



Brymbo Heritage Trust

TRANSPORT STATEMENT

Stori Brymbo



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TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 70063070

OUR REF. NO. 70063070

DATE: AUGUST 2019

Brymbo Heritage Trust

TRANSPORT STATEMENT

Stori Brymbo

WSP

No. 8 First Street

Manchester

M15 4RP

WSP.com



QUALITY CONTROL

Issue/revision	Third issue
Remarks	-
Date	04/11/2019
Prepared by	MJ
Signature	
Checked by	IH
Signature	
Authorised by	IH
Signature	
Project number	70063070
Report number	001
File reference	001

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INTRODUCTION

1.1 PURPOSE OF REPORT

WSP have been commissioned to produce a Transport Statement to support a planning application for the *Stori Brymbo* project to be located on the site of the former Steelworks, Brymbo.

1.2 REPORT STRUCTURE

The remainder of the report is structured as follows:

Section 2 describes site location in the context of the local highway network, outlining the site's accessibility and public transport provision in the area.

Section 3 describes the development proposals, provision for all modes of transport and parking arrangements.

Section 4 sets out the local and national policy relevant to the development.

Section 5 identifies the projected highway impacts of the proposals, providing evidence of calculated trip rates and summarises the document's findings relating to the likely impact of the development proposals.

Section 6 describes the parking demand for the sites based on trip generation within Section 5.

Section 7 analyses accident data for the surrounding area.

1.3 OVERVIEW OF DEVELOPMENT

The Brymbo Heritage Centre aims to tell an interwoven story of nature, industry and people; from fossils to coal, from iron to steel, and from closure to regeneration.

The Brymbo Heritage Area contains a 314 million year old fossil forest as well as the remains of Brymbo's 1790s Ironworks and later Brymbo Steelworks. Stori Brymbo aims to conserve and reuse Brymbo's historic buildings to develop a visitor attraction, heritage skills learning centre, small business space and events venue.

1.4 SCOPING

WSP contacted the Local Highway Officer, Peter Douthwaite, prior to the submission of the suite of planning applications for Stori Brymbo to introduce the scheme. During discussion, Peter provided advice regarding the transport components of the planning applications, which WSP has followed in this Transport Statement.

2 EXISTING CONDITIONS

2.1 SITE LOCATION AND LOCAL HIGHWAY NETWORK

Figure 2-1 shows the location of the site with respect to the local highway network. The site is located to the south of Brymbo in an area of land formerly operating as Brymbo 1790's Ironworks and later Brymbo Steelworks. The site is currently largely inactive.

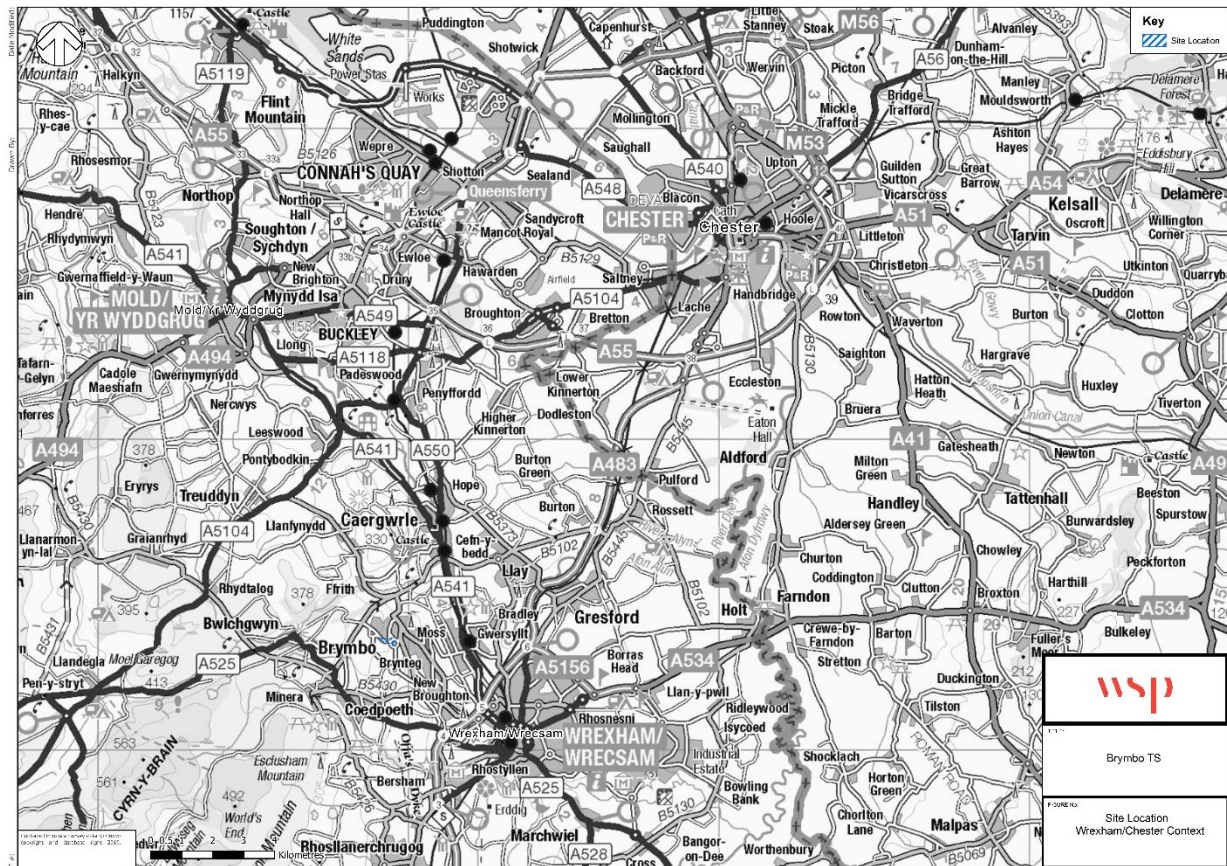
The site is bound by Phoenix Drive and New High Street to the east, the Blast Road to the north and a footway to the south. Phoenix Drive and Blast Road are single carriageway roads subject to a speed limit of 30mph. Phoenix Drive is a newly constructed road built to serve the adjacent mixed-use development proposed by the current site owners, Brymbo Developments Ltd. as part of the Brymbo Park Masterplan.

Figure 2-1 - Site location within the local context



Figure 2-2 shows the location of the site within the wider context.

Figure 2-2 - Site location within the wider context



2.2 PEDESTRIAN ACCESS

The Chartered Institute of Highways and Transportation (CIHT) 'Guidelines for providing journeys on foot' (2000) suggests acceptable walking distance for a variety of locations. It states a desirable walking distance of 500m, acceptable walking distance of 1,000m and preferred maximum of 2,000m to a sight-seeing location. These acceptable walking distances are the greatest for this purpose.

The following table summarises suggested acceptable walking distances for various purposes:

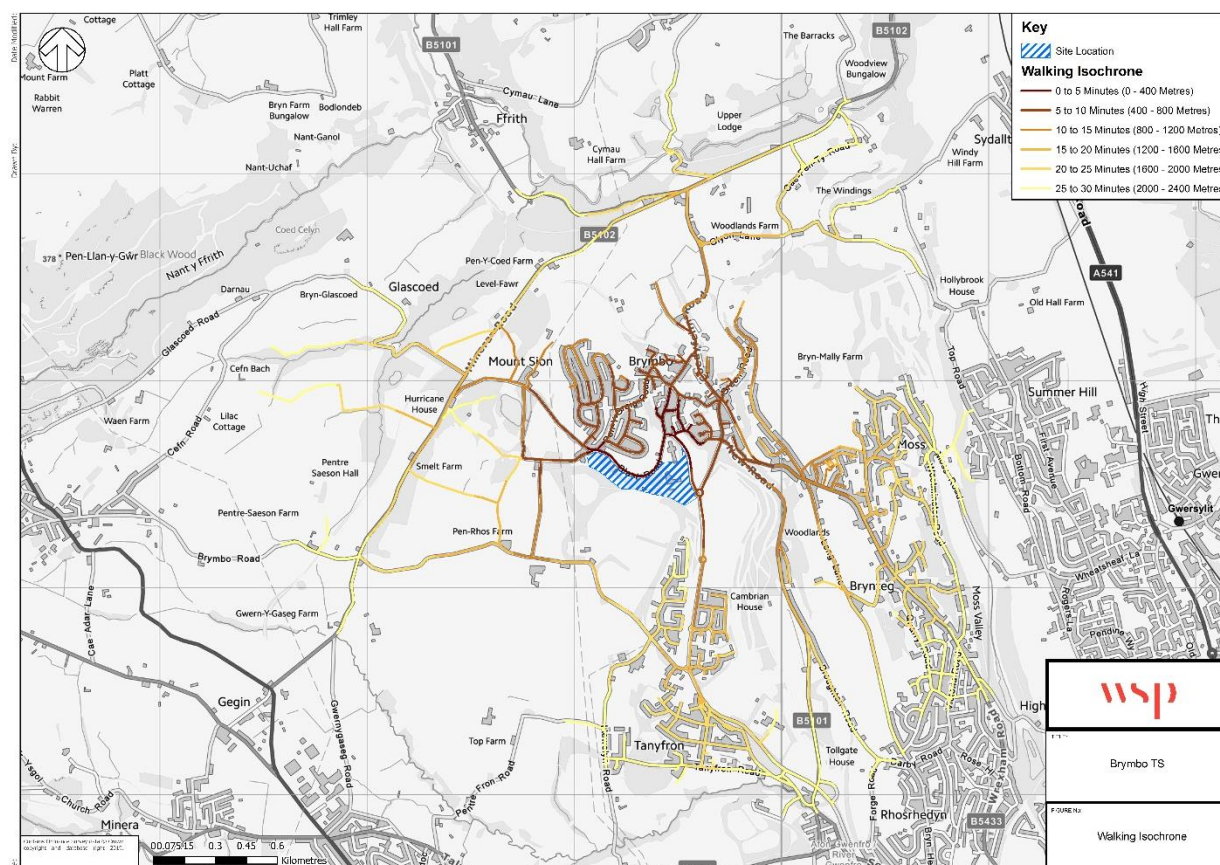
Table 2-1 – Suggested acceptable walking distances

Walking Distance	Town Centres (m)	Commuting/ School/ Sight Seeing (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred maximum	800	2000	1200

Figure 2-3 below shows the pedestrian isochrone for the site. As the figure shows, the site is within walking distance of Brymbo residential areas to the north and south of the proposed heritage centre. The site is also within walking distance of a local enterprise centre; a multiuse building offering a variety of work spaces, facilities and events which currently attract visitors. Other amenities within the vicinity of the site consist of a mixture of residential properties, small businesses, food & drink establishments and a sports centre.

Pedestrian access to the site is appropriate with good quality footways along both sides of New High Street and informal crossing across the site access. The closest informal crossing points New High Street are approximately 100m south of the site at the 3-arm roundabout, or approximately 200m north at the junction with Mount Hill. There are currently no formal crossing points across New High Street however the existing traffic demand on this road is low enough that pedestrians are able to cross relatively safely unassisted.

Figure 2-3 - Walking isochrone



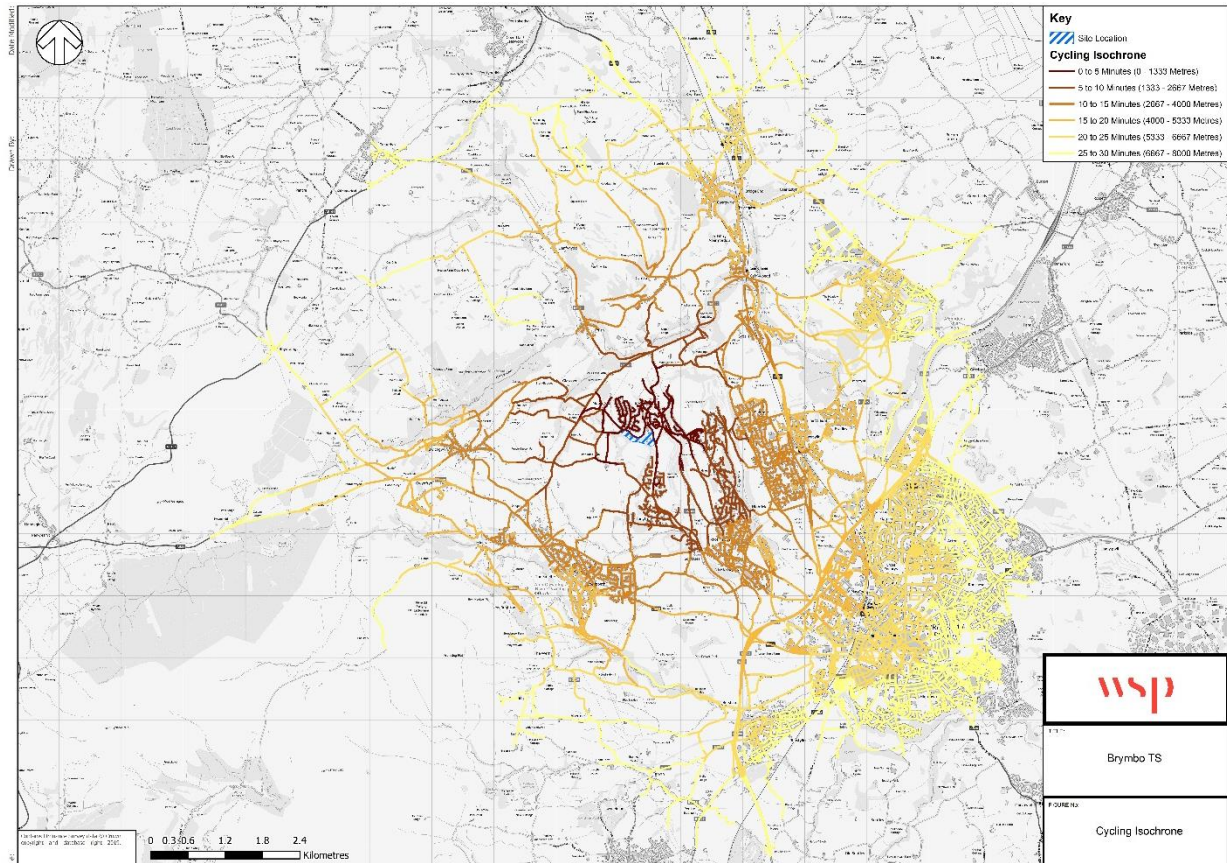
2.3 CYCLE ACCESS

A distance of 3 miles is referred to in the Department for Transport (DfT) 'Cycle Infrastructure Design' (2008) guidance as being appropriate for many utility cycle journeys. The distance of 3 miles referred to in the DfT guidance is broadly equal to 5km.

Figure 2-4 shows the cycling isochrone from the site. A 5km trip equates to approximately a 20-minute trip depending on cycle speed. As can be seen on the diagram below, a 20-minute journey can reach many residential locations and the nearby train station.

There is no on road or off road cycle infrastructure within the immediate vicinity of the site.

Figure 2-4 - Cycling Isochrone



2.4 PUBLIC TRANSPORT – BUS

Figure 2-5 shows the bus stop provision in the town of Brymbo. The existing bus stops on Phoenix Drive serve the current residential development however it is understood that further bus stop locations will be provided along New High Street upon the build out of the adjacent proposed residential led development, the proposed new school and associated commercial development.

The existing frequency of bus services throughout Brymbo is fair with hourly services in both the weekdays and on the weekends between Brymbo and Wrexham. The frequency of local bus services is set out in Table 2-2.

Figure 2-5 - Bus stop locations within proximity to the site

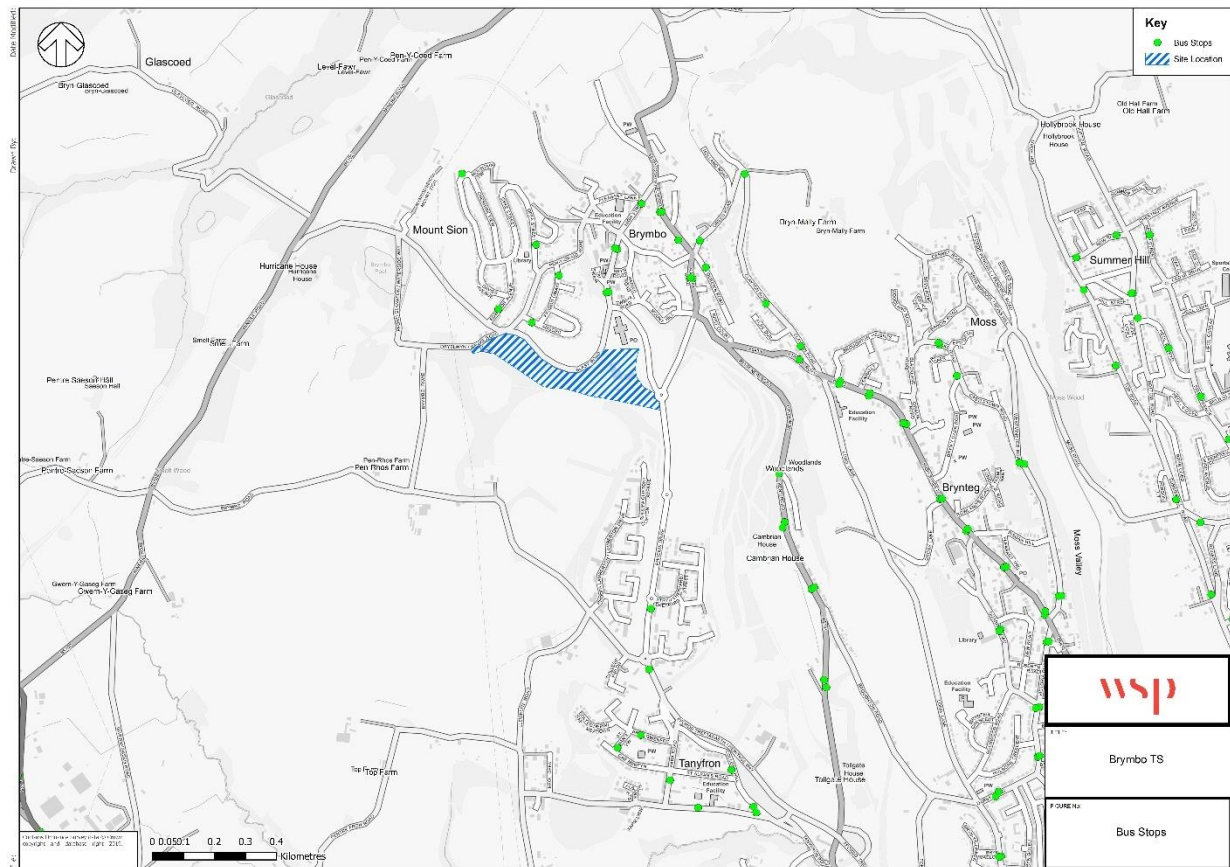


Table 2-2 – Frequency of local bus services

No.	Route	Operator	Buses per hour					Hours of operation			Journey times (Approx.)
			AM Peak	Inter Peak	PM Peak	Sat	Sun	Mon - Fri	Sat	Sun	
12	Library -Wrexham	Arriva Wales	2	2	2	2	1	05:40 - 23:20	05:40 - 23:20	10:14 - 18:14	24 mins
12	Wrexham - Library	Arriva Wales	2	2	2	2	1	05:55 - 22:55	05:55 - 22:55	09:50 - 17:50	24 mins
12A	Library -Wrexham	Arriva Wales	1	1	1	1	1	06:20 - 18:20	06:20 - 18:20	10:48 - 16:48	28 mins
12A	Wrexham - Library	Arriva Wales	1	1	1	1	1	06:11 - 18:11	06:11 - 18:11	10:20 - 16:20	28 mins
13A	Library -Wrexham	Arriva Wales	<1	<1	<1	<1	<1	04:50 - 05:50	05:50	-	28 mins
13A	Wrexham - Library	Arriva Wales	<1	<1	<1	<1	<1	06:40 - 07:10	-	-	28 mins
14A	Library -Wrexham	Arriva Wales	<1	<1	<1	<1	<1	07:01 - 08:01	07:01 - 08:01	-	28 mins
14A	Wrexham - Library	Arriva Wales	<1	<1	<1	<1	<1	17:35 - 18:35	17:35 - 18:35	-	28 mins
17	Moss -Wrexham	Wrexham Taxis	<1	<1	<1	<1	<1	11:26 - 17:26	11:26 - 17:26	-	17 mins

2.5 PUBLIC TRANSPORT – RAIL

As can be seen from the figure below there is a local railway station within proximity to the site and a major railway station in Wrexham (Wrexham General).

Table 2-3 shows the direct rail services from local rail stations. From Wrexham, a number of other destinations can be reached including southern destinations within Wales such as Cardiff and, Holyhead, and within the North West and West Midlands of England, such as Chester, Shrewsbury, Birmingham and Liverpool.

Figure 2-6 - Rail Stations in proximity to the site



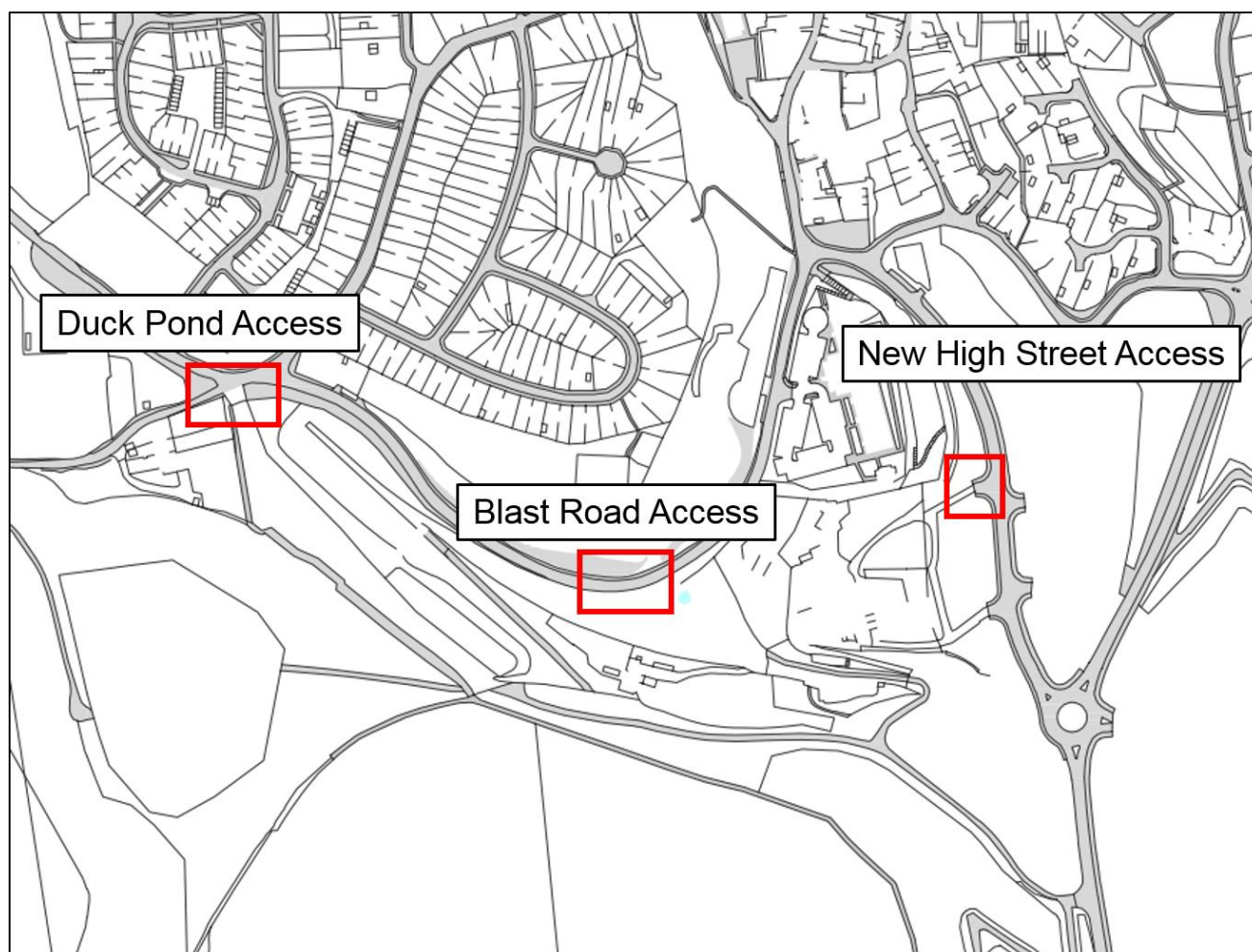
Table 2-3 – Frequency of local rail services

Route	Mon-Sat				Sunday			
	Trains per day	Trains per Hour (tph)	First Train Arriving	Last Train Departing	Trains per day	Trains per Hour (tph)	First Train Arriving	Last Train Departing
Gwersyllt to Wrexham Central	14	1	08:20	21:44	8	Generally 1 every 2 hours	10:46	20:46
Gwersyllt to Bidston	14	1 most hours	06:35	22:01	10	Irregular	08:48	21:12
Wrexham General to Wrexham Central	15	1	07:30	21:51	8	Less than 1 per operating hour	11:07	20:54
Wrexham General to Bidston	26	2 per hour during site opening times	08:27	21:04	6	1 per operating hour	11:50	15:08
Wrexham General to Cardiff Central	12	1	11:00	17:50	5	Less than 1 per operating hour	14:56	15:47
Wrexham General to Holyhead	17	1	09:42	22:17	5	1 per operating hour	17:26	15:08

2.6 VEHICULAR ACCESS

The main site access is via New High Street however there are two further private access points off Blast Road. The locations of these three access points can be seen in Figure 2-7.

Figure 2-7 – Existing site access locations



New High Street is a single carriageway with a carriageway width of 7.3m. There is good visibility from the New High Street access.

The visibility for the access point at the Duck Pond access has been assessed. Appendix A shows the visibility splays in consideration of the 30mph road speed. The MfS principles and as such stopping sight distances are considered appropriate at this location. MfS visibility is achievable to the nearside kerb line to the east and west of the junction. A visibility splay for a potential future access off Blast Road is also provided in this Appendix.

2.7 EXISTING CAR PARKING PROVISION

2.7.1 ON-SITE

There is currently no formal parking available on the site.

2.7.2 ON-STREET

There is currently on-street parking in the many nearby residential areas. Neither New High Street nor Phoenix Drive does not currently have any road markings that would restrict on-street parking and the road width of 7.3m would support the capability for on-street parking.

2.7.3 PUBLIC CAR PARK

The Brymbo Enterprise Centre is located approximately 300m away via road and provides an estimated 70 car parking spaces, plus provision for disabled parking, for services within the centre. Whilst this is not public parking, the facility does offer free parking during normal opening hours of the centre.

2.8 LOCAL FACILITIES

Brymbo is a small town with local facilities including the Brymbo Enterprise Centre, the Brymbo Sports and Social Complex, various eating and drinking establishments, a local convenience shop and a chemist. There are also employment opportunities within many small businesses.

3 PROPOSED DEVELOPMENT

3.1 SITE PROPOSALS

The proposed development is expected to comprise the following:

- The Stori Brymbo Heritage Centre with ancillary land uses
- Approximately 290sqm of business unit space

As briefly discussed in Section 1.3, the redevelopment of the site will provide a Heritage Centre for the remains of Brymbo's 1790's Ironworks and later Brymbo Steelworks. The site is also of significance due to the uncovered fossil forest within the site boundary. This will become part of the visitor attraction.

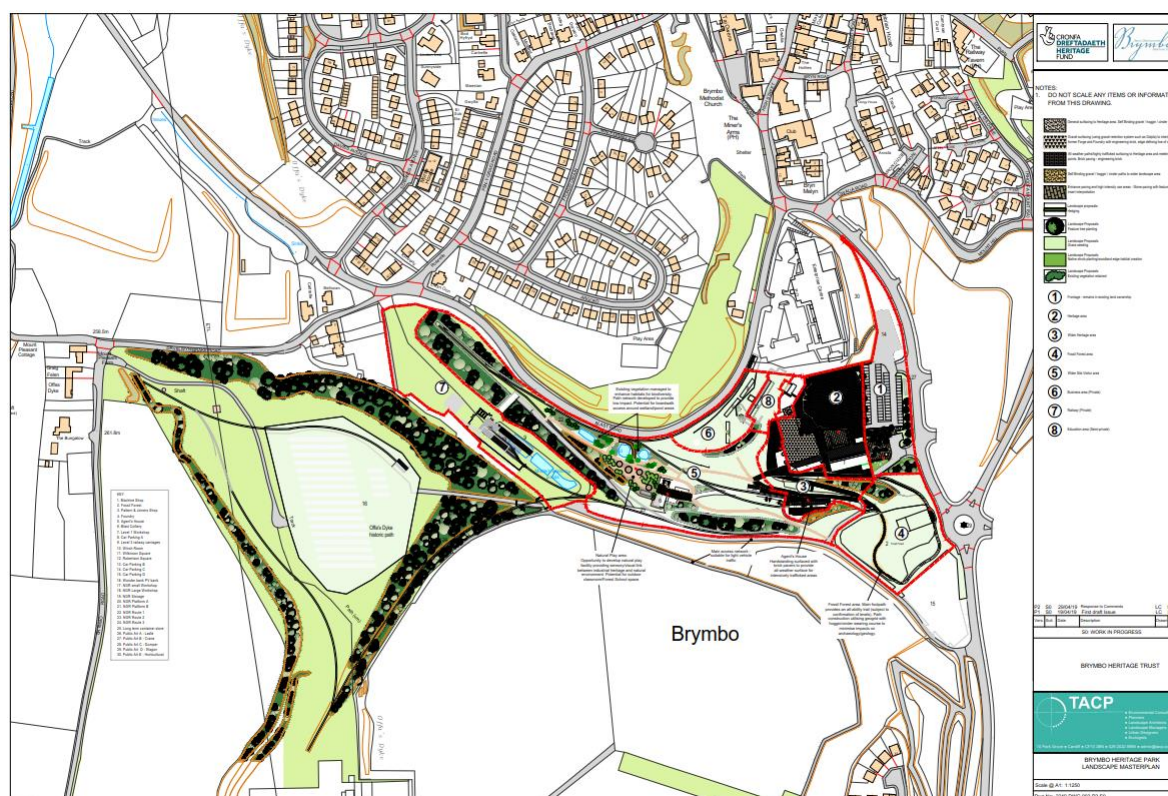
Within the limits of the site there are various locations proposed as small business units. 200sqm of small business unit space will be contained within four disused train carriages to the northwest of the site. Another 89sqm is proposed within the Heritage Centre itself.

There are three points of access to the Heritage Centre that will serve different spaces, end uses of these spaces have not been identified.

- New High Street Access - Access for visitors and staff of the small business units
- Blast Road Access – Access for staff of the train carriage small business units
- Duck Pond Access – Access for Heritage Centre staff and volunteers

The proposed site layout can be seen in Figure 3-1 below.

Figure 3-1 - Proposed Site Landscape Plan



For reference, the figure below sets out the proposed development in the wider Brymbo Masterplan context.

Figure 3-2 - Brymbo Masterplan



3.2 STAFF NUMBERS

The Brymbo Heritage Business Plan sets out the number of permanent front of house staff in the Heritage Centre, including the café staff and management. The Business Plan states that there will be 26 permanent front of house staff in a stabilised year.

Part of the Brymbo Heritage Business Plan is to make use of space within the centre for small businesses. The site development plan proposes four refitted railway carriages totalling 183 sqm plus a maximum of 142 sqm in the Machine Shop (entrance) building making a total of 325 sqm of business unit space.

The staff working here would be additional to the Heritage Centre staff. The proposed trip demand generated by the small business units has been determined from TRICS data.

The small businesses within the heritage centre are assumed to be office based. This method is robust as office-based land uses have high rates of employees per floorspace.

Assuming a start time between 7-10am, the headcount generated by a 325m² office floorspace is 20 employees.

The table below sets out the expected employee numbers associated with the site.

Table 3-1 – Number of staff

Staff Type	Number of Staff
Heritage Centre Staff	26
Small Business Unit Staff	20
TOTAL	46

3.3 VISITOR NUMBERS

The Brymbo Heritage Centre Business Plan sets out forecast ticket sales in a fully operational year. This information was based on evidence from similar sites, and the location and profile of the available market.

The number and type of forecast tickets annually are set out in the table below.

Table 3-2 – Forecast number of tickets by type

Ticket Type	No.	Percentage
Adults	19000	38%
Concessions	11000	22%
Child	5000	10%
Family	10000	20%

Groups (non-schools)	2500	5%
School visits	2500	5%

When making assumptions about the number of visitors, it is important to understand that the number of tickets does not equal the number of trips.

In order to provide a robust assessment, it has been assumed that all visitor trips will be by car or coach. However, in practice, and in accordance with the Trust's keen desire to maximise sustainability, a proportion of these would be expected to be generated by people coming by public transport, cycling or, for very local residents, walking. The following sets out visitor trip generation assumptions:

- *School visits* will travel to the site via coach (or local schools will walk) therefore this ticket type will be disregarded in the trip generation methodology
- Children visiting the site will be accompanied by an adult, therefore a *Child* ticket will not equate to a car borne trip.
- Whilst the ticket type *Groups (no-schools)* may include tourist trips that would arrive by coach, it is also possible that these trips may arrive from multiple cars or minibuses therefore this ticket type will be counted towards visitor trip generation.

The table below sets out the worst case (i.e. 100% car borne) assumed number of car-based visitors to the site annually.

Table 3-3 – Forecast number of visitors annually

Ticket Type	Number
Adults	19000
Concessions	11000
Family	10000
Groups (non-schools)	2500
Total	42500

3.4 VOLUNTEER NUMBERS

It is also the ambition of Brymbo Heritage Centre to accept volunteers throughout the year. The number of daily volunteers is unknown however the provision for volunteers is accounted for within overall visitor numbers.

3.5 MEANS OF ACCESS

Pedestrian Accessibility

The Brymbo Heritage Centre lies between the northern and southern residential areas of Brymbo, as set out in Section 2 the site is very accessible to the local residents of Brymbo. The site is also within 300m of a bus stop for visitors arriving from greater distances via public transport.

Pedestrians can enter the site via New High Street, directly from the well-lit footway. Footways are provided in all surrounding areas and create direct, safe routes in between the local residential centres and bus stop locations.

Cycle Accessibility

Cyclists can access the site via a well-lit footway directly on New High Street. The site will provide outdoor sheltered cycle storage provision.

As is shown in Figure 2-4 in Section 2, the nearest train station is within a 15-20-minute cycle ride of Stori Brymbo, encouraging sustainable travel via multi-modal trips for visitors originating in more distant locations.

Public Transport Accessibility

The site is located close to bus stops and many bus services currently run by the site. It is expected that the frequency of bus services will increase as the adjacent development is built out, however the existing bus service provision serves the proposed opening times of Stori Brymbo well.

In addition, the site is within cycling distance of the local railway station that provides hourly services to both Wrexham and Bidston.

Whilst there are no direct bus services between Gwersyllt Railway Station and Stori Brymbo, there are direct services available from Wrexham Bus station, a short walk from both Wrexham Central and Wrexham General Stations.

3.6 PARKING PROVISION

There are two main types of vehicular trips to the Heritage Centre; those via car and those via coach. It is expected that individual or small groups of visitors, staff and volunteers will travel to the site via car. It is also anticipated that large groups of visitors, largely from schools, will travel to the site via coach.

The table below sets out the parking standards from Wrexham County Borough Council's Local Planning Guidance. Parking provision has been calculated based on these standards and the floorspace of the development.

Table 3-4 – Parking Calculations D1 Non-residential institutions

Type of Space	Standard	Floorspace	No. Spaces
Car Parking Spaces	2 car spaces plus 1 car space per 25m ²	Approximately 5,000 sqm	202 (max)
Cycle Spaces	1 cycle space per 250m ² gross floor space		20 (min)
Mobility Spaces	10% of all car spaces must be provided to mobility standard		20 (min)
Electric Vehicle Charging Point / Motorcycle Spaces	There are no current standards relating to the provision of Electric Vehicle charging or motorcycle spaces within the WCBC guidance		

Table 3-5 – Parking Calculations B1 Business and light industry

Type of Space	Standard	Floorspace	No. Spaces
Car Parking Spaces	1 car space per 30m ² gross floor space	Approximately 290sqm	10 (max)
Cycle Spaces	1 cycle space per 300m ² gross floor space		1 (min)
Mobility Spaces	10% of all car spaces must be provided to mobility standard		1(min)
Electric Vehicle Charging Point / Motorcycle Spaces	There are no current standards relating to the provision of Electric Vehicle charging or motorcycle spaces within the WCBC guidance		

The number of parking spaces that are potentially available to Stori Brymbo visitors, staff and volunteers has been assessed by based on the available space and visual design ambitions of Stori Brymbo. There are spaces currently earmarked for the Heritage Centre throughout the site. In addition to these spaces, the following nearby locations would provide additional parking during periods of occasional high demand.

- -Brymbo Enterprise Centre
- -Adjacent Proposed Primary School
- -Adjacent Proposed Food Store
- -Adjacent proposed medical centre
- -Adjacent eating, drinking and leisure centres; and
- -On-street parking:

Figure 3-3 below shows potential car parking provision within and adjacent to the site.

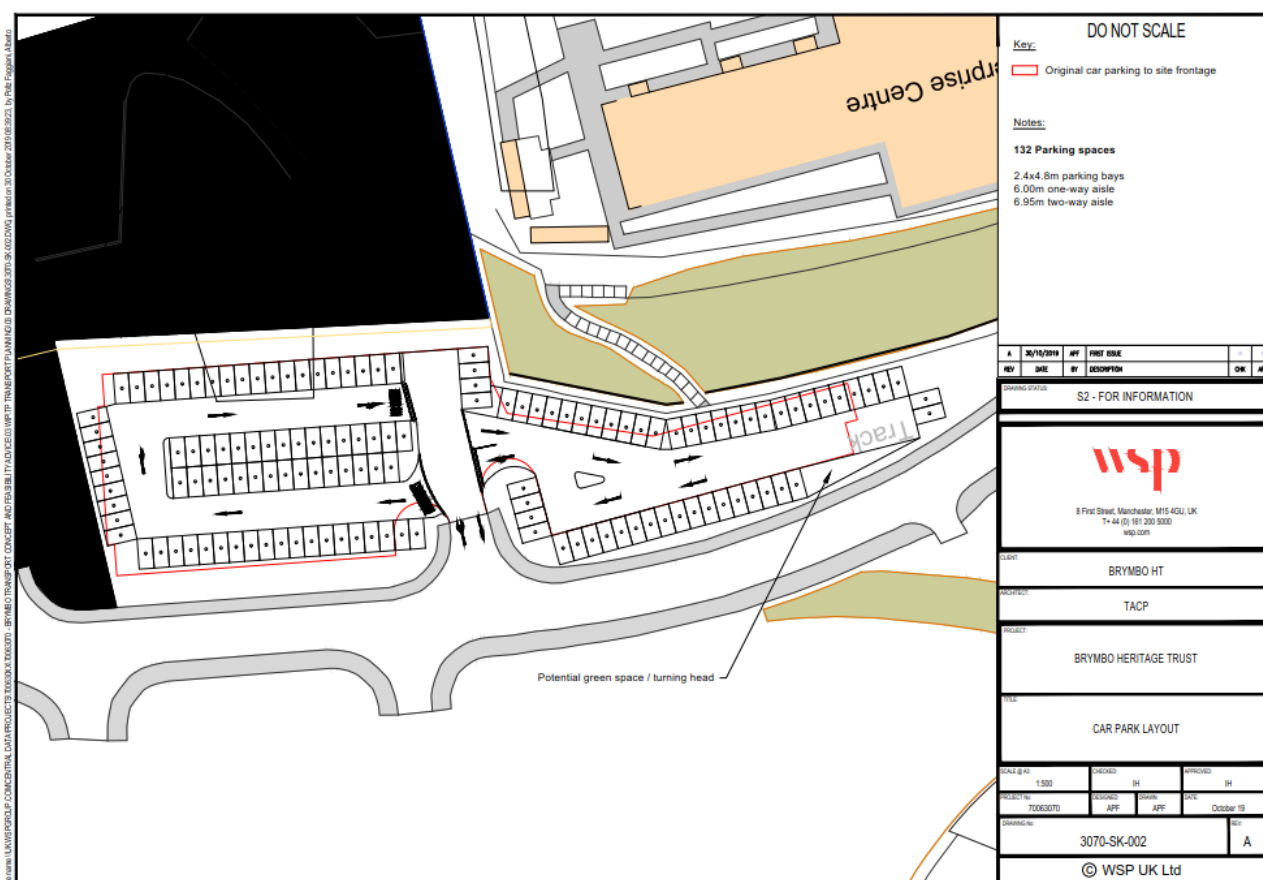
Figure 3-3 – Potential parking provision locations on the site

Brymbo Heritage Area - potential car parking locations - Oct 2019



Fig 3.4 shows the potential parking provision at the main parking location on New High Street as calculated by WSP. It was calculated that the land for parking can accommodate up 132 parking bays of 2.4m x 4.8m dimensions.

Figure 3-4 – Potential parking provision locations on the site



Coaches are expected to drop off visitors outside of Stori Brymbo and layover remote from the site. It is anticipated that there will be a maximum of two coaches per day. Mini-buses (for example used by informal adult learning groups) would also drop off in the same location as coaches but lay over at the Duck pond event parking area.

Due to the nature of the land use, it is unlikely that Stori Brymbo will generate enough traffic to warrant the maximum parking provision set out in the local parking guidance. The actual parking demand has been calculated and is described in Section 6, based on trip generation which is discussed in Section 5.

3.7 SERVICING

Loading on New High Street is permitted at any time so the collection of bins would not be affected. Refuse vehicles can access New High Street directly, no reversing manoeuvres are required. If travelling southbound on New High Street, there is provision to make a U-turn at the roundabout at the southern end of New High Street where it joins Heritage Way and Phoenix Drive

4 TRANSPORT POLICY

4.1 NATIONAL POLICY

The Planning Policy Wales (PPW) document Edition 10 was published in 2018. The document ensures consistency to planning decisions in Wales.

The document places an importance on achieving well-being through placemaking, stating *“sustainable places are the goal of the land use planning system in Wales”*.

The PPW suggests developments follow the key planning principles:

- Growing our economy in a sustainable manner
- Making best use of resources
- Facilitating accessible and healthy environments
- Creating and sustaining communities
- Maximising environmental protection and limiting environmental impact.

As discussed in Chapter 2, the proposed development has access to public transport facilities in the form of regular bus services and multiple train stations, promoting sustainable access to the site.

In addition, the development supports the planning principle to create and sustain communities by redeveloping a locally significant site and generating a sustainable economic improvement to the area.

PPW10 sets out the commitment to reducing the reliance on private car and supporting a modal shift to sustainable travel modes. To facilitate this, developments should be:

“designed in a way which integrates them with existing land uses and neighbourhoods”.

The Stori Brymbo scheme has been worked up in conjunction with the Brymbo Park Masterplan which ensures its integration within the wider area and all the proposed land uses.

In Section 4, PPW10 sets out the importance of Transport Assessments and their role in setting out the level of impacts of a proposed development. As set out in Chapter 5, the proposed development will generate a low number of vehicle trips both during and outside of AM and PM peak periods. As such, the development will not have a significant impact on the local highway network.

The proposal therefore complies with the transport requirements of the PPW.

4.2 LOCAL POLICY

The development of a Wrexham Local Development Plan (WLDP) is underway and is currently in consultation stages. The WLDP sets to replace Wrexham's Unitary Development Plan (UDP), 1996-2011.

The site is earmarked within the UDP as land for reclamation. The area south of Brymbo makes up the Brymbo Masterplan, with various parcels of land committed for residential development.

Brymbo's Sustainable Urban Mobility Plan (2016) 'Wrexham Connected' sets a clear vision for the future of transport in Wrexham. It follows on from the Sustainable Urban Mobility Plan (SUMP) created in 2014.

The document sets out the following key objectives:

- Safer Places- Wrexham connected will work with partners to create places and environments where people from all walks of life can live, work and play safely together- both on and off the transport network and at the final destination.
- Sustainable Places – Wrexham Connected will embrace a ‘sustainable’, transport-first approach to new development through the planning process. It will facilitate and manage the County Borough’s growth agenda in the most sustainable and efficient way possible, strengthening its economy and improving access to jobs, education, services and tourism.
- Healthy laces - Wrexham Connected will reduce the impacts of air and noise pollution, greenhouse gas emissions and energy consumption. It will contribute to raising health standards through the promotion of active travel, particularly along the ‘last mile’. By connecting communities we will make it easier for people to access open spaces and the countryside.
- Affordable Places- Wrexham Connected will stimulate inward investment and regeneration that leads to job-creation across a wide skill-base, using the planning process to ensure that affordable housing and employment needs are met.
- Well Connected Places- Wrexham Connected will enhance connectivity to, from and within Wrexham. Transport solutions will improve the attractiveness and quality of the environment both on key transport corridors and in the town centre.

4.3 BRYMBO MASTERPLAN

The Brymbo Heritage Area is located at the north-western edge of the wider Brymbo Steelworks site, which is owned by Brymbo Development Ltd (BDL), who have their own masterplan for the wider area, but firmly place the Stori Brymbo proposals at the heart of and as key asset of the new neighbourhood. The heritage area represents less than 10% of the entire former Brymbo Steelworks site.

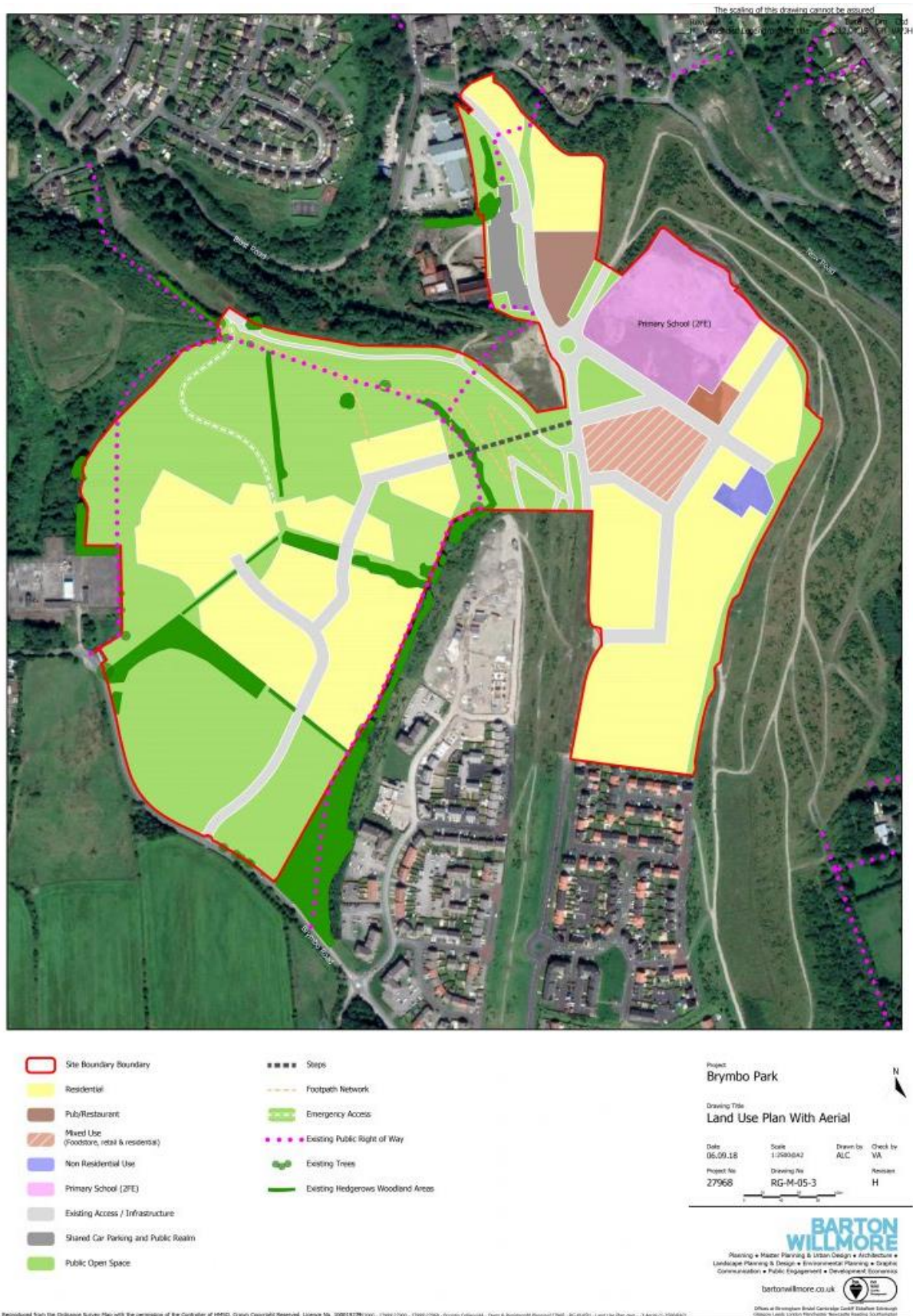
Prior to the financial crash of 2008/2009 BDL (through Taylor Wimpey and Bloor Homes) had already

completed the development of 469 houses at the southern end of the Steelworks site.

In June 2015, the construction of a new spine road, which links Brymbo with nearby Tanyfron, was completed. The road was fully funded by BDL as a condition to enable plans for further housing and retail development on the Steelworks site. The road, the southern part of which was aptly named Heritage Way, will help in the regeneration of the former steelworks and the development of Stori Brymbo as a visitor destination and community/enterprise hub.

The current masterplan (see Figure 4-1) includes plans for 450 more residential dwelling, as well as a new 420-place primary school and community facilities, including a food store (up to 930 sqm), retail (up to 465 sqm), eating/drinking establishments (up to 372 sqm) and leisure opportunities such as cycling and walking trails as well as adventure play and parkland. Subject to demand from a service provider, there is also provision for a medical centre (up to 465 sqm). The scheme also includes plans for new footways, bus stops as well as cycle and car parking.

Figure 4-1 - Brymbo Masterplan



5 HIGHWAY IMPACT

5.1 INTRODUCTION

The proposed development is located in a relatively rural location that is accessible to local residents, however less accessible via public transport means for trips of greater distance. Due to the less accessible nature of the area, a high proportion of the trips are expected to be made via car, as is common with tourist attractions.

5.2 TRIP GENERATION

Trip generation for the site is described in terms of visitor, staff and volunteer trips. The methodology for trip generation is set out below.

5.2.1 VISITOR TRIPS BY CAR

Table 3-3 in Section 3 provides a forecast number of visitors to the site annually, however not every visitor results in an individual car trip. The following outlines the methodology used to consider car occupancy.

The Department for Transport Statistics (DfTS) calculates standard car occupancy rates for various trip types, based upon the National Travel Survey.

The trip type of this development falls under the trip purpose of 'Leisure'. An average car occupancy rate of 1.7 has been used for this development. Table 5-1 sets out the new number of total trips once the car occupancy rate has been applied. To ensure a robust assessment it is assumed all visitors travel by car.

Table 5-1 – Total number of car borne trips annually

Forecast Car Based Visitors	Forecast Car Based Visitors Car Occupancy rate applied
42500	25000

Using the seasonal profile provided within the Business Plan, it is possible to predict the distribution of these trips over a typical year. The table below sets out the profile, number of monthly trips and average number of trips per day based on the predicted number of days open within the Business Plan.

Table 5-2 – Annual profile of trips

Month	Percentage	Number	No. Days Open	Average Car Trips per Day
January	5%	1250	26	48
February	7%	1750	24	73
March	6%	1500	27	56
April	10%	2500	25	100
May	9%	2250	27	83
June	10%	2500	26	96
July	12%	3000	27	111
August	13%	3250	27	120
September	9%	2250	26	87
October	8%	2000	27	74
November	6%	1500	26	58
December	5%	1250	25	50

As can be seen from the monthly distribution of trips, the trip generation at the site will vary depending on the season. To consider the seasonal changes, the Stori Brymbo Business Plan has set out different opening hours for the winter and summer seasons. As well as the effects of seasonality, another factor commonly influencing parking demand at visitor attractions is the day of the week. It was therefore considered appropriate to calculate the arrival/departures for four specific profiles:

- Winter Weekday;
- Winter Weekend;
- Summer Weekday; and
- Summer Weekend.

The opening hours set out in the Business Plan are as follows:

- Winter (10:00 - 16:00) – there will be a period of reduced opening days per week in the months of November to February, excluding event type days
- Summer (10:00 – 17:00)

It is considered that the 'Summer Weekend' profile will also represent the high visitor demand on days such as Bank Holidays and therefore show a worst-case scenario.

ARRIVAL/DEPARTURE PROFILE CALCULATIONS

Trip Arrival and Trip Departure figures were obtained from a data source known as TRICS. TRICS collects traffic survey data from a wide range of sites in order to provide a way to calculate average trip generation or parking demand for specific sites by location, land use, peak period and other factors.

To understand the average parking arrival and departures for a site similar to the Brymbo Heritage, data from 29 sites classified as 'Tourist Attractions' were obtained across the past 10 years. Data older than 10 years was discarded as this may not represent current car ownership rates, economic climate and traffic generation.

The 29 sites provided a range of weekday, weekend and seasonal surveys. The TRICS datasource provided car park arrival and departure rates for each of the 29 sites. Using this information, it was possible to calculate an average hourly arrival and departure rate for each profile. These have been summarised in the tables below.

Table 5-3 - Arrival/Departure demand profiles

Time	Winter Weekday		Winter Weekend		Summer Weekday		Summer Weekend	
	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure
10:00-11:00	19%	7%	15%	7%	22%	9%	18%	4%
11:00-12:00	20%	11%	19%	10%	17%	10%	20%	9%
12:00-13:00	19%	22%	21%	16%	13%	12%	17%	15%
13:00-14:00	18%	16%	17%	18%	12%	13%	17%	18%
14:00-15:00	15%	21%	18%	24%	16%	20%	14%	17%
15:00-16:00	9%	23%	11%	26%	12%	22%	9%	19%
16:00-17:00					7%	15%	6%	18%

The Brymbo Heritage Business Plan states the experience “on average would take about 2-3 hours”. For robustness, this methodology assumes a duration of 3 hours for each visit.

To also ensure robust analysis, the table below shows daily trips for the busiest day of the busiest month.

Table 5-4 – Daily arrival/departure profile for the busiest day in August

Time	Summer Weekend	
	Arrival	Departure
10:00-11:00	22	0
11:00-12:00	23	0
12:00-13:00	20	22
13:00-14:00	20	24
14:00-15:00	17	20
15:00-16:00	11	20
16:00-17:00	7	35

5.2.2 STAFF TRIPS BY CAR

As we do not know whether the employees will be local residents, it is robust to assume all employees will drive to the site.

Of the Heritage Centre staff listed within the Business Plan, six were staff that shared the same role. Therefore, it is assumed that only 20 heritage staff will be working on any one day. The place of work for Front of House (FoH) staff would be in the Machine Shop, so these staff would expect to look to park in the main shared car park or elsewhere in the village centre. Back of House (BoH) staff will have a more varied pattern of activity across the site and would be directed to the Duck Pond parking site. Of the 20 staff on duty any one day, 10 are expected to be FoH and 10 BoH.

As the small business units will operate independently from the Heritage Centre, it is assumed that all business units will be fully utilised at all times for a robust assessment.

The table below sets out the car borne staff trips.

Table 5-5 – Total number of staff car borne trips to the site

Staff Type	No. of Staff Car Borne Trips
Heritage Centre	20
Small Business Unit	20

Total	40
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5.3 NETWORK IMPACT

For consistency, this Transport Statement has taken the local peak hours from the Transport Assessment (TA) of the adjacent development. The TA states an AM peak hour of 08:00-09:00 and PM peak hour of 17:00-18:00 is assumed throughout the traffic assessments.

The assessment of traffic on the network during peak hours is based on the month with highest average daily trips, August, and the Summer Season opening hours, 10:00-17:00.

The Heritage Centre does not open until after the AM peak and closes before the PM peak so is expected to have minimal impact on the local road network.

The below table sets out the forecast traffic generation for visitor and staff trips at peak times.

Trip Type	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
Visitor Trips	0	0
Staff Trips (Heritage Centre)	0	20
Staff Trips (Small Business Units)	20	20
TOTAL	20	40

5.4 SUMMARY

Overall, the site is expected to generate 20 additional trips on the network in the AM peak and 40 additional trips in the PM peak, during the peak summer season. This number will be comprised entirely of staff with all visitors arriving after or leaving before the recognised peak periods on the network. These figures are considered to be robust for the following reasons:

- As staff rotas and shift patterns are currently unknown, the assumption of 20 staff leaving during the PM peak is very robust. It is likely that this number may be lower.
- The opening hours used in this assessment are for the summer season. During the 6 months of the winter season, the heritage centre will close at 16:00 and place 0 heritage centre staff trips on the network during the PM peak.
- It is robust to assume all staff and all visitors will travel to the site by car. It is likely that a percentage of trips will be via other modes.

It is not anticipated this volume of trip generation will have a significant impact on the local highway network and accordingly no further network analysis has been undertaken.

6 PARKING DEMAND

The trip generation has been set out in Section 5 of this Transport Statement. To calculate the expected parking demand for the site, the Daily Arrival and Departure profiles were used to understand the maximum number of spaces required at any one hour through the year.

To represent the worst-case scenario, as in the Highway Impact assessment, a weekend in August has been used to calculate the maximum parking demand.

6.1 VISITOR & VOLUNTEER PARKING DEMAND

The arrival and departure profile shown in Table 5-3 was used to calculate the number of parking spaces used each hour. As previously stated, an average duration of 3 hours is estimated for every car trip. The table below shows that the maximum number of spaces used in any one hour is 66.

Table 6-1 – Maximum Parking Demand profile for a weekend day in August

Time	No. Spaces in use
10:00-11:00	22
11:00-12:00	46
12:00-13:00	66
13:00-14:00	64
14:00-15:00	57
15:00-16:00	46
16:00-17:00	36
MAXIMUM	66

Front of House (FoH) volunteers place of work would be in the Machine Shop, so would expect to look to park in the main shared car park or elsewhere in the village centre. Back of House (BoH) volunteers will have a more varied pattern of activity across the site and would be directed to the Duck Pond parking site. In total, volunteers are not anticipated to number more than 10 on any one day, 5 FoH and 5 BoH

6.2 STAFF PARKING DEMAND

As stated above, it is estimated that the combined staff trips during a high peak season during the AM and PM peak hours is 40. Assuming that all of these staff will drive to the site, the maximum number of trips required for staff is 40.

6.3 SUMMARY OF PARKING DEMAND

The analysis of demand shows that there is considered to be sufficient car parking potentially available to cater for maximum anticipated visitor, staff, and volunteer parking numbers.

7 ACCIDENT ANALYSIS

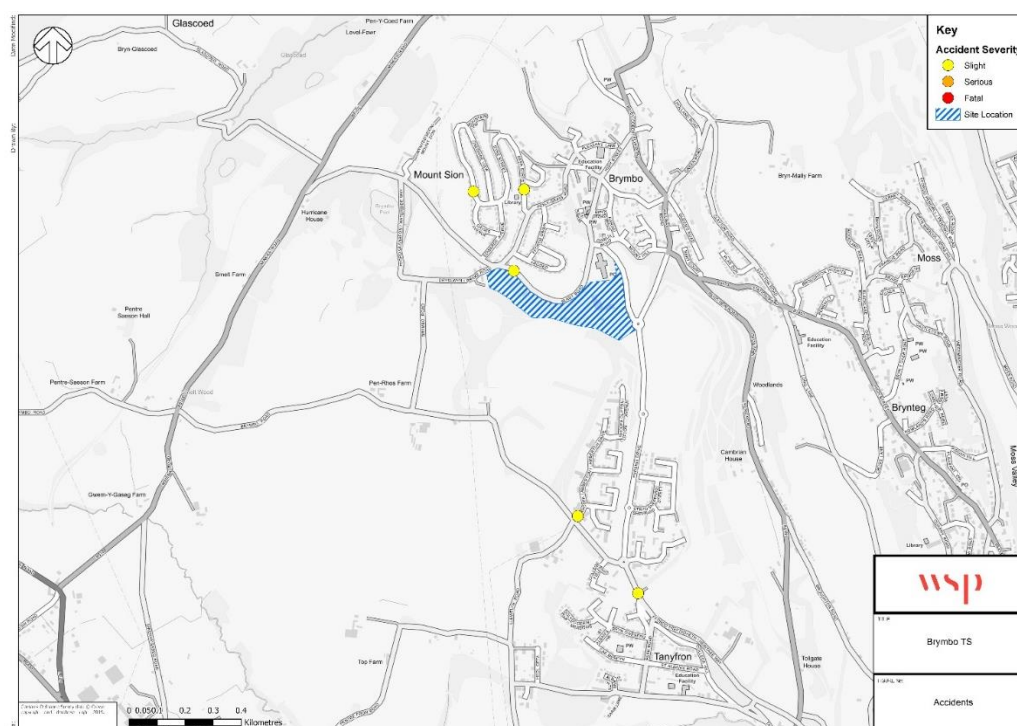
Crashmap provides Department for Transport accident data including information about crash circumstances, casualties, drivers and vehicles. Figure 7-1 below shows accident data for the most recent 5-year period, 2014-2018. As the Phoenix Drive road was recently constructed, the number of incidents occurring on this link is expected to be minimal. Notwithstanding, there are 5 accidents recorded in proximity to the site within the latest 5-year period, these are summarised in Table 7-1.

Of these accidents, all were classified as 'Slight' in severity. There is one accident close to the proposed site, located on the northern boundary the Blast Road.

Table 7-1 – Number of accidents in the most recent 5-year period by severity

Accident Severity	Count
Slight	5
Serious	0
Fatal	0

Figure 7-1 - Local Crashmap accident data



8 SUMMARY AND CONCLUSION

8.1 ACCESSIBILITY

- **Walking-** Excellent walking provision to all surrounding areas with good footways and safe crossing points. Whether local residents or travelling using the bus service, all staff and visitors will be able to access the site safely.
- **Cycling-** No on road or off-road cycle provision however this is not necessarily required due to the rural location of the site. Staff and visitors are able to cycle from nearby residential areas or the local train station within the preferred cycle time.
- **Public Transport-** Many bus stops within walking distance of the site. Regular services from local railway stations. Public transport serves the site within the site opening hours for both staff and visitors.

8.2 PARKING ACCESS & ARRANGEMENTS

The initial parking provision set out in Section 5 shows the entire site can accommodate up to 212 spaces. The key parking locations are as follows:

- Site off New High Street – 132 spaces
- Site off Blast Road– 20 spaces
- Site of Duck Pond - 60 spaces

The proposed parking provision complies with local policy and are adequate to meet forecast parking demand.

The development will also provide appropriate cycle and mobility parking.

8.3 HIGHWAY IMPACT

In the Peak summer season, the number of trips expected to be generated by the site during the PM peak hour is 27. This equates to under 2 trips every minute. In the Winter Season, there will be only 7 additional trips to the network during the peak hours.

The impact of this traffic to the network is unlikely to be significant, therefore further network analysis has not been undertaken.

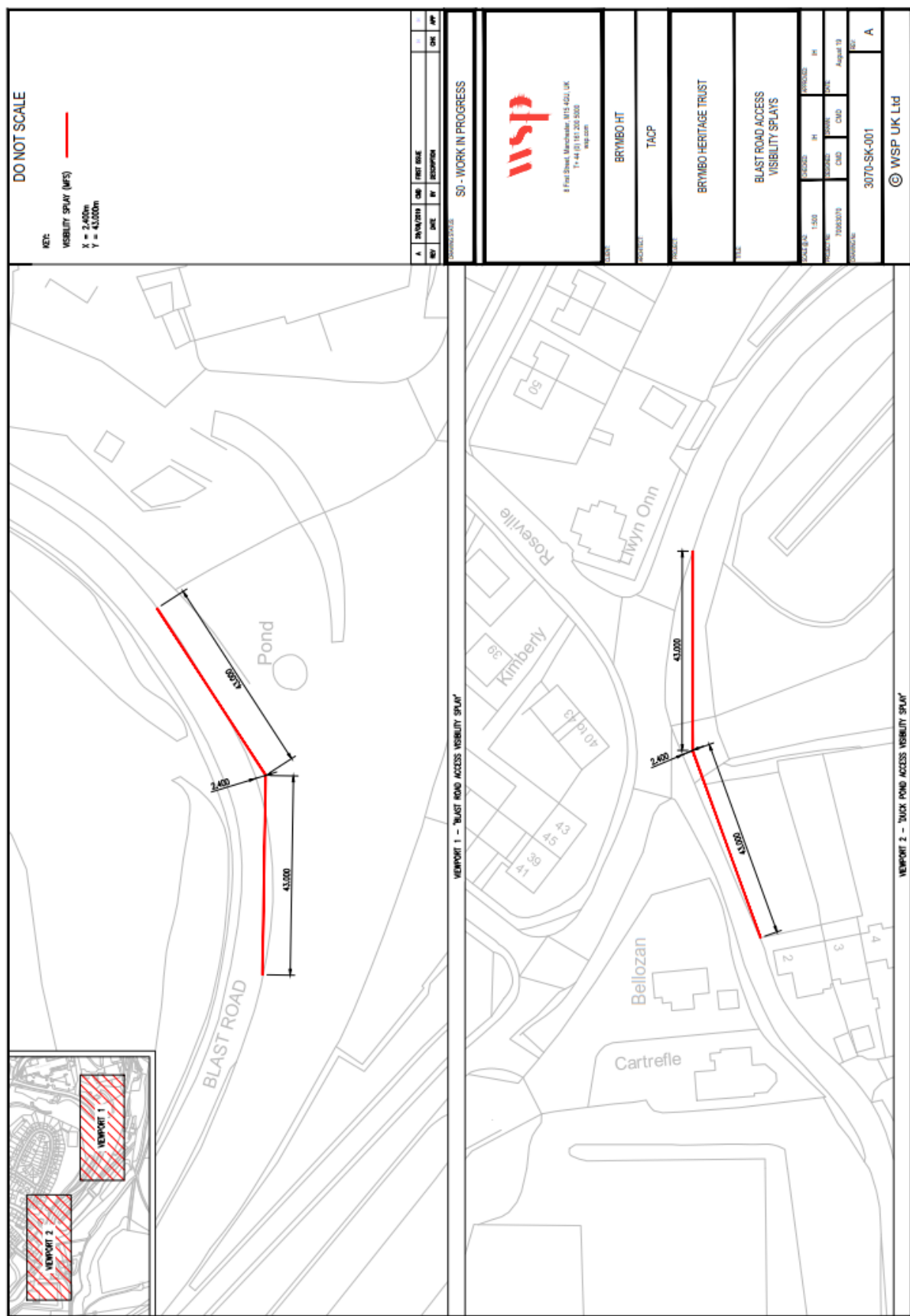
8.4 CONCLUSION

This report sets out that the proposed development will be accessible by all appropriate modes of transport and that the impact on the local highway network is not considered to be severe. It is therefore concluded that there are no highway reasons for planning approval for the scheme not to be granted.

Appendix A

VISIBILITY SPLAY







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