THE WATER HOUSE, MILLFIELD LANE, HIGHGATE

REVIEW OF SUBMITTED CONSTRUCTION MANAGEMENT PLAN

Prepared on behalf of the City of London

February 2015

MILESTONE
TRANSPORT PLANNING

THE WATER HOUSE, MILLFIELD LANE, HIGHGATE

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1. INTRODUCTION

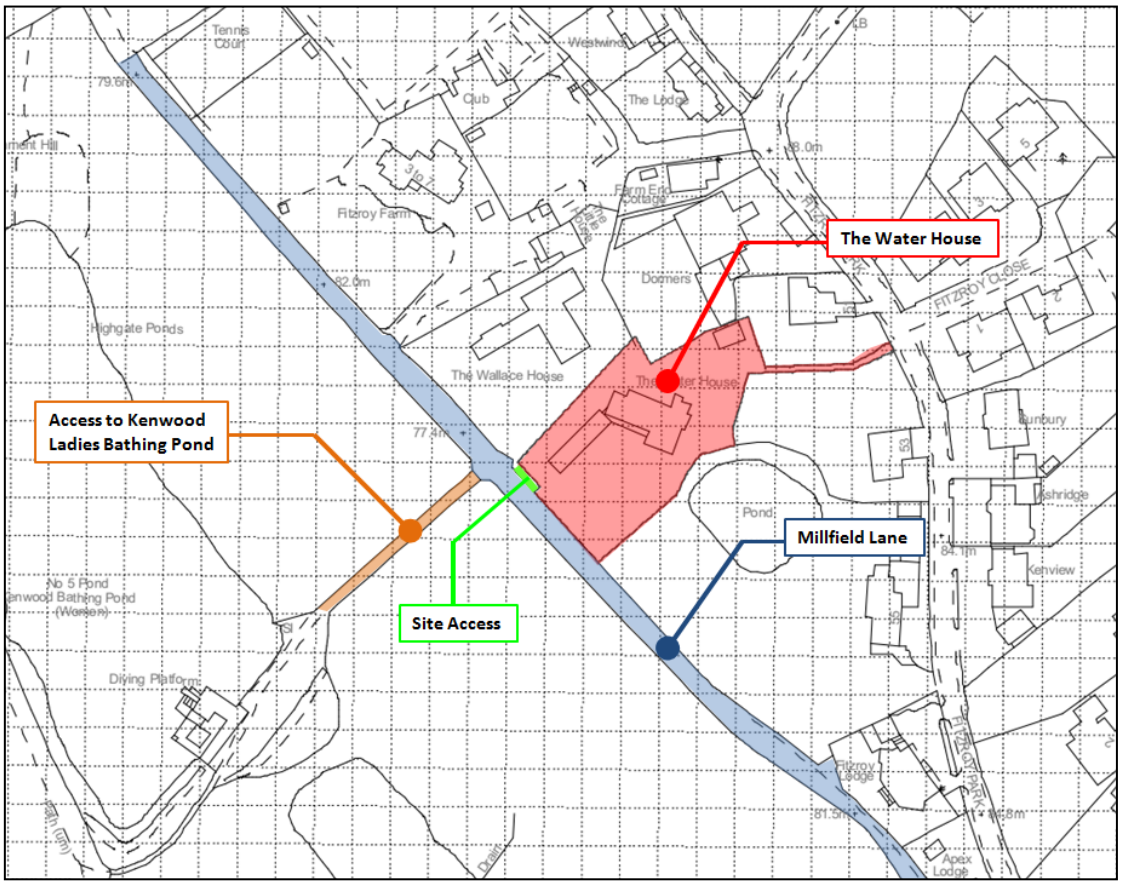
Scope of Review

1.1 The purpose of this document is to provide an independent review of the submitted Construction Managment Plan (CMP), for the proposed residential development of a single dwelling at The Water House, Millfield Lane, Highgate and identify areas where further review, consideration and detail are required. The CMP formed part of a planning submission package to Camden Council registered in November 2011, ref: 2011/4390/P. The development proposals comprise;

'Erection of a new 2 storey plus basement dwelling house (Class C3) with garage, including associated green roofs and landscaping works, following the demolition of an existing dwelling house'

1.2 The planning application is currently undecided and still undergoing the statutory consultation process. To date it is understood that Camden Highways have raised no significant concerns in respect of construction management at the site. The site location is illustrated at Figure 1 below, in the context of Millfield Lane and the local setting.

Figure 1 Site Location



1.3 The proposals would see all construction related traffic / activities taking place via the site's Millfield Lane frontage. This frontage comprises a double gate and pedestrian gate set back from the Lane, accessed via a concrete ramp into the site from Millfield Lane.

1.4 The construction related traffic / activities are the subject of a CMP. The originally submitted CMP has been revised with the latest version (Revision H, March 2013: Post Submission Update 2) being the subject of this review, included at Appendix 1.

Planning Background

1.5 It is of note that a planning application was submitted in 2006 (Camden ref: 2006/3380/P) for the comprehensive redevelopment of Fitzroy Farm, located some 50m northwest of the Water House and similarly accessed via Millfield Lane. The application was permitted by LB Camden with a CMP required by Condition. The CMP (submitted under Camden ref: 2008/0696/P) outlined a 2 year build programme resulting in significant HGV and LGV movement on Millfield Lane. LB Camden approved the submitted CMP however, both residents and Local Members considered the construction vehicles movements to be to detrimental to the local environment and safety on Millfield Lane and the planning consent was subsequently refused. As a result the CMP was not accepted and this decision was appealed by the applicant.

1.6 The Appeal was dismissed in May 2008 with the Inspector citing that the use of Millfield Lane for construction vehicle traffic would be unsafe and disturb the peace of heath users.

1.7 Subsequent to these decisions, the Fitzroy Farm site was purchased by a second applicant and an alternative, reduced scale proposal was approved. Construction access for this site was agreed between the applicant and the Fitzroy Park Residents Association with access taken via Bowling Club Lane under a temporary licence. No construction traffic used Millfield Lane during the construction of this site.

1.8 The principle issues in respect of the Fitzroy Farm application, in relation to the use of Millfield Lane, centred on the scale and extent of use of the Lane by HGV / LGV movements and the implications / impact this had on the safe and convenient use of the Lane by all permitted users.

1.9 It is considered that the fact the CMP for Fitzroy Farm was not accepted by LB Camden is of material relevance to the Water House application, given its proposal to use Millfield Lane for construction traffic in much the same manner and the potential volume of traffic considered by the current CMP.

2. LOCAL CONTEXT

Millfield Lane

2.1 Millfield Lane comprises a single Lane two-way highway with private frontage to the northeast comprising boundary walls / fences and some unmade / vegetated verge and an unmade / vegetated strip to the southwest making a boundary with Hampstead Heath via a metal rail fence. Millfield Lane is understood to be co-owned by local residents (to the centre line on their frontage) and the City of London Corporation (to the centre line on Hampstead Heath side).

2.2 To the northwest the Lane provides access (vehicle, pedestrian and cycle) to Wallace House, the Water House and No. 55 Fitzroy Park with access Fitzroy Farm blocked off. Millfield Lane continues to provide pedestrian and cycle access to the Heath via a gated access which would also allow for emergency and maintenance vehicle access to the Heath. It is understood that the rights of access to the application site do not extend beyond the site's north-western boundary.

2.3 On the south-western boundary of the Lane, a short distance from its junction with Merton Lane is a gated pedestrian / cycle access to Hampstead Heath allowing for emergency and maintenance vehicle access.

2.4 In the immediate vicinity of the application site access on the opposite side of the Lane is the public access to the Kenwood Ladies Bathing Pond. The access provides for pedestrians / cyclists access to the facility including the Bathing Pond cycle parking. The gate allows access for emergency and maintenance vehicles as required.

2.5 To the southeast the Lane forms a complex priority junction arrangement with Merton Lane and Fitzroy Park and the continuation of Millfield Lane as a maintained pubic highway. This junction is in the immediate vicinity of a gated pedestrian / cycle access to the Heath allowing for emergency and maintenance vehicle access as required.

2.6 Millfield Lane does not benefit from street lighting and by virtue of its width, does not feature any highway signing or lining. The boundary to the Hampstead Heath side features a number of mature trees in close proximity to the Lane / boundary metal rail fence with some examples of trees growing onto the fence.

2.7 The land on the Hampstead Heath side generally drops away from the level of the Lane, at some points with a notable drop over a short distance. A number of the mature trees to the Heath side comprise veteran trees which have been historically recorded on the Heath and a number of these are growing in very close proximity to the metal rail fence.

2.8 The Lane is characterised by its rural appearance through the undulation, width, surface structure and the extent of boundary vegetation and over-branching of significant trees. Through lengths of the

Lane the over-branching trees acts to limit overhead clearance and will limit the ability of high vehicles to pass without cutting back or removing some tree limbs.

2.9 Millfield Lane exhibits a range of surface conditions but generally appears to be an unbound, worn surface with a run of concrete through much of the length. There is evidence of wear, rutting and ponding on the Lane with the surface appearing susceptible to degradation in respect to environmental conditions and existing levels use. A photographic inventory illustrating the general nature of the Lane and its surface condition is provided on attached plan 112/001.

2.10 It is noted that the CMP states a California Bearings Ratio (CBR) value for the Lane of 30% but provides no further detail in relation to this high value. Given the observations of the Lane the CBR value appears very high and more detail should be provided. Full details of the CBR testing (methodology, number of test sites, test site locations and results) would need to be provided to demonstrate the integrity of the Lane and surface and substructure.

2.11 The Lane varies in width through its length between the application site access and the junction with Fitzroy Park / Merton Lane (public highway) to the south east. As described earlier, the Lane is bounded to both sides by areas of vegetation / verge with the useable track width being contained within these.

2.12 The useable width of the Lane between the features set out above (from the application site to the public highway) is illustrated in the topographical data obtained by the City of London Corporation and demonstrates an approximate width of between 2.7m and 4m (with the exception of areas of access to the Heath and Kenwood Ladies Bathing Pond which widen out at the junction points).

2.13 The topographical survey is provided at Appendix 2 and Table 2.1 below summarises the lengths and range of useable Lane widths over the 205m length of Lane between the site public highway. In relation to the proposed CMP and the suggestion of HGV use of the Lane while allowing sufficient width for pedestrian movement, the minimum recommended footway width on a normal highway would be 1.2m as an absolute minimum over short distances and would limit the level of pedestrians able to pass and re-pass at any given time.

2.14 However this width would constrain the level of use and users able to safely pass any obstruction, particularly in respect to mobility impaired or parents with buggies and would not necessarily allow for the safe passage of cyclists..

Table 2.1 Millfield Lane useable Lane Widths (between Site and Public Highway)

Lane Width	Length	Percentage
<3.0m	30m	14.6%
3.0m-3.5m	45m	22.0%

3.5m-3.7m	87m	42.4%
>3.7m	43m	21.0%

2.15 Given the suggested absolute minimum pedestrian width of 1.2m and the general operational width of HGV's such as tipper lorries or cement mixers being in the order of 2.4 - 2.5m, there is evidently limited scope on Millfield Lane to provide for the safe passage of pedestrians and the proposed level of HGV movements

2.16 Subject to the applicants right of access over the Lane (understood to be from the public highway to the site access / gates), it is understood that they do not benefit from the right to alter the width, boundary features or manage any vegetation / cut back without the express agreement of the relevant land owner (private frontager or City of London Corporation).

2.17 Unless such an agreement is reached, the useable width of Millfield Lane is as set out above. In relation to this, if any limbs of significant trees were to be identified for cutting back / removal, there would be a need for appropriate aboricultural assessment and advice to allow submissions to relevant landowners for alterations to the trees.

Millfield Lane Users

2.18 Millfield Lane provides vehicle access to frontagers and areas of Hampstead Heath including the Kenwood Ladies Bathing Pond.

2.19 The Lane is very well used in respect of access to properties and also for access to the Heath and associated facilities. It is evident that the Lane experiences a high flow of pedestrian and cycle movement related to general access to the Heath and associated facilities. The majority of pedestrian / cycle traffic relates to recreation and leisure (walking, cycling, dog walking, jogging, swimming etc) and also a high degree of utilitarian pedestrian and cycling uses with AM and PM peaks.

2.20 Data contained in the submitted CMP includes a snapshot of pedestrian movements through parts of Millfield Lane between the application site, the Heath, the Bathing Pond and pubic highway. Data is also provided by the City of London Corporation who have a pedestrian counter in the vicinity of the Bathing Pond.

2.21 Between the two sets of data it is evident that the Lane is well used with an approximate average of between 60 - 100 users per hour with peaks in excess of 130 users per hour. This equates to an approximate average of between 1 - 2 users per minute on the length of Lane between the application site and public highway, most of whom would be considered 'vulnerable road users' as pedestrians and cyclists and would include dog walkers, parents with children / pushchairs etc. it is expected that during periods of good weather / summer the level of users would be very high.

2.22 The nature of the Lane provides for a safe environment with adequate width to allow for these relatively high flows and the varying nature of users with limited conflict (dog walkers and cyclists safely passing for example).

2.23 The length of Lane between the application site and public highway is in the order of 205m. While walking speeds vary depending upon purpose of journey, environmental conditions (surface conditions, gradient or weather for example) or personal physical condition (mobility impaired, elderly, mothers with children or pushchairs or dog walkers for example), it is generally accepted that walking speeds are approximately 1.4m/s. On this basis, it is assumed the average pedestrian trip between the application site and the public highway would be in the region of 2 - 3 minutes depending upon various conditions.

3. IMPACTS

Construction Vehicle Movements

3.1 The submitted CMP includes preliminary assessments of the types and numbers of construction vehicles which would require use of the Lane to access the site.

3.2 The CMP sets out a 100 week construction programme with the duration of specific groups of activity broken down into weekly duration and anticipated HGV movement figures related to these activities. The assessment suggests there will be an average of 2 daily movements (noted as 1.8 movements in the CMP) through the 100 week construction period with an estimate of approximately 900 HGV movements over the construction period.

3.3 Further clarity is required in respect to the forecast HGV movements in reflection of any subsequent revisions to the extent of bulk material to be stored on site and the level of excavated material to be removed from site.

3.4 However, this headline figure may be considered misleading as there are times of more intensive HGV activity over prolonged periods within the 100 week programme. These lead to notable periods during which the average daily movements are higher than the stated average of 2 daily movements and these need to be considered in respect to the frequency of HGV movements and their impact on the normal operation and environment of the Lane.

3.5 Further clarity is required as to how these movements are classified in Table 3 of the CMP. It is not clear whether the movements listed in the table are based on single one way movements (i.e. an arrival AND departure being treated as two separate movements) or whether the table is based on two-way movements (i.e. arrival and departure being treated as a single movement. Clarification of this aspect has significant implications in respect to the impact on the normal operation and environment of the Lane.

3.6 While the point above needs clarification, based on Table 3 there could be a peak in daily movements in the order of 12 movements per day (assuming a 'best case scenario' whereby the table is treating an arrival and departure as two separate movements), made up of six arrivals and 6 departures. Further clarification is needed in respect to HGV numbers given that Table 3 suggests a total of up to 900 HGV movements during the construction period yet if the peak daily movements were used as a guide the total number of HGV movements could be significantly higher than those suggested in Table 3.

3.7 The differential between estimated / average level of vehicle movements and the potential level of numbers associated with peak levels of HGV movement is significant and should be a material consideration in understanding the extent of impact on the Lane therefore the applicant should provide further details, analysis and assessment of the impact of these movements.

3.8 In this regard, it must be noted that there has been concern raised among consultees regarding the proposals within the CMP for specific phases of the development and resulting HGV activity. The ability for demolition and excavated material to be crushed, stored and reused on site needs to be the subject of further detail together with the extent of demolition material to be removed from site and resultant HGV movements.

3.9 It is the view of consultees (basement impact assessment review undertaken on behalf of the City of London Corporation) that the volumes of crushed and excavated material able to be stored on site is over estimated and the volumes of crushed and excavated material required to be removed from site is also under estimated. This would result in a material change in the levels of HGV activity through the Lane, particularly associated with the more intensive period of activity including demolition / clearance, excavation and installation of king posts, piling and drainage etc.

3.10 This material change needs to be considered in respect to both the volumes of HGV movements and the periods over which these activities take place as well as the associated impact on the normal operation and environment of the Lane.

3.11 Given the constrained nature of the Lane and typical users (considered in more detail later in this review) the CMP details how HGV's would be escorted through the Lane by a team of banksmen with the trips being carried out at walking speed and suggesting all vehicles are stopped to allow other Lane users to pass. It is therefore assumed that (with HGV's being escorted at walking speed) that any trip through the Lane would take in the order of 2 - 3 minutes if the vehicle did not need to stop and wait for other Lane users to safely pass.

3.12 It must be noted that the figures in Table 3 of the CMP and those summarised above consider only the level of HGV movement associated with the site and do not include light goods vehicle or car trips (small delivery vehicles / trade vehicles / tradesmen for example) and therefore the level of traffic which would need to be escorted to and from the site could be significantly greater than that set out in the CMP.

3.13 The CMP provides limited coverage regarding the level and impact of light goods vehicles and other small deliveries which would be associated with the site. More detail needs to be provided in relation to the extent and frequency of such visits to the site and how / where they will be accommodated.

3.14 Consideration also needs to be given to the principles and practicalities of contractors not being able to bring their trade vehicles to site as suggested in the CMP. While the principle is supportive of good travel planning, there are concerns regarding some trades requiring bulky goods and tools which could only reasonably be transported and accommodated through LGV's and trade vehicles and also the degree to which trades people would require regular access to a wider range of tools than could reasonably be carried / transported on public transport / carried longer distances.

3.15 Based on the above, further detail would be required in regard to both number and frequency HGV and LGV movements to and from the site along Millfield Lane, the associated impact of these movements and any requirements for trades-people to have access to their vehicles.

Construction Vehicle Size

3.16 The CMP sets out a range of HGV's and construction vehicles which are anticipated to be required to undertake various elements of the forecast 100 week construction programme. The range of vehicles includes 4 wheeled / two axle HGV's / HIAB's (generally of 17tonne GVW) for skip's, piling and plant delivery, building panel delivery and general building material delivery.

3.17 The range of vehicles also includes specifications for 6 wheel / three axle HGV's (generally of 24tonne GVW) for mixed cement delivery, ballast / loose material delivery and (while not specified within the CMP) for removal of bulk extracted / crushed material removal in the form of tipper lorries.

3.18 The CMP also details typical lifting and excavating machinery which would be required during the construction.

3.19 The typical range of vehicles vary in size and relative manoeuvrability however, only one vehicle has been considered through the CMP tracking plots in the form of a 8.7m length 4 wheel / two axle lorry.

3.20 While the CMP suggests this is the most onerous vehicle to be used on site, there is a need to consider the tracking requirements of other vehicles in order to demonstrate these can pass through the useable width of the Lane. Most notably the 6 wheel / 3 axle vehicles which will be heavily used (given the volume of bulk material to be transported via mixed cement deliveries and movement of bulk materials) and will have differing turning radii to those already tested.

3.21 Additionally, there will be a requirement to consider movement of the anticipated lifting and excavating machinery, most notably the 24 tonne mobile crane and the implications of the swing of the crane arm in manoeuvring to and from the site and discrepancies between descriptions of excavation and demolition vehicles.

3.22 It is noted that the CMP states the demolition of the current building would be carried out from the Millfield Lane frontage using a tracked excavator. However, the range of vehicles listed later in the document lists only a 23 tonnes wheeled 360 excavator. There are significant differences in the specifications and dimensions of these two types of vehicles. Typically these vehicles are delivered to construction sites on flatbed articulated vehicles and it is important that the delivery and accessibility of these vehicles to the site is considered in detail.

3.23 An assessment also needs to be made of the vertical impact of vehicle movements through the Lane in respect to the height of specific vehicles and the extent to which the overhanging vegetation and veteran tress along the Lane (both in the form of shrubs / small branches to significant limbs of trees). This should consider vehicles such as mixed cement delivery vehicles (up to 3.8m in height), 24 tonne mobile crane (3 - 3.5m in height) and 23 tonne wheeled excavator (3.0 - 3.8m in height).

3.24 While there are clear differences in the length, height and manoeuvrability of the construction vehicles which will need to be assessed, there is a relative consistency in the width of the vehicles with most of those specified as being in the order to 2.5m in width (with the exception of the mobile crane and wheeled excavator which may exhibit additional width due to the retracted outriggers though this may be a marginal additional width).

3.25 Based on the above, further details would be required in relation to the range of construction vehicles which will be required to access the site and the ability of these vehicles to safely access the site in relation to their width, height and lenght.

Manoeuvrability on Millfield Lane

3.26 The submitted CMP includes a series of tracking plots for an 8.7m 4 wheel / two axle HGV. Notwithstanding the requirements set out above for additional tracking plots to be undertaken to assess the horizontal and vertical requirements for other vehicles, there are concerns raised in relation to the currently submitted tracking plots regarding the horizontal requirements of the vehicles and the useable width of the Lane.

3.27 As already noted, the typical vehicle width is in the order of 2.5m (as the vehicle manoeuvres through a bend the length of body and wheel track would result in width requirements in excess of 2.5m). The useable width of the Lane ranges from above 3.7m to below 3m in places. Plan 112/TK01 appended to this review, illustrates a vehicle of 2.5m width traversing the Lane (within the constraints of the useable width of the Lane) between the site and public highway. This illustrates the locations where the Lane is most constrained, with these ‘pinch-points’ presenting the greatest risk in respect of construction vehicles overrunning the useable carriageway, potentially causing damage to adjacent vegetated verges and potentially conflicting with other Lane users (as described in greater detail later in this review).

3.28 It is evident from the tracking plot illustrated on Plan 112/TK01 that there is very limited width within the useable Lane to allow for the safe passing of HGV's and other Lane users, particularly mobility impaired, parents with buggies or cyclists.

3.29 However, the tracking plots contained within the CMP have assumed the use of the full width of the Lane from boundary feature to boundary feature. In numerous areas this results in the tracking plots overrunning areas beyond the useable width of the Lane over rough ground or vegetated areas which, it is understood, are outside the scope of the applicant to clear or amend the surface. It is likely that any such overrunning would lead to material impacts on the structure of the Lane with the level and type of vehicle movement proposed in the form of significantly breaking up the surface / edge of the useable track, rutting and ponding.

3.30 It also appears that the track plots submitted with the CMP illustrate the test vehicle running as close to the southern boundary / rail fence as possible in places. However, it is considered that, in practice, such an HGV would manoeuvre with a much greater buffer between the vehicle and the boundary than that illustrated on the submitted drawing and this needs to be considered by the Applicants through any subsequent vehicle assessments.

3.31 There are numerous points on the Lane where vehicles need to turn through radii bends and as detailed above, this will result in the general width requirement being in excess of 2.5m. Consideration needs to be given the vehicle numbers and characteristics that will be manoeuvring through the Lane in that a significant volume of HGV's will be laden 24 tonne vehicles. This would act to exacerbate the breaking up of the surface / edge, rutting and ponding and would also have a significant impact on the surface and substructure integrity of the Lane in areas where vehicles are turning through radii bends with the additional heave and loading of the vehicle wheels on the surface.

3.32 This issue also needs to be considered in respect to the vegetation adjacent to the Lane. The south-western boundary of the Lane with the Heath is populated by numerous trees, some of which are significant and in very close proximity to the Lane. A number of these trees are recorded as Veteran trees which have been historically recorded on the Heath. The proposed level and compound weight of the HGV movements would result in significant compaction or degradation of the surface in the vicinity of the trees and may result in damage to root areas. This needs to be fully assessed in relation to the volumes of material and movement proposed in the CMP in conjunction with relevant arboricultural assessments.

3.33 Further investigation is needed in regard to the movement and tracking of a range of vehicles through the Lane and the associated impact on surrounding ecology and hydrology systems. Evaluation of the effect the increase in vehicular traffic will have on water quality and the wildlife nearby will need to be considered via relevant additional assessments.

Manoeuvrability at Site Access

3.34 The CMP includes tracking plots for an 8.7m length 4 wheel / two axle HGV at the site access. These illustrate an HGV pulling forward past the site's north western boundary and then reversing into the site via the existing concrete ramp. As with the issues raised regarding the need to undertake further tracking plots on the Lane, there is also a need to consider the tracking requirements of other vehicles into and out of the site in order to demonstrate these can pass through the useable width of the Lane.

3.35 Most notably the 6 wheel / 3 axle vehicles which will be heavily used (given the volume of bulk material to be transported via mixed cement deliveries and movement of bulk materials) and will have differing turning radii to those already tested. Additionally, there will be a requirement to consider movement of the anticipated lifting and excavating machinery, most notably the 24 tonne mobile crane and the implications of the swing of the crane arm in manoeuvring into and out of the site.

3.36 It is noted that the tracking plot submitted illustrates the test vehicle reversing into the site. This raises serious road safety concerns given the recognised high incidence of construction / work place injuries caused by reversing vehicles. This needs serious further consideration given the proposed manoeuvre takes place on the Lane in reflection of the high levels of pedestrian and cycle movements.

3.37 It is also noted that no tracking plots have been submitted illustrating whether / how typical HGV's would safely exit the site in a forward gear. Serious safety concerns would be raised if the CMP were to rely on construction vehicles turning right out of the site and then reversing the length of the Lane.

3.38 Autotrack swept path analysis has been undertaken as shown on appended Plan 112/TK02. Given that the submitted CMP specified the regular use of a 3 axle tipper of some 8m in length, this vehicle has been tracked on the topographical base provided by the City of London.

3.39 In this regard, a concrete mixer has been tracked (3 axle, 8.36m in length), performing the same manoeuvre as included with the submitted CMP i.e. reverse in off Millfield Lane and drive out. The manoeuvres on Plan 112/TK02 show that a concrete mixer is not able to reverse in off Millfield Lane without either encroaching on land owned by The Wallace House or colliding with the current fence line and trees within The Water House.

3.40 An alternative manoeuvre has also been considered whereby the concrete mixer drives into the site and reverses out onto Millfield Lane. The reversing manoeuvre in this instance still conflicts with the Water House fence line, though to a less extent. It is noted that reversing out onto Millfield Lane would be a dangerous manoeuvre given the level of pedestrian / cycle traffic, particularly given the vicinity of the access to the Ladies Kenwood Baths.

3.41 In any case, without the ability to turn construction vehicles within the site, all access / egress manoeuvres would at some point require a vehicle to travel beyond the north-western boundary of the Water House on Millfield Lane and / or potentially reverse out of the site onto the Lane. These vehicles would have no right of access over this part of the Lane with the potential of reversing out of the site raising serious safety concerns and this is therefore considered to be unacceptable.

3.42 Vehicle stability and load stability should also be considered in construction vehicle movement through the site access given the change in level through the access from the Lane to the site and any risk of loads falling from vehicles.

3.43 Based on the above points, the CMP needs to provide further detail on the safe and acceptable movement of construction vehicles between the site and Millfield Lane.

Manoeuvrability within the Site

3.44 In light of the constraints in typical construction vehicles as illustrated in drawing number 112 / TK02 (notwithstanding the need to undertake tracking of further vehicle types), and the need to avoid any vehicle reversing within the Lane (with health and safety implications for Lane users) there should be a clear requirement in the CMP for all vehicles to be able to safely turn within the site, clear of the public to allow then to enter and exit in a forward gear.

3.45 The CMP does not provide sufficient detail of the site logistics and safe operation. Within the constraints of the outline of the existing and proposed buildings, specific areas should be designated by purpose:

- Scaffolding zones;
- Excavation zones;
- 'Buffers' around the building;
- Tree Protection Areas:
- Safe / secure compounds for the delivery, storage and access of building materials;
- Safe / secure, storage and access of bulk material (in respect of crushed and excavated material proposed to be stored and re-used on site);
- Site office and welfare facilities;
- Specified routes for construction vehicle access;
- Storage and location of lifting equipment;
- Area for construction vehicles (including 24 tonne) tipper lorries to be able to safely turn on site;
- Parking area for light vehicles (eg. for site foreman, building inspector or emergency vehicle).
- Consideration and inclusion of any further areas which require specific buffers in the internal construction layout such as root protection areas or land boundary features.

3.46 As detailed above, there would be significant safety concerns should construction vehicles not be able to safely turn within the site and would, as a result, be required to reverse out of the site onto the Lane.

3.47 The CMP should include details regarding the layout of the construction site and relevant phases of construction to demonstrate the site can safely accommodate construction traffic access and turning within the site.

Potential Conflict on Millfield Lane

3.48 As detailed above, the Lane carries relatively high volumes of pedestrian and cycle movement (in the order of 1-2 movements per minute) within an approximate usable width of between 2.7m and 4m. The proposals within the CMP would see the Lane, in its current form, accommodate an estimate of up to 900 HGV / construction vehicle movements over a 100 week period (though it is possible this figure would be revised upwards in light of comments relating to bulk material storage and removal).

3.49 The peak periods of HGV activity may result in several movements on the Lane during each working period (no figure is stated as the Applicant has been requested to clarify a number of points relating to the number of HGV movements) with these movements being undertaken at walking pace.

3.50 On this basis, it is likely that any single escorted HGV movement would conflict with an average of 2-6 pedestrian movements on the Lane and there would need to be mechanisms in place to allow the safe passage of Lane users and construction traffic.

3.51 The CMP had relied on the available width of the Lane from boundary feature to boundary feature and the ability to remove vegetation / re-surface rough ground in providing a 1.2m pedestrian refuge and appropriate holding / passing spaces. However, as detailed above, the extent of useable width of the Lane is significantly more limited with significant lengths of the Lane not able to accommodate the HGV width and safe passage of pedestrians.

3.52 On the basis of the City of London Corporation topographical survey, approximately 21% of the length of Lane is at 3.7m or above allowing for a minimum 1.2m pedestrian refuge / holding and passing areas.

3.53 The remaining length of the Lane would not be able to provide this level of refuge with a significant proportion of the Lane being less than 3.5m resulting in less than 1m refuge / passing space, particularly so at the identified 'pinch points' on plan 112/TK01.

3.54 It should be noted that within the CMP considerations, there is no buffer or margin for error in the passage of HGV's through the Lane so it is likely that some instances would result in less refuge / passing space than that based on the above.

3.55 It is therefore highly likely that the proposed use of the Lane for the passage of high volumes of construction traffic would bring about significant health and safety implications for the users of the Lane.

3.56 Based on the above, additional consideration is required in relation to the safe access and use of construction vehicles on Millfield Lane together with the safe passage of typical users of the Lane.

Structure of Millfield Lane

3.57 The CMP suggests Millfield Lane exhibits a CBR (California Bearing Ratio - a measure of the strength of the structure and sub-structure of the Lane in relation to load bearing capacities) of up to 30%. This suggests the Lane is of a very high load bearing capacity which does not seem to relate to observations of the surface of the Lane.

3.58 The applicant would need to provide full details of the methodology and results of relevant CBR testing to demonstrate the suggested CBR values.

3.59 There are concerns regarding the impact of the passage of laden HGV's on the Lane in relation to the wear and tear and compaction of the route surface and sub-structure.

3.60 Consideration needs to be given to the implications of surface / structure compaction on the adjacent trees (particularly the Veteran trees within the adjacent Heath) and also on the hydrology of the Lane in relation to water passage through the structure of the Lane and over the surface of the Lane.

3.61 Consideration of any changes in surface water run-off should also consider the impact of any vehicle contamination resulting from vehicle / wheel-washing facilities within the site.

3.62 Any further assessment of the impact of the construction traffic on the Lane structure and compaction may need to reference further hydrological and arboriculture assessments.

4. SUMMARY

4.1 This document provides an independent review of the submitted Construction Managment Plan (CMP), for the proposed residential development of a single dwelling at The Water House, Millfield Lane, Highgate. The CMP formed part of a planning submission package to Camden Council registered in November 2011, ref: 2011/4390/P.

4.2 It is considered that the submitted Construction Management Plan does not sufficiently address the constraints and highway / vehicle access considerations of the range of construction vehicles required to re-develop the site and it does not adequately address the safety implications of using the Lane for construction vehicle access in relation to the levels of pedestrian and cycle movement on the Lane.

4.3 The submitted Construction Management Plan should be revised to provide further details regarding the following areas:

- Further details and clarification regarding the level of construction vehicle movements in addition to the level of light-goods, trade and delivery vehicles including further consideration of requirements for trades-people to have access to tools / vehicles given the proposed Travel Planning measures.
- Further details and assessment of the level of excavated and crushed material able to be stored on site and further assessments of the level of material required to be removed from the site.
- Further details regarding the range of construction, delivery and lifting / excavating vehicles which would require access to the site, demonstration that these vehicles can safely access the site within the useable width of the Lane and that these vehicles can safely operate within the site.
- Review the extent of these construction vehicles access through the Lane in reflection of the useable width of the Lane and safe passage / passing of other Lane users, particularly vulnerable users.
- Further assessment of the range of construction vehicle movement into and out of the site access in a forward gear and demonstrate safe turning within the site in relation to the constraints of the wider construction site requirements.
- Further details on the implication of vehicles passage on soil compaction and surface structure including considerations of root compaction on protected trees, hydrology and surface water run-off and associated vehicle cleaning / contamination of water.

It is recommended that Planning Permission is not granted until the details set out above have been addressed to the satisfaction of both the Highway and Planning Authorities for reasons principally relating to highway safety for users of the Lane and lack of information demonstrating the required construction vehicles can safely access, enter and exit the site in a forward gear.

APPENDIX 1

Proposed Residential Development at

The Water House, Millfield Lane

Construction Management Plan

Prepared for

Mr & Mrs Paul Munford

Revision H

March 2013
Status:- Post Submission Update 2

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1.0 Introduction

Construction Planning Associates and Motion Transport Planning have been instructed by Mr & Mrs Munford to produce a Construction Management Plan (CMP) in relation to the proposed redevelopment of the Water House, Millfield Lane, Highgate, London. The development proposals involve the demolition of the existing house and the construction of a high quality 2 storey family home with basement along with a separate guest bedroom chalet. The location of the site is shown on the ordinance survey plan at Appendix A.

This document has been jointly prepared by Construction Planning Associates (CPA) and Motion Transport Planning (Motion). CPA established for 18 years is a practice specialising in advising clients, designers and contractors on construction methodologies and programme covering the full spectrum of projects from large domestic to neighbourhood redevelopments. Motion is a practice providing specialist transport analysis to a wide range of clients including a number within Fitzroy Park.

The purpose of the CMP is to ensure that the impact of demolition and construction work on the local residents and the immediate highway network is minimised. The CMP provides detail of all measures that are considered appropriate at this time; however, the CMP is a live document that will evolve as necessary to address issues that may be identified through ongoing consultation with local residents as the project progresses.

The Contractor's Project Manager will be responsible for implementing measures contained in the CMP and will be the point of contact for local residents during the construction process. The Contractor's Project Manager's name, telephone number and email address will be added to the CMP once he/she has been appointed and displayed on the site boundary. Prior to the appointment of the contractor the implementation of any necessary measures will be managed by Mr & Mrs Munford's Project Architect Mr Stuart McLauchlan. (Contact details StuartM@shh.co.uk Telephone 020 8600 4171, Postal Address:- SHH Architects, Vencourt Place, Ravenscourt Park, Hammersmith, LondonW6 9NU)
This document has been prepared with input from the project architects, planning consultants, structural and civil engineers to ensure that the CMP can comprehensively address all issues that may arise during demolition and construction works.

1.1 Site History

The site is currently occupied by a 2 storey house and swimming pool. The house was previously completely rebuilt after a fire in the 1970's and extensively modified and extended in 1990's. The site forms part of the original estate of Fitzroy Farm which has been subdivided into the current plots during the post war period.

The site only has vehicle access along Millfield Lane. Pedestrians can access the site from Millfield Lane and via a narrow pedestrian access from the rear of the property onto Fitzroy Park.

1.2 Pre-Application Community Engagement

As part of the scheme development, Mr & Mrs Munford and their project team have carried out extensive pre-application community engagement with the following parties in the 10 months up to submission of the planning application, to discuss both the scheme and the construction management:

- Fitzroy Park Residents Association
- Mr Derrick Dale, Wallace House (neighbour)
- Mrs Karen Beare, Dormers, Fitzroy Park (neighbour)
- Mrs Lynne Turner-Stokes, Fitzroy Park (neighbour)
- Occupier of Fitzroy Lodge (Frontage on Millfield Lane)
- Dr Colin Cooper Apex Lodge (Frontage on Millfield Lane)
- Simon Lee of the City of London, Superintendent Hampstead Heath, (City of London manage and maintain Millfield Lane in the vicinity of the site)
- Hampstead Heath Consultative Committee (HHCC)
- Highgate Society,
- The Kenwood Ladies' Pond Association and managers
- London Borough of Camden

In developing the overall building design and the CMP, the views and comments made by the local community have been fully considered and the evolving design and methodologies have been adapted and revised where appropriate.

The consultation with local residents and interested parties has been carried through the planning pre-application process, and the CMP has been be updated to reflect the feedback and the changes made to the scheme arising from this wide ranging and extensive consultation.

In addition to meeting with the neighbouring property owners 2 formal presentations and meetings have been held with the Hampstead Heath Consultative Committee, under the aegis of the City of London Superintendent of Hampstead Heath. Other local interested parties were also invited and attended these presentations.

As a result of these extensive local consultation and dialogue the scheme has been amended to respond to the various issues and concerns raised

- Overall size of the building reduced
- Position of building adjusted on site away from Wallace House boundary
- Volume of building reduced, library basement omitted
- Volume of bulk excavation reduced
- Height of southern building wing reduced
- Hydrology modelled in both temporary and permanent conditions
- Millfield Lane surfacing and improvements aligned with feedback
- Millfield Lane movement control aligned with feedback
- Total vehicle movements along Millfield Lane reduced
- Daily cap of 8 vehicle movements in total for both HGV and LGV for 94 of the total 100 weeks construction period and a cap of 12 daily movements for intermittent peak periods over 6 weeks.

The full engagement and practical response to the various concerns expressed during the consultative process indicates Mr & Mrs Munford's commitment to a real engagement process with the local residents and other interested parties.

2.0 Programme & Construction Methodology

As planning approval has yet to be granted, the programme below provides an indication of the duration of each phase of the works. The programme will be updated with the dates envisaged for each phase of works once planning permission has been granted, a contractor has been appointed and the date for works to start on site has been determined. It is currently anticipated that the overall construction period will be 100 weeks, with a further period of 6 weeks for installation of furnishings, decant and occupation.

Works Phase	Duration	Typical Labour levels (excluding management & supervision)
Site mobilisation & establishment	4 weeks	6
Demolition & site clearance	5 wks	8
Temporary works & excavation	7 wks	14
Piling, GSHP & drainage	6 wks	14
Lower ground floor & pool	9 wks	20
Suspended ground floor slabs	7 wks	20
Superstructure Frame & Roof	10 wks	20
Envelope	14 wks	24
Internal finishes	28 wks	32
Phase 2 Library structure (overlaps with Finishes)	(24 wks)	8
External landscape (overlaps with finishes)	(12 wks)	8
Commissioning final fit out and furnishings	8 wks	10
Overall works	100 wks	

Table 1 – Anticipated Labour levels

2.1 Demolition

The existing building comprises a masonry façade with tiled pitched roofs. The existing foundations are strip footing and a ground bearing floor slab. There is also an existing swimming pool and associated plantroom.

We have reviewed the existing materials within the buildings and have concluded that with the exception of some of crushed floor slab and foundations there are no opportunities for re-use of the existing materials within the new building. The brick and elements of the façade and internal wall bricks together foundation concrete will be crushed on site. The resulting granular material will be used in the new building as granular fill, and as part of the temporary works.

The remaining demolition materials will be separated on site with all recyclable material (timber, metals and glass) being taken for reprocessing, such that the volume of arising to be sent to landfill will be minimized to those material such as plaster which cannot be recycled.

The demolition process will be carried out within a three sided sheeted scaffold enclosure to ensure that there is no migration of dust or debris onto the adjoining properties. The demolition will be carried out from the Millfield Lane elevation using a tracked excavator with appropriate attachment. The on site crushing will be carried out using a compact portable unit with integrated dust and noise suppression. The volume of material involved will not require the crushing machine to run for more that 2-3 hours per day over the 2 week dismantling period. It is therefore expected that the volumes of dust generated by the dismantling of the existing house will be limited.

2.2 Excavation & foundations

The excavation of a building's foundations is a major source of bulk materials and vehicle movements and also a major source of imported materials. As part of the overall environmentally aware design philosophy of the building, it has been decided to maximize the reuse on site of materials arsing from the foundation and basement excavation. This has been integrated into the partial buried aspect of the new building, which utilizes 525m3 (30%) of the total 1054m3 of bulk materials as part of the overall site landscaping scheme. This will reduce the number of material collections by 150 vehicle movements, when compared with traditional off site disposal.

The lower ground floor is part cut into the sloping site and will be constructed in a kingpost wall supported excavation. The kingpost piles will be installed from the existing ground level following demolition of the existing building. The new building is also supported on piles and the contractor will have the option of either installing these piles at the same time as the kingpost piles, or installing the piles from the lower ground floor slab formation level. If the building piles are installed with the kingpost piles then these will need to be cased for the depth from existing ground level to the new formation level, however the piling equipment will only require to be mobilized once. Where the building piles are formed after the general excavation the casing and empty bore will be saved, but the rig will require to be mobilized twice. The final selection of these options will be the discretion of the contractor, however it has been assumed for the purposes of the CMP that the piling will be completed in two distinct operations. The geothermal ground source heating pipework is integrated in to the building and kingpost piles and will this be installed with the relevant piling operation

The piles will be installed using a compact hydraulic mini pile rig. This rig has a separate power pack unit. The rig is 2.9m long and 1.25m wide in its shipping mode with the trailer mounted power unit being a similar size. The installed piles will be between 300 and 350mm in diameter and will vary in length to suit the structural and geothermal requirements of each pile. Concrete for the piles will be delivered in a standard 6m3 ready mix concrete vehicle and will be held in an agitator for distribution to each of the piles as it is formed

The building forms a 'L' shape in plan, and the only access is gained via the existing driveway. In order to access the main block of the building the leg of the 'L' adjacent to the driveway will not be constructed until the structural shell of the main block has been completed. Consequently the foundations and structure of the building will be formed in two phases as illustrated in Appendix B. The area currently occupied by the existing swimming pool and the front lawn will form a working area to access the main block.

The shape of the site will restrict access to the rear of the building. A site access road will be formed between the east gable end and the site boundary with Nr 55 Fitzroy Park. This will incorporate tree route protection where necessary and will allow site dumpers, excavators and similar site plant to access the rear elevation of the building. Access to the rear will not be required once the main superstructure has been completed and the rear basement structures have been backfilled. At this point the temporary access road will be removed to allow completion of the landscaping works.

The lower ground floor and pool excavation for Phase 1 will be formed using a compact hydraulic excavator, with the arisings being loaded directly into dumpers for stockpiling at the rear of the site for later re-use or loaded into 6 wheel tipper lorries for off-site disposal. Drainage runs will be installed on completion of the piling, with the reclaimed granular demolition material being used as backfill and also providing the sub-base for the ground floor slab, making further savings in the use of imported materials.

2.3 Lower Ground floor

The ground floor slab bears directly onto the piles and is formed by a concrete 'flat slab'. This form of construction has been adopted into order to minimise the excavation quantities and material import. The swimming pool slab and pool plantroom slabs will be formed at the same time as the ground floor slab, using a similar construction methodology. The concrete for the slab will be placed using a telescopic handler mounted skip, where direct discharge is not possible.

2.4 Superstructure Frame & Envelope

The structural frame of the new house will be constructed using a mix of concrete and structural steel. The floor slabs will be a mix of insitu concrete on temporary formwork or concrete on permanent steel 'holorib' decking, selected to suit the requirement of each specific element. The roof structure will be formed using a structural steel frame and cold rolled sections to a low pitched timber and insulated decked covered with a single ply membrane.

The superstructure frame will be erected using a rough terrain mobile telescopic crane, which has been selected for its compact size and enhanced manoeuvrability both in accessing the site and in use on site. The crane will be positioned so that the lifting radius remains within the confines of the property boundaries at all times. The steel frame sections will be sized to ensure that these can be contained within the bed length of a 17 tonne 2 axle lorry.

The building envelope utilizes a mix of rendered and timber clad elevations with curtain walling and stone clad feature panels to the main garden facing facades. Mortar for the internal leaf backing blockwork will be supplied using an ultra quiet electric silo plant, so as to minimise waste, avoid open sand and cement storage, and reduce noise and dust nuisance. The curtain walling and window system will be installed following completion of the structural frame and be accessed together with the brick work, from a perimeter standing scaffold.

2.5 Internal finishes

The internal finishes for the building will use a high proportion of pre-fabricated and pre-finished materials, ranging from the main feature staircase, to joinery and stone flooring. The internal partition walls will generally be formed for dry construction to minimize the volumes of material import. The building will also incorporate a rain water harvesting system which will utilize stored rainwater for flushing of toilets and irrigation of the landscape.

The finishes have been chosen to limit the volume of site works and the number of operatives required to complete the installation, as well as limiting the volumes of waste materials generated by the installation.

2.6 Landscaping

The landscape works will take place in to two phases. The initial phase will comprise the re-levelling of the rear elevation of the building to cover over part of the lower ground floor to accommodate some of the excavated material generated during the foundation phase. The second phase will comprise the topsoil and planting to the main lawn and the area adjacent to the new building, and will take place during the later stages of the internal finishes.

3.0 Access

3.1 Access Routes

All demolition, construction and delivery vehicles will approach the site from Highgate West Hill and then Merton Lane before turning right into Millfield Lane. Vehicles leaving the site will use the same route. The section of Millfield Lane leading to the Water House from Merton Lane, is a single carriageway road with no footways. The road varies in width from some 3.8 metres to 6.4 metres. The following table shows how the lane varies in width between Merton Lane and the Water House.

Width of Millfield Lane	Proportion of Length
Between 6.25 and 6.38 metres	5.5%
Greater than 6.25 metres	9.2%
Greater than 6 metres	12.6%
Greater than 5.75 metres	18.9%
Greater than 5.5 metres	23.8%
Greater than 5.25 metres	37.9%
Greater than 5 metres	59.1%
Greater than 4.75 metres	82.4%
Greater than 4.5 metres	90.3%
Greater than 4.25 metres	98.4%
Greater than 3.8 metres	100%
Note - Typical Construction Vehicle Width up to 2.5 metres	
Table 2 – Millfield Lane Width	

Millfield Lane provides vehicular access to the Water House and is also used by Hempstead Heath maintenance and service vehicles. As such, vehicle movement is relatively infrequent. The lane is also used by pedestrians and cyclists including visitors to the Kenwood Ladies Pond, access to which is located opposite the Water House.

3.2 Vehicle sizes & tracking

The following list provides detail of the type of vehicles that will need to gain access to the site during the demolition and construction process. The vehicles proposed have been selected to ensure that they are of a size that can be accommodated on the highway network given the constraints of the site access route, whilst minimising the potential number of traffic movements to and from the site. For example, during the demolition and excavation phase, 3 axle tipper trucks are proposed rather than larger 4 axle tipper trucks. Images providing a comparison of 3 and 4 axle tipper trucks are provided at Appendix C.

- Skip Lorry 4 Wheel, 17 Tonne, G.V.W
- Piling plant delivery 4 Wheel, 17 Tonne, G.V.W
- Concrete Delivery Vehicle 6 Wheel, 24 Tonne, G.V.W
- Building Panel Deliveries 4 Wheel, 17 Tonne, G.V.W
- Ballast and Loose Materials 6 Wheel, 24 Tonne, G.V.W, Tipper
- General Building Materials 4 Wheel, 17 Tonne, G.V.W, HIAB Flat Bed
- Wheeled 360 Excavator, 23 Tonne GVW
- Mobile All Terrain Crane, 24 Tonne GVW (Terex RT 230 or similar)

Highgate West Hill and Merton Lane are currently being used by construction vehicles of this size for other construction projects on Fitzroy Park and the use of these roads by vehicles of this type has been considered by the highway authority prior to the grant of planning consent for these development schemes. It should be noted that the use of these routes by construction and demolition vehicles has not resulted in the need for the suspension of any on-street parking bays or any other physical mitigation measures.

Swept path analysis has been undertaken to demonstrate that an 8.7 metre rigid/flat bed construction vehicle can manoeuvre to and from the site via Millfield Lane and leave sufficient space for pedestrians to pass. This type of vehicle has been used for the exercise as it is the longest, and most onerous in terms of manoeuvrability, of the construction and demolition vehicles that will be used on site.

The swept path plots are attached at Appendix D. The plots show that Millfield Lane can accommodate vehicles of this size and that space is available for pedestrians and vehicles to pass. However, given the width of Millfield Lane, measures will need to be implemented to manage the interaction between construction vehicles and other users of the Lane. These measures are considered in detail in Section 5 of this report.

3.3 Vehicle movements

Construction vehicle movements will not be permitted at weekends or during public holidays and will be scheduled to take place between the hours of 08.00 and 14:00 and 15.00 to 18.00. The delivery cessation period from 14.00 – 15.00 has been selected in conjunction the Planning Authority to coincide with the peak pedestrian movements identified in the Millfield Lane movement survey detailed in Appendix E. The delivery free period can be adjusted to align with the peak pedestrian movement hour observed as the works proceed.

Heavy goods vehicle movements will also be scheduled so as to avoid more than one movement every 30 minutes. This will ensure that no more than one vehicle will be on site, or on the local road network approaching it, at any one time. The following table provides a breakdown of the number of vehicle movements during each phase of the construction process.

A delivery will comprise of two movements, arrival and departure. The movement table will be updated to provide more specific detail of anticipated delivery times once planning permission has been granted and the date for works to start on site has been determined.

Works Phase	Duration	Total HGV movements	Average daily movements	Peak daily movements
Site set up and establishment	4 wks	10	0.5	Max 4 per day
Demolition & site clearance	5 wks	116	4.6	Max 8 per day
King post & bulk excavation	7 wks	146	4.6	Max 12 per day*
Piles & drainage	6 wks	125	4.2	Max 12 per day*
Lwr grd,& pool slab & walls	9 wks	48	1.1	Max 12 per day*
Suspended Grd floor slabs	7 wks	59	1.7	Max 8 per day
Superstructure Frame	10 wks	72	1.4	Max 8 per day
Envelope	14 wks	65	1.0	Max 8 per day
Internal finishes	28 wks	79	0.6	Max 4 per day
Phase 2 structure (overlaps with finishes	(24 wks)	93	0.8	Max 8 per day
Commissioning final fit out & furnishing	8 wks	10	0.25	Max 4 per day
Landscape (phase 2) (overlaps with finishes)	(12 wks)	75	1.2	Max 8 per day
Total	100 wks	898	1.8	
* Peak of 12 movements will occur in no more than 6 intermittent weeks during these phases				

Table 3 - Vehicle Movements

3.4 Phasing and Peak movements

Within the overall project average of 1.8 HGV movements per day (i.e. 1 HGV delivery) there will be some variability and peaks of activity. These will particularly be associated with the foundation stages when excavations are taking place and the foundation structures are being cast. These variations are noted in Table 2 and peak with the two phases of the foundation construction. The peak periods will be limited to a total of 6 intermittent weeks occurring during bulk excavation, piling and lower ground floor slab construction period. The construction programme for the works is currently aligned such that this peak occurs during the winter months and will coincide with the period of lower pedestrian activity along Millfield Lane. The final alignment of the works programme is however dependent upon the timing of the receipt of a planning consent, and the project programme does allow for the full statutory period for determination of the application.

3.5 Light goods vehicles (LGV)

During the consultation local residents have expressed concerned over the number of light goods vehicles and cars which may access the site in addition to HGV movements. The restricted space on site will prevent the use of the site for any vehicle parking for the contractor's staff or operatives. This will be reinforced by a specific restriction contained within the construction contract documentation. There will be a residual volume of light deliveries by van for smaller elements and for day to day incidental requirements. The number of these is difficult to predict due to their variable and incidental nature. It would be anticipated that the average for these deliveries will be in the order of 2 movements per day. In order to respond to the concerned expressed by the residents, the CMP and construction contract documentation will further restrict the LGV movements such that total number of daily movements of all types will NOT exceed the maximum numbers stated in Table 2.

The imposition of an absolute limit of all vehicles types, covering HGV's LGV and other vehicles using Millfield Lane in connection with the Water House development has been introduced to limit the effect of the works upon the other users of Millfield Lane and to limit the potential impact of the works on the public amenity of the heath users.

The commitment to a daily maximum of this type is in response to the concern expressed during the consultative process and indicates Mr & Mrs Munford's full commitment to meaningful engagement with local residents and other interested parties.

3.6 Interface with adjoining sites

Table 3 indicates typical daily vehicle movements and the maximum number that is predicted would occur. The range between average and maximum number of daily vehicle movements will provide an element of flexibility during each of the building phases. No other properties currently use Millfield Lane for vehicle access, it is however noted that there are some works currently taking place at 51 Fitzroy Park, and at Fitzroy Farm. Consent has also recently been granted to 53 Fitzroy Park with these works anticipated to commence early in 2013. All three sites are located on Fitzroy Park and use Merton Lane as their access route.

The Construction Management Plans for these sites indicate that by Summer 2013 (the earliest start on site date currently anticipated at the Water House) works at 51 Fitzroy Park and Fitzroy Farm will be complete, whilst the more intensive period of construction in terms of vehicle movements at 53 Fitzroy Park will have passed. It is therefore unlikely that any congestion will occur at where the access routes converge at the southern end of Merton Lanes at its junction with Millfield Lane and Fitzroy Park.

In the event that construction works on Fitzroy Park coincide with works at the Water House, there is flexibility within each of the building phases to enable vehicle movements to be scheduled so as to limit the cumulative daily impact of construction vehicles associated with the Water House and other development sites.

4.0 Nuisance Control

A range of measures will be implemented to ensure that the potential impact of the works on local residents and neighbours will be minimised. These measures are discussed in turn below.

4.1 Dust Control

Water dampening measures will be used during the demolition process, which will significantly control dust generation. Dust screens will also be incorporated during this element of the project. The dust screen will be formed using a fully sheeted scaffold around the three sides to the height of the existing building, with the Millfield Lane elevation being left open to access the works. This will form a cocoon within which to carry out the dismantling work of the existing building. This scaffold will be dismantled once the demolition works is completed to allow for access to the new building foundations.

Dust generation during the next phase of the work for the new house basement and substructure will be limited, as it is currently envisaged that this works will take place during the winter. Any dust generated by vehicles moving along Millfield Lane removing surplus materials will be very limited due to the time of year, the limited number of daily movements and restriction of speed to walking pace behind vehicle banksmen.

It should be also noted that concrete is delivered wet, and that the superstructure steel frame is delivered as fabricated elements with the cladding and glazing panels pre-cut to size so that the potential for dust generation has been limited by the selection of materials and methods.

4.2 Wheel Wash

Site vehicles will have wheels washed down prior to leaving the site so as to reduce unwanted debris spreading onto Millfield Lane. A temporary concrete slab will be installed at the entrance to the site to form an impervious surface that can be used as a wheel wash area.

Waste water from the wheel wash, and also from general site operations such as damping down and concrete delivery washout, will be stored in temporary 'silt buster' holding and separation tank on site the level of which will be monitored by the Principle Contractor. When full, the tank will be emptied by a registered waste disposal contractor using a vacuum tanker and transported to a local depot for processing prior to disposal. The total volume of concrete used on the site is limited and we anticipate that the tank will require to be emptied 3 -4 times during the execution of the works. This operation will be controlled by a consignment note to allow full traceability of all material removed from site.

4.3 Noise Control

Trees and walls that surround the Water House will assist in acting as a noise barrier. The noise levels associated with particular materials has, and will continue to be taken in consideration as part of the design specification process. The building contract will require the use of noise suppression equipment which complies with or exceeds the current codes of practice. Building work will be limited to the hours of 08.00 to 18.00, with no works taking place at weekends or on public holidays.

4.4. Site Security

All construction materials will be stored within the site. It is proposed that solid boarded 2.4 m hoardings will be erected along the site boundary with Millfield Lane. Access gates will be formed in the fence to main entrances to the site on to Millfield Lane. The site will be locked outside of working hours to ensure that all materials and equipment are stored securely

4.6. Consultation with Local Residents

It is proposed that a Construction Working Group will be formed by the Contractor's Project Manager to ensure that local residents and other interested parties are aware of how the construction works are progressing and to provide them with the opportunity to raise any issues that may arise as they occur. A direct dial number of the client's on-site agent will also be provided so that any issues can be reported.

Representatives of the Heath Consultative Committee, the City of London and the Kenwood Ladies Pond Association will be invited to join the Construction Working Group as well as any other parties affected by the works and Council Officers.

The Contractor's Project Manager will keep in regular contact with local residents, affected parties and the Council by sending a fortnightly update by email, and post if necessary. It is also proposed that monthly Construction Working Group meetings will be held if all parties agree that they are required.

The Contractor's Project Manager will liaise with any other contractors carrying out construction works in the vicinity of the site to ensure that the combined impact of development is kept to an absolute minimum.

4.7 Travel Plan

There will typically be a total of up to 20 construction workers on site, although this may increase to 32 during the later stages of the project when the internal finishes and landscaping phases are being undertaken. It will be a condition of the building contract that no workers vehicles will be allowed on to the site and construction works must access the site on foot along Millfield Lane.

To minimise the potential impact of construction workers travelling to the area, a Travel Plan will be implemented to promote and encourage the use of sustainable mode of travel to and from the site and minimise the use private cars. Construction workers will be instructed not to park private vehicles on Fitzroy Park.

The Travel Plan will take the form of a leaflet that will include details of local public transport services, promote walking and cycling and encourage car sharing. Consideration will be given to the operation of a shuttle bus service to and from the junction of Millfield Lane with Merton Lane from nearby public transport nodes.

4.8 Groundwater & Surface water run-off

The existing land drainage network will be located prior to the demolition of the existing building, and any necessary temporary or permanent diversions will be install in order to maintain continuity of sub-surface groundwater flows as recommended in the Hydrogeology report.

New land drains will be installed as part of the bulk fill and re-grading of the site, and these will be designed to maintain the current groundwater flows across the site. Surface run-off from the temporary hardstanding areas will be directed via a temporary settlement tank prior to discharge into the existing land drainage system. Surface water flow from potential sources of contamination such a concrete delivery washout points, mortar silos and plaster mixing baths will be separately contained and will not be discharged into the land drainage system.

5.0 Pedestrian and Road User Safety

As discussed in Section 3, Millfield Lane between the site and Merton Lane is a narrow single carriageway road that is used by very few vehicles but is a commonly used pedestrian route. It is proposed that a number of measures be implemented during the proposed demolition and construction works at the Water House so as to mitigate against any safety issues that could arise as a result of the use of the route by construction traffic and to maintain the visual and recreational amenity of the lane.

5.1 Current Utilization of Millfield Lane

Data provided by the City of London shows that on average, between 7am and 7pm on a weekday, pedestrian flows on Millfield Lane are in the order of 1000 movements. The number varies throughout the year, with winter months being quieter and summer months being busier.

Further movement surveys were undertaken on Thursday 7th April 2011 between the hours of 0800 and 1800. The counts took place on Millfield Lane to the north west of the public toilets on Hampstead Heath so as to record pedestrian and vehicle movement between Millfield Lane and the heath as well as from Merton Lane.

The results of this survey are presented in Appendix E. In addition to the raw survey data, the appendix also contains figures 1, 2 and 3, which show the total pedestrian and vehicular movement recorded during the survey period, during the busiest hour (1400 – 1500) and during the busiest 15 minute interval (1445 – 1500) as well as a chart showing the profile of movement on the busiest section of Millfield Lane throughout the day.

The results of this survey show that the majority of pedestrians enter and exit Millfield Lane via the heath as opposed to from the junction of Millfield Lane with Merton Lane and Fitzroy Park. This results in pedestrian movement on the southern end of Millfield Lane being considerable lower than that on the northern section that leads to the Water House and the Kenwood Ladies Pond, 257 movements compared to 703 on the day of the survey.

5.2 Proposed Mitigation Measures

- Dress back verges, remove mud, prune vegetation and improve drainage at the pedestrian passing points along Millfield Lane.
- If necessary, prune overhanging trees to provide sufficient height clearance on Millfield Lane for heavy goods vehicles. The extent and nature of any works will be based upon the recommendation of an Arboriculturalist, discussed and agreed with the relevant landowner and subject to permission. necessary from the City of London or Camden Borough Council.
- Banksmen will be required to walk in front of and to the rear of construction traffic on Millfield Lane to restrict speed to walking pace (3mph)
- The banksmen will all hold Construction Skills Certification Scheme (CSCS) cards have successfully completed an accredited vehicle marshalling training course such as provided by the National Construction College (See Appendix F).
- The banksman team will have four members, who will all be on site from Monday to Friday between 08:00 and 18:00 when construction traffic movements will take place. The banksmen will have radios in order to contact each other whilst working.
- The banksmen will instruct drivers to manoeuvre their vehicles along the edge of the carriageway that borders the heath leaving room for pedestrians to pass on the opposite side of the carriageway. The banksmen will stop the vehicle to enable oncoming pedestrians and cyclists to pass.
- One banksman will be stationed at the junction of Merton Lane with Millfield Lane. The role of this Banksman is to help the construction vehicles negotiate the turn from Merton Lane into Millfield Lane and to liaise with the other banksmen via radio to alert should another vehicle need to use Millfield Lane. This banksman would then liaise with the other banksmen to ensure that the lane is clear.
- A fourth banksman will be positioned on Millfield Lane at the entrance from the heath, to the west of the toilet block on the heath. This banksman will liaise with the bankmen accompanying a construction vehicle along the lane, to ensure that the approaches to this junction are clear before the vehicle enters this area. The banksmen accompanying the vehicle will not proceed towards this junction until instructed by fourth banksman located at this point.

- The swept path analysis at Appendix D demonstrates that there are areas where the width of the lane is not be sufficient for pedestrians to comfortably pass a stationary heavy goods vehicle. These areas are distinguishable on the ground by natural features. The banksman at the front of the vehicle will instruct the driver to stop as soon as he sees an oncoming pedestrian or cyclist that would otherwise meet the vehicle within the areas of restricted width. The Banksman will advise the pedestrian/cyclist that the vehicle will remain stationary until they have passed.
- If, when the vehicle is stationary, a pedestrian/cyclist approaches the rear of the vehicle, the banksman at the rear of the vehicle will contact the front banksman by radio to advise him that a person is passing the vehicle and not to allow the vehicle to move again until clearance is given. The Banksman will advise the pedestrian/cyclist that the vehicle will remain stationary until they have passed.
- Upon arrival at the site the Banksmen will ensure that the area is clear of pedestrians and other users before the vehicle reverses into the site.
- A Banksman Co-ordinator will keep a log of all construction vehicle movement.
- Temporary road signage will be positioned on Millfield Lane at either end of the construction vehicle route warning road users of the presence of construction traffic.

5.3 Millfield Lane Emergency Access Strategy

As discussed, Millfield Lane provides access to Kenwood Ladies Pond. In the event of an emergency, the Ladies Pond will be asked to alert the Construction Project Manager should an ambulance be called. The Construction Project Manager will then stop all vehicular activity to and from the site to ensure that the ambulance can pass along Millfield Lane without meeting a construction vehicle. In the event that an ambulance arrives at the site without notice, and a construction vehicle is using Millfield Lane, a strategy to manage the interaction between vehicles will be in place. This strategy is detailed on the Emergency Access Plan shown at Appendix G.

- **6.0 Millfield Lane Road Surface**

Millfield Lane is managed and maintained by the City of London. The surface of the road has been allowed to wear so as to blend in with the rural surroundings, whilst providing a suitable road surface for all users of the lane. It is proposed that any damage to the road surface that occurs during the demolition and construction process would be repaired as required following daily inspection by the building contractor.

In order to minimise the potential for damage during the demolition and construction process, consideration is being given the implementation of road strengthening works adjacent to the heath side of the lane. Two options were proposed during the pre application consultation process, and as a result a minimum intervention solution is now proposed.

It is proposed to carry out a reactive maintenance regime to lane surface with daily inspection being carried out and the surface made good with granular material whenever ruts or potholes begin to be formed. Tree root protection works would also be carried out as appropriate, subject to guidance of an Arboriculturalist.

A sewer runs along Millfield Lane at a depth of some 4 metres beneath the surface. Survey work undertaken to determine the construction of Millfield Lane showed that the road substructure has a CBR of 30%, indicating a very substantial resistance to rutting and excellent load bearing capabilities. The nature of the underlying subgrade material indicates that the sewer is unlikely to be damaged as a result of the use of the lane by construction traffic.

7.0 Summary

This Construction Management Plan relates to the proposed redevelopment of the Water House. The purpose of the CMP is to ensure that the impact of demolition and construction works on the local residents and the immediate highway network is kept to an absolute minimum.

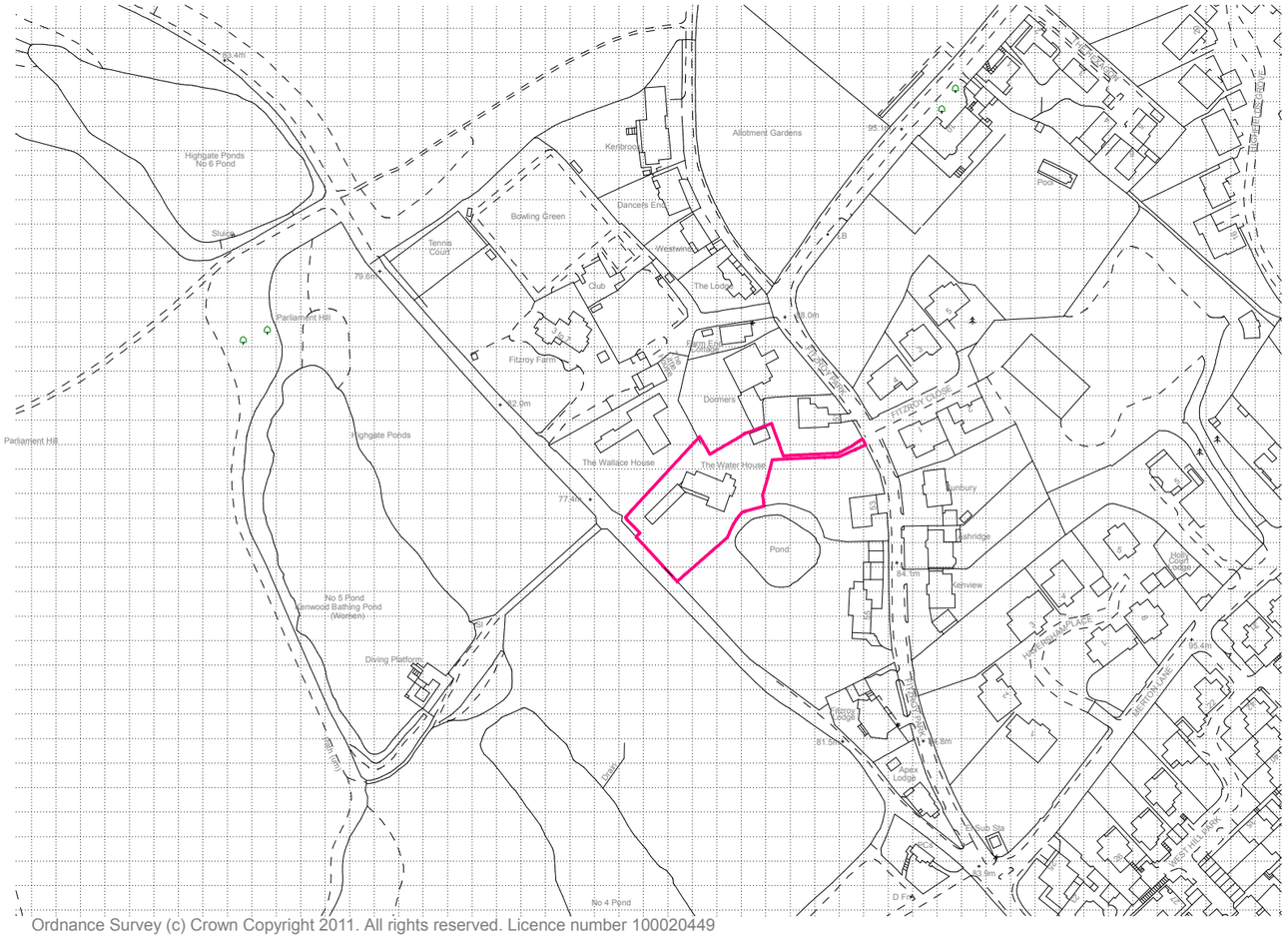
This plan seeks to address the concerns expressed by the users of Millfield Lane, local residents and other interested parties.

This scheme developed by the owners Mr & Mrs Munford represents an inclusive and open approach to the site and the manner in which it is developed, the materials selected and the techniques used.

The table below summarises the main issues associated with demolition and construction works on this site and identifies how the CMP addresses them.

Issue	Response
Pedestrian and road user safety on Millfield Lane	Banksman strategy to control vehicle speed and the interaction between pedestrians and other road users.
Volume of traffic movements along Millfield Lane	Size of building and volume of basement reduced to limit vehicle movements, absolute daily maximum limit set for both HGV's and all other vehicles to limit impact upon other lane user and public amenity. Daily cap introduced to limit all vehicle movements covering both HGV and LGV.
Public amenity on Millfield Lane	Construction methodology and vehicle selection chosen to minimise the level of vehicle movement on Millfield Lane and any physical works have been designed to maintain the rural nature of the lane.
Ground Water and Surface Water run off	Temporary and permanent works will be implemented in accordance with the Hydrology report recommendations so as to maintain current groundwater and sub-surface water flows across the site. Additional measures are proposed to contain contaminated surface water run off during the construction process.
Impact on Millfield Lane sewer	Substantial substructure to existing road (CBR 30%) indicated sufficient load bearing capacity in road to protect sewer.
Interface with other construction sites	The Contractor's Project Manager will liaise with contractors of construction projects in the area so as to minimise the cumulative effect of the developments. The construction programme provides flexibility to enable vehicle movements to be scheduled so as achieve this objective.
Table 4 – Summary of Response to Key Issues	

Appendix A



N

1 SCALE 1 : 2500 at A3

ORDINANCE SURVEY MAP

Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any work is put in hand.

If in doubt, ask.

NOTES

Rev	Description	Drawn	Date	Checked
B	Updated	hp	10.01.11	sm
A	Preliminary	hp	26.11.10	sm

Spence Harris Hogan associates
architects + interiors + design consultants

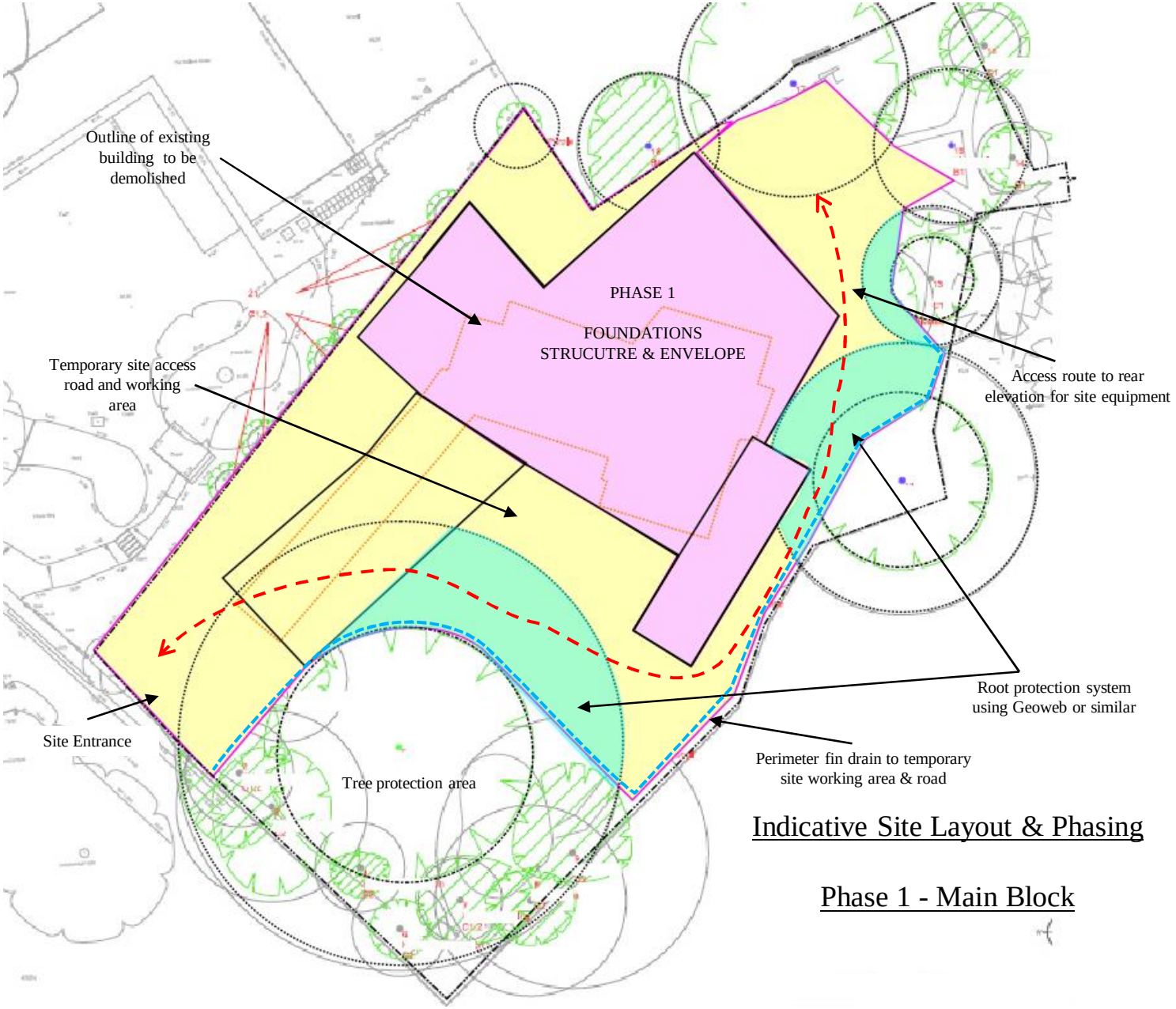
1 Vencourt Place
Ravenscourt Park
Hammersmith London
w6 9nu

tel : 020 8600 4171
fax : 020 8600 4181
mail : shh@shh.co.uk
web : ww.shh.co.uk

Project No:	Project:
633	**The Water House**
Author: JSM	Site Address: Millfield Lane Highgate
Checked: TW	Client: Corp. City Dev. No. 2 Ltd
	Title: 000 Site Plans Ordinance Site Plan

Status:	Scale A1:	Scale A3:
Preliminary	1:1250	1:2500
Project no. / Stage / Drawing no.	Date:	Revision:
633(SK)003	JAN.11	B

Appendix B



Indicative Site Layout & Phasing

Phase 1 - Main Block

Construction Planning Associates

The Water House
Site Phasing

Scales N/A Original Size NTS	Drawn CBFW Date 4/11
C400	Drawing No SL01 A

Indicative Site Layout & Phasing

Phase 2- Library Wing

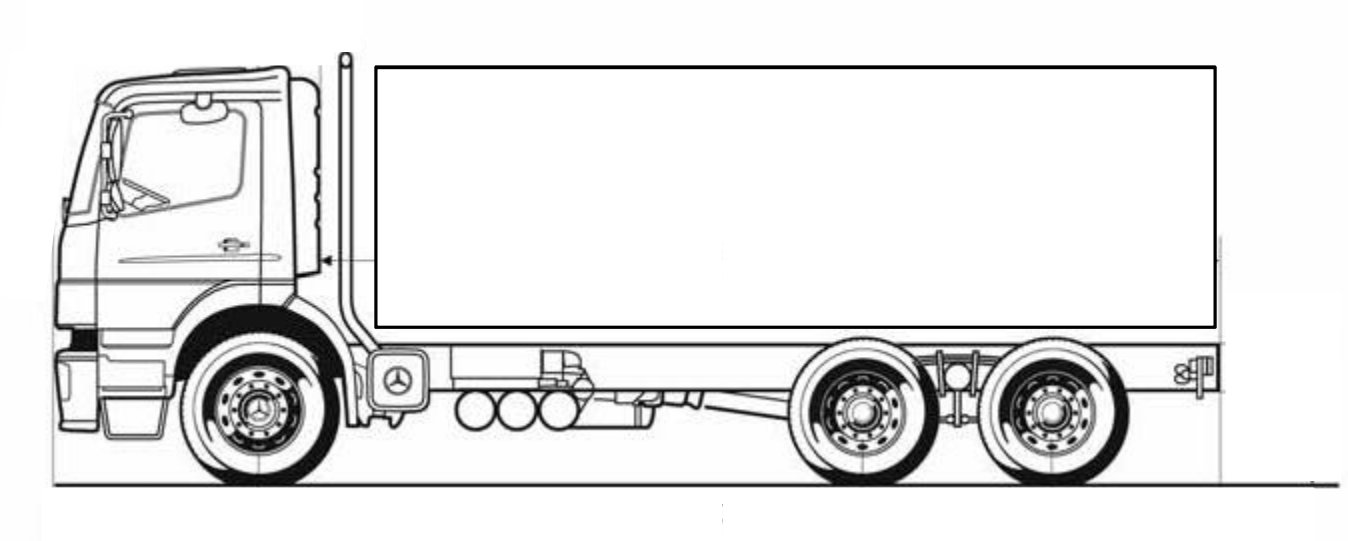
Construction Planning Associates

The Water House
Site Phasing

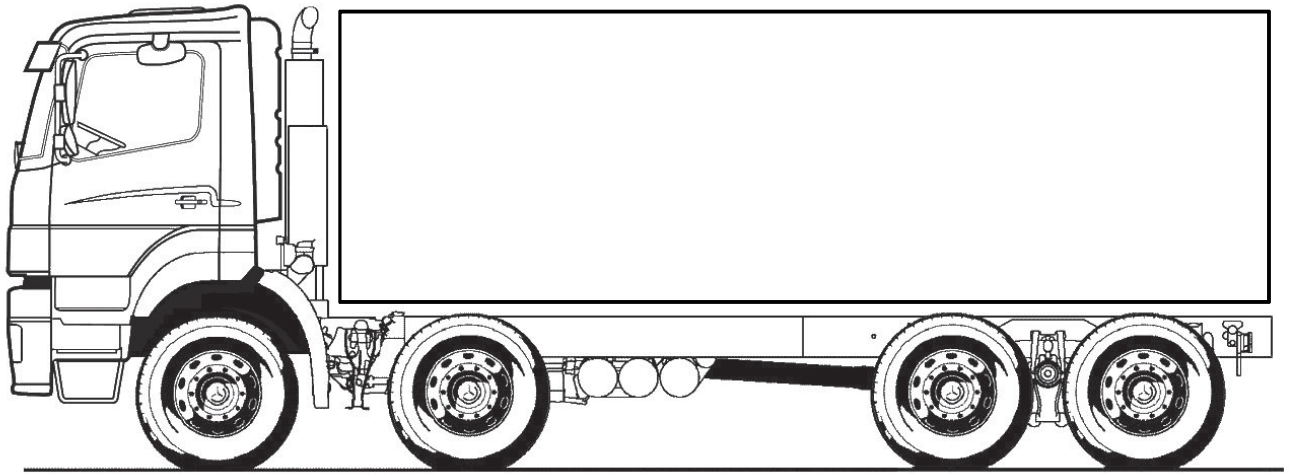
Scales N/A Original Size NTS	Drawn CBFW Date 4/11
C400	Drawing No SL02

Appendix C

Three Axle Tipper Lorry Approx length 8 metres



Four Axle Tipper Lorry Approx Length 9 metres



Appendix D

100702-TK15C
100702-TK16C
100702-TK17C
100702-TK18C
100702-TK25C
100702-TK24C
100702-TK23A
100702-TK19A
100702-TK22C
100702-TK20B
100702-TK21B

Millfield Lane Access Strategy

All vehicle movements guided by banksman at walking pace. All vehicles to stop to allow pedestrians to pass.

Provide segregation between vehicle path (maximum of 3.56 metres wide) and pedestrian zone of a minimum of 1.2 wide.

Before areas of restricted width, banksman will hold vehicles until forward section is clear of pedestrians.

Vehicle swept paths have been undertaken to demonstrate the practicality of this solution for 2 and 3 axle lorries – no 4 axle 'tippers' will be used.

Minimum width 1.2 metre pedestrian zone

Restricted width. Vehicles held by banksmen and pass through this area only when no pedestrians are present. Refer to plans 100702 - TK20b & TK21b for detail.

Minimum width 1.2 metre pedestrian zone

Restricted width. Vehicles held by banksmen and pass through this area only when no pedestrians are present. Refer to plans 100702 - TK22c & TK19a for detail

Minimum width 1.2 metre pedestrian zone

Restricted width. Vehicles held by banksmen and pass through this area only when no pedestrians are present. Refer to plans 100702 - TK23a and TC24c for detail.

Minimum width 1.2 metre pedestrian zone

Restricted width. Vehicles held by banksmen and pass through this area only when no pedestrians are present. Refer to plans 100702 - TK18c & TK25c for detail.

motion
transport planning

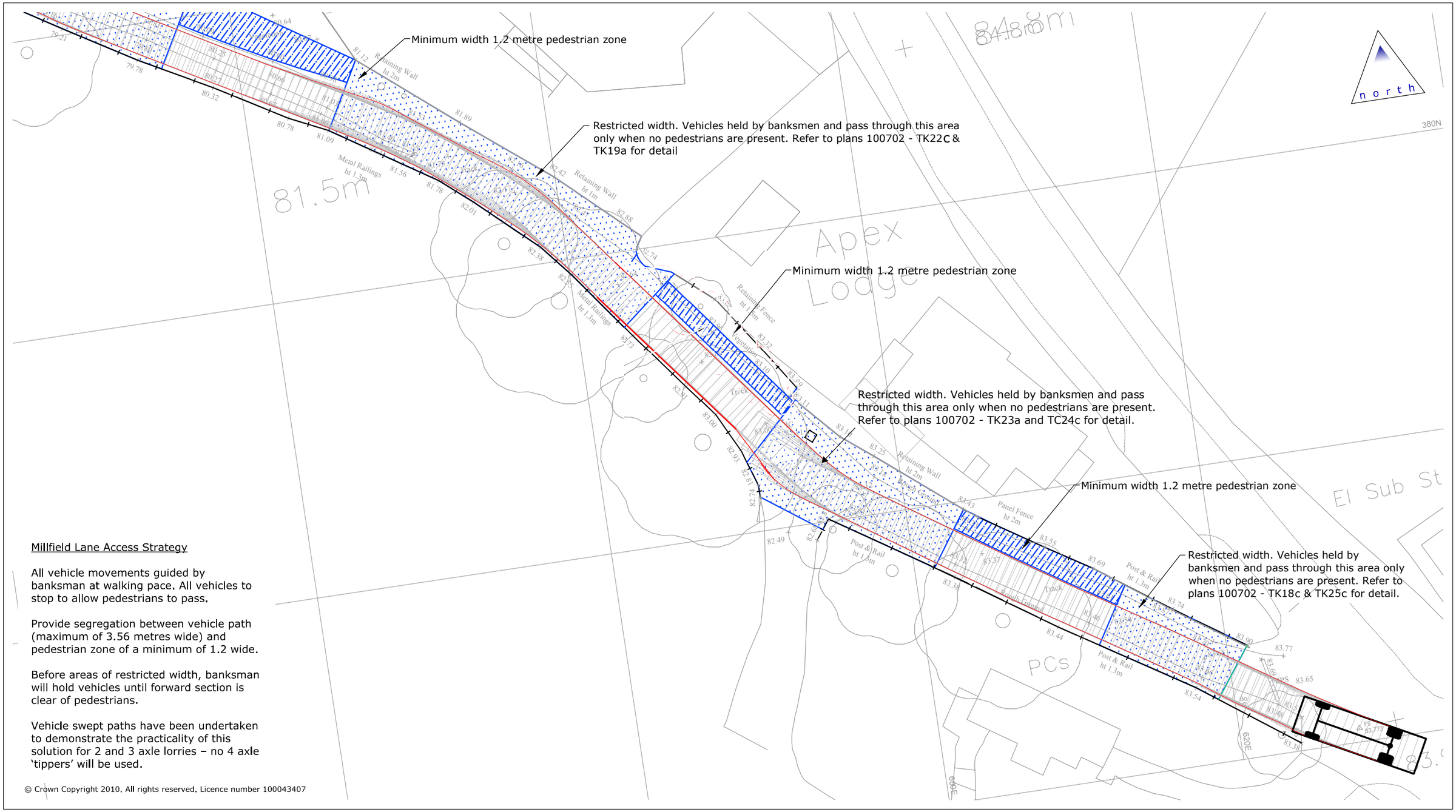
Legend

- Pedestrian zone
- Pedestrian pinch point

"The Water House", Millfield Lane
Swept Path Analysis
8.7m Rigid Vehicle Accessing Site

Scale (@A3) 1:500

100702-TK15 Rev C



Millfield Lane Access Strategy

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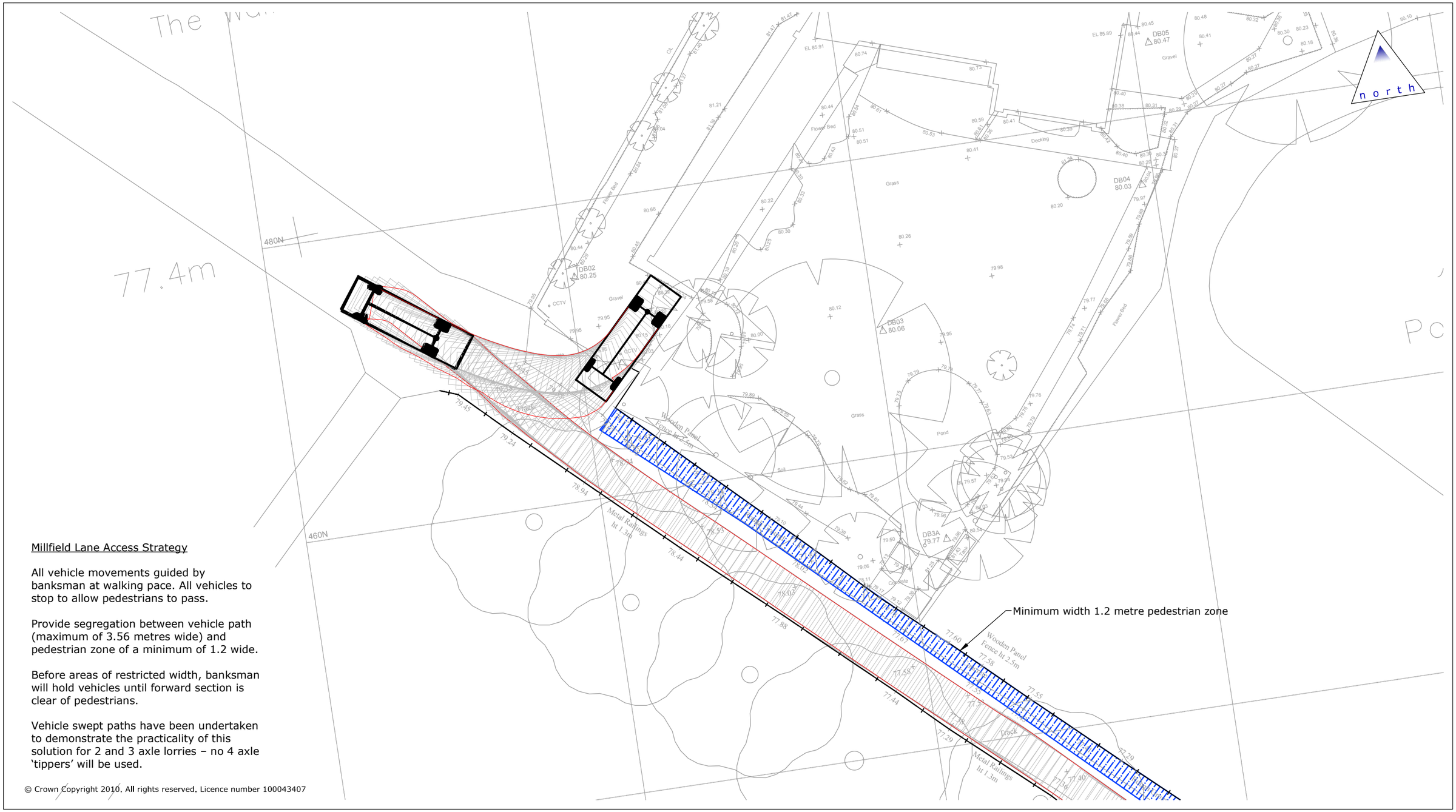
motion
transport planning

"The Water House", Millfield Lane
Swept Path Analysis
8.7m Rigid Vehicle Accessing Site

Scale (@A3) 1:250

100702-TK16 Rev C



Millfield Lane Access Strategy

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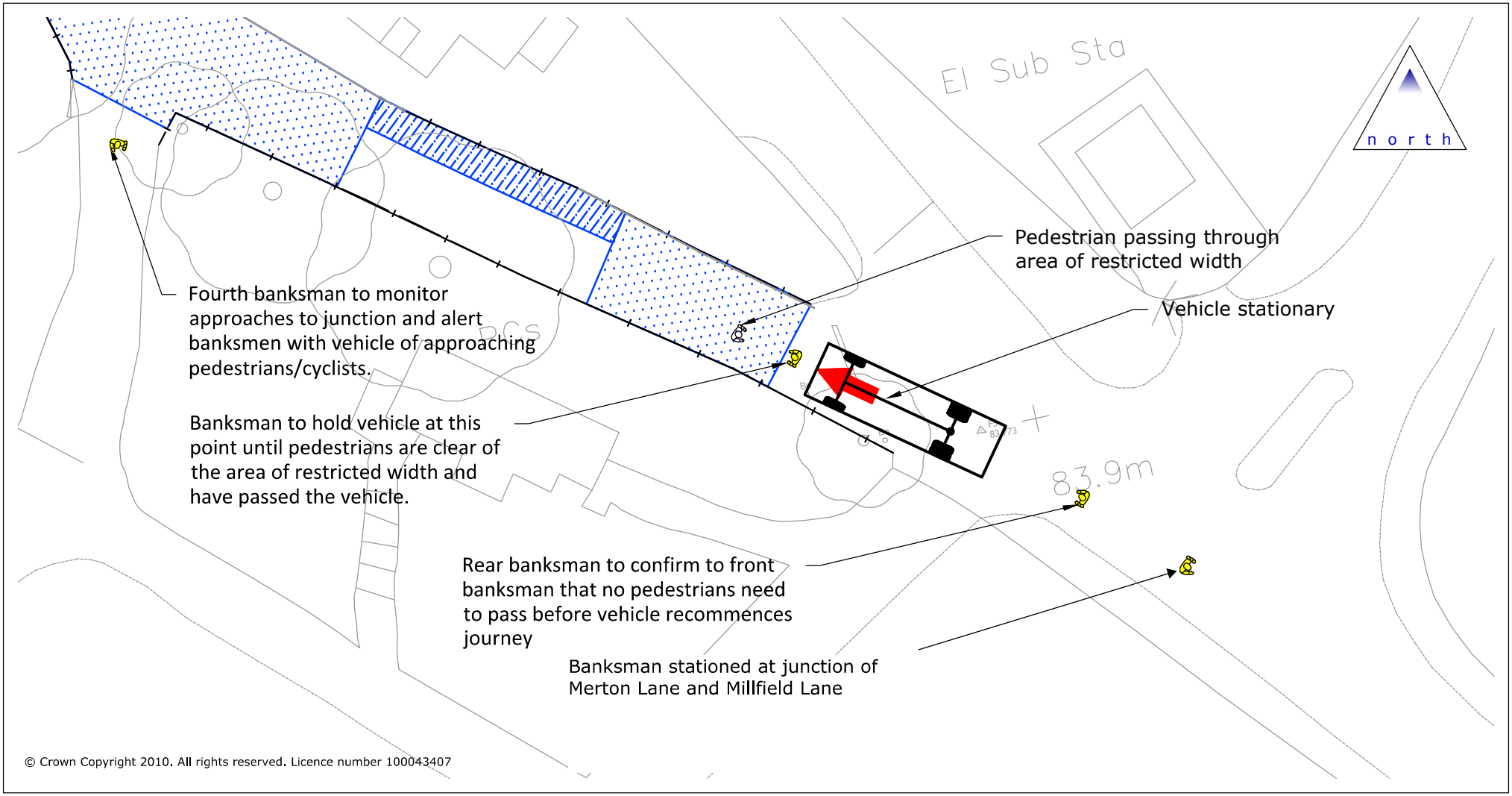
motion
transport planning

"The Water House", Millfield Lane
Swept Path Analysis
8.7m Rigid Vehicle Accessing Site

Scale (@A3) 1:250

100702-TK17 Rev C



motion
transport planning

Legend

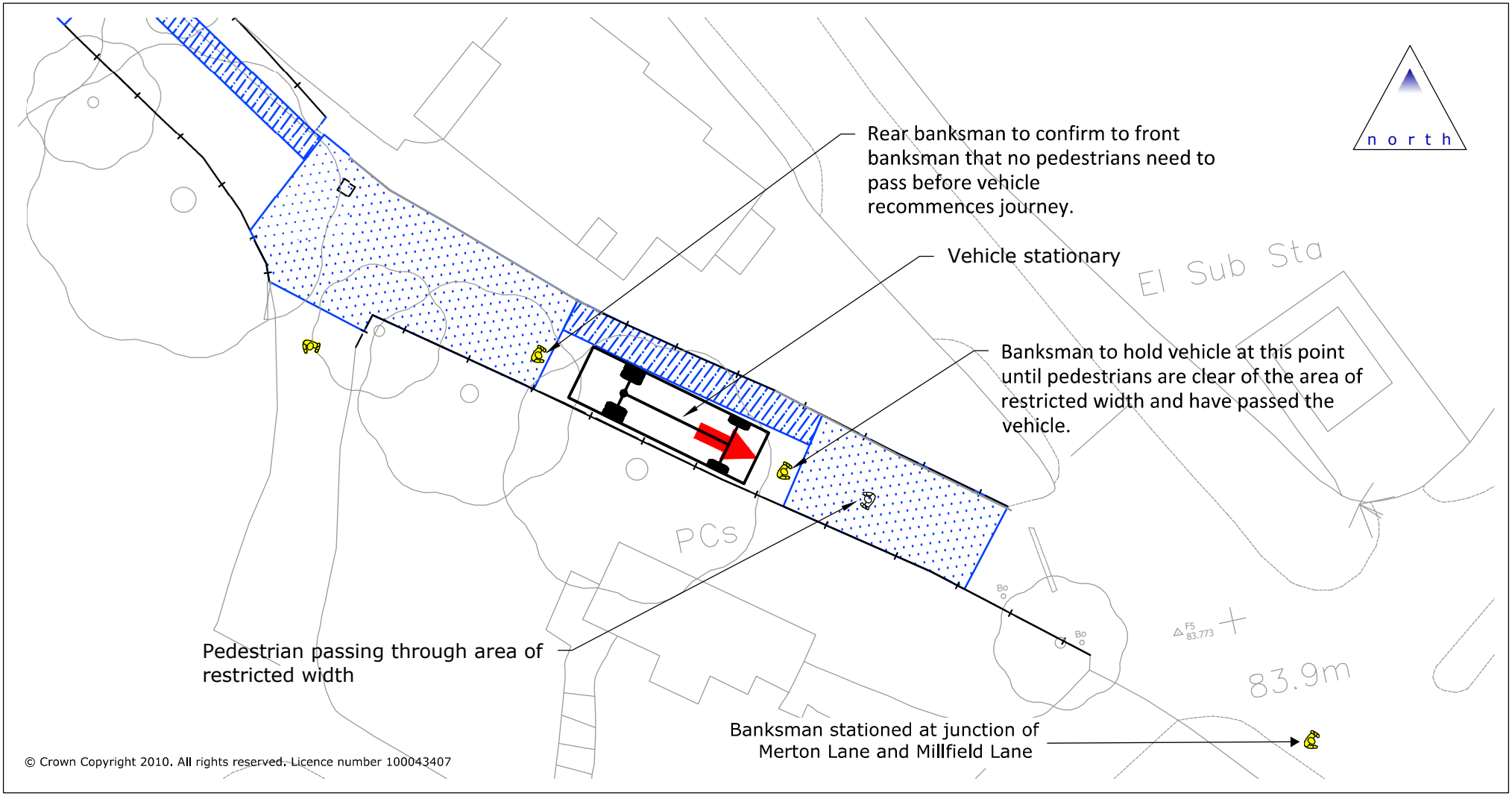
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK18 Rev C



motion
transport planning

Legend

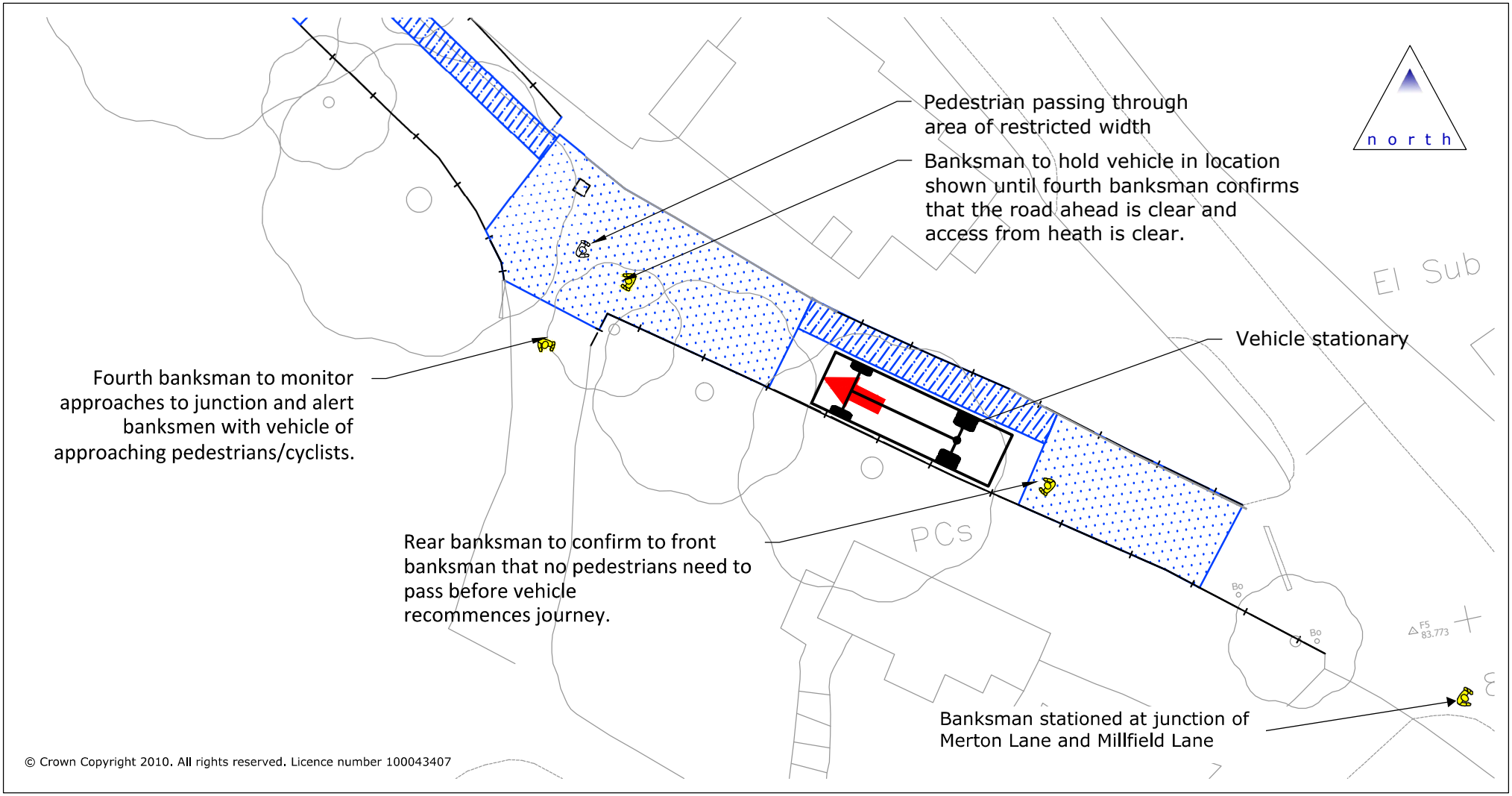
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK25 rev C



motion
transport planning

Legend

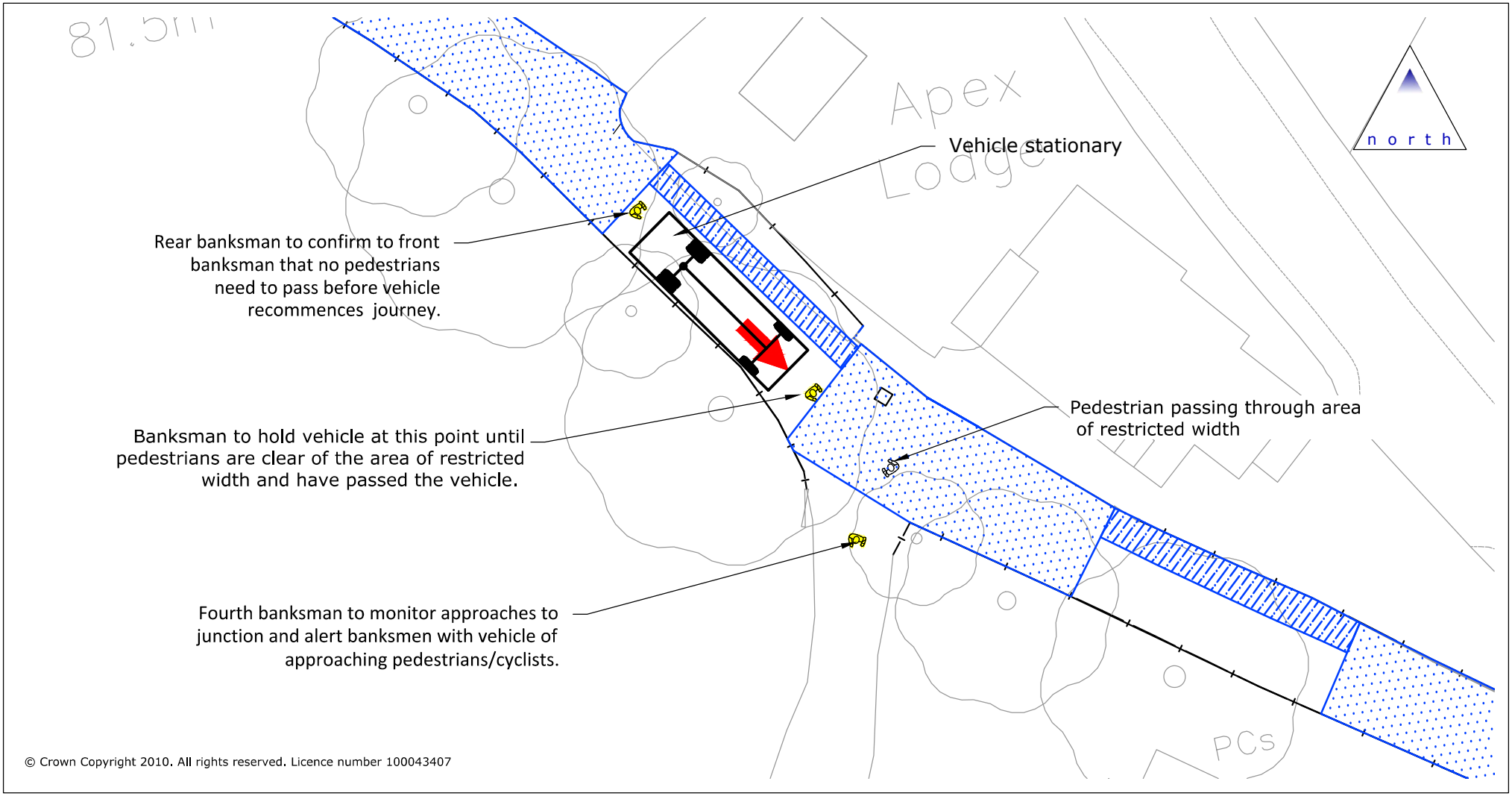
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK24 rev C



motion
transport planning

Legend

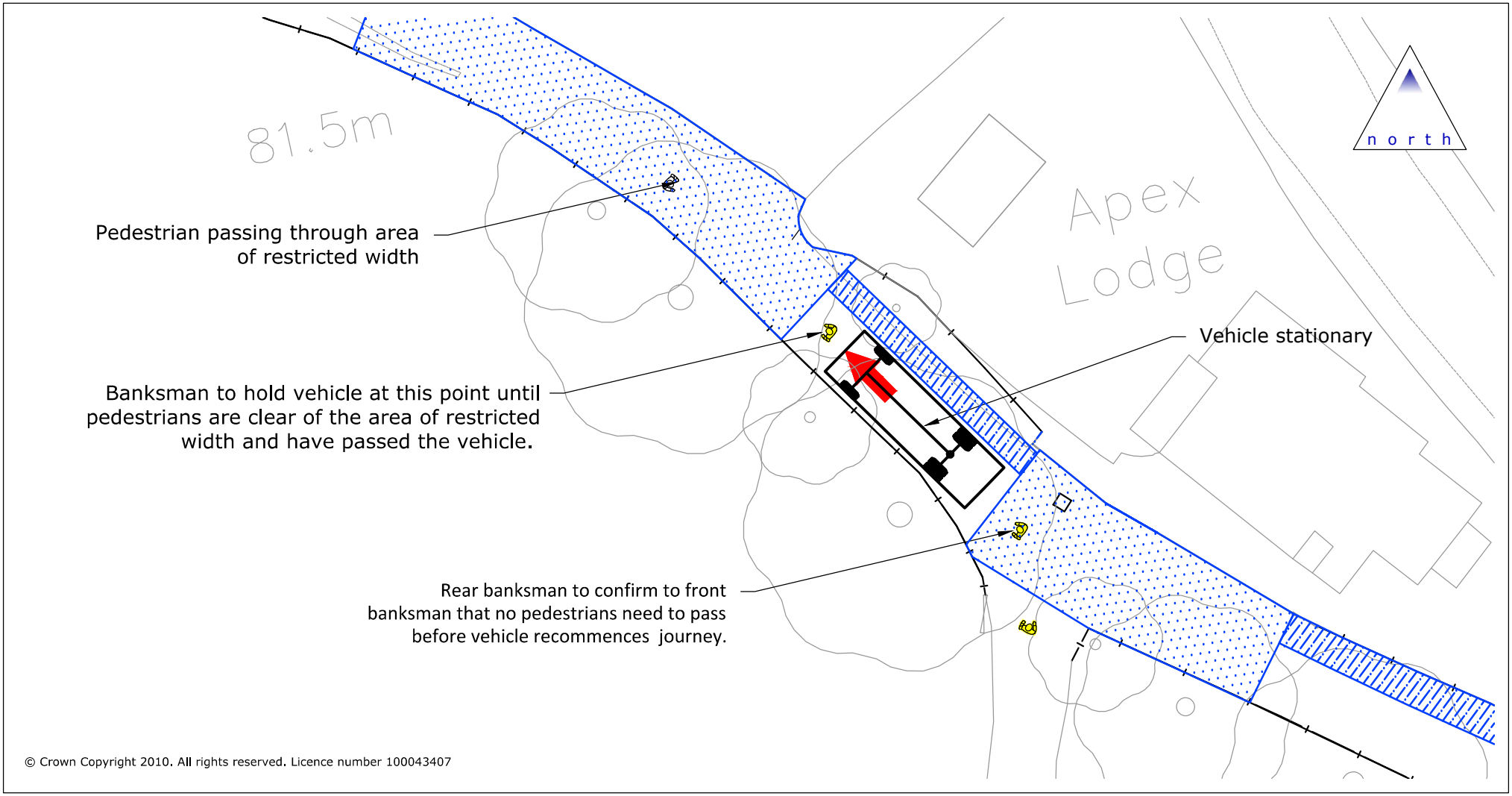
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK23 A



motion
transport planning

Legend

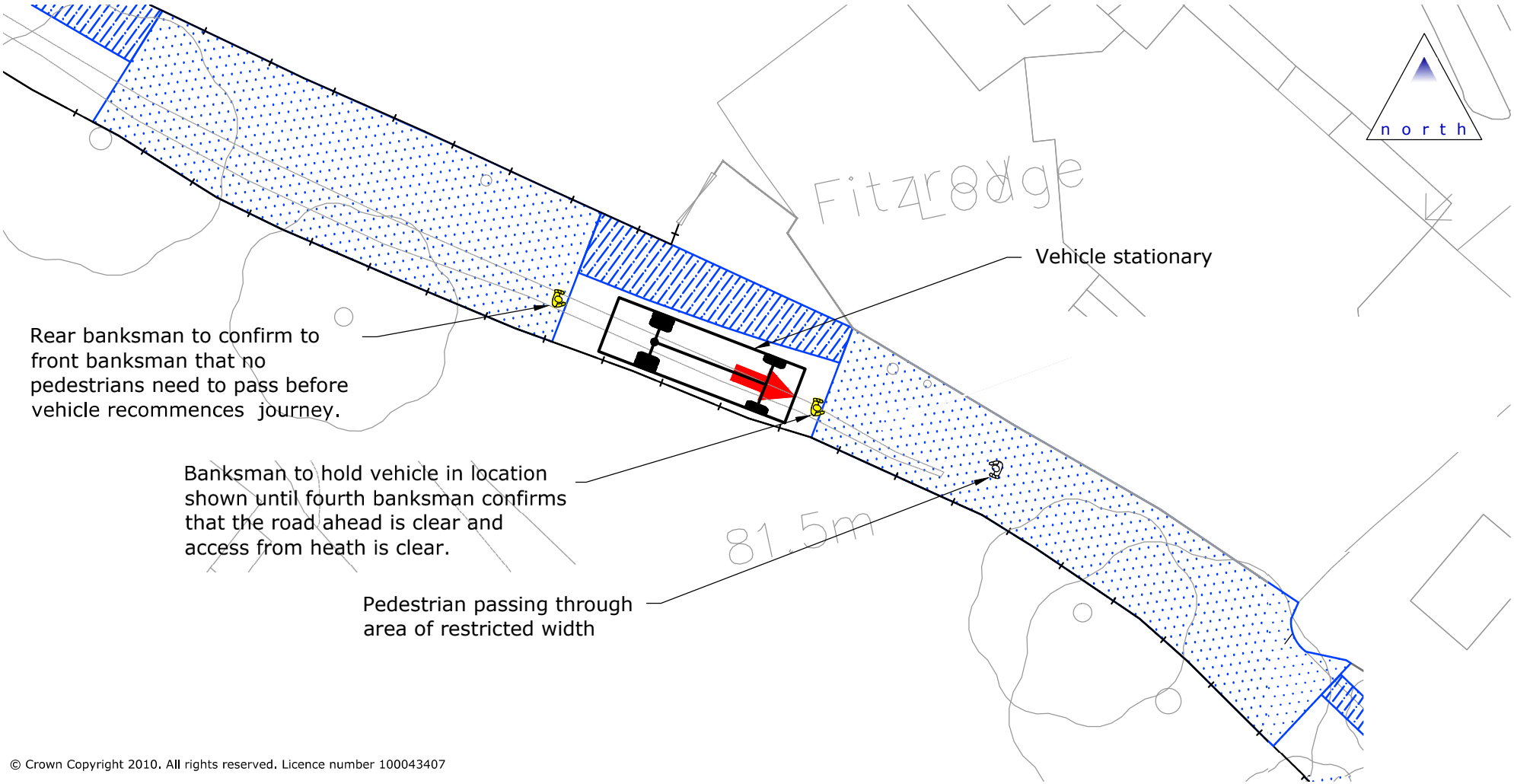
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK19 A



motion
transport planning

Legend

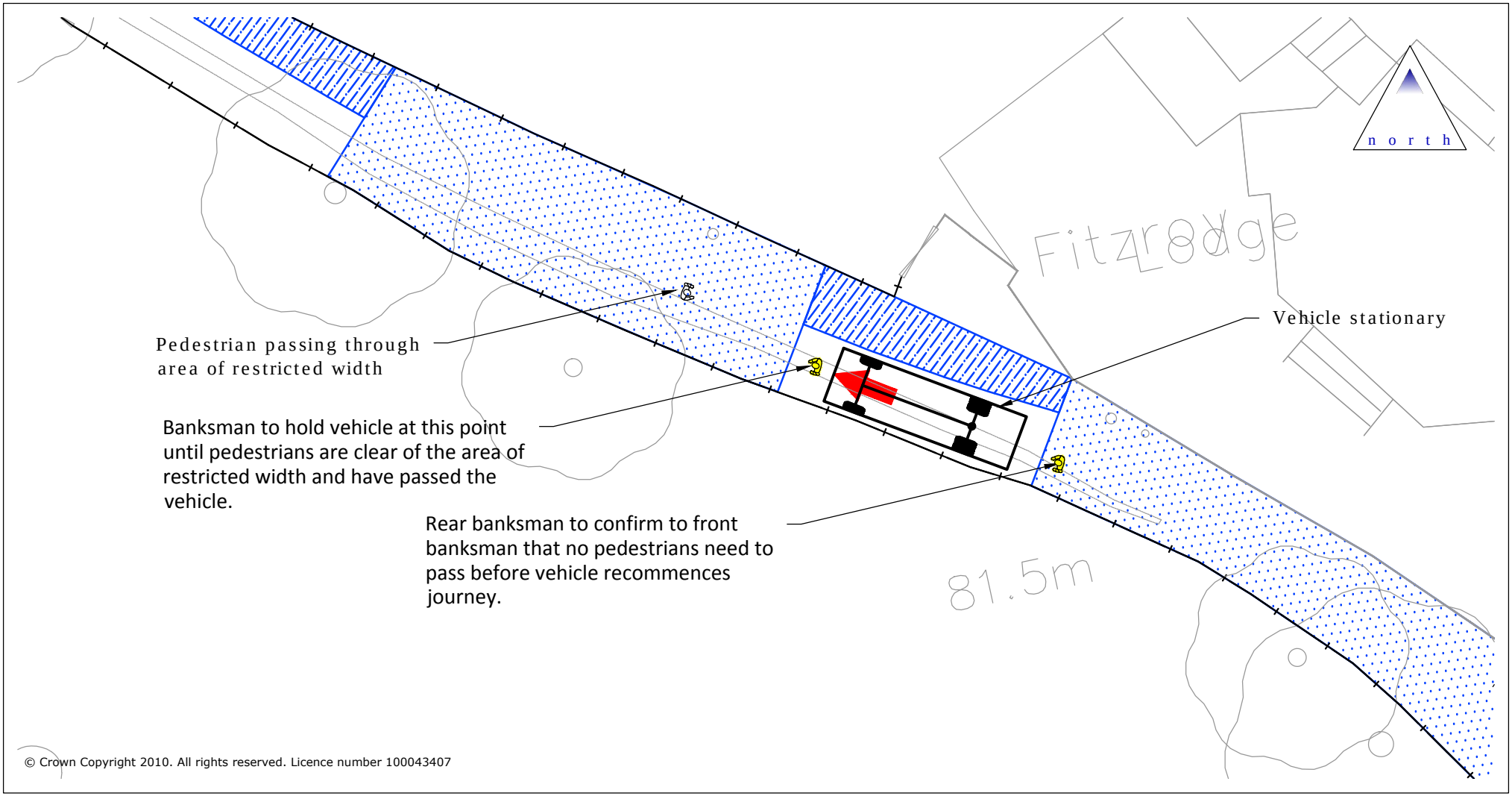
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK22 rev C



N:\London_CAD\shwate 100702\100702-TK20b, TK21b.dwg

motion
transport planning

Legend

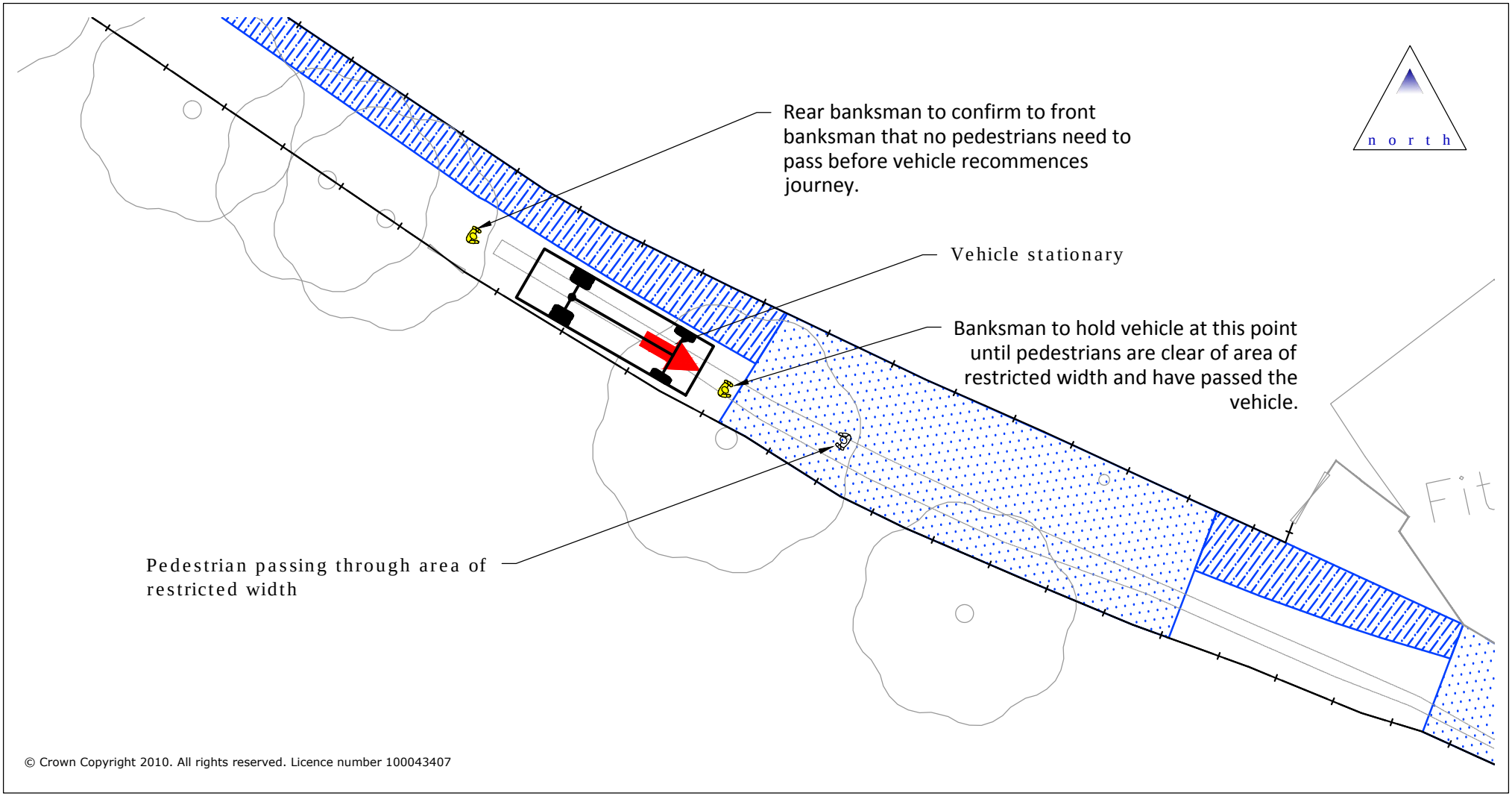
Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK20 rev B



motion
transport planning

Legend

Minimum 1.2 metre pedestrian zone

Area of restricted width

"The Water House", Millfield Lane
Swept Path Analysis
Pedestrian passing vehicle

Scale (@A4) 1:250

100702-TK21 rev B

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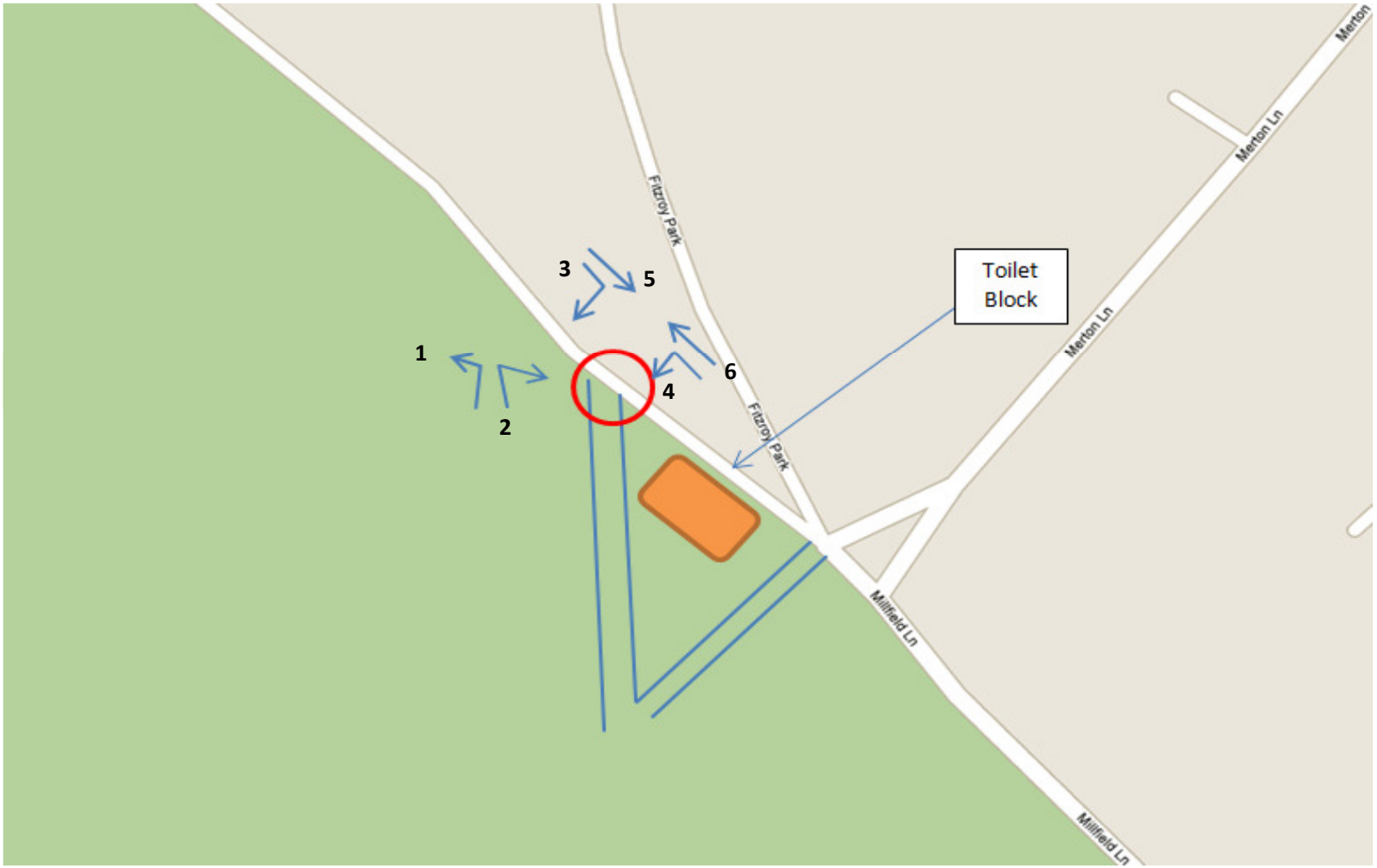
Appendix E

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE



K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 1							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	10	0	0	0	0			**10**
0815-0830	2	0	0	5	4			**11**
0830-0845	5	0	0	2	1			**8**
0845-0900	4	0	0	1	2			**7**
0900-0915	5	0	0	3	3			**11**
0915-0930	8	0	0	3	3			**14**
0930-0945	3	0	0	1	1			**5**
0945-1000	7	1	0	0	0			**8**
1000-1015	2	0	0	4	4			**10**
1015-1030	4	0	0	4	3			**11**
1030-1045	2	0	0	5	3			**10**
1045-1100	1	0	0	2	1			**4**
1100-1115	4	0	0	0	0			**4**
1115-1130	3	1	0	1	1			**6**
1130-1145	6	0	0	0	0			**6**
1145-1200	6	0	0	0	0			**6**
1200-1215	3	0	0	0	0			**3**
1215-1230	1	0	0	0	0			**1**
1230-1245	5	1	1	0	0			**7**
1245-1300	1	0	0	3	4			**8**
1300-1315	6	0	0	0	0			**6**
1315-1330	11	0	0	1	1			**13**
1330-1345	4	0	0	0	0			**4**
1345-1400	7	0	0	0	0			**7**
1400-1415	7	0	1	3	1			**12**
1415-1430	0	0	0	0	0			**0**
1430-1445	4	0	0	2	1			**7**
1445-1500	21	0	1	0	0			**22**
1500-1515	3	0	0	0	0			**3**
1515-1530	4	0	0	0	0			**4**
1530-1545	5	0	0	0	0			**5**
1545-1600	4	0	0	0	0			**4**
1600-1615	6	0	0	0	0			**6**
1615-1630	5	0	0	5	5			**15**
1630-1645	12	1	0	0	0			**13**
1645-1700	8	0	1	0	0			**9**
1700-1715	5	0	0	0	0			**5**
1715-1730	8	0	0	0	0			**8**
1730-1745	6	0	3	0	0			**9**
1745-1800	2	0	0	0	0			**2**
0800-1800	**210**	**4**	**7**	**45**	**38**		**0**	**304**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 1							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	21	0	0	8	7		0	**36**
0815-0915	16	0	0	11	10		0	**37**
0830-0930	22	0	0	9	9		0	**40**
0845-0945	20	0	0	8	9		0	**37**
0900-1000	23	1	0	7	7		0	**38**
0915-1015	20	1	0	8	8		0	**37**
0930-1030	16	1	0	9	8		0	**34**
0945-1045	15	1	0	13	10		0	**39**
1000-1100	9	0	0	15	11		0	**35**
1015-1115	11	0	0	11	7		0	**29**
1030-1130	10	1	0	8	5		0	**24**
1045-1145	14	1	0	3	2		0	**20**
1100-1200	19	1	0	1	1		0	**22**
1115-1215	18	1	0	1	1		0	**21**
1130-1230	16	0	0	0	0		0	**16**
1145-1245	15	1	1	0	0		0	**17**
1200-1300	10	1	1	3	4		0	**19**
1215-1315	13	1	1	3	4		0	**22**
1230-1330	23	1	1	4	5		0	**34**
1245-1345	22	0	0	4	5		0	**31**
1300-1400	28	0	0	1	1		0	**30**
1315-1415	29	0	1	4	2		0	**36**
1330-1430	18	0	1	3	1		0	**23**
1345-1445	18	0	1	5	2		0	**26**
1400-1500	32	0	2	5	2		0	**41**
1415-1515	28	0	1	2	1		0	**32**
1430-1530	32	0	1	2	1		0	**36**
1445-1545	33	0	1	0	0		0	**34**
1500-1600	16	0	0	0	0		0	**16**
1515-1615	19	0	0	0	0		0	**19**
1530-1630	20	0	0	5	5		0	**30**
1545-1645	27	1	0	5	5		0	**38**
1600-1700	31	1	1	5	5		0	**43**
1615-1715	30	1	1	5	5		0	**42**
1630-1730	33	1	1	0	0		0	**35**
1645-1745	27	0	4	0	0		0	**31**
1700-1800	21	0	3	0	0		0	**24**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 2							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	0	0	0	0	0			**0**
0815-0830	0	0	0	0	0			**0**
0830-0845	0	0	0	0	0			**0**
0845-0900	0	0	0	0	0			**0**
0900-0915	0	0	0	0	0			**0**
0915-0930	0	0	0	0	0			**0**
0930-0945	0	0	0	0	0			**0**
0945-1000	0	0	0	0	0			**0**
1000-1015	0	0	0	0	0			**0**
1015-1030	0	0	0	0	0			**0**
1030-1045	0	0	0	0	0			**0**
1045-1100	0	0	0	0	0			**0**
1100-1115	0	0	0	0	0			**0**
1115-1130	0	0	0	0	0			**0**
1130-1145	0	0	0	0	0			**0**
1145-1200	0	0	0	0	0			**0**
1200-1215	0	0	0	0	0			**0**
1215-1230	0	0	0	0	0			**0**
1230-1245	0	0	0	0	0			**0**
1245-1300	0	0	0	0	0			**0**
1300-1315	0	0	0	0	0			**0**
1315-1330	0	0	0	0	0			**0**
1330-1345	0	0	0	0	0			**0**
1345-1400	0	0	0	0	0			**0**
1400-1415	0	0	0	0	0			**0**
1415-1430	1	0	0	0	0			**1**
1430-1445	0	0	0	0	0			**0**
1445-1500	0	0	0	0	0			**0**
1500-1515	0	0	0	1	4			**5**
1515-1530	0	0	0	0	0			**0**
1530-1545	0	0	0	0	0			**0**
1545-1600	0	0	0	0	0			**0**
1600-1615	0	0	0	0	0			**0**
1615-1630	0	0	0	0	0			**0**
1630-1645	0	0	0	0	0			**0**
1645-1700	0	0	0	0	0			**0**
1700-1715	0	0	0	0	0			**0**
1715-1730	0	0	0	0	0			**0**
1730-1745	0	0	0	0	0			**0**
1745-1800	0	0	0	0	0			**0**
0800-1800	**1**	**0**	**0**	**1**	**4**		**0**	**6**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 2							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	0	0	0	0	0		0	**0**
0815-0915	0	0	0	0	0		0	**0**
0830-0930	0	0	0	0	0		0	**0**
0845-0945	0	0	0	0	0		0	**0**
0900-1000	0	0	0	0	0		0	**0**
0915-1015	0	0	0	0	0		0	**0**
0930-1030	0	0	0	0	0		0	**0**
0945-1045	0	0	0	0	0		0	**0**
1000-1100	0	0	0	0	0		0	**0**
1015-1115	0	0	0	0	0		0	**0**
1030-1130	0	0	0	0	0		0	**0**
1045-1145	0	0	0	0	0		0	**0**
1100-1200	0	0	0	0	0		0	**0**
1115-1215	0	0	0	0	0		0	**0**
1130-1230	0	0	0	0	0		0	**0**
1145-1245	0	0	0	0	0		0	**0**
1200-1300	0	0	0	0	0		0	**0**
1215-1315	0	0	0	0	0		0	**0**
1230-1330	0	0	0	0	0		0	**0**
1245-1345	0	0	0	0	0		0	**0**
1300-1400	0	0	0	0	0		0	**0**
1315-1415	0	0	0	0	0		0	**0**
1330-1430	1	0	0	0	0		0	**1**
1345-1445	1	0	0	0	0		0	**1**
1400-1500	1	0	0	0	0		0	**1**
1415-1515	1	0	0	1	4		0	**6**
1430-1530	0	0	0	1	4		0	**5**
1445-1545	0	0	0	1	4		0	**5**
1500-1600	0	0	0	1	4		0	**5**
1515-1615	0	0	0	0	0		0	**0**
1530-1630	0	0	0	0	0		0	**0**
1545-1645	0	0	0	0	0		0	**0**
1600-1700	0	0	0	0	0		0	**0**
1615-1715	0	0	0	0	0		0	**0**
1630-1730	0	0	0	0	0		0	**0**
1645-1745	0	0	0	0	0		0	**0**
1700-1800	0	0	0	0	0		0	**0**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 3							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	2	0	0	0	0			**2**
0815-0830	5	0	0	0	0			**5**
0830-0845	3	0	0	1	2			**6**
0845-0900	3	0	1	0	0			**4**
0900-0915	6	0	0	0	0			**6**
0915-0930	4	0	0	1	1			**6**
0930-0945	2	0	0	2	2			**6**
0945-1000	1	0	0	0	0			**1**
1000-1015	3	0	0	0	0			**3**
1015-1030	5	0	0	0	0			**5**
1030-1045	1	0	0	0	0			**1**
1045-1100	5	0	0	1	2			**8**
1100-1115	5	0	0	0	0			**5**
1115-1130	2	1	0	0	0			**3**
1130-1145	1	1	1	0	0			**3**
1145-1200	3	0	0	0	0			**3**
1200-1215	2	0	0	2	1			**5**
1215-1230	1	0	0	2	2			**5**
1230-1245	3	0	0	0	0			**3**
1245-1300	3	0	0	0	0			**3**
1300-1315	3	0	0	0	0			**3**
1315-1330	4	0	0	1	3			**8**
1330-1345	4	2	0	2	3			**11**
1345-1400	1	1	0	0	0			**2**
1400-1415	6	0	0	0	0			**6**
1415-1430	3	0	0	0	0			**3**
1430-1445	5	0	0	0	0			**5**
1445-1500	4	0	0	1	1			**6**
1500-1515	5	0	0	0	0			**5**
1515-1530	5	0	0	0	0			**5**
1530-1545	7	0	0	0	0			**7**
1545-1600	20	1	0	0	0			**21**
1600-1615	11	1	1	1	1			**15**
1615-1630	7	0	0	0	0			**7**
1630-1645	5	0	0	0	0			**5**
1645-1700	9	0	0	0	0			**9**
1700-1715	0	0	0	0	0			**0**
1715-1730	0	0	0	0	0			**0**
1730-1745	6	0	1	0	0			**7**
1745-1800	3	0	0	0	0			**3**
0800-1800	**168**	**7**	**4**	**14**	**18**		**0**	**211**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 3							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	13	0	1	1	2		0	**17**
0815-0915	17	0	1	1	2		0	**21**
0830-0930	16	0	1	2	3		0	**22**
0845-0945	15	0	1	3	3		0	**22**
0900-1000	13	0	0	3	3		0	**19**
0915-1015	10	0	0	3	3		0	**16**
0930-1030	11	0	0	2	2		0	**15**
0945-1045	10	0	0	0	0		0	**10**
1000-1100	14	0	0	1	2		0	**17**
1015-1115	16	0	0	1	2		0	**19**
1030-1130	13	1	0	1	2		0	**17**
1045-1145	13	2	1	1	2		0	**19**
1100-1200	11	2	1	0	0		0	**14**
1115-1215	8	2	1	2	1		0	**14**
1130-1230	7	1	1	4	3		0	**16**
1145-1245	9	0	0	4	3		0	**16**
1200-1300	9	0	0	4	3		0	**16**
1215-1315	10	0	0	2	2		0	**14**
1230-1330	13	0	0	1	3		0	**17**
1245-1345	14	2	0	3	6		0	**25**
1300-1400	12	3	0	3	6		0	**24**
1315-1415	15	3	0	3	6		0	**27**
1330-1430	14	3	0	2	3		0	**22**
1345-1445	15	1	0	0	0		0	**16**
1400-1500	18	0	0	1	1		0	**20**
1415-1515	17	0	0	1	1		0	**19**
1430-1530	19	0	0	1	1		0	**21**
1445-1545	21	0	0	1	1		0	**23**
1500-1600	37	1	0	0	0		0	**38**
1515-1615	43	2	1	1	1		0	**48**
1530-1630	45	2	1	1	1		0	**50**
1545-1645	43	2	1	1	1		0	**48**
1600-1700	32	1	1	1	1		0	**36**
1615-1715	21	0	0	0	0		0	**21**
1630-1730	14	0	0	0	0		0	**14**
1645-1745	15	0	1	0	0		0	**16**
1700-1800	9	0	1	0	0		0	**10**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 4							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	0	0	0	0	0			**0**
0815-0830	0	0	0	0	0			**0**
0830-0845	0	0	0	0	0			**0**
0845-0900	0	0	0	0	0			**0**
0900-0915	0	0	0	0	0			**0**
0915-0930	0	0	0	0	0			**0**
0930-0945	0	0	0	0	0			**0**
0945-1000	0	0	0	0	0			**0**
1000-1015	0	0	0	0	0			**0**
1015-1030	0	0	0	0	0			**0**
1030-1045	0	0	0	0	0			**0**
1045-1100	0	0	0	0	0			**0**
1100-1115	0	0	0	0	0			**0**
1115-1130	0	0	0	0	0			**0**
1130-1145	0	0	0	0	0			**0**
1145-1200	0	0	0	0	0			**0**
1200-1215	0	0	0	0	0			**0**
1215-1230	0	0	0	0	0			**0**
1230-1245	0	0	0	0	0			**0**
1245-1300	0	0	0	0	0			**0**
1300-1315	0	0	0	0	0			**0**
1315-1330	0	0	0	0	0			**0**
1330-1345	0	0	0	0	0			**0**
1345-1400	0	0	0	0	0			**0**
1400-1415	0	0	0	0	0			**0**
1415-1430	0	0	0	0	0			**0**
1430-1445	0	0	0	0	0			**0**
1445-1500	0	0	0	0	0			**0**
1500-1515	0	0	0	0	0			**0**
1515-1530	0	0	0	0	0			**0**
1530-1545	0	0	0	0	0			**0**
1545-1600	0	0	0	0	0			**0**
1600-1615	0	0	0	0	0			**0**
1615-1630	0	0	0	0	0			**0**
1630-1645	0	0	0	0	0			**0**
1645-1700	0	0	0	0	0			**0**
1700-1715	0	0	0	0	0			**0**
1715-1730	0	0	0	0	0			**0**
1730-1745	0	0	0	0	0			**0**
1745-1800	0	0	0	0	0			**0**
0800-1800	**0**	**0**	**0**	**0**	**0**		**0**	**0**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 4							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	0	0	0	0	0		0	**0**
0815-0915	0	0	0	0	0		0	**0**
0830-0930	0	0	0	0	0		0	**0**
0845-0945	0	0	0	0	0		0	**0**
0900-1000	0	0	0	0	0		0	**0**
0915-1015	0	0	0	0	0		0	**0**
0930-1030	0	0	0	0	0		0	**0**
0945-1045	0	0	0	0	0		0	**0**
1000-1100	0	0	0	0	0		0	**0**
1015-1115	0	0	0	0	0		0	**0**
1030-1130	0	0	0	0	0		0	**0**
1045-1145	0	0	0	0	0		0	**0**
1100-1200	0	0	0	0	0		0	**0**
1115-1215	0	0	0	0	0		0	**0**
1130-1230	0	0	0	0	0		0	**0**
1145-1245	0	0	0	0	0		0	**0**
1200-1300	0	0	0	0	0		0	**0**
1215-1315	0	0	0	0	0		0	**0**
1230-1330	0	0	0	0	0		0	**0**
1245-1345	0	0	0	0	0		0	**0**
1300-1400	0	0	0	0	0		0	**0**
1315-1415	0	0	0	0	0		0	**0**
1330-1430	0	0	0	0	0		0	**0**
1345-1445	0	0	0	0	0		0	**0**
1400-1500	0	0	0	0	0		0	**0**
1415-1515	0	0	0	0	0		0	**0**
1430-1530	0	0	0	0	0		0	**0**
1445-1545	0	0	0	0	0		0	**0**
1500-1600	0	0	0	0	0		0	**0**
1515-1615	0	0	0	0	0		0	**0**
1530-1630	0	0	0	0	0		0	**0**
1545-1645	0	0	0	0	0		0	**0**
1600-1700	0	0	0	0	0		0	**0**
1615-1715	0	0	0	0	0		0	**0**
1630-1730	0	0	0	0	0		0	**0**
1645-1745	0	0	0	0	0		0	**0**
1700-1800	0	0	0	0	0		0	**0**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 5							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	1	0	0	0	0			**1**
0815-0830	1	0	1	0	0			**2**
0830-0845	1	0	1	2	2			**6**
0845-0900	0	0	3	0	0			**3**
0900-0915	1	0	2	0	0			**3**
0915-0930	3	0	1	1	1			**6**
0930-0945	5	0	0	0	0			**5**
0945-1000	3	0	1	0	0			**4**
1000-1015	2	0	0	0	0			**2**
1015-1030	0	0	1	1	1			**3**
1030-1045	2	0	0	0	0	lgv	1	**3**
1045-1100	1	0	1	2	1	lgv	1	**6**
1100-1115	1	0	0	1	1			**3**
1115-1130	1	0	1	0	0			**2**
1130-1145	1	0	0	1	1			**3**
1145-1200	3	0	1	0	0			**4**
1200-1215	0	0	1	0	0	lgv	1	**2**
1215-1230	1	0	3	2	2	car	1	**9**
1230-1245	10	0	1	0	0			**11**
1245-1300	2	0	1	0	0			**3**
1300-1315	1	0	0	0	0			**1**
1315-1330	2	0	2	0	0			**4**
1330-1345	2	0	2	1	1			**6**
1345-1400	3	0	1	2	2			**8**
1400-1415	1	0	3	0	0			**4**
1415-1430	2	0	0	3	12			**17**
1430-1445	5	0	1	3	12	lgv	1	**22**
1445-1500	10	0	1	0	0			**11**
1500-1515	6	0	1	0	0	motorcycle	1	**8**
1515-1530	6	0	5	3	2			**16**
1530-1545	7	0	2	0	0	car	1	**10**
1545-1600	4	1	1	0	0			**6**
1600-1615	3	0	1	0	0			**4**
1615-1630	0	0	1	0	0			**1**
1630-1645	0	0	0	0	0			**0**
1645-1700	1	1	3	0	0			**5**
1700-1715	5	0	0	0	0			**5**
1715-1730	0	0	3	0	0			**3**
1730-1745	2	0	2	1	2			**7**
1745-1800	0	0	1	0	0			**1**
0800-1800	**99**	**2**	**49**	**23**	**40**		**7**	**220**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 5							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	3	0	5	2	2		0	**12**
0815-0915	3	0	7	2	2		0	**14**
0830-0930	5	0	7	3	3		0	**18**
0845-0945	9	0	6	1	1		0	**17**
0900-1000	12	0	4	1	1		0	**18**
0915-1015	13	0	2	1	1		0	**17**
0930-1030	10	0	2	1	1		0	**14**
0945-1045	7	0	2	1	1		1	**12**
1000-1100	5	0	2	3	2		2	**14**
1015-1115	4	0	2	4	3		2	**15**
1030-1130	5	0	2	3	2		2	**14**
1045-1145	4	0	2	4	3		1	**14**
1100-1200	6	0	2	2	2		0	**12**
1115-1215	5	0	3	1	1		1	**11**
1130-1230	5	0	5	3	3		2	**18**
1145-1245	14	0	6	2	2		2	**26**
1200-1300	13	0	6	2	2		2	**25**
1215-1315	14	0	5	2	2		1	**24**
1230-1330	15	0	4	0	0		0	**19**
1245-1345	7	0	5	1	1		0	**14**
1300-1400	8	0	5	3	3		0	**19**
1315-1415	8	0	8	3	3		0	**22**
1330-1430	8	0	6	6	15		0	**35**
1345-1445	11	0	5	8	26		1	**51**
1400-1500	18	0	5	6	24		1	**54**
1415-1515	23	0	3	6	24		2	**58**
1430-1530	27	0	8	6	14		2	**57**
1445-1545	29	0	9	3	2		2	**45**
1500-1600	23	1	9	3	2		2	**40**
1515-1615	20	1	9	3	2		1	**36**
1530-1630	14	1	5	0	0		1	**21**
1545-1645	7	1	3	0	0		0	**11**
1600-1700	4	1	5	0	0		0	**10**
1615-1715	6	1	4	0	0		0	**11**
1630-1730	6	1	6	0	0		0	**13**
1645-1745	8	1	8	1	2		0	**20**
1700-1800	7	0	6	1	2		0	**16**

K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

	MOVEMENT 6							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0815	1	0	0	0	0			**1**
0815-0830	0	0	0	0	0	lgv	1	**1**
0830-0845	1	0	1	1	1			**4**
0845-0900	7	0	1	0	0			**8**
0900-0915	2	0	2	0	0			**4**
0915-0930	1	0	1	2	3	car / lgv	2	**9**
0930-0945	3	0	0	4	5			**12**
0945-1000	1	0	0	0	0			**1**
1000-1015	5	0	1	0	0			**6**
1015-1030	3	0	1	2	9			**15**
1030-1045	1	0	0	3	4	lgv	1	**9**
1045-1100	1	0	0	0	0			**1**
1100-1115	5	0	0	0	0			**5**
1115-1130	0	0	1	0	0			**1**
1130-1145	5	0	2	0	0			**7**
1145-1200	2	0	0	0	0	lgv	1	**3**
1200-1215	4	0	0	0	0	car	1	**5**
1215-1230	7	0	2	1	4			**14**
1230-1245	4	0	3	0	0			**7**
1245-1300	3	0	0	0	0			**3**
1300-1315	2	0	0	0	0			**2**
1315-1330	2	0	3	0	0			**5**
1330-1345	3	0	2	2	7	motorcycle	1	**15**
1345-1400	3	0	1	1	7			**12**
1400-1415	9	1	3	0	0			**13**
1415-1430	4	0	1	0	0	lgv	1	**6**
1430-1445	2	0	4	0	0			**6**
1445-1500	2	0	1	0	0			**3**
1500-1515	3	0	0	0	0			**3**
1515-1530	0	0	1	0	0			**1**
1530-1545	3	0	2	0	0			**5**
1545-1600	2	0	2	1	4			**9**
1600-1615	1	0	0	0	0			**1**
1615-1630	11	0	1	1	2			**15**
1630-1645	1	0	1	0	0			**2**
1645-1700	0	0	2	0	0			**2**
1700-1715	5	0	1	0	0			**6**
1715-1730	1	0	0	0	0			**1**
1730-1745	0	0	4	0	0	car	1	**5**
1745-1800	2	0	0	0	0	car / police car	1	**3**
0800-1800	**112**	**1**	**44**	**18**	**46**		**10**	**231**

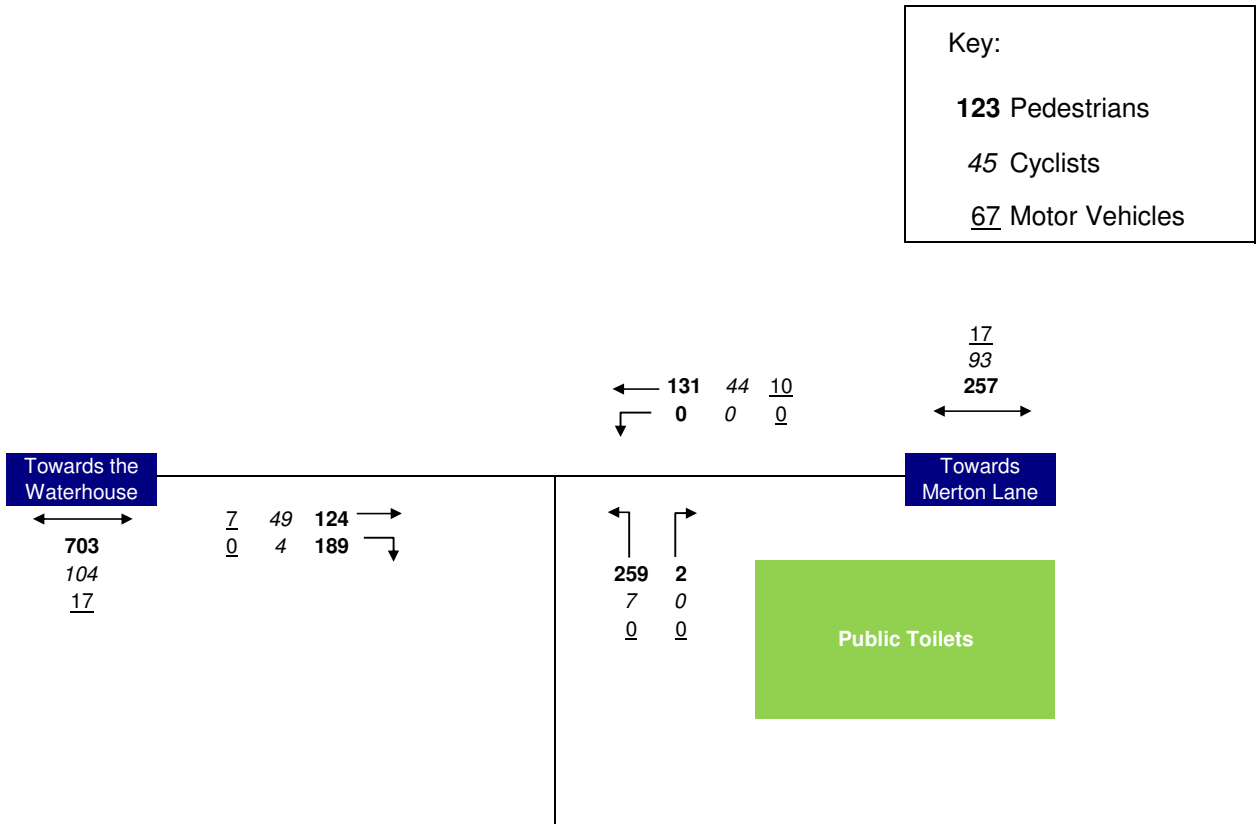
K&M TRAFFIC SURVEYS

DATE : 7th APRIL 2011

DAY : THURSDAY

LOCATION : HIGHGATE PONDS, MILLFIELD LANE

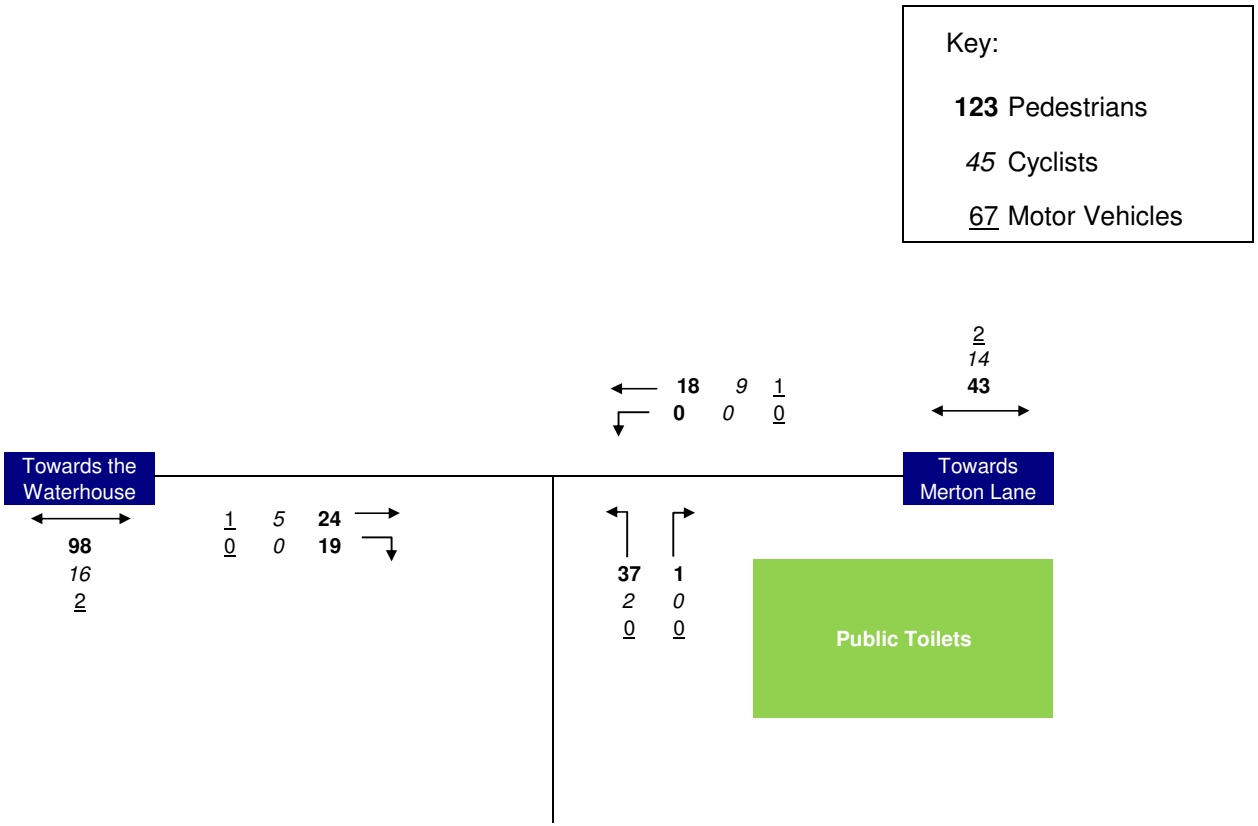
	MOVEMENT 6							
				DOG WALKERS		VEHICLES		
	PED	PED & PRAM	PCYCLE	PED	DOGS	TYPE OF VEH	TOTAL VEHS	**TOTAL MVTS**
0800-0900	9	0	2	1	1		1	**14**
0815-0915	10	0	4	1	1		1	**17**
0830-0930	11	0	5	3	4		2	**25**
0845-0945	13	0	4	6	8		2	**33**
0900-1000	7	0	3	6	8		2	**26**
0915-1015	10	0	2	6	8		2	**28**
0930-1030	12	0	2	6	14		0	**34**
0945-1045	10	0	2	5	13		1	**31**
1000-1100	10	0	2	5	13		1	**31**
1015-1115	10	0	1	5	13		1	**30**
1030-1130	7	0	1	3	4		1	**16**
1045-1145	11	0	3	0	0		0	**14**
1100-1200	12	0	3	0	0		1	**16**
1115-1215	11	0	3	0	0		2	**16**
1130-1230	18	0	4	1	4		2	**29**
1145-1245	17	0	5	1	4		2	**29**
1200-1300	18	0	5	1	4		1	**29**
1215-1315	16	0	5	1	4		0	**26**
1230-1330	11	0	6	0	0		0	**17**
1245-1345	10	0	5	2	7		1	**25**
1300-1400	10	0	6	3	14		1	**34**
1315-1415	17	1	9	3	14		1	**45**
1330-1430	19	1	7	3	14		2	**46**
1345-1445	18	1	9	1	7		1	**37**
1400-1500	17	1	9	0	0		1	**28**
1415-1515	11	0	6	0	0		1	**18**
1430-1530	7	0	6	0	0		0	**13**
1445-1545	8	0	4	0	0		0	**12**
1500-1600	8	0	5	1	4		0	**18**
1515-1615	6	0	5	1	4		0	**16**
1530-1630	17	0	5	2	6		0	**30**
1545-1645	15	0	4	2	6		0	**27**
1600-1700	13	0	4	1	2		0	**20**
1615-1715	17	0	5	1	2		0	**25**
1630-1730	7	0	4	0	0		0	**11**
1645-1745	6	0	7	0	0		1	**14**
1700-1800	8	0	5	0	0		2	**15**



Thursday 7 April 2011 - Millfield Lane Pedestrian Counts

Total Count 0800 - 1800

Figure No. 1



Thursday 7 April 2011 - Millfield Lane Pedestrian Counts

Peak Hour Count 1400 - 1500

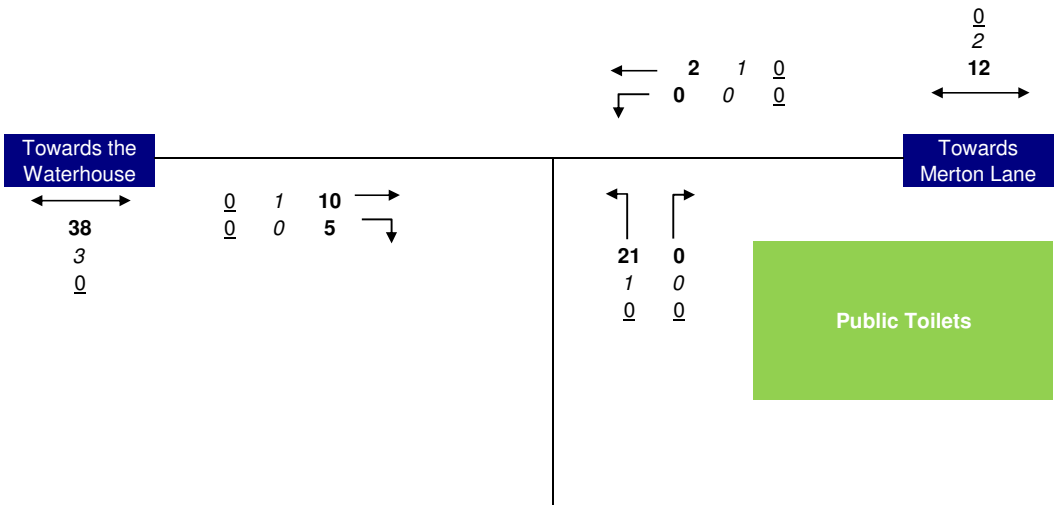
Figure No. 2

Key:

123 Pedestrians

45 Cyclists

67 Motor Vehicles



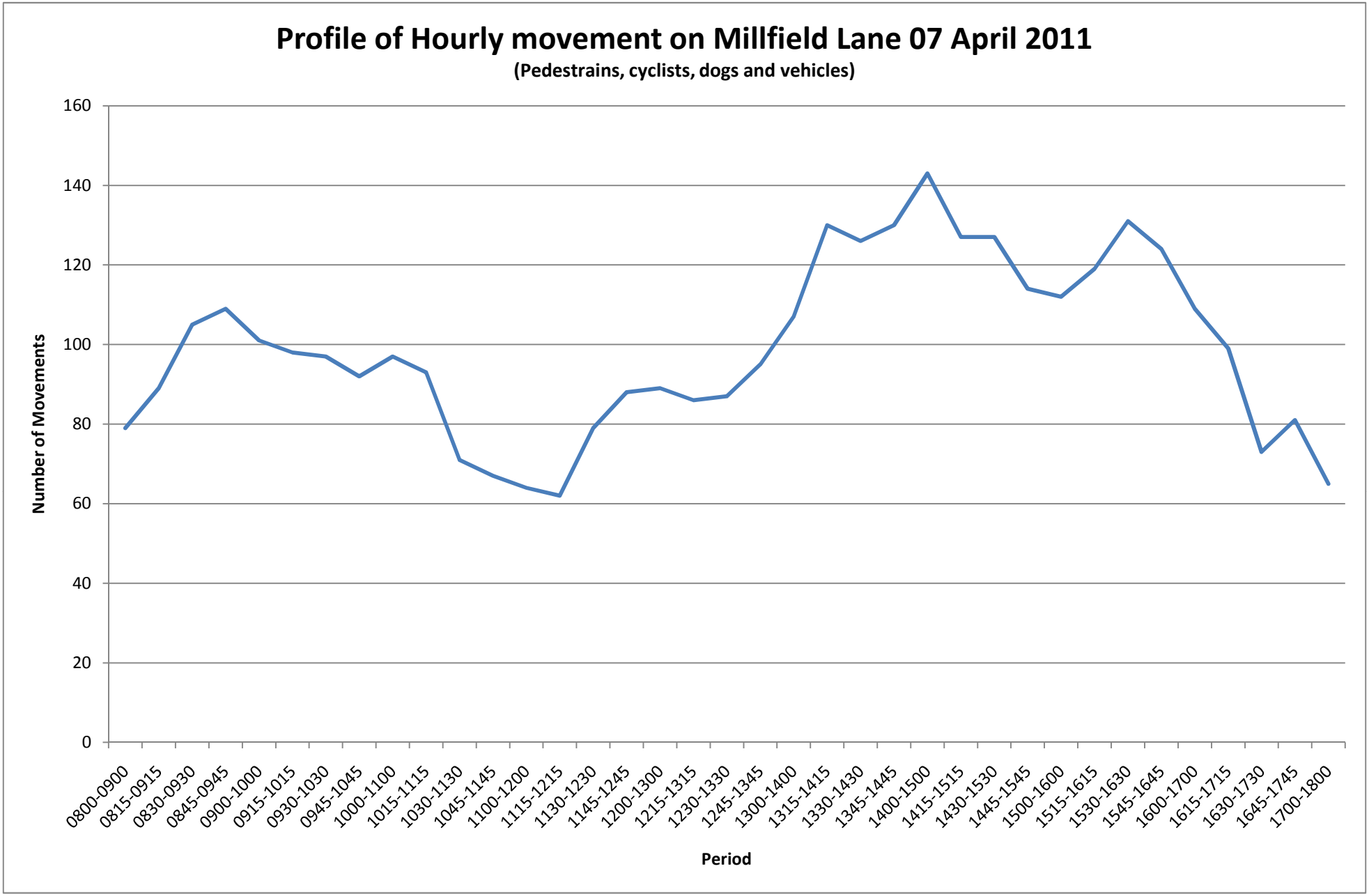
Thursday 7 April 2011 - Millfield Lane Pedestrian Counts

Peak 15 Minute Count 1445 - 1500

Figure No. 3

Profile of Hourly movement on Millfield Lane 07 April 2011

(Pedestrains, cyclists, dogs and vehicles)



Appendix F

Copy of training prospectus for Banksman training provided by CITB National Construction College

Plant Maintenance

Take Control – Vehicle Marshalling

Who?

Those who will have responsibility for manoeuvring vehicles on, off and within busy construction sites or premises.

Why?

This course will prepare candidates to recognise the importance of accepting and dispersing vehicles in a safe and efficient manner, recognise the significant risks and be able to give clear and precise signals to vehicles.

What?

Successful candidates will gain knowledge and skills in:

- Accident statistics
- Legislation
- Vehicle/pedestrian management

Candidates will gain a qualification/certification in:

- National Construction College certificate

How?

This course is delivered through classroom-based tutorials and candidates are assessed via a practical test.

Entry requirements

The minimum requirement is a good understanding of spoken and written English. If you have any concerns in this area, please call us on 0344 994 4433.

CODE **DML91**	COST **Contact us on 0344 994 4433**
Duration	1 day
Locations	NCC East
Dates	For course dates please call 0344 994 4433
Book now	Please call 0344 994 4433, as we need to confirm some details with you to complete your booking

Did you know?

The second highest rate of fatalities on construction sites is due to vehicle movement.

GRANT AVAILABLE
SAVE £s

Our Take Control – Vehicle Marshalling course can be:

- tailored for your company
- delivered at your premises, using your equipment
- or delivered at one of our training locations

The hire of a lorry/driver is also available

Please call **0344 994 4433** for details

Course now available in Scotland – call **0344 994 4433** for details

Appendix G

Millfield Lane Emergency Access Strategy

1. The Kenwood Ladies Pond will be asked to alert the Construction Project Manager if an ambulance is called.

2. If an ambulance needs to access the Kenwood Ladies Pond, all vehicular activity to and from the Water House will stop until the ambulance has left the area.

3. If the Construction Project Manager is not informed that an ambulance has been called and an ambulance arrives at Millfield Lane when a construction vehicle is on route from the Water House, the banksman at the junction of Millfield Lane with Merton Lane will contact the banksman accompanying the construction vehicle. If the construction vehicle has passed Point A, it will continue out to Merton Lane after which access will be clear for the ambulance. If it has not reached Point A, it will reverse back to the Water House. If a construction vehicle is approaching the Water House when an ambulance arrives, it will continue to the Water House.

4. The banksman at the junction of Merton Lane with Millfield Lane will alert drivers of any other vehicles that wish to use Millfield Lane than an emergency vehicle is at the Kenwood Ladies Pond and that they shouldn't use the lane until the ambulance has left the area.

Point A

Point B

motion
transport planning

Legend

- Pedestrian zone
- Area of restricted width

"The Water House", Millfield Lane
Emergency Access Plan

Scale (@A3) 1:500

100702-01 Rev A

N:\London_CAD\shwate 100702\100702-01a.dwg

APPENDIX 2

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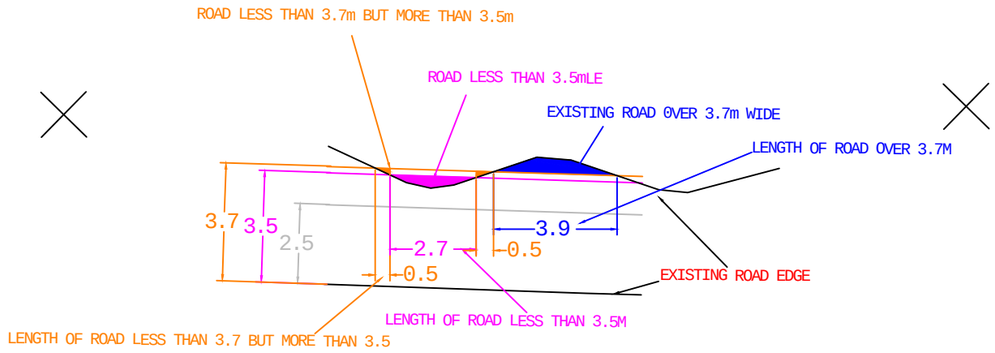
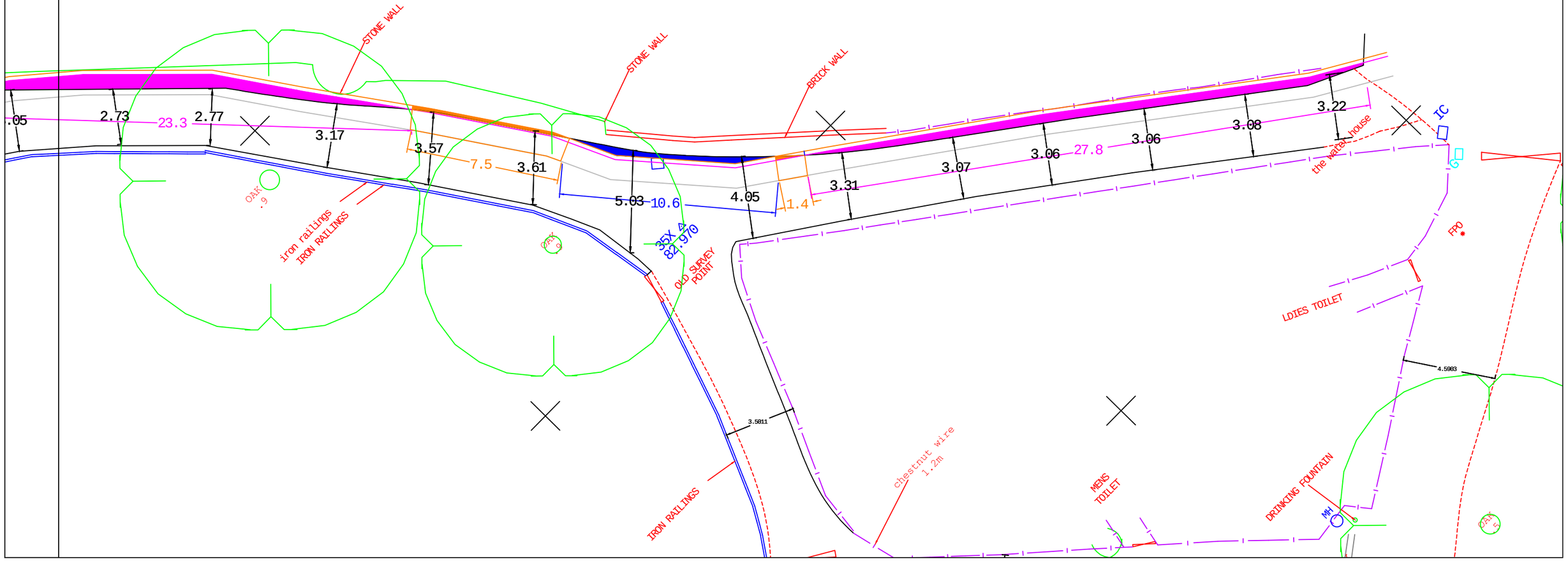
20.00

1





SCALE m

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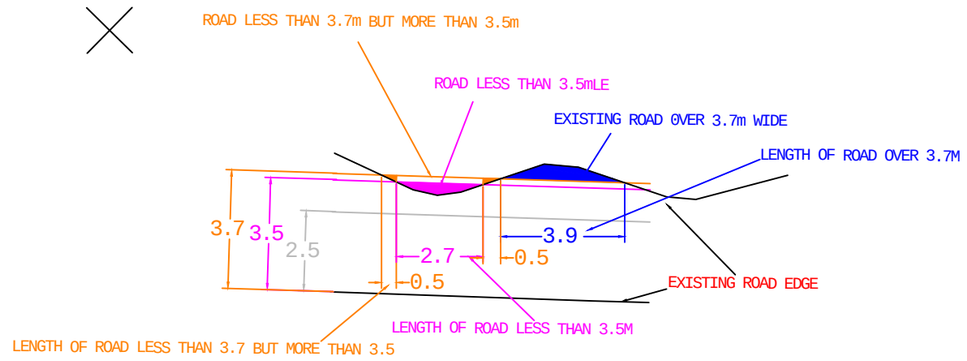

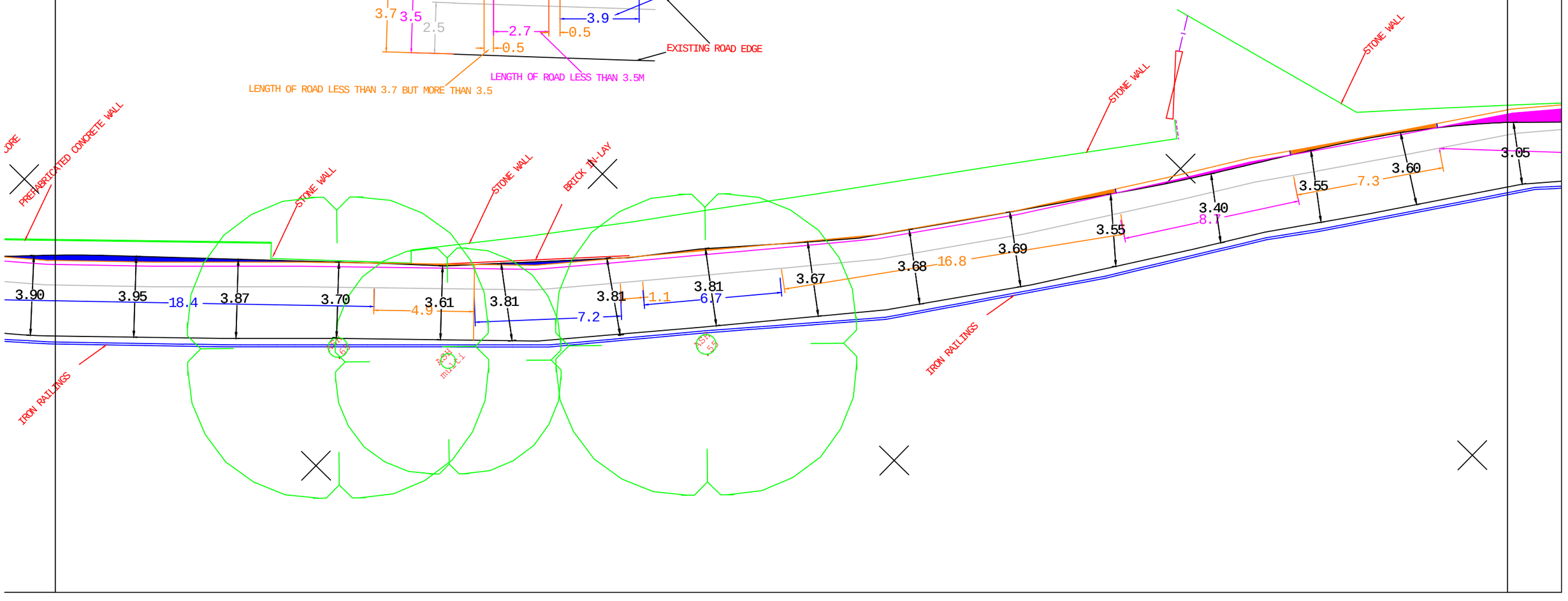

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SCALE m

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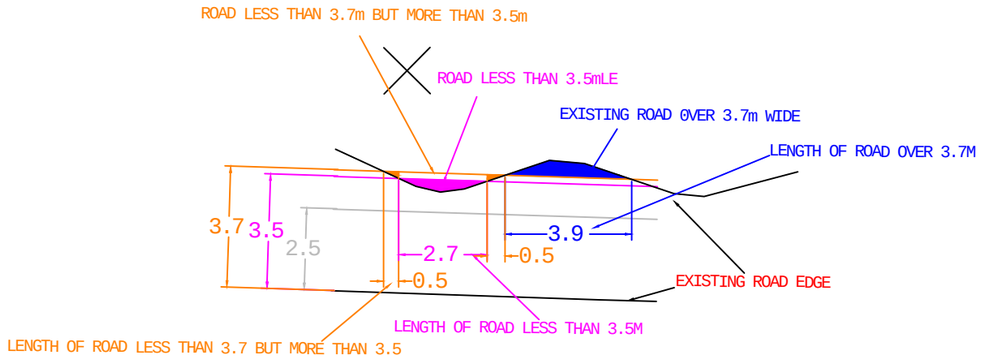
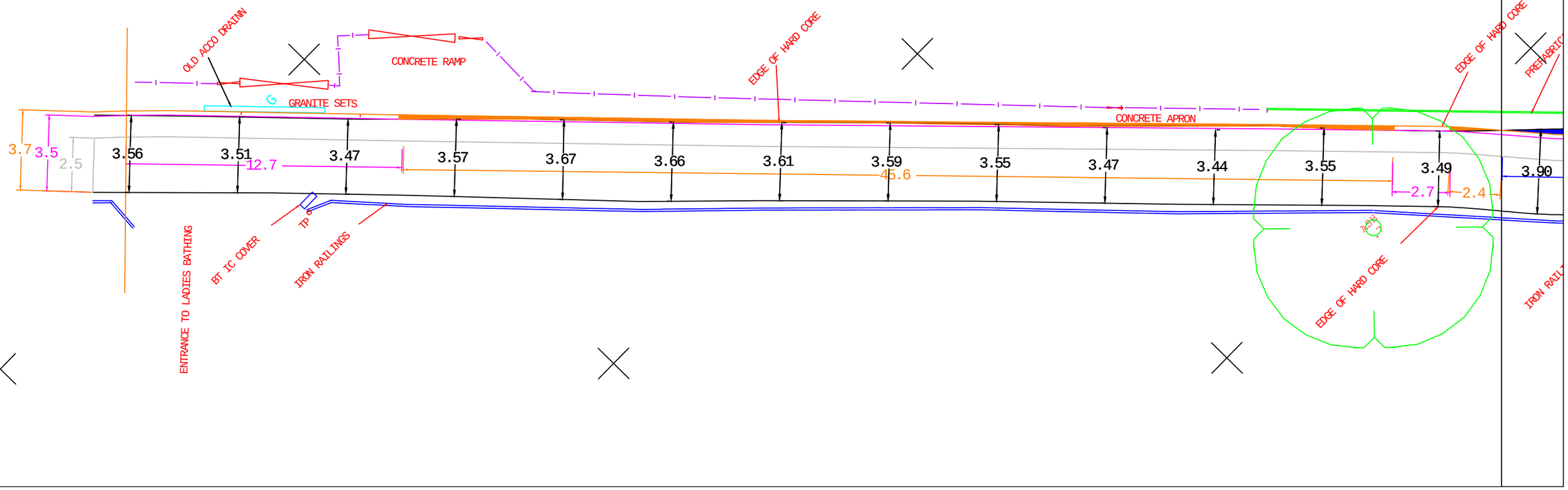
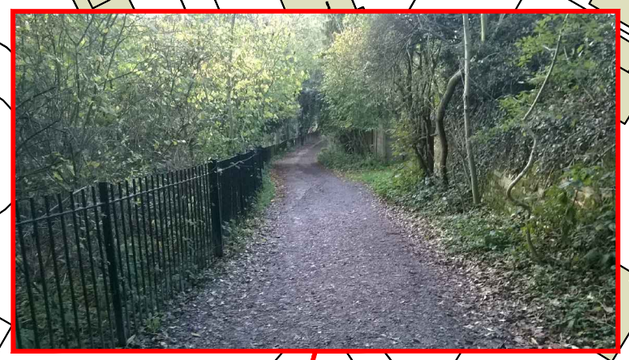
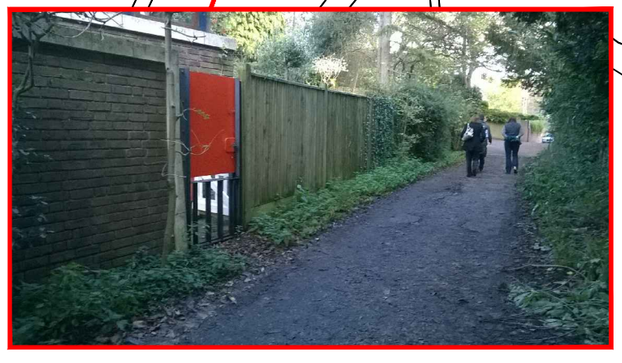




PLANS





THE WATER HOUSE

MILLFIELD LANE

MERTON LANE

FITZROY PARK

Park

Pond/Lake

Fitzroy Lodge

Apex Lodge

Transformer

4 Haverthorn Place

7 Haverthorn Place

INDICATIVE

Key

- Millfield Lane carriageway
- The Water House Access Point

Drawing Revisions		
Rev:	Date:	Details:

Status: ISSUE	
Drawn: TG	Checked: PJC
Drawing Number: 112/01	Date: Nov 2014
Revision: -	Scale 1:1000@A3

Client

CITY OF LONDON

Project

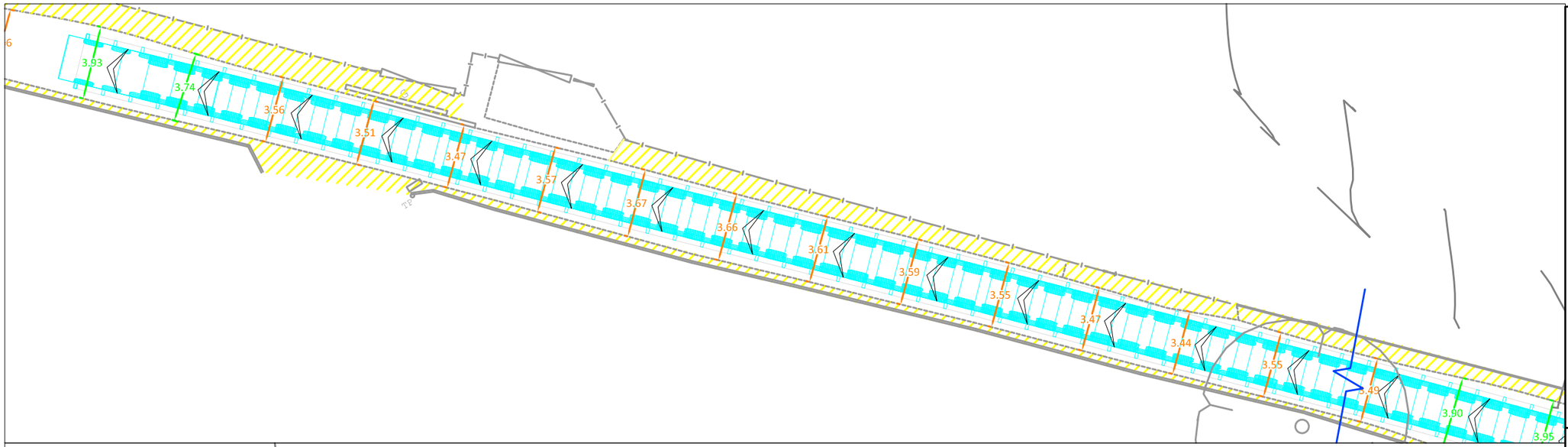
THE WATER HOUSE, MILLFIELD LANE
HIGHGATE, LONDON

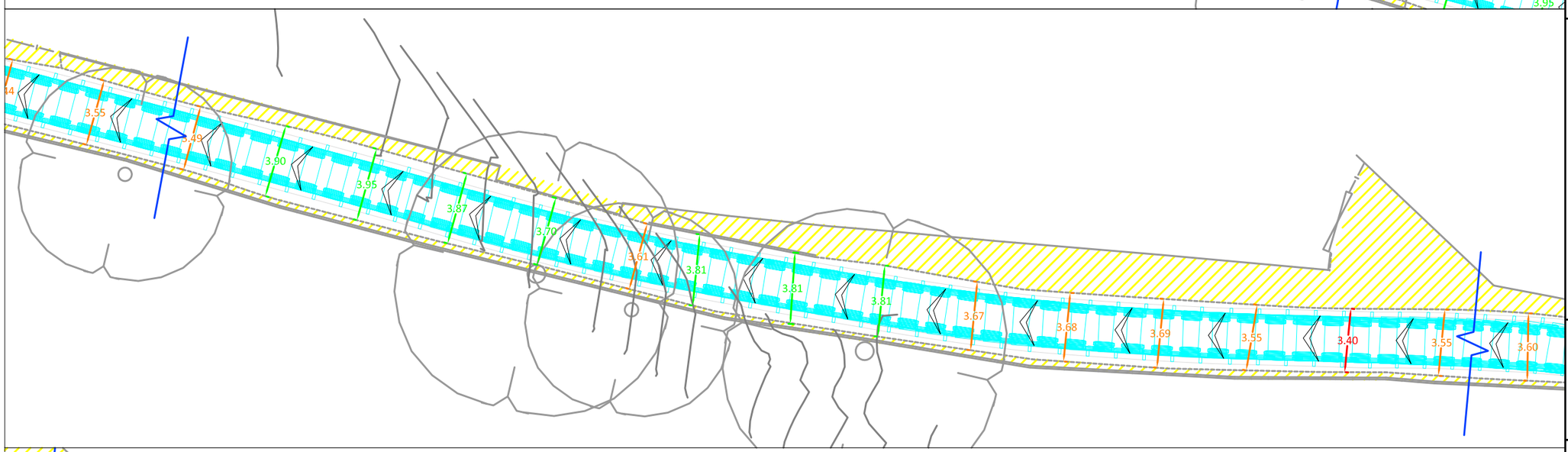
Title

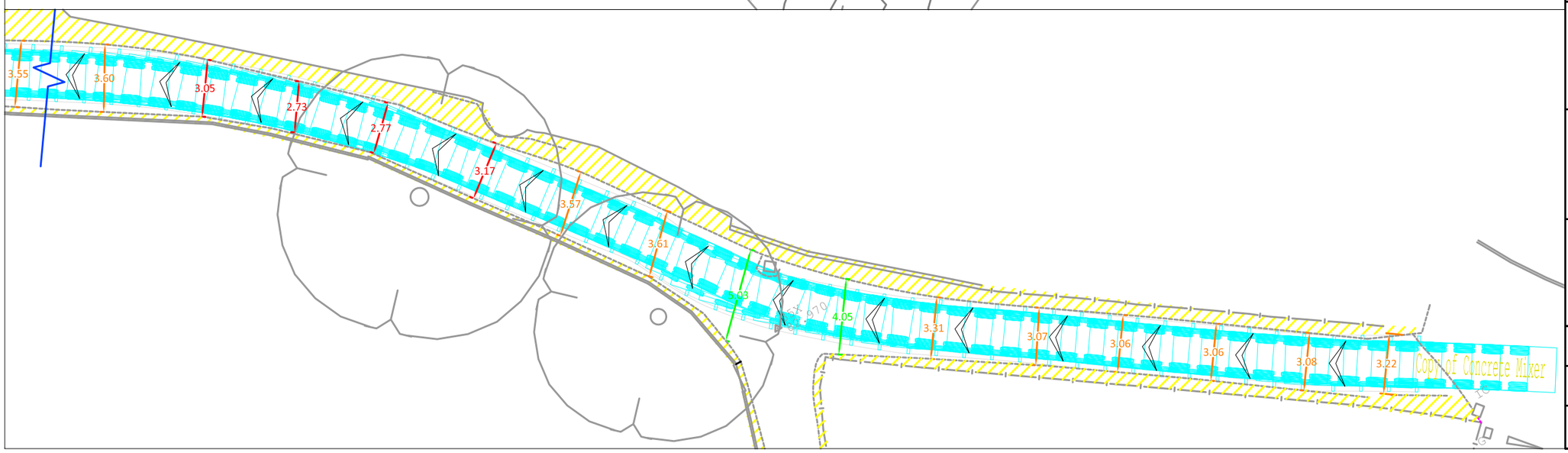
MILLFIELD LANE
PHOTOGRAPHIC INVENTORY

Notes

MILESTONE TRANSPORT PLANNING
Heritage House, 7 Wey Court, May Road
Guildford, Surrey, GU1 4QU
Tel: 01483 397888
web: www.milestonetp.co.uk







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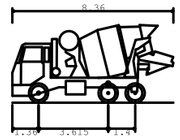


Copy of Concrete Mixer	
Overall Length	8.360m
Overall Width	2.390m
Overall Body Height	4.027m
Min Body Ground Clearance	0.358m
Max Track Width	2.413m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	8.210m

Key

Green = Usable lane width in excess of 3.7 metres

Amber = Usable lane width between 3.5 - 3.7 metres

Red = Usuable lane width under 3.5 metres

= Third Party Land

Drawing Revisions

Rev:	Date:	Details:

Client

CITY OF LONDON

Project

THE WATERHOUSE
MILLFIELD LANE
HIGHGATE

Title

MILLFIELD LANE WIDTH CONTRAINTS & SWEPT PATH ANALYSIS

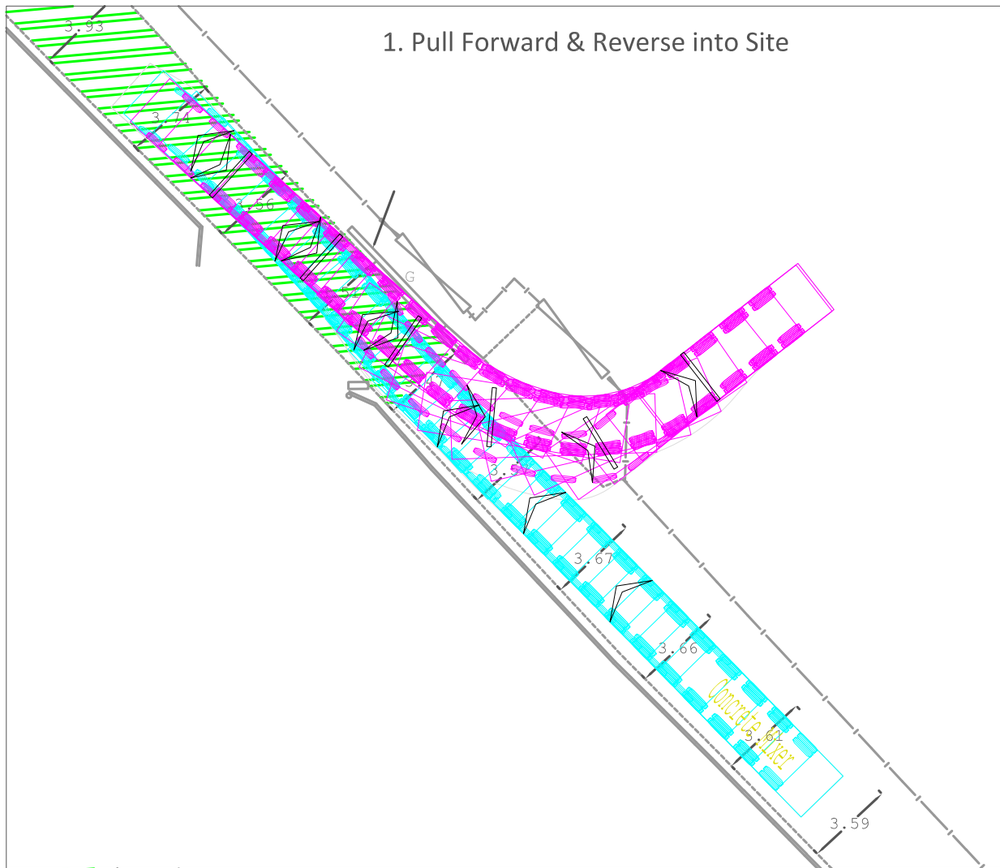
MILESTONE TRANSPORT PLANNING
Heritage House, 7 Wey Court, Mary Road
Guildford, Surrey, GU1 4QU
Tel: 01483 397888
web: www.milestonetp.co.uk

Status:	Scale:
DRAFT	1:250@A3

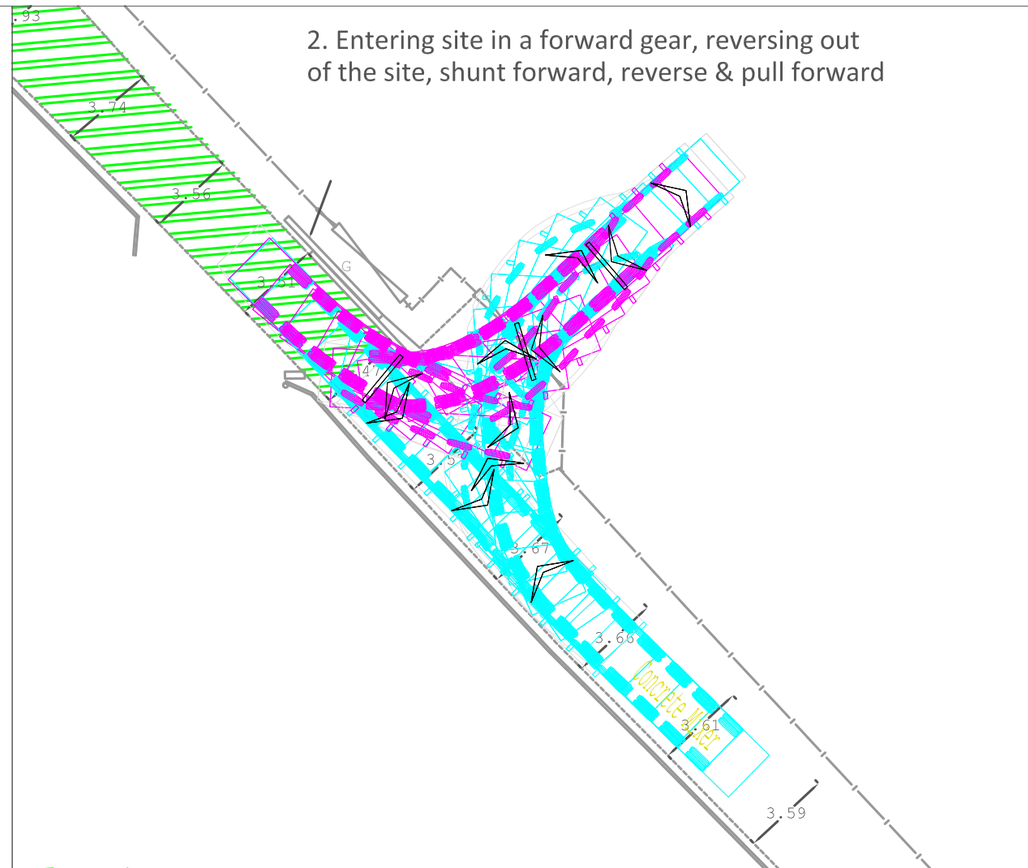
Drawn:	Checked:	Date:
CS	TG	Nov 2014

Drawing Number:	Revision:
112/TK01	-

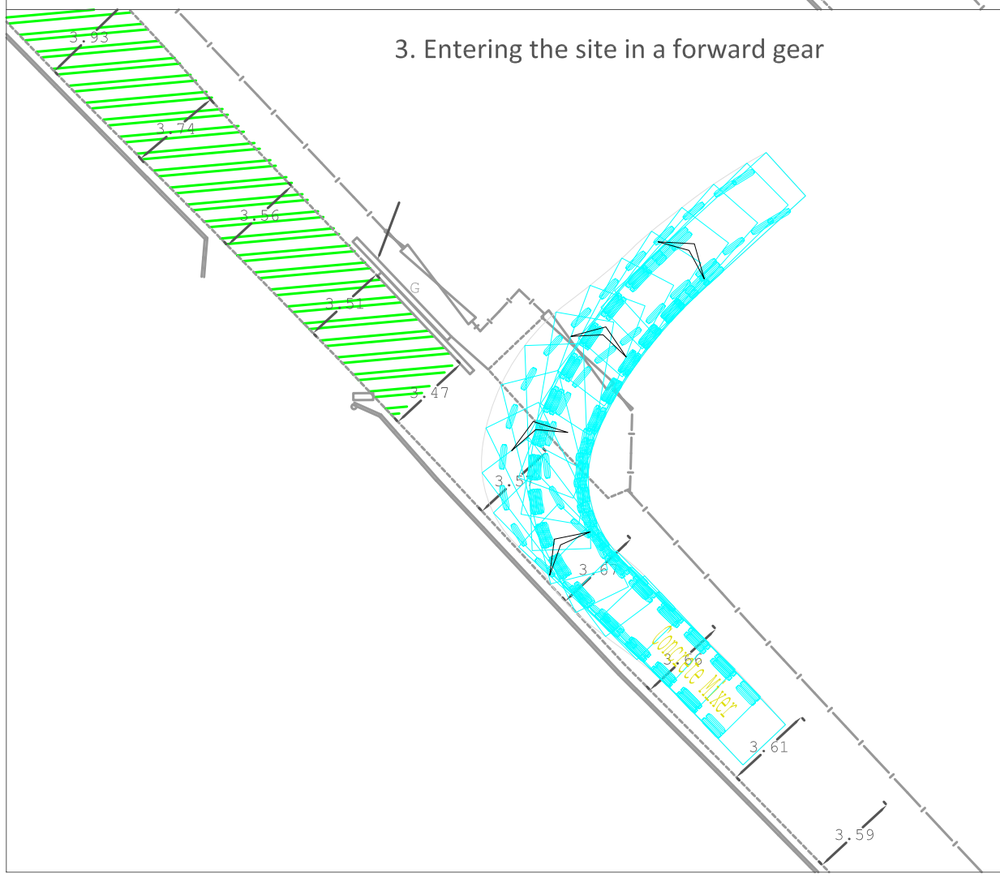
1. Pull Forward & Reverse into Site



2. Entering site in a forward gear, reversing out of the site

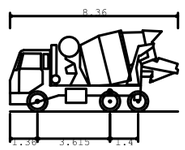


3. Entering the site in a forward gear



4. Reversing out of the site

Notes



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Min Body Ground Clearance	0.358m
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Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	8.210m

Key

Land in Third Party Control

Drawing Revisions

Rev:	Date:	Details:

Client

CITY OF LONDON

Project

THE WATER HOUSE
MILLFIELD LANE
HIGHGATE

Title

SWEPT PATH ANALYSIS
AT SITE ACCESS

MILESTONE TRANSPORT PLANNING
Heritage House, 7 Wey Court, Mary Road
Guildford, Surrey, GU1 4QU
Tel: 01483 397888
web: www.milestonetp.co.uk

Status:	Scale:
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CS	TG	Nov 2014

Drawing Number:	Revision:
112/TK02	-