



PROPOSED DEVELOPMENT OF A HOUSEHOLD RECYCLING CENTRE AT TENBURY BUSINESS PARK, TENBURY WELLS.

PLANNING APPLICATION DOCUMENT

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PART 1: PLANNING APPLICATION FORMS, NOTICES AND CERTIFICATES

PART 2: PLANNING STATEMENT

1.0 INTRODUCTION AND BACKGROUND

1.1 Background to the Scheme

- 1.1.1 This Planning Statement (PS) has been prepared by AXIS, on behalf of Mercia Waste Management (MWM), to accompany a planning application for the development of a new, replacement Household Recycling Centre (HRC) to serve Tenbury Wells and its surrounding area within the county of Worcestershire. The new facility would be located at Tenbury Business Park, Tenbury Wells, Worcestershire (see Figure 1) and would replace the existing HRC located in the car park of Tenbury Wells Leisure Centre at Palmers Meadow, which would be closed.
- 1.1.2 The project forms part of the Private Finance Initiative (PFI) Waste Treatment and Disposal Contract awarded by Herefordshire Council and Worcestershire County Council (WCC) to MWM / Severn Waste Services (SWS) in 1998. This contract established the requirement to undertake a modernisation programme of HRCs throughout the two authority areas, including the facility located at Tenbury Wells.
- 1.1.3 The existing HRC site at Tenbury Wells is located in the corner of the leisure centre car park at Palmers Meadow. It is by some margin the smallest HRC within the two authority areas and comprises a fenced compound approximately 12m x 15m. At this scale it has insufficient space to accommodate the numbers of containers required to separate material for recycling and requires users to negotiate steps to access some of the containers. In addition, HGVs servicing the site have limited room to manoeuvre whilst removing or placing containers and are often in conflict with private vehicles using the leisure centre car park. The location of the facility also restricts potential public parking spaces for use by residents of and visitors to Tenbury. In short, the current HRC offers a substandard service for Tenbury residents in comparison with other HRC sites operated by the Councils.
- 1.1.4 Expansion of the existing HRC on to the adjacent open space at Palmers Meadow has been considered previously, but discounted due to the Palmers Meadow area lying within the floodplain. For this reason relocation of the HRC

to an alternative site has long been planned. Indeed, in April 2001 MWM submitted a planning application for the relocation of the current Tenbury HRC to land at Tenbury Business Park. This application was recommended for approval by the Head of Planning and Development, but refused by members (on 30th July 2001) on the grounds that an HRC at Tenbury Business Park could adversely affect the 'efficient operation' of an existing business sited at the Park. MWM has always been of the firm view that this reason for refusal could not be substantiated, but the company, under the terms of its waste contract, required the authorities' leave to appeal the refusal, which was not granted.

1.1.5 Subsequent to this refusal there have been a number of factors that point towards the continued need to provide a replacement HRC for Tenbury and that this should be located at Tenbury Business Park. These factors are summarised below.

1.1.6 Firstly, in 2004, Herefordshire Council, WCC, and the District Councils therein, published a Joint Municipal Waste Management Strategy to set the framework for the management of municipal waste in the sub-region until 2034. This original Strategy was reviewed in 2009 / 2010 and subsequently replaced in August 2011 by the Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire, entitled 'Managing Waste for a Brighter Future' (hereafter referred to as the JMWMS Review). This document includes the authorities' overall household waste recycling targets of 45% by 31st March 2015 and 50% by 31st March 2020. In addition, it provides a Waste Strategy Action Plan and sets out how the JMWMS Review targets will be delivered including a three year plan for the period between April 2011 and March 2014. Action Plan Reference WRC11 (Appendix 1-1) identifies the need for the redevelopment of the household waste facility at Tenbury stating that: "*The Household Waste Site at Tenbury is to be redeveloped pending successful planning application*" with a proposed delivery date of March 2012.

1.1.7 The JMWMS Review reports that in the first four years following publication of the original JMWMS, the average recycling performance at HRCs within the two authority areas had increased to over 69%. This figure demonstrates the substantial contribution HRCs make towards achieving the Counties' recycling / landfill diversion targets. Average recycling rates at HRCs across the two

counties are now currently estimated to exceed 70% (with current overall household waste recycling at 43%). Conversely, the current Tenbury HRC achieves circa 37% recycling. However, if redeveloped to contemporary standards it would both make a significant contribution towards further increasing Worcestershire's recycling targets and be a valuable resource for the local community.

- 1.1.8 Secondly, the proposed replacement HRC is further supported by the Worcestershire Waste Core Strategy (WCS) (November 2012) which states at Paragraph 2.48 that: *"The reviewed Joint Municipal Waste Management Strategy also recognises that the Household Recycling Centre in Tenbury Wells does not include the range and quality of services available at other Household Recycling Centres and it will need to be improved during the life of the Strategy."* Appendix A of the WCS highlights Tenbury Business Park as an 'area of search' being potentially suitable for most waste management facilities subject to consideration of the details of specific proposals.
- 1.1.9 Thirdly, WCC carried out a desktop study in February 2012 to identify possible locations for a new HRC to serve the residents of Tenbury. Several potential locations were considered, but the study concluded that the only suitable location is Tenbury Business Park (see Section 4.0 and Appendix 1-1 for further details).
- 1.1.10 Fourthly, community consultation undertaken by MWM in 2013 has shown strong support for a new HRC located at Tenbury Business Park.
- 1.1.11 Finally, the aspirations for the development of Tenbury Business Park in 2001 have not really come to fruition from an economic investment perspective. Much of the modest sized Business Park remains vacant and available for development.
- 1.1.12 In summary there is a need and contractual requirement to address the substandard service offered by the existing Tenbury Wells HRC, which is not maximising recycling potential and is having adverse local effects on other users of the car park within which it is situated. There is 'policy' support for a new HRC in Tenbury Wells and work carried out by WCC has found that

Tenbury Business Park is both an 'area of search' potentially suitable for most waste management facilities and the only suitable location for a new HRC.

1.2 The Proposal

1.2.1 The replacement Tenbury HRC would be similar in design to existing HRCs within Worcestershire and Herefordshire. It would be a modern, clean and efficient facility that would enable the local community to deposit a wide range of recyclable material, garden waste and general household wastes.

1.2.2 Key features of the proposed facility would include:

- 2 – 3 site attendants present on the site;
- A split-level site configuration, with the main skips and containers at a lower level allowing easy access to deposit mixed waste, green waste, cardboard, wood and metals into containers and obviating the need to climb steps, as occurs at the existing facility;
- A service yard containing a series of skips / containers for a range of materials including wood, cardboard, scrap, green waste, general mixed waste, soil and rubble, plastic, paper, glass, rubble, cans and electrical goods;
- A range of smaller recycling banks for items such as batteries, oils, plasterboard, fluorescent light bulbs, LPG cylinders and textiles. The number of different types of materials which can be accepted at HRCs continues to increase and it is currently expected that it will be possible to dispose of up to 20 different types of material at the new site. Some further capacity has been designed into the facility for additional skips / containers should they be required in the future;
- A user friendly design with separate vehicle circulation areas for public vehicles and HGVs servicing the skips / containers, to provide the maximum level of safety within the site. The facility would also include car parking bays adjacent to the skips / containers and a passing lane to provide free flowing access;
- A single storey office / welfare facility would be provided for staff;
- A site attendant's shelter on the upper tipping level;

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- Clear signage directing visitors to the appropriate containers around the site, and trained attendants on hand to offer advice and help in unloading if required; and
 - Trees of landscaping, security fencing and gates.

1.2.3 The HRC would be open to residents between 08:00 and 18:00 on Saturdays and Sundays, and one day in the week yet to be agreed. On days when the site is not open to the public, there would be occasional activity on the site, such as exchanging containers and carrying out maintenance.

1.2.4 A more detailed description of the facility, opening hours and the processes that would be undertaken at the site is contained within Section 3.0 of this PS.

1.3 The Site

1.3.1 The planning application site (see the statutory plan) comprises approximately 0.49 hectares (ha) of land on a broadly rectangular shaped plot situated on the Tenbury Business Park, Tenbury Wells. The Business Park is a purpose built industrial / employment site located within Tenbury's settlement boundary on the southern outskirts of the town off the B4214 Bromyard Road.

1.3.2 Tenbury Business Park was granted planning permission in 1989 for Business Use B1 and is also allocated in the Malvern Hills District Council Adopted Local Plan for employment uses within Use Classes B1, B2 and B8.

1.3.3 The proposed location for the replacement HRC is demonstrably suitable for the intended use for several key reasons:

- The site is on an allocated and purpose built industrial / employment site of which approximately 60% of the available land is vacant and has never been developed;
- The site is located within the settlement boundary of Tenbury Wells. It is therefore close to the main source of waste arising's and proximate to the community it is proposed to serve, which would minimise travel time for residents;
- The site is of a suitable size to accommodate the proposed facility and any landscape mitigation measures;

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- The Business Park has a good standard of access for both private vehicles and heavy goods vehicles to the B4214 Bromyard Road;
 - It is relatively distant from residential properties;
 - The site is not located within the floodplain as defined by the Environment Agency (EA);
 - The site is located away from designated heritage features / nature conservation areas;
 - The site is not within a protected / designated landscape areas (e.g. an AONB); and
 - No suitable alternative sites within or around Tenbury Wells have been identified that meet the above locational requirements.

1.3.4 Other businesses located on the site at the time of application are:

- A highways depot located on a plot east of the proposed site operated by WCC;
- H. P. Mouldings Ltd, a product moulding company located on a plot north east of the proposed HRC site;
- Elgar Foods, a fruit preparation company located on a plot north of the HRC site; and
- Ashburn Veterinary Centre located on a plot north west of the HRC site.

1.3.5 The site comprises broadly flat ground on a cleared and levelled, but undeveloped part of the Business Park.

1.3.6 Immediately north and east of the application site there are existing commercial buildings on the Business Park. Immediately west of the site is a vacant plot of land and further west, beyond the boundary of the Business Park, there are residential properties located along the east side of Terrills Lane, approximately 180m from the application site boundary. Agricultural land borders the site boundary to the south.

1.3.7 A new access into the site would be created from the existing Business Park service road, which itself forms a junction with the B4214 Bromyard Road to the north of the site. The service road junction with the B4214 is already designed to an appropriate standard to accept the number and type of vehicles expected to visit the HRC.

1.4 The Applicant

- 1.4.1 Mercia Waste Management (MWM) operates from its head office in Evesham (together with its sister company Severn Waste Services) and provides the largest specialist waste management service in Herefordshire and Worcestershire. The company currently operates the Joint Authorities' Private Finance Initiative (PFI) contract for the management of municipal waste.
- 1.4.2 The service provided by MWM includes the operation of a major landfill site at Hill & Moor, near Pershore, six waste and recyclables transfer stations, 16 HRCs, a composting operation and a Materials Reclamation Facility (MRF). MWM is also in the process of developing an energy from waste (EfW) at Hartlebury just south of Kidderminster. All these operations have helped the Joint Authorities to meet or exceed landfill diversion, recycling and composting targets since the contract commenced.
- 1.4.3 The HRCs operated by MWM in Worcestershire are situated at Bromsgrove, Droitwich, Kidderminster, Malvern, Pershore, Redditch, Stourport-on-Severn, Upton-upon-Severn, Worcester (East and West) and the existing site at Palmers Meadow car park, Tenbury Wells. These sites currently manage some 100,000 tonnes of waste per year, of which over 70% is either recycled or composted. They therefore make a substantial contribution towards Worcestershire's recycling / landfill diversion targets.
- 1.4.4 In addition to the maintenance and enhancement of the existing sites, the service also requires the provision of new facilities, as necessary, to ensure the on-going successful and sustainable management of Herefordshire's and Worcestershire's municipal waste. As referenced previously, a requirement of the contract is the provision of an upgraded HRC site to serve the residents of Tenbury Wells.

1.5 This Document

- 1.5.1 This PS forms Part 2 of the overall planning application document for the proposed development, which has been made to WCC in its role as County Planning Authority (CPA). The PS is divided into a number of sections, of which this introduction forms the first. Section 2.0 describes the pre-application

consultation that has been undertaken in advance of this planning application and how this has informed the design of the facility. Section 3.0 describes the proposed development in more detail. Section 4.0 sets out the need for the facility and briefly outlines the site selection process, whilst Section 5.0 appraises the proposed development in the context of the statutory development plan and other relevant planning policy guidance. Section 6.0 considers the traffic and transportation issues associated with the proposed development. Sections 7.0 to 11.0 consider the potential environmental effects of the scheme. Finally, Section 12.0 draws a number of concise conclusions.

2.0 PRE-APPLICATION CONSULTATION

2.1 Introduction

- 2.1.1 There are no mandatory requirements for an applicant to undertake consultation with the public, or indeed other technical bodies, as part of the planning process. However, 'best practice' advocates that applicants should undertake a range of consultation activity when preparing a planning application. MWM consider consultation to be an inherent part of the planning process and in doing so has sought to demonstrate compliance with WCC's Statement of Community Involvement (SCI) (November 2006).
- 2.1.2 The SCI sets out how and when the County Council will seek the public's involvement in the planning of minerals and waste, and County Council developments such as schools and roads. Section 3.0 of the SCI sets out WCC's requirements for strengthening community involvement, and participation at the various stages leading up to the determination of a planning application.
- 2.1.3 The SCI highlights that 'the way the community is involved will depend upon the scale, type and location of development proposed. As a rule significant applications would be subject to wider consultation than those of a minor nature and consultation could include public exhibitions / meetings and letters to residents'. An indicative table outlining the types of consultation that may be used for applications is attached as Appendix 5 to the SCI. MWM has adopted an approach to consultation on the basis that the proposed HRC development would be classed as a 'significant application'.
- 2.1.4 A pre-application consultation meeting was held with representatives of WCC's Development Control Team to determine the most appropriate methods for engaging and consulting with the community in line with the SCI. The agreed approach has been adopted.
- 2.1.5 In communicating the proposals to the community and other stakeholders MWM has sought to address concerns where expressed, provide further information where requested and consider suggested changes to the scheme for incorporation into the application. Feedback obtained has enabled MWM to

take into account the views and concerns of the community and to address these issues as they arose. MWM also propose to maintain relevant consultation activity throughout the determination period.

2.1.6 This section of the PS sets out how MWM's consultation has sought to meet the aspirations of the SCI. It also enables the authority to take into account the consultation that has been carried out by MWM, in forming its decision on the application.

2.2 Technical Consultation

2.2.1 Pre-application consultation meetings have been held with representatives of WCC's Development Control Team. The purpose of these meetings was to provide the Council with details of the proposed development, to determine the scope of supporting information (such as environmental appraisals) that would need to accompany the planning application and, as stated above, to agree the most appropriate methods for engaging and consulting with the community in line with the SCI.

2.2.2 Pre-application meetings were sought with the Development Control Team at Malvern Hills District Council but have yet to take place at the point of submitting the application. Furthermore, details of the proposed development were provided to WCC Highways Department.

2.3 Public Consultation

2.3.1 Public consultation has encompassed meetings, discussions, and an exhibition which have taken place with:

- The general public;
- Local organisations – via the Tenbury Area Partnership
- Tenbury Wells Town Council; and
- Individual stakeholders such as local members and businesses located at Tenbury Business Park.

Public Exhibition

2.3.2 Prior to submitting this planning application MWM held a public exhibition at The Pump Rooms, Tenbury Wells on Thursday 27th March 2014. The exhibition provided information on the proposed HRC including: an introduction to the proposed development; the need case for the new HRC; site details (including a location plan and layout plan); an outline of the benefits of the new facility; potential environmental issues; and details of how to provide feedback.

2.3.3 Prior notification of the exhibition was given to members of the public through a combination of the following:

- An advertisement in the local newspaper (Ludlow and Tenbury Wells Advertiser);
- A notice at the Tenbury Wells Library;
- A notice at the existing site;
- A notice at the Tenbury Wells Leisure Centre;
- Details provided on Severn Waste Services Website; and
- Notification to the Town Council and local councillor.

2.3.4 The purpose of the public exhibition was to inform the local community about the proposals and to give them the opportunity to raise any queries or highlight any potential issues in advance of the planning application being submitted and before commencement of the statutory application consultation period.

2.3.5 Local residents and other interested parties from Tenbury Wells and the surrounding area attended the public exhibition many of whom provided comments on the day. The comments received during the course of the exhibition were on the whole very positive. Examples of the positive comments received during the consultation exercise are quoted below:

- *The better access and extra facilities with people to help (especially for the elderly generation) would be very welcome, with the extra day too a bonus*
- *“The proposed site is perfect and I fully support it”*
- *“Just get it done please”*
- *“The sooner the better please!”*

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- 2.3.6 The main comments / queries registered during the consultation exercise related to the types of waste that would be accepted at the site, the need to build and provide the facility as soon as possible, a local desire to see the retention of the bring site (recyclables containers e.g. bottle banks) that are currently located in the leisure centre car park, and the provision for the reclamation of goods which could be re-used by members of the community. Some concerns were also raised from residents on Terrills Lane (west of the Business Park) in relation to traffic movements, noise abatement and landscaping to screen the proposed HRC site.
- 2.3.7 As the comments forms provided at the exhibition contain residents contact details, they have not been included in this application (which will appear on a public register). However, a copy of the forms can be made available to the CPA upon request.

Consultation with Other Stakeholders

- 2.3.8 A senior representative from SWS visited all tenants at Tenbury Business Park to discuss the proposals and seek feedback which helped to inform the development design and planning application.
- 2.3.9 As a result of the consultation exercise, and subsequent discussions with the District and County Councils, some modifications have been made to the positioning and layout of the proposed HRC within the Business Park, which are slightly at variance with the scheme as shown at the public exhibition. The main changes are:
- The site entrance has been relocated to the south-western corner to avoid potential traffic conflicts with vehicles approaching the existing businesses on the estate; and
 - The site has been moved slightly to the west of the original location in order to release a more commercially viable plot of land for development between the HRC and the Council highways depot.
- 2.3.10 In designing these changes the visual impact and noise assessments have been revisited, and the mitigation, by way of landscaping and noise attenuation fencing would mean that there are no significant impacts predicted.

2.4 Conclusions

- 2.4.1 MWM and their consultants have undertaken both technical and public consultation as part of the formulation of their development proposals and planning application for the Tenbury Wells HRC. These have informed the development and planning application processes.
- 2.4.2 The consultation undertaken conforms with the guidance set out within WCC's SCI. MWM intends to build on these initial exchanges and establish close links with residents and community groups, on the lead-in to construction, and through the operation of the HRC.

3.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 The Tenbury Wells replacement HRC has been designed to provide a suitable site where residents of Tenbury, and surrounding areas, can dispose of their household waste and recyclables in a series of segregated waste and recycling containers for onwards transhipment to either recyclables processors or treatment / disposal facilities, as appropriate.

3.1.2 The proposed HRC development (see the Site Plan drawing) would comprise:

- An area of concrete (circa 577m²) / tarmac (circa 3,729m²) surfacing including a one-way access road, and hardstanding for recycling containers;
- A brick built site office building with integrated staff welfare facilities;
- staff / visitor parking for 5 cars (this includes provision for 1 disabled space);
- 2.5m high close boarded fencing which would provide both security and acoustic screening around the boundaries of the operational area;
- External post and wire agricultural stock proof fencing, or similar around the landscaped areas;
- A selection of large and small containers for a range of recyclables and other waste material;
- Internal site lighting;
- Signage; and
- Landscaping at the perimeter of the site.

3.1.3 The one-way road system would provide vehicular access, initially, to the lower level section of the site which would comprise containers for a range of materials including textiles, cans, glass, paper, soil and rubble. This would contain a parking lane from which the lower level recycling containers can be accessed, and a passing lane which would provide free flowing access to the upper section of the split-level site. The upper level would also have parking areas, from which a series of large containers for cardboard, timber, green waste, general waste, compost and scrap can be accessed. The upper section of the site would also have a passing lane so that vehicular movement is not

constrained by parked cars. Signage would be provided to direct householders to use the correct container for the materials which they wish to deposit and attendants would also be on hand to assist in this regard.

3.1.4 Public access to the rear of the containers (i.e. within the central service yard) would be prohibited to enable the safe manoeuvrability of HGVs collecting containers.

3.1.5 The overall HRC scheme is described in more detail under the following headings.

- Site Office;
- Access and Roads;
- Boundary Treatment;
- Surfaces;
- Lighting;
- Drainage;
- Landscaping;
- Security;
- Environmental Objectives;
- Site maintenance and environmental controls;
- Waste Types;
- Household Recycling Operations; and
- Construction (site clearance, earthworks and materials).

3.2 Site Office

3.2.1 The proposals include the construction of a brick-built site office building which would measure circa 5.25m in length, 3.2m in width and 3.6m in height (to ridge). The following facilities would be provided within the office building:

- Mess Room / Control Office;
- Toilets; and
- Shower.

3.2.2 Full details of the site office building are provided on the Control Building: General Arrangement drawing.

3.3 Access Roads

- 3.3.1 Public vehicles and heavy goods vehicles (HGVs) servicing the site would enter and exit the site via the main site entrance on the western boundary of the site from the main industrial estate spur road.
- 3.3.2 On entering the site public vehicles would use a one-way system. A speed limit of 5mph would be operational throughout the site. A passing lane is provided to ensure that stationary vehicles, when offloading waste or recyclables in the deposit areas, do not result in queuing within the site. HGV's would be directed into a central service yard area and kept separate from public vehicles.
- 3.3.3 Further details regarding site access arrangements are provided within Section 6.0 and the Transport Statement contained within Appendix 6-1.

3.4 Boundary Treatment

- 3.4.1 The HRC would include 2.5m high close boarded fencing around the perimeter of the operational area which would provide the dual benefit of both security fencing and acoustic screening.
- 3.4.2 The perimeter of the facility including all areas of proposed landscaping would be secured by a combination of post and wire agricultural stock proof fencing, or similar.
- 3.4.3 Access to the site would be secured during non-operational hours by lockable security gates at the main site entrance.
- 3.4.4 The location of the various boundary treatments described above are provided on the Site Plan drawing and the Typical Fencing drawing.

3.5 Surfaces

- 3.5.1 The facility would be fully surfaced in a combination of tarmac and concrete capable of withstanding the use of cars and HGVs and for the placement of waste containers in the skip bay areas.

3.6 Lighting and CCTV

- 3.6.1 Lighting for the site would be provided to function only during operational hours, when natural illumination falls below safe working levels. The lighting would comprise high-pressure sodium, flat glass lanterns or similar. This would prevent glare and minimise light pollution to the surrounding area. All lighting would be angled downwards and designed not to spill light materially beyond the site boundary. Furthermore, in order to protect the HRC outside of operational hours it would be necessary to install a CCTV system at the site.
- 3.6.2 It is proposed that the details of the lighting and CCTV scheme are controlled by a suitably worded planning condition.

3.7 Drainage

Surface Water

- 3.7.1 The HRC would, with exception of soft landscaping areas, have impermeable surfacing throughout, served by a positive drainage system comprising a series of gulleys and drains that would pick-up surface water (from rainfall) across the site.
- 3.7.2 All collected surface water would then pass through a bypass petrol interceptor that would be sized in accordance with the impermeable area of the site. Following the petrol interceptor, the surface water would pass through a monitoring chamber before being discharged at the greenfield run-off rate, via a soakaway subject to the results of soakaway permeability tests (to BRE Digest 365). If the permeability of the ground proves to be low, the surface water drainage from the site would pass through a buried attenuation tank and then be discharged into the existing surface water drainage system that serves the Business Park.
- 3.7.3 The full details of the surface water drainage system, including discharge rates, would be agreed with the Local Authority and the EA. Accordingly it is suggested that the detailed design is reviewed and approved prior to construction of the HRC through the use of a suitably worded planning condition.

Foul Drainage Strategy

3.7.4 Foul water from the site would be discharged into the existing foul system that serves the current Business Park. Areas of foul discharge would comprise domestic effluent from the small maintenance and operation building, and drainage from the bunded battery and oil storage areas.

3.7.5 It is proposed that the details of the drainage scheme can be controlled by a suitably worded planning condition.

3.8 Landscaping

3.8.1 A perimeter landscape strip has been included along three of the four sides of the site in order to integrate the site with its setting, to provide a pleasant environment for site neighbours and users and to mitigate impacts upon views through screening. The landscape strip would incorporate any existing trees and large shrubs where practical and be planted with locally appropriate specimen trees, a native hedgerow and native groundcover planting. As this planting develops, it would assist in screening views into the proposed development, notably from the west (houses on Terrill's Lane) and the site would contribute positively to both biodiversity and the character of the surrounding landscape beyond the Business Park.

3.8.2 Further details on the landscape and visual effects of the proposed HRC development are provided within Section 8.0 of this PS.

3.9 Signage

3.9.1 The HRC would include a range of signage. The signage is anticipated to include a main sign at the entrance and a range of other signage within the HRC. At this stage, it is anticipated that a suitably worded planning condition could be attached to any forthcoming planning permission.

3.10 Environmental Permit

3.10.1 The EA regulates all MWM's existing HRCs and an Environmental Permit (EP) would be required from the EA before the HRC could be operated. MWM has

elected, in accordance with 'best practice' and national planning advice, to submit an application for the EP in parallel with this planning application. It is likely the EP would be issued either in advance or contemporaneously with the planning permission (subject to planning approval being granted). Through the Permit the EA would ensure that:

- The facility is constructed in a manner that would protect the environment;
- Measures and procedures are in place to control general pollution (including dust, litter, odour, noise and vermin) and to guard against impacts to the environment and human health;
- The Company is a 'Fit and Proper Person' to undertake the operation of the HRC, with suitably competent personnel and that financial provision is in place for the EA to enforce remediation in the event of any default; and
- The site is secure and that emergency call out information is available at the site entrance.

3.10.2 The requirement for a Permit, and MWM's parallel Permit application, is relevant to the scope of the CPA's consideration of this planning application. Planning Policy Statement 10 (Planning for Sustainable Waste Management) states at Paragraphs 26 – 28:

"26. In considering planning applications for waste management facilities, waste planning authorities should concern themselves with implementing the planning strategy in the development plan and not with the control of processes which are a matter for the pollution control authorities.

27. The planning and pollution control regimes are separate but complementary. Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the release of substances to the environment to the lowest practicable level. It also ensures that ambient air and water quality meet standards that guard against impacts to the environment and human health. The planning system controls the development and use of land in the public interest and should focus on whether development is an acceptable use of the land, and the impacts of those uses on the development and use of land. Waste planning authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced.

28. Waste planning and pollution control authorities should work closely to ensure integrated and timely decisions under the complementary regimes. This can be assisted by applicants preparing and submitting planning and pollution control applications in parallel.”

3.10.3 Paragraph 32 also states that *“It should not be necessary to use planning conditions to control the pollution aspects of a waste management facility where the facility requires a permit from the pollution control authority.”*

3.11 Site Maintenance and Environmental Controls

3.11.1 MWM would incorporate measures into their management regime to ensure that all operations are carried out in an efficient and responsible manner to safeguard the environment and comply with the site’s EP.

3.11.2 Environmental and maintenance control would be dealt with through the EP. These would include the following:

- Periodic inspections of the fabric and infrastructure of the site including fences, gates, building infrastructure and drainage system;
- The site would be swept and kept clear of all litter as required;
- Site attendants would carry out a daily inspection of the site; and
- A standpipe and hose would be available to clean down the surfaces around the HRC. The hose would also be available to control dust emissions as necessary;
- A pest control contract would be put into place which would include several routine visits / checks per year; and
- Specified time periods for materials within which materials must be removed from site.

3.11.3 Examples of draft Management Plans for the control of odour litter and flies are provided at Appendix 3-1. These would be re-assessed and finalised on construction of the HRC.

3.12 Waste Types

3.12.1 The exact number / location / type of waste and recycling containers would vary according to usage and demand over time. However, as shown on the Site Plan drawing, the site has been designed to accommodate 20 different types of containers for the following waste material:

- Green waste;
- General waste;
- Scrap metal;
- Cardboard;
- Wood;
- Compost;
- Soil and rubble;
- Glass;
- Paper;
- Cans and plastics;
- TV's and monitors;
- Textiles;
- Fluorescent light bulbs;
- Re-use;
- LPG Cylinders;
- Plasterboard;
- Refrigerators;
- Chemsafe (household chemical);
- Batteries (lead and non-lead); and
- Oil.

3.12.2 Spare capacity has also been designed into the facility to allow for additional containers should they be required in the future.

3.13 Household Recycling Operations

3.13.1 The HRC would be open to the public 08:00 – 18:00 three days a week, including Saturdays, Sundays and a week day (to be confirmed). On days when the site is not open to residents, there would be occasional activity, exchanging containers or carrying out maintenance.

3.13.2 The HRC would be placed under the supervision of an area manager and is likely to employ up to 3 members of staff, at busy times. The management of waste has grown to be an economy in itself and SWS currently employ approximately 260 people. Approximately 70% of the material collected at the site would be recycled, which would generate more employment further down the chain of utility at the recycling end points.

3.14 Construction (Site Clearance, Earthworks and Materials)

3.14.1 The proposed HRC site cuts slightly into the hillside which rises up to the south of the Business Park. Levels at the southern boundary of the site are therefore approximately 1.5m higher than levels at the northern boundary. In order to achieve suitable finished levels for the operation of the HRC and accommodate the split level configuration some earthworks would be required to move material across the site. The objective of the earthworks would be formation of the required site levels achieving a cut and fill balance. However, should there be any surplus excavated sub-soil material; this would be disposed of at a suitably permitted facility.

3.14.2 The main yard of the HRC would be constructed in concrete and tarmac and the access and public areas would be constructed in flexible bituminous surfacing. The retaining walls surrounding the containers would be reinforced concrete and the whole site would be kerbed for containment to meet the requirements of the EP.

3.14.3 All construction works associated with the proposed HRC development would be carried out by a suitably qualified contractor. It is anticipated that site construction would take approximately six months.

4.0 THE NEED FOR THE SCHEME

4.1 Introduction

4.1.1 This section provides a detailed assessment of the need for the proposed Tenbury HRC development and the associated benefits of the proposal.

4.1.2 The need for a development and its benefits can be a significant material planning consideration. However, where a planning application accords with the statutory development plan there is no requirement to demonstrate either a quantitative or market need, or the absence of alternatives. With specific regard to waste management proposals this approach to need is manifest in Planning Policy Statement 10 (PPS10) – Planning for Sustainable Waste Management paragraph 22, extract which reads: *“When proposals are consistent with an up-to-date development plan, waste planning authorities should not require applicants for new or enhanced waste management facilities to demonstrate a quantitative or market need for their proposal.”*

4.1.3 In this case, the assessment of planning policy has established that the proposed development would be in accordance with the up-to-date statutory Development Plan (see Section 5.0), and that material considerations provide no basis for the application being determined other than in accordance with the statutory Development Plan. In light of this, it should not be necessary for MWM to demonstrate need for the proposed HRC development.

4.1.4 Notwithstanding the above, this appraisal seeks to demonstrate the waste management need for the proposed HRC development from the perspective of general principles relating to waste management, the need for waste management facilities at a (joint) County level and also consideration of the existing HRC arrangements in Tenbury Wells. The demonstration of need, whilst not a requirement in the context of this application, can be a material planning consideration that lends considerable weight in favour of the proposed development.

4.2 Waste Management Principles

National Framework

- 4.2.1 One of the overriding principles of sustainable waste management (central to national, regional and county policy and strategy) is adherence to the waste hierarchy. This flows from the national waste strategy and is embodied within national waste planning policy (PPS10).
- 4.2.2 From a legal perspective, The Waste (England and Wales) Regulations 2011 came into force on 28th March 2011 and transpose the revised (European) Waste Framework Directive into UK law. They introduced the current version of the waste hierarchy as follows:
- **Prevention** – the most effective environmental solution is often to reduce the generation of waste, including the re-use of products;
 - **Preparing for re-use** – products that have become waste can be checked, cleaned or repaired so that they can be re-used;
 - **Recycling** – waste materials can be reprocessed into products, materials, or substances;
 - **Other recovery** – waste can serve a useful purpose by replacing other materials that would otherwise have been used; and
 - **Disposal** – the least desirable solution where none of the above options is appropriate.
- 4.2.3 Preference is given to managing waste further up the hierarchy and over recent years (regardless of the reasons) most parts of the country have seen municipal waste quantities (managed by local authorities) decrease and thus there has been a degree of ‘prevention’. However, whilst education, legislation and re-use can reduce levels of waste growth and potentially reduce arisings per head of population, it is widely accepted, taking into account population growth, that there is a general long-term need to manage at least the present day levels of waste, although the degree of need at a local level should not be prejudged.
- 4.2.4 With regard to waste management targets the former national waste strategy, Waste Strategy England 2007, incorporated England’s interpretation of some

of the EU's key policy drivers for sustainable waste management including 'The Landfill Directive' (1999/31/EC April 1999), which seeks significant reductions in the quantities of biodegradable municipal waste sent to landfill. These targets are focussed on recovering value from Municipal Solid Waste (MSW), through the recycling and composting of household waste and the recovery of energy. These targets remain unchanged by the current national waste strategy the Waste Management Plan for England (December 2013).

4.2.5 In the case of MSW, the national targets are:

- *"To recycle or compost at least 40% of household waste by 2010;*
- *To recycle or compost at least 45% of household waste by 2015; and*
- *To recycle or compost at least 50% of household waste by 2020."*
- *"To recover value from 53% of municipal waste by 2010;*
- *To recover value from 67% of municipal waste by 2015; and*
- *To recover value from 75% of municipal waste by 2020."*

4.2.6 It is generally accepted and implicit within the above national targets that the balance of MSW not recycled will need to be managed in some other way (i.e. further down the waste hierarchy), with a preference for 'other recovery' (i.e. energy recovery) over disposal. At present, the national annual recycling rate in England for household waste is 43.9% (for the 12 months to September 2013), whilst much of the waste that is not either recycled or composted is managed by way of disposal to landfill.

4.2.7 In line with European legislation, sustainability in general, and the principles of the waste hierarchy, the Government wishes to reduce the amount of waste sent to landfill. With regard to MSW, the national targets are:

- *"By 2010 to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995.*
- *By 2013 to reduce biodegradable municipal waste landfilled to 50% of that produced in 1995.*
- *By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995."*

4.2.8 The Government's principal measure in order to ensure that these targets are met is the Landfill Tax regime which was introduced, in 1996, as an escalating

tax payable on every tonne of waste disposed of within a licensed landfill. For non-hazardous waste (the majority of the MSW stream) the tax is presently £80 per tonne (from 1st April 2014).

- 4.2.9 Landfill Tax is the key driver for landfill diversion and the on-going significant rise in tax continues to increase the need for alternative facilities for the management of MSW. There are no proposed increases in landfill tax beyond 2014 / 2015. However DEFRA will review the need for further rises or alternative legislation should England not achieve its landfill diversion targets.

Findings in Respect of the Proposed HRC

- 4.2.10 Whilst it would be a waste management proposal that is modest in scale, the proposed HRC development would provide a facility that is demonstrably aligned with the achievement of national waste strategy principles. It would form new waste management infrastructure that would provide for material use, through the provision of a container for the collection of goods capable of being prepared for re-use, and contribute directly towards increased recycling. In fulfilling these roles it would also contribute to the diversion of waste from landfill.
- 4.2.11 Given the clear on-going national waste strategy imperatives, it is self-evident that there remains a need at the national level for facilities such as the proposed development to come forward, regardless of being modest in scale, which contribute towards the overall aim of sustainable waste management manifest through the achievement of the national targets.

4.3 Waste Management Need with Worcestershire and Herefordshire

JMWMS Review

- 4.3.1 The Herefordshire and Worcestershire JMWMS Review gives clear direction on municipal waste management in the two counties and set-out and co-ordinate general principles, policies and targets across all authorities in Herefordshire and Worcestershire. Its aim is to decrease waste production and increase the recovery value from waste (to re-use it, recycle it, compost it, or recover value in other ways) by treating waste as a resource.

4.3.2 The JMWMS Review aims to change the way that waste is managed in Herefordshire and Worcestershire, and contains 10 key principles to achieve this aim. The most relevant to the proposed HRC development are:

- Principle One – Meeting the challenge of Climate Change by viewing waste as a resource;
- Principle Two – Commitment to the Waste Hierarchy of which Waste Prevention is the top;
- Principle Four – Continued Commitment to Re-use, Recycling and Composting;
- Principle Five – Minimising the Use of Landfill.

4.3.3 The JMWMS Review also sets out a number of policies and targets, those of most relevance to this assessment of need include:

- *Policy 1 – Local Authorities in Herefordshire and Worcestershire will adopt the following Waste Hierarchy as a template for their approach to Waste Management, ensuring that waste is prevented wherever possible first before considering other options.....Prevention, Re-use, Recycle/Compost, Energy Recovery, safe disposal to landfill.”*
- *“Policy 4 – The Local Authorities are committed to achieve existing and future waste targets within the local area.”*
- *“Policy 12 – The Local Authorities will work with both the Third Sector and contractors to provide routes for goods and materials to be re-used”.*
- *“Policy 13 – The Local Authorities are committed to achieve targets set within this Strategy and have regard to the national targets set out in Waste Strategy for England 2007 for recycling, composting and recovery.”*
- *“Policy 14 – The Local Authorities will continue to provide and enhance bring recycling sites, where considered beneficial, and to supplement kerbside collection schemes and facilities provided at Household Waste Sites.”* This policy explains that to emphasise the recycling aspect at all Household Waste Sites, they will all be re-branded as Household Recycling Centres.
- *“Policy 15 - The Waste Disposal Authorities, in conjunction with their partners, will maximise the potential of Household Recycling Centres to make sure that they provide a quality service and enable maximum recycling/re-use wherever possible.”*

- *“Policy 16 - Waste management methods will promote sustainable waste management by considering and balancing environmental, social and economic impacts. Both established and emerging technologies will be considered to enable a flexible approach to the waste treatment methods that will be adopted.”*
- *“Target 3 – To work towards achieving national recycling/composting levels of household waste of 45% by 31st March 2015, and 50% by 31st March 2020.”*
- *“Target 5 – By 2015 or earlier if practicable, we will recover value from a minimum of 78% of municipal waste.”*
- In addition, Annex A of the JMWMS Review explores municipal waste growth scenarios for Herefordshire and Worcestershire to 2034. It states that the waste growth scenario used for the JMWMS review shows that MSW in 2034 will reach 485,197 tonnes per annum (tpa), which is an 89,204 tonne annual increase based on the tonnage levels from 2008 / 2009.

4.3.4 The JMWMS Review recognises the significant role that HRCs play in diverting waste away from landfill for recycling and composting and as a key interface with the public.

4.3.5 In addition, the JMWMS Review identifies at Section 3.11 that transport is a key factor in developing and implementing a sustainable waste management strategy. In particular the adoption of a ‘waste miles’ measurement approach will support the decision making process for the provision of core and local services.

4.3.6 Annex A of the JMWMS review document provides a three year Action Plan for the period April 2011 to March 2014 which includes general actions to promote the use of HRCs. The Action Plan makes specific reference to Tenbury Wells, stating at action reference WRC11 that: *“the Household Waste Site at Tenbury is to be redeveloped pending successful planning application.”*

**Worcestershire County Council Waste Core Strategy November 2012
Adopted Waste Local Plan 2012 – 2027**

- 4.3.7 Worcestershire County Council's Waste Core Strategy (WCS) was adopted in November 2012 and sets out a long term vision for waste management in Worcestershire to 2027.
- 4.3.8 The WCS contains 8 key objectives to direct the policy framework and 17 policies to support these objectives. The following objectives are most relevant to the proposed development with details of the relevant policies provided in Section 5.0 of this Statement:
- *“Objective WO2 – To base decisions on the principles of sustainable development by protecting and enhancing the County’s natural resources, environmental, cultural and economic assets, the character and amenity of the local area and the health and wellbeing of the local people.”*
 - *“Objective WO3 – To make driving waste up the waste hierarchy the basis for waste management in Worcestershire.”*
 - *“Objective WO8 – To direct development to the most appropriate locations in accordance with the Spatial Strategy.”*
- 4.3.9 One of the fundamental drivers of the development of the WCS is the County's 'Capacity Gap', with waste arisings in the County being greater than the capacity to treat them. The WCS identifies that additional waste management capacity is needed in the County for re-use and recycling and 'other recovery' of all waste streams.
- 4.3.10 The WCS outlines where new waste management infrastructure will be developed, with the distribution of new facilities being based on a 'Geographic Hierarchy for waste management in Worcestershire'. This hierarchy takes account of many factors including patterns of current and predicted future waste arisings and resource demand, onward treatment facilities, connections to the strategic transport network and potential for the future development of waste management facilities.

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- 4.3.11 The WCS indicates that re-use and recycling facilities (including treatment, storage, sorting and transfer facilities) will be enabled in all geographic zones with facilities directed to the highest appropriate level of the geographic hierarchy. Tenbury Wells is situated in Level 4 of 5 levels and is identified within a suitable zone for a HRC.
- 4.3.12 Section 2.48 of the WCS notes that: *“The reviewed Joint Municipal Waste Management Strategy also recognises that the Household Recycling Centre in Tenbury Wells does not include the range and quality of services available at other Household Recycling Centres and it will need to be improved during the life of the Strategy.”*
- 4.3.13 Appendix A of the Core Strategy identifies Tenbury Business Park as an ‘area of search’ being potentially suitable for most waste management facilities (including HRCs) subject to consideration of the details of specific proposals. This is based on a preliminary assessment of 114 locations undertaken in the County in 2010 that were assessed against basic criteria relating to compatible land uses, infrastructure, constraints and transport links. The document explains that these locations were used to assess the deliverability of the WCS, and could be used to guide developers in searching for suitable locations, although any proposals would need to be fully assessed against the policies in the development plan. Such an assessment is included within Section 5.0 of this Statement which confirms that the proposed development would be in full conformity with the relevant policies set out within the development plan.

Findings in Respect of the Proposed HRC

- 4.3.14 The proposed HRC development would contribute to achieving some of the key principles in the JMWMS Review which refer to meeting recycling targets, minimising the use of landfill and supplementing facilities provided at HRCs. In addition, it would play a key role in minimising ‘waste miles’ by providing an improved service for residents of Tenbury Wells, who would need to travel to other HRCs within the county, or even the neighbouring county, in order to have access to a facility with a larger number of recycling options.

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- 4.3.15 The specific need for a new HRC at Tenbury Wells is highlighted in the JMWMS Review document. The proposal which is the subject of this application would specifically accomplish one of the three year Action Plan (Annex A) targets i.e. action reference WRC11 that: *“the Household Waste Site at Tenbury is to be redeveloped pending successful planning application.”*
- 4.3.16 The WCS identifies that Tenbury Wells is situated in a suitable zone for a HRC and that Tenbury Business Park is an ‘area of search’ being potentially suitable for most waste management facilities, subject to the consideration of the details of specific proposals. The proposed development would also assist in supporting the waste management hierarchy promoted in objective WO3 and accords with the requirements of objectives WO2 and WO8.

4.4 Existing HRC arrangements in Tenbury Wells

- 4.4.1 As summarised in sub-section 1.1 of this PS, there has been a longstanding requirement for a new HRC to serve the settlement of Tenbury Wells and surrounding villages. The existing HRC site at Tenbury Wells is located in the corner of the leisure centre car park at Palmers Meadow and is simply too small and constrained to operate as a modern facility, offering a substandard service for Tenbury residents in comparison with other WCC sites. It does not provide room for sufficient numbers of containers for the key separables to maximise recycling potential and this is reflected in the fact that recycling rates at the existing Tenbury HRC are only 37%, which is almost half of that experienced at the other HRCs within Worcestershire (over 69%).
- 4.4.2 In addition to the limitations regarding the recycling levels that could be achieved at the site, there are also a number of other practical constraints associated with the existing facility. HGVs servicing the site have limited room to manoeuvre whilst removing or placing containers and are often in conflict with private vehicles using the leisure centre car park. Furthermore, the location of the facility also restricts potential public parking spaces for use by residents of and visitors to Tenbury.
- 4.4.3 It is therefore clear that the existing HRC in Tenbury fails to meet both National and Worcestershire’s recycling targets and offers a substandard service for local residents.

4.4.4 The aforementioned issues were also identified by local residents and other community stakeholders during the public consultation exercise that was undertaken by MWM in November 2013 who indicated a strong support for the development of a new HRC on Tenbury Business Park.

4.4.5 Accordingly, the development of a facility in Tenbury that is designed to contemporary standards would make a significant contribution towards further increasing Worcestershire's (and National) recycling targets and alleviate the local conflicts attached to the existing facility.

4.5 Summary of the Need for the Facility

4.5.1 The need for the proposed HRC at Tenbury Wells Business Park has been considered in the context of a number of policy documents and the existing HRC arrangements in the town. This assessment concludes that there is a demonstrable need for the proposed facility, the operation of which would offer a much improved facility for the residents of Tenbury Wells and surrounding villages. The justification for the proposed development can be summarised as follows:

- There has been a longstanding requirement for a new HRC to serve the settlement of Tenbury Wells and surrounding villages. The existing HRC site at Palmers Meadow is too small to operate as a modern facility, and offers a substandard service for Tenbury residents in comparison with other WCC sites. It does not provide room for sufficient numbers of containers for the key separables to maximise recycling potential and this is reflected in the fact that recycling rates at the existing Tenbury HRC are only 37%, which is almost half of that experienced at the other HRCs within Worcestershire (over 69%). The proposed facility at Tenbury Business Park would provide a purpose built HRC solution that would maximise the recycling of residents waste and alleviate all of the on-going issues regarding the existing site at Palmers Meadow.
- Whilst it would be a waste management proposal that is modest in scale, the proposed HRC development would provide a facility that is demonstrably aligned with the achievement of national waste strategy principles. It would form new waste management infrastructure that would provide for material use, through the provision of a container for the collection of goods capable of being prepared for re-use, and

contribute directly towards increased recycling. In fulfilling these roles, it would also contribute to the diversion of waste from landfill. Given the clear on-going national waste policy imperatives, there remains a need at the national level for facilities such as the proposed HRC which contribute towards the overall aim of sustainable waste management manifest through the achievement of the national targets.

- The proposed HRC development would contribute to achieving some of the key principles in the JMWMS Review which refer to meeting recycling targets, minimising the use of landfill and supplementing facilities provided at HRCs. In addition, it would play a key role in minimising 'waste miles' by providing an improved service for residents of Tenbury Wells, who would need to travel to other HRCs within the county, or even the neighbouring county, in order to have access to a facility with a wider range of recycling options.
- The specific need for a new HRC at Tenbury Wells is highlighted in the JMWMS Review document. The proposal which is the subject of this application would specifically accomplish one of the three year Action Plan (Annex A) targets i.e. action reference WRC11 that: *"the Household Waste Site at Tenbury is to be redeveloped pending successful planning application."*
- The WCS identifies that Tenbury Wells is situated in a suitable zone for a HRC and that Tenbury Business Park is an 'area of search' being potentially suitable for most waste management facilities, subject to the consideration of the details of specific proposals. The proposed development would also assist in supporting the waste management hierarchy promoted in objective WO3 and accords with the requirements of objectives WO2 and WO8.

4.5.2 In summary, it is apparent from the above, that there is a demonstrable need for a new and improved HRC to replace the existing facility at Palmers Meadow. The provision of such a facility would be entirely in accordance with the provisions of the national planning policy and guidance, the Herefordshire and Worcestershire JMWMS (which specifically supports the development of a new HRC), and the Worcestershire Waste Core Strategy (which identifies Tenbury Business Park as a location potentially suitable for most waste management facilities).

5.0 PLANNING POLICY CONTEXT AND APPRAISAL

5.1 Introduction

5.1.1 This section seeks to undertake an analysis of the proposed HRC at Tenbury Wells in the context of current, relevant planning policies

5.1.2 This section is divided into four principal parts. Following on from this introduction, sub-section 5.2 provides a brief overview of the policy context and identifies the principal documents to which further reference will be made. Sub-section 5.3 sets out the detailed policy framework against which applications should be considered and, finally, sub-section 5.4 assess how the proposals accord, or otherwise, with that framework. Finally sub-section 5.5 provides a concise conclusion

5.2 Policy Context – Overview

5.2.1 Section 38(6) of the Planning and Compulsory Purchase Act (September 2004) requires that applications for planning permission should be determined in accordance with the Development Plan unless material considerations indicate otherwise.

5.2.2 In the case of the HRC facility, the relevant statutory Development Plan comprises:

- Worcestershire County Council Waste Core Strategy 2012 – 2027 (adopted 2012); and
- The saved policies of the Malvern Hills District Council Local Plan 1996 – 2011 (adopted 2006)

5.2.3 In addition to the documents which comprise the statutory Development Plan, there are also a number of other policy documents and guidance that are material to the determination of the planning application for the HRC. These are numerous and are judged to comprise the following:

- National Planning Policy Framework;
- Planning Policy Statement (PPS) 10: Planning for Sustainable Waste Management (July 2005);

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- Government Review of Waste Policy in England 2011 (June 2011);
 - Waste (England and Wales) Regulations 2011;
 - Waste Management Plan for England (December 2013); and
 - The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire 2004-2034 (First review August 2011) – Consultation Document;
 - Emerging South Worcestershire Development Plan Proposed Submission Document (January 2013).

5.2.4 In addition to the above, a key material consideration is the need for the development. This is in itself fundamentally interrelated to the above documents, strategy and legislation. A detailed assessment of the need for the facility has already been provided in Section 4.0.

5.3 Detailed Policy Context

Introduction

5.3.1 This section sets out in detail the key policies, and other material considerations, that form part of the framework within which the proposal is determined. The actual assessment as to how the proposal complies with identified policies and considerations is set out in Section 5.4.

The Development Plan

5.3.2 The relevant statutory Development Plan for the area has already been identified above in Section 5.2. The policies contained within each of the development plans that are of relevance to the proposal are summarised below.

Worcestershire County Council Waste Core Strategy 2012 – 2027 (adopted 2012)

5.3.3 Policy WCS1 sets out the Council's positive approach when considering development proposals that reflect the presumption in favour of sustainable development contained in the National Planning Policy Framework. It states

that: *“It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the county.”* The policy states that planning applications that accord with the policies in the Development Plan will be approved without delay, unless material considerations indicate otherwise.

5.3.4 Policy WCS2 sets out a number of delivery milestones (relating to re-use, recycling or other recovery) to achieve equivalent self-sufficiency. The policy states that in order to achieve the aims of the WCS proposals for waste management facilities will be permitted where they contribute towards the delivery milestones.

5.3.5 Policy WCS3 seeks to promote re-use and recycling, highlighting that in order to achieve equivalent self-sufficiency in waste management and deliver the spatial strategy: *“waste management facilities that enable re-use or recycling of waste, including treatment, storage, sorting and transfer facilities, will be permitted at all levels of the geographic hierarchy where it is demonstrated that the proposed location is at the highest appropriate level of the geographic hierarchy.”*

5.3.6 Policy WCS6 provides a table of different waste facilities and compatible land uses, stating that proposals for new waste management facilities will be permitted where it is demonstrated that they are located on a type of land that is identified as compatible in the table. The table identifies the following land uses as being compatible for re-use and recycling facilities:

1. Existing or allocated industrial land;
2. Contaminated or derelict employment land;
3. Redundant agricultural or forestry buildings or their curtilage; and
4. Sites with current use rights for waste management purposes.

5.3.7 Policy WCS8 addresses site infrastructure and access stating that proposals for new waste management facilities will be permitted where it is demonstrated that:

- a) *“Infrastructure on the site is adequate to support the proposed waste management facility, either as it is or with improvements that form part of the application; and*

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- b) *The site is well connected to the strategic transport network and uses alternatives to road transport where practicable; and*
 - c) *Vehicular and pedestrian access to the site is safe and adequate to support the proposed waste management facility, either as it is or with improvements that form part of the application; and*
 - d) *Proposals will not have an unacceptable adverse impact on safety or congestion on the transport network or amenity along transport routes.”*

5.3.8 Policy WCS 9 sets out a detailed policy context for the protection and enhancement of internationally, nationally and locally designated sites, habitats, species and heritage assets when considering proposals for waste management.

5.3.9 Policy WCS10 addresses the importance of considering flood risk and potential impacts on surface and ground water in applications for waste management facilities. With regard to flooding the facilities must remain safe and operational during flooding events, have no unacceptable adverse impact on flood risk and have no likely significant effects on any internationally designated sites. Potential impacts on surface and ground water must be considered to ensure that facilities will not result in pollution or have unacceptable adverse impacts on surface / ground water quality, quantity, biodiversity or the natural flow, or significant effects on any internationally designated sites.

5.3.10 Policy WCS11 promotes sustainable development stating that: *“waste management facilities will be permitted where it is demonstrated that the design of buildings, layout, landscaping and operation of the facility, and any restoration proposals take account of sustainable development practices and climate change mitigation and resilience.”* The policy provides criteria against which this can be applied through including the re-use of buildings, minimisation of primary materials in construction, reduction of water demand, consideration of water and energy efficiency in the design and operation of new built development and consideration of land stability and subsidence. The policy also refers to landscaping which enhances links and extends natural habitats, reflects landscape character or acts as a carbon sink.

5.3.11 Policy WCS12: seeks to protect both local characteristics and Areas of Outstanding Natural Beauty (AONB) from unacceptable adverse impacts.

Waste management facilities will be permitted where it is demonstrated that the design of buildings, layout, landscaping and operation of the facility and any restoration proposals contribute positively to the character and quality of the local area and protect and enhance local characteristics through consideration of the character of the built environment, the local landscape character and other local features. The policy also refers to development proposals within or impacting upon AONBs.

5.3.12 WCS14 sets out the policy context for the protection of amenity stating that: *“Waste management facilities will be permitted where it is demonstrated that the operation of the facility any associated transport will not have unacceptable adverse impacts on amenity.”* The criteria for consideration is set out and includes air quality, fires, noise and vibrations and vibration, insects, vermin and birds, litter, visual intrusion, light pollution and health.

5.3.13 Policy WCS15 relates to social and economic benefits, highlighting that proposals for waste management will be permitted where it is demonstrated:

- a) *“That they will benefit the local community and sub-regional economy through:*
 - i. *Contributing towards Worcestershire’s equivalent self-sufficiency in waste management capacity; or*
 - ii. *Supporting the development of the local green economy; or*
 - iii. *The operation of community or voluntary sector waste management services; or*
 - iv. *Educating communities about sustainable waste management.*
- b) *That they will not sterilise safeguarded mineral resources.*
- c) *How the applicant has carried out community involvement and the ways in which this has informed the development of the proposal.”*

Malvern Hills District Council Local Plan 1996 – 2011 (Adopted 2006) – Saved Policies

5.3.14 The Malvern Hills District Council Local Plan was adopted in July 2006. The majority of its policies have been saved and will remain in force as the statutory development plan until replaced by the emerging South Worcestershire Development Plan (SWDP).

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- 5.3.15 Policy DS1 aims to achieve a sustainable approach towards development and applies to all development proposals. It states that development will be directed to sustainable locations most appropriate to the form and scale of development proposed. It states that within Tenbury proposals for development serving local needs across the wider rural area, such as new commercial, retail, leisure and large scale community facilities will be located within the settlement boundaries established for these towns, as defined on the Proposals Map.
- 5.3.16 Policy DS3 sets out criteria applicable to all development proposals and covers a wide range of issues in order to provide a consistent and sustainable approach to the assessment of all development proposals. The purpose of the policy is to promote and secure appropriate standards for development and ensure that the possible effects of development are understood and adverse impacts minimised. It sets out the numerous general development requirements relating to environmental impact and implications, design and external appearance, infrastructural adequacy and accessibility, pollution and public safety.
- 5.3.17 Policies DS8 and DS9 relate to the provision of strategic employment land and how this will be met. Policy DS8 requires that: *“Sufficient land will be provided in the District to meet the Worcestershire County Structure Plan requirement of about 55 hectares for employment uses within Use Classes B1, B2 and B8 of the Town and Country Planning (Use Classes) Order 1987 (as amended).”*
- 5.3.18 Policy DS11 sets out the policy context for development in rural settlements. It advises that development to meet local needs arising from within the rural areas will be directed to the settlements identified by Policies DS11 and DS12 and in accordance with the hierarchy established by those and other policies in the Local Plan. The policy stipulates that notwithstanding local housing needs for affordable housing, new development will be directed to Category 1 and then Category 2 settlements. Tenbury is identified as a Local Plan Category 1 settlement.
- 5.3.19 Policy EP1 sets out the policy context for the protection of existing employment land and uses, stating that: *“The redevelopment or change of use of primarily employment sites or other land and buildings in use for employment purposes*

(defined as Classes B1, B2 and B8 of the Town and Country Planning (Use Classes) Order 2005 (or as amended) to non-employment uses will not be permitted unless all or any of the following exceptional circumstances can be demonstrated, namely that:

- a) Past and present site-specific environmental problems or adverse local impact (as generally precluded by Policy DS3) require substantial remediation which cannot be feasibly achieved without total or substantial redevelopment of the land and buildings in question; or*
- b) The physical condition of the premises is such that they are neither suitable for continued employment use nor capable of re-use for such purposes (in the same or another acceptable Use Class) without such redevelopment and that redevelopment cannot itself be achieved on an economically viable basis; or*
- c) There is a surplus of vacant employment sites within the locality such that a marketing exercise has demonstrated that there is unlikely to be sufficient interest in the premises to generate an economically viable return; and, in all such cases,*
- d) Where the proposed development would provide a wider community benefit which outweighs the loss of the existing or possible future employment use of the site; and*
- e) Where any successor use or development would not restrict, prevent or in any way prejudice the continued operation of adjoining or nearby established employment uses.”*

5.3.20 Policy QL1 relates to the design of new buildings and related development, and appears to be more focussed on developments for housing schemes, rather than for small single storey individual buildings as required for the proposed development. Elements of the policy that could be applied to the proposed HRC such as respecting landscape character have been covered through other policies and consequently QL1 policy is not considered further in Table 5.1.

5.3.21 Policy QL5 sets out the instances where planning permission for walls, gates, fences or other means of enclosure will not be granted. These are where:

- a. “It’s erection, reinstatement, repair or replacement is inappropriate to the site and surroundings in terms of materials, location, height, form and detailing;*

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- b. *Its removal or alteration would fail to preserve or enhance the character and appearance of a Conservation Area;*
 - c. *It would cause harm to the setting of a listed building;*
 - d. *It would harm the amenities of the occupiers of neighbouring properties by reason of its height and position; and*
 - e. *It would prejudice highway safety.”*

5.3.22 Policy QL13 seeks to protect the setting of listed buildings from new development stating that: *“planning Permission will not be granted for development which would harm the character or setting of a Listed Building”.*

5.3.23 Policy QL14 seeks to protect Scheduled Ancient Monuments and other archaeological remains of national, regional, county or local importance. It states that *“Development which would have a direct or indirect adverse effect on the site, setting or amenity value of a Scheduled Ancient Monument, or other archaeological remains of national importance, will not be permitted as there will be a presumption in favour of the physical preservation of such remains in situ.* The policy continues to provide the circumstances under which a development which would have a direct or indirect adverse effect on the site or setting of archaeological remains of regional, county, or local importance will be permitted

5.3.24 Policy QL16 sets out the policy context for the protection of Sites of Special Scientific Interest (SSSIs). It states that: *“proposals for development likely to affect, or likely to result in an unacceptable risk of an adverse effect, on a designated or proposed Site of Special Scientific Interest will be subject to special scrutiny. The District Council will adopt a precautionary approach in the determination of planning applications and proposals will not be considered unless the full impact of a scheme can be assessed. Where development would have an adverse impact on the integrity of a site it will not be permitted unless:*

- a. *The reasons for the development outweigh the impact on the importance of the site and the need to safeguard the nature conservation value of the national network of such sites; and*
- b. *It can be satisfactorily demonstrated that there are no reasonable alternative sites or solutions to accommodate the development proposed.”*

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- 5.3.25 Policy QL17 addresses the protection of Sites of Regional or Local Wildlife Importance from adverse effects of development proposals. It states that: *“Development proposals which would have an adverse effect, or would result in an unacceptable risk of an adverse effect, on a Local Nature Reserve, Special Wildlife Site or a Site of Wildlife Importance (subject to a Section 39 Agreement under the Wildlife and Countryside Act 1981) will not be permitted unless it can be demonstrated that:*
- a. The reasons for the development outweigh the intrinsic value of the site and the need to safeguard the network of such sites;*
 - b. There are no reasonable alternative sites or solutions to accommodate the development proposed; and*
 - c. That appropriate compensatory habitat provision or management is provided and maintained.”*
- 5.3.26 Policy QL19 sets out the policy context for the protection of wider biodiversity. Development proposals will be required to retain natural habitat and features of ecological and nature conservation in situ where possible. The policy also emphasises the importance of wildlife corridors and taking these into account when considering development proposals.
- 5.3.27 Policy QL20 relates to the creation of new habitats and states that: *“Where appropriate new development proposals will be required to include measures to support the creation of areas of semi-natural habitat. This process, including the creation of wildlife ponds, must not have an adverse impact on existing water resources or other features of environmental or ecological significance in line with other policies contained in the Plan. Contributions will be sought from developers to make suitable arrangements for the maintenance of the habitat created.”*
- 5.3.28 This policy approach is seen as serving both local environmental needs by visually enhancing the appearance of new development schemes and also the interests of biodiversity in the creation of new habitats. The policy continues to state that: *“landscaping schemes forming part of new development proposals should provide for the retention of existing habitats in situ by incorporating existing features including trees, hedgerows and ponds into the final design. The emphasis is clearly on protecting original sites from loss or damage and it*

is important to recognise that once existing habitats are lost they can rarely be replaced.”

- 5.3.29 Policy QL21 sets out the policy context for landscaping and new development which will be required to form an integral part of the design. Landscaping schemes are required for all detailed planning applications and should ensure that development integrates appropriately into its surroundings and reflects local character.
- 5.3.30 Policy QL22 seeks to protect and enhance individual trees, tree groups, woodlands and hedgerows. The policy explains that this will be partly achieved by resisting proposals that would cause loss or damage to trees, woodlands or hedgerows which are worthy of retention due to their visual, historic or biodiversity value. In addition development proposals will be required to include an acceptable landscaping scheme which should provide for the retention of those trees and hedgerows considered important to local amenity, together with measures to ensure their protection during development.

Other Material Considerations

National Planning Policy Framework

- 5.3.31 The National Planning Policy Framework (NPPF) was published and came into force on 27th March 2012. As set out in Annex 3, the NPPF replaces a significant amount of previous planning policy documents and guidance including the majority of the former Planning Policy Statements.
- 5.3.32 Paragraphs 2 and 11 of the NPPF confirm that planning law requires applications for planning permission to be determined in accordance with the Development Plan unless material considerations indicate otherwise. Paragraph 12 expands this point by making a clear distinction in terms of the proposed development being in accordance with an ‘up-to-date Local Plan’ and that local authorities should have an up-to-date plan in place.
- 5.3.33 The key principle of the NPPF is that development that is sustainable should go ahead, without delay. A presumption in favour of sustainable development

is set out at Paragraph 14. Specifically in relation to decision-making, this is taken to mean:

- a) *“Approving development proposals that accord with the development plan without delay; and*
- b) *Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*
 - i. *Any adverse impact of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
 - ii. *Specific policies in this Framework indicate development should be restricted.”*

5.3.34 Paragraph 14 also confirms the need for up-to-date Local Plans noting that for decision-making this means granting planning permission where the development plan is absent, silent and relevant policies are out of date, unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF.

5.3.35 Paragraph 17 sets out the 12 core planning principles that are intended to underpin both plan-making and decision taking. The core planning policies that are of most relevance to this planning application are 1, 3, 4, 5, 6, 7, 8 and 12 and they state that planning should:

- *“...be genuinely plan-led...Plans should be kept up-to-date and based on joint working and co-operation to address larger than local issues.*
- *Proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs. Every effort should be made objectively to identify and then meet the housing, business and other development needs of an area, and response positively to wider opportunities for growth...;*
- *Always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;*
- *Take account of the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it;*

- *Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources...;*
- *Contribute to conserving and enhancing the natural environment and reducing pollution;*
- *Encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value; and*
- *Take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs.”*

5.3.36 The NPPF does not contain any specific waste policies as the national waste planning policy was expected to be published alongside the National Waste Management Plan for England in late 2013 (until which time the Waste Strategy 2007 and PPS10 remain extant). However, Paragraph 5 does confirm that local authorities currently preparing waste plans should have regard to the policies contained within the NPPF so far as relevant.

5.3.37 In relation to decision-taking the NPPF Paragraph 187 notes that local planning authorities should: *“look for solutions rather than problems, and decision takers at every level should seek to approve applications for sustainable development where possible.”*

5.3.38 In determining applications, Paragraph 196 requires that an: *“application for planning permissions must be determined in accordance with the development plan, unless material considerations indicate otherwise”* (in line with the established plan-led planning system) and that the NPPF is a material consideration in planning decisions. Paragraph 197 confirms that in assessing and determining development proposals: *“local planning authorities should apply the presumption in favour of sustainable development.”*

5.3.39 There are 13 main policies contained within paragraphs 18 - 149 of the NPPF, of which 6 are considered to be of particular relevance to the proposed development, they comprise:

- Policy 4: Promoting Sustainable Transport;

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- Policy 7: Requiring Good Design;
 - Policy 8: Promoting Healthy Communities;
 - Policy 10: Meeting the Challenge of Climate Change, Flooding and Coastal Change;
 - Policy 11: Conserving and Enhancing the Natural Environment; and
 - Policy 12: Conserving the Historic Environment.

5.3.40 Each of the aforementioned policies have been taken into consideration in this planning policy appraisal and are assessed in detail in Table 4.1 below.

Planning Policy Statement 10: Planning for Sustainable Waste Management

5.3.41 PPS10 was originally published in July 2005 and subsequently revised in March 2011 to incorporate the new waste hierarchy as set out in the revised Waste Framework Directive (2008/98/EC) (rWFD). The changes seek to increase the use of waste as a resource and places greater clarity as to the individual tiers of the hierarchy. It also confirms emphasis on the prevention and recycling of waste, while protecting human health and the environment. All other paragraphs within PPS10 remain unchanged and have been considered below.

5.3.42 PPS10 provides policy advice on determining applications. Paragraph 3 of the document identifies a series of 'key planning objectives' for planning authorities that might be considered relevant in the current context, these are:

- *“Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;*
- *Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities;*
- *Help implement the national waste strategy, and supporting targets, and are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the Waste Management Licensing Regulations 1994;*

- *Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;*
- *Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness;*
- *Protect green belts but recognise the particular locational needs of some types of waste management facilities when defining detailed green belt boundaries and, in determining planning applications, that these locational needs, together with the wider environmental and economic benefits of sustainable waste management, are material considerations that should be given significant weight in determining whether proposals should be given planning permission; and*
- *Ensure the layout and design of new development supports sustainable waste management.”*

5.3.43 Paragraphs 17 – 21 of PPS10 set out the locational requirements waste planning authorities should consider when identifying suitable sites and areas for new / enhanced waste management facilities.

5.3.44 Paragraph 20 states that in searching for sites and areas suitable for new or enhanced waste management facilities, waste planning authorities should consider: *“a broad range of locations including industrial sites, looking for opportunities to co-locate facilities together and with complementary activities.”*

5.3.45 Paragraph 21 states that in deciding which sites and areas to identify for waste management facilities, waste planning authorities should: *“assess their suitability for development against each of the following criteria:*

- *The extent to which they support the policies in this PPS;*
- *The physical and environmental constraints on development, including existing and proposed neighbouring land uses (see Annex E);*
- *The cumulative effect of previous waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential;*

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- *The capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport.*
 - *Give priority to the re-use of previously-developed land, and redundant agricultural and forestry buildings and their curtilages.”*

5.3.46 Paragraph 30 states that modern, appropriately located, well-run and well-regulated, waste management facilities operated in-line with current pollution control techniques and standards should pose little risk to human health.

5.3.47 Finally, paragraphs 35 to 36 are concerned with the design of waste management facilities. Of particular relevance to the development is Paragraph 36 which states that: *“Waste management facilities in themselves should be well-designed, so that they contribute positively to the character and quality of the area within which they are located. Poor design is in itself undesirable, undermines community acceptance of waste facilities and should be rejected.”*

Government Review of Waste Policy in England 2011 (June 2011)

5.3.48 On 14th June 2011 the Government unveiled its review of waste policy in England, outlining ambitions to create a ‘zero waste economy’ where the amount of waste being sent to landfill is reduced in favour of reuse, recycling or waste-to-energy infrastructure. Central to the new strategy is an extension of the voluntary responsibility with industry to reduce packaging wastes, providing legally binding targets for waste levels and recycling if voluntary agreements are shown to have failed. It promises to deliver additional reviews on whether other materials that have significant reuse or energy value should be banned from landfill, thereby placing greater reliance on facilities that provide energy from waste value.

5.3.49 The principal commitments set out that: *“As part of a more sustainable approach to the use of materials, delivering environmental benefits and supporting economic growth, we will (amongst others):*

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- *Prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste;*
 - *Develop a range of measures to encourage waste prevention and re-use, supporting greater resource efficiency; and*
 - *Develop voluntary approaches to cutting waste, increase recycling, and improve the overall quality of recyclate material, working closely with business sectors and the waste and material resources industry...*

5.3.50 In relation to infrastructure and planning, paragraph 26 identifies that: *“The Government continues to support local authorities in the provision of necessary waste infrastructure.”* Whilst, paragraph 256 identifies that: *“The Government’s ambitions for waste highlight the importance of putting in place the right waste management infrastructure at the right time and in the right location. Our ambition is to have appropriate waste reprocessing and treatment infrastructure constructed and operated effectively at all levels of the waste hierarchy it enable the most efficient treatment of our waste and resources.”*

Waste (England and Wales) Regulations 2011

5.3.51 On 29th March 2011 the Waste (England and Wales) Regulations 2011 came into force. The Regulations transpose, for England and Wales, EC Waste Framework Directive (WFD) 2008/98/EC, which established a legal framework for the treatment of waste within the European community. The Regulations introduce a change to the waste hierarchy provided within PPS10, to reflect the new waste hierarchy set out in the WFD. The revisions to the waste hierarchy seek to increase the use of waste as a resource and place greater emphasis on the prevention and recycling of waste. The revised hierarchy is introduced through Regulation 12 which came into force on 28th September 2011.

5.3.52 Regulation 4 places a requirement on appropriate authorities to establish waste prevention programmes by 12th December 2013, the objectives of which are laid down within Schedule 1. Their overall objective is: *“To protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing the overall impacts of resource use and improving the efficiency of such use.”*

5.3.53 Paragraph 4 of Schedule 1 emphasises the role of the principles of self-sufficiency and proximity. It requires that waste prevention programmes must seek to: *“Establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including, where such collection also covers such waste from other producers, taking account of best available techniques...The network must enable waste to be disposed of and mixed municipal waste collected from private households to be recovered in one of the nearest appropriate installations, by means of the most appropriate technologies, in order to ensure a high level of protection for the environment and human health.”*

Waste Management Plan for England (December 2013)

5.3.54 The Department for the Environment, Food and Rural Affairs (DEFRA) published the Waste Management Plan for England in December 2013. The purpose of the Plan and associated documents is to fulfil the requirements of Article 28 of the rWFD which requires that member states ensure that their competent authorities establish one or more waste plans covering all of their territory. The Plan (and associated documents) will in combination with equivalent plans being produced by the devolved administrations in Scotland, Wales and Northern Ireland and Gibraltar and local authority waste management plans fulfil this requirement.

5.3.55 Importantly in the context of this assessment, it is recognised on page 5 of the Plan that: *“There are comprehensive waste management policies in England which taken together deliver the objectives of the revised Waste Framework Directive: to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use. It is not, therefore, the intention of the Plan to introduce new policies or to change the landscape of how waste is managed in England. Its core aim is to bring current waste management policies under the umbrella of one national plan.”*

5.3.56 All of the existing plans and guidance that are referenced within the Plan, that are of relevance to the proposed development have been considered in this

appraisal. As a consequence, it is not considered that any further consideration of the policy and guidance within the Plan is necessary in this instance.

The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire 2004 – 2034 (First Review August 2011)

5.3.57 The First review document of the Joint Municipal Waste Management Strategy (JMWMS) for Herefordshire and Worcestershire replaces the original Joint Municipal Waste Management Strategy, published in 2004. The purpose of the first revision is to clarify key issues, give clear direction on waste management in the two counties and set out and co-ordinate general principles, policies and targets across all authorities in Herefordshire and Worcestershire. Its aim is to decrease waste production and increase the recovery value from waste (to re-use it, recycle it, compost it, or recover value in other ways) by treating waste as a resource.

5.3.58 The policies and targets most relevant to this planning policy appraisal are as follows:

- Policy 1 – *“Local Authorities in Herefordshire and Worcestershire will adopt the following Waste Hierarchy as a template for their approach to Waste Management, ensuring that waste is prevented wherever possible first before considering other options.....Prevention, Re-use, Recycle / Compost, Energy Recovery, safe disposal to landfill.”*
- Policy 4 – *“The Local Authorities are committed to achieve existing and future waste targets within the local area”.*
- Policy 12 – *“The Local Authorities will work with both the Third Sector and contractors to provide routes for goods and materials to be re-used.”*
- Policy 13 – *“The Local Authorities are committed to achieve targets set within this Strategy and have regard to the national targets set out in Waste Strategy for England 2007 for recycling, composting and recovery.”*
- Policy 14 – *“The Local Authorities will continue to provide and enhance bring recycling sites, where considered beneficial, and to supplement kerbside collection schemes and facilities provided at Household Waste Sites” This policy explains that to emphasise the recycling aspect at all*

Household Waste Sites, they will all be re-branded as Household Recycling Centres.”

- Policy 15 – *“The Waste Disposal Authorities, in conjunction with their partners, will maximise the potential of Household Recycling Centres to make sure that they provide a quality service and enable maximum recycling/re-use wherever possible.”*
- Policy 16 – *“Waste management methods will promote sustainable waste management by considering and balancing environmental, social and economic impacts. Both established and emerging technologies will be considered to enable a flexible approach to the waste treatment methods that will be adopted.”*

- Target 3 – *“To work towards achieving national recycling/composting levels of household waste of 45% by 31st March 2015, and 50% by 31st March 2020.”*
- Target 5 – *“By 2015 or earlier if practicable, we will recover value from a minimum of 78% of municipal waste.”*
- Target 6 – *“Reduce the amount of biodegradable municipal waste landfilled in order to meet the yearly allowances set by the Landfill Allowance Trading Scheme. In particular, in target the years below:*
 - *102,684 tonnes during April 2012 to March 2013; and*
 - *71,851 tonnes during April 2019 to March 2020.”*

5.3.59 In addition, the review document identifies at Section 3.11 that transport is a key factor in developing and implementing a sustainable waste management strategy. In particular the adoption of a ‘waste miles’ measurement approach will support the decision making process for the provision of core and local services.

5.3.60 Annex A of the JMWMS review document provides a three year Action Plan for the period April 2011 to March 2014 which includes general actions to promote the use of HRC’s. The Action Plan makes specific reference to Tenbury Wells, stating at action reference WRC11 that: *“the Household Waste Site at Tenbury is to be redeveloped pending successful planning application.”*

The Emerging South Worcestershire Development Plan

- 5.3.61 The emerging South Worcestershire Development Plan (SWDP) is in the process of being prepared by the three southern Worcestershire District Councils of Worcester City, Malvern Hills and Wychavon.
- 5.3.62 The SWDP Submission Document (January 2013) alongside other documentation (including a Schedule of Minor Recommended Changes with associated tracked change version of the submission document (illustrative purposes only) both May 2013) were submitted to the Planning Inspectorate on 28th May 2013.
- 5.3.63 Following initial review, the Inspector decided to conduct the Examination in two stages. Stage 1 is confined to the consideration of the soundness of the proposed levels of employment, housing and retail provision set out in Policy SWDP3, and whether duty to co-operate requirements were met during the preparation of the Plan (i.e. 4 Matters). The timings and arrangements for Stage 2 (which will consider outstanding matters, all other policies and site allocations), will be determined following the completion of Stage 1. Consequently there is not a clear timescale for the adoption of the SWDP.

Examination

- 5.3.64 The Inspector's Matters, Issues and Questions were provided in July 2013. The Councils responded and provided a Schedule of Possible Modifications (both Main and Minor) – Post Submission in August 2013. Stage 1 Hearings were held in early October, with the Inspector's interim conclusions provided late October. The Council provided Draft Proposed Modifications in November 2013 and following further work and invitation to reconvene Hearing Sessions for Matters 1 (The Housing Requirement) and 4 (The Requirement for Retail Provision) was provided in February 2014. The reconvened hearings were held in early March 2014 with the Inspector's further interim conclusions provided early April 2014. As a result of the requirement for further work (i.e. identification of additional sites – March 2014) the Council wrote to the Inspector on 10th June 2014 to identify that ongoing work has necessitated the provision of a revised timetable. This illustrates that a public focused consultation on proposed modifications to the SWDP (including housing

requirements, additional sites and other modifications) is anticipated late October 2014.

- 5.3.65 In relation to the employment land requirement (i.e. Matter 3) the Inspector concluded (28th October 2013) that: *“...I conclude that the employment requirement figure of 280ha set out in policy SWDP3 C is soundly based. No evidence was submitted to indicate that the distribution into sub-area totals set out in Table 4a under that policy is inappropriate. However, in order to provide necessary flexibility, the policy needs to make it clear that the sub-totals are not intended to put a cap on employment development in any of the sub-areas.”* (Paragraph 104) In light of this paragraph it is clear that the Inspector concluded that is sound.

Submission Document

- 5.3.66 The Submission Document SWDP includes three main policy sections. These are:
- Strategic Policies (SWDP 1 – 5);
 - Generic Policies (including amongst other topics: Economic Growth SWDP 8 – 12, Environmental Enhancement SWDP 21 – 25 and Resource Management SWDP 26 – 33); and
 - Allocation Policies (including those specifically relating to Malvern Hills (SWDP 52 – 58) and more specifically Tenbury Wells (SWDP 57).
- 5.3.67 The following policies have employed the SWDP Submission Document Tracked Change Version. SWDP 57 ‘Tenbury Wells Allocations’ states:
- A. *“As the main urban settlement in the north-west part of Malvern Hills District, Tenbury Wells will be the focus for a degree of new housing and commercial growth, in accordance with SWDP 2. New development will enhance the economic role of the town and contribute in part to meeting affordable housing needs and sustaining and enhancing services. Regeneration of the town centre will help to support the retail and tourist economy and provide employment opportunities.*
- B. *Development at Tenbury Wells is likely to be limited due to flood plain risk, landscape and access issues. Opportunities are available to enhance the riverside and town centre retail offer through the*

redevelopment of the former cattle market site, the subject of a recent resolution to grant planning permission approval for retail development, a riverside walk and car parking uses.

- C. The following sites are allocated to accommodate future development during the plan period, as shown on the Proposals Policies Map...*
- D. Employment development at Tenbury Wells will be limited to meeting local needs. No specific allocations are put forward, although the continued implementation of the Tenbury Business Park is supported, as is the commercial redevelopment of the former cattle market site.*
- E. All development must have regard to the important heritage and landscape setting of the town in design proposals.”*

5.3.68 In addition to the allocation policy above, the SWDP includes the following emerging policies that are considered of relevance to the proposal. These are:

Strategic Policies:

- SWDP 1 Overarching Sustainable Development Principles;
- SWDP 2 Development Strategy and Settlement Hierarchy;
- SWDP 3 Employment, Housing and Retail Provision Requirements and Delivery;
- SWDP 5 Moving Around South Worcestershire;
- SWDP 6 Historic Environment; and
- SWDP 7 Infrastructure.

Generic Policies:

- SWDP 8 Providing the Right Land and Buildings for Jobs;
- SWDP 21 Design;
- SWDP 22 Biodiversity and Geo-diversity;
- SWDP 24 Management of the Historic Environment;
- SWDP 28 Management of Flood Risk;
- SWDP 29 Sustainable Drainage Systems;
- SWDP 31 Pollution and Land Instability; and
- SWDP 33 Waste.

5.4 Planning Policy Analysis

5.4.1 The policies and guidance described previously within this section have been assessed in terms of the application in Table 5.1 below. The table sets out the thrust of each of the relevant policies and assesses whether the development would help, hinder or be neutral to the policy purpose. For the purposes of this assessment where the development either helps or is neutral to the policy objective, no policy breach is deemed to occur. Comments are also made where appropriate.

Table 5.1: Assessment of the Proposal against Waste Planning Policy and Guidance

Policy/Plan/Guidance and Objective		Achievement of Objective			Commentary
		Helps	Hinders	Neutral	
Worcestershire County Council Waste Core Strategy 2012 – 2027 (adopted 2012)					
WCS1	It states that planning applications that accord with the policies in the Development Plan will be approved without delay, unless material considerations indicate otherwise. Thus, reflecting the presumption in favour of sustainable development contained in the National Planning Policy Framework.	✓			<p>The JMWMS – Waste Strategy Action Plan identifies a need for existing HRC facility at Tenbury to be developed. In addition, the Worcestershire WCS specifically identifies existing industrial sites as being suitable for most waste management development and Appendix A identifies Tenbury Business Park as an Area of search for most waste management development. Furthermore, an assessment of alternative sites for the relocation / redevelopment of the HRC in Tenbury carried out by WCC in 2012 identified Tenbury Business Park as the only suitable, available location for the proposed development. In light of this, the acceptability of the site for the proposed development should not be in question.</p> <p>In addition to the above, and as demonstrated in this PS, the construction and operation of the proposed HRC development would not give rise to any significant or unacceptable environmental or amenity impacts.</p> <p>In light of the foregoing, it can be concluded that the proposed development would be in full accordance with the policies of the statutory Development Plan and other relevant material planning considerations and as such, in accordance with the wording of Policy WCS1, should be approved without delay.</p>
WCS2	Sets out a number of delivery milestones (relating to re-use, recycling or other recovery) to achieve equivalent self-sufficiency.	✓			<p>The policy wording identified the additional waste management capacity that is required in order to ensure that Worcestershire achieves self-sufficiency in the management of their waste. The plan indicates that by 2025 / 2026 a further 353,000tpa of re-use and recycling capacity is required for the municipal and commercial and</p>

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	The policy states that in order to achieve the aims of the Waste Core Strategy proposals for waste management facilities will be permitted where they contribute towards the delivery milestones.				<p>industrial waste streams.</p> <p>As set out in the assessment of need in Section 4.0 of this PS the existing HRC site at Palmers Meadow Tenbury is too small to operate as a modern facility, and offers a substandard service for Tenbury residents in comparison with other WCC sites. It does not provide room for sufficient numbers of containers for the key waste streams to maximise recycling potential and this is reflected in the fact that recycling rates at the existing HRC are only 37%, which is almost half of that experienced at the other HRCs within Worcestershire (over 69%).</p> <p>The proposed facility at Tenbury Business Park would provide a purpose built HRC solution that would maximise the re-use and recycling of residents waste. This would make a contribution to need for additional re-use and recycling capacity of municipal waste that is identified within Policy WCS2.</p>
WCS3	Indicates that: <i>“waste management facilities that enable re-use or recycling of waste, including treatment, storage, sorting and transfer facilities, will be permitted at all levels of the geographic hierarchy where it is demonstrated that the proposed location is at the highest appropriate level of the geographic hierarchy.”</i>	✓			<p>The plan identifies a geographical hierarchy for the development of new waste management infrastructure in Worcestershire. The hierarchy has 5 levels and Tenbury Wells sites within level 4.</p> <p>The proposed HRC development is intended to serve the community within Tenbury Wells and its immediate surroundings within the County. As such, it would not be appropriate to consider locating the facility within higher levels of the hierarchy and thus the development is proposed at an appropriate level in this instance, in accordance with the requirements of Policy WCS3.</p>
WCS6	Proposals for new waste management facilities will be permitted where it is demonstrated that they are located on a type of land that is identified as compatible in the accompanying table.	✓			<p>The table identifies the following land uses as being compatible for re-use and recycling facilities:</p> <ol style="list-style-type: none"> 1) Existing or allocated industrial land; 2) Contaminated or derelict employment land; 3) Redundant agricultural or forestry buildings or their curtilage; and 4) Sites with current use rights for waste management purposes. <p>The proposed HRC development is proposed on an allocated industrial site and as such, would be located entirely in accordance with the provisions of Policy WCS6.</p> <p>In addition to the above it should also be noted that the site is specifically identified within Appendix A of the WCS as an ‘area of search’ that would be suitable for</p>

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					most waste management facilities. This further demonstrates its suitability as a location for the proposed HRC development.
WCS8	Provides a series of infrastructure and access criteria that should be met by new waste management proposals.	✓			<p>In terms of the relevant criteria it should be noted that:</p> <ul style="list-style-type: none"> The proposed HRC development is on a purpose built allocated industrial estate, which provides adequate infrastructure in order to support the proposed facility. The site is well connected to the strategic transport network and would be accessed from the existing road serving the Tenbury Wells Business Park, off the B4214 Bromyard Road. The existing T-junction is suitable to accept large HGVs provides good visibility in each direction and has been demonstrated as providing sufficient operating capacity for the traffic that would be generated by the HRC development (see Section 6.0 Traffic and Transportation for further analysis). The immediate section of local highway network to the proposal site provides a footway connection to the north-west towards the town of Tenbury Wells allowing pedestrian access if required. <p>In light of the foregoing, it is considered that the proposed development would be in full compliance with all of the criteria set out within Policy WCS8.</p>
WCS9	Sets out a detailed policy context for the protection and enhancement of internationally, nationally and locally designated sites, habitats, species and heritage assets when considering proposals for waste management.	✓			<p>A range of potential environmental assessments have been carried out in support of this planning application and are summarised within this PS. In response to the policy criteria, the following should be noted:</p> <ol style="list-style-type: none"> The proposal would not have adverse effects on the integrity of any internationally designated sites of nature conservation importance (see Section 7.0 Ecological Assessment). The proposal would not have unacceptable adverse impacts on other internationally, nationally or locally designated or identified habitats, species or nature conservation sites. The proposal would not lead to substantial harm to or loss of significance of designated or non-designated heritage assets of their settings; (see Section 7.0 Ecological Assessment and Section 9.0 Archaeology and Heritage). <p>In light of the above, it is considered that the proposed HRC development would accord with the requirements of Policy WCS9.</p>
WCS10	Addresses the importance of considering flood risk and potential impacts on surface and ground water	✓			<p>Section 10.0 of this PS specifically considered the effects of the proposed HRC development in terms of surface water drainage and flood risk. It confirms that:</p> <ul style="list-style-type: none"> The development would have no impact on the

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	in applications for waste management facilities.				<p>availability or quality of surface water and groundwater supplies, or increase the risk of flooding on site or elsewhere. The site falls within Flood Zone 1, in which the chance of flooding is 0.1% (1 in 1000) or less. No groundwater flooding issues or artificial sources of potential flood risk that could have an impact upon the proposed development site have been identified.</p> <ul style="list-style-type: none"> • A surface water drainage scheme is proposed (details summarised in Section 10.0 Water Quality and Flood Risk). Potential impacts on surface and ground water have been considered in the drainage proposals to ensure that the proposed development would not result in pollution or have unacceptable adverse impacts on surface / ground water quality, quantity, biodiversity or the natural flow, or significant effects on any internationally designated sites. <p>In light of the foregoing, the proposed development would be in accordance with the requirements of Policy WCS10</p>
WCS11	Promotes sustainable development practices which should be taken into account and included within waste management proposals.	✓			<p>In responding to the requirements of this policy, it must be recognised that the purpose of the proposed HRC development is to promote sustainable development by facilitating the recycling and re-use of municipal waste. The proposals would represent a vast improvement in this regard than the HRC facility that it would replace.</p> <p>The policy wording identifies a number of sustainable development practices and climate change mitigation measures. These are considered in the context of the Tenbury HRC development below:</p> <ol style="list-style-type: none"> a) Consideration would be given to the use of non-primary material in the construction of the HRC; b) Measures could be included within the proposed site office for the efficient use of water; c) A range of practical energy efficiency measures could be implemented at the site. These could relate to the use of lighting on the days that the facility is not operational and a number of energy efficiency measures within the site office; d) n/a – the gross building footprint would be less than 1,000sqm; e) There are no issues regarding land stability and subsidence at the application site; f) A landscaping scheme has been proposed at the site (see Landscape Plan drawing). Whilst modest in scale and reflective of the sites industrial location, this would enhance the overall level of natural habit on the site. <p>In light of the above, it can be concluded that sufficient measures could be introduced at the facility to ensure</p>

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					that the development comes forward in accordance with the provisions of Policy WCS 11. It is considered that the delivery of any such measures could be achieved through a suitably worded planning condition.
WCS12	Seeks to protect both local characteristics and Areas of Outstanding Natural Beauty (AONB) from unacceptable adverse impacts.	✓			The proposed development does not lie proximate to any AONB's. The proposed development (including areas of landscaping) would be appropriately designed in order to minimise its impact upon the surrounding local characteristics (See Section 8.0 Landscape and Visual Assessment).
WCS14	Sets out the policy context for the protection of amenity stating that: <i>“Waste management facilities will be permitted where it is demonstrated that the operation of the facility any associated transport will not have unacceptable adverse impacts on amenity”.</i>	✓			<p>It is not anticipated that the operation of the HRC facility would give rise to any unacceptable adverse impacts upon local amenity. No significant residual adverse effects on the amenity of neighbouring buildings and land uses, or nearby residential properties have been identified within the assessments contained within Sections 7.0 - 11.0 of this PS.</p> <p>The proposed HRC development would not give rise to unacceptable levels of environmental pollution and would also be regulated and strictly monitored through an EP issued by the EA.</p> <p>An assessment of traffic and transportation (see Section 6.0 and Appendix 6-1) concludes that forecasted future levels of traffic can be accommodated safely and efficiently by the immediate local highway network and would not result in any traffic related environmental conditions that could impact upon amenity.</p> <p>In light of the foregoing, the development is considered to accord with the requirements of Policy WCS14.</p>
WCS15	Indicates that planning consent should be granted for waste management development that meets a series of social and economic criteria	✓			<p>It is considered that the proposed development would accord with the requirements of Policy WCS15, the reasons for this are as follows:</p> <ol style="list-style-type: none"> As demonstrated in the assessment of need, the replacement of the existing HRC serving Tenbury Wells with the new facility on Tenbury Business Park would demonstrably contribute towards Worcestershire achieving equivalent self-sufficiency in their waste management capacity. It would also contribute to the council achieving higher levels of recycling and re-use. The development is on an existing employment site and would not sterilise any safeguarded minerals resources; and As demonstrated in Section 2.0 of this PS, the applicant has carried out public consultation in advance of preparing and submitting this planning application. The outcome of this consultation has

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					informed a number of changes to the design and layout of the proposed development.
Malvern Hills District Council Adopted Local Plan 1996 – 2011 (Saved Policies)					
DS1	Seeks to ensure that development is directed to sustainable locations, most appropriate to the form and scale of the development proposed. The policy states that within Tenbury proposals for development serving local needs across the wider rural area such as new commercial, retail, leisure and large scale community facilities will be located within settlement boundaries as defined on the Proposals Map.	✓			<p>The proposed HRC is located on an allocated and purpose built industrial / employment site (Tenbury Business Park), which is considered a suitable location for the scale and nature of the proposed development.</p> <p>The proposed site is within the settlement boundary for Tenbury as defined on the Proposals Map and is therefore close to the main source of waste arising's and proximate to the community it is proposed to serve.</p>
DS3	Sets out criteria applicable to all development proposals and covers a wide range of issues in order to provide a sustainable approach to the assessment of all development proposals. The policy specifies numerous requirements relating to potential environmental impacts, design and general appearance of development, infrastructure adequacy and accessibility and pollution and public safety.	✓			<p>It is considered that the proposed HRC development would accord with the relevant provisions of Policy DS3 for the following reasons.</p> <p>The nature, layout and design of the proposed HRC is considered appropriate taking into account its immediate setting, the locality and the requirement to provide a service for local communities. Being within Tenbury's settlement boundary the proposed site is close to the main source of waste arising's and proximate to the community it is proposed to serve.</p> <p>The application site is on an allocated and purpose built industrial / employment site which is considered (in both the Worcestershire WCS and national planning policy) to represent a suitable location for the proposed development. The layout and design of the HRC has sought to minimise the scale of the development and its impact upon the surrounding locality. During the design process a number of alternative options were considered to minimise potential adverse effects, including consideration of alternative access points into the site, and a range of approaches to landscaping, fencing and noise mitigation. Effects on both landscape character and views would be localised and no significant effects have been identified. Mitigation of these limited effects would be achieved through the introduction of planting around the site boundaries. (see Section 8.0 Landscape and</p>

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					<p>Visual Assessment).</p> <p>A range of potential environmental impacts have been assessed and are summarised in this PS. These include landscape and views, ecology, noise and vibration, archaeology and cultural heritage and traffic and transport. No significant residual environmental impacts have been identified.</p> <p>No significant residual adverse effects on the amenity of neighbouring buildings and land uses, or nearby residential properties have been identified. The proposed development would not give rise to unacceptable levels of environmental pollution and would also be regulated and strictly monitored through an EP issued by the EA.</p> <p>The proposed site is located on a main road serving Tenbury Wells, with a good established vehicle access which has been designed to accommodate a large number of vehicles, including heavy goods traffic. An assessment of traffic and transportation has been undertaken and a copy of the Transport Statement is included at Appendix 6-1. This concludes that forecasted future levels of traffic that would be generated by the proposed development can be accommodated safely and efficiently by the immediate local highway network and would not result in any adverse impacts on highway capacity, safety or traffic related environmental conditions.</p>
DS8 / DS9	Relate to the provision of strategic employment land in the District and how this will be met. The policy refers to a requirement for the provision of 55 hectares for employment uses within Use Classes B1, B2 and B8.	✓			<p>The proposed development site is on allocated employment land.</p> <p>As stated previously in this PS, the site is identified within the recently adopted Worcestershire WCS as being an area of search for waste management facilities. The plan (and national waste planning policy in PPS10) indicates that industrial sites are considered to be suitable locations for such facilities.</p> <p>It is considered that in light of the above, there proposed development would not be in conflict with Policies DS8 / 9.</p>
DS11	Sets out the policy context for development in rural settlements. Stipulates that new development will be directed to Category 1 and then Category 2 rural settlements.	✓			<p>The proposed development accords with this policy as Tenbury Wells is identified as a Local Plan Category 1 rural settlement.</p>

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EP1	Sets out the policy context for the protection of employment sites (Use Classes B1, B2 and B8). The change of use of these sites to non-employment uses will not be permitted unless all or any of a number of exceptional circumstances can be demonstrated.	✓			<p>It should be noted that in determining this application the WCS should take primacy as the application relates to a waste management facility and this is the more contemporary development plan document with more up to date policy.</p> <p>As noted in the response to Policies DS8 / 9 the site is identified within the recently adopted Worcestershire Waste Local Plan as being an area of search for waste management facilities. The plan (and national waste planning policy in PPS10) indicates that industrial sites are considered to be suitable locations for such facilities. Thus, the loss of employment land to accommodate the HRC development should be acceptable in the context of contemporary waste management policy.</p> <p>It should be noted that even if the proposed development were to be considered to represent the loss of employment land a number of the exceptional circumstances could be demonstrated, these include:</p> <ul style="list-style-type: none"> • The development would be minor in scale and would only result in the loss of less than 0.5ha of employment land; • The take up of land at Tenbury Business Park over the last 20+ years has been slow with approximately 60% of available land remaining vacant. • The proposed development would provide a wider community benefit. This is supported by the need case for a new HRC in Tenbury, the lack of any other available sites and the fact that the proposed site has been vacant and never brought forward for employment development since planning permission was granted in 1989; and • It is not anticipated that the development would restrict, prevent or prejudice the continued operation of adjoining or nearby established employment uses. <p>It is considered that in light of the foregoing, the proposed HRC development should not be considered to be in conflict with the provisions of Policy EP1. Moreover, even if a conflict were identified, it is considered that exceptional circumstances could be demonstrated for the loss of employment land at the site.</p>
QL5	Sets out the circumstances within which planning permission for walls, gates, fences and other means of enclosure will not be granted.	✓			<p>The Typical Fencing Details drawing shows the proposed arrangements for gates and boundary enclosures including 2.5m high close boarded panel fencing around the operational area and post and wire fencing around the wider extent of landscaped areas. The size and specification of close boarded fencing has been determined by requirements set out in the noise assessment (see Section 11.0 Noise) to protect the amenity of nearby residential properties, and to minimise</p>

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					views into the site from adjacent land uses. The proposed fencing is deemed appropriate to the site and surroundings. It would not impact upon the character of any conservation areas or the setting of a nearby listed building, harm the amenity of the occupiers of neighbouring properties or prejudice highway safety.
QL13	Sets out the policy context for new development affecting the setting of Listed Buildings.			✓	A 19th Century listed building (New Court) is situated approximately 175m north of the application site. An assessment of the potential effects of the proposed HRC development upon the property is provided in Section 9.0 of this PS. It concludes that: <i>“whilst there would be some changes in the view which would result in some limited adverse visual effects witnessed from the property, these would be amenity effects experienced by the people occupying the building and it is not anticipated that there would be any harm to the heritage asset.”</i> Given the conclusions of the assessment it is not considered that the development would fail the tests set by Policy QL13.
QL14	Sets out the policy context for the protection of Scheduled Ancient Monuments and Other Archaeological Sites			✓	No designated archaeological sites have been identified at Tenbury Business Park. A review of documentation for numerous previous planning applications at the Business Park has been undertaken and has not identified any information relating to other archaeological sites. It is assumed that any potential effects on archaeology and cultural heritage were considered as part of the original planning application for the Business Park in 1989 and were taken into account in the decision to approve the development at that stage. Potential effects on archaeology have therefore not been considered further in his assessment for the proposed HRC development (see Section 9.0 Archaeology and Heritage).
QL16	Sets out the policy context for the protection of Sites of Special Scientific Interest			✓	There are no SSSI's proximate to the proposed HRC. There would be no adverse effects on the two SSSI's closest to the proposed HRC site, which are approximately 1km and 1.5km away (see Section 7.0 Ecological Assessment).
QL17	Sets out the policy context for the protection of Sites of Regional or Local Wildlife Importance.			✓	A Preliminary Ecological Appraisal of the proposed HRC has been undertaken and identified several wildlife sites in the vicinity of the proposed site, one of which is a watercourse flowing approximately 60m east (Kyre Brook). The proposed HRC development would not have an adverse effect or result in an unacceptable risk of an adverse effect on the Kyre Brook or other local wildlife sites. The proposed drainage arrangements incorporate

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					appropriate measures to ensure the protection of this site from adverse effects (see Section 7.0 Ecological Assessment).
QL19	Sets out the policy context for the protection of wider biodiversity. Development proposals will be required to retain natural habitat and features of ecological and nature conservation in situ where possible.	✓			There are no particular natural habitats or other features of any particular ecological merit on the application site. The proposal would include a landscaping scheme, which would represent a modest increase in the biodiversity value of the site.
QL20	Relates to the creation of new habitats.	✓			See response to Policy Q19 above and the conclusions and recommendations of the Preliminary Ecological Assessment contained within Appendix 7-1.
QL21	Sets out the policy context relating to landscaping and new development.	✓			A landscaping scheme has been prepared in support of the proposed HRC development (see Landscape Plan drawing). This is designed to enhance the appearance of the proposed development and screen it from key viewpoints. The proposed planting mix has been developed to include locally occurring plants and shrubs that reflect and are complimentary to local conditions. In light of the above, it is considered that the proposed development would full accord with the provisions of Policy QL21.
QL22	Protection of trees, woodlands and hedgerows.			✓	A tree survey has been carried out in support of the proposed development and is contained within Appendix 7-2. This confirms that the proposed development would not have the potential to impact upon any of the existing trees or shrubs which lie on the periphery of the development site. The HRC development would not result in the loss of any existing hedgerow.
Material Considerations					
National Planning Policy Framework (March 2012)					
Para 17	Provides a set of core land-use planning principles that should underpin both plan-making and decision taking. The core planning policies that are of most relevance to this planning application are: 4, 7, 8, 10, 11 and 12, and are listed in the detailed	✓			It is considered that the proposed development would be in accordance with the relevant core planning policies set out within the NPPF, the reasons for this are as follows: <ul style="list-style-type: none"> The proposal would demonstrably represent an economic development that would assist in meeting the development needs of the area. The proposal would represent a high quality design solution that would ensure a high standard of amenity both at the site, on adjacent land and within the surrounding locality. The proposed development is located within an

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	planning policy context (Sub-section 5.3).				<p>existing employment site which benefits from screening from the surrounding area. In addition further screening and mitigation would be inherent to the design of the facility (close boarded fencing and landscaping). On this basis, it is not considered that it would result in any significant effects upon the countryside or amenity of surrounding residential properties.</p> <ul style="list-style-type: none"> • The proposal takes full account of the relevant climate change issues including flood risk. • As demonstrated throughout the PS, the proposal would not result in any detrimental / significant effect upon the natural environment. • The proposal would not result in an significant effects upon heritage assets; • The effects of the proposal in the context of transport and sustainable transport have been considered within the Transportation Statement (see Appendix 6-1). <p>Many of these points are discussed in more detail in the assessment of the individual policies of the NPPF below.</p>
Policy 4	Promoting sustainable transport. Paragraph 32 identifies that all developments which generate significant amounts of transport movements should be supported by a Transport Assessment.	✓			See response to Policy DS3 of the Malvern Hills District Council Adopted Local Plan above.
Policy 7	Requiring good design. Paragraph 56 confirms that the Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development and should contribute positively to making places better for people.	✓			<p>The proposed HRC facility has been specifically designed to make use of the topography of the site and to reduce its impact upon the surrounding area. The design of the facility has been developed and refined following both public and technical consultation.</p> <p>The design has been based upon a split level arrangement which makes it easier for residents to dispose of their waste material. It has also been designed to ensure separation of public and operational vehicles.</p>
Policy 8	Promoting Healthy Communities	✓			It is considered that the proposal would accord with this policy as it would plan positively for the provision of a local service which enhances the sustainability of the community. Furthermore, it would ensure an integrated approach to waste management infrastructure.
Policy 10	Meeting the Challenge of Climate Change, Flooding	✓			An assessment of surface water drainage and flood risk is provided within Section 10.0 of this PS. Based upon

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	and Coastal Change.				<p>the findings of the assessment; it is considered that the proposed development would accord with the relevant requirements of the NPPF in respect of climate change. The principal means it would achieve this are as follows:</p> <ul style="list-style-type: none"> • The proposal would increase levels of recycling and divert waste from landfill. • In terms of the potential for the proposed development to give rise to or be at risk from flooding, the primary considerations in this regard are: <ul style="list-style-type: none"> ○ The application site is not at risk from flooding. ○ Standard best practice construction methods would be implemented to protect water quality. ○ The proposed drainage proposals provide suitable infrastructure and capacity to accommodate a statistically infrequent storm event. ○ The development would not affect water quality of the surrounding area as a result of the infrastructure installed to serve the site and specific practices employed to manage run-off in-line with the site's EP.
Policy 11 and 12	Conserving and enhancing the natural and historic environment.	✓			<p>The PS has considered the impact of the development in terms of its direct and indirect impacts upon the natural and historic environment. In both instances, it has been concluded that the proposal would not have the potential to give rise to any likely significant environmental effects. Therefore, it can be concluded that the proposed development accords with the requirements of Policy 11 and Policy 12 of the NPPF.</p>
Planning Policy Statement 10 (PPS10): Planning for Sustainable Waste Management (March 2011)					
Para 3	Moving the management of waste up the 'waste hierarchy' of reduction, re-use, recycling and composting, using waste as a source of energy, and only disposing as a last resort.	✓			<p>The proposed development would provide an essential facility to move the management of waste up the waste management hierarchy. In doing so, it would ensure the diversion of waste from landfill which is recognised as a critical issue within national, regional and local waste policy and guidance.</p>
Para 3	Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities.	✓			<p>The proposal is intended to serve local residents within the surrounding locality, it would therefore clearly allow for communities to take more responsibility for their own waste. The delivery of the proposed development would be timely in meeting the needs and requirements for the delivery of waste management infrastructure. In light of the foregoing, it can be concluded therefore that the development would accord with this policy within PPS10.</p>

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Para 3	Help implement the national waste strategy, and supporting targets, and are consistent with obligations required under European legislation and support and complement other guidance and legal controls.	✓			The proposal would demonstrably support national waste strategies as it would encourage the management of waste at the highest level on the waste hierarchy and contribute towards the achievement of recycling and landfill diversion targets.
Para 3	Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness.	✓			The proposal would demonstrably meet the requirements of this policy principle for the reasons outlined below. <ul style="list-style-type: none"> • The proposal would allow for the recycling of waste that may otherwise be disposed of at landfill. • The proposal would have the potential to assist the waste disposal authorities in the achievement of their waste recovery and landfill diversion targets. • The proposal would provide essential infrastructure required in the area.
Para 17-18	Sets out the locational requirements for new waste management facilities.	✓			In terms of the three criteria set out in paragraph 18 of PPS10: <ul style="list-style-type: none"> • It has been demonstrated in Section 4.0 of this PS how the proposed development would meet the future needs of the area as identified through Worcestershire's WCS. • The proposal relates to the development of a site which is deliverable in terms of the ownership arrangements already in place. As a consequence, the site has no ownership constraints that could prevent the proposal from coming forward. The proposal would therefore be entirely in accordance with the requirements of paragraph 18 of PPS10.
Para 20	Identifies the sites and areas waste planning authorities should consider suitable for new or enhanced waste management facilities. This includes "a broad range of locations including industrial sites, looking for opportunities to co-locate facilities together and with complementary activities."	✓			The proposed HRC development would be located on an industrial site that is specifically identified within the Worcestershire Waste Local Plan as an area of search for waste management facilities, including facilities of the type proposed.
Para 21	Paragraph 21 set out a number of criteria that waste planning authorities should consider when deciding which sites to	✓			Each of the criteria are considered below: <ul style="list-style-type: none"> • It is demonstrated in this appraisal that the proposal would be consistent with the relevant policies / guidance contained within PPS10. • As demonstrated within this PS, the proposal would not

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	identify for waste management facilities.				<p>be contrary to the relevant provisions of Annex E of PPS10.</p> <ul style="list-style-type: none"> It is not considered that the proposed development would give rise to any significant residual cumulative effects with other existing and planned development within the surrounding locality during either its construction or operation. The transport infrastructure in the vicinity of this site is capable of accommodating the additional traffic that would be generated by the proposal. Furthermore, no significant effects upon the surrounding road network due to increases in traffic have been identified in Section 6.0 and the Transport Statement (Appendix 6-1) prepared in support of this planning application. It would not be practical for material to be transported by alternative modes of transport, as no other options water / rail exist at the site.
Paras 35 & 36	Ensure the layout and design of new development supports sustainable waste management.	✓			See response to Policy 7 of the NPPF above.
Government Review of Waste Policy in England					
	Provides actions and commitments to set a direction towards a 'zero' waste economy. The Review provides the most up-to-date Government stance / position on the management of waste and demonstrates significant support and need for waste facilities.	✓			The Government Review of waste policy makes a number of statements that are of relevance to and supportive of developments like that proposed. The development of the proposed HRC would clearly support the aims of the review in providing a zero waste economy, diverting waste from landfill through recycling and putting in place the right waste management infrastructure at the right time and in the right location.
Waste (England and Wales) Regulations 2011 (March 2011)					
	The Regulations transpose EC Waste Framework 2008/98/EC which introduces a change to the waste hierarchy. This change seeks to increase the use of waste as a resource and place greater emphasis on the	✓			<p>The proposal would be fully compliant with the Regulations through moving the management of waste up the waste hierarchy and thereby reducing reliance upon landfill. It would also establish an integrated network of waste facilities and as illustrated by this PS would not:</p> <ul style="list-style-type: none"> Give rise to significant risk to water, air, soil, plants or animals; Create significant nuisance through noise and odours; or

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	prevention and recycling of waste. The Regulations also requires waste to be recovered at the nearest appropriate installation.				<ul style="list-style-type: none"> Give rise to significant adverse effect on the countryside or places of special interest.
DEFRA Waste Management Plan for England (December 2013)					
	The purpose of the plans and associated documentation is to fulfil the requirements of Article 28 of the revised Waste Framework Directive. This requires that member states ensure that their competent authorities establish one or more waste plan(s) covering all of their territory.	✓			All of the existing plans and guidance that are referred to within the consultation version of the waste management plan (including emerging replacement to PPS10) that are of relevance to the proposed development, have been considered in this policy appraisal, or in the assessment of need contained within Section 4.0 of this PS. As a consequence, it is not considered that any further consideration of this waste management plan is necessary in this instance.
The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire 2004 – 2034 (First review August 2011)					
Policy 1	Waste management within the joint authority area should be in accordance with the waste hierarchy.	✓			The proposed development would promote the management of waste up the waste hierarchy.
Policy 4	The Local Authorities are committed to achieve existing and future waste targets within the local area.	✓			As demonstrated in Section 4.0 of this PS, the proposed development would contribute towards the achievement of waste management targets within the joint authority area.
Policy 15	The Waste Disposal Authorities, in conjunction with their partners, will maximise the potential of Household Recycling Centres to make sure that they provide a quality service and enable maximum recycling / re-use wherever possible.	✓			<p>The purpose of the proposed HRC is to replace the existing facility in Tenbury Wells and in doing so maximise the potential for the recycling and re-use of materials.</p> <p>The existing facility only achieves a recycling rate of circa 40% whereas the other sites within the joint authority area are achieving a rate of over 69%. It is considered that the new facility could achieve a similar if not better recycling rate.</p>

Policy/Plan/Guidance and Objective	Achievement of Objective			Commentary
	Helps	Hinders	Neutral	
Emerging South Worcestershire Development Plan - Proposed Submission Document (January 2013)				
Will replace the extant Malvern Hills Local Plan once adopted.	✓			<p>As noted in Sub-section 5.3 above the South Worcestershire Development Plan is at an advanced stage in its preparation and is currently the subject of an examination in public.</p> <p>The plan contains a number of policies that are considered of relevance to the proposed HRC development, which are all listed in Sub-section 5.3 above. It is not considered that these emerging policies raise any new issues, or cover any other topic areas that have not already been addressed in the appraisal of the existing policies of the Development Plan and the other material considerations above.</p> <p>On this basis, it can be concluded that the HRC development would be in accordance with the provisions of the relevant polices contained within the emerging plan.</p>

5.5 Conclusion

- 5.5.1 It can be seen from the assessment of statutory Development Plan policy and material planning considerations in Table 5.1 above, that the proposed HRC development is either in conformity with, or supported by the relevant planning context.
- 5.5.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that planning applications should be determined in accordance with the statutory Development Plan, unless material considerations indicate otherwise. This assessment of the proposal has demonstrated that the scheme complies with the provisions of the statutory Development Plan (when taken as a whole). Furthermore, the relevant material planning considerations do not support the planning application being determined other than in accordance with the statutory Development Plan. Conversely, the assessment has identified a wealth of material planning considerations that add very significant weight in support of the proposal and approval of the planning application.

6.0 TRAFFIC AND TRANSPORTATION

6.1 Introduction

6.1.1 A Transport Statement (TS) has been prepared, in support of the planning application. A full copy of the TS is contained in Appendix 6-1, the main findings and conclusions of the assessment are summarised in sub-section 6.2 below.

6.2 Transport Statement Summary of Main Findings and Conclusions

6.2.1 This TS has been prepared by Axis on behalf of MWM to consider highways and transport issues related to the development of a new Household Recycling Centre (HRC) on land at Tenbury Wells Business Park, Tenbury Wells. The proposal scheme represents the development of a household waste facility to serve householders of the town of Tenbury Wells and surrounding settlement. Whilst Tenbury Wells is currently served by a small household waste drop-off site at Palmer's Meadow, this existing facility is of limited capacity and is not capable of meeting modern requirements for municipal recycling facilities.

Baseline Conditions

6.2.2 The Tenbury Wells HRC proposal site represents a vacant development site on the Tenbury Wells Business Park, located to the south eastern edge of the built up area of the town of Tenbury Wells. The site is currently undeveloped and is characterised by a generally flat area of grassland.

6.2.3 Due to its undeveloped nature, the site does not currently have a direct vehicle access. The site is however, bounded to the north and east by existing Business Park roads which would allow for the formation of new access arrangements. These estate roads ultimately link to a main access road which forms a simple give-way T-junction with the B4214 Bromyard Road. The internal Business Park roads are approximately 7.5m in width, with footways to both sides and therefore are suitable to accommodate regular heavy goods vehicle traffic movements. The estate roads also form part of the adopted public highway network.

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- 6.2.4 On site observations of route operation identified free flow conditions on the B4214 Bromyard Road corridor, with no evidence of congestion. No queuing was identified on the give way approaches at the B4214 Bromyard Road / Business Park access, including for the effects of right turn movements to the Business Park from B4214 Bromyard Road. This junction is also noted to provide suitable lateral and forward sightlines for prevailing traffic speeds.
- 6.2.5 Base traffic flow patterns for the immediate network to the proposal site have been established through the undertaking of detailed 12hr traffic surveys at the junction of the B4214 Bromyard Road & the Business Park development access road. Analysis of the survey data for the B4214 to the west of the Industrial Estate access identifies that maximum background traffic demand currently takes place for the weekday traditional evening peak hour of 17:00 – 18:00, when of the order of 130 vehicle movements were recorded (two-way). Traffic demand during the AM peak rush hour period took place between 07:45-08:45 (86 vehicles per hour). Weekend traffic demand on the B4214 route is generally at lower levels than for weekday demand, with hourly traffic demand less than 100 vehicles per hour. Such background demand levels are substantially below the available operating capacity of a route of the type and nature of the B4214 Bromyard Road corridor. This suggests that significant levels of spare operating capacity are available.
- 6.2.6 An appraisal of the operational safety of the immediate local network to the proposal site has been carried out through reference to Personal Injury Accident (PIA) data records. Review of this information identifies that only three accident incidents have been recorded during the 8 year search period. No injury accident incidents have been identified at the junction of B4214 Bromyard Road / Tenbury Business Park.
- 6.2.7 It is anticipated that the vast majority of regular users of the proposed HRC facility would visit the site using the private car due to the bulky / heavy nature of waste to be deposited at the site. It is important to note, however, that the site is located in an area which lies within a reasonable walking and cycling distance of the main residential areas of the town. Such connections may provide some opportunities for regular staff travel to the site by alternative travel modes, should staff live locally.

Development Proposals and Access Strategy

- 6.2.8 It is proposed to develop the proposal site at Tenbury Wells to deliver a modern facility for the collection of household waste for onward shipment and processing. It is considered that the development of a new HRC facility close to the existing main population centre of Tenbury Wells would therefore help address transport sustainability objectives of reducing journey length for current household waste disposal trips and further assist in meeting national composting, recycling and landfill diversion targets for household waste.
- 6.2.9 It is anticipated that the HRC facility would only be open to the public for three days each week (one weekday and both Saturday and Sunday).
- 6.2.10 Visitor and HGV movements to / from the site would be taken from a new vehicular access point to an extended internal Business Park access road network and linking to the B4214 Bromyard Road. The internal site layout would provide a one-way visitor vehicle circulation route with off-line parking areas for the unloading of waste. Such an arrangement would allow for the efficient circulation of traffic around the site and reduce the potential for parked vehicles blocking through traffic and thus creating on-site queuing.
- 6.2.11 The site entry / exit would be designed to deliver appropriate lateral visibility, including a leading direction splay of minimum 2.4m by 43m – a distance suitable for access to a route operating at 30mph traffic speeds. The access design is also suitable to allow the safe and efficient access of occasional large service vehicle movements.

Development Traffic Generation and Distribution

- 6.2.12 The proposed HRC facility has been sized and designed to cater for the needs of Tenbury Wells and surrounding settlements. Traffic demand estimates for the proposed HRC facility have been generated through reference to vehicle data collected at Bromyard HRC facility (also operated by MWM), which shows similar population catchment / operating characteristics to the proposed Tenbury Wells facility. In order to ensure a robust estimate of HRC development traffic demand the February 2014 traffic survey data for the Bromyard HRC facility has been increased to peak month estimates using a

growth factor calculated based on 2013 monthly waste input data. This is a highly robust methodology and in practice is likely to over-estimate peak traffic demand levels, thereby ensuring the most onerous assessment of the traffic impact of the proposals.

- 6.2.13 Peak HRC development demand is anticipated to occur on Saturday, with overall weekday trip demand generally approximately just over three quarters of that observed for the peak weekend movements. It is also interesting to note that during the traditional AM / PM weekday rush hour, demand for trip movements to / from the proposal site is extremely low, with only approximately 25 movements (in + out) per hour predicted. Overall weekday daily traffic demand to the site is anticipated to be of the order of 264 public visits per day (528 trip movements in + out). Maximum weekday demand conditions are predicted to occur for the time period 14:45 – 15:45 when 62 arrival movements (117 in + out) are predicted.
- 6.2.14 Maximum weekend hourly traffic demand is predicted to take place on a Saturday for the hour 09:45-10:45 and is predicted to be of the order of 72 arrival movements per hour (140 in + out). Daily traffic demand to the site on weekend days is anticipated to be of the order of 310 visitor arrival movements on a Saturday (620 in + out).
- 6.2.15 Review of data for HGV movements suggests that the site would not experience substantive HGV demand. Indeed during recent surveys at the nearby Bromyard HRC, no HGV movements were recorded during weekday operation. Based on maximum 'peak month' was estimates HGV arrival demand could be expected to be of the order of 2 HGVs a day on weekdays and 5 HGVs on a Saturday, associated with the delivery / collection of waste containers.
- 6.2.16 The assignment of the proposed HRC development movements to the local network has been undertaken via reference to the broad distribution of population within the local catchment to the HRC. For the purposes of this assessment, it has been assumed that 90% of all customer / staff traffic and 100% of all HGV traffic would travel to / from the site via the B4214 to the west of the Business Park.

Operational Impact Assessment

- 6.2.17 It is anticipated that the initial ‘opening year’ of the Tenbury Wells HRC development site would be towards the end of 2015. In order to provide a robust assessment of development impact, operational assessments have also been carried out for the ‘future year’ of 2019, effectively 5 years post the proposed date of registration of the planning application for the facility (2014). The use of such a future year assessment horizon reflects national good practice guidelines for highway assessment.

Link Capacity Assessment

- 6.2.18 In order to gauge the potential impact of the predicted increases in link flow generated by the proposed HRC development on the B4214 Bromyard Road corridor, predicted 2019 Background + HRC Development traffic levels have been compared to link capacity thresholds set out in DfT guidance document TA79/99 ‘Traffic Capacity of Urban Roads’.
- 6.2.19 Review of this link capacity exercise demonstrates that it is not anticipated that the Tenbury Wells HRC development would result in future two-way link flow capacity issues on B4214 Bromyard Road. Typically the route is predicted to operate in future at less than 10% of practical capacity during traditional AM / PM rush hour peak periods, with development peak periods demonstrating link demand values of less than 15% of capacity thresholds.
- 6.2.20 Given the results of this assessment it is concluded that the HRC proposals are unlikely to generate a material level of local operational impact that would require the need / delivery of off-site link improvements.

Junction Capacity Assessment

- 6.2.21 An assessment of the B4214 / Business Park access junction layout has been undertaken for the 2019 design year Background + HRC Development scenario using DfT industry standard software (JUNCTIONS8, PICADY module). Review of the results of this modelling work demonstrates that maximum RFC at the junction is predicted to occur during the Saturday weekend peak hour of 09:45 – 10:45 relating to right turn entry movements to

the Business Park from B4214 Bromyard Road (W). Maximum RFC predicted during this period would be just 0.12, with an associated maximum queue of one vehicle. This level of junction operation and queuing is considered to reflect satisfactory conditions, with RFC's well below the critical 0.85 threshold for improvement / further assessment.

Conclusion

- 6.2.22 In conclusion, it is considered that the development of the land at Tenbury Wells Business Park for HRC land use represents a suitable development option for the proposal site. The site would deliver a modern, fit for purpose, waste collection facility within the town of Tenbury Wells, in accordance with general transport sustainability objectives to manage journey lengths for household waste disposal trips in Worcestershire. Development related traffic demand has been demonstrated as being unlikely to generate a material impact on the operation of existing local route corridors and can be easily accommodated by the existing local highway network. Some limited sustainable travel mode options are available within the local catchment to the site to help deliver opportunities for some local staff journeys to / from the site by alternative transport modes to the private car. It is ultimately considered that there are no outstanding material transport issues associated with the development of the proposal site for HRC use.

7.0 ECOLOGICAL ASSESSMENT

7.1 Introduction

7.1.1 An Ecological Assessment has been prepared, in support of the planning application. A full copy of the Preliminary Ecological Assessment is contained in Appendix 7-1, the main findings and conclusions of the assessment are summarised in sub-section 7.2 below. A Tree Survey has also been prepared and is contained in Appendix 7-2, the conclusions of the survey are summarised in sub-section 7.3 below.

7.2 Ecological Assessment Main Findings and Conclusions

7.2.1 In terms of habitat conservation, replacement and creation, the assessment identifies that: *“The loss or modification of up to 0.5ha of poor quality grassland habitat and small areas of scrub will be mitigated through the creation of approximately 0.03ha of new native hedgerow habitat and 0.04ha of semi-natural / ornamental landscaping around the periphery of the site. To provide new nesting habitat for birds, a Schwegler Sparrow Terrace will be incorporated into the eastern or northern wall of the site office building.”*

7.2.2 In term of timing constraints the assessment identifies that: *“To avoid the risk of disturbance to nesting birds, all scrub and trees will be removed during the period 1st September through 28th February, or exceptionally after the vegetation has been inspected by a competent ecologist and verified that there are no active nests present.”*

7.2.3 The assessment concludes that: *“The site comprises of poor quality ecological habitats and little association with protected or notable species making the ‘on site’ impacts very low scale. These may be reasonably addressed through compensatory habitat creation within the framework of the landscape scheme.*

The site is located close to an important ecological corridor along the Longhill Brook although connectivity to the site is poor and historical development has introduced illumination and built land between the proposed site and the edges

of the corridor. This avoids potential implications of fragmentation and negative impact to the ecological corridor.”

- 7.2.4 Section 10.0 includes an assessment of water quality and flood risk. In relation to surface water it identifies that the detailed drainage design is proposed to be controlled through a suitably worded planning condition. As part of this design appropriate pollution control measures would be incorporated into the design to ensure that there would be no risk to the surrounding hydrological catchment.

7.3 Tree Survey Main Findings and Conclusions

- 7.3.1 The findings of the Tree Survey are that: *“Eleven trees were identified, in addition to a grouping of sampling and young stage goat willow which did not meet the minimum threshold set out within the British Standard but were noted for contextual purposes. These trees were located along or just inside the southern and eastern boundaries.*

The tress surveyed were considered to be of varied but generally poor quality with two Category B trees, five considered to be moderate (C Category) and the remaining four of poor quality with expected remaining contributions of less than 10 years (U Category). Both B Category trees were assessed as relatively young tress with the potential to contribute to the site’s amenity although neither were considered to be of any great arboricultural, cultural or ecological value.

The British Standard recommends that Category B trees should be retained and Category C trees may be retained, potentially with restorative works to help maintain individual trees and their contribution to the green infrastructure of the site where appropriate.

Appendix 6 [of the Tree Survey] locates the positions of the trees and root protection zones in relation to the proposed development. No trees will be impacted by the proposals.”

8.0 LANDSCAPE AND VISUAL ASSESSMENT

8.1 Introduction

8.1.1 Landscape and visual effects are separate, although closely related and interlinked issues. As such, assessments of the effects of the proposals upon the landscape and upon visual amenity have been carried out separately and are detailed under specific headings below.

8.1.2 Details of the planning policy background for the proposals, including an appraisal of their effect on relevant landscape related policies as set out in the adopted statutory Development Plan, are summarised in Section 5.0.

8.2 Landscape

Landscape Character and Designations

8.2.1 The existing landscape character of the area is described below by reference to published landscape character assessments

National Landscape Character

8.2.2 At an England-wide level, 159 National Character Areas (NCA) have been identified by the former Countryside Commission (now Natural England). These are detailed in: The Character of England (Countryside Commission 1996), which is published in eight parts, each covering one region of England.

8.2.3 These NCAs provide background and context to more detailed landscape character assessments produced at county and district level. Their broad geographic reach means that the key characteristics identified as typical of a particular character area may not necessarily apply to a specific location within that character area.

8.2.4 The proposed development site is in the West Midlands region, and is situated entirely within National Character Area 102: Teme Valley.

8.2.5 Key characteristics of NCA 102 include:

- Undulating, tranquil valley formed by the River Teme flowing east and then to the south, the River Rea and many small, steeply incised tributary valleys cutting through a complex geology.
- Prominent Silurian limestone and siltstone ridge, principally the Abberley Hills, bisects the area providing a physical and visually dominant continuation of the north–south Malvern Hills range.
- Shavers End Quarry – limestone was extracted for lime burning and construction, leaving a very prominent ‘scar’ on the Abberley Hills.
- Mosaic of mixed agriculture with rich red and brown soils forming fertile farmland, cultivated in places, with less pasture on steeper slopes, and fruit and hop growing scattered throughout the area.
- Tranquil ancient oak woodlands characterise the steep valley sides with occasional blocks of coniferous plantation.
- Traditional orchards, in particular cherry orchards, and bush orchards are characteristic of the sloping valleys and lower hillsides in the north and west of the Teme Valley.
- Ancient wood pasture and parkland are evident in some parts, complementing the dispersed lowland meadows, the mosaic of semi-natural grassland and the woodland resource.
- The landscape is characterised by a predominately re-organised piecemeal enclosure pattern, with a mixture of regular and irregular hedgerows, often planted with damsons and containing numerous mature trees. Hop kilns and cider houses, mainly dating from the 19th century, are distinctive historical features in addition to a high concentration of 16th-century and later timber-framed buildings.
- Distinctive, dispersed settlement pattern is typical, with scattered farmsteads, hamlets and occasionally small villages, with localised wayside settlement. Many of the cowsheds and cider houses are distinguished by double wooden doors; many have now been converted to dwellings, while weatherboarding and wattle are typical.

County Landscape Character

8.2.6 The Worcestershire Landscape Character Assessment (Worcestershire Council 2012) identifies distinct character types within the county which can be

used to provide a baseline for the evaluation of the landscape effects resulting from development proposals.

- 8.2.7 The proposed development is situated within an area of the Settled Farmlands with Pastoral Land Use character type, close to the boundary with a narrow strip of the *Wooded Estatelands* type beyond which there is an area of Principal Timbered Farmlands landscape type.

Settled Farmlands with Pastoral Land Use

- 8.2.8 This landscape type consists of small-scale rolling lowland, settled agricultural landscapes with a dominant pastoral land use, defined by their hedged fields. Hedgerow and streamside trees, together with those associated with settlement provide tree cover in a landscape with a notable network of winding lanes, scattered farms and clusters of wayside settlements

- 8.2.9 Guidance for the Landscape Type is to:

- Conserve and enhance the pattern of hedgerows.
- Maintain the overall pastoral land use.
- Seek opportunities to conserve all remaining areas of permanent pasture.
- Conserve and enhance tree cover along watercourses.
- Conserve hedgerow tree populations and promote new hedgerow tree planting.
- Retain the integrity of the dispersed pattern of settlement.

Wooded Estatelands

- 8.2.10 This landscape type consists of a large scale, wooded agricultural landscape of isolated brick farmsteads, clusters of wayside dwellings and occasional small estate villages. The key visual element in this landscape is the frequent large, irregularly shaped ancient woodlands, often prominently situated on low crests. It is a landscape that, due to its scale, lacks intimacy and can appear rather functional.

8.2.11 Guidance for the Landscape Type is to:

- Conserve all ancient woodland sites and restock with locally occurring native species.
- Promote new large scale woodland planting.
- New woodland planting should be of native broadleaved species, favouring oak as the dominant species and relate to the scale and spatial pattern of the Landscape Type.
- Conserve and restore the hedgerow pattern, particularly primary hedgerows and hedgerow tree cover.
- Seek to ensure hedgerow linkage to all woodland blocks, for visual cohesion and wildlife benefit.
- Conserve and restore parkland including historically correct ornamental planting and with an emphasis on arable reversion.
- Conserve the integrity of estate villages and their associated tree cover.

Principal Timbered Farmlands

8.2.12 The Principal Timbered Farmlands are rolling lowland landscapes with occasional steep sided hills and low escarpments. They have a small scale, wooded, agricultural appearance characterised by filtered views through densely scattered hedgerow trees. These are complex, in places intimate, landscapes of irregularly shaped woodlands, winding lanes and frequent wayside dwellings and farmsteads.

8.2.13 The Principal Timbered Farmlands are characterised by a mosaic of agricultural land cleared directly from woodland, on a piecemeal basis, together with land enclosed from former localised areas of open fields, resulting in their dispersed pattern of farmsteads and wayside cottages and lack of strong settlement nuclei.

8.2.14 Guidance for the Landscape Type is to:

- Conserve all ancient woodland sites and restock with locally occurring native species.
- Promote new large scale woodland planting.

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- New woodland planting should be of native broadleaved species, favouring oak as the dominant species and relate to the scale and spatial pattern of the Landscape Type.
 - Conserve and restore the hedgerow pattern, particularly primary hedgerows and hedgerow tree cover.
 - Seek to ensure hedgerow linkage to all woodland blocks, for visual cohesion and wildlife benefit.
 - Conserve and restore parkland including historically correct ornamental planting and with an emphasis on arable reversion.
 - Conserve the integrity of estate villages and their associated tree cover.

8.3 Landscape Effects of the Proposed Development

- 8.3.1 The proposed development would be located on a vacant plot within an established commercial business park. The small-scale rolling lowland character of the Settled Farmlands with Pastoral Land Use landscape type is evident in the immediate surroundings of the site, which is positioned within a localised 'bowl' at the foot of a valley slope. This topography is such that the site is relatively well hidden from the wider area.
- 8.3.2 None of the characteristic features of the host landscape type or neighbouring types would be altered or disrupted by the proposals, which are consistent with established adjacent land uses and would not change character.
- 8.3.3 Vegetation at the site is limited to a small number of small trees along the southern site boundary. This vegetation would be retained and supplemented by perimeter screen planting positioned to improve the appearance of the site in some limited views that would be experienced from residential properties to the west and north of the site. This planting would consist of native hedgerow and woodland species and would be consistent with the landscape guidelines. The planting would consequently be considered to have a beneficial effect upon landscape character.
- 8.3.4 A Tree Survey has been undertaken at the site to enable an assessment of potential effects on existing trees and to inform the landscape scheme (see Appendix 7-2).

8.4 Visual Effects of the Proposed Development

- 8.4.1 The proposed development site on the Business Park is visually contained by local topography, vegetation and buildings. The Business Park sits within the valley of the Kyre Brook, at the foot of a convex north facing slope, which limits views from further south.
- 8.4.2 To the east there is a well wooded steep sided valley which is effective in separating the site visually from land further east. The land to the east is locally designated for its landscape quality (an Area of Great Landscape Value), but views of the site from this area would be limited to filtered views (through mature tree cover in winter) and would be from agricultural land and not sensitive visual receptors.
- 8.4.3 To the north there are existing buildings on the industrial estate and mature trees beyond. A single large property (New Court) lies approximately 175m north of the site beyond the trees, and is a 19th Century listed building. Filtered views may be possible from New Court, although these would be seen in the context of existing development with other large industrial buildings in the foreground.
- 8.4.4 West of the site the land rises gradually towards properties along the east side of Terrills Lane. Terrills Lane is a sunken lane with hedgerows, and there are not clear views from the road itself. There would be views from the rear upper storey windows of a small number of properties towards the bottom of Terrills Lane. Properties further into Tenbury Wells are very unlikely to be able to see the proposed development.
- 8.4.5 As such, the Business Park site demonstrably has a very limited zone of visual influence, and the development site would only be visible from a handful of properties (and even then seen in the context of existing development). Mitigation of these limited impacts would be provided through the introduction of planting around the site boundaries as part of the landscape plan (see Landscape Plan drawing).

8.5 Conclusions

- 8.5.1 The landscape and visual effects of the proposed HRC at Tenbury Wells, have been assessed. Effects on both landscape character and views would be very localised and no significant effects have been identified.
- 8.5.2 None of the characteristic features of the host landscape type or neighbouring types would be altered or disrupted by the proposals, which are consistent with established adjacent land uses and would not change the character. The topography is such that the site is relatively well hidden from the wider area.
- 8.5.3 The proposed development site demonstrably has a very limited zone of visual influence, would only be visible from a handful of properties and even then, would only be seen in the context of existing development. Mitigation of these limited impacts would be provided through the introduction of planting around the site boundaries as part of the landscape plan.

9.0 ARCHAEOLOGY AND CULTURAL HERITAGE

9.1 Archaeology

9.1.1 The proposed development site is on a vacant plot within an established commercial business park. The site appears to have been previously disturbed with evidence of material deposition and levelling which may have occurred during development of other plots.

9.1.2 No designated archaeological sites have been identified at Tenbury Business Park. A review of documentation for numerous previous planning applications at the Business Park has been undertaken and has not identified any information relating to archaeology.

9.1.3 It is assumed that any potential effects on archaeology and cultural heritage were considered as part of the original planning application for the Business Park in 1989 (Reference: 88/1007), and were taken into account in the decision to approve the development at that stage. Potential effects on archaeology have therefore been scoped out of this assessment for the proposed HRC development.

9.2 Cultural Heritage Assets

9.2.1 A desktop review of surrounding cultural heritage assets has been undertaken. Whilst this review identifies a number of listed buildings and Tenbury Wells Conservation Area, only the Grade 2 Listed property of New Court has any intervisibility with the application site (see Figure 2). The impact of the proposed HRC upon this property has therefore been the focus of assessment.

9.2.2 North of the proposed development site there are existing buildings on the industrial estate and mature trees beyond. A single large 19th Century property, which is a Grade 2 Listed (New Court) lies approximately 175m north of the site on elevated ground beyond the trees. The proposed development is likely to be partially visible from this property and / or parts of its curtilage through gaps in the vegetation cover and in winter there may be more extensive visibility, albeit filtered by the twigs and branches of the predominantly deciduous tree cover. In these views, the development would be

seen in the context of existing development with other large industrial buildings, vehicles and storage areas visible in the foreground. The citation for the property (insert reference: SO6015767371) indicates that it is listed on account of its architectural details and there is no suggestion that the significance of the building from a heritage standpoint is derived from or reliant upon its wider setting. As such, whilst there would be some changes in the view which would result in some limited adverse visual effects witnessed from the property, these would be amenity effects experienced by the occupiers and it is not anticipated that there would be any harm to the heritage asset.

9.3 Conclusions

- 9.3.1 It is concluded that no significant effects are anticipated on archaeology or cultural heritage from the proposed development.

10.0 WATER QUALITY AND FLOOD RISK

10.1 Introduction

10.1.1 The responsibility of the protection of land from natural hazards (i.e. flooding) lies primarily with the land owner / developer. The land owner / developer also need to ensure that the development taking place on their land does not have an adverse effect on other property. When development does takes place, it is a duty to ensure that all responsible measures are taken into consideration for managing site drainage in such a way that, as far as reasonably practicable, prevents transference of issues to neighbouring land.

10.1.2 The Environment Agency (EA) uses the following Flood Zones in England for coastal and fluvial flooding:

- Flood Zone 1: Land which has a low probability of flooding;
- Flood Zone 2: Land which has a medium probability of flooding; and
- Flood Zone 3: Divided into 3A (land which has a high probability of flooding) and 3B (the functional floodplain).

10.1.3 The National Planning Policy Framework (NPPF) states that authorities should steer new development to Flood Zone 1 where the risk of flooding is 0.1% (1 in 1000 years) or less. A Flood Risk Assessment (FRA) is necessary to demonstrate that any proposed development within either Flood Zones 2 or 3 could operate safely and effectively in the event of a flood, and would not increase flood risk elsewhere. A FRA is also required for developments that are more than 1 hectare in size.

10.1.4 The EA flood maps demonstrate that the application site falls within Flood Zone 1. As the proposed development is less than 1 hectare (circa 0.5ha) a FRA is not required in support of this planning application.

10.1.5 As the site falls within Flood Zone 1 only flooding from land, groundwater, sewers and artificial sources need to be considered in the context of the Tenbury HRC development.

10.2 Flooding from Land

10.2.1 The potential for greenfield run off onto the proposed development site from higher land to the south has been considered. Any run-off from the field south of the site would be intercepted via a land drain at the edge of the site. If the permeability of the ground is adequate, the land drain would be designed as a soakaway. If the permeability is low, the land drain would be routed to discharge into the main site network downstream of the petrol interceptor.

10.3 Flooding from Groundwater

10.3.1 There are no known issues of groundwater flooding at the site.

10.4 Flooding from Artificial Sources

10.4.1 No artificial sources of potential flood risk have been identified that could have an impact on the proposed development site.

10.5 Surface Water

10.5.1 In general, surface water drainage systems that are developed in line with the ideals of sustainable development are collectively referred to as Sustainable Drainage Systems (SUDS). These systems are designed both to manage the environmental risks resulting from urban run-off and to contribute wherever possible to environmental enhancement. A basic philosophy of SUDS is to replicate, as closely as possible the natural drainage of the site prior to development. Use of these techniques is subject to acceptable infiltration being proven in the ground in the site investigation.

10.5.2 Prior to discharging off site, all surface water would pass through a bypass petrol interceptor that would be sized to accommodate predicted incident rainfall runoff on the hard areas on the site. Following the petrol interceptor, the surface water would discharge into an attenuation tank that would be designed to accommodate the flows from the site. Subject to the results of soakaway permeability tests (to BRE Digest 365) the attenuation 'tank' would be designed to act as a soakaway. These proposals would meet the criteria of SUDS techniques. If the permeability of the ground proves to be low, the

surface water drainage from the site would be discharged into the existing system adjacent to the site, with the flow restricted through the attenuation tank to the greenfield run off rate. The discharge rates would be agreed with the Local Authority and the Environment Agency and detailed designs reviewed and approved through a suitably worded planning condition.

- 10.5.3 Approximately 50 – 60m east of the site the Longhill Brook flows northwards towards the Kyre Brook, which in turn flows into the River Teme in Tenbury. All of these watercourses and their immediate surrounds are ecologically sensitive. The proposed development site is generally sloping northwards away from the Longhill Brook, meaning that there is no risk of any pollution of this watercourse (and the associated Kyre Brook and River Teme) during the construction phase. A small area of land draining south east passes across approximately 45m of bramble scrub habitat, which is likely to provide natural mitigation against any risk of surface drainage carrying mud, silt, suspended or dissolved pollutants and entering the Longhill brook.

10.6 Foul Water

- 10.6.1 Foul water from the site would be discharged into the existing foul system that serves the current Business Park. This would include the small maintenance and operation building, and the bunded battery and oil storage areas.

10.7 Conclusion

- 10.7.1 The site falls within Flood Zone 1, in which the chance of flooding is 0.1% (1 in 1000) or less. As the proposed development is less than 1 hectare (circa 0.5ha) a FRA is not required in support of this planning application.
- 10.7.2 MWM are not aware of any known groundwater flooding issues, or artificial sources of potential flood risk that could have an impact upon the proposed development site.
- 10.7.3 Drainage proposals to deal with potential greenfield run off and flooding from surface water and foul water have been outlined. It is proposed that further details of the drainage scheme can be approved through a suitably worded planning condition.

11.0 NOISE

11.1 Introduction

11.1.1 A Noise Impact Assessment has been prepared, in support of the planning application. A full copy of the assessment is contained in Appendix 11-1, the main findings and conclusions of the assessment are summarised in sub-section 11.2 below.

11.2 Noise Impact Assessment Main Findings and Conclusions

11.2.1 The noise assessment has been carried out in order to consider the noise levels generated during the construction and operation of the proposed HRC development. The assessment has sought to:

- Provide information on the existing background noise levels at a position close to the nearest property boundary;
- Provide information on typical noise levels from the operation of a similar HRC;
- Provide information on the predicted noise contribution from the site and assess the impact at nearest residential receptors;
- Assess noise from site during construction works;
- Assess noise impact from road traffic demand for the site onto the local road network; and
- Provide advice on any noise mitigation measures required to meet 'best practicable means.'

11.2.2 The conclusions of the assessment are repeated below.

“Background Noise Levels

The results of the background noise measurements indicate that typical Sunday morning noise levels (in terms of average LA90) vary between approximately 35dB and 39dB. This would mean that site contributory noise from fixed plant should be aimed at a level not exceeding +5dB above the background level (e.g. <40dB & <44dB LAeq which allows for the character of the noise) at the residential property boundary (in accordance with BS4142: 1997).

HRC Noise Contribution

Predicted noise contribution from the HRC excluding proposed noise mitigation measures is shown to be between 36dB to 41dB LAeq. This is similar to or lower than existing residual noise levels (at the nearest receptor position) and approximately +1dB to +6dB above Sunday morning background noise levels (e.g. LA90 level). The resultant levels are therefore marginally above reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.

The introduction of boundary acoustic screening along the site boundary shows a reduction in noise contribution at receptor locations by between 2dB to 4dB LAeq. Predicted noise contribution from the HRC including proposed noise mitigation measures is shown to be between 32dB to 39dB LAeq. This is lower than existing residual noise levels (at the nearest receptor position) and equal to or approximately +4dB above Sunday morning background noise levels (e.g. LA90 level). The resultant levels with boundary acoustic screening are therefore within reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.

The third octave band frequency spectra recorded at similar sites shows a relatively flat frequency response curve (refer to graph 5.2). The resultant comparison of site predicted noise and existing residual noise shows no significant increase in frequency content based on the application of the proposed noise control measures.

BS4142: 1997 Assessment

BS4142 is used as guidance in the determination of the 'likelihood of complaint' in areas having a mixed residential and industrial content.

The method basically involves the measurement of background noise using an L_{A90} level at the complainants property boundary with the noise source/s switched off and then a measurement at the same position with the noise source/s switched on using a L_{Aeq} level. The level difference is calculated and a correction factor added (which establishes the rating level) if the noise

source contains a distinguishable, discrete, continuous note (whine, hiss, screech, hum etc.) or distinct impulses (bangs, clicks, clatters, or thumps) or is irregular enough to attract attention.

An assessment of the noise levels using BS4142 for the proposed highest noise activities for the HRC would be as follows (assuming noise mitigation measures are implemented):

Table 7.1: BS4142: 1997 Noise Assessment: HRC (Sunday)

	Receptor 1 (e.g. Terrills Lane)	Receptor 2 (e.g. North & Northeast)
<i>Predicted noise level</i>	35-39dB LAeq *	32-36dB LAeq *
<i>Impulse, tonal correction</i>	0dB(A)**	0dB(A)**
<i>Rating level</i>	35dB or 39dB LAeq	32dB to 36dB LAeq
<i>Background noise level</i>	35-38dB LA90	35-38dB LA90
<i>Excess rating over background</i>	-3 to +4dB(A)	-6 to +1dB(A)
<i>Conclusion</i>	Complaints unlikely	

* Assumes all plant operating **This correction is subjective, in consideration of the absolute level and proposed mitigation measures, this assessment does not expect a +5dB penalty to be applicable.

The above assessment of noise assumes that for 'worst case' scenario (e.g. highest site noise with lowest background) the site would generate a noise levels no higher than +4dB above background. Providing the site is suitably managed any character correction should not be applicable.

With the proposed development in operation, the assessment indicates that noise levels are unlikely to cause complaint at the nearest residential receptors.

The noise levels are also shown to fall well within planning policy guidance and other standards and guidance for noise.

Taking into account the operational times of the HRC activities, the noise control measures proposed, subjective observations at other HRC sites in the UK, measured noise levels and the relative position of the nearest residential properties to proposed noise sources, it can be concluded that the resultant

noise levels would fall within appropriate guidance and standards to protect residential amenity.

In accordance with NPSE and the Planning Practice Guidance (March 2014) noise levels from the site with the proposed noise mitigation measures is expected to result in there being 'no observed adverse effect' and according to PPG no specific measures are required.

Road Traffic Noise

Traffic noise calculations have been undertaken in accordance with CRTN methodology in respect of noise impacts onto Bromyard Road. The impact magnitude according to the DMRB methodology indicates a 'negligible' to 'minor' impact in the short term at nearest residential receptors, which is deemed to be insignificant.

12.0 SUMMARY AND CONCLUSIONS

12.1 Summary

12.1.1 This Planning Statement has considered the key planning and environmental issues associated with the proposed development of a HRC to serve the settlement of Tenbury Wells and surrounding villages. It has specifically assessed the proposals in terms of the following:

- The consultation undertaken by MWM and their consultants prior to the submission of this application;
- The need for the proposed development;
- The planning policy context against which this application should be determined; and
- The potential environmental effects of the scheme.

12.1.2 MWM's proposals have been subject to consultation with the authority, the public and a range of stakeholders and technical consultees. This process has helped inform, define and scope the submitted application and design proposals. The level of consultation undertaken meets the aspirations set out in Worcestershire County Council's Statement of Community Involvement (SCI) policy document.

12.1.3 A detailed assessment of need (see Section 4.0) has demonstrated that there is a clear and demonstrable need for a new and improved HRC to replace the existing facility at Palmers Meadow. The provision of such a facility would be entirely in accordance with the provisions of the national planning policy and guidance, the Herefordshire and Worcestershire JMWMS (which specifically supports the development of a new HRC) and the Worcestershire Waste Core Strategy (which identifies Tenbury Business Park as a location potentially suitable for most waste management facilities).

12.1.4 A detailed assessment of the proposals against relevant planning policy and guidance has demonstrated that the scheme complies with the provisions of the statutory Development Plan (when taken as a whole). Furthermore, the relevant material planning considerations do not support the planning application being determined other than in accordance with the Development

Plan. Conversely, the assessment has identified a wealth of material planning considerations that add very significant weight in support of the proposal and approval of the planning application.

12.1.5 Following a detailed assessment of a range of potential environmental effects including Traffic and Transportation, Ecology, Landscape and Visual Impact, Archaeology and Cultural Heritage, Water Quality and Flood Risk and Noise, it has been demonstrated that that there would be no significant adverse environmental or amenity related impacts as a result of the proposed development.

12.2 Conclusion

12.2.1 It is considered that in light of the foregoing, this planning application should be supported.

FIGURES

APPENDICES

Appendix 1-1: Worcestershire County Council Environmental Services Report

Appendix 3-1: Examples of Draft Management Plans

Appendix 6-1: Transport Statement

Appendix 7-1: Preliminary Ecological Appraisal

Appendix 7-2: Tree Survey

Appendix11-1: Noise Impact Assessment

PART 3: PLANNING APPLICATION DRAWINGS



Application for Planning Permission.
Town and Country Planning Act 1990

You can complete and submit this form electronically via the Planning Portal by visiting www.planningportal.gov.uk/apply

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Please complete using block capitals and black ink.

It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

<p>1. Applicant Name and Address</p> <p>Title: <input type="text"/> First name: <input type="text"/></p> <p>Last name: <input type="text"/></p> <p>Company (optional): <input type="text" value="MERCIA WASTE MANAGEMENT Ltd."/></p> <p>Unit: <input type="text"/> House number: <input type="text"/> House suffix: <input type="text"/></p> <p>House name: <input type="text"/></p> <p>Address 1: <input type="text"/></p> <p>Address 2: <input type="text"/></p> <p>Address 3: <input type="text"/></p> <p>Town: <input type="text"/></p> <p>County: <input type="text"/></p> <p>Country: <input type="text"/></p> <p>Postcode: <input type="text"/></p>	<p>2. Agent Name and Address</p> <p>Title: <input type="text" value="MR"/> First name: <input type="text" value="MARTIN"/></p> <p>Last name: <input type="text" value="POLLARD"/></p> <p>Company (optional): <input type="text" value="AXIS"/></p> <p>Unit: <input type="text"/> House number: <input type="text"/> House suffix: <input type="text"/></p> <p>House name: <input type="text" value="CAMELLIA HOUSE"/></p> <p>Address 1: <input type="text" value="76 WATER LANE"/></p> <p>Address 2: <input type="text"/></p> <p>Address 3: <input type="text"/></p> <p>Town: <input type="text" value="NILMSLOW"/></p> <p>County: <input type="text" value="CHESHIRE"/></p> <p>Country: <input type="text" value="ENGLAND"/></p> <p>Postcode: <input type="text" value="SK9 5BB"/></p>
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3. Description of the Proposal

Please describe the proposed development, including any change of use:

PROPOSED DEVELOPMENT OF A HOUSEHOLD RECYCLING CENTRE (INCLUDING EARTHWORKS, LANDSCAPING AND ACCESS)

Has the building, work or change of use already started? Yes No

If Yes, please state the date when building, work or use were started (DD/MM/YYYY): (date must be pre-application submission)

Has the building, work or change of use been completed? Yes No

If Yes, please state the date when the building, work or change of use was completed: (DD/MM/YYYY): (date must be pre-application submission)

4. Site Address Details

Please provide the full postal address of the application site.

Unit: House number: House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Postcode (optional):

Description of location or a grid reference. (must be completed if postcode is not known):

Easting: Northing:

Description:

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? Yes No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently).

Please tick if the full contact details are not known, and then complete as much as possible:

Officer name:

Reference:

Date (DD/MM/YYYY): (must be pre-application submission)

Details of pre-application advice received?

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? Yes No

Is a new or altered pedestrian access proposed to or from the public highway? Yes No

Are there any new public roads to be provided within the site? Yes No

Are there any new public rights of way to be provided within or adjacent to the site? Yes No

Do the proposals require any diversions /extinguishments and/or creation of rights of way? Yes No

If you answered Yes to any of the above questions, please show details on your plans/drawings and state the reference of the plan (s)/drawings(s)

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? Yes No

If Yes, please provide details:

Have arrangements been made for the separate storage and collection of recyclable waste? Yes No

If Yes, please provide details:

8. Authority Employee / Member

With respect to the Authority, I am: (a) a member of staff (b) an elected member (c) related to a member of staff (d) related to an elected member

Do any of these statements apply to you? Yes No

If Yes, please provide details of the name, relationship and role

9. Materials

If applicable, please state what materials are to be used externally. Include type, colour and name for each material:

	Existing (where applicable)	Proposed	Not applicable	Don't Know
Walls	N/A	SITE OFFICE - BRICKWORK (RED)	<input type="checkbox"/>	<input type="checkbox"/>
Roof	N/A	SITE OFFICE - CONCRETE TILES, (GREY)	<input type="checkbox"/>	<input type="checkbox"/>
Windows	N/A	SITE OFFICE - UPVC DOUBLE GLAZED UNITS WITH STEEL GRILL FITTED TO WALL	<input type="checkbox"/>	<input type="checkbox"/>
Doors	N/A	SITE OFFICE - STEEL FACED (DARK GREEN FINISH)	<input type="checkbox"/>	<input type="checkbox"/>
Boundary treatments (e.g. fences, walls)	POST AND WIRE FENCE	POST AND WIRE FENCE, CLOSE BOARDED FENCING, SLIDING GATE	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle access and hard-standing	STUB OFF MAIN BUSINESS PARK ROAD	EXTENSION TO ROAD TO ALLOW ACCESS/EGRESS, INTERNAL ROADS AND CIRCULATION AREA	<input type="checkbox"/>	<input type="checkbox"/>
Lighting	N/A	TO BE CONDITIONED	<input type="checkbox"/>	<input type="checkbox"/>
Others CCTV (please specify)	N/A	TO BE CONDITIONED	<input type="checkbox"/>	<input type="checkbox"/>

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement?

Yes

No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

PLANNING APPLICATION DRAWINGS

10. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of Vehicle	Total Existing	Total proposed (including spaces retained)	Difference in spaces
Cars	0	5	+5
Light goods vehicles/ public carrier vehicles	-	-	-
Motorcycles	-	-	-
Disability spaces	-	-	-
Cycle spaces	-	-	-
Other (e.g. Bus)	-	-	-
Other (e.g. Bus)	-	-	-

11. Foul Sewage

Please state how foul sewage is to be disposed of:

- Mains sewer Cess pit
- Septic tank Other
- Package treatment plant

Are you proposing to connect to the existing drainage system? Yes No

If Yes, please include the details of the existing system on the application drawings and state references for the plan(s)/drawing(s):

12. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.)

- Yes No

If Yes, you will need to submit a Flood Risk Assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? Yes No

Will the proposal increase the flood risk elsewhere? Yes No

How will surface water be disposed of?

- Sustainable drainage system Existing watercourse
- Soakaway Pond/lake
- Main sewer

13. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes for further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals.

Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, or on land adjacent to or near the application site?

a) Protected and priority species:

- Yes, on the development site
- Yes, on land adjacent to or near the proposed development
- No

b) Designated sites, important habitats or other biodiversity features:

- Yes, on the development site
- Yes, on land adjacent to or near the proposed development
- No

c) Features of geological conservation importance:

- Yes, on the development site
- Yes, on land adjacent to or near the proposed development
- No

14. Existing Use

Please describe the current use of the site:

VACANT LAND WITHIN TENBURY BUSINESS PARK

Is the site currently vacant? Yes No

If Yes, please describe the last use of the site:

VACANT LAND WITHIN TENBURY BUSINESS PARK

When did this use end (if known)? DD/MM/YYYY
(date where known may be approximate)

Does the proposal involve any of the following? If yes, you will need to submit an appropriate contamination assessment with your application.

Land which is known to be contaminated? Yes No

Land where contamination is suspected for all or part of the site? Yes No

A proposed use that would be particularly vulnerable to the presence of contamination? Yes No

15. Trees and Hedges

Are there trees or hedges on the proposed development site? Yes No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? Yes No

If Yes to either or both of the above, you may need to provide a full Tree Survey, at the discretion of your local planning authority. If a Tree Survey is required, this and the accompanying plan should be submitted alongside your application. Your local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to design, demolition and construction - Recommendations'.

16. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? Yes No

If Yes, please describe the nature, volume and means of disposal of trade effluents or waste

17. Residential Units (Including Conversion)

Does your proposal include the gain, loss or change of use of residential units?
If Yes, please complete details of the changes in the tables below:

Yes

No

Proposed Housing

Market Housing	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							A

Social Rented	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							B

Intermediate	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							C

Key worker	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							D

Total proposed residential units (A+B+C+D)=

Existing Housing

Market Housing	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							E

Social Rented	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							F

Intermediate	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							G

Key worker	Not known	Number of Bedrooms					Total
		1	2	3	4+	Unknown	
Houses	<input type="checkbox"/>						a
Flats and maisonettes	<input type="checkbox"/>						b
Live-work units	<input type="checkbox"/>						c
Cluster flats	<input type="checkbox"/>						d
Sheltered housing	<input type="checkbox"/>						e
Bedsit/studios	<input type="checkbox"/>						f
Unknown type	<input type="checkbox"/>						g
Totals (a+b+c+d+e+f+g)=							H

Total existing residential units (E+F+G+H)=

TOTAL NET GAIN or LOSS of RESIDENTIAL UNITS (Proposed Housing Grand Total - Existing Housing Grand Total):

18. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace? Yes No

If you have answered Yes to the question above please add details in the following table:

Use class/type of use	Not applicable	Existing gross internal floorspace (square metres)	Gross internal floorspace to be lost by change of use or demolition (square metres)	Total gross internal floorspace proposed (including change of use)(square metres)	Net additional gross internal floorspace following development (square metres)
A1	<input checked="" type="checkbox"/>				
Shops	<input checked="" type="checkbox"/>				
Net tradable area:	<input checked="" type="checkbox"/>				
A2	<input checked="" type="checkbox"/>				
Financial and professional services	<input checked="" type="checkbox"/>				
A3	<input checked="" type="checkbox"/>				
Restaurants and cafes	<input checked="" type="checkbox"/>				
A4	<input checked="" type="checkbox"/>				
Drinking establishments	<input checked="" type="checkbox"/>				
A5	<input checked="" type="checkbox"/>				
Hot food takeaways	<input checked="" type="checkbox"/>				
B1 (a)	<input type="checkbox"/>	-	-	16.8	16.8
Office (other than A2)	<input checked="" type="checkbox"/>				
B1 (b)	<input checked="" type="checkbox"/>				
Research and development	<input checked="" type="checkbox"/>				
B1 (c)	<input checked="" type="checkbox"/>				
Light industrial	<input checked="" type="checkbox"/>				
B2	<input checked="" type="checkbox"/>				
General industrial	<input checked="" type="checkbox"/>				
B8	<input checked="" type="checkbox"/>				
Storage or distribution	<input checked="" type="checkbox"/>				
C1	<input checked="" type="checkbox"/>				
Hotels and halls of residence	<input checked="" type="checkbox"/>				
C2	<input checked="" type="checkbox"/>				
Residential institutions	<input checked="" type="checkbox"/>				
D1	<input checked="" type="checkbox"/>				
Non-residential institutions	<input checked="" type="checkbox"/>				
D2	<input checked="" type="checkbox"/>				
Assembly and leisure	<input checked="" type="checkbox"/>				
OTHER	<input checked="" type="checkbox"/>				
Please Specify	<input checked="" type="checkbox"/>				
Total		-	-	16.8	16.8

In addition, for hotels, residential institutions and hostels, please additionally indicate the loss or gain of rooms

Use class	Type of use	Not applicable	Existing rooms to be lost by change of use or demolition	Total rooms proposed (including changes of use)	Net additional rooms
C1	Hotels	<input checked="" type="checkbox"/>			
C2	Residential Institutions	<input checked="" type="checkbox"/>			
OTHER		<input checked="" type="checkbox"/>			
Please Specify		<input checked="" type="checkbox"/>			

19. Employment

Please complete the following information regarding employees:

	Full-time	Part-time	Total full-time equivalent
Existing employees	-	-	
Proposed employees	-	3	3 DAYS PER WEEK

20. Hours of Opening

Please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday	Saturday	Sunday and Bank-Holidays	Not known
HRC (3DAYS)	1x WEEKDAY 08:00-1800	0800-1800	0800-1800	

21. Site Area

Please state the site area in hectares (ha)

22. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

HOUSEHOLD RECYCLING CENTRE

Is the proposal a waste management development? Yes No

If the answer is Yes, please complete the following table:

	Not applicable	The total capacity of the void in cubic metres, including engineering surcharge and making no allowance for cover or restoration material (or tonnes if solid waste or litres if liquid waste)	Maximum annual operational throughput in tonnes (or litres if liquid waste)
Inert landfill	<input checked="" type="checkbox"/>		
Non-hazardous landfill	<input checked="" type="checkbox"/>		
Hazardous landfill	<input checked="" type="checkbox"/>		
Energy from waste incineration	<input checked="" type="checkbox"/>		
Other incineration	<input checked="" type="checkbox"/>		
Landfill gas generation plant	<input checked="" type="checkbox"/>		
Pyrolysis/gasification	<input checked="" type="checkbox"/>		
Metal recycling site	<input checked="" type="checkbox"/>		
Transfer stations	<input checked="" type="checkbox"/>		
Material recovery/recycling facilities (MRFs)	<input checked="" type="checkbox"/>		
Household civic amenity sites	<input type="checkbox"/>		2,000
Open windrow composting	<input checked="" type="checkbox"/>		
In-vessel composting	<input checked="" type="checkbox"/>		
Anaerobic digestion	<input checked="" type="checkbox"/>		
Any combined mechanical, biological and/or thermal treatment (MBT)	<input checked="" type="checkbox"/>		
Sewage treatment works	<input checked="" type="checkbox"/>		
Other treatment	<input checked="" type="checkbox"/>		
Recycling facilities construction, demolition and excavation waste	<input checked="" type="checkbox"/>		
Storage of waste	<input checked="" type="checkbox"/>		
Other waste management	<input checked="" type="checkbox"/>		
Other developments	<input checked="" type="checkbox"/>		

Please provide the maximum annual operational throughput of the following waste streams:

Municipal	2,000
Construction, demolition and excavation	
Commercial and industrial	
Hazardous	

If this is a landfill application you will need to provide further information before your application can be determined. Your waste planning authority should make clear what information it requires on its website.

23. Hazardous Substances

Does the proposal involve the use or storage of any of the following materials in the quantities stated below? Yes No Not applicable

If Yes, please provide the amount of each substance that is involved:

Acrylonitrile (tonnes) Ethylene oxide (tonnes) Phosgene (tonnes)
 Ammonia (tonnes) Hydrogen cyanide (tonnes) Sulphur dioxide (tonnes)
 Bromine (tonnes) Liquid oxygen (tonnes) Flour (tonnes)
 Chlorine (tonnes) Liquid petroleum gas (tonnes) Refined white sugar (tonnes)

Other:

Other:

Amount (tonnes):

Amount (tonnes):

24. Ownership Certificates and Agricultural Land Declaration

One Certificate A, B, C, or D, must be completed with this application form

CERTIFICATE OF OWNERSHIP - CERTIFICATE A

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

I certify/ The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner* of any part of the land or building to which the application relates, and that none of the land to which the application relates is, or is part of, an agricultural holding**

NOTE: You should sign Certificate B, C or D, as appropriate, if you are the sole owner of the land or building to which the application relates but the land is, or is part of, an agricultural holding.

* "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.

** "agricultural holding" has the meaning given by reference to the definition of "agricultural tenant" in section 65(8) of the Act.

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

CERTIFICATE OF OWNERSHIP - CERTIFICATE B

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

I certify/ The applicant certifies that I have/the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner* and/or agricultural tenant** of any part of the land or building to which this application relates.

* "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.

** "agricultural tenant" has the meaning given in section 65(8) of the Town and Country Planning Act 1990

Name of Owner / Agricultural Tenant	Address	Date Notice Served
SANDRA HUDSON	ESTATES AND FACILITIES MANAGER, MALVERN HILLS DISTRICT COUNCIL, THE COUNCIL HOUSE, AVENUE ROAD MALVERN, WORCESTERSHIRE, WR14 4NL	10/07/2014

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

ARBOTON (AXIS)

10/07/2014

24. Ownership Certificates and Agricultural Land Declaration (continued)

CERTIFICATE OF OWNERSHIP - CERTIFICATE C

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

I certify/ The applicant certifies that:

- Neither Certificate A or B can be issued for this application
- All reasonable steps have been taken to find out the names and addresses of the other owners* and/or agricultural tenants** of the land or building, or of a part of it, but I have/ the applicant has been unable to do so.

* "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.

** "agricultural tenant" has the meaning given in section 65(8) of the Town and Country Planning Act 1990

The steps taken were:

Name of Owner / Agricultural Tenant	Address	Date Notice Served

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

CERTIFICATE OF OWNERSHIP - CERTIFICATE D

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

I certify/ The applicant certifies that:

- Certificate A cannot be issued for this application
- All reasonable steps have been taken to find out the names and addresses of everyone else who, on the day 21 days before the date of this application, was the owner* and/or agricultural tenant** of any part of the land to which this application relates, but I have/ the applicant has been unable to do so.

* "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.

** "agricultural tenant" has the meaning given in section 65(8) of the Town and Country Planning Act 1990

The steps taken were:

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

25. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

The original and 3 copies of a completed and dated application form:



The correct fee:



The original and 3 copies of the plan which identifies the land to which the application relates drawn to an identified scale and showing the direction of North:



The original and 3 copies of a design and access statement, if required (see help text and guidance notes for details):



The original and 3 copies of other plans and drawings or information necessary to describe the subject of the application:



The original and 3 copies of the completed, dated Ownership Certificate (A, B, C or D – as applicable) and Article 12 Certificate (Agricultural Holdings):



26. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information. I/we confirm that, to the best of my/our knowledge, any facts stated are true and accurate and any opinions given are the genuine opinions of the person(s) giving them.

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

(date cannot be pre-application)

27. Applicant Contact Details

Telephone numbers

Country code: National number: Extension number:

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional):

28. Agent Contact Details

Telephone numbers

Country code: National number: Extension number:

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional):

29. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? Yes No

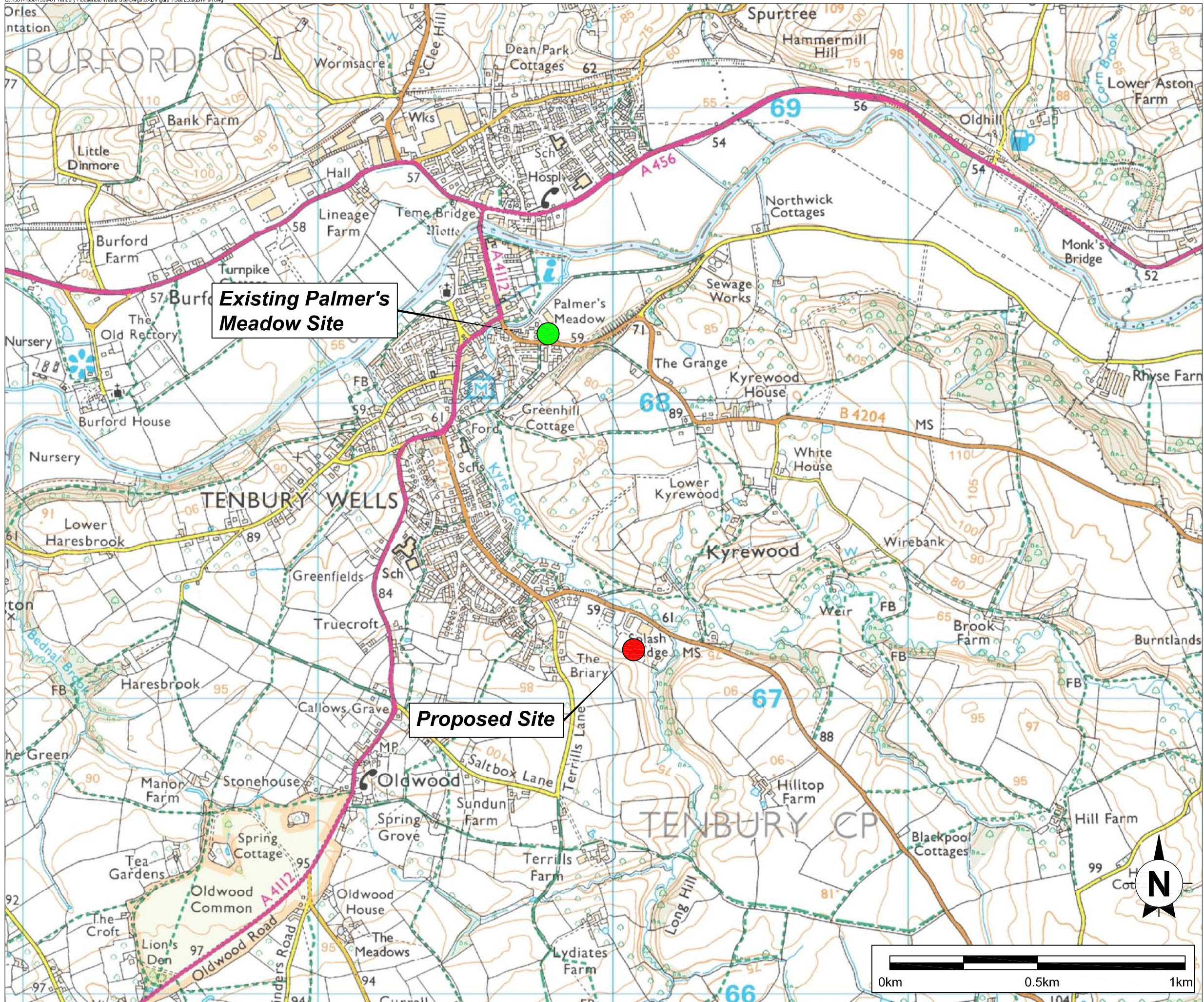
If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one) Agent Applicant Other (if different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name:

Telephone number:

Email address:



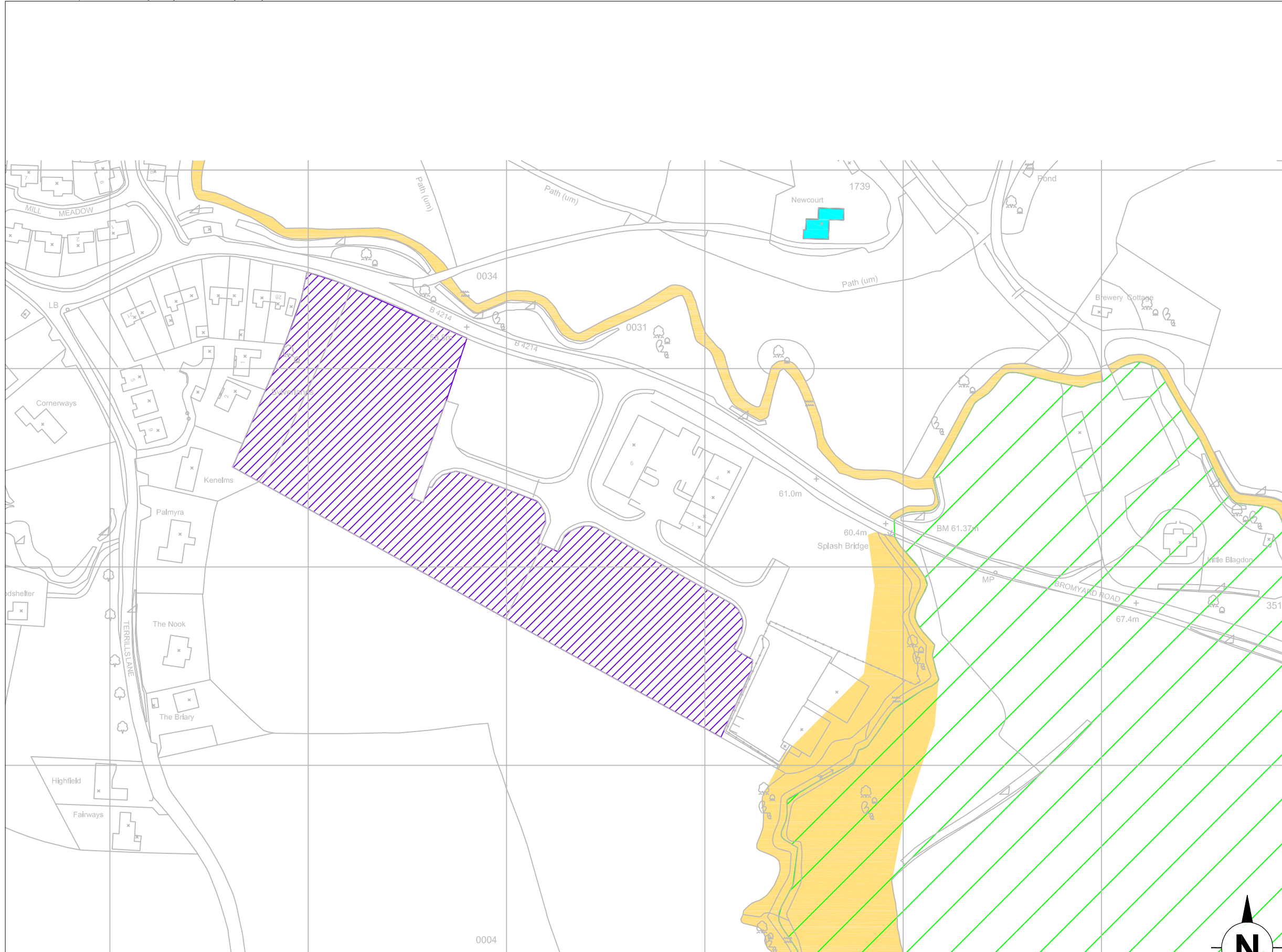
Tenbury Wells Household Waste Recycling Centre

Figure 1

Site Location

Scale 1:12,500@A3

Date July 2014



-  Listed Building
-  Area of Great Landscape Value
-  Site of Local Wildlife Importance
-  Employment Commitments

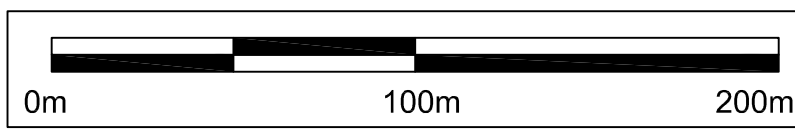
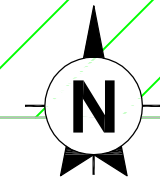
Tenbury Wells
Household Waste Recycling Centre

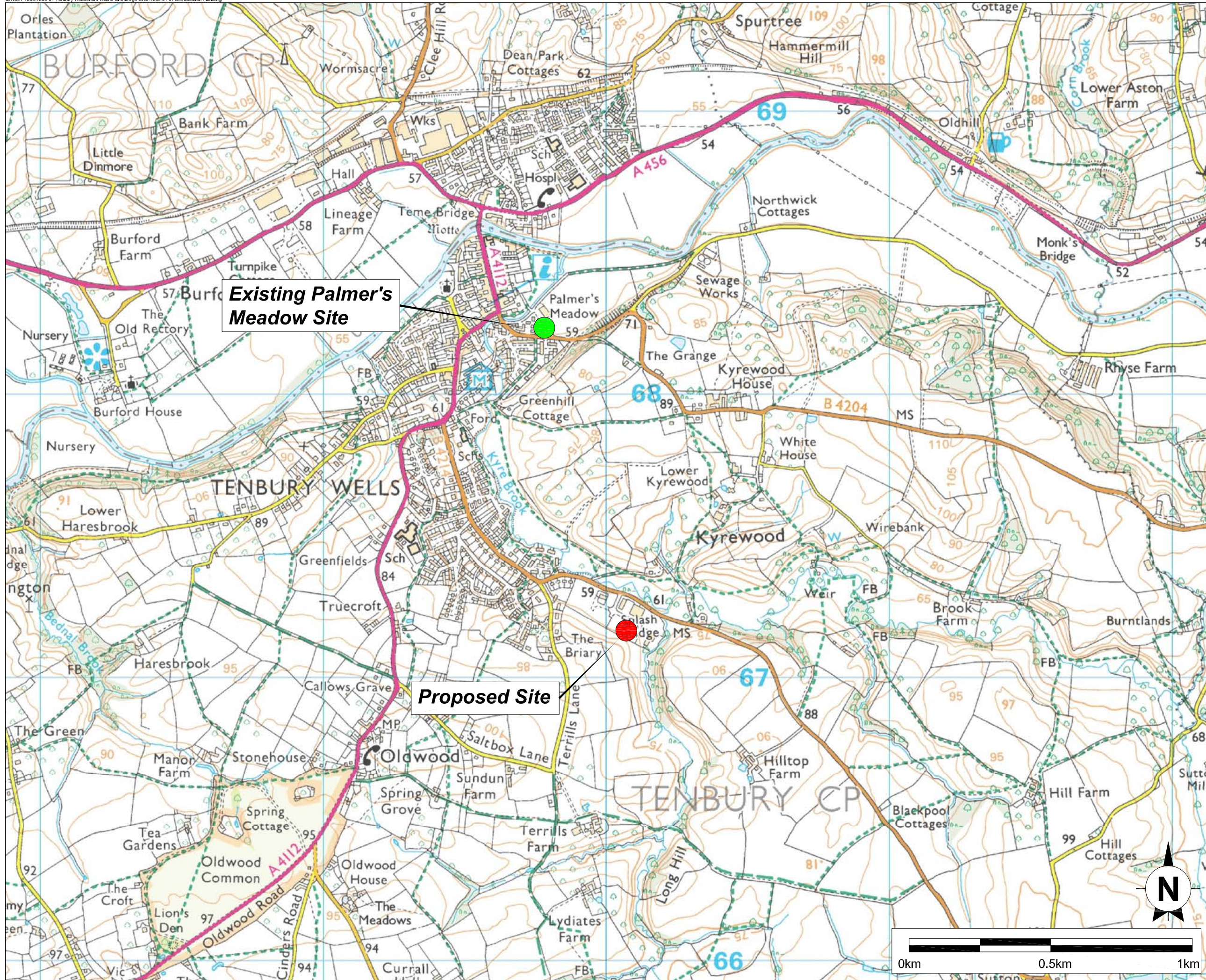
Figure 2

Environmental Designations/
Planning Allocations

Scale
1:2,000@A3

Date
July 2014





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Follow any figured dimensions - do not scale. IF IN DOUBT ASK.

Revision History	Date

XRef List:

Client	Project	Drawing Title	Dates	Drawing Number	Scale	Drawn by	Checked by
Mercia Waste Management	Tenbury Household Recycling Centre	Site Location Plan	July 2014	1509-01-01	1:12,500@A3	LE	AD

axis

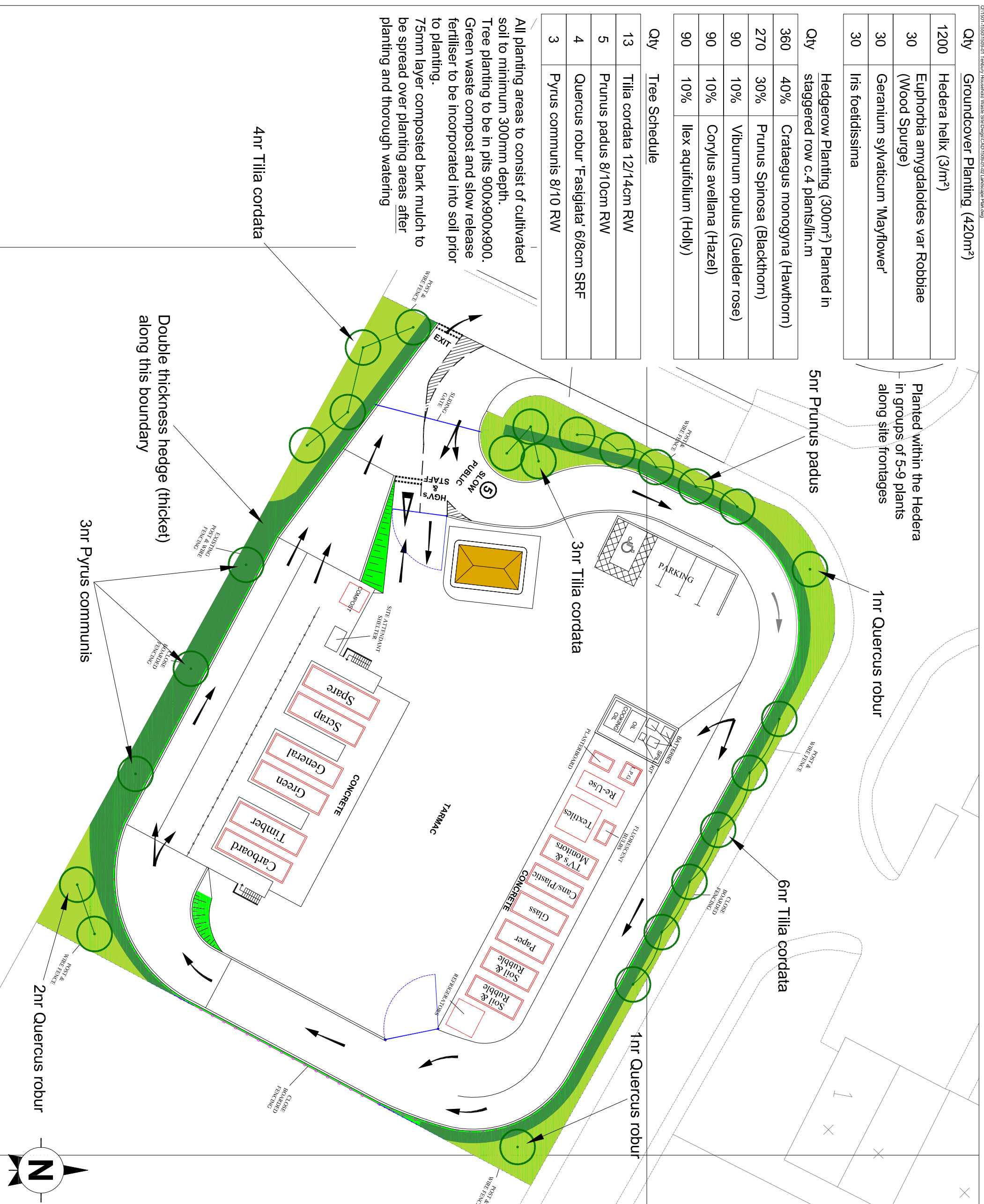
planning environment design

Qty	Groundcover Planting (420m ²)
1200	Hedera helix (3/m ²)
30	Euphorbia amygdaloides var Robbiae (Wood Spurge)
30	Geranium sylvaticum 'Mayflower'
30	Iris foetidissima

Qty	Hedgerow Planting (300m ²) Planted in staggered row c.4 plants/lin.m
360	Crataegus monogyna (Hawthorn)
270	Prunus Spinosa (Blackthorn)
90	Viburnum opulus (Guelder rose)
90	Corylus avellana (Hazel)
90	Ilex aquifolium (Holly)

Qty	Tree Schedule
13	Tilia cordata 12/14cm RW
5	Prunus padus 8/10cm RW
4	Quercus robur 'Fasigiata' 6/8cm SRF
3	Pyrus communis 8/10 RW

All planting areas to consist of cultivated soil to minimum 300mm depth. Tree planting to be in pits 900x900x900. Green waste compost and slow release fertiliser to be incorporated into soil prior to planting. 75mm layer composted bark mulch to be spread over planting areas after planting and thorough watering



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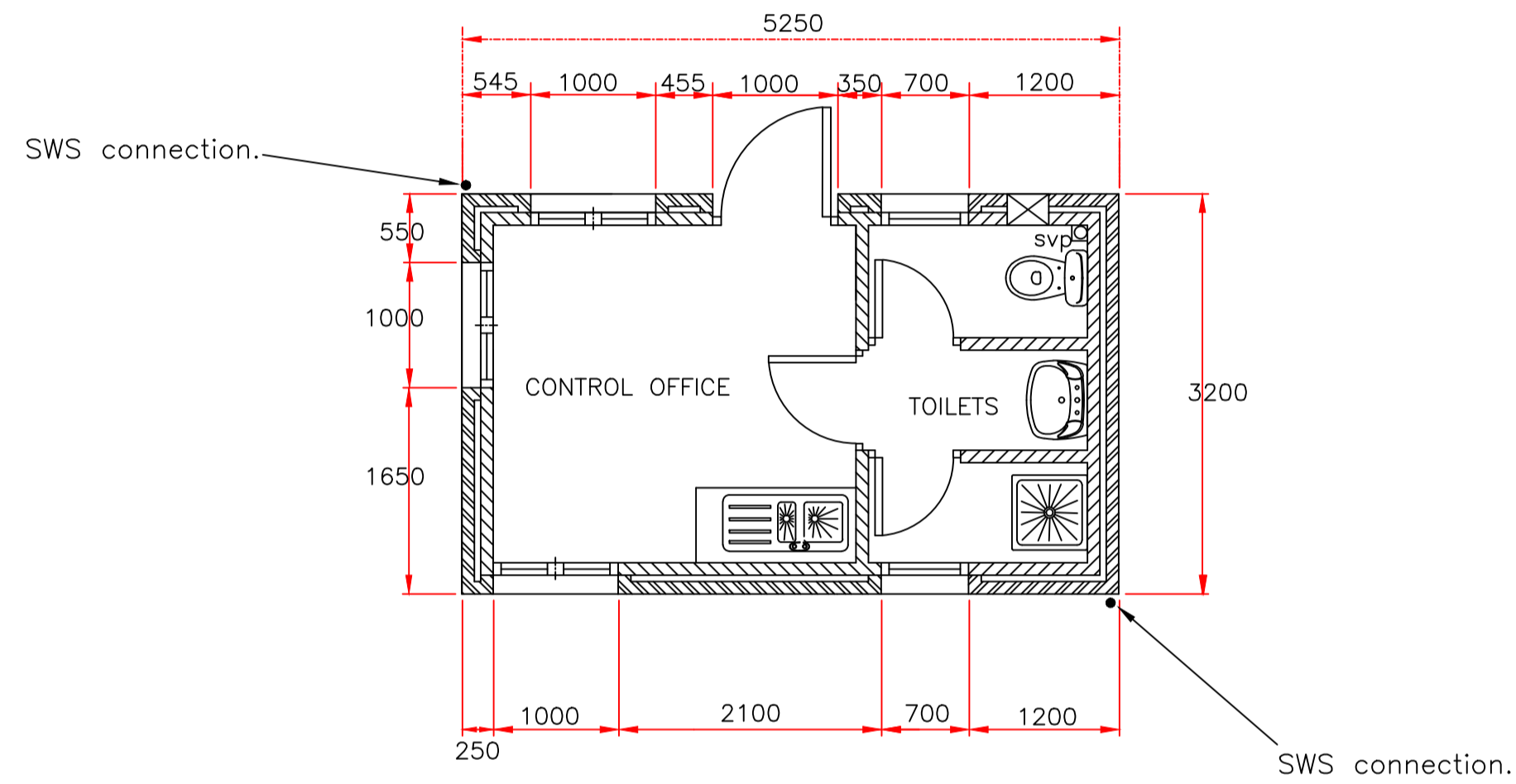
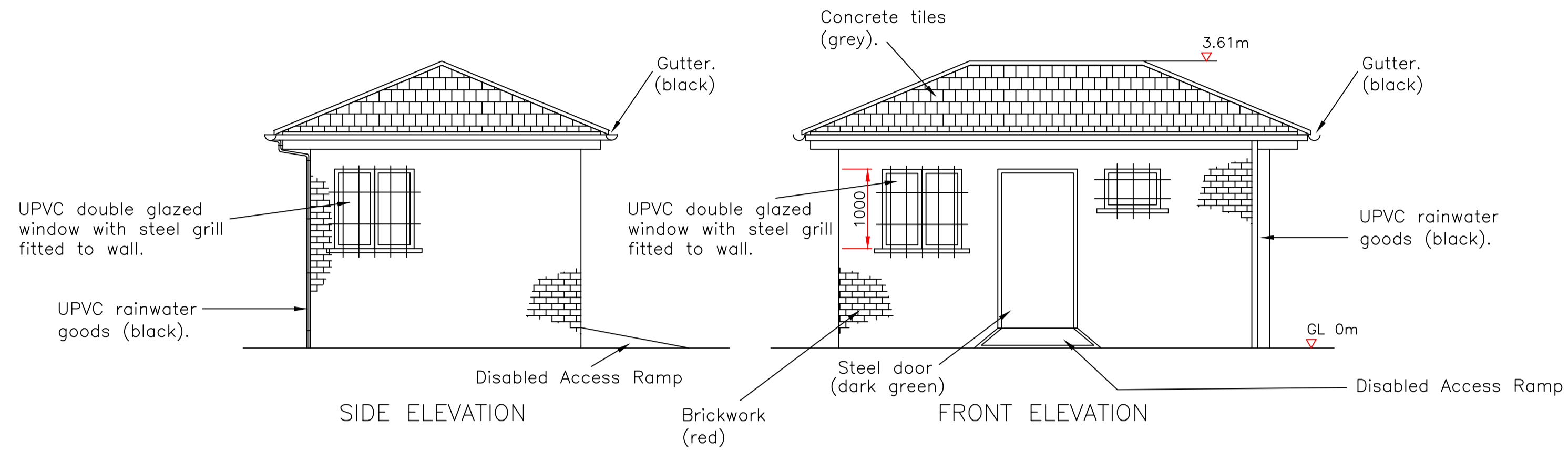
Follow any figured dimensions - do not scale. IF IN DOUBT ASK.

Revision History

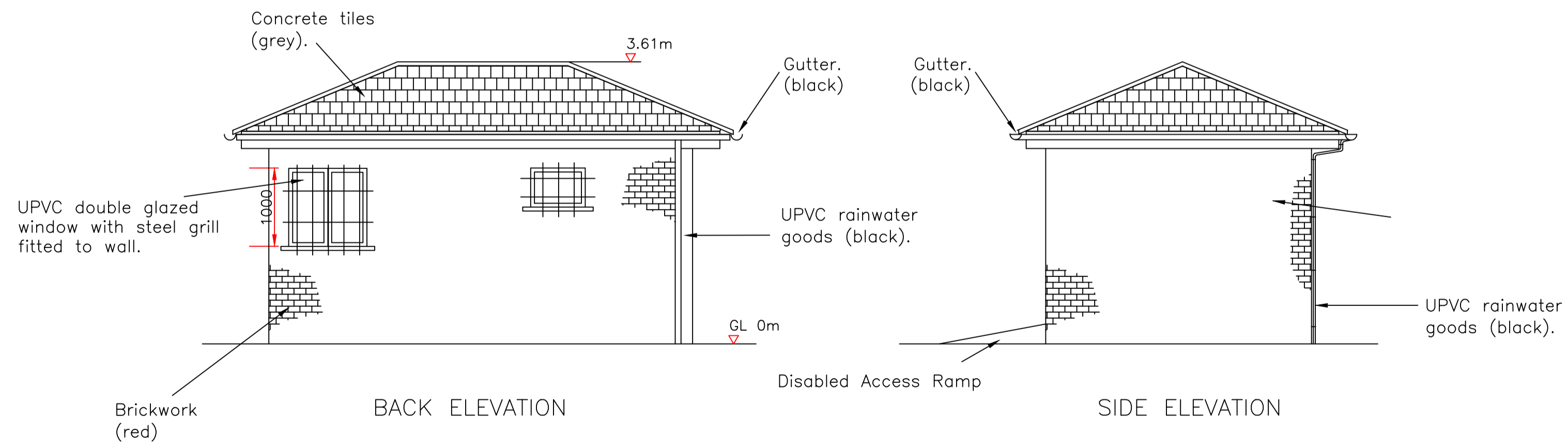
Date	Description

- Hedgerow planting
- Ground cover planting
- Specimen tree

<p>axis</p> <p>1509-01-02</p>	
<p>Client: Mecsa Waste Management</p> <p>Project: Tenbury Household Recycling Centre</p> <p>Drawing Title: Landscape Plan</p>	<p>Drawn By: LE</p> <p>Checked: AB</p> <p>Date: June 2014</p> <p>Drawing number: 1509-01-02</p> <p>Scale: Not to Scale</p>
<p>planning environment design</p>	



PLAN
CONTROL BUILDING WITH TOILETS
1:50



Rev	Date	Description	By
C	20-06-14	Office Rotated	SK
B	07-03-14	Office Mirrored	SK
A	04-03-14	Office Altered. Window added	SK



Mercia Waste Management Ltd.
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Fax:(01386)446757

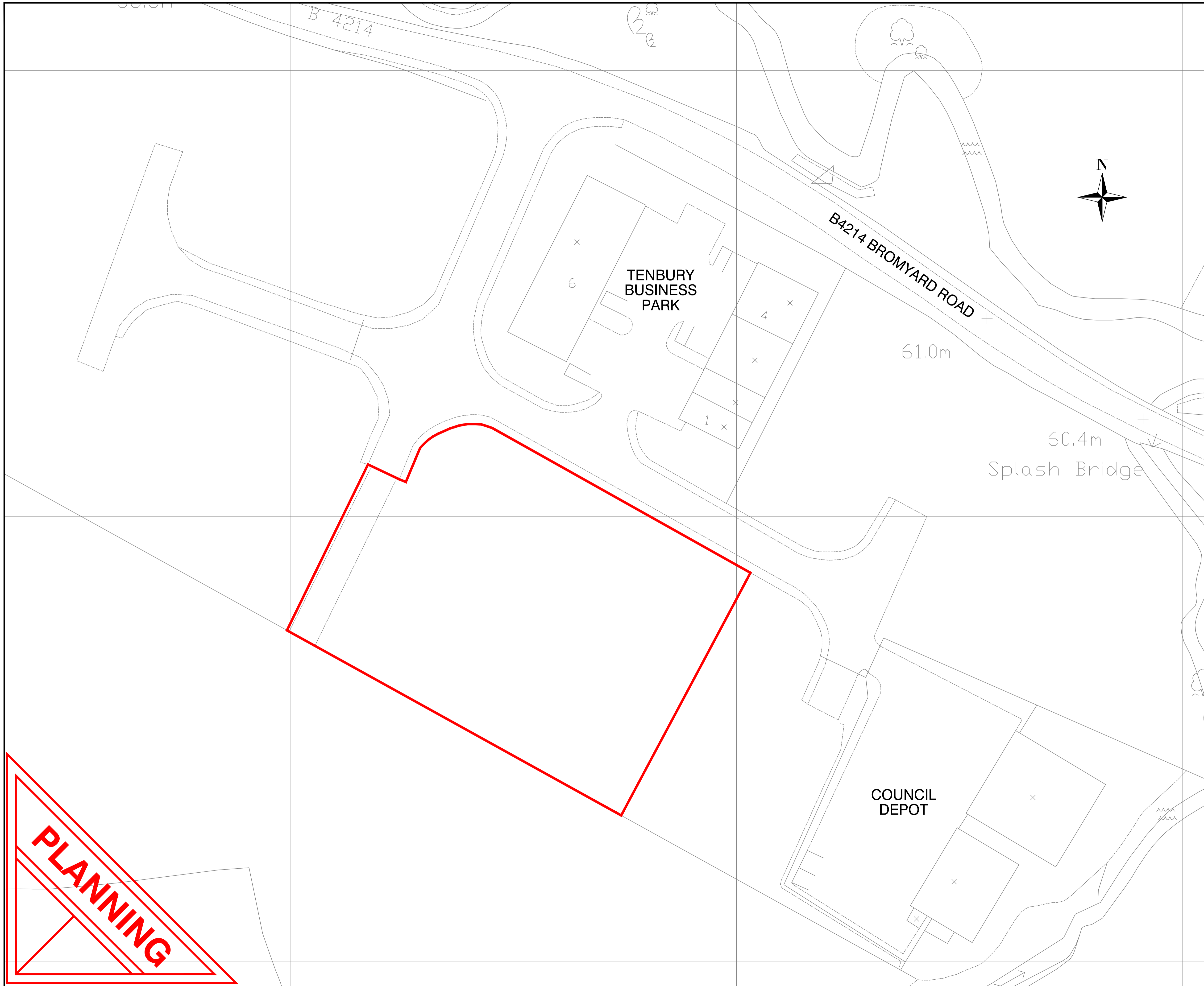
PROJECT
**-TENBURY WELLS-
HRC**

DRAWING
**Control Building:
General Arrangement**

DRAWN	SK	APPROVED	APPROVED
CHECKED	IB	CONST/DEPT	OPT/DEPT
SCALE		AS SHOWN	DATE 20-Jun-14

DRAWING No.	REV
TW-HWS-OL-MWM-010	C





LEGEND

Planning Application Boundary



PLANNING

Rev	Date	Description	By
C	24-06-14	Scale Changed	SK
B	19-06-14	Boundary Moved	SK
A	27-03-14	Boundary Moved	SK



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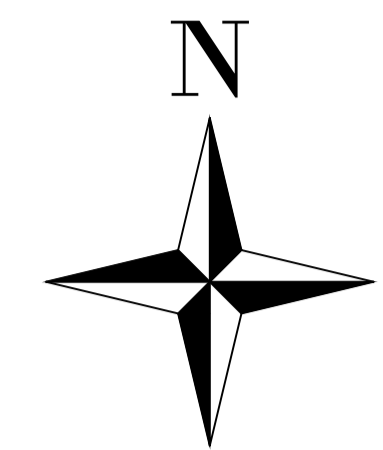
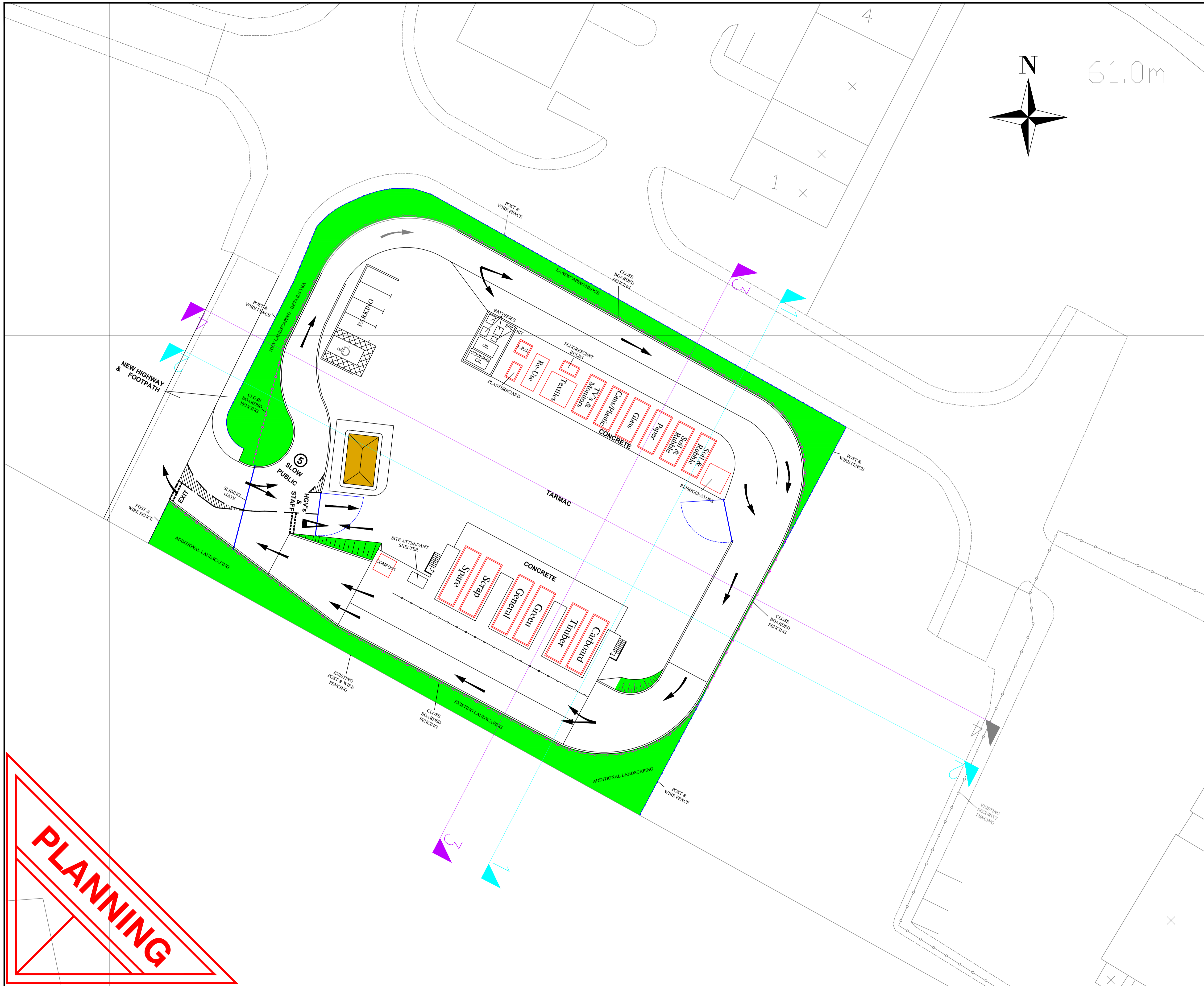
PROJECT
 -TENBURY WELLS-
 HRC

DRAWING
 Statutory Plan

DRAWN	SK	APPROVED	APPROVED
CHECKED	IB	CONST/DEPT	OPT/DEPT
SCALE 1:1250 @ A1		DATE 24-Jun-14	

DRAWING No.
 TW-HWS-PAB-MWM-009

REV
 C



61.0m

- LEGEND**
- ▶ Existing Site Sections
(See Drawing TW-HWS-SCS-MWM-006_RevA)
 - ▶ Proposed Site Sections
(See Drawing TW-HWS-SCS-MWM-008)

PLANNING

Rev	Date	Description	By
A	24/06/14	Disabled Parking Space Added, Cross Sections Added North Arrow and Scale bar Added	SK



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waste management

PROJECT -TENBURY WELLS-
HRC

DRAWING
Site Plan

DRAWN SK	APPROVED CONST/DEPT	APPROVED OPT/DEPT
CHECKED IB	SCALE 1:250 @ A1	DATE 24-Jun-14
DRAWING No. TW-HWS-SAR-MWM-015		REV A

See drawing TW-HWS-SAR-MWM-015_RevA for position



CROSS SECTION 1 - 1



CROSS SECTION 2 - 2



Rev	Date	Description	By
A	24/06/14	Scaled Changed	SK



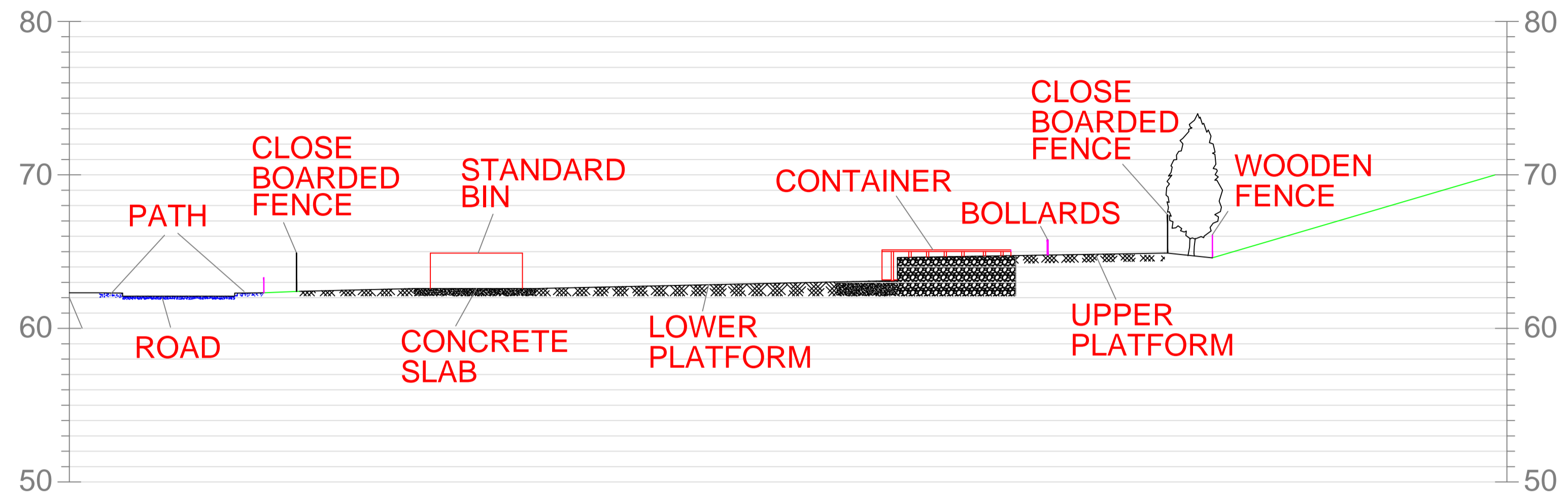
Mercia Waste Management Ltd.
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PROJECT -
-TENBURY WELLS-
HRC

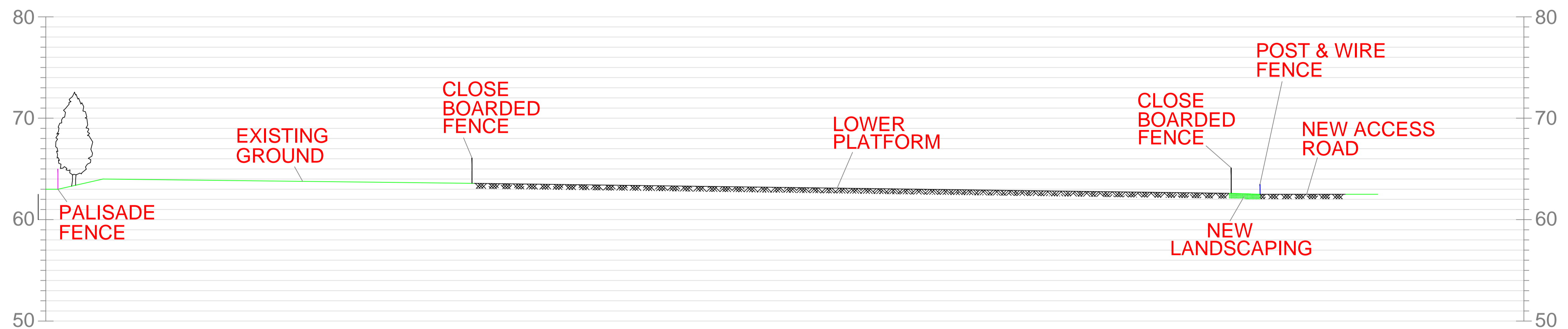
DRAWING
Existing Cross Sections

DRAWN	SK	APPROVED	APPROVED
CHECKED	IB	CONST/DEPT	OPT/DEPT
DRAWING No.		SCALE	DATE
TW-SCS-MWM-006		1:200 @ A1	24-Jun-14
			REV
			A

See drawing TW-HWS-SAR-MWM-015_RevA for position



CROSS SECTION 3 - 3



CROSS SECTION 4 - 4



Rev	Date	Description	By



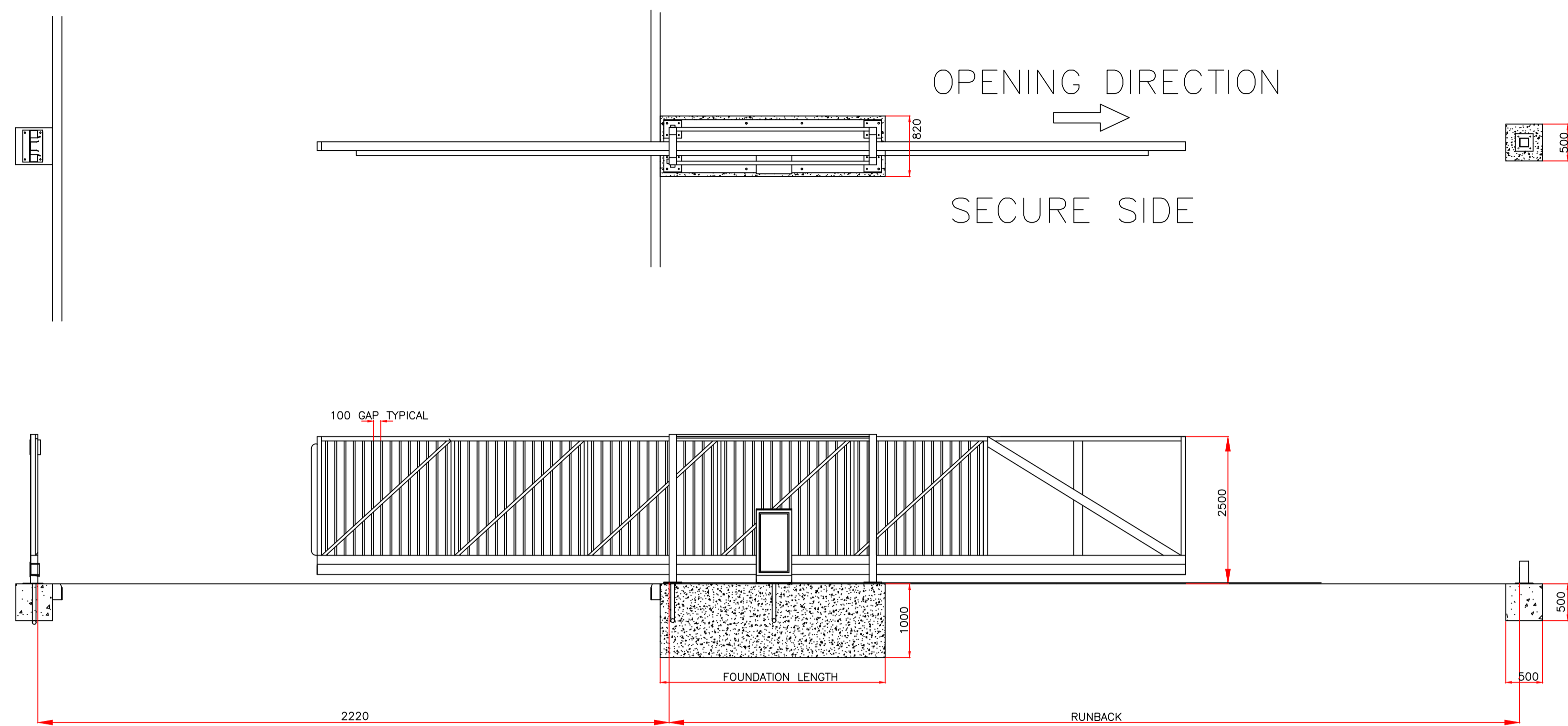
Mercia Waste Management Ltd.
The Marina, Kings Road,
Evesham,
Worcs, WR11 3XZ
Tel:(01386)443376
Fax:(01386)446757

PROJECT
-TENBURY WELLS-
HRC

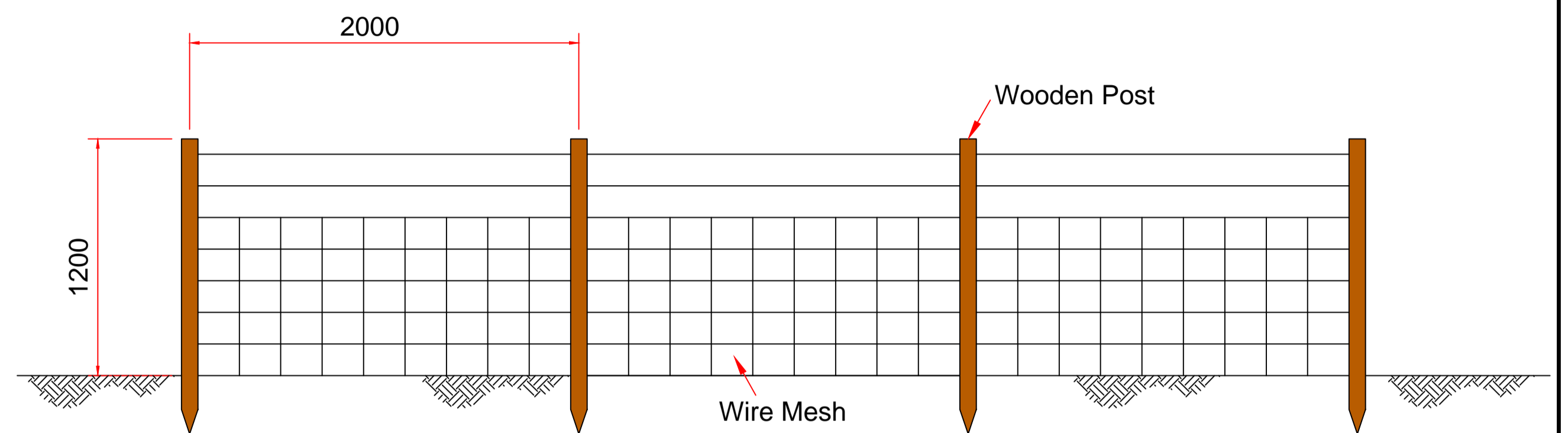
DRAWING
Site Cross Sections

DRAWN SK	APPROVED CONST/DEPT	APPROVED OPT/DEPT
CHECKED IB		

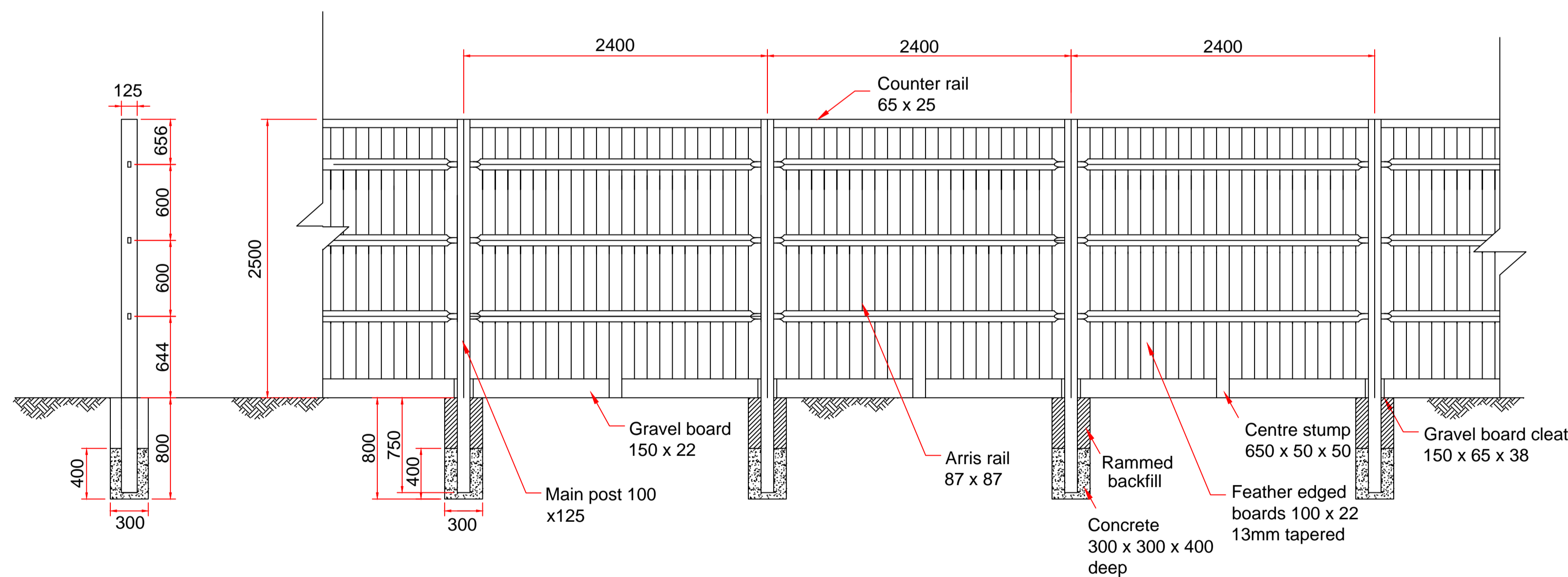
DRAWING No.	SCALE 1:250 @ A1	DATE 30-June-14	REV
TW-HWS-SCS-MWM-008			-



TYPICAL CANTILEVER SLIDING GATE
NOT TO SCALE

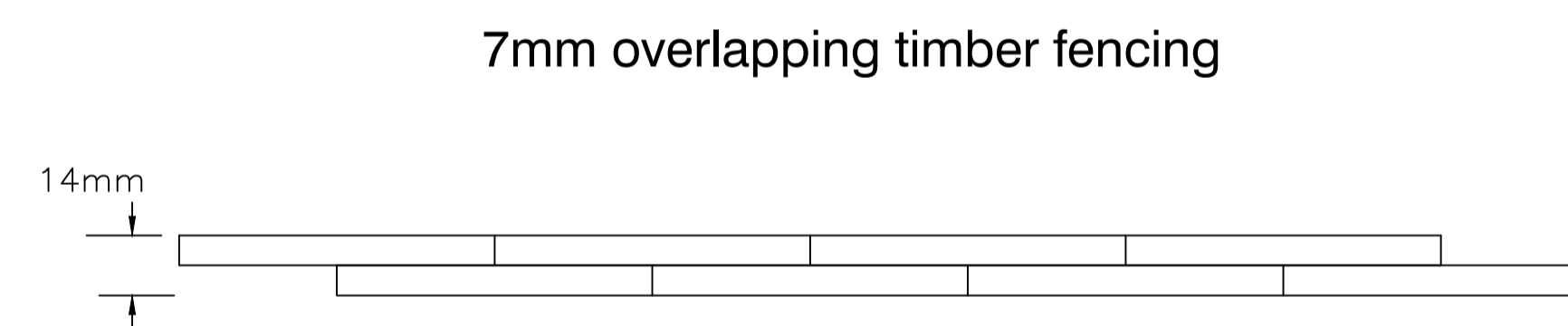


WOODEN POST & WIRE FENCING
NOT TO SCALE



ELEVATION OF TIMBER POST
NOT TO SCALE

GENERAL ARRANGEMENT OF
TYPICAL CLOSE-BOARDED FENCE
NOT TO SCALE



Plan Views Typical Close Boarded Fence Design
NOT TO SCALE

Rev	Date	Description	By



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Fax:(01386)446757

PROJECT
**-TENBURY-
HRC**

DRAWING
Typical Fencing Details

DRAWN	SK	APPROVED	APPROVED
CHECKED	IB	CONST/DEPT	OPT/DEPT
DRAWING No.		SCALE	DATE

DRAWING No.		SCALE	DATE	REV
TW-HWS-TFD-MWM-011		NTS	20-June-14	-



ENVIRONMENTAL SERVICES

Date	20 March 2012
Title	Relocation of Tenbury Wells Household Recycling Centre (HRC), Palmer's Meadow Car Park off Kyre Road
Prepared by	Vincent Connor
Purpose	To inform the Joint Review Board (JRB) and Local Member of the alternative locations considered by Worcestershire County Council (WCC) Waste Services for a new HRC to serve the residents of Tenbury
Recommendations	<ul style="list-style-type: none">• That the JRB and Local Member acknowledge that use of vacant land at Tenbury Business Park, Bromyard Road, is the only current available option• WCC Waste Services revisit discussions with Officers of Malvern Hills District Council, in its capacity as landlord, to obtain support for the relocation of the HRC to Tenbury Business Park
Summary	<p>The Private Finance Initiative (PFI) Waste Treatment and Disposal contract awarded by Herefordshire Council and Worcestershire County Council to Mercia Waste Management (MWM) / Severn Waste Services (SWS) in 1998 established the contractual requirement to undertake a modernisation programme of HRC, including the facility located at Tenbury Wells.</p> <p>The existing HRC operates as follows:</p> <p>Open 2 days per week, Saturday and Thursday, 08.00 to 18.00</p> <p>1 x Garden Waste Container 1 x General Waste Container 1 x Batteries Box 1 x Fluorescent Tube / Low Energy Light Bulb Box 1 x Wheelie bin for Foil</p> <p>Site Throughput = 750 tonnes per annum</p> <p>Recycling / Composting Rate = 37%</p>

In addition to the HRC, Malvern Hills District Council (MHDC) provide and service a Bring Site, also located on Palmer's Meadow Car Park adjacent to the HRC, for Glass / Paper / Textiles / Books / Shoes. This facility is open for use 7 days per week.

The proposed HRC would operate as follows:

The construction of a 'Split Level' facility on a 0.4 ha vacant plot of land at Tenbury Business Park open 3 days per week Thursday, Saturday and Sunday 08.00am to 18.00pm.

However, any new HRC facility site 'Footprint' could be scaled and opening days revised as Members / Officers see 'Fit for Future Purpose'.

The Bring Site serviced by MHDC could either be relocated to the new HRC site or an alternative location.

Risks

If the HRC remains in its current location on Palmer's Meadow Car Park then WCC is subject to:

- Providing a sub standard HRC for Tenbury residents when compared to other WCC locations
- Increased landfill tax payments
- Reduced recycling / composting performance
- Restricting the potential parking spaces for use by visitors to Tenbury which may also conflict with future planned Public Realm works to enhance Tenbury
- Continuing to pay PFI Contractor for a historic facility

If the proposal gains support of MHDC, in its capacity as landlord:

- Adverse reaction from current occupants of the Business Park as engaged in the production of food products

Analysis

Current Situation:

MWM investigated the feasibility of relocating the Tenbury HRC to a number of alternative local sites and discounted all but one, Tenbury Business Park. An Outline Planning Application for a new HRC (407520 MH01/00504) was recommended for approval by Officers and when considered by the Planning and Regulatory Committee on 30 July 2001 permission for such a development was refused.

In February 2010 WCC / MWM met with Officers of Malvern Hills District Council (MHDC) Regeneration Section to identify a suitable location for replacement HRC facility. Although there was strong local support for a new HRC, the use of Tenbury Business Park was still not an option that would be recommended by MHDC and no suitable alternative location was identified.

At the request of Local Member (Cllr K Pollock) a 'Desktop Exercise' to identify possible suitable locations within the local area was undertaken in February 2012.

Location Map	Findings
Appendix 1	
Nr 1	Land adjacent to Palmers Meadow Car Park is currently used for recreational purposes.
Nr 2	Tenbury Business Park Bromyard Road
Nr 3	Former transport yard Bromyard Road – site subject to flooding and houses located at entrance and to rear of site.
Nr 4	Land at Oldwood Road is designated for housing
Nr 5	Land at Oldwood Road is designated for housing
Nr 6	Land at Bog Lane is subject to flooding
	Development land near the Teme bridge is subject to a Planning Application for a new Tesco store which is being considered by Malvern Hills Development Control Committee on 07 March 2012
	WCC has approached Shropshire County Council on the feasibility of a joint venture HRC site located in Burford, Shropshire. Shropshire County Council does not wish to proceed with such a proposal.

Aerial location map of sites in Tenbury attached as **Appendix 1:**

Therefore, the findings of the Desktop Exercise indicate that the only suitable location is site Nr 2 Tenbury Business Park.

WCC have also assessed the use of 3 alternative parcels of land within the Business Park and find as follows:

Location Map	Findings
Appendix 2	
A	Existing Highways Depot could not accommodate the relocation of HRC containers within this site due to vehicle / pedestrian conflict.
B	This vacant plot of land is deemed unsuitable for the LGV service vehicles which would be used to move HRC containers.
C	Vacant Plot could accommodate a HRC based on model refurbished facility at Bilford Road or scaled as appropriate.

Aerial location map of Tenbury Business Park is attached as **Appendix 2**

WCC/SWS anticipate that it would take approximately 24 months to obtain the necessary Planning Consent, Environmental Permit, design, build and open for business should a suitable site be secured.

Circulation

Joint Review Board, Cllr K Pollock (Local Member)

Desktop Exercise - Tenbury Household Recycling Centre Appendix 1





SEVERN WASTE SERVICES

Tenbury Household Recycling Centre

Management Plan – Protocol for Fly Inspection & Treatment.

1. Scope

These control measures will be used to ensure the potential for fly activity is kept to a minimum, and below levels that could potentially cause problems both on site and to the local area.

2. Control measures

- Delivered materials will be removed from site as soon as practicable to prevent flies becoming attracted to it.
- Daily inspection of the site shall include an assessment of fly activity.

3. Site Inspection

- While undertaking daily checks, appointed employees will look for evidence of fly activity.
- All complaints and comments regarding fly numbers from the site will be investigated as soon and thoroughly as possible, and all reasonable steps taken to rectify the situation as soon as practicable.

4. Specialist Pest Contractor

- If necessary a specialist external pest controller will be contracted to treat areas of persistent fly activity.
- Once the treatment is complete, SWS will receive a report from the contractor detailing actions taken, areas treated and insecticides used.

SEVERN WASTE SERVICES

Tenbury Household Recycling Centre

Management Plan - Protocol for the Control of Odour

1. Scope

These control measures will be used to ensure that odour levels are kept below those that may potentially cause problems on-site and to the local area.

2. Control Measures

- By minimising the time between a container becoming full and collection of the material as far as possible, the time the processed materials spend in storage and the development of associated odours are both reduced.

3. Monitoring & Control

Facility Inspection

- Odours will be monitored on a regular basis by site operatives as part of other daily inspections.
- Following a notable increase in odour the employee will inform their superior, who will, investigate the origin of such odour and take action as appropriate.
- All complaints and comments regarding odour levels from the site will be investigated as soon and thoroughly as possible, and all reasonable steps taken to rectify the situation as soon as practicable.

4. Specialist Contractor

- A specialist odour control contractor will be called if odour levels become a cause for concern, for example if the odours were adversely affecting the surrounding environment or became so great that they had a negative impact on facility activities.

SEVERN WASTE SERVICES

Tenbury Household Recycling Centre

Management Plan – Protocol for the Control of Litter & Dust

- Effective measures will be taken to minimise the incidence of windblown litter. Litter control will include both on-site measures, to reduce the amount of litter available to cause nuisance at source; and off-site measures, to minimise problems with the escape of litter from site.
- The perimeter security fence will act as an efficient barrier to windblown litter.
- The perimeter security fence will be cleared of caught litter on a regular basis to avoid accumulations developing. The fence will also be inspected regularly and repaired as necessary.
- Any litter escaping from the site will be collected and disposed of as soon as practicable where conditions allow. If approval from adjacent landowners is required due to restricted access, escaped litter will be collected whenever practicable.
- All vehicles collecting material from the site will be required to be adequately covered to remove the potential for windblown litter to be released onto the public highways or the site roads.

APB / 1509-01-01d
24 June 2014

**PROPOSED HOUSEHOLD RECYCLING CENTRE
BROMYARD ROAD, TENBURY WELLS, WORCESTERSHIRE**

TRANSPORT STATEMENT



Mercia Waste Management Ltd



AXIS
Camellia House
76 Water Lane
Wilmslow
SK9 5BB

Tel: 0844 8700 007

www.axisped.co.uk

CONTENTS

- 1.0 INTRODUCTION

- 2.0 SITE LOCATION & EXISTING BASE NETWORK CONDITIONS
 - 2.1 Site Location
 - 2.2 Description of Local Network Features
 - 2.3 Road Traffic Accident History
 - 2.4 Sustainable Transport Opportunities

- 3.0 REVIEW OF THE DEVELOPMENT PROPOSALS
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1.0 INTRODUCTION

- 1.1 This Transport Statement has been prepared by Axis on behalf of Mercia Waste Management Ltd (MWM) to consider highways and transport issues related to the development of a new Household Recycling Centre (HRC) on land at Tenbury Wells Business Park off Bromyard Road, Tenbury Wells, Worcestershire.
- 1.2 The proposal scheme represents the development of a household waste facility to serve householders of the town of Tenbury Wells and surrounding villages. Whilst Tenbury Wells is currently served by a small household waste drop-off site at Palmer's Meadow, this existing facility is of limited capacity and is not capable of meeting modern requirements for municipal recycling facilities.
- 1.3 Worcestershire County Council has the responsibility for household waste disposal within their administrative boundary. The Council wishes to provide a new HRC facility at Tenbury Wells to assist in meeting national composting, recycling and landfill diversion targets for household waste. The development of the site is consistent with the objectives of national, regional and emerging local waste management strategies. It is also recognised that the development of a new facility close to the existing main population centre of Tenbury Wells will help address transport sustainability objectives of minimising customer journey lengths for household waste disposal trips from the town and the immediate surrounding catchment.
- 1.4 This report has been prepared to appraise the Waste Planning Authority (WPA) and Local Highway Authority (LHA) Worcestershire County Council (WCC) of the highway demand / impact case associated with the development proposals and to outline the design and nature of the proposed facility (including access arrangements). The appraisal includes for an assessment of existing background local highway conditions, a technical review of the proposed site access scheme and internal site layout and an

analysis of the likely operational impact at key locations over the immediate highway network as a result of the traffic movements associated with the operation of the development scheme.

1.5 The report has been prepared in accordance with March 2007 Department for Transport (DfT) document "Guidance on Transport Assessment" for the preparation of Transport Assessment reports. Appendix B to the DfT guidelines identifies thresholds for the appraisal of transport impact of a new development site. Whilst HRC facilities are not included within the core list of land use thresholds set out in Appendix B, reference to the 'other considerations' section in the DfT guidance suggests that the production of a formal 'Transport Statement' report would be appropriate for the consideration of the Tenbury Wells proposal site. The remainder of this report therefore considers the following issues:

- A description of the location of the proposed HRC facility and a review of prevailing operating conditions on key sections of the local highway network;
- A technical review of the HRC development proposals including the layout of the site access and key internal site layout features;
- A review of the anticipated operation of the HRC facility in terms of trip demand and the distribution of this traffic across the immediate local highway network;
- An assessment of the anticipated operational and environmental impact of development related trips at key locations on the immediate highway network; and,
- Summary and conclusions.

2.0 SITE LOCATION & EXISTING BASE NETWORK CONDITIONS

2.1 Site Location

2.1.1 The strategic location of the Tenbury Wells HRC proposal site is illustrated in **Figure TS1** to this report. This plan identifies the location of the site in relation to the main built up area of Tenbury Wells, the existing household waste drop off facility at Palmer's Meadow and key local access routes such as B4214 Bromyard Road, A4112 Oldwood Road and the A456 north of the Teme Bridge.

2.1.2 Details of the layout of the immediate local highway network to the proposal site are illustrated in **Figure TS2** to this statement with photographs of existing key layout features illustrated in **Appendix TS1**. **Figure TS2** illustrates the layout of existing immediate highway features to the proposal site, including the Tenbury Wells Business Park internal road layout and the Business Park access road junction with the B4214 Bromyard Road.

2.2 Description of Local Network Features

Existing Site Conditions

2.2.1 The Tenbury Wells HRC proposal site represents a vacant development site on the Tenbury Wells Business Park, located to the south eastern edge of the built up area of the town of Tenbury Wells. The site is currently undeveloped and is characterised by a generally flat area of grassland.

2.2.2 The site is a broadly rectangular shaped parcel of land, with the northern and eastern boundaries being formed by the internal access roads (adopted highway) to the Tenbury Wells Business Park. Beyond these roads are existing industrial / commercial properties. To the south the site is bounded by agricultural fields and to the west by further vacant development plots associated with the Business Park.

Existing Highway Conditions

2.2.3 Due to its undeveloped nature, the site does not currently have a direct vehicle access. The site is however, bounded to the north and east by existing Business Park access roads, which would allow for the formation of new access arrangements. These frontage estate roads ultimately link to a main access road which forms a simple give-way T-junction with the B4214 Bromyard Road.

2.2.4 The internal estate roads are approximately 7.5m in width, with footways to both sides and therefore are suitable to accommodate regular heavy goods vehicle traffic movements. The frontage estate roads and the main link to the Bromyard Road are publically adopted highway routes.

2.2.5 The layout of the Business Park access junction connection to B4214 Bromyard Road is illustrated in **Figure TS3** to this report. This plan identifies that the Business Park access road connection is of circa 7.5m in width, with 12.5m left turn entry / exit radii to assist HGV access. The B4214 mainline carriageway varies in width but is generally of circa 5.75m - 6.0m width and operates under a 30mph speed limit through the junction. Approximately 35m to the east of the junction, the speed limit changes from 30mph to national speed limit (60mph), supported by appropriate signage and 'gateway' speed markings on the operating carriageway (see **Appendix TS1**).

2.2.6 **Figure TS3** also demonstrates the existing levels of lateral visibility available from the Business Park side road connection. These sightlines are summarised below (measured to the nearside kerb):

- Leading direction (to the right): 2.4m by 91m
- Non-leading direction (to the left): 2.4m by 171 m

Reference to local and national guideline standards for lateral visibility provision for side road connections to main routes indicates that such sightlines are suitable for access to a route operating with through traffic speeds of circa 37mph to the right and 54mph to the left (based on DfT estimates set out in TD9/93). Such sightlines are therefore considered appropriate for access to the B4214 Bromyard Road at this location – which currently operates under a 30mph speed limit.

- 2.2.7 On site observations of route operation identified free flow conditions on the B4214 corridor, with no evidence of congestion. No queuing was identified on the give way approaches at the B4214 Bromyard Road / Business Park access, including for the effects of right turn movements into the Business Park from B4214 Bromyard Road.
- 2.2.8 North-west of the Business Park access, the B4214 Bromyard Road provides access to the town of Tenbury Wells and onward connections via A4112 Cross Street / Market Street to the A456 Kidderminster – Brimfield Road (over the Teme Bridge).
- 2.2.9 To the south east the B4214 route provides rural B-road standard connections to Edwyn Ralph and Bromyard. The route is unlit in the immediate vicinity of the proposal site, with footway connections available to the north west only (south side of the route).

Existing Observed Traffic Demand

- 2.2.10 Base traffic flow patterns for the immediate network to the proposal site have been established through the undertaking of detailed 12hr traffic surveys at the junction of the B4214 Bromyard Road & the Business Park development access road. Surveys were carried out for the time period 07:00-19:00 for typical Weekday (Wednesday) / Saturday conditions in February 2014. Details of the recorded survey data are provided as **Appendix TS2** to this report.

- 2.2.10 **Figure TS4** to this report illustrates observed two way flow demand on the B4214 Bromyard Road to the north east of the Business Park access. Analysis of the survey data identifies that maximum background traffic demand currently takes place for the weekday traditional evening peak hour of 17:00 – 18:00, when of the order of 130 vehicle movements were recorded (two-way). Traffic demand during the AM peak rush hour period was recorded as taking place between 07:45-08:45 (86 vehicles per hour).
- 2.2.11 Weekend traffic demand on the B4214 route is generally at lower levels than for weekday demand, with hourly traffic demand at less than 100 vehicles per hour. Maximum Saturday day time demand was noted to be just 98 vehicles per hour (10:30-11:30).
- 2.2.12 Such background demand levels are substantially below the available operating capacity of a route of the type and nature of the B4214 Bromyard Road corridor - which would typically be of the order of 1,500 vehicles per hour (two-way). This suggests that significant levels of spare operating capacity are available on the route.
- 2.2.13 **Figure TS5(a&b)** to this report illustrates observed 2014 Background turning movements at the B4214 Bromyard Road / Business Park junction for the following **time** periods

- Weekday AM 'Rush Hour' Peak: 07:45-08:45
- Weekday HRC 'Development Peak'*: 14:45-15:45
- Weekday PM 'Rush Hour' Peak: 17:00-18:00
- Saturday HRC 'Development Peak'*: 09:45-10:45

*HRC Development Peak established via reference to other local HRC operation (see Section 4.1 to this report)

Review of this data identifies generally low levels of trip demand to / from the Business Park site, with maximum observed hourly two-way demand being less than 20 movements (in + out).

2.3 Road Traffic Accident History

2.3.1 An appraisal of the operational safety of the immediate local network to the proposal site has been carried out through reference to Personal Injury Accident (PIA) data records held in the Crashmap.co.uk database. This reference database includes for all police accident recorded injury accident statistics.

2.3.2 The search was carried for the available eight year period 2005 – 2012, with the results of the search illustrated in **Figure TS6** to this report.

2.3.3 Review of this information identifies that only three accident incidents have been recorded during the 8 year search period. No injury accident incidents have been identified at the junction of B4214 Bromyard Road / Tenbury Business Park.

2.3.4 Given the generally good accident record of the immediate local highway network, it is not considered that there are any prevailing road safety issues that would call the development of the HRC proposal scheme into question.

2.4 Sustainable Transport Opportunities

2.4.1 The generally heavy / bulky nature of the household waste materials collected at the proposal site is anticipated to mean that walking, cycling or public transport modes would generally not represent a practical travel choice for most customer journeys to / from the site. It is therefore considered that the vast majority of regular users of the proposed HRC facility would visit the site using the private car.

2.4.2 It is possible however, that some operational staff may seek to access the site by sustainable transport modes if they live locally. Therefore it is useful to understand what opportunities for connections by non-car trips are available within the immediate catchment of the site.

Walking and Cycling

2.4.3 As noted above, the immediate section of local highway network to the proposal site provides a footway connection to the north west towards the town of Tenbury Wells. The proposed HRC development site lies approximately 1.2km south of Tenbury Wells Town Centre, with the majority of the town's residential areas south of the Teme lying within a 2km walk distance (recognised as a suitable maximum catchment for regular walk journeys). This 2km catchment is illustrated in **Figure TS7** to this report.

2.4.4 Cycling is recognised as a sustainable, healthy and environmentally friendly form of transport. National guidance notes that cycling has the potential to substitute for short car trips, particularly those less than 5km and to form part of a longer journey by public transport. The whole of built up area of Tenbury Wells and the surrounding settlements of Burford and Eastham lie within a 5km cycle catchment of the site (see **Figure TS8** to this report). The proposed development would therefore potentially provide opportunities for employees and the public to cycle to the site.

Public Transport

2.4.5 Guidance published by the Chartered Institution of Highways and Transportation (CIHT) 'Planning for Public Transport in Developments' (1999) recommends that the maximum distance to a bus stop from new development should be 400m - roughly equating to a five minute walk.

2.4.6 The nearest bus stops to the proposal site are located at the junction of the B4214 Bromyard Road / Business Park, however, these stops are only served by 1 limited frequency service. Access to more regular services is available from stops on the B4214 Bromyard Road close to the Co-op local supermarket – approximately 750m walk to the north west of the proposal site. The frequencies of the available local bus services are summarised in **Table TS2.1** below.

Table TS2.1 – Available Local Public Transport Connections

No.	Route	Frequency (per hour)	
		Monday-Friday	Saturday
758	Tenbury Wells – Burford - Gt Witley – Hallow - Worcester	4 per day	4 per day
760	Tenbury Wells – Gt Witley – Stourport - Kidderminster	1 on Thursday	-

2.4.7 In summary, whilst it is envisaged that the vast majority of regular users of the proposed HRC facility would likely visit the site using the private car, the site is located in an area that lies within a reasonable walking distance of much of the main residential areas of the town of Tenbury Wells and a cycling catchment of the full town and surrounding settlements. Some limited local public transport routes are also available within a 750m walk of the site. These connections may provide some opportunities for regular staff travel to the site by alternative travel modes - should staff live locally.

3.0 REVIEW OF THE DEVELOPMENT PROPOSALS

3.1 Development Rationale & Planning History

3.1.1 Mercia Waste Management signed an initial 25 year contract with Worcestershire County Council and Herefordshire Council in December 1998 under the Private Finance Initiative. The aim of this contract is to bring forward an integrated waste management service for the two counties, leading to the more sustainable management of municipal waste. The contract includes the provision of new and enhanced municipal waste management facilities.

3.1.2 In November 2004 Worcestershire County Council, Herefordshire Council and the District Councils therein, published a Joint Municipal Waste Management Strategy (JMWMS) which set the framework for the management of municipal waste in the sub-region until 2034. A review of this Strategy published in August 2011 identified the need for the existing household recycling centre at Tenbury Wells to be redeveloped.

3.1.3 The proposal scheme represents the development of a household waste facility to serve householders of the town of Tenbury Wells and surrounding villages. Tenbury Wells is the largest town within the northern western part of Malvern Hills District and currently residents use a limited standard waste drop off facility at Palmer's Meadow. This facility is located on the edge of an existing public car park with strictly limited facilities and poor accessibility to waste containers. It is considered that the development of a new purpose built household waste collection facility would encourage increased use of the facility and assist in meeting national composting, recycling and landfill diversion targets for household waste.

3.1.4 The documentation prepared in support of the Worcestershire Waste Core Strategy includes an 'Areas of Search' assessment which identifies locations that are potentially suitable for waste management facilities. Tenbury

Business Park was identified as one of the locations being suitable for most waste management facilities.

3.1.5 The Business Park is a purpose built industrial / employment site, which was granted planning permission in 1988 for B1 Business Use. It is allocated in the Malvern Hills District Council Local Plan (2006) for B1, B2 and B8 use.

3.1.6 An outline application by Mercia Waste Management for a Household Waste Site on the plot was refused in 2001. No highways and transport reasons for refusal were identified with the historical HRC proposals.

3.2 **Development Scheme**

3.2.1 The proposal scheme envisages the delivery of a modern HRC facility for the collection and bulking of household waste for onward shipment and processing. Plans illustrating the proposed site layout, immediate highway access strategy and internal vehicle manoeuvring areas are included as **Figures TS9 & Figure TS10** to this report. The core elements of the proposal scheme would be as follows:

- New site entrance road connection to extended Business Park internal estate road;
- Waste container compound segregated from the HGV servicing area to improve site operational safety and efficiency;
- Single lane circulation route for private cars providing access to main unloading containers and associated smaller recycling area, with off line vehicle parking areas;
- Segregated internal HGV service vehicle area - allowing for easy manoeuvring of large HGV's and containers without conflict with members of the public;
- Dedicated staff welfare facility with associated parking (5 vehicles).

3.2.2 It is proposed that the HRC facility would only be open to the public for three days each week. Anticipated opening hours for these days are as follows:

- Weekday (day to be determined): 08.00 – 18.00 hrs
- Saturdays: 08.00 – 18.00 hrs
- Sundays: 08.00 – 18.00 hrs

Typically weekend dates are the busiest public access days to HRC facilities. The chosen day for weekday public access operation has yet to be established. It is proposed that outside of public access days, the site could be opened / visited for short periods by the operator's personnel for routine maintenance and servicing / exchanging containers.

3.3 **Site Access Strategy**

3.3.1 As noted above, the HRC facility is proposed to be served via a shared customer / service vehicle access point from an extended section of the Business Park estate road network. A plan illustrating the proposed main access arrangements is illustrated in **Figure TS10** to this report. Vehicle movements to / from the wider highway network would be accommodated by the internal Business Park access road connection to Bromyard Rd.

3.3.2 Review of the access scheme identifies that the site would be served by a circa 40m extension of the central 6.5m wide Business Park internal access road, with appropriate entry / exit radii to the main site connection in order to accommodate large HGV service units. The site access would provide a single public / visitor lane, with a separate spurred access lane connecting to the internal HGV service area.

3.3.3 Results of AUTOTRACK vehicle swept path assessment for typical service and public vehicle movements are illustrated in **Appendix TS3** to this report (NB – These swept path assessments include for demonstration for access by the largest articulated HGV units (16.5m). In practice it is unlikely that

such units would be utilised on a regular basis, with MWM waste collection vehicles being of the nature illustrated in **Appendix TS3** (12.8m)).

3.3.4 The internal site layout would provide a one-way visitor vehicle route with off-line parking areas for the unloading of waste. Such an arrangement would allow for the efficient circulation of traffic and reduce the potential for parked vehicles blocking through traffic and thus creating on-site queuing.

3.3.4 The site entry / exit would be designed to deliver appropriate lateral visibility, including a leading direction splay (i.e. to the right) of 2.4m by 43m – which is suitable for a side road access to a road operating with 30mph traffic.

3.4 **On-site Staff Facilities**

3.4.1 The Tenbury Wells proposal site is anticipated to employ up to three operatives. As noted above, the HRC proposals include a staff office / staff welfare building with associated car parking for five staff / visitor vehicles.

3.4.2 MWM Ltd are committed to encouraging staff and visitor journeys to the site by alternative travel modes to the private car where practical. As part of this commitment and to meet staff welfare requirements, the scheme design would include the following:

- A suitable secure area for cycle parking;
- Staff changing facilities;
- Staff food preparation facilities to encourage staff to remain on-site during working hours.

3.4.3 The site operator would also ensure that up-to-date bus service information for local bus routes using the closest bus stops to the proposed HRC would be available to staff via regular timetable updates in coordination with Worcestershire County Council public transport team.

4.0 ANTICIPATED DEVELOPMENT TRIP GENERATION AND ASSIGNMENT

4.1 HRC Trip Generation

4.1.1 Anticipated trip movements to / from the proposal site have been estimated via reference to observed HRC traffic demand information for the similar sized HRC development at Bromyard which is also operated by MWM Ltd. The Bromyard HRC site is considered to represent a good proxy for the future operation of the proposed Tenbury Wells HRC site as it serves a similar population catchment and is operated on a similar limited number of days per week site opening schedule as proposed for the Tenbury Wells site.

4.1.2 Observed traffic demand information for the Bromyard HRC site was collected via 11hr (07:30-18:30) entry / exit traffic counts undertaken during February 2014. The survey period included for full operating hours at the Bromyard HRC site and staff arrival / departure movements at the start / end of shift. Traffic counts were undertaken for the current weekday opening date (Tuesday) and a Saturday. Copies of the survey data are provided as **Appendix TS4** to this report.

4.1.3 Review of the collected 2014 Bromyard HRC data has allowed for the identification of a typical hourly demand profile, which is illustrated in **Figure TS11(a&b)** (based on a rolling hourly profile, considered at 15 minute off-set periods). This exercise demonstrates that HRC traffic demand during traditional weekday AM & PM rush hour periods, is generally low, with weekday peak development demand taking place for the period 14:45-15:45 and Saturday peak development demand for the period 09:45-10:45.

4.1.4 Recorded February 2014 HRC traffic demand at Bromyard is set out in **Table TS4.1** below:

Figure TS4.1 – Observed February Bromyard HRC Traffic Demand

	In	Out	Total
<i>Weekday</i>			
Weekday AM Pk (07:45-08:45)	5 (0)	5 (0)	10 (0)
Weekday Dev Pk (14:45-15:45)	26 (0)	23 (0)	49 (0)
Weekday PM Pk (17:00-18:00)	1 (0)	3 (0)	4 (0)
Weekday 12hr (07:00-19:00)	110 (0)	109 (0)	219 (0)
<i>Saturday</i>			
Saturday Dev Pk (09:45-10:45)	30 (0)	29 (1)	59 (1)
Saturday 12hr (07:00-19:00)	131 (2)	132 (3)	263 (5)

All vehicles (HGVs)

4.1.5 Typically the February survey period does not represent a peak demand month for traffic demand associated with HRC facilities. Generally such peak demand takes place during the summer and reflects the greater levels of public green / garden waste disposed at HRC facilities during these months. In order to ensure the most robust assessment of future Tenbury Wells HRC operation, the above February estimates have been uplifted by a peak month factor of 2.401. This factor has been calculated via reference to 2013 monthly HRC demand trends recorded at the Bromyard HRC (see **Appendix TS5**). In practice such a pro-rate growing approach is likely to over-estimate traffic demand during peak months, as peak month waste tonnage figures tend to reflect that customers bring more waste tonnage per vehicle during these times (reflecting the bulky nature of green waste). Notwithstanding this, the use of a pro-rata traffic growth methodology ensures for a robust assessment of peak traffic demand levels.

- 4.1.6 Estimated peak month Tenbury Wells HRC traffic demand for the identified key assessment hours based on the pro-rata growth factor of 2.401 are set out in **Table TS4.2** below:

Figure TS4.2 – Predicted ‘Peak Month’ Tenbury Wells HRC Traffic Demand

	In	Out	Total
<i>Weekday</i>			
Weekday AM Pk (07:45-08:45)	12 (0)	12 (0)	24 (0)
Weekday Dev Pk (14:45-15:45)	62 (0)	55 (0)	117 (0)
Weekday PM Pk (17:00-18:00)	2 (0)	7 (0)	9 (0)
Weekday 12hr (07:00-19:00)	264 (0)	262 (0)	526 (0)
<i>Saturday</i>			
Saturday Dev Pk (09:45-10:45)	72 (0)	70 (2)	142 (2)
Saturday 12hr (07:00-19:00)	314 (5)	317 (7)	631 (12)

All vehicles (HGVs)

- 4.1.7 Review of the above information illustrates only low levels of HGV demand associated with the development. On the days of survey at the Bromyard facility no HGV trips were recorded during the weekday and just 2-3 on the Saturday. In practice it is possible that some HGV movements could take place on some weekdays, particularly during busy summer months. Similarly during the summer higher levels of weekend HGV movements could also be anticipated. For the purposes of this assessment and to ensure the most robust assessment of HGV operation, peak month assessments have been modelled based on no weekday HGV demand and up to 7 HGV arrival / 7 HGV departure movements for busiest weekend dates. In practice it is more likely that such HGV demand would be spread more evenly, with of the order of 2 HGV arrivals for the weekend opening date (and 2 departures) and 5 HGV arrivals / 5 HGV departures on a Saturday.

4.2 HRC Trip Assignment

HRC Customer / Visitor Trip Assignment

4.2.1 The assignment of the proposed HRC development movements to the local network has been undertaken via reference to the broad distribution of population within the local catchment to the HRC site.

4.2.2 Based on this catchment and the available local highway connections to the proposal site, it is considered that the majority of trip movements to / from the proposed HRC would enter / exit the site from the northwest i.e. giving access to Tenbury Wells Town Centre and links to the A456 at Burford. The following local turning proportions at the site access junction have therefore been utilised to inform the local network capacity assessments:

- To / from: B4214 Bromyard Rd NW of the site: 90% of HRC trips:
- To / from: B4214 Bromyard Rd NW of the site: 10% of HRC trips:

HRC HGV Trip Assignment

4.2.3 It is assumed that all HGV traffic to / from the Tenbury Wells HRC site would utilise the B4214 to the north west of the site to allow connections to the main A456 and onward links to recycling / disposal facilities.

Total Trip HRC Assignment

4.2.4 Total combined Tenbury Wells HRC trip assignment over the immediate local network to the proposal site (customer + HGV assignment) is illustrated in **Figure TS12(a&b)** to this report.

5.0 KEY ASSESSMENT PARAMTERS

5.1 Assessment Time Periods

5.1.1 In order to provide a robust assessment of the anticipated traffic impact of the proposed Tenbury Wells HRC development, this Transport Assessment seeks to assess the time periods of maximum potential traffic impact of the development proposals. Detailed network assessment is therefore included for the following time periods:

- Weekday AM 'Rush Hour' Peak: 07:45-08:45
- Weekday HRC 'Development Peak': 14:45-15:45
- Weekday PM 'Rush Hour' Peak: 17:00-18:00
- Saturday HRC 'Development Peak': 09:45-10:45

5.2 Future Year Traffic Growth Assumptions

5.2.1 It is anticipated that the initial 'opening year' of the Tenbury Wells HRC development site would be 2015. This date would allow for the undertaking of all site preparation tasks and the implementation of the various site elements such as the main hardstanding area and earthworks. In order to provide a robust assessment of development impact, operational assessments have been carried out for the 'future year' of 2019, effectively five years post the proposed lodging of the planning application for the facility (2014). The consideration of such a future year date reflects good practice guidelines set out in DfT document "Guidance on Transport Assessment".

5.2.2 2019 background traffic demand flows have been estimated via reference to National Transport Model (NTM) forecasts. NTM forecasts give traffic growth estimates by region, road type and whether the area is built up or not. These forecasts have then been adjusted by local TEMPRO factors for the 'Tenbury

Wells' area to reflect local traffic trends. The traffic growth factors derived by this methodology are set out in **Appendix TS6** and summarised below:

2014 – 2019 Growth Factors

Weekday AM Peak:	1.0540
Weekday Off Peak:	1.0726
Weekday PM Peak:	1.0591
Saturday:	1.0615

5.2.3 The resulting 2019 Background network demand flows are illustrated in **Figures TS15(a&b)**.

5.3 **Local Committed Development**

5.3.1 Discussions with WCC Highways Officers have not identified any major local committed development schemes that would require specific modelling within the local network assessments.

5.4 **Background + Development Traffic Estimates**

5.4.1 2019 Background Traffic + Proposed Tenbury Wells HRC traffic estimates are set out in **Figure TS16(a&b)** to this report.

6.0 ASSESSMENT OF ANTICIPATED DEVELOPMENT TRAFFIC IMPACT

6.1 Introduction

6.1.1 This section of the report considers the assessment of the operation of the immediate local highway network to the proposed HRC site and the ability of this network to accommodate the additional traffic flow movements predicted in Section 5. Impact assessment has been carried out through the consideration of link flow impact on the immediate local route of the B4214 Bromyard Road corridor. In addition junction operational assessments have been undertaken for the Tenbury Wells Business Park connection to Bromyard Road – the first point of contact to the main public highway network for HRC traffic.

6.1.2 Network assessment has been undertaken for the future year 2019 and includes for consideration of the following:

- Link flow capacity when compared to guideline threshold values set out in DfT document TA79/99 “Traffic Capacity of Urban Roads”;
- Junction capacity at the B4214 Bromyard Road / Business Park access using DfT standard software JUNCTIONS8 (PICADY module).

6.2 Link Capacity Assessment

6.2.1 In order to gauge the potential impact of the predicted increases in link flow generated by the proposed HRC development on the B4214 Bromyard Road corridor, predicted Background + HRC Development traffic levels have been compared to link capacity thresholds set out in DfT guidance document TA79/99 “Traffic Capacity of Urban Roads”.

6.2.2 **Table TS6.1** below sets out the predicted future year 2019 Background + HRC Development traffic demand levels and demonstrates the percentage spare capacity available on the B4214 Bromyard Road when assessed against TD79/99 guidance. For the purposes of this assessment the immediate section of B4214 Bromyard Road to the proposal site has been assessed on the basis of a 6m UAP3 link classification (“variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at-grade pedestrian crossings”).

6.2.3 Should predicted future year Background + HRC Development link demand levels fall within DfT guidance thresholds, it can be concluded that it is unlikely that material link operational or congestion issues would be experienced. Capacity testing has been carried out for all key network and development peak hour periods identified.

Table TS6.1 – TA79/99 Link Flow Capacity Assessment Results

Weekday Peak Hour Operation

	B4214 Bromyard Road West of Business Park			B4214 Bromyard Road East of Business Park		
	TA79/99 Capacity	2019 Base + Dev	%'tage of capacity	TA79/99 Capacity	2019 Base + Dev	%'tage of capacity
Weekday AM Peak (07:45-08:45)	1500	113	7.5%	1500	85	5.7%
Weekday Dev Peak (14:45-15:45)	1500	204	13.6%	1500	96	6.4%
Weekday PM Peak (17:00-18:00)	1500	147	9.8%	1500	124	8.3%

Two-way flow totals

Saturday Peak Hour Operation

	B4214 Bromyard Road West of Business Park			B4214 Bromyard Road East of Business Park		
	TA79/99 Capacity	2019 Base + Dev	%'tage of capacity	TA79/99 Capacity	2019 Base + Dev	%'tage of capacity
Saturday Dev Peak (09:45-10:45)	1500	208	13.9%	1500	85	5.7%

Two-way flow totals

6.2.4 Review of the above capacity exercise demonstrates that it is not anticipated that the Tenbury Wells HRC development would result in future two-way link flow capacity issues on B4214 Bromyard Road. Typically the route is predicted to operate in future at less than 10% of practical capacity during traditional AM / PM rush hour peak periods, with development peak periods demonstrating link demand values of less than 15% of capacity thresholds.

6.2.5 Given the results of this assessment it is concluded that the HRC proposals are unlikely to generate a material level of local operational impact that would require the need / delivery of off-site link improvements.

6.3 **Junction Capacity Assessment: B4214 Bromyard Road / Business Park T-junction**

6.3.1 Junction capacity assessments have been undertaken using DfT software program JUNCTIONS8 (PICADY module) which models T-junction priority junctions. Within the PICADY model input, traffic flows are split into 15-minute time segments. The results generated in the models indicate the peak Ratio of Flow to Capacity (RFC) in any individual peak and the anticipated traffic queues. RFC values between 0.00 and 0.85 are generally considered to represent stable and acceptable operating conditions. Values between 0.85 and unity (1.0) represent variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction). RFC values in excess of unity represent overloaded conditions (i.e. congested conditions).

6.3.2 An assessment of the simple T-junction connection to the B4214 Bromyard Road corridor from the Tenbury Wells Business Park has been undertaken for the 2019 design year Background flow + Development scenarios. The results are summarised in **Table TS6.2** to this report, with model outputs included in **Appendix TS7** to this report.

Table TS6.2 – PICADY Junction Capacity Results

Weekday Peak Hour Operation

Approach movement:	Flow (PCU)	Max RFC	Max Queue
Weekday AM Peak (07:45-08:45)			
Side road exit arm (B-AC)	17	0.02	1
B4214 (west) to site access (C-B)	16	0.03	1
Weekday Network Peak (14:45-15:45)			
Side road exit arm (B-AC)	67	0.09	1
B4214 (west) to site access (C-B)	62	0.11	1
Weekday PM Peak (17:00-18:00)			
Side road exit arm (B-AC)	20	0.03	1
B4214 (west) to site access (C-B)	8	0.01	1

Saturday Peak Hour Operation

Approach movement:	Flow (PCU)	Max RFC	Max Queue
Saturday Network Peak (09:45-10:45)			
Site access exit arm (B-AC)	77	0.11	1
A4111 (north) to site access (C-B)	70	0.12	1

6.3.3 Review of the above results demonstrates that maximum approach arm RFC is predicted to occur during the Saturday weekend peak hour of 09:45 – 10:45 relating to right turn entry movements to the Business Park side road. Maximum RFC predicted during this period would be just 0.12, with an associated queue of one vehicle. This level of junction operation and queuing is considered to reflect satisfactory conditions, with RFC's well below the critical 0.85 threshold for improvement / further assessment.

7.0 SUMMARY AND CONCLUSIONS

7.1 This Transport Statement has been prepared by Axis on behalf of MWM Ltd to consider highways and transport issues related to the development of a new Household Recycling Centre (HRC) on land at Tenbury Wells Business Park, Tenbury Wells. The proposal scheme represents the development of a household waste facility to serve householders of the town of Tenbury Wells and surrounding settlement. Whilst Tenbury Wells is currently served by a small household waste drop-off site at Palmer's Meadow, this existing facility is of limited capacity and is not capable of meeting modern requirements for municipal recycling facilities.

Baseline conditions

7.2 The Tenbury Wells HRC proposal site represents a vacant development site on the Tenbury Wells Business Park, located to the south eastern edge of the built up area of the town of Tenbury Wells. The site is currently undeveloped and is characterised by a generally flat area of grassland.

7.3 Due to its undeveloped nature, the site does not currently have a direct vehicle access. The site is however, bounded to the north and east by existing Business Park roads which would allow for the formation of new access arrangements. These estate roads ultimately link to a main access road which forms a simple give-way T-junction with the B4214 Bromyard Road. The internal Business Park roads are approximately 7.5m in width, with footways to both sides and therefore are suitable to accommodate regular heavy goods vehicle traffic movements. The estate roads also form part of the adopted public highway network.

7.4 On site observations of route operation identified free flow conditions on the B4214 Bromyard Road corridor, with no evidence of congestion. No queuing was identified on the give way approaches at the B4214 Bromyard Road / Business Park access, including for the effects of right turn movements to

the Business Park from B4214 Bromyard Road. This junction is also noted to provide suitable lateral and forward sightlines for prevailing traffic speeds.

- 7.5 Base traffic flow patterns for the immediate network to the proposal site have been established through the undertaking of detailed 12hr traffic surveys at the junction of the B4214 Bromyard Road & the Business Park development access road. Analysis of the survey data for the B4214 to the west of the Industrial Estate access identifies that maximum background traffic demand currently takes place for the weekday traditional evening peak hour of 17:00 – 18:00, when of the order of 130 vehicle movements were recorded (two-way). Traffic demand during the AM peak rush hour period took place between 07:45-08:45 (86 vehicles per hour). Weekend traffic demand on the B4214 route is generally at lower levels than for weekday demand, with hourly traffic demand less than 100 vehicles per hour. Such background demand levels are substantially below the available operating capacity of a route of the type and nature of the B4214 Bromyard Road corridor. This suggests that significant levels of spare operating capacity are available.
- 7.6 An appraisal of the operational safety of the immediate local network to the proposal site has been carried out through reference to Personal Injury Accident (PIA) data records. Review of this information identifies that only three accident incidents have been recorded during the 8 year search period. No injury accident incidents have been identified at the junction of B4214 Bromyard Road / Tenbury Business Park.
- 7.7 It is anticipated that the vast majority of regular users of the proposed HRC facility would visit the site using the private car due to the bulky / heavy nature of waste to be deposited at the site. It is important to note, however, that the site is located in an area which lies within a reasonable walking and cycling distance of the main residential areas of the town. Such connections may provide some opportunities for regular staff travel to the site by alternative travel modes, should staff live locally.

Development Proposals and Access Strategy

- 7.8 It is proposed to develop the proposal site at Tenbury Wells to deliver a modern facility for the collection of household waste for onward shipment and processing. It is considered that the development of a new HRC facility close to the existing main population centre of Tenbury Wells would therefore help address transport sustainability objectives of reducing journey length for current household waste disposal trips and further assist in meeting national composting, recycling and landfill diversion targets for household waste.
- 7.9 It is anticipated that the HRC facility would only be open to the public for three days each week (one weekday and both Saturday and Sunday).
- 7.10 Visitor and HGV movements to / from the site would be taken from a new vehicular access point to an extended internal Business Park access road network and linking to the B4214 Bromyard Road. The internal site layout would provide a one-way visitor vehicle circulation route with off-line parking areas for the unloading of waste. Such an arrangement would allow for the efficient circulation of traffic around the site and reduce the potential for parked vehicles blocking through traffic and thus creating on-site queuing.
- 7.11 The site entry / exit would be designed to deliver appropriate lateral visibility, including a leading direction splay of minimum 2.4m by 43m – a distance suitable for access to a route operating at 30mph traffic speeds. The access design is also suitable to allow the safe and efficient access of occasional large service vehicle movements.

Development Traffic Generation and Distribution

- 7.12 The proposed HRC facility has been sized and designed to cater for the needs of Tenbury Wells and surrounding settlements. Traffic demand estimates for the proposed HRC facility have been generated through

reference to vehicle data collected at Bromyard HRC facility (also operated by MWM Ltd), which shows similar population catchment / operating characteristics to the proposed Tenbury Wells facility. In order to ensure a robust estimate of HRC development traffic demand the February 2014 traffic survey data for the Bromyard HRC facility has been increased to peak month estimates using a growth factor calculated based on 2013 monthly waste input data. This is a highly robust methodology and in practice is likely to over-estimate peak traffic demand levels, thereby ensuring the most onerous assessment of the traffic impact of the proposals.

- 7.13 Peak HRC development demand is anticipated to occur on Saturday, with overall weekday trip demand generally approximately just over three quarters of that observed for the peak weekend movements. It is also interesting to note that during the traditional AM / PM weekday rush hour, demand for trip movements to / from the proposal site is extremely low, with only approximately 25 movements (in + out) per hour predicted. Overall weekday daily traffic demand to the site is anticipated to be of the order of 264 public visits per day (528 trip movements in + out). Maximum weekday demand conditions are predicted to occur for the time period 14:45 – 15:45 when 62 arrival movements (117 in + out) are predicted.
- 7.14 Maximum weekend hourly traffic demand is predicted to take place on a Saturday for the hour 09:45-10:45 and is predicted to be of the order of 72 arrival movements per hour (140 in + out). Daily traffic demand to the site on weekend days is anticipated to be of the order of 310 visitor arrival movements on a Saturday (620 in + out).
- 7.15 Review of data for HGV movements suggests that the site would not experience substantive HGV demand. Indeed during recent surveys at the nearby Bromyard HRC, no HGV movements were recorded during weekday operation. Based on maximum 'peak month' was estimates HGV arrival demand could be expected to be of the order of 2 HGVs a day on weekdays

and 5 HGVs on a Saturday, associated with the delivery / collection of waste containers.

- 7.16 The assignment of the proposed HRC development movements to the local network has been undertaken via reference to the broad distribution of population within the local catchment to the HRC. For the purposes of this assessment, it has been assumed that 90% of all customer / staff traffic and 100% of all HGV traffic would travel to / from the site via the B4214 to the west of the Business Park.

Operational Impact Assessment

- 7.17 It is anticipated that the initial 'opening year' of the Tenbury Wells HRC development site would be towards the end of 2015. In order to provide a robust assessment of development impact, operational assessments have also been carried out for the 'future year' of 2019, effectively 5 years post the proposed date of registration of the planning application for the facility (2014). The use of such a future year assessment horizon reflects national good practice guidelines for highway assessment.

Link Capacity Assessment

- 7.18 In order to gauge the potential impact of the predicted increases in link flow generated by the proposed HRC development on the B4214 Bromyard Road corridor, predicted 2019 Background + HRC Development traffic levels have been compared to link capacity thresholds set out in DfT guidance document TA79/99 "Traffic Capacity of Urban Roads".
- 7.19 Review of this link capacity exercise demonstrates that it is not anticipated that the Tenbury Wells HRC development would result in future two-way link flow capacity issues on B4214 Bromyard Road. Typically the route is predicted to operate in future at less than 10% of practical capacity during

traditional AM / PM rush hour peak periods, with development peak periods demonstrating link demand values of less than 15% of capacity thresholds.

- 7.20 Given the results of this assessment it is concluded that the HRC proposals are unlikely to generate a material level of local operational impact that would require the need / delivery of off-site link improvements.

Junction Capacity Assessment

- 7.21 An assessment of the B4214 / Business Park access junction layout has been undertaken for the 2019 design year Background + HRC Development scenario using DfT industry standard software (JUNCTIONS8, PICADY module). Review of the results of this modelling work demonstrates that maximum RFC at the junction is predicted to occur during the Saturday weekend peak hour of 09:45 – 10:45 relating to right turn entry movements to the Business Park from B4214 Bromyard Road (W). Maximum RFC predicted during this period would be just 0.12, with an associated maximum queue of one vehicle. This level of junction operation and queuing is considered to reflect satisfactory conditions, with RFC's well below the critical 0.85 threshold for improvement / further assessment.

Summary

- 7.22 In conclusion, it is considered that the development of the land at Tenbury Wells Business Park for HRC land use represents a suitable development option for the proposal site. The site will deliver a modern, fit for purpose, waste collection facility within the town of Tenbury Wells, in accordance with general transport sustainability objectives to manage journey lengths for household waste disposal trips in Worcestershire. Development related traffic demand has been demonstrated as being unlikely to generate a material impact on the operation of existing local route corridors and can be easily accommodated by the existing local highway network. Some limited sustainable travel mode options are available within the local catchment to

the site to help deliver opportunities for some local staff journeys to / from the site by alternative transport modes to the private car. It is ultimately considered that there are no outstanding material transport issues associated with the development of the proposal site for HRC use.



FIGURES

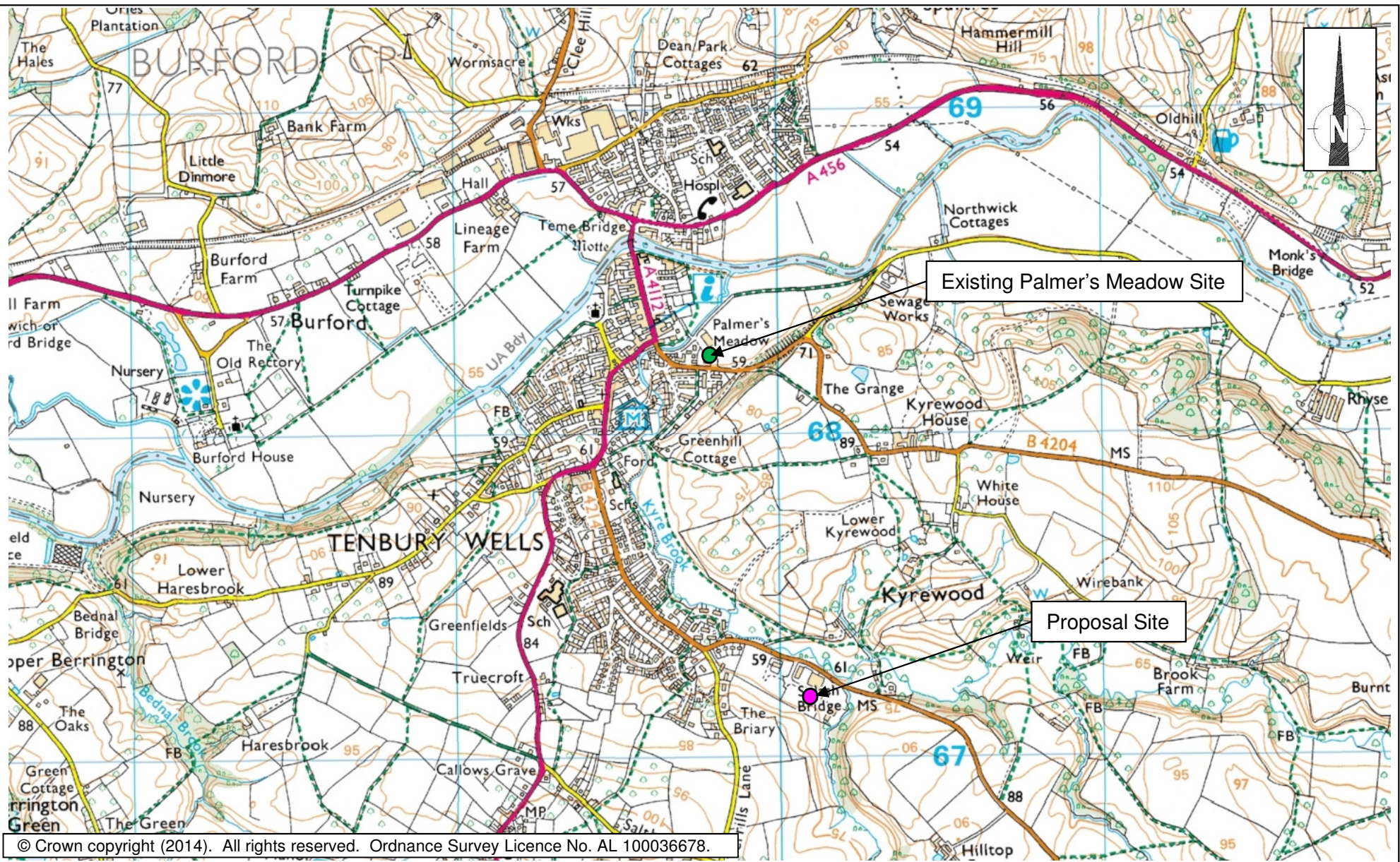


Figure TS1

Site Location: Strategic Context

1509-01

Tenbury Wells HRC

June 2014



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

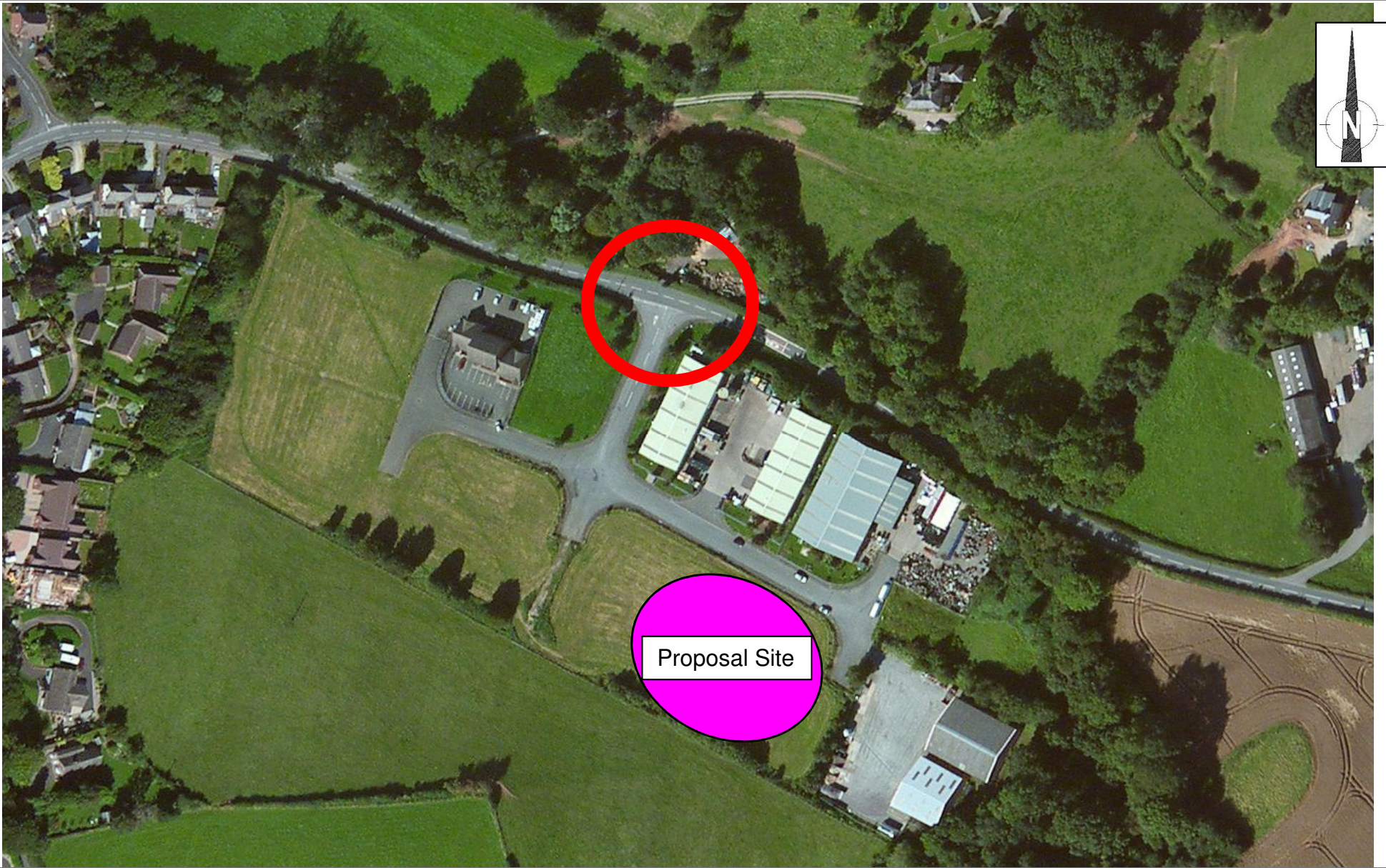


Figure TS2

Site Location: Immediate Context

1509-01

Tenbury Wells HRC

June 2014



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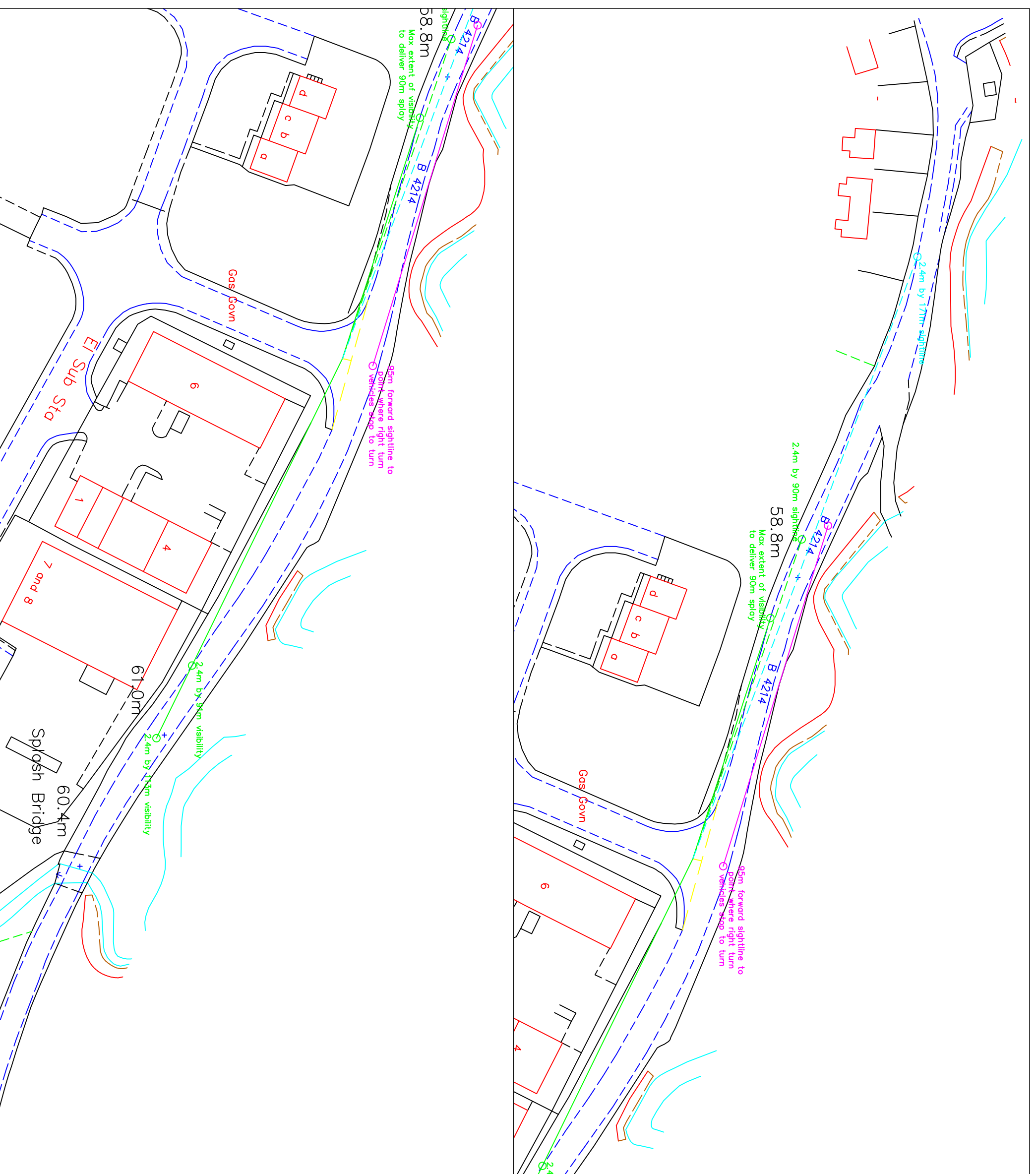
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● Revision History

● Date

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B desc	date b
C desc	date c
D desc	date d
E desc	date e
F desc	date f
G desc	date g
H desc	date h
I desc	date i
J desc	date j



Client: Mercia Waste Management
 Project: Tenbury Wells HWS
 Drawing title: B4214 Bromyard Road / Industrial Estate Review of Sightlines

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Client: Mercia Waste Management

Project: Tenbury Wells HWS

Drawing title: B4214 Bromyard Road / Industrial Estate

Review of Sightlines

scale(s): 1/1 000	date: 26/02/14	drawn by: APB	checked:
drawing number: Figure T53		status: Information	
xtsfs:		rev:	

planning environment design

Observed Weekday Rolling Hourly Traffic Demand (15 minute off-set period) for B4214 Bromyard Road (West of Industrial Estate Access)

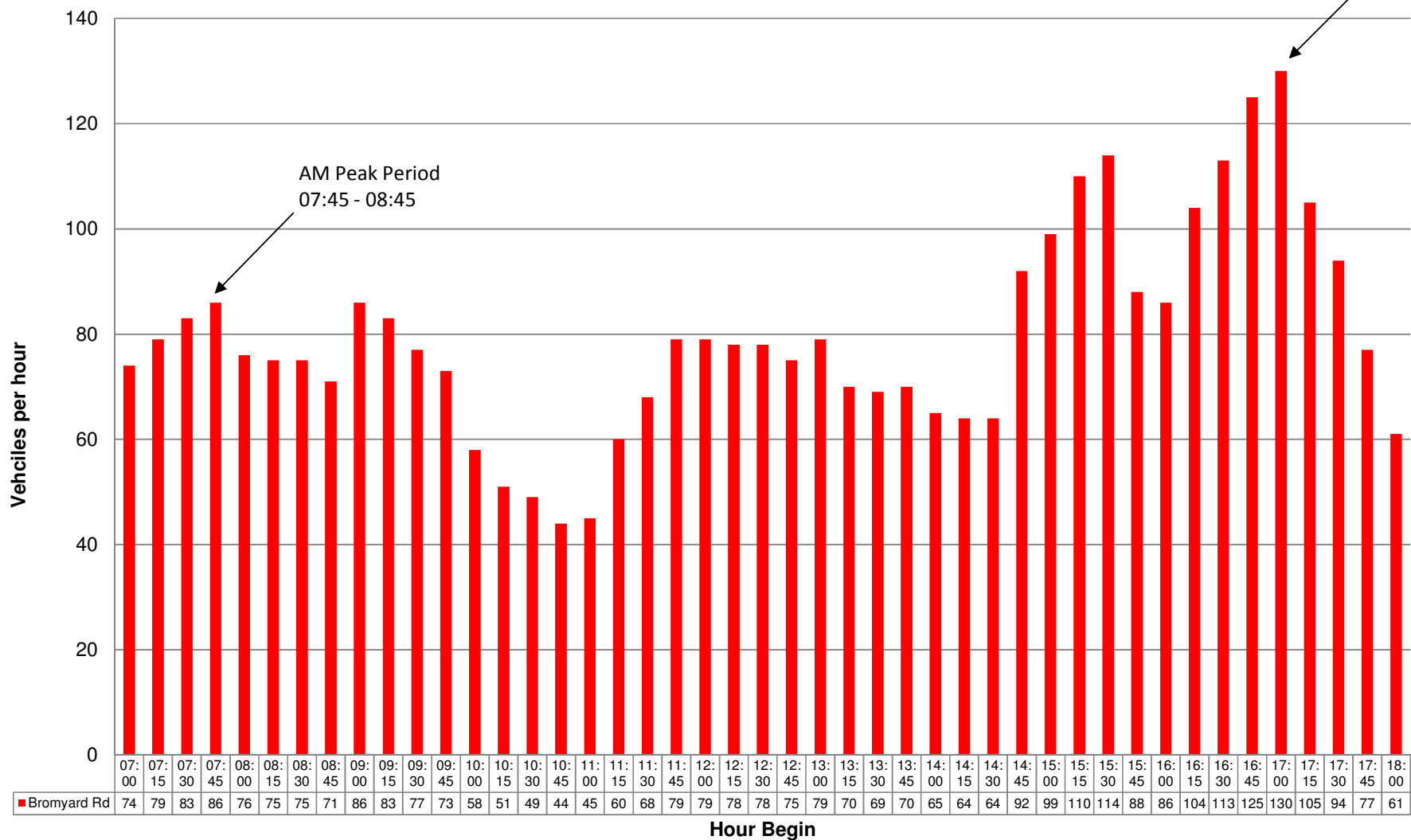


Figure TS4a

Weekday Background Traffic Demand Profile B4214
Bromyard Road (W) (Rolling hourly demand profile)

1509-01

Tenbury Wells HRC

March2014



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

**Observed Saturday Rolling Hourly Traffic Demand (15 minute off-set period)
for B4214 Bromyard Road (West of Industrial Estate Access)**

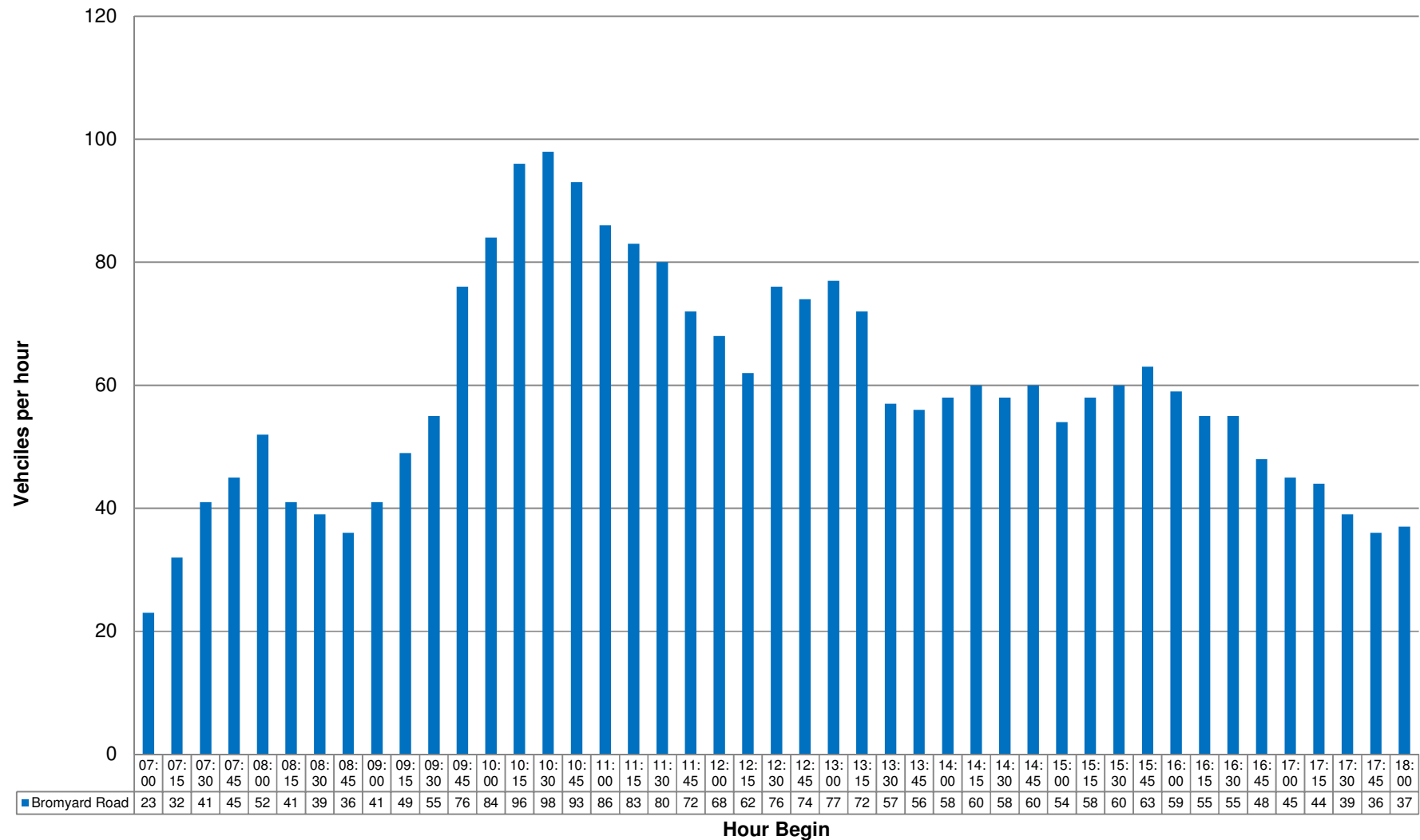


Figure TS4b

Saturday Background Traffic Demand Profile B4214
Bromyard Road (W) (Rolling hourly demand profile)

1509-01

Tenbury Wells HRC

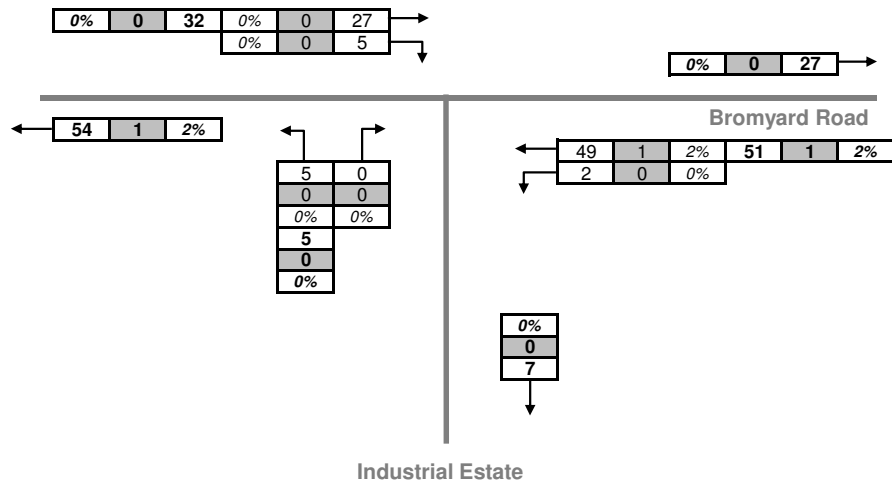
June 2014



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday AM Peak (07:45-08:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs



Weekday PM Peak (17:00-18:00)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

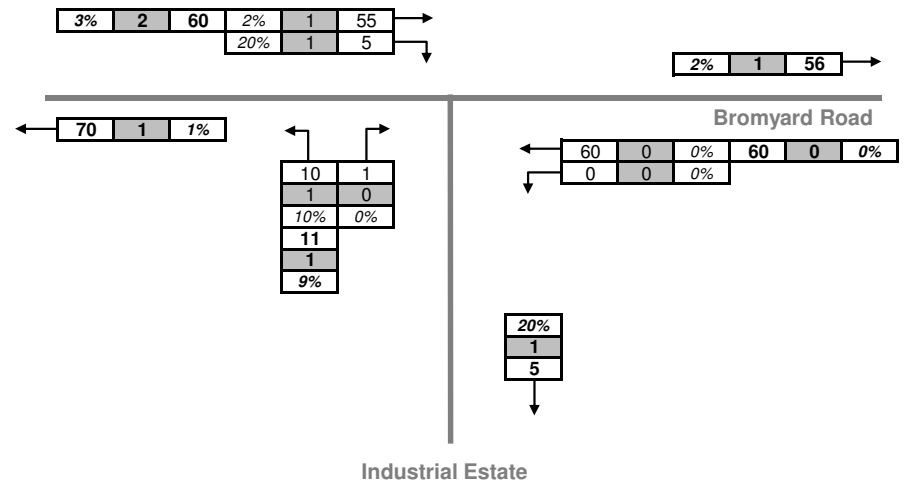


Figure TS5a

2014 Background Traffic Demand (Weekday AM & PM Peak)

1509-01

Tenbury Wells HRC

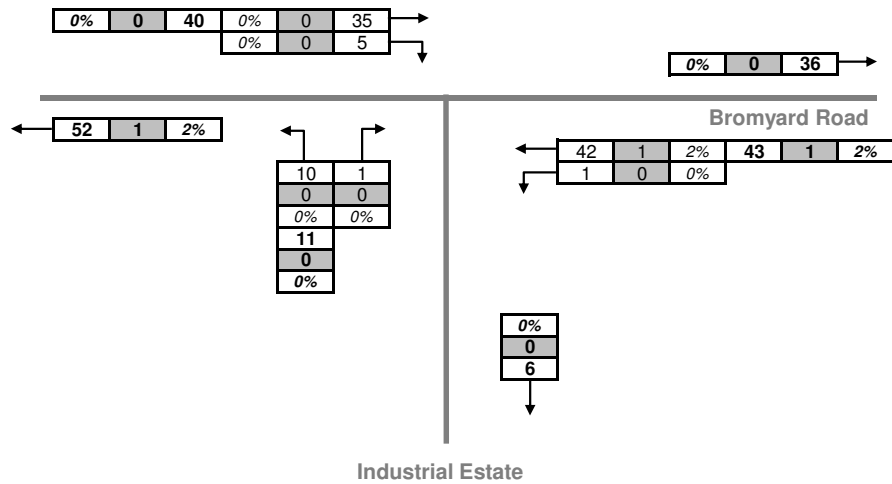
June 2014

axis

Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday HWS Peak (14:45-15:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs



Saturday HWS Peak (09:45-10:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

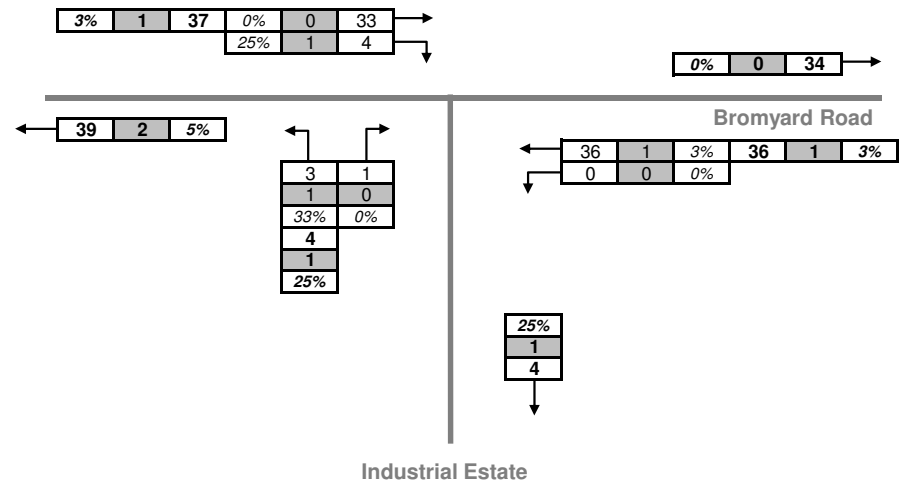


Figure TS5b

2014 Background Traffic Demand (HRC Peak Demand)

1509-01

Tenbury Wells HRC

June 2014

axis

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76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

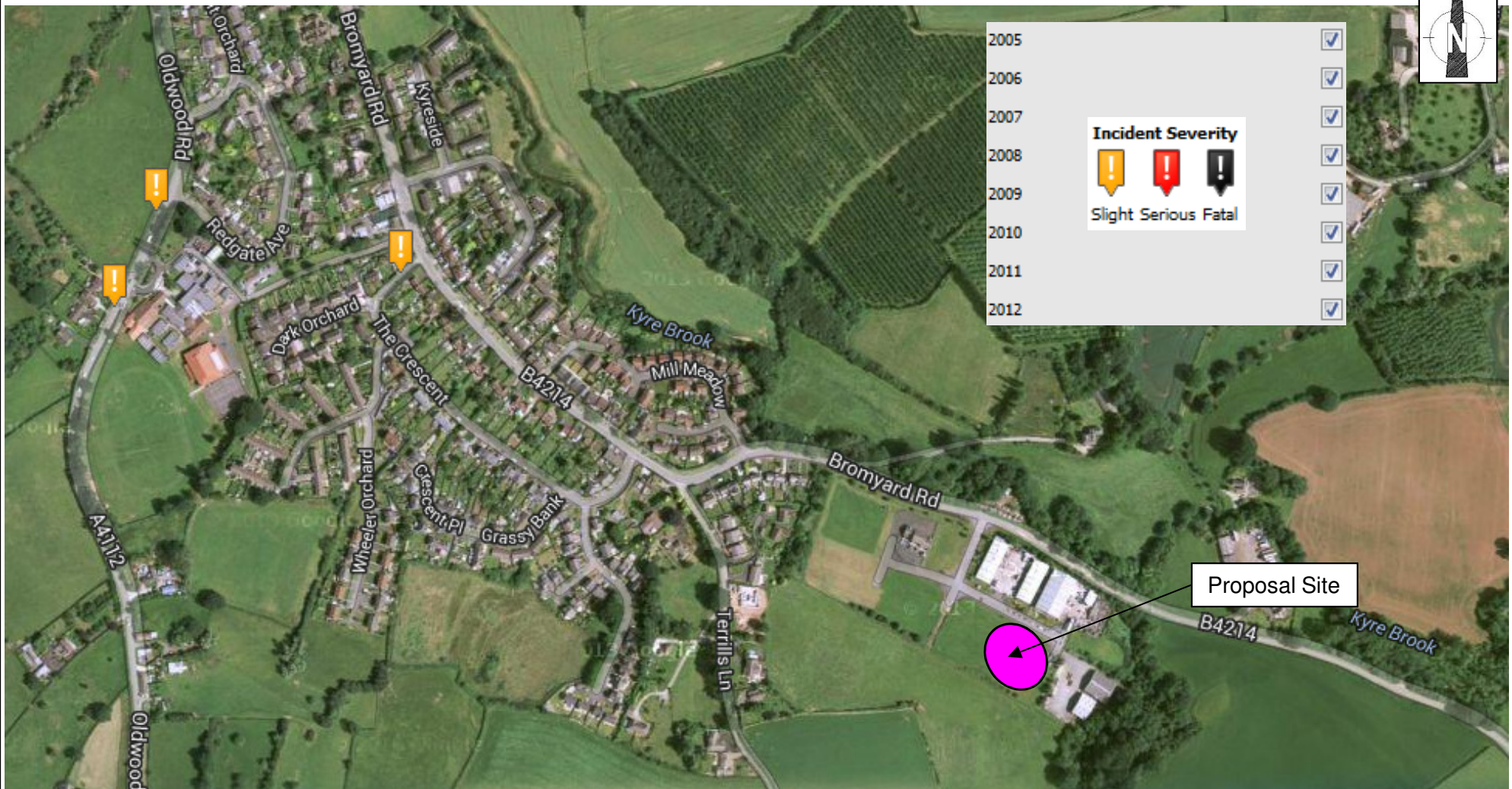


Figure TS6

Location of Recorded Personal Injury Accident Incidents in the Vicinity of the HRC Proposal Site

1509-01

Tenbury Wells HRC

March2014



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76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

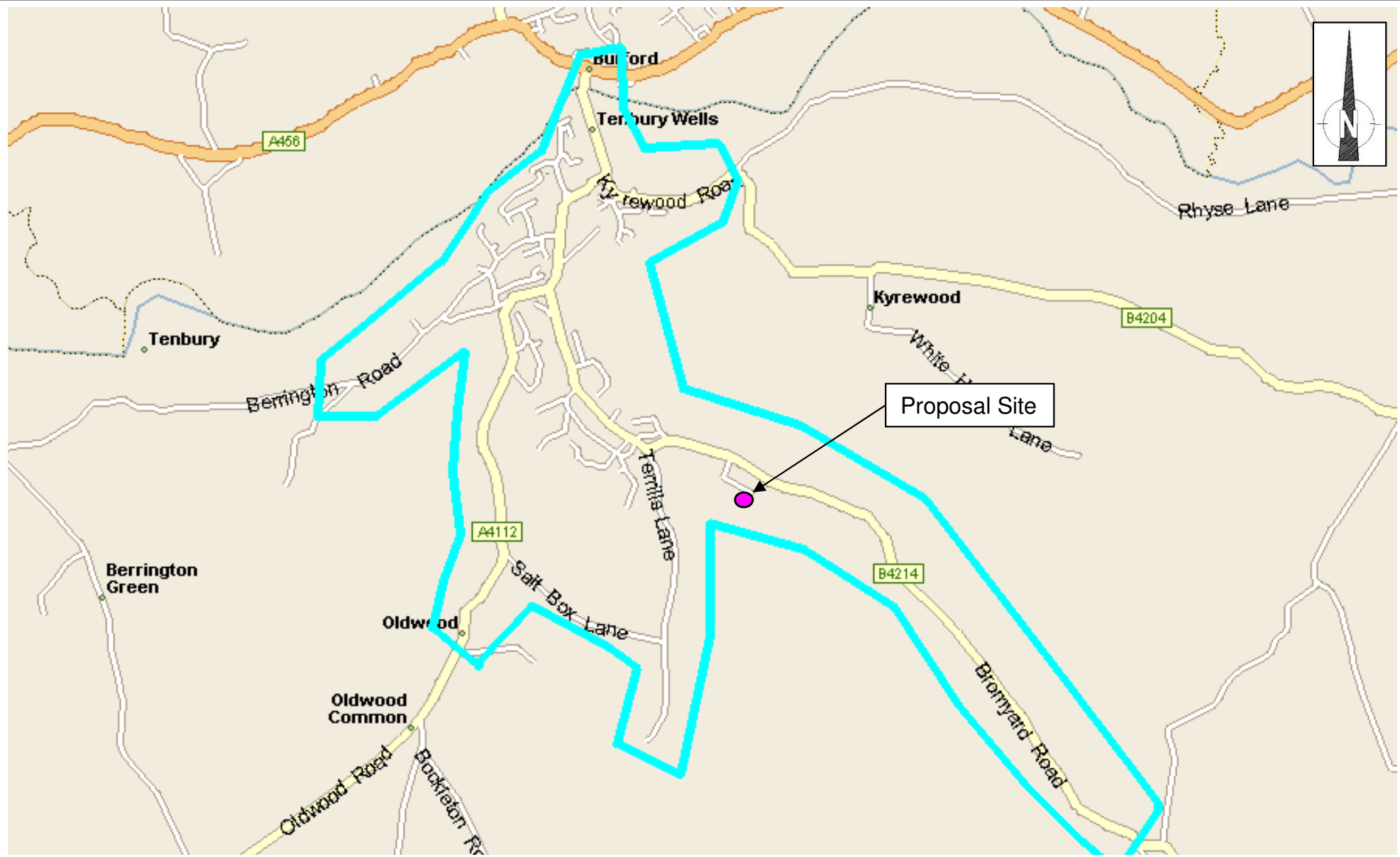


Figure TS7

2km Walk Catchment to the HRC Proposal Site

1509-01

Tenbury Wells HRC

June 2014



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Wilmslow
Cheshire, SK9 5BB

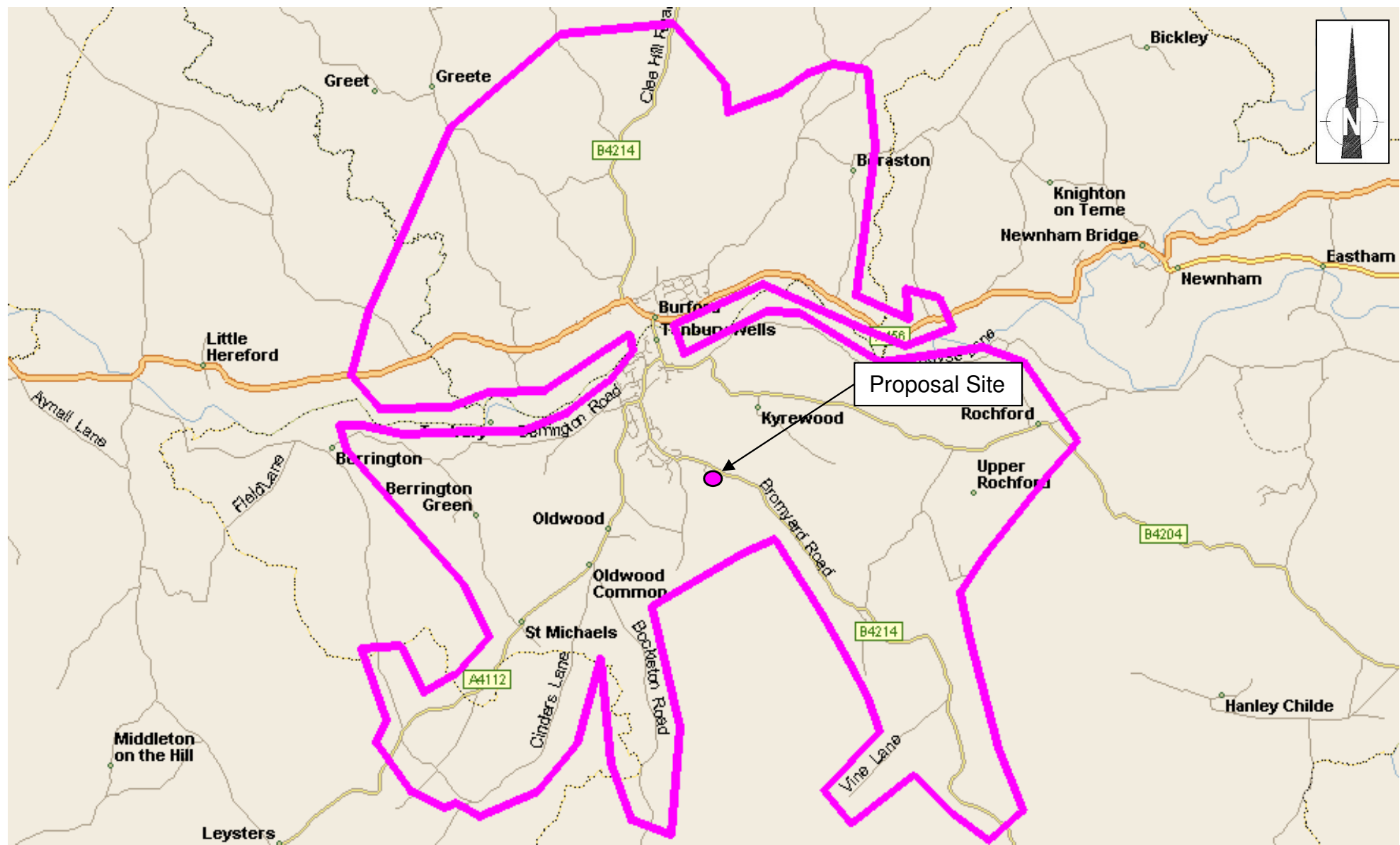


Figure TS8

5km Cycle Catchment to the HRC Proposal Site

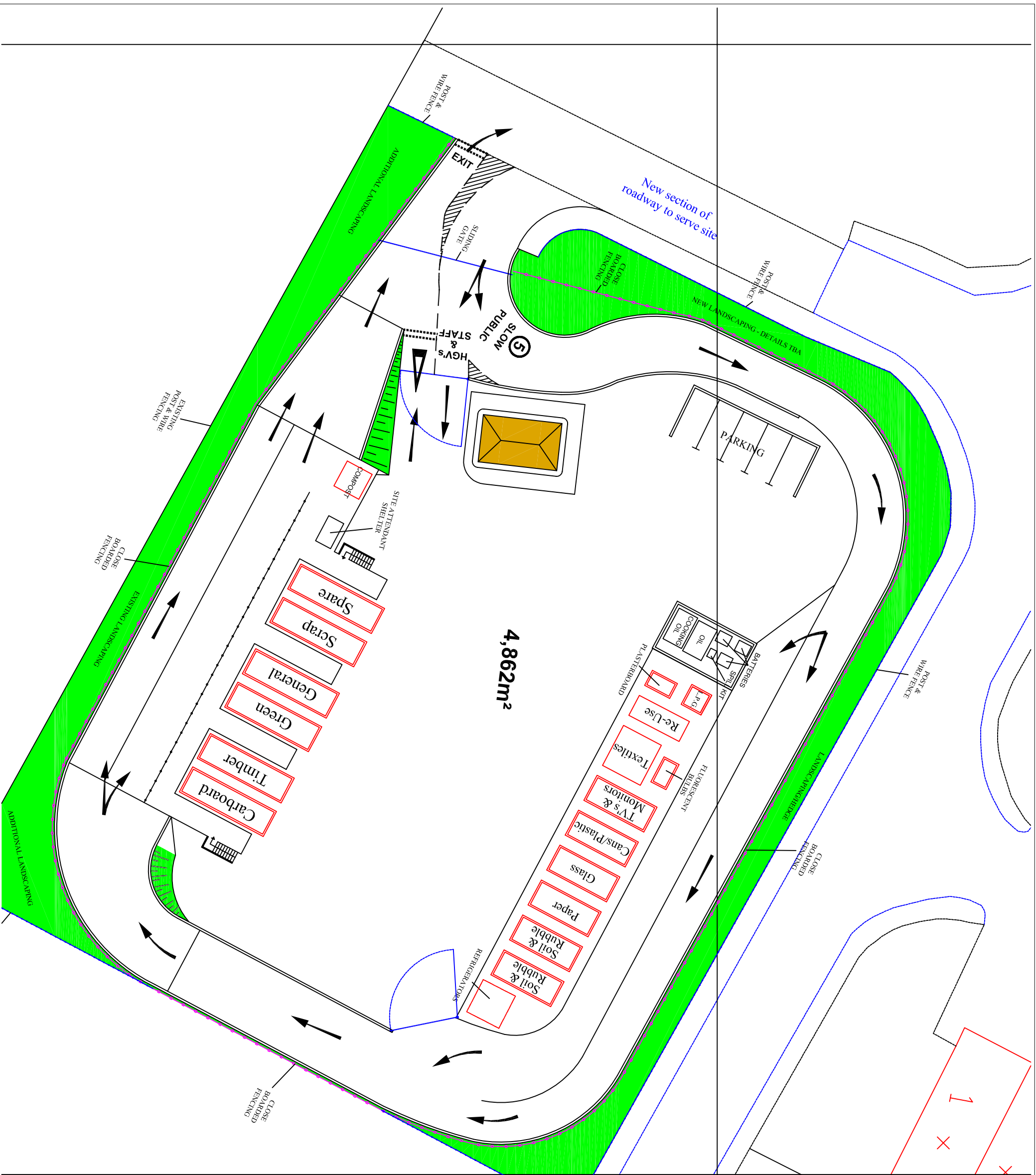
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Tenbury Wells HRC

June 2014



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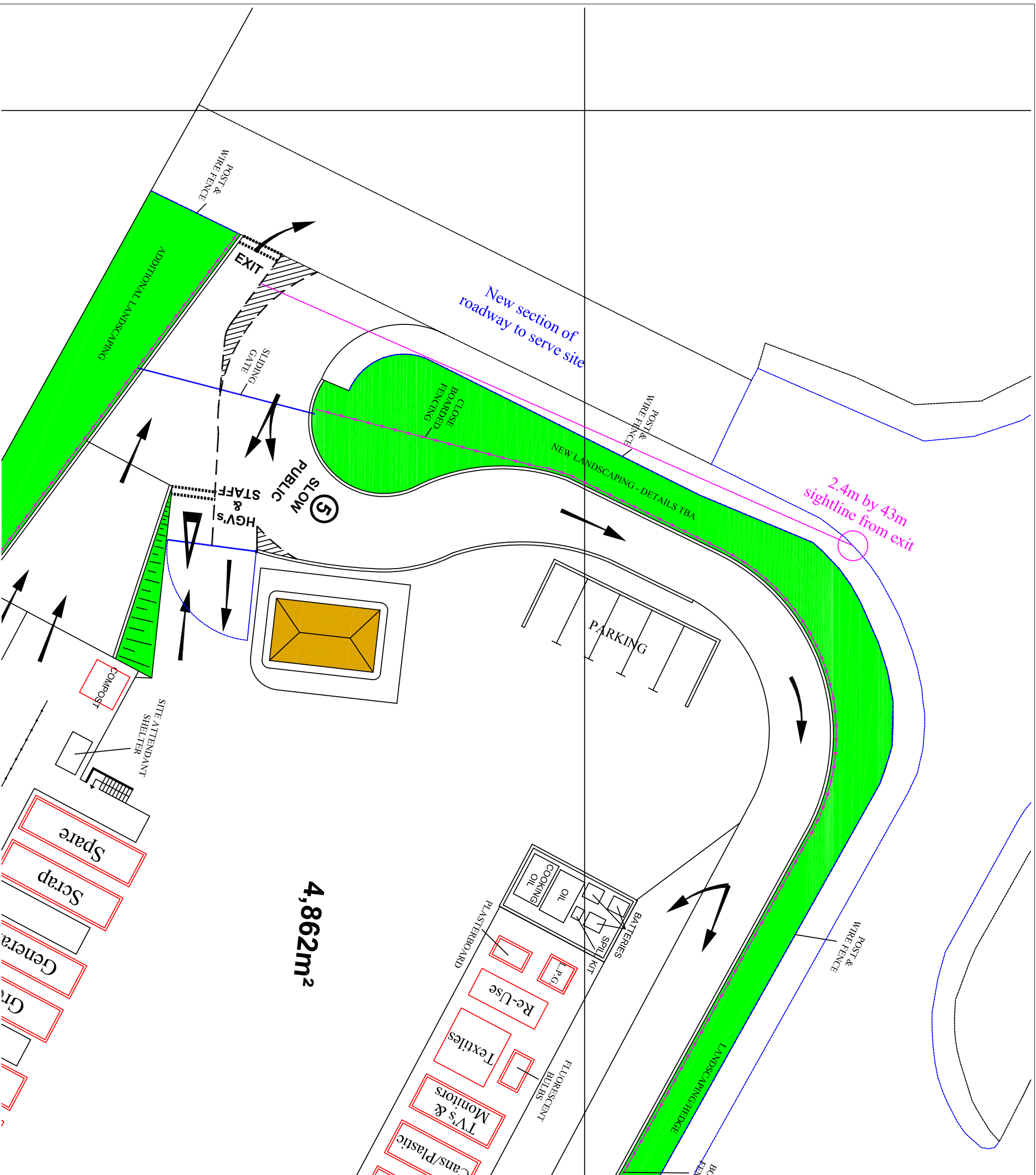
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J desc	date j

<p>Client: Mercia Waste Management Ltd</p> <p>Project: Tenbury Wells HRC</p> <p>Drawing Title: Site Masterplan</p>	<p>axis</p> <p>0844 8700 007 - www.axisped.co.uk</p>
<p>Checker Office: Well Breton Chester CH4 8DH</p> <p>South Manchester Office: 76 Water Lane Willinglow SK9 5BB</p>	

scale(s): NTS	date: 18/06/14	drawn by: AB	checked:
drawing number: Figure T59		status: Information	
xfrefs:		rev:	



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<p>Client: Mercia Waste Management Ltd</p> <p>Project: Tenbury Wells HRC</p> <p>Drawing title: Site Access Arrangements & Sightline</p>	<p>Scale(s): 1:250</p> <p>Drawing number: Figure TS10</p> <p>Status: Information</p>	<p>Drawn by: AB</p> <p>Checked: -</p>
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planning environment design

Observed Weekday Rolling Hourly Traffic Demand (15 minute off-set period) for Bromyard HRC Site: February 2014

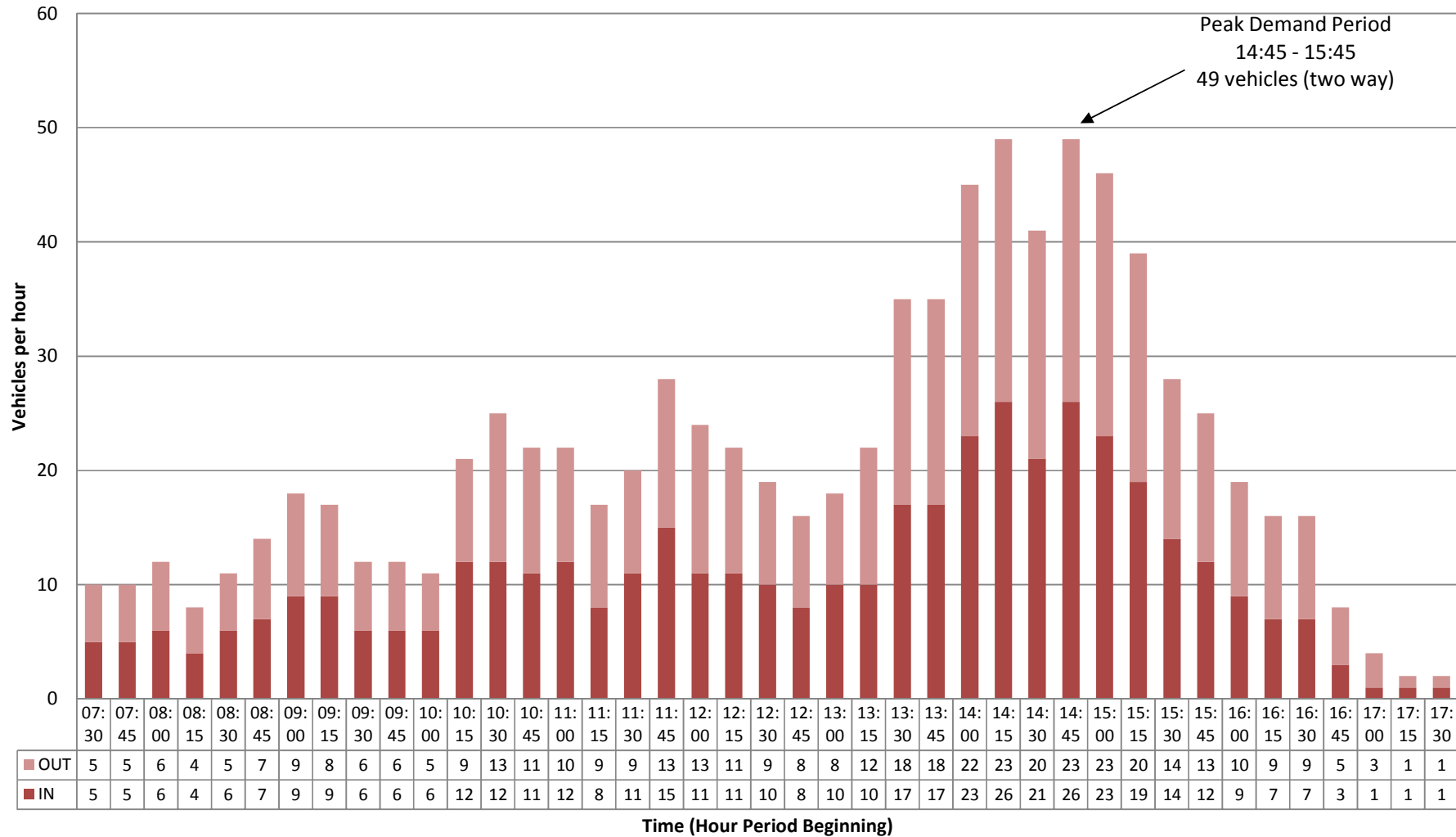


Figure TS11a

Observed Weekday Demand Profile at Bromyard HRC
(March 2014)

1509-01

Tenbury Wells HRC

June 2014



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Observed Saturday Rolling Hourly Traffic Demand (15 minute off-set period) for Bromyard HRC Site: February 2014

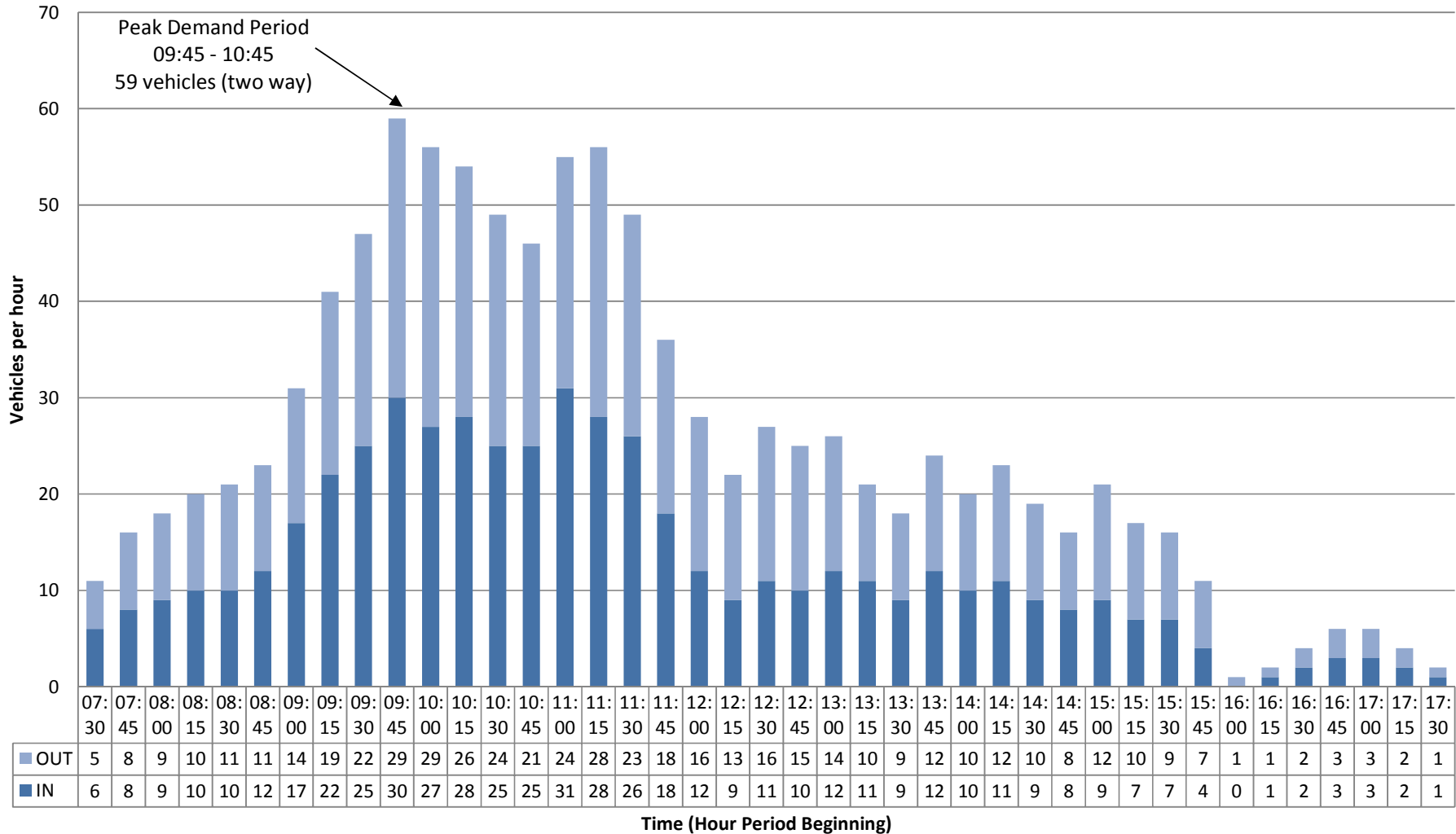


Figure TS11b

Observed Saturday Demand Profile at Bromyard HRC
(March 2014)

1509-01

Tenbury Wells HRC

June 2014



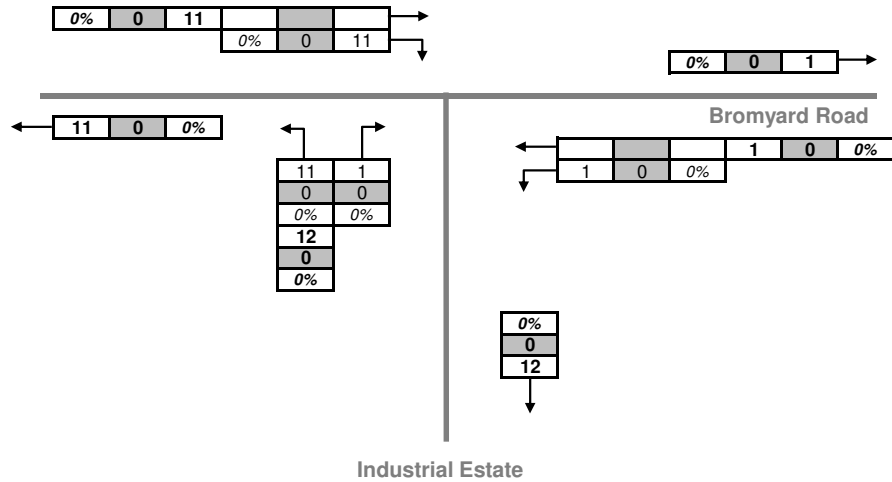
Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday AM Peak (07:45-08:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

HWS Traffic

	In	Out
All vehs	12	12
HGVs	0	0



Weekday PM Peak (17:00-18:00)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

HWS Traffic

	In	Out
All vehs	2	7
HGVs	0	0

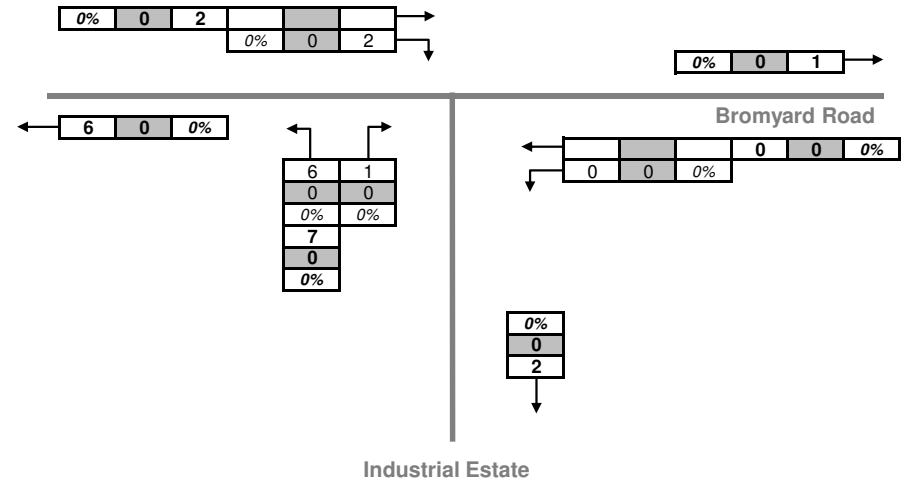


Figure TS12a

HRC Development Traffic (Weekday AM & PM Peak)

1509-01

Tenbury Wells HRC

June 2014

axis

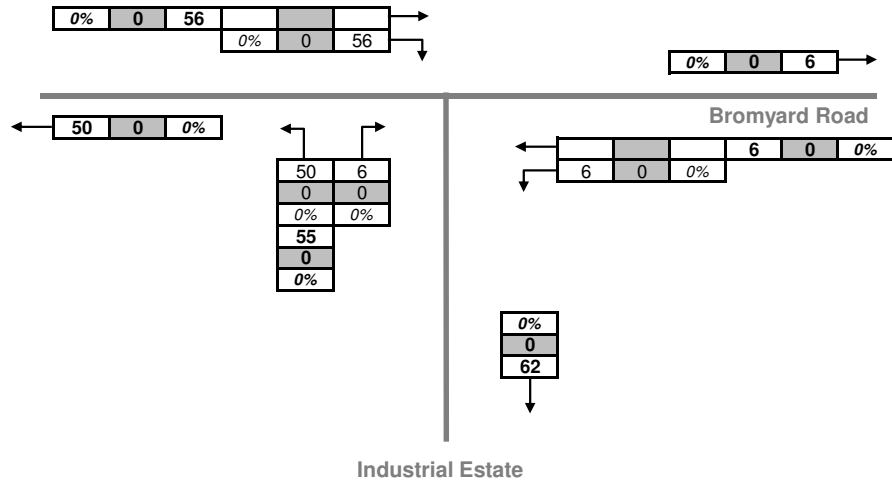
Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday HWS Peak (14:45-15:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

HWS Traffic

	In	Out
All vehs	62	55
HGVs	0	0



Saturday HWS Peak (09:45-10:45)

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

HWS Traffic

	In	Out
All vehs	72	70
HGVs	0	2

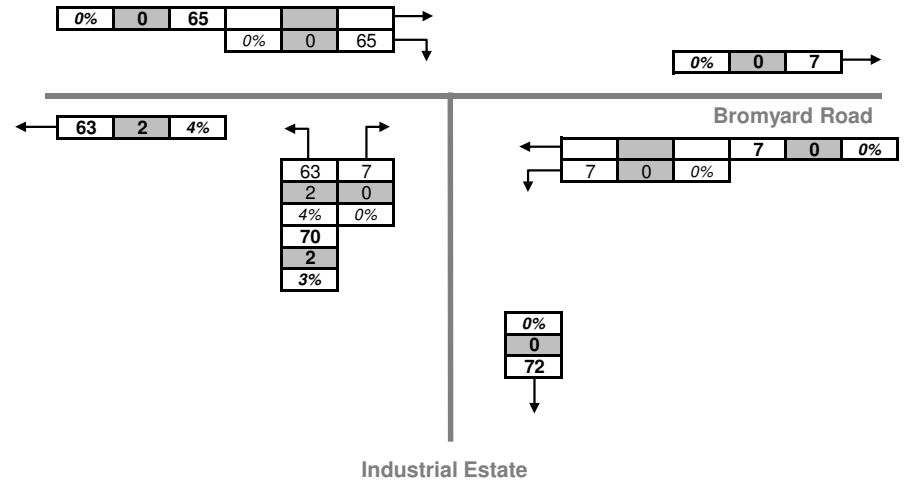


Figure TS12b

HRC Development Traffic (HRC Peak)

1509-01

Tenbury Wells HRC

June 2014

axis

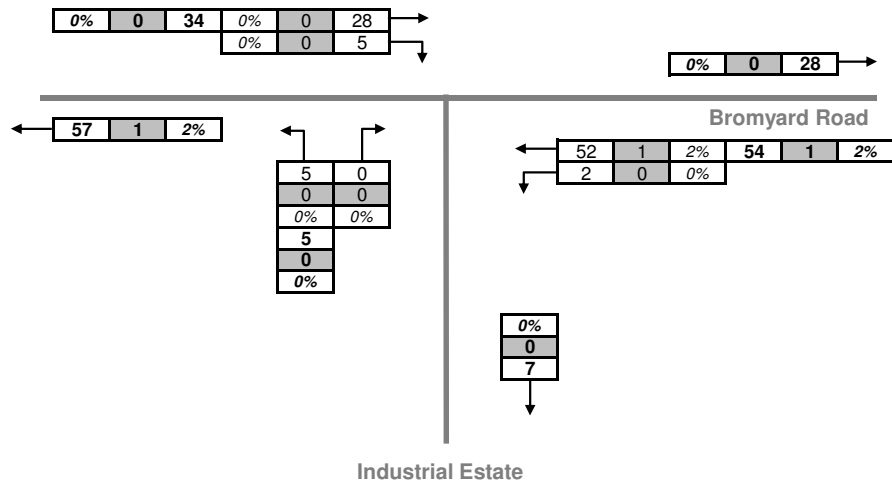
Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday AM Peak (07:45-08:45)

2014-2019

1.054

2	Total Vehicles
1	Total HGVs
50%	%age HGVs



Weekday PM Peak (17:00-18:00)

2014-2019

1.059

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

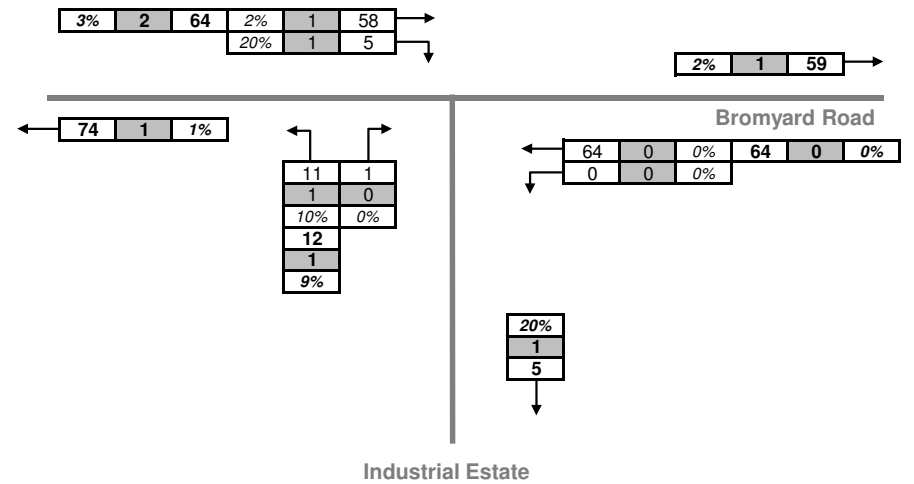


Figure TA13a

2019 Background Traffic Demand (Weekday AM & PM Peak)

1509-01

Tenbury Wells HRC

June 2014

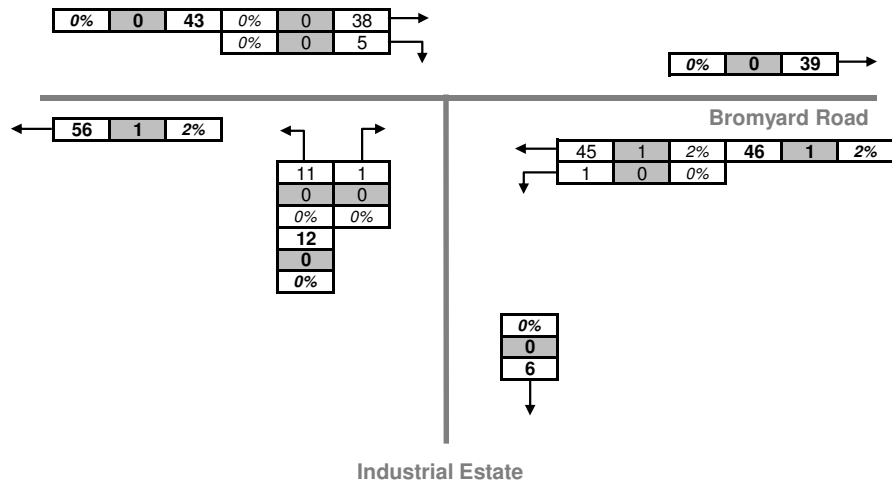
axis

Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday HWS Peak (14:45-15:45)

2014-2019 **1.073**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs



Saturday HWS Peak (09:45-10:45)

2014-2019 **1.062**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

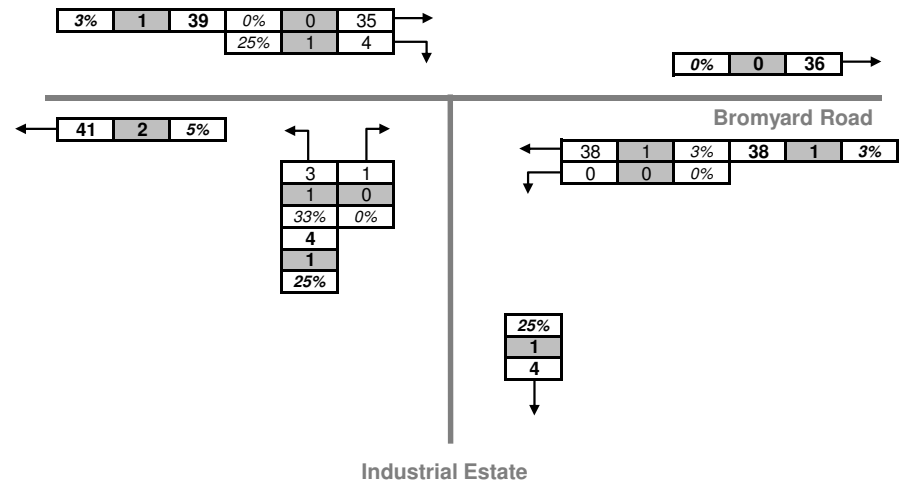


Figure TA13b

2019 Background Traffic Demand (HWS Peak)

1509-01

Tenbury Wells HRC

June 2014

axis

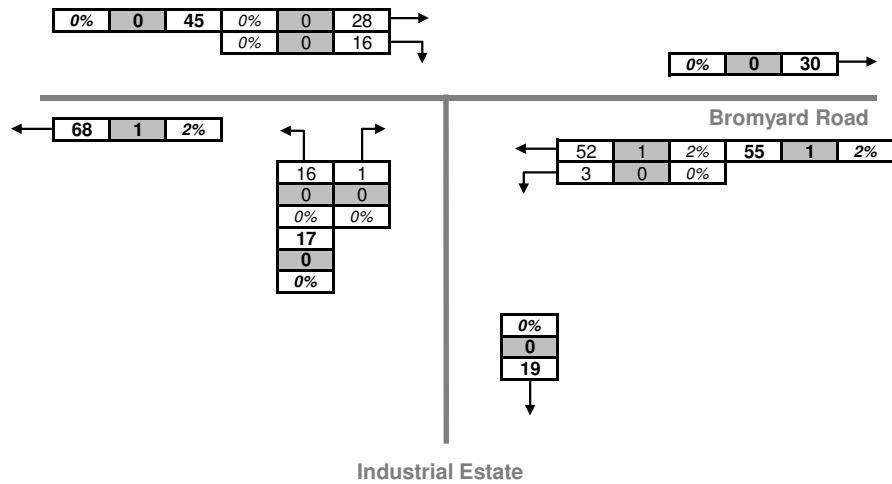
Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday AM Peak (07:45-08:45)

2014-2019 **1.054**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

	In	Out
All vehs	12	12
HGVs	0	0



Weekday PM Peak (17:00-18:00)

2014-2019 **1.059**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

	In	Out
All vehs	2	7
HGVs	0	0

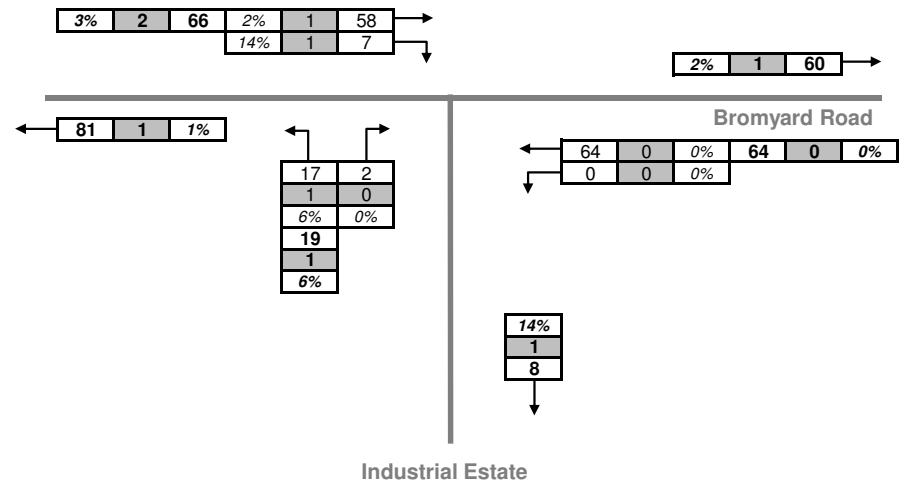


Figure TA14a

2019 Background + HRC Traffic (Weekday AM & PM Peak)

1509-01

Tenbury Wells HRC

June 2014

axis

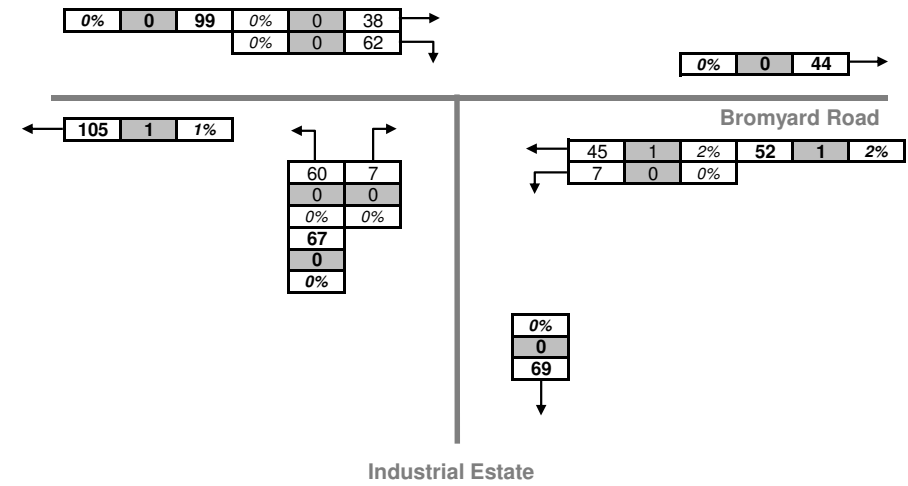
Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

Weekday HWS Peak (14:45-15:45)

2014-2019 **1.073**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

	In	Out
All vehs	62	55
HGVs	0	0



Saturday HWS Peak (09:45-10:45)

2014-2019 **1.062**

2	Total Vehicles
1	Total HGVs
50%	%age HGVs

	In	Out
All vehs	72	70
HGVs	0	2

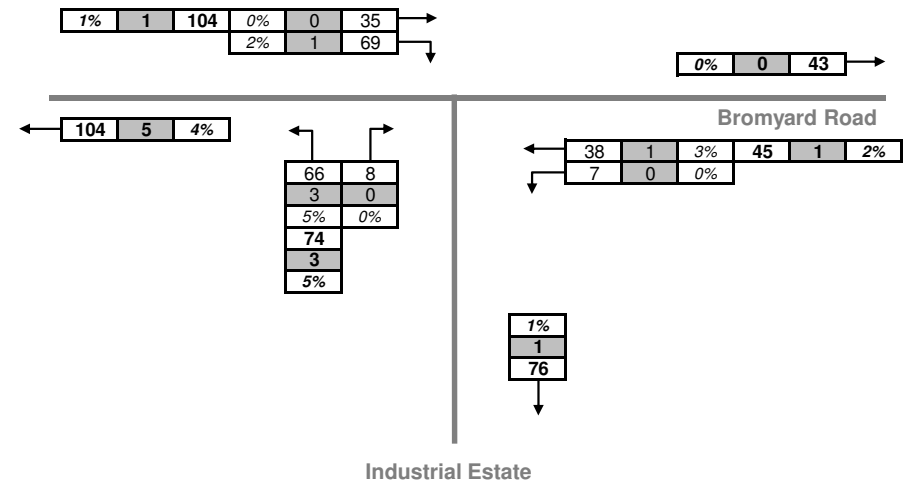


Figure TA14b

2019 Background + HRC Traffic (HRC Peak)

1509-01

Tenbury Wells HRC

June 2014

axis

Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB



APPENDICES



APPENDIX TS1

APPENDIX TS1

PHOTOGRAPHS OF KEY LOCAL NETWORK FEATURES



Plate TS1 – Existing Tenbury Wells Waste Drop Off Facility at Palmers Meadow



Plate TS2 – Proposal Site Looking Northwest towards Industrial Estate Properties



Plate TS3 – Industrial Estate Access Road Linking to B4214 Bromyard Road
(looking northwest)



Plate TS4 - Industrial Estate Access Road Linking to B4214 Bromyard Road
(looking south from B4214)



Plate TS5 - B4214 Bromyard Road East of Industrial Estate Access



Plate TS6 - B4214 Bromyard Road West of Industrial Estate Access



APPENDIX TS2



Tenbury Wells - Manual Traffic Survey, Wednesday 5th February 2014

Junction: Bromyard Road / Business Park Access

Approach: Bromyard Road (East)

TIME	Left to Business Park Access								W/B to Bromyard Road (West)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	1	0	0	0	0	1	0	0	7	2	0	0	0	9
0715 - 0730	0	0	1	0	0	0	0	1	0	0	9	1	0	0	0	10
0730 - 0745	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12
0745 - 0800	0	0	1	0	0	0	0	1	0	0	14	2	0	0	0	16
Hourly Total	0	0	3	0	0	0	0	3	0	0	42	5	0	0	0	47
0800 - 0815	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	12
0815 - 0830	0	0	1	0	0	0	0	1	0	0	9	1	0	0	0	10
0830 - 0845	0	0	0	0	0	0	0	0	0	0	8	2	0	0	1	11
0845 - 0900	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	11
Hourly Total	0	0	1	0	0	0	0	1	0	0	37	6	0	0	1	44
0900 - 0915	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	8
0915 - 0930	0	0	1	1	0	0	0	2	0	0	3	2	0	0	0	5
0930 - 0945	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	7
0945 - 1000	0	0	1	0	0	0	0	1	0	0	7	3	1	0	0	11
Hourly Total	0	0	2	1	0	0	0	3	0	0	22	8	1	0	0	31
1000 - 1015	0	0	1	0	0	0	0	1	0	0	5	2	0	0	0	7
1015 - 1030	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4
1030 - 1045	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
1045 - 1100	0	0	0	1	0	0	0	1	0	0	3	1	0	0	1	5
Hourly Total	0	0	1	1	0	0	0	2	0	0	15	4	0	0	1	20
1100 - 1115	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
1115 - 1130	0	0	0	1	0	0	0	1	0	0	2	0	0	0	0	2
1130 - 1145	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
1145 - 1200	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
Hourly Total	0	0	0	1	0	0	0	1	0	0	9	0	1	0	0	10
1200 - 1215	0	0	2	2	0	0	0	4	1	0	6	2	0	0	0	9
1215 - 1230	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	8
1230 - 1245	0	0	1	0	0	0	0	1	0	0	3	3	0	0	0	6
1245 - 1300	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	6
Hourly Total	0	0	3	2	0	0	0	5	1	0	17	11	0	0	0	29
1300 - 1315	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	8
1315 - 1330	0	0	0	0	0	0	0	0	0	0	6	1	0	1	0	8
1330 - 1345	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	6
1345 - 1400	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	7
Hourly Total	0	0	0	0	0	0	0	0	0	0	20	8	0	1	0	29
1400 - 1415	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	7
1415 - 1430	0	0	1	0	0	0	0	1	0	0	6	1	0	0	0	7
1430 - 1445	0	0	1	1	0	0	0	2	0	0	7	0	0	0	0	7
1445 - 1500	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	7
Hourly Total	0	0	2	1	0	0	0	3	0	0	21	7	0	0	0	28
1500 - 1515	0	0	0	1	0	0	0	1	0	0	4	1	0	0	0	5
1515 - 1530	0	0	0	0	0	0	0	0	0	0	4	3	1	0	0	8
1530 - 1545	0	0	0	0	0	0	0	0	0	0	19	3	0	0	0	22
1545 - 1600	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8
Hourly Total	0	0	0	1	0	0	0	1	0	0	34	8	1	0	0	43
1600 - 1615	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	7
1615 - 1630	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	8
1630 - 1645	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	7
1645 - 1700	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9
Hourly Total	0	0	0	0	0	0	0	0	0	0	24	7	0	0	0	31
1700 - 1715	0	0	0	0	0	0	0	0	0	0	11	6	0	0	0	17
1715 - 1730	0	0	0	0	0	0	0	0	0	0	9	3	0	0	0	12
1730 - 1745	0	0	0	0	0	0	0	0	0	0	11	4	0	0	0	15
1745 - 1800	0	0	0	0	0	0	0	0	0	0	12	4	0	0	0	16
Hourly Total	0	0	0	0	0	0	0	0	0	0	43	17	0	0	0	60
1800 - 1815	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9
1815 - 1830	0	0	0	0	0	0	0	0	0	0	7	4	0	0	0	11
1830 - 1845	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	6
1845 - 1900	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	6
Hourly Total	0	0	0	0	0	0	0	0	0	0	24	8	0	0	0	32
TOTAL	0	0	12	7	0	0	0	19	1	0	308	89	3	1	2	404



Tenbury Wells - Manual Traffic Survey, Wednesday 5th February 2014

Junction: Bromyard Road / Business Park Access

Approach: Bromyard Road (West)

TIME	E/B to Bromyard Road (East)								Right to Business Park Access							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0
0715 - 0730	0	0	3	1	0	0	0	4	0	0	1	0	0	0	0	1
0730 - 0745	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0
0745 - 0800	0	0	5	3	0	0	0	8	0	0	0	0	0	0	0	0
Hourly Total	0	0	19	4	0	0	0	23	0	0	1	0	0	0	0	1
0800 - 0815	0	0	5	0	0	0	0	5	0	0	2	0	0	0	0	2
0815 - 0830	0	0	5	1	0	0	0	6	0	0	0	1	0	0	0	1
0830 - 0845	0	0	6	2	0	0	0	8	0	0	1	1	0	0	0	2
0845 - 0900	0	0	3	0	0	0	0	3	0	0	2	0	0	0	0	2
Hourly Total	0	0	19	3	0	0	0	22	0	0	5	2	0	0	0	7
0900 - 0915	0	0	4	2	0	0	0	6	0	0	2	1	0	0	0	3
0915 - 0930	0	0	6	4	0	0	0	10	0	0	1	1	0	0	0	2
0930 - 0945	0	0	4	2	0	0	0	6	0	0	3	0	0	0	0	3
0945 - 1000	0	0	5	3	0	0	0	8	0	0	2	1	2	0	1	6
Hourly Total	0	0	19	11	0	0	0	30	0	0	8	3	2	0	1	14
1000 - 1015	0	0	6	0	0	1	0	7	0	0	2	0	0	0	0	2
1015 - 1030	0	0	3	2	0	0	0	5	0	0	0	1	0	0	0	1
1030 - 1045	0	0	3	1	0	0	0	4	0	0	2	1	0	0	0	3
1045 - 1100	0	0	4	2	0	0	0	6	0	0	1	0	0	0	0	1
Hourly Total	0	0	16	5	0	1	0	22	0	0	5	2	0	0	0	7
1100 - 1115	0	0	5	1	0	0	0	6	0	0	0	0	0	0	0	0
1115 - 1130	0	0	4	4	0	0	0	8	0	0	1	0	0	0	0	1
1130 - 1145	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0
1145 - 1200	0	0	7	3	0	0	0	10	0	0	1	1	0	0	0	2
Hourly Total	0	0	20	9	0	0	0	29	0	0	2	1	0	0	0	3
1200 - 1215	0	0	6	4	0	0	0	10	0	0	1	1	0	0	0	2
1215 - 1230	0	0	5	2	0	0	0	7	0	0	2	1	0	0	1	4
1230 - 1245	0	0	5	3	0	0	0	8	0	0	1	0	0	1	0	2
1245 - 1300	0	0	3	2	0	0	0	5	0	0	2	2	0	0	0	4
Hourly Total	0	0	19	11	0	0	0	30	0	0	6	4	0	1	1	12
1300 - 1315	0	0	4	4	0	0	0	8	0	0	2	1	0	0	0	3
1315 - 1330	0	0	3	2	0	1	0	6	0	0	1	2	0	0	0	3
1330 - 1345	0	0	6	3	0	0	0	9	0	0	0	0	0	0	0	0
1345 - 1400	0	0	4	3	0	0	0	7	0	0	2	2	0	0	0	4
Hourly Total	0	0	17	12	0	1	0	30	0	0	5	5	0	0	0	10
1400 - 1415	0	0	4	2	0	0	0	6	0	0	1	0	0	0	0	1
1415 - 1430	0	0	5	3	0	0	0	8	0	0	0	1	0	0	0	1
1430 - 1445	0	0	5	1	0	0	0	6	0	0	1	2	0	0	0	3
1445 - 1500	0	0	3	2	0	0	0	5	0	0	0	0	0	0	0	0
Hourly Total	0	0	17	8	0	0	0	25	0	0	2	3	0	0	0	5
1500 - 1515	0	0	5	1	0	0	0	6	0	0	0	0	0	0	0	0
1515 - 1530	0	0	4	3	0	0	0	7	0	0	1	0	0	0	0	1
1530 - 1545	0	0	13	4	0	0	0	17	0	0	3	1	0	0	0	4
1545 - 1600	0	0	10	2	0	0	1	13	0	0	0	0	1	0	0	1
Hourly Total	0	0	32	10	0	0	1	43	0	0	4	1	1	0	0	6
1600 - 1615	0	0	9	4	0	0	0	13	0	0	1	0	0	0	0	1
1615 - 1630	0	0	4	1	0	0	0	5	0	0	4	1	0	0	1	6
1630 - 1645	0	0	6	3	0	0	0	9	0	0	2	0	0	0	0	2
1645 - 1700	0	0	7	3	0	0	1	11	0	0	0	0	0	0	0	0
Hourly Total	0	0	26	11	0	0	1	38	0	0	7	1	0	0	1	9
1700 - 1715	0	0	18	5	0	0	0	23	0	0	1	0	0	0	0	1
1715 - 1730	0	0	9	2	0	0	1	12	0	0	3	0	0	0	1	4
1730 - 1745	0	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0
1745 - 1800	0	0	7	1	0	0	0	8	0	0	0	0	0	0	0	0
Hourly Total	0	0	46	8	0	0	1	55	0	0	4	0	0	0	1	5
1800 - 1815	0	0	3	0	0	0	1	4	0	0	0	0	0	0	0	0
1815 - 1830	0	0	6	1	0	0	0	7	0	0	0	0	0	0	0	0
1830 - 1845	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0
1845 - 1900	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0
Hourly Total	0	0	21	1	0	0	1	23	0	0	0	0	0	0	0	0
TOTAL	0	0	271	93	0	2	4	370	0	0	49	22	3	1	4	79

Queues into Business Park
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Tenbury Wells - Manual Traffic Survey, Saturday 8th February 2014

Junction: Bromyard Road / Business Park Access

Approach: Bromyard Road (East)

TIME	Left to Business Park Access								W/B to Bromyard Road (West)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	10
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	7
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	6
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
Hourly Total	0	0	0	0	0	0	0	0	0	0	17	6	0	0	23	
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
Hourly Total	0	0	0	0	0	0	0	0	0	0	17	2	0	0	20	
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	6	1	1	0	8
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	15	2	0	0	17
1045 - 1100	0	0	1	0	0	0	0	1	0	0	0	10	1	0	0	11
Hourly Total	0	0	1	0	0	0	0	1	0	0	35	6	1	0	42	
1100 - 1115	0	0	1	0	0	0	0	1	0	0	0	10	0	0	0	10
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	6
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	7	2	0	0	9
Hourly Total	0	0	1	0	0	0	0	1	0	0	30	3	0	0	33	
1200 - 1215	0	0	0	1	0	0	0	1	0	0	0	7	1	0	0	8
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6
Hourly Total	0	0	0	1	0	0	0	1	0	0	20	4	0	0	24	
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
1315 - 1330	0	0	1	0	0	0	0	1	0	0	0	11	4	1	0	16
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10
Hourly Total	0	0	1	0	0	0	0	1	0	0	36	4	1	0	41	
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
1445 - 1500	0	0	0	0	0	0	0	0	1	0	0	7	2	0	0	10
Hourly Total	0	0	0	0	0	0	0	0	1	0	20	2	0	0	23	
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6
1545 - 1600	0	0	1	0	0	0	0	1	0	0	0	6	0	0	0	6
Hourly Total	0	0	1	0	0	0	0	1	0	0	19	3	0	0	22	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	6
Hourly Total	0	0	0	0	0	0	0	0	0	0	23	3	0	0	26	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	15	1	0	0	16	
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	
TOTAL	0	0	4	1	0	0	0	5	1	0	256	36	2	0	1	296



Tenbury Wells - Manual Traffic Survey, Saturday 8th February 2014

Junction: Bromyard Road / Business Park Access

Approach: Business Park Access

TIME	Left to Bromyard Road (West)								Right to Bromyard Road (East)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0945 - 1000	0	0	1	0	0	0	1	2	0	0	0	1	0	0	0	1
Hourly Total	0	0	2	0	0	0	1	3	0	0	0	2	0	0	0	2
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1045 - 1100	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0
Hourly Total	0	0	5	1	0	0	0	6	0	0	0	0	0	0	0	0
1100 - 1115	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1145 - 1200	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0
1200 - 1215	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0
1300 - 1315	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
1315 - 1330	0	0	1	1	0	0	0	2	0	0	1	0	0	0	0	1
1330 - 1345	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1345 - 1400	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	2	0	0	0	6	0	0	1	0	0	0	0	1
1400 - 1415	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1
Hourly Total	0	0	1	1	0	0	0	2	0	0	0	0	0	0	1	1
1700 - 1715	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	24	8	0	0	1	33	0	0	1	2	0	0	1	4

Queues Out of Business Park
0
0
0
0

0
0
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0

0
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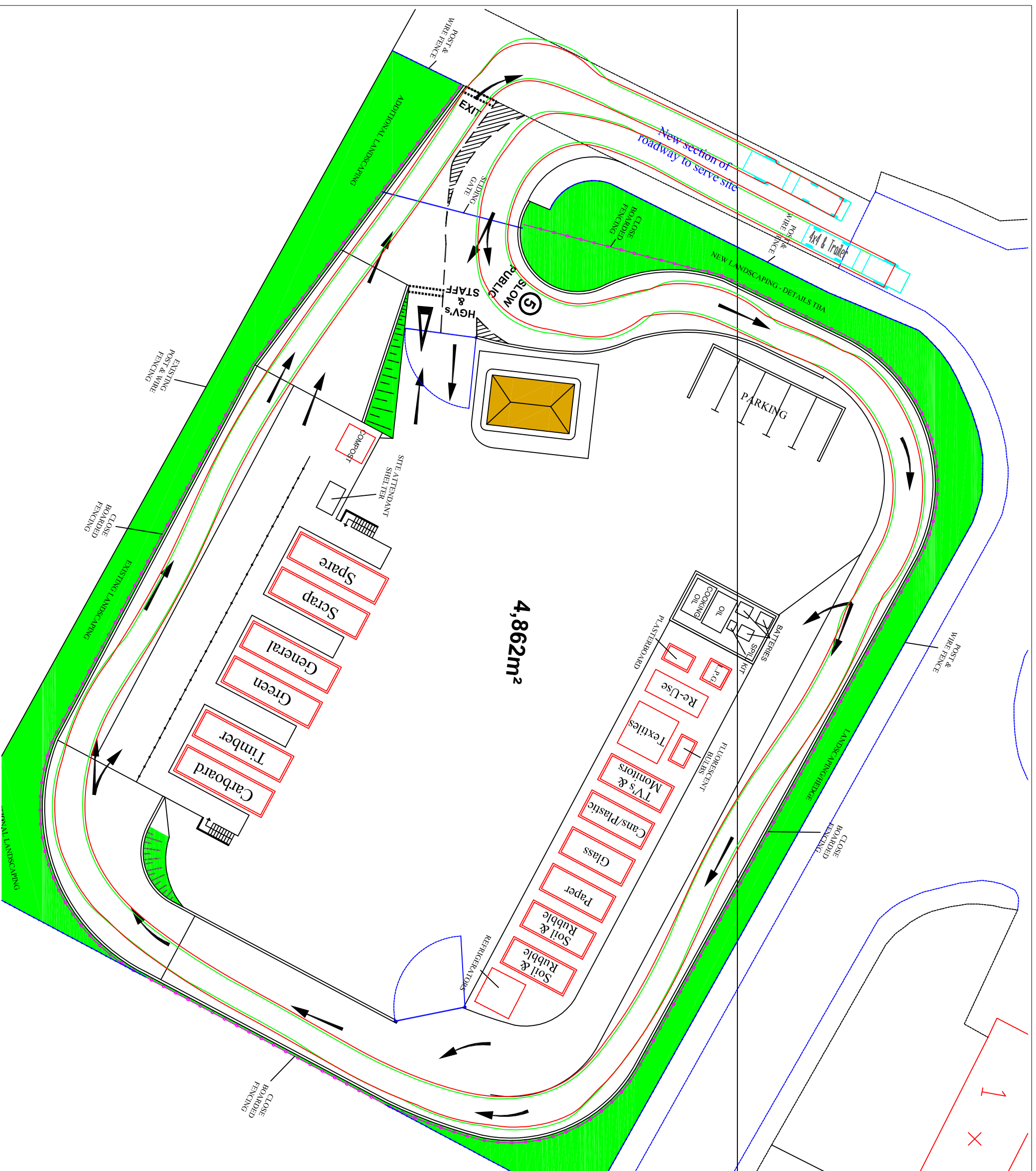
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APPENDIX TS3

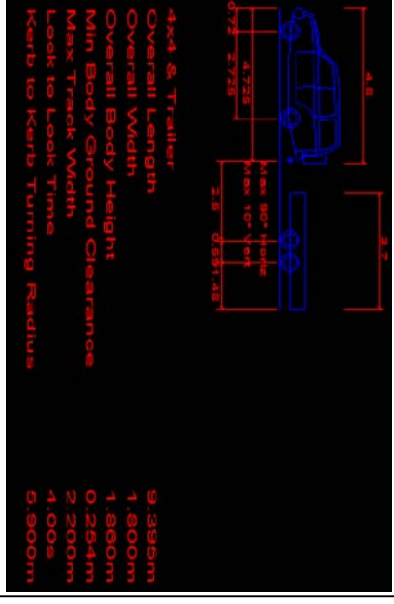


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Revision History	Date
A desc	date a
B desc	date b
C desc	date c
D desc	date d
E desc	date e
F desc	date f
G desc	date g
H desc	date h
I desc	date i
J desc	date j



Client: Mercia Waste Management Ltd
 Project: Tenbury Wells HRC
 Drawing title: Vehicle Swept Path Assessment
 Large 4x4 vehicle with trailer

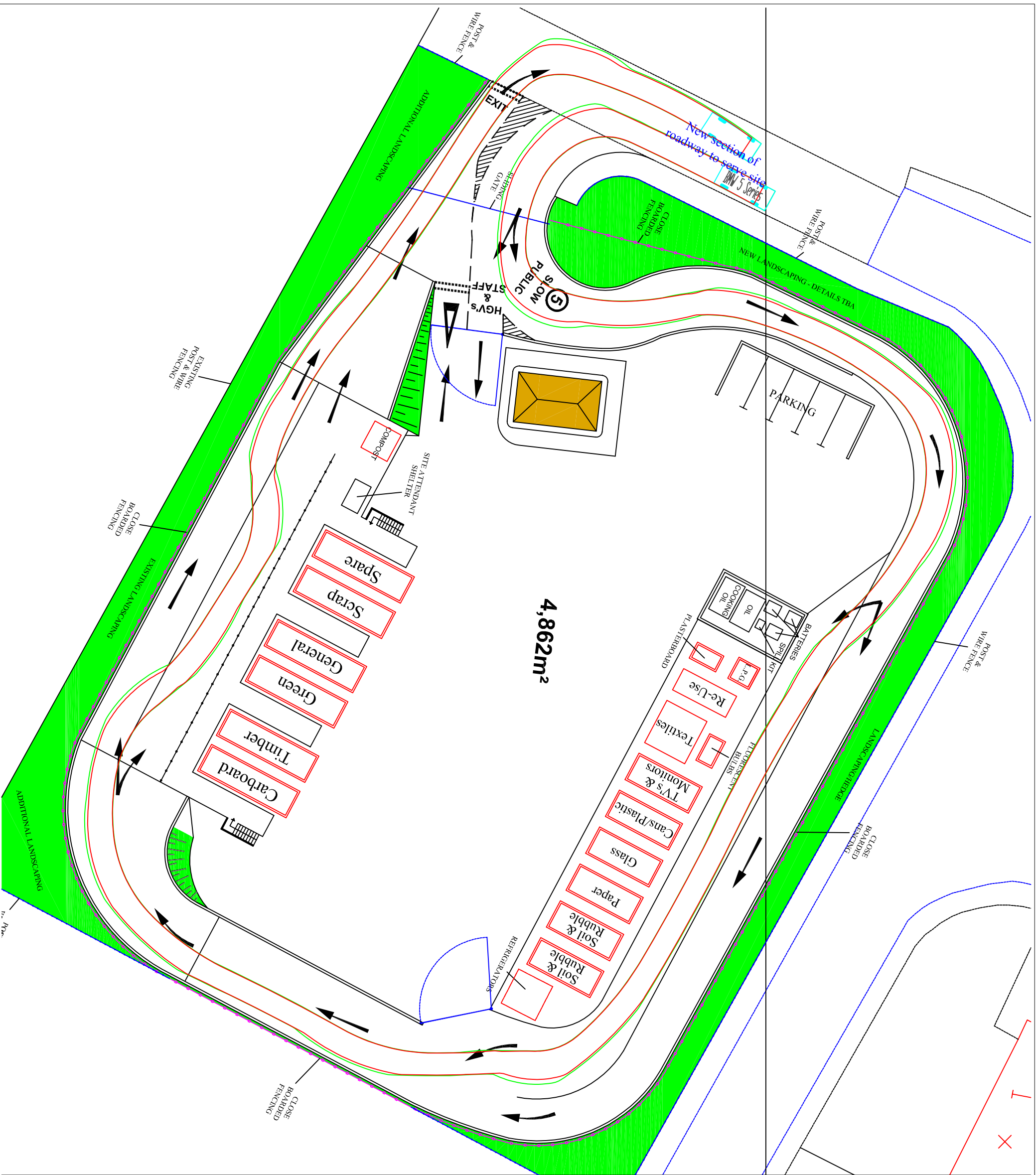
Scale(s): NTS
 Date: 18/06/14
 Drawing number: Appendix T53(1)
 Xrefs: Information

Drawn by: AB
 Checked: Information
 Rev: -

Client Office: Wellie Breton Chester CH4 8DH
 South Manchester Office: 76 Water Lane Willenhall SK9 5BB
 0844 8700 007 - www.axisped.co.uk

axis

planning environment design



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Revision History	Date
A desc	date a
B desc	date b
C desc	date c
D desc	date d
E desc	date e
F desc	date f
G desc	date g
H desc	date h
I desc	date i
J desc	date j



4.841m
Overall Length

1.846m
Overall Width

1.533m
Min Body Ground Clearance

0.319m
Max Track Width

1.807m
Max to Look Time

2.005
Kerb to Kerb Turning Radius

5.800m

client: Mercia Waste Management Ltd

project: Tenbury Wells HRC

drawing title: Vehicle Swept Path Assessment
BMW 5 series

scale(s): NTS **date:** 18/06/14 **drawn by:** AB **checked:** AB

drawing number: Appendix T53(i)

status: Information

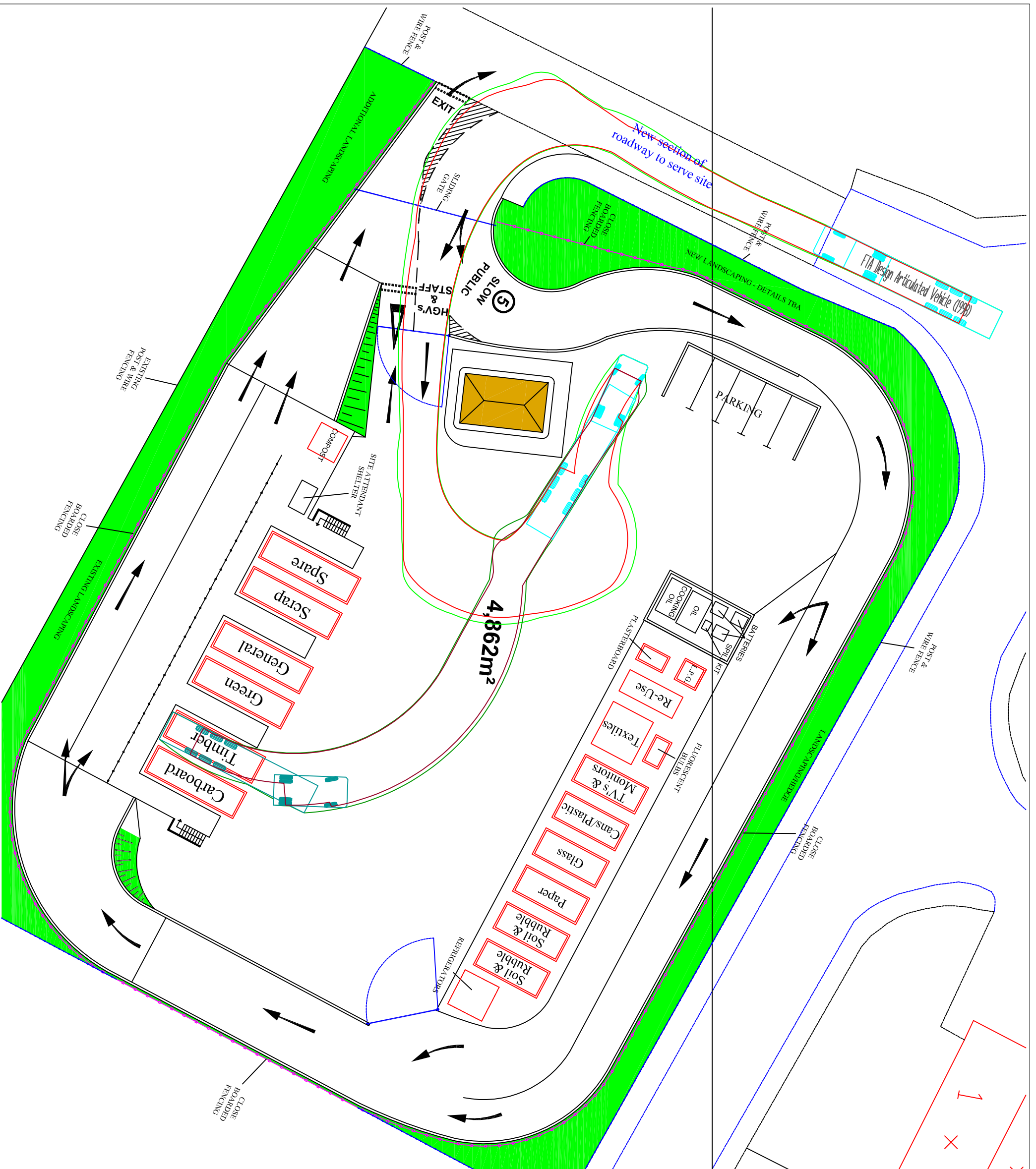
rev: -

axis

0844 8700 007 - www.axisped.co.uk

Client Office: Well Breton Chester CH4 8DH

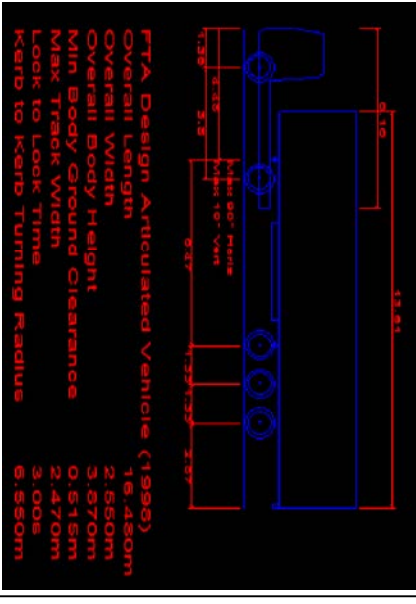
South Manchester Office: 76 Water Lane Willingale SK9 5BB



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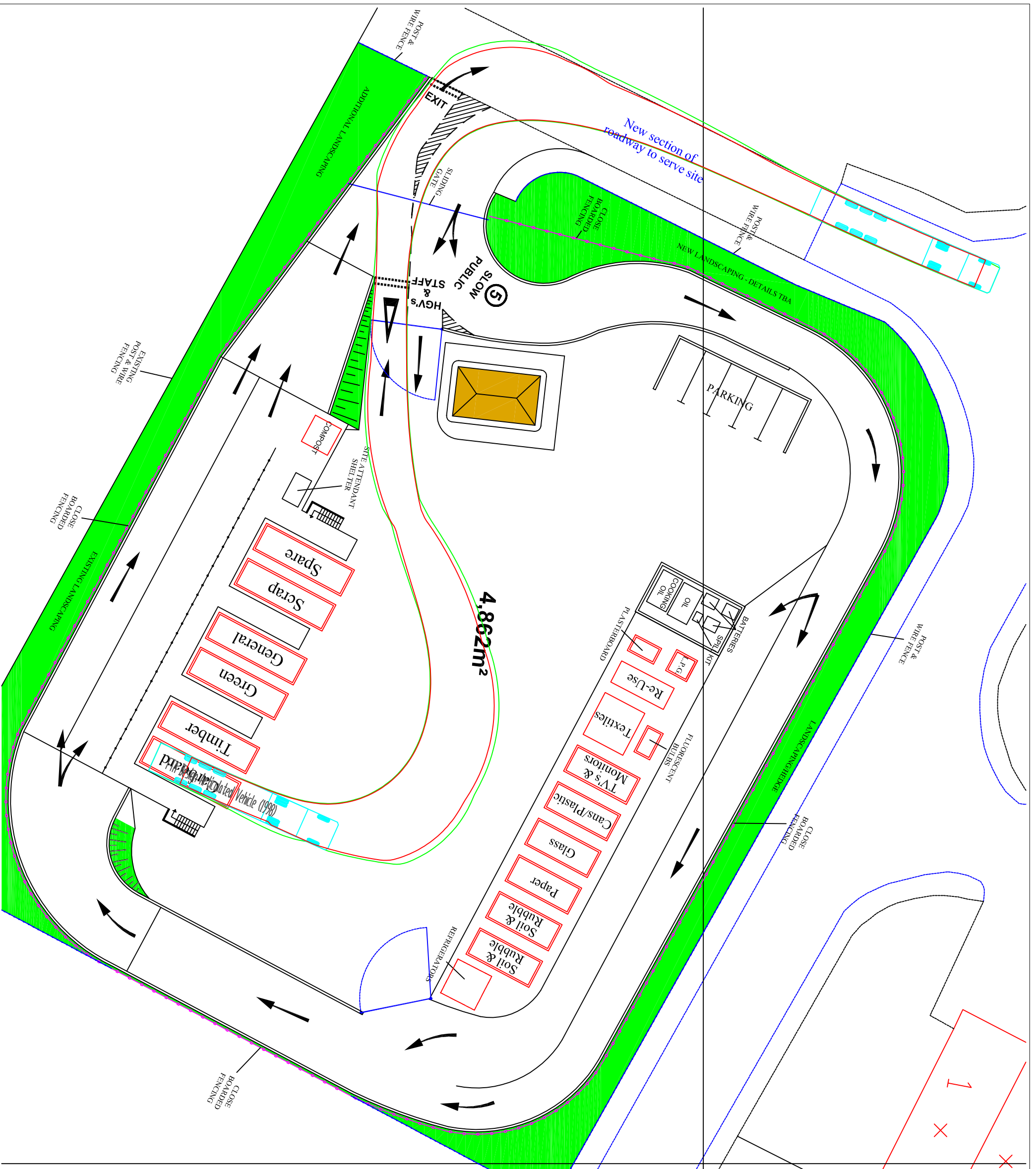
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Revision History	Date
A desc	date a
B desc	date b
C desc	date c
D desc	date d
E desc	date e
F desc	date f
G desc	date g
H desc	date h
I desc	date i
J desc	date j



Client Office Wales Brecon Chester CH4 8DH	South Manchester Office 76, Water Lane Wilmslow SK9 5BB	axis
0844 8700 007 - www.axisped.co.uk		
client: Mercia Waste Management Ltd	project: Tenbury Wells HRC	

drawing title: Vehicle Swept Path Assessment FTA Design Articulated Vehicle (16.45m) ENTRY			
scale(s): NT5	date: 18/06/14	drawn by: AB	checked:
drawing number: Appendix T53(iii)			
xrefs:		status: Information	rev: -

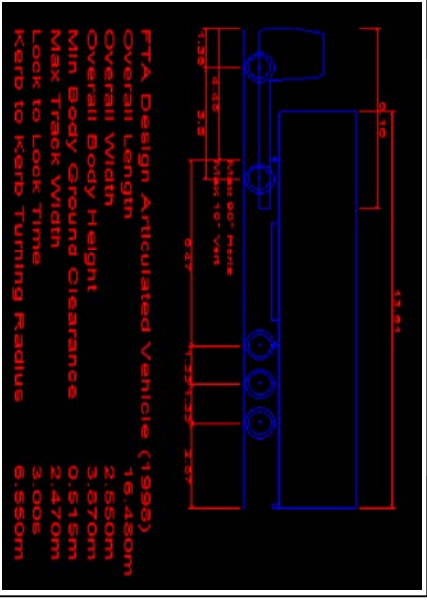


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Follow any figured dimensions - do not scale. IF IN DOUBT ASK.

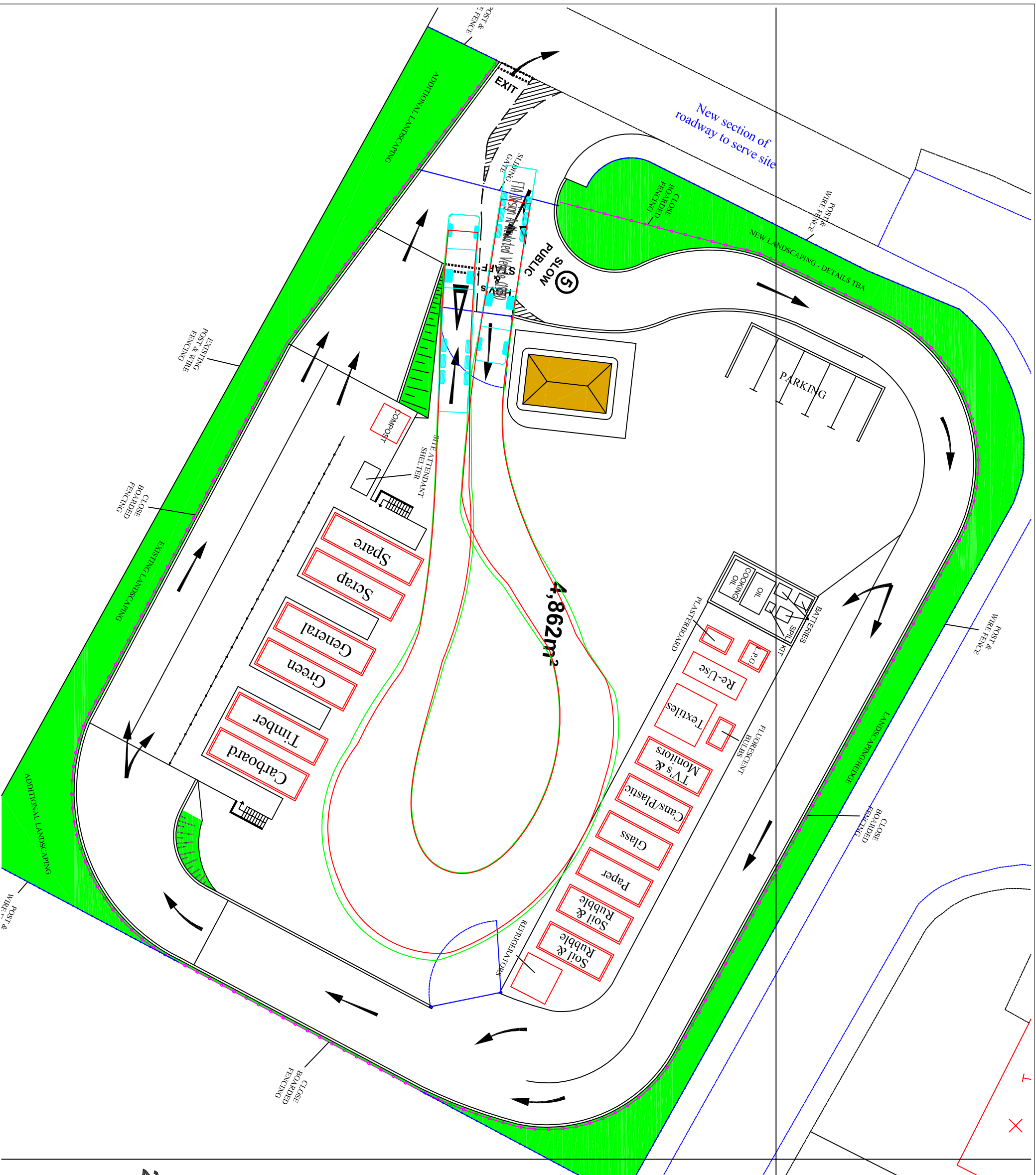
This drawing has been prepared for feasibility purposes and does not represent a construction plan. All design aspects to be confirmed at the appropriate detailed design stage.

Revision History	Date	
A	desc	date a
B	desc	date b
C	desc	date c
D	desc	date d
E	desc	date e
F	desc	date f
G	desc	date g
H	desc	date h
I	desc	date i
J	desc	date j



Client: Mercia Waste Management Ltd Project: Tenbury Wells HRC Drawing Title: Vehicle Swept Path Assessment FTA Design Articulated Vehicle (16.48m) EXIT	axis South Manchester Office 76 Wilton Lane Willinglow SK9 5BB 0844 8700 007 - www.axisped.co.uk
--	--

Checker: J. Evans Waller: B. Brown Checker: CH4 8DH	Scale(s): NTS date: 18/06/14 drawing number: Appendix T53(N) xrefs:	drawn by: AB status: Information rev:	checked:
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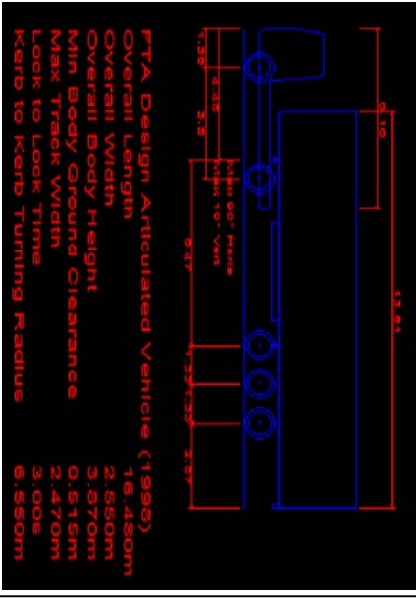


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Follow any figured dimensions - do not scale. IF IN DOUBT ASK.

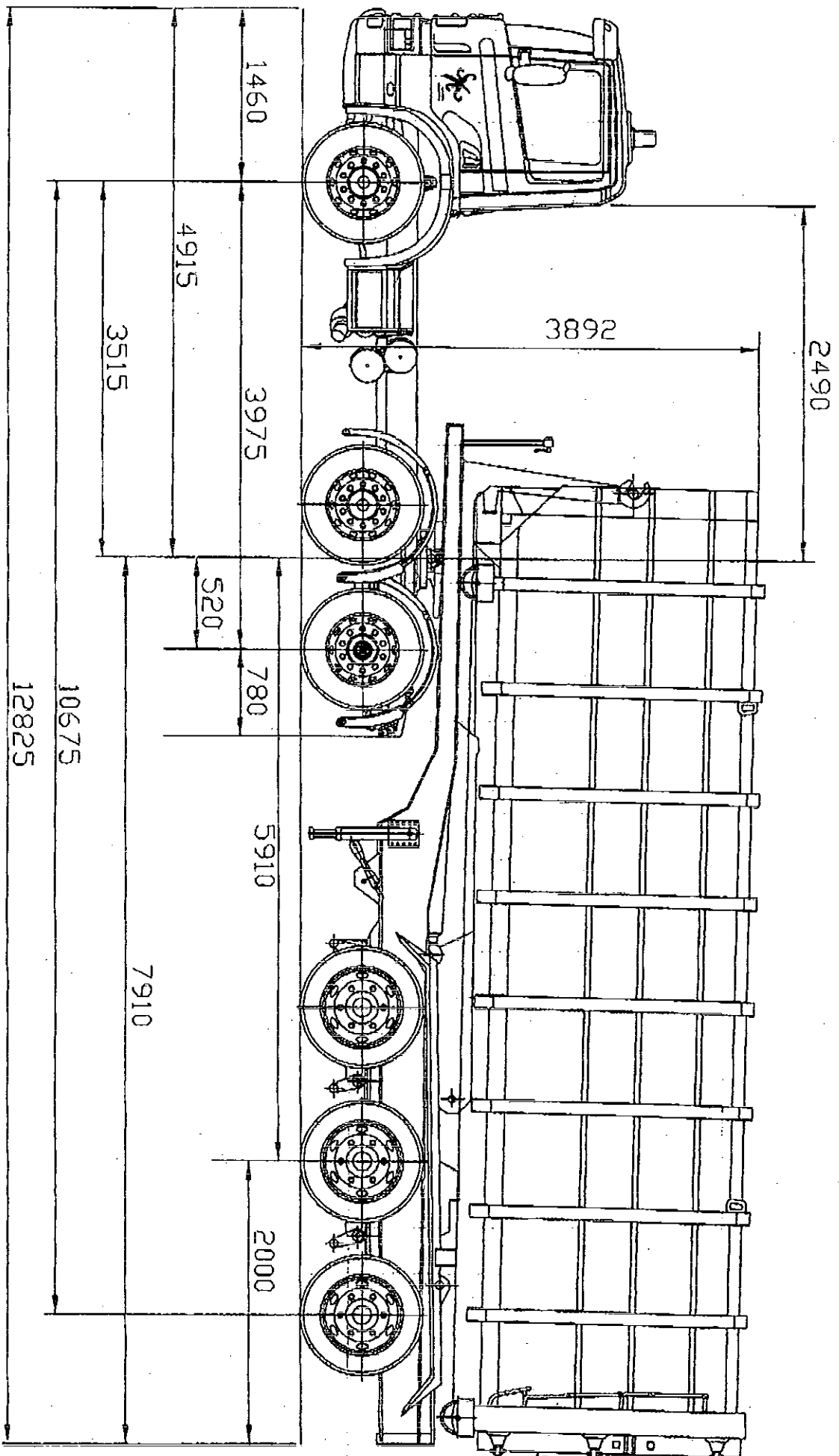
This drawing has been prepared for feasibility purposes and does not represent a construction plan. All design aspects to be confirmed at the appropriate detailed design stage.

Revision History	Date
A desc	date a
B desc	date b
C desc	date c
D desc	date d
E desc	date e
F desc	date f
G desc	date g
H desc	date h
I desc	date i
J desc	date j



Client: Mercia Waste Management Ltd Project: Tenbury Wells HRC	axis South Manchester Office 76 Wilton Lane Willinglow SK9 5BB 0844 8700 007 - www.axisped.co.uk
---	--

Drawing Title: Vehicle Swept Path Assessment FTA Design Articulated Vehicle (16.45m) Central Service Vehicle Manoeuvring Area	Scale(s): NTS Date: 18/06/14 Drawing Number: Appendix T53(V) Xrefs:	Drawn By: AB Status: Information Rev:	Checked:
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MAX HEIGHT WHEN DUMPING : 8800mm

TRAILER WIDTH < 2500mm

Date 22-05-01

NOT TO SCALE

ALL DIMENSIONS ARE IN mm

A MODEL OF A SCANIA P114LA6X2/4NA BELONGING TO SEVERN WASTE



APPENDIX TS4

Approach: Waste Site Access

TIME	IN				OUT			
	CAR	VAN	HEAVY	TOTAL	CAR	VAN	HEAVY	TOTAL
0730 - 0745	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0800 - 0815	2	1	0	3	3	0	0	3
0815 - 0830	2	0	0	2	2	0	0	2
0830 - 0845	0	0	0	0	0	0	0	0
0845 - 0900	1	0	0	1	1	0	0	1
Hourly Total	5	1	0	6	6	0	0	6
0900 - 0915	1	0	0	1	1	0	0	1
0915 - 0930	3	1	0	4	2	1	0	3
0930 - 0945	1	0	0	1	2	0	0	2
0945 - 1000	3	0	0	3	3	0	0	3
Hourly Total	8	1	0	9	8	1	0	9
1000 - 1015	1	0	0	1	0	0	0	0
1015 - 1030	1	0	0	1	1	0	0	1
1030 - 1045	1	0	0	1	2	0	0	2
1045 - 1100	3	0	0	3	2	0	0	2
Hourly Total	6	0	0	6	5	0	0	5
1100 - 1115	7	0	0	7	4	0	0	4
1115 - 1130	1	0	0	1	5	0	0	5
1130 - 1145	0	0	0	0	0	0	0	0
1145 - 1200	4	0	0	4	1	0	0	1
Hourly Total	12	0	0	12	10	0	0	10
1200 - 1215	3	0	0	3	3	0	0	3
1215 - 1230	4	0	0	4	5	0	0	5
1230 - 1245	4	0	0	4	4	0	0	4
1245 - 1300	0	0	0	0	1	0	0	1
Hourly Total	11	0	0	11	13	0	0	13
1300 - 1315	3	0	0	3	1	0	0	1
1315 - 1330	3	0	0	3	3	0	0	3
1330 - 1345	2	0	0	2	3	0	0	3
1345 - 1400	2	0	0	2	1	0	0	1
Hourly Total	10	0	0	10	8	0	0	8
1400 - 1415	3	0	0	3	5	0	0	5
1415 - 1430	9	1	0	10	8	1	0	9
1430 - 1445	2	0	0	2	3	0	0	3
1445 - 1500	8	0	0	8	5	0	0	5
Hourly Total	22	1	0	23	21	1	0	22
1500 - 1515	5	1	0	6	6	0	0	6
1515 - 1530	5	0	0	5	5	1	0	6
1530 - 1545	7	0	0	7	6	0	0	6
1545 - 1600	5	0	0	5	5	0	0	5
Hourly Total	22	1	0	23	22	1	0	23
1600 - 1615	2	0	0	2	3	0	0	3
1615 - 1630	0	0	0	0	0	0	0	0
1630 - 1645	4	1	0	5	4	1	0	5
1645 - 1700	2	0	0	2	2	0	0	2
Hourly Total	8	1	0	9	9	1	0	10
1700 - 1715	0	0	0	0	2	0	0	2
1715 - 1730	0	0	0	0	0	0	0	0
1730 - 1745	1	0	0	1	1	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	1	3	0	0	3
1800 - 1815	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
TOTAL	105	5	0	110	105	4	0	109

Approach: Waste Site Access

TIME	IN				OUT			
	CAR	VAN	HEAVY	TOTAL	CAR	VAN	HEAVY	TOTAL
0730 - 0745	1	0	0	1	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	1	0	0	0	0
0800 - 0815	0	1	0	1	0	0	1	1
0815 - 0830	4	0	0	4	4	0	0	4
0830 - 0845	3	0	0	3	3	0	0	3
0845 - 0900	1	0	0	1	1	0	0	1
Hourly Total	8	1	0	9	8	0	1	9
0900 - 0915	2	0	0	2	1	1	0	2
0915 - 0930	4	0	0	4	5	0	0	5
0930 - 0945	4	0	1	5	3	0	0	3
0945 - 1000	5	1	0	6	3	0	1	4
Hourly Total	15	1	1	17	12	1	1	14
1000 - 1015	7	0	0	7	7	0	0	7
1015 - 1030	7	0	0	7	8	0	0	8
1030 - 1045	10	0	0	10	10	0	0	10
1045 - 1100	3	0	0	3	3	1	0	4
Hourly Total	27	0	0	27	28	1	0	29
1100 - 1115	6	1	1	8	4	0	0	4
1115 - 1130	4	0	0	4	5	1	0	6
1130 - 1145	9	1	0	10	7	0	0	7
1145 - 1200	9	0	0	9	7	0	0	7
Hourly Total	28	2	1	31	23	1	0	24
1200 - 1215	4	1	0	5	6	2	0	8
1215 - 1230	2	0	0	2	1	0	0	1
1230 - 1245	2	0	0	2	2	0	0	2
1245 - 1300	3	0	0	3	5	0	0	5
Hourly Total	11	1	0	12	14	2	0	16
1300 - 1315	2	0	0	2	5	0	0	5
1315 - 1330	4	0	0	4	4	0	0	4
1330 - 1345	1	0	0	1	1	0	0	1
1345 - 1400	5	0	0	5	4	0	0	4
Hourly Total	12	0	0	12	14	0	0	14
1400 - 1415	1	0	0	1	1	0	0	1
1415 - 1430	2	0	0	2	3	0	0	3
1430 - 1445	4	0	0	4	4	0	0	4
1445 - 1500	2	1	0	3	2	0	0	2
Hourly Total	9	1	0	10	10	0	0	10
1500 - 1515	2	0	0	2	2	1	0	3
1515 - 1530	0	0	0	0	1	0	0	1
1530 - 1545	3	0	0	3	2	0	0	2
1545 - 1600	4	0	0	4	5	0	1	6
Hourly Total	9	0	0	9	10	1	1	12
1600 - 1615	0	0	0	0	1	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	0	0	1
1700 - 1715	1	0	0	1	1	0	0	1
1715 - 1730	1	0	0	1	1	0	0	1
1730 - 1745	1	0	0	1	1	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0
Hourly Total	3	0	0	3	3	0	0	3
1800 - 1815	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
TOTAL	123	6	2	131	123	6	3	132

IN OUT



APPENDIX TS5

Appendix TS5: 2013 Waste Input Tonnages Recorded at Bromyard HRC Facility

	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Total
General Waste	39.96	42.74	41.98	49.8	48.72	47.22	40.54	50	45.72	35.92	44.52	39.54	526.66
Green Waste	12.86	17.08	18.78	49.41	51.1	70.08	68.4	71.68	66.47	43.24	43.6	26.8	539.5
Recyclables	41.89	30.61	30.62	39.93	26.72	67.7	35.76	32.27	66.33	42.69	36.8	19.86	471.18
Recycled Soil	20.58	10.08	10.08	26.92	27.26	56.28	30.5	12.92	41.38	28.06	26.04	0	290.1
	115.29	100.51	101.46	166.06	153.8	241.28	175.2	166.87	219.9	149.91	150.96	86.2	1827.44

February to June Factor 2.401



APPENDIX TS6

NTM Growth Factors 2014-2019

AM Peak

TEMPRO main form

Data selections

Trip end selections

Trip end by time period selections

Select time period: Weekday AM peak period (0700 - 0930)

Trip end type

Production/Attraction

Origin/Destination

Reset Selections

Select data type

Growth factors

Future year minus base year

Base year data

Future year data

Results

Car Driver Combined Modes

Area Description		All Purposes	
Level	Name	Origin	Destination
Region	WM	1.0345	1.0345
47UC3	Terbury Wells(main)	1.0293	1.0229

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2015
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

WM

Terbury Wells(main) (47UC3)

3: Select area type:

Urban

Rural

All

4: Select road type:

Motorway

Trunk

Principal

Minor

All

5: Select which area it serves:

Region

England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
Region	WM	1.0627
47UC3	Terbury Wells(main)	1.0540

Inter Peak

TEMPRO main form

Data selections

Trip end selections

Trip end by time period selections

Select time period: Weekday Inter peak period (1000 - 1...

Trip end type

Production/Attraction

Origin/Destination

Reset Selections

Select data type

Growth factors

Future year minus base year

Base year data

Future year data

Results

Car Driver Combined Modes

Area Description		All Purposes	
Level	Name	Origin	Destination
Region	WM	1.0417	1.0417
47UC2	Terbury Wells(main)	1.0442	1.0441

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2015
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

WM

Terbury Wells(main) (47UC3)

3: Select area type:

Urban

Rural

All

4: Select road type:

Motorway

Trunk

Principal

Minor

All

5: Select which area it serves:

Region

England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
Region	WM	1.0701
47UC2	Terbury Wells(main)	1.0726

PM Peak

Results

Car Driver Combined Modes

Area Description	Name	Origin	Destination
Level	WM	1.0357	1.0357
Region	Terbury Wells(main)	1.0292	1.0328
47UC3			

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2025
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

- WM
- Terbury Wells(main) (47UC3)

3: Select area type:

- Urban
- Rural
- All

4: Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5: Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
Region	WM	1.0639
47UC3	Terbury Wells(main)	1.0591

Average Weekday

Results

Car Driver Combined Modes

Area Description	Name	Origin	Destination
Level	WM	1.0374	1.0374
Region	Terbury Wells(main)	1.0346	1.0347
47UC3			

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2025
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

- WM
- Terbury Wells(main) (47UC3)

3: Select area type:

- Urban
- Rural
- All

4: Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5: Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
Region	WM	1.0556
47UC3	Terbury Wells(main)	1.0628

Saturday

TEMPRO main form

Data selections

Trip end selections

Trip end by time period selections

Select time period:

Saturdays (all times of day)

Trip end type

Production/Attraction

Origin/Destination

Reset Selections

Select data type

Growth factors

Future year minus base year

Base year data

Future year data

Results

Car Driver Combined Modes

Area Description		All Purposes	
Level	Name	Origin	Destination
Region	WM	1.0362	1.0362
47UC3	Tenbury Wells(main)	1.0334	1.0333

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2035
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

WM

Tenbury Wells(main) (47UC3)

3: Select area type:

Urban

Rural

All

4: Select road type:

Motorway

Trunk

Principal

Minor

All

5: Select which area it serves:

Region

England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
Region	WM	1.0644
47UC3	Tenbury Wells(main)	1.0615



APPENDIX TS7

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.3.332 [14595:13/11/2013] © Copyright TRL Limited, 2014
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: B4124 Junction.atc8

Path: Q:\1501-1550\1509-01 Tenbury Household Waste Site\Background Information\Traffic Data & Reports\PICADY

Report generation date: 26/02/2014 12:31:47

- » (Default Analysis Set) - Scenario 1, Weekday AM Peak
- » (Default Analysis Set) - Scenario 1, Weekday PM Peak
- » (Default Analysis Set) - Scenario 1, Saturday DEV Peak

Summary of junction performance

	Saturday DEV Peak			Weekday AM Peak			Weekday DEV Peak			Weekday PM Peak		
	Queue (PCU)	Delay (s)	RFC LOS	Queue (PCU)	Delay (s)	RFC LOS	Queue (PCU)	Delay (s)	RFC LOS	Queue (PCU)	Delay (s)	RFC LOS
Stream B-C	0.12	5.89	0.11 A	0.03	5.13	0.02 A	0.10	5.54	0.09 A	0.03	5.50	0.03 A
Stream B-A	0.02	8.34	0.02 A	0.00	7.95	0.00 A	0.02	8.31	0.02 A	0.00	7.99	0.00 A
Stream C-AB	0.15	6.39	0.12 A	0.03	5.72	0.03 A	0.13	6.17	0.11 A	0.02	6.23	0.01 A
Stream C-A	-	-	-	-	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

- T1 - Scenario 1, Weekday AM Peak - model duration: 07:30 - 09:00
- T2 - Scenario 1, Weekday PM Peak - model duration: 16:30 - 18:30
- T3 - Scenario 1, Weekday DEV Peak - model duration: 08:30 - 11:00
- T4 - Scenario 1, Saturday DEV Peak - model duration: 08:30 - 11:00

Run using Junctions 8.0.3.332 at 26/02/2014 12:31:45

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/02/2014
Version	(new file)
Status	
Identifier	
Client	
Johnnumber	
Enumerator	
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	FCU	FCU	per-Hour	s	-Min	per/min

(Default Analysis Set) - Scenario 1, Weekday AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, Weekday AM Peak	Scenario 1	Weekday AM Peak		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
B4214 Bromyard Road	T-Junction	Two-way	A B C	5.51	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	B4124 Bromyard Road (E)		Major
B	Tenbury Wells Industrial Estate		Minor
C	Bromyard Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00	reserve	0.00		2.20	120.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at gully (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare					10.00	4.70	3.90	3.80	✓	2.00	21	33

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority / Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B4124	B-A	476.755	0.087	0.219	0.138	0.314
B4124	B-C	736.671	0.113	0.285	-	-
B4124	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	✓	✓		HV	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	56.00	100.000
B	ONE HOUR	✓	17.00	100.000
C	ONE HOUR	✓	44.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction B4124 (for whole period)

	To	A	B	C
From	A	0.000	3.000	53.000
	B	1.000	0.000	16.000
	C	28.000	16.000	0.000

Turning Proportions (PCU) - Junction B4124 (for whole period)

	To	A	B	C
From	A	0.00	0.05	0.95
	B	0.06	0.00	0.94
	C	0.64	0.36	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction B4124 (for whole period)

	To	A	B	C
From	A	1.000	1.000	1.020
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction B4124 (for whole period)

	To	A	B	C
From	A	0.000	0.000	2.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	5.13	0.03	A
BA	0.00	7.95	0.00	A
C-AB	0.03	5.72	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.05	11.98	0.00	724.73	0.017	0.02	5.050	A
BA	0.75	0.75	0.00	461.11	0.002	0.00	7.619	A
C-AB	12.45	12.37	0.00	646.61	0.019	0.02	5.676	A
C-A	20.68	20.68	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	39.90	39.90	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	14.38	14.37	0.00	722.40	0.020	0.02	5.084	A
BA	0.90	0.90	0.00	458.06	0.002	0.00	7.674	A
C-AB	14.97	14.95	0.00	647.25	0.023	0.03	5.693	A
C-A	24.59	24.59	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	47.65	47.65	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	17.62	17.60	0.00	719.19	0.024	0.02	5.130	A
BA	1.10	1.10	0.00	453.85	0.002	0.00	7.950	A
C-AB	18.50	18.47	0.00	648.15	0.029	0.03	5.716	A
C-A	29.95	29.95	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	58.35	58.35	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	17.62	17.62	0.00	719.19	0.024	0.03	5.130	A
BA	1.10	1.10	0.00	453.85	0.002	0.00	7.951	A
C-AB	18.50	18.50	0.00	648.15	0.029	0.03	5.719	A
C-A	29.95	29.95	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	58.35	58.35	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	14.38	14.40	0.00	722.40	0.020	0.02	5.084	A
BA	0.90	0.90	0.00	458.05	0.002	0.00	7.674	A
C-AB	14.97	14.99	0.00	647.26	0.023	0.03	5.695	A
C-A	24.59	24.59	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	47.65	47.65	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.05	12.06	0.00	724.72	0.017	0.02	5.051	A
BA	0.75	0.75	0.00	461.10	0.002	0.00	7.620	A
C-AB	12.45	12.47	0.00	646.61	0.019	0.02	5.678	A
C-A	20.67	20.67	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	39.90	39.90	0.00	-	-	-	-	-

(Default Analysis Set) - Scenario 1, Weekday PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:MM)	Model Finish Time (HH:MM)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, Weekday PM Peak	Scenario 1	Weekday PM Peak		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
B4214 Biomyard Road	T-Junction	Two-way	A,B,C	5.90	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	B4124 Bromyard Road (E)		Major
B	Tenbury Wells Industrial Estate		Minor
C	Bromyard Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	6.00		0.00		2.20	120.00	✓	0.00
C	6.00		0.00		2.20	120.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Width at 25m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	7.30	4.70	3.90	3.80		✓	2.00	21	33

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for CA	Slope for C-B
B4124	B-A	479,988	0.087	0.221	0.139	0.316
B4124	B-C	734,173	0.113	0.284	-	-
B4124	C-B	643,457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined. In which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor Vary (PCU)	Default Turning Proportions	Estimate from entry mix counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	✓	✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	64.00	100.000
B	ONE HOUR	✓	20.00	100.000
C	ONE HOUR	✓	67.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.000	0.000	64.000
From B	2.000	0.000	18.000
From C	59.000	8.000	0.000

Turning Proportions (PCU) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.00	0.00	1.00
From B	0.10	0.00	0.90
From C	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction B4124 (for whole period)

	To		
	A	B	C
From A	1.000	1.000	1.000
From B	1.000	1.000	1.060
From C	1.020	1.140	1.000

Heavy Vehicle Percentages - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.000	0.000	0.000
B	0.000	0.000	6.000
C	2.000	14.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	5.50	0.03	A
BA	0.00	7.99	0.00	A
C-AB	0.01	6.23	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	13.55	13.47	0.00	719.88	0.019	0.02	5.402	A
BA	1.51	1.49	0.00	461.26	0.003	0.00	7.829	A
C-AB	6.45	6.40	0.00	660.26	0.010	0.01	6.222	A
C-A	43.99	43.99	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	48.18	48.18	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.18	16.16	0.00	717.08	0.023	0.02	5.443	A
BA	1.80	1.80	0.00	457.63	0.004	0.00	7.897	A
C-AB	7.81	7.80	0.00	663.59	0.012	0.01	6.203	A
C-A	52.42	52.42	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	57.53	57.53	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.82	19.79	0.00	713.24	0.028	0.03	5.502	A
BA	2.20	2.20	0.00	452.60	0.005	0.00	7.992	A
C-AB	9.75	9.73	0.00	668.21	0.015	0.02	6.167	A
C-A	64.02	64.02	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	70.47	70.47	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.82	19.82	0.00	713.24	0.028	0.03	5.502	A
BA	2.20	2.20	0.00	452.60	0.005	0.00	7.992	A
C-AB	9.75	9.75	0.00	668.21	0.015	0.02	6.164	A
C-A	64.02	64.02	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	70.47	70.47	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.18	16.20	0.00	717.08	0.023	0.02	5.444	A
BA	1.80	1.80	0.00	457.63	0.004	0.00	7.897	A
C-AB	7.82	7.83	0.00	663.59	0.012	0.01	6.195	A
C-A	52.42	52.42	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	57.53	57.53	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	13.55	13.57	0.00	719.88	0.019	0.02	5.404	A
BA	1.51	1.51	0.00	461.27	0.003	0.00	7.829	A
C-AB	6.46	6.47	0.00	660.27	0.010	0.01	6.222	A
C-A	43.98	43.98	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	48.18	48.18	0.00	-	-	-	-	-

(Default Analysis Set) - Scenario 1, Weekday DEV Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, Weekday DEV Peak	Scenario 1	Weekday DEV Peak		ONE HOUR	14:30	16:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
B4124 Bromyard Road	T-Junction	Two-way	A, B, C	6.00	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	B4124 Bromyard Road (E)		Major
B	Tenbury Wells Industrial Estate		Minor
C	Bromyard Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	6.00		0.00		2.20	120.00	✓	0.00
C	6.00		0.00		2.20	120.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Width at 30m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	7.30	4.70	3.90	3.80		✓	2.00	21	33

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B4124	B-A	480.339	0.087	0.221	0.139	0.316
B4124	B-C	733.901	0.112	0.284	-	-
B4124	C-B	643.457	0.249	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	✓	✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	53.00	100.000
B	ONE HOUR	✓	67.00	100.000
C	ONE HOUR	✓	100.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.000	7.000	46.000
From B	7.000	0.000	60.000
From C	38.000	62.000	0.000

Turning Proportions (PCU) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.00	0.13	0.87
From B	0.10	0.00	0.90
From C	0.38	0.62	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction B4124 (for whole period)

	To		
	A	B	C
From A	1.000	1.000	1.020
From B	1.000	1.000	1.000
From C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction B4124 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	2.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	5.54	0.10	A
BA	0.02	8.31	0.02	A
C-AB	0.11	6.17	0.13	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (14:30-14:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.17	44.91	0.00	721.36	0.063	0.07	5.322	A
BA	5.27	5.22	0.00	453.49	0.012	0.01	8.029	A
C-AB	48.81	48.47	0.00	652.04	0.075	0.08	5.962	A
C-A	26.48	26.48	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	34.63	34.63	0.00	-	-	-	-	-

Main results: (14:45-15:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	53.94	53.88	0.00	718.87	0.075	0.08	5.413	A
BA	6.29	6.28	0.00	448.18	0.014	0.01	8.146	A
C-AB	58.81	58.73	0.00	653.75	0.090	0.10	6.050	A
C-A	31.09	31.09	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	41.35	41.35	0.00	-	-	-	-	-

Main results: (15:00-15:15)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	66.06	65.98	0.00	715.46	0.092	0.10	5.543	A
BA	7.71	7.69	0.00	440.94	0.017	0.02	8.309	A
C-AB	72.90	72.78	0.00	656.13	0.111	0.13	6.171	A
C-A	37.20	37.20	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	50.65	50.65	0.00	-	-	-	-	-

Main results: (15:15-15:30)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	66.06	66.06	0.00	715.45	0.092	0.10	5.543	A
BA	7.71	7.71	0.00	440.91	0.017	0.02	8.309	A
C-AB	72.91	72.90	0.00	656.14	0.111	0.13	6.174	A
C-A	37.20	37.20	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	50.65	50.65	0.00	-	-	-	-	-

Main results: (15:30-15:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	53.94	54.02	0.00	718.85	0.075	0.08	5.414	A
BA	6.29	6.31	0.00	448.13	0.014	0.01	8.147	A
C-AB	58.82	58.93	0.00	653.77	0.090	0.11	6.055	A
C-A	31.08	31.08	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	41.35	41.35	0.00	-	-	-	-	-

Main results: (15:45-16:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.17	45.23	0.00	721.32	0.063	0.07	5.326	A
BA	5.27	5.28	0.00	453.38	0.012	0.01	8.035	A
C-AB	48.82	48.90	0.00	652.06	0.075	0.09	5.971	A
C-A	26.46	26.46	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	34.63	34.63	0.00	-	-	-	-	-

(Default Analysis Set) - Scenario 1, Saturday DEV Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (H:MM)	Model Finish Time (H:MM)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, Saturday DEV Peak	Scenario 1	Saturday DEV Peak		ONE HOUR	09:30	11:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
B4124 Bromyard Road	T-Junction	Two-way	A, B, C	6.27	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm Type
A	B4124 Bromyard Road (E)		Major
B	Tenbury Wells Industrial Estate		Minor
C	Bromyard Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	6.00		0.00		2.20	120.00	✓	0.00
B								
C								

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Width at 30m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	7.30	4.70	3.90	3.80		✓	2.00	21	33

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B4124	B-A	480.294	0.087	0.221	0.139	0.316
B4124	B-C	733.936	0.113	0.284	-	-
B4124	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	✓	✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	46.00	100.000
B	ONE HOUR	✓	77.00	100.000
C	ONE HOUR	✓	105.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.000	7.000	39.000
From B	8.000	0.000	69.000
From C	35.000	70.000	0.000

Turning Proportions (PCU) - Junction B4124 (for whole period)

	To		
	A	B	C
From A	0.00	0.15	0.85
From B	0.10	0.00	0.90
From C	0.33	0.67	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction B4124 (for whole period)

	To		
	A	B	C
From A	1.000	1.000	1.030
From B	1.000	1.000	1.050
From C	1.000	1.020	1.000

Heavy Vehicle Percentages - Junction B4124 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	3.000
	B	0.000	0.000	5.000
	C	0.000	2.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	5.89	0.12	A
BA	0.02	8.34	0.02	A
C-AB	0.12	6.39	0.15	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (09:30-09:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	51.95	51.62	0.00	722.58	0.072	0.08	5.631	A
BA	6.02	5.97	0.00	453.02	0.013	0.01	8.051	A
C-AB	54.91	54.52	0.00	651.89	0.084	0.10	6.138	A
C-A	24.14	24.14	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	29.36	29.36	0.00	-	-	-	-	-

Main results: (09:45-10:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	62.03	61.96	0.00	720.32	0.086	0.10	5.741	A
BA	7.19	7.18	0.00	447.60	0.016	0.02	8.173	A
C-AB	66.11	66.02	0.00	653.55	0.101	0.12	6.244	A
C-A	28.28	28.28	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	35.06	35.06	0.00	-	-	-	-	-

Main results: (10:00-10:15)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.97	75.87	0.00	717.21	0.106	0.12	5.894	A
BA	8.81	8.79	0.00	440.23	0.020	0.02	8.344	A
C-AB	81.87	81.74	0.00	655.86	0.125	0.15	6.389	A
C-A	33.74	33.74	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	42.94	42.94	0.00	-	-	-	-	-

Main results: (10:15-10:30)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.97	75.97	0.00	717.20	0.106	0.12	5.894	A
BA	8.81	8.81	0.00	440.19	0.020	0.02	8.344	A
C-AB	81.88	81.88	0.00	655.87	0.125	0.15	6.392	A
C-A	33.73	33.73	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	42.94	42.94	0.00	-	-	-	-	-

Main results: (10:30-10:45)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	62.03	62.13	0.00	720.30	0.086	0.10	5.745	A
BA	7.19	7.21	0.00	447.54	0.016	0.02	8.177	A
C-AB	66.12	66.25	0.00	653.56	0.101	0.12	6.249	A
C-A	28.27	28.27	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	35.06	35.06	0.00	-	-	-	-	-

Main results: (10:45-11:00)

Stream	Total Demand (Pcu/h)	Entry Flow (Pcu/h)	Pedestrian Demand (Ped/h)	Capacity (Pcu/h)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	51.95	52.02	0.00	722.54	0.072	0.08	5.637	A
BA	6.02	6.03	0.00	452.89	0.013	0.01	8.057	A
C-AB	54.93	55.02	0.00	651.89	0.084	0.10	6.149	A
C-A	24.12	24.12	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	29.36	29.36	0.00	-	-	-	-	-

**Preliminary Ecological Appraisal,
Proposed Household Waste Site, Tenbury Wells Business
Park, Tenbury Wells, Worcestershire**



Countryside Consultants Ltd

DOCUMENT HISTORY

Report prepared by: Stewart Rampling MCIEEM

Report prepared for: Mercia Waste Management

Documentation used: Ordnance Survey Master Map and Site Plan Map
<http://www.natureonthemap.org>
TW-HWS-SAR-MWM-015 proposed layout
1509-01-01 landscape plan

Biological records centre: Data Search Received 19/03/14

Revision history: Draft Report v1 issued to client on 25th March 2014
v1.1 issued 24th June 2014
v1.2 issued 25th June 2014

Document review and certification

Document author: Stewart Rampling BSc (Hons) MCIEEM

Position: Director

Document author, reviewer and sub-contractor approval of the report providing a true and accurate representation of the evidence and interpretation gathered.

“The information, data, evidence, advice and opinion expressed within this report which we have prepared and provided is true, and has been prepared and given in accordance with the guidance of my professional institution’s Code of Professional Conduct, and we confirm that the opinions expressed are our true and professional opinions.”

Signed:



S. Rampling

25/06/14

NON TECHNICAL SUMMARY

What	<ul style="list-style-type: none"> Ecological survey and impact assessment of a new proposed household waste site at Tenbury Business Park.
Why	<ul style="list-style-type: none"> The site is located in an edge of settlement position adjacent to open countryside and in close proximity to the wooded slopes of the Longhill Brook making the site potentially sensitive for protected species and the wider biodiversity network.
How & When	<ul style="list-style-type: none"> Walk-over evaluation by experienced ecologist. Desk top study.
Key findings	<ul style="list-style-type: none"> Site's habitats found to comprise ecologically poor improved grassland, scrub and scattered broadleaved trees. No evidence or likely associations with protected or notable species beyond nesting birds Site drains to the Kyre Brook Special Wildlife Site which is a tributary of the River Teme Site of Special Scientific Interest. Proximity of ecologically valuable Longhill Brook within 100m to the east.
Significance	<ul style="list-style-type: none"> Site considered to be of low (site level) ecological value. High ecological value (county level) standard site within 80m forming key part of ecological network although only poor connection between the proposed site and the corridor. High ecological value (county and national level) sites associated with downstream receptors Kyre Brook and River Teme.
Potential impacts	<ul style="list-style-type: none"> Very low scale impact in terms of 'on site' habitat loss and little scope for impacts to protected species. Negligible impact to value of nearby Longhill Brook corridor. Low scale diffuse impacts to downstream watercourses. Risk of pollution events to downstream watercourses.
Measures to avoid or mitigate for potential impacts	<ul style="list-style-type: none"> Replacement of low value on site habitats through high value, naturalistic planting within 0.07ha landscape scheme. Use of site interceptor to reduce risk of pollution of surface drainage and controls to handling and storage of high risk chemicals. 'Point source' mitigation where practicable of surface drainage. Timing constraint to any vegetation clearance.
Opportunities for net enhancement	<ul style="list-style-type: none"> Installation of bird box on building.
Further survey requirements	<ul style="list-style-type: none"> None.
European Protected Species potentially impacted	<ul style="list-style-type: none"> White clawed crayfish within distant receptor – unlikely to be adversely impacted.
Conclusion	<ul style="list-style-type: none"> Subject to the landscape scheme, and full use of a sustainable urban drainage system, the scheme is considered unlikely to have an adverse impact on the site's ecological status, or its contribution to the wider biodiversity network.

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Appendix 2: Biodiversity opportunities and constraints plan

1. INTRODUCTION

1.1. Purpose & scope of this report

- 1.1.1. Plans are being drawn up for a planning application on land to the rear of Tenbury Wells Business Park to provide a new public household waste site for the district. This is land allocated for development within the Malvern Hills District Local Plan (MHDC 2013). The proposals require an ecological survey as the site is located within an edge of settlement setting close to a small watercourse where protected species and sensitive habitats may be encountered.
- 1.1.2. Guidelines for the production of preliminary ecological appraisal were issued by the Chartered Institute of Ecology and Environmental Management (CIEEM) in 2012 and these provide a useful assessment tool for key ecological features and evaluation of potential impacts of what is essentially a small scale development.
- 1.1.3. This ecological survey has been commissioned and prepared in accordance with best practice guidelines for ecological appraisal (2012) and impact assessment (2006) set out by the Chartered Institute of Ecology and Environmental Management, relevant survey handbook, guidance notes and the newly published British Standard for Biodiversity (BSI 2013). The survey and report have been completed by a professional ecologist who is a full member of the Chartered Institute of Ecology and Environmental Management.

1.2. Commissioning brief & aims of survey

- 1.2.1. Countryside Consultants Ltd were instructed by Mercia Waste Management to carry out the preliminary appraisal in February 2014. The commissioning brief was as follows:
 - to consult with the Worcestershire Biological Records Centre (and by virtue of proximity the Shropshire Wildlife Trust) and other desk-top data sources to determine a context for the proposed land, the scope of potential impacts and ecological receptors, and to inform or appraise possible further survey requirements;
 - to map and characterise the habitats present through a Phase 1 habitat survey based upon the approach and guidelines set out in the Phase 1 Habitat Survey Handbook (JNCC 2010);
 - to carry out a walk-over inspection of the land for any evidence of or considered potential for protected species or notable species defined within taxonomic lists, Red Data Book, UK or Worcestershire Biodiversity Action Plan and the Natural Environment and Rural Communities Act 2006;
 - to identify key conservation features present on the site;
 - to recommend further surveys where these are required to provide an adequate level of survey effort and enable assessment of potential impacts of the proposed development on important habitats, protected or notable species;
 - to identify at an outline stage the potential impacts arising out of the development and, where possible, to suggest measures to avoid, mitigate or compensate for potential impacts;

- to make recommendation for measures to deliver a net enhancement to biodiversity.

1.2.2. This survey had the following aims:

- to enable an assessment of the site's ecological status and potential constraints;
- to flag up areas requiring further survey;
- to identify key features considered important for conservation within the overall green infrastructure of the design solution;
- to make recommendations for measures to avoid, mitigate and compensate for impacts where possible on the basis of phase 1 data, and, where appropriate, to make recommendation for net enhancement to biodiversity.

1.3. Site location & description

1.3.1. The proposed site is located to the eastern side of Tenbury Wells off the B4214 on the southern side of the existing Tenbury Wells Business Park. The Ordnance Survey grid reference for the site is SO 6008 6716.

1.3.2. The site occupies approximately 0.7ha although the total extent of the proposed development is less than this with a 0.48ha footprint located towards the western end of the plot. The plot occupies a broadly rectangular parcel between the existing business park, Worcestershire County Council's Highways Depot, other undeveloped parts of the Business Park and farmland. The site is bounded by post and wire fences. There is a general fall across the site from the south to the north.

1.4. Summary of the development proposals

1.4.1. The planning proposals are for the construction of a household waste site comprising a hard surfaced service bay with access ramp, car park, office and landscape areas to the east, south and west.

1.4.2. The total extent of the development is approximately 0.48ha. This will be constructed through a cut into the southern end of the site to achieve a flat operating yard and 2m height vehicular access ramp at the south-eastern end of the site.

2. SURVEY METHODOLOGY

2.1. Contextual research & consultations

2.1.1. A search of the Worcestershire Biological Records Centre was commissioned for the following parameters:

- Statutory and non-statutory nature conservation sites within 2km.

- Protected and Biodiversity Action Plan (BAP) or rare species within 2km.
- Horseshoe bats and barn owls within 5km.

2.1.2. By way of proximity to the County Boundary with Shropshire, this search was extended to records held by the Shropshire Wildlife Trust.

2.1.3. Aerial photographs, Ordnance Survey Maps and other web-based tools such as Natural England's mapping tools were studied to provide a context for site survey and assessment taking particular account of records for important species groups and connective features in the landscape.

2.2. Phase 1 habitat survey & site walk-over methodology

2.2.1. The field survey comprised the following:

- phase 1 habitat survey in accordance with the guidelines set out in the Handbook for Phase 1 Habitat Survey (JNCC 2010). Target notes were used to record any habitats or features of particular interest and any sightings, signs or evidence of protected or notable faunal or flora species or any potential habitat for such species;
- walk-over of the entire site looking for evidence of field signs of badger *Meles meles*, reptiles, bats, amphibians and nesting birds;
- assessment of the suitability of habitat for great crested newt *Triturus cristatus* habitat;
- assessment of the habitat suitability for reptiles based upon the techniques set out in Common Standards Monitoring Guidance (JNCC 2010);
- assessment of the potential for other notable species listed within the UK or Worcestershire Species Action Plans, List 41 of the Natural Environment and Rural Communities Act 2006 or other relevant taxa-specific listings was made on the basis of field experience and habitats present.

2.2.2. The Guidelines for Preliminary Ecological Appraisal (CIEEM 2012) indicate the potential differences between a *site development boundary* and a *survey site*, particularly where the land beyond the notional site boundary might hold potential ecological value which could be impacted by development or where contextual information might be useful.

2.2.3. In this instance, the survey 'buffer' was deemed to represent the entire field parcel including narrow strip of land extending south-east towards a tributary of the Kyre Brook. More general consideration of the potential impacts to distant ecological receptors associated with the Kyre Brook and River Teme.

2.3. Survey personnel

2.3.1. The Phase 1 habitat survey and walk-over survey was undertaken by Stewart Rampling BSc (Hons) MCIEEM. Stewart holds full membership of the Chartered Institute of Ecology

and Environmental Management (CIEEM) and is a consultant ecologist with over nineteen years professional field ecology and conservation experience.

2.4. Dates of survey

2.4.1. The Phase 1 habitat survey and site walkover survey took place on the 6th March 2014. Whilst this represents a sub-optimal period for assessing habitats in detail, this was not thought to have constrained the survey significantly given the low quality of habitats surveyed.

2.5. Limitations to survey

2.5.1. No constraints to the survey were encountered.

3. DESK STUDY

3.1. Data records and contextual information

3.1.1. There are two statutory nature conservation sites within 2km. Nine Holes Meadows Site of Special Scientific Interest (SSSI) is located approximately 1km to the east whilst the River Teme SSSI flows 1.5km to the north of the site.

3.1.2. Worcestershire Biological Records Centre (WBRC) and the Shropshire Wildlife Trust identify two non statutory local wildlife sites within 1km and a further site within 2km which would have reasonable connectivity to the site. These are: the Longhill Brook Special Wildlife Site flowing within 60m of the south-east boundary; Frith Farm Wood Special Wildlife Site which forms part of the wider corridor along the Longhill Brook; and, the Kyre Brook flowing within a kilometre to the north.

3.1.3. *Natureonthemap* identifies the broadleaved woodland associated with the Longhill Brook within 100m of the proposed site as an important Biodiversity Action Plan (BAP) habitat.

3.1.4. WBRC indicates no records for protected or notable species on the site. The nearest records are for song thrush *Turdus philomelos* within 500m to the north and west.

3.1.5. The landscape context comprises a dominant pastoral land use with small to medium sized field pattern bounded by hedgerows. A network of watercourses draining to the River Teme is a key feature of the ecology of the landscape, frequently within deeply incised valleys with wooded sides, much of it ancient in character and a network of small to medium scale woodlands, also of semi-natural or ancient character. The site is located on the south-eastern outskirts of Tenbury Wells settlement.

3.1.6. This type of landscape would be considered of moderate or high ecological value with this value principally associated with: the stream valleys and their associated woodlands; traditional orchards; ancient-semi natural woodlands; the hedgerow network; and, residual semi-improved or unimproved grasslands.

- 3.1.7. Taking into account the existing extent of biological records and landscape context, we would consider the biological records to be under representative of the potential range of species present.

4. HABITAT DESCRIPTIONS

4.1. Summary of habitats identified

- 4.1.1. The following vegetative habitats were recorded by the phase 1 habitat survey:

- improved (amenity) grassland;
- scattered broadleaved trees;
- ruderal;
- dense scrub.

(I) Improved amenity grassland

- 4.1.2. A characteristically species poor grassland habitat was recorded over the majority of site. This was maintained through intensive mowing and the sward composition was strongly indicative of a heavily modified and artificial habitat of low ecological value. The sward at the time of survey was no more than 25mm high. It was characterised by abundant perennial ryegrass *Lolium perenne* with meadow grass *Poa trivialis*, common bent *Agrostis capillaris* and cock's-foot *Dactylis glomeratus* frequent to abundant.
- 4.1.3. Herbs were notably restricted and occurred at low to moderate frequencies: common daisy *Bellis perennis*, creeping buttercup *Ranunculus repens*, white clover *Trifolium repens*, dandelion *Taraxacum sp.*, and common dock *Rumex obtusifolius*.



Image 1: typical composition of the improved grass sward

(II) Scattered broadleaved trees

- 4.1.4. Eleven scattered broadleaved trees were recorded along or just inside the southern and eastern field boundaries. Most of these had originated from planting in the last twenty years although a mature goat willow *Salix caprea* (previously coppiced) was recorded along the southern boundary. These trees were considered to be either young or semi-mature and comprised: alder *Alnus glutinosa*; silver birch *Betula pendula*; and, Norway maple *Acer platanoides*. The tree survey (Countryside Consultants Ltd 2014) considered these trees to be of largely poor arboricultural value.



Image 2: line of scattered broadleaved trees along the eastern boundary

(III) ruderal vegetation

- 4.1.5. The basal vegetation surrounding the line of broadleaved trees to the eastern boundary was characterised by a narrow strip of ruderal vegetation dominated by stinging nettle *Urtica dioica* with occasional hemlock *Conium maculatum*, creeping thistle *Cirsium arvense*, hogweed *Heracleum sphondylium* and American willowherb *Epolibium lanceolatum*. A persistence of grass (mainly cock's-foot) was also noted in this area.

(IV) Dense scrub

- 4.1.6. Dense scrub was recorded in three locations: in a small patch in the south-west corner dominated by bramble *Rubus fruticosus*; along the souther boundary dominated by goat willow saplings; and, in a narrow strip extending south-eastwards towards the Longhill Brook which was dominated by bramble.



Image 3: view south-east across a narrow strip of bramble scrub



Image 4: goat willow scrub to the southern boundary

5. ECOLOGICAL EVALUATION

5.1. Habitat evaluation

- 5.1.1. None of the habitats present on the site were considered to be of ecological significance. These were all representative of either heavily modified or artificial features with intensive management over the grassland.

5.2. Protected and notable species assessment

(I) Invertebrates

- 5.2.1. The landscape context is considered likely to be of some importance for rare or notable invertebrate species, possessing the broad assemblage types for ancient semi-natural woodland and rivers. The site however has no important broad or specific habitat assemblages and is therefore considered to be of very low potential value. Noble chafer *Gnorimus nobilis* has been recorded within 2km although there is no suitable habitat on the site or adjacent for this species. The southern boundary with its exposed soil may provide some limited habitat for solitary bees and wasps although there are no records to indicate this being an important area and the overall assessment for this grouping is considered to be not significant.
- 5.2.2. White clawed crayfish *Austropotamobius pallipes* has been recorded at several locations along the River Teme and they are thought likely to be present in the Kyre Brook and its tributaries. No flowing water is however present on the site and the only risk of potential impacts to this species are thought to be indirect and diffuse only.

(II) Amphibians

- 5.2.3. The nearest recorded site for any species of amphibians held by WBRC is nearly 2km to the west. There are no ponds indicated on Ordnance Survey maps within 500m of the proposed site and the site is considered to have no value for amphibians.

(III) Reptiles

- 5.2.4. Worcestershire Biological Records Centre and the Shropshire Wildlife Trust do not hold any records for reptiles within the 2km search area. Whilst this may be representative of survey effort, and is almost certainly an under-reflection of the distribution of common species locally, the site is not considered to provide the necessary habitat for reptiles, lacking in structural heterogeneity of vegetation and secluded basking areas. It is therefore considered that reptiles are almost certainly absent.

(IV) Birds

- 5.2.5. As a relatively wooded area, with pockets of ancient semi-natural woodland and reasonably intact hedgerow network, the landscape context is considered to be moderate or good for birds. The British Trust for Ornithology Bird Atlas indicates a species richness of between 75% and 90% of expected breeding species for the 10km grid square (<http://blx1.bto.org/atlas-results/mapsworc.html>). Worcestershire Biological Records Centre indicates a number of records for linnet *Carduelis cannabina*, yellow hammer

Emberiza citrinella and song thrush within 2km, which are typical indicators of open farmland and woodland edge habitats.

- 5.2.6. Despite this favourable context, the site possesses few features of value to birds and is considered to have a very low value in this respect. The pockets of bramble and willow scrub and trees may provide limited nesting opportunities.

(V) Bats

- 5.2.7. None of the trees on the site were considered to be suitable for roosting bats, being devoid of features typically used by bats. The site also lacks any potential as a foraging resource with a likely very low invertebrate biomass. Additionally, the land to the north and immediate east were noted for the presence of street lights likely to dissuade light sensitive species. The site is therefore not considered to be significant for bats.
- 5.2.8. The corridor formed to the east along the Longhill Brook is however considered likely to be of value to a broad range of species of bats as a foraging, commuting and roosting resource.

(VI) Otter

- 5.2.9. WBRC indicates records for otter within 2km. The site is however considered sufficiently distant from any watercourse so as to make it highly unlikely that this European Protected Species will be present.

(VII) Hazel dormouse

- 5.2.10. There are no records held by the WBRC within 2km of the site for this protected species although they are potentially under-recorded in West Worcestershire. The landscape context is likely to be favourable for dispersed populations and wooded stream valleys such as the Longhill Brook are likely to provide suitable habitat.
- 5.2.11. The part of the site impacted by the proposals contains no suitable habitat for this species. The bramble scrub along the narrow strip of land connecting to the Longhill Brook may however provide limited foraging and nesting opportunities.

(VIII) Hedgehog

- 5.2.12. WBRC holds no records for this species within 2km although this is almost certainly an indication of survey effort and they are very likely to be present locally. The site however is considered to offer very little suitable habitat for shelter although the grassland may provide some low level foraging opportunities.

(IX) Badger

- 5.2.13. WBRC holds several records for badger locally, the nearest being over a kilometre to the south-east. There was no evidence of regular activity across the site and no field signs indicative of a sett outside the site boundary. The site is considered to have only moderate or poor foraging potential and overall the site is not considered to be of significance.

(X) Other species

- 5.2.14. The site is not considered to be of value for species typically associated with farmland and woodland such as polecat *Mustela putorius*, brown hare *Lepus europeus* or harvest mouse *Micromys minutus*.

5.3 Corridors and connectivity

- 5.3.1. The Longhill Brook connects areas of broadleaved woodland and farmland to the south with the Kyre Brook and the River Teme. These are habitats of high ecological value, being identified as county and national level nature conservation designations.
- 5.3.2. The majority of the site is located in excess of 80-100m from the corridor, with no obvious connective pathway. There is also an area of developed land between the site and the corridor making it somewhat isolated.

5.4 Preliminary site evaluation

- 5.4.1. Taking account of the small size of the site, its contribution to the ecological network is likely to be very limited or negligible. The habitats present are of poor ecological quality with no obvious associations with protected or notable species. Expressed in geographical terms as described by the Chartered Institute of Ecology and Environmental Management, this would be considered a site level ecological value, at the very low end of the spectrum of ecological values.

6. IMPACT ASSESSMENT

6.1. Habitat loss

- 6.1.1. The proposals will result in the loss of 0.48ha of improved, poor quality grassland habitat and very small areas of bramble and goat willow scrub. None of these habitats are considered of ecological importance, being ubiquitous throughout the local landscape.
- 6.1.2. Bramble scrub and trees to the eastern boundary of the field parcel will not be impacted by the proposals.

6.2. Disturbance to protected and notable species

- 6.2.1. There is a low potential for nesting birds to be present within very limited areas of scrub impacted by the proposals. Disturbance to nesting birds is however an offence under the Wildlife and Countryside Act 1981 as amended, and precautionary measures are recommended to avoid this risk although the overall impact to birds is considered negligible.

6.3. Fragmentation of corridors

- 6.3.1. Given the distance from the Longhill Brook Corridor, and existing development, there is unlikely to be any issue from light spill and there are no other potential risks of fragmentation of the corridor arising from the development.

6.4 Indirect impacts to distant receptors

- 6.4.1 The site is generally sloping to the north away from the Longhill Brook. This means that it is considered very unlikely that there will be any risk of pollution of distant watercourses through the construction phase. The small area of land draining south-east passes across 45m of bramble scrub habitat and this is likely to provide natural mitigation against any risk of surface drainage carrying mud, silt, suspended or dissolved pollutants entering the Longhill Brook.
- 6.4.2 The proposals will result in the replacement of grassland with hard surfaced yard and vehicular access. Surface drainage will be 'plugged' into the existing storm drain serving the business park which discharges into the Kyre Brook to the north. Collection and transfer of batteries, chemicals and oils will be under strict controls within a segregated area which will avoid the risk of damage to the Kyre Brook and River Teme SSSI.
- 6.4.3 Soils and rubble will be collected within the general service area, which will be subject to pollutants generally associated with highways such as heavy metals from brake pads, salt and rubber. The overall size of the proposed site and its limited frequency of operation is likely to represent a very small increased loading of these background pollutants entering the Kyre Brook and ultimately the River Teme SSSI. Hydrocarbons and readily deposited suspended particles from the site will be removed by a petrol interceptor.
- 6.4.4 There are no considered impacts to the other statutory nature conservation site within 2km given the nature of the development and lack of any connective pathway.

7. MEASURES TO AVOID, MITIGATE OR COMPENSATE AND ENHANCE FOR ECOLOGICAL IMPACTS

7.1. Legislative and planning context

- 7.1.1. There is a duty to consult with Natural England for all applications for development within 500m of a SSSI. Whilst the site is outside this buffer, the presence of a Site of Special Scientific Interest with a potential pathway between the site and the SSSI makes the site part of the regulatory process set out in the Countryside and Rights of Way Act 2000 and Natural Environment and Rural Communities Act 2006.
- 7.1.2. The presence of any European Protected Species on the site is considered unlikely. There is however the likely presence of a European Protected Species (white clawed crayfish) within a distant ecological receptor in the Kyre Brook. European Protected Species legislation for this species and their habitats is contained within the Conservation of Habitats and Species Regulations 2010.
- 7.1.3. The Kyre Brook and River Teme are subject to the Water Framework Directive. The Kyre Brook is identified as failing the Directive due to pollution and lack of expected invertebrate species. The key issues influencing the quality of the Kyre Brook and the wider River Teme catchment are set out in the Teme Catchment Partnership Plan (Teme Catchment Partnership 2012).

- 7.1.4. National protection for nesting birds is included within the Wildlife and Countryside Act 1981 (as amended).
- 7.1.5. The Malvern Hills District Local Plan 1996-2011 (saved policies) Nature Conservation Policies QL19 (Protection of Wider Biodiversity) and QL20 (Creation of Habitats) strengthen the protection of important nature conservation corridors, habitats and protected species within the planning framework. This makes the potential indirect impacts to the Kyre Brook and light spill to the Longhill Brook of relevance.
- 7.1.6. In exercising their decisions within the planning framework, local authorities are duty bound to take full account of the impact on biodiversity, including the wider biodiversity network and 'notable' species listed within Red Data Books, taxa-specific conservation lists and Schedule 41 of the Natural Environment and Rural Communities Act 2006, which includes protected species such as white clawed crayfish.
- 7.1.7. The National Planning Policy Framework further emphasizes the need for the protection and adequate mitigation of potential adverse impacts to important biodiversity features, as well as delivering proportionate net gain to biodiversity through the planning system.
- 7.1.8. The emerging South Worcestershire Development Plan Policy 22 provides further support for habitats considered of importance through listing within the Biodiversity Action Plans. The Policy also places a high degree of protection for species listed within the UK or Local BAPs, which at this site transposes to white clawed crayfish. The emerging policy also seeks to secure and maintain robust, coherent ecological networks at a local and strategic level.

7.2. Further surveys required

- 7.2.1. Taking into account the small size of the proposed development and the potential impacts which might be reasonably based on assumed presence and expert knowledge of the area's ecology, no further surveys are considered necessary.

7.3. Habitat conservation, replacement and creation

- 7.3.1. In determining an adequate level of mitigation across a site, the Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment (CIEEM 2006) provide a useful reference point. The guidelines state:

“There is a growing body of opinion that new developments should deliver net ecological gain rather than simply being designed to achieve mere damage limitation. Therefore, right from the start, proponents of any scheme should incorporate, as part of the proposals for scheme design and implementation, measures that are required to deliver ecological enhancements as well as measures to:

- *avoid negative ecological impacts – especially those that could be significant;*
- *reduce negative impacts that cannot be avoided; and*
- *compensate for any remaining significant negative ecological impacts.”*

- 7.3.2. The loss or modification of up to 0.5ha of poor quality grassland habitat (slightly larger than the development allowing for construction activities) and small areas of scrub will be

mitigated through the creation of approximately 0.03ha of new hedgerow native hedgerow habitat and 0.04ha of semi-natural / ornamental landscaping around the periphery of the site.

- 7.3.3. To provide new nesting habitat for birds, a Schwegler Sparrow Terrace will be incorporated into the eastern or northern wall of the site office building.

7.4 Timing constraints

- 7.4.1. To avoid the risk of disturbance to nesting birds, all scrub and trees will be removed during the period 1st September through 28th February, or exceptionally after the vegetation has been inspected by a competent ecologist and verified that there are no active nests present.

7.5 Assessment of residual impacts

- 7.5.1 After the mitigation and avoidance measures outlined above in section 7.3, there will no negative impact to the value of the Longhill Brook corridor.
- 7.5.2. There will no disturbance or negative impact to protected or notable species. The value of the site for nesting birds will be increased.
- 7.5.3. The risk of significant pollution events to the downstream ecological receptors associated with the Kyre Brook and River Teme SSSI will be avoided. Diffuse hydrocarbon pollution will also be avoided through the use of an interceptor. There will remain a risk of diffuse pollutants typical of urban areas entering the surface water drainage system and into the Kyre Brook and River Teme. The scale impact of this will be very low given a restricted operation period and small size of the footprint. Within the context of the existing urban loading, any impacts from the proposed site will be of a very low or low order.
- 7.5.4. However, in accordance with the Chartered Institute's guidance, where practicable, any such impacts should be mitigated.

7.6 Delivery mechanism

- 7.6.1. In accordance with BS 42020, a construction and environmental management plan will be drawn up, submitted to and agreed in writing with the local planning authority under condition. This will set out areas to be protected during the construction phase and measures to minimise the risk of pollution and damage to environmental features.

7.7 Monitoring

- 7.7.1. There will be no requirement for ongoing ecological monitoring of the site's habitats upon completion given the low scale impact and reliability of habitat creation methods proposed. There will however be need to monitor the quality of surface water leaving the site on a periodic basis, which should form part of the operational permit issued by the Environment Agency.

7.8 Longevity of report

- 7.8.1. This report shall remain valid for a maximum period of two years. After this time, a re-inspection will be necessary to ensure that there have been no material changes.

7.9 Conclusion

- 7.9.1. The site comprises poor quality ecological habitats and little association with protected or notable species making the 'on site' impacts limited and very low scale. These may be reasonably addressed through compensatory habitat creation within the framework of the landscape scheme.
- 7.9.2. The site is located close to an important ecological corridor along the Longhill Brook although connectivity to the site is poor and historical development has introduced illumination and built land between the proposed site and the edges of the corridor. This avoids potential implications of fragmentation and negative impact to the ecological corridor.
- 7.9.3. The site is located on the side of shallow north-facing hill draining towards the Kyre Brook and ultimately the River Teme. As with all household waste sites operated by Severn Waste Services, controlled drainage from key areas is passed through an interceptor. This will also be the case at the new Tenbury Wells site which will avoid the risk of hydrocarbons entering the drainage system. Protection measures for higher risk pollutants associated with household waste sites will also be implemented, thereby avoiding the risk of high scale impact to sensitive downstream receptors.
- 7.9.4. Measures to provide additional layers of safeguard and treatment of low level pollutants typically associated with urban areas should be investigated as part of the sustainable drainage strategy.

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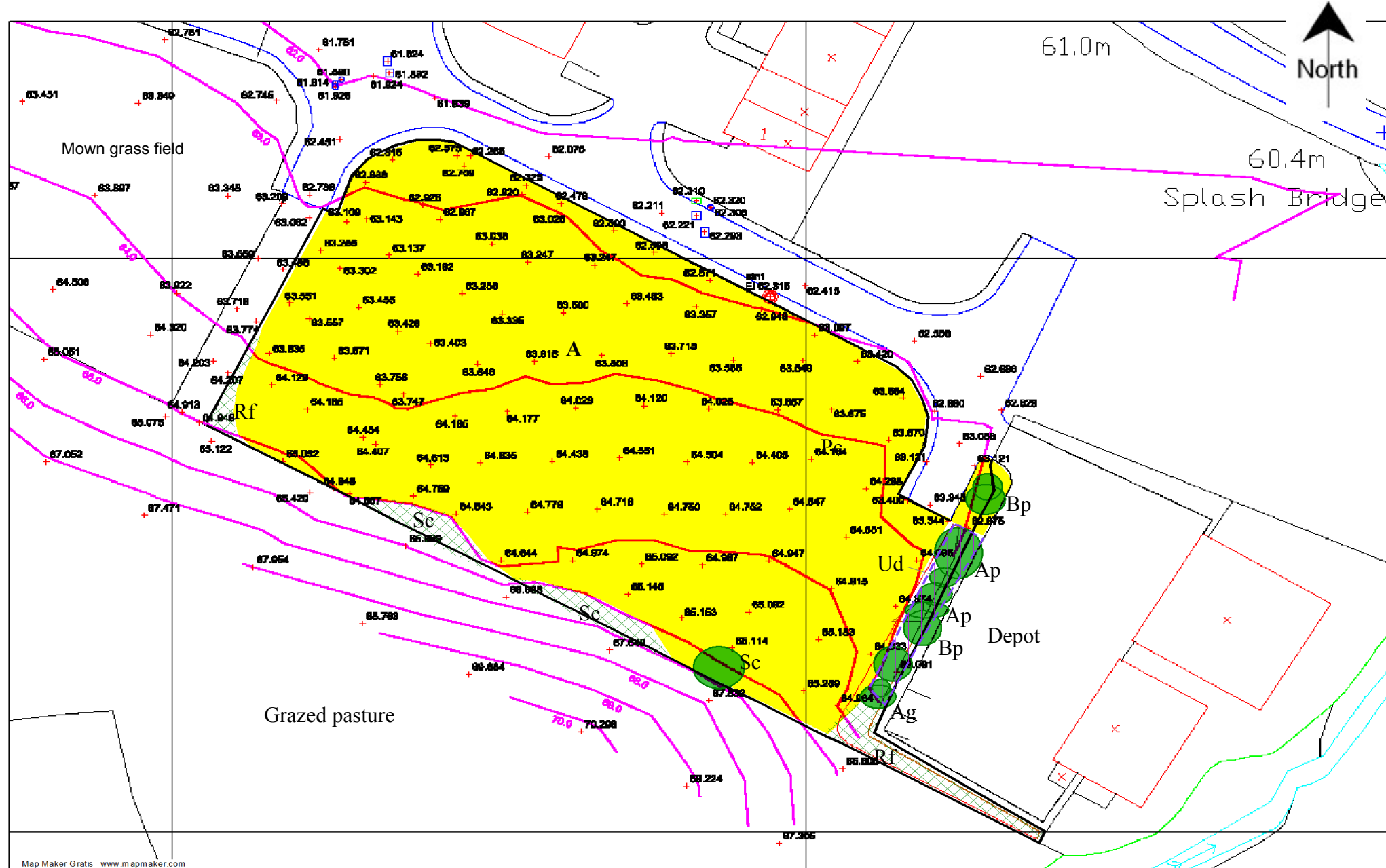
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APPENDICES

Preliminary Ecological Appraisal,
Proposed Residential Development,
Land at Tenbury Wells Business
Park, Worcestershire

Key

- Amenity grassland
- Ruderal vegetation
- Dense scrub
- Scattered broadleaved trees
- Fence



- Ag Alder
- Ap Norway maple
- Bp Silver birch
- Rf Bramble
- Sc Goat willow
- Ud Stinging nettle

Drawing Title: Phase 1 Habitat Map
 Drawing ref: Appendix 1
 Version: v1.1
 Date: 20/03/14
 Drawn by: S. Rampling MCIEEM
 Date survey: as at 06/03/14

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Preliminary Ecological Appraisal,
Proposed Residential Development,
Land at Tenbury Wells Business
Park, Worcestershire



Key

- Site development boundary
- Landscape planting – use of native species trees and shrubs
- Schwegler sparrow box

Drawing Title: Opportunities and constraints plan

Drawing ref: Appendix 2

Version v1.3

Date: 25/06/14

Drawn by: S. Rampling MCIEEM

Date survey: as at 06/03/14

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Land at Tenbury Wells Business Park,
Worcestershire
Tree Survey BS 5837:2012



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Report prepared by: Stewart Rampling BSc (Hons) MCIEEM

Report prepared for: Mercia Waste Management

Documentation used: Ordnance Survey Site Plan Data
TW-HWS-SAR-MWM-015 proposed site layout
1509-01-01 landscape proposals

Revision history Planning issue 19/03/14
Revision v1.2 24/06/14

Document review and certification

Document authors: Stewart Rampling BSc (Hons) MCIEEM

Position: Director

Document author, reviewer and sub-contractor approval of the report providing a true and accurate representation of the evidence and interpretation gathered.

“The information, data, evidence, advice and opinion expressed within this report which we have prepared and provided is true, and has been prepared and given in accordance with the guidance of my professional institution’s Code of Professional Conduct, and we confirm that the opinions expressed are our true and professional opinions.”

Signed:



S. Rampling

24/06/14

Appendix 1: Tree survey schedule
Appendix 2: Plans showing trees surveyed
Appendix 3: Plan showing tree quality assessments
Appendix 4: Plan showing Root Protection Zones
Appendix 5: Tree Protection Plan showing trees to be retained and removed
Appendix 6: Plan showing development proposals overlain with tree survey data

1. INTRODUCTION

Background

- 1.1 Plans have been drawn up to develop an area of land to the south of the B4214 at Tenbury Wells Business Park to provide a new public household waste site. Several trees and other woody vegetation has been identified around the periphery of the site which may be impacted, either directly or indirectly by the proposals.
- 1.2 This tree survey has been prepared to provide the necessary information for appropriate assessment of the proposals on existing trees, and to help guide the production of a landscaping scheme. The tree survey has been prepared to guidelines set out in British Standard 5837 "Trees in Relation to Construction" (BSI 2012).

Survey brief

- 1.3 Countryside Consultants Ltd were instructed by Mercia Waste Management to carry out the tree survey during February 2014. The aims of the survey were as follows:
- To survey trees in accordance with BS5837:2012 and provide a tool for the development of the landscape scheme.
- 1.4 As part of the tree survey and assessment process, the following have been produced:
- A schedule of all trees surveyed, including categorisation of individual trees based upon a hierarchical assessment process taking account of a range of factors contained within the British Standard.
 - Plans showing the location of the surveyed trees.
 - Plans showing Root Protection Zones for all surveyed trees.
- 1.5 To further assist the planning process, this report includes a summary of the tree survey, including recommendations for areas which are deemed to be particularly important to the site and ecosystem services, as well as other areas where poor quality trees might be removed without significant impact and general commentary on the standard of trees surveyed and management issues.

Site location

- 1.6 The proposed site is located to the western side of an undeveloped plot on the south side of Tenbury Wells Business Park adjacent to the Worcestershire County Council Highways Depot to the south-east side of Tenbury Wells on the Bromyard Road. The total site occupies 0.7ha although the actual footprint of the development is likely to be less. The Ordnance Survey grid reference for the site is SO 3600 2671.

2. METHODOLOGY

Survey area

- 2.1 The entire site was assessed through walk-over inspection prior to survey to determine the extent of tree cover and potentially any trees outside of the red-line boundary which might be impacted by the development proposals.

Survey protocol

- 2.2 Table 1 overleaf details the range of criteria assessed in the field. All trees with a stem diameter at breast height of 75mm or more were recorded.

Survey dates

- 2.3 The survey was carried out on the 6th March 2014 under favourable weather conditions for survey. Whilst this period was associated with all species in a dormant phase, identification was made through available leaf litter and bud form.

Surveyor experience

- 2.4 The survey was carried out by Stewart Rampling BSc (Hons) MCIEEM. Stewart holds a relevant degree qualification with silvicultural and arboricultural modulation and has over four years experience and numerous surveys at development sites using the applied guidance contained with the British Standard, as well as over eighteen years field identification experience and a working knowledge of typical physiological problems associated with pests and diseases.

Limitations to survey

- 2.5 This survey is for planning purposes. It should not be confused with a Tree Safety Inspection. For all trees identified as having a potential defect, further investigations are recommended. In particular, no internal investigations or use of sounding devices to check for internal defects has been carried out.
- 2.6 Trees 2-11 were located along the eastern site boundary hedgerow. Crown projections within the site were measurable however those outside the site to the east could not be measured without trespassing and were estimated by eye.

Tree assessment

- 2.7 The Cascade Chart for Tree Quality Assessment contained within the British Standard has been used to categorise all surveyed trees on the site. This represents a subjective assessment of tree quality although the use of a hierarchy of values sets out a useful tool to assign value. Where possible, notes have been made in the tree schedule to highlight particular qualifying attributes to each tree so that there is a reasoned justification. This assessment is made without consideration of any proposed development.

Table 1 Tree survey methodologies

Criteria	Methodology
Grid reference	Based on ten figure grid reference measured by hand-held <i>Garmin</i> GPS unit and recorded on the schedule as a numerical reference 1-11
Species (common)	Common name of species
Species (latin)	Latin name of species
Height	Projected height measured using a clinometer expressed in metres
Stem diameter	Diameter measured at 1.5m above ground, taken from upslope where on uneven ground using girth measurement tape; where multiple stems were present or forks below this height, measurement across the widest stem and / or immediately above the basal flare plus notation in the schedule; expressed in mm
Crown height	Lowest part of the dominant crown above ground measured with tape measure and expressed in metres
Crown projections	Extent of the branch tips on four compass points measured using tape measure and expressed in metres; where the tree was inaccessible due to vegetation or obstacles then the branch spreads have been estimated
Age class	Assessed age of the tree based upon species longevity, previous management, shape and form; expressed in terms of Young (Y), Middle-aged (Ma), Mature (M), Over-mature (OM) or Veteran (V)
Estimated remaining contribution	Estimated from species and physical / structural condition; expressed in years - <10, 10-20, 20-40, 40+
Physiological condition	Recorded vigour of tree in terms of growth in canopy, stem; surface evidence of disease or insect infestation (NB no sounding devices have been used to look for internal cavities); evidence of damage to tree; presence of negative factors such as ivy
Structural condition	Form of tree and any physiological defects which might impair tree quality; notation of features such as buildings or ditches which might develop an asymmetrical root profile
Category assessment	Based upon the Cascade Chart for Tree Quality Assessment (see annex 3 for full details) expressed in terms of A, B, C, or U (formerly R) quality
Management recommendations	Measures which would be appropriate to maintain arboricultural values or to remediate problems

Where measurements were made remotely, these are identified by (e) in the table.

In addition to these criteria, each tree was assessed for potential associations with protected species such as nest boxes, or observed nesting behaviour. Each tree was assessed for bat roosting potential using the Bat Conservation Trust methodology (BCT 2012) identifying three tiers of rating:

- 1* trees with features or numbers of features potentially suitable for bats;
- 1 trees with a feature potentially suitable for bats;
- 2 trees with no obvious signs of potentially features, but of a species and form which might provide suitable opportunities such as the presence of dense ivy on the stem or tree species with a high association with roosting bats;
- 3 trees with no potential features for bats.

3. TREE PROTECTION

Root Protection Zones

- 3.1 BS:5837 describes a Root Protection Zone (RPZ) and the tree it encloses as a series of concentric circles. The radii of RPZs are assumed to be twelve times the diameters of the enclosed trees (ten times for multi-stemmed trees) but irrespective of this rule, the Standard suggests they should rarely (if ever) exceed 15 metres.
- 3.2 The area and shape of an RPZ may be changed if local conditions dictate or the tree's condition indicates that a larger zone is required. Root Protection Zones should include those trees with stems located outside of site boundaries with a maximum 15m radius for these where doubt exists due to estimation of measurements. Developments within RPZs may extraordinarily be permitted, but these must be carefully guided by a method statement and measures to reduce impacts taken, and a full justification for the works made.

Tree Protection Areas

- 3.3 During any development works, all retained trees must be protected in accordance with BS 5837:2012 – *"Trees in relation to design, demolition and construction – Recommendations"*. Suitable protective fencing and/or ground protection must be installed to protect the full extent of the RPZ of all retained trees prior to the commencement of any of the following activities:

The delivery of any plant or materials;
Erection of welfare units;
Demolition;
Soil stripping;
Construction works;
Installation of utilities; and
Landscape works.

The Root Protection Area must not be compromised. The following shall apply within this area:

No mechanical excavations;
No excavations by other means without the agreement of the consultant arboriculturist;
No change in levels (except removal of grass sward using hand tools);
No storage of plant or materials;
No storage or handling of any chemicals including cement washings. No substances injurious to tree health, including fuels, oil, bitumen, cement, builders sand, concrete mixing and other chemicals shall be stored or used within or adjacent to the protection areas of retained trees;
No vehicular access; and
No fire lighting. No fires shall be lit anywhere within the site where flames come within 5m of tree foliage.

- 3.4 Where possible, the extent of the Tree Protection Area should extend to beyond 1m from the canopy spread of trees to minimise the risk of damage to branches.

4. FINDINGS

Numbers of trees and distribution

- 4.1 Eleven trees were identified, in addition to a grouping of sapling and young stage goat willow which did not meet the minimum threshold set out within the British Standard but were noted for contextual purposes. These trees were located along or just inside the southern and eastern boundaries.

Species and age groups recorded

- 4.2 Four broadleaved species were recorded: goat willow *Salix caprea*; alder *Alnus glutinosa*; silver birch *Betula pendula*; and, Norway maple *Acer platanoides*. With the exception of the goat willow, which is a typical pioneer species, all trees appear to have been planted as part of a previous landscape scheme.
- 4.3 Trees fell into the young, middle-aged and mature age classes although this was more indicative of the species' longevity rather a tree of old age per se.

Quality assessment

- 4.4 The trees surveyed were considered to be of varied but generally poor quality with two category B trees, five considered to be moderate (C) and the remaining four of poor quality with expected remaining contributions of less than 10 years (U category). Both 'B' category trees were assessed as relatively young trees with the potential to contribute to the site's amenity although neither were considered to be of any great arboricultural, cultural or ecological value.
- 4.5 Appendix 2 shows the distribution of trees across the site and appendix 3 the category assessments.

Arboricultural, landscape and cultural values noted

- 4.6 None of the trees surveyed were considered to be of particular value although trees five and eight have the potential to contribute usefully to the site's amenity. None of the trees would appear to be covered by a Tree Preservation Order.

Management issues

- 4.7 The trees along the eastern boundary were probably planted as screening for the highways depot. There has been no subsequent maintenance of these trees and as a result they are closely spaced with competing crowns. The shape of some individuals has suffered as a result. Ideally, trees 3, 6 and 11 would be removed to allow adjacent trees to have more space to develop.
- 4.8 Tree 1 is a goat willow which is approaching over-maturity. This multi-stemmed tree has been coppiced previously and should it need to be retained, this will need to be repeated within the next two years to conserve its value.

Recommendations for landscape scheme

- 4.9 The British Standard states:

"Trees can occupy a substantial part of a development site and because of their potential size can have a major influence on the planning and use of the site. Existing trees of

good quality and value can greatly enhance new development, such as by providing an immediate appearance of maturity. However, trees can also be a constraint. Layouts sited poorly in relation to retained trees, or the retention of trees of an inappropriate size or species may be resented by future occupiers and no amount of legal protection will ensure their retention and survival. To avoid such problems and to ensure a harmonious relationship between trees and structures, careful planning and expert advice is needed on their juxtaposition.” (3.1.1 BS5837: 2012)

- 4.10 The Standard recommends that category B trees should be retained and category C trees may be retained, potentially with restorative works to help maintain individual trees and their contribution to the green infrastructure of the site where appropriate.
- 4.11 Appendix 6 locates the positions of the trees and root protection zones in relation to the proposed development. No trees will be impacted by the proposals.
- 4.12 There is an opportunity to retain the best of these trees (5 & 8), with the use of other trees as early cover before long term removal when new planting begins to mature. Trees 3, 4 and 6 should be removed at an early stage to enable more sympathetic planting.
- 4.13 Within the landscape scheme, the following planting palette is recommended to reflect local conditions:

Trees

Oak	<i>Quercus robur</i>
Perry pear	<i>Pyrus communis</i>
Cherry	<i>Prunus padus</i>
Small-leaved lime	<i>Tilia cordata</i>

Shrubs

Holly	<i>Ilex aquifolium</i>
Hazel	<i>Corylus avellana</i>
Dogwood	<i>Cornus sanguinea</i>
Privet	<i>Ligustrum vulagre</i>
Elder	<i>Sambucus nigra</i>
Gelder rose	<i>Viburnum opulus</i>
Spindle	<i>Euonymus europeas</i>
Hawthorn	<i>Crateagus monogyna</i>
Blackthorn	<i>Prunus spinosa</i>
Dog rose	<i>Rosa canina</i>

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APPENDICES

Appendix 1: Tree Survey Schedule

Bat roost potential: see Bat Surveys - Good Practice Guidelines, Bat Conservation Trust (2012)

Site Land at Tenbury Wells Business Park
Date survey 6th March 2014
Surveyor S. Rampling BSc (Hons) MCIEEM



Age class:
Y Young **M** Mature **V** Veteran
Ma Middle aged **OM** Over-mature

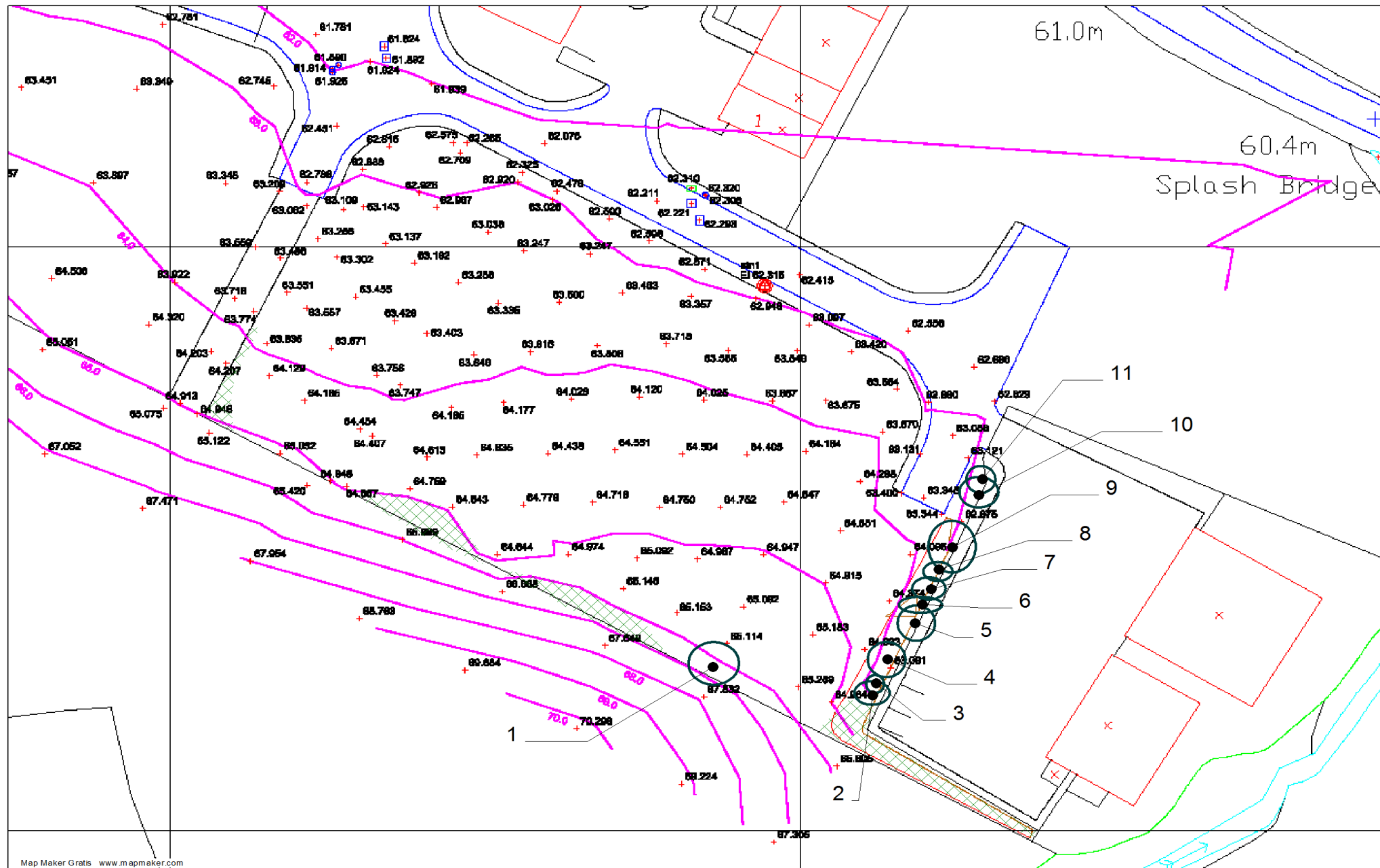
Ref	Species (common)	Species (latin)	Height (m)	Stem diameter (mm)	Crown height (m)	Crown spread (m)				age class	Physiological condition	Structural condition	Estimated remaining contribution (yrs)	Category assessment	Management recommendations	Bat roost potential (1*, 1, 2, 3)	RPZ (m)	Notes on TPA
						N	S	E	W									
1	Goat willow	<i>Salix caprea</i>	7	250	0	4.6	3.1	4.8	3.8	M	Good; vigorous	Multi-stemmed; spreading habitat	<10	U	Coppice to extend longevity	3	2.5	Reduced RPZ due to multi-stem
2	Alder	<i>Alnus glutinosa</i>	5.8	120	2.9	1	3	2.1e	3	Ma	Poor or moderate with damage to lower branches	Poor; spindly shape; multi-stemmed with distorted canopy caused through competition with neighbour	10-20	C	Retain only if required for temporary screening	3	2.9	Increased RPZ to reflect crown spread
3	Alder	<i>Alnus glutinosa</i>	6	130	3	3	0.8	2.5e	2.9	Ma	Moderate with some die back in outer branches	Poor; spindly shape with distorted crow due to competition with neighbour	<10	U	Remove to relieve pressure on neighbour	3	2.9	Extended to reflect maximum crown spread
4	Alder	<i>Alnus glutinosa</i>	6	170	3.5	2.5	2	3e	2.8	Y	Poor; wound on main stem below fork; evidence of die back in crown	Twin stem; somewhat spindly	<10	U	Remove	3	2.5	Extended to reflect maximum crown spread
5	Silver birch	<i>Betula pendula</i>	9.8	340	3.2	2.4	4.1	3e	3	M	Good; vigorous	Good; well-branched; slight constraint to crown to north	20-40	B	Retain	3	4.1	
6	Silver birch	<i>Betula pendula</i>	9	180	3	1	2.1	2.8e	4	M	Poor or moderate with weak vigour	Poor; spindly growth form; lean to north on main stem and constrained crown to north due to competition with neighbour	<20	C	Remove to relieve pressure on neighbour which is likely to make a better specimen	3	3.0	Extended to reflect maximum crown spread
7	Norway maple	<i>Acer platanoides</i>	8.9	220	2.2	2.8	1.8	3e	3	Y	Vigorous and healthy; some minor damage on north side of main stem although not likely to be significant	Largely attractive spreading crown; slightly distorted to south from competition with neighbour	20-40	C	Retain as part of landscape scheme	3	2.8	Extended to reflect maximum crown spread
8	Norway maple	<i>Acer platanoides</i>	8.9	180	2.9	2	2.2	2.5e	2.4	Y	Good; vigorous & healthy	Good; attractive shape with well balanced crown; potential landscape scheme tree	20-40	B	Retain as part of landscape scheme	3	2.4	Extended to reflect maximum crown spread
9	Norway maple	<i>Acer platanoides</i>	6.8	230	2.2	4.7	3.8	3.5e	3.3	Y	Moderate; wound on stem healed over	Moderate; slight lean on main branches; distorted crown	<20	C	Consider for retention	3	4.7	Extended to reflect maximum crown spread
10	Silver birch	<i>Betula pendula</i>	9.8	260	3	2.5	3.3	3e	3	Y / Ma	Moderate vigour	Moderate; basal branching; well branched and open crown; slight competition in crown with inferior quality neighbour	<20	C	Consider for retention	3	3.3	Extended to reflect maximum crown spread
11	Silver birch	<i>Betula pendula</i>	10	240	3.9	3	1.8	2.5e	3.1	Ma	Moderate to good vigour; healthy	Moderate; upright growth but with slight lean on stem; crown heavily distorted by neighbouring tree 10	<20	U	Remove to relieve pressure on neighbour	3	3.9	Extended to reflect maximum crown spread

Tree Survey BS 5837:2012
Tenbury Wells Business Park



Key

-  Tree surveyed & number
-  Other woody vegetation



Drawing Title: Plan showing trees surveyed
 Drawing ref: Appendix 2
 Version: v1.1
 Date: 18/03/14
 Drawn by: S. Rampling MCIEEM
 Date survey: as at 06/03/14

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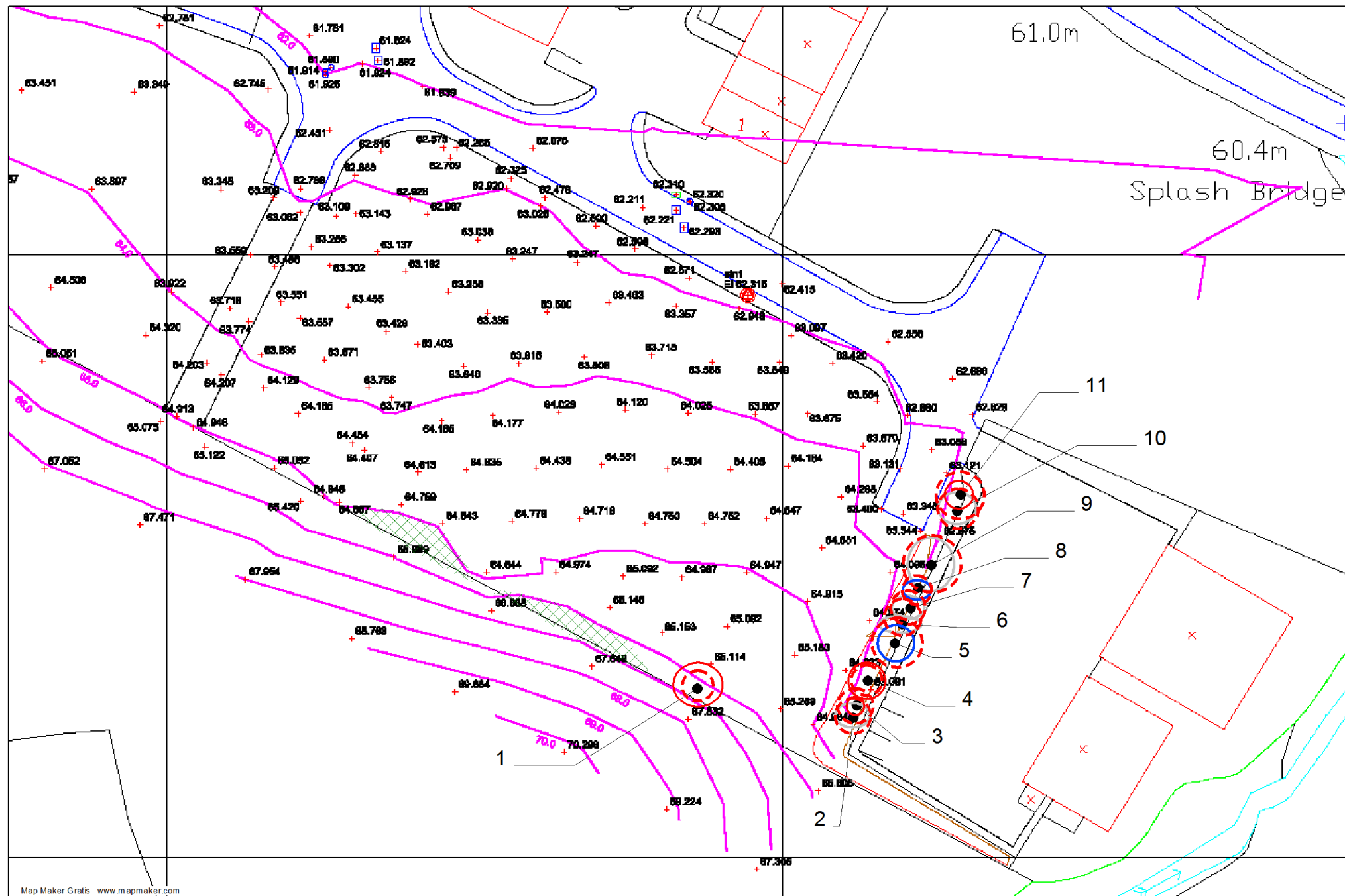
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Tree Survey BS 5837:2012
Tenbury Wells Business Park



Key

-  Category B trees
-  Category C trees
-  Category U trees
-  Other woody vegetation



Drawing Title: Plan showing tree category assessments

Drawing ref: Appendix 3

Version: v1.1

Date: 18/03/14

Drawn by: S. Rampling MCIEM

Date survey: as at 06/03/14

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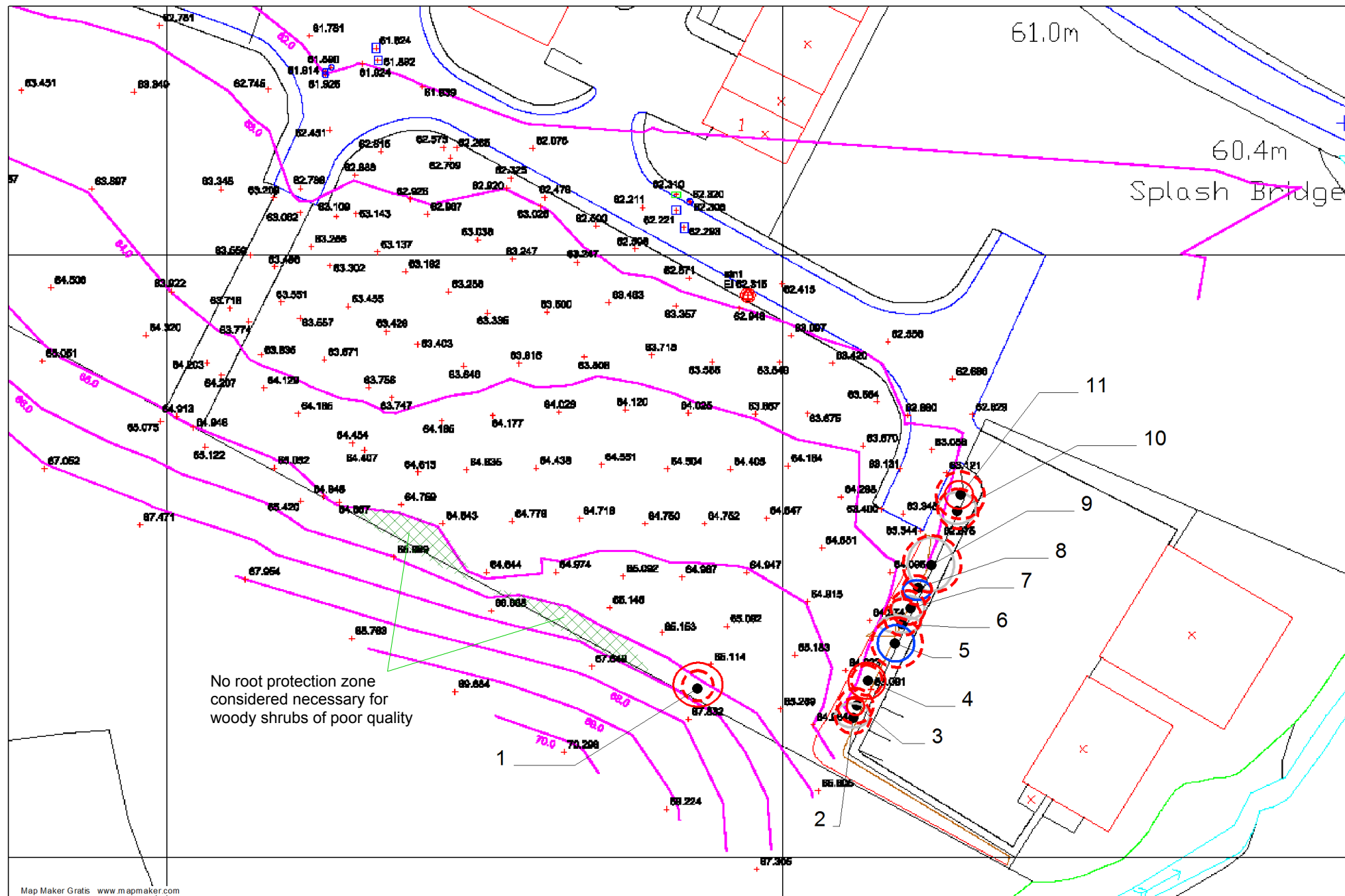
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Tree Survey BS 5837:2012
Tenbury Wells Business Park



Key

-  Category B trees
-  Category C trees
-  Category U trees
-  Other woody vegetation
-  Root protection zones



Drawing Title: Plan showing root protection zones

Drawing ref: Appendix 4

Version v1.1

Date: 18/03/14

Drawn by: S. Rampling MCIEM

Date survey: as at 06/03/14

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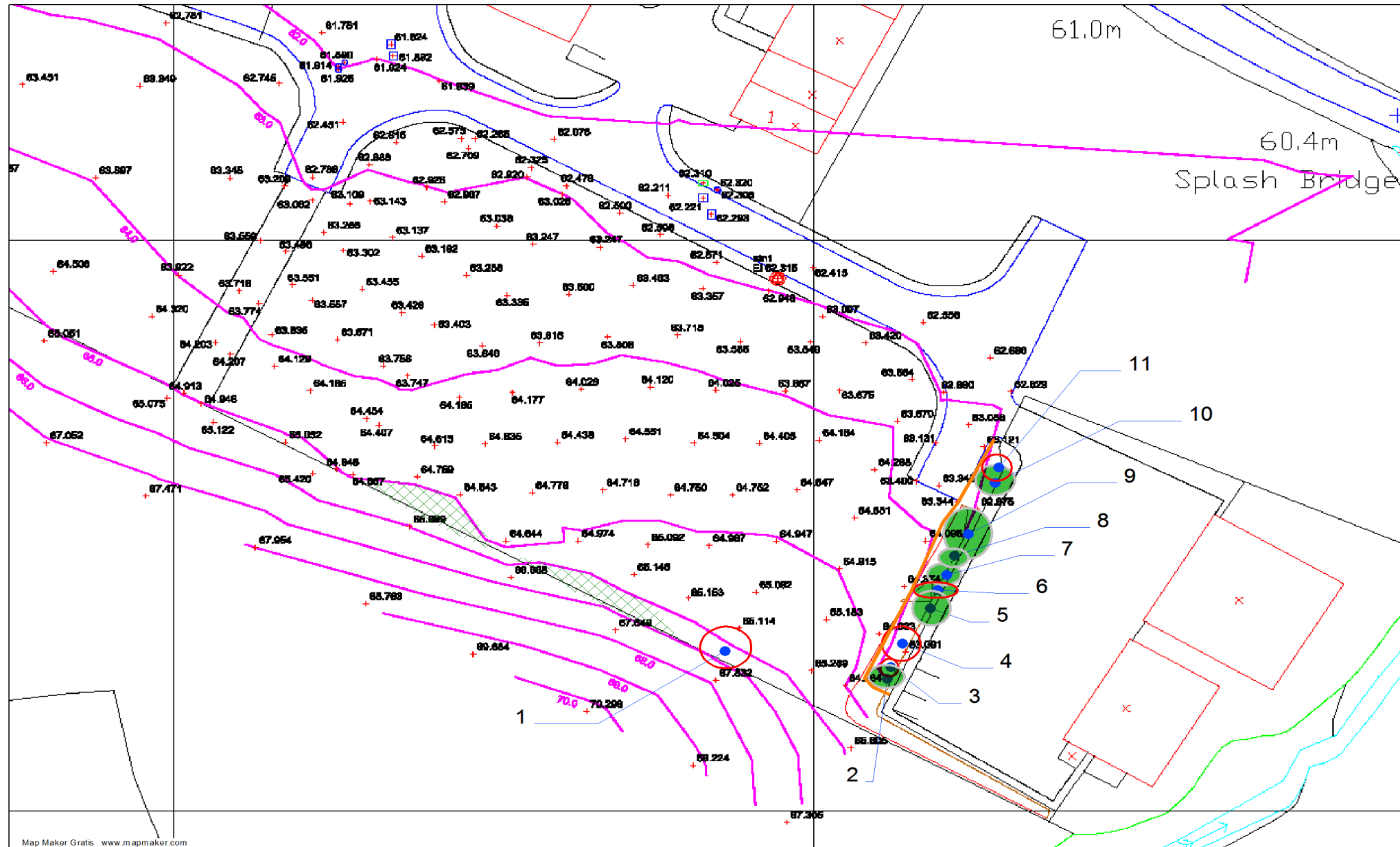
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Tree Survey BS 5837:2012
Tenbury Wells Business Park



Key

- Trees to be retained
- Trees to be removed
- Tree protection area to be fenced and maintained in accordance with BS 5837



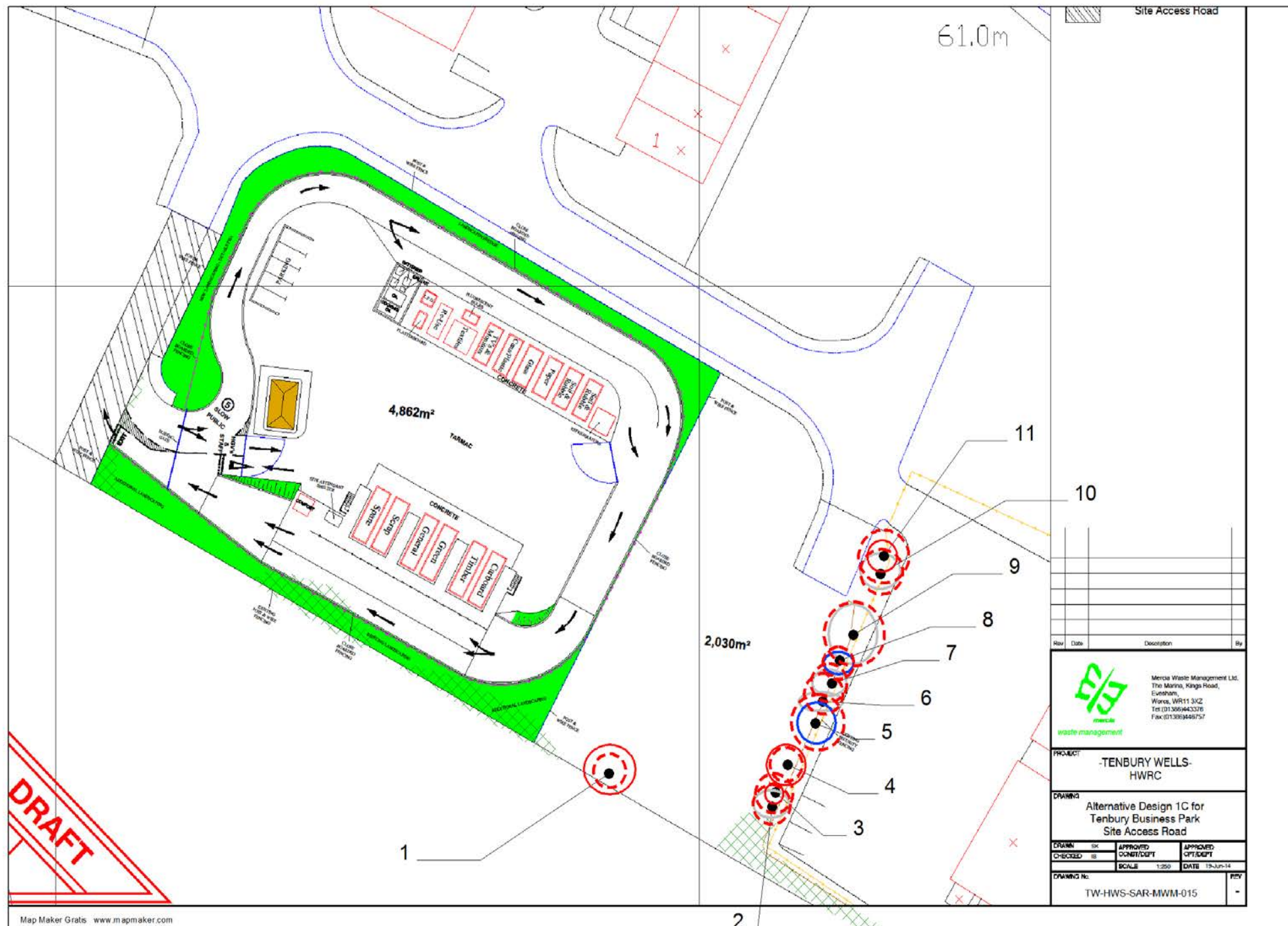
Drawing Title: Tree protection plan
 Drawing ref: Appendix 5
 Version: v1.1
 Date: 18/03/14
 Drawn by: S. Rampling MCIEEM
 Date survey: as at 06/03/14

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Tree Survey BS 5837:2012
Tenbury Wells Business Park



Key

-  Category B trees
-  Category C trees
-  Category U trees
-  Other woody vegetation
-  Root protection zones

Drawing Title: Plan showing tree survey data and proposed layout

Drawing ref: Appendix 6

Version: v1.2

Date: 24/06/14

Drawn by: S. Rampling MCIEEM

Date survey: as at 06/03/14

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Noise Impact Assessment

For Proposed

**Household Recycling Centre
Tenbury Wells
Worcestershire**

For

Mercia Waste Management

Report No.: R14.0204/DRK

Date: July 2014

Consultant: D.R. Kettlewell MSc MAE MIOA I.Eng

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**Member of Institute of Acoustics
Member of Association of Noise Consultants
Member of Academy of Experts**



Noise Impact Assessment:

**Household Recycling Centre
Tenbury Wells
Worcestershire**

Report prepared by:

**Noise & Vibration Consultants Ltd
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Derbyshire
DE55 4HB**

On behalf of:

Mercia Waste Management

Report No. R14.0404/DRK

**Report undertaken & checked by:
D R Kettlewell MSc MIOA MAE I.Eng – Principal Consultant:**

A handwritten signature in black ink, appearing to read 'DR Kettlewell', is written over a light blue horizontal line.

Date: July 2014

Summary

1. The assessment is being carried out as a result of a proposed planning application for the development of a Household Recycling Centre (HRC). An assessment of noise levels during the construction and operation of the proposed site is provided as supportive documentation for the application. The site would be located at Tenbury Business Park, Tenbury Wells in Worcestershire
2. Background noise measurements have been undertaken at the nearest residential boundaries during a Sunday morning period to establish the lowest likely background noise levels.
3. Measurements undertaken at similar sites operating in the UK have been referred to for information on typical site operational noise levels during peak noise events.
4. The empirical measurements of existing HRC facilities in operation have enabled the determination of the noise contribution from the proposed site at the nearest residential properties for comparison with background measurements.
5. The most appropriate noise criteria for this type of development would be BS4142: 1997 which assesses the likelihood complaint from the site relative to the nearest residential properties.

Existing Noise Climate:

6. The results of the investigations into the existing noise climate have established the following:

Typical background noise levels during the Sunday morning period were on average between 35dB and 39dB LA90 and a residual noise level of 41dB to 44dB LAeq (at the nearest residential boundaries).

Typical Peak Noise from a Similar HRC

7. The recorded noise levels at 10-metre distance from peak noise events at a similar site, varied from 58dB to 69dB LAeq. The corresponding maximum (Lmax) levels correspond typically between 67dB to 87dB LAmx.

Conclusions

8. The results of these measurements and detailed analysis have shown the following:

- (i) The results of the background noise measurements indicate that typical Sunday morning noise levels (in terms of average LA90) vary between approximately 35dB and 39dB. This would mean that site contributory noise from fixed plant should be aimed at a level not exceeding +5dB above the background level (e.g. <40dB & <44dB LAeq which allows for the character of the noise) at the residential property boundary (in accordance with BS4142: 1997).
- (ii) Predicted noise contribution from the HRC excluding proposed noise mitigation measures is shown to be between 36dB to 41dB LAeq. This is similar to or lower than existing residual noise levels (at the nearest receptor position) and approximately +1dB to +6dB above Sunday morning background noise levels (i.e. LA90 level). The resultant levels are therefore marginally above reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.
- (iii) The introduction of boundary acoustic screening along the site boundary shows a reduction in noise contribution at receptor locations by between 2dB to 4dB LAeq. Predicted noise contribution from the HRC including proposed noise mitigation measures is shown to be between 32dB to 39dB LAeq. This is lower than existing residual noise levels (at the nearest receptor position) and equal to or approximately +4dB above Sunday morning background noise levels (i.e. LA90 level). The resultant levels with boundary acoustic screening are therefore within reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.
- (iv) The third octave band frequency spectra recorded at similar sites shows a relatively flat frequency response curve. The resultant comparison of site predicted noise and existing residual noise shows no significant increase in frequency content based on the application of the proposed noise control measures.
- (v) Traffic noise calculations have been undertaken in accordance with 'Calculation of Road Traffic Noise': 1988 methodology in respect of noise impacts onto Bromyard Road. The impact magnitude according to the DMRB methodology indicates a 'negligible' to 'minor' impact in the short term at nearest residential receptors, which is deemed to be insignificant.
- (vi) In addition to the above, this assessment has considered 'event' noise at the site (e.g. container collection and HGV movement) during periods when the site is not open to the general public. The results show no significant noise at nearest receptors to the site with the proposed noise mitigation measures.

9. In accordance with Noise Policy Statement for England and the Planning Practice Guidance (March 2014) noise levels from the site with the proposed noise mitigation measures is expected to result in there being 'no observed adverse effect' and according to Planning Practice Guidance no specific measures are required.

Expert Opinion

10. Taking into account the proposed operational times of the development, the noise control measures proposed, subjective observations, measured noise levels and the relative position of the nearest residential properties to the development, it is our expert opinion that the resultant noise levels would fall within appropriate guidance and standards.

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1.0 INTRODUCTION

- 1.1 At the request of Axis, on behalf of Mercia Waste Management, Noise & Vibration Consultants Limited (NVC) were commissioned to carry out a noise assessment in relation to the proposed construction and operation of a Household Recycling Centre (HRC) to be located at Tenbury Business Park, Tenbury in Worcestershire.
- 1.2 An assessment of noise levels during the construction and operation of the proposed site is provided as supportive documentation for the planning application.
- 1.3 Measurements undertaken at similar sites operating in the UK have been referred to for information on typical site operational noise levels during peak noise events.
- 1.4 This study benefits from a site inspection and background noise survey undertaken during a Sunday morning period to establish the lowest likely background noise levels. The survey was carried out on Sunday 19th January 2014.
- 1.5 The assessment addresses the following issues:
- Provides information on the existing background noise levels at a position close to the nearest property boundary.
 - Provides information on typical noise levels from the operation of a similar HRC.
 - Provides information on the predicted noise contribution from the site and assesses the impact at nearest residential receptors.
 - Assesses noise from site during construction works.
 - Assesses noise impact from road traffic demand for the site onto the local road network.
 - Provides advice on any noise mitigation measures required to meet 'best practicable means'.
- 1.6 The above potential noise impacts are considered in the context of the existing background noise at the site, which is predominantly influenced by local road traffic noise.

Sources of Information

- 1.7 Information used in this assessment has been obtained from the following sources:
- BS4142: 1997 'Method for rating industrial noise affecting mixed residential and industrial areas'.
 - Former Planning Policy guidance (PPG24): 1994 'Planning and Noise'.
 - BS8233: 1999 'Sound insulation and Noise Reduction for Buildings – Code of Practice'.

- Guidelines for Community Noise – World Health Organisation: April 1999.
- National Planning Policy Framework – March 2012.
- Noise Policy Statement for England (NPSE) – March 2010.
- Planning Practice Guidance – 6th March 2014 Department for Communities and Local Government (Ref ID: 30-001-20140306).
- Design Manual for Roads & Bridges (DMRB) Volume 11, Section 3, Part 7 (HA213/11): November 2011.
- BS5228-1 2009 ‘Code of practice for noise and vibration control on construction and open sites’.

1.8 Appendix 1 provides details of technical terms within the report described in layman terms for ease of reference. There is also a chart showing typical everyday noise levels to assist in understanding the subjective level of noise in terms of decibels.

2.0 SITE DESCRIPTION

2.1 Location

- 2.1.1 The site is located on Tenbury Business Park off Bromyard Road, which is south east of the town centre of Tenbury Wells at a distance of approximately 900 metres (m).
- 2.1.2 The proposed HRC site is to be located on a vacant plot of land to the southeastern corner of the business park with the nearest residential properties located to the west off Terrills Lane. There are additional individual residential receptors at a similar or greater distance to the north and northeast direction relative to the site. The immediate area is therefore industrial with residential areas at a distance of approximately 170m to 200m from the plot boundary.
- 2.1.3 The B4214 road is located north of the site at a distance of approximately 75m. There are existing industrial units on the site located at the north, east and northwest areas of the Business Park.

2.2 Site Operation Noise Sources

- 2.2.1 In terms of noise generated by this type of development, this assessment has considered the following activities:
- (i) Vehicle movements.
 - (ii) Noise from offloading and loading of waste.
 - (iii) Noise from the collection of waste containers
- 2.2.2 The site would be open to the public for 3 days per week which would include Saturday and Sunday between 08.00 and 18.00 hours. On days when the site is not open to residents there would be occasional activity for HGV deliveries, container collections, site cleaning and maintenance which could occur between 07.30 and 18.30 hours.

2.3 Nearest Receptors

- 2.3.1 The nearest residential boundary is located west of the site at a distance of approximately 170m off Terrills Lane. The nearest dwellings located north to northeast of the site are at a distance of approximately 180m to 230m.
- 2.3.2 Figure 1 attached shows the layout of the site and the site position relative to the nearest residential areas. The site land area is on a slight downward slope from south to north with the landform on a rising gradient north of the B4214 road.

3.0 PLANNING NOISE GUIDANCE & STANDARDS

3.1 Summary of Criteria

3.1.1 Noise has been defined as sound that is unwanted by the recipient. The effects of noise on the neighbourhood are varied and complicated, including such things as interference with speech communication, disturbance of work, leisure or sleep. A further complicating factor is that in any one neighbourhood some individuals will be more sensitive to noise than others.

National Planning Policy Framework

3.1.2 Chapter 11 of the National Planning Policy Framework (NPPF) is concerned with the conservation and enhancement of the natural environment. It indicates at paragraph 109 that: “...*the planning system should contribute to and enhance the natural environment by:*

- *...Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability...”*

3.1.3 Paragraph 123 refers directly to the issue of noise and states that “*Planning policies and decisions should aim to:*

- *Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- *Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*
- *Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*
- *Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.”*

3.1.4 The Noise Policy Statement for England (NPSE) was published in March 2010. It specifies the following long-term vision in policy aims: “*Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life.”*

- 3.1.5 The NPSE introduced three concepts to the assessment of noise, which includes:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.

LOAEL – Lowest Observable Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

- 3.1.6 The above categories are however undefined in terms of noise levels and for the SOAEL the NPSE indicates that the noise level will vary depending upon the noise source, the receptor and the time of day/day of the week, etc. The need for more research is therefore required to establish what may represent an SOAEL. It is acknowledged in the NPSE that not stating specific SOAEL levels provides policy flexibility until there is further evidence and guidance.

- 3.1.7 The following commentary is given on the representation of NOEL, LOAEL and SOAEL in relation to existing British Standards/ International guidelines:

NOEL – Inaudibility

LOAEL – The guideline values for community noise in specific environments as set out in table 1 of the WHO Guidelines for Community Noise 1999 and in tables 5 and 6 of BS8233: 1999 - Sound insulation and noise reduction for buildings - Code of Practice.

- 3.1.8 The NPSE concludes how the LOAEL and SOAEL relate to the three aims listed in paragraph 3.1.4 above. The initial aim relates to avoiding significant adverse effects on health and quality of life, it then addresses the situation where the noise impact falls between the LOAEL and the SOAEL when:

“all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development.”

- 3.1.9 The final aim envisages pro-active management of noise to improve health and quality of life, again taking into account the guiding principles of sustainable development

- 3.1.10 On March 6th 2014 the Government updated the Planning Practice Guidance (PPG) on noise, which provides further information in respect of new developments which may be sensitive to the prevailing acoustic environment.

- 3.1.11 The PPG includes a table summarising the noise exposure hierarchy, based on the likely average response. Under the heading of ‘perception’ the ‘noticeable and not intrusive’ assessment of noise is defined as

'noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such there is a perceived change in the quality of life'. The increasing effect level under these conditions is deemed to be 'no observed adverse effect' and no specific measures are required.

BS4142: 1997 'Method for rating industrial noise affecting mixed residential and industrial areas'

- 3.1.2 BS 4142: 1997 'Method for Rating industrial noise affecting mixed residential and industrial areas' is based on the measurement of background noise using L_{A90} noise measurements, compared to source noise levels measured in L_{Aeq} units. The differential between the two measurements; once any corrections have been applied for source noise tonality, distinct impulses etc. (e.g. the 'rating' level); determines the likelihood of complaints. If the resultant 'rating' level has a differential of +5dB above background noise, then the standard says that the noise is of 'marginal significance', if the differential is +10dB then 'complaints are likely'. This standard is suitable for assessing fixed noise sources of an industrial nature.
- 3.1.3 The BS4142 standard is appropriate to fixed industrial noise sources affecting residential properties and is therefore relevant to this application. Providing the 'rating' noise associated with any fixed industrial noise source (at the proposed nearest residential property) is no more than +5dB above background noise (measured in terms of LA90) then this would be a good indication that complaints are unlikely at the development.

3.2 Other Noise Criteria and Information

Former Planning Policy Guidance: Planning and Noise (PPG24)

- 3.2.1 The former guidance introduced the concept of Noise Exposure Categories (NEC), which was derived to assist local planning authorities in their consideration of planning applications for residential development near transport related noise sources. The NEC procedure is only applicable for the introduction of a new residential development into an area with an existing noise source. At Annex B, guidance is given for various types of noise sources, which include, for example, commercial developments, road traffic, construction sites, aircraft and railways.
- 3.2.2 The level at the boundary of NEC A and NEC B is based on guidance provided by the World Health Organisation health criteria from 1980 that: "*general daytime outdoor noise levels of less than 55dB(A) Leq are desirable to prevent any significant community annoyance.*"
- 3.2.3 The night-time level of 45dB $L_{Aeq,8}$ hour is based on achieving an internal noise level of 30-35dB $L_{Aeq,8}$ hour with a bedroom window open, which is defined as providing an attenuation of 10-15dB(A) [Ref.: Annex 2 of PPG 24]. On the basis of the explanation of this criterion the

daytime noise criterion of 55dB $L_{Aeq, 16hour}$ must therefore assume achieving an internal noise level of 40-45dB $L_{Aeq, 16hour}$

Other Noise Related Studies

3.2.4 In 2000, BRE conducted a national study of environmental noise levels for the Department of the Environment ('The National Noise Incidence Study 2000': DEFRA Feb 2002). The study found that 55 (+/- 3%) of the population of England and Wales live in dwellings exposed to day-time noise levels above the WHO level of 55dB $L_{Aeq, day}$. It also found that 63 (+/- 3%) of the population were exposed above the level of 45dB $L_{Aeq, night}$.

BS 8233:1999

3.2.5 The British Standard BS8233: 1999, 'Sound insulation and noise reduction for buildings – Code of Practice' provides additional guidance on noise levels within buildings. These are based on the WHO recommendations and the criteria given in the standard for unoccupied spaces within residential properties include the following:

Table 3.2: BS8233: 1999 Internal noise level guidance for dwellings

Criterion	Typical Situation	Design Range, L_{Aeq} , dB	
		Good	Reasonable
Reasonable conditions for sleeping and resting	Living Rooms	30	40
Reasonable conditions for sleeping and resting	Bedrooms	30	35
For a reasonable standard in bedrooms at night, individual noise events (measured with the F time-weighting) should not normally exceed 45dB L_{Amax}			

World Health Organisation (WHO) Guidelines for Community Noise: April 1999

3.2.6 This document provides further updated information on noise and its effects on the community. Within the document for noise it states: "To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55dB L_{Aeq} on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50dB L_{Aeq} . Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development."

3.3 Road Traffic Noise

3.3.1 No guidance is provided in the former PPG24 or NPPF on methods to assess increased traffic noise from existing roads that results from traffic generated by new developments. However, any change in noise levels along affected roads would be relevant to subsequent planning applications.

3.3.2 The only guidance that refers to impacts from road traffic noise increase relates to the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 7 (HA213/11): November 2011 which provides advice on noise and vibration. The procedure for assessing noise impacts advises

the use of a LA_{10} measurement index based on an 18 hour time period (e.g. 0600 to 2400 hours). Further assessment of the impact would be required where changes of 1dB(A) or more are expected in the short-term and changes of 3dB(A) in the long term. Section 3.37 provides an example of the magnitude of impact for different changes in noise level for the short-term and long term situation. Tables 3.1 and 3.2 within Part 7 of DMRB is provided below, represented as Table 3.3 and 3.4.

Table 3.3: Example of Magnitude of Impact for Changes in Road Traffic Noise in the short term

Noise Change, $L_{A10,18hour}$	Magnitude of Impact
0	No Change
0.1-0.9	Negligible
1-2.9	Minor
3-4.9	Moderate
5+	Major

Table 3.4: Example of Magnitude of Impact for Changes in Road Traffic Noise in the long term

Noise Change, $L_{A10,18hour}$	Magnitude of Impact
0	No Change
1.0-2.9	Negligible
3.0-4.9	Minor
5-9.9	Moderate
10+	Major

Draft Guidelines for Noise Impact Assessment – Cumulative Effects

- 3.3.3 The Institute of Acoustics (IOA) and the Institute of Environmental Management and Assessment (IEMA) Joint Working Party have provided draft 'Guidelines for Noise Impact Assessment'. The guidelines set out an example of how changes in noise level may be assessed, which is reflected in Table 3.5 below for general changes in environmental noise.
- 3.3.4 The draft guidelines provided by the Working Party indicate that for any assessment, the noise level threshold and significance should be determined by the assessor, based upon specific evidence and the likely subjective response to noise. The impact scale applied in the assessment of cumulative noise (e.g. noise from fixed and mobile plant) is provided below in Table 3.5.

Table 3.5: Impact Magnitude Scale – General environmental noise

Noise Level Change L_{Aeq} (dB)	Subjective response	Impact Significance
0	No change	Neutral impact
0-2.9	Barely perceptible	Minor impact
3.0-9.9	Noticeable	Moderate impact
10.0 or more	More than a doubling or halving of loudness	Major impact

- 3.3.5 It should be noted that the above key changes in noise levels reflects the way that human perception of sound is heard. A change of 3dB(A) is generally accepted to be the smallest change in the general noise climate that is perceptible to the human ear. A change of 10dB(A) in

general terms is also accepted as being the point at which the human ear subjectively assesses the noise as being double or half the perceptible loudness of noise. The level change between 3dB(A) and below 10dB(A) is noticeable and in the same way that BS4142 defines the change in level above background it falls into a 'marginal significance' zone.

- 3.3.6 It is considered that the above criteria provides a good indication of the likely significance in general changes in noise levels to assess the cumulative effect of the site fixed and mobile plant operational noise levels.

Relevant Noise Criteria

- 3.3.7 Based on similar noise impact assessments undertaken at a number of other similar sites in the UK, the following issues, standards and guidance would be appropriate:
- a) Site operational noise from an overall level perspective and LAmax noise levels.
 - b) Vehicle movements on site including advice on reverse alarms.
 - c) Road traffic impacts on local road network assessed in terms of DMRB guidance.
 - d) In terms of noise criteria this assessment has considered all relevant and appropriate noise guidance and standards but BS4142 specifically. The site noise should not exceed the background noise level by more than +5dB.

Survey Techniques

- 3.3.8 The background noise survey has been carried out in accordance with BS4142: 1997. The monitoring conditions for measuring environmental noise were also in accordance with advice given in BS 7445-1:2003 'Description and measurement of environmental noise'.

4.0 THE TECHNICAL INVESTIGATION

4.1 General

- 4.1.1 To establish the lowest likely baseline noise levels noise levels have been measured during a Sunday morning period under appropriate weather conditions. Empirical data recorded at other similar sites in the UK have been referenced in order to maximise the accuracy of the noise predictions from the HRC site.

Survey Methodology

4.2 Background Noise Monitoring (See Appendix 2 & Figure 2)

Instrumentation and Fieldwork Details

- 4.2.1 The background noise measurements were undertaken at the closest position relative to the nearest residential property boundary to identify typical noise levels when the site is not operational. The monitoring of residual and background noise was carried out during a Sunday morning period such that lowest likely background noise levels could be determined for the assessment.

Instrumentation:

Make	Description	Type	Serial No.
Norsonic	Real-time analyser	118	31992
Cirrus	Acoustic Calibrator	CR513A	031692

- 4.2.2 The noise meter used during the survey is a precision grade type 1 meter to IEC 651 standard and accuracy.
Calibration Setting: 94dB
Meter Setting: Fast Response

Fieldwork Details:

Site: Tenbury Business Park
Date of test: Sunday 19th January 2014
Time: 0800 – 1300 hours
Calibration: Before and after: 94dB

Survey Description and Procedure:

- 4.2.3 The noise meters were calibrated before and after measurements to ensure accuracy of results.
- 4.2.4 Mr. D. R. Kettlewell of Noise & Vibration Consultants Limited undertook these measurements on Sunday 19th January 2014.
- 4.2.5 Background noise measurements were taken at the following positions (refer to Figure 2):

Fixed Position:

- (i) At rear boundary of nearest residential properties west of the site off Terrills Lane.

4.2.6 Background noise readings were taken at a height of between 1.2m and 1.5m from the ground. Readings of LAeq, LA10, LA90 and LAmax were recorded over 5-minute intervals.

4.2.7 Additional one-third octave band frequency measurements were recorded during this period for analysis.

Results:

4.2.8 Appendix 2 attached, details all measurements taken showing the resultant levels at the selected measurement positions.

Meteorological Conditions

4.2.9 Weather details were recorded by the NVC engineer during the period of the survey, and appear below:

Sunday 19th January 2014

4.2.10 During the monitoring period it was dry, partly cloudy and a light south westerly wind (1-3m/s), temperature 4-8deg C.

4.2.11 The above climatic conditions were suitable for monitoring environmental noise levels in accordance with advice given in BS 7445:2003 'Description and measurement of environmental noise'.

5.0 RESULTS:

Results:

5.1 Background Noise Measurements

5.1.1 Background noise measurements taken at the sensitive property boundaries indicated the following range of noise levels:

Table 5.1: Background Noise Measurement Results

Position	Time Period	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmx (dB)
1. Western boundary of business park	0800-1030	41.4	42.9	35.2	49-54
	1030-1300	43.5	45.6	37.5	50-75

5.1.2 Background noise is formed by local intermittent road traffic.

5.2 HRC Noise Measurements

5.2.1 Results of noise measurements recorded at a similar HRC:

Table 5.2: Noise measurements at HRC

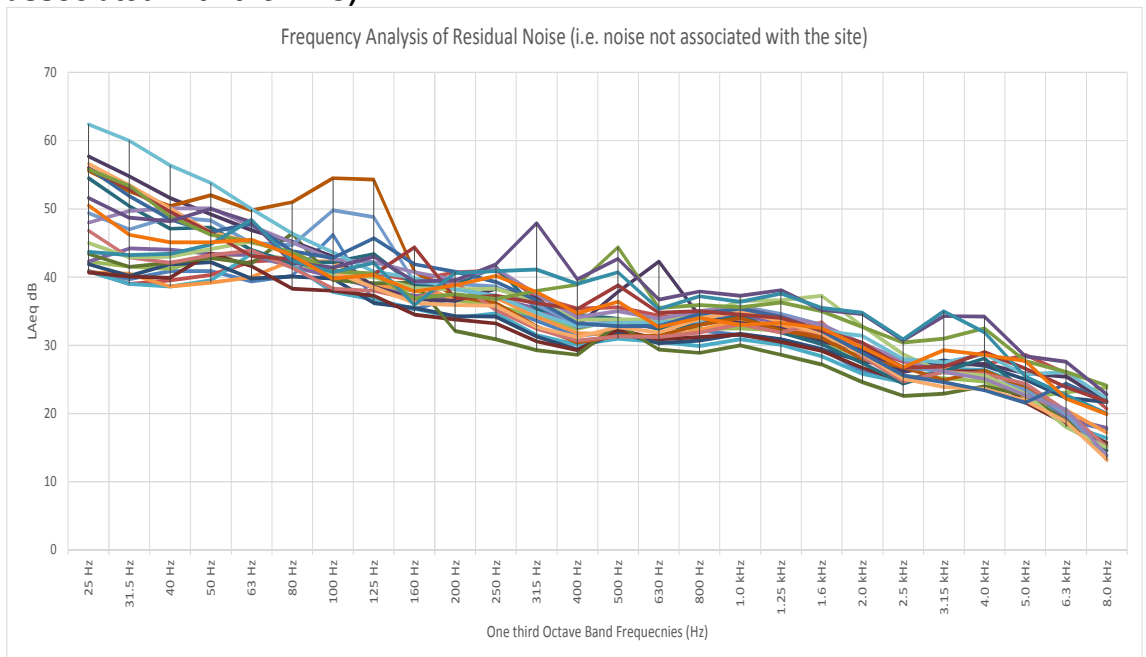
Plant Type	Sound Pressure Level LAeq _{1min} dB @ 10 metres	Sound Pressure Level LAmx dB @ 10 metres
General waste offloading noise	59	72
General waste with compactor	66	77-79
Emptying plastic bottles	64	74-75
Loading timber into container	66	67-85
Loading metal objects into container	62	81-82
Entrance/exit to site (vehicle noise)	58	70-78
Impact noise: dropping stone into empty skip	69	75-87
Glass bottles deposited into bin/container	67	79
Waste skip/container Offload/load (including reverse alarm and skip/container noise)	67	80-85
HGV Movements	58.5	75-83

5.2.2 Further analysis and comparison of noise levels recorded at the nearest residential boundary area are shown in section 5.3.

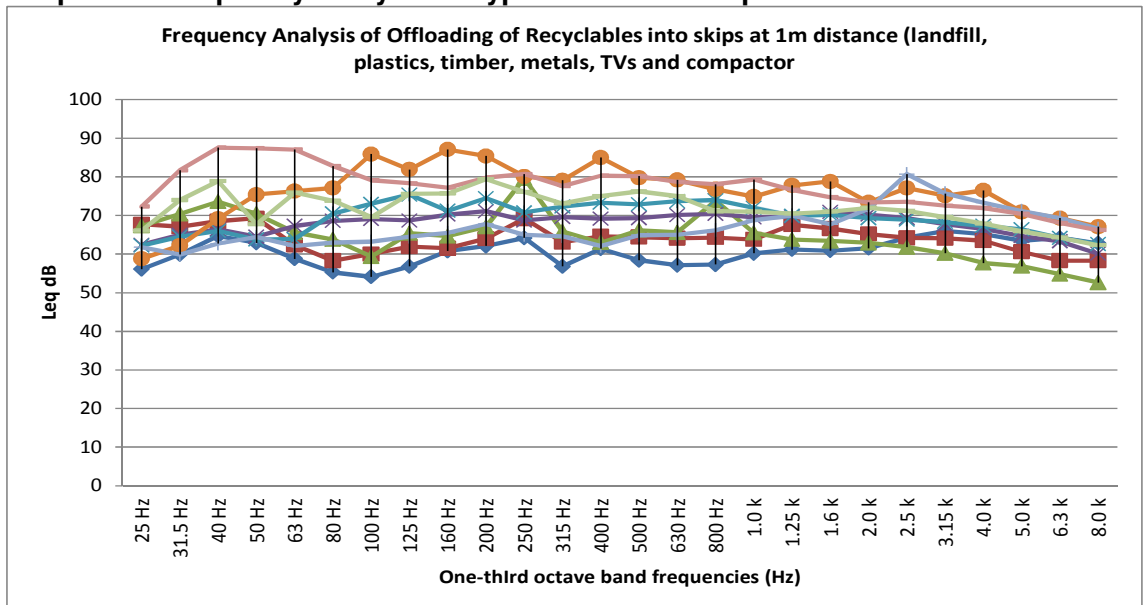
5.3 Frequency Analysis

5.3.1 Additional one-third octave band frequency spectra were recorded at the nearest property boundary positions local to the proposed site and recorded noise from a similar HRC are shown below in Graphs 5.1 and 5.2 for comparison.

Graph 5.1: Frequency analysis of existing residual noise (e.g. noise not associated with the HRC)



Graph 5.2: Frequency analysis of typical HRC site impact noise at 1m distance



5.3.2 The results of noise measurements at 1m distance showed the difference between short term LAeq and LAmx to be between 5dB and 11dB difference. The level difference at 10m positions indicates a maximum increase of around 18dB.

6.0 NOISE LEVEL PREDICTIONS

6.1 Introduction

6.1.1 Noise has been defined as sound, which is undesired by the recipient. The effects of noise on the neighbourhood are varied and complicated, including such things as interference with speech communication, disturbance of work, leisure or sleep. A further complicating factor is that in any one neighbourhood some individuals will be more sensitive to noise than others.

6.1.2 A measure that is in general use and is recommended internationally for the description of environmental noise is the equivalent continuous noise level or L_{Aeq} parameter.

6.1.3 In general, the level of noise in the local environs that arises from a development site will depend on a number of factors. The more significant of which are:

- (a) The sound power levels (SWL's) of the plant used on site.
- (b) The frequency content and characteristics of the noise source.
- (c) The periods of operation of the plant on site.
- (d) The distance between the source noise and the receiving position.
- (e) The presence or absence of screening effects due to barriers, or ground absorption.
- (f) Any reflection effects due to the facades of buildings etc.

6.2 Calculation Methodology

6.2.1 The calculation method used in this study is based upon BS5228 for mobile plant and ISO9613-2 for static noise sources, which takes into account source distance, screening effects, operating time and direction in relation to the nearest sensitive receptor.

6.3 Results of Noise Predictions

6.3.1 This assessment has employed field data taken at the similar waste recycling sites in the UK to calculate the expected resultant noise contribution at the nearest property boundary locations assuming that the noisy activities are occurring over the monitoring period.

6.3.2 The calculations allows for car movements onto site with the cumulative effect of the HRC in operation.

Table 6.1: Predicted Noise Contribution from the HRC (excluding noise mitigation measures)

Noise Source	Predicted noise level at nearest receptor L_{Aeq} dB	Predicted noise level at nearest receptor L_{Amax} dB
1.Property Boundary off Terrills Lane	37-41	42-59
2.Properties to North & North East	36-38	41-56

Table 6.2: Noise comparison showing site noise, residual noise and proposed noise criteria (excluding noise amelioration measures) during most sensitive operating periods

Receptor Position	Noise contribution from site operations LAeq (LMax) dB	Typical existing noise level (e.g. excluding site) LAeq (LMax) dB	Proposed Noise Criteria (e.g. site contribution) LAeq _{1hr} dB (daytime)	Change in Noise levels due to development LAeq _{1hr} dB
1.Property Boundary off Terrills Lane	37-41 (42-59)	41-44 (49-75)	<40	+1 to +3
2.Properties to North & North East	36-38 (41-56)	41-44 (49-75)	<40	+1 to +2

6.3.3 Section 8.0 details proposed mitigation measures in the form of acoustic screening around the site access road boundary, which provides some localised attenuation from road traffic movements and impact noise. The effect of this is presented below in Table 6.3 and 6.4.

Table 6.3: Predicted Noise Contribution from the HRC (including noise mitigation measures)

Noise Source	Predicted noise level at nearest receptor LAeq dB	Predicted noise level at nearest receptor LMax dB
1.Property Boundary off Terrills Lane	35-39	40-57
2.Properties to North & North East	32-36	37-54

Table 6.4: Noise comparison showing site noise, residual noise and proposed noise criteria (including noise amelioration measures) during most sensitive operating periods

Receptor Position	Noise contribution from site operations LAeq (LMax) dB	Typical existing noise level (e.g. excluding site) LAeq (LMax) dB	Proposed Noise Criteria (e.g. site contribution) LAeq _{1hr} dB (daytime)	Change in Noise levels due to development LAeq _{1hr} dB
1.Property Boundary off Terrills Lane	35-39 (40-57)	41-44 (49-75)	<40	+1 to +2
2.Properties to North & North East	32-36 (37-54)	41-44 (49-75)	<40	0 to +1

6.3.4 The above table indicates that there are no areas where the noise levels exceed the proposed noise criteria for site operations. This assumes that the noise amelioration measures are implemented as detailed in Section 8.0. The change in noise levels represents a minor impact and barely perceptible according to the IOA/ IEMA impact magnitude scale.

6.3.5 The predicted noise levels in Table 6.4 are for site attributable noise and do not include for any existing residual noise that may affect site commissioned noise levels.

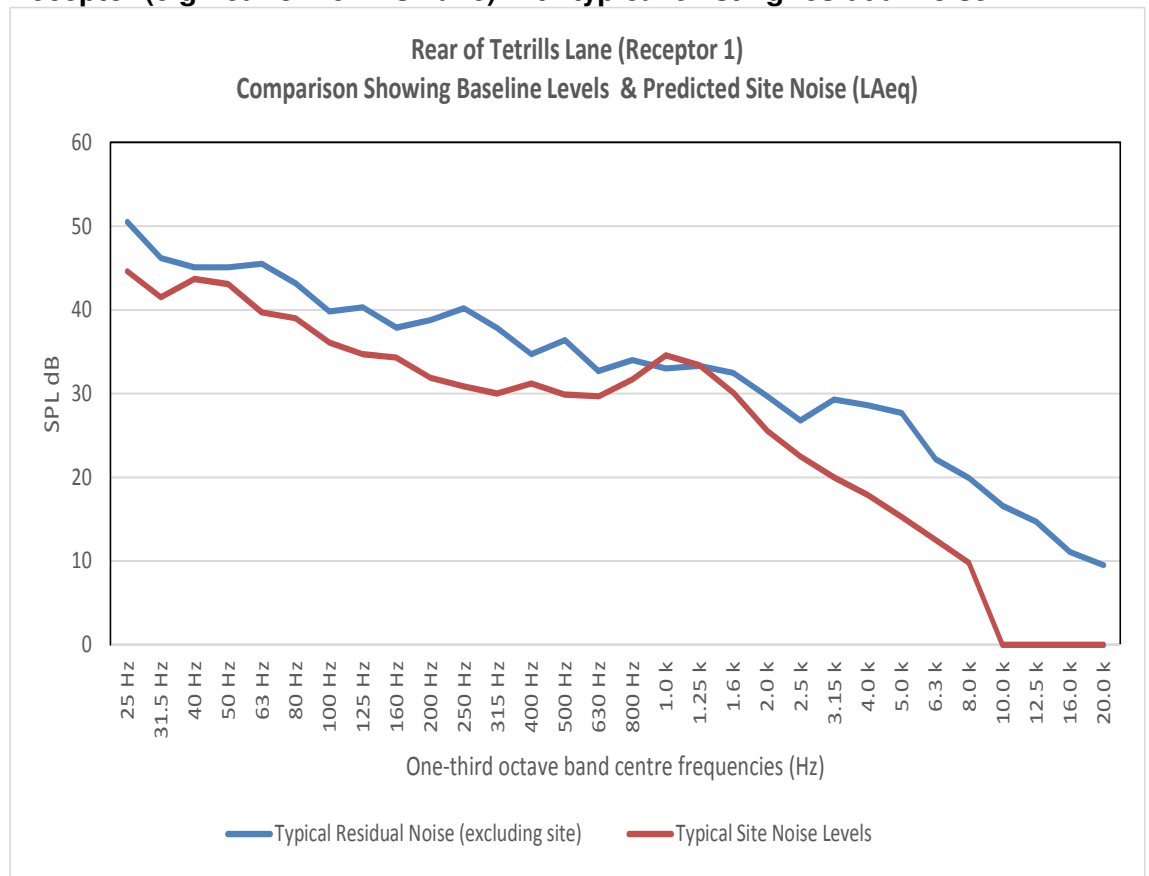
6.3.6 Noise prediction calculations of L_{Amax} levels for impact events (e.g. movement of waste on HRC site) shows a resultant level at the most sensitive receptor of 37dB to 57dB L_{Amax} . This compares with the existing ambient measured L_{Amax} levels at the nearest residential property of 49dB to 75dB L_{Amax} during a Sunday period.

Frequency Analysis

6.3.7 Further analysis of the resultant noise from site compared with existing residual noise that exists at the nearest receptor is shown below in graphs 6.1 to 6.2.

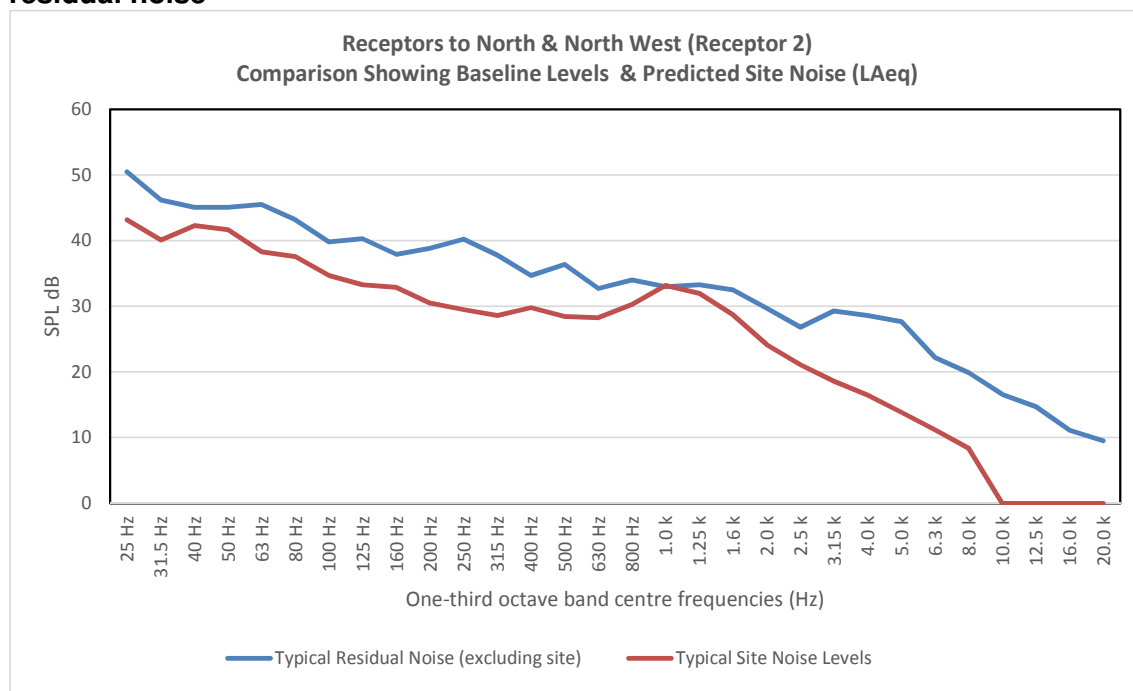
6.3.8 The assessment of site noise does not include for any proposed boundary screening.

Graph 6.1: Comparison of Highest Likely Predicted Noise at Nearest Receptor (e.g. rear of Terrills Lane) with typical existing residual noise



6.3.9 The above graph shows that the highest likely noise from the proposed HRC site at receptors off Terrills Lane is unlikely to exceed typical existing noise levels by any significant extent at the nearest receptors. The mitigation measures proposed would reduce noise levels further.

Graph 6.2: Comparison of Highest Likely Predicted Noise at Nearest Receptor (e.g. receptors to north and northeast) with typical existing residual noise



6.3.10 The above graph shows that the highest likely noise from the proposed HRC site is unlikely to exceed typical existing noise levels (in terms of LAeq) at the receptors to the north and north east. The introduction of noise mitigation measures would reduce the noise contribution further.

6.4 Event Noise

6.4.1 During periods when the site is not open to the public there may be collection of waste skips and HGV movement. This assessment has considered the likely noise contribution from this type of activity to compare with background noise levels. The results of the analysis is provided below and includes noise from HGV movement, engine noise and movement of a skip onto the vehicle.

Table 6.4: Noise comparison showing site noise, residual noise and proposed noise criteria from event noise (including noise amelioration measures) during most sensitive operating periods

Receptor Position	Noise contribution from site operations LAeq (LAmix) dB	Typical existing noise level (e.g. excluding site) LAeq (LAmix) dB	Proposed Noise Criteria (e.g. site contribution) LAeq _{1hr} dB (daytime)	Change in Noise levels due to development LAeq _{1hr} dB
1. Property Boundary off Terrills Lane	34-39 (39-57)	41-44 (49-75)	<40	0 to +2
2. Properties to North & North East	30-34 (35-52)	41-44 (49-75)	<40	0 to +1

6.4.2 The above results show no significant impact as a result of the highest likely noise event.

6.5 Road Traffic Assessment

6.5.1 The proposed development is likely to slightly increase traffic flows along the local road network. It is therefore necessary to establish the impact as a result of this increased traffic flow, on existing residential receptors. The impact assessment assesses the potential increase in noise due to increased traffic flows based on the increase in road traffic volumes.

6.5.2 The 'Calculation of Road Traffic Noise': 1988 (CRTN) has been used for calculation of road traffic noise. This has been undertaken to predict the likely increase in noise associated with increased traffic flow when the site is operational. The traffic flow data provided by Axis has been used and the noise level at residential receptors adjacent to the main road has been calculated, based on the above methodology. The results of these calculations are detailed in Tables 6.5 and 6.6

6.5.3 The impact during 2019 has been assessed as a result of road traffic growth and permitted development.

6.5.4 The 18 hour 12 hour traffic flows for vehicle movements have been used to show the change in noise climate at the nearest existing dwellings.

6.5.5 The nearest existing dwellings are potentially affected by traffic flow onto the site and any increased traffic flow via the local road network. For details of traffic flow data see the Transport Assessment.

6.5.6 The following table provides details of the predicted impact due to the increased traffic flow.

Table 6.5: Predicted Road Traffic Noise Increase at Existing Residential Properties During Daytime (18 hour)

Location	Operating Period	2019 baseline without development LA10 dB _{18hour}	2019 base + development LA10 dB _{18hour}	2019 level difference due to development LA10 dB _{18hour}
Bromyard Road (west)	Weekday	55.7	56.8	+1.1
Bromyard Road (east)	Weekday	54.4	54.6	+0.2
Location		2019 baseline without development LA10 dB _{18hour}	2019 base + development LA10 dB _{18hour}	2019 level difference due to development LA10 dB _{18hour}
Bromyard Road (west)	Saturday	53.6	55.9	+2.3
Bromyard Road (east)	Saturday	53.2	53.6	+0.3

Note: Receptor locations for residential receptors is assumed to be 10m from kerbside, change in noise levels is irrespective of distance as this would be a constant factor for 'do nothing' or 'do something' scenarios.

Table 6.6: Predicted Road Traffic Noise Increase at Existing Residential Properties During Daytime (12 hour)

Location		2014 baseline without development LA10 dB _{12hour}	2014 base + development LA10 dB _{12hour}	2014 level difference due to development LA10 dB _{12hour}
Bromyard Road (west)	Weekday	54.9	56.2	+1.3
Bromyard Road (east)	Weekday	53.6	53.8	+0.2
Location		2019 baseline without development LA10 dB _{12hour}	2019 base + development LA10 dB _{12hour}	2019 level difference due to development LA10 dB _{12hour}
Bromyard Road (west)	Saturday	53.0	55.5	+2.5
Bromyard Road (east)	Saturday	52.3	52.7	+0.4

6.5.7 The impact due to the proposed development shows an increase along the local road network at nearest existing properties off Bromyard Road is shown to be between +0.2dB and +2.3dB LA10_{18hrs} and +0.2dB and +2.5dB LA10_{12hr}. The results show that the change in road traffic noise does not exceed the +3dB(A) threshold and therefore will not require further noise mitigation measures. The impact magnitude according to the DMRB methodology indicates a 'negligible' to 'minor' impact in the short term at nearest residential receptors (refer to Table 3.4).

7.0

7.0 CONCLUSIONS

Background Noise Levels

- 7.1 The results of the background noise measurements indicate that typical Sunday morning noise levels (in terms of average LA90) vary between approximately 35dB and 39dB. This would mean that site contributory noise from fixed plant should be aimed at a level not exceeding +5dB above the background level (e.g. <40dB & <44dB LAeq which allows for the character of the noise) at the residential property boundary (in accordance with BS4142: 1997).

HRC Noise Contribution

- 7.2 Predicted noise contribution from the HRC excluding proposed noise mitigation measures is shown to be between 36dB to 41dB LAeq. This is similar to or lower than existing residual noise levels (at the nearest receptor position) and approximately +1dB to +6dB above Sunday morning background noise levels (i.e. LA90 level). The resultant levels are therefore marginally above reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.
- 7.3 The introduction of boundary acoustic screening along the site boundary shows a reduction in noise contribution at receptor locations by between 2dB to 4dB LAeq. Predicted noise contribution from the HRC including proposed noise mitigation measures is shown to be between 32dB to 39dB LAeq. This is lower than existing residual noise levels (at the nearest receptor position) and equal to or approximately +4dB above Sunday morning background noise levels (i.e. LA90 level). The resultant levels with boundary acoustic screening are therefore within reasonable noise criteria according to BS4142: 1997 when assuming the 'worst case' impacts.
- 7.4 The third octave band frequency spectra recorded at similar sites shows a relatively flat frequency response curve (refer to graph 5.2). The resultant comparison of site predicted noise and existing residual noise shows no significant increase in frequency content based on the application of the proposed noise control measures.

BS4142: 1997 Assessment

- 7.5 BS4142 is used as guidance in the determination of the 'likelihood of complaint' in areas having a mixed residential and industrial content.
- 7.6 The method basically involves the measurement of background noise using an L_{A90} level at the complainants property boundary with the noise source/s switched off and then a measurement at the same position with the noise source/s switched on using a L_{Aeq} level. The level difference is calculated and a correction factor added (which establishes the rating level) if the noise source contains a distinguishable, discrete, continuous note (whine, hiss, screech, hum etc.) or distinct impulses (bangs, clicks, clatters, or thumps) or is irregular enough to attract attention.
- 7.7 An assessment of the noise levels using BS4142 for the proposed highest noise activities for the HRC would be as follows (assuming noise mitigation measures are implemented):

Table 7.1: BS4142: 1997 Noise Assessment: HRC (Sunday)

	Receptor 1 (e.g. Terrills Lane)	Receptor 2 (e.g. North & Northeast)
Predicted noise level	35-39dB LAeq *	32-36dB LAeq *
Impulse, tonal correction	0dB(A)**	0dB(A)**
Rating level	35dB or 39dB LAeq	32dB to 36dB LAeq
Background noise level	35-38dB LA90	35-38dB LA90
Excess rating over background	-3 to +4dB(A)	-6 to +1dB(A)
Conclusion	Complaints unlikely	

* Assumes all plant operating **This correction is subjective, in consideration of the absolute level and proposed mitigation measures, this assessment does not expect a +5dB penalty to be applicable.

- 7.8 The above assessment of noise assumes that for 'worst case' scenario (e.g. highest site noise with lowest background) the site would generate a noise levels no higher than +4dB above background. Providing the site is suitably managed any character correction should not be applicable.
- 7.9 With the proposed development in operation, the assessment indicates that noise levels are unlikely to cause complaint at the nearest residential receptors.
- 7.10 The noise levels are also shown to fall well within planning policy guidance and other standards and guidance for noise.
- 7.11 Taking into account the operational times of the HRC activities, the noise control measures proposed, subjective observations at other HRC sites in the UK, measured noise levels and the relative position of the nearest residential properties to proposed noise sources, it can be concluded that the resultant noise levels would fall within appropriate guidance and standards to protect residential amenity.
- 7.12 In accordance with NPSE and the Planning Practice Guidance (March 2014) noise levels from the site with the proposed noise mitigation measures is expected to result in there being 'no observed adverse effect' and according to PPG no specific measures are required.

Road Traffic Noise

- 7.13 Traffic noise calculations have been undertaken in accordance with CRTN methodology in respect of noise impacts onto Bromyard Road. The impact magnitude according to the DMRB methodology indicates a 'negligible' to 'minor' impact in the short term at nearest residential receptors, which is deemed to be insignificant.

8.0 NOISE CONTROL MEASURES

- 8.1 The draft layout of the HRC is shown on Figure 1.
- 8.2 In order to meet relevant and reasonable noise criteria at the nearest residential property, the following noise amelioration measures are proposed at the development site:
- (a) The installation of an acoustic screen along the boundary of the site (as shown on Figure 3) to a height of between 1.8m and 2.5m. This can be formed from an earth mound screen or close-boarded fence, brick wall or combination of a solid screen having a minimum mass of 10kg/m².
 - (b) For any mobile plant on site, where practicable, the plant should be fitted with attenuated broad band noise reverse alarms (e.g. avoid tonal 'beeper' type alarms).
 - (c) Where practicable, place noisier waste offloading skips (e.g. metal, glass, hardcore) on the south eastern corner of the site to maximise the separation distance between the site and the receptor.
- 8.3 The following additional measures are not necessary to meet reasonable and relevant noise criteria, but as management controls and are provided as additional information to meet 'best practicable means':
- (i) Where possible the HGV route through site should be designed such that reverse alarm use is minimised.
 - (ii) Consideration to noise and the neighbours is shown as HGVs approach the site and manoeuvring in the service yard.
 - (iii) The vehicle horn is not to be used to alert the site of a vehicle arrival/ waiting at the entrance gate
 - (iv) Engines are switched off when not manoeuvring.
 - (v) Radios are switched off and doors not slammed when alighting the cab.
 - (vi) Load retaining straps/ bars are carefully placed in stowage points, not dropped onto the floor (as appropriate).
 - (vii) Minimise excessive air braking noise.
 - (viii) Switch off engines for prolonged stops, but minimise unnecessary start-ups and engine revving.
 - (ix) Always unload in the designated delivery area, unless instructed by the site management to do otherwise.
 - (x) Minimise noise during the transfer of any skip removal or offloading of containers from HGVs,

- (xi) Minimise drop heights for waste that creates impact noise. When skips are empty this is likely to be the noisiest period of impacts and care should be taken to place material into the skip rather than being thrown or dropped from height.
- (xii) Report any circumstances to management where adherence to these instructions cannot be fulfilled

REFERENCES

BS8233: 1999 Sound Insulation and noise reduction for buildings – Code of Practice

BS4142: 1997 Method for rating industrial noise affecting mixed residential and industrial areas.

Guidelines for Community Noise – World Health Organisation: April 1999

Community Noise – World Health Organisation: 1995

BS7445: 2003 - Description and measurement of environmental noise.

BS5228-1: 2009 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise

Design Manual for Roads & Bridges (DMRB) Volume 11, Section 3, Part 7 (HA213/11): November 2011

ISO 9613-2: 1996 Acoustics – Attenuation of Sound During Propagation Outdoors.

National Planning Policy Framework – March 2012.

Noise Policy Statement for England (NPSE) – March 2010.

Planning Practice Guidance – 6th March 2014 Department for Communities and Local Government (Ref ID: 30-001-20140306)

Former PPG24 Planning Policy Guidance: September 1994 – Planning and Noise.

FIGURES

Figure 1: Site Design Layout

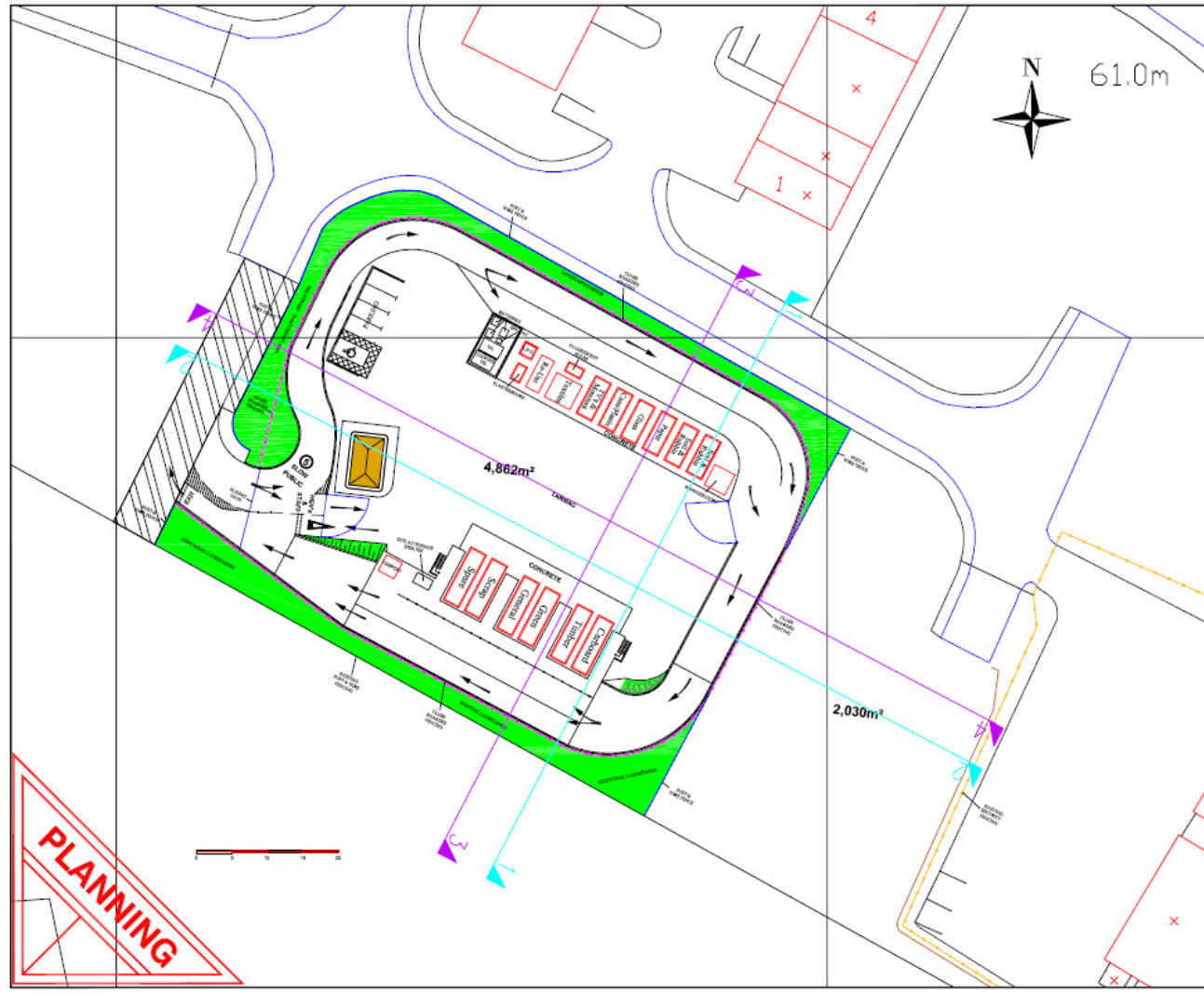
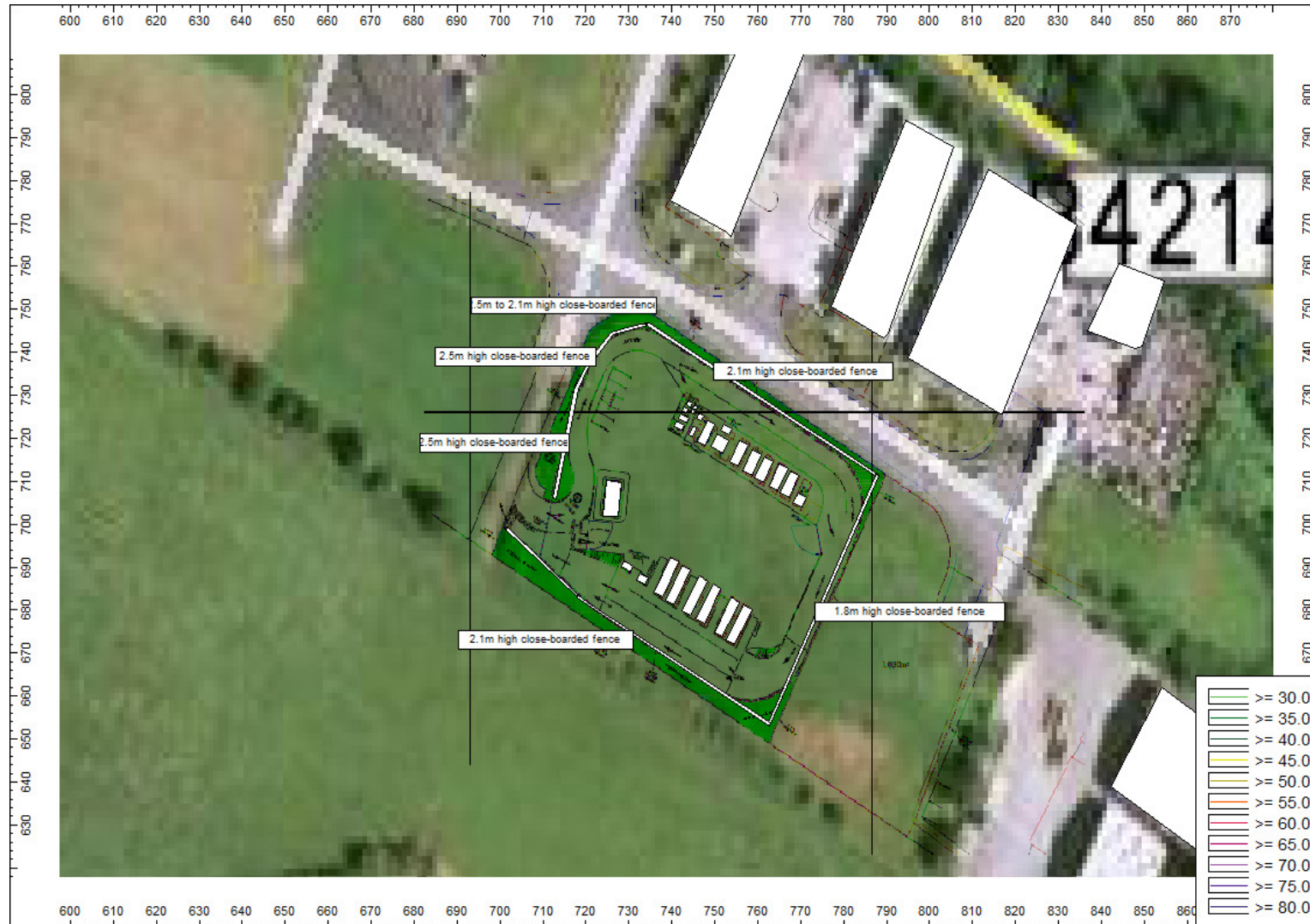


Figure 2: Site Location and nearest receptors showing baseline noise monitoring positions



Figure 3: Site Layout Showing Screen Location



Appendix 1

BASIC ACOUSTIC TERMINOLOGY

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air.

Sound Pressure Level is a measurement of the size of these pressure fluctuations. It is expressed in decibels (dB) on a logarithmic scale. Each 3 dB increase in sound pressure level represents a doubling of the sound energy. The threshold of hearing is approximately 0 dB.

The rate at which the pressure fluctuations occur determines the pitch or frequency of the sound. The frequency is expressed in Hertz (Hz), that is, cycles per second. The human ear is sensitive to sounds from about 20 Hz to 20,000 Hz. Although sound can be of one discrete frequency - a 'pure tone' - most noises are made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same 'subjective' way. This is the basis of the A-weighted sound level dB(A), normally used to assess the effect of noise on people. The dB(A) weighting emphasises or reduces the importance of certain frequencies within the audible range.

Noise Measurement

The measurement of sound pressure level is only really meaningful where the level of noise is constant. In the typical industrial environment noise levels can vary widely and sometimes short duration high levels of noise are interspersed with periods of relative quiet. The most widely used means of 'averaging' the noise over a period of time is the Equivalent Continuous Sound Level. Normally written as L_{Aeq} this value takes into account both the level of noise and the length of time over which it occurs. There are many meters available which are capable of measuring L_{Aeq} by electronic integration over the measurement period.

The L_{Aeq} or A-weighted equivalent continuous noise level is a measure of the total noise energy over a stated time period and includes all the varying noise levels and re-expresses as an 'average', allowing for the length of time for which each noise level was presented.

The L_{An} parameters are defined as the noise levels which are exceeded for n% of the monitoring period, thus, for example, the L_{A90} parameter is the noise level exceeded for 90% of the 15 minute period, e.g. 13.5 minutes. The L_{A50} parameter is the noise level exceeded for 50% of the hourly period, e.g. 30 minutes, etc. The L_{max} parameter is the maximum RMS A-weighted noise level occurring during the measurement period.

The definition in layman's terms is given below for terminology used in the measurement and results obtained during the survey work.

A-weighting: Normal hearing covers the frequency (pitch) range from about 20Hz to 20,000 Hz but sensitivity of the ear is greatest between about 500Hz and 5000Hz. The "A-weighting" is an electrical circuit built into noise meters to mimic this characteristic of the human ear.

Ambient noise: The totally encompassing sound in a given situation at a given time usually composed of sound from many sources near and far.

Attenuation: Noise reduction

Background noise: The general quiet periods of ambient noise when the noise source under investigation is not there.

Decibel (dB): The unit of measurement for sound based on a logarithmic scale. 0dB is the threshold of normal hearing; 140dB is the threshold of pain. A change of 1dB is only detectable under controlled laboratory conditions.

dB(A) [decibel A weighted]: Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) serves to distinguish sounds of different frequency (or pitch) in a similar way to how the human ear responds. Measurements in dB(A) broadly agrees with an individual's assessment of loudness. A change of 3dB(A) is the minimum perceptible under normal everyday conditions, and a change of 10dB(A) corresponds roughly to doubling or halving the loudness of sound.

dB(C): [decibel C weighted]: Frequency weighting which does not alter low frequency octave band levels by very much compared to 'A' weighting. Similar to linear reading (e.g. linear does not alter frequency spectra at all)

Frequency (Hz): The number of sound waves to pass a point in one second.

L_{Aeq}: This is a noise index used to describe the "average" level of a noise that varies with time (T). It allows for the different sensitivities of the human ear to different frequencies (pitch), and averages fluctuating noise levels in a manner which correlates well with human perceptions of loudness.

L_{A10,T}: This noise index gives an indication of the upper limit or peak levels of the fluctuating noise. It is the "A weighted" noise level exceeded for 10 per cent of the specified measurement period (T). e.g. If the measurement period was over 10 hours and the L_{A10} reading was say 60dB, then this means that for 1 hour out of 10 the level went above 60dB.

L_{A90,T}: This noise index gives an indication of the lower limit or levels of the fluctuating noise. It is the "A weighted" noise level exceeded for 90 per cent of the specified measurement period (T). e.g. If the measurement period was over 10 hours and the L_{A90} reading was say 50dB, then this means that for 9 hours out of 10 the level went above 50dB.

L_{Amax}: This is the highest 'A' weighted noise level recorded during a noise measurement period.

Residual noise: The ambient noise remaining at a given position in a given situation when the noise source under investigation is not there (normally referred to in terms of L_{Aeq}).

Specific noise: The noise source under investigation for assessing the likelihood of complaints

Examples of typical noise levels

Source/Activity	Indicative noise level [dB(A)]
Threshold of hearing	0
Rural night-time background	20-40
Quiet bedroom	35
Wind farm at 350m	35-45
Busy road at 5km	35-45
Car at 65km/h at 100m	55
Busy general office	60
Conversation	60
Truck at 50km/h at 100m	65
City Traffic at 5m	75-85
Pneumatic drill at 7m	95
Jet aircraft at 250m	105
Threshold of pain	140

Appendix 2

Background Noise Level Results

Noise Survey Results

Date: Sunday 19th January 2014

Location: Tenbury Business Park

Client: Axis

Project: HRC

Data: **Position 1 - Site boundary in vicinity of residential dwellings**

Instrumentation: Norsonic 118 Real Time Analyser (31992) calibration due June 2014

Weather Conditions: Dry, partly cloudy, light SSW winds (1-2m/s), temp. 4-6degC

Calibration: 94dB

TABLE 1

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmx (dB)	Observations
08:00	05:00	40.8	42.6	34.7	49.7	Occasional vehicle movement
08:05	05:00	41.4	43.4	34.6	51.6	Occasional vehicle movement
08:10	05:00	41.4	42.8	35.9	51.0	Occasional vehicle movement
08:15	05:00	42.1	44.3	35.7	52.2	Occasional vehicle movement
08:20	05:00	39.6	40.6	35.4	49.3	Birdsong
08:25	05:00	40.2	42.3	35.2	52.0	Occasional vehicle movement
08:30	05:00	42.9	45.6	34.8	50.8	Occasional vehicle movement
08:35	05:00	41.8	42.9	35.5	50.9	Occasional vehicle movement
08:40	05:00	41.0	42.6	34.8	52.0	Occasional vehicle movement
08:45	05:00	40.0	40.5	35.4	49.3	Birdsong
08:50	05:00	41.1	42.6	34.6	49.7	Occasional vehicle movement
08:55	05:00	41.6	43.2	34.6	51.6	Occasional vehicle movement
09:00	05:00	41.7	42.8	35.7	51.0	Birdsong
09:05	05:00	42.7	44.3	35.7	51.5	Occasional vehicle movement
09:10	05:00	40.2	40.3	35.5	48.9	Birdsong
09:15	05:00	40.7	42.1	35.0	51.1	Birdsong
09:20	05:00	42.6	45.9	34.8	51.1	Birdsong
09:25	05:00	41.7	42.9	35.8	51.4	Birdsong
09:30	05:00	41.4	42.6	34.9	52.7	Occasional vehicle movement
09:35	05:00	40.1	40.2	35.4	49.4	Birdsong
09:40	05:00	41.3	42.9	34.7	50.1	Occasional vehicle movement
09:45	05:00	41.8	43.4	34.5	51.6	Occasional vehicle movement
09:50	05:00	41.8	42.8	35.5	51.4	Occasional vehicle movement
09:55	05:00	42.8	44.2	35.7	51.8	Occasional vehicle movement
10:00	05:00	41.6	43.2	35.7	51.5	Occasional vehicle movement
10:05	05:00	40.8	42.9	35.0	51.7	Birdsong
10:10	05:00	42.7	46.2	34.8	51.3	Occasional vehicle movement
10:15	05:00	41.4	43.0	35.8	51.3	Birdsong
10:20	05:00	41.2	42.7	34.8	53.8	Occasional vehicle movement
10:25	05:00	40.2	40.6	35.5	50.5	Birdsong
Average 0800-1030		41.4	42.9	35.2	49-54	

Noise Survey Results

Date: Sunday 19th January 2014

Location: Tenbury Industrial Estate

Client: Axis

Project: HRC

Data: **Position 1 - Site boundary in vicinity of residential dwellings**

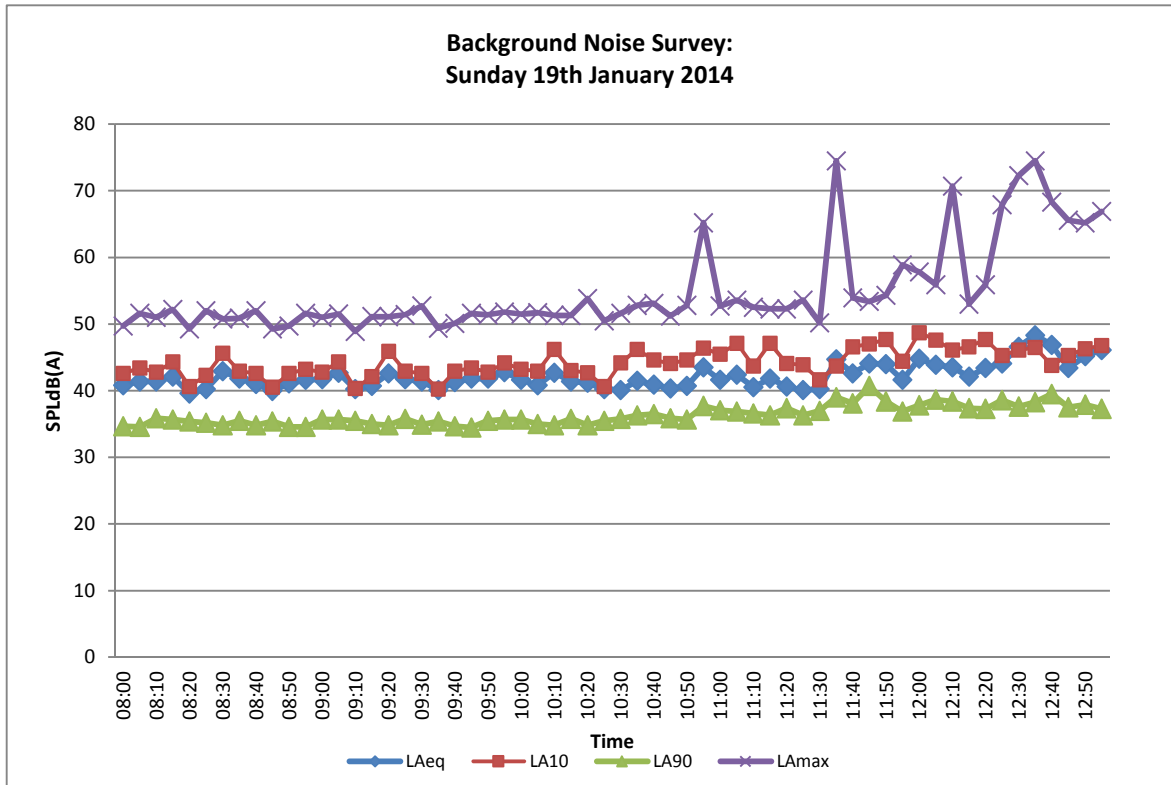
Instrumentation: Norsonic 118 Real Time Analyser (31992) calibration due June 2014

Weather Conditions: Dry, partly cloudy, light SW-SSW winds (1-3m/s), temp. 6-8degC

Calibration: 94dB

TABLE 2

Start Time	Run Time (mins.)	LAeq (dB)	LA10 (dB)	LA90 (dB)	LAmx (dB)	Observations
10:30	05:00	40.1	44.2	35.8	51.6	Occasional road traffic movement
10:35	05:00	41.5	46.2	36.3	52.8	Occasional road traffic movement
10:40	05:00	40.9	44.6	36.5	53.1	Occasional road traffic movement
10:45	05:00	40.3	44.1	35.9	51.2	Occasional road traffic movement
10:50	05:00	40.7	44.6	35.7	52.8	Occasional road traffic movement
10:55	05:00	43.5	46.4	37.7	65.2	Occasional road traffic movement
11:00	05:00	41.6	45.5	37.1	52.7	Occasional road traffic movement
11:05	05:00	42.4	47.1	36.9	53.6	Occasional road traffic movement
11:10	05:00	40.5	43.7	36.6	52.5	Occasional road traffic movement
11:15	05:00	41.8	47.1	36.3	52.3	Occasional road traffic movement
11:20	05:00	40.6	44.1	37.4	52.3	Occasional road traffic movement
11:25	05:00	40.1	43.9	36.3	53.6	Occasional road traffic movement
11:30	05:00	40.2	41.6	37.0	50.2	Birdsong
11:35	05:00	44.7	43.7	39.0	74.5	Intermittent road traffic movement
11:40	05:00	42.6	46.6	38.1	53.9	Intermittent road traffic movement
11:45	05:00	44.1	47.0	40.7	53.4	Intermittent road traffic movement
11:50	05:00	44.0	47.7	38.4	54.3	Intermittent road traffic movement
11:55	05:00	41.6	44.4	36.9	58.9	Occasional road traffic movement
12:00	05:00	44.8	48.7	37.8	57.8	Intermittent road traffic movement
12:05	05:00	43.9	47.6	38.7	55.9	Occasional road traffic movement
12:10	05:00	43.5	46.1	38.4	70.7	Occasional road traffic movement
12:15	05:00	42.1	46.6	37.4	53.0	Occasional road traffic movement
12:20	05:00	43.4	47.7	37.3	55.9	Occasional road traffic movement
12:25	05:00	44.1	45.3	38.6	67.9	Occasional road traffic movement
12:30	05:00	46.6	46.1	37.6	72.3	Occasional road traffic movement
12:35	05:00	48.3	46.5	38.3	74.5	Intermittent road traffic movement
12:40	05:00	46.9	43.8	39.5	68.3	Intermittent road traffic movement
12:45	05:00	43.4	45.3	37.5	65.6	Intermittent road traffic movement
12:50	05:00	45.2	46.3	37.9	65.2	Occasional road traffic movement
12:55	05:00	46.1	46.8	37.3	66.9	Occasional road traffic movement
Average 1030-1300		43.5	45.6	37.5	50-75	
Average 0800-1300		42.6	45.8	37.6	49-75	



Appendix 3

HRC Noise Levels

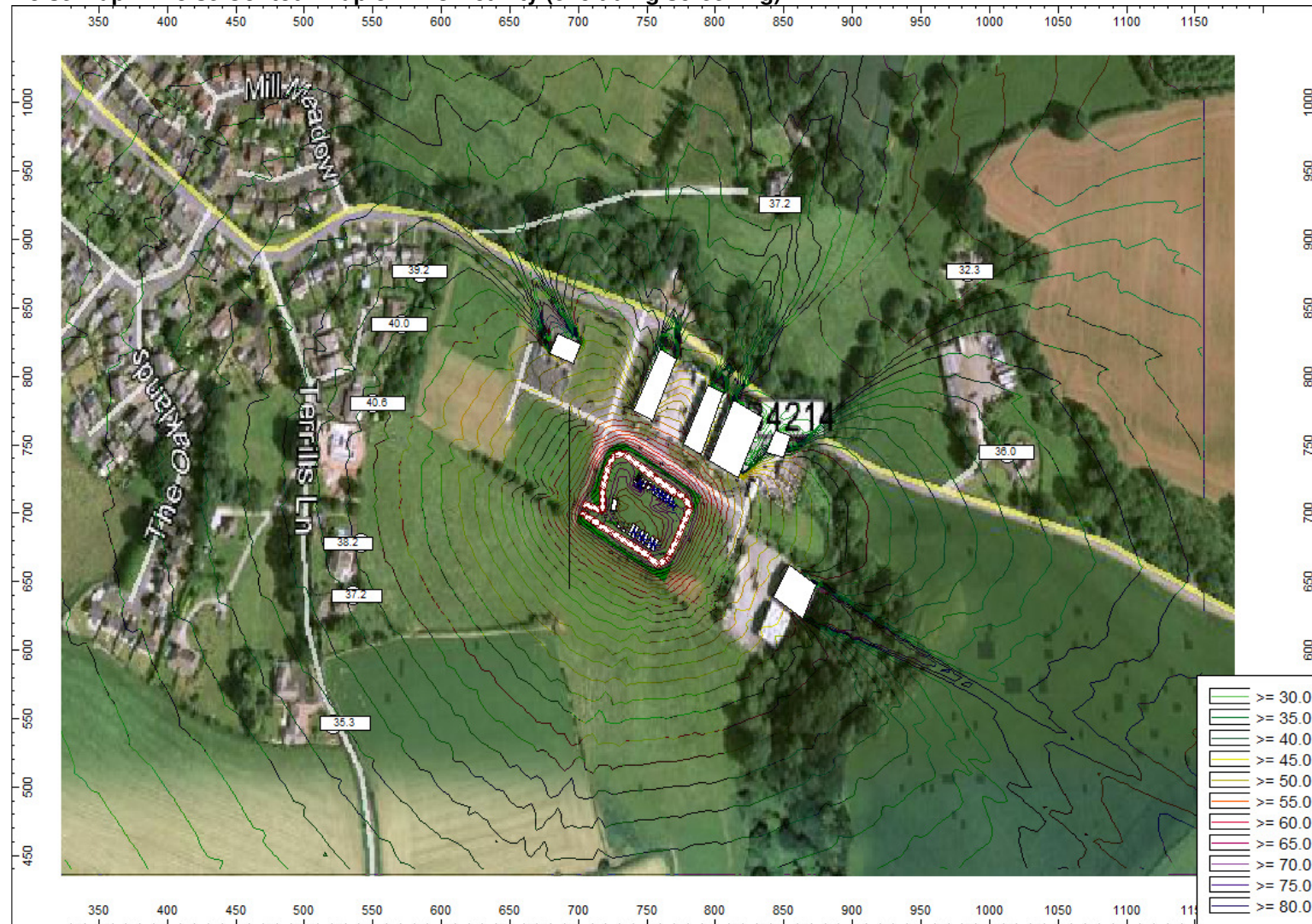
Typical HRC Noise Levels at similar type of site at 10m

Plant Type	Sound Pressure Level LAeq _{1min} dB @ 10 metres	Sound Pressure Level LAmax dB @ 10 metres
General waste offloading noise	59	72
General waste with compactor	66	77-79
Emptying plastic bottles	64	74-75
Loading timber into container	66	67-85
Loading metal objects into container	62	81-82
Entrance/exit to site (vehicle noise)	58	70-78
Impact noise: dropping stone into empty skip	69	75-87
Glass bottles deposited into bin/container	67	79
Waste skip/container Offload/load (including reverse alarm and skip/container noise)	67	80-85
HGV Movements	58.5	75-83

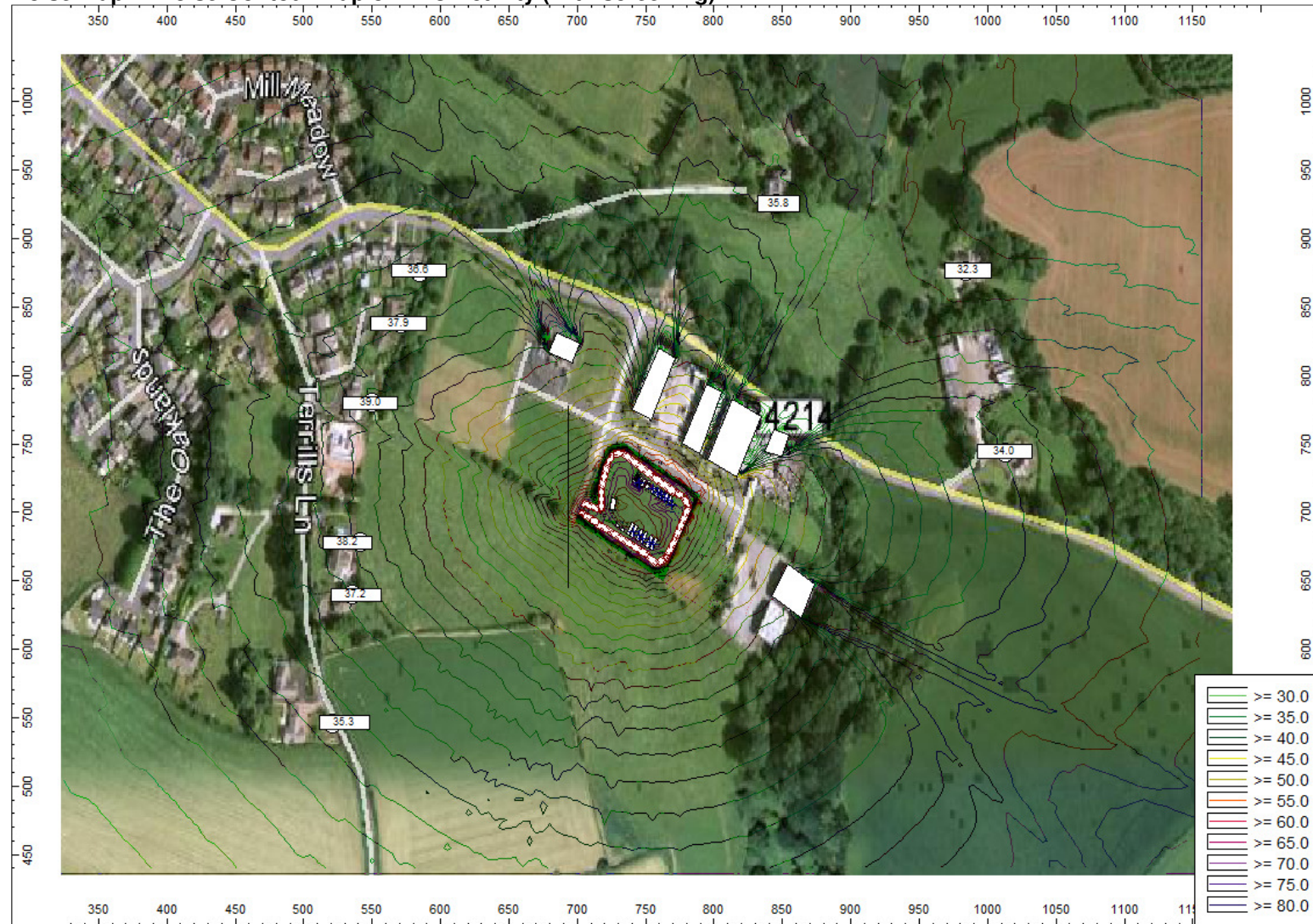
Appendix 4

Noise Mapping

Noise Map 1: Noise Contour Map of HRC Activity (excluding screening)



Noise Map 2: Noise Contour Map of HRC Activity (with screening)



Noise Map 3: Noise Contour Map of Event Noise



Appendix 5

Consultant's Experience & Qualifications

**Consultant: Dean Robert Kettlewell - MSc MIOA MAE I.Eng
(Director - Principal Acoustic Consultant)**

Précis

As Director and Principal Acoustic Consultant with Noise & Vibration Consultants Ltd, Dean has over 30 years background experience in a wide range of issues relating to environmental, industrial and commercial noise and vibration assessment. He currently manages corporate and unit specific contracts for:

- Assessment of Environmental & Industrial Noise
- Environmental Noise Impact Assessments
- Expert Witness representation for Deafness and 'Vibration White Finger' Claims
- Integrated Pollution Prevention and Control (IPPC) Applications
- Industrial Noise Assessment and Control
- Planning Issues for Residential and Commercial Development
- Noise at Work Regulations Assessments
- Building Acoustics and Sound Insulation Tests
- Wind Farm Noise Impact Assessments
- Entertainment Noise Assessment and Control
- Architectural Acoustics
- Specialist knowledge in the Design of Noise Control Systems
- Ground borne vibration measurement and assessment
- Project Management of Noise Control Systems
- Hand-arm Vibration Assessments

Relevant Work Experience

Director & Principal Consultant - Noise & Vibration Consultants Ltd	2001- to date
Senior Acoustic Consultant - Vibrock Limited	1998 - 2001
Associate & Principal Acoustic Consultant - John Savidge & Associates	1994 - 1998
Technical Manager – LBJ Limited (Noise Control Division)	1990 - 1994
Technical Engineer/Technical Manager (1988) - Vibac (Noise Control) Ltd	1982 - 1990

Qualifications and Education

M.Sc. Applied Acoustics (Derby University – Distinction)
HNC Electrical & Electronic Engineering
IOA Diploma in Acoustics & Noise Control
IOA Certificate in Law and Administration
Certificate of Competence in Workplace Noise Assessment
Certificate of Competence in Ground Vibration Monitoring
Post Graduate Certificate in Applied Acoustics

Affiliations: Member of Institute of Acoustics (MIOA)
 Member of Academy of Experts (MAE)
 Member of Association of Noise Consultants (ANC)
 Incorporated Engineer (I.Eng)

