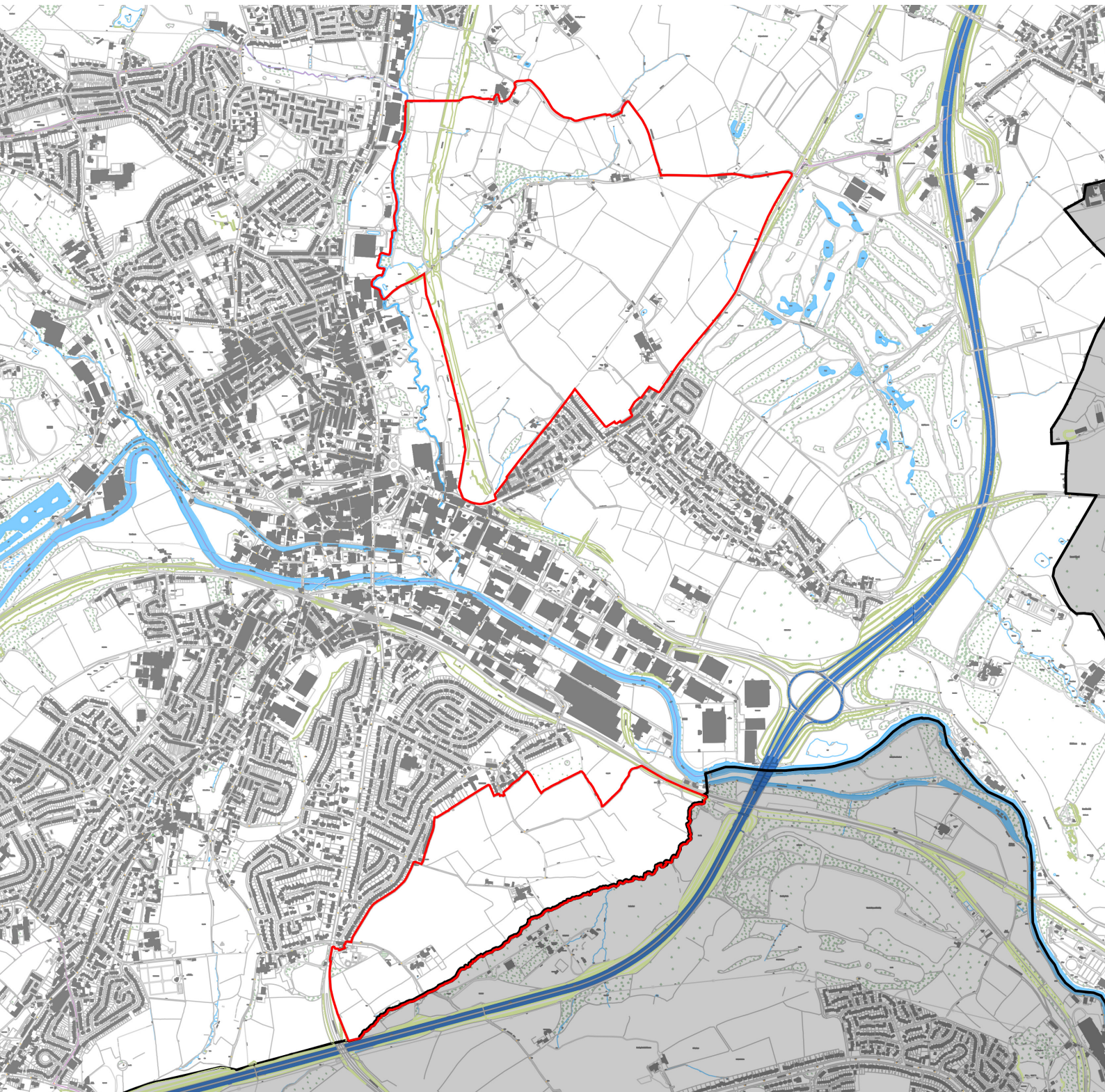


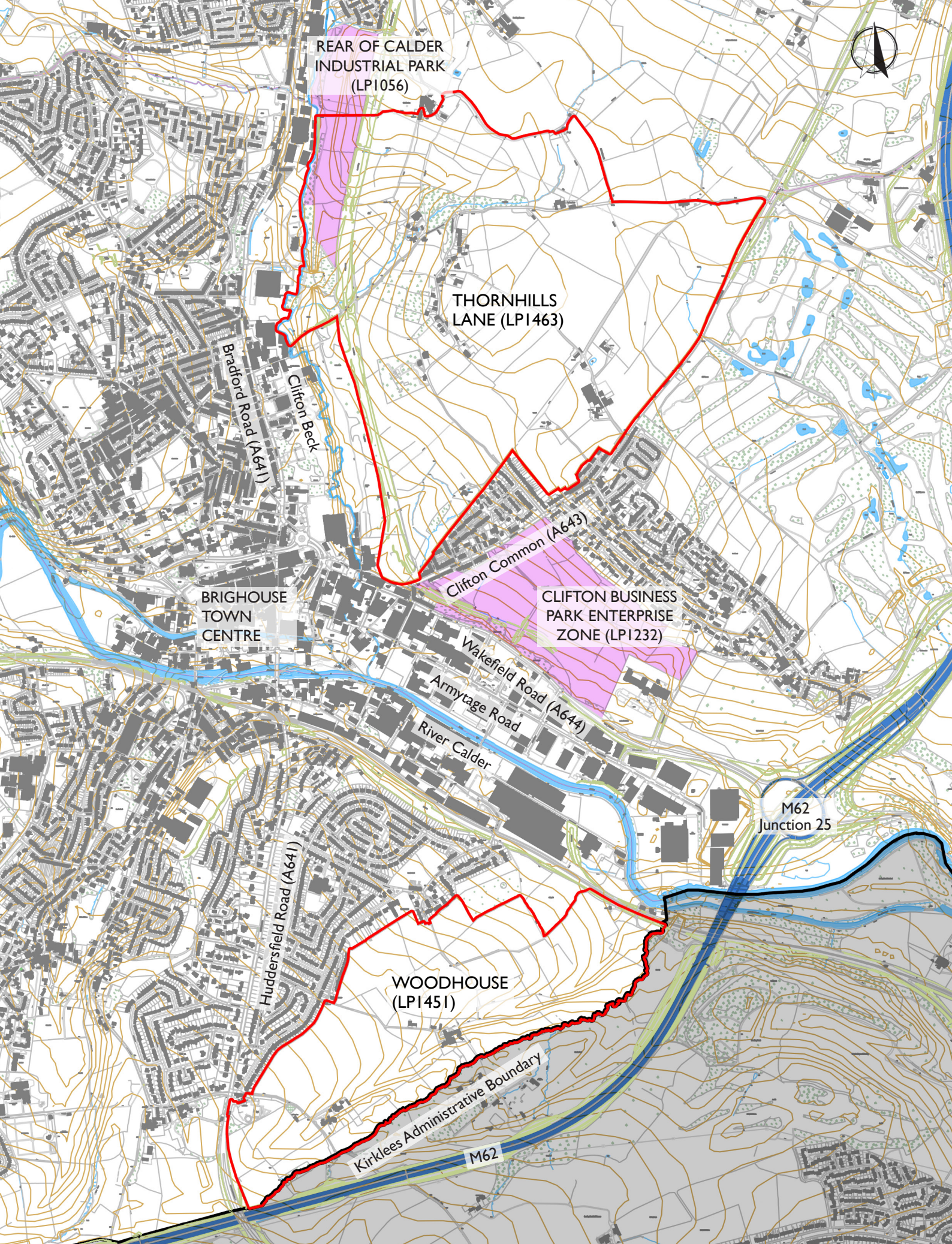
Strategic Vision for South East Calderdale

November 2016



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Strategic Urban Extension Site Locations

Scale 1:15,000

Calderdale Council is at an advanced stage in the preparation of its Local Plan. As part of this process there is a need to identify specific allocations for around 13,000 new dwellings and to consider longer term scenarios associated with City Region long term growth post 2030.

The balance of evidence indicates that Brighouse and Rastrick will be the key focal points for new residential development. This is due to the availability of land and their relative sustainability, with fewer potential impacts on the important environmental designations in the west of the District. Brighouse as a town is also likely to benefit from capacity improvements to the A641, A644 and potentially also a new M62 junction 24a which could all be delivered through the West Yorkshire + Transport Fund.

Consideration has been given to focusing development on a small number of Sustainable Urban Extensions (SUEs) which have the potential to offer a greater opportunity for sustainable development because they are of sufficient scale to provide a planned 'garden village' layout with enhanced local facilities and infrastructure, and the ability to manage and mitigate impacts in a more holistic manner.

Brighouse and Rastrick are close to the M62 and the border with Bradford and Kirklees. Kirklees also has aspirations for significant residential and employment development immediately to the south of Calderdale's administrative boundary (at Bradley Hall and Cooper Bridge respectively). Calderdale and Kirklees have reached similar stages in the preparation of their Local Plans, and currently cooperating on the cross-boundary issues.

WSP|Parsons Brinckerhoff, working with Spawforths, on behalf of Calderdale Council have been appointed to support the evidence base for the Local Plan and to carry out a master-planning exercise for two of the Sustainable Urban Extensions within the Brighouse/Rastrick area. These sites are outlined in red on the plan opposite:-

- Thornhills Lane; LPI 463; Land between Highmoor Lane and Bradford Road, Brighouse; 140.66ha; current allocation Green Belt.
- Woodhouse; LPI 451: Land between Woodhouse and Woodhouse Lane, Rastrick: 63ha; current allocation Green Belt.

The masterplan provides a high level site layout showing how each site is suitable to help address the housing needs of the district and sets a framework for placemaking across the two sites. It also provides a commentary on access to the sites and a high level assessment of the cumulative impact of housing and employment allocations within Calderdale and the neighbouring districts.

It is demonstrated that the sites are complementary and are in sustainable locations. Nevertheless, it is recommended that additional facilities are provided as the sites are built out. The sites as well as neighbouring employment sites, Brighouse and the sub-region will benefit from the creation of a comprehensive approach guided by a Strategic Vision for the area. Within this document a Vision is proposed which utilises comprehensive highway infrastructure improvements to open up sites for housing and employment development, regenerate existing employment areas and improve the character of Brighouse.



1. View from close to Woolrow Farm

2. View over properties on Clough Ln

3. View from Clough Lane

LPI463 - Thornhills Lane Site Photographs Locations

Scale 1:10,000

Thornhills Lane Site (LPI463) Description

Site Description

The Thornhills Lane site is located to the north-east of Brighouse town centre between the A641 Bradford Road and the A643 Highmoor Lane. The site lies broadly to the east of Clifton Beck and the Wellholme Park Woodland and extends to Common End Farm in the north. The majority of the site is farmland, although there are currently a small number of properties on the site located near to Gospel Hall Farm on Thornhills Lane and off Thornhills Beck Lane. The eastern side of the site slopes steeply down to Clifton Beck. The site has an area of approximately 140.66 hectares.



4. View from Jay House Lane



5. View over existing pond



6. View west through the viaduct



7. View south-east from viaduct



8. Thornhills Beck Lane Ford



9. Thornhills Beck Lane entrance



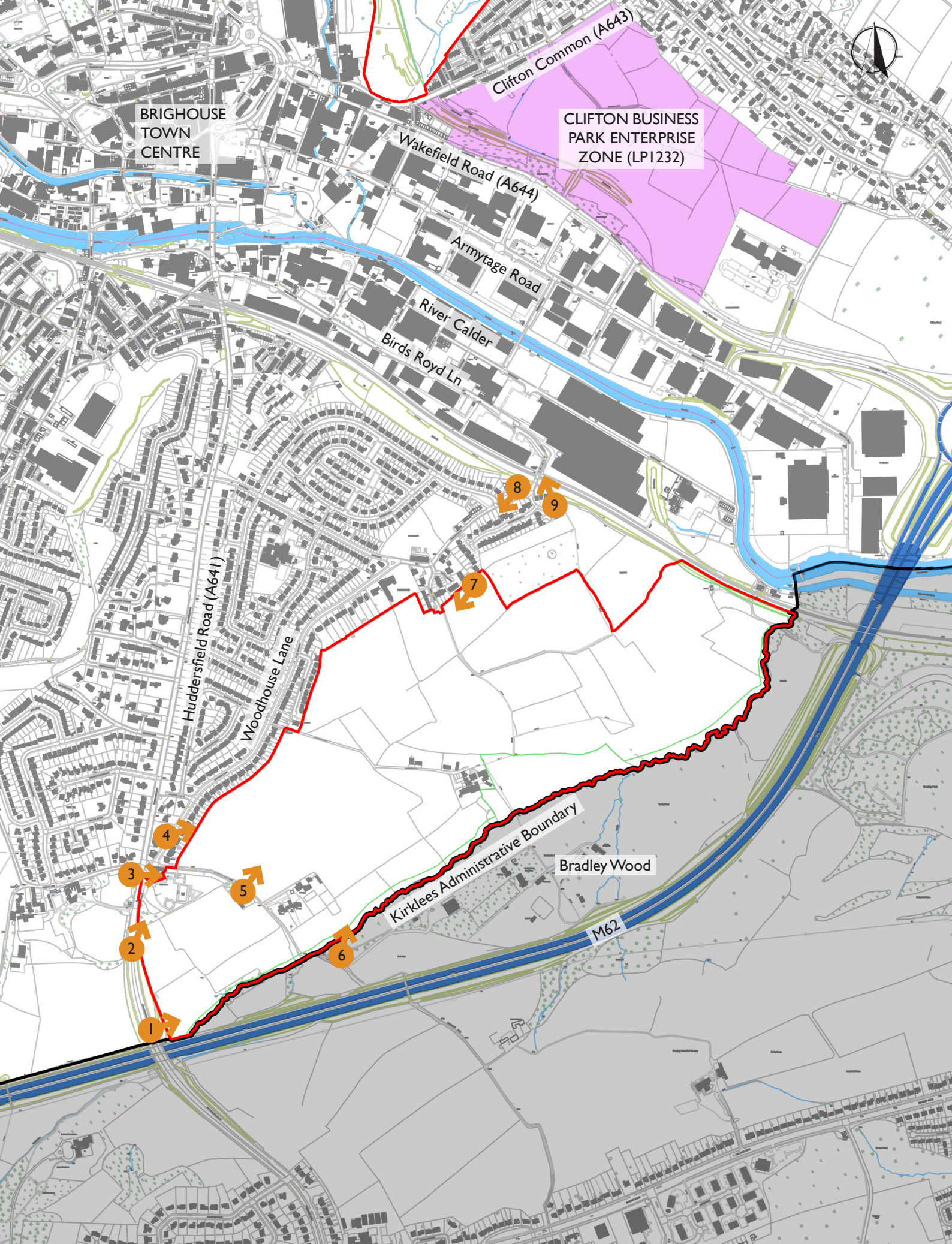
10. View from Thornhills Lane



11. Wellholme Park



12. Clifton Common stepped housing



LPI451 - Woodhouse Site Photograph Locations
Scale 1:10,000

Woodhouse Site (LPI451) Description

Site Description

The Woodhouse site is located on farmland to the south-east of Brighouse town centre and has an area of approximately 63 hectares.

The south east boundary of the site is formed by Bradley Wood which lies within the boundary of Kirklees and houses an activity centre and campsite. There is also a narrow track which gives access to Firth House. The M62 lies to the south of the woods. The western edge of the site is formed by the A641 Huddersfield Road and the eastern edge is formed by the Brighouse to Mirfield railway line.

The site is bounded to the north-west by the Woodhouse area of Brighouse which is predominantly residential.

The site is gently undulating and slopes gently from south-west to north-east towards the Calder valley.



1. View from bridge over M62



2. View into Brighouse along A641



3. Woodhouse Lane



4. Typical housing on Woodhouse Ln.



5. View from Shepherds Thorn Ln.



6. View north over Bradley Park Dyke



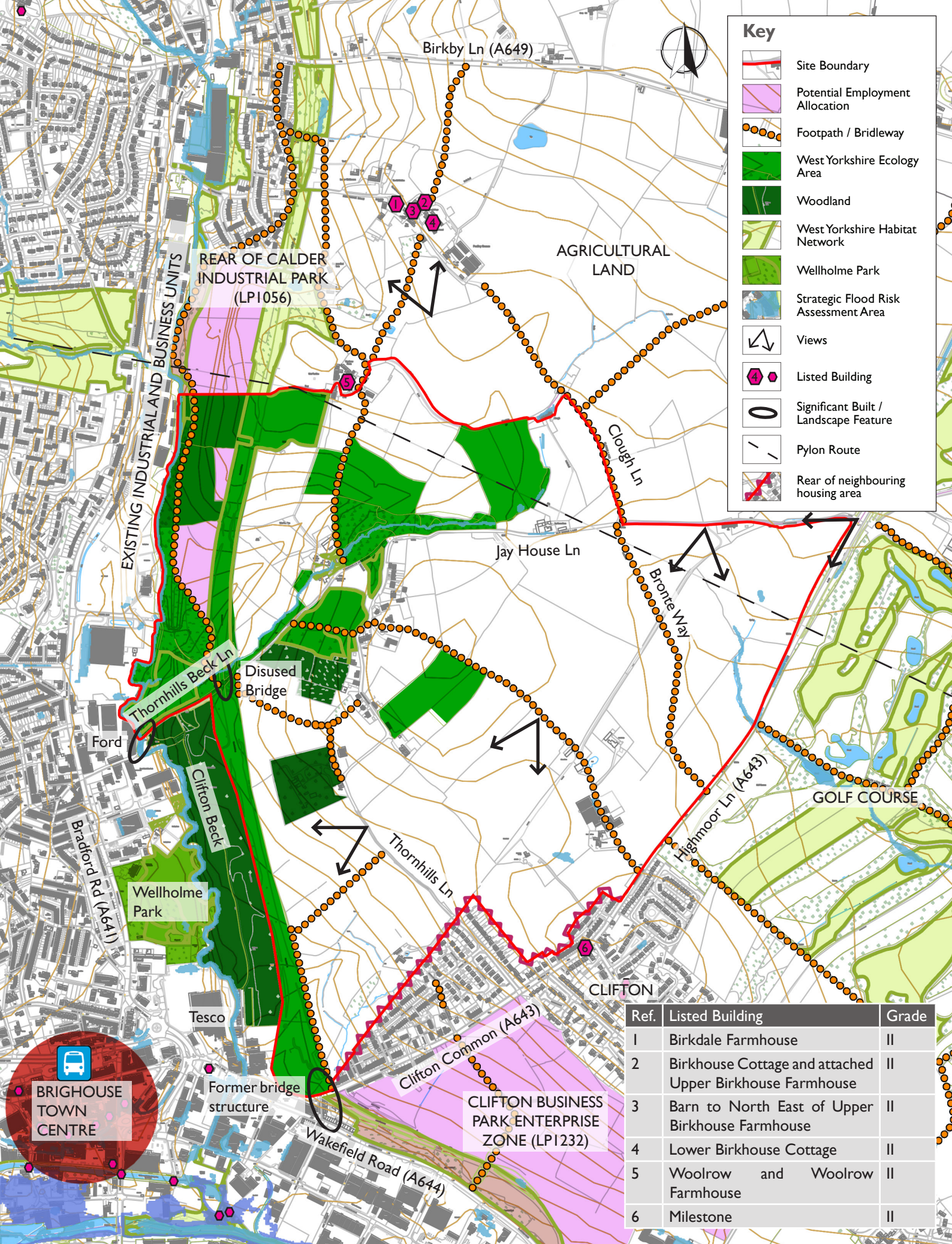
7. View south from Ryecroft Lane



8. Typical housing on Woodhouse Gdn



9. Woodhouse Lane railway bridge



LPI463 - Thornhills Lane Site Opportunities and Constraints Plan

Scale 1:10,000

Thornhills Lane Site (LP I 463)

Constraints and Opportunities

Topography and Views

The topography of the Thornhills Lane site presents challenges to development but it is not considered that this is exceptional within the Borough of Calderdale.

The site is broadly triangular, with the higher ground located in the north-eastern corner. The western edge which follows Clifton Beck forms the lowest area. To the east the edge is formed by the A643 and a number of existing houses.

The steep topography of the site creates opportunity for views over but not into the town centre.

Access

The only vehicular access from the west is from Bradford Road (A641) along Thornhills Beck Lane. This access is restricted because of existing buildings, the beck and the disused rail infrastructure. Thornhills Beck Lane fords Clifton Beck before beginning to rise up the hillside and cutting through a disused rail embankment under a disused former rail bridge.

More straight forward access to the site is from the A643 to the east however this concentrates traffic onto a single road into Brighouse and onto numerous junctions which are already operating with limited capacity.

A number of footpaths also traverse the site, of particular note is that the Bronte Way crosses the site following the alignment of Clough Lane through the site. This route is also part of the Spen Way Heritage Trail.

Features

On the western edge of the site there is a disused railway embankment which separates the development site from the town centre. The railway bridge over Clifton Common has been demolished but has left interesting structures to either side of the road. The bridge over Thornhills Beck Lane remains and creates a moment of interest at the bottom of the Thornhills Beck valley. Access along Thornhills Beck Lane requires Clifton Beck to be forded which creates another moment of interest.

To the west of the site runs Clifton Beck which is a pleasant water course. Next to this is Wellholme Park, a significant and well managed green space.

A pylon route crosses the site, running close to the northern boundary, a stand-off distance to these pylons is required (15m each side of centre line).

There are no listed buildings or structures within the site but there are a number in the surrounding area. The setting of these buildings should be preserved in any future masterplanning work.

Neighbouring Uses

To the south of the site are a number of existing residential properties which generally do not face onto the site. South of this residential area is the Clifton Business Park Enterprise Zone which it is proposed will be developed for employment uses.

To the east is a golf course and to the north is agricultural land which it is proposed will remain as Green Belt should the allocation of this site be successful.

To the west of the site is Clifton Beck and beyond that (in the north-west) are industrial and business units. In this area there is also a further proposed employment site which straddles the boundary of the Strategic Urban Extension proposal.

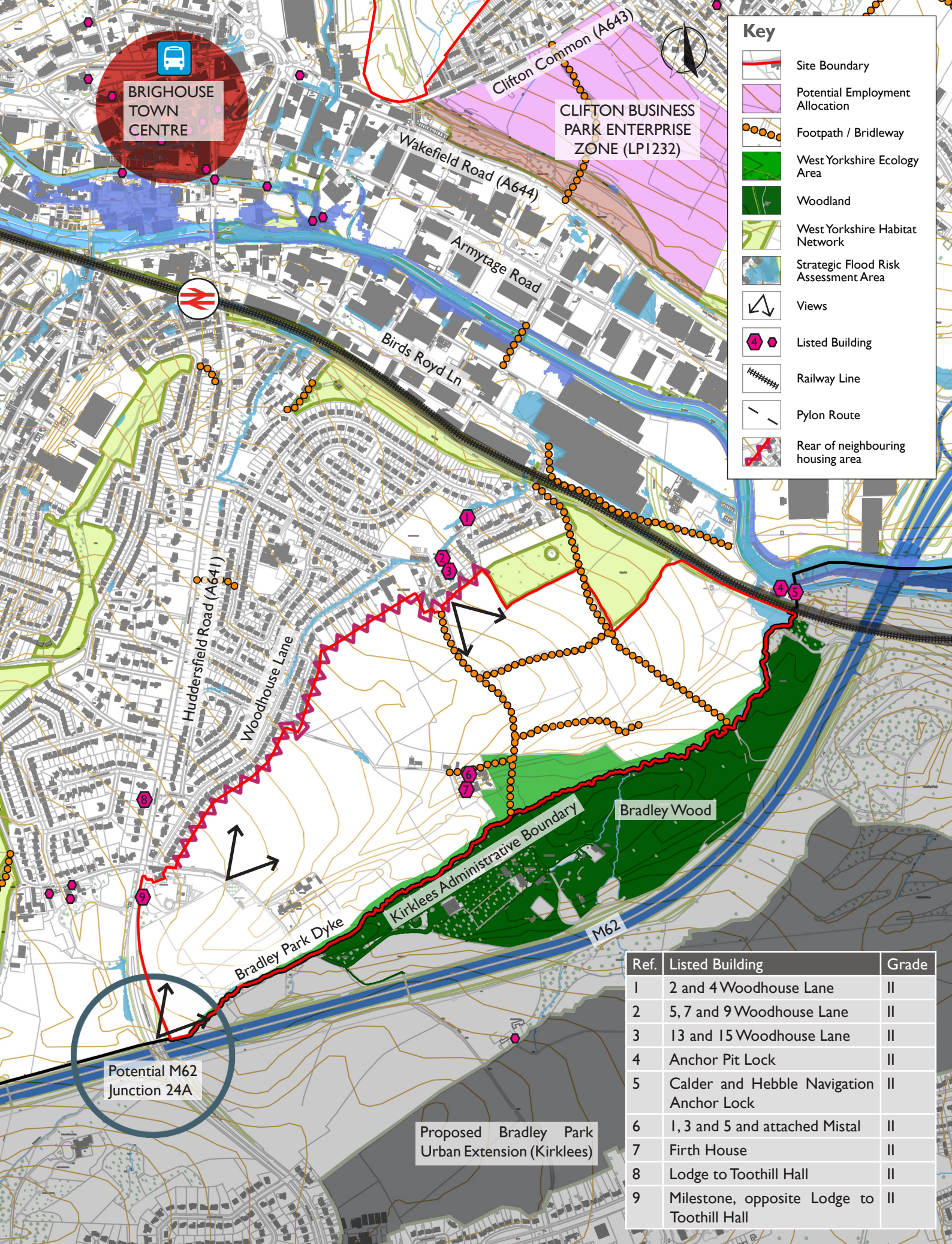
To the south-west is the town centre and a number of public uses including Wellholme Park and a leisure centre as well supermarkets and other shopping facilities. These are all within walking distance of the majority of the site although access is currently restricted because of the disused railway embankment.

Ecology

West Yorkshire Ecology have identified a number of locations which are considered valuable for ecology, mainly in the western edge of the site. In addition a Habitat Network has been identified for the region, which includes areas within the site. It is also considered that areas of woodland should be retained where possible.

Flooding / Run-off

Whilst the site is generally not subject to extensive flooding, the Strategic Flood Risk Assessment does identify areas of localised flooding within the site. Consideration must be given to mitigating surface run-off to prevent flooding within Brighouse and Kirklees.



LPI451 - Woodhouse Site Opportunities and Constraints Plan
Scale 1:10,000

Woodhouse Site (LP1451)

Constraints and Opportunities

Topography and Views

The topography of the Woodhouse site broadly slopes down from west to east. The steepness of the topography is not considered exceptionally problematic for development.

The slopes provide views across the Calder Valley over the Armytage Road Industrial Estate towards the Clifton Business Park Enterprise Zone site and Clifton neighbourhood.

At the southern end of the site there are views into the Kirklees Administrative Boundary and the M62 motorway. Bradley Wood generally prevents views south from the centre and north-eastern end of the site.

The A641 rises up to cross over the M62 motorway and the embankments and this bridge provide opportunities for views to the north-east across the site.

Access and Highways

Currently vehicular access is through the existing Woodhouse neighbourhood. This presents challenges to the development of the site and is likely to restrict the number of units which can be delivered on the site. Therefore, a new access road will have to be provided, possibly onto Huddersfield Road (A641). This new access road should not conflict with proposals for the new M62 motorway junction 24A.

There are a number of footpaths and public rights of way which cross through the site.

Features

There are three Listed Buildings and Structures within the site boundary, a milestone and some houses which are listed. The setting of these listed structures should be protected. There is also a house with a significant garden on the western edge although this is not protected by heritage status.

Neighbouring Uses

On the north-eastern edge of the site is a railway and beyond this the River Calder and the Armytage Road Industrial Estate.

There is a need to retain a functional Green Belt between the development of this site and the proposed

Bradley Park Urban Extension within the Kirklees administrative boundary. The M62 passing between these proposed development sites will maintain the separation between the settlements of Brighouse and Bradley.

To the north, the site is bounded by the residential area of Woodhouse. The houses which neighbour the site back onto it.

To the east of the A641 is an area which will be retained as Green Belt if this site is allocated.

Immediately to the north of the site is a cricket pitch and field which have not been included within the proposed allocation. It may be appropriate to enlarge the allocation to include this site. Any sports pitches must be retained or relocated to modern standards within the masterplan.

Ecology

West Yorkshire Ecology have recognised an area which should be protected from development. This runs alongside Bradley Park Dyke Wood along the south-eastern edge of the site. Along the north-eastern edge of the site is also part of the proposed Habitat Network.

Flooding / Run-off

Bradley Park Dyke is the source of some localised flooding within the site, particularly along the eastern edge of the site. As with the Thornhills Lane site it will be important to prevent surface water run-off from causing flood issues lower down the River Calder catchment.



Current Traffic on Bradford Road (A641)

The Existing Highway Network

The Thornhills Lane site lies between the A641 and the A643 which lead out of the town centre to the north and north-east.

A643 Walton Lane forms the eastern boundary of the site. It runs from the edge of Brighouse town centre, up the side of the valley to its junction with A649 Halifax Road. The layout of this junction does not comply with modern day standards but operates satisfactorily at present.

Along its length, A643 is a wide 'A' class road. Its northern section has a footway to the east side or the west side but not both. Further south, as it runs towards the town centre, it is known as Highmoor Lane and Clifton Common and has footways to both sides and is subject to a 30 mph speed limit as it enters the town. At its southern end it forms roundabout junctions with A644 and A641 in Brighouse town centre.

Jay House Lane forms part of the north boundary of the site and at its north-east end it forms a junction with A643. This junction has good visibility in both directions and it is operating satisfactorily at present. Jay House Lane runs across the site in a south-east direction where it is known as Thornhills Beck Lane to cross Clifton Beck and emerge on to A641.

A641 runs in a north-south direction to the west of the site and to the west of Clifton Beck. It forms a major part of the road network in Brighouse and beyond, linking the town with Bradford to the north and Huddersfield to the south.

In the vicinity of the Woodhouse site, A641 Huddersfield Road links Brighouse to Huddersfield, and bridges over the M62 motorway. The highway widens into a dual carriageway as it approaches the M62 from the north and runs along the eastern boundary of the Bradley Wood site.

There is access from the northern boundary of the Woodhouse site through Woodhouse along roads such as Woodhouse Lane, Daisy Road and Armitage Avenue which join A641.

At the eastern end of the site, Woodhouse Lane meets Birds Royd Lane at a mini roundabout. Birds Royd Lane then crosses the railway line, turns sharply

and runs down to join A641 to the south of the River Calder. A641 then crosses the river in a northerly direction and enters the town centre.

The Operation of the Highway Network

In the centre of Brighouse, the junctions that make up the through-route on the east side of the town are close to capacity. These include the junctions where the A641, A644 and A643 meet, with the inbound A644, inbound A643 and the junction of the A641 having the worst delays.

The capacity of the A644 to the south east of the town centre is restricted as a result of right turning traffic causing delays to other vehicles.

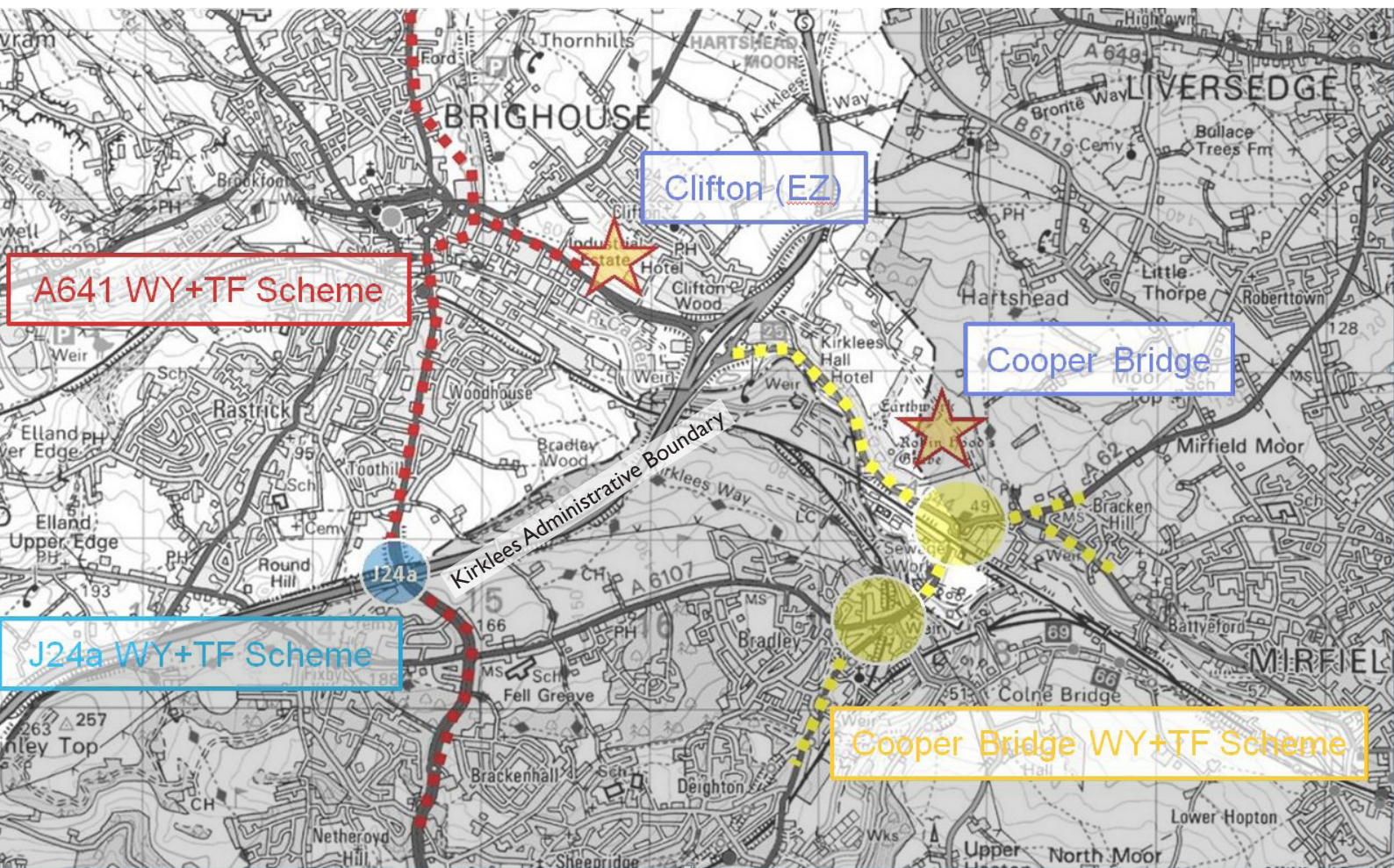
On the west side of the town, the A644 / A6025 / A643 roundabout shows congestion on all arms and is operating beyond its capacity on the northern arm. Also the junction of the A6025 and Brookfoot Lane have capacity issues.

The Strategic Highway Network

The M62 motorway passes near to both Strategic Urban Extension sites and Junction 25 is the nearest access to both sites from M62. The M62 extends from Liverpool in the west to Hull in the east and connects the nearby employment centres of Bradford, Leeds and Manchester with Brighouse.

M62 Junction 25 has some issues with delays on the circulating carriageway of the roundabout and congestion at the junction onto the roundabout from the A644 from Cooper Bridge.

The westbound and eastbound exits from the M62 also experience congestion. In the AM peak the westbound off slip is affected by queuing back onto the roundabout from the A644. In comparison the eastbound exit of the M62 is less affected.



Potential Highway Infrastructure Improvement Scheme Plan

Potential Highway Infrastructure Improvements

The masterplans for the two sites set out in this document demonstrate how over 3,000 houses can be delivered in Brighouse over the next Local Plan period. The link between land use planning and the delivery of infrastructure is well understood and clearly development of this scale will require intervention of a significant scale. Whilst the process of defining the details of such improvements is at an early stage, it is clear that they will need to address travel issues for pedestrians, cyclists, public transport users as well as car drivers. It is anticipated that funding for such infrastructure will come from both the private and public sector and will benefit both new and existing residents and businesses in the town.

The West Yorkshire Plus Transport Fund programme includes three potential transport investment projects that would, if delivered, support the delivery of the two residential sites.

The first potential project is for the A641 Bradford-Brighouse-Huddersfield corridor.

In June 2016, Calderdale Council successfully secured mandate approval to initiate a 'pre-feasibility' scoping and prioritisation exercise to identify the range, type and location of interventions required along the corridor in order to achieve the target outputs originally forecast when the scheme was prioritised for WY+TF delivery. This work will take account of the latest Local Plan growth assumptions in the Brighouse area, including the planned Sustainable Urban Extensions (SUEs) and the Clifton Business Park Enterprise Zone.

On conclusion of the pre-feasibility work, a further mandate will be submitted in Q4 2016/17 identifying additional funds required to undertake the feasibility work needed in order to advance the scheme to Gateway 1 (development approval) status.

The objectives of the scheme include for the improvement of traffic flows between Bradford and Huddersfield; the reduction of congestion on A641; facilitating economic development in Brighouse Town Centre; unlocking land for development in Brighouse and Cooper Bridge (within Kirklees); increasing the availability and use of sustainable transport modes in Brighouse; and the safeguarding and enhancement of the natural and built environment in Brighouse.

The second scheme is the A644 improvement scheme which is led by Kirklees Council. The scheme involves delivery of a new link road from Bradley Road to the A644. This will serve as the main access into the significant housing allocation proposed at Bradley Golf Course within Kirklees, before crossing the railway and the River Calder to join the A644 midway between M62 J25 and the A62/A644 junction at Cooper Bridge, also within Kirklees. This will remove a large proportion of existing traffic from the heavily congested Cooper Bridge junction, thereby reducing the scale of intervention needed there and enabling an access road into the Cooper Bridge site to be established.

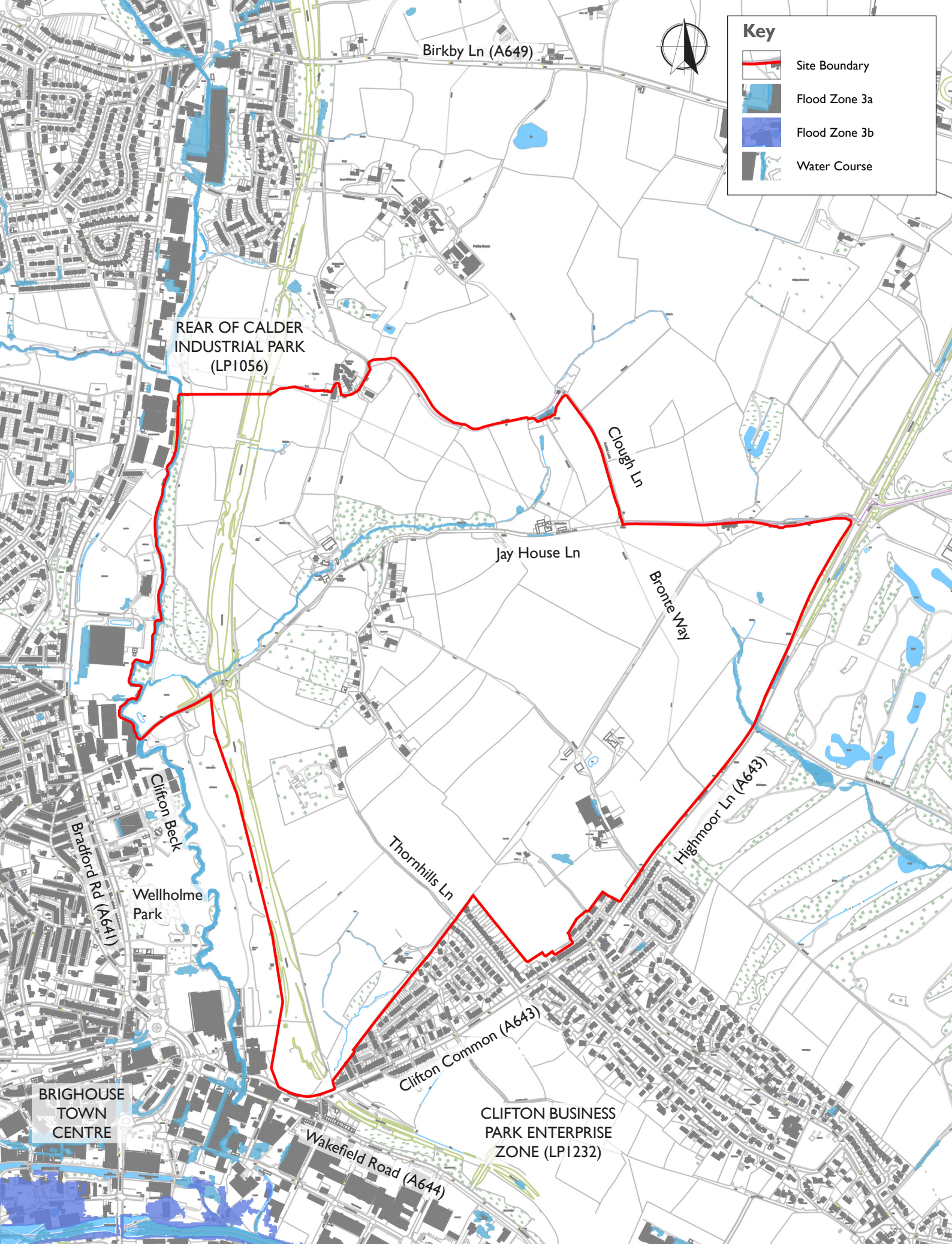
Work to date has identified a preferred route for the Bradley Link Road based on engineering constraints. Further work is ongoing to verify this option from the perspective of other disciplines. Parallel work to masterplan the Cooper Bridge employment site will reflect the proposals for the A62/A644 junction and Bradley Link Road, once established.

Both the A641 scheme in Calderdale and the A644 scheme in Kirklees form part of a wider WY+TF scheme for the A62 corridor. Following the conclusion of scenario testing work on Junction 24a, it is planned to develop a Gateway 1 submission for the A62 scheme for submission by Q3 2017/18.

Thirdly, a potential M62 Junction 24a comprises a separate project within the WY+TF programme intended to improve accessibility and reduce journey times for traffic wishing to access Brighouse, Huddersfield and surrounding areas.

Located on the A641 corridor, a new motorway junction, if delivered, could potentially assist Calderdale and Kirklees in realising their respective growth ambitions by relieving pressure on existing junctions with the motorway network.

Since the merits of the scheme have not yet been examined in any detail, no commitment to the delivery of M62 Junction 24A has yet been established. Clearly, delivery of a new motorway junction would affect the distribution of traffic across the local road network, and would potentially influence the scope and location of measures that are required as part of the A641 scheme.



LPI 463 - Thornhills Lane Flood and Drainage Constraints Plan

Scale 1:10,000

Thornhills Lane (LPI463) Flooding and Drainage

The site is designated on Environment Agency flood map for planning as Flood Zone 1 i.e. it has a low (less than 0.1%) annual probability of flooding. This is deemed by the National Planning Policy Framework as suitable for all forms of development and does not therefore present a restrictive constraint. Surface water drainage is to the River Calder via other smaller watercourses and drains including Clifton Beck. This creates a flood risk to existing development within the proximity of the river. Therefore, management of surface water run-off from the development to ensure this flood risk is not worsened will be an important consideration.

The topography of the site is influential on potential development options and is broadly divided into two:-

The western half of the site which rises steeply from Oak Hill Bank to approximately Thornhills Lane. There is a rise of approximately 50m over 600m, i.e. 1 in 12 which presents a number of constraints:

- The 1:12 gradient is significantly greater than the 1:30 typically adopted as 'flat' - 'flat' being considered not to impinge significantly on development proposals.
- 1:12 over that length presents access difficulties if access is directly up the hill (typically 1:20 is the maximum gradient for roads etc). Therefore a potentially angled alignment will be required.
- 1:12 will result in steps between houses, either side to side or back to front with retaining walls, abnormal foundations increasing development cost and making it less attractive to housebuilders.
- This is also not suitable for above ground type SuDS presents a possible flood risk in 'exceedance' events. It will also present restrictions to below ground drainage – run-off will flow quickly down the slope concentrating at the bottom. There are achievable solutions to overcome these issues but they are more costly and complex than 'normal'.

These constraints need to be put into context: residential developers will tackle sites significantly in excess of 1 in 12 if the values are there. The constraints described above can be satisfactorily addressed and development is viable where land value or a more philanthropic approach to development warrants the additional cost. Typically therefore the delivery model would not be through volume house builders and development density would be reduced.

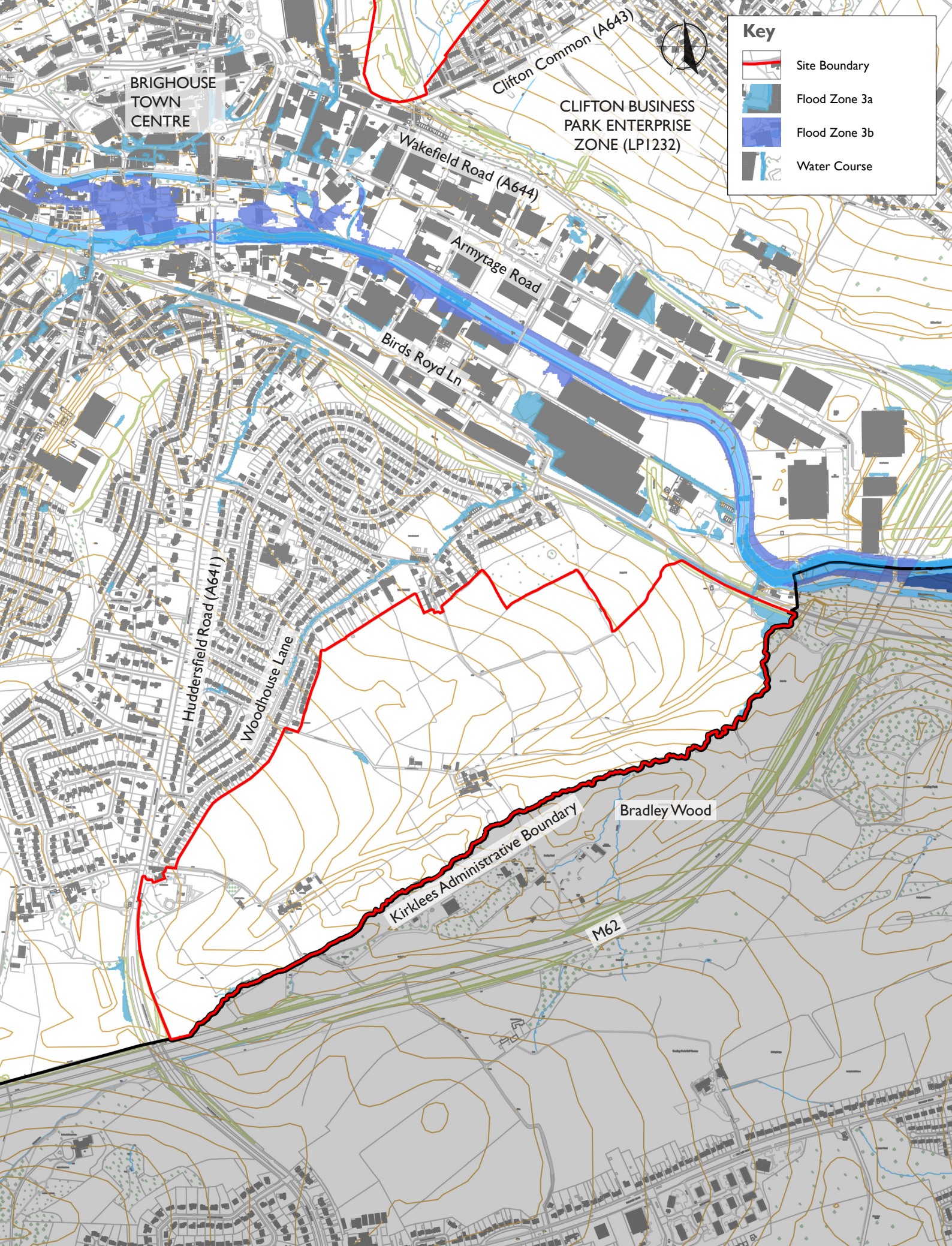
The steeper parts of the site would therefore likely be the last to be built-out with more green space and potentially less permeability, providing perhaps a buffer between new settlement and the existing town centre.

The eastern, top half of the site is broadly flat and therefore generally free of the constraints described in above. Development proposals would need to take cognisance of the relative elevation of this part of the site.

The form of surface water attenuation storage – attenuation at source preventing speedy run-off to lower lying drains and the River Calder – will help mitigate against any potential increase in flood risk due to increased discharges from the development. Surface water will run-off to the Clifton Beck, via the existing Thornhills Beck or through a throttled below-ground pipe. However, thoughtful design and careful detailing will need to be incorporated into the design to ensure there is no flood risk created by introducing above ground SuDS or other types of surface water attenuation storage elevated above lower development, overland flow routes, or high velocity surface water flows.

Clifton Beck cuts across Thornhills Beck Lane near to Thornhill Brigg Mills and Woodvale Office Park to the west of the site. The Beck is crossed by a ford. There is potential for flood waters to close this ford which would compromise this access. This needs careful consideration to ensure there is a suitably robust access strategy from this direction, although it is not certain that this route would necessarily need to be used for access.

Provision of SuDS would appear viable, subject to ground investigation including testing for infiltration potential. This would include a land-take of typically 5% to 10% of developed area but the constraints due to elevation and slope would be expected to push this figure towards the top of this range.



LPI451 - Woodhouse Site Flood and Drainage Constraints Plan

Scale 1:10,000

Woodhouse Site (LPI451) Flooding and Drainage

The site is generally designated on the Environment Agency flood map for planning as flood zone 1 and therefore has a low (less than 0.1%) annual probability of flooding. This is deemed within National Planning Policy Framework as suitable for all forms of development and does not therefore present a restrictive constraint.

The only areas with a raised level of flood risk are near to Bradley Park Dike (along the southern boundary) and at the eastern end where there is a high risk of surface water flooding. These are not particularly large proportions of the site and so any issues can be readily overcome with mindful planning.

Surface water drainage is to the River Calder, via other smaller watercourses and drains, which in this location creates a flood risk to existing development within the proximity of the river. Therefore management of surface water run-off from the development to ensure this flood risk is not worsened will be an important consideration. There is a lot of flood risk associated with the Calder immediately north-east of the site i.e. the industrial estate in and around Birds Royd Lane, River Street and Armytage Road. Therefore, surface water discharges will be strictly limited in an attempt to mitigate against this flooding. Subject to a detailed analysis and geotechnical investigation to establish any possible infiltration of surface water, a land take for SuDS type attenuation features might be in the order of 10% of the developed area.

The site generally falls at approximately 1 in 24 in a north east direction, that is, towards the River Calder. Although this is slightly greater than the 1 in 30 'flat' site, it is unlikely to present any particular concerns or restrictions on development and likely to have only minimal impact on viability. It is also relatively flat in comparison to other potential development sites within this area.

The south eastern 100m or so of the site, adjacent to the Bradley Park Dike, falls quite steeply towards the dike. This would impose development constraints but is a relatively small proportion of the site and might therefore remain as greenspace or a buffer to the adjacent dike and Bradley Wood.

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Key

- Clifton Enterprise Zone
- Sustainable Urban Extension
- Brighouse Town Centre

School

- Primary
- Secondary
- Other Educational Facility

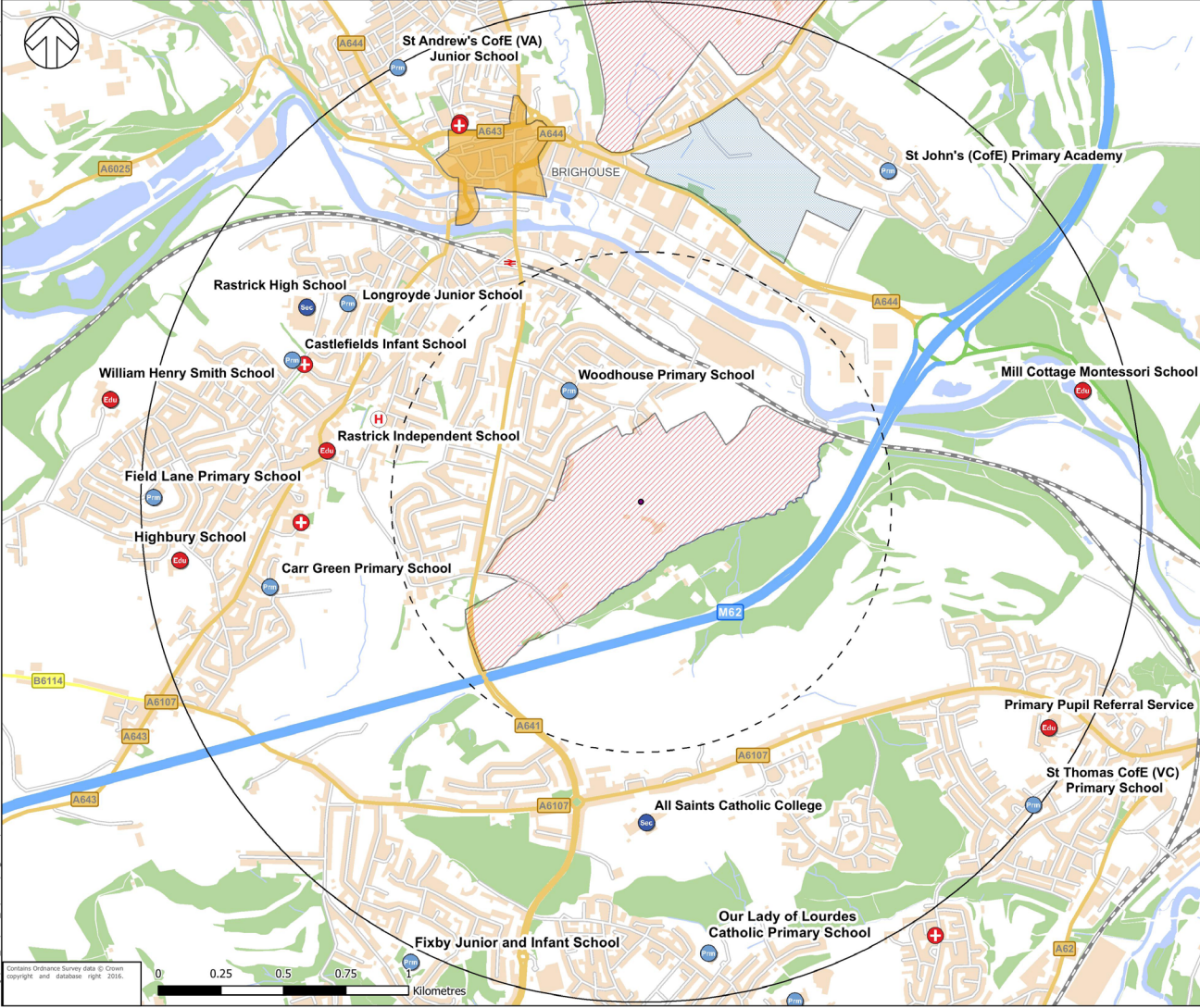
Healthcare Services

- Hospital
- GP Practice
- 1km Isochrone
- 2km Isochrone

TITLE:
LP1463 Local Facilities

FIGURE No:
Schools and Healthcare

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Key

- Clifton Enterprise Zone
- Sustainable Urban Extension
- Brighouse Town Centre

School

- Primary
- Secondary
- Other Educational Facility

Healthcare Services

- Hospital
- GP Practice
- 1km Isochrone
- 2km Isochrone

TITLE:
LP1451 - Local Facilities

FIGURE
Schools and Healthcare

Schools

There are a number of primary, secondary and independent schools within a reasonable walking distance of the two sites.

There are two secondary schools near to the Thornhills Lane site, namely Lightcliffe Academy and Brighouse High School. There are also seven primary schools within two kilometres.

Both Rastrick High School and All Saints Catholic College secondary schools are within two kilometres of the centre of the Woodhouse site. There are several primary schools within a reasonable walking distance of the site. It is important to note that some of these facilities are located in north Huddersfield in the Kirklees district, the access to which is severed by the M62 motorway.

Calderdale has an education college - the Calderdale College in Halifax. The vast majority of the borough's population lives within a 60 minute journey of the College. Brighouse is approximately 35 minutes from the College by public transport. Many students resident in Calderdale travel to Kirklees to access post-16 and further education, particularly from Brighouse and surrounding areas. Greenhead College and New College in Huddersfield are popular choices among sixth form students from Calderdale.

Sustainable Modes of Transport

All of Brighouse, including the Thornhills Lane and Woodhouse sites, is accessible from the town centre by a 15 minute cycle journey. A large proportion of the town, especially to the south, can be reached by cycle within 10 minutes although terrain for the return journeys is likely to increase the return journey time.

Both the Thornhills Lane and Woodhouse site are 20 minutes walk from Brighouse bus station, which is located in the north of the town centre just off the A644 Lüdenscheid Link. From the station and other nearby stops, there are bus connections to Bradford, Elland, Halifax, Dewsbury and Huddersfield.

There are two bus corridors running alongside the Thornhills Lane site. Buses run along A641 Bradford Road at a combined frequency of 6 per hour and along the southern section of A643 Clifton Common at a combined frequency of 1 per hour.

Currently the existing Woodhouse estate is served by a service at a frequency of 1 per hour during the daytime only. The A641 Huddersfield Road, which passes the site at its south east edge, is used by buses which connect Brighouse with Huddersfield to the south and Bradford to the north.

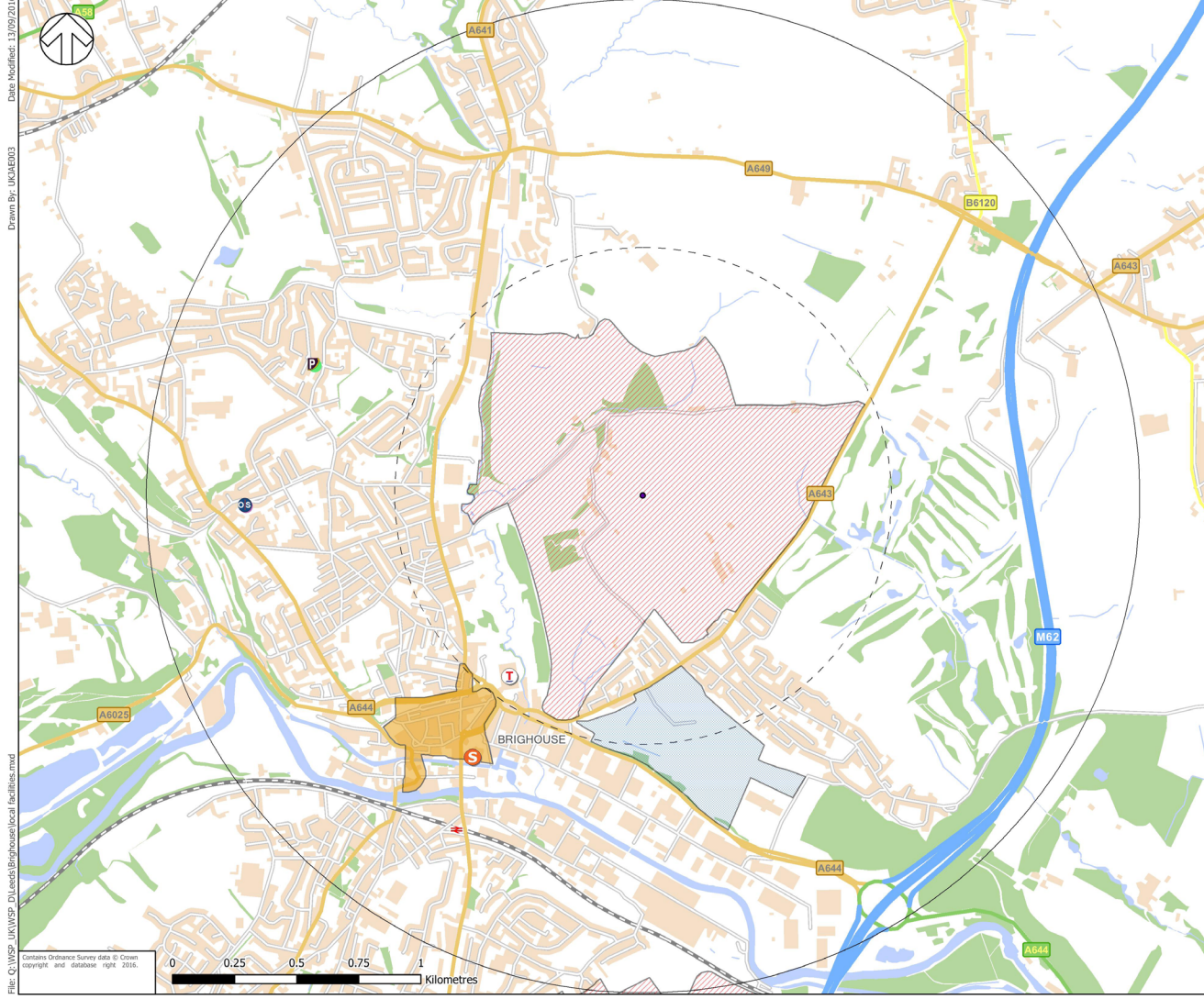
The rail station in Brighouse is located south of the River Calder along the A641 Huddersfield Road. It is approximately 15 minutes walk from the Woodhouse site and 25 minutes walk from the Thornhills Lane site, although this could be reduced with improved pedestrian links through Wellholme Park. The station is used by one train per hour on the Leeds to Manchester Victoria Line and one train per hour on the Leeds to Huddersfield line.

Healthcare

There are two GP practices in the centre of Brighouse and a walk in health centre.

Rastrick also contains two GP surgeries, along with a mental health hospital.

The nearest large hospital with an accident and emergency is 5 miles away in the south of Halifax.



Key

- Sustainable Urban Extension
- Clifton Enterprise Zone
- Brighouse Town Centre

Foodstores

- CO-OPERATIVE FOOD
- ONE STOP CONVENIENCE
- PREMIER
- SAINSBURY'S
- TESCO

1km Isochrone
2km Isochrone

WSP | **PARSONS BRINCKERHOFF**

TITLE:

LP1463 Local Facilities

FIGURE No:

Foodstores and Town Centre



Key

- Sustainable Urban Extension
- Clifton Enterprise Zone
- Brighouse Town Centre

Foodstores

- ASDA
- CO-OPERATIVE FOOD
- LONDIS
- NISA
- SAINSBURY'S
- TESCO
- TESCO-EXPRESS

1km Isochrone
2km Isochrone

WSP | **PARSONS BRINCKERHOFF**

TITLE:

LP1451 Local Facilities

FIGURE No:

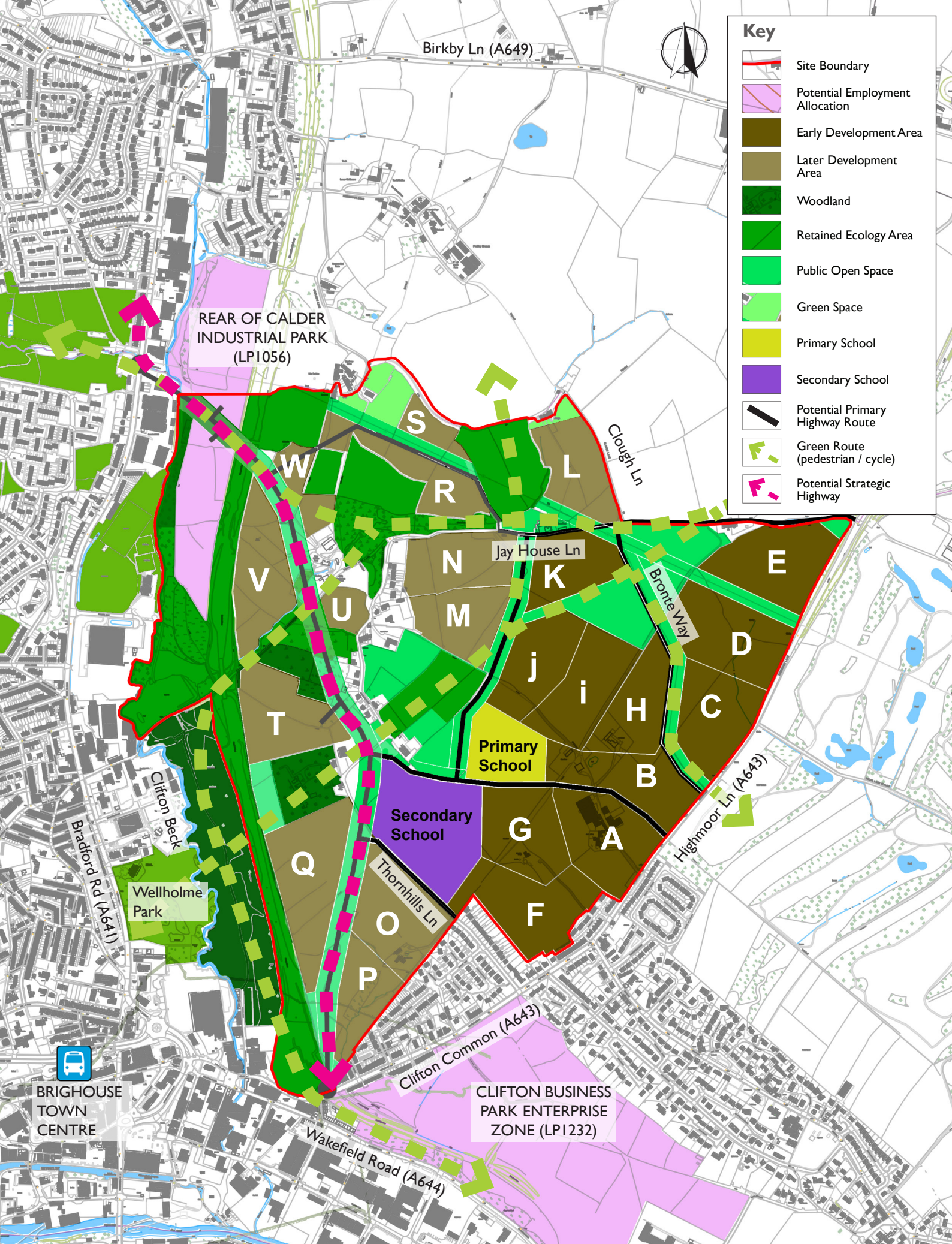
Foodstores and Town Centre

Retail Facilities

The majority of the non-food retail units in Brighouse are found in the town centre, along with a wide variety of cafes, banks, a post office and numerous other facilities. The town centre is located 1km from the centre of the Thornhills Lane site. The centre of the Woodhouse site is slightly further from the town centre, approximately 1.5km as the crow flies. The large foodstores in the town, a Tesco and a Sainsbury's, are located to the east of the town centre.

Other shops near to the Thornhills site are located to the west of the A641. There is a One-Stop Convenience store on Granny Hall Lane and a Premier Stores with nearby post office on Smith House Lane.

The Woodhouse area has a Londis located very close to the edge of the site on the corner of Woodhouse Lane and Armitage Avenue. There is also a Co-op Food store in nearby Rastrick as well as an ASDA and a Nisa in north Huddersfield that are within 2km of the centre of the site.



LPI463 - Thornhills Lane Site - Indicative Development Area Masterplan

Scale 1:10,000

Proposed Thornhills Lane Strategic Urban Extension

A development of the size proposed for the Thornhills Lane site will require a number of access points for vehicular traffic. The Jay House Lane junction will provide a good means of access to the scheme on to A643 to serve destinations to the north and south and initially will not need to be improved. As the scheme is built out and occupied, it may be necessary to upgrade the junction, possibly with the introduction of traffic signals.

The A643 / A649 Halifax Road junction to the north may also require some works to improve its layout as the housing development is built out.

There are several options regarding access from A641 to the west of the site. Access routes could follow the route of Jay House Lane / Thornhills Beck Lane. However, the masterplan shown opposite proposes a new access to the north of Thornhills Beck Lane. This would provide access through the Calder Industrial Park (LP1056) employment site to the housing site and in doing so would reduce the traffic impact on the lower end of A641 as it runs towards the town centre.

The strategic highway alignment through the site is likely to increase the attractiveness of the site to housing developers and therefore increase the delivery rate but would be subject to WY+TF A641 feasibility work to demonstrate the benefit.

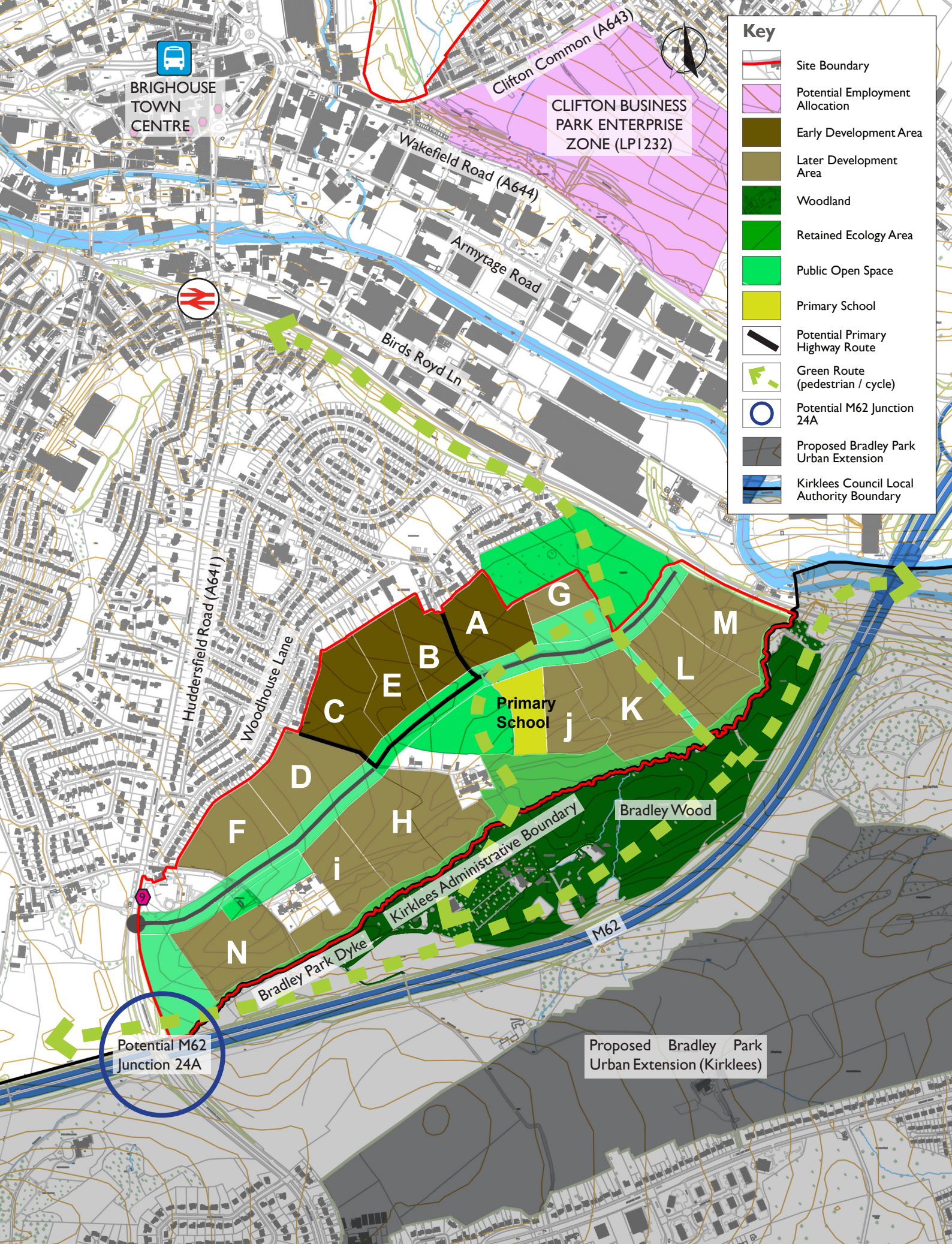
It has been assumed that there will not be capacity within the existing schools in the area to accommodate the pupils associated with the new housing. The number of houses indicated in the schedule will create 504 primary and 357 secondary places. This will require a new primary school within the site (2.25ha site for 2.5 form entry school) and a new secondary school (5ha site), which will also create the necessary places to accommodate pupils generated from the Woodhouse site.

The necessary public open space required within the 'Open Space, Sport and Recreation SPD' has been provided within the site with the exception of cemeteries and civic spaces which it is assumed will be provided off-site through the Community Infrastructure Levy. This provides Local Equipped Areas for Play (LEAP), Neighbourhood Equipped Areas for Play (NEAP) as well as Parks and Gardens, Natural/ Semi-Natural Greenspace and Amenity Greenspace as well as 8ha of Outdoor Sports. In addition to the

public open space, the areas identified for ecology remain undeveloped. It has been assumed that some of these areas will be accessible as natural/semi-natural greenspaces. These proposed greenspaces create connected Green Routes to encourage the use of sustainable forms of transport into Brighouse. These Green Routes traverse the site and link into surrounding open space as well as the retained Green Belt.

It has been assumed that the site will deliver at an average housing density of 34 dwellings per hectare. Each of the areas indicated on the plan opposite assumes that 10% of the gross area will be required to provide SUDs.

Indicative Thornhills Ln. Housing Development Schedule				
Total Site Area			140 ha	
Open Space (Inc vehicle routes)			27 ha	
Retained Ecology Area			28 ha	
Area	Gross Area (ha)	Assumed 10% SUDS Allowance (ha)	NET Developable Area (ha)	Approx. number of housing units
A	3.59	0.35	3.23	110
B	3.36	0.33	3.02	103
C	3.31	0.33	2.98	101
D	3.94	0.39	3.55	121
E	3.69	0.36	3.32	113
F	3.90	0.39	3.51	120
G	3.32	0.33	2.99	102
H	2.83	0.28	2.54	87
I	3.43	0.34	3.08	105
J	2.97	0.29	2.67	91
K	2.61	0.26	2.35	80
L	2.84	0.28	2.55	87
M	2.67	0.26	2.41	82
N	2.96	0.29	2.67	91
O	3.69	0.36	3.32	113
P	2.32	0.23	2.08	71
Q	4.41	0.44	3.97	135
R	2.72	0.27	2.44	83
S	0.90	0.09	0.81	28
T	3.42	0.34	3.08	105
U	0.88	0.08	0.79	27
V	3.41	0.34	3.07	104
W	1.31	0.13	1.18	40
	68.57	6.86	61.71	1,926



LPI451 - Woodhouse Site - Indicative Development Area Masterplan
 Scale 1:10,000

Proposed Woodhouse Strategic Urban Extension

Whilst it is likely that access to the Woodhouse site could be gained using existing roads, turning-heads and tracks there will be a limit to the number of housing units which can be served this way due to the constraints of the existing residential streets and on-street parking. There are several locations where access can be achieved from the north-west side of the site via accesses which emerge on to Woodhouse Lane. These include Shepherds Thorn Lane, Firth House Lane and Ryecroft Lane. There may be a need to acquire Third Party land to provide access at these locations.

It is therefore proposed that the main access to the Woodhouse site will be located on the A641 i.e. the western frontage of the site. This junction is likely to take the form of a traffic signalled junction. It is acknowledged that there is a possibility of J24A being implemented although the design work on the scheme is still at the feasibility stage. Due to the strategic importance of the J24A scheme, it is proposed that the access to the Woodhouse site from the A641 will not be implemented until there is greater certainty about the future of J24A. Hence, there is flexibility in the proposals to ensure that the development access can take account of the proposed J24A layout or to provide an alternative, less constrained junction in the event that J24A does not proceed. The routes through from Woodhouse Lane would connect to the A641 through the site. Improvements along the A641 to accommodate the proposed development traffic are likely to be required.

An access from the A641 is likely to improve how attractive the site is to potential developers as it will provide them with a visible frontage from which to advertise their development. This improved attractiveness is likely to increase the rate of delivery of homes within the site as a greater number of developers may be enticed to the site.

The development will also respect the existing rights of way across the site and into Bradley Woods to south of the development and accommodate these within the routes through the site for pedestrians and cyclists to provide sustainable means of travel.

The proposed open space within the masterplan meets the requirements of the 'Open Space, Sport and Recreation SPD' within the site however it may be possible to reduce the on-site provision because of the proximity of neighbouring playing fields. At

the heart of the site it is proposed to provide half of the 4.7ha Outdoor Sports requirement. This will complement the existing listed buildings which lie in the centre of the site. The masterplan has also sought to protect the ecology area alongside Bradley Park Dyke.

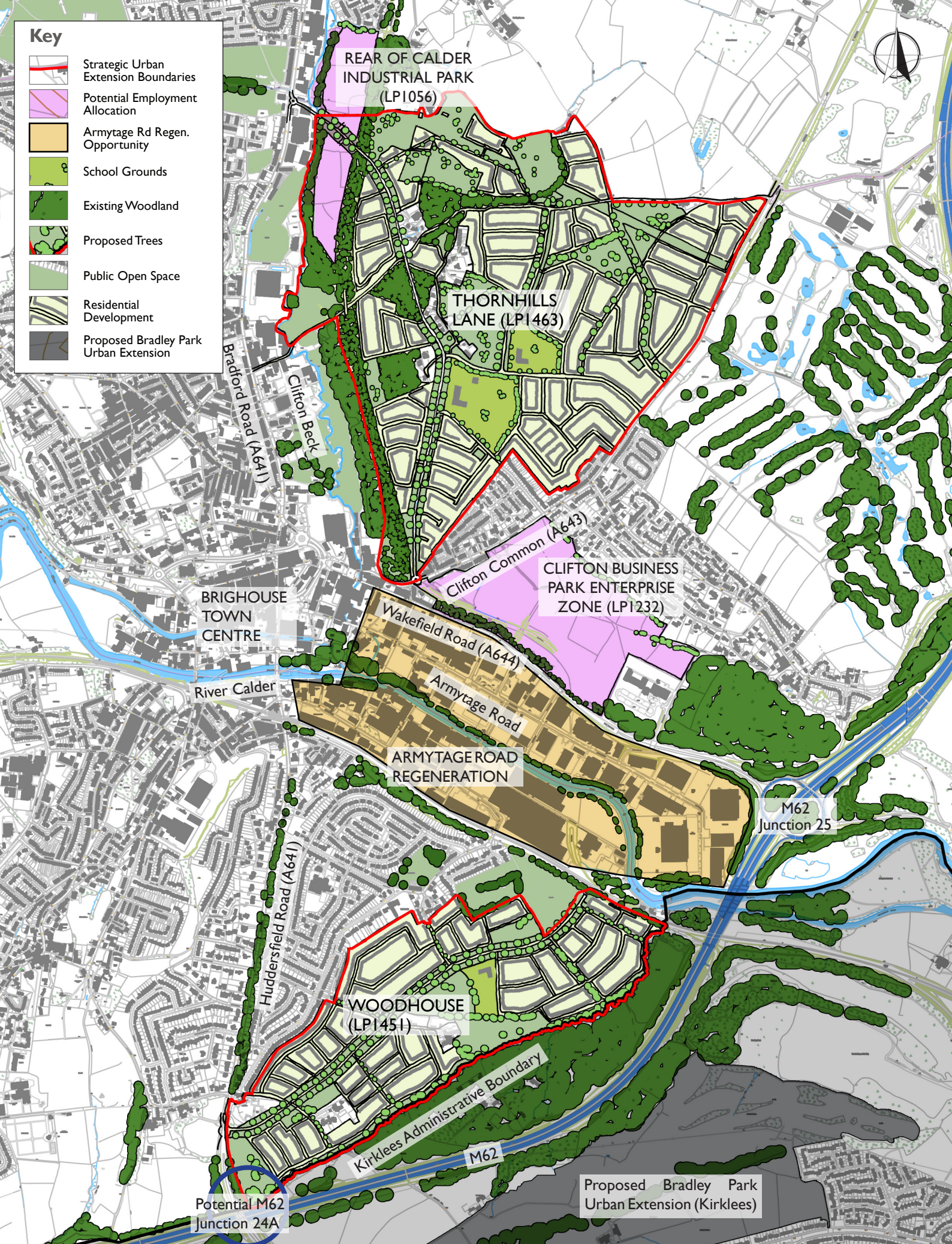
As with the Thornhills Lane site, it has been assumed that there will not be capacity within the existing schools in the area to accommodate the pupils associated with the new housing. The number of houses indicated in the schedule will create 294 primary and 208 secondary places. This will require a new primary school within the site (1.5ha site for 1.5 form entry school) It is proposed that secondary education is accommodated on the Thornhills Lane site.

It has been assumed that the site will deliver at an average housing density of 34 dwellings per hectare and allows for 10% of the gross area to provide SUDs.

Indicative Woodhouse Housing Development Schedule				
Total Site Area			63 ha	
Open Space (Inc Vehicular Routes)			15 ha	
Retained Ecology Area			5 ha	
Area	Gross Area (ha)	Assumed 10% SUDS Allowance (ha)	NET Developable Area (ha)	Approx. number of housing units
A	2.60	0.26	2.34	80
B	1.96	0.19	1.76	60
C	2.95	0.29	2.66	91
D	2.97	0.29	2.67	91
E	2.36	0.23	2.13	72
F	2.70	0.27	2.43	83
G	0.91	0.09	0.82	28
H	5.35	0.53	4.82	164
I	2.76	0.27	2.48	85
J	1.92	0.19	1.73	59
K	3.70	0.37	3.33	113
L	3.45	0.34	3.10	106
M	2.93	0.29	2.63	90
N	3.33	0.33	3.00	102
	39.96	3.99	35.96	1,223

Key

-  Strategic Urban Extension Boundaries
-  Potential Employment Allocation
-  Armytage Rd Regen. Opportunity
-  School Grounds
-  Existing Woodland
-  Proposed Trees
-  Public Open Space
-  Residential Development
-  Proposed Bradley Park Urban Extension



Illustrative Vision for South East Calderdale

Scale 1:15,000

A Vision for South East Calderdale

The Development Area Masterplans and associated schedules confirm the suitability of the Thornhills Lane and Woodhouse Strategic Urban Extensions (SUEs) to deliver significant levels of housing growth. It has been demonstrated how both sites could be developed as free-standing developments.

