

25018-01-001

**PROPOSED HOUSING DEVELOPMENT
AT WOODTOWN, BALLYCULLEN,
DUBLIN 16**

Stage 1 Quality Audit

**(Incorporating a DMURS Street Design Audit, and Audits
of Accessibility, Cycling, Walking and Road Safety)**

for

WATERMAN MOYLAN

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7, Ormonde Road
Kilkenny.
R95 N4FE

Tel: 056 7795800
info@roadplan.ie
www.roadplan.ie

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1. INTRODUCTION

- 1.1 Roadplan Consulting has been commissioned by Waterman Moylan to carry out a Quality Audit of a proposed residential development at Woodtown, Ballycullen, Dublin 16.
- 1.2 The proposed development comprises the construction of approximately 500 residential units (houses and apartments). The development will also include dedicated car parking spaces, bike parking spaces, bicycle stores, bin stores, allotment gardens, and a creche.
- 1.3 The development is situated about 1km from Junction 12 on the M50 in Dublin. The site lies adjacent to Ballycullen Road and Stocking Avenue, where the 15B bus service is available. There does not appear to be any LUAS, DART, or train service in the vicinity. There are two accesses to the development off Stocking Avenue – at the roundabout at Abbots Grove Avenue and at the roundabout at Stocking Wood Drive
- 1.4 Figure 1 below is a Site Location map and a Layout drawing of the development. At present Stocking Avenue and its side roads have a speed limit of 50 km/h.



Figure 1 – Site Location Map and Site Layout for the development

- 1.5 There are two accesses to the development, both off Stocking Avenue – at the roundabout at Abbots Grove Avenue (road width 7.5m) and through Stocking Wood Drive (road width 6m). See Figure 2 and Figure 3 below:



Figure 2 – Access to Site from Abbots Grove Avenue



Figure 3 – Access to Site through Stocking Wood Drive

2. QUALITY AUDIT

- 2.1 Quality Audit is a defined process, independent of, but involving, the design team that, through planning, design, construction and management stages of a project provides a check that high quality places are delivered and maintained by all relevant parties, for the benefit of all end users. Quality Audit is a process, applied to urban roads, traffic management or development schemes, which systematically reviews projects using a series of discrete but linked evaluations and ensures that the broad objectives of place, functionality, maintenance and safety are achieved.
- 2.2 Quality Audit was introduced in the publication Design Manual for Urban Roads and Streets following concerns that in the design of new streets provisions made for motor vehicles frequently led to a poorly designed public realm. In an urban area there is a high level of competing demand from different classes of road users. A well-balanced street will have minimal visual clutter and obstacles; it will use durable materials and most importantly, will encourage a degree of negotiation between road users as they make their way through it.
- 2.3 Quality Audit involves various assessments of the impacts of a street scheme in terms of road safety, visual quality and the use of streets by the community. Access for disabled people, pedestrians, cyclists and drivers of motor vehicles is considered.
- 2.4 In the context of a Quality Audit, road safety assessment is considered to be an appropriate method of examining road safety issues as it incorporates both the hazard identification techniques used in road safety audit and formal risk assessment techniques. This allows the opportunity at an early stage for road safety issues to be considered in a more dynamic way within the design process, and to ensure that safety issues are considered as part of the design rather than after design work is completed.
- 2.5 The Quality Audit Team reports findings with suggestions for future action. It should be noted that, in a Quality Audit, it is not the intention that suggestions would be binding on the design team; they are offered for detailed consideration in the design process.
- 2.6 DMURS states that Quality Audits should consist of the following parts:
- DMURS Street Design Audit
 - Individual Design Audits
 - Quality Audit Report

In the case of this report the individual design audits comprise an RSA, an Accessibility audit, a Walking audit and a Cycle audit.

3. METHODOLOGY

3.1 The Audit Team was as follows:

- Harry Cullen, Chartered Engineer, MIEI
- George Frisby, Chartered Engineer MIEI

3.2 Road safety, non-motorised users, visual quality, access for disabled and functionality were considered in the Quality Audit. This exercise focused on issues such as:

- the design rationale as it related to vehicle, cycle and pedestrian movements;
- pedestrian desire lines both to and through the site;
- access requirements for all modes of transport;
- access requirements for disabled people and other vulnerable users;
- any road safety concerns associated with the scheme;
- how the scheme is experienced by those entering it and moving around within the street, including how this affects road user behavior; and
- any other issues considered relevant to each constituent element of the Quality Audit process.

3.3 The site visit for this quality audit was carried out on 4th February 2025.

The documents provided for the audit were:

Drawing Number	Rev	Drawing Title
BYCN-WM-ZZ-XX-DR-C-P010	P2	Site Location Plan
BYCN-WM-ZZ-XX-DR-C-P102	P2	Proposed Road Markings & Signage
BYCN-WM-ZZ-XX-DR-C-P103	P2	Proposed Road Markings & Signage
BYCN-WM-ZZ-XX-DR-C-P104	P2	Proposed Sightlines
BYCN-WM-ZZ-XX-DR-C-P105	P2	Proposed Sightlines
BYCN-WM-ZZ-XX-DR-C-P150	P2	Swept Path Analysis Refuse Vehicle
BYCN-WM-ZZ-XX-DR-C-P151	P2	Swept Path Analysis Refuse Vehicle
BYCN-WM-ZZ-XX-DR-C-P152	P2	Swept Path Analysis Fire Tender
BYCN-WM-ZZ-XX-DR-C-P153	P2	Swept Path Analysis Fire Tender
BYCN-WM-ZZ-XX-DR-C-P191	P1	Proposed Road Construction Details (1 of 2)
BYCN-WM-ZZ-XX-DR-C-P192	P1	Proposed Road Construction Details (2 of 2)
BYCN-WM-00-XX-DR-C-P1100	P2	Proposed Road Levels Layout Sheet 1 of 2
BYCN-WM-00-XX-DR-C-P1101	P2	Proposed Road Levels Layout Sheet 2 of 2

Copies of these audited drawings are contained in Appendix A.

Details of drainage or road lighting are not provided. It is assumed that adequate layouts will be provided for each.

In accordance with DMURS Advice Note No. 4 May 2019 (contained on <https://www.dmurs.ie/supplementary-material>) a Quality Audit should always contain a DMURS Street Design Audit and Other Design Audits (as required). Section 4 of this report contains the Street Design Audit and Section 5 contains the Other Design Audits (Road Safety, Walking, Cycling, Accessibility). The Street Design Audit is in the format provided as a template on the DMURS website.

4. STREET DESIGN AUDIT

CONNECTIVITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 . Integrated Street Network	3.1 Street network has been integrated with surrounding developments, with access to the site available at two locations through existing developments.	3.1 Noted.
	3.2.1 . Movement Function		3.2.1 Noted.
	3.3.1 . Street layouts		3.2.1 Agreed
	3.3.4 - Wayfinding		3.2.1 Agreed
		3.2.1 The access at Abbots Grove Avenue has very little development at present. The eastern access, at Stocking Wood Drive, is through an existing estate with in excess of one hundred housing units.	3.2.1 Agreed
		3.2.1 Public transport is available on Stocking Avenue, with a 5-min service at peak times and 15 min service off peak.	3.3.1 Raised tables have been introduced to reduce traffic speeds.
		3.2.1 No DART, LUAS or train service appears to be available close to the site.	3.3.4 Agreed
		3.2.1 The development is situated about 1km from Junction 12 on the M50.	

CONNECTIVITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		<p>3.3.1 There are a number of straight sections on the internal road network of the development, especially on the eastern section, but the use of tables and narrowings of the roadway should contribute to slower speeds and safer roads.</p> <p>3.3.4 There appears to be little opportunity for rat-running through the development.</p>	
Multiple points of access are provided to the site/place, in particular for sustainable modes.	<p>3.3.1 . Street Layouts</p> <p>3.3.3 . Retrofitting ¹</p>	<p>3.3.1 Access to the site is proposed at two locations off exiting developments. Cycleways are available on Stocking Avenue and Ballycullen Road. No cycleways are shown on the drawings. Footpaths are 2m wide. This is in keeping with the two existing access roads which have no cycleways, and footpaths varying from 1.5 to 2 metres.</p>	3.3.1 Agreed

¹ When connecting with existing communities a detailed analysis and extensive community consultation should be carried out to identify the optimal location for connections (refer also to the NTA Permeability in Existing Urban Areas: Best Practice Guide).

CONNECTIVITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 . Street Layouts 3.3.2 . Block Sizes 3.4.1 . Vehicle Permeability	<p>3.3.1 There are no cycleways shown on the drawings. The footpath is shown 2m wide wide. There are over a dozen apartment blocks with very limited or no car parking spaces available on the eastern side of the development, which may lead to some on-street parking, parking on grass verges and on footpaths.</p> <p>3.3.1 There are footpaths throughout the development, on both sides of the roadway for the most part, with one or two exceptions.</p> <p>3.3.1 There is a discontinuity of the footpath in a number of locations within the proposed development.</p> <p>3.3.1 The footpath in front of apartment Block A, which is just inside the entrance from Abbots Grove Ave, appears to travel under the access stairways to the apartment block. This situation pertains to several other apartment blocks as well. The</p>	<p>3.3.1 Carparking is provided on ground floor level (4no each end) for apartment blocks.</p> <p>3.3.1 Where footpaths have not been provided on both sides of the road an alternative, more accessible footpath has been provided within the landscaping.</p> <p>3.3.1 The landscape drawing highlights footpaths which do not connect directly to the side of the road providing pedestrian continuity throughout the site.</p> <p>3.3.1 Although there is sufficient headroom provided the issue of security is noted and will be dealt with at the detailed design stage.</p> <p>3.4.1 It is not possible to design this space as access for all. The level difference is over 3m as such the steps have been provide to ensure space is useable. Studies demonstrated that ramps would not comply when tested. Alternative Part M compliant routes are available through the site.</p>

CONNECTIVITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		<p>height clearance and security of pedestrians on the footpath in this area could be a concern.</p> <p>3.4.1 There are some footpaths shown in any of the open areas, but most of them appear to include steps, which means that access for vulnerable road users could be severely limited.</p> <p>3.4.1 Pedestrian and cyclist permeability have only been somewhat considered. There are no cycleways, and no pedestrian crossing shown.</p>	<p>3.4.1 The updated crossing and raised table drawing indicate all of the pedestrian crossings proposed. There are no segregated cycleways proposed within the site.</p>
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	<p>3.2.1 . Movement Function</p> <p>3.2.2 . Place Context</p> <p>3.4.1 . Vehicle Permeability</p>	<p>3.4.1 There does not appear to be any obvious rat run opportunities in the development. There is no through movement on local streets, they are all cul-de-sacs.</p> <p>3.2.1 There are a number of tables at various junctions on the northeastern section of the development to discourage vehicle speeding. It is presumed that these tables will also afford</p>	<p>3.4.1 Agreed.</p> <p>3.2.1 Yes the updated crossing and raised table drawing indicate all of the pedestrian crossings proposed, all raised tables will have appropriate pedestrian crossing facilities in terms of tactile paving.</p>

CONNECTIVITY

Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		opportunities for pedestrians and cyclists to cross the road safely.	

SELF-REGULATING STREET ENVIRONMENT

Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 . Movement Function 3.2.2 . Place Context 4.1.1 . A Balanced Approach to Speed ²	3.2.1 There are a number of tables at various junctions in the development to discourage vehicle speeding. It is presumed that these tables will also afford opportunities for pedestrians and cyclists to cross the road safely. 3.2.2 No information has been provided on design speeds in the development; however, it is assumed that the 30 km/h speed limit for residential developments will apply, with a lower limit on local streets. 3.3.1 There are a number of straight sections on the internal	3.2.1 Yes the updated crossing and raised table drawing indicate all of the pedestrian crossings proposed, all raised tables will have appropriate pedestrian crossing facilities in terms of tactile paving. 3.2.2 The design speed for the proposed development is 20kph 3.3.1 Raised tables have been introduced to reduce traffic speeds.

² Refer also to the National Speed Limit Guidelines

SELF-REGULATING STREET ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		road network of the development, especially on the eastern section, but the use of tables and narrowing ³ of the roadway should contribute to slower speeds and safer roads	
The street environment will facilitate the creation of a traffic calmed environment via the use of softer ³ or passive measures. ³	4.2.1 . Building Height and Street Width 4.2.2 . Street Trees 4.2.3 . Active Street Edges 4.2.4 . Signage and Line Marking 4.2.7 . Planting 4.4.2 . Carriageway Surfaces 4.4.9 . On-Street Parking Advice Note 1 . Transitions and Gateways	4.2.1 No building heights information has been provided at this time. Street widths vary from 6m down to 5.5m and 4.8m on the shared spaces with raised tables. 4.2.2 No information is available on street trees. 4.2.4 Information has been made available on signage and line marking, 4.2.7 No information has been made available on planting at this time. 4.4.2 Information has been made available on carriageway surfaces.	4.2.1 Please refer to the contiguous elevations provided by the architect for the site, which illustrate the ridge heights in relation to the road levels. 4.2.2 Please refer to the landscape architects plan which now includes the proposed planting 4.2.4 Noted 4.2.7 Please refer to the landscape architects plan which now includes the proposed planting 4.4.2 Noted

³ In retrofit situations a detailed analysis should be carried out to establish what measures exist, what their likely effectiveness is and level of intervention required to achieve the designed design speed.

SELF-REGULATING STREET ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		4.4.9 There are over a dozen apartment blocks in the northeastern part of the development with little or no car parking spaces. This will invariably lead to residents parking on the street, parking on grass verges and on footpaths. This may cause congestion and risk taking.	4.4.9 Parking is provided beneath the apartment blocks at each end.
A suitable range of design standards/ measures have been applied that are consistent with the applied design speeds.	4.4.1 . Carriageway Widths 4.4.4 . Forward Visibility 4.4.5 . Visibility Splays 4.4.6 . Alignment and curvature 4.4.7 . Horizontal and Vertical Deflections Advice Note 1 . Transitions and Gateways	4.4.1 Road widths vary from 4.8m to 6m, to tie in with roads in neighbouring developments 4.4.5 Information has been made available on visibility splays at junctions and for the most part these are in order, with one or two exceptions. 4.4.7 Horizontal deflections are used on the straight sections of roadway throughout the development, as a traffic calming measure.	4.4.1 Noted 4.4.5 Noted and visibility splays updated to remove the previous exceptions. 4.4.7 Agreed

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	4.2.1 . Building Height and Street Width 4.2.3 . Active Street Edges 4.2.5 . Street Furniture 4.4.9 . On-Street parking	4.2.1 Street widths vary from 4.8 meters to 6 meters. 4.2.3 There are a number of tables at various junctions in the development to discourage vehicle speeding. It is presumed that these tables will also afford opportunities for pedestrians and cyclists to cross the road safely. 4.2.5 No information is available at this time on street furniture. 4.2.5 No play areas for children have been clearly identified in any of the open spaces in the development. 4.4.9 A comprehensive parking plan is provided for most of the development. Visitor parking is also being provided. However, there are over a dozen apartment blocks in the northeastern section on the development with little or no parking facilities. This could lead to on-street parking at these locations.	4.2.1 Agreed 4.2.3 Yes the updated crossing and raised table drawing indicate all of the pedestrian crossings proposed, all raised tables will have appropriate pedestrian crossing facilities in terms of tactile paving. 4.2.5 Please refer to the landscape architects plan which now includes the proposed street furniture 4.2.5 Please refer to the landscape architects plan which now includes the proposed play areas 4.4.9 Parking is provided beneath the apartment blocks at each end.

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 . Movement Function 3.2.2 . Place Context 4.2.5 . Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings	3.2.1 Footpaths 2m wide are provided on the side of the road throughout the development. However, there does not appear to be any facilities for vulnerable road users through the open areas. 3.2.1 There are a number of pathways incorporating steps across some of the open areas. However, facilities for vulnerable road users, wheelchair users, and pedestrians pushing prams are limited. 4.3.2 There is a scarcity of pedestrian crossings in the development. There may well be opportunities for pedestrians to cross the road in safety at some of the tables shown in the development, but it still leaves a shortage of crossing opportunities for vulnerable road users.	3.2.1 Please refer to the landscape architects plan which indicate the facilities proposed through the open space. 3.2.1 1 It is not possible to design all open space as access for all. The level difference in some areas is over 3m as such, steps have been provide to ensure space is useable. Studies demonstrated that ramps would not comply when tested. Alternative Part M compliant routes are available through the site. 4.3.2 Please refer to the updated crossing and raised table drawing indicate all of the pedestrian crossings proposed, all raised tables will have appropriate pedestrian crossing facilities in terms of tactile paving.
Cycling facilities will cater for cyclists of all ages and abilities.	3.2.1 . Movement Function 3.2.2 . Place Context 4.3.5 - Cycle facilities	4.3.5 There are no cycleways shown on the drawings. 4.3.5 Some bike storage areas are located within the open areas or at the rear of footpaths, but there are no cyclelinks shown leading to	4.3.5 Noted, this is in line with neighbouring developments 4.3.5 Please refer to the landscape architects plan which indicate the footpath routes to the cycle stands/stores.

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		these bike stores which will severely compromise their use.	
The particular needs of visually and mobility impaired users been identified and incorporated in the design.	4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings 4.3.4 - Pedestrianised and Shared Surfaces	4.3.2 Although the construction details drawings contain details of dropped kerbs and tactile paving, there are no uncontrolled pedestrian crossings shown on the drawings at pedestrian desire lines within the development with no dropped kerbs or tactile paving. 4.3.2 A comprehensive analysis of pedestrian desire lines needs to be carried out to ascertain the requirements for and locations of uncontrolled pedestrian crossings in the development. 4.3.2 There are a number of tables shown at various junctions and these tables will obviate the need for some pedestrian facilities, but certainly in the vicinity of, say, the creche, comprehensive facilities for vulnerable road users to cross the road in safety would appear to be required. 4.3.4 There are a number of local cul-de-sac roads through the development with a street width of	4.3.2 Please refer to the updated crossing and raised table drawing indicate all of the pedestrian crossings proposed, all raised tables will have appropriate pedestrian crossing facilities in terms of tactile paving. 4.3.2 As above 4.3.2 As above 4.3.4 Yes this is the proposal

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		4.8 meters. It is presumed that these will function as shared space streets.	
VISUAL QUALITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 . Movement Function 3.2.2 . Place Context 4.2.2 . Street Trees 4.2.7 . Planting Advice Note 1 . Transitions and Gateways	3.2.1 Due to the topography of the site most of the open areas have a two or three meter crossfall. 3.2.1 No location for play areas appears to have been identified on the drawings 4.2.7 No details have been made available to date regarding planting throughout the development. Care should be taken with the placement of trees at junctions and corners to maintain sight distance.	3.2.1 Agreed 3.2.1 Please refer to the landscape architects plan which now includes the proposed play areas 4.2.7 Landscape architects drawings now include planting plans. Any trees near junctions will have 2.1m clear stem height to ensure visibility at junctions is maintained.
Street furniture is orderly placed.	3.2.1 . Movement Function 3.2.2 . Place Context 4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips	4.2.5 Information has been provided on bin storage areas, however, there does not appear to be comprehensive coverage for every housing unit. Some shared space streets along the southern	4.2.5 Bin stores have been provided for shared surface cul-de-sacs exceeding 20m in length. On the west side (Units 58. 65), the shared surface cul-de-sacs are less than 20m long; therefore, dedicated bin stores have not been included. Given the short

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
		<p>boundary do not appear to have any bin stores.</p> <p>4.2.5 Dedicated car parking spaces for disabled drivers have been identified in most areas on the drawings. Current standards would indicate that 5% of all car parking spaces should be for disabled drivers, and that these places should be located close to the housing units.</p> <p>4.2.5 There does not appear to be any EV charging points proposed for electric vehicles in the development. Current guidelines suggest that all developments should provide facilities for charging battery operated cars at a rate of up to 10% of the total car parking spaces.</p>	<p>distance, it is assumed that the bin truck will stop at the entrance of the cul-de-sac, and their bins to be collected from the units themselves</p> <p>On the east side (Units 116. 122), the bin store has now been relocated closer to the main east-west road to facilitate easier collection. Please refer to the attached site plan and PDF for unit numbering and the updated bin store locations.</p> <p>For units that do not have direct access to the back garden from the road, bin stores have been provided (Unit types D, G and some F)</p> <p>4.2.5 Noted</p> <p>4.2.5 20% of on-street parking will be provided with Live EV and the remainder shown as ducted future provision.</p>
The use of signage and line marking has been minimised.	<p>3.2.1 . Movement Function.</p> <p>3.2.2 . Place Context.</p> <p>4.2.4 - Signage and Line Marking.</p>	3.2.1 Information of signage and lining at junctions has been provided.	3.2.1 Noted

PEDESTRIAN AND CYCLING ENVIRONMENT

Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Materials and finishes used throughout the scheme have been selected from a limited palette and respond to the value of the place?	3.2.1 . Movement Function 3.2.2 . Place Context 4.2.6 . Materials and Finishes 4.2.8 . Historic Contexts 4.3.2 . Pedestrian Crossings 4.4.2 . Carriageway Surfaces Advice Note 2 . Materials and Specifications	4.2.6 Construction drawings have been provided with details of materials finishes, along with details of carriageway surfaces and pedestrian crossings.	4.2.6 Noted

ADDITIONAL COMMENTS

5. ROAD SAFETY

5.1 **Issue**

There are a number of low-radius bends located along the internal access roads within the proposed development. Opposing vehicles may have difficulty in passing one another on these bends. In addition, stopping sight distance on these bends may also be restricted by the proposed parking, landscaping and boundaries on the inside of the bends. These factors increase the risk of side swipe collision at the bends.

Suggestion

Revise the layout at the bends to ensure that two vehicles can safely pass one another, and that adequate stopping sight distance is provided.

5.2 **Issue**

The horizontal alignment of the internal access roads appears to be tight in a number of locations. The provision of horizontal alignment with low curve radii may contribute to loss of control collision at these locations.

Suggestion

Ensure that the the horizontal alignment of the internal access roads ar in line with the minimum curve radii in accordance with Table 4.3 of the DMURS.

5.3 **Issue**

Figure 4 shows a section of the development near the Abbots Grove entrance. There are just two tables (highlighted in green on the drawing) that might be used by vulnerable road users to cross the main road through the development. The raised tables at most of the junctions do not extend onto the main road, so they offer no crossing facilities for vulnerable road users across the main road through the estate. It is also unclear if all pedestrian desire lines have been considered and will be catered for within the proposed development including across side roads at all junction locations. A lack of adequate crossing facilities for vulnerable road users along all pedestrian desire lines will severely limit mobility for vulnerable road users in the development and increase the risk pedestrians being struck by passing vehicles when crossing the access roads.



Figure 4 – Very few crossing points for vulnerable road users

Suggestion

Consideration should be given to reviewing the provision of crossing facilities for vulnerable road users throughout the development and to ensure that facilities for vulnerable road users are provided at all junctions and other location where pedestrians are likely to cross.

5.4 Issue

There are a number of apartment blocks, Blocks M to Block Y with little or no parking facilities. The parking area for these 13 apartment blocks are located on the eastern boundary of the site and some distance from the apartment blocks near Block Y. See Figure 5.

The lack of parking spaces and the fact that they are some distance from the apartment blocks will invariably lead to on-street parking, parking on grass verges and footpaths, which could result in confusion and risk taking leading to injuries.

In addition, the disabled car parking spaces made available for these apartments are again some distance from the apartments at the other end of the street and would not be suitable for disabled drivers, who would require a parking space near their dwelling.



Figure 5 – No parking facilities for a number of apartment blocks

Suggestion

Consideration should be given to providing parking facilities for these apartment blocks, close to the buildings.

5.5 Issue

Visibility splays are proposed at all the junctions within the proposed development. However, the visibility splays are shown to encroach into parking bays at a number of junctions, see example in Figure 6 below. Vehicles parked in these parking spaces may restrict the proposed visibility at the adjacent junction. A lack of appropriate visibility may contribute to a collision at the junction.



Figure 6 – Visibility splays encroaching on parking bays

Suggestion

Consideration should be given to reviewing the layout where necessary to ensure that adequate visibility splays are provided at all junctions within the proposed development.

5.6 **Issue**

The width of the roadway changes abruptly at a number of locations on the shared space streets. See Figure 7 below for examples of these locations. Drivers, taking guidance from the kerb lines, may collide with the kerb line or oncoming vehicles due to the abrupt changes in direction of the kerb lines.

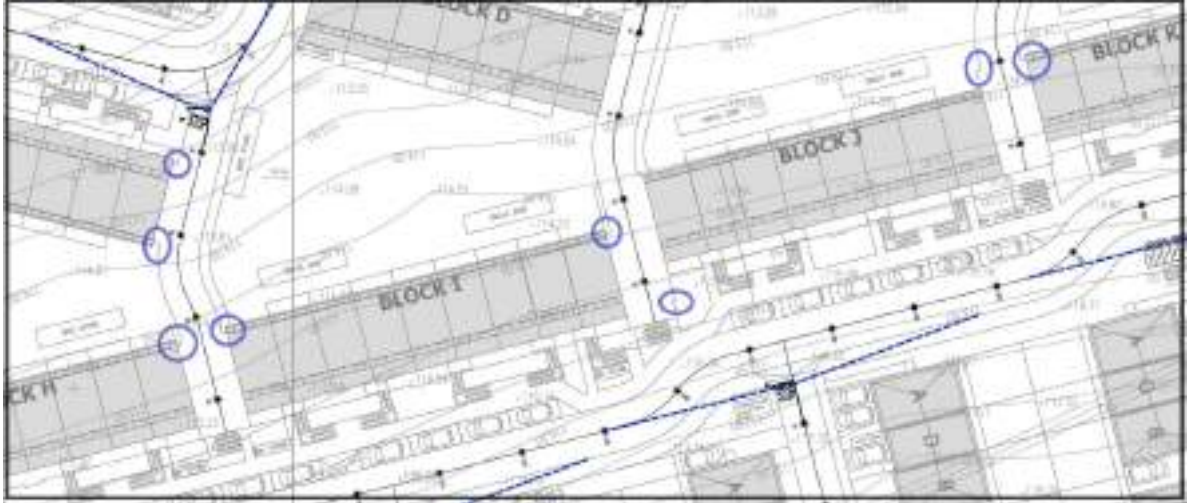


Figure 7 – Horizontal alignment issues of kerb lines

Suggestion

Remove abrupt changes in the carriageway width along the proposed shared space streets.

6. WALKING

6.1 Issue

There is a discontinuity in the footpath at the entrance to the site from the Abbots Grove direction. The footpath on the right-hand side on the drawing (from A to B) finishes some distance before the entrance to the development. The footpaths at the entrance are highlighted in yellow on Figure 8.

The natural route for at least half of the pedestrians using this exit would be on the side of the road where the footpath has been terminated.

Additionally, there is no pedestrian crossing shown on the drawings to possibly aid people to cross the road at this point. This could lead to vulnerable road users taking risks at this location, leading to collisions and injuries.

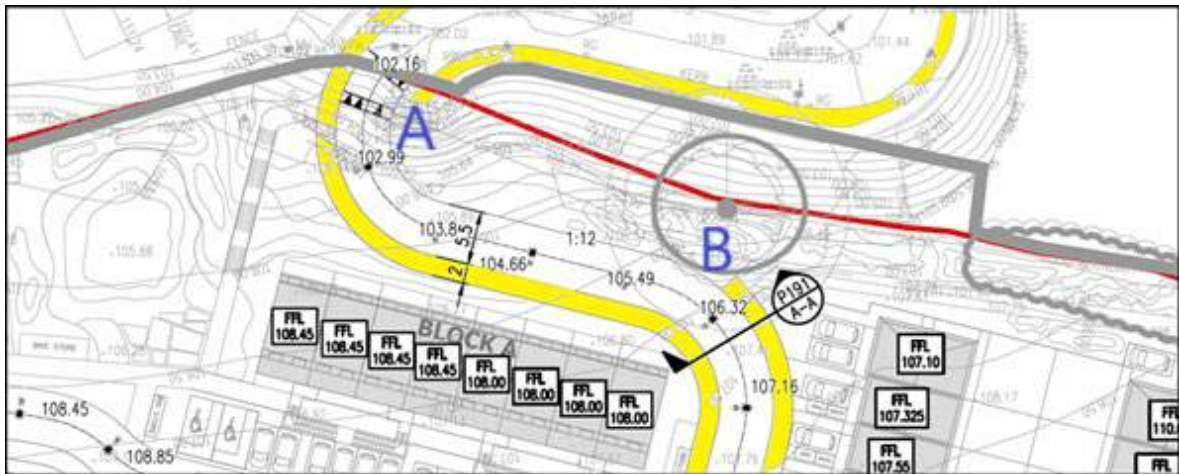


Figure 8 – Discontinuity in footpath near Abbots Grove entrance

Suggestion

Consideration should be given to reviewing the footpath layout at this entrance to provide a continuous footpath for vulnerable road users along here.

6.2 Issue

A pathway is indicated through the open area near block B, and due to the difference in levels between the two roadways, there are quite a number of steps on this pathway. The crossfall in the open areas usually ranges from two to three meters due to the topography. See Figure 9 highlighted in yellow.

However, vulnerable road users, including wheelchair users, cyclists and parents with children and prams, will not be able to avail themselves of this pathway. No facility appears to have been made available for them, and they will have to travel for quite a distance to get to the other side of this pathway.



Figure 9 – Footpath with steps through open area

Suggestion

Consideration should be given to providing facilities for all vulnerable road users at this location.

6.3 **Issue**

There are pedestrian desire lines from the cul-de-sac at the bottom of Figure 10 (highlighted with red lines) to the play areas on the opposite side of the road, behind those apartments. However, there appears to be neither a pedestrian crossing nor a natural gap between the parking places to allow vulnerable road users access these play areas. This can lead to risk taking by vulnerable road users, especially children, as they try to access the open areas by walking across the road and through parked cars.



Figure 10 – No safe pedestrian access to play areas

Suggestion

Consideration should be given to reviewing the parking and footpath layout at this and similar locations, to ensure safe access to the open areas for vulnerable road users.

6.4 Issue

Tactile paving (at pedestrian crossings, at steps and ramps and at at-grade footpaths) and kerb types and extents are not indicated on the drawings, and it is therefore unclear how vehicular carriageways, shared surfaces, footpaths and parking spaces are separated and distinguished from each other.

If unclear to motorists and pedestrians, collisions may occur where road users stray into locations where their access is not anticipated by other road users. In addition, changes in vertical alignment due to dishing for vehicular accesses may be uncomfortable for pedestrians and may result in trips and falls, while trips and falls may occur where pedestrians attempt to cross upstand kerbs.

Suggestion

Appropriate kerbing and tactile paving should be provided throughout including tactile separation between pedestrian and vehicular routes, tactile paving and dropped kerbs at road crossings and tactile paving at top and bottom of steps and ramps where required.

6.5 Issue

Inter visibility between pedestrians and drivers at pedestrian crossings within the proposed development may be compromised by landscaping and cars parked in adjacent parking locations. A lack of adequate inter visibility may increase pedestrian collisions at these locations.

Suggestion

Ensure adequate intervisibility is provided between pedestrians and drivers of vehicles approaching all pedestrian crossing locations.

6.6 Issue

Figure 11 shows the footpath at the entrance from Abbots Grove to the development. The footpath appears to travel underneath the steps of apartment block A. It is unclear of the clearance height beneath the steps and as such might be a concern for a number of pedestrians. This situation also pertains in a number of other apartment blocks in the development.

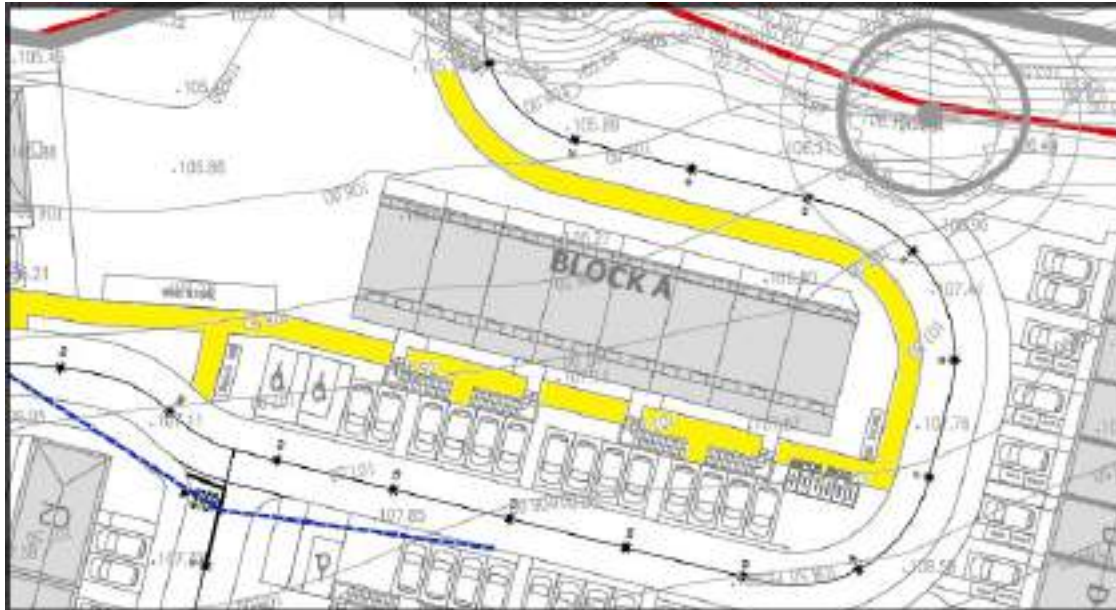


Figure 11 – Footpath travels under stairways

Suggestion

Consideration should be given to reviewing the layout of the footpaths in the vicinity of the apartment blocks throughout the development to ensure that they are suitable for all pedestrians.

6.7 Issue

Figure 12 shows the location of the Creche, on the northern boundary of the site. The cul-de-sac road to the left of the Creche building has a table at the junction, so pedestrians on the northern side of the road can access the Creche without any difficulty.

However, there are no pedestrian crossings or tables shown on the drawings from the southern side of this site, which will make it difficult for vulnerable road users to cross the road and access the Creche. Additionally, the parked cars will make it difficult for pedestrians and people with prams and buggies to access the Creche.

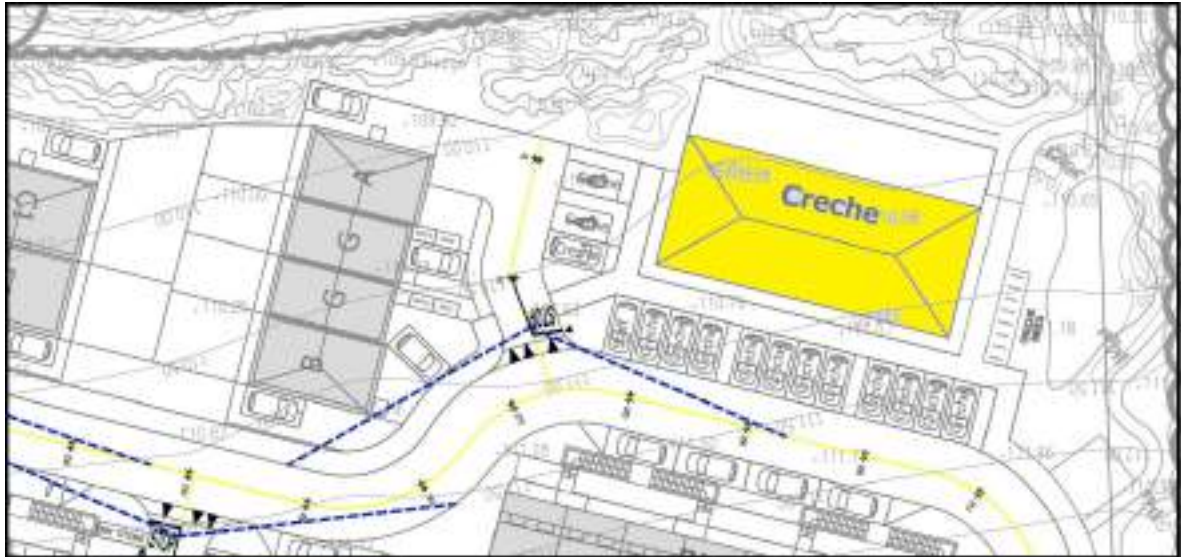


Figure 12 – Pedestrian access to the Creche

Suggestion

Consideration should be given to reviewing the pedestrian crossing facilities and car parking arrangements in this area, with a view to providing pedestrian crossing access to the Creche from all parts of the development

6.8 Issue

There appears to be discontinuity in the footpath on the eastern boundary of the site (from point X to point Y) - see footpaths highlighted in yellow on Figure 13 below. Although there are tables to allow vulnerable road users to cross the road, the footpath does not extend along the eastern boundary of the site. There are two paths with what appears to be steps (highlighted in orange) linking up to the back of the apartment blocks, but for vulnerable road users, disabled persons and cyclists these are not fit for purpose.

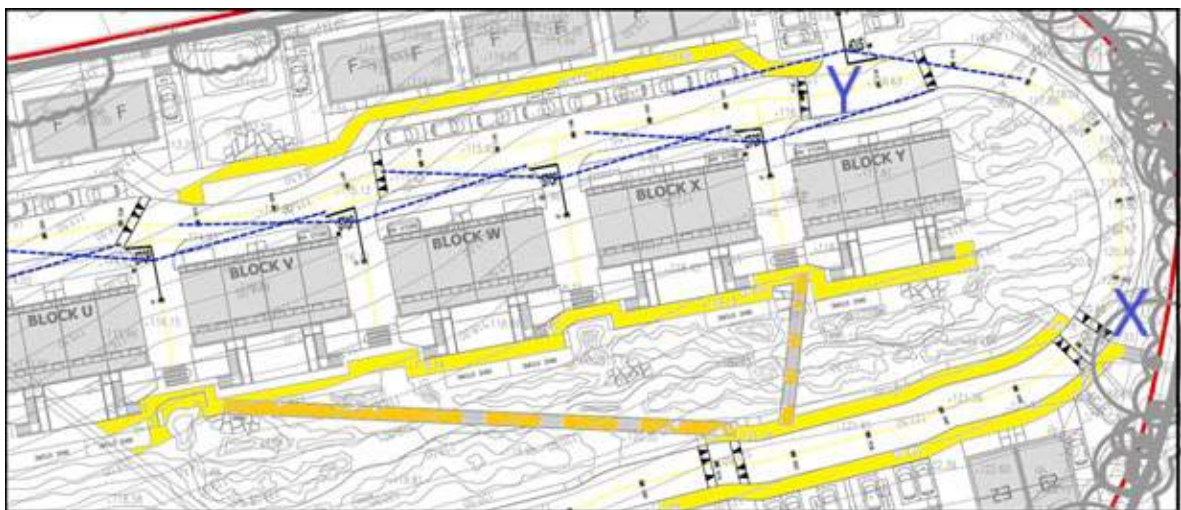


Figure 13 – Footpath discontinuity

Suggestion

Consideration should be given to reviewing the pedestrian and vulnerable road user facilities in this section of the development.

6.9 Issue

There appears to be discontinuity in the footpath on the eastern side of the access road at Block G. (from point X to point Y) - see footpaths highlighted in yellow on Figure 13 below. Although there is a table to allow vulnerable road users cross the road at the southern termination point, the footpath does not extend along the eastern side of the access road.

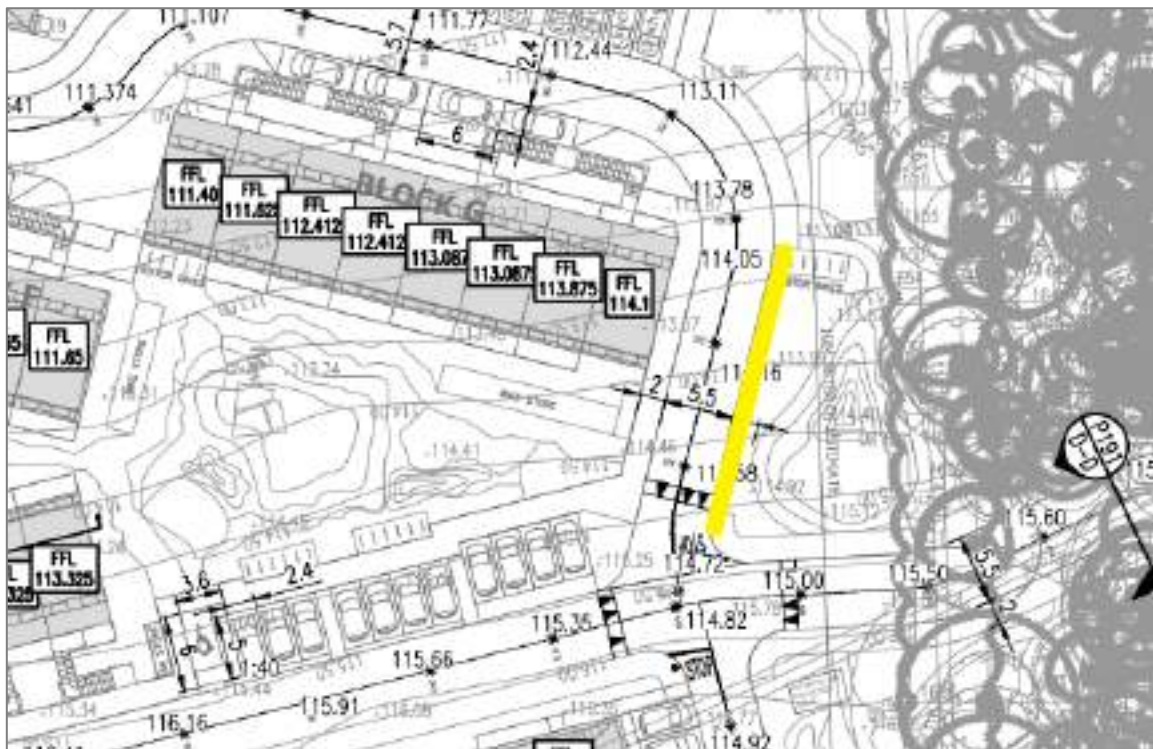


Figure 14 – Footpath discontinuity

Suggestion

Consideration should be given to reviewing the footpath layout at this location to provide a continuous footpath for vulnerable road users along here.

7. CYCLING

7.1 **Issue**

A number of bike storage areas are shown on the drawings, some of these are in the open areas and some of them at the rear of footpaths. See Figure 15 below which highlights in yellow some of them.

There does not appear to be any cycle links connecting these bike stores to the access roads within the development. A lack of appropriate cycle link connecting the bike stores to the access roads may lead to cyclists unable to directly access the bike stores and may lead to conflicts with other road users.



Figure 15 – *Bicycle storage facilities in outdoor areas*

Suggestion

Consideration should be given to reviewing the location of all bikes stores to ensure that they are accessible from the access roads and provide adequate secure storage for cycles and cargo cycles. Sheffield stands should be concreted into the ground to negate theft.

8. ACCESSIBILITY

8.1 Issue

Designated parking areas have been provided for wheelchair users. However, some of these disabled parking spaces are some distance from the apartment blocks that they serve, which will make it difficult for wheelchair users to avail of them. An extreme example of this is shown in Figure 16 where the parking places in the top right-hand corner (highlighted in blue) appear to serve all the apartment blocks (highlighted in the red box).

Additionally, current guidelines would suggest that 5% of all parking spaces should be made available for disabled drivers.



Figure 16 – Parking for disabled drivers

Suggestion

Consideration should be given to reviewing the allocation of designated parking spaces for future users to meet with current guidelines. These disabled parking spaces should be designed to current standards and located close to the dwellings.

8.2 Issue

There does not appear to be any charging points proposed for electric vehicles. Current guidelines will suggest that all developments should provide facilities for charging battery operated cars at a rate of up to 10% at the total car parking spaces.

Suggestion

Consideration should be given to reviewing the allocation of designated charging points for electric vehicles, to meet with current guidelines.

8.3 Issue

Information has been provided in the drawings regarding the location of bin stores. Figure 17 below shows highlighted in yellow some houses on the southern boundary of the development where no bin stores appear to be provided. It also appears that a lot of the E2 houses on the southern boundary do not have bin stores - see Figure 18 as well.

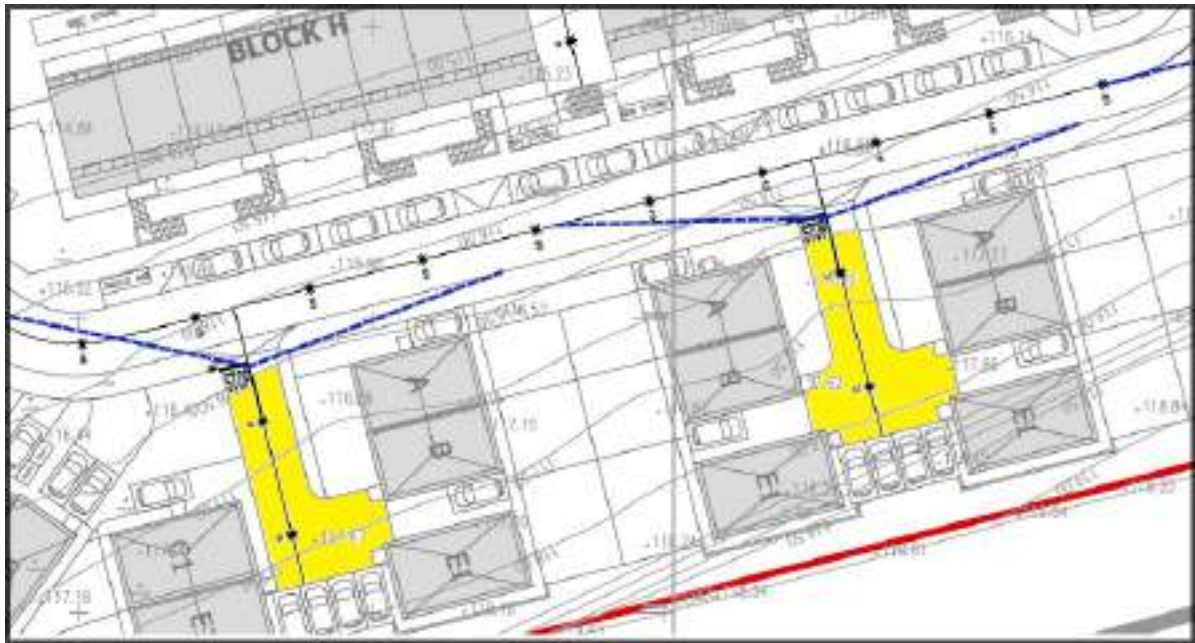


Figure 17 – Lack of pin storage areas



Figure 18 – Lack of pin storage areas

Suggestion

Consideration should be given to reviewing the location of all bin stores and ensure that, if required, they are provided for each dwelling.

8.4 Issue

Autotrack drawings have been provided for the planned route of the refuse collection vehicles through the development. However, the refuse trucks appear to be staying on the main road and are not visiting the side roads, which means that the collection of the refuse bins circled in blue, which are located quite a distance from the main road, could prove problematic.

This situation applies to a number of side roads in the development. For example, the two side roads on either side of Block A2 have potential bins stores highlighted in yellow on the drawing, but they appear to be quite a distance from the route of the refuse truck. See Figure 19.



Figure 19 – Refuse truck Autotrack and servicing of bin areas

Suggestion

Consideration should be given to reviewing the refuse truck Autotrack details, and to examine how the bin collection on the side roads is best managed. Ensure reversing of refuse vehicles on side roads is minimized to reduce the risk of collisions with other road users.

8.5 Issue

There are quite a number of large open areas shown on the drawings, but no playgrounds or play areas have been identified. For a development comprising approximately 500 units, it would appear to be prudent to designate multiple locations for play areas. Part of the problem may be the topography of the site, but if consideration was given to identifying locations for play areas and developing them at this stage, it could make the development a lot safer for vulnerable road users.

Suggestion

Consideration should be given to identifying potential playground and play area sites and designing facilities for them at this stage.

8.6 Issue

Autotrack drawings have been made available showing the route of the fire tender vehicles through the site. It appears that as part of a reversing maneuver in the vicinity of Block J,

Block E, Block F and Block D the fire tender appears to have to travel over the footpath, see Figure 20 and the area circled in green.

This could lead to an interaction with vulnerable road users in the vicinity which could result in collisions and injuries.



Figure 20 – Fire Tender Autotrack issue

Suggestion

Consideration should be given to reviewing the Autotrack information to ensure that fire tenders and refuse vehicles do not travel over footpaths.

8.7 Issue

There are a number of locations where parallel parking spaces are proposed to the rear of footpaths in close proximity to the adjacent building. It is unclear if such parallel parking spaces are readily accessible at such an offset from the adjacent carriageway.

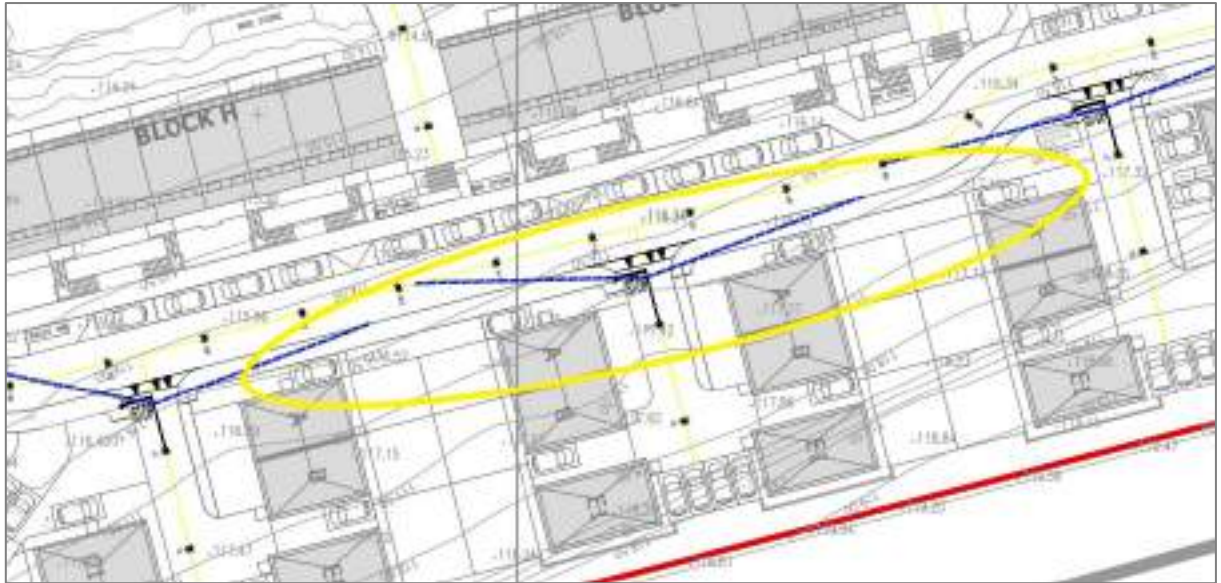


Figure 21 – Parallel Parking

Suggestion

Revise the parking layout at these locations to ensure that they are readily accessible and do not negatively impact on the adjacent footpath and verge areas.

8.8 Issue

The proposed development is located on an existing steep terrain. It is unclear from the proposed levels provided if all areas within the proposed development will be accessible to vulnerable road users, including mobility impaired pedestrians and cyclists. Steep gradients along roads and footpaths may restrict access for vulnerable road users.

Suggestion

Ensure that appropriate access is provided to all areas within the proposed development for all user types.

1. QUALITY AUDIT FEEDBACK FORM

Scheme: Proposed Housing Development at Woodtown, Ballycullen, Dublin 16.

Document Number: 25018-01-001

Date Audit Completed: 28th March 2025

Paragraph No. in Quality Audit Report	To Be Completed By Designer			To Be Completed by Audit Team
	Issue Accepted (yes/no)	Suggested Measure Accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting suggested measure. Only complete if suggested measure is not accepted.	Alternative measures or reasons accepted by auditors (yes/no)
5.1	Yes	Yes	Refer to the updated layout, tracking drawings and SSD forward visibility splays included in the drawing pack.	-----
5.2	Yes	Yes	The development will have a 20kph speed limit, 11m minimum curve radii now achieved everywhere.	-----
5.3	Yes	Yes	Please refer to the updated road drawings which now include all the proposed crossings.	-----
5.4	Yes	Yes	There is parking provided on the ground floor in the form of undercroft parking for the apartment units.	-----
5.5	Yes	No	The development will have a 20kph speed limit and, as such the visibility splays have been reduced to 14m	Yes
5.6	Yes	No	6m is required behind parking spaces at the ground floor level of the apartment blocks to allow cars to access and egress the spaces, as such a white line will be used to delineate the edge of the road and indicate the main carriageway width as 4.8m.	Yes
6.1	Yes	Yes	A footpath has now been introduced between points A and B	-----
6.2	Yes	No	It is not possible to design this space as access for all. The level difference is over 3m's as such the steps have been provided to ensure space is useable. Studies demonstrated that ramps would not comply when tested. Alternative Part M compliant routes are available.	Yes
6.3	Yes	No	Consideration has been given to all	Yes

			<p>road users, particularly children, throughout the site design. However, we do not believe these locations function as natural pedestrian desire lines.</p> <p>The apartment buildings and park sit at a significantly lower level than the adjacent buildings and road, requiring access via a set of public steps. As a result, the likelihood of pedestrians attempting to cross directly at these points is reduced, as there is no direct connection i.e the change in levels, requiring pedestrians to slow down and navigate steps, naturally discourages direct crossings</p>	
6.4	Yes	Yes	Please refer to the updated road drawings which now include all the proposed crossings.	-----
6.5	Yes	Yes	Adequate visibility will be provided between pedestrians and drivers at all pedestrian crossing points,	-----
6.6	Yes	Yes	<p>The position of Block A has been lowered, ensuring that the pedestrian path no longer runs beneath the connecting stairways (see reference PDF). However, as noted, this condition applies elsewhere on the site.</p> <p>Please refer to the attached close-up section and CGI, which illustrate both the safety measures in place and the minimum headroom clearance provided. The design has been carefully considered to prioritise pedestrian safety while ensuring adequate headroom throughout the site</p>	-----
6.7	Yes	Yes	Please refer to the updated road drawings which now include all the proposed crossings.	-----
6.8	Yes	Yes	Please refer to the Landscape architect drawing which indicates all of the proposed pedestrian/cyclist facilities throughout the site.	-----
6.9	Yes	Yes	Please refer to the Landscape architect drawing which indicates all of the proposed pedestrian/cyclist facilities throughout the site.	-----

7.1	Yes	Yes	Access to all cycle stores has been provided in the form of footpaths. Furthermore, the cycle stands will all be designed in line with the cycle design manual and sheffield stands will be concreted into the ground.	-----
8.1	Yes	Yes	There is parking provided on the ground floor in the form of undercroft parking for the apartment units. Accessible bays are located around the development at regular intervals to ensure good overall coverage.	-----
8.2	Yes	Yes	A minimum of 20% EV charging spaces will be provided as part of the proposed development.	-----
8.3	Yes	Yes	<p>Bin stores have been provided for shared surface cul-de-sacs exceeding 20m in length.</p> <p>On the west side (Units 58–65), the shared surface cul-de-sacs are less than 20m long; therefore, dedicated bin stores have not been included. Given the short distance, it is assumed that the bin truck will stop at the entrance of the cul-de-sac, and their bins to be collected from the units themselves.</p> <p>On the east side (Units 116–122), the bin store has now been relocated closer to the main east-west road to facilitate easier collection. Please refer to the attached site plan and PDF for unit numbering and the updated bin store locations.</p> <p>For units that do not have direct access to the back garden from the road, bin stores have been provided (Unit types D, G and some F)</p>	-----
8.4	Yes	Yes	As Above	-----
8.5	Yes	Yes	The landscape architect's drawings indicate the location of all Play Spaces on-site.	-----
8.6	Yes	Yes	Swept Path Analysis drawings have been updated to remove any oversailing of kerbs.	-----
8.7	No	No	These are not parallel spaces as they	Yes

			will not be accessible from the main road and are only accessible from the cul-de-sac.	
--	--	--	--	--

Safety Audit**Signed off** **Design Team Leader****Print Name** Emma Caulwell**Date** 02/04/2025**Safety Audit****Signed off**  **Audit Team Leader****Print Name** **George Frisby****Date** **29/7/25**

Please complete and return to:

Roadplan Consulting,
7, Ormonde Road
Kilkenny
E-mail: info@roadplan.ie

APPENDIX A – DRAWINGS



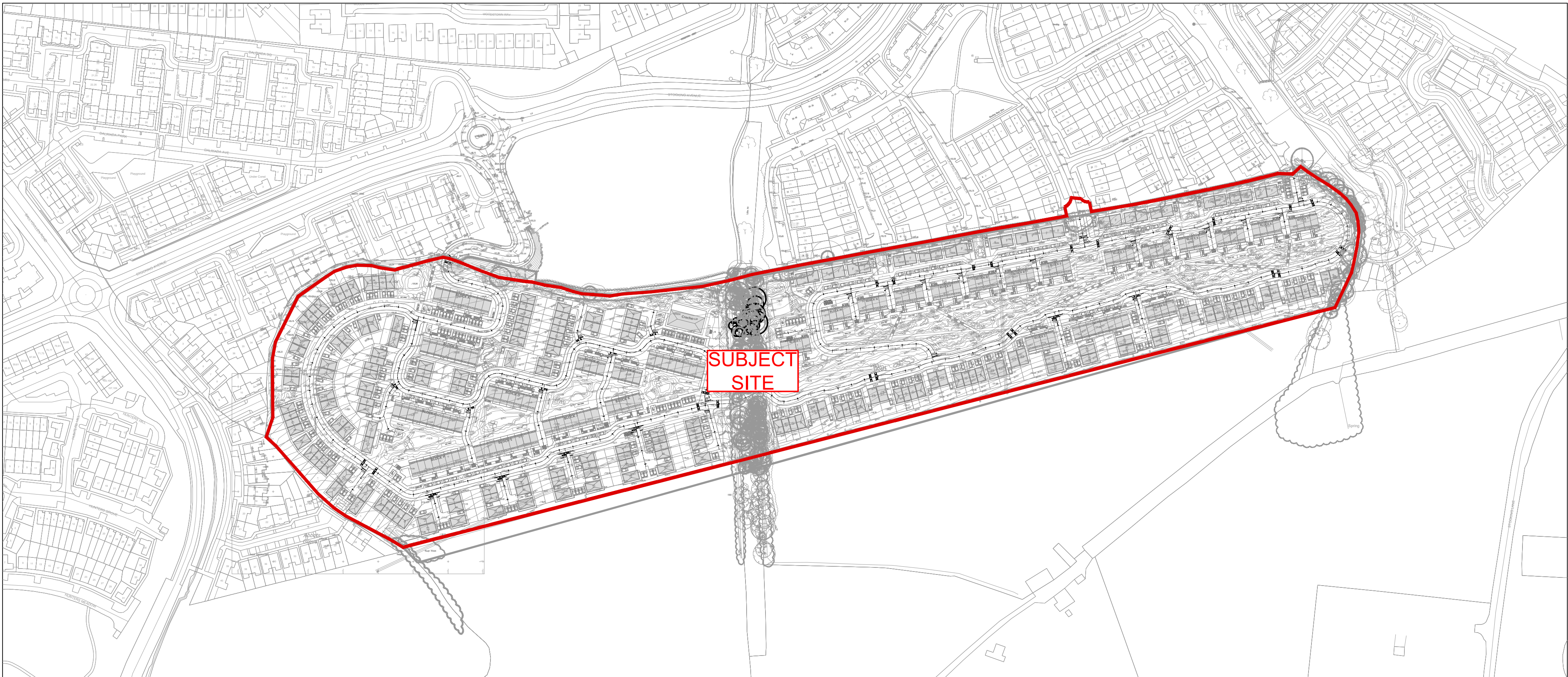
SITE LOCATION MAP
N.T.S

This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Engineer prior to work being put in hand.
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1-353 1 664 8900.

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 - REFER TO THE SPECIALIST DRAWINGS (ENFONIC) FOR DETAILS OF THE BERM AND SOUND BARRIER PROPOSALS.

LEGEND

— SITE BOUNDARY



SITE PLAN
SCALE 1:2000

20 March 2025
-- DRAFT --
Peter Walker
16:17

P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project

WOODTOWN, BALLYCULLEN

Title

SITE LOCATION PLAN

Client

LAGAN HOMES



BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD,
DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status

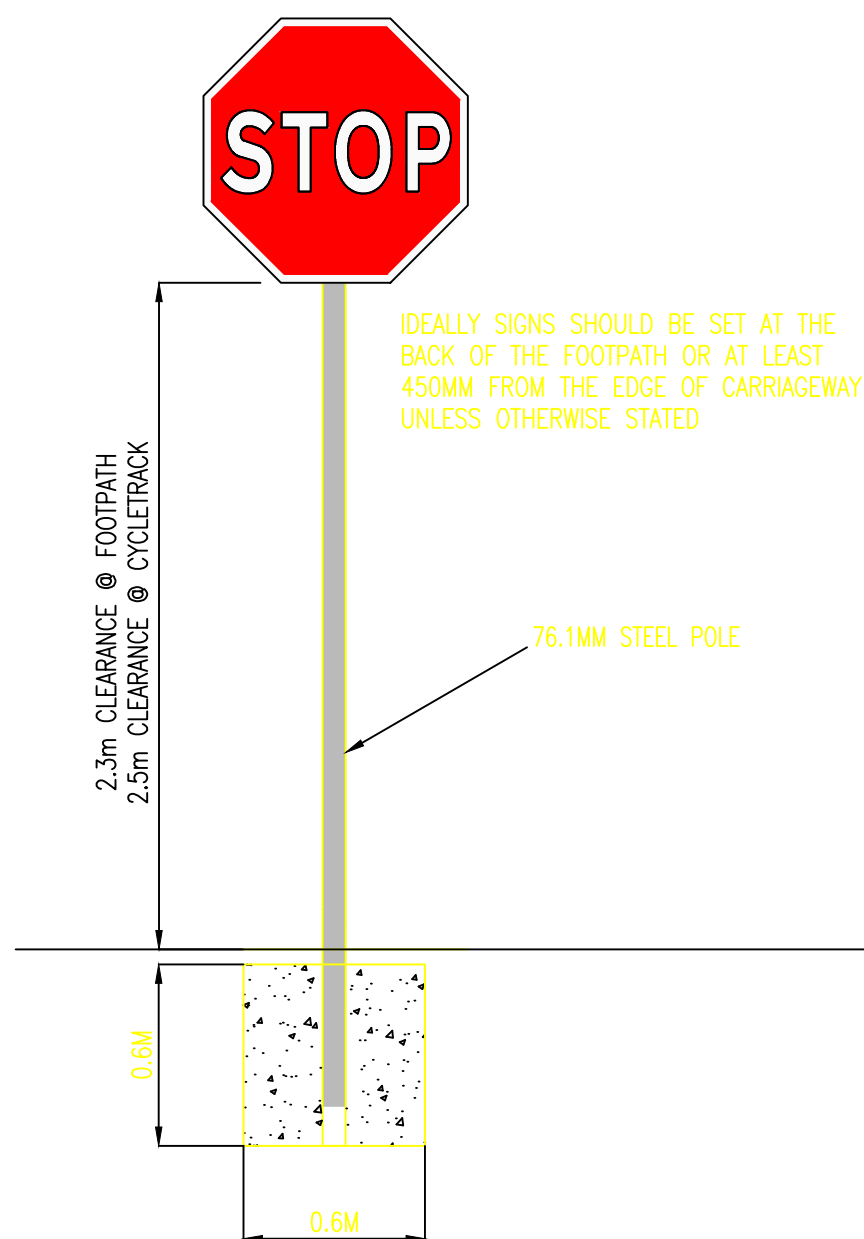
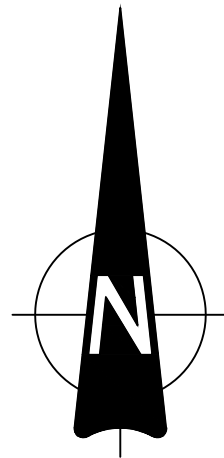
PLANNING

Designed By	LM	Approved	EC	Waterman Ref	24-007
Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:2000

Project	Originator	Volume	Level	Type	Role	Number	Revision
BYCN- WM - 00 -XX-DR- C -P010							P2

NOTES:

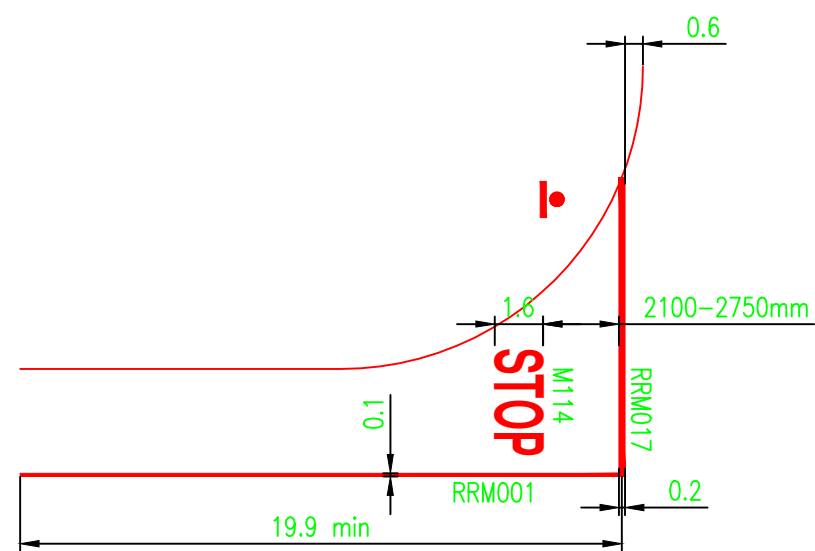
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
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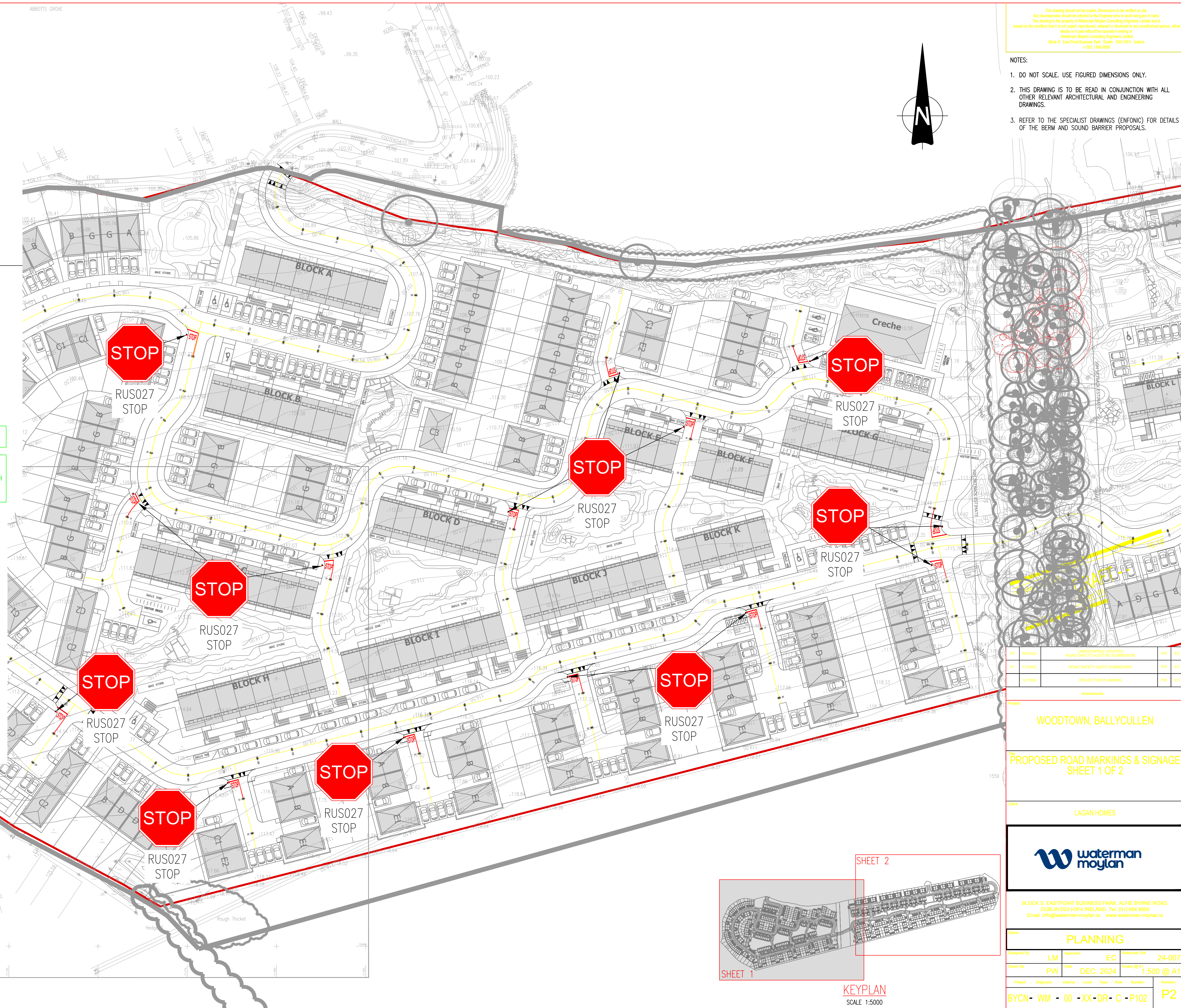
POLE FOUNDATION 600MM X 600MM X 600MM DP LEAN MIX CONCRETE
TYPICAL MOUNTING ARRANGEMENT IN
FOOTPATHS INCLUDING FOUNDATION DETAILS
N.T.S.

NOTE:
ROAD MARKINGS SHOWN IN RED FOR CLARITY PURPOSES ONLY

NOTE:
PLEASE NOTE THAT ALL ROAD MARKING AND SIGNAGE ARE IN ACCORDANCE WITH
THE DEPARTMENT OF TRANSPORT "TRAFFIC SIGNS MANUAL" NOVEMBER 2021.
TRAFFIC SIGNS AND ROADMARKINGS REFERENCES ARE SHOWN IN BRACKETS.



PRIORITY CONTROLLED STOP JUNCTION
N.T.S.



P2	28/03/25	UNDESIGNED/UNAPPROVED ROAD SAFETY AUDIT SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	22/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project

WOODTOWN, BALLYCULLEN

PROPOSED ROAD MARKINGS & SIGNAGE
SHEET 1 OF 2

Client

LAGAN HOMES



BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD,
DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

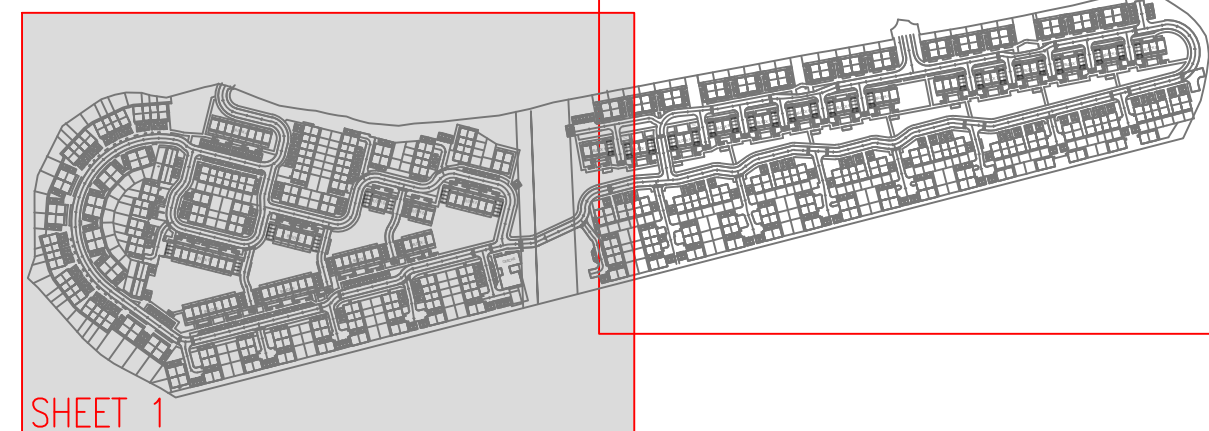
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PLANNING

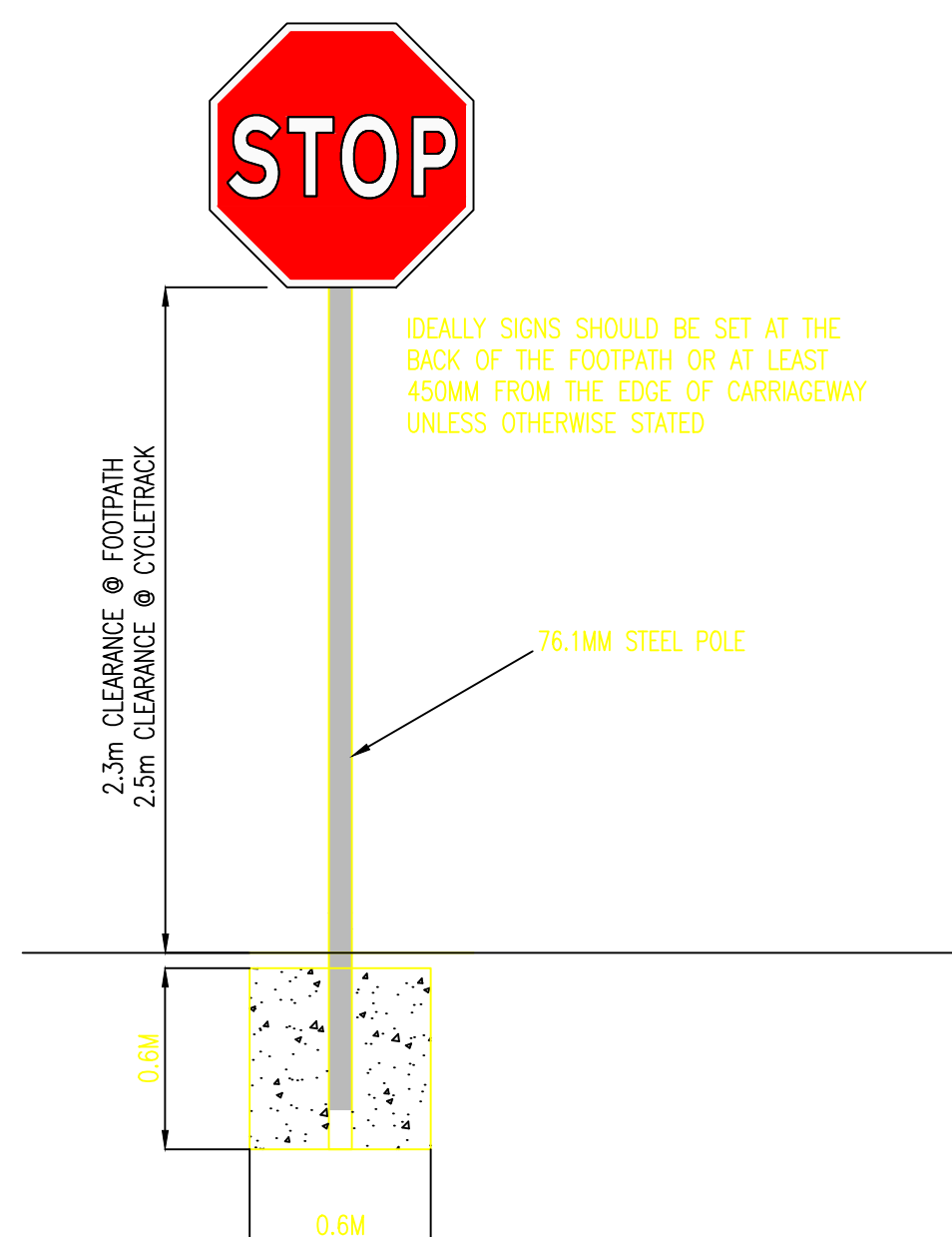
Designed By LM Approved EC Waterman Ref 24-007

Drawn By PW Date DEC. 2024 Scales @ A1 1:500 @ A1

Project - Originator - Volume - Level - Type - Role - Number Revision
BYCN - WM - 00 - XX-DR - C - P102 P2



KEYPLAN
SCALE 1:5000



POLE FOUNDATION 600MM X 600MM X 600MM DP LEAN MIX CONCRETE

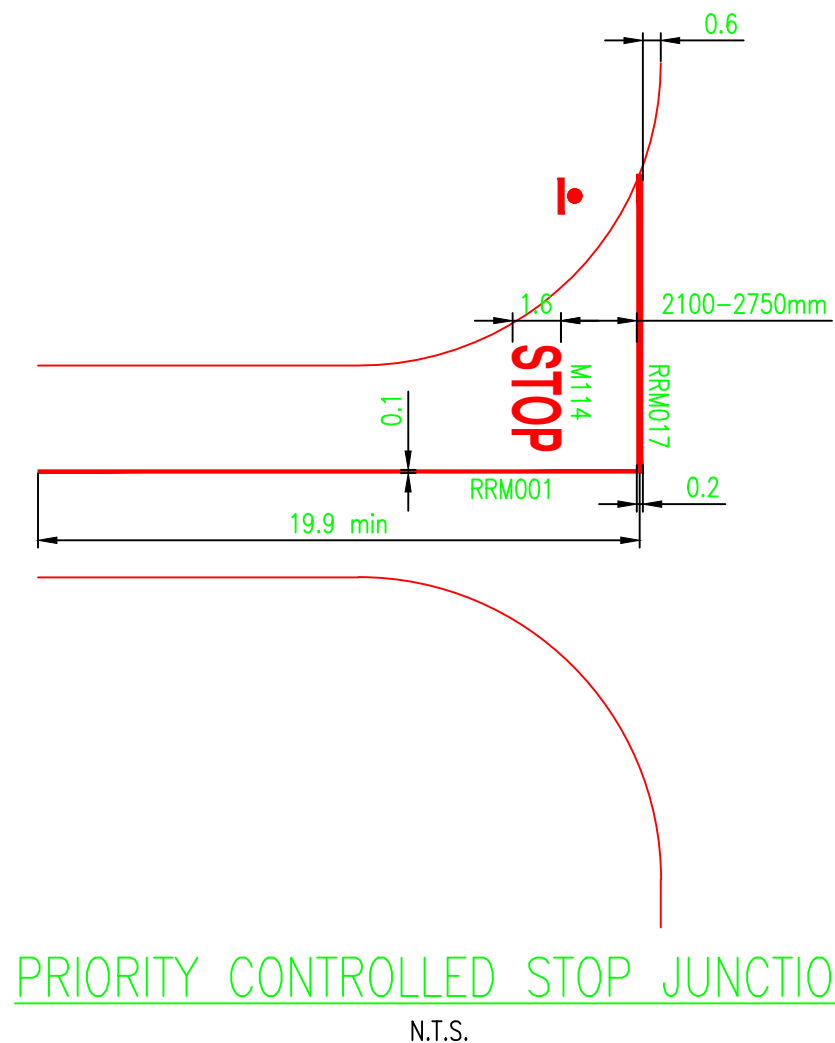
TYPICAL MOUNTING ARRANGEMENT IN
FOOTPATHS INCLUDING FOUNDATION DETAILS

N.T.S

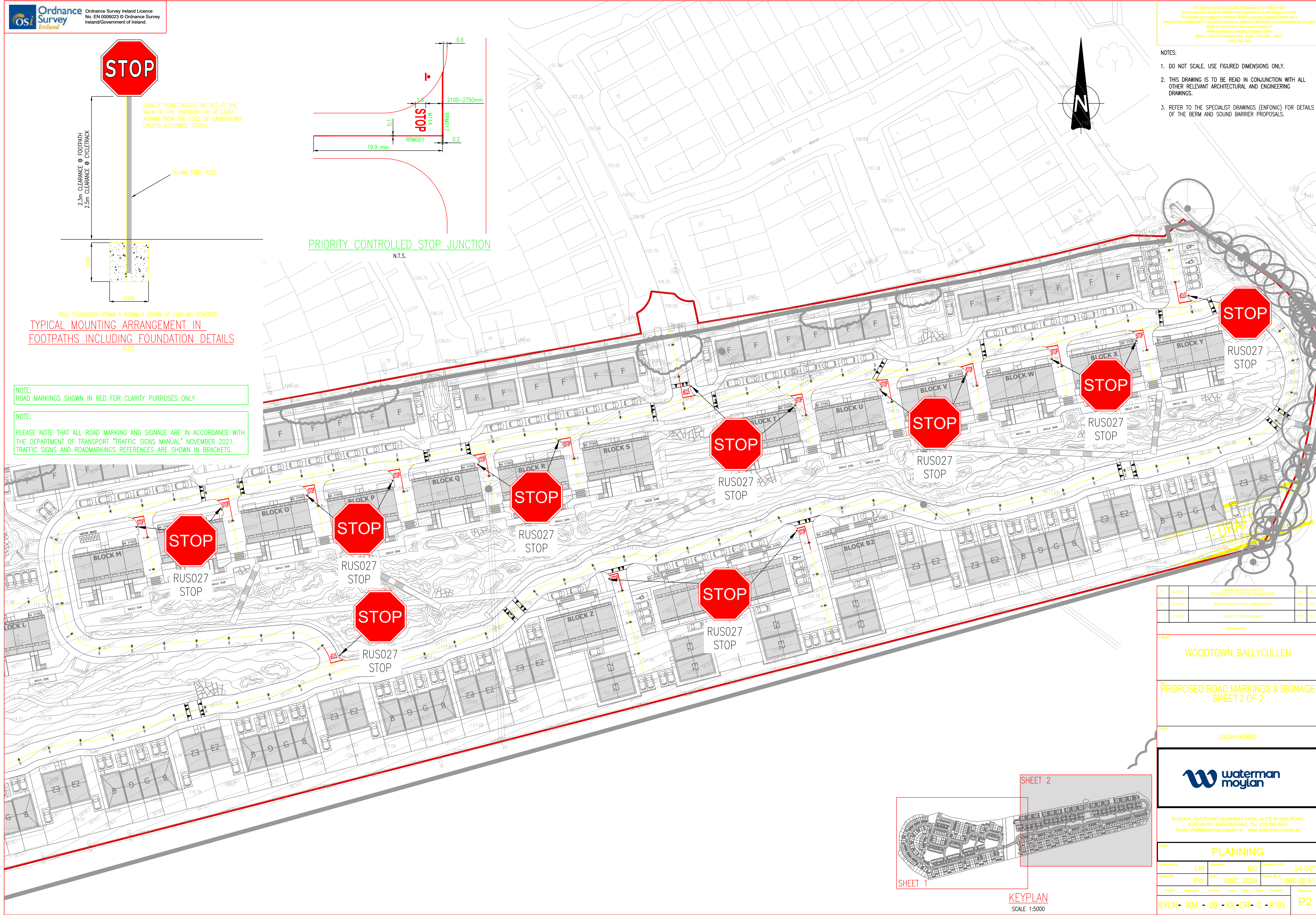
NOTE:
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NOTE:

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PRIORITY CONTROLLED STOP JUNCTION



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P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC

Title
PROPOSED ROAD MARKINGS & SIGNAGE
SHEET 2 OF 2

Client **LAGAN HOMES**



Status	PLANNING
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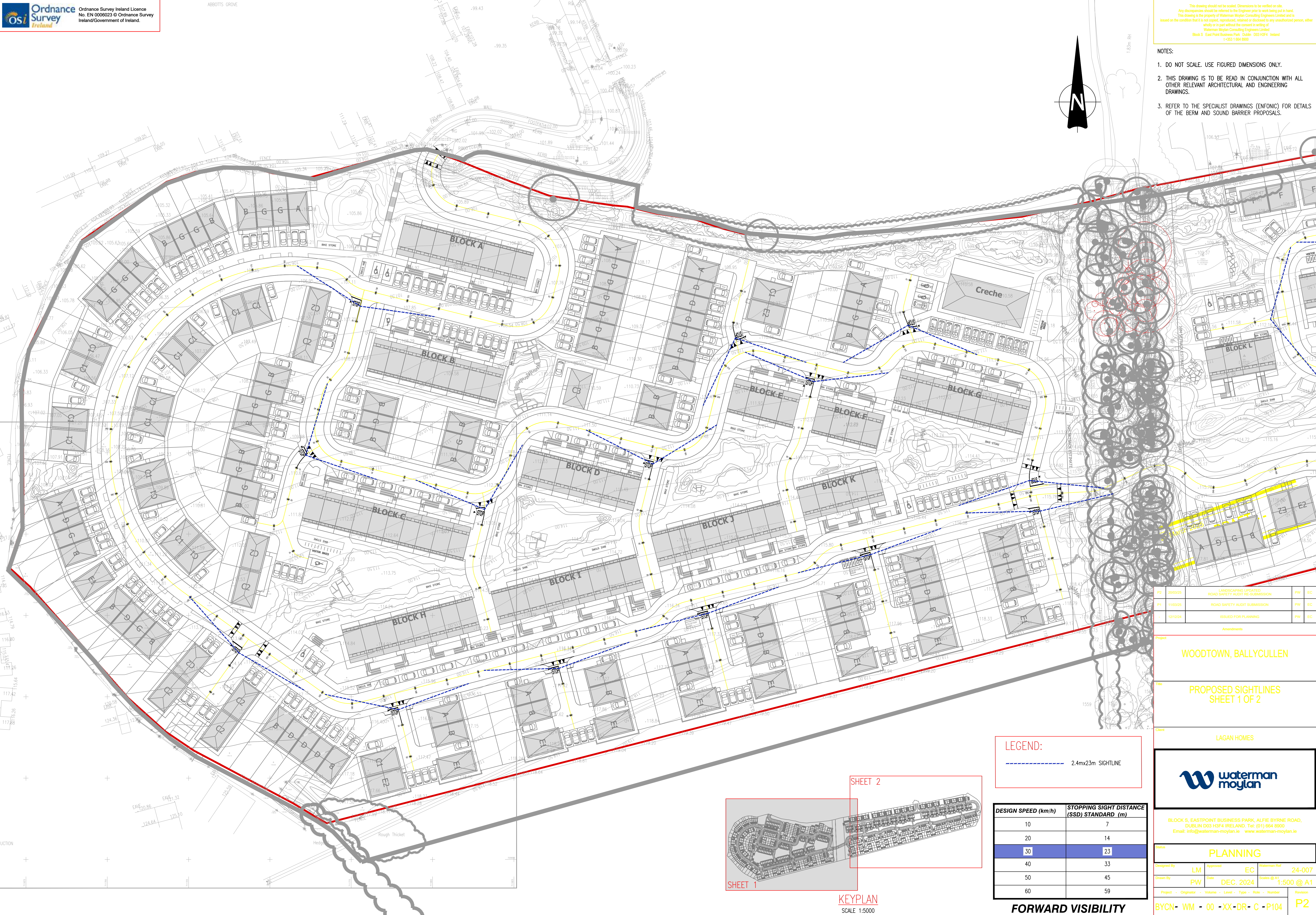
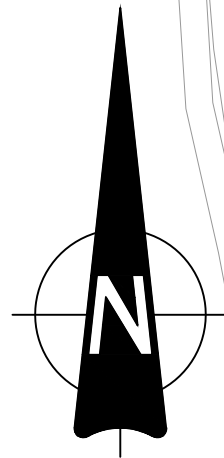
Designed By	LM	Approved	EC	Waterman Ref	24-007
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Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:500 @ A1
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Project - Originator - Volume - Level - Type - Role - Number	Revision
BYCN - WM - 00 - XX - DR - C - P103	P2

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P2	20/03/20	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/20	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	22/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project

WOODTOWN, BALLYCULLEN

Title

PROPOSED SIGHTLINES
SHEET 1 OF 2

Client

LAGAN HOMES



Block S, Eastpoint Business Park, Alfie Byrne Road,
Dublin D03 H3F4 Ireland. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status

PLANNING

Designed By LM Approved EC Waterman Ref 24-007
Drawn By PW Date DEC. 2024 Scales @ A1 1:500 @ A1

Project - Originator - Volume - Level - Type - Role - Number Revision
BYCN - WM - 00 - XX-DR - C - P104 P2

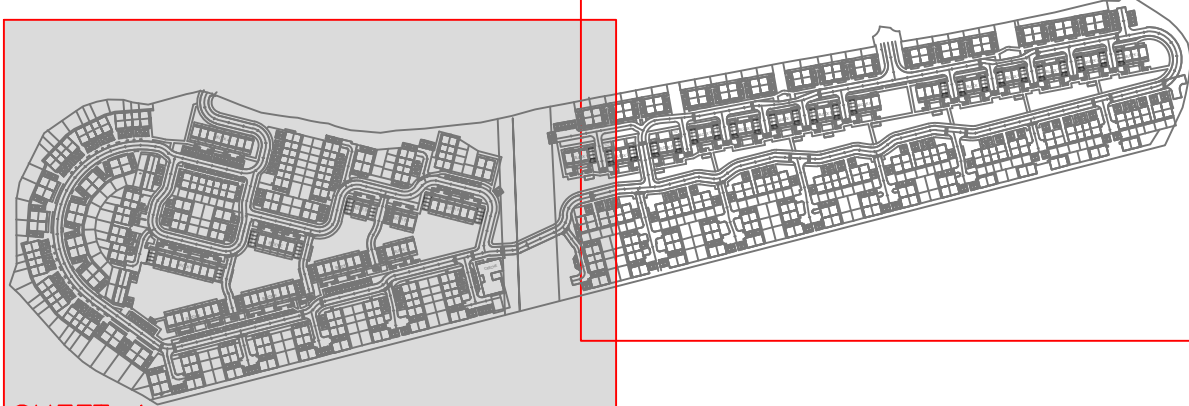
LEGEND:

----- 2.4mx23m SIGHTLINE

DESIGN SPEED (km/h)	STOPPING SIGHT DISTANCE (SSD) STANDARD (m)
10	7
20	14
30	23
40	33
50	45
60	59

FORWARD VISIBILITY

SHEET 2

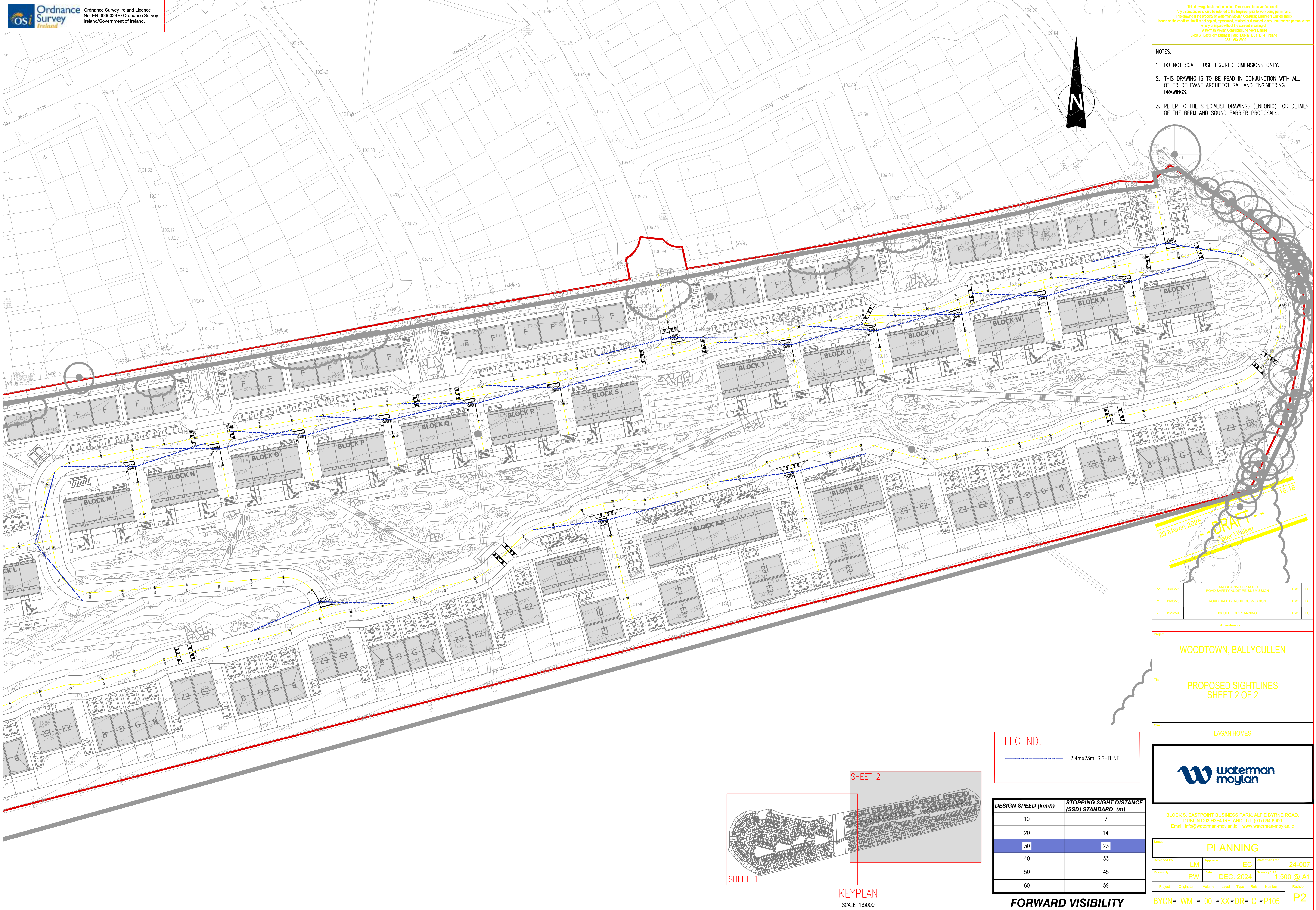


SHEET 1

KEYPLAN

SCALE 1:5000

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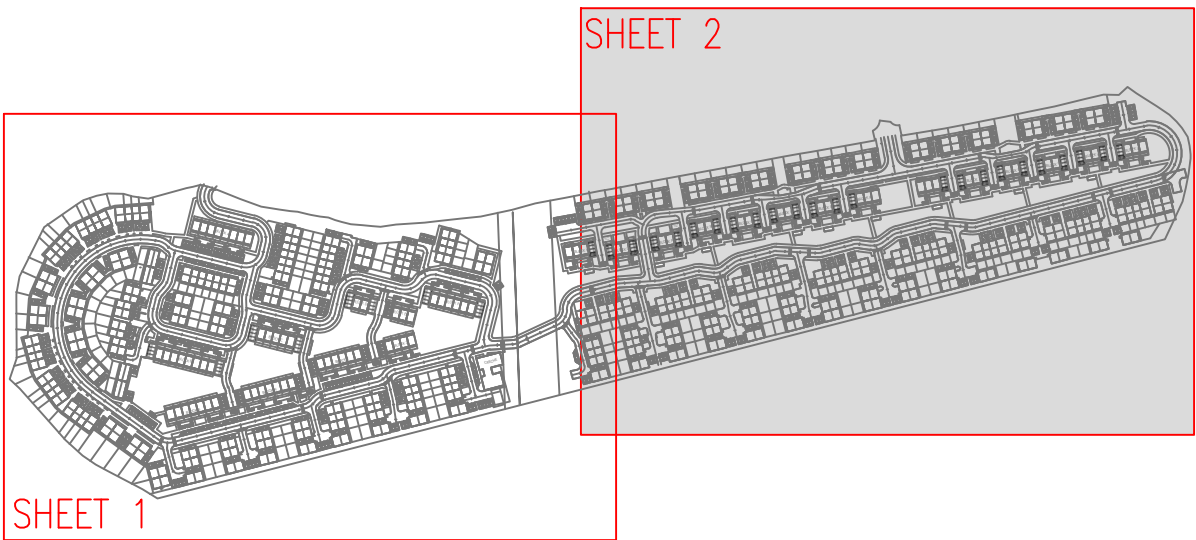


20 March 2025
- DRAFT -
Peter Walker

LEGEND:
----- 2.4mx23m SIGHTLINE

DESIGN SPEED (km/h)	STOPPING SIGHT DISTANCE (SSD) STANDARD (m)
10	7
20	14
30	23
40	33
50	45
60	59

FORWARD VISIBILITY



P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project

WOODTOWN, BALLYCULLEN

Title

PROPOSED SIGHTLINES
SHEET 2 OF 2

Client

LAGAN HOMES

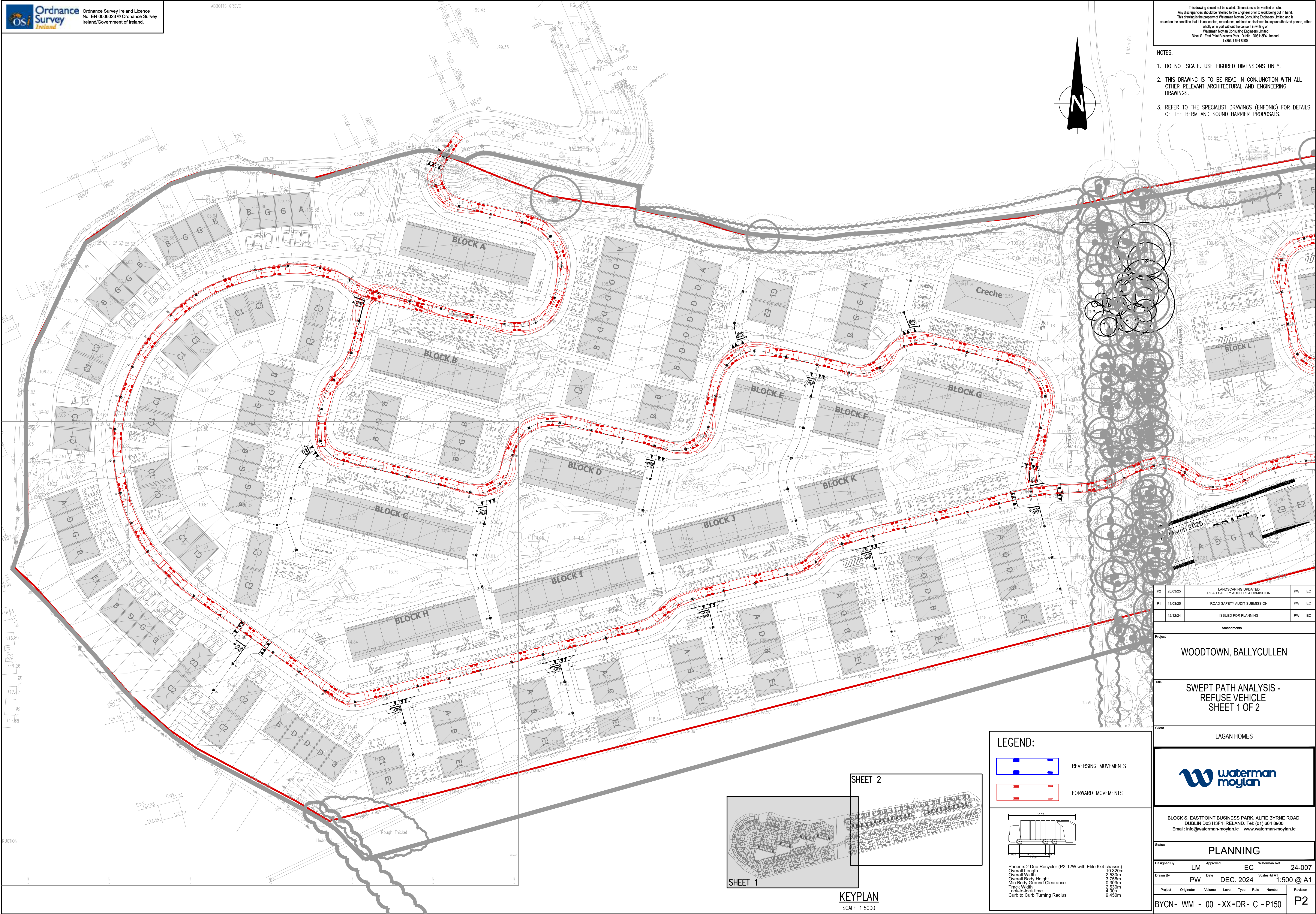
waterman moylan

BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD,
DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status

PLANNING

Designed By	LM	Approved	EC	Waterman Ref	24-007		
Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:500 @ A1		
Project	Originator	Volume	Level	Type	Role	Number	Revision
BYCN	WM	00	XX	DR	C	P105	P2



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1-855 1 864 8900

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 - REFER TO THE SPECIALIST DRAWINGS (ENFONIC) FOR DETAILS OF THE BERM AND SOUND BARRIER PROPOSALS.

P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC

Amendments				
------------	--	--	--	--

Project
WOODTOWN, BALLYCULLEN

Title
**SWEPT PATH ANALYSIS -
REFUSE VEHICLE
SHEET 1 OF 2**

Client
LAGAN HOMES



Block S, Eastpoint Business Park, Alfie Byrne Road,
Dublin D03 H3F4 Ireland. Tel: (01) 864 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status
PLANNING

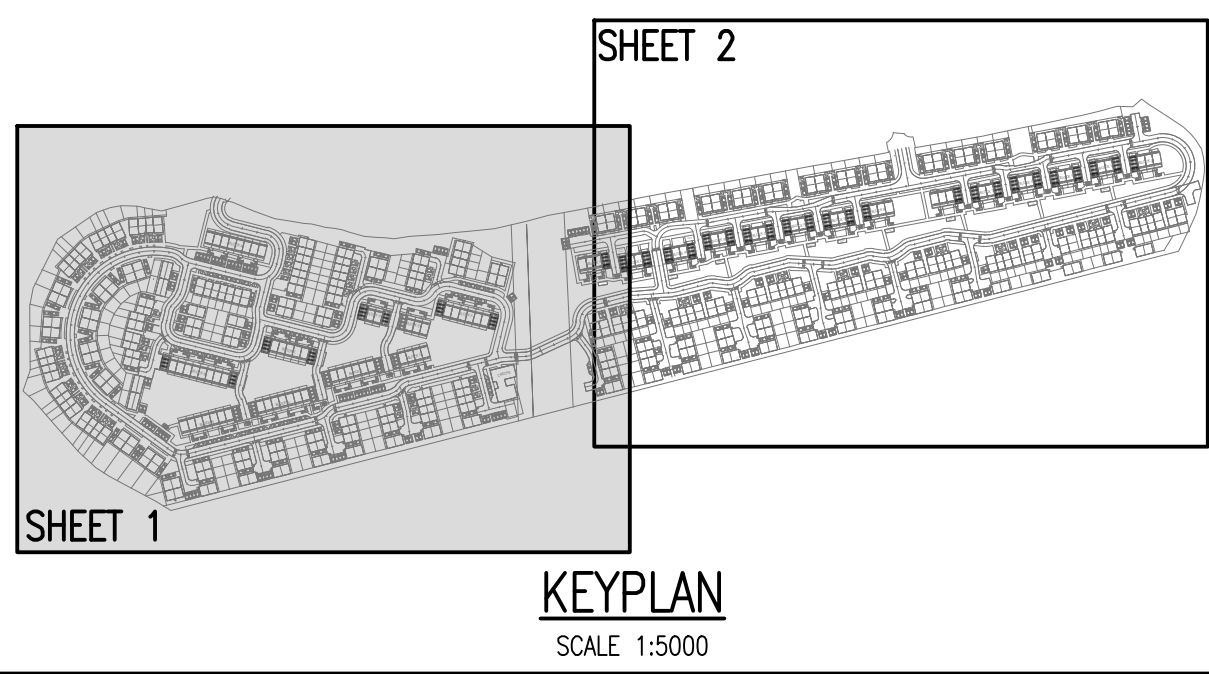
Designed By	LM	Approved	EC	Waterman Ref	24-007
Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:500 @ A1

Project	Originator	Volume	Level	Type	Role	Number	Revision
BYCN- WM - 00 - XX-DR- C -P150							P2

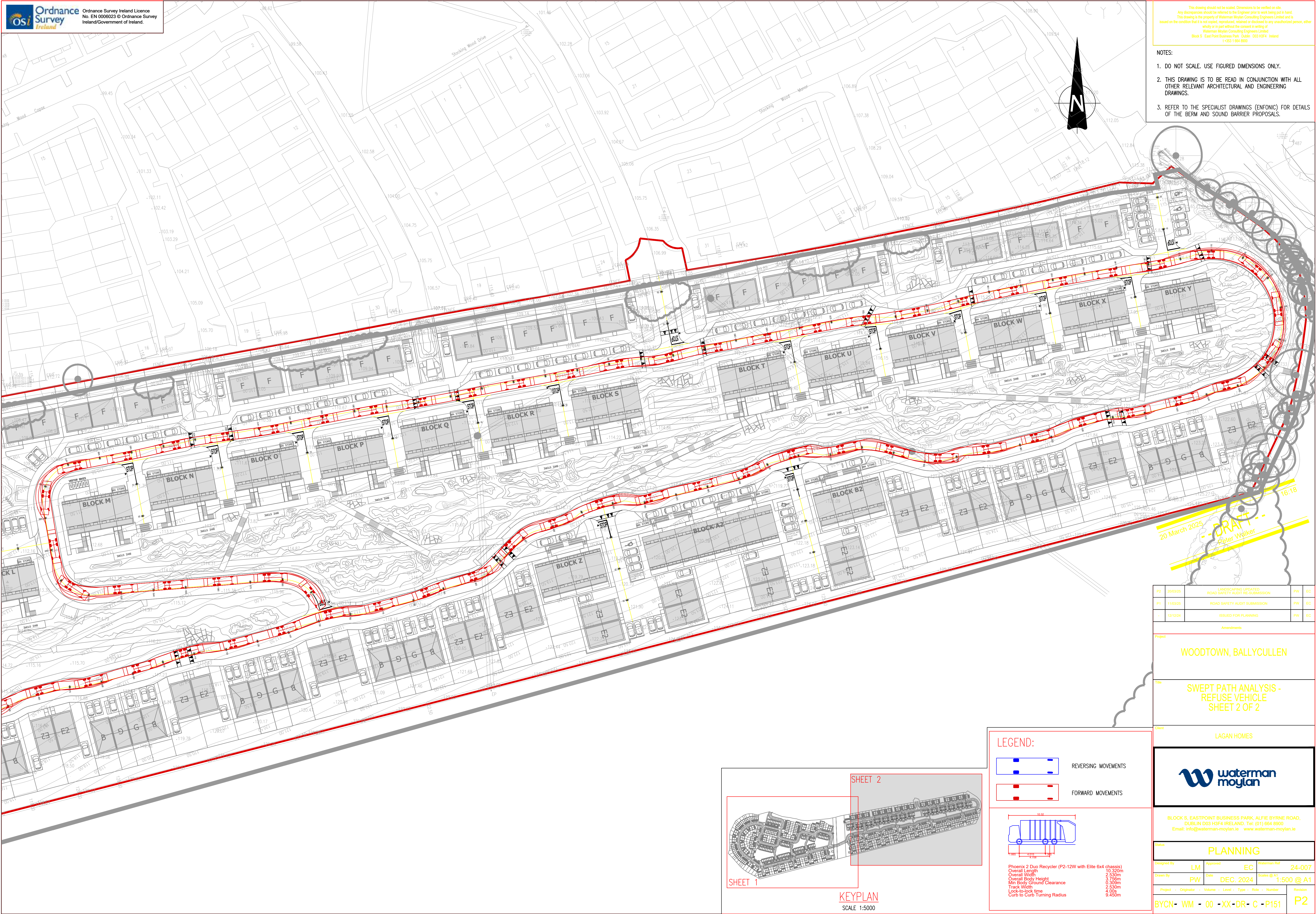
LEGEND:

- REVERSING MOVEMENTS
- FORWARD MOVEMENTS

Phoenix 2 Duo Recycler (P2-12W with Elite 6x4 chassis)
Overall Length 10.320m
Overall Width 2.530m
Overall Body Height 3.750m
Min Body Ground Clearance 0.300m
Track Width 2.550m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 9.450m



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20 March 2025
- DRAFT -
Peter Walker

P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	22/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project

WOODTOWN, BALLYCULLEN

Title

SWEPT PATH ANALYSIS -
REFUSE VEHICLE
SHEET 2 OF 2

Client

LAGAN HOMES



Block S, Eastpoint Business Park, Alfie Byrne Road,
Dublin D03 H3F4 Ireland. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status

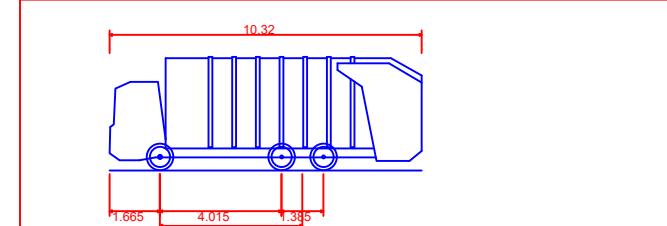
PLANNING

Designed By	LM	Approved	EC	Waterman Ref	24-007
Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:500 @ A1

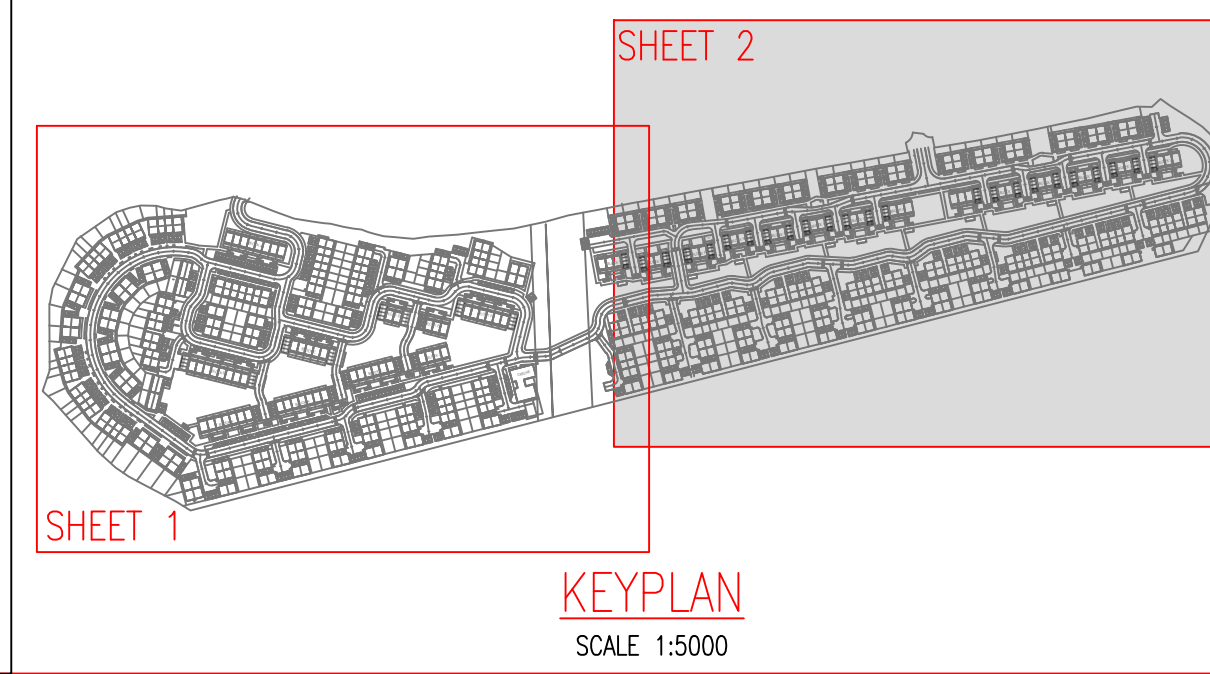
Project	Originator	Volume	Level	Type	Role	Number	Revision
BYCN - WM	- 00	- XX	- DR	- C	- P151		P2

LEGEND:

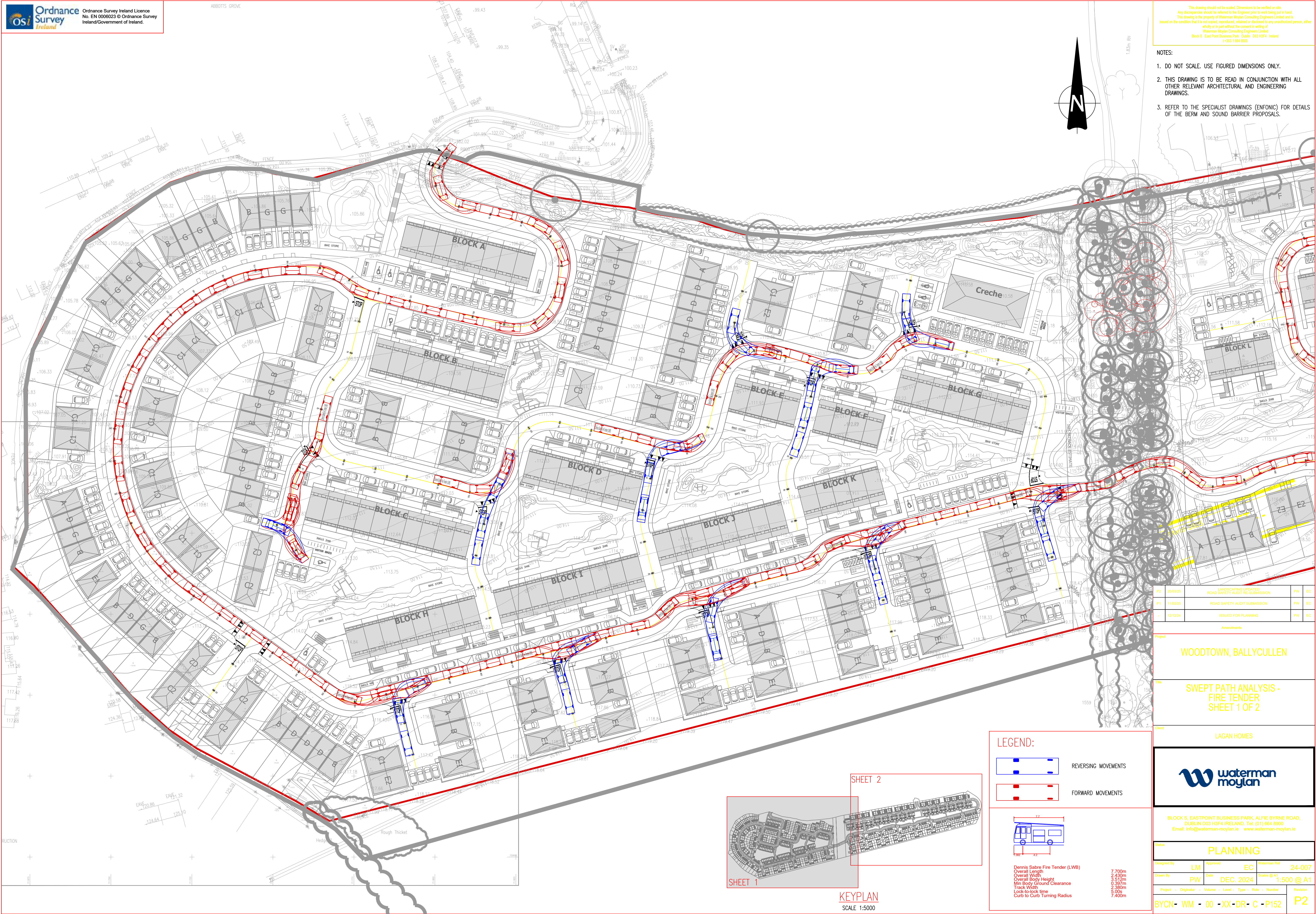
- REVERSING MOVEMENTS
- FORWARD MOVEMENTS



Phoenix 2 Duo Recycler (P2-12W with Elite 6x4 chassis)
Overall Length 10.520m
Overall Width 2.530m
Overall Body Height 3.760m
Min Body Ground Clearance 0.309m
Track Width 2.530m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 9.450m



KEYPLAN
SCALE 1:5000



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t: +353 1 954 8900

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P2	20/03/20	LANDSCAPING & PLANTING ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	19/03/20	ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
-	22/12/24	ISSUED FOR PLANNING	PW	EC

Project
WOODTOWN, BALLYCULLEN

Title
**SWEPT PATH ANALYSIS -
FIRE TENDER
SHEET 1 OF 2**

Client
LAGAN HOMES



Block S, Eastpoint Business Park, Alfie Byrne Road,
Dublin D03 H3F4 Ireland. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

PLANNING				
Designed By	LM	Approved	EC	Waterman Ref
Drawn By	PW	Date	DEC. 2024	24-007
Project - Originator - Volume - Level - Type - Role - Number				Revision
BYCN - WM - 00 - XX-DR - C - P152				P2

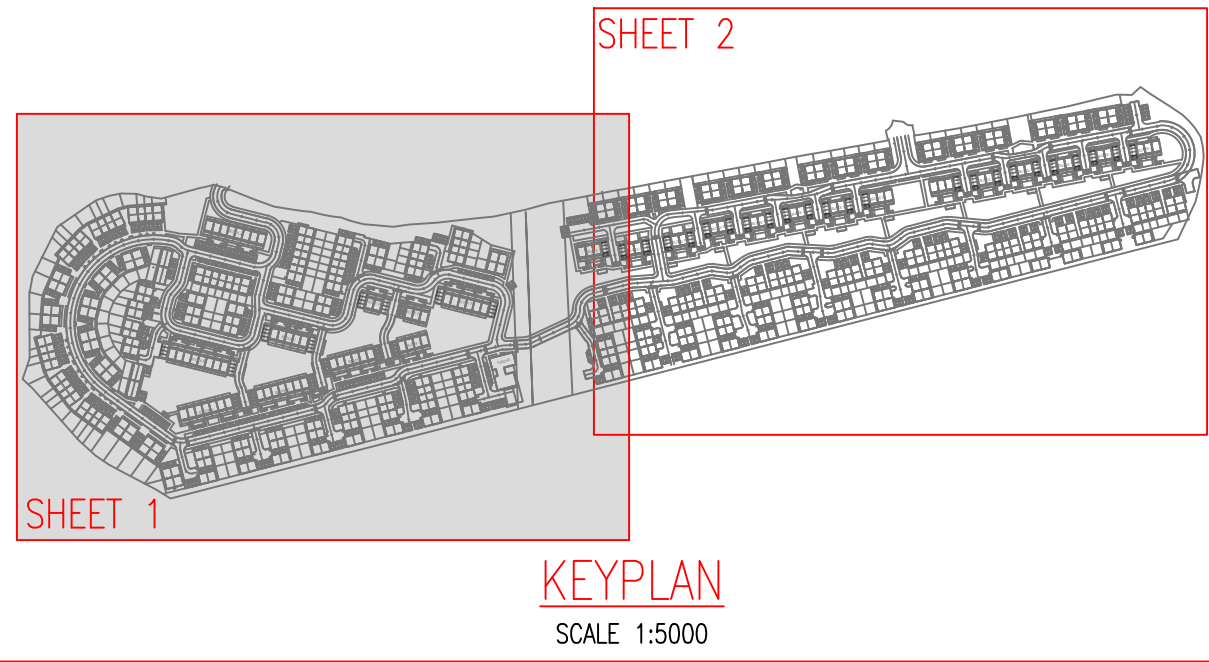
LEGEND:

REVERSING MOVEMENTS

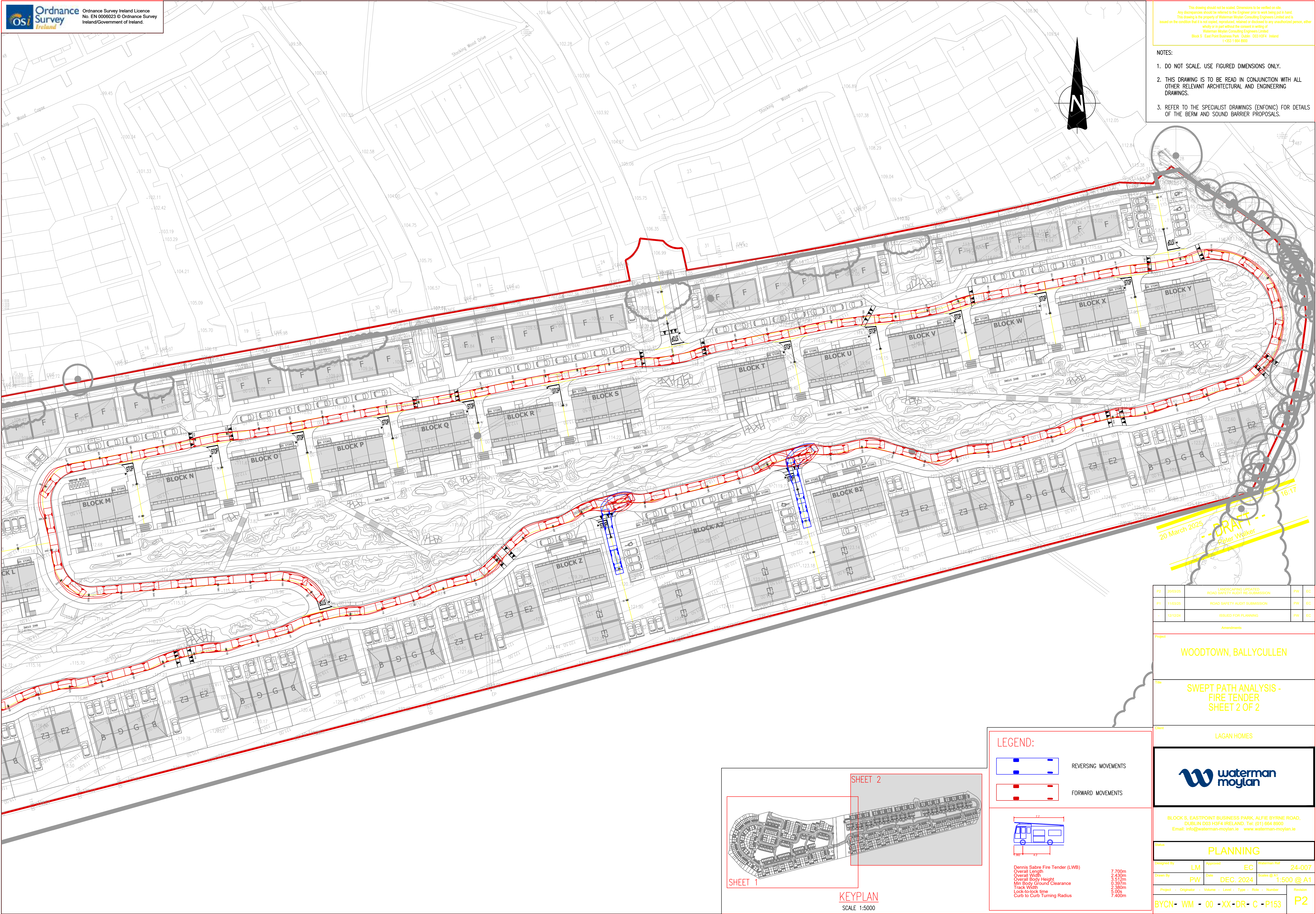
FORWARD MOVEMENTS

Dennis Sabre Fire Tender (LWB)

7.700m
2.430m
2.512m
0.397m
2.380m
5.00s
7.400m



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 - REFER TO THE SPECIALIST DRAWINGS (ENFONIC) FOR DETAILS OF THE BERM AND SOUND BARRIER PROPOSALS.



20 March 2025
- DRAFT -
Peter Walker

P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	22/12/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project
WOODTOWN, BALLYCULLEN

Title
SWEPT PATH ANALYSIS -
FIRE TENDER
SHEET 2 OF 2

Client
LAGAN HOMES



BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD,
DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

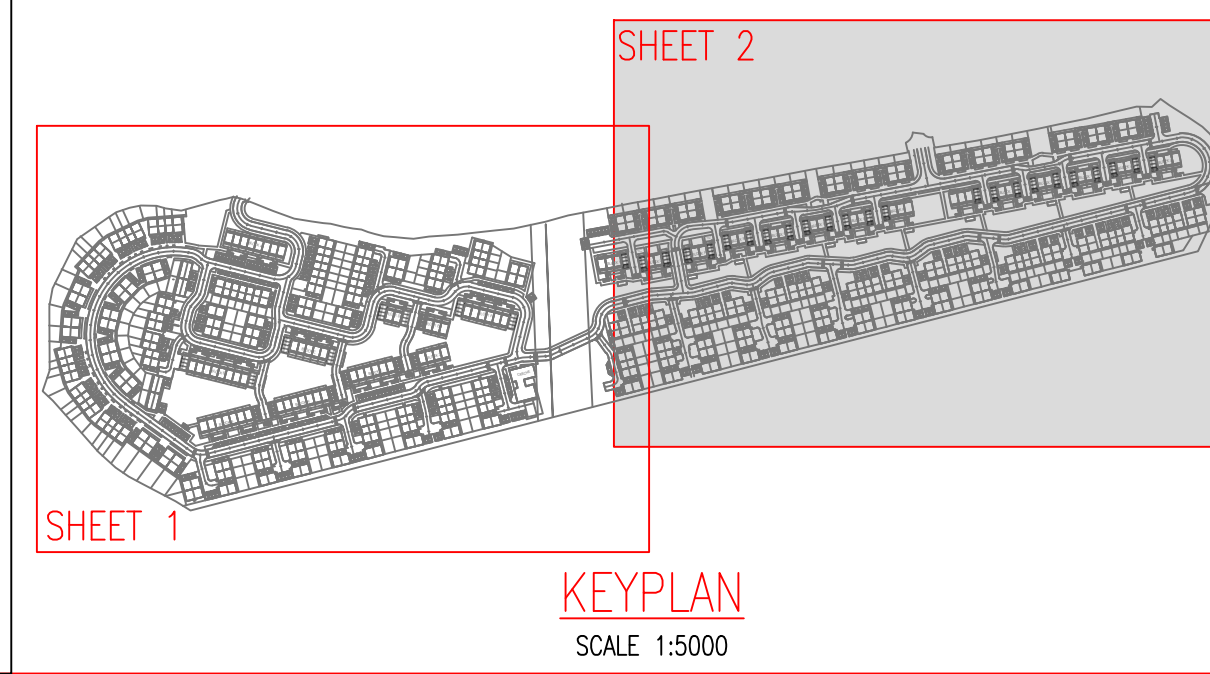
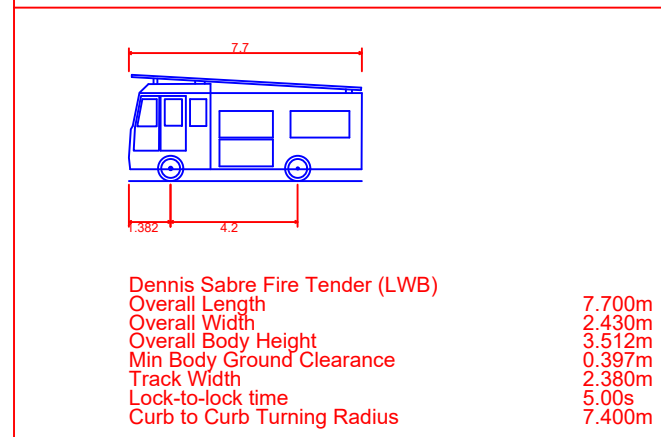
Status
PLANNING

Designed By	LM	Approved	EC	Waterman Ref	24-007
Drawn By	PW	Date	DEC. 2024	Scales @ A1	1:500 @ A1

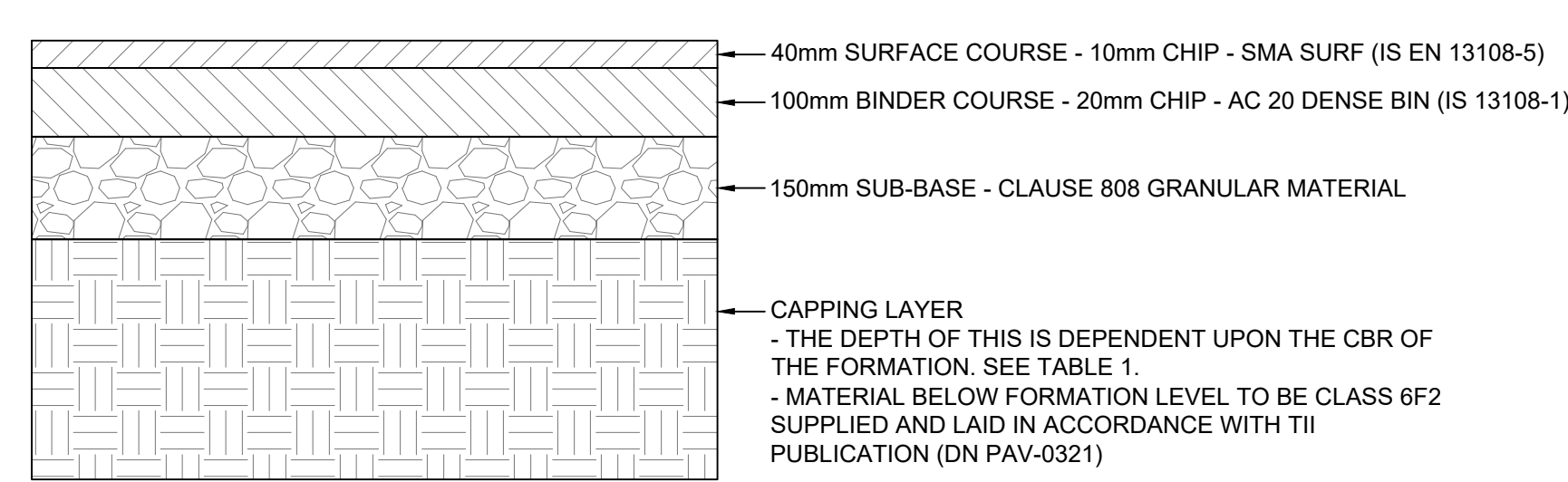
Project - Originator - Volume - Level - Type - Role - Number
BYCN - WM - 00 - XX-DR - C - P153
P2

LEGEND:

- REVERSING MOVEMENTS
FORWARD MOVEMENTS

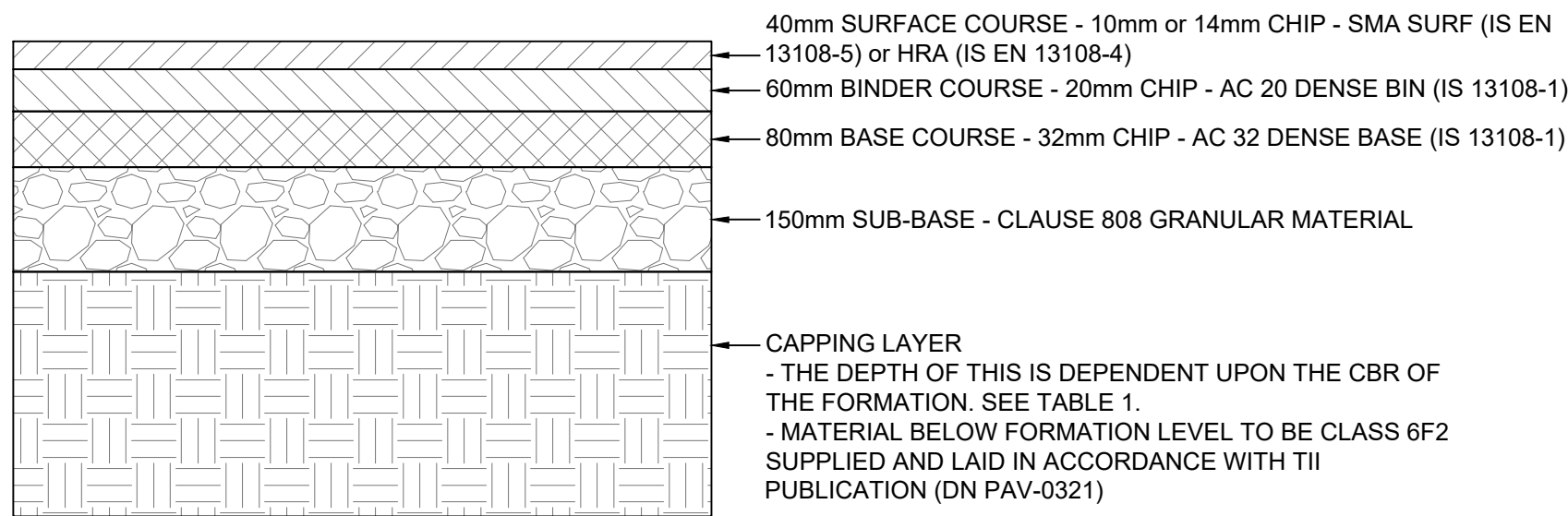


KEYPLAN
SCALE 1:5000



CUL DE SAC - HOME ZONE ROAD MINIMUM ROAD BUILD UP

SCALE 1:10

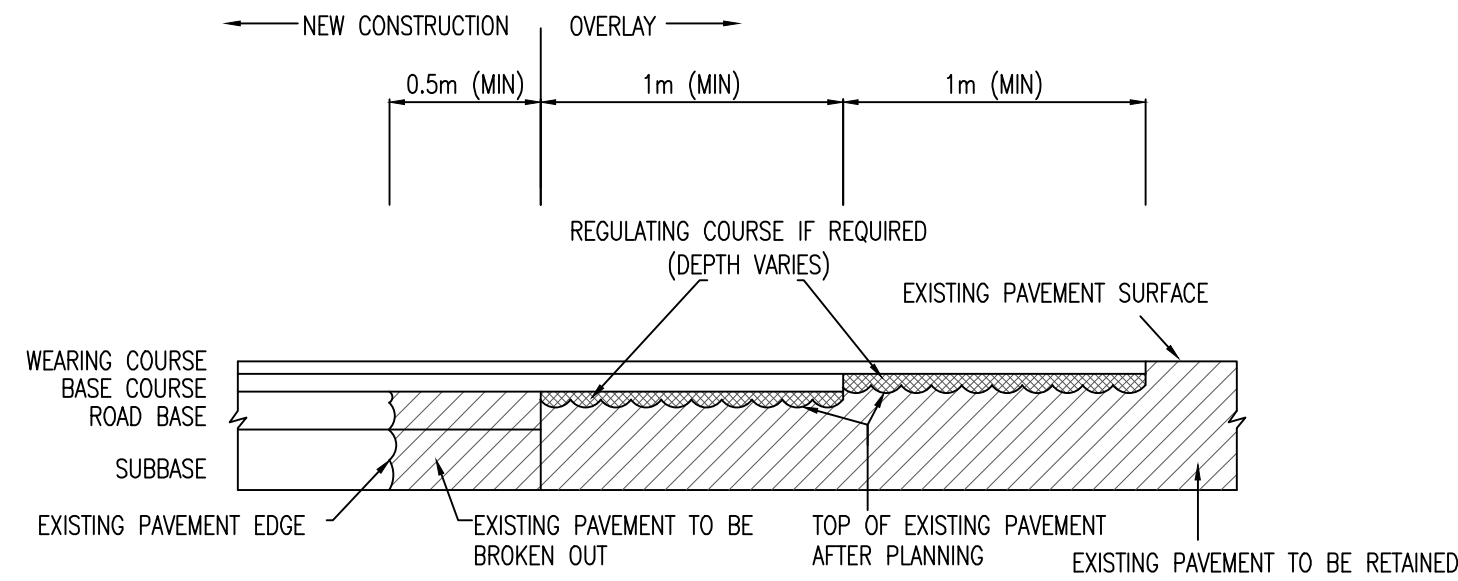


RESIDENTIAL SPINE ROAD MINIMUM ROAD BUILD UP

SCALE 1:10

NOTES FOR TRANSVERSE JOINTING:

- EDGES OF EXISTING CARRIAGEWAY TO BE CUT BACK BY 0.5m WITH A ROTARY SAW TO FORM A VERTICAL FACE AND PRIMED IN ACCORDANCE WITH CLAUSE 920.
- WHERE THE ROAD BASE IS TO BE LAID IN TWO LAYERS, THE UPPER LAYER OF ROADBASE SHOULD BE STEPPED INTO THE EXISTING PAVEMENT BY 1m MIN. WITH THE BASECOURSE AND WEARING COURSE TO BE EACH STEPPED IN A FURTHER 1m MIN. RESPECTIVELY.

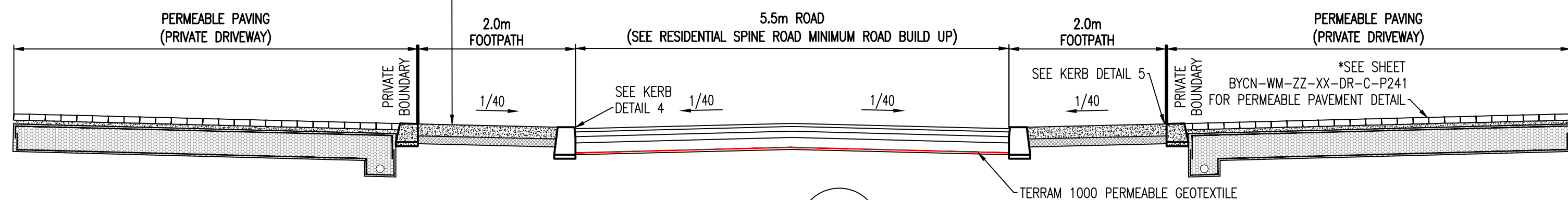


TRANSVERSE JOINT BETWEEN NEW CONSTRUCTION AND EXISTING ROAD

SCALE 1:25

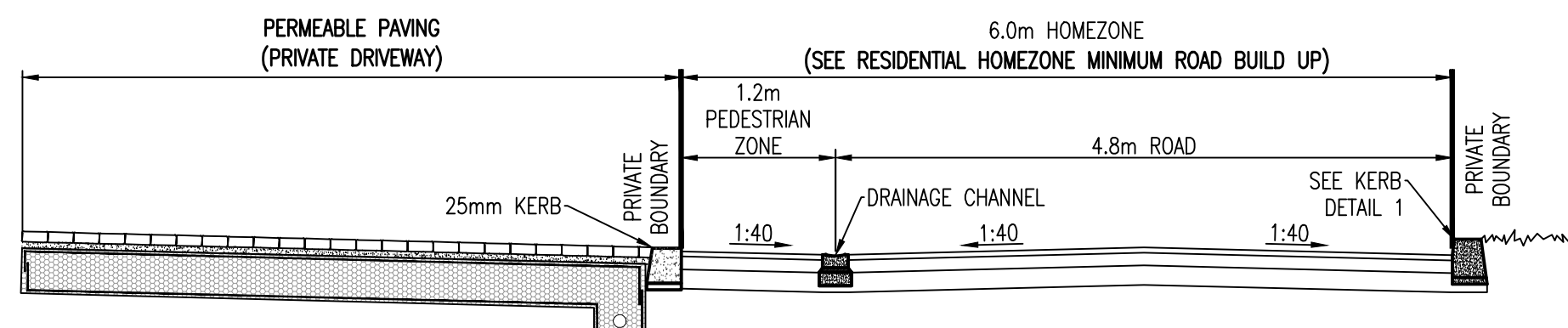
FOOTPATH CONSTRUCTION

- 100mm CONCRETE PAVEMENT (150mm AT VEHICLE CROSSING WITH A393MESH T&B) C40 AIR ENTRAINED OR C50 NO AIR ENTRAINED (EXPOSURE CLASS XF4) TO NRA CL 1106 ON
- 150mm UNBOUND GRANULAR SUB-BASE TYPE B TO CLAUSE 808 CLAUSE 808 NOTE 1 (MIN CBR 30%) ON JOINTS TO BE FORMED WITH TWO LAYERS OF BITUMINOUS FELT FOR FULL SLAB DEPTH AT 3m CENTRES (JOINTS TO COINCIDE WITH JOINTS IN THE KERB AND POSITIONED AT CORNERS ETC LIABLE TO CRACKING). FINISH BY FLOATING WITH WOODEN TROWEL WHILE STILL GREEN THEN LIGHTLY BRUSHED WITH A BRASS BROOM TO PRODUCE SLIGHT ROUGHNESS.



SECTION B-B SCALE 1:50 P100

TYPICAL SECTION THROUGH ROADWAY

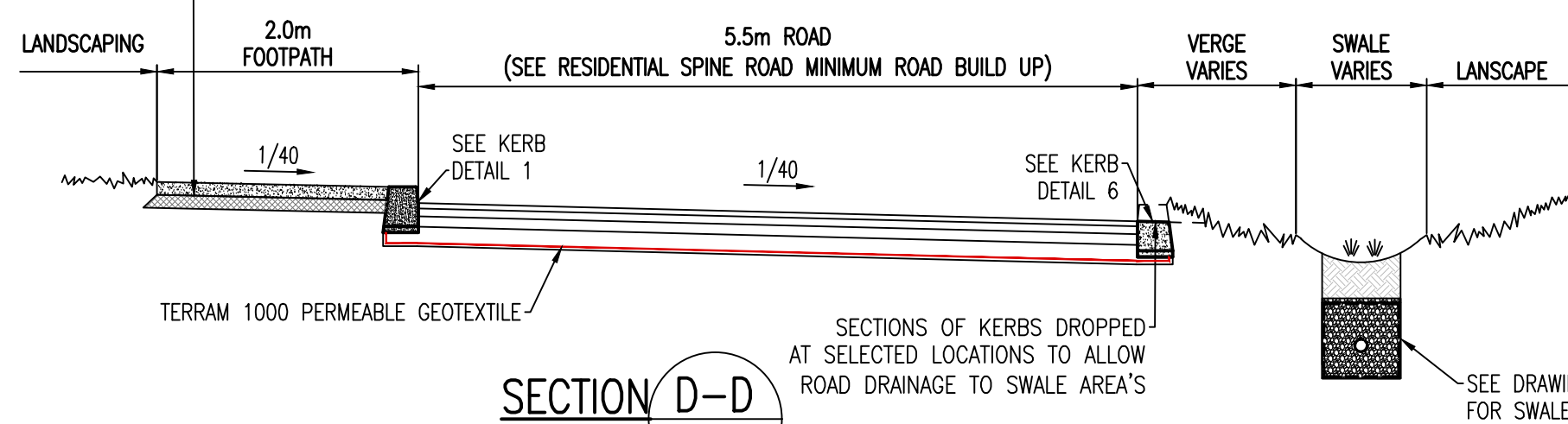


SECTION C-C SCALE 1:50 P100

TYPICAL SECTION THROUGH HOMEZONE

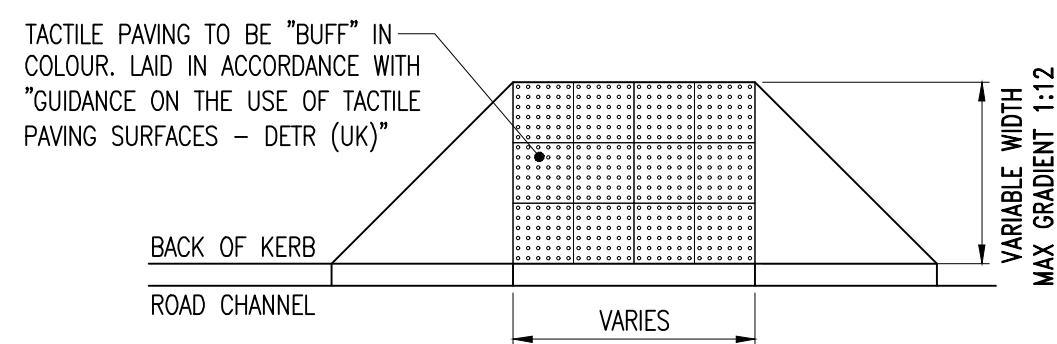
FOOTPATH CONSTRUCTION

- 100mm CONCRETE PAVEMENT (150mm AT VEHICLE CROSSING WITH A393MESH T&B) C40 AIR ENTRAINED OR C50 NO AIR ENTRAINED (EXPOSURE CLASS XF4) TO NRA CL 1106 ON
- 150mm UNBOUND GRANULAR SUB-BASE TYPE B TO CLAUSE 808 CLAUSE 808 NOTE 1 (MIN CBR 30%) ON JOINTS TO BE FORMED WITH TWO LAYERS OF BITUMINOUS FELT FOR FULL SLAB DEPTH AT 3m CENTRES (JOINTS TO COINCIDE WITH JOINTS IN THE KERB AND POSITIONED AT CORNERS ETC LIABLE TO CRACKING). FINISH BY FLOATING WITH WOODEN TROWEL WHILE STILL GREEN THEN LIGHTLY BRUSHED WITH A BRASS BROOM TO PRODUCE SLIGHT ROUGHNESS.



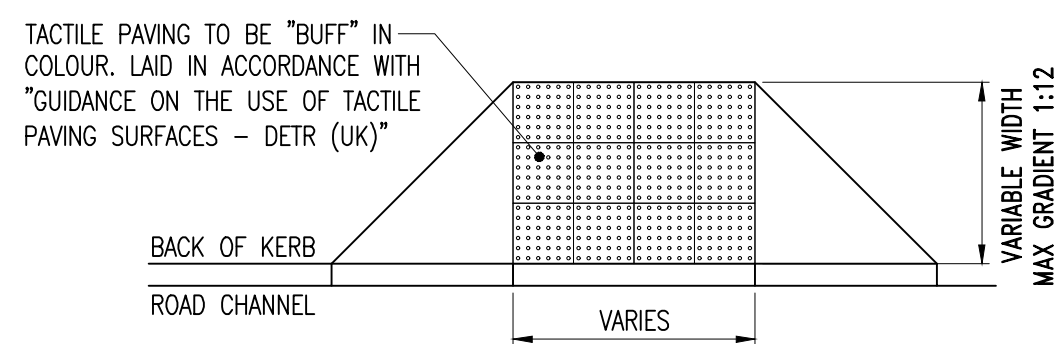
SECTION D-D SCALE 1:50 P100

TYPICAL SECTION THROUGH GRASS SWALE



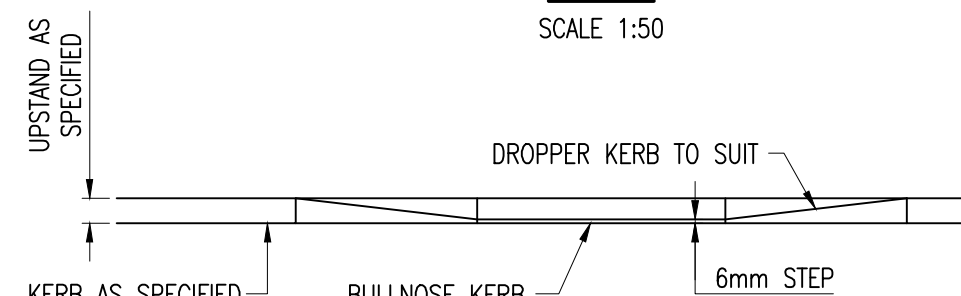
GRASS VERGE TO CONCRETE FOOTWAY DETAIL AS PER NRA DETAIL RCD/1100/05

SCALE 1:10 @A1



PLAN

SCALE 1:50



SECTION

NON CONTROLLED PEDESTRIAN CROSSING DETAIL

SCALE 1:50

TABLE 1

C.B.R. SUB-GRADE (%)	BELOW 2	2	3	4 OR MORE
SUB BASE (NO CAPPING LAYER)				
SUB-BASE THICKNESS (mm)	625	475	350	300
SUB BASE + CAPPING LAYER COMPRISING				
SUB-BASE THICKNESS (mm)	150		150	
CAPPING LAYER THICKNESS (mm)	600		350	

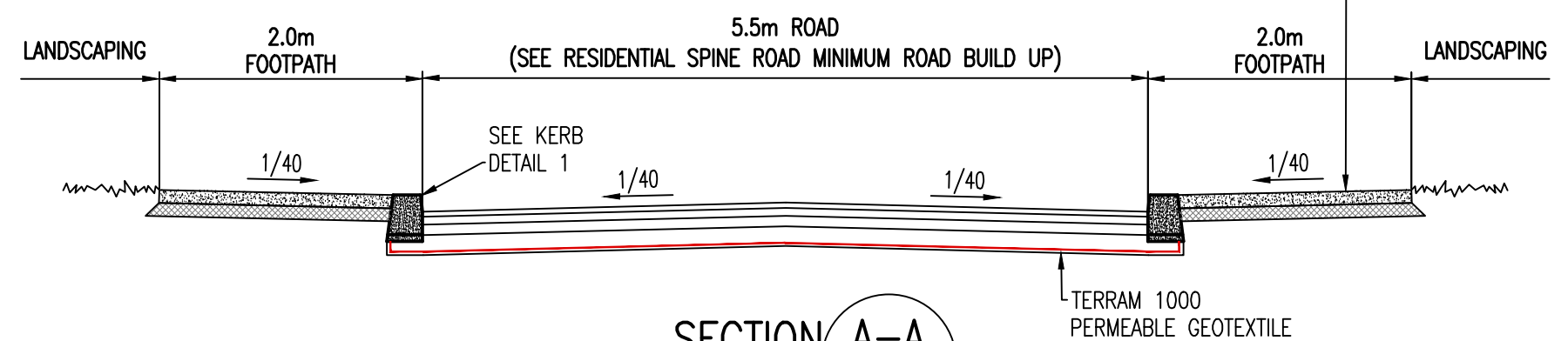
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NOTES:

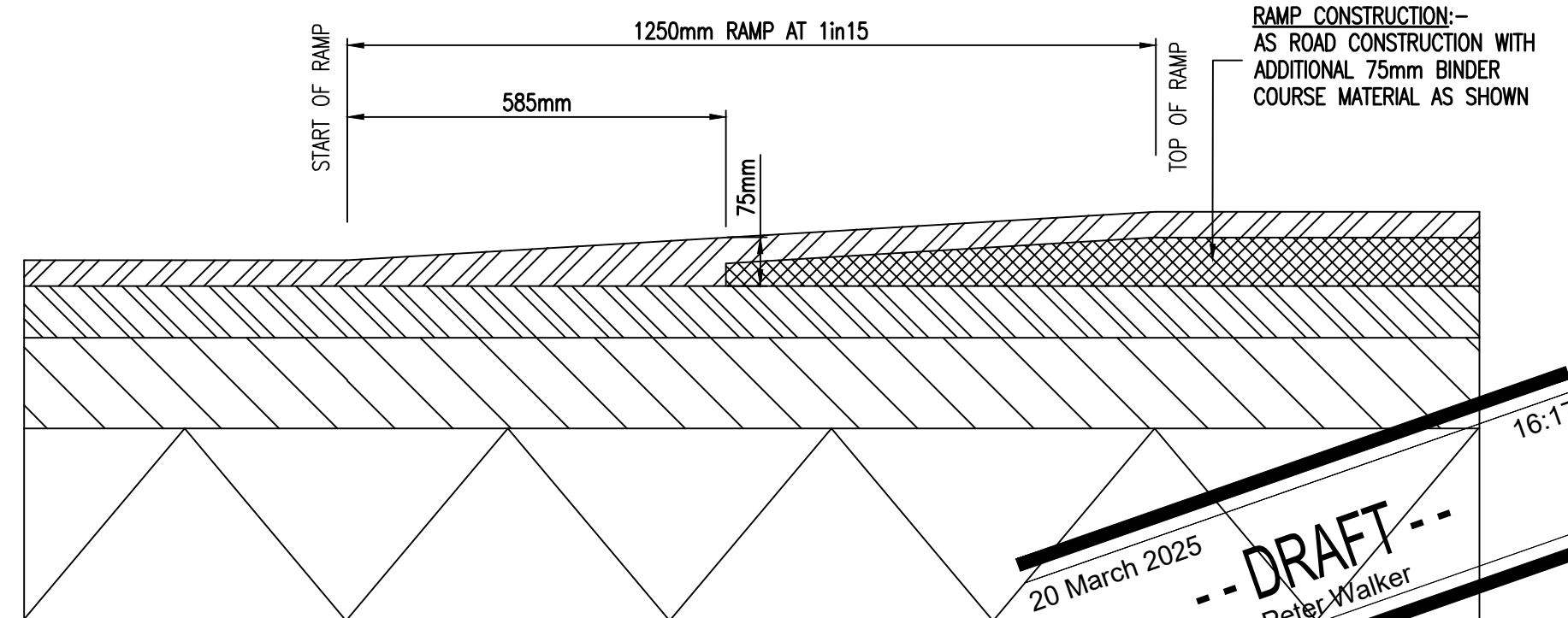
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FOOTPATH CONSTRUCTION

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- 150mm UNBOUND GRANULAR SUB-BASE TYPE B TO CLAUSE 808 CLAUSE 808 NOTE 1 (MIN CBR 30%) ON JOINTS TO BE FORMED WITH TWO LAYERS OF BITUMINOUS FELT FOR FULL SLAB DEPTH AT 3m CENTRES (JOINTS TO COINCIDE WITH JOINTS IN THE KERB AND POSITIONED AT CORNERS ETC LIABLE TO CRACKING). FINISH BY FLOATING WITH WOODEN TROWEL WHILE STILL GREEN THEN LIGHTLY BRUSHED WITH A BRASS BROOM TO PRODUCE SLIGHT ROUGHNESS.

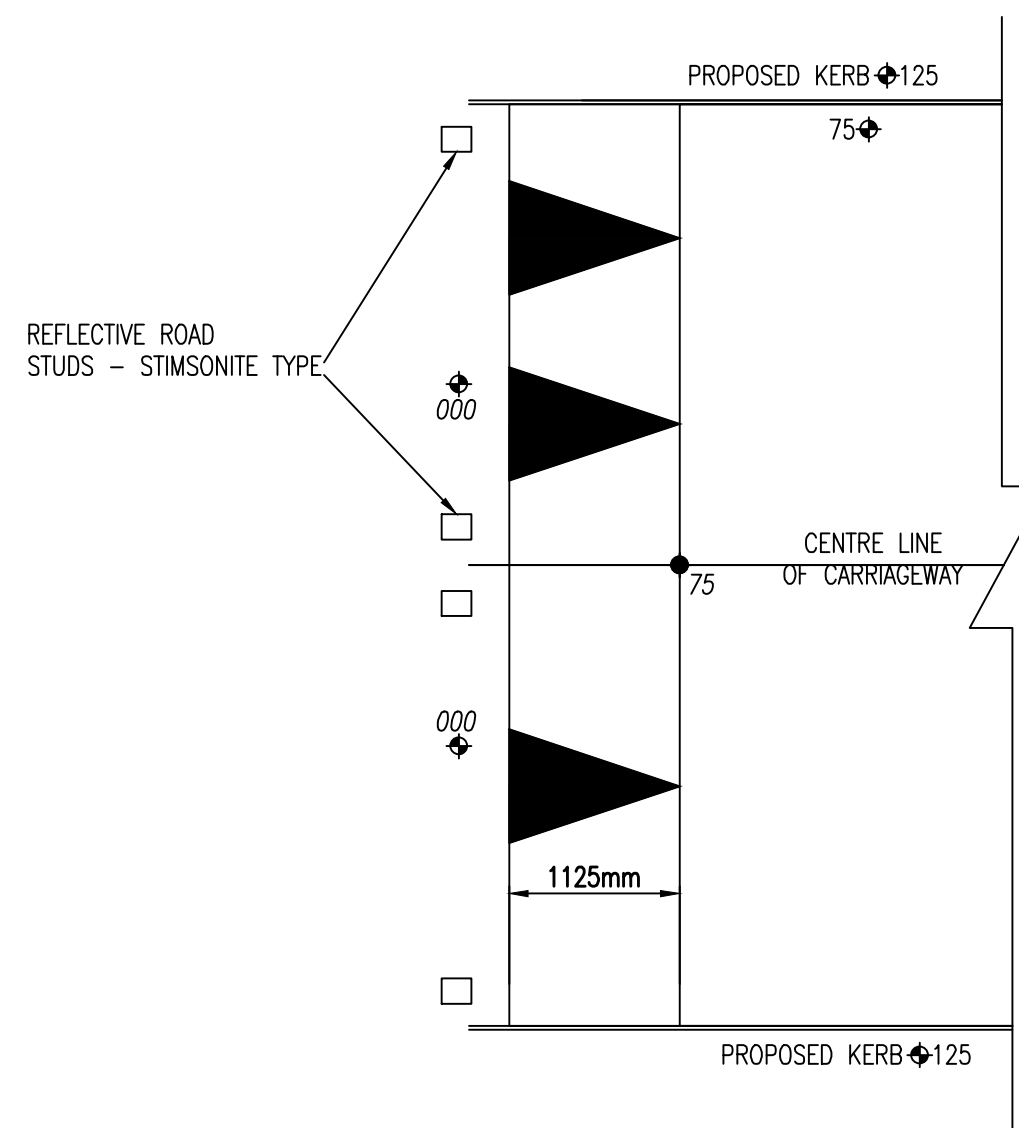


SECTION A-A SCALE 1:50 P100



SPEED TABLE AND RAMP CONSTRUCTION DETAIL

SCALE 1:10

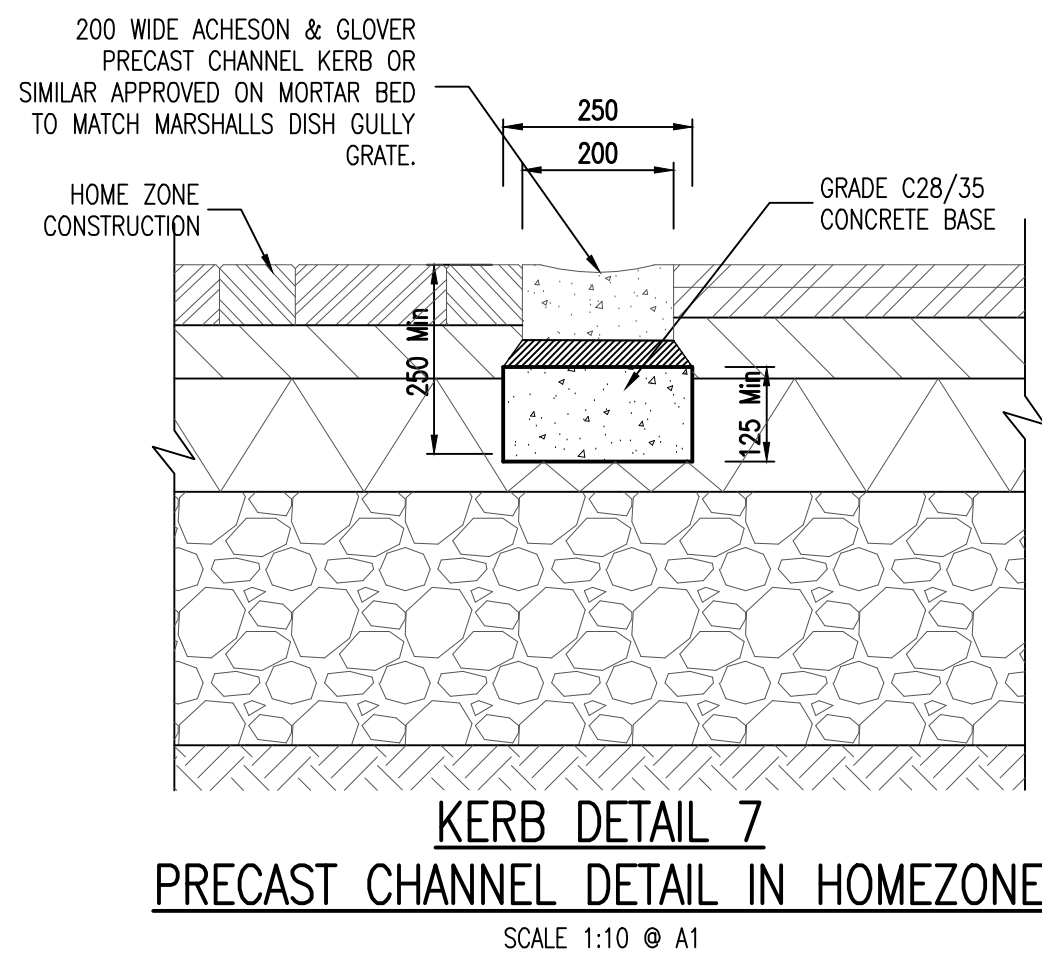
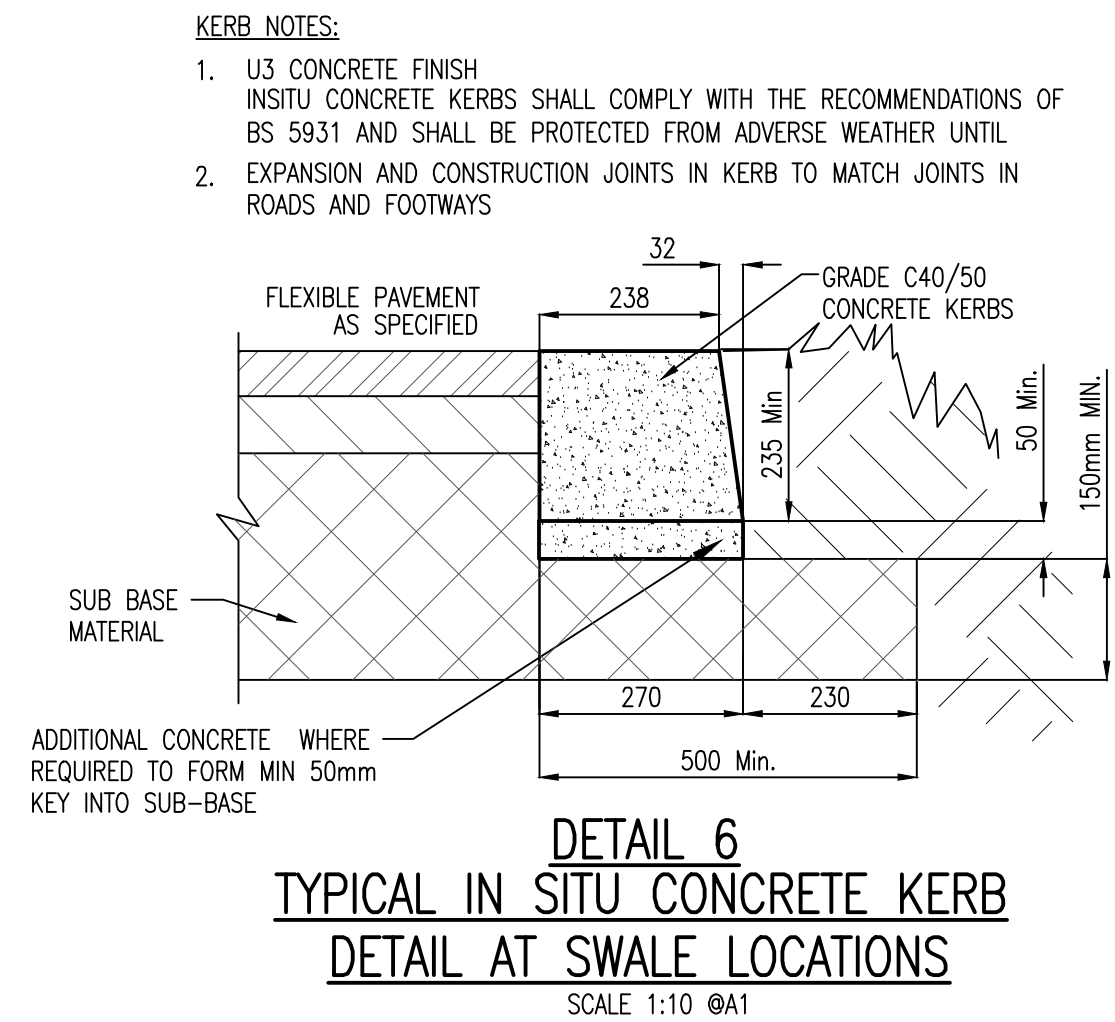
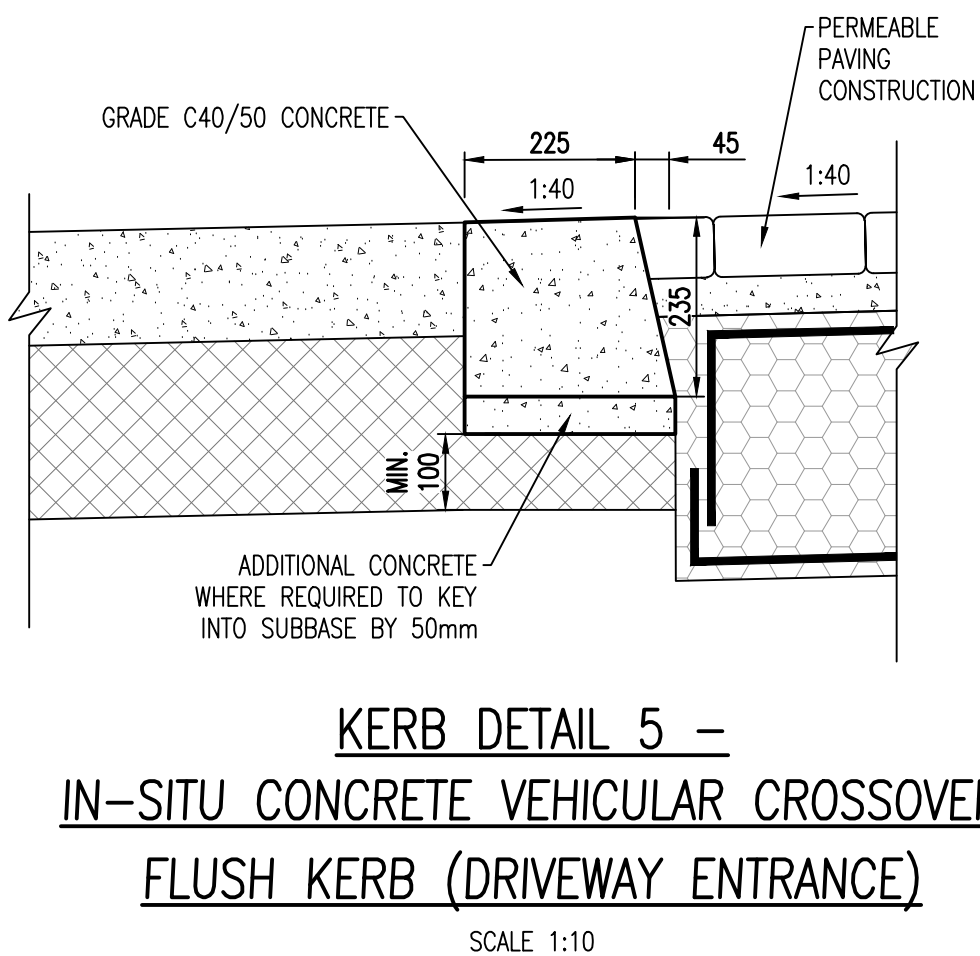
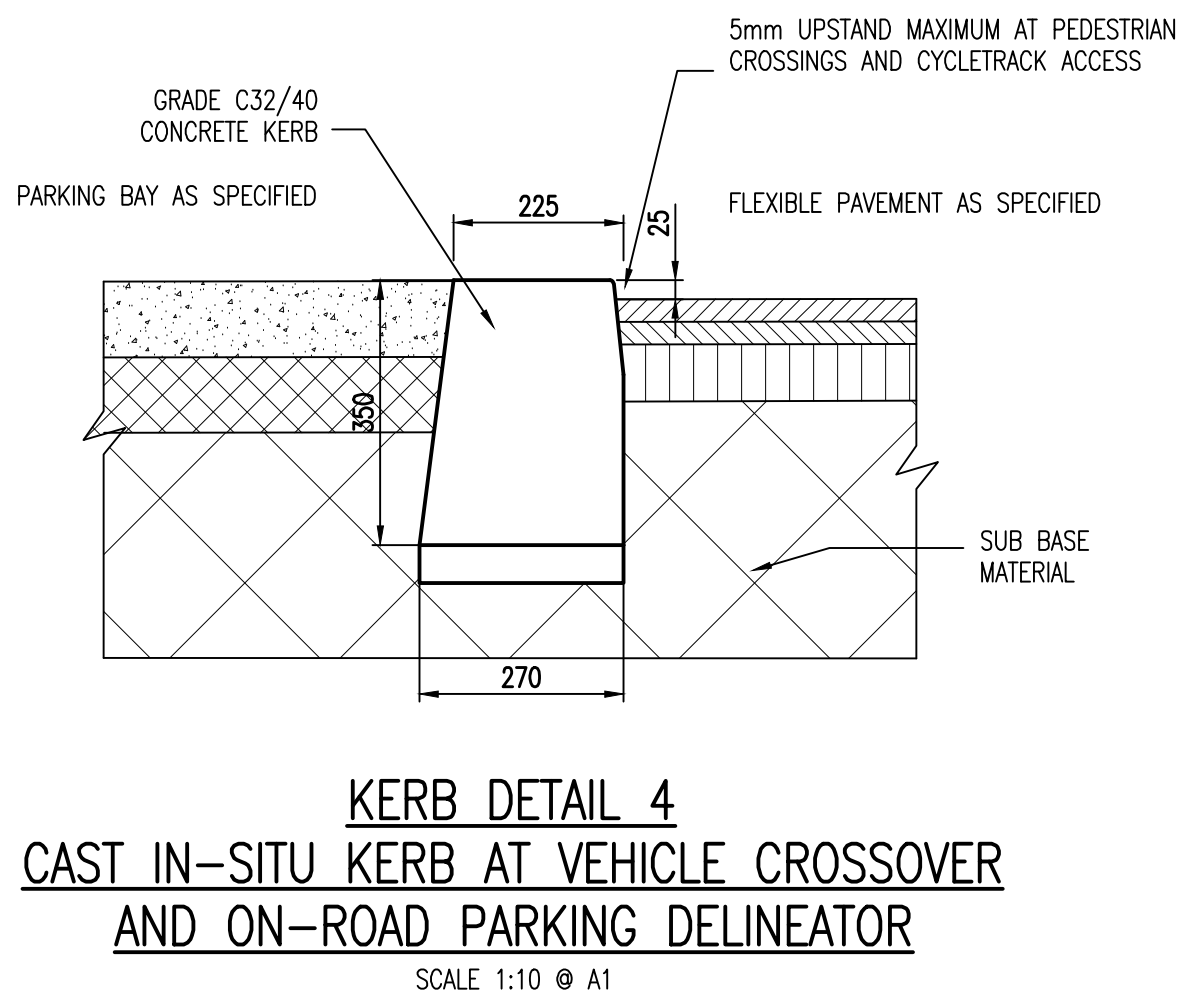
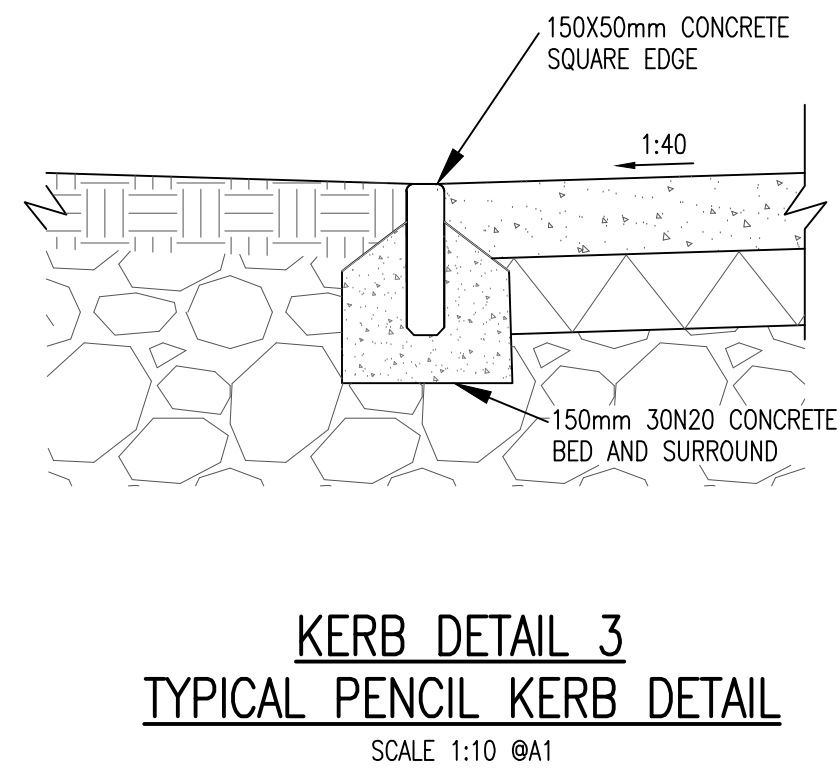
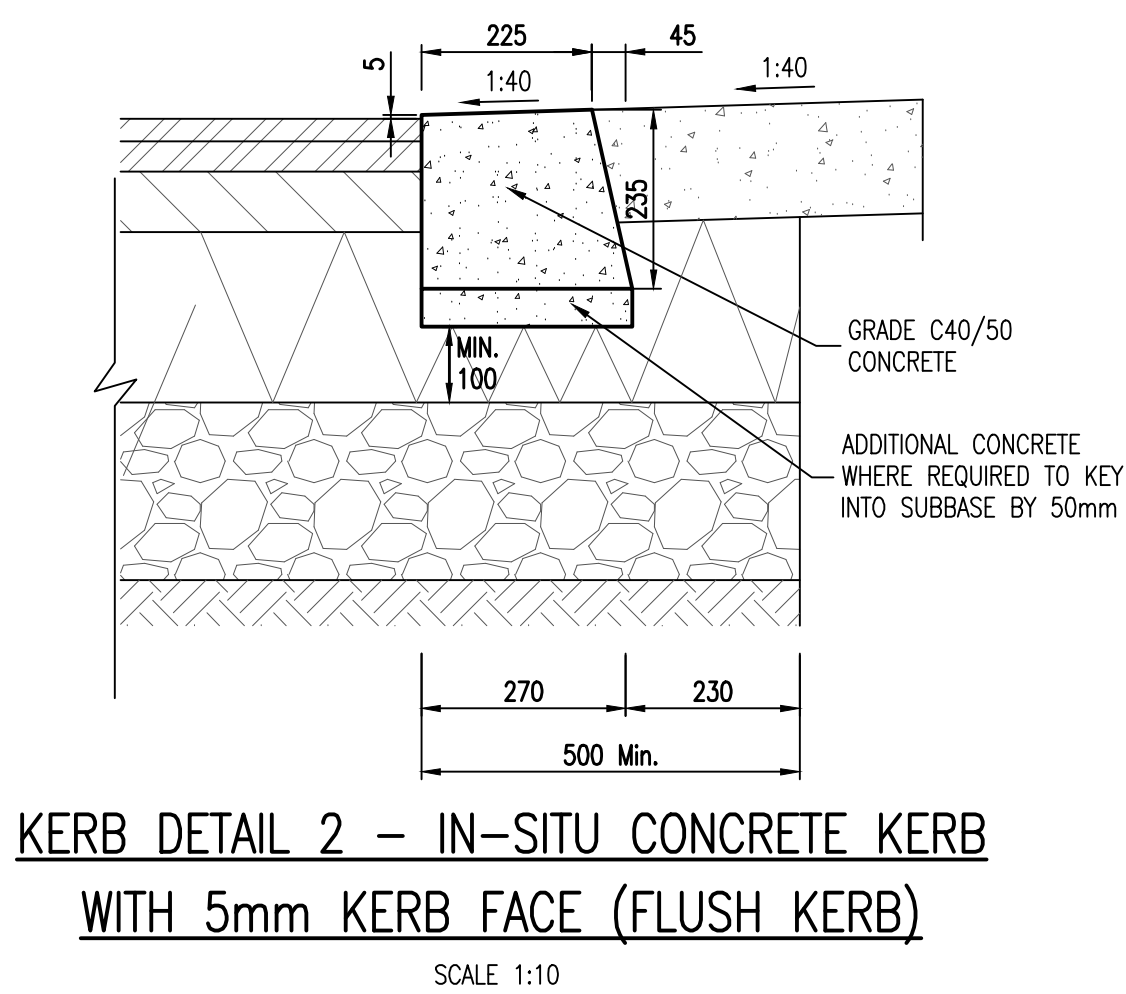
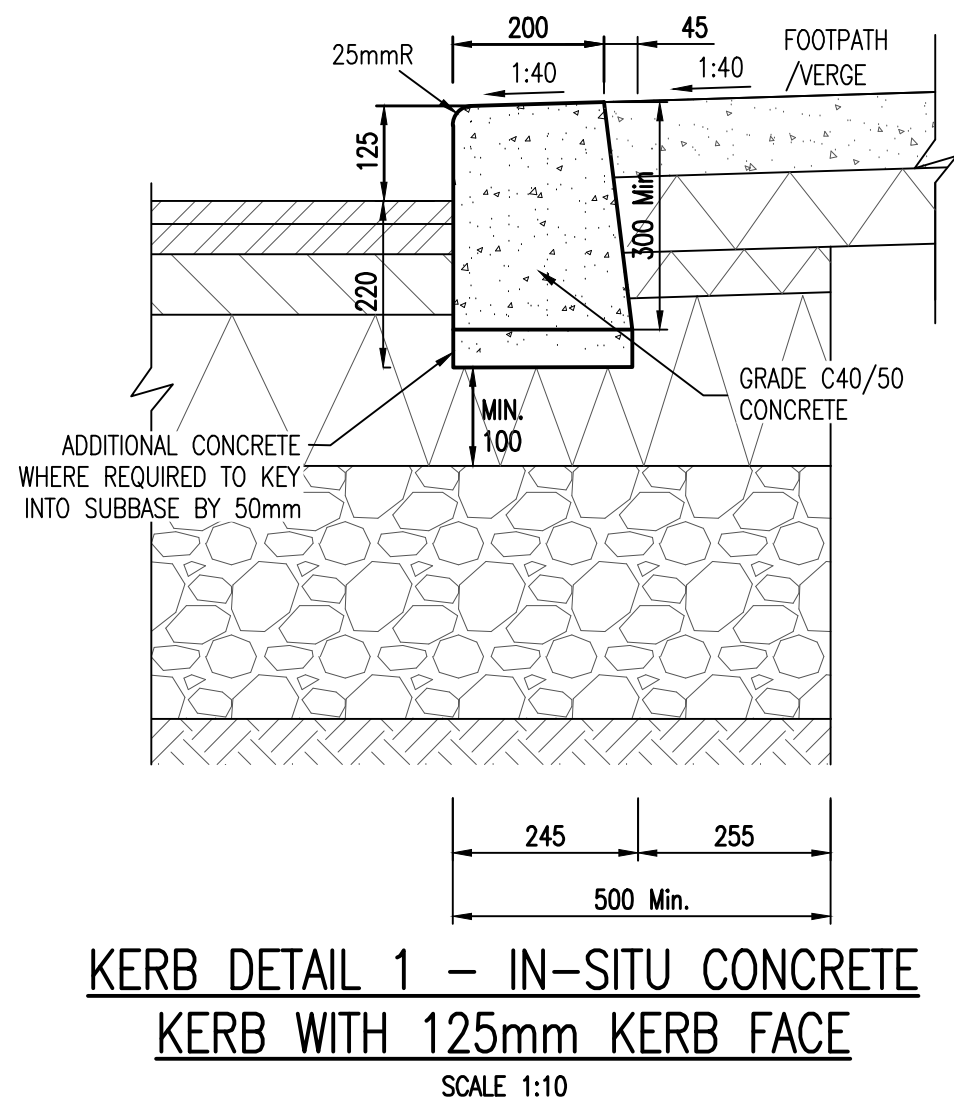


PLAN OF FLAT TOP RAMP FOR PEDESTRIAN FRIENDLY RAMPS / RAISED TABLES

SCALE 1:50

P2	20/3/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC
Amendments				
Project				
WOODTOWN, BALLYCULLEN				
Title				
PROPOSED ROAD CONSTRUCTION DETAILS SHEET 1 OF 2				
Client				
LAGAN HOMES				
Status				
PLANNING				
Designed By	LM	Approved	EC	Waterman Ref
Drawn By	PW	Date	DEC. 2024	24-007
Project	Originator	Volume	Level	Type
BYCN- WM - 00 -XX-DR- C -P191				
Revision				P1

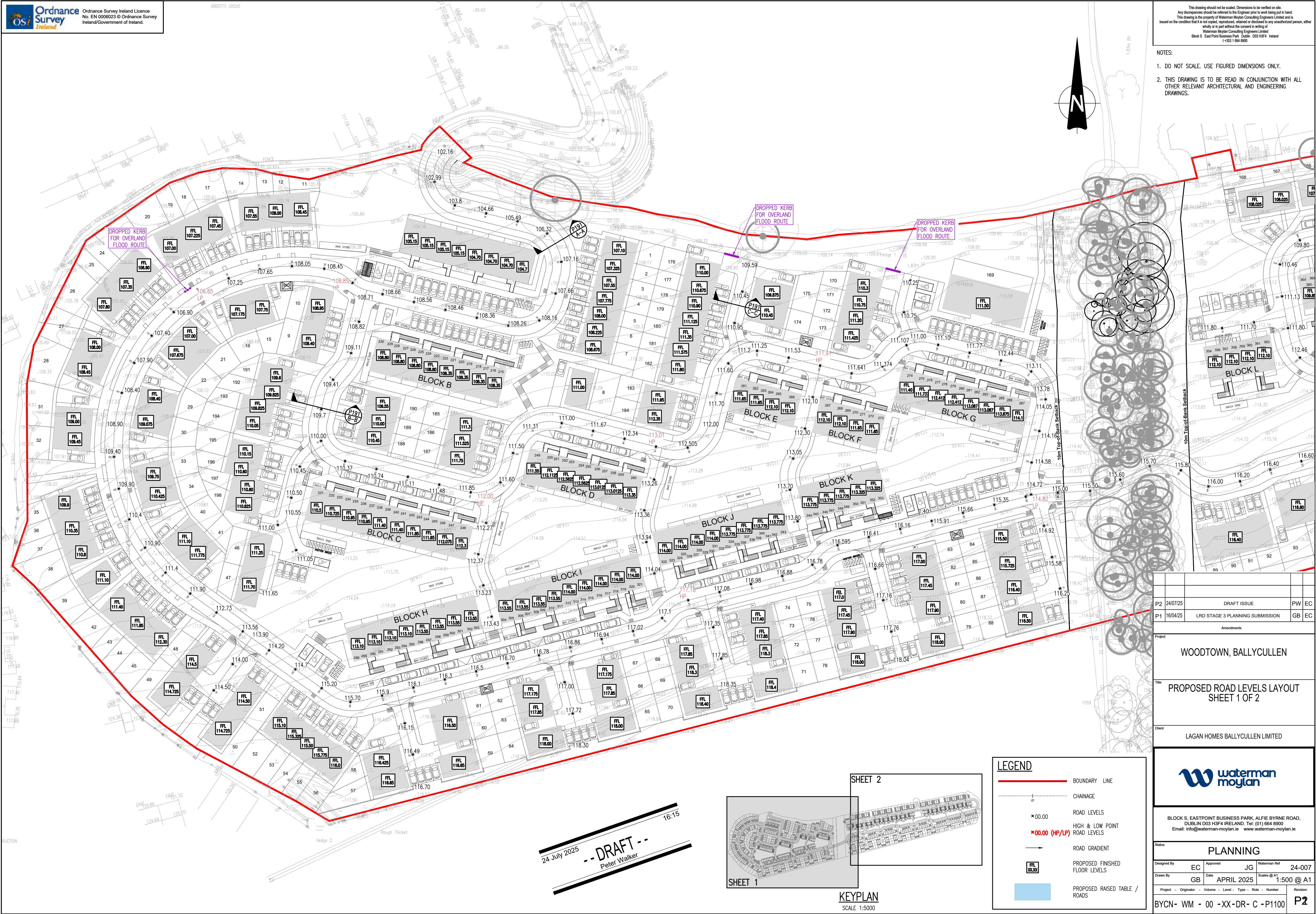
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20 March 2025
-- DRAFT --
Peter Walker
16:17

P2	20/03/25	LANDSCAPING UPDATED ROAD SAFETY AUDIT RE-SUBMISSION	PW	EC
P1	11/03/25	ROAD SAFETY AUDIT SUBMISSION	PW	EC
-	12/12/24	ISSUED FOR PLANNING	PW	EC

Amendments				
Project				
WOODTOWN, BALLYCULLEN				
Title				
PROPOSED ROAD CONSTRUCTION DETAILS SHEET 2 OF 2				
Client				
LAGAN HOMES				
Status				
PLANNING				
Designed By	LM	Approved	EC	Waterman Ref
Drawn By	PW	Date	DEC. 2024	24-007
Scales @ A1				1:500 @ A1
Project	Originator	Volume	Level	Type
BYCN- WM - 00 -XX-DR- C -P192				
Revision				P1



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LEGEND

	BOUNDARY LINE
	CHAINAGE
	ROAD LEVELS
	HIGH & LOW POINT ROAD LEVELS
	ROAD GRADIENT
	PROPOSED FINISHED FLOOR LEVELS
	PROPOSED RAISED TABLE / ROADS

24 July 2025
-- DRAFT --
Peter Walker



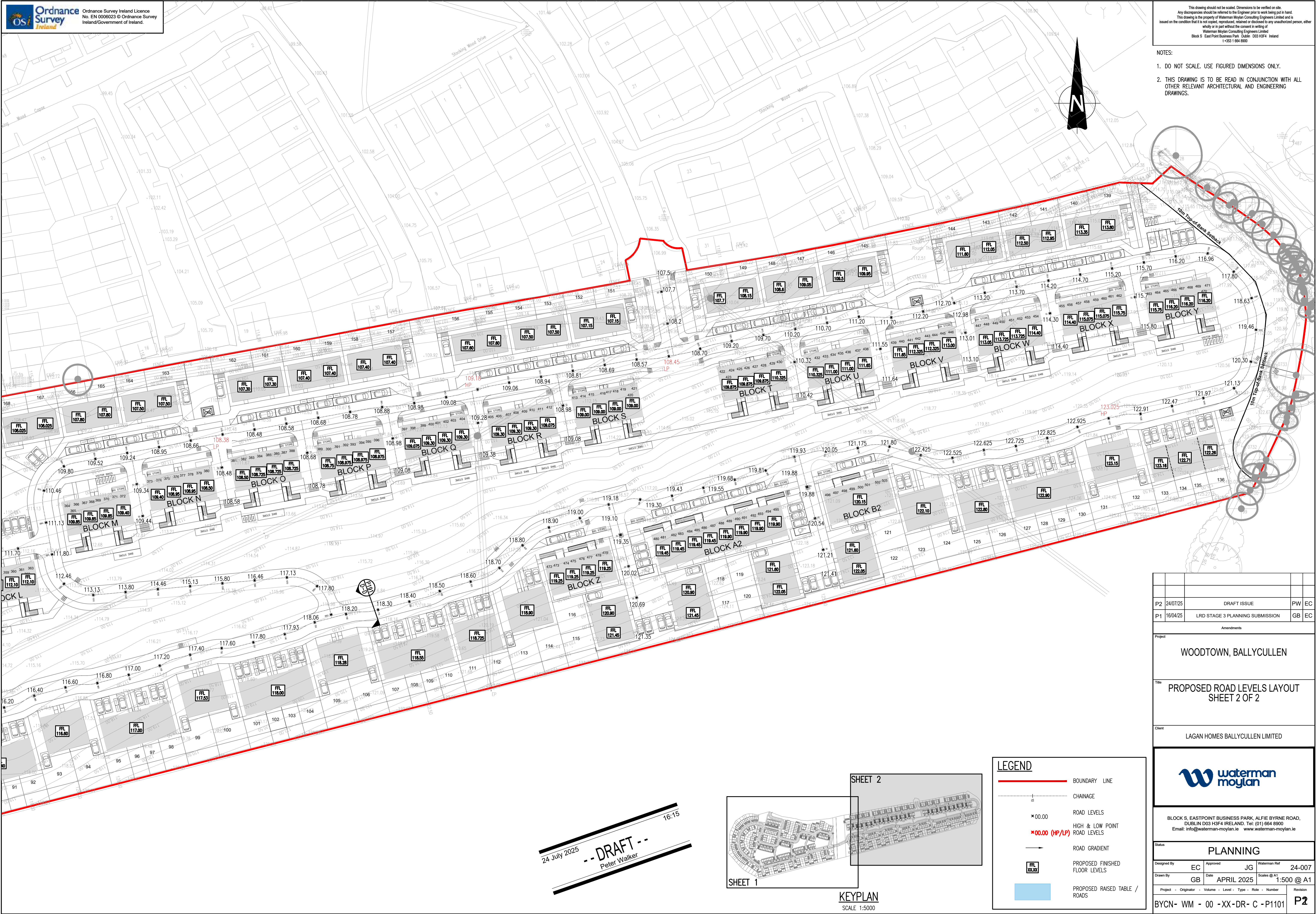
SHEET 2

SHEET 1

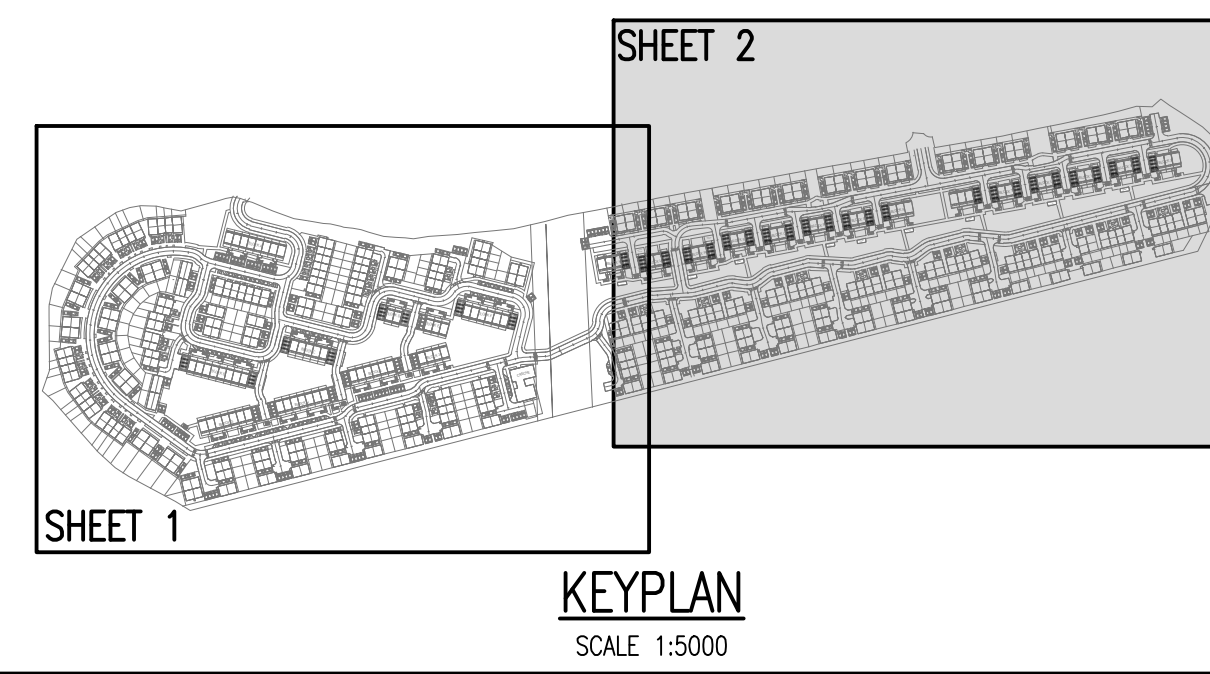
KEYPLAN
SCALE 1:5000

NOTES:

1. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL
OTHER RELEVANT ARCHITECTURAL AND ENGINEERING
DRAWINGS.



24 July 2025
-- DRAFT --
Peter Walker



LEGEND	
	BOUNDARY LINE
	CHAINAGE
	ROAD LEVELS
	HIGH & LOW POINT ROAD LEVELS
	ROAD GRADIENT
	PROPOSED FINISHED FLOOR LEVELS
	PROPOSED RAISED TABLE / ROADS

P2	24/07/25	DRAFT ISSUE			PW EC
P1	16/04/25	LRD STAGE 3 PLANNING SUBMISSION			GB EC
Amendments					
Project					
WOODTOWN, BALLYCULLEN					
Title					
PROPOSED ROAD LEVELS LAYOUT SHEET 2 OF 2					
Client					
LAGAN HOMES BALLYCULLEN LIMITED					
<div></div>					
BLOCK 5, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD, DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900 Email: info@waterman-moylan.ie www.waterman-moylan.ie					
Status					
PLANNING					
Designed By		EC	Approved		JG
			Waterman Ref		24-007
Drawn By		GB	Date		APRIL 2025
			Scales @ A1		1:500 @ A1
Project - Originator - Volume - Level - Type - Role - Number					Revision
BYCN- WM - 00 -XX-DR- C - P1101					P2