

Proposed Strategic Housing
Development at the Former
Doyle's Nursery and Garden
Centre and Benoni,
Brennanstown Road,
Cabinteely, Dublin 18.

Quality Audit

Vimovo Doyles Limited

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Brennanstown Quality Audit

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1 Introduction

1.1 Overview

AECOM has been commissioned by Vimovo Doyles Limited to undertake a Quality Audit of a proposed residential scheme at Cabinteely, Dublin 18. The proposed site is located off Brennanstown Road and is currently occupied by Doyles Garden Centre. This Quality Audit includes the following audits:

- Stage 1 Road Safety Audit;
- Access Audit,
- Cycle Audit,
- Walking Audit

The Quality Audit will demonstrate appropriate consideration has been given to all relevant aspects of the development in accordance with DMURS.

The scheme consists of a proposed residential development at a site currently occupied by Doyles Garden Centre accessed off Brennanstown Road. There are also proposals for improved pedestrian facility on Brennanstown Road.

The report will be broken down into a number of sections, including a short site description and results of the Access Audit, Cycle Audit and Walking Audit. The Stage 1 Road Safety Audit is provided as a separate report.

The Audits will assess how the proposed scheme provides for all road users. From the results of the three audits a number of proposals will be put forward to improve conditions for vulnerable road users (pedestrians, cyclists, motorcyclists, children and elderly citizens).

The members of the Audit Team were:

Audit Team Leader:

Johanne Browne, BA BAI CEng, MIEI

Principal Consultant, AECOM

Audit Team Member:

Jane Hennaghan BEng MIEI

Consultant Engineer, AECOM

The audit comprises of an examination of the proposed scheme drawings. The audit was carried out in October 2017 and included a site visit of the location on the 04th October 2017. On the day of the visit the weather was dry with a short rain shower. During the time of the site visit, there did not appear to be any circumstances that would suggest a deviation from normal traffic conditions. The site visit was undertaken between 15.00hrs and 16.00hrs (daylight).

The audits comprise of an examination of the proposed scheme drawings.

The following documents were provided by the Design Team, with the full list of drawings outlined in Appendix A:

- 60541707 – SHT – 10-C-0101 (Proposed General Arrangement)
- pS (00) 03 (Proposed Site plan Roofplan)
- pS (-01) – 04 (Basement Plan)
- 60541707 – SHT – 10-C-0200 (Proposed Ground Floor Drainage Layout)

- 1395 – 4070 (Landscape Strategy Proposals)
- 1395 – 4071 (Layout Entrance Area)
- 1395 – 4072 (Podium Layout Detail)
- 1395 – 4073 (Raparian Corridor Layout)

2 Site Location

2.1 Overview

The scheme comprises of a new residential development with basement parking.

Location	Brennanstown Road, Cabinteely
Classification	Proposed Residential Development / Local Road – Brennanstown Road
Speed Limit	50 km/h
Local Authority Area	Dún Laoghaire-Rathdown County Council
Type of Roads	Local Road

The site is located in a residential area south of Cabinteely Village, at the site of Doyles Garden Centre. The site is bounded to the west by Brennanstown Road, with private residential units north and south of the site. To the west of the site, there are green fields. The proposed development includes the construction of 115 no. residential units, both housing and apartments. In addition, it is proposed to provide a roundabout access on Brennanstown Road at the junction of the proposed development and Lambourne Wood, with footpath upgrades proposed from the roundabout to Cabinteely Village. The location of the site is illustrated below in Figure 1. As shown, the development is accessed off Brennanstown Road.



Figure 1 Site Location

2.2 Site Observations

The site visit was undertaken on Wednesday 04th October 2017, the weather was dry with a short rain shower. A number of site observations were noted. These observations are discussed below under a number of key headings.

Road Geometry

- Brennanstown Road is a narrow local road that runs from Cabinteely Village to Glenamuck Road, footpaths are provided on the western side of the road in the vicinity of the site.
- It is a single carriageway road that varies in width but is generally 6m wide.

Vehicular Traffic

- Traffic flows during the site visit appeared to be normal for the area at that time of the day.
- The speed limit on Brennanstown Road within the Audit Area is 50km/h. From the observations during the site visit the majority of motorists appeared to obey the speed limit.

Pedestrians and Cyclists

- Pedestrian footpath is provided on the west side of the road only. This footpath is narrow within the location of the study area. The condition of the footpath is poor along the majority of this section with some sections of footpath having no distinction between path and roadway.
- There are no existing cycle facilities along Brennanstown Road.

Street Lighting

- Public lighting is provided on the west side of Brennanstown Road at the back of the footpath.
- The site visit was carried out during daylight hours; lighting levels at the site during darkness hours were not observed.

Collisions

- The RSA database of road collisions was examined to establish if there are any existing safety issues in the vicinity of the site that were not evident from the site visit. The database provides collision records for the period 2005 to 2013, with Figure 2 below outlining the recorded collision locations over the nine year period.
- One minor collision was recorded along Brennanstown Road in the vicinity of the proposed development site. This occurred in 2008 and involved a single motorcyclist.

Online Map of Collisions in Ireland

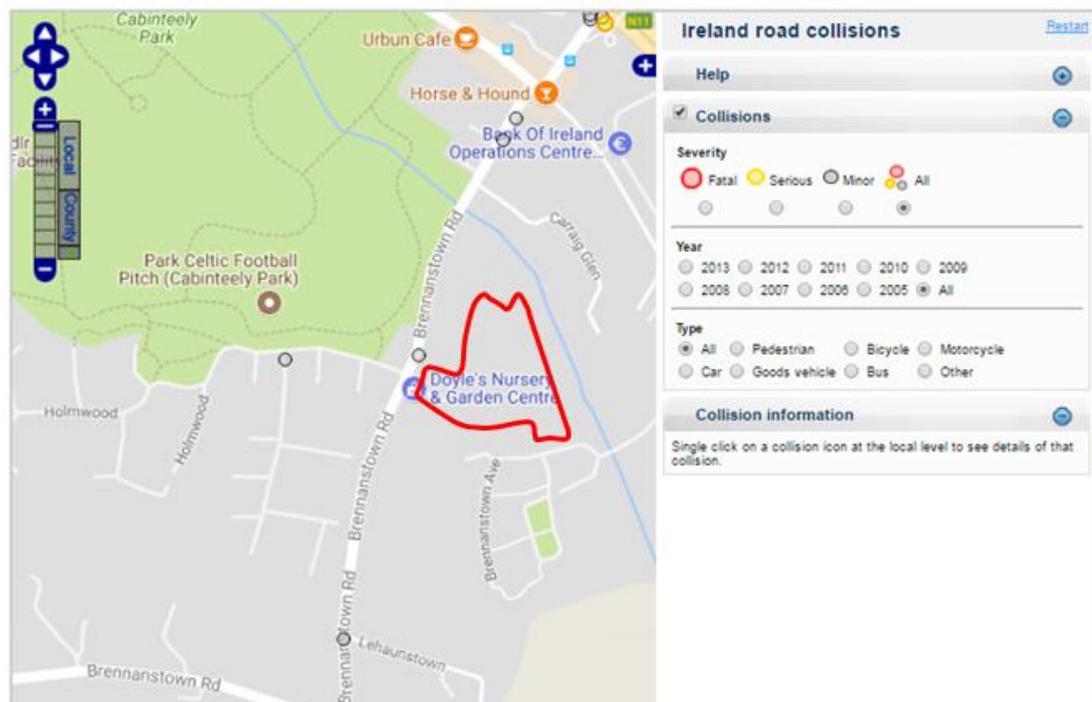


Figure 2 RSA Collision Records (2005-2013) in vicinity of the study area (www.RSA.ie)

3 Access Audit

3.1 Overview

The **Access Audit** identifies a range of barriers that potentially restrict access for disabled people in the external and internal built environments.

For the purposes of the access assessment, the environment's features have been broken down into its constituent features. Each feature is assessed for conformity against certain access criteria. These criteria are derived from the following range of Best Practice sources, guidelines, standards, publications and legislation:

- The Disability Act 2005 and related Sectoral Plans
- British Standards Institute BS8300:2001 and BS5588
- Building Regulations 2000, Technical Guidance Document M – Access for People with Disabilities (Department of the Environment, Heritage and Local Government)
- Buildings for Everyone – Access and use for all citizens (National Disability Authority)
- Access to the Historic Environment – Meeting the needs of Disabled People (Lisa Foster)
- Traffic Management Guidelines (Irish Government Publications 2003)
- Access Auditing of the Built Environment guidelines (National Disability Authority)
- Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (Department of Transport United Kingdom)
- Guidance on the use of Tactile Paving Surfaces: UK Department for Transport

Where a site feature does not conform to this guidance, an explanation as to the potential restriction on access is provided, together with a suggested action and the priority in which such actions should be undertaken.

The Disability Act 2005 and the National Disability Authority's initiatives build on relationships and practices which currently exist among councils, city planners, building professionals and community groups to make services in Ireland more accessible to people with disabilities.

In addition to people who use wheelchairs or have restricted mobility, there are many people affected by some degree of hearing loss, learning disability, visual impairment, or conditions such as arthritis. This access assessment considers the needs of all potential users from a universal access perspective.

The audit is an organisation's first step in identifying physical barriers that people with disabilities may encounter when engaging with the community, public services and facilities.

3.2 Paths and Pavements in Streets, Roads and Public Areas

Streets, Roadways and Access for vehicle routes would have a footway provided for the safety of pedestrians particularly in cities, built-up urban areas, developed towns and village environments. The following access routes were identified as having footways or pedestrian paved areas:

- Brennanstown Road
- Development Ground Level
- Development Basement Level

Ref	Feature	Conforms	Access Comment	Action
3.2.1	Are the Footways and Pavings a minimum of width of 1500mm? (1800 to 2000mm minimum width in High Volume Pedestrian areas)	No	Footpath proposals on Brennanstown Road are below 1.5m in some locations.	Provide footpath widths of at least 1.5m where possible.
3.2.2	Is the main footway route clear of circular holes that would impede wheelchair access or be a trip hazard to visually-impaired pedestrians?	Yes	No Action required	
3.2.3	Are slots in gratings no more than 13mm wide and set at right angles to the line of pedestrian traffic?	Unknown	Further information to be provided by design team	
3.2.4	Are pavement surfaces free of excessive joints or cracks that would impede wheelchair access or be a potential trip hazard to visually-impaired pedestrians?	Unknown	Further information to be provided by design team	
3.2.5	Is the main footway route clear of obstacles mounted more than 300mm above the ground and jutting out into the access route by more than 100mm?	Unknown	Further information to be provided by design team	
3.2.6	Is the footway route clear of abrupt changes in level with cross falls or adverse cambers being more than 1:40 (2.5%)?	Unknown	Further information to be provided by design team	
3.2.7	Is the footway route clear of physical obstructions or windows, doors and gates that open onto the access route which present a potential hazard?	No	Area to rear of apartment block E1 appears not to have a buffer area between the path and windows/door.	Provide buffer to rear of apartment block.
3.2.8	Is the main pavement route clear of loose gravel, stones and poor surface conditions that would impede access for wheelchair users or mobility-impaired pedestrians?	Yes	No Action required	
3.2.9	Are the footway and pedestrian routes free of headroom hazards less than 2300mm height clearance (absolute minimum 2100mm) above ground level? (eg: signs, lighting, hanging planters or traders goods)	Unknown	Further information to be provided by design team	
3.2.10	Is the access route free from any trip, slip or stumble hazards for visually impaired or blind pedestrians?	Yes	No Action Required	
3.2.11	Is the paving and footway free of advertising hoardings and 'A'	Yes	No Action required	

	Boards?			
3.2.12	Is the paving and footway route free of temporary building works, hoardings, construction works or roads and pavement maintenance hazards?	N/A		
3.2.13	The footway route should be free of overgrown tree branches, hedges and vegetation giving clear headroom of 2300mm and not encroaching from the side?	No	Vegetation shown adjacent to a pedestrian routes on Brennanstown Road	Ensure regular maintenance of vegetation to prevent encroaching on pedestrian routes
3.2.14	Cycle Track or Cycle Lanes provided where shared or immediately adjacent to the dedicated footway or paving area for pedestrians	N/A		
3.2.15	Is the street and pedestrian movement environment or public areas adequately covered for lighting at night?	Unknown	Further information to be provided by design team	

3.3 Public Seating in the Street or Public Areas

It is recommended that seating should be provided to public areas or within a street environment at intervals of approx 50 metres, particularly in streets and pavements that have inclines or slopes to give rest points for persons with mobility-impairments, also to provide a wheelchair rest position on hillside streets, sloping footways and other public areas.

The following Public Seating in the Street or Public Areas have been identified within the area of the Audit:

- Development Ground Level

Ref	Feature	Conforms	Access Comment	Action
3.3.1	Is seating provided at intervals of approximately 50 metres	Unknown	Further information to be provided by design team	
3.3.2	Is seating provided at inclines or slopes as rest points for mobility impaired?	Unknown	Further information to be provided by design team	
3.3.3	Is a flat area provided at regular intervals on inclines or slopes as rest points for wheelchair users?	Unknown	Further information to be provided by design team	

3.4 Un-Controlled Pedestrian Crossings

The following Un-Controlled Crossing Points have been identified within the area of the Audit:

- Development Access
- Development Ground Level

Ref	Feature	Conforms	Access Comment	Action
3.4.1	Does the Un-Controlled Crossing and dished kerbs have an unobstructed width of 1200mm?	No	Dropped kerbs not provided at some locations (further details in Section 5)	Provide dropped kerbs at all pedestrian desire lines.
3.4.2	Are the kerbs to the crossing reduced or lowered to form a dished kerb of maximum approach gradient of 1:12 and free of edge lips in excess of 6mm?	Unknown	Further information to be provided by design team	
3.4.3	Is there a clear radius of at least 1800mm in which to circulate (i.e. the turning circle) at the junctions of the crossing with both footways on either side?	Yes	No Action required	
3.4.4	Are the footway approaches to the crossing free from obstructions including posts, signs, utilities boxes, litter bins, etc?	Unknown	Further information to be provided by design team	
3.4.5	Are the footway approaches to the crossing provided with Tactile Blistered paving, yellow, fawn or buff coloured and to a minimum approach	Yes, where provided	Additional crossings and tactile required. (further details in Section 5)	

	depth of 800mm from the kerb edge?			
3.4.6	Is the crossing free of gratings, drains and culverts that would cause hazards to mobility impaired pedestrians or wheelchair users?	Yes	No Action required	
3.4.7	Are the Pedestrian viewing points at the Crossing free from obstructions causing blind spots? (ie: parking encroachments, fences, walls, railings and advertising signs, etc)	Unknown	Further information to be provided by design team	
3.4.8	Is the Crossing environment or area adequately covered for lighting at night?	Unknown	Further information to be provided by design team	

3.5 Guard Rails and Safety Barriers

There were no Guard Rails and Safety Barriers identified within the area of the Audit.

Safety Barriers and Guard rails are required to protect pedestrians in the roadside or street environment, initially to guide and direct pedestrians away from vehicles movements, also to encourage the use to controlled crossing points from the footway routes and in utilising pedestrian crossing islands on wide or busy roadways.

In some areas safety railings are provided to prevent children from running into the road outside schools, parks and footpath routes, other areas such as narrow bridges and underpasses shared by pedestrians and vehicles should have safety barriers provided.

3.6 Controlled Pedestrian Crossings

Controlled Crossings are defined as priority positions for pedestrians to cross the roadway, junction area or high volume vehicle access route onto the street, these crossing points would be positioned by design.

The type of crossing (i.e.; Pelican, Junction Prioritized or Zebra) would be determined by the volume of traffic, both pedestrian and vehicles: a specific design criteria in Traffic Management must be adopted and calculated for each location proposed for a controlled crossing.

Creating formal Controlled Crossing points to roads and streets requires pre-planning and design to ensure the crossing is correctly positioned for least safety hazard, (i.e.: vision, footway width, ramps and adverse cambers)

A Controlled Crossing for accessibility should have 2400mm wide Dished or Dropped kerbs levelling to 6mm or less at the road, a maximum approach ramp of 1:12 and Blister type tactile paving in Red to indicate the crossing position and direction of travel, tactile paving must extend back the full width of the pavement, control buttons for pedestrians must be appropriately positioned and easy to operate, audible and 'walk-now' signalling for pedestrians provided and good street lighting should be provided for both drivers and pedestrians in and around the crossing point.

No controlled crossings have been identified within the proposed scheme.

Disabled Parking Spaces

Within a Parking scheme it is important to provide designated Accessible Parking Spaces to serve the needs of disabled drivers or passengers.

Proximity of Accessible Parking can be determined by the type and location of public services, churches, hospitals, shopping and/or other recreational facilities adjacent to the street environment.

Accessible Parking Spaces within the parking identified within the area of the Audit:

- Development Basement Level

Ref	Feature	Conforms	Access Comment	Action
3.7.1	Are dedicated parking spaces provided with a clearly marked 1.4m symbol on the road surface to show parking assigned to disabled or mobility-impaired drivers or passenger?	Yes	No Action required	
3.7.2	Is the Accessible Parking Space indicated by a sign clearly showing the position of the space?	Unknown	Further information to be provided by design team	
3.7.3	Is there a 1000mm wide Dished or Dropped Kerb edge lowered to allow good access for wheelchair users from the parking space to the pavement or access route with flush or max 6mm upstand and 1:12 max gradient?	Unknown	Further information to be provided by design team	
3.7.4	Is there Cross-Hatching provided on the road surface to indicate a clear route for wheelchair users entering the paved routes?	Yes	No Action required	
3.7.5	Parking charges free to Disabled Drivers or Disabled use vehicles	N/A		
3.7.6	Are the Charges and Information on the Ticket Machines clear and easy to read?	N/A		

3.7 Information and Way-Finding Signage

There was no Information and Way-Finding Signage information provided for the Audit.

It is important to provide way-finding signage on the area and access to local services, it should be noted that information signage should not be positioned too high for persons of short stature and wheelchair users to access, also visitors to the area with vision impairment will find it difficult to read signage at high levels.

Information boards benefit blind or visually-impaired persons if essential notes and information are provided in conjunction with existing visual signs, directional routes in Braille and tactile will assist visitors to the area, local telephone contact numbers in Braille will be helpful too.

Effective colour contrast on signage is essential and is as important as the size of the lettering or symbols. Colours can appear different under various light sources, so when choosing sign colours ensure that under the same lighting conditions be used in the area where the sign is to be located at night, (i.e. consider colour red or orange 'light cast' caused by street lighting). Particularly avoid red and green colour schemes in signage due to the prevalence of red/green colour blindness.

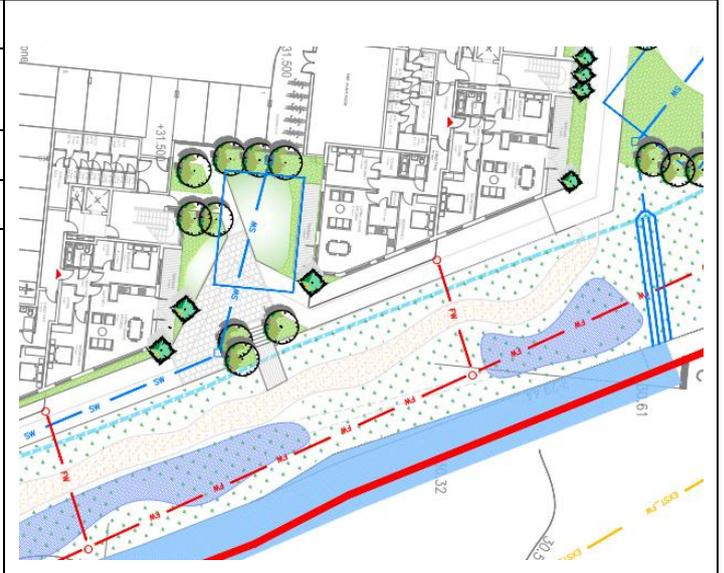
4 Cycle Audit

4.1 Items from this Cycle Audit

As no external cycle facilities are provided or existing, this section refers to the internal layout only.

Problem 4.1.1		
<i>Location</i>	Podium Level Access	
<i>Drawing</i>	60519515-SHT-10-C-0100 / 1395 4072 Podium Level	
<i>Summary</i>	Access for Cyclists	
<i>Description</i>		<p>Cycle parking is provided on the podium level around the apartment blocks. Access to the podium level is unclear from the drawings. The civil drawing shows a narrow path providing access to the podium level. It does not show dropped kerbs. In addition, it does not show tactile paving to indicate a shared surface area. The landscape drawings show a wider access point, however no dropped kerbs or tactile paving. Failure to provide adequate access to the cycle parking could cause cyclists to mount the footpath at inappropriate areas, and at locations where pedestrians are not expecting them to be.</p>
Recommendation:		<p>Clarification should be provided on the access arrangements to the podium level, with appropriate dropped kerbs and tactile paving provided.</p>

Problem 4.1.2	
<i>Location</i>	Cycle Parking to rear of Apartment Blocks
<i>Drawing</i>	1395 4072 Podium Level
<i>Summary</i>	Shared surface not indicated
<i>Description</i>	
<p>Access to the residential cycle parking is provided to the rear of the apartment blocks. No warning tactile or signage has been provided on the path to indicate that this path is a shared surface. This could cause confusion for pedestrians and cyclists alike, which could result in collisions.</p>	
Recommendation:	
<p>Appropriate signage and tactile paving should be provided to indicate the shared surface.</p>	



5 Walking Audit

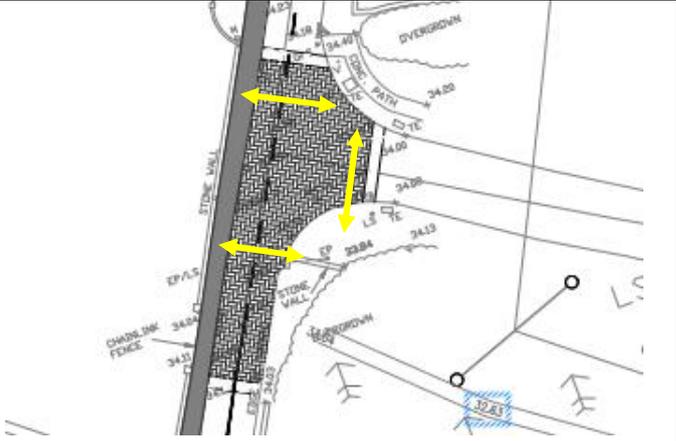
5.1 Items from this Walking Audit

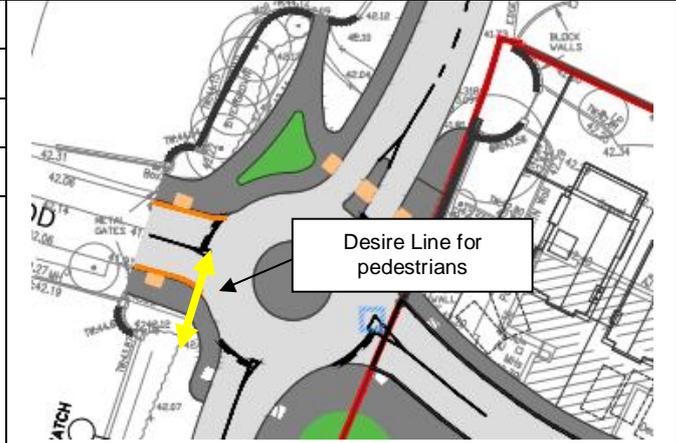
This Safety Audit has been divided into two different sections as follows:

Section 1 – Issues relating to the proposed Brennanstown Road Upgrade (footpath on western side of road); and
 Section 2 – Issues relating to the Internal Roads of the development.

Section 1 – Issues relating to Proposed Brennanstown Road Upgrade (footpath on western side of road)

Problem 5.1.1:		
<i>Location</i>	Brennanstown Road/Bray Road Junction	
<i>Drawing</i>	60541707 – SHT – 10-C-0100	
<i>Summary</i>	Lack of crossing facilities	
Description		
<p>There is no tactile paving proposed on the Brennanstown Road arm of the junction. Lack of appropriate crossing facilities creates a barrier for pedestrians at the junction, in particular, for visually impaired pedestrians who may not be aware there is a crossing location at this location.</p>		
Recommendation:		
<p>Tactile paving and dropped kerbing should be provided to allow pedestrians to cross safely.</p>		

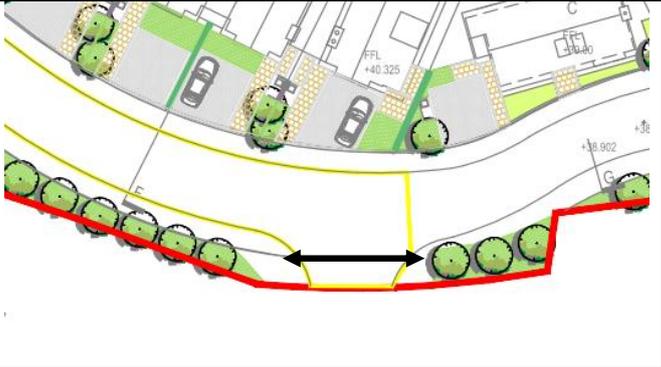
Problem 5.1.2:		
<i>Location</i>	Brennanstown Road/Carrig Glen Junction	
<i>Drawing</i>	60541707 – SHT – 10-C-0100	
<i>Summary</i>	Lack of crossing facilities	
Description		
<p>There are no crossing facilities provided for pedestrians through the junction. Lack of crossing facilities creates a barrier for vulnerable road users.</p>		
Recommendation:		
<p>Appropriate crossing facilities should be provided for pedestrians through the junction</p>		

Problem 5.1.3:		
<i>Location</i>	Roundabout at access to development	
<i>Drawing</i>	60541707 – SHT – 10-C-0100	
<i>Summary</i>	Tactile Paving off Desire Line	
Description		
<p>The tactile paving located on the Lambourne Wood arm of the roundabout appears to be off the desire line for pedestrians crossing. This could lead to pedestrians crossing where no crossing exists and could also cause confusion for visually impaired pedestrians.</p> <p>In addition, tactile paving has not been provided on the development arm or the southern arm of the roundabout.</p>		
Recommendation:		
<p>Tactile paving should be provided at all crossing locations, on the desire line.</p>		

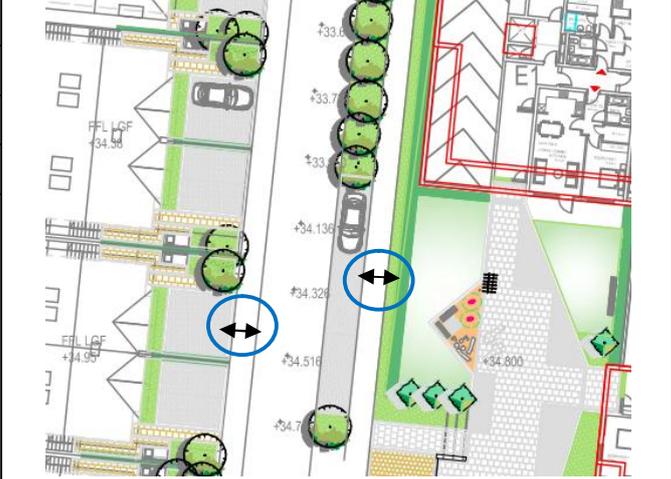
Problem 5.1.4:		
<i>Location</i>	Throughout Brennanstown Road	
<i>Drawing</i>	60541707 – SHT – 10-C-0100	
<i>Summary</i>	Narrow Footpath	
Description		<p>The footpath provided is narrow over the majority of Brennanstown Road and does not meet the recommended minimum width of 1.8m as per DMURS Guidance Document. Provision of a narrow footpath could cause pedestrians to veer into the road carriageway due to lack of space which could cause a collision with a vehicle.</p>

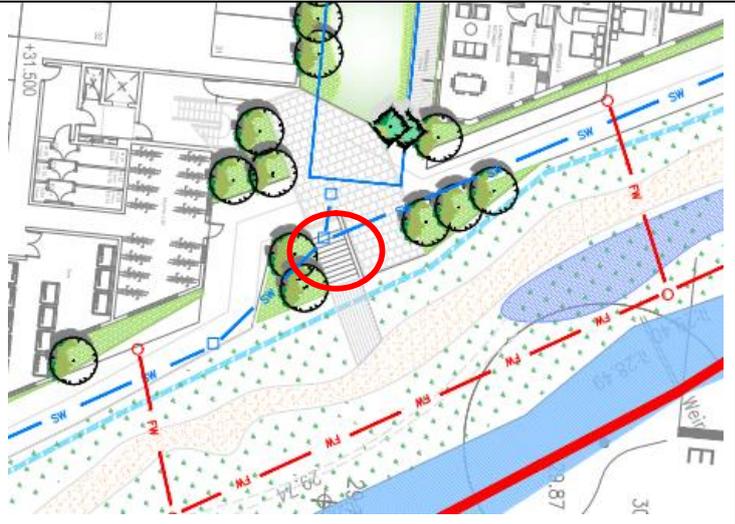
Problem 5.1.5:		
<i>Location</i>	Brennanstown Rd South of the Roundabout	
<i>Drawing</i>	60541707 – SHT – 10-C-0100	
<i>Summary</i>	Lack of footpath provision	
Description		<p>There is an existing footpath on the west side of the Brennanstown Road. The scheme proposals south of the roundabout do not accommodate for a footpath on either side of the carriageway. Lack of footpath provision along this road could create a dangerous environment for pedestrians travelling along this section of road and could lead to a collision with vehicles.</p>
Recommendation:		<p>A footpath should be provided along this section of road.</p>

Section 2 – Issues relating to the Internal Roads of the development

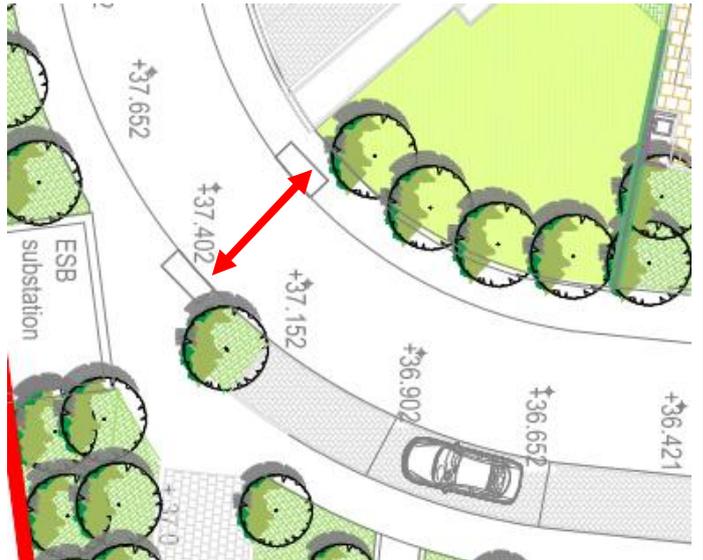
Problem 5.2.1:		
<i>Location</i>	Internal Development Road	
<i>Drawing</i>	1395 – 4070	
<i>Summary</i>	No Crossing Facilities	
Description		
<p>It is unclear what the access on the southern side of the access road provides access to and the volume of traffic that will use it. There are no crossing facilities provided for pedestrians across this access arm. Lack of crossing facilities creates a barrier for vulnerable road users.</p>		
Recommendation:		
<p>Dropped kerbs and tactile paving should be provided as appropriate.</p>		

Problem 5.2.2:		
<i>Location</i>	Internal Development Road	
<i>Drawing</i>	1395 – 4070	
<i>Summary</i>	Lack of mobility impaired access	
Description		
<p>Mobility impaired access does not appear to be provided at the level change where steps are provided. Lack of appropriate access facilities for mobility impaired users creates a barrier for these pedestrians and causes frustration and exclusion for these users.</p>		
Recommendation:		
<p>Ramps should be provided as appropriate in this location to provide access for mobility impaired users.</p>		

Problem 5.2.4:		
<i>Location</i>	Throughout Internal Roads	
<i>Drawing</i>	1395 - 4070	
<i>Summary</i>	Narrow Footpath	
Description		
<p>The footpath proposed appears narrow in sections along the internal roads of the development. Provision of a narrow footpath could cause pedestrians to veer into the road due to lack of space which could cause a collision with a vehicle.</p>		
Recommendation:		
<p>A footpath width of 2.0m should be provided in accordance with the National Disability Authority's Building for Everyone.</p>		

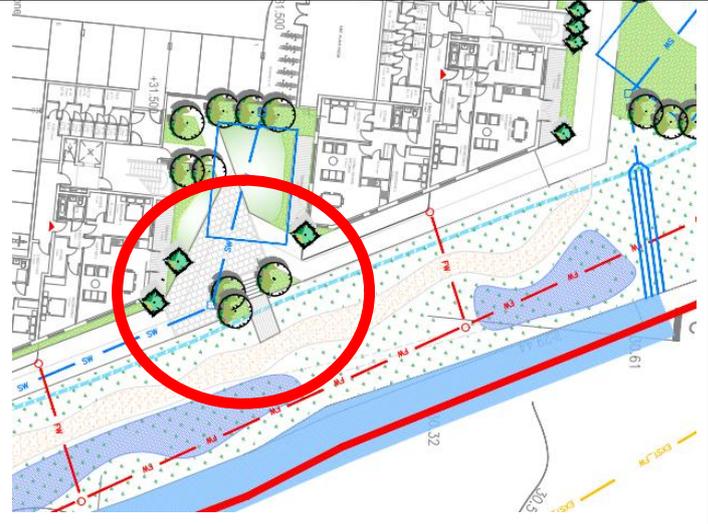
Problem 5.2.5		
<i>Location</i>	Raparian Corridor	
<i>Drawing</i>	pS (-01) – 04	
<i>Summary</i>	Lack of mobility impaired access	
Description		
<p>Mobility impaired access does not appear to be provided down to the 'Raparian' amenity corridor with steps provided but no access ramps.</p>		
Recommendation:		
<p>Adequate access should be provided for mobility impaired users to the 'Raparian' amenity corridor.</p>		

Problem 5.2.6	
<i>Location</i>	Development Road
<i>Drawing</i>	pS (-01) – 04
<i>Summary</i>	Pedestrian Desire Line
<p>Description</p> <p>There are a number of pedestrian desire lines not catered for in terms of tactile paving and/or dropped kerbs, including from the footpath to the ‘raparian’ amenity corridor and across the basement car park access.</p> <p>Lack of crossing facilities creates a barrier for vulnerable road users.</p> <p>Recommendation:</p> <p>Dropped kerbs and tactile paving should be provided as appropriate.</p>	



Problem 5.2.7		
<i>Location</i>	Raparian Corridor	
<i>Drawing</i>	pS (-01) – 04	
<i>Summary</i>	Lack of buffer between building and path	
Description		
<p>A path is provided at ground level to the rear of the apartment blocks. There is no buffer area between the building line and the footpath. This could result in pedestrians, particularly visually impaired pedestrians, walking into open door or windows.</p>		
Recommendation:		
<p>A buffer should be provided between the building line and the path edge throughout the scheme.</p>		

Problem 5.2.8		
<i>Location</i>	Materials/finishes for pedestrian routes	
<i>Drawing</i>	1371 – 7010 Landscape	
<i>Summary</i>	Specify adequate anti slip materials for pedestrian areas	
Description		
<p>Information regarding the anti-slip grading for materials to be used in pedestrian areas has not been provided. An appropriate anti slip grade should be specified for all materials for both wet and dry conditions to prevent pedestrians from slipping and falling.</p>		
Recommendation:		
<p>Specify adequate anti slip materials for pedestrian areas</p>		

Problem 5.2.9		
<i>Location</i>	Pedestrian routes	
<i>Drawing</i>	pS (-01) – 04	
<i>Summary</i>	Steps without handrails	
<i>Description</i>		
<p>It appears from the drawings that steps have been provided throughout the scheme but no handrails have been shown.</p> <p>Handrails are required to reduce the risk of pedestrians falling when using the steps and as an aid for mobility impaired users.</p>		
Recommendation:		
Provide handrails in all locations where steps are provided		

6 Audit Team Statement

6.1 Quality Audit

We certify that the proposed scheme drawings have been examined in relation to the previously stated audits as part of the overall Quality Audit.

The Audits have been carried out with the sole purpose of identifying any features of the proposed scheme that could be classed as a problem or issue in relation to these audits. The issues noted go beyond safety issues alone.

The problems identified have been noted in this report together with associated suggestions that should be considered for implementation.

AUDIT TEAM LEADER: SENIOR ROAD SAFETY AUDITOR

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Signed
Date 19/10/17



AUDIT TEAM MEMBER: ROAD SAFETY AUDITOR

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Signed
Date 19/10/17



OTHERS INVOLVED:

There were no other persons involved in this Assessment than previously stated above.

Appendices

Appendix A - Documents Submitted to the Audit Team

The following documents were submitted as part of the Quality Audit:

Document No.	Rev.	Description	Date
60541707 – SHT – 10-C-0101	A	Proposed General Arrangement	12/10/17
pS (00) 03	F	Proposed Site plan Roofplan	Aug 2017
pS (-01) – 04	E	Basement Plan	Aug 2017
60541707 – SHT – 10-C-0200	A	Proposed Ground Floor Drainage Layout	Sept 2017
1395 – 4070	-	Landscape Strategy Proposals	-
1395 – 4071	-	Layout Entrance Area	-
1395 – 4072	-	Podium Layout Detail	-
1395 – 4073	-	Raparian Corridor Layout	-

Appendix B – Designers Response to the Cycling and Walking Sections of the Quality Audit

Scheme Name: Proposed Strategic Housing Development at the Former Doyle's Nursery and Garden Centre and Benoni, Brennanstown Road, Cabinteely, Dublin 18

Stage: Designers Response to Quality Audit

Date Completed: February 2018

3 Access Audit

Paragraph No. in Safety Audit Report	Problem Accepted (yes/no)	Recommendation accepted (yes/no)	Alternative measures (describe)	Auditor's Accepted Measure
3.2.1 - Are the Footways and Pavings a minimum of width of 1500mm? (1800 to 2000mm minimum width in High Volume Pedestrian areas)	Yes	All footways and pavings of the proposed development are at a minimum width of 1.8m. With regard to the Brennanstown Road Upgrade. due to constraints in the carriageway width, the footpath width reduces to 1.2m for a distance of approx. 30m.		Yes
3.2.3 - Are slots in gratings no more than 13mm wide and set at right angles to the line of pedestrian traffic?	Yes	Slots in gratings will be no more than 13mm wide and set at right angles to the line of pedestrian traffic. The design specification will be submitted by the applicant to DLRCC at detailed design stage.		Yes
3.2.4 - Are pavement surfaces free of excessive joints or cracks that would impede wheelchair access or be a potential trip hazard to visually-impaired pedestrians?	Yes	Pavement surfaces will be free of excessive joints or cracks. This will be ensured by the applicant during detailed design stage.		Yes
3.2.5 - Is the main footway route clear of obstacles mounted more than 300mm above the ground and jutting out into the access route by more than 100mm?	Yes	The main footway route will be clear of obstacles mounted more than 300mm above the ground or jutting out into the access route by more than 100mm. This will be ensured by the applicant during detailed design stage.		Yes

3.2.6 - Is the footway route clear of abrupt changes in level with cross falls or adverse cambers being more than 1:40 (2.5%)?	Yes	The footway route will be clear of abrupt changes in level with a minimum cross fall of 1:40. This will be ensured by the applicant during detailed design stage.	Yes
3.2.7 - Is the footway route clear of physical obstructions or windows, doors and gates that open onto the access route which present a potential hazard?	Yes	The footway route is clear of physical obstructions or windows, doors and gates that open onto the access route. This will be ensured by the applicant during detailed design stage.	Yes
3.2.9 - Are the footway and pedestrian routes free of headroom hazards less than 2300mm height clearance (absolute minimum 2100mm) above ground level? (eg: signs, lighting, hanging planters or traders goods)	Yes	The footway and pedestrian routes will be free of headroom hazards less than 2300mm height clearance (absolute minimum 2100mm) above ground level. This will be ensured by the applicant during detailed design stage.	Yes
3.2.13 - The footway route should be free of overgrown tree branches, hedges and vegetation giving clear headroom of 2300mm and not encroaching from the side?	Yes	The footway route will be free of overgrown tree branches, hedges and vegetation giving clear headroom of 2300mm and not encroaching from the side. This will be ensured by the applicant during detailed design stage.	Yes
3.2.15 - Is the street and pedestrian movement environment or public areas adequately covered for lighting at night?	Yes	The street and pedestrian movement environment and public areas will be adequately covered with lighting at night. Details of the lighting scheme for the development will be submitted by the Applicant during design stage.	Yes
3.3.1 - Is seating provided at intervals of approximately 50 metres	Yes	Seating will be provided at intervals of approximately 50 metres, where required. Details of a seating arrangement will be presented during the detailed design stage.	Yes
3.3.2 - Is seating provided at inclines or slopes as rest points for mobility impaired?	Yes	Seating will be provided at inclines or slopes at rest points for mobility impaired. Details of a seating arrangement will be presented during the detailed	Yes

		design stage.		
3.3.3 - Is a flat area provided at regular intervals on inclines or slopes as rest points for wheelchair users?	Yes	Flat areas are to be provided at regular intervals throughout the development for wheelchair users as per DMURS.		Yes
3.4.1 - Does the Un-Controlled Crossing and dished kerbs have an unobstructed width of 1200mm?	Yes	The un-controlled crossing and dished kerbs are proposed to have an unobstructed width of 1200mm. This will be ensured by the Applicant during detailed design stage.		Yes
3.4.2 - Are the kerbs to the crossing reduced or lowered to form a dished kerb of maximum approach gradient of 1:12 and free of edge lips in excess of 6mm?	Yes	Kerbs to crossing points will be dropped to form a dished kerb of maximum approach gradient of 1:12 and free of edge lips in excess of 6mm. This will be ensured by the Applicant during detailed design stage.		Yes
3.4.4 - Are the footway approaches to the crossing free from obstructions including posts, signs, utilities boxes, litter bins, etc?	Yes	The footway approaches to the crossings will be free from any obstructions. This will be ensured by the Applicant during detailed design stage.		Yes
3.7.2 - Is the Accessible Parking Space indicated by a sign clearly showing the position of the space?	Yes	Accessible parking spaces are clearly indicated by signs showing the position of the spaces. This will be ensured by the Applicant during detailed design stage.		Yes
3.7.3 - Is there a 1000mm wide Dished or Dropped Kerb edge lowered to allow good access for wheelchair users from the parking space to the pavement or access route with flush or max 6mm upstand and 1:12 max gradient?	Yes	A 1000mm wide Dished or Dropped Kerb edge lowered to allow good access for wheelchair users from the parking space to the pavement or access route with flush or max 6mm upstand and 1:12 max gradient? This will be ensured by the Applicant during detailed design stage.		Yes

4 Cycling Audit

Paragraph No. in Safety Audit Report	Problem Accepted (yes/no)	Recommendation accepted (yes/no)	Alternative measures (describe)	Auditor's Accepted Measure
4.1.1 Podium Level Access Clarification should be provided on the access arrangements to the podium level, with appropriate dropped kerbs and tactile paving provided.	Yes	Yes - Dropped kerbs and tactile paving to be provided to facilitate cyclist and pedestrian access.		Yes
4.1.2 Cycle Parking to rear of apartment blocks Appropriate signage and tactile paving should be provided to indicate the shared surface.	Yes	Yes – Appropriate signage and tactile paving will be provided as per the Traffic Signs Manual, to clearly indicate that there is a shared surface area at this location.		Yes

5 Walking Audit

Section 1 – Issues relating to proposed Brennanstown Road Upgrade (footpath on the western side of the road)				
Paragraph No. in Safety Audit Report	Problem Accepted (yes/no)	Recommendation accepted (yes/no)	Alternative measures (describe)	Auditor's Accepted Measure
5.1.1 Brennanstown Road / Bray Road Junction Tactile paving and dropped kerbing should be provided to allow pedestrians to cross safely.	Yes	Yes – tactile paving and dropped kerbs have been introduced 60541707-SHT-10-C-0100_RevB		Yes
5.1.2 Brennanstown Road at Carrig Glen Junction Appropriate crossing facilities should be provided for pedestrians through the junction	Yes	Yes - Tactile paving has been provided on the northern arm of Brennanstown Road. See AECOM drawing no. 60541707-SHT-10-C-0101.		Yes

<p>5.1.3 Roundabout at access to development</p> <p>Tactile paving should be provided at all crossing locations, on the desire line.</p>	<p>Yes</p>	<p>Yes – Tactile paving now provided at all crossing locations. Please refer to AECOM drawing no. 60541707-SHT-10-C-0101.</p>		<p>Yes</p>
<p>5.1.4 Throughout Brennanstown Road</p> <p>The footpath provided is narrow over the majority of Brennanstown Road and does not meet the recommended minimum width of 1.8m as per DMURS Guidance Document. Provision of a narrow footpath could cause pedestrians to veer into the road carriageway due to lack of space which could cause a collision with a vehicle.</p>	<p>Yes</p>	<p>Yes – Footpath width is 1.8m wide where possible, as per Section 4.3.1 of the Design Manual for Urban Roads and Streets (DMURS). However due to constraints in the Brennanstown Road carriageway width, the footpath width reduces to less than 1.8m for a distance of approx. 30m. Please refer to AECOM drawing no. 60541707-SHT-10-C-0101.</p>		<p>Yes</p>
<p>5.1.5 Brennanstown Rd South of the Roundabout</p> <p>A footpath should be provided along this section of road.</p>	<p>Yes</p>	<p>Yes – Footpath has been extended further south of the proposed roundabout junction. Please refer to AECOM drawing no. 60541707-SHT-10-C-0101.</p>		<p>Yes</p>

Section 2 – Issues relating to the Internal Roads of the Development

Paragraph No. in Safety Audit Report	Problem Accepted (yes/no)	Recommendation accepted (yes/no)	Alternative measures (describe)	Auditor's Accepted Measure
<p>5.2.1 Internal Development Road</p> <p>Dropped kerbs and tactile paving should be provided as appropriate.</p>	Yes	Yes - Dropped kerbs and tactile paving have been included within the proposed layout in accordance with the Traffic Management Guidelines (Department of Environment and Local Government).		Yes
<p>5.2.2 Internal Development Road</p> <p>Ramps should be provided as appropriate in this location to provide access for mobility impaired users.</p>	No		<p>A pedestrian ramp is located immediately south of the steps, which provides access for mobility impaired persons.</p> <p>The ramp connects to a lift which facilitates access to the basement level. Please refer to the submitted landscape drawings.</p>	Yes
<p>5.2.3 Basement Car Park</p> <p>Disabled parking bays in the basement car park should be located close to the lifts/stairwells in each building.</p>	Yes	Please refer to the architects revised basement layout which illustrates disabled parking in locations prominent to the lifts / stairwells.		Yes
<p>5.2.4 Throughout Internal Roads</p> <p>A footpath of 2.0m should be provided in accordance with the National Disability Authority's Building for Everyone.</p>	Yes		Yes - A footpath width of 1.8m (min) has been provided in accordance with the Design Manual for Urban Roads and Streets (DMURS). See AECOM drawing no. 60541707-SHT-10-C-	Yes

			0100 Rev B for reference.	
<p>5.2.5 Raparian Corridor</p> <p>Adequate access should be provided for mobility impaired users to the 'Raparian' amenity corridor.</p>	Yes		<p>Following consultation with DLRCC at pre planning, no access (stairs or otherwise) is to be provided to the Raparian corridor. Please see AECOM drawing no. 60541707-SHT-10-C-0100 Rev B for reference.</p>	Yes
<p>5.2.6 Development Road</p> <p>Dropped kerbs and tactile paving should be provided as appropriate.</p>	Yes	<p>Yes - It is proposed to install tactile paving and dropped kerbs along the development road in accordance with the Traffic Management Guidance (Department of the Environment and Local Government 2003). Please refer to AECOM drawing no. 60541707-SHT-10-C-0100 Rev B for reference.</p>		Yes
<p>5.2.7 Raparian Corridor</p> <p>A buffer should be provided between the building line and the path edge throughout the scheme.</p>	Yes		<p>The level of the footpath has been lowered, whilst the window sills height have been raised to avoid potential conflicts between pedestrians and open window sills. The doors will swing into the development and not out onto the footpath to ensure no conflicts arise. Please refer to Architect's drawing.</p>	Yes
<p>5.2.8 Materials/finishes for pedestrian routes</p> <p>Specify adequate anti slip materials for pedestrian areas.</p>	Yes	<p>Yes – During the detailed design stage, adequate anti slip materials for pedestrian areas shall be provided in accordance with TII</p>		Yes

		guidelines.	
5.2.9 Pedestrian Routes Provide handrails in all locations where steps are provided.	Yes	Yes – During the design stage, handrails will be proposed at all locations where steps are provided.	Yes

RSA Auditor Signature: *Shane Browne*

Designer Signature: *Sham Ginn*

Applicant Signature: *Niall O'Byrne*