



TRANSPORT STATEMENT

**Proposed residential development at
Limestone Road, Burniston**

June 2022

Mandale

TPS Transport Consultants Ltd | TPS Business Hub | Stonebridge Court | 151-153 Wakefield Road | Wakefield | WF4 5HQ



tpsconsultants.co.uk



info@tpsconsultants.co.uk



+44 1924 664638

Registered number: 05973261



Document Record

Project Name	P1933_20220630_Limestone Road, Burniston Transport Statement			
	Issue 1	Revision 1	Revision 2	Revision 3
Remarks:	Draft	Issue		
Date:	15/03/2022	30/06/2022		
Prepared by:	SD	SD		
Checked by:	CG			
Authorised by:	CG			

Copyright Statement

This report is the copyright of TPS Transport Consultants Ltd.

The information, ideas and other intellectual property set out in this report and supporting technical appendices are the property of TPS Transport Consultants Ltd and are for the sole benefit of Mandale in respect of a proposed residential development at Limestone Road, Burniston.

TPS Transport Consultants Ltd. requires that the information, ideas and other intellectual property set out in this report are:

- Not shared with third parties and particularly with direct or indirect competitors of TPS Transport Consultants Ltd;
 - Not conveyed to other consultants or personnel without the prior approval of TPS Transport Consultants Ltd; and
 - Not copied in part or in whole.
-



Contents

Chapter	Title	Page
1	INTRODUCTION	1
	Introduction	1
	Site Location and Development Proposals	1
	Report Structure	2
2	POLICY REVIEW	3
	Introduction	3
	National Policy Context	3
	Local Policy	4
3	DEVELOPMENT ACCESSIBILITY	6
	Introduction	6
	Active Travel Options	6
	Public Transport Accessibility	9
	Local Amenities	9
	Summary	10
4	LOCAL HIGHWAY NETWORK	11
	Introduction	11
	Highway Network	11
	Road Safety	12
5	TRIP GENERATION	13
	Introduction	13
	Vehicle Trip Generation	13
6	ACCESS, PARKING AND SERVICING	15
	Introduction	15
	Access	15
	Parking	15
	Servicing	16
7	SUMMARY & CONCLUSIONS	17
	Summary	17
	Conclusion	17

1. INTRODUCTION

Introduction

- 1.1 TPS Transport Consultants Ltd. (TPS) has been appointed by Mandale to prepare a Transport Statement to accompany a planning application for residential development at Limestone Road, Burniston.

Site Location and Development Proposals

- 1.2 The site is located in Burniston, approximately 6.5km north of Scarborough. It is bound to the north by a wooded area, beyond which is open green land and Lindhead Road, to the east by several residential properties off Stone Quarry Road, Ashdown Rise and The Limes, to the south by Limestone Road and to the west by an area of open green land, beyond which is a number of residential properties of Limestone Grove.
- 1.3 The site location is shown in **Figure 1.1** below, whilst the proposed site layout plan is provided at **Appendix A**.

Figure 1.1: Indicative Site Location



(Source: Google Maps)

- 1.4 The development proposals seek to provide 18 dwellings comprising 5 3-bed bungalows, 7 3-bed properties and 4 2-bed properties, taking access via a new priority T-junction with Limestone Road. Each property is to be provided with dedicated car parking.



- 1.5 The site was granted outline consent (application reference 18/00505/OL) at appeal in 2019 for up to 40 dwellings. Whilst there are no technical documents available on the Planning Portal, the Committee Report notes the following:

"The Highway Authority has assessed the application from a highway safety perspective and has not objected to the proposals subject to conditions requiring the provision of highway design details, the construction of highway infrastructure prior to first occupation and the permanent retention of visibility splays."

- 1.6 Whilst this consent has now lapsed, it establishes a precedent for residential development at the site and therefore remains a material consideration in this planning application.

Report Structure

- 1.7 Following this introductory section:

Section 2 describes the transport planning policy context within which the proposals will be assessed;

Section 3 details the accessibility of the development site by non-car modes;

Section 4 describes the existing highway network in the vicinity of the development and key routes to the site, with reference to historic road safety records;

Section 5 summarises the trip generation of the development proposals;

Section 6 considers the access, parking and servicing arrangements; and

Section 7 offers a summary and conclusion.



2. POLICY REVIEW

Introduction

- 2.1 This section of the Transport Statement identifies the policy context within which the development proposals have been assessed; it clearly demonstrates how the proposed development would contribute to the overarching principles of national and local transport policy.

National Policy Context

National Planning Policy Framework (NPPF, MHCLG, July 2021)

- 2.2 The revised National Planning Policy Framework was revised in July 2021 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework from February 2019.
- 2.3 The NPPF continues to encourage development through the planning system, with a presumption in favour of sustainable development.
- 2.4 The NPPF states that *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe"* (Paragraph 111). Whilst Paragraph 112 sets out that development proposals should seek to:
- Give priority first to pedestrian and cycle movements, both within the scheme and connecting with neighbouring areas; and second – so far as possible – to facilitate access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
 - Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
 - Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
 - Allow for the efficient delivery of goods, and access by service and emergency vehicles; and



- Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible, and convenient locations.

2.5 This Transport Statement will demonstrate that the development proposals take full advantage of existing facilities for sustainable travel and will not result in a significant traffic impact on the local road network, therefore, satisfying the requirements of the NPPF.

Local Policy

North Yorkshire Local Transport Plan 2016 - 2045

2.6 The North Yorkshire Local Transport Plan (LTP) considers all transport related issues across the county of North Yorkshire. The objectives of the plan include:

- Economic Growth - Contributing to economic growth by delivering reliable and efficient transport networks and services;
- Road Safety - Improving road and transport safety;
- Access to Services - Improving equality of opportunity by facilitating access to services;
- Environment and Climate Change - Managing the adverse impact of transport on the environment; and
- Healthier Travel - Promoting healthier travel opportunities.

2.7 This Transport Statement will meet the policy objectives of the North Yorkshire Local Transport Plan by providing a series of measures which will promote healthier travel opportunities for residents, which will subsequently contribute towards managing an adverse impact from transport on the environment, by reducing the need for residents to travel by car.

Scarborough Borough Local Plan 2011 – 2032

2.8 The Scarborough Borough Local Plan covers the period from 2011 to 2032 and covers the area of the Scarborough Borough outside of the North York Moors National Park. It sets out the planning vision and a strategy for growth up to 2032. It will contribute towards the vision and objectives of the Sustainable Community Strategy for the Scarborough Borough and help other Council services and external partners deliver their own programmes.

2.9 The following policy relates specifically to Travel Plans:

- **Policy INF3 – Sustainable Transport and Travel Plans:** *“Proposals will be required to contribute to sustainable transport. Proposals will be supported that:*



- *improve transport choice and encourage travel to work and school by public transport, cycling and walking; and*
- *minimise the distance people need to travel".*

2.10 The development proposals are complementary to the Scarborough Borough Local Plan, providing new residential development which is accessible by sustainable travel modes. The preparation of this Travel Plan is in accordance with policy INF3 and sets out a clear strategy for the developer to minimise the future traffic-related impacts of the development.

3. DEVELOPMENT ACCESSIBILITY

Introduction

- 3.1 This section of the Transport Statement describes the existing infrastructure that will facilitate and encourage future residents to walk, cycle or use public transport, rather than to travel by car, to access the site.

Active Travel Options

Pedestrian Access

- 3.2 Guidance provided by the Institute for Highways and Transportation (IHT) on the preferred maximum walking distance by journey type is provided in **Table 3.1**, below; for commuting to work, this is two kilometres.

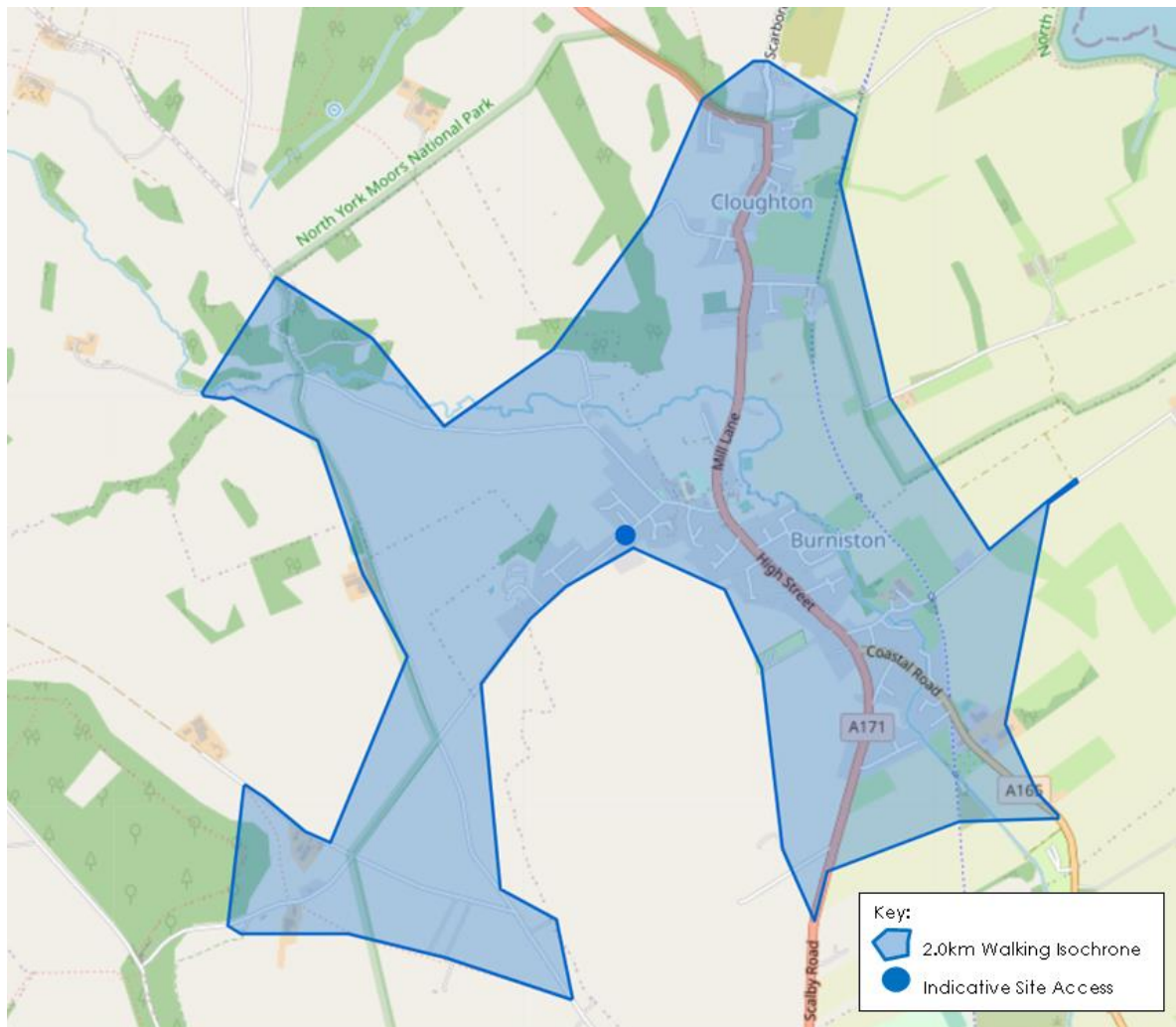
Table 3.1: IHT Walking Guidelines

Criteria	Town Centres	Commuting/ School
Desirable	200m	500m
Acceptable	400m	1000m
Preferred Maximum	800m	2000m

(Source: IHT)

- 3.3 A 2.0km walking catchment from the site would include the surrounding residential area within Burniston, as well as the town centre. **Figure 3.1**, overleaf, illustrates a 2.0km walking catchment of the site.
- 3.4 Given the location of the site within an existing residential area, there is a network of established pedestrian routes which could be utilised by future residents at the site.
- 3.5 A footway is present along the northern side of Limestone Road which runs continuously to connect with Stone Quarry Road in the east. From here, footways are available on both sides of the carriageway towards A171 High Street.
- 3.6 Dropped kerbs and tactile paving are provided over minor roads. Street lighting is provided at regular intervals on all local roads. A signalised pedestrian crossing with tactile paving and push button facility is located 20m south of the Limestone Road / A171 High Street junction. This facilitates safe and convenient pedestrian movements towards the centre of Burniston in the south.

Figure 3.1: 2km Walking Catchment



(Source: Open Street Map)

Cycling

- 3.7 Guidance suggests that the preferred maximum cycle distance in which people are willing to cycle is 5.0km. A 5.0km cycle catchment from the site includes Burniston, Scalby, Newby and Cloughton. A 5.0km cycle catchment from the site is illustrated below in **Figure 3.2**.

Figure 3.2: 5km Cycle Catchment



(Source: Open Street Map)

- 3.8 National Cycle Network (NCN) Route 1 is the closest formal cycle route to the site and is accessed in approximately 1.5km to the east of the site at Field Lane. This equates to a cycle journey time of 6 minutes. Route 1 follows the east coast, travelling through many coastal town and villages. The route from Burniston to Scarborough is predominantly traffic-free and will take future residents around 30 minutes / 7km. Route 1 is part of a longer route called EuroVelo 12 which connects to Norway and Holland. EuroVelo is a network of 15 long-distance cycle routes which connect the whole European continent.
- 3.9 Further details of the amenities accessible within cycling distance of the site are provided in the latter part of this section.



Public Transport Accessibility

Bus

- 3.10 Whilst many local trips to / from the site can be undertaken on foot or by bike, it is nonetheless important to consider the options for travel by public transport for longer trips by residents.
- 3.11 The closest bus stops are located on A171 Mill Lane within a 5-minute walk / 450m. The bus stops benefit from a flag, pole, hard copy timetable information, shelter, and bus caging.

Table 3.2 provides a summary of the services operating from these bus stops.

Table 3.2: Bus Service Summary

Service	Route	Approximate Frequency		
		Per Hour		
		Monday - Friday	Saturday	Sunday
115	Ravenscar - Scarborough	2 per day	2 per day	-
X93 MAX	Middlesbrough - Scarborough	1	1	1

(Source: PT Operators)

Rail

- 3.12 Scarborough train station is located approximately 7km south of the development. It can be accessed in 25 minutes by the number X93 MAX bus service. The station is managed by Northern and operates hourly services to York and Sheffield. It takes around 5 minutes to walk between the station and Scarborough town centre. There are 26 sheltered cycle storage stands as well as a ticket office, ticket machines and toilets.

Local Amenities

- 3.13 **Table 3.3** summaries the health, education, retail / leisure, and employment amenities which are located within walking (2km) or cycling (5km) distance of the site. It is considered that the wide range of amenities available demonstrates that residents are able to undertake sustainable journeys using modes of active travel.

Table 3.3: Local Amenities

Amenity	Distance	Walk Time	Cycle Time
Health			
Scarborough Medical Group - Cloughton	1.4km	18 mins	6 mins
Education			
Lindhead School	290m	3 mins	1 min
Burniston & Cloughton Playgroup	1.4km	18 mins	5 mins



Retail / Leisure			
Burniston & Cloughton Village Hall	500m	6 mins	2 mins
Burniston Post Office	950m	11 mins	4 mins
Three Jolly Sailors	1.1km	13 mins	4 mins
The Oak Wheel Pub	1.2km	14 mins	5 mins
Blacksmith's Arms Inn	1.4km	17 mins	5 mins
Employment			
Burnside Leisure Park	2.2km	-	7 mins
Scalby	3.6km	-	13 mins
Scarborough (North Bay)	5km	-	16 mins

(Source: Google Maps)

- 3.14 **Table 3.3** demonstrates the site is located within convenient walking and cycling distance of a range of local amenities. This indicates future residents will not need to use the car to make short trips to key amenities such as the local primary school, the post office and a range of pubs.

Summary

- 3.15 Overall, the site is within suitable reach from surrounding areas on foot, by bike or public transport. It is considered that good sustainable transport infrastructure is located within the vicinity of the proposed development site, including bus stops within 100m walking distance and, as such, the proposals are consistent with national and local policy objectives for rural villages.

4. LOCAL HIGHWAY NETWORK

Introduction

- 4.1 This section of the Transport Statement considers the nature of the existing highway network, and summaries the historic accident data for the area surrounding the site.

Highway Network

- 4.2 A description is provided below of the local highway network in the immediate vicinity of the site; for ease, it is also shown in **Figure 4.1**.

Figure 4.1: Existing Highway Network



(Source: Google Maps)

Limestone Road

- 4.3 Access to the site will be taken from Limestone Road. The road serves residential properties as well as Applegrove Country Park, the International Church of Saint Paul and a domestic and commercial business. The road runs in an east – west alignment between A171 High Street in the east and Cumboots Brow / Swang Road in the west. The road is subject to a 30mph speed limit within the vicinity of the site.

Stone Quarry Road

- 4.4 Stone Quarry Road runs in a north – south alignment between Lindhead Road / Quarry Road in the north and Limestone Road in the south. The road serves a number of residential properties and is subject to a 30mph speed limit.

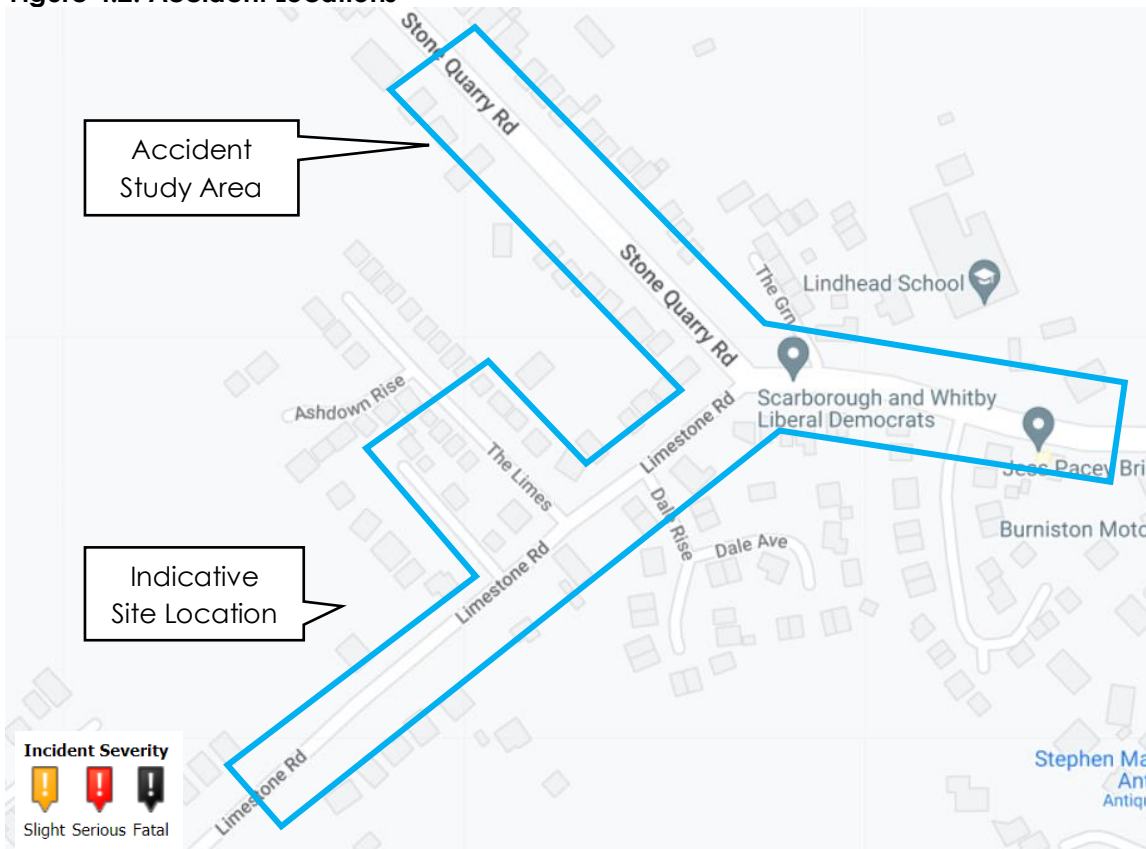
A171 High Street

- 4.5 The A171 provides a key link between Whitby in the north and Scarborough in the south. Within the vicinity of the site, the road is subject to a 30mph speed limit and comprises a single carriageway with one lane in each direction. The A171 connects to Limestone Road via a priority T-junction.

Road Safety

- 4.6 Accident data for the most recent 5-year period (2016 – 2020) has been obtained from www.crashmap.co.uk for the network surrounding the site. Crashmap offers a definitive map of the official road collision statistics. The locations of the accidents in the vicinity of the site are shown on **Figure 4.2**.

Figure 4.2: Accident Locations



(Source: Crash Map)

- 4.7 As can be seen from **Figure 4.2**, no accidents have been recorded within the vicinity of the site within the latest 5-year period. This indicates that there is not a road safety issue in the vicinity of the site.



5. TRIP GENERATION

Introduction

- 5.1 This section of the Transport Statement sets out the vehicle trip generation associated with proposed development.

Vehicle Trip Generation

Previously Consented Scheme

- 5.2 Whilst it is acknowledged that there are no technical documents available on the planning portal, nonetheless, a trip generation exercise has been undertaken for the previously consented scheme using the TRICS trip rates presented below, in **Section 5.5**, for the current proposals. This demonstrates the likely trip generation associated with the previously consented, now lapsed, scheme for 40 dwellings. Full TRICS parameters can be viewed below, in **Section 5.5**.
- 5.3 **Table 5.1** summarises the vehicle trip rates, and the likely trip generation associated with the previously consented scheme. The full TRICS output can be viewed at **Appendix B**.

Table 5.1: Previous Consented Scheme – Vehicle Trip Generation

	AM Peak			PM Peak		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Trip Rates	0.172	0.391	0.563	0.303	0.184	0.487
Trip Generation	7	16	23	12	7	19

(Source: TRICS)

- 5.4 As can be seen in **Table 5.1**, the previously consented dwellings would be anticipated to generate 23 two-way vehicle trips in the AM peak hour and 19 two-way vehicle trips in the PM peak hour.

Current Proposals

- 5.5 The TRICS database has been interrogated in order to determine the likely level of vehicle trip generation associated with the proposed 27 dwellings. The following parameters of the TRICS database have been selected:
- Land Use: Residential, Houses Privately Owned
 - Number of Dwellings: 8 – 34;
 - Date Range: 01/01/2013 – 16/06/2021; and
 - Location: Edge of Town Centre, Neighbourhood Centre



- 5.6 **Table 5.2** summaries the vehicle trip rates, and resultant trip generation associated with the proposed apartments, the full TRICS output is also provided at **Appendix B**.

Table 5.2: Proposed Apartments – Vehicle Trip Generation

	AM Peak			PM Peak		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Trip Rates	0.172	0.391	0.563	0.303	0.184	0.487
Trip Generation	3	7	10	5	3	9

(Source: TRICS)

- 5.7 As can be seen in **Table 5.2**, the proposed dwellings would be anticipated to generate 10 two-way vehicle trips in the AM peak hour and 9 two-way vehicle trips in the PM peak hour.

Net Impact

Given that there is a previous consent associated with the site, it has been deemed appropriate to establish the net impact of vehicle trip generation between the consented proposals and that of the new proposals. **Table 5.3** summarises the net impact of vehicle trip generation of the existing and proposed uses.

Table 5.3: Net Impact

	AM Peak			PM Peak		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Consented	7	16	23	12	7	19
Proposed	3	7	10	5	3	9
Net Impact	-4	-9	-12	-7	-4	-11

(Note: Subject to rounding error)

- 5.8 As can be seen in **Table 5.3**, the proposed development would not generate any additional vehicle trips over and above that already consented, in fact the proposed development would remove up to 12 two-way vehicle trips in the AM peak hour and up to 11 two-way vehicle trips in the PM peak hour. This level of vehicle trip generation could not be considered as material, particularly when considered in the context of the previously consented scheme for 40 dwellings, therefore, further detailed assessment has not been undertaken.

6. ACCESS, PARKING AND SERVICING

Introduction

- 6.1 This section of the Transport Statement considers the proposed parking and servicing arrangements for the development proposals.

Access

- 6.2 Access is to be provided via a new priority T-junction from Burniston Road.
- 6.3 Visibility has been calculated based on the posted speed limit along Burniston Road; this is 30mph in both directions.
- 6.4 **Table 6.1**, below, summarises the Stopping Sight Distances identified in MfS.

Table 6.1: SSD identified in MfS

Design Speed	Kph	16	20	24	25	30	32	40	45	48	50	60
	Mph	10	12	15	16	19	20	25	28	30	31	37
SSD (m)		9	12	15	16	20	22	31	36	40	43	56
SSD adjusted for bonnet length		11	14	17	18	23	25	33	39	43	45	59

(Source: MfS Table 7.1)

- 6.5 Based on the above it is considered that visibilities of 43m to both the east and the west are appropriate. Visibility Splays are provided on the drawing attached at **Appendix C**.

Parking

- 6.6 Parking has been provided in line with North Yorkshire County Council's Residential Minimum Vehicle Parking Standards (2015). The parking standards are summarised as follows:
- 2-bedroom dwellings in rural areas – 2 spaces
 - 3-bedroom dwellings in rural areas – 2 spaces
- 6.7 As can be seen on the site layout plan at **Appendix A**, each dwelling has been provided with an appropriate level of car parking to suit the size of the house. Cycle parking is available in garages and where a garage is not provided, it is expected that cycles will be stored within the curtilage of dwellings.



Servicing

Refuse Collection

- 6.8 It is anticipated that refuse collection will be undertaken by North Yorkshire County Council from the roadside within the development, in the same manner as is undertaken at nearby residential properties.
- 6.9 A swept path analysis is provided at **Appendix D**, to demonstrate that a refuse vehicle can manoeuvre within the site.

Fire Appliance Access

- 6.10 Manual for Streets (MfS) indicates that the access requirement for emergency vehicles are generally stipulated by the Fire Service. Consulting national guidance, *The Building Regulations 2010 'Fire Safety' (2013) Approved Document B Section 5 'Access and Facilities for the Fire and Rescue Service'*, Table 8 sets out that 'Typical Fire and Rescue Service Vehicle Access Route Specification' which stipulates that a minimum road width of 3.7m be provided and turning facilities should be provided in any cul-de-sac that is more than 20m long. Fire tenders and emergency vehicles will access the site via the site access junction on Limestone Road.



7. SUMMARY AND CONCLUSIONS

Summary

7.1 TPS has prepared this Transport Statement to accompany a planning application for residential development comprising 18 dwellings on lane to the north of Limestone Road, Burniston, North Yorkshire. The following summarises the key points:

- The proposals are in keeping with both the local and national transport and the land use planning policy agenda;
- The site benefits from good connectivity to a range of amenities available in the local area, with opportunities for future residents and visitors to travel by non-car modes;
- An analysis of contemporary accident data suggests that there are no accident trends that might be exacerbated by the addition of development related traffic;
- An assessment of the likely vehicle trip generation indicates that the proposed dwellings would be anticipated to generate 10 two-way vehicle trips in the AM peak hour and 9 two-way vehicle trips in the PM peak hour. This would remove up to 12 two-way vehicle trips in the AM peak hour and up to 11 two-way vehicle trips in the PM peak hour when compared to the previously consented scheme for 40 dwellings;
- The proposed vehicle trip generation, therefore, is not considered to result in a material impact upon the highway network;
- Car parking has been provided at an appropriate ratio for a residential development within a rural location, along with suitable cycle parking;
- Appropriate visibility splays have been provided in line with MFS; and
- Servicing has been considered.

Conclusion

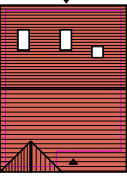
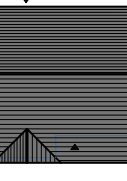
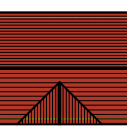
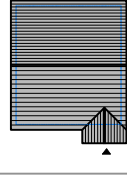

7.2 Given the above, it is considered that the proposals will by no means result in a 'severe residual cumulative impact' (the test set out in NPPF); indeed, they will be complementary to the prevailing policy agenda. As such, there are no substantive highway grounds why the development should not be granted consent.





Appendix A


Indicative Site Layout


TOTAL = 18 UNITS


	02	BUNG01 3 BED, 1175 sq.ft
	03	BUNG02 3 BED, 915 sq.ft
	07	LIMESTONE 3 BED, 1300 sq.ft
	02	BURNISTON 3 BED, 1180 sq.ft
	04	ACORN 2 BED, 750 sq.ft
19,555 sq.ft		


- LANDSCAPE KEY:
- 


EXISTING TREES TO BE RETAINED
- 


EXISTING TREES TO BE REMOVED
- 


TARMAC ROAD (TO ADOPTABLE STANDARDS)
- 

TARMAC FOOTPATHS & MARGINS (TO ADOPTABLE STANDARDS)
- 

HEATHER BLOCK PAVING TO DRIVES AND PRIVATE ACCESS POINTS
- 


PAVING SLABS (TO CONTRACTORS SPEC)
- 

GRASS AREAS
- 

INDICATIVE TREE/SHRUBS/HEDGEROW - REFER TO LANDSCAPING PLAN
- 

1800mm HIGH CLOSE BOARDED TIMBER FENCE TO ALL BOUNDARIES





1. CHECK ALL DIMENSIONS ON SITE PRIOR TO WORK COMMENCING

2. CONTRACTOR TO REPORT ANY DISCREPANCIES TO ELDER LESTER ARCHITECTS

3. ORDNANCE SURVEY DATA IS USED ON ELDER LESTER DRAWINGS, ELDER LESTER IS NOT RESPONSIBLE FOR THE ACCURACY OF DIMENSIONS RELATING TO ORDNANCE SURVEY DATA OR THAT OUTSIDE OF INSERTED TOPOGRAPHIC SURVEY INFORMATION

4. WORK WITHIN THE CONSTRUCTION (DESIGN & MANAGEMENT) REGULATIONS 2015 IS NOT TO START UNTIL A HEALTH & SAFETY PLAN HAS BEEN PRODUCED (BY OTHERS)

5. THIS DRAWING IS FOR USE BY THE CLIENT ONLY AND FOR THE LOCATION SPECIFIED, COPYRIGHT & ANY DESIGNS THEREIN ARE THE PROPERTY OF ELDER LESTER ARCHITECTS & MUST NOT BE COPIED WITHOUT WRITTEN AGREEMENT



PROJECT/CLIENT:

RESIDENTIAL DEVELOPMENT
LIMESTONE ROAD
BURNISTON
SCARBOROUGH
THE MANDALE GROUP

DRAWING INFORMATION:

PROPOSED SITE PLAN

RECENT REVISION NOTES:

J - 09/06/2022 - PLOTS 7 - 15 REMOVED - RH

K - 27/06/2022 - PLOTS RE-NUMBERED AND SITE TOTALS UPDATED

ELDER LESTER ARCHITECTS

REEDS MILL, ATLAS WYND,
YARM
TS15 9AD
TEL: 01642 782211
WWW.ELDERLESTER.CO.UK



SCALE & PAPER SIZE: 1:500 @ A1

DATE CREATED: 30/11/2021
DATE OF LAST ISSUE: 27/06/2022
DRAWN/ISSUED BY: RJT

DRAWING No:

2143-P-001K



Appendix B

TRICS Output

Northern Transport Planning LEEDS WEST YORKSHIRE

Licence No: 640801

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL

Category : A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	BN BARNET	1 days
02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	ES EAST SUSSEX	1 days
	HF HERTFORDSHIRE	1 days
	KC KENT	2 days
03	SOUTH WEST	
	DC DORSET	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	2 days
	NF NORFOLK	2 days
	SF SUFFOLK	2 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	ST STAFFORDSHIRE	1 days
	WK WARWICKSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	2 days
08	NORTH WEST	
	CH CHESHIRE	3 days
	LC LANCASHIRE	1 days
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	2 days
10	WALES	
	PS POWYS	1 days
	VG VALE OF GLAMORGAN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 8 to 34 (units:)
 Range Selected by User: 4 to 35 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 16/06/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	7 days
Tuesday	2 days
Wednesday	11 days
Thursday	8 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	32 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	9
Edge of Town	15
Neighbourhood Centre (PPS6 Local Centre)	9

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	25
Village	8

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	33 days
----	---------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	8 days
5,001 to 10,000	7 days
10,001 to 15,000	8 days
15,001 to 20,000	2 days
20,001 to 25,000	5 days
25,001 to 50,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	4 days
50,001 to 75,000	6 days
75,001 to 100,000	3 days
125,001 to 250,000	9 days
250,001 to 500,000	7 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	14 days
1.1 to 1.5	18 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	6 days
No	27 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	32 days
2 Poor	1 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	BD-03-A-03 CARNOUSTIE DRIVE BEDFORD GREAT DENHAM Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: THURSDAY</i>	DETACHED HOUSES 30 15/10/20	BEDFORDSHIRE	<i>Survey Type: MANUAL</i>
2	BN-03-A-02 SWEETS WAY WHETSTONE Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: <i>Survey date: TUESDAY</i>	MIXED HOUSES 21 03/07/18	BARNET	<i>Survey Type: MANUAL</i>
3	CA-03-A-05 EASTFIELD ROAD PETERBOROUGH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	DETACHED HOUSES 28 17/10/16	CAMBRIDGESHIRE	<i>Survey Type: MANUAL</i>
4	CA-03-A-07 FIELD END NEAR ELY WITCHFORD Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: <i>Survey date: THURSDAY</i>	MIXED HOUSES 32 27/05/21	CAMBRIDGESHIRE	<i>Survey Type: MANUAL</i>
5	CH-03-A-09 GREYSTOKE ROAD MACCLESFIELD HURDSFIELD Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	TERRACED HOUSES 24 24/11/14	CHESHIRE	<i>Survey Type: MANUAL</i>
6	CH-03-A-11 LONDON ROAD NORTHWICH LEFTWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: <i>Survey date: THURSDAY</i>	TOWN HOUSES 24 06/06/19	CHESHIRE	<i>Survey Type: MANUAL</i>
7	CH-03-A-12 MEADOW DRIVE NORTHWICH BARNTON Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: <i>Survey date: FRIDAY</i>	SEMI DETACHED HOUSES 33 30/04/21	CHESHIRE	<i>Survey Type: MANUAL</i>
8	DC-03-A-08 HURSTDENE ROAD BOURNEMOUTH CASTLE LANE WEST Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	BUNGALOWS 28 24/03/14	DORSET	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

9	ES-03-A-06 BISHOPS LANE RINGMER	MIXED HOUSES	EAST SUSSEX
	Neighbourhood Centre (PPS6 Local Centre) Village		
	Total No of Dwellings:	12	
	Survey date: WEDNESDAY	16/06/21	Survey Type: MANUAL
10	HF-03-A-04 HOLMSIDE RISE WATFORD SOUTH OXHEY Edge of Town Residential Zone	TERRACED HOUSES	HERTFORDSHIRE
	Total No of Dwellings:	8	
	Survey date: TUESDAY	08/06/21	Survey Type: MANUAL
11	KC-03-A-05 ROCHESTER ROAD NEAR CHATHAM BURHAM	DETACHED & SEMI-DETACHED	KENT
	Neighbourhood Centre (PPS6 Local Centre) Village		
	Total No of Dwellings:	8	
	Survey date: FRIDAY	22/09/17	Survey Type: MANUAL
12	KC-03-A-09 WESTERN LINK FAVERSHAM DAVINGTON Edge of Town Residential Zone	MIXED HOUSES & FLATS	KENT
	Total No of Dwellings:	14	
	Survey date: WEDNESDAY	09/06/21	Survey Type: MANUAL
13	LC-03-A-31 GREENSIDE PRESTON COTTAM Edge of Town Residential Zone	DETACHED HOUSES	LANCASHIRE
	Total No of Dwellings:	32	
	Survey date: FRIDAY	17/11/17	Survey Type: MANUAL
14	MS-03-A-03 BEMPTON ROAD LIVERPOOL OTTERSPOOL Suburban Area (PPS6 Out of Centre) Residential Zone	DETACHED	MERSEYSIDE
	Total No of Dwellings:	15	
	Survey date: FRIDAY	21/06/13	Survey Type: MANUAL
15	NF-03-A-03 HALING WAY THETFORD	DETACHED HOUSES	NORFOLK
	Edge of Town Residential Zone		
	Total No of Dwellings:	10	
	Survey date: WEDNESDAY	16/09/15	Survey Type: MANUAL
16	NF-03-A-10 HUNSTANTON ROAD HUNSTANTON	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town Residential Zone		
	Total No of Dwellings:	17	
	Survey date: WEDNESDAY	12/09/18	Survey Type: DIRECTIONAL ATC COUNT

LIST OF SITES relevant to selection parameters (Cont.)

17	NY-03-A-08 NICHOLAS STREET YORK	TERRACED HOUSES		NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 21 <i>Survey date: MONDAY 16/09/13</i>			
	<i>Survey Type: MANUAL</i>			
18	NY-03-A-11 HORSEFAIR BOROUGHBRIDGE	PRIVATE HOUSING		NORTH YORKSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 23 <i>Survey date: WEDNESDAY 18/09/13</i>			
	<i>Survey Type: MANUAL</i>			
19	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND	TERRACED HOUSES		NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 10 <i>Survey date: WEDNESDAY 10/05/17</i>			
	<i>Survey Type: MANUAL</i>			
20	PS-03-A-02 GUNROG ROAD WELSHPOOL	DETACHED/SEMI-DETACHED		POWYS
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 28 <i>Survey date: MONDAY 11/05/15</i>			
	<i>Survey Type: MANUAL</i>			
21	SF-03-A-05 VALE LANE BURY ST EDMUNDS	DETACHED HOUSES		SUFFOLK
	Edge of Town Residential Zone Total No of Dwellings: 18 <i>Survey date: WEDNESDAY 09/09/15</i>			
	<i>Survey Type: MANUAL</i>			
22	SF-03-A-08 STANNINGFIELD ROAD NEAR BURY ST EDMUNDS GREAT WHELNETHAM	MIXED HOUSES		SUFFOLK
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 34 <i>Survey date: WEDNESDAY 16/09/20</i>			
	<i>Survey Type: MANUAL</i>			
23	SH-03-A-06 ELLESMERE ROAD SHREWSBURY	BUNGALOWS		SHROPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 16 <i>Survey date: THURSDAY 22/05/14</i>			
	<i>Survey Type: MANUAL</i>			
24	SM-03-A-01 WEMBDON ROAD BRIDGWATER NORTHFIELD	DETACHED & SEMI		SOMERSET
	Edge of Town Residential Zone Total No of Dwellings: 33 <i>Survey date: THURSDAY 24/09/15</i>			
	<i>Survey Type: MANUAL</i>			
25	ST-03-A-08 SILKMORE CRESCENT STAFFORD MEADOWCROFT PARK	DETACHED HOUSES		STAFFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 26 <i>Survey date: WEDNESDAY 22/11/17</i>			
	<i>Survey Type: MANUAL</i>			

LIST OF SITES relevant to selection parameters (Cont.)

26	SY-03-A-02 MANOR ROAD NEAR SHEFFIELD WALES Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 25 Survey date: THURSDAY 10/09/20	DETACHED & BUNGALOWS	SOUTH YORKSHIRE	Survey Type: MANUAL
27	SY-03-A-03 CHURCH LANE NEAR BARNLEY WORSBROUGH Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 19 Survey date: WEDNESDAY 09/09/20	BUNGALOWS & DETACHED	SOUTH YORKSHIRE	Survey Type: MANUAL
28	TW-03-A-02 WEST PARK ROAD GATESHEAD Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 16 Survey date: MONDAY 07/10/13	SEMI-DETACHED	TYNE & WEAR	Survey Type: MANUAL
29	TW-03-A-03 STATION ROAD NEAR NEWCASTLE BACKWORTH Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 33 Survey date: FRIDAY 13/11/15	MIXED HOUSES	TYNE & WEAR	Survey Type: MANUAL
30	VG-03-A-01 ARTHUR STREET BARRY Edge of Town Residential Zone Total No of Dwellings: 12 Survey date: MONDAY 08/05/17	SEMI-DETACHED & TERRACED	VALE OF GLAMORGAN	Survey Type: MANUAL
31	WK-03-A-02 NARBERTH WAY COVENTRY POTTERS GREEN Edge of Town Residential Zone Total No of Dwellings: 17 Survey date: THURSDAY 17/10/13	BUNGALOWS	WARWICKSHIRE	Survey Type: MANUAL
32	WK-03-A-03 BRESE AVENUE WARWICK GUYS CLIFFE Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 23 Survey date: WEDNESDAY 25/09/19	DETACHED HOUSES	WARWICKSHIRE	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

33

WL-03-A-02

SEMI DETACHED

WILTSHIRE

HEADLANDS GROVE

SWINDON

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total No of Dwellings:

27

Survey date: THURSDAY

22/09/16

Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CC-03-A-01	ireland
CS-03-A-03	ireland
DL-03-A-11	ireland
DN-03-A-06	ireland
RO-03-A-03	ireland
WX-03-A-01	ireland

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	33	22	0.086	33	22	0.271	33	22	0.357
08:00 - 09:00	33	22	0.172	33	22	0.391	33	22	0.563
09:00 - 10:00	33	22	0.137	33	22	0.213	33	22	0.350
10:00 - 11:00	33	22	0.179	33	22	0.172	33	22	0.351
11:00 - 12:00	33	22	0.211	33	22	0.194	33	22	0.405
12:00 - 13:00	33	22	0.225	33	22	0.197	33	22	0.422
13:00 - 14:00	33	22	0.195	33	22	0.194	33	22	0.389
14:00 - 15:00	33	22	0.204	33	22	0.227	33	22	0.431
15:00 - 16:00	33	22	0.312	33	22	0.254	33	22	0.566
16:00 - 17:00	33	22	0.303	33	22	0.184	33	22	0.487
17:00 - 18:00	33	22	0.298	33	22	0.183	33	22	0.481
18:00 - 19:00	33	22	0.280	33	22	0.172	33	22	0.452
19:00 - 20:00	1	21	0.286	1	21	0.048	1	21	0.334
20:00 - 21:00	1	21	0.238	1	21	0.286	1	21	0.524
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.126			2.986			6.112

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

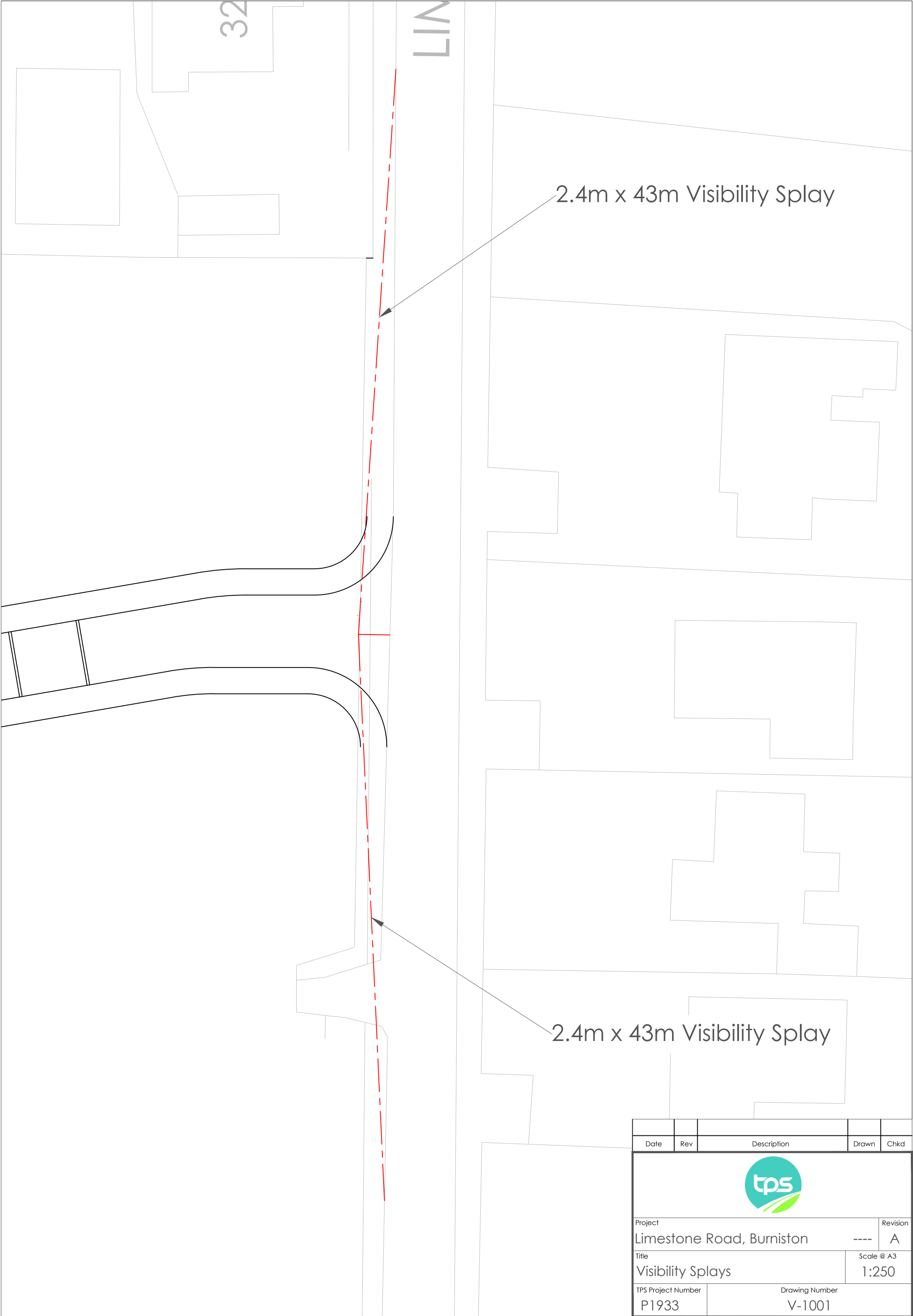
Trip rate parameter range selected:	8 - 34 (units:)
Survey date range:	01/01/13 - 16/06/21
Number of weekdays (Monday-Friday):	33
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	6

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



Appendix C

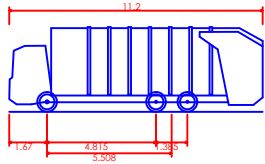
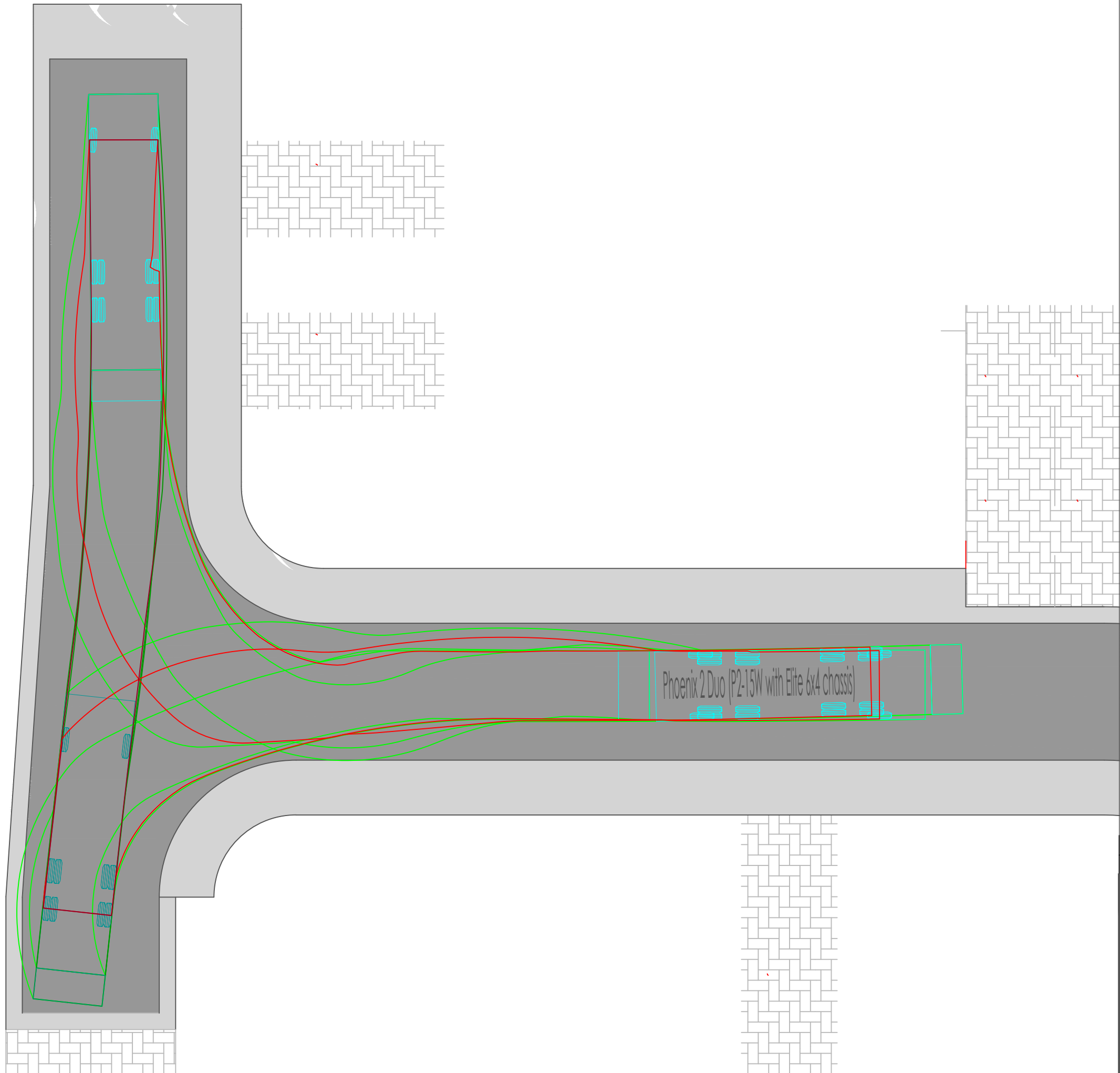
Visibility Splays






Appendix D

Swept Path Analysis



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.200m
Overall Width 2.530m
Overall Body Height 3.751m
Min Body Ground Clearance 0.304m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

Date	Rev	Description	Drawn Chkd
<div></div>			
Project Limestone Road, Burniston			Revision -
Title Refuse Vehicle Tracking			Scale @ A3 1:500
TPS Project Number P1933	Drawing Number P1933-T-1001		