we have not received a final response from DLRCC, and therefore would assume the details provided are satisfactory. The latest correspondence is included in Appendix B of this report.

APPENDIX A

Traffic Speed Survey by IDASO Ltd



IDASO

Survey Name: 216 21466 Brennanstown traffic survey ATC
Site: ATC B
Location: Brennanstown Road
Date: Tue 07 Dec 2021 — Mon 13 Dec 2021

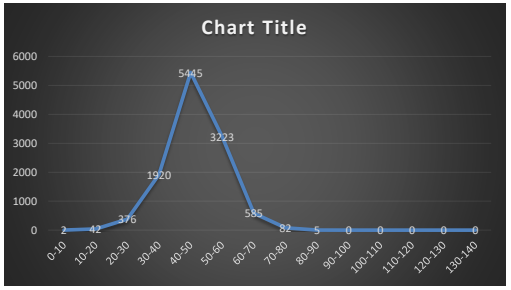
Speed Survey

Cummulative 85% Speed	53.55 KPH
Cummulative Minimum Speed	8.03 KPH
Cummulative Maximum Speed	96.48 KPH
Cummulative Average Speed	45.52 KPH

Westbound (A => B)

No. of Vehicles	11680
85% Speed	54.91 KPH
Minimum Speed	8.33 KPH
Maximum Speed	84.3 KPH
Average Speed	46.58 KPH

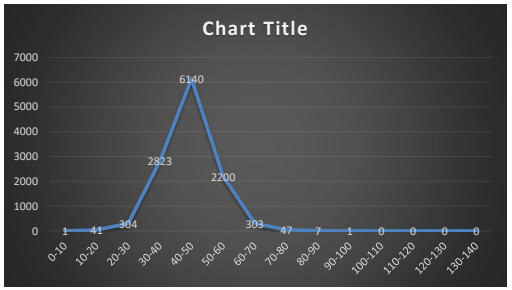
Speed KPH	No. In Range
0-10	2
10-20	42
20-30	376
30-40	1920
40-50	5445
50-60	3223
60-70	585
70-80	82
80-90	5
90-100	0
100-110	0
110-120	0
120-130	0
130-140	0

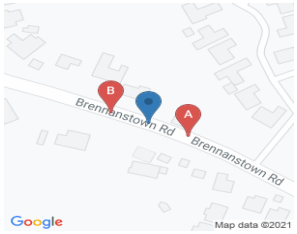


Eastbound (B => A)

No. of Vehicles	11867
85% Speed	51.87 KPH
Minimum Speed	8.03 KPH
Maximum Speed	96.48 KPH
Average Speed	44.47 KPH

Speed KPH	No. In Range
0-10	1
10-20	41
20-30	304
30-40	2823
40-50	6140
50-60	2200
60-70	303
70-80	47
80-90	7
90-100	1
100-110	0
110-120	0
120-130	0
130-140	0





IDASO

Survey Name: 216 21466 Brennanstown traffic survey ATC
Site: ATC C
Location: Brennanstown Road
Date: Tue 07 Dec 2021 — Mon 13 Dec 2021

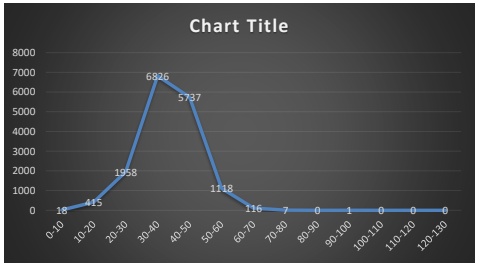
Speed Survey

Cummulative 85% Speed	47.79	KPH
Cummulative Minimum Speed	1.56	KPH
Cummulative Maximum Speed	108.62	KPH
Cummulative Average Speed	39.35	KPH

Westbound (A => B)

No. of Vehicles	16196	
85% Speed	46.72	KPH
Minimum Speed	6.44	KPH
Maximum Speed	92.64	KPH
Average Speed	38.40	KPH

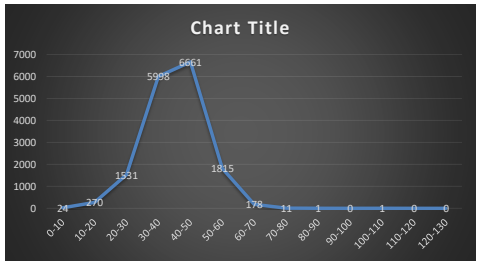
Speed KPH	No. In Range
0-10	18
10-20	415
20-30	1958
30-40	6826
40-50	5737
50-60	1118
60-70	116
70-80	7
80-90	0
90-100	1
100-110	0
110-120	0
120-130	0



Eastbound (B => A)

No. of Vehicles	16490	
85% Speed	48.85	KPH
Minimum Speed	1.56	KPH
Maximum Speed	108.62	KPH
Average Speed	40.28	KPH

Speed KPH	No. In Range
0-10	24
10-20	270
20-30	1531
30-40	5998
40-50	6661
50-60	1815
60-70	178
70-80	11
80-90	1
90-100	0
100-110	1
110-120	0
120-130	0



APPENDIX B

Correspondence from DLRCC dated 23rd February 2022

Joe Gibbons

From: Cunniffe John <jcunniffe@DLRCOCO.IE>
Sent: Wednesday 23 February 2022 17:12
To: Laura Ruiz Garrido
Cc: Emma Caulwell; Codd Johanne
Subject: PAC/SHD/219/20 - Barrington Towers SHD Comments

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Laura,

Thanks for sending that through. I have reviewed the response report and for the majority of the items I have no further comment, however some will require further clarification. I've listed them below for ease of reference.

Item 5 – Attenuation Systems with Infiltration

The response report states that the proposed site is unsuitable for infiltration, however Section 6.3 of the Site Investigation report included notes that trial pits SA03S and SA04S recorded f-values which would facilitate infiltration. A map of the trial pit locations did not appear to be included, therefore it is unclear where these tests were undertaken. In general it is the view of Municipal Services that an attenuation system that provides even incidental infiltration such as a polytunnel or geo-cellular system (regardless of poor infiltration rates) would be beneficial to the overall surface water management of the site, instead of a sealed concrete tank. All attenuation tanks (apart from Tank C located in the basement footprint) appear to currently be, or are able to be, located more than 5m from adjacent building foundations which is a sufficient distance to facilitate any infiltration from the tanks.

Item 6 – Green Roof Detail

Please include information in relation to the access to each of the green roofs in the final submission.

Item 13 – River Water level relative to pipe outfall invert

Please include results from the river water level monitoring in final application. Given the variance in river water levels and the fact that the highest river water level may coincide with a large rainfall event (when the surface water network will be under the most pressure) a hydraulic model simulation will need to be run for a surcharged outfall condition to assess the impact on the drainage network and ensure the level of service to the development is maintained during a surcharged outfall event. Section 6.5.3 of the GDSDS Regional Drainage Policy Technical Document Volume 2 – New Development discusses the design approach to be taken when outfalling to a watercourse that may cause surcharging in a drainage network. Note that while the section is discussing attenuation storage located in a floodplain (not the situation for this site) the approach to the relationship between the outfall and river water level is still relevant.

Regards,

John Cunniffe BA, BAI, MAI, CEng MIEI | Executive Engineer
Drainage Planning, Municipal Services
Dún Laoghaire-Rathdown County Council, County Hall, Marine Road, Dún Laoghaire, Co. Dublin, Ireland.

From: Laura Ruiz Garrido <L.Ruiz@waterman-moylan.ie>
Sent: Thursday 10 February 2022 10:27
To: Codd Johanne <jcodd@DLRCOCO.IE>

UK and Ireland Office Locations