



# Proposed Development at Knockharley Landfill (ABP Planning Ref. PL17.303211)

## Response to Request for Further Information – Query No. 2

**PREPARED FOR:**

Knockharley Landfill Ltd.



**CREATED:**

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# 1 INTRODUCTION

## 1.1 Background

Trafficwise Ltd. is a firm of engineering consultants specialising in Traffic and Transportation Planning and Geometric Roads Design. We act for the Applicant for permission, Knockharley Landfill Limited, in preparing the traffic and transportation element of the response to the Request for Further Information issued by An Bord Pleanála. Trafficwise Ltd. prepared EIAR Chapter 8 'Roads, Traffic & Transportation'. Item 2 of the Request for Further Information dated 16<sup>th</sup> May 2019 relates to matters raised by Meath County Council in relation to roads, traffic and transportation, including:

- traffic flow data;
- further traffic assessment;
- access junction layout;
- traffic management and comments relating to previous traffic survey data recorded at the existing site access junction.

In the interest of clarity, the specific elements of Item 2 are transcribed ahead of to each respective response.

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## 2 REQUEST FOR FURTHER INFORMATION – ITEM 2

*"Meath County Council have raised a number of concerns in relation to roads, traffic and transportation which the applicant is required to address. It is noted that the applicant relies on previous traffic surveys from 2016, 2015 and 2010 to supplement the review of traffic and transportation. It is considered that the use of historic traffic data is not acceptable for the purpose of determining traffic assignment and distribution to and from the proposed development."*

### 2.2 Response to Item 2

EIAR Chapter 8 sets out the rationale for the inclusion of data relating to previous studies and traffic analyses at the existing permitted development. It was appropriate to consider historic data together with more recent traffic flow data at the existing development site as this aided in determining representative development traffic generation characteristics for the traffic impact and capacity assessments. Historic traffic flow data is also of assistance in evaluating fluctuations in the flow and composition of receiving road network traffic on the N2 and connecting regional and local roads. In this context, and as noted in the application documentation, the existing landfill development has been shown in successive studies as being unlikely to give rise to significant impact on the capacity of the receiving road network. To assist in the assessment of the traffic assignment and distribution, further traffic assessment and traffic modelling has been undertaken. The further traffic study is underpinned by recent network traffic surveys conducted in late May 2019. Assignment and distribution of exiting and forecast traffic is derived from recent weighbridge data records spanning January 1<sup>st</sup> 2019 to June 19<sup>th</sup> 2019. The additional data is set out specifically in direct response to Item 2a which serves to confirm that the forecast overall traffic impact is no greater than that described in the original EIAR Chapter 8.

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### 3 REQUEST FOR FURTHER INFORMATION – ITEM 2A

*“The applicant is requested to submit the following:- Submit detailed junction assessments using appropriate industry standard software to determine the impact of the proposed development on the following junctions:*

- *N2/Site Access Junction*
- *N2/Rathdrinagh Cross*
- *N2/O’Brien’s Cross*
- *N2/Balrath Cross*
- *N2/Kilmoon Cross (if used as a haul route)*

*All assessments should include an opening year, an opening year +5 and an opening year +15 assessment for both the with and without proposed development scenario during both the AM and PM peak hours of operation. The assessment of the development peak hour should also be undertaken.*

*New traffic surveys should be undertaken at the site access junction and the critical national road junctions as part of the junction assessment. The assessment should also provide an analysis of the impact of the propose development on the capacity of the N2 for the opening and subsequent years using up to date AADT information.”*

#### 3.2 Response to Item 2a

Traffinomics (formerly Abacus) Transportation Surveys Ltd. carried out classified turning count surveys on the public road network on the haul routes used by traffic in the general vicinity of the site using CCTV on Thursday 30<sup>th</sup> May 2019 between 07:00hrs and 19:00hrs. The survey data and location mapping has been provided in Appendix A.

The May 2019 traffic survey data was collected for the following junctions specified in the Request for Further Information:

- *Site 1: N2/Rathdrinagh Cross*
- *Site 2: N2/Site Access Junction*
- *Site 3: N2/O’Brien’s Cross*
- *Site 4: Balrath Cross*

Turning count traffic data was not collected for the N2/Kilmoon Cross junction since it is not used as a haul route. Unlike Rathdrinagh Cross, O’Brien’s Cross and Balrath Cross where development generated HGV traffic turns to or from the R152 at Kilmoon Cross where development traffic passes straight through on the N2 mainline only. From the EIAR and the analysis herein it can be concluded from the assessment of the other N2 junctions and N2 mainline that the impact arising at Kilmoon Cross will not be significant. The traffic flow data from the May 2019 survey forms the basis of detailed junction assessments using appropriate industry standard software to determine the impact of the proposed development on the operation of the receiving road network defined by the above scope understood to have been prescribed as appropriate by Meath County Council.

Daily traffic flows recorded on the receiving road network during the course of the Thursday 30<sup>th</sup> May 2019 survey are summarised in network flow diagram format in Figure 1 of Appendix B. Table 3.1 below provides a summary of the recorded traffic survey data and percentage HGV content enumerated between 07:00hrs and 19:00hrs.

Based upon NRA: Project Appraisal Guidelines, Unit 16-2 'Expansion Factors for Short Period Traffic Counts' the recorded traffic flow is representative of a value equal to 0.82<sup>1</sup> of AADT<sup>2</sup>.

The colour coding in Table 3.1 corresponds with the survey junction number. To aid cross-reference between the original survey data, the tables herein and the figures in the appendices the same colour convention is applied in the series of network flow diagrams provided in Appendix B.

**Table 3-1: Receiving Road Traffic Flow Statistics 2019**

Survey Site Ref.	Road Link	Tuesday 6 Mar 2018 07:00-19:00		AADT
		Total Two-way (% HGV) *	HGV Two-way	
<b>Site 1</b>	N2 Mainline North	7,010 (16.4%)	1,184	8,581
Rathdrinagh Cross	L1013 West	1,582 (11.1%)	157	1,937
	L1013 East (Panda)	1,174 (18.3%)	215	1,437
	N2 Mainline South	7,582 (17.1%)	1,296	9,281
<b>Site 3</b>	N2 Mainline North	7,565 (17.2%)	1,303	9,260
O'Briens Cross	R150 West (Kentstown)	2,700 (10%)	270	3,305
	R150 East (Duleek)	4,014 (12%)	483	4,914
	N2 Mainline South	7,467 (16.1%)	1,202	9,140
<b>Site 4</b>	N2 Mainline North	7,455 (16%)	1,193	9,126
Bairath Cross	R153 Navan	4,554 (8.1%)	368	5,575
	L1610	1,603 (7.2%)	115	1,962
	N2 Mainline South	9,858 (13.7%)	1,346	12,067

**Note:** \* Percentage HGV Derived from 12 Hour Figures

The network peak hours are identified from the traffic survey as 08:00 – 09:00hrs in the morning and 17:00 - 18:00hrs in the evening. The network peak hour traffic flows recorded in the May 2019 surveys are shown in the following network flow diagrams of Appendix B:

- Figure 2 Weekday AM Network Peak Hour Flows 08:00-09:00hrs (2018)
- Figure 3 Weekday PM Network Peak Hour Flows 17:00-18:00hrs (2018)

<sup>1</sup> Calculation based upon Hourly Traffic Flows tables, Weekly Flow Index 0.93 and Monthly Flow Index 0.97

<sup>2</sup> Annual Average Daily Traffic

To establish the development peak hour, weighbridge data for the year 2019 to 19<sup>th</sup> June 2019 has been analysed based upon the entry time recorded for HGV. The results of the analysis are presented in Table 3.2 below.

**Table 3-2: Daily Profile of HGV Traffic Generation (Weighbridge Data 2019)**

Time Period	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00
Proportion of Daily HGV Traffic	13 %	<b>14 %</b>	13 %	12 %	11 %	11 %	10 %	10 %	6%	0%	0%

From Table 3.2 the development peak hour is identified as coinciding with the morning network peak hour of 08:00-09:00hrs. The weighbridge data analysis shows that 14% of the daily HGV traffic is generated by the existing development during the morning peak hour. In the interest of a robust analysis of the potential impact of the proposed development the assessments of network capacity assume a peak hour traffic generation equating to 15% of daily traffic.

The weighbridge also records the source of the waste arriving at the existing facility. Analysis of the current sources of inbound materials has been used to derive a current distribution of traffic on the road network. The current distribution of site generated traffic is shown in network flow diagram format in Figure 4 of Appendix B. Figure 4 is based upon the frequency of vehicles arriving from the various sources over the period Jan-Jun 2019. Appendix B Figure 4 shows approximately 52% of all material arriving at the site comes from the materials treatment/recovery facility at Beauparc on the L1013 near Rathdrinagh Cross. This is a source identified in a number of the previous traffic studies at this site and is also identified in the EIAR. The distribution shown in Appendix B Figure 4 is the assumed distribution of new development traffic arising from the proposed development and increased tonnages at the Knockharley Facility.

The traffic survey data of May 2019 shows 16 private cars and vans arriving before the opening of the weighbridge and for the purposes of the assessment these are reasonably assumed to be traffic associated with staff movements. Similarly 16 vehicles leave the facility in the evening. Albeit that these vehicles are not manifest in the network peak hours, in the interest of a robust assessment staff are assumed to arrive in the morning peak hour and depart the site in the evening peak hour. As per the EIAR, the purposes of the traffic assessment it is assumed that staff traffic movements will potentially double.

On the day of the traffic surveys in May 2019 the HGV traffic generation of the site was 40 HGV trips (40 enter and 40 depart). Based upon a first principles calculation where the current site is permitted to receive 88,000t per annum and given the average payload of vehicles entering the site, the surveyed HGV traffic flows are approximately twice the annual average daily traffic flow. Given that this is the case, and in response to the comments of Meath County Council that directly reference the 5 fold increase in tonnage as set out in Item 2c point 3 the following assumptions have been made in the interest of what is considered an extremely robust traffic assessment.

Despite the recorded HGV flow on the day of the survey being approximately double the average based upon current permitted tonnage it is assumed for the purposes of the study that this rate is indicative of a potential high fluctuation in the rate of materials intake.

The estimates of future average HGV traffic generation in the EIAR are based upon the proposed annual tonnage and the average payload of vehicles transporting the various waste streams. The EIAR forecasts an average traffic HGV generation of 78 vehicle trips<sup>3</sup>. This is approximately double the surveyed traffic flow on 30<sup>th</sup> May 2019 and approximately 4 times the current average daily HGV traffic generation based upon first principles calculations. Considering the issue raised by Meath County Council, and in the interest of an extremely robust assessment of potential impact, the traffic assessments herein consider a forecast high traffic generation rate of 200 HGV trips per day.

<sup>3</sup> EIAR Chapter 8, Table 8-6



This value is 5 times the surveyed flow of traffic at the landfill site and approaching 3 times the average calculated in the EIAR. The assessment generation value of 200 HGV trips per day can accordingly be considered not only robust but representative of a worst case. The activities at the development site are demand driven and thus fluctuations in the daily volume of traffic are inevitable. Based upon an examination of weighbridge data for 2019 such fluctuation is estimated by reference to the EIAR traffic generation assessment value are likely to be 78 ±50% thus giving an upper value for traffic assessment of around 120 vehicle trips. The value adopted for the current assessment based upon the May 2019 survey data has been set higher again at 200 HGV trips per day in the interest of providing Meath County Council with an assessment that can be considered a sufficiently robust basis upon which to determine matters of impact upon the capacity of the receiving roads network.

It is recommended by the Chartered Institution of Highways and Transportation (CIHT) publication 'Guidelines for Traffic Impact Assessment' that developers and Roads Authorities should adopt a robust development trip rate forecast that should be a value higher than the average. An approach that is widely adopted is to consider a range of values with the higher value being the 85<sup>th</sup> percentile of the data sample and the lower value being reflected by the average trip rate. By reference to the CIHT methodology the higher value of 200 HGV trips considered in this assessment exceeds the 85<sup>th</sup> percentile and is likely to exceed the 100<sup>th</sup> percentile or maximum flow at the proposed development site. The assessment value should accordingly be considered to represent an extreme worst case scenario for the purposes of a robust assessment of traffic capacity and impact upon the receiving road network.

Based upon the above values (which assume a doubling of car traffic and a fivefold increase in HGV traffic from the May 2019 traffic survey), the assignment of forecast traffic flows to the network over the course of the day and the peak hours are set out in the following network flow diagrams of Appendix B which are based upon the distribution of light and HGV traffic as set out in Appendix B Figure 4 and derived from detailed examination of weighbridge records for 2019.

- Figure 5 Daily Additional Traffic Generation 07:00-19:00hrs
- Figure 6 AM Peak Hour Additional Traffic Generation 08:00-09:00hrs
- Figure 7 PM Peak Hour Additional Traffic Generation 17:00-18:00hrs

The traffic flows provided in Figures 5, 6, and 7 are additional to those flows previously surveyed in May 2019. It is reasonable to consider that the series of figures relating to distribution and assignment also show the existing and future haul routes to and from the facility. The routes identified as hauls routes are chiefly on the N2 with notable sources generating traffic to the facility being the waste facility at Beuparc (Local Road L1013) and the Indaver plant at Duleek (Regional Road R150).

For the purposes of the traffic assessment, traffic generation arising directly from the proposed development has been assumed not to grow over time. Background traffic flows on the public road network however have been assumed to grow in accordance with the latest growth factors published in National Roads Authority (NRA) 'Project Appraisal Guidelines: Unit 5.5 Link-Based Traffic Growth Forecasting'. Medium growth factors have been used in the derivation of the future traffic flows from the surveyed 2019 flows. The growth indices used to derive Opening Year (assumed 2021) and; Opening Year +5ys (2026) and Opening Year +15yrs (2036) flows from the surveyed (2019) flows are as follows:

- 2019-2021 (Opening Year)-----1.033 (Cars)-----1.024 (HGV)
- 2019-2026 (Opening Year +5yrs)-----1.089 (Cars)-----1.058 (HGV)
- 2019-2036 (Opening Year +15yrs)-----1.191 (Cars)-----1.069 (HGV)

NRA growth factors have been applied directly to peak hour traffic data. Growth factors are not always directly applicable to peak hour periods as the peak hour is acknowledged as generally spreading out as opposed to intensifying. Ignoring this factor and adding growth directly to the peak hour generally results in robust calculations favoured by traffic and transport practitioners in the assessment of road network capacity.

The main corridor upon which the new traffic generated by the proposed development will have an impact is the N2. The scope of future year assessments focuses on the operation of the proposed development access and the junctions on the N2 where development turning traffic is manifest, as identified in the Request for Further Information.

It is anticipated that the additional vehicle generation will not have a significant impact upon the operation of other junctions on the greater road network outside of the scope identified in the EIAR and by Meath County Council. A series of traffic scenarios has been assessed, both with and without the proposed development in place. These are referred to respectively as the 'do nothing' or base scenario and the 'do something' or 'with development' scenarios and are provided so that the incremental impact of development traffic can be evaluated against a baseline where no further development whatsoever were to take place at the site. The various traffic flow scenarios have been assessed for the forecast Opening Year, revised for the purposes of this assessment to 2021, Opening Year +5yrs and the Design Year of 2036. These correspond to the assessment years identified in the Request for Further Information.

The TRL suite of programs assesses network performance in the identified peak hours. The 'do something' scenarios include for the forecast assessment value development traffic flows being added to the 'do nothing' network flows. The forecast traffic flows for each of the assessment scenarios together with the relative traffic generation of the various existing and proposed developments are provided in network flow diagram format in Appendix B which includes the following:

- Figure 8 2021 Weekday Daily Traffic Flows – Do Nothing 07:00-19:00hrs
- Figure 9 2021 Weekday Daily Traffic Flows – With Development 07:00-19:00hrs
- Figure 10 2026 Weekday Daily Traffic Flows – Do Nothing 07:00-19:00hrs
- Figure 11 2026 Weekday Daily Traffic Flows – With Development 07:00-19:00hrs
- Figure 12 2036 Weekday Daily Traffic Flows – Do Nothing 07:00-19:00hrs
- Figure 13 2036 Weekday Daily Traffic Flows – With Development 07:00-19:00hrs
- Figure 14 2021 AM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 15 2021 AM Peak Hour – With Development 08:00-09:00hrs
- Figure 16 2026 AM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 17 2026 AM Peak Hour – With Development 08:00-09:00hrs
- Figure 18 2036 AM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 19 2036 AM Peak Hour – With Development 08:00-09:00hrs
- Figure 20 2021 PM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 21 2021 PM Peak Hour – With Development 08:00-09:00hrs
- Figure 22 2026 PM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 23 2026 PM Peak Hour – With Development 08:00-09:00hrs
- Figure 24 2036 PM Peak Hour – Do Nothing 08:00-09:00hrs
- Figure 25 2036 PM Peak Hour – With Development 08:00-09:00hrs

As recommended by the NRA and the CIHT, the Transport Research Laboratory (TRL) computer modelling program PICADY (Priority Intersection Capacity and Delay) has been used to assess the future performance of the links and priority junctions on the receiving road junctions. PICADY is primarily intended as a means of assessing priority junction performance. The output provides performance indicators for roads designers and planners with regards to capacity, queuing and delay. An 85% level of saturation corresponding to a Ratio of Flow to Capacity (RFC) of 0.850 is generally accepted at priority junctions in urban areas, and 0.75 in rural areas, although these figures should not be considered in isolation and should be viewed together with queuing and delay information.

The results of the PICADY modelling analyses of the junctions on the network subject to the forecast various typical weekday peak hour traffic flow scenarios are summarised in the following tables. The traffic flows corresponding to the various scenarios are referenced from Appendix B in Column 2 of the tables. The results of the series of six AM Peak and corresponding six PM Peak hour assessments for Rathdrinagh Cross (N2/L1013) staggered crossroad (Survey Site 1) are summarised in Table 3.3.

Given that an RFC value of less than 0.750 generally indicates that rural junctions are under capacity, the results of the analysis show that Rathdrinagh Cross operates within capacity for all assessment traffic flow scenarios. The incremental impact upon capacity arising between the current permitted scenarios and the assessment traffic flow scenarios are not considered significant in the morning peak hour (development peak hour).

In all cases, the junction operates with an reserve capacity in the order of 75% in the 2036 Design Year. The reduction in reserve capacity arising from the assessment increases in traffic is less than 1% for all turning movements save the left turn from L1013 to the N2, in which case the maximum reduction in reserve capacity is 4%. In practice, the impact of proposed development traffic on the operation of the existing junction is considered likely to be virtually imperceptible to existing road uses. The traffic generated by the proposed development will not have a significant impact and the junction should function satisfactorily into the future. As can be seen from Table 3.2, the existing development generates no HGV traffic in the evening peak hour period – which is considered typical at this type of development (and indeed has been the case from examination of historic traffic survey data and weighbridge data through the various traffic assessments carried out over the past decade). The Request for Further Information specifically requires that AM and PM analyses should be addressed. Accordingly, the computer modelling for all junctions covers the PM Peak Hour – in which it is assumed staff vehicles will depart the development. Table 3.3 shows the maximum impact of the development during the PM Peak Hour is less than 0.2% on any turning movement at the junction and thus negligible.

**Table 3-3: Capacity Assessment Rathdrinagh Cross N2/L1013 [Site 1]**

Year		Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
				AM Peak	PM Peak	AM Peak	PM Peak
Opening Year 2021		<u>Do Nothing Permitted Dev.</u> App.B Fig.14 AM App.B Fig.20 PM	B-C	0.062	0.052	0.1 (0.14)	0.1 (0.10)
			B-AD	0.071	0.120	0.1 (0.16)	0.1 (0.14)
			A-D	0.055	0.032	0.1 (0.09)	0.0 (0.10)
			D-A	0.061	0.093	0.1 (0.12)	0.1 (0.14)
			D-BC	0.203	0.187	0.2 (0.20)	0.2 (0.21)
			C-B	0.060	0.043	0.1 (0.12)	0.0 (0.10)
		<u>Do Something Proposed Dev.</u> App.B Fig.15 AM App.B Fig.21 PM	B-C	0.102	0.052	0.1 (0.16)	0.1 (0.10)
			B-AD	0.076	0.120	0.1 (0.17)	0.1 (0.14)
			A-D	0.056	0.032	0.1 (0.09)	0.0 (0.10)
			D-A	0.061	0.093	0.1 (0.12)	0.1 (0.14)
			D-BC	0.207	0.188	0.3 (0.20)	0.2 (0.21)
			C-B	0.072	0.043	0.1 (0.15)	0.0 (0.10)
Opening Year +5 2026		<u>Do Nothing Permitted Dev.</u> App.B Fig.16 AM App.B Fig.22 PM	B-C	0.066	0.058	0.1 (0.14)	0.1 (0.10)
			B-AD	0.078	0.125	0.1 (0.16)	0.1 (0.14)
			A-D	0.059	0.033	0.1 (0.09)	0.0 (0.10)
			D-A	0.063	0.100	0.1 (0.12)	0.1 (0.14)
			D-BC	0.216	0.203	0.3 (0.21)	0.3 (0.22)

Year		Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
				AM Peak	PM Peak	AM Peak	PM Peak
		<u>Do Something Proposed Dev.</u> App.B Fig.17 AM App.B Fig.23 PM	C-B	0.063	0.045	0.1 (0.12)	0.0 (0.10)
			B-C	0.107	0.058	0.1 (0.16)	0.1 (0.10)
			B-AD	0.086	0.126	0.1 (0.18)	0.1 (0.14)
			A-D	0.059	0.033	0.1 (0.09)	0.0 (0.10)
			D-A	0.064	0.100	0.1 (0.12)	0.1 (0.14)
			D-BC	0.221	0.205	0.3 (0.21)	0.3 (0.22)
			C-B	0.111	0.045	0.1 (0.15)	0.0 (0.10)
Opening Year +15 2036		<u>Do Nothing Permitted Dev.</u> App.B Fig.18 AM App.B Fig.24 PM	B-C	0.074	0.062	0.1 (0.14)	0.1 (0.10)
			B-AD	0.094	0.144	0.1 (0.17)	0.2 (0.14)
			A-D	0.064	0.038	0.1 (0.09)	0.0 (0.11)
			D-A	0.071	0.114	0.1 (0.12)	0.1 (0.14)
			D-BC	0.246	0.240	0.3 (0.22)	0.3 (0.24)
			C-B	0.099	0.050	0.1 (0.13)	0.1 (0.11)
		<u>Do Something Proposed Dev.</u> App.C Fig.19 AM App.C Fig.25 PM	B-C	0.118	0.063	0.1 (0.16)	0.1 (0.10)
			B-AD	0.101	0.145	0.1 (0.19)	0.2 (0.15)
			A-D	0.065	0.038	0.1 (0.09)	0.0 (0.11)
			D-A	0.072	0.115	0.1 (0.13)	0.1 (0.15)
			D-BC	0.251	0.242	0.3 (0.22)	0.3 (0.24)
			C-B	0.118	0.050	0.1 (0.16)	0.1 (0.11)

**Note:** Arm A = N2 North, Arm B = L1013 (Panda), Arm C = N2 South, Arm D = L1013 (W)

The results of the series of assessments for O'Brien's Cross (N2/R150) staggered crossroad (Survey Site 3) are summarised in Table 3.4.

**Table 3-4: Capacity Assessment O'Brien's Cross N2/R150 [Site 3]**

Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
Opening Year 2021	<u>Do Nothing Permitted Dev.</u> App.B Fig.14 AM App.B Fig.20 PM	B-C	0.068	0.042	0.1 (0.14)	0.0 (0.10)
		B-AD	0.407	0.303	0.7 (0.20)	0.4 (0.17)
		A-D	0.025	0.037	0.0 (0.10)	0.0 (0.10)
		D-A	0.055	0.061	0.1 (0.14)	0.1 (0.16)
		D-BC	0.491	0.449	0.9 (0.28)	0.8 (0.28)
		C-B	0.112	0.120	0.1 (0.12)	0.1 (0.11)
	<u>Do Something Proposed Dev.</u> App.B Fig.15 AM App.B Fig.21 PM	B-C	0.071	0.042	0.1 (0.14)	0.0 (0.10)
		B-AD	0.465	0.314	0.9 (0.23)	0.5 (0.17)
		A-D	0.026	0.037	0.0 (0.10)	0.0 (0.10)
		D-A	0.057	0.062	0.1 (0.15)	0.1 (0.16)
		D-BC	0.512	0.453	1.0 (0.30)	0.8 (0.28)
		C-B	0.114	0.120	0.1 (0.12)	0.1 (0.11)
Opening Year +5 2026	<u>Do Nothing Permitted Dev.</u> App.B Fig.16 AM App.B Fig.22 PM	B-C	0.072	0.044	0.1 (0.14)	0.0 (0.10)
		B-AD	0.437	0.329	0.8 (0.22)	0.5 (0.18)
		A-D	0.027	0.040	0.0 (0.10)	0.0 (0.11)
		D-A	0.060	0.068	0.1 (0.15)	0.1 (0.17)
		D-BC	0.523	0.492	1.1 (0.30)	0.9 (0.30)
		C-B	0.118	0.128	0.1 (0.12)	0.1 (0.11)
	<u>Do Something Proposed Dev.</u> App.B Fig.17 AM App.B Fig.23 PM	B-C	0.077	0.045	0.1 (0.15)	0.0 (0.10)
		B-AD	0.499	0.336	1.0 (0.25)	0.5 (0.18)
		A-D	0.028	0.040	0.0 (0.10)	0.0 (0.11)
		D-A	0.062	0.068	0.1 (0.15)	0.1 (0.17)

Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
		D-BC	0.546	0.495	1.2 (0.32)	1.0 (0.30)
		C-B	0.121	0.129	0.1 (0.12)	0.1 (0.11)
Opening Year +15 2036	<u>Do Nothing Permitted Dev.</u> App.B Fig.18 AM App.B Fig.24 PM	B-C	0.086	0.050	0.1 (0.15)	0.1 (0.11)
		B-AD	0.500	0.378	1.0 (0.24)	0.6 (0.20)
		A-D	0.031	0.044	0.0 (0.10)	0.0 (0.11)
		D-A	0.072	0.083	0.1 (0.16)	0.1 (0.18)
		D-BC	0.599	0.572	1.4 (0.35)	1.2 (0.35)
		C-B	0.133	0.142	0.2 (0.13)	0.2 (0.11)
	<u>Do Something Proposed Dev.</u> App.C Fig.19 AM App.C Fig.25 PM	B-C	0.091	0.050	0.1 (0.16)	0.1 (0.11)
		B-AD	0.552	0.387	1.2 (0.27)	0.6 (0.20)
		A-D	0.031	0.044	0.0 (0.10)	0.0 (0.11)
		D-A	0.076	0.083	0.1 (0.16)	0.1 (0.18)
		D-BC	0.622	0.576	1.6 (0.37)	1.3 (0.35)
		C-B	0.135	0.142	0.2 (0.13)	0.2 (0.11)

**Note:** Arm A = N2 North, Arm B = R150 (Duleek), Arm C = N2 South, Arm D = R150 (W)

The results show that O’Brien’s Cross operates within capacity for all assessment traffic flow scenarios. The incremental impact upon capacity arising between the current permitted scenarios and the robust assessment traffic flow scenario are not considered significant.

The junction operates with an overall reserve capacity in the order of 38% in the 2036 Design Year. The reduction in reserve capacity arising from the increases in traffic arising from the proposed development is less than 1% on all turning movements save for traffic from R150 Duleek (Arm B to Arms A and D) to the N2, in which case the reduction in reserve capacity is approximately 5%. This reduction arises from the assignment of traffic to/from the Indaver plant in Duleek.

As per the analysis of Rathdrinagh Cross, the forecast impact of the development in the PM Peak Hour barely registers a difference in the traffic modelling output between the ‘do nothing’ and ‘with development’ scenarios. The traffic generated by the proposed development is unlikely to have a significant impact and the junction should function satisfactorily into the future.

The results of the series of six AM Peak and corresponding six PM Peak hour assessments for Balrath Cross (N2/R153) staggered crossroad (Survey Site 4) are summarised in the following Table 3.5.

The results of the modelling assessments show that Balrath Cross operates within capacity for the opening year and for the opening year +5yrs, however, general traffic growth results in the junction being marginally over capacity (above 0.75 RFC) in the 2036 Design Year assessments. The arm shown to perform at about 0.81 RFC is the R153.

As shown in the network flow diagrams of Appendix B, the right turn from R153 to N2 is heavily subscribed in the morning with the corresponding left turn from the N2 to R153 more heavily subscribed in the evening commuter peak period. This scenario was identified in the traffic study that accompanied the original planning application for the Landfill Site. From the network flow diagrams of Appendix B it is clearly shown that existing and future development traffic at Balrath Cross turns left from the R153 to the N2 and turns right from the N2 to the R153 on the return journey. Development traffic does not contribute to the right turn from R153 in the morning and thus does not impact on the operation of the junction.

The incremental impact upon capacity arising between the current permitted scenarios and the robust assessment traffic flow scenario are not considered significant. The junction operates with an overall reserve capacity in the order of 17-20% in the 2036 Design Year. The reduction in reserve capacity arising from the increases in traffic arising from the proposed development is less than 2% on all turning movements save for traffic turning left from R153 to the N2, in which case the reduction in reserve capacity is approximately 5% which is not significant in the context of the reserve capacity for that turning movement which is greater than 70%.

**Table 3-5: Capacity Assessment Balrath Cross N2/R153 [Site 4]**

Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
Opening Year 2021	<u>Do Nothing Permitted Dev.</u> App.B Fig.14 AM App.B Fig.20 PM	B-C	0.082	0.032	0.1	0.0
		B-AD	0.104	0.174	0.1	0.2
		A-D	0.073	0.112	0.1	0.1
		D-A	0.139	0.140	0.2	0.2
		D-BC	0.662	0.619	1.8	1.6
	<u>Do Something Proposed Dev.</u> App.B Fig.15 AM App.B Fig.21 PM	B-C	0.024	0.039	0.0	0.0
		B-AD	0.083	0.032	0.1	0.0
		A-D	0.106	0.175	0.1	0.2
		A-D	0.087	0.114	0.1	0.1
		D-A	0.172	0.145	0.2	0.2
Opening Year +5 2026	<u>Do Nothing Permitted Dev.</u> App.B Fig.16 AM App.B Fig.22 PM	D-BC	0.679	0.622	1.9	1.6
		C-B	0.024	0.039	0.0	0.0
		B-C	0.085	0.032	0.1	0.0 (0.10)
		B-AD	0.118	0.192	0.1	0.2
		A-D	0.077	0.122	0.1	0.1
	<u>Do Something Proposed Dev.</u> App.B Fig.17 AM App.B Fig.23 PM	D-A	0.164	0.164	0.2	0.2
		D-BC	0.713	0.682	2.2	1.9
		C-B	0.026	0.041	0.0	0.0
		B-C	0.085	0.032	0.1	0.0
		B-AD	0.120	0.193	0.1	0.2
Opening Year +15 2036	<u>Do Nothing Permitted Dev.</u> App.B Fig.18 AM App.B Fig.24 PM	A-D	0.092	0.122	0.1	0.1
		D-A	0.196	0.168	0.2	0.2
		D-BC	0.731	0.684	2.4	1.9
		C-B	0.026	0.041	0.0	0.0
		B-C	0.098	0.037	0.1	0.0
		B-AD	0.138	0.228	0.2	0.3
Opening Year +15 2036	<u>Do Nothing Permitted Dev.</u> App.B Fig.18 AM App.B Fig.24 PM	A-D	0.086	0.139	0.1	0.2
		D-A	0.234	0.280	0.3	0.4
		D-BC	0.809	0.805	3.3	3.5
		C-B	0.029	0.045	0.0	0.0
		C-B	0.029	0.045	0.0	0.0

Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
	<u>Do Something Proposed Dev.</u> App.C Fig.19 AM App.C Fig.25 PM	B-C	0.099	0.037	0.1	0.0
		B-AD	0.140	0.229	0.2	0.3
		A-D	0.101	0.141	0.1	0.2
		D-A	0.286	0.292	0.4	0.4
		D-BC	0.831	0.809	3.7	3.6
		C-B	0.030	0.045	0.0	0.0

Note: **Arm A = N2 North, Arm B = L1610, Arm C = N2 South, Arm D = R153**

As per the analysis of Rathdrinagh Cross and O'Brien's Cross, the forecast impact of the development in the PM Peak Hour barely registers in the traffic modelling output between the 'do nothing' and 'with development' scenarios where typical impact is shown to be less than 0.5%. The traffic generated by the proposed development will not have a significant impact on the operation of the junction.

Table 3.6 summaries the modelling assessment output for the existing site access junction which is located between Rathdrinagh Cross and O'Brien's Cross. As can be appreciated, the access junction is provided with a comparable type of ghost island as the other junctions modelled. The access junction however is a T-junction where the others are crossroads. The network flow diagrams of Appendix B show that the volume of turning traffic at the site access is many orders of magnitude less than the turning movements at any of the other junctions. The results of the modelling assessment in Table 3.6 confirm that the existing site access junction operates with a reserve capacity of approximately 80% in the peak hour periods. The access to the existing and proposed development will operate with significant reserve capacity over the lifetime of the proposed development.

**Table 3-6: Capacity Assessment Existing Site Access Junction N2 [Site 2]**

Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
Opening Year 2021	<u>Do Nothing Permitted Dev.</u> App.B Fig.14 AM App.B Fig.20 PM	B-AC	0.030	0.016	0.0 (0.20)	0.0 (0.13)
		C-B	0.014	0.000	0.0 (0.13)	0.0 (0.00)
	<u>Do Something Proposed Dev.</u> App.B Fig.15 AM App.B Fig.21 PM	B-C	0.190	0.044	0.2 (0.18)	0.0 (0.13)
		C-B	0.085	0.000	0.1 (0.14)	0.0 (0.00)
Opening Year +5 2026	<u>Do Nothing Permitted Dev.</u> App.B Fig.16 AM App.B Fig.22 PM	B-C	0.031	0.016	0.0 (0.20)	0.0 (0.13)
		C-B	0.014	0.000	0.0 (0.13)	0.0 (0.00)
	<u>Do Something Proposed Dev.</u> App.B Fig.17 AM App.B Fig.23 PM	B-C	0.193	0.045	0.2 (0.18)	0.0 (0.13)
		C-B	0.086	0.012	0.1 (0.14)	0.0 (0.10)
Opening Year +15 2036	<u>Do Nothing Permitted Dev.</u> App.B Fig.18 AM App.B Fig.24 PM	B-C	0.023	0.017	0.0 (0.16)	0.0 (0.14)
		C-B	0.014	0.000	0.0 (0.13)	0.0 (0.00)



Year	Traffic Flow Scenario	Movement	Ratio of Flow to Capacity Max		End Queue (Queuing Delay)	
			AM Peak	PM Peak	AM Peak	PM Peak
	Do Something Proposed Dev. App.C Fig.19 AM App.C Fig.25 PM	B-C	0.199	0.048	0.2 (0.19)	0.1 (0.14)
		C-B	0.087	0.012	0.1 (0.14)	0.0 (0.10)

Note: **Arm A = N2 South, Arm B = Site Access, Arm C = N2 North**

The above modelling assessments examine the impact of assessment levels of traffic on the operation of the various junctions on the N2. The Request for Further Information expressly seeks that the assessment should also provide an analysis of the impact of the propose development on the capacity of the N2 for the opening and subsequent years using up to date AADT information.

Table 3.7 below is based upon the same principles as Table 3.1 and provides a summary of the recorded traffic survey data and percentage HGV content enumerated between 07:00hrs and 19:00hrs. Based upon NRA: Project Appraisal Guidelines, Unit 16-2 'Expansion Factors for Short Period Traffic Counts' the recorded traffic flow is representative of a value equal to 0.82 of AADT for 2019. Background traffic flows on the public road network has been assumed to grow in accordance with the latest growth factors published in National Roads Authority (NRA) 'Project Appraisal Guidelines: Unit 5.5 Link-Based Traffic Growth Forecasting'. Future year AADT values are estimated by applying the medium growth factors as set out in 3.1.15 above to the base survey derived AADT values.

**Table 3-7: N2 Forecast AADT Statistics Future Year Scenarios**

Survey Site Ref.	Road Link	2019 HGV Flows	AADT 2021 Opening Year			AADT 2016 Opening +5yrs			AADT 2036 Design Year		
			Do Nothing	With Development	% Difference	Do Nothing	With Development	% Difference	Do Nothing	With Development	% Difference
Site 1	N2 North	1184	8851	8947	1.0%	9301	9397	1.0%	10085	10181	0.9%
	N2 South	1296	9573	9873	3.1%	10058	10358	2.9%	10902	11202	2.7%
Site 3	N2 North	1303	9551	9780	2.4%	10035	10264	2.2%	10877	11106	2.1%
	N2 South	1202	9428	9569	1.5%	9908	10049	1.4%	10745	10886	1.3%
Site 4	N2 North	1193	9413	9554	1.5%	9892	10034	1.4%	10729	10870	1.3%
	N2 South	1346	12451	12531	0.6%	13090	13171	0.6%	14214	14295	0.5%

Note: \* Percentage HGV Derived from 12 Hour Figures

The colour coding in Table 3.7 corresponds with the survey junction number from which the base data is derived to calculate AADT both with and without the proposed development. Table 3.7 shows the forecast AADT on the N2 both with and without the proposed development for the forecast future years. The flows on the N2 are based upon 'average' flows and it should be noted that the forecast increases arising from the development are based on the extremely robust upper value. The assessment traffic flows for the junction capacity analyses are more than double the average (average 78 HGV trips, assessment upper value 200 HGV trips). For a direct comparison of averages against averages, where average development traffic is evaluated against AADT the % difference values in Table 3.7 are less than half those listed. On the basis of comparing averages against averages the maximum increase attributable the proposed development at Knockharley Landfill is 1.6% whilst the average is 0.85%. These figures confirm the forecast increase as set out in the calculations provided in EIAR Chapter 8 Table 8-10 which show a forecast increase in AADT on the N2 in the order of 1.0-1.1%.

The detailed traffic modelling for 2021 year of opening, 2026 and 2036 all show that, based upon extremely robust assumptions and extremely robust traffic generation forecasts, the traffic arising from the proposed development will not have a significant impact upon the operation of the junctions identified in the Request for Further Information and will not impact upon the turning capacity to and from the N2. The further traffic assessments based upon the AADT of the N2 for the year of opening and future years to 2036 show that the forecast average increase in traffic arising from the proposed development will be in the order of less than 1% and will be practically imperceptible to general road users on the N2.

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## 4 REQUEST FOR FURTHER INFORMATION – ITEM 2B

“Submit a design drawing of the site access junction showing how the junction meets with the requirement of TII Standard DN-GEO-03060 ‘Geometric Design of Junctions’ or showing the changes required to ensure that the junction layout complies with this standard. Any amendment to the site access junction should be supported by a Road Safety Audit.”

### 4.2 Response to Item 2b

EIAR Section 8.1.3 references the original planning permission 01/5006 which included works to construct a new entrance layout, new access road and road widening of National Road (N2). The existing site is served by direct vehicular access to the N2 National Primary Road at a ghost island priority layout. The ghost island provides easy access for right turning vehicles from the north. This is complimented with an auxiliary left turn deceleration lane to facilitate vehicles coming from the south. The turning facilities are incorporated in the interest of improving road safety and preserving the through-flow of traffic on the N2 National Primary Road. The access geometry was thoroughly scrutinised by Meath County Council and the NRA at the planning stages. The junction layout was agreed with Meath County Council at detailed design stages before the junction was constructed and again before the landfill site opened in December 2004. The junction has been designed and constructed in accordance with Design Manual for Roads and Bridges (DMRB) TD42 ‘Geometric Design of Major/Minor Priority Junctions’ (superseded by TII DN-GEO-03060). In subsequent planning applications and grant of planning permissions at the site neither the NRA nor Meath County Council expressed concern with respect to the layout, geometry, capacity or traffic operation of the landfill access junction.

The geometry of the access was designed to Design Manual for Roads and Bridges (DMRB):TD42 ‘Geometric Design of Major/Minor Priority Junctions’ and constructed in accordance with the requirements of the NRA: DMRB for a 100kph Design Speed. The access was subject to independent Road Safety Audits, Stages 1 and 2 at the design stage and a Stage 3 Road Safety Audit was prepared upon completion of construction. All road safety auditing was carried out in accordance with NRA standard HD/19.

Table 4.1 below shows the geometric parameters of ghost island junctions set out in standard NRA DMRB TD42 to which the junction was designed and constructed. Also provided in the Table 4.1 are the corresponding geometric parameters set out in the current TII Standard DN-GEO-03060 cited in the request for further information.

**Table 4-1: Roads Design Parameters**

Design Parameter 100km/h Design Speed	Existing Junction	DMRB TD42/95	DN-GEO-03060	
Hard Shoulder (Hard Strip)	0.9m	0.9m (Para. 7.89)	0.5m (Para. 5.6.6)	<input checked="" type="checkbox"/>
Through Lane Width	3.65m	3.65-3.0m (Para. 7.20)	3.65-3.0m (Para. 5.6.7)	<input checked="" type="checkbox"/>
Right Turn Lane Width	3.5m	3.5-3.0m (Para. 7.35)	3.5-3.0m (Para. 5.6.11.3)	<input checked="" type="checkbox"/>
Left Turn Lane Width	3.0m	3.5-3.0m (as per para. 7.35)	Not to be provided on single c/way (Para. 5.7)	<input type="checkbox"/>
Ghost Island Taper	1:30	1:30 (Table 7/3)	1:30 (Table 5.9)	<input checked="" type="checkbox"/>
Turning Length	30m	Min 10m (Para. 7.32)	Min 10m (Para. 5.6.11.1)	<input checked="" type="checkbox"/>

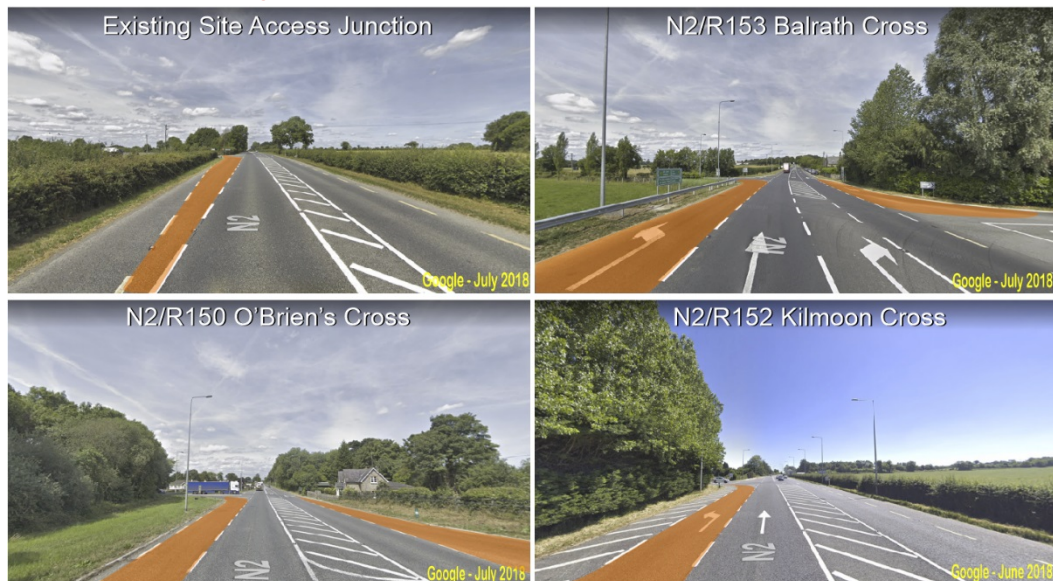
Design Parameter 100km/h Design Speed	Existing Junction	DMRB TD42/95	DN-GEO-03060	
Deceleration Length	80m	80m (Table 7/5a)	80m (Table 5.11)	<input checked="" type="checkbox"/>
Direct Taper Length	25m	25m (Table 7/4)	25m (Table 5.10)	<input checked="" type="checkbox"/>
Corner Radius	20m	20m (Para. 7.17(e))	20m (Para. 5.6.5(e))	<input checked="" type="checkbox"/>

Table 4.1 shows that the design parameters, save one relating to auxiliary left turn lanes, have not changed since the design and construction of the existing site access junction. It follows therefore that the existing layout and design of the junction meets with the requirement of TII Standard DN-GEO-03060 'Geometric Design of Junctions'. Save for the consideration of the retention or removal of the left turn auxiliary lane, no changes are required to ensure that the junction layout complies with this standard.

TII Standard DN-GEO-03060 para 5.7 states "Merge and diverge auxiliary lanes and tapers shall not be provided on single carriageway roads."  
TD42/95 para 7.51 states:

*"Nearside diverging tapers allow left turning major road traffic to slow down and leave the major road without impeding the following through traffic, but they are of less benefit in terms of operation and safety than right turning lanes, possibly because the left turn from the major road does not cross an opposing traffic stream and is rarely impeded. However, nearside diverging tapers should always be considered for higher speed roads or on gradients."*

The following are images of the existing access junction together with N2/O'Brien's Cross, N2/Balrath Cross and N2/Kilmoon Cross the junctions suggested in Item 2a of the Request for Further Information for inclusion in the scope of traffic assessments. All are Google Street View images and clearly show auxiliary left turn lanes are provided at all four junctions and serve all left turns. In the interest of clarity, all auxiliary lanes are highlighted with transparent orange overlay. By reference to the above TD42/95 para 7.51 it can be seen that the lane serving the existing access is on a gradient and the N2 is subject to 100km/h speed limit locally.



The layout of the existing site access junction is compliant with the current roads design standard cited by Meath County Council. The junction incorporates a left turning auxiliary lane which is consistent in character with the series of other N2 junctions with R150, R152 and R153 to the south referenced by Meath County Council. Sequences of junctions should provide drivers with layouts that have consistent standards that are not likely to confuse them, accordingly, it is not proposed to alter the existing site access junction. The existing junction layout has been subject of Stage 1, Stage 2 and Stage 3 Road Safety Audit. Given that there is no proposed amendment or permanent change to the site access junction there is no subject matter for further Road Safety Auditing and the junction should continue to operate satisfactorily.

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## 5 REQUEST FOR FURTHER INFORMATION – ITEM 2C

*"Submit a comprehensive Operational Traffic Management Plan that fully assesses the network to be traversed (external and internal) and drawings illustrating the proposed haulage routes. Where HGV movements are required to pass through the villages of Slane and Duleek, measures should be considered to mitigate impact on these villages, which may include investigation of alternative routes. The Plan should clarify how all internal HGV traffic movements are managed/proposed to be managed on a daily basis and include swept paths of key movements."*

### 5.1 Response to Item 2c

The principal haul routes and the external network to be traversed in travelling to and from the existing and proposed development are illustrated in the network flow diagrams of Appendix B which include the following:

- Figure 4 Daily Distribution of Development Traffic 07:00-19:00hrs
- Figure 5 Daily Additional Traffic Generation 07:00-19:00hrs
- Figure 6 AM Peak Hour Additional Traffic Generation 08:00-09:00hrs
- Figure 7 PM Peak Hour Additional Traffic Generation 17:00-18:00hrs

Figure 4 not only identifies the principal routes and materials source but also indicates the relative level of use. Figure 4 shows separately the proportion of daily light and heavy traffic using the various routes to the site. The primary routes include:

- N2 National Primary Road (Strategic Road Network)
- R150 (E) Indaver Plant to East of Duleek to Knockharley Landfill
- R150 (W) Knockharley Landfill traffic prohibited from using R150
- R153 Route serving Navan

The response to Item 2a provides a comprehensive assessment of the external road network and principal haul routes associated with the operation of the facility. Item 2a fully assesses the external road network to be traversed and includes the above illustrated and annotated assessment of the existing and proposed principal haulage routes.

#### **Slane Traffic**

The Request for Further Information refers specifically to traffic travelling through Slane and Duleek. Table 3.1 and Table 3.7 provide relevant information relating to the volume of traffic currently using the N2 north of Rathdrinagh Cross which is considered to provide a reliable and accurate estimate of the volume of traffic travelling from/through Slane the vast majority of which are assumed would be using the N2 Collon Road. The results of the May 2019 traffic surveys presented in Table 3.1 shows a recorded two-way flow on the N2 of 7,010 (16.4% HGV) alongside an estimated current 2019 AADT value of 8,581 vehicles per day.

The May 2019 traffic surveys recorded 1,184 HGV (two-way north of Rathdrinagh Cross) over the twelve hour daylight period starting at 07:00hrs and ending at 19:00hrs.

Based upon a review of detailed weighbridge data trip origins for the period Jan-Jun 2019 the current average traffic generation from north of Rathdrinagh Cross and potentially through Slane is estimated to be 3-4 vehicle trips per day. The landfill and the proposed facility are demand driven and it is appreciated that such flows can fluctuate but the typical convention when using AADT values is to compare like with like and thus averages with averages. Appendix B Figure 5 shows the forecast average daily increase arising from the proposed development to the receiving road network and forecasts a potential increase of 11 HGV trips per day (22 two-way) through Slane. Over the course of general daylight hours between 07:00-19:00hrs the relative increase in HGV on the N2 National Route in Slane is forecast to be 1.8%. It is worth bearing in mind that the figures in the Item 2a further traffic assessment and shown in Appendix B Figure 5 are upper value traffic assessment figures that are more than double the average daily traffic generation. The forecast 'average' increase in HGV traffic through Slane is accordingly estimated to be 0.9%.

In terms of total traffic flow or AADT the forecast combined increase in car and HGV traffic arising from the development equates to 0.7%. Based upon the EIAR and the above additional traffic assessments provided in response to Item 2a it is concluded that the impact of development traffic on Slane is not significant.

The impact upon Slane is not likely to be significant and on a day to day basis is not likely to be perceptible. Based upon review of weighbridge data the traffic using the N2 (North) is travelling from locations such as Dundalk and the Northwest and use of the strategic road network is considered reasonable and appropriate. No specific mitigation measures or re-routing of traffic is warranted on the basis of the impact arising and none are proposed in the current application.

### **Duleek Traffic**

The traffic surveys of May 2019 show a two-way flow of traffic on the R150 to the east of O'Briens's Cross (Duleek Side) of 4,014 (12% HGV) including a total of 483 HGV between the hours of 07:00 and 19:00hrs. Appendix B Figure 1 shows the results of the May 2019 traffic surveys and shows the distribution of HGV at the N2/R150 O'Brien's Cross. Westbound R150 traffic enters the N2 with 35% turning north on the N2, 15% turning south on the N2 and 49% continuing to head west on the R150 through Kentstown. The daily pattern of traffic turning onto the R150 east toward Duleek is very similar with 35% from N2 north, 16% from N2 south and 48% from R150 Kentstown direction. Based upon the May 2019 traffic surveys and the 2019 weighbridge data the existing site currently generates an average of 5 HGV per day from the Indaver plant at Carranstown. For the purposes of the traffic assessment this is forecast to increase by 19 HGV trips per day as an assessment value or an average of approximately 10 HGV trips per day for the reasons set out above. In the interest of simplicity, the EIAR traffic forecast is based upon a pro-rata increase in existing traffic generation from Indaver to the Knockharley site. Such increases in traffic flow would however depend upon the quantity of material arising from the Indaver plant. This notwithstanding, the average increase in HGV traffic from Indaver is calculated to be 4% for the purposes of the traffic assessment. Irrespective of the current proposed development at the Knockharley site it can be appreciated that the Indaver plant produces materials that require treatment and/or disposal/re-use. The materials leaving the Indaver plant are required to be delivered to an appropriate facility. The R150 through Duleek was clearly identified in the planning stages of the Indaver facility as one of the 5 main haul routes to and from that facility (Planning Reg. Ref. 01/4014, An Bord Pleanála Case PL.17.126307).

The proposed development impact can reasonably be categorised as neutral with respect to traffic on the R150 and through Duleek since traffic from the Indaver plant is already on the road network and using the R150 and may very possibly be using this route regardless of whether or not Knockharley Landfill were accepting waste or by-product from that plant. Given the capacity of Knockharley Landfill to accept the disposal/treatment of Indaver waste, and the identification of R150 through Duleek as one of the 5 primary hauls routes to/from Indaver it is reasonable in the planning of these facilities to have foreseen the current interrelationship. The Applicant has little or no control over the haul routes used/permitted for Indaver. If trying to avoid travelling through Duleek, Indaver traffic has the option to undertake a more circuitous journey to and from Knockharley Landfill using the R152. The Applicant in this case has however no authority or control over the logistics and transportation arrangements of Indaver.

### **Internal Traffic Circulation**

Regarding the internal management of traffic, the existing site has operated successfully in terms of traffic management for over a decade and the operators are well versed in the management and control of internal traffic on large industrial sites where the principal activities relate to the treatment of various waste materials, imported to, processed and exported from such facilities. EIAR Section 2.5.4 'Access and Traffic Control' sets out clearly with the use of illustrations the proposals for the management of traffic access and internal circulation including a proposed one-way system. As a matter of course, clear instructions are given to HGV drivers at the weighbridge as to where to proceed to eject payloads and this has been the regime employed for over a decade of operation of the existing Landfill Facility.

All traffic will stop at the weighbridge. Landfill traffic will go in 1 of 2 directions, to north face (inert waste) or to south face (waste with a gas potential). It will as usual go down the perimeter road and up a designated haul road to the working face as has been the case since the Landfill became operational. IBA traffic will travel along IBA perimeter road and into a handling facility and this is described with the aid of suitable illustrations and plans in EIAR Chapter 2.

MSW fines for the biological plant will head south on the landfill perimeter road and then exit into the bio plant. Once treated, the stabilised fines will then move to the landfill for deposition. It is proposed to handle excavated soils once, so dig and drop into proposed soil berm areas. The felled commercial forestry will exit in phases as they need to clear the areas for berms. This is described in drawing LW14-821-P-0050-011 Cut Fill phasing plan and also in EIAR Chapter 2.

Traffic management routes for the various Facilities and activities are set out in a series of EIAR drawings generally entitled 'Traffic Management' as follows:

- IBA Facility EIAR Drawing No.LW14-821-01-P-0050-007.
- Biological Treatment Facility EIAR Drawing No.LW14-821-01-P-0050-008.
- Leachate Management Facility EIAR Drawing No.LW14-821-01-P-0050-009.

The EIAR data pertaining to the proposed internal circulation of traffic has been collated in the Internal Operational Traffic Management Plan which accompanies the Applicant response to further information attached in Appendix C.

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## 6 Request for Further Information – ITEM 2C-POINT 1

*"Section 8.2.7 relating to existing daily traffic generation, the applicant has referenced 2015 traffic surveys, which indicates that there are 5 inbound and outbound HGV and 14 inbound and outbound LGV movements at the landfill during the entire day. These volumes appear to be very low."*

### 6.1 Response to Item 2c-point 1

The recorded traffic generation of the site on the day of the 2015 traffic surveys was low. The assessments provided in the EIAR sought to refer to 2010 data where traffic generation was higher and likely to be more representative of the typical flow characteristics in terms of both volume and daily profile. It is acknowledged that traffic flows fluctuate from day to day and the various surveys referenced in the EIAR highlighted this phenomenon. Traffic analyses typically use values in excess of the average in order to account for such fluctuations, inherent in the assumption however is that there will be days when traffic flows are below the average. It is the practice of Trafficwise Ltd. in commissioning traffic surveys, where flexibility and circumstances permit, not to give advance notice to site operators. The flows in the 2015 survey were low however the recorded flow did not hinder the forecast or estimate of future development traffic and had no significant bearing upon the results of the assessments provided in the EIAR. Notwithstanding the above, the response to Item 2a is a further or additional detailed traffic assessment including computer modelling analysis informed by traffic surveys conducted as recently as 30th May 2019. The forecast traffic generation characteristics of the proposed development are based upon detailed weighbridge data spanning the period Jan-Jun 2019. On the day of the traffic surveys in May 2019 the HGV traffic generation of the site was 40 HGV trips (40 enter and 40 depart). Based upon a first principles calculation where the current site is permitted to receive 88,000t per annum and given the average payload of vehicles entering the site, the surveyed HGV traffic flows are approximately twice the annual average daily traffic flow. So the May 2019 traffic surveys include for landfill traffic flows that are high. The use of the May 2019 data and the relationship to the EIAR and historic data in the assessment of traffic is discussed more fully in the response to Item 2a.

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## 7 Request for Further Information – ITEM 2C-POINT 2

*"Section 8.2.8 of the EIAR states that two-way traffic flow in 2010 was 73 HGV movements per day when the site acceptance rate was 132,000 tonnes of waste. It is unclear why there was a subsequent significant increase in HGV volumes in 2016 when the acceptance rate at the landfill was reduced to 88,000 tonnes per day (sic)."*

### 7.1 Response to Item 2c-point 2

As set out in response to Item 2c-point 1, traffic flows fluctuate from day to day and the various surveys presented in the EIAR and herein highlight this phenomenon. It is not possible to always survey an existing site on a day when traffic flows can be guaranteed to accord with the average. The forecasts of traffic generation and distribution used in the assessments are derived from weighbridge records for the period Jan-Jun 2019 and do not rely upon the surveyed flows to on from the existing landfill development.

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## 8 REQUEST FOR FURTHER INFORMATION – ITEM 2C-POINT 3

*"With regard to the forecast daily traffic generation (Table 8-6), the proposed modest increase in traffic movements (1.67 times current volumes) does not appear to correlate with the 5-fold increase in proposed waste volumes proposed to be accepted."*

### 8.1 Response to Item 2c-point 3

The analyses presented in response to Item 2a is based upon a fivefold increase in the traffic flows surveyed in May 2019, which flows are shown to be well above the average rate for the existing site and thus robust. The factor of 1.67 in the EIAR comes about due to a comparatively high existing value set against a forecast average. As discussed in the response to Item 2a the increase in traffic flow forecast in the EIAR is in the order of 4 times the existing average flows based upon first principles calculations.

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## 9 Request for Further Information – ITEM 2C-POINT 4

*"The use of a threshold assessment as an appropriate method of assessing the traffic impact of the proposed development on key national road junctions in the vicinity."*

### 9.1 Response to Item 2c-point 4

At the outset, it is not always possible to know what constitutes significant traffic impact therefore national guidelines recommend that a full traffic impact assessment should normally be produced where threshold values are exceeded. For uncongested road networks an increase in two-way traffic on the adjoining road of 10% is the appropriate threshold value. An increase of 5% or less in an uncongested traffic environment is typically not considered material. It is acknowledged however that there may be circumstances where a full traffic assessment may be required even though the more conventional threshold tests are not exceeded. The increase in traffic arising from the proposed development are small, but most of the additional vehicles are HGV so it might be considered to fall into this sub-threshold category where the Planning Authority might require a full assessment.

The traffic increase forecast in EIAR Chapter 8 Table 8-10 show an increase in AADT on the N2 in the order of 1.0-1.1%. The additional detailed assessments herein confirm that the average increase in traffic on the adjoining road is of the same order.

The forecast increases in traffic are significantly sub-threshold. Considering the history of planning at the site and the various detailed traffic assessments previously carried out, all of which showed no material or significant impact upon junctions, it was reasonably concluded in preparing the EIAR that further full traffic assessment of junctions using computer modelling was not warranted. The response to Item 2a however provides the detailed modelling assessment of junction performance sought in the Request for Further Information which serves to confirm that the impact of development generated traffic on the operation of key national road junctions in the vicinity of the existing site access junction is not significant.

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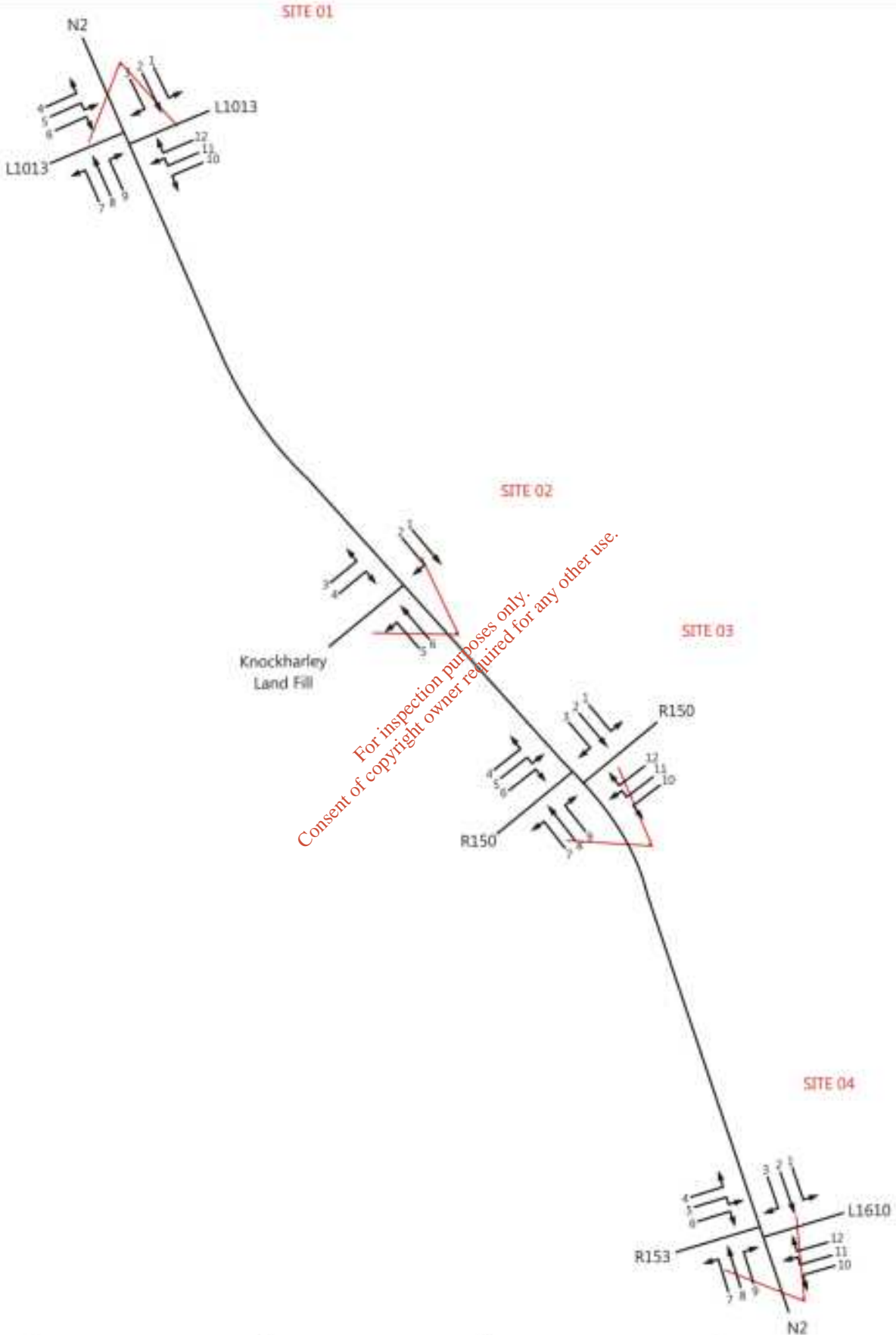
# APPENDIX A

## Traffic Survey Data 30<sup>th</sup> May 2019

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# Site/Movement Numbering



	Job number: TRA/19/140	Job Date: 30 <sup>th</sup> May 2019	Drawing No: TRA/19/140-02	
	Client: Trafficwise	Job Day: Thursday	Author: SPW	

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
07:00	1	0	0	0	0	1	1	69	37	5	4	0	115	123	1	2	0	0	0	3	3
07:15	1	0	0	0	0	1	1	79	33	5	9	2	128	144	8	0	1	0	0	9	10
07:30	1	0	0	0	0	1	1	79	20	3	10	3	115	133	4	1	0	0	0	5	5
07:45	6	0	0	0	0	6	6	96	21	5	8	2	132	147	9	1	0	0	0	10	10
<b>H/TOT</b>	9	0	0	0	0	9	9	323	111	18	31	7	490	546	22	4	1	0	0	27	28
08:00	5	0	0	0	0	5	5	92	15	2	6	0	115	124	4	1	0	0	0	5	5
08:15	6	2	0	2	0	10	13	69	17	5	4	1	96	105	12	0	0	0	0	12	12
08:30	4	2	0	1	0	7	8	68	18	7	5	1	99	110	11	1	0	0	0	12	12
08:45	7	0	1	0	0	8	9	72	11	6	4	0	93	101	5	0	0	0	0	5	5
<b>H/TOT</b>	22	4	1	3	0	30	34	301	61	20	19	2	403	440	32	2	0	0	0	34	34
09:00	6	2	0	0	0	8	8	56	10	4	4	0	74	81	4	2	1	0	0	7	8
09:15	3	1	0	0	0	4	4	52	6	1	3	1	63	68	6	2	1	0	0	9	10
09:30	4	0	0	0	0	4	4	39	7	2	12	3	63	83	3	1	1	0	0	5	6
09:45	0	0	0	0	0	0	0	40	8	4	7	5	64	80	1	1	1	1	0	4	6
<b>H/TOT</b>	13	3	0	0	0	16	16	187	31	11	26	9	264	312	14	6	4	1	0	25	28
10:00	0	2	0	0	0	2	2	38	15	5	8	4	70	87	4	1	0	0	0	5	5
10:15	1	0	0	0	0	1	1	21	11	6	0	3	41	47	4	1	0	0	0	5	5
10:30	0	0	1	0	0	1	2	37	10	5	12	1	65	84	4	2	0	0	0	6	6
10:45	0	1	0	0	0	1	1	33	8	4	5	1	51	61	3	0	0	0	0	3	3
<b>H/TOT</b>	1	3	1	0	0	5	6	129	44	20	25	9	227	279	15	4	0	0	0	19	19
11:00	0	2	0	0	0	2	2	29	6	2	8	0	45	56	4	1	0	0	0	5	5
11:15	0	0	1	0	0	1	2	27	7	4	4	0	42	49	4	1	0	0	0	5	5
11:30	1	0	1	0	0	2	3	31	7	4	10	0	52	67	2	0	0	0	0	2	2
11:45	1	0	0	0	0	1	1	32	9	7	10	2	60	79	3	0	0	1	0	4	5
<b>H/TOT</b>	2	2	2	0	0	6	7	119	29	17	32	2	199	251	13	2	0	1	0	16	17
12:00	4	0	0	1	0	5	6	28	12	3	7	0	50	61	3	1	1	1	0	6	8
12:15	3	2	0	0	0	5	5	36	5	3	6	1	51	61	5	0	0	0	0	5	5
12:30	3	0	0	0	0	3	3	27	7	2	2	1	39	44	2	0	0	0	0	2	2
12:45	5	0	0	0	0	5	5	32	8	7	0	0	55	68	2	1	0	0	0	3	3
<b>H/TOT</b>	15	2	0	1	0	18	19	153	42	19	15	1	195	234	12	2	1	1	0	16	18

27th June 2019

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 1					TOT	PCU	MOVEMENT 2					TOT	PCU	MOVEMENT 3					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	3	0	0	0	0	3	3	34	7	7	5	1	54	65	1	1	1	0	0	3	4
13:15	3	0	0	0	0	3	3	33	7	4	4	0	48	55	2	0	1	0	0	3	4
13:30	0	2	0	0	0	2	2	35	9	6	6	1	57	69	4	0	0	0	0	4	4
13:45	1	0	0	0	0	1	1	27	2	3	6	0	38	47	3	0	0	0	0	3	3
<b>H/TOT</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>129</b>	<b>25</b>	<b>20</b>	<b>21</b>	<b>2</b>	<b>197</b>	<b>236</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>
14:00	2	0	1	1	0	4	6	24	7	4	3	0	38	44	1	0	0	2	0	3	6
14:15	0	0	0	0	0	0	0	35	7	9	8	0	59	74	5	0	0	0	0	5	5
14:30	2	0	0	0	0	2	2	26	7	3	8	0	44	56	2	0	0	0	0	2	2
14:45	2	0	0	0	0	2	2	30	4	9	9	3	51	68	4	2	1	0	0	7	8
<b>H/TOT</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>10</b>	<b>115</b>	<b>25</b>	<b>21</b>	<b>28</b>	<b>3</b>	<b>192</b>	<b>242</b>	<b>12</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>17</b>	<b>20</b>
15:00	5	1	0	0	0	6	6	32	8	4	4	0	48	55	8	0	0	0	0	8	8
15:15	2	1	0	0	0	3	3	27	7	5	0	1	40	44	3	0	1	0	0	4	5
15:30	2	0	1	0	0	3	3	32	4	5	9	1	51	66	3	3	0	0	0	6	6
15:45	1	0	0	0	0	1	1	28	6	3	3	0	40	45	2	0	1	0	0	3	4
<b>H/TOT</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>119</b>	<b>25</b>	<b>17</b>	<b>16</b>	<b>2</b>	<b>179</b>	<b>210</b>	<b>16</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>
16:00	0	1	3	0	0	4	6	31	13	4	6	1	55	66	1	1	0	0	0	2	2
16:15	1	3	0	0	0	4	4	28	11	1	5	1	46	54	4	2	1	0	0	7	8
16:30	1	0	1	0	0	2	3	41	6	3	1	1	52	56	0	1	1	0	1	3	5
16:45	5	1	0	0	0	6	6	38	7	9	3	0	57	65	0	2	0	0	0	2	2
<b>H/TOT</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>18</b>	<b>138</b>	<b>37</b>	<b>17</b>	<b>15</b>	<b>3</b>	<b>210</b>	<b>241</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>14</b>	<b>16</b>
17:00	1	0	0	0	0	1	1	37	9	4	5	0	55	64	4	1	0	0	0	5	5
17:15	2	0	0	0	0	2	2	45	13	2	4	1	65	72	3	2	0	0	0	5	5
17:30	4	0	2	0	0	6	7	36	8	4	5	0	53	62	1	1	0	0	0	2	2
17:45	1	0	0	0	0	1	1	25	4	3	2	0	34	38	4	0	0	0	0	4	4
<b>H/TOT</b>	<b>8</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>11</b>	<b>143</b>	<b>34</b>	<b>13</b>	<b>16</b>	<b>1</b>	<b>207</b>	<b>235</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>16</b>
18:00	2	2	0	0	0	4	4	44	8	3	4	0	59	66	6	2	1	0	0	9	10
18:15	2	2	0	0	0	4	4	37	7	5	6	0	55	65	3	1	0	0	0	4	4
18:30	0	1	0	0	0	1	1	38	3	4	1	0	46	49	4	0	0	0	0	4	4
18:45	2	0	1	0	0	3	4	42	6	2	0	0	50	51	6	0	0	0	0	6	6
<b>H/TOT</b>	<b>6</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>13</b>	<b>161</b>	<b>24</b>	<b>14</b>	<b>11</b>	<b>0</b>	<b>210</b>	<b>231</b>	<b>19</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>24</b>
<b>P/TOT</b>	<b>106</b>	<b>28</b>	<b>13</b>	<b>5</b>	<b>0</b>	<b>152</b>	<b>165</b>	<b>1988</b>	<b>477</b>	<b>204</b>	<b>262</b>	<b>42</b>	<b>2973</b>	<b>3458</b>	<b>182</b>	<b>39</b>	<b>14</b>	<b>5</b>	<b>1</b>	<b>241</b>	<b>256</b>



**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 4					TOT	PCU	MOVEMENT 5					TOT	PCU	MOVEMENT 6					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	0	0	0	1	0	1	2	0	2	0	0	0	2	2	8	1	4	1	0	14	17
07:15	1	0	0	0	0	1	1	4	0	0	0	4	4	7	2	1	0	0	10	11	
07:30	5	0	0	0	1	6	7	4	0	0	0	4	4	10	4	0	0	0	14	14	
07:45	3	0	0	0	0	3	3	6	1	0	0	7	7	6	0	0	0	0	6	6	
<b>H/TOT</b>	9	0	0	1	1	11	13	14	3	0	0	17	17	31	7	5	1	0	44	48	
08:00	3	1	0	1	0	5	6	6	1	1	1	9	11	10	1	2	1	0	14	16	
08:15	6	0	0	0	0	6	6	2	1	1	0	4	5	7	0	0	1	0	8	9	
08:30	11	0	0	0	0	11	11	3	1	0	0	4	4	6	1	0	0	0	7	7	
08:45	5	0	0	0	0	5	5	3	1	0	0	4	4	7	1	0	2	0	10	13	
<b>H/TOT</b>	25	1	0	1	0	27	28	14	4	2	1	21	23	30	3	2	4	0	39	45	
09:00	4	1	0	0	0	5	5	4	1	0	1	6	7	8	3	0	3	1	15	20	
09:15	1	1	0	1	0	3	4	0	0	0	0	2	2	12	1	1	0	1	15	17	
09:30	4	0	0	0	0	4	4	1	0	0	0	1	1	5	3	1	2	0	11	14	
09:45	2	0	1	0	0	3	4	1	0	1	0	2	3	3	1	0	1	0	5	6	
<b>H/TOT</b>	11	2	1	1	0	15	17	8	1	1	1	11	13	28	8	2	6	2	46	57	
10:00	4	0	0	0	0	4	4	1	0	0	0	1	1	8	2	0	1	0	11	12	
10:15	3	1	1	0	0	5	6	3	0	0	0	3	3	6	1	0	1	0	8	9	
10:30	6	0	0	0	0	6	6	0	1	1	0	2	3	3	2	2	1	0	8	10	
10:45	7	0	0	0	0	7	7	2	0	1	0	3	4	3	2	0	0	0	5	5	
<b>H/TOT</b>	20	1	1	0	0	22	23	6	1	2	0	9	10	20	7	2	3	0	32	37	
11:00	7	0	0	0	0	7	7	1	1	0	0	2	2	2	1	0	0	0	3	3	
11:15	3	2	1	0	0	6	7	0	1	0	0	1	1	5	1	0	0	0	6	6	
11:30	3	1	0	0	0	4	4	1	0	0	1	2	3	3	2	0	1	0	6	7	
11:45	5	0	1	0	0	6	7	0	0	0	0	0	0	3	2	1	0	0	6	7	
<b>H/TOT</b>	18	3	2	0	0	23	24	2	2	0	1	5	6	13	6	1	1	0	21	23	
12:00	5	2	2	0	0	9	10	2	1	0	0	3	3	4	1	1	0	0	6	7	
12:15	4	1	1	0	0	6	7	1	0	0	0	1	1	6	2	0	1	0	9	10	
12:30	1	1	1	0	0	3	4	1	0	0	0	1	1	6	1	1	2	0	10	13	
12:45	4	0	0	0	0	4	4	2	0	1	0	3	4	6	1	0	0	0	7	7	
<b>H/TOT</b>	14	4	4	0	0	22	24	6	1	1	0	8	9	22	5	2	3	0	32	37	

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 4					TOT	PCU	MOVEMENT 5					TOT	PCU	MOVEMENT 6					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	4	0	1	0	0	5	6	0	0	0	0	0	0	0	10	1	2	0	0	13	14
13:15	2	0	0	0	0	2	2	0	1	1	0	0	2	3	3	2	0	2	0	7	10
13:30	2	0	0	0	0	2	2	2	1	0	0	0	3	3	3	0	1	0	0	4	5
13:45	3	0	1	0	0	4	5	3	1	0	0	0	4	4	5	2	0	0	0	7	7
<b>H/TOT</b>	<b>11</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>21</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>31</b>	<b>35</b>	
14:00	2	0	0	1	0	3	4	0	0	0	0	0	0	0	6	0	0	0	0	6	6
14:15	3	0	1	0	0	4	5	0	0	0	0	0	0	0	10	1	0	0	0	11	11
14:30	2	0	0	0	0	2	2	2	1	0	0	0	3	3	6	0	0	1	0	7	8
14:45	2	1	0	1	0	4	5	2	1	0	0	0	3	3	5	0	0	0	0	5	5
<b>H/TOT</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>13</b>	<b>16</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>27</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>29</b>	<b>30</b>
15:00	2	0	0	0	0	2	2	3	0	1	0	0	4	5	6	0	0	0	0	6	6
15:15	2	0	1	1	0	4	6	0	0	2	0	0	3	4	4	2	0	0	0	6	6
15:30	3	0	0	0	0	3	3	2	0	2	0	0	4	5	4	0	0	0	0	4	4
15:45	4	0	1	0	0	5	6	1	0	2	0	0	3	4	3	1	1	1	0	6	8
<b>H/TOT</b>	<b>11</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>16</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>18</b>	<b>17</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>22</b>	<b>24</b>
16:00	5	2	0	0	0	7	7	2	1	0	0	0	3	3	5	1	1	0	0	7	8
16:15	4	1	0	0	0	5	5	4	0	1	0	0	5	6	6	1	1	0	0	8	9
16:30	14	1	0	0	0	15	15	1	0	0	0	0	1	1	9	0	0	0	0	9	9
16:45	7	0	0	0	0	7	7	3	0	3	0	0	6	8	9	1	0	0	0	10	10
<b>H/TOT</b>	<b>30</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>34</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>17</b>	<b>29</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>35</b>
17:00	6	0	0	0	0	6	6	3	0	0	1	0	4	5	6	6	0	0	0	12	12
17:15	13	1	0	1	0	15	16	2	0	1	0	0	3	4	7	1	0	0	0	8	8
17:30	6	2	0	0	0	8	8	2	0	0	0	0	2	2	6	1	0	0	0	7	7
17:45	7	1	0	0	0	8	8	5	0	0	1	0	6	7	8	1	0	0	0	9	9
<b>H/TOT</b>	<b>32</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>37</b>	<b>38</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>18</b>	<b>27</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>36</b>
18:00	3	0	0	0	0	3	3	2	0	0	0	0	2	2	4	0	1	0	0	5	6
18:15	5	1	1	0	0	7	8	2	0	0	0	0	2	2	9	0	0	0	0	9	9
18:30	5	1	2	0	0	8	9	1	0	0	1	0	2	3	9	2	1	0	0	12	13
18:45	4	0	0	0	0	4	4	0	0	1	0	0	1	2	1	2	0	0	0	3	3
<b>H/TOT</b>	<b>17</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>24</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>9</b>	<b>23</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>30</b>
<b>P/TOT</b>	<b>207</b>	<b>22</b>	<b>16</b>	<b>7</b>	<b>1</b>	<b>253</b>	<b>271</b>	<b>93</b>	<b>18</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>137</b>	<b>155</b>	<b>288</b>	<b>61</b>	<b>22</b>	<b>22</b>	<b>2</b>	<b>395</b>	<b>437</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 7					TOT	PCU	MOVEMENT 8					TOT	PCU	MOVEMENT 9					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	6	0	0	0	0	6	6	11	7	4	4	0	26	33	0	0	0	0	0	0	0
07:15	1	2	1	0	0	4	5	12	8	3	6	0	29	38	1	1	0	0	0	2	2
07:30	8	3	0	1	0	12	13	26	11	3	7	1	48	60	6	1	1	0	0	8	9
07:45	5	2	0	1	0	8	9	23	11	7	10	0	51	68	5	3	1	3	0	12	16
<b>H/TOT</b>	<b>20</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>30</b>	<b>33</b>	<b>72</b>	<b>37</b>	<b>17</b>	<b>27</b>	<b>1</b>	<b>154</b>	<b>199</b>	<b>12</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>27</b>
08:00	7	3	0	0	0	10	10	16	9	2	4	1	32	39	3	0	0	2	0	5	8
08:15	5	0	0	0	0	5	5	27	9	1	2	0	49	65	4	0	0	1	0	5	6
08:30	8	1	0	0	0	9	9	31	8	2	2	0	43	47	4	1	1	0	0	6	7
08:45	12	0	0	0	0	12	12	30	12	9	9	1	55	69	7	1	1	1	0	10	12
<b>H/TOT</b>	<b>32</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>36</b>	<b>104</b>	<b>38</b>	<b>8</b>	<b>27</b>	<b>2</b>	<b>179</b>	<b>220</b>	<b>18</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>26</b>	<b>32</b>
09:00	10	2	1	0	1	14	16	28	8	6	10	2	54	72	9	0	2	0	0	11	12
09:15	3	3	0	0	0	6	6	38	11	3	7	0	49	60	3	1	1	2	1	8	12
09:30	2	0	0	1	1	4	6	19	9	3	8	1	40	53	2	0	1	3	0	6	10
09:45	2	1	1	0	0	4	5	21	9	2	8	1	41	53	3	0	1	1	0	5	7
<b>H/TOT</b>	<b>17</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>28</b>	<b>32</b>	<b>96</b>	<b>37</b>	<b>14</b>	<b>33</b>	<b>4</b>	<b>184</b>	<b>238</b>	<b>17</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>30</b>	<b>41</b>
10:00	2	2	0	2	0	6	9	23	7	1	8	0	39	50	3	0	0	0	0	3	3
10:15	9	2	0	0	0	11	11	20	7	2	6	1	36	46	1	1	1	1	0	4	6
10:30	4	2	0	0	0	6	6	20	7	4	6	1	38	49	1	0	0	0	0	1	1
10:45	5	0	0	1	0	6	7	19	10	5	12	0	46	64	3	0	0	1	0	4	5
<b>H/TOT</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>29</b>	<b>33</b>	<b>82</b>	<b>31</b>	<b>12</b>	<b>32</b>	<b>2</b>	<b>159</b>	<b>209</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>15</b>
11:00	7	0	0	1	0	8	9	29	8	2	8	0	47	58	3	0	0	2	0	5	8
11:15	1	1	0	0	0	2	2	15	7	4	7	1	34	46	0	1	1	3	0	5	9
11:30	3	1	0	0	0	4	4	25	10	4	5	2	46	57	6	0	0	1	0	7	8
11:45	2	3	0	3	0	8	12	24	7	4	21	1	57	87	2	0	2	1	0	5	7
<b>H/TOT</b>	<b>13</b>	<b>5</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>22</b>	<b>27</b>	<b>93</b>	<b>32</b>	<b>14</b>	<b>41</b>	<b>4</b>	<b>184</b>	<b>248</b>	<b>11</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>22</b>	<b>33</b>
12:00	3	0	2	0	0	5	6	27	7	2	8	0	44	55	1	0	0	0	0	1	1
12:15	5	2	1	0	0	8	9	25	9	3	13	0	50	68	3	2	1	1	0	7	9
12:30	5	2	0	1	0	8	9	28	13	4	9	0	54	68	4	1	0	1	0	6	7
12:45	5	3	0	0	0	8	8	26	6	1	5	0	38	45	2	0	0	1	0	3	4
<b>H/TOT</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>29</b>	<b>32</b>	<b>106</b>	<b>35</b>	<b>10</b>	<b>35</b>	<b>0</b>	<b>186</b>	<b>237</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>17</b>	<b>21</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 7							MOVEMENT 8							MOVEMENT 9						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
13:00	2	1	1	0	0	4	5	38	10	3	7	0	58	69	2	2	0	1	0	5	6
13:15	4	1	1	0	0	6	7	34	9	5	7	1	56	69	0	0	0	1	0	1	2
13:30	5	0	0	0	0	5	5	28	6	6	10	0	50	66	4	1	3	0	0	8	10
13:45	11	1	0	1	0	13	14	44	15	2	6	1	68	78	9	0	0	0	0	9	9
<b>H/TOT</b>	22	3	2	1	0	28	30	144	40	16	30	2	232	281	15	3	3	2	0	23	27
14:00	8	2	1	0	0	11	12	41	15	1	7	0	64	74	1	2	1	2	0	6	9
14:15	5	0	0	1	0	6	7	39	14	8	6	0	77	102	2	1	1	0	0	4	5
14:30	7	2	0	0	0	9	9	40	18	7	7	3	75	91	6	1	0	1	0	8	9
14:45	9	2	1	1	1	14	17	31	11	8	8	2	53	66	9	1	3	0	0	13	15
<b>H/TOT</b>	29	6	2	2	1	40	45	151	58	17	38	5	269	332	18	5	5	3	0	31	37
15:00	6	1	1	0	0	8	9	47	11	0	8	0	66	76	1	1	1	2	0	5	8
15:15	8	0	0	0	0	8	8	37	17	3	3	1	61	67	2	1	2	0	0	5	6
15:30	7	2	1	1	0	11	13	61	17	4	10	2	94	111	3	1	1	2	0	7	10
15:45	11	0	2	0	0	13	14	36	15	4	13	1	69	89	5	0	0	1	0	6	7
<b>H/TOT</b>	32	3	4	1	0	40	43	181	60	11	34	4	290	344	11	3	4	5	0	23	32
16:00	4	1	1	0	0	6	7	44	14	2	6	1	67	77	3	1	1	1	0	6	8
16:15	4	1	1	1	0	7	9	66	37	2	8	3	116	130	8	6	1	0	0	15	16
16:30	5	1	0	1	0	7	8	75	28	6	7	7	123	142	6	0	1	0	0	7	8
16:45	6	3	0	0	1	10	11	83	38	2	9	2	134	149	4	1	1	1	0	7	9
<b>H/TOT</b>	19	6	2	2	1	30	35	268	117	12	30	13	440	498	21	8	4	2	0	35	40
17:00	10	1	0	1	0	12	13	81	36	3	6	0	126	135	2	0	3	0	0	5	7
17:15	9	0	0	0	0	9	9	85	28	3	7	2	125	138	4	1	1	0	0	6	7
17:30	13	2	1	0	0	16	17	96	31	4	3	0	134	140	2	3	0	0	0	5	5
17:45	7	0	0	0	0	7	7	86	34	3	4	1	128	136	6	0	0	0	0	6	6
<b>H/TOT</b>	39	3	1	1	0	44	46	348	129	13	20	3	513	549	14	4	4	0	0	22	24
18:00	9	0	0	0	0	9	9	74	31	2	7	1	115	126	4	2	2	0	0	8	9
18:15	9	0	1	0	0	10	11	79	25	3	2	2	111	117	5	1	0	0	0	6	6
18:30	7	2	1	0	0	10	11	89	25	3	3	0	120	125	6	5	0	1	0	12	13
18:45	9	0	0	0	0	9	9	73	24	1	9	1	108	121	7	0	0	0	0	7	7
<b>H/TOT</b>	34	2	2	0	0	38	39	315	105	9	21	4	454	490	22	8	2	1	0	33	35
<b>P/TOT</b>	295	58	19	18	4	394	431	1960	719	153	368	44	3244	3843	177	44	36	38	1	296	364

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 10					TOT	PCU	MOVEMENT 11					TOT	PCU	MOVEMENT 12					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	3	1	2	0	0	6	7	1	0	1	0	0	2	3	1	0	0	0	0	1	1
07:15	4	1	0	0	0	5	5	2	0	0	1	0	3	4	0	0	0	1	0	1	2
07:30	3	1	1	0	0	5	6	1	0	0	1	0	2	3	1	1	0	0	0	2	2
07:45	1	1	0	1	0	3	4	2	0	0	0	0	2	2	1	0	1	0	0	2	3
<b>H/TOT</b>	<b>11</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>19</b>	<b>22</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>8</b>	
08:00	4	0	2	1	0	7	9	1	1	0	1	0	3	4	0	0	0	0	0	0	0
08:15	2	1	1	3	0	7	11	5	1	0	0	0	7	8	2	0	0	1	0	3	4
08:30	5	2	1	1	0	9	11	0	0	0	0	0	0	0	1	0	0	1	0	2	3
08:45	0	0	0	1	0	1	2	4	1	0	0	0	5	5	3	0	0	1	0	4	5
<b>H/TOT</b>	<b>11</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>24</b>	<b>34</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>18</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>13</b>
09:00	5	0	0	1	0	6	7	3	1	0	0	0	4	4	2	0	0	0	0	2	2
09:15	9	0	1	1	0	11	13	3	1	0	0	0	4	4	7	0	0	1	0	8	9
09:30	3	2	0	1	0	6	7	4	1	0	0	0	5	5	1	0	1	0	0	2	3
09:45	2	1	1	3	0	7	11	3	1	2	0	0	6	7	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>19</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>30</b>	<b>39</b>	<b>13</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>14</b>
10:00	1	2	1	0	0	4	5	1	0	1	0	0	2	3	0	0	1	0	0	1	2
10:15	4	1	0	0	0	5	5	1	0	0	1	0	2	3	3	1	0	0	0	4	4
10:30	0	0	1	1	0	2	4	3	0	0	0	0	3	3	1	0	0	0	0	1	1
10:45	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2	0	0	1	0	3	4
<b>H/TOT</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>13</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>11</b>
11:00	0	2	0	1	0	3	4	2	1	0	0	0	3	3	1	1	0	1	0	3	4
11:15	3	1	0	1	0	5	6	1	0	0	0	0	1	1	1	0	0	0	0	1	1
11:30	1	0	0	1	0	2	3	1	1	0	0	0	2	2	0	0	0	0	0	0	0
11:45	4	0	2	1	0	7	9	1	0	1	0	0	2	3	1	0	0	0	0	1	1
<b>H/TOT</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>17</b>	<b>23</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>6</b>
12:00	2	1	0	1	0	4	5	1	2	0	0	0	3	3	0	0	0	2	0	2	5
12:15	4	2	1	0	0	7	8	3	0	1	0	0	4	5	2	0	0	0	0	2	2
12:30	4	0	1	2	0	7	10	0	0	0	0	0	0	0	3	0	0	0	0	3	3
12:45	4	0	1	2	0	7	10	1	0	0	0	0	1	1	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>14</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>25</b>	<b>33</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>9</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>10</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 01

DATE: 30th May 2019

LOCATION: N2/L1013

DAY: Thursday

TIME	MOVEMENT 10						TOT	PCU	MOVEMENT 11						TOT	PCU	MOVEMENT 12						TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS	CAR			LGV	OGV1	OGV2	BUS	CAR	LGV			OGV1	OGV2	BUS	TOT	PCU			
13:00	7	1	1	1	0	10	12	1	1	1	0	0	3	4	2	0	0	0	0	2	2			
13:15	1	0	0	1	0	2	3	1	0	0	0	0	1	1	2	0	0	0	0	2	2			
13:30	3	0	0	1	0	4	5	4	1	1	0	0	6	7	3	0	0	1	0	4	5			
13:45	3	1	1	0	0	5	6	2	0	0	0	0	2	2	1	0	0	0	0	1	1			
<b>H/TOT</b>	<b>14</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>21</b>	<b>26</b>	<b>8</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>13</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>10</b>			
14:00	2	0	0	2	0	4	7	1	2	0	0	0	3	3	2	1	0	0	0	3	3			
14:15	1	2	0	0	0	3	3	5	0	0	0	0	5	5	2	0	0	0	0	2	2			
14:30	2	2	1	1	1	7	10	1	1	0	0	0	2	2	5	0	0	0	0	5	5			
14:45	5	1	0	0	0	6	6	3	1	0	0	0	4	4	0	0	0	0	0	0	0			
<b>H/TOT</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>20</b>	<b>25</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>			
15:00	10	0	1	0	0	11	12	2	1	1	0	0	4	5	5	0	0	0	0	5	5			
15:15	4	1	2	1	0	8	10	2	0	0	0	0	2	2	2	0	1	0	0	3	4			
15:30	2	0	1	0	0	3	4	2	1	0	0	0	3	3	6	0	0	0	0	6	6			
15:45	5	0	1	2	0	8	11	2	0	0	0	0	2	2	3	0	0	0	0	3	3			
<b>H/TOT</b>	<b>21</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>36</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>12</b>	<b>16</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>18</b>			
16:00	9	1	1	2	0	13	16	2	0	0	0	0	2	2	6	0	0	0	0	6	6			
16:15	4	0	0	0	0	4	4	0	0	1	0	0	1	2	4	0	1	0	0	5	6			
16:30	6	2	0	0	0	8	8	6	0	0	0	0	6	6	2	0	0	0	0	2	2			
16:45	3	3	0	0	0	6	6	4	1	0	0	0	5	5	6	3	0	0	0	9	9			
<b>H/TOT</b>	<b>22</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>31</b>	<b>34</b>	<b>12</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>18</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>23</b>			
17:00	7	1	0	1	0	9	10	4	2	0	1	0	7	8	1	1	0	1	0	3	4			
17:15	12	0	0	0	0	12	12	10	0	1	0	0	11	12	10	1	0	0	0	11	11			
17:30	3	2	0	0	0	5	5	3	2	0	0	0	5	5	3	2	0	0	0	5	5			
17:45	3	0	0	0	0	3	3	4	1	0	0	0	5	5	0	0	0	0	0	0	0			
<b>H/TOT</b>	<b>25</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>29</b>	<b>30</b>	<b>21</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>28</b>	<b>30</b>	<b>14</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>19</b>	<b>20</b>			
18:00	7	0	0	0	0	7	7	5	2	0	0	0	7	7	10	1	0	0	0	11	11			
18:15	4	3	0	0	0	7	7	1	0	0	0	0	1	1	4	0	0	0	0	4	4			
18:30	4	0	0	0	0	4	4	3	0	1	0	0	4	5	5	1	0	0	0	6	6			
18:45	3	2	0	0	0	5	5	3	1	0	0	0	4	4	1	0	0	0	0	1	1			
<b>H/TOT</b>	<b>18</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>23</b>	<b>12</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>17</b>	<b>20</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>22</b>			
<b>P/TOT</b>	<b>178</b>	<b>41</b>	<b>25</b>	<b>35</b>	<b>1</b>	<b>280</b>	<b>339</b>	<b>115</b>	<b>28</b>	<b>13</b>	<b>6</b>	<b>0</b>	<b>162</b>	<b>176</b>	<b>118</b>	<b>13</b>	<b>5</b>	<b>11</b>	<b>0</b>	<b>147</b>	<b>164</b>			

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 02

DATE: 30th May 2019

LOCATION: N2/Knockharley Landfill Access

DAY: Thursday

TIME	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
07:00	101	42	7	2	0	152	158	1	0	0	0	0	1	1	0	0	0	0	0	0	0
07:15	99	46	7	14	2	168	192	2	0	0	0	0	2	2	0	0	0	0	0	0	0
07:30	92	29	5	10	3	139	158	3	0	0	0	0	3	3	0	0	0	0	0	0	0
07:45	99	25	4	9	2	139	155	2	1	0	0	0	3	3	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>391</b>	<b>142</b>	<b>23</b>	<b>35</b>	<b>7</b>	<b>598</b>	<b>662</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
08:00	107	14	6	8	0	135	148	0	0	0	1	0	1	2	1	0	0	0	0	1	1
08:15	97	17	10	5	0	129	141	1	0	0	0	0	2	3	0	0	0	0	0	0	0
08:30	79	17	6	6	2	110	123	0	0	0	0	0	0	0	0	0	1	0	1	2	2
08:45	74	21	5	9	0	109	123	0	2	0	1	0	3	4	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>357</b>	<b>69</b>	<b>27</b>	<b>28</b>	<b>2</b>	<b>483</b>	<b>535</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>
09:00	76	14	4	6	1	101	112	0	0	0	2	0	2	5	0	0	0	1	0	1	2
09:15	63	6	3	2	0	74	78	0	1	1	0	0	2	3	0	0	0	0	0	0	0
09:30	52	9	6	14	2	83	106	0	0	0	1	0	1	2	0	0	0	1	0	1	2
09:45	39	3	3	9	4	58	75	0	0	0	1	0	1	2	1	0	0	2	0	3	6
<b>H/TOT</b>	<b>230</b>	<b>32</b>	<b>16</b>	<b>31</b>	<b>7</b>	<b>316</b>	<b>371</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>10</b>
10:00	50	12	8	10	5	85	107	2	0	1	0	0	3	4	1	0	0	0	0	1	1
10:15	31	11	5	1	3	51	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	43	10	6	12	1	72	92	0	0	0	1	0	1	2	0	0	0	0	0	0	0
10:45	38	10	3	7	1	59	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>162</b>	<b>43</b>	<b>22</b>	<b>30</b>	<b>10</b>	<b>267</b>	<b>327</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
11:00	34	9	3	10	0	56	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	30	11	3	5	0	49	57	0	0	0	1	0	1	2	1	0	0	0	0	1	1
11:30	29	7	5	11	0	52	69	0	0	0	0	0	0	0	0	1	0	0	0	1	1
11:45	39	5	11	7	2	64	81	0	1	0	1	0	2	3	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>132</b>	<b>32</b>	<b>22</b>	<b>33</b>	<b>2</b>	<b>221</b>	<b>277</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>
12:00	44	11	6	8	0	69	82	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:15	42	9	3	9	1	64	78	0	1	0	0	0	1	1	0	0	0	1	0	1	2
12:30	38	11	4	6	1	60	71	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:45	29	10	3	8	0	50	62	1	0	0	1	0	2	3	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>153</b>	<b>41</b>	<b>16</b>	<b>31</b>	<b>2</b>	<b>243</b>	<b>293</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>4</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 02

DATE: 30th May 2019

LOCATION: N2/Knockharley Landfill Access

DAY: Thursday

TIME	MOVEMENT 1					TOT	PCU	MOVEMENT 2					TOT	PCU	MOVEMENT 3					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	38	8	7	8	1	62	77	1	0	1	2	0	4	7	1	0	0	1	0	2	3
13:15	39	10	7	7	0	63	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	35	8	6	5	0	54	64	0	0	0	1	0	1	2	0	0	0	0	0	0	0
13:45	29	7	4	7	2	49	62	0	0	0	0	0	0	0	1	0	0	0	0	1	1
<b>H/TOT</b>	<b>141</b>	<b>33</b>	<b>24</b>	<b>27</b>	<b>3</b>	<b>228</b>	<b>278</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>4</b>	
14:00	40	7	8	1	0	56	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	43	9	13	5	0	70	83	0	1	0	0	0	2	3	0	0	0	0	0	0	0
14:30	37	12	2	14	1	66	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	25	5	5	4	4	43	55	0	0	0	0	0	0	0	0	0	0	1	0	1	2
<b>H/TOT</b>	<b>145</b>	<b>33</b>	<b>28</b>	<b>24</b>	<b>5</b>	<b>235</b>	<b>285</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>
15:00	39	5	7	7	1	59	73	0	1	1	0	0	2	3	0	0	0	0	0	0	0
15:15	39	13	5	1	1	59	64	0	0	0	1	0	1	2	0	1	0	0	0	1	1
15:30	34	6	9	3	1	53	62	0	0	0	0	0	0	0	1	1	0	1	0	3	4
15:45	34	9	5	6	0	54	64	0	0	0	1	0	1	2	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>146</b>	<b>33</b>	<b>26</b>	<b>17</b>	<b>3</b>	<b>225</b>	<b>263</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>5</b>
16:00	45	9	6	7	1	68	81	0	0	1	1	0	2	4	0	1	0	1	0	2	3
16:15	41	11	4	4	1	61	69	0	0	0	0	0	0	0	0	1	0	0	0	1	1
16:30	54	6	2	1	1	64	67	0	0	0	0	0	0	0	0	1	0	0	0	1	1
16:45	63	5	7	3	0	78	85	0	0	0	0	0	0	0	4	1	0	1	0	6	7
<b>H/TOT</b>	<b>203</b>	<b>31</b>	<b>19</b>	<b>15</b>	<b>3</b>	<b>271</b>	<b>303</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>10</b>	<b>13</b>
17:00	47	15	6	4	0	72	80	0	0	0	0	0	0	0	1	0	0	0	0	1	1
17:15	47	10	2	4	0	63	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	52	11	2	5	1	71	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	48	10	3	3	0	64	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>194</b>	<b>46</b>	<b>13</b>	<b>16</b>	<b>1</b>	<b>270</b>	<b>298</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
18:00	52	11	3	7	0	73	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	36	7	3	5	0	51	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	45	9	5	0	0	59	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	33	8	0	0	0	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>166</b>	<b>35</b>	<b>11</b>	<b>12</b>	<b>0</b>	<b>224</b>	<b>245</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>P/TOT</b>	<b>2420</b>	<b>570</b>	<b>247</b>	<b>299</b>	<b>45</b>	<b>3581</b>	<b>4138</b>	<b>13</b>	<b>8</b>	<b>5</b>	<b>18</b>	<b>0</b>	<b>44</b>	<b>70</b>	<b>14</b>	<b>7</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>32</b>	<b>46</b>



**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 02

DATE: 30th May 2019

LOCATION: N2/Knockharley Landfill Access

DAY: Thursday

TIME	MOVEMENT 4							MOVEMENT 5							MOVEMENT 6						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
07:00	0	0	0	0	0	0	0	1	1	0	0	0	2	2	20	8	5	3	0	36	42
07:15	0	0	0	0	0	0	0	0	0	1	0	0	1	2	26	13	2	9	1	51	65
07:30	0	0	0	0	0	0	0	0	1	0	1	0	2	3	27	15	6	6	0	54	65
07:45	0	0	0	0	0	0	0	3	1	0	1	0	5	6	20	13	12	10	0	55	74
<b>H/TOT</b>	0	0	0	0	0	0	0	4	3	1	2	0	10	13	93	49	25	28	1	196	246
08:00	0	0	0	0	0	0	0	1	0	0	0	0	1	1	27	17	3	8	1	56	69
08:15	0	0	1	2	0	3	6	1	1	0	0	0	2	2	29	11	1	10	0	51	65
08:30	0	0	0	2	0	2	5	0	0	0	0	0	1	2	43	12	3	4	0	62	69
08:45	1	0	0	0	0	1	1	1	1	0	0	0	2	2	40	9	5	9	1	64	79
<b>H/TOT</b>	1	0	1	4	0	6	12	3	2	0	1	0	6	7	139	49	12	31	2	233	281
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	10	6	12	3	65	87
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	13	4	9	1	50	65
09:30	1	0	0	0	0	1	0	0	0	0	0	0	0	0	24	8	1	12	2	47	65
09:45	0	0	0	1	0	1	2	1	0	0	1	0	2	3	21	6	4	5	0	36	45
<b>H/TOT</b>	1	0	0	1	0	2	3	1	0	0	1	0	2	3	102	37	15	38	6	198	261
10:00	0	0	0	1	0	1	2	0	0	0	0	0	0	0	28	5	3	11	0	47	63
10:15	0	0	1	1	0	2	4	0	0	0	0	0	0	0	26	7	2	8	1	44	56
10:30	1	0	0	0	0	1	1	0	0	0	0	0	0	0	25	7	3	7	1	43	55
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	12	1	13	0	46	63
<b>H/TOT</b>	1	0	1	2	0	4	7	0	0	0	0	0	0	0	99	31	9	39	2	180	237
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	5	3	10	0	55	70
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	7	5	9	1	41	56
11:30	0	0	0	0	0	0	0	1	0	1	1	0	3	5	41	7	9	9	2	68	86
11:45	0	0	1	0	0	1	2	0	0	0	1	0	1	2	24	6	4	22	2	58	91
<b>H/TOT</b>	0	0	1	0	0	1	2	1	0	1	2	0	4	7	121	25	21	50	5	222	303
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	5	3	9	1	48	62
12:15	1	0	0	0	0	1	1	0	0	0	0	0	0	0	39	14	5	11	0	69	86
12:30	0	0	1	0	0	1	2	0	0	0	0	0	0	0	25	12	3	10	0	50	65
12:45	0	0	0	0	0	0	0	1	0	0	0	0	1	1	37	9	4	7	0	57	68
<b>H/TOT</b>	1	0	1	0	0	2	3	1	0	0	0	0	1	1	131	40	15	37	1	224	281

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 02

DATE: 30th May 2019

LOCATION: N2/Knockharley Landfill Access

DAY: Thursday

TIME	MOVEMENT 4							MOVEMENT 5							MOVEMENT 6						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
13:00	1	0	0	1	0	2	3	0	0	0	0	0	0	0	46	14	2	8	0	70	81
13:15	0	0	0	0	0	0	0	0	0	0	1	0	1	2	35	8	8	8	0	59	73
13:30	0	0	1	0	0	1	2	0	0	0	2	0	2	5	32	7	9	3	0	51	59
13:45	0	0	2	0	0	2	3	0	0	0	1	0	1	2	57	21	3	7	1	89	101
<b>H/TOT</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>9</b>	<b>170</b>	<b>50</b>	<b>22</b>	<b>26</b>	<b>1</b>	<b>269</b>	<b>315</b>
14:00	0	0	0	2	0	2	5	1	0	0	0	0	1	1	55	15	6	10	0	86	102
14:15	0	0	0	1	0	1	2	0	0	0	0	0	0	0	43	23	9	14	2	91	116
14:30	1	0	0	1	0	2	3	0	0	0	1	0	1	2	56	18	4	10	2	90	107
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	16	6	9	3	90	108
<b>H/TOT</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>210</b>	<b>72</b>	<b>25</b>	<b>43</b>	<b>7</b>	<b>357</b>	<b>432</b>
15:00	0	0	0	1	0	1	2	1	0	0	0	0	1	1	54	15	3	8	0	80	92
15:15	0	0	0	1	0	1	2	0	0	0	3	0	3	7	52	21	6	4	1	84	93
15:30	0	0	0	1	0	1	2	1	1	0	0	0	2	2	78	21	6	12	1	118	138
15:45	0	1	0	2	0	3	6	0	0	0	1	0	1	2	36	9	9	11	1	66	86
<b>H/TOT</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>6</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>7</b>	<b>12</b>	<b>220</b>	<b>66</b>	<b>24</b>	<b>35</b>	<b>3</b>	<b>348</b>	<b>409</b>
16:00	0	1	0	1	0	2	3	0	0	0	0	0	0	0	65	24	4	7	3	103	117
16:15	0	2	0	0	0	2	2	0	0	0	0	0	0	0	83	37	6	7	2	135	149
16:30	0	0	0	1	0	1	2	0	0	0	0	0	0	0	85	28	5	10	7	135	158
16:45	3	1	0	0	0	4	4	0	0	0	0	0	0	0	94	40	2	12	2	150	169
<b>H/TOT</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>9</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>327</b>	<b>129</b>	<b>17</b>	<b>36</b>	<b>14</b>	<b>523</b>	<b>592</b>
17:00	0	1	0	0	0	1	1	0	0	0	0	0	0	0	110	36	6	5	1	158	169
17:15	3	1	0	0	0	4	4	0	0	0	0	0	0	0	101	34	4	7	1	147	159
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	40	5	5	0	160	169
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	36	3	4	2	150	159
<b>H/TOT</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>426</b>	<b>146</b>	<b>18</b>	<b>21</b>	<b>4</b>	<b>615</b>	<b>655</b>
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	34	1	8	0	131	142
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	31	3	4	2	154	163
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	29	2	4	0	121	127
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	27	1	10	1	130	145
<b>H/TOT</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>379</b>	<b>121</b>	<b>7</b>	<b>26</b>	<b>3</b>	<b>536</b>	<b>576</b>
<b>P/TOT</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>19</b>	<b>0</b>	<b>45</b>	<b>73</b>	<b>13</b>	<b>6</b>	<b>2</b>	<b>15</b>	<b>0</b>	<b>36</b>	<b>57</b>	<b>2417</b>	<b>815</b>	<b>210</b>	<b>410</b>	<b>49</b>	<b>3901</b>	<b>4588</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 1					TOT	PCU	MOVEMENT 2					TOT	PCU	MOVEMENT 3					TOT	PCU	
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			
07:00	5	1	2	0	0	8	9	90	42	5	3	0	140	146	0	0	0	0	0	0	0	0
07:15	3	3	0	2	0	8	11	85	38	8	11	2	144	164	0	0	0	0	0	0	0	0
07:30	11	4	0	3	1	19	24	79	25	5	5	2	116	127	1	0	0	1	0	2	3	
07:45	6	4	0	2	1	13	17	104	23	3	8	1	139	152	1	0	0	0	1	2	3	
<b>H/TOT</b>	<b>25</b>	<b>12</b>	<b>2</b>	<b>7</b>	<b>2</b>	<b>48</b>	<b>60</b>	<b>358</b>	<b>128</b>	<b>21</b>	<b>27</b>	<b>5</b>	<b>539</b>	<b>590</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>6</b>	
08:00	6	3	0	0	0	9	9	98	14	5	8	0	125	138	0	1	0	0	1	2	3	
08:15	11	4	3	2	0	20	24	60	6	6	5	1	78	89	3	1	0	0	0	4	4	
08:30	6	0	2	0	0	8	9	68	22	5	7	2	104	118	1	1	0	0	0	2	2	
08:45	10	5	0	2	0	17	20	62	13	6	7	0	88	100	4	2	0	0	0	6	6	
<b>H/TOT</b>	<b>33</b>	<b>12</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>54</b>	<b>62</b>	<b>288</b>	<b>55</b>	<b>22</b>	<b>27</b>	<b>3</b>	<b>395</b>	<b>444</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>14</b>	<b>15</b>	
09:00	8	1	0	1	0	10	11	68	12	5	3	1	89	96	4	1	0	0	0	5	5	
09:15	9	2	0	1	0	12	13	53	5	5	3	0	66	72	2	0	0	0	0	2	2	
09:30	10	2	0	4	0	16	21	43	8	3	9	2	65	80	1	0	0	0	0	1	1	
09:45	6	1	1	2	0	10	13	32	5	4	9	3	53	70	0	0	0	0	0	0	0	
<b>H/TOT</b>	<b>33</b>	<b>6</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>48</b>	<b>59</b>	<b>196</b>	<b>30</b>	<b>17</b>	<b>24</b>	<b>6</b>	<b>273</b>	<b>319</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	
10:00	5	1	2	1	0	9	11	39	16	4	10	4	73	92	1	1	0	0	0	2	2	
10:15	3	0	1	0	0	4	5	28	9	5	3	3	48	57	2	0	1	0	0	3	4	
10:30	7	3	1	1	0	12	14	35	6	6	9	1	57	73	5	0	0	0	0	5	5	
10:45	4	3	1	1	0	9	11	29	8	2	7	1	47	58	2	0	0	0	0	2	2	
<b>H/TOT</b>	<b>19</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>34</b>	<b>40</b>	<b>131</b>	<b>39</b>	<b>17</b>	<b>29</b>	<b>9</b>	<b>225</b>	<b>280</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>13</b>	
11:00	6	2	0	2	0	10	13	29	6	4	8	0	47	59	0	0	1	0	0	1	2	
11:15	4	3	1	1	0	9	11	29	8	3	3	0	43	48	0	0	0	0	0	0	0	
11:30	4	1	0	1	0	6	7	27	9	4	9	0	49	63	0	0	0	0	0	0	0	
11:45	2	3	1	1	0	7	9	32	7	6	11	1	57	75	4	0	0	0	0	4	4	
<b>H/TOT</b>	<b>16</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>32</b>	<b>40</b>	<b>117</b>	<b>30</b>	<b>17</b>	<b>31</b>	<b>1</b>	<b>196</b>	<b>246</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>6</b>	
12:00	2	2	2	1	0	7	9	34	10	5	6	0	55	65	3	0	0	0	0	3	3	
12:15	2	0	1	0	0	3	4	35	8	3	6	1	53	63	2	1	1	0	0	4	5	
12:30	5	1	2	0	0	8	9	37	12	4	3	1	57	64	1	0	0	0	0	1	1	
12:45	5	0	0	4	0	9	14	28	9	3	6	1	47	57	1	1	0	0	0	2	2	
<b>H/TOT</b>	<b>14</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>27</b>	<b>36</b>	<b>134</b>	<b>39</b>	<b>15</b>	<b>21</b>	<b>3</b>	<b>212</b>	<b>250</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>11</b>	

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 1					TOT	PCU	MOVEMENT 2					TOT	PCU	MOVEMENT 3					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	7	3	0	0	0	10	10	28	8	9	7	1	53	68	1	0	0	0	0	1	1
13:15	7	0	1	0	0	8	9	35	10	4	8	0	57	69	1	0	0	0	1	2	3
13:30	2	2	2	0	0	6	7	37	6	6	5	0	54	64	1	0	0	0	0	1	1
13:45	7	1	1	3	0	12	16	25	3	6	5	1	40	51	0	1	0	0	0	1	1
<b>H/TOT</b>	<b>23</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>36</b>	<b>42</b>	<b>125</b>	<b>27</b>	<b>25</b>	<b>25</b>	<b>2</b>	<b>204</b>	<b>251</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>6</b>
14:00	5	0	0	0	0	5	5	36	6	6	5	0	53	63	1	1	0	0	0	2	2
14:15	8	2	0	0	0	10	10	28	5	9	5	0	47	58	3	0	0	0	0	3	3
14:30	4	3	0	2	0	9	12	28	8	2	2	1	51	69	2	0	0	0	0	2	2
14:45	5	2	0	1	2	10	13	29	3	5	5	1	43	53	1	1	0	1	0	3	4
<b>H/TOT</b>	<b>22</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>34</b>	<b>40</b>	<b>121</b>	<b>22</b>	<b>22</b>	<b>27</b>	<b>2</b>	<b>194</b>	<b>242</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>10</b>	<b>11</b>
15:00	5	1	0	2	0	8	11	34	5	5	6	1	51	62	5	0	0	1	0	6	7
15:15	10	4	2	0	0	16	17	28	5	5	1	1	40	45	5	0	1	0	1	7	9
15:30	3	0	3	3	0	9	14	24	1	4	3	1	33	40	5	0	0	0	0	5	5
15:45	9	2	1	0	0	12	13	30	8	5	4	0	47	55	1	2	1	0	0	4	5
<b>H/TOT</b>	<b>27</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>0</b>	<b>45</b>	<b>55</b>	<b>116</b>	<b>19</b>	<b>19</b>	<b>14</b>	<b>3</b>	<b>171</b>	<b>202</b>	<b>16</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>22</b>	<b>25</b>
16:00	3	1	1	4	0	9	15	41	7	6	1	1	56	61	0	0	0	0	0	0	0
16:15	5	4	0	0	0	9	9	29	12	2	6	0	49	58	1	0	0	0	0	1	1
16:30	10	0	0	0	0	10	10	40	8	4	2	1	55	61	6	0	0	0	0	6	6
16:45	17	2	1	1	0	21	23	45	6	4	4	0	59	66	2	1	0	0	0	3	3
<b>H/TOT</b>	<b>35</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>49</b>	<b>57</b>	<b>155</b>	<b>33</b>	<b>16</b>	<b>13</b>	<b>2</b>	<b>219</b>	<b>246</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>
17:00	10	2	0	0	0	12	12	39	10	5	5	0	59	68	6	1	0	0	0	7	7
17:15	12	5	1	0	0	18	19	44	9	2	3	1	59	65	5	1	0	0	0	6	6
17:30	6	3	1	0	0	10	11	37	8	5	5	0	55	64	2	0	0	0	0	2	2
17:45	10	3	1	1	0	15	17	22	2	1	3	0	28	32	2	1	0	0	0	3	3
<b>H/TOT</b>	<b>38</b>	<b>13</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>55</b>	<b>58</b>	<b>142</b>	<b>29</b>	<b>13</b>	<b>16</b>	<b>1</b>	<b>201</b>	<b>229</b>	<b>15</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>18</b>
18:00	3	2	0	0	0	5	5	34	9	3	4	0	50	57	2	0	0	0	0	2	2
18:15	10	1	0	0	0	11	11	37	5	3	7	0	52	63	2	2	1	0	0	5	6
18:30	12	2	0	0	0	14	14	34	3	2	3	0	42	47	1	0	0	0	0	1	1
18:45	7	3	0	0	0	10	10	31	6	1	0	0	38	39	3	0	0	0	0	3	3
<b>H/TOT</b>	<b>32</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>40</b>	<b>136</b>	<b>23</b>	<b>9</b>	<b>14</b>	<b>0</b>	<b>182</b>	<b>205</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>12</b>
<b>P/TOT</b>	<b>317</b>	<b>97</b>	<b>35</b>	<b>49</b>	<b>4</b>	<b>502</b>	<b>587</b>	<b>2019</b>	<b>474</b>	<b>213</b>	<b>268</b>	<b>37</b>	<b>3011</b>	<b>3503</b>	<b>96</b>	<b>20</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>129</b>	<b>140</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 4					TOT	PCU	MOVEMENT 5					TOT	PCU	MOVEMENT 6					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	1	0	0	0	0	1	1	19	10	1	0	2	32	35	4	0	0	0	0	4	4
07:15	0	0	0	0	0	0	0	11	15	0	1	2	29	32	6	0	0	0	0	6	6
07:30	2	1	0	0	0	3	3	15	6	0	1	0	22	23	4	0	1	0	0	5	6
07:45	1	1	0	0	0	2	2	16	7	0	4	1	28	34	3	0	0	0	0	3	3
<b>H/TOT</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>61</b>	<b>38</b>	<b>1</b>	<b>6</b>	<b>5</b>	<b>121</b>	<b>124</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>19</b>
08:00	4	0	0	0	0	4	4	16	4	2	0	0	22	23	2	0	0	0	1	3	4
08:15	3	0	0	0	1	4	5	31	3	2	0	1	37	39	2	1	0	0	0	3	3
08:30	4	0	0	0	0	4	4	35	4	2	4	1	46	53	7	1	0	0	0	8	8
08:45	7	0	0	0	0	7	7	13	0	0	1	0	16	18	5	0	0	0	0	5	5
<b>H/TOT</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>20</b>	<b>95</b>	<b>11</b>	<b>8</b>	<b>5</b>	<b>2</b>	<b>121</b>	<b>134</b>	<b>16</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>20</b>
09:00	5	2	0	0	0	7	7	17	4	1	0	0	22	23	8	1	0	0	0	9	9
09:15	0	0	0	1	0	1	2	12	4	2	1	0	19	21	3	0	0	0	0	3	3
09:30	1	0	0	1	0	2	3	18	7	1	1	1	28	31	6	0	0	0	0	6	6
09:45	0	0	0	0	0	0	0	13	2	2	1	2	20	24	2	0	0	0	0	2	2
<b>H/TOT</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>10</b>	<b>13</b>	<b>60</b>	<b>17</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>89</b>	<b>99</b>	<b>19</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>20</b>
10:00	1	0	0	0	0	1	1	15	4	1	1	1	22	25	1	0	0	0	0	1	1
10:15	1	0	0	0	0	1	1	13	0	0	1	0	14	15	1	0	1	0	0	2	3
10:30	3	1	0	0	0	4	4	18	2	1	2	0	23	26	1	0	1	0	0	2	3
10:45	2	0	1	0	0	3	4	15	3	0	1	0	19	20	2	0	0	0	0	2	2
<b>H/TOT</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>10</b>	<b>61</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>78</b>	<b>87</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>8</b>
11:00	3	1	0	0	0	4	4	10	0	0	1	2	13	16	2	0	0	0	0	2	2
11:15	1	0	0	0	0	1	1	6	1	3	4	0	14	21	0	0	0	0	0	0	0
11:30	1	0	0	0	0	1	1	12	1	1	0	1	15	17	0	0	0	0	0	0	0
11:45	3	0	0	0	0	3	3	12	1	1	0	0	14	15	2	0	0	0	0	2	2
<b>H/TOT</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>40</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>56</b>	<b>68</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>
12:00	3	0	0	0	0	3	3	15	2	0	1	0	18	19	5	0	0	0	0	5	5
12:15	2	2	0	0	0	4	4	9	0	2	1	0	12	14	1	1	0	0	0	2	2
12:30	2	1	0	0	0	3	3	10	1	0	2	1	14	18	2	0	0	0	0	2	2
12:45	4	0	0	0	0	4	4	16	2	0	1	0	19	20	2	0	0	0	0	2	2
<b>H/TOT</b>	<b>11</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>50</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>63</b>	<b>72</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>11</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 4							MOVEMENT 5							MOVEMENT 6						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
13:00	0	1	0	0	0	1	1	17	1	2	0	1	21	23	2	0	0	0	0	2	2
13:15	3	0	0	0	0	3	3	13	0	1	4	0	18	24	0	1	0	0	0	1	1
13:30	0	0	0	0	0	0	0	17	3	0	4	0	24	29	4	0	0	0	0	4	4
13:45	2	0	0	0	0	2	2	24	5	0	1	3	33	37	2	0	0	0	0	2	2
<b>H/TOT</b>	5	1	0	0	0	6	6	71	9	3	9	4	86	113	8	1	0	0	0	9	9
14:00	2	0	0	0	0	2	2	6	2	2	0	0	10	11	1	0	0	0	0	1	1
14:15	1	0	0	0	0	1	1	9	4	1	0	4	18	23	4	0	0	0	0	4	4
14:30	3	2	0	0	0	5	5	11	1	0	1	2	15	18	4	0	0	0	0	4	4
14:45	4	1	0	0	0	5	5	15	1	0	0	1	19	21	5	0	0	0	0	5	5
<b>H/TOT</b>	10	3	0	0	0	13	13	41	8	5	1	7	62	73	14	0	0	0	0	14	14
15:00	2	0	0	0	0	2	2	11	2	0	2	0	15	18	1	0	1	0	0	2	3
15:15	3	0	1	0	0	4	5	14	5	0	1	0	17	18	4	1	0	0	0	5	5
15:30	5	0	0	0	1	6	7	13	1	0	0	1	15	16	1	0	0	0	0	1	1
15:45	1	1	0	0	0	2	2	19	1	1	0	0	21	22	1	0	0	0	0	1	1
<b>H/TOT</b>	11	1	1	0	1	14	16	54	9	1	3	1	68	73	7	1	1	0	0	9	10
16:00	3	0	0	0	0	3	3	21	4	0	0	0	25	25	1	1	0	0	0	2	2
16:15	0	0	0	0	0	0	0	14	1	2	0	1	18	20	0	1	0	0	1	2	3
16:30	2	1	0	0	1	4	5	19	3	0	2	0	24	27	1	0	0	0	1	2	3
16:45	3	0	0	0	0	3	3	15	4	0	0	1	20	21	3	1	0	0	0	4	4
<b>H/TOT</b>	8	1	0	0	1	10	11	69	12	2	2	2	87	93	5	3	0	0	2	10	12
17:00	4	1	0	0	0	5	5	22	4	3	0	0	29	31	0	0	0	0	0	0	0
17:15	3	1	0	1	0	5	6	22	3	0	0	0	25	25	3	0	0	0	0	3	3
17:30	5	1	0	0	0	6	6	33	1	0	0	0	34	34	3	1	0	0	0	4	4
17:45	3	0	0	0	0	3	3	20	1	0	2	0	23	26	3	1	0	0	0	4	4
<b>H/TOT</b>	15	3	0	1	0	19	20	97	9	3	2	0	111	115	9	2	0	0	0	11	11
18:00	2	0	0	0	0	2	2	18	1	0	1	1	21	23	4	0	0	0	0	4	4
18:15	3	0	0	0	0	3	3	21	1	3	0	0	25	27	0	1	0	1	0	2	3
18:30	6	0	0	0	0	6	6	23	1	0	0	0	24	24	4	1	0	0	0	5	5
18:45	1	1	0	0	0	2	2	11	5	0	0	2	18	20	1	0	0	0	0	1	1
<b>H/TOT</b>	12	1	0	0	0	13	13	73	8	3	1	3	88	94	9	2	0	1	0	12	13
<b>P/TOT</b>	115	19	2	3	3	142	150	772	138	41	47	32	1030	1144	123	13	4	1	3	144	150

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 7							MOVEMENT 8							MOVEMENT 9						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
07:00	1	0	0	0	0	1	1	14	7	4	3	0	28	34	2	2	0	1	0	5	6
07:15	0	0	0	0	1	1	2	19	10	2	10	1	42	57	6	0	0	0	0	6	6
07:30	0	0	0	0	0	0	0	28	12	4	7	0	51	62	5	2	0	0	0	7	7
07:45	0	0	0	0	1	1	2	23	9	8	16	0	56	81	4	3	1	0	0	8	9
<b>H/TOT</b>	1	0	0	0	2	3	5	84	38	18	36	1	177	234	17	7	1	1	0	26	28
08:00	3	0	0	0	0	3	3	19	12	1	7	1	40	51	7	5	0	0	0	12	12
08:15	4	0	0	0	0	4	4	24	10	2	9	0	45	58	11	0	1	0	1	13	15
08:30	4	0	0	0	0	4	4	30	13	7	5	0	49	56	5	2	1	0	0	8	9
08:45	4	1	0	0	0	5	5	28	9	7	7	1	50	63	11	5	2	0	0	18	19
<b>H/TOT</b>	15	1	0	0	0	16	16	101	44	9	28	2	184	227	34	12	4	0	1	51	54
09:00	2	2	0	0	0	4	4	18	10	3	10	3	44	62	9	2	0	0	0	11	11
09:15	3	0	0	0	0	3	3	20	10	5	8	2	45	60	3	1	0	0	0	4	4
09:30	2	0	0	0	0	2	2	21	9	1	12	2	45	63	11	2	0	1	0	14	15
09:45	1	0	0	0	0	1	1	19	8	2	3	0	32	37	5	0	0	0	0	5	5
<b>H/TOT</b>	8	2	0	0	0	10	10	78	37	11	33	7	166	221	28	5	0	1	0	34	35
10:00	0	0	0	0	1	1	2	24	5	1	11	0	41	56	8	2	1	0	0	11	12
10:15	1	0	0	0	0	1	1	22	7	3	6	1	39	49	7	0	0	0	0	7	7
10:30	0	0	1	0	0	1	2	16	6	2	7	0	31	41	3	1	1	0	0	5	6
10:45	1	0	0	0	0	1	1	21	9	1	11	0	42	57	6	0	1	2	0	9	12
<b>H/TOT</b>	2	0	1	0	1	4	6	83	27	7	35	1	153	203	24	3	3	2	0	32	36
11:00	0	0	0	0	0	0	0	22	8	3	9	0	42	55	1	0	0	0	0	1	1
11:15	1	1	0	0	0	2	2	17	10	3	9	1	40	54	4	0	2	0	0	6	7
11:30	2	0	0	0	0	2	2	33	6	7	10	2	58	77	3	0	0	1	0	4	5
11:45	4	0	0	0	0	4	4	19	7	4	18	1	49	75	3	0	1	0	0	4	5
<b>H/TOT</b>	7	1	0	0	0	8	8	91	31	17	46	4	189	261	11	0	3	1	0	15	18
12:00	1	0	0	0	0	1	1	26	6	2	9	1	44	58	5	0	2	1	0	8	10
12:15	3	1	0	0	0	4	4	25	13	4	9	0	51	65	3	0	1	1	0	5	7
12:30	0	1	0	0	0	1	1	23	13	3	11	0	50	66	3	0	0	0	0	3	3
12:45	0	1	0	0	0	1	1	35	11	4	6	0	56	66	2	1	0	0	0	3	3
<b>H/TOT</b>	4	3	0	0	0	7	7	109	43	13	35	1	201	254	13	1	3	2	0	19	23

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 7					TOT	PCU	MOVEMENT 8					TOT	PCU	MOVEMENT 9					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	2	0	0	0	0	2	2	34	14	2	6	0	56	65	2	1	0	0	0	3	3
13:15	1	0	0	0	0	1	1	29	10	5	10	0	54	70	4	1	1	0	0	6	7
13:30	1	0	0	0	0	1	1	21	5	8	5	0	39	50	4	0	0	0	0	4	4
13:45	2	2	0	0	0	4	4	54	18	3	8	1	84	97	5	1	0	2	0	8	11
<b>H/TOT</b>	6	2	0	0	0	8	8	138	47	18	29	1	233	281	15	3	1	2	0	21	24
14:00	5	0	0	0	0	5	5	37	13	8	8	0	66	80	7	0	1	0	0	8	9
14:15	2	1	0	0	0	3	3	36	15	4	0	1	66	82	11	1	1	0	0	13	14
14:30	1	0	0	0	0	1	1	38	17	5	7	2	69	83	5	2	1	0	0	8	9
14:45	0	0	1	0	0	1	2	50	11	7	7	3	75	89	8	3	0	0	0	11	11
<b>H/TOT</b>	8	1	1	0	0	10	11	161	56	21	32	6	276	334	31	6	3	0	0	40	42
15:00	3	0	0	0	0	3	3	40	11	2	8	0	61	72	1	1	1	0	0	3	4
15:15	1	0	0	0	0	1	1	33	19	8	8	1	89	104	4	3	0	1	0	8	9
15:30	6	0	0	0	0	6	6	52	13	3	9	1	78	92	8	2	1	0	0	11	12
15:45	1	0	0	0	0	1	1	38	14	5	12	2	71	91	2	1	0	0	0	3	3
<b>H/TOT</b>	11	0	0	0	0	11	11	183	57	18	37	4	299	360	15	7	2	1	0	25	27
16:00	4	1	0	0	0	5	5	56	19	3	5	2	85	95	6	0	2	0	0	8	9
16:15	0	0	0	0	0	0	0	67	32	5	6	1	111	122	6	2	0	0	2	10	12
16:30	2	1	0	0	0	3	3	83	28	7	8	5	131	150	8	3	0	0	0	11	11
16:45	4	0	0	0	0	4	4	82	28	3	7	2	122	135	12	1	1	0	0	14	15
<b>H/TOT</b>	10	2	0	0	0	12	12	288	107	18	26	10	449	502	32	6	3	0	2	43	47
17:00	3	0	0	0	0	3	3	79	32	5	3	1	120	127	13	2	1	1	0	17	19
17:15	6	2	0	0	0	8	8	95	22	4	5	1	127	137	11	4	0	0	0	15	15
17:30	7	0	1	0	0	8	9	97	27	6	4	0	134	142	14	2	2	0	0	18	19
17:45	1	0	0	0	0	1	1	86	29	4	4	1	124	132	10	3	0	1	0	14	15
<b>H/TOT</b>	17	2	1	0	0	20	21	357	110	19	16	3	505	538	48	11	3	2	0	64	68
18:00	2	1	0	0	0	3	3	81	28	2	5	0	116	124	10	2	0	0	0	12	12
18:15	6	1	0	0	0	7	7	99	22	3	3	2	129	136	11	3	1	0	0	15	16
18:30	8	0	0	0	0	8	8	84	26	2	3	0	115	120	12	5	0	0	0	17	17
18:45	3	0	0	0	0	3	3	82	18	1	9	1	111	124	15	0	0	0	0	15	15
<b>H/TOT</b>	19	2	0	0	0	21	21	346	94	8	20	3	471	504	48	10	1	0	0	59	60
<b>P/TOT</b>	108	16	3	0	3	130	135	2019	691	177	373	43	3303	3919	316	71	27	12	3	429	461



**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 10					TOT	PCU	MOVEMENT 11					TOT	PCU	MOVEMENT 12					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	5	0	0	1	0	6	7	15	2	0	0	1	18	19	3	0	0	1	0	4	5
07:15	2	0	0	0	0	2	2	13	2	3	0	0	18	20	6	0	3	1	0	10	13
07:30	4	1	1	0	0	6	7	18	2	1	0	0	21	22	7	3	0	2	0	12	15
07:45	5	1	2	0	0	8	9	15	1	0	1	1	18	20	3	3	0	0	0	6	6
<b>H/TOT</b>	16	2	3	1	0	22	25	61	7	4	1	2	75	80	19	6	3	4	0	32	39
08:00	8	1	0	0	0	9	9	17	5	0	2	0	24	27	10	2	0	3	0	15	19
08:15	6	0	1	0	0	7	8	13	6	1	2	0	22	25	11	6	1	7	0	25	35
08:30	2	0	0	3	0	5	9	14	1	2	0	0	17	18	5	1	2	1	0	9	11
08:45	4	0	0	0	0	4	4	13	5	1	1	1	22	25	6	2	0	1	0	9	10
<b>H/TOT</b>	20	1	1	3	0	25	29	57	17	5	5	1	85	95	32	11	3	12	0	58	75
09:00	6	0	0	0	0	6	6	19	1	2	3	0	25	30	7	2	1	0	0	10	11
09:15	12	1	0	0	0	13	13	24	3	1	2	2	32	37	8	4	0	1	1	14	16
09:30	13	4	0	0	0	17	17	21	2	1	0	0	24	25	7	1	1	1	0	10	12
09:45	7	4	2	0	0	13	14	14	2	1	0	3	20	24	4	0	3	1	0	8	11
<b>H/TOT</b>	38	9	2	0	0	49	50	78	8	5	5	5	101	115	26	7	5	3	1	42	49
10:00	10	3	0	0	0	13	13	24	7	1	3	0	35	39	11	3	1	1	0	16	18
10:15	5	2	1	1	0	9	11	18	6	2	0	0	26	27	6	5	1	1	1	14	17
10:30	11	2	0	0	0	13	13	20	13	0	0	0	33	33	5	2	0	2	1	10	14
10:45	7	0	0	1	0	8	9	24	5	2	2	0	33	37	13	1	1	3	0	18	22
<b>H/TOT</b>	33	7	1	2	0	43	46	86	31	5	5	0	127	136	35	11	3	7	2	58	71
11:00	8	5	1	2	0	16	19	23	8	1	0	1	33	35	12	2	1	1	0	16	18
11:15	17	0	0	0	0	17	17	35	8	1	3	0	47	51	13	6	0	1	0	20	21
11:30	11	2	0	0	0	13	13	30	5	0	1	0	36	37	9	6	0	0	0	15	15
11:45	6	4	0	0	0	10	10	21	7	2	0	0	30	31	5	1	0	0	0	6	6
<b>H/TOT</b>	42	11	1	2	0	56	59	109	28	4	4	1	146	154	39	15	1	2	0	57	60
12:00	7	1	0	0	0	8	8	20	5	1	0	1	27	29	12	4	0	1	0	17	18
12:15	2	1	0	0	0	3	3	24	4	0	0	0	28	28	8	0	0	0	0	8	8
12:30	11	1	0	1	0	13	14	15	5	1	0	0	21	22	5	2	0	2	0	9	12
12:45	4	1	0	0	1	6	7	15	3	2	0	1	21	23	8	0	0	0	0	8	8
<b>H/TOT</b>	24	4	0	1	1	30	32	74	17	4	0	2	97	101	33	6	0	3	0	42	46

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 03

DATE: 30th May 2019

LOCATION: N2/R150

DAY: Thursday

TIME	MOVEMENT 10						TOT	PCU	MOVEMENT 11						TOT	PCU	MOVEMENT 12						TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS	CAR			LGV	OGV1	OGV2	BUS	CAR	LGV			OGV1	OGV2	BUS	TOT	PCU			
13:00	12	4	0	0	0	16	16	10	3	1	0	0	14	15	5	3	1	0	0	9	10			
13:15	11	2	0	1	0	14	15	15	4	1	0	1	21	23	5	4	0	0	0	9	9			
13:30	13	0	2	0	0	15	16	15	4	1	0	0	20	21	6	1	2	0	0	9	10			
13:45	10	4	0	0	0	14	14	21	3	3	0	1	28	31	3	5	1	0	0	9	10			
<b>H/TOT</b>	<b>46</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>59</b>	<b>61</b>	<b>61</b>	<b>14</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>83</b>	<b>88</b>	<b>19</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>38</b>			
14:00	22	3	0	0	0	25	25	27	1	0	0	1	29	30	8	2	0	1	0	11	12			
14:15	12	2	0	0	0	14	14	22	1	0	0	0	24	25	4	2	0	1	0	7	8			
14:30	7	0	0	1	0	8	9	23	2	0	0	1	29	34	10	2	2	0	0	14	15			
14:45	10	1	1	2	0	14	17	25	1	0	0	2	29	32	8	1	1	1	0	11	13			
<b>H/TOT</b>	<b>51</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>61</b>	<b>65</b>	<b>97</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>111</b>	<b>121</b>	<b>30</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>43</b>	<b>48</b>			
15:00	12	0	1	0	0	13	14	15	2	0	3	1	21	26	10	2	1	1	1	15	18			
15:15	9	0	1	0	0	10	11	23	3	4	0	0	30	32	5	1	1	0	0	7	8			
15:30	9	0	0	1	0	10	11	14	0	0	2	3	19	25	2	1	0	0	0	3	3			
15:45	5	1	0	0	0	6	6	19	3	0	1	2	25	28	2	1	1	2	0	6	9			
<b>H/TOT</b>	<b>35</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>39</b>	<b>41</b>	<b>71</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>95</b>	<b>111</b>	<b>19</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>31</b>	<b>37</b>			
16:00	2	0	0	1	0	3	4	12	1	0	0	0	13	13	1	1	1	1	0	4	6			
16:15	3	0	1	0	0	4	5	10	6	1	0	0	17	18	4	0	0	0	0	4	4			
16:30	5	0	0	0	0	5	5	9	0	2	4	0	15	21	8	2	1	2	0	13	16			
16:45	5	1	2	0	0	8	9	10	2	0	1	1	14	16	4	2	0	2	0	8	11			
<b>H/TOT</b>	<b>15</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>23</b>	<b>41</b>	<b>9</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>59</b>	<b>68</b>	<b>17</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>29</b>	<b>37</b>			
17:00	4	0	0	0	0	4	4	10	1	0	3	0	14	18	5	4	0	1	0	10	11			
17:15	2	0	0	0	0	2	2	23	5	0	1	0	29	30	4	1	3	1	0	9	12			
17:30	9	1	0	0	0	10	10	18	2	0	0	0	20	20	6	1	0	0	0	7	7			
17:45	5	0	0	0	0	5	5	13	0	2	1	1	17	20	4	0	0	2	0	6	9			
<b>H/TOT</b>	<b>20</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>64</b>	<b>8</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>80</b>	<b>89</b>	<b>19</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>32</b>	<b>39</b>			
18:00	8	0	0	1	0	9	10	11	3	2	1	0	17	19	4	0	0	1	0	5	6			
18:15	2	0	0	0	0	2	2	11	1	0	1	0	13	14	2	1	1	1	0	5	7			
18:30	8	0	1	0	0	9	10	16	2	2	0	0	20	21	3	2	0	0	0	5	5			
18:45	4	0	1	0	0	5	6	10	5	0	1	0	16	17	3	0	0	0	0	3	3			
<b>H/TOT</b>	<b>22</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>25</b>	<b>27</b>	<b>48</b>	<b>11</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>66</b>	<b>72</b>	<b>12</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>21</b>			
<b>P/TOT</b>	<b>362</b>	<b>53</b>	<b>18</b>	<b>16</b>	<b>1</b>	<b>450</b>	<b>481</b>	<b>847</b>	<b>163</b>	<b>47</b>	<b>43</b>	<b>25</b>	<b>1125</b>	<b>1229</b>	<b>300</b>	<b>95</b>	<b>31</b>	<b>48</b>	<b>4</b>	<b>478</b>	<b>560</b>			

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
07:00	3	1	0	0	0	4	4	97	48	5	3	1	154	161	5	0	0	0	0	5	5
07:15	0	0	0	0	0	0	0	87	30	10	9	0	136	153	7	1	0	1	0	9	10
07:30	0	0	0	0	0	0	0	91	28	7	7	2	135	150	10	1	1	0	0	12	13
07:45	3	1	0	0	0	4	4	105	16	5	9	2	137	153	7	2	0	0	0	9	9
<b>H/TOT</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>380</b>	<b>122</b>	<b>27</b>	<b>28</b>	<b>5</b>	<b>562</b>	<b>617</b>	<b>29</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>35</b>	<b>37</b>
08:00	1	0	2	0	0	3	4	110	16	3	6	0	135	144	7	4	0	0	0	11	11
08:15	1	0	1	0	0	2	3	79	11	3	1	1	101	113	5	1	1	0	0	7	8
08:30	3	0	0	0	0	3	3	74	24	3	1	1	109	121	7	2	0	0	1	10	11
08:45	3	0	0	0	0	3	3	69	12	8	8	0	96	110	6	1	2	1	0	10	12
<b>H/TOT</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>13</b>	<b>332</b>	<b>63</b>	<b>16</b>	<b>28</b>	<b>2</b>	<b>441</b>	<b>487</b>	<b>25</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>38</b>	<b>42</b>
09:00	5	0	0	0	0	5	5	71	11	4	3	0	89	95	6	1	1	0	1	9	11
09:15	2	0	0	0	0	2	2	88	8	3	5	0	74	82	10	0	0	0	0	10	10
09:30	2	0	0	0	0	2	2	51	8	4	10	2	75	92	4	0	0	0	0	4	4
09:45	1	0	0	0	0	1	1	38	8	2	10	3	61	78	3	0	0	1	0	4	5
<b>H/TOT</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>218</b>	<b>35</b>	<b>13</b>	<b>28</b>	<b>5</b>	<b>299</b>	<b>347</b>	<b>23</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>27</b>	<b>30</b>
10:00	0	1	0	0	0	1	1	36	13	6	8	4	67	84	2	1	0	0	1	4	5
10:15	2	0	1	0	0	3	4	26	13	5	6	2	52	64	3	1	0	0	0	4	4
10:30	0	0	0	0	0	0	0	30	8	8	10	1	57	75	4	0	0	0	0	4	4
10:45	3	0	0	0	0	3	3	35	9	3	7	1	55	67	6	0	1	0	0	7	8
<b>H/TOT</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>8</b>	<b>127</b>	<b>43</b>	<b>22</b>	<b>31</b>	<b>8</b>	<b>231</b>	<b>290</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>21</b>
11:00	0	1	0	0	0	1	1	31	7	1	6	0	45	53	2	0	2	1	0	5	7
11:15	1	1	0	0	0	2	2	30	8	4	3	0	45	51	1	0	0	0	0	1	1
11:30	0	0	0	0	0	0	0	33	5	3	9	0	50	63	5	1	0	0	0	6	6
11:45	2	0	0	0	0	2	2	24	7	7	8	2	48	64	9	0	0	0	0	9	9
<b>H/TOT</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>118</b>	<b>27</b>	<b>15</b>	<b>26</b>	<b>2</b>	<b>188</b>	<b>231</b>	<b>17</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>21</b>	<b>23</b>
12:00	2	1	2	0	0	5	6	42	8	5	7	0	62	74	2	1	0	1	0	4	5
12:15	1	0	1	0	0	2	3	32	7	1	8	1	49	61	1	0	0	1	0	2	3
12:30	3	0	0	0	0	3	3	41	10	3	3	1	58	64	7	0	0	0	0	7	7
12:45	0	0	0	1	0	1	2	35	10	4	5	1	55	65	4	1	0	0	0	5	5
<b>H/TOT</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>14</b>	<b>150</b>	<b>35</b>	<b>13</b>	<b>23</b>	<b>3</b>	<b>224</b>	<b>263</b>	<b>14</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>21</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 1					TOT	PCU	MOVEMENT 2					TOT	PCU	MOVEMENT 3					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
13:00	5	0	0	0	0	5	5	31	7	9	6	0	53	65	5	1	0	1	2	9	12
13:15	2	1	0	0	0	3	3	33	5	3	6	0	47	56	3	1	0	0	0	4	4
13:30	0	1	0	0	0	1	1	38	6	3	8	0	55	67	5	0	0	0	0	5	5
13:45	4	0	0	0	0	4	4	38	2	10	4	1	55	66	0	0	1	1	0	2	4
<b>H/TOT</b>	11	2	0	0	0	13	13	140	20	25	24	1	210	255	13	2	1	2	2	20	25
14:00	3	0	0	0	0	3	3	30	4	4	2	0	40	45	5	0	0	0	0	5	5
14:15	1	0	1	0	0	2	3	30	3	7	5	0	45	55	3	0	1	0	0	4	5
14:30	3	0	0	0	0	3	3	39	9	8	11	0	67	85	4	1	1	0	0	6	7
14:45	0	0	1	0	0	1	2	25	7	5	5	1	42	52	7	0	0	1	1	9	11
<b>H/TOT</b>	7	0	2	0	0	9	10	124	23	23	23	1	194	236	19	1	2	1	1	24	27
15:00	2	0	0	0	0	2	2	34	6	4	6	1	51	62	7	0	1	0	0	8	9
15:15	0	0	0	1	0	1	2	30	6	6	1	1	44	49	8	0	0	0	0	8	8
15:30	1	0	1	0	0	2	3	33	6	1	4	1	45	52	9	1	0	0	1	11	12
15:45	1	1	0	0	0	2	2	33	6	6	4	0	49	57	3	5	1	0	0	9	10
<b>H/TOT</b>	4	1	1	1	0	7	9	130	24	17	15	3	189	220	27	6	2	0	1	36	38
16:00	1	1	1	0	0	3	4	41	9	3	5	0	58	66	8	2	0	0	0	10	10
16:15	1	1	0	1	0	3	4	25	13	3	6	2	49	60	9	1	0	0	1	11	12
16:30	1	1	0	0	0	2	2	37	7	3	2	0	49	53	8	3	0	1	0	12	13
16:45	1	0	0	0	0	1	1	53	5	4	5	0	67	76	3	2	1	0	1	7	9
<b>H/TOT</b>	4	3	1	1	0	9	11	156	34	13	18	2	223	255	28	8	1	1	2	40	44
17:00	1	1	0	0	0	2	2	27	9	3	2	0	41	45	9	2	1	3	0	15	19
17:15	3	0	1	0	0	4	5	59	10	2	3	1	75	81	9	0	1	0	0	10	11
17:30	2	0	0	0	0	2	2	39	8	4	4	0	55	62	10	2	0	0	0	12	12
17:45	0	0	0	0	0	0	0	29	5	2	3	0	39	44	7	2	0	0	0	9	9
<b>H/TOT</b>	6	1	1	0	0	8	9	154	32	11	12	1	210	232	35	6	2	3	0	46	51
18:00	1	0	0	0	0	1	1	29	8	1	2	0	40	43	4	0	0	1	0	5	6
18:15	2	0	0	0	0	2	2	41	7	5	8	0	61	74	3	2	0	0	0	5	5
18:30	0	0	0	0	0	0	0	33	5	1	3	0	42	46	6	0	0	0	0	6	6
18:45	3	0	0	0	0	3	3	41	6	1	0	1	49	51	3	0	1	0	0	4	5
<b>H/TOT</b>	6	0	0	0	0	6	6	144	26	8	13	1	192	214	16	2	1	1	0	20	22
<b>P/TOT</b>	76	13	12	3	0	104	114	2173	484	203	269	34	3163	3648	261	43	17	14	9	344	380

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 4					TOT	PCU	MOVEMENT 5					TOT	PCU	MOVEMENT 6					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	2	2	0	1	0	5	6	8	5	0	0	0	13	13	12	7	0	1	2	22	25
07:15	3	0	1	0	2	6	9	5	2	0	1	0	8	9	21	5	1	0	1	28	30
07:30	4	3	1	0	1	9	11	14	7	0	1	0	22	23	35	7	0	0	0	42	42
07:45	3	2	1	0	0	6	7	16	4	2	1	0	23	25	22	0	0	0	1	23	24
<b>H/TOT</b>	12	7	3	1	3	26	32	43	18	2	3	0	66	71	90	19	1	1	4	115	121
08:00	3	4	0	0	1	8	9	8	3	1	0	0	12	13	28	8	1	2	1	40	44
08:15	9	1	1	0	0	11	12	15	2	1	0	0	18	19	19	9	1	1	0	30	32
08:30	6	2	1	0	0	9	10	13	1	0	0	0	14	14	35	10	1	1	1	48	51
08:45	9	3	1	0	0	13	14	8	3	0	0	0	11	11	15	4	4	0	0	23	25
<b>H/TOT</b>	27	10	3	0	1	41	44	44	9	2	0	0	55	56	97	31	7	4	2	141	152
09:00	9	5	0	0	0	14	14	11	2	0	1	0	14	15	29	5	1	1	2	38	42
09:15	3	1	0	0	1	5	6	8	1	0	0	0	7	7	37	7	1	2	0	47	50
09:30	9	2	0	0	0	11	11	7	2	0	1	0	10	11	26	1	0	0	3	30	33
09:45	3	0	0	0	0	3	3	11	5	0	1	1	18	20	14	2	0	1	2	19	22
<b>H/TOT</b>	24	8	0	0	1	33	34	35	10	0	3	1	49	54	106	15	2	4	7	134	147
10:00	5	3	0	0	0	8	8	6	5	1	0	0	12	13	24	7	2	0	1	34	36
10:15	6	0	0	0	0	6	6	7	2	1	0	0	10	11	34	3	1	0	2	40	43
10:30	2	1	0	2	0	5	8	4	2	0	0	0	6	6	29	7	0	1	0	37	38
10:45	2	1	0	1	0	4	5	4	2	0	0	0	6	6	21	11	0	2	0	34	37
<b>H/TOT</b>	15	5	0	3	0	23	27	21	11	2	0	0	34	35	108	28	3	3	3	145	153
11:00	2	0	0	0	0	2	2	2	0	0	0	0	2	2	18	3	1	0	1	23	25
11:15	2	1	1	0	0	4	5	3	1	0	0	0	4	4	23	3	2	1	0	29	31
11:30	5	0	0	2	0	7	10	2	2	0	0	0	4	4	16	3	0	0	0	19	19
11:45	7	1	1	0	0	9	10	3	2	3	0	0	8	10	22	2	4	0	0	28	30
<b>H/TOT</b>	16	2	2	2	0	22	26	10	5	3	0	0	18	20	79	11	7	1	1	99	105
12:00	2	0	0	1	0	3	4	5	1	0	0	0	6	6	31	1	1	1	1	35	38
12:15	2	1	0	0	0	3	3	9	0	0	0	0	9	9	14	3	0	0	0	17	17
12:30	3	1	0	0	0	4	4	1	0	0	0	0	1	1	22	2	1	0	0	25	26
12:45	7	0	1	0	0	8	9	6	1	0	0	0	7	7	19	2	1	3	0	25	29
<b>H/TOT</b>	14	2	1	1	0	18	20	21	2	0	0	0	23	23	86	8	3	4	1	102	110

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 4							MOVEMENT 5							MOVEMENT 6						
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU
13:00	2	1	0	0	0	3	3	6	3	0	0	0	9	9	21	5	1	0	0	27	28
13:15	1	1	0	0	0	2	2	8	4	0	0	0	12	12	26	3	6	2	1	38	45
13:30	3	0	0	0	0	3	3	7	2	1	0	0	10	11	21	3	4	1	0	29	32
13:45	3	2	0	1	0	6	7	5	1	0	0	0	6	6	19	3	0	1	0	23	24
<b>H/TOT</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>15</b>	<b>26</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>38</b>	<b>87</b>	<b>14</b>	<b>11</b>	<b>4</b>	<b>1</b>	<b>117</b>	<b>129</b>
14:00	8	0	1	1	0	10	12	10	3	0	0	0	13	13	21	2	3	1	1	28	32
14:15	9	1	0	1	0	11	12	6	1	0	0	0	7	7	18	4	1	0	0	23	24
14:30	2	1	1	0	0	4	5	3	2	0	0	0	6	7	15	3	0	2	0	20	23
14:45	5	1	0	0	1	7	8	2	2	1	1	0	7	9	16	2	1	1	0	20	22
<b>H/TOT</b>	<b>24</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>32</b>	<b>37</b>	<b>21</b>	<b>8</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>33</b>	<b>37</b>	<b>70</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>91</b>	<b>100</b>
15:00	4	1	0	2	0	7	10	1	2	0	0	1	4	5	19	6	1	1	1	28	31
15:15	5	2	0	0	0	7	7	3	4	1	1	1	15	18	15	4	0	1	1	21	23
15:30	5	1	0	0	0	6	6	6	2	0	0	1	9	10	29	3	0	1	0	33	34
15:45	2	0	0	0	0	2	2	8	1	0	0	0	9	9	17	4	0	0	0	21	21
<b>H/TOT</b>	<b>16</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>22</b>	<b>25</b>	<b>23</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>37</b>	<b>42</b>	<b>80</b>	<b>17</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>103</b>	<b>109</b>
16:00	3	1	1	0	0	5	6	12	3	0	0	0	15	15	25	2	0	0	2	29	31
16:15	6	2	1	0	1	10	12	12	1	0	0	0	13	13	20	3	1	1	0	25	27
16:30	7	3	0	0	0	10	10	11	3	2	0	0	16	17	25	8	0	1	0	34	35
16:45	7	0	0	0	0	7	7	6	5	2	0	0	13	14	22	3	1	2	0	28	31
<b>H/TOT</b>	<b>23</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>32</b>	<b>34</b>	<b>41</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>59</b>	<b>92</b>	<b>16</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>116</b>	<b>124</b>
17:00	4	2	1	0	0	7	8	7	1	0	1	0	9	10	24	2	0	0	1	27	28
17:15	11	3	0	0	0	14	14	8	2	0	0	0	10	10	24	4	1	0	0	29	30
17:30	10	2	0	0	0	12	12	10	3	1	0	0	14	15	19	2	1	1	0	23	25
17:45	5	0	0	0	0	5	5	11	0	0	0	0	11	11	31	1	1	0	0	33	34
<b>H/TOT</b>	<b>30</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>39</b>	<b>36</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>44</b>	<b>46</b>	<b>98</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>112</b>	<b>116</b>
18:00	6	1	0	0	0	7	7	15	2	0	0	0	17	17	18	6	0	0	1	25	26
18:15	5	1	1	0	0	7	8	4	1	0	0	0	5	5	29	4	0	0	0	33	33
18:30	7	3	0	0	0	10	10	9	0	0	0	0	9	9	11	3	0	0	0	14	14
18:45	6	1	0	0	0	7	7	13	1	0	1	0	15	16	13	6	0	0	0	19	19
<b>H/TOT</b>	<b>24</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>32</b>	<b>41</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>46</b>	<b>47</b>	<b>71</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>91</b>	<b>92</b>
<b>P/TOT</b>	<b>234</b>	<b>64</b>	<b>15</b>	<b>12</b>	<b>7</b>	<b>332</b>	<b>362</b>	<b>362</b>	<b>104</b>	<b>18</b>	<b>11</b>	<b>4</b>	<b>499</b>	<b>526</b>	<b>1064</b>	<b>198</b>	<b>45</b>	<b>33</b>	<b>26</b>	<b>1366</b>	<b>1457</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 7					TOT	PCU	MOVEMENT 8					TOT	PCU	MOVEMENT 9					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	12	2	2	1	1	18	21	16	7	4	3	0	30	36	2	0	0	0	0	2	2
07:15	23	3	1	0	0	27	28	20	8	1	10	0	39	53	1	0	0	0	0	1	1
07:30	17	0	0	2	0	19	22	25	7	5	8	0	45	58	1	0	0	0	0	1	1
07:45	15	3	2	1	1	22	25	23	8	7	14	0	52	74	3	1	0	0	0	4	4
<b>H/TOT</b>	<b>67</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>86</b>	<b>96</b>	<b>84</b>	<b>30</b>	<b>17</b>	<b>35</b>	<b>0</b>	<b>166</b>	<b>220</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>
08:00	21	3	1	2	0	27	30	22	9	2	9	1	43	57	1	2	0	0	0	3	3
08:15	17	3	2	0	1	23	25	24	10	1	6	1	42	51	1	0	0	0	0	1	1
08:30	18	2	3	0	2	25	29	32	12	7	5	0	50	57	4	0	0	0	0	4	4
08:45	14	5	0	4	0	23	28	29	10	7	9	2	55	71	3	1	0	0	0	4	4
<b>H/TOT</b>	<b>70</b>	<b>13</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>98</b>	<b>112</b>	<b>107</b>	<b>41</b>	<b>9</b>	<b>29</b>	<b>4</b>	<b>190</b>	<b>236</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>12</b>
09:00	21	1	0	0	0	22	22	20	4	5	8	1	38	52	7	2	2	0	0	11	12
09:15	16	2	1	0	0	19	20	26	10	4	10	0	50	65	3	4	0	0	0	7	7
09:30	14	0	1	1	1	17	20	23	7	2	12	2	46	65	0	0	1	0	0	1	2
09:45	6	4	1	0	1	12	14	20	7	2	4	0	33	39	2	0	0	0	0	2	2
<b>H/TOT</b>	<b>57</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>70</b>	<b>75</b>	<b>89</b>	<b>28</b>	<b>13</b>	<b>34</b>	<b>3</b>	<b>167</b>	<b>221</b>	<b>12</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>23</b>
10:00	26	6	0	2	0	34	37	25	5	5	8	1	44	58	1	0	0	0	0	1	1
10:15	13	3	2	2	0	20	24	25	5	4	4	1	39	47	1	1	0	0	0	2	2
10:30	20	1	0	3	0	24	28	21	5	3	8	0	37	49	3	0	0	0	0	3	3
10:45	21	5	6	2	1	35	42	26	10	1	10	0	47	61	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>80</b>	<b>15</b>	<b>8</b>	<b>9</b>	<b>1</b>	<b>113</b>	<b>130</b>	<b>97</b>	<b>25</b>	<b>13</b>	<b>30</b>	<b>2</b>	<b>167</b>	<b>215</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>
11:00	13	1	1	0	0	15	16	22	7	2	9	0	40	53	1	0	1	0	0	2	3
11:15	23	2	3	2	0	30	34	21	10	3	13	1	48	67	2	1	0	0	0	3	3
11:30	18	2	1	0	1	22	24	31	7	6	8	2	54	69	2	0	0	0	0	2	2
11:45	28	2	0	1	0	31	32	20	6	3	17	2	48	74	1	0	1	0	0	2	3
<b>H/TOT</b>	<b>82</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>98</b>	<b>105</b>	<b>94</b>	<b>30</b>	<b>14</b>	<b>47</b>	<b>5</b>	<b>190</b>	<b>263</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>10</b>
12:00	17	7	1	3	0	28	32	25	7	3	7	0	42	53	2	0	0	0	0	2	2
12:15	13	2	2	0	0	17	18	29	13	5	10	0	57	73	3	0	0	0	0	3	3
12:30	22	1	1	3	1	28	33	27	12	4	10	0	53	68	2	0	1	0	0	3	4
12:45	32	3	1	1	0	37	39	30	13	2	6	1	52	62	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>84</b>	<b>13</b>	<b>5</b>	<b>7</b>	<b>1</b>	<b>110</b>	<b>123</b>	<b>111</b>	<b>45</b>	<b>14</b>	<b>33</b>	<b>1</b>	<b>204</b>	<b>255</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>9</b>

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 7						TOT	PCU	MOVEMENT 8						TOT	PCU	MOVEMENT 9						TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS	CAR			LGV	OGV1	OGV2	BUS	CAR	LGV			OGV1	OGV2	BUS	TOT	PCU			
13:00	16	2	3	0	0	21	23	37	13	2	8	0	60	71	2	0	0	0	0	2	2			
13:15	17	1	1	1	1	21	24	33	9	5	0	0	47	50	1	0	0	0	0	1	1			
13:30	29	2	1	1	1	34	37	27	7	7	7	0	48	61	6	0	1	0	0	7	8			
13:45	30	7	1	3	1	42	47	60	16	3	8	1	88	101	2	2	0	0	0	4	4			
<b>H/TOT</b>	92	12	6	5	3	118	131	157	45	17	23	1	243	282	11	2	1	0	0	14	15			
14:00	22	4	1	0	0	27	28	42	8	7	7	0	64	77	1	0	0	0	0	1	1			
14:15	18	1	0	2	0	21	24	36	17	6	8	1	68	82	2	2	0	0	0	4	4			
14:30	30	2	3	2	2	39	45	45	16	3	2	3	79	99	3	0	0	0	0	3	3			
14:45	28	4	0	0	1	33	34	46	14	5	5	1	69	78	2	1	0	0	0	3	3			
<b>H/TOT</b>	98	11	4	4	3	120	130	169	55	19	32	5	280	336	8	3	0	0	0	11	11			
15:00	21	3	0	0	3	27	30	44	9	3	8	0	64	76	2	1	1	0	0	4	5			
15:15	27	3	1	1	1	33	36	51	19	8	6	1	85	98	6	0	0	0	0	6	6			
15:30	36	5	3	2	0	46	50	63	13	4	8	1	89	102	1	0	0	0	0	1	1			
15:45	34	4	2	0	1	41	43	39	12	5	11	2	69	88	3	2	0	0	0	5	5			
<b>H/TOT</b>	118	15	6	3	5	147	159	197	53	20	33	4	307	364	12	3	1	0	0	16	17			
16:00	36	8	2	1	1	48	51	55	18	5	5	2	85	96	6	1	0	0	0	7	7			
16:15	30	1	0	1	1	33	35	70	37	4	5	2	118	129	7	1	0	0	0	8	8			
16:30	34	4	1	0	1	40	42	85	26	5	9	5	130	149	9	1	0	0	0	10	10			
16:45	33	5	0	1	1	40	42	88	33	4	7	1	133	145	4	1	1	0	0	6	7			
<b>H/TOT</b>	133	18	3	3	4	161	170	298	114	18	26	10	466	519	26	4	1	0	0	31	32			
17:00	41	9	0	0	0	50	50	88	27	4	6	1	126	137	5	2	0	0	0	7	7			
17:15	41	5	0	0	1	47	48	97	22	6	4	1	130	139	2	1	0	0	0	3	3			
17:30	46	4	1	0	0	51	52	99	27	4	5	0	135	144	2	1	0	0	0	3	3			
17:45	54	5	0	2	0	61	64	93	34	3	6	1	137	147	9	0	0	0	0	9	9			
<b>H/TOT</b>	182	23	1	2	1	209	213	377	110	17	21	3	528	567	18	4	0	0	0	22	22			
18:00	38	4	0	0	1	43	44	85	31	2	4	0	122	128	4	0	0	0	0	4	4			
18:15	39	8	0	0	0	47	47	107	23	4	2	2	138	145	5	0	0	0	0	5	5			
18:30	46	3	1	0	0	50	51	86	28	3	3	0	120	125	2	0	1	0	0	3	4			
18:45	44	5	0	0	1	50	51	91	16	0	11	1	119	134	1	1	0	0	0	2	2			
<b>H/TOT</b>	167	20	1	0	2	190	193	369	98	9	20	3	499	533	12	1	1	0	0	14	15			
<b>P/TOT</b>	1230	162	53	47	28	1520	1636	2149	674	180	363	41	3407	4010	133	29	10	0	0	172	177			



**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

TIME	MOVEMENT 10					TOT	PCU	MOVEMENT 11					TOT	PCU	MOVEMENT 12					TOT	PCU
	CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		
07:00	8	1	1	0	0	10	11	3	2	0	0	0	5	5	0	1	0	0	0	1	1
07:15	6	1	0	0	0	7	7	6	1	0	0	0	7	7	1	1	1	0	0	3	4
07:30	6	2	0	0	0	8	8	8	1	1	0	0	10	11	4	1	0	0	0	5	5
07:45	5	3	1	0	0	9	10	3	1	0	0	1	5	6	0	0	0	0	0	0	0
<b>H/TOT</b>	25	7	2	0	0	34	35	20	5	1	0	1	27	29	5	3	1	0	0	9	10
08:00	8	1	0	0	0	9	9	5	1	0	0	0	7	8	0	1	0	0	0	1	1
08:15	1	0	0	0	0	1	1	11	1	0	0	0	12	12	1	0	0	1	0	2	3
08:30	4	0	0	0	0	4	4	6	1	0	0	0	7	7	3	0	0	0	0	3	3
08:45	8	0	0	0	0	8	8	11	2	0	0	0	14	15	6	0	0	0	0	6	6
<b>H/TOT</b>	21	1	0	0	0	22	22	33	5	1	0	1	40	42	10	1	0	1	0	12	13
09:00	4	0	0	0	0	4	4	10	1	0	1	0	12	13	1	1	0	0	0	2	2
09:15	4	0	1	0	0	5	6	8	1	1	3	0	13	17	1	0	0	0	0	1	1
09:30	4	1	0	0	0	5	5	7	2	1	2	0	12	15	1	0	0	0	0	1	1
09:45	2	0	0	0	0	2	2	6	0	0	0	2	8	10	1	0	0	0	0	1	1
<b>H/TOT</b>	14	1	1	0	0	16	17	31	4	2	6	2	45	56	4	1	0	0	0	5	5
10:00	4	0	1	0	0	5	6	5	0	0	1	0	6	7	1	0	0	1	0	2	3
10:15	0	1	0	0	0	1	1	6	0	0	0	1	7	8	2	0	1	0	0	3	4
10:30	2	0	1	0	0	3	4	2	0	0	0	0	2	2	1	0	0	0	0	1	1
10:45	2	0	0	0	0	2	2	11	2	0	0	0	13	13	0	0	0	0	0	0	0
<b>H/TOT</b>	8	1	2	0	0	11	12	24	2	0	1	1	28	30	4	0	1	1	0	6	8
11:00	0	1	1	0	0	2	3	4	0	1	1	0	6	8	0	0	0	0	0	0	0
11:15	3	0	0	0	0	3	3	10	0	0	0	0	10	10	0	0	0	0	0	0	0
11:30	7	0	1	0	0	8	9	6	1	0	0	0	7	7	1	0	1	0	0	2	3
11:45	3	1	0	0	0	4	4	2	3	0	0	0	5	5	2	1	0	0	0	3	3
<b>H/TOT</b>	13	2	2	0	0	17	18	22	4	1	1	0	28	30	3	1	1	0	0	5	6
12:00	2	1	0	0	0	3	3	5	3	0	1	0	9	10	2	0	1	1	0	4	6
12:15	6	1	1	0	0	8	9	3	2	0	0	0	5	5	2	0	0	0	0	2	2
12:30	1	0	0	0	0	1	1	5	0	0	0	0	5	5	1	0	0	0	0	1	1
12:45	4	2	0	0	0	6	6	7	1	0	0	0	8	8	2	0	1	0	0	3	4
<b>H/TOT</b>	13	4	1	0	0	18	19	20	6	0	1	0	27	28	7	0	2	1	0	10	12

**TRAFFINOMICS LIMITED**

**KNOCKHARLEY LANDFILL TRAFFIC COUNTS  
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**MAY 2019  
TRA/19/140**

SITE: 04

DATE: 30th May 2019

LOCATION: N2/R153/L1610

DAY: Thursday

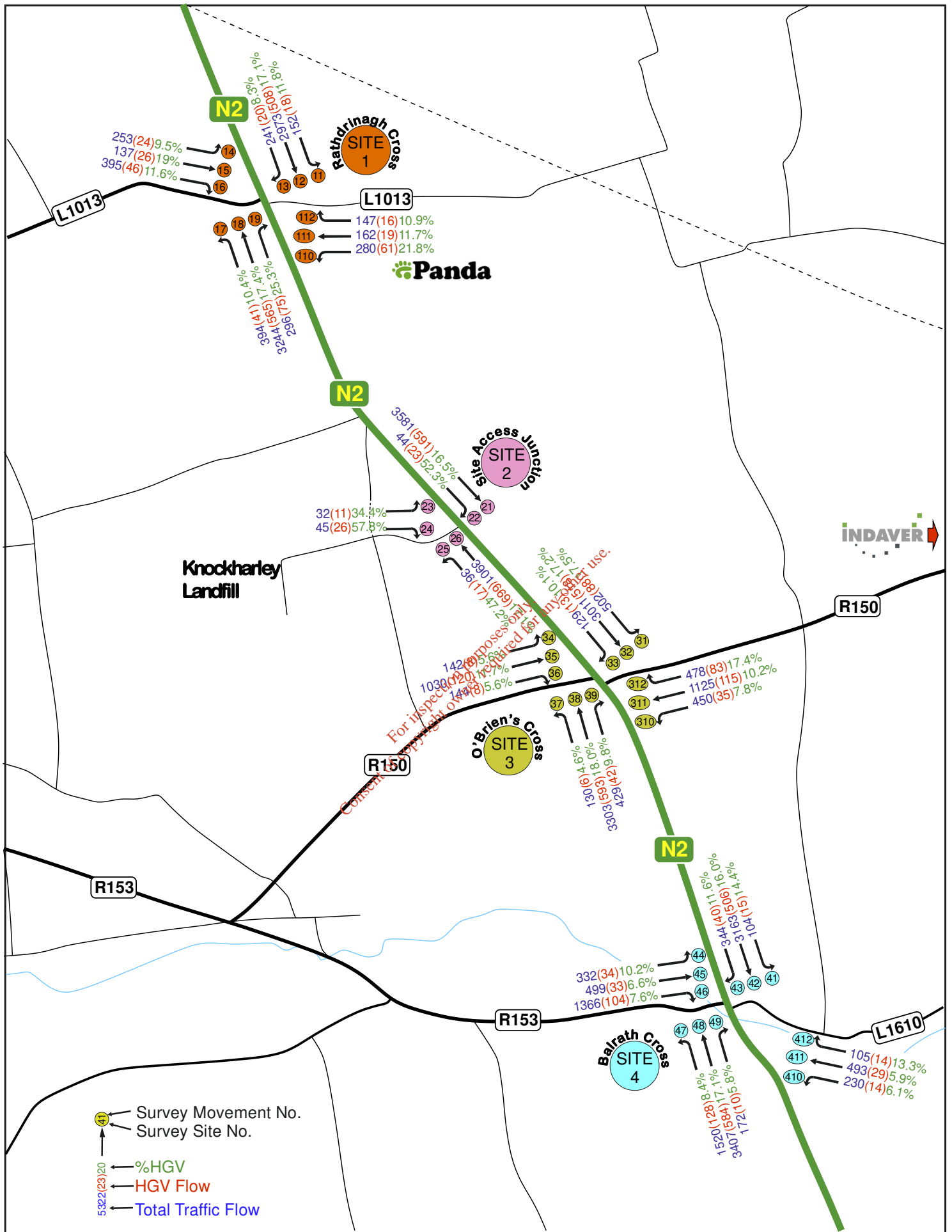
TIME	MOVEMENT 10							MOVEMENT 11							MOVEMENT 12							
	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
13:00	0	0	0	0	0	0	0	12	0	1	0	0	13	14	0	0	0	0	0	0	0	
13:15	2	0	0	0	0	2	2	5	0	0	0	0	5	5	4	0	0	0	0	0	4	4
13:30	1	1	0	0	0	2	2	4	2	0	0	0	6	6	0	0	0	0	0	0	0	0
13:45	2	1	0	0	0	3	3	6	1	0	0	0	7	7	0	1	0	0	0	0	1	1
<b>H/TOT</b>	5	2	0	0	0	7	7	27	3	1	0	0	37	32	4	1	0	0	0	0	5	5
14:00	2	1	0	0	0	3	3	7	1	0	0	0	8	8	1	1	0	0	0	0	2	2
14:15	4	1	0	0	0	5	5	7	2	0	0	0	9	9	1	0	0	0	0	0	1	1
14:30	4	1	0	0	0	5	5	7	2	0	0	0	9	9	0	0	0	0	0	0	0	0
14:45	2	1	0	0	0	3	3	10	2	0	0	0	12	12	2	0	1	0	0	0	3	4
<b>H/TOT</b>	12	4	0	0	0	16	16	31	7	0	0	0	38	38	4	1	1	0	0	0	6	7
15:00	8	1	0	0	2	11	13	8	2	0	1	0	11	12	3	0	0	0	0	0	3	3
15:15	6	0	1	0	0	7	8	12	9	0	1	0	22	23	3	0	0	0	0	0	3	3
15:30	13	4	1	0	0	18	19	9	1	0	0	0	10	10	4	0	0	0	0	0	4	4
15:45	3	0	1	0	0	4	5	9	3	1	0	1	14	16	4	1	1	1	0	0	7	9
<b>H/TOT</b>	30	5	3	0	2	40	44	38	15	1	2	1	57	61	14	1	1	1	0	0	17	19
16:00	2	0	0	0	0	2	2	10	3	0	0	0	13	13	1	0	1	0	0	0	2	3
16:15	8	0	0	0	0	8	8	10	8	0	0	0	18	18	1	0	1	0	0	0	2	3
16:30	6	0	0	0	0	6	6	14	7	1	1	0	23	25	2	0	0	0	0	0	2	2
16:45	3	0	0	0	0	3	3	10	7	0	0	0	17	17	2	0	0	0	0	0	2	2
<b>H/TOT</b>	19	0	0	0	0	19	19	44	25	1	1	0	71	73	6	0	2	0	0	0	8	9
17:00	5	1	0	0	0	6	6	5	7	0	0	0	12	12	1	2	0	0	0	0	3	3
17:15	6	0	0	0	0	6	6	11	5	1	0	0	17	18	2	0	1	0	0	0	3	4
17:30	0	0	0	0	0	0	0	8	2	0	0	0	10	10	2	1	0	0	0	0	3	3
17:45	3	1	0	0	0	4	4	9	3	0	1	0	13	14	1	0	0	0	0	0	1	1
<b>H/TOT</b>	14	2	0	0	0	16	16	33	17	1	1	0	52	54	6	3	1	0	0	0	10	11
18:00	2	0	1	0	0	3	4	12	4	0	0	0	16	16	4	1	0	0	0	0	5	5
18:15	2	1	0	0	0	3	3	7	2	0	0	0	9	9	2	1	0	0	0	0	3	3
18:30	2	2	0	0	0	4	4	11	2	0	0	0	13	13	0	1	0	0	0	0	1	1
18:45	4	0	0	0	0	4	4	10	0	1	0	0	11	12	3	0	0	0	0	0	3	3
<b>H/TOT</b>	10	3	1	0	0	14	15	40	8	1	0	0	49	50	9	3	0	0	0	0	12	12
<b>P/TOT</b>	184	32	12	0	2	230	238	363	101	10	13	6	493	521	76	15	10	4	0	0	105	115

# APPENDIX B

## Network Flow Diagrams

*For inspection purposes only.  
Consent of copyright owner required for any other use.*





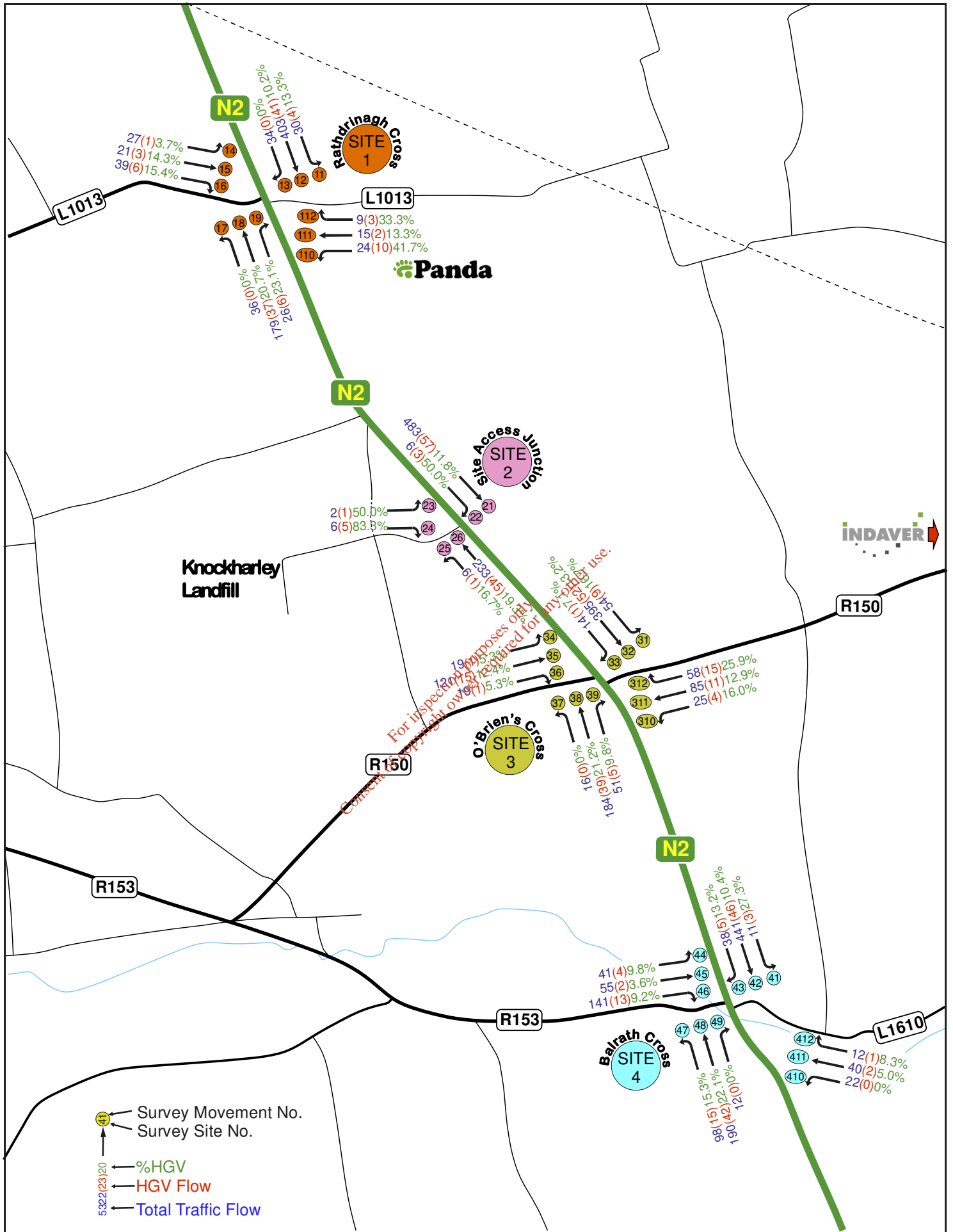
# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS  
 Suite 5, Gowna Plaza,  
 Bracklawn Business Park,  
 D15 R59T. Telephone: +353 (0)1 8253015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Surveyed Traffic Flows - May 2019**  
**Weekday Daily Traffic Flows**  
**(07:00-19:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing Survey	Job No: 02998	Figure 1
Appendix B		



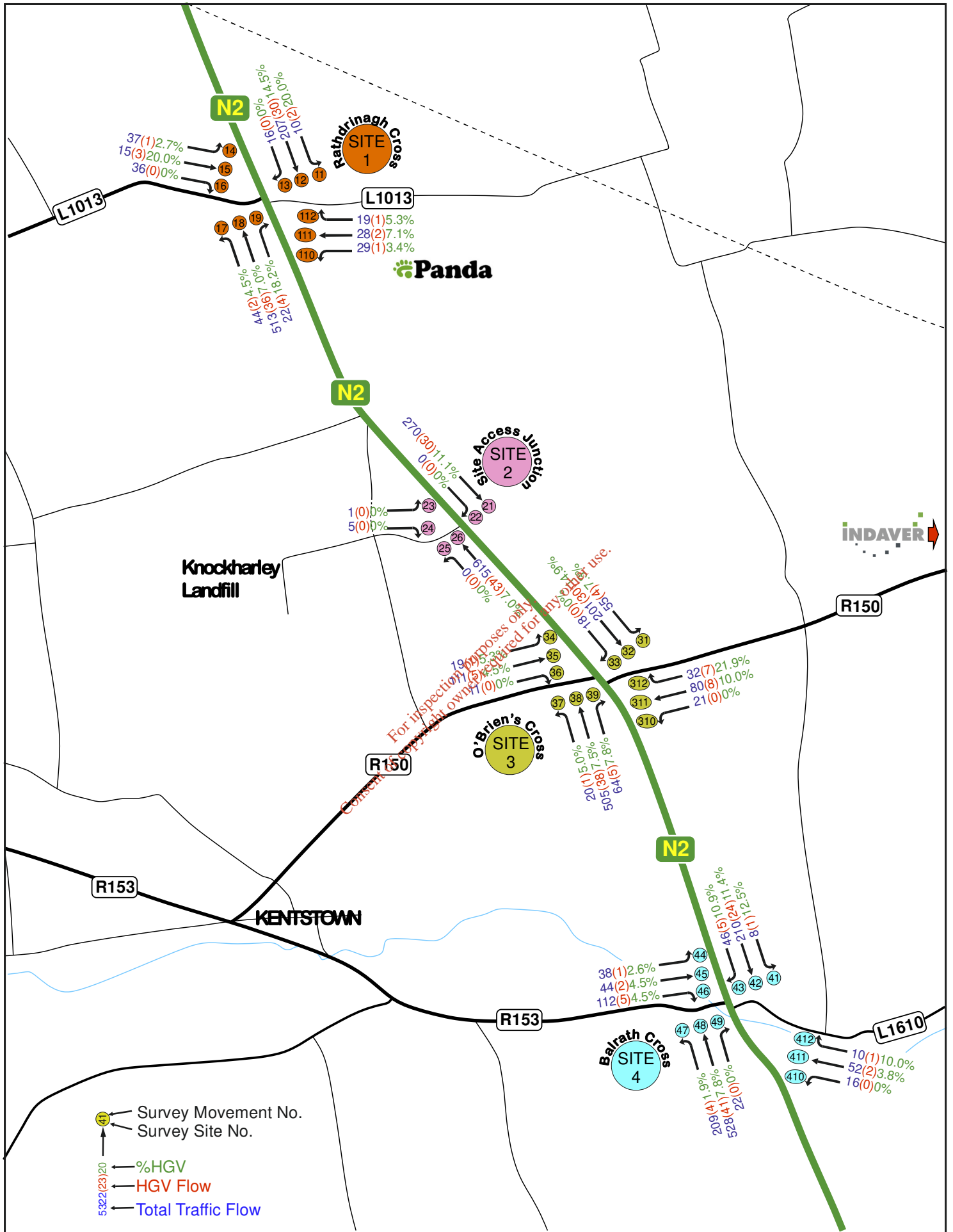
# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS  
 Suite 5, Gowna Plaza,  
 Brackdown Business Park,  
 D15 R59T. Telephone: +353 (0) 1 825015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

Surveyed Traffic Flows - May 2019  
 Weekday AM Network Peak Hour Flows  
 (08:00-09:00hrs)

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing Survey	Job No: 02998	Figure 2
Appendix B		



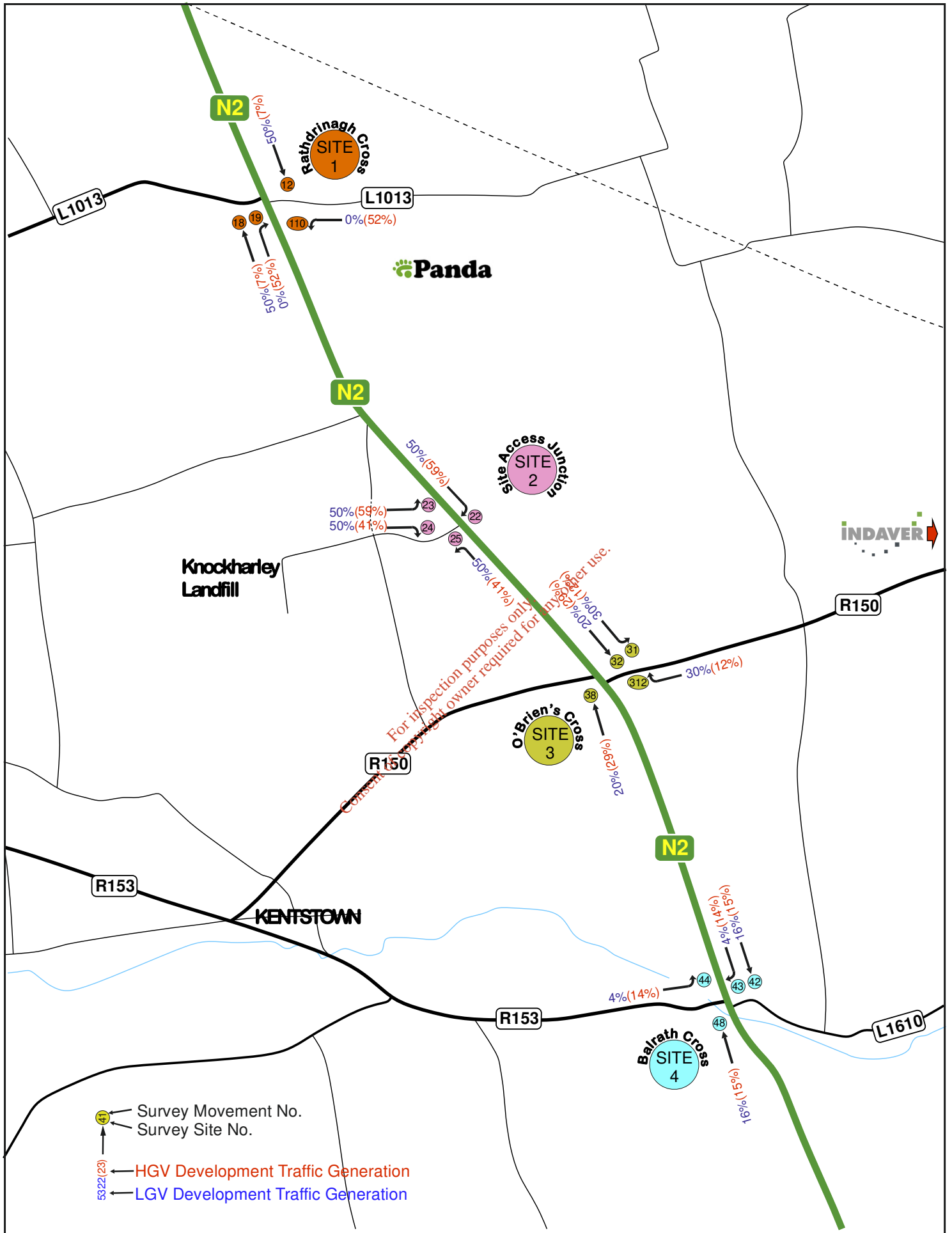
# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS  
 Suite 5, Gowna Plaza,  
 Bracklow Business Park,  
 D15 R59T. Telephone: +353 (0)1 8253015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

Surveyed Traffic Flows - May 2019  
 Weekday PM Peak Hour Flows  
 (17:00-18:00hrs)

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing Survey	Job No: 02998	Figure 3
Appendix B		

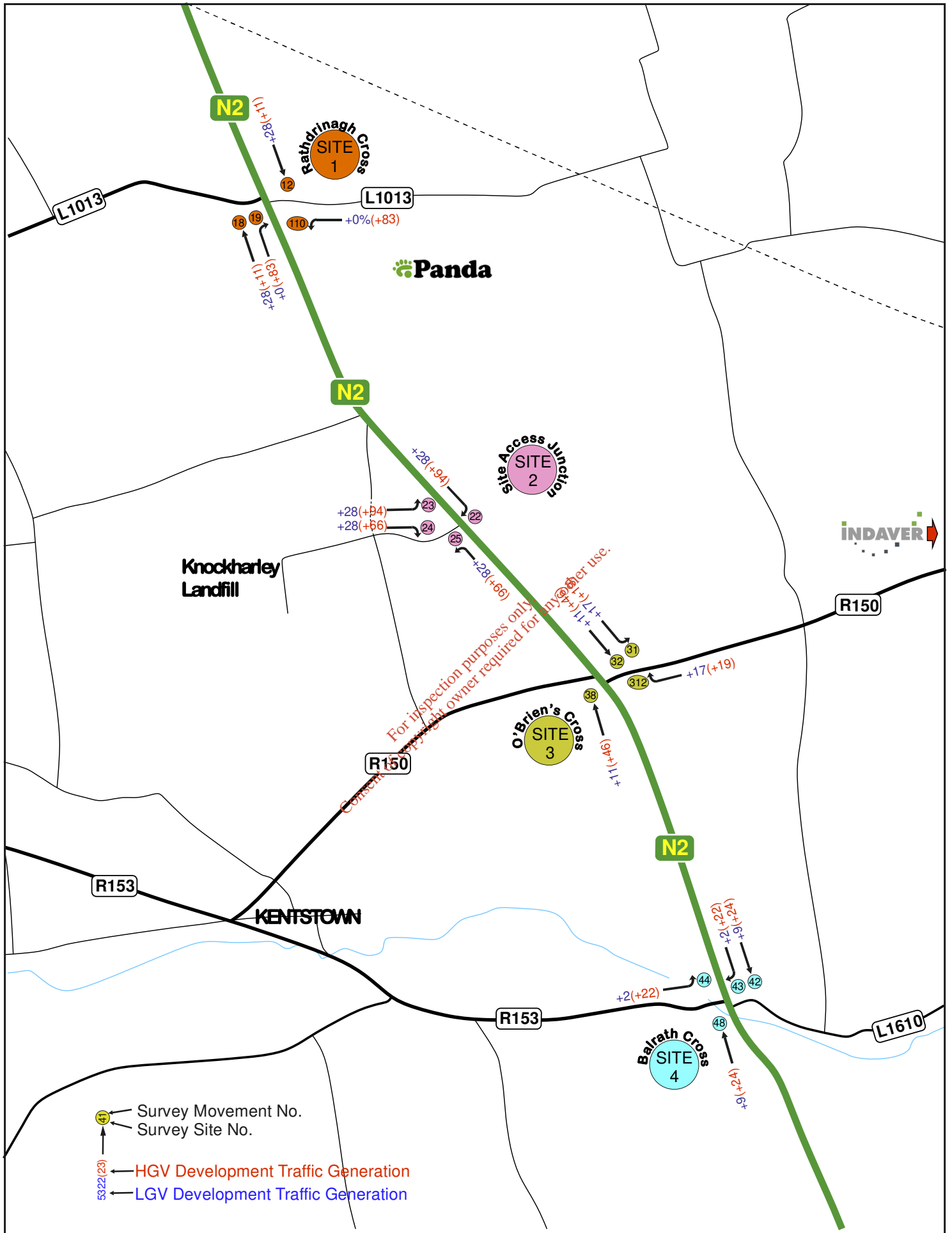


41 Survey Movement No.  
 Survey Site No.  
 5322(23) HGV Development Traffic Generation  
 LGV Development Traffic Generation

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 Bracklow Business Park,  
 D15 R59T. Telephone: +353 (0) 1 853015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

**Knockharley Facility - Network Traffic Flows**  
 Based upon Survey & Weighbridge Records  
**Distribution of Development Traffic**  
 (17:00-18:00hrs)

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing/Forecast	Job No: 02998	Figure 4
Appendix B		



41 Survey Movement No.  
 Survey Site No.  
 5322(23) HGV Development Traffic Generation  
 LGV Development Traffic Generation

# TRAFFICWISE

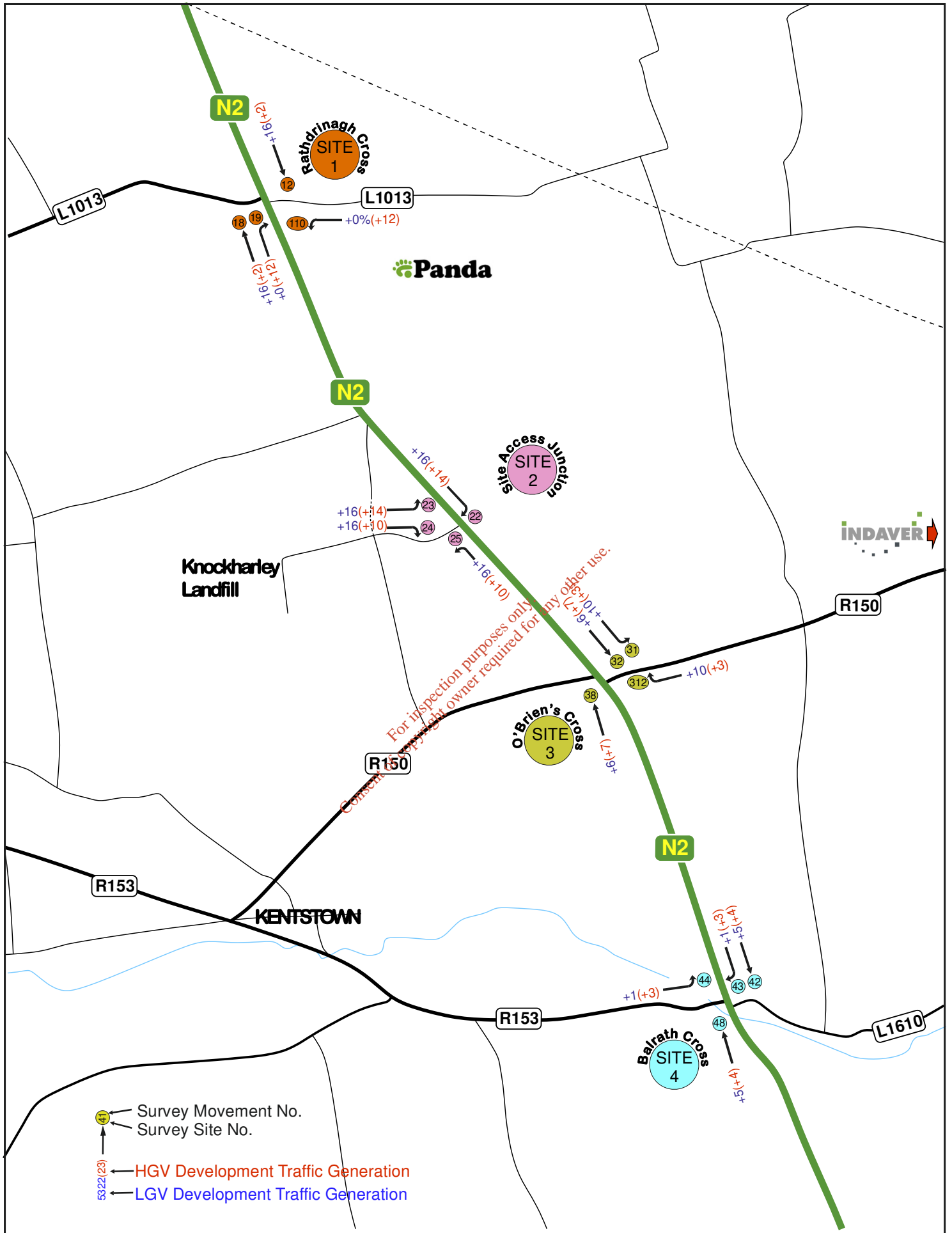
TRAFFIC AND TRANSPORTATION SOLUTIONS  
 Suite 5, Gowna Plaza,  
 Bracklow Business Park,  
 D15 R59T. Telephone: +353 (0) 1 853015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Assessment Upper Value**  
**Daily Development Traffic Generation**  
**(17:00-18:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing/Forecast	Job No: 02998	Figure 5
Appendix B		



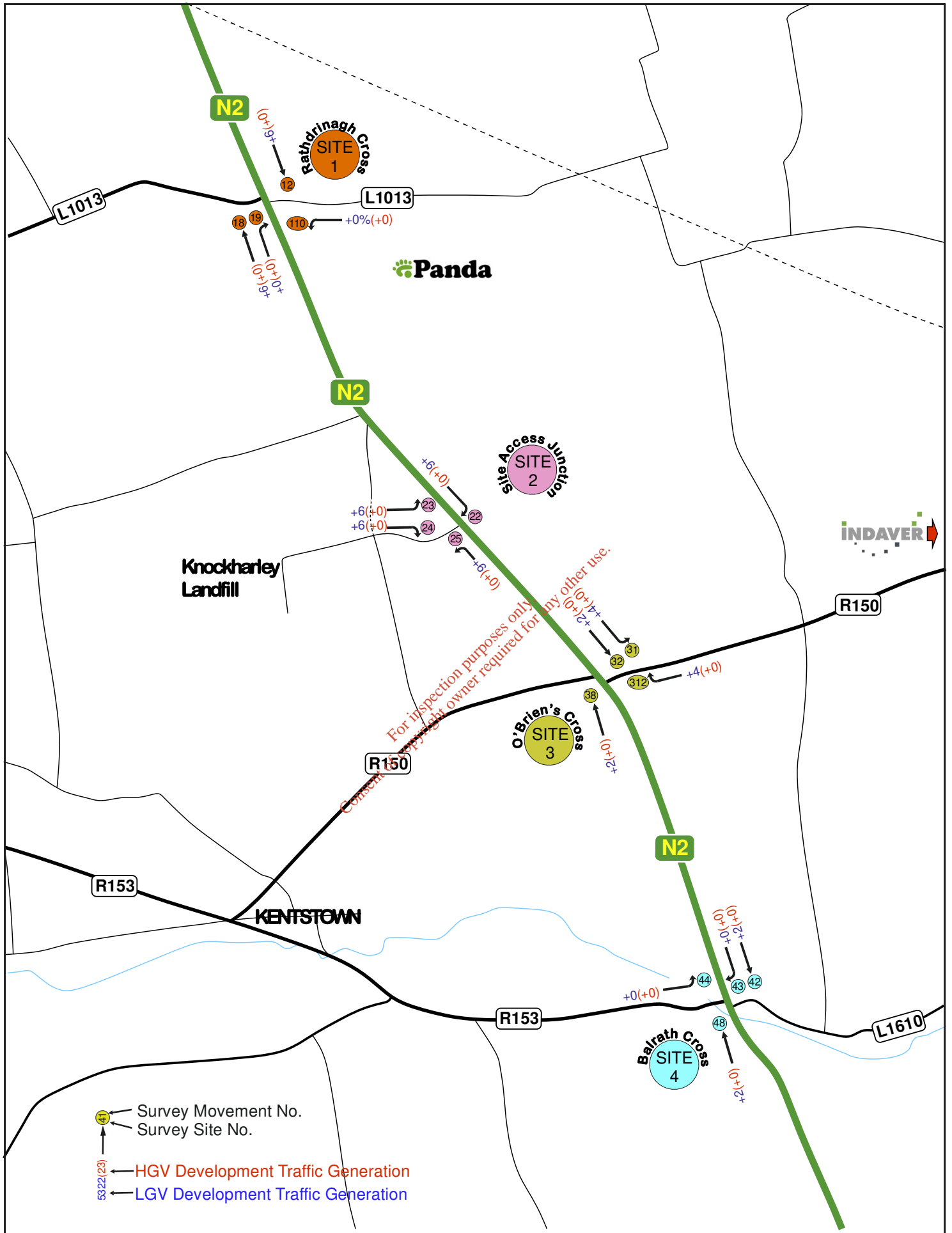


Survey Movement No.  
 Survey Site No.  
 HGV Development Traffic Generation  
 LGV Development Traffic Generation

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 Bracklow Business Park,  
 D15 R59T. Telephone: +353 (0) 1 853015  
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 E-mail: info@trafficwise.ie

**Knockharley Facility - Network Traffic Flows**  
**Assessment Upper Value**  
**AM Peak Hour Additional Traffic Generation**  
**(08:00-09:00hrs)**

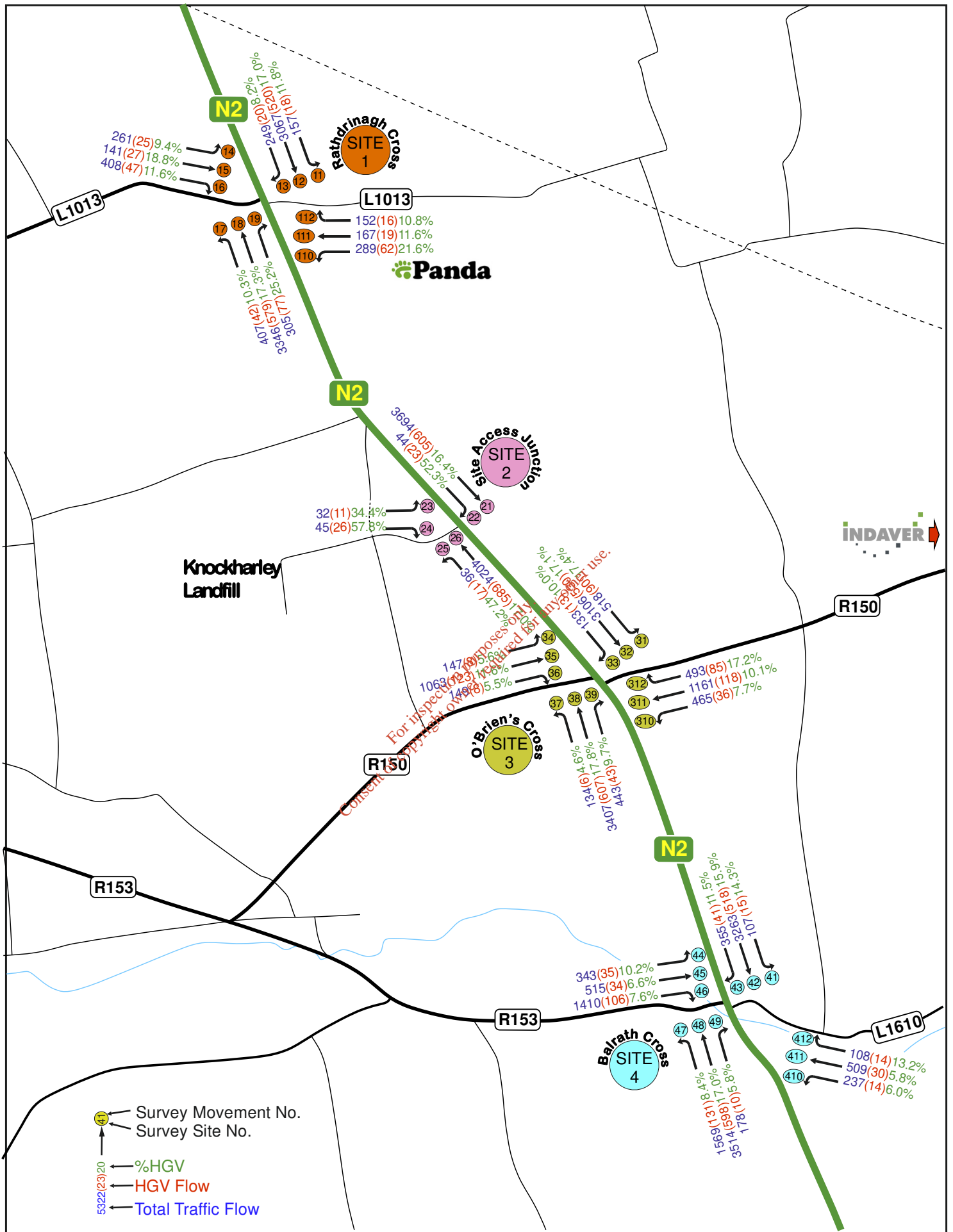
Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing/Forecast	Job No: 02998	Figure 6
Appendix B		



**TRAFFICWISE**  
 TRAFFIC AND TRANSPORTATION SOLUTIONS  
 Suite 5, Gowna Plaza,  
 Bracklow Business Park,  
 D15 R59T. Telephone: +353 (0) 1 8253015  
 Website: www.trafficwise.ie  
 E-mail: info@trafficwise.ie

**Knockharley Facility - Network Traffic Flows**  
**Assessment Upper Value**  
**PM Peak Hour Additional Traffic Generation**  
**(17:00-18:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Existing/Forecast	Job No: 02998	Figure 7
Appendix B		



# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS

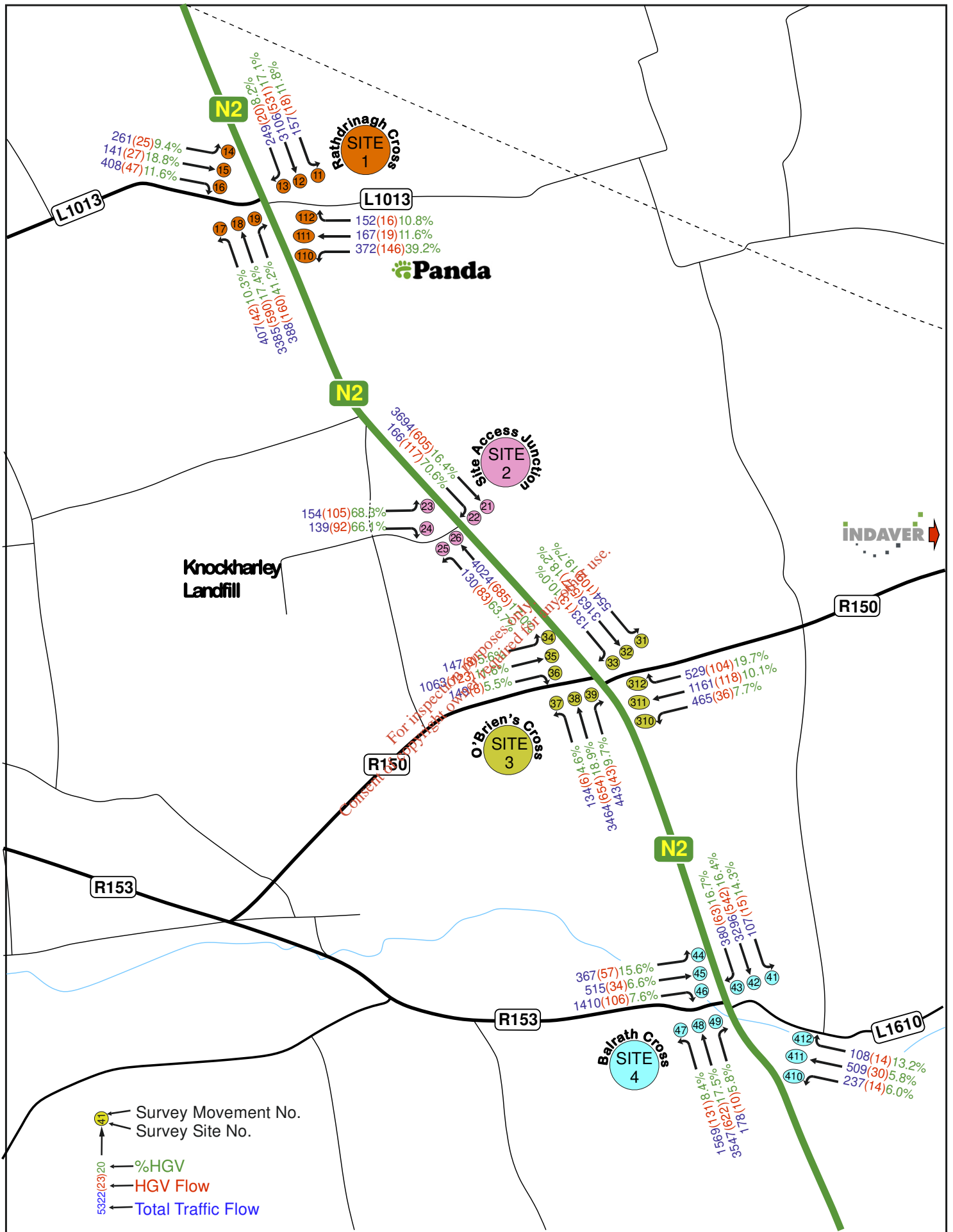
Suite 5, Gowra Plaza,  
Blacowny Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2021 Opening  
Weekday Daily Traffic Flows - Do Nothing  
(07:00-19:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 8
Appendix B		



# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS

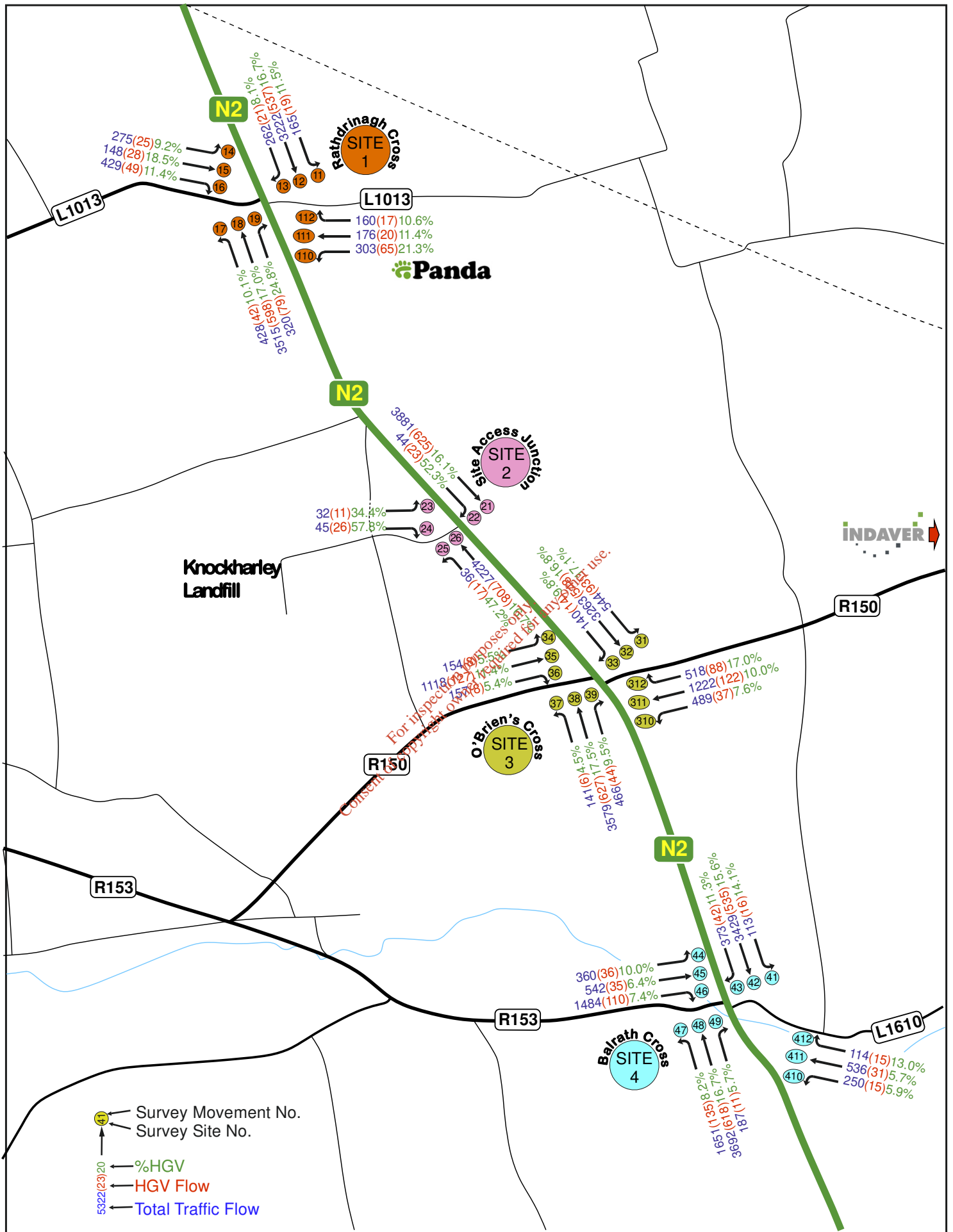
Suite 5, Gowra Plaza,  
Blacown Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2021 Opening  
Weekday Daily Traffic Flows + With Dev.  
(07:00-19:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 9
Appendix B		



# TRAFFICWISE

TRAFFIC AND TRANSPORTATION SOLUTIONS

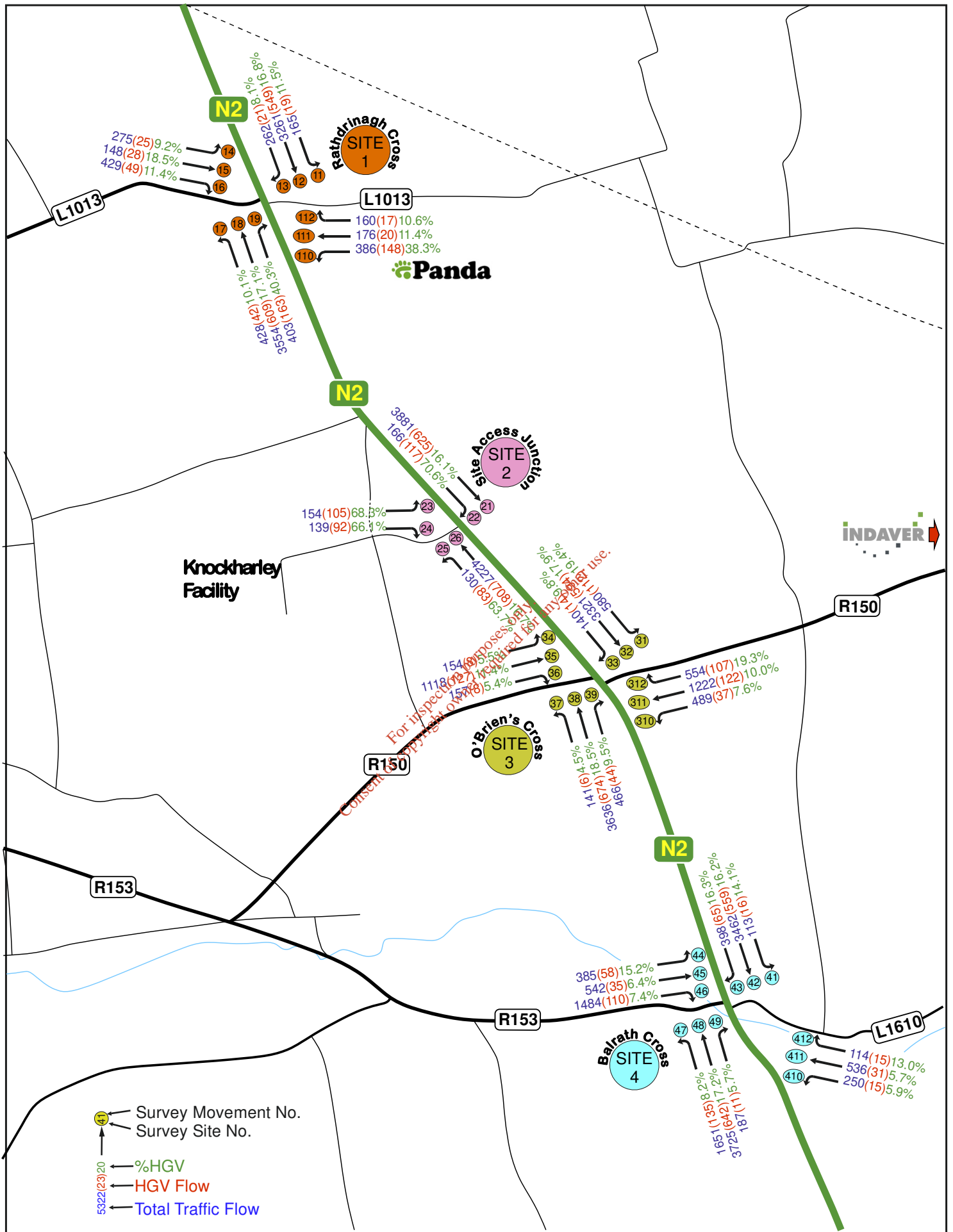
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Blacown Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2026 Opening  
Weekday Daily Traffic Flows - Do Nothing  
(07:00-19:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 10
Appendix B		



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TRAFFIC AND TRANSPORTATION SOLUTIONS

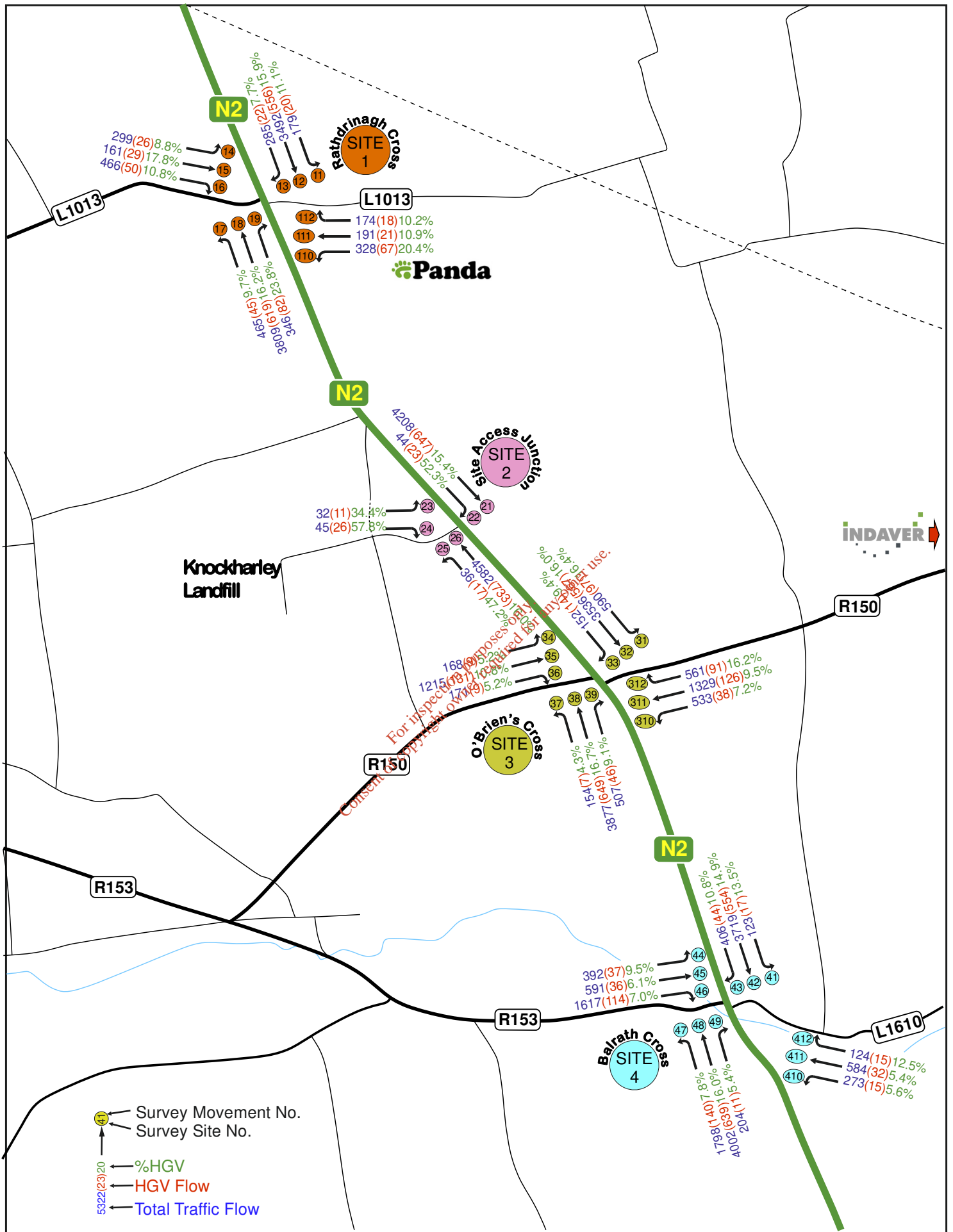
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D15 R59T.

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Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2026 Opening  
Weekday Daily Traffic Flows + With Dev.  
(07:00-19:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 11
Appendix B		



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TRAFFIC AND TRANSPORTATION SOLUTIONS

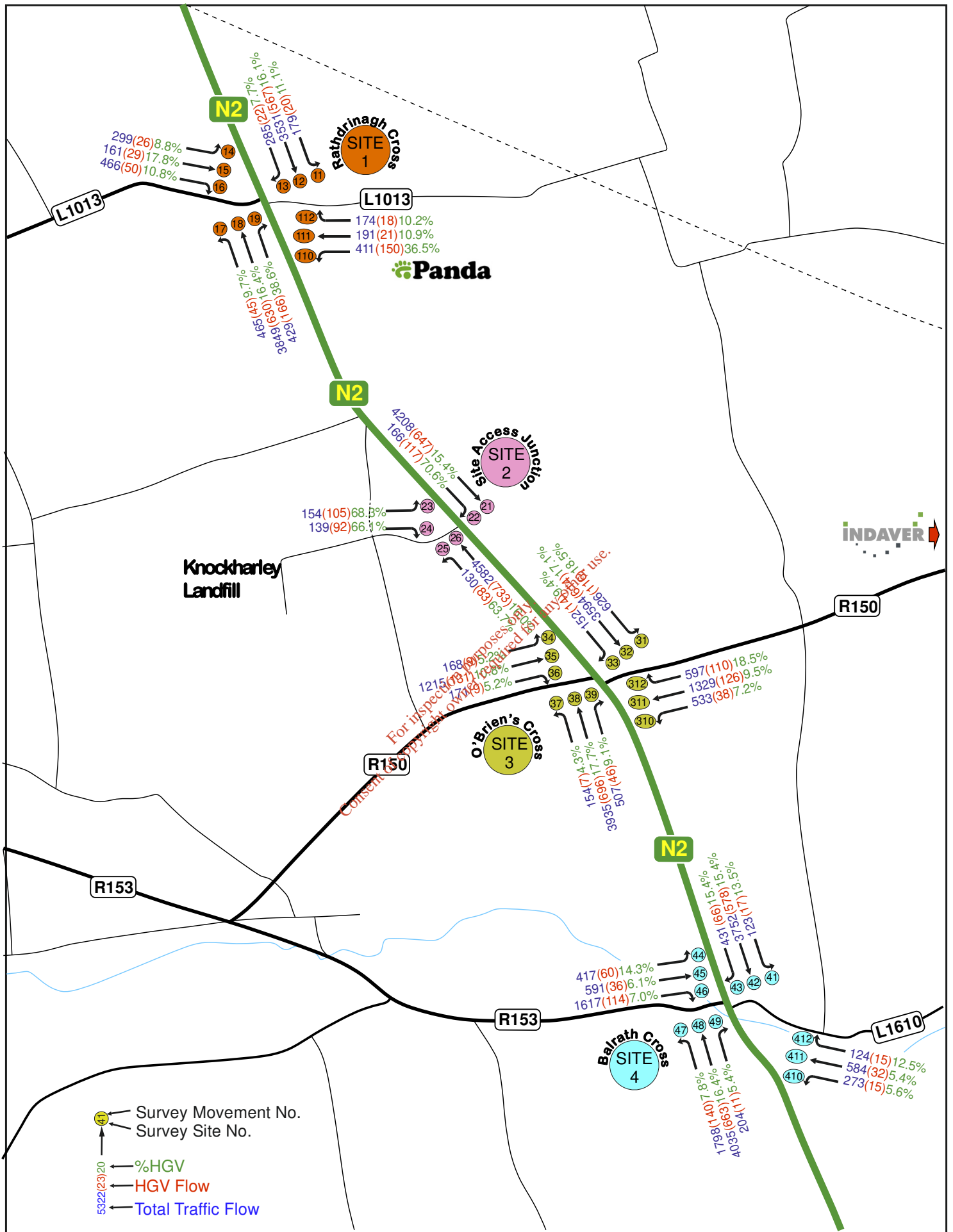
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Blacown Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2036 Opening  
Weekday Daily Traffic Flows - Do Nothing  
(07:00-19:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 12
Appendix B		



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D15 R59T.

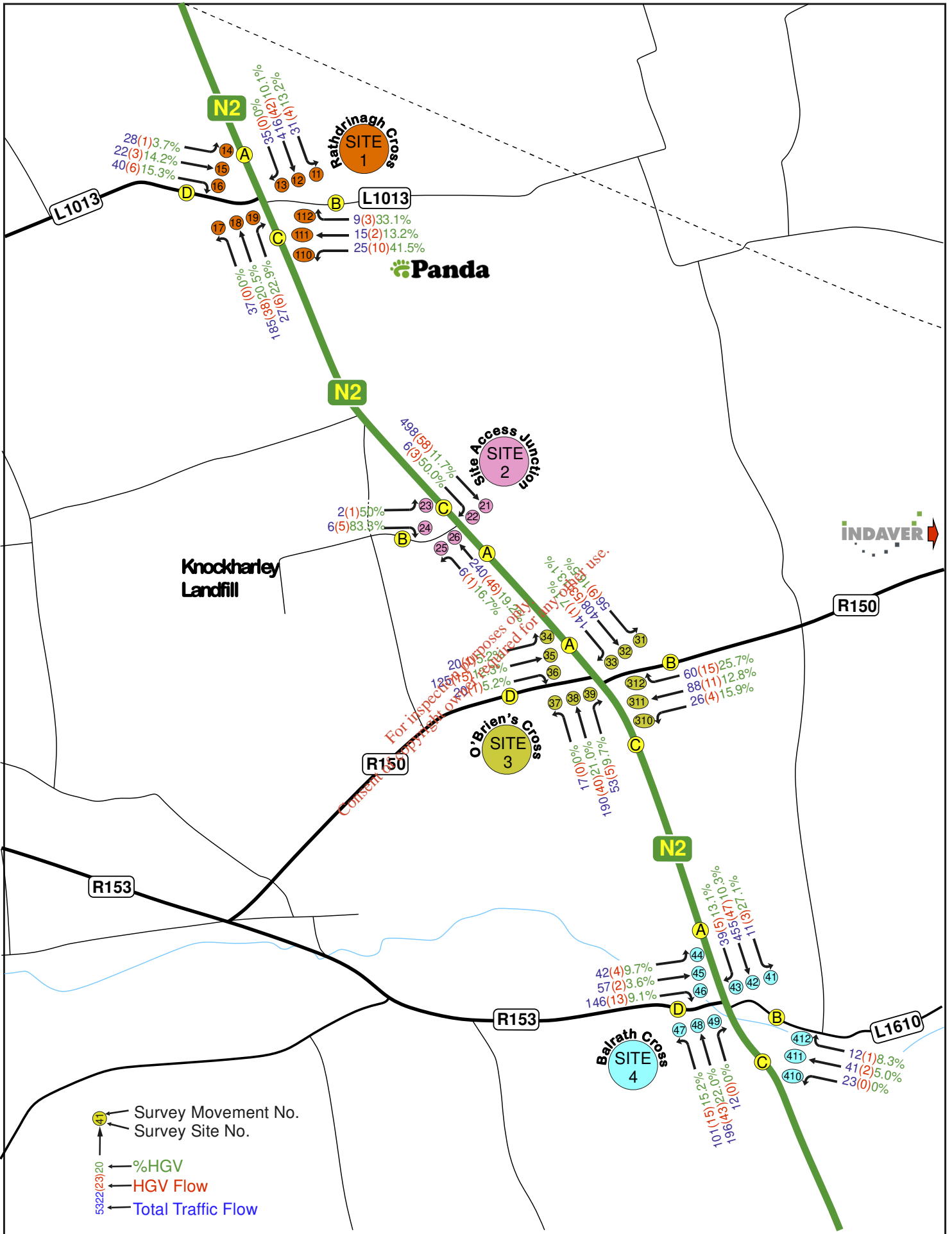
Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

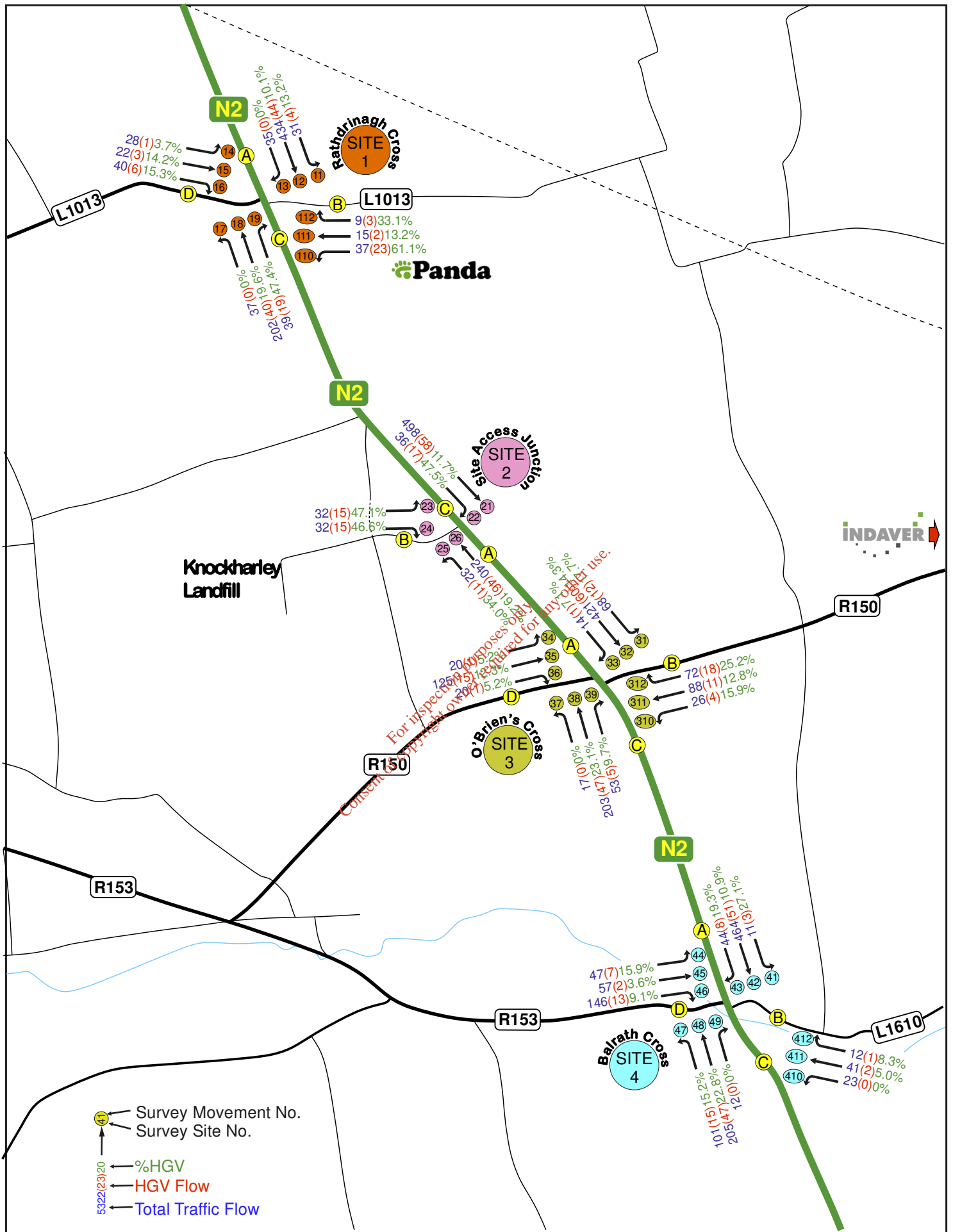
Forecast Network Traffic 2036 Opening  
Weekday Daily Traffic Flows + With Dev.  
(07:00-19:00hrs)

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 13
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	<b>Forecast Network Traffic 2021 Opening</b> <b>Weekday AM Peak Hour - Do Nothing</b> <b>(08:00-09:00hrs)</b>		Date: June 2019	Date: June 2019	Date: June 2019	
			Scenario: Forecast	Job No: 02998	Figure 14	
			Appendix B			



# TRAFFICWISE

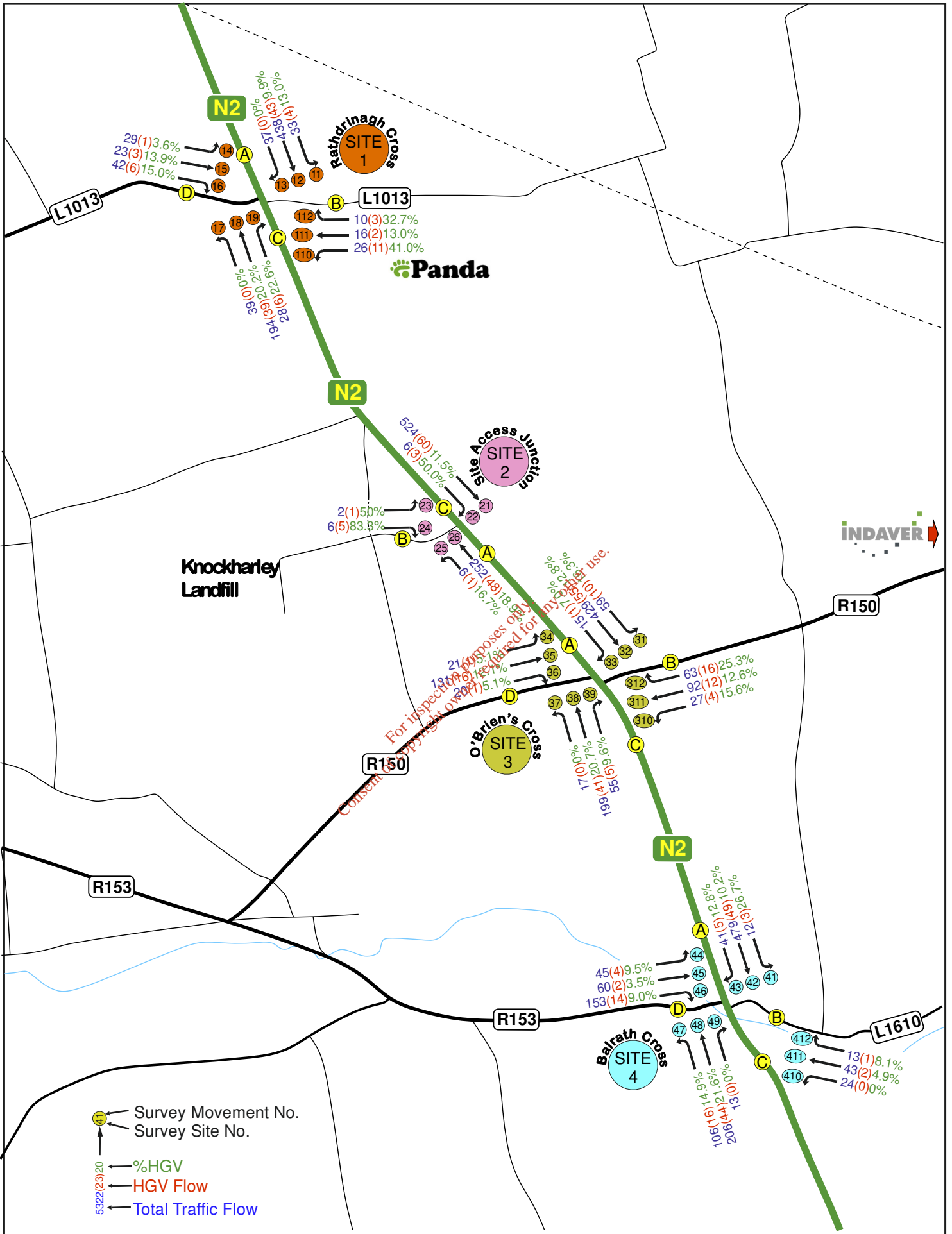
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D15 R59T. Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
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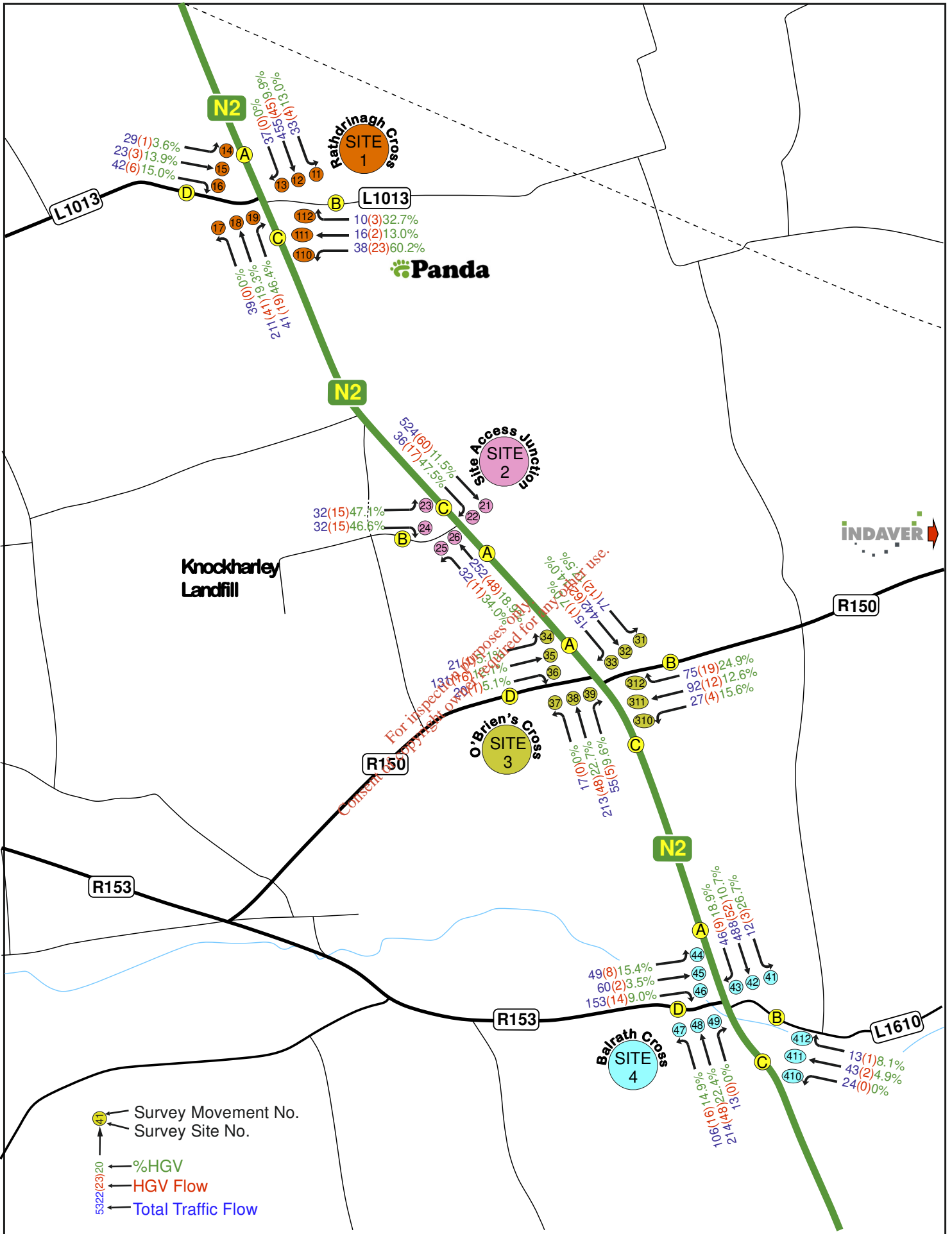
## Knockharley Facility - Network Traffic Flows

Forecast Network Traffic 2021 Opening  
Weekday AM Peak Hour - With Development  
(08:00-09:00hrs)

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 15
Appendix B		



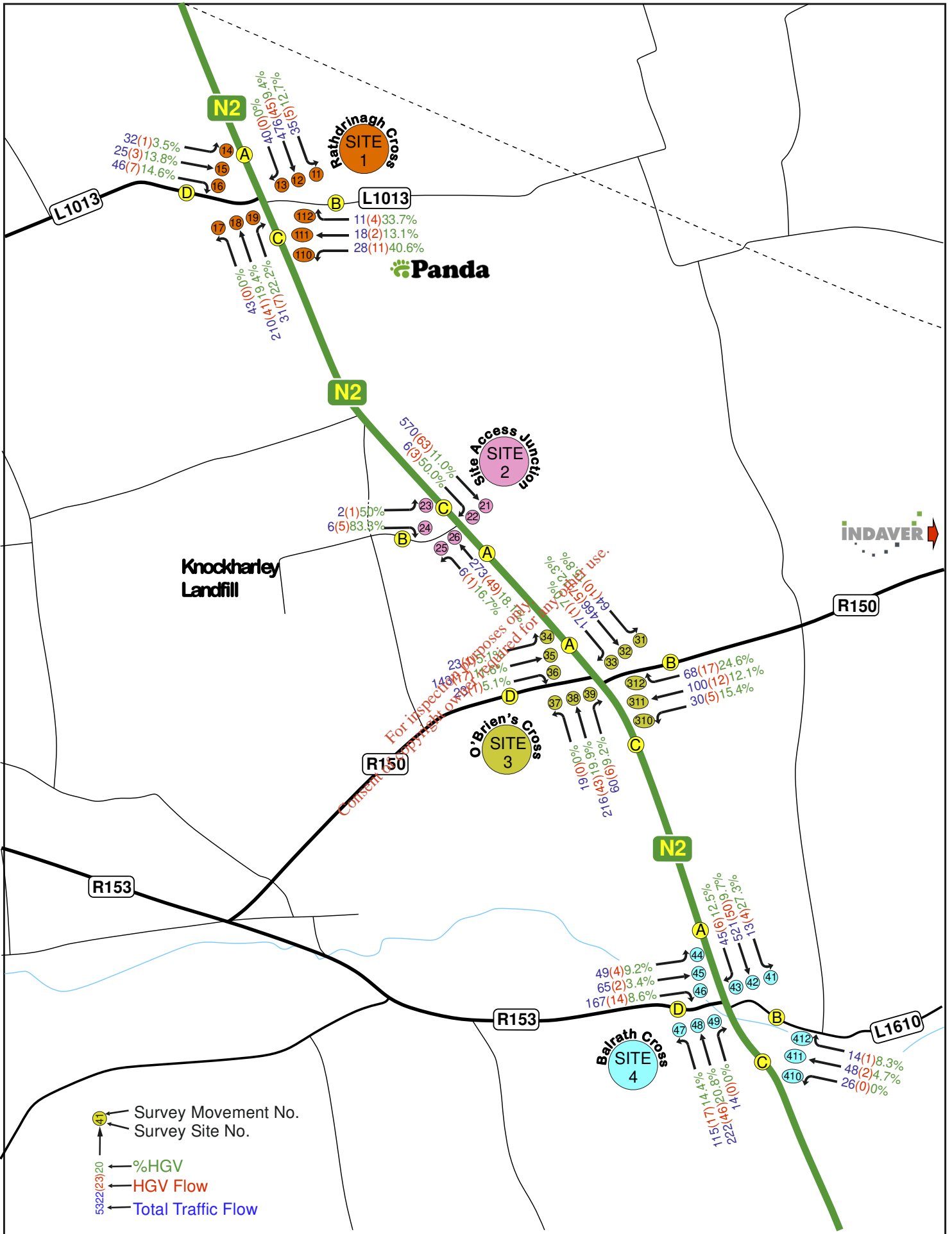
<h1>TRAFFICWISE</h1> <p>TRAFFIC AND TRANSPORTATION SOLUTIONS</p> <p>Suite 5, Gowra Plaza, Blacown Business Park, D15 R59T.</p> <p>Telephone: +353 (0)1 8253015 Website: www.trafficwise.ie E-mail: info@trafficwise.ie</p>	<h2>Knockharley Facility - Network Traffic Flows</h2>		Drawn by: TWW	Checked by: JMK	Approved by: JMK	
	<h3>Forecast Network Traffic 2026 Opening +5yr</h3> <h4>Weekday AM Peak Hour - Do Nothing</h4> <h4>(08:00-09:00hrs)</h4>		Date: June 2019	Date: June 2019	Date: June 2019	
			Scenario: Forecast	Job No: 02998	Figure 16	
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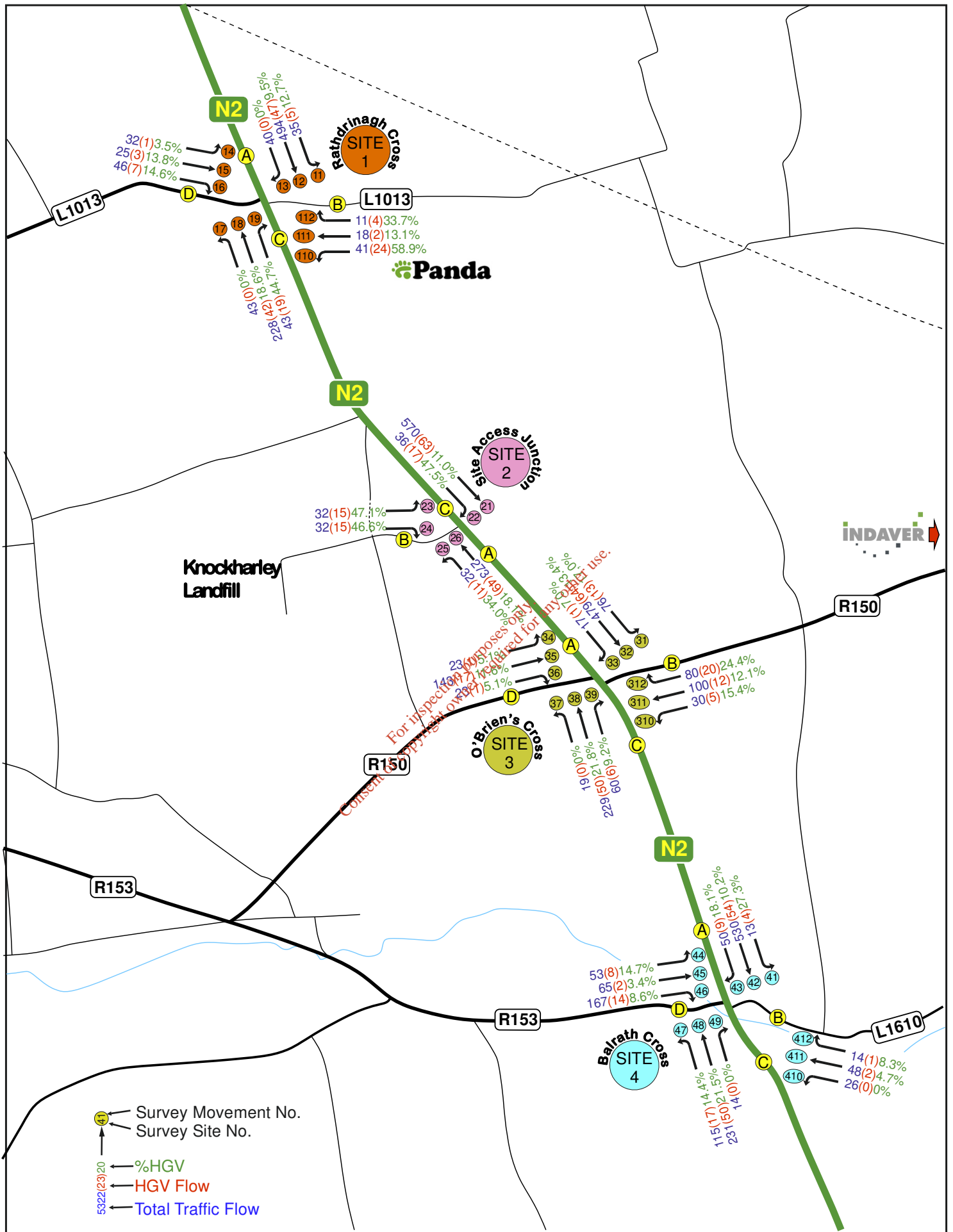
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 D15 R59T.  
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 E-mail: info@trafficwise.ie

**Knockharley Facility - Network Traffic Flows**  
**Forecast Network Traffic 2026 Opening +5yr**  
**Weekday AM Peak Hour - With Development**  
**(08:00-09:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 17
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<b>TRAFFICWISE</b> TRAFFIC AND TRANSPORTATION SOLUTIONS Suite 5, Gowra Plaza, Biscallow Business Park, D15 R59T. Telephone: +353 (0)1 8253015 Website: www.trafficwise.ie E-mail: info@trafficwise.ie	<b>Knockharley Facility - Network Traffic Flows</b>		Drawn by: TWL	Checked by: JMK	Approved by: JMK	
	<b>Forecast Network Traffic 2036 Opening +15yr          Weekday AM Peak Hour - Do Nothing          (08:00-09:00hrs)</b>		Date: June 2019	Date: June 2019	Date: June 2019	
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TRAFFIC AND TRANSPORTATION SOLUTIONS

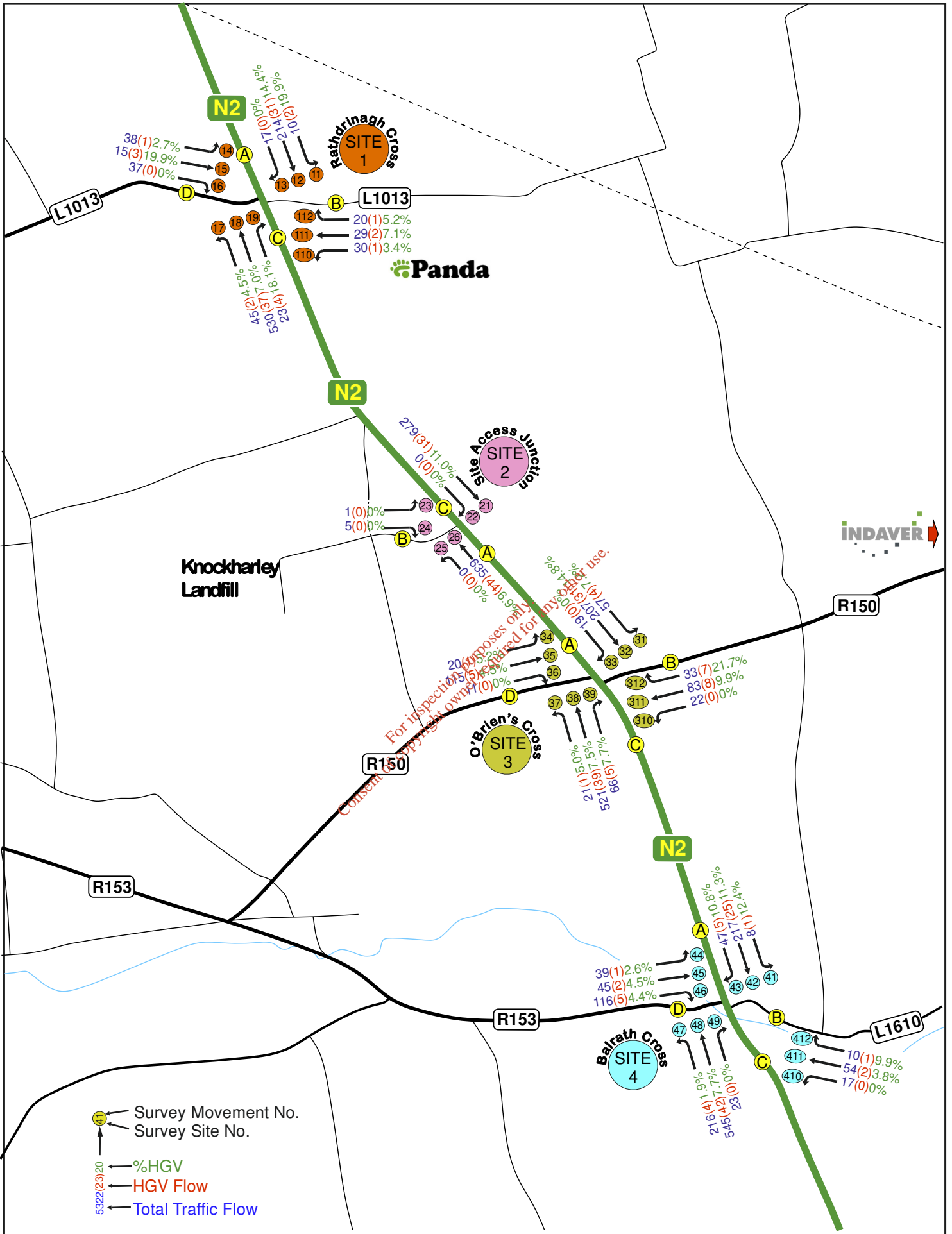
Suite 5, Gowra Plaza,  
Blacown Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

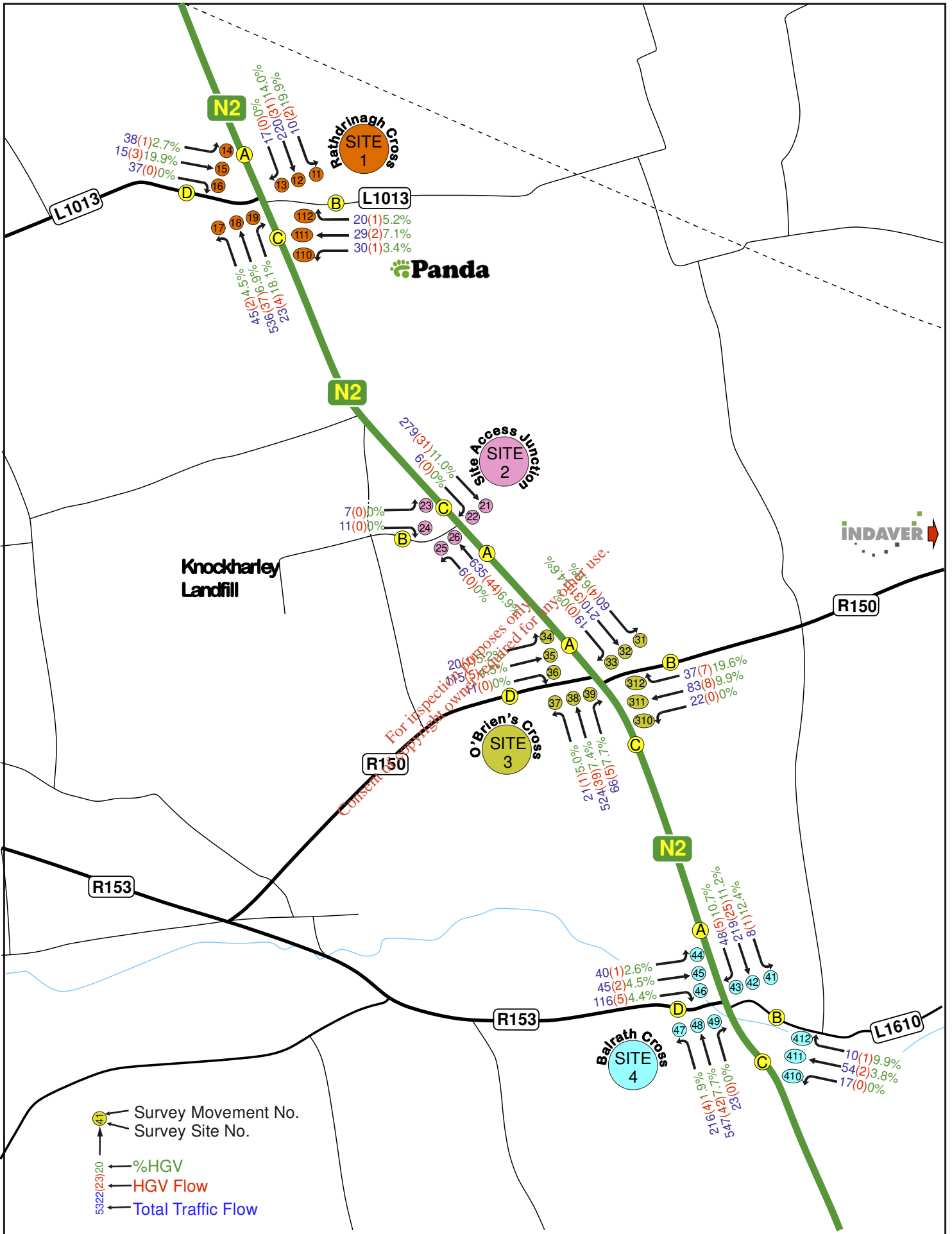
## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2036 Opening +15yr  
Weekday AM Peak Hour - With Development  
(08:00-09:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 19
Appendix B		



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	<b>Forecast Network Traffic 2021 Opening Weekday PM Peak Hour - Do Nothing (17:00-18:00hrs)</b>		Date: June 2019	Date: June 2019	Date: June 2019	
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			Appendix B			

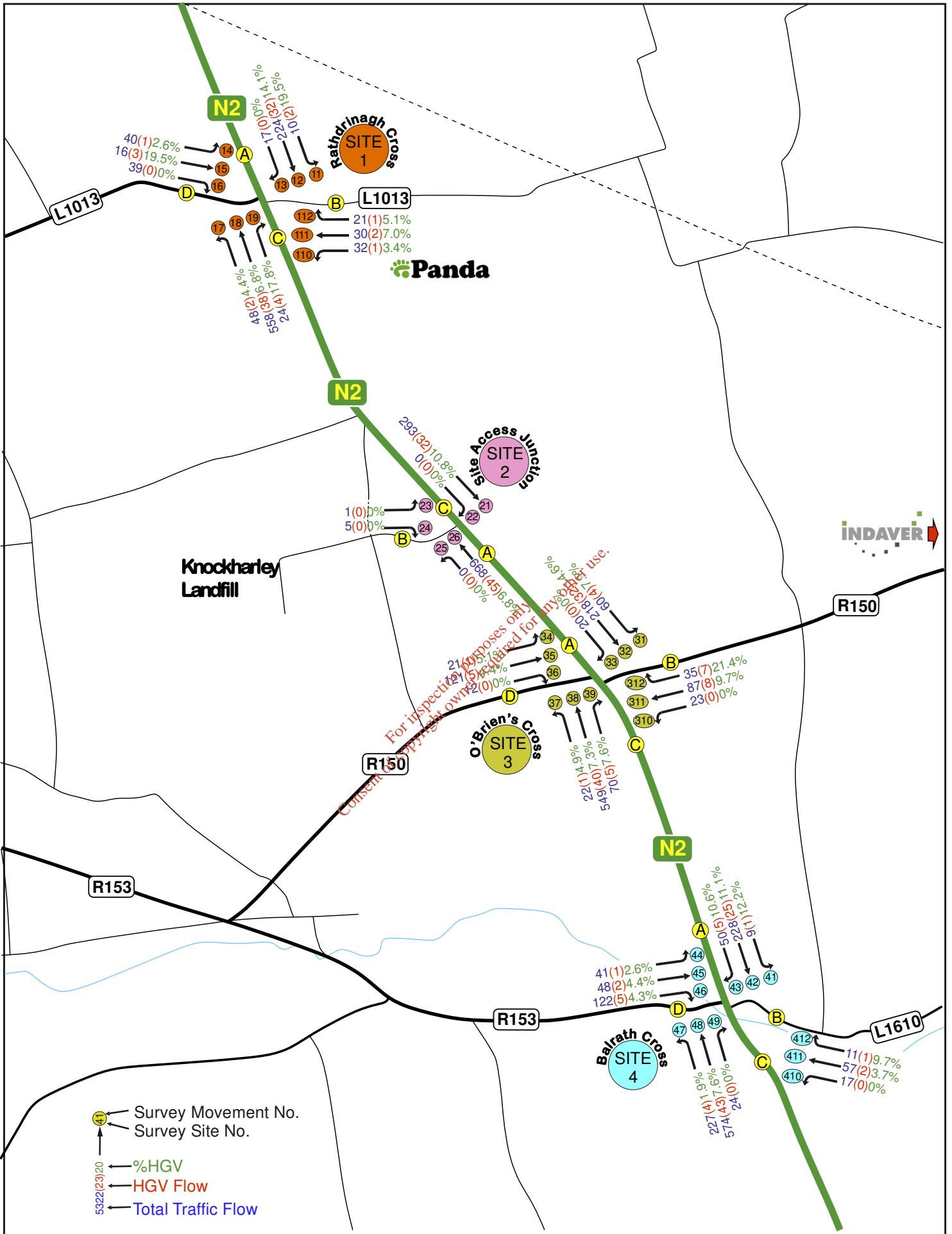


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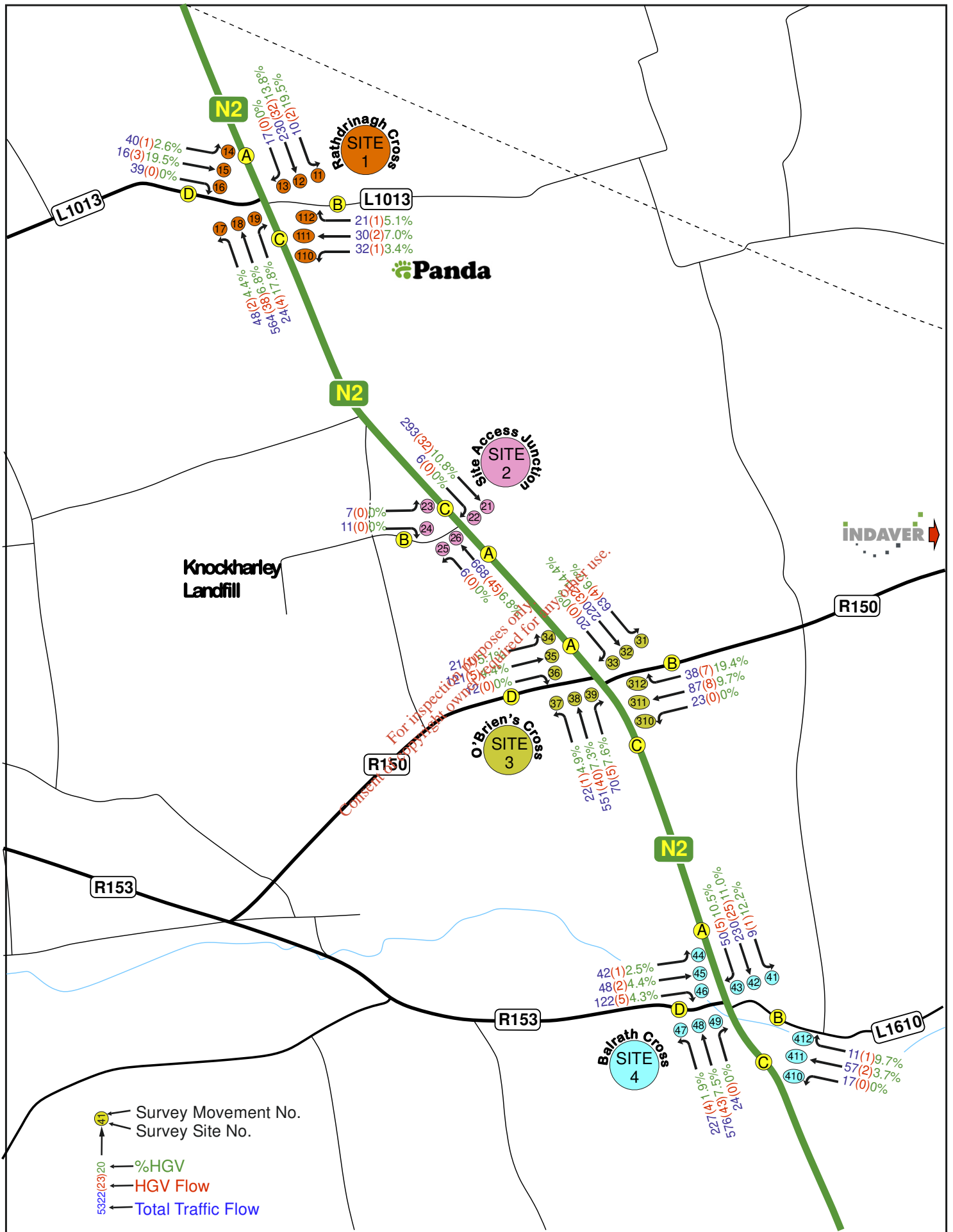
**Knockharley Facility - Network Traffic Flows**  
**Forecast Network Traffic 2021 Opening**  
**Weekday PM Peak Hour - With Development**  
**(17:00-18:00hrs)**

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 21
Appendix B		





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	<b>Forecast Network Traffic 2026 Opening + 5yrs          Weekday PM Peak Hour - Do Nothing          (17:00-18:00hrs)</b>		Date: June 2019	Date: June 2019	Date: June 2019	
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			Appendix B			



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TRAFFIC AND TRANSPORTATION SOLUTIONS

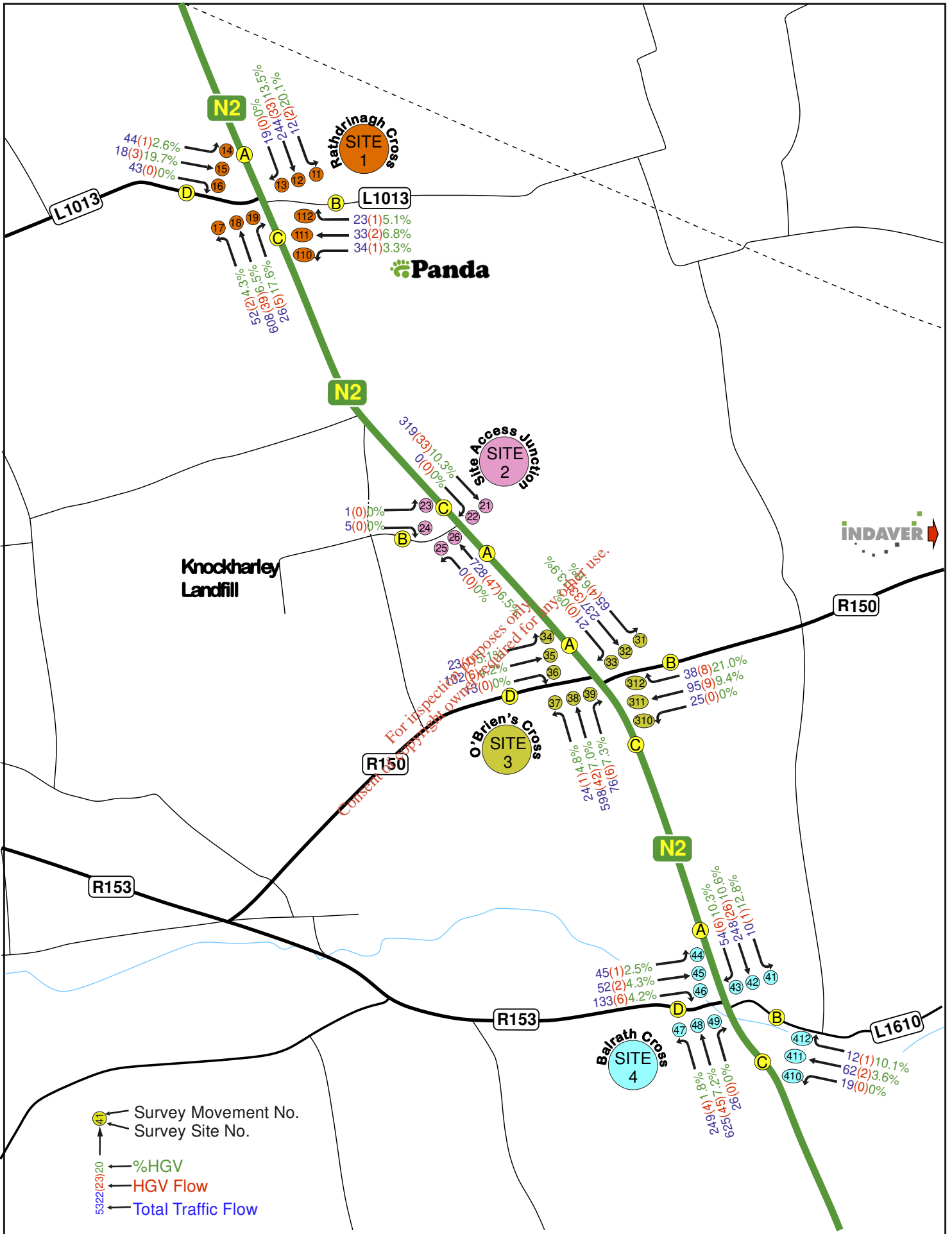
Suite 5, Gowra Plaza,  
Blacowny Business Park,  
D15 R59T.

Telephone: +353 (0)1 8253015  
Website: www.trafficwise.ie  
E-mail: info@trafficwise.ie

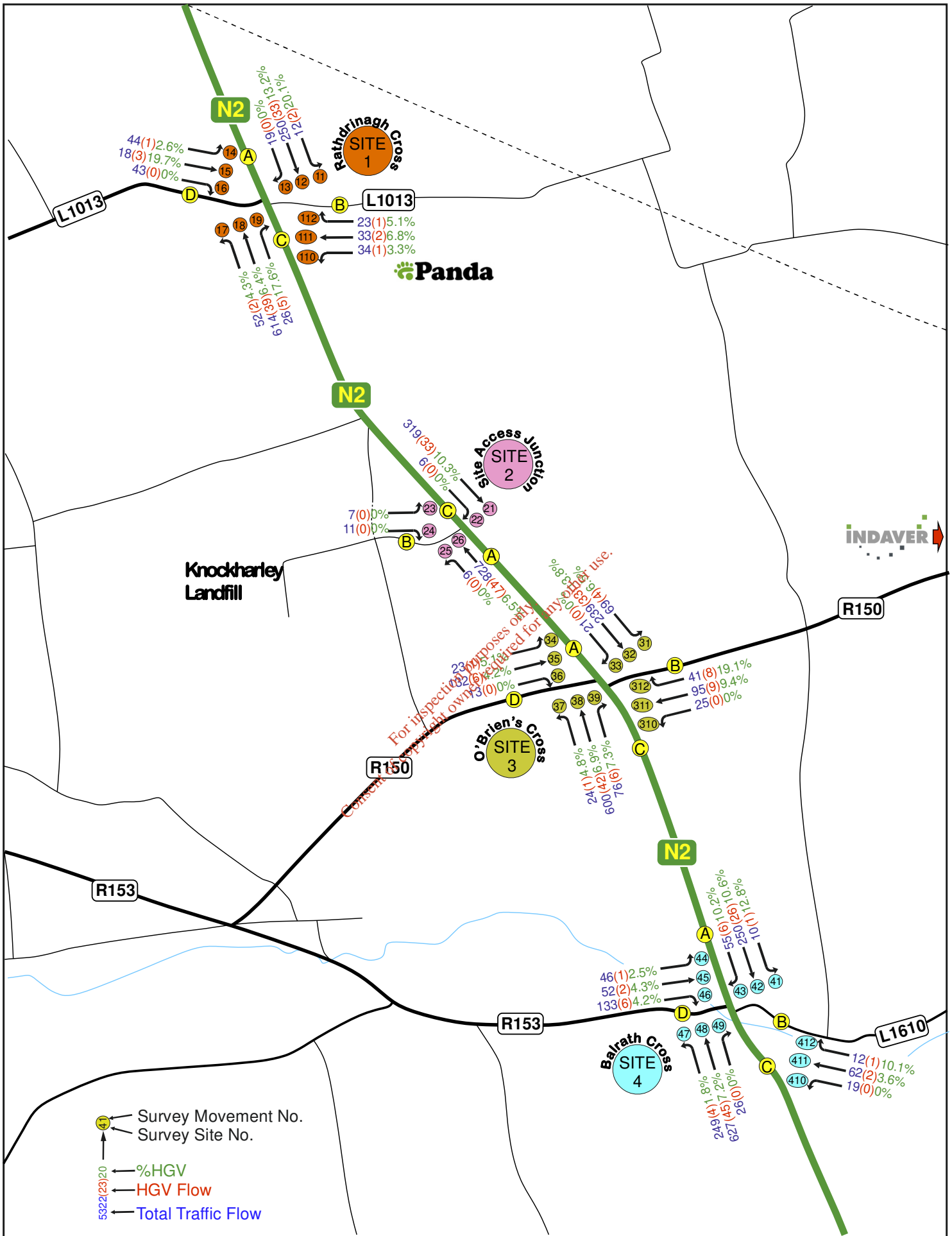
## Knockharley Facility - Network Traffic Flows

**Forecast Network Traffic 2026 Opening + 5yrs  
Weekday PM Peak Hour - With Development  
(17:00-18:00hrs)**

Drawn by: TWW	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 23
Appendix B		



<b>TRAFFICWISE</b> TRAFFIC AND TRANSPORTATION SOLUTIONS Suite 5, Gowra Plaza, Biscarrow Business Park, D15 R59T. Telephone: +353 (0)1 8253015 Website: www.trafficwise.ie E-mail: info@trafficwise.ie	<b>Knockharley Facility - Network Traffic Flows</b>		Drawn by: TWL	Checked by: JMK	Approved by: JMK	
	<b>Forecast Network Traffic 2036 Opening +15yrs</b> <b>Weekday PM Peak Hour - Do Nothing</b> <b>(17:00-18:00hrs)</b>		Date: June 2019	Date: June 2019	Date: June 2019	
			Scenario: Forecast	Job No: 02998	Figure 24	
			Appendix B			



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 Suite 5, Gowra Plaza, Blacktown Business Park, D15 R59T. Telephone: +353 (0)1 853015 Website: www.trafficwise.ie E-mail: info@trafficwise.ie

## Knockharley Facility - Network Traffic Flows

Forecast Network Traffic 2036 Opening +15yrs  
 Weekday PM Peak Hour - With Development  
 (17:00-18:00hrs)

Drawn by: TWL	Checked by: JMK	Approved by: JMK
Date: June 2019	Date: June 2019	Date: June 2019
Scenario: Forecast	Job No: 02998	Figure 25
Appendix B		

# APPENDIX C

## Internal Traffic Management Plan

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# Proposed Development at Knockharley Landfill (ABP Planning Ref. PL17.303211)

## Internal Traffic Management Plan Knockharley Landfill

**PREPARED FOR:**

Knockharley Landfill Ltd.



**CREATED**

October 2019



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# 1 LANDSCAPE & VISUAL IMPACT

## 1.1 Response to RFI No. 3 (a) and (b)

This report outlines the Internal Traffic Management Plan for all existing and proposed internal traffic movements at Knockharley Landfill located in the townlands of Knockharley, Tuiterrath and Flemingstown, Navan, Co. Meath. This report has been prepared in response to a Request for Further Information (RFI) issued by An Bord Pleanála on the 16<sup>th</sup> of May 2019, specifically to address item 2.c. of that RFI requiring the provision of an internal traffic management plan.

This report reproduces information and details of proposed traffic movements and management within the site previously presented to ABP within the EIAR submitted with the Strategic Infrastructure Development (SID) application in December 2018. The information contained within this report has been obtained from Chapters 2 – Description of the Proposed Development, Chapter 8 – Roads, Traffic and Transportation included in Volume 2 of the EIAR and selected site drawings included in Volume 4 of the EIAR.

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## 2 INTERNAL TRAFFIC MANAGEMENT PLAN

### 2.1 Site Access

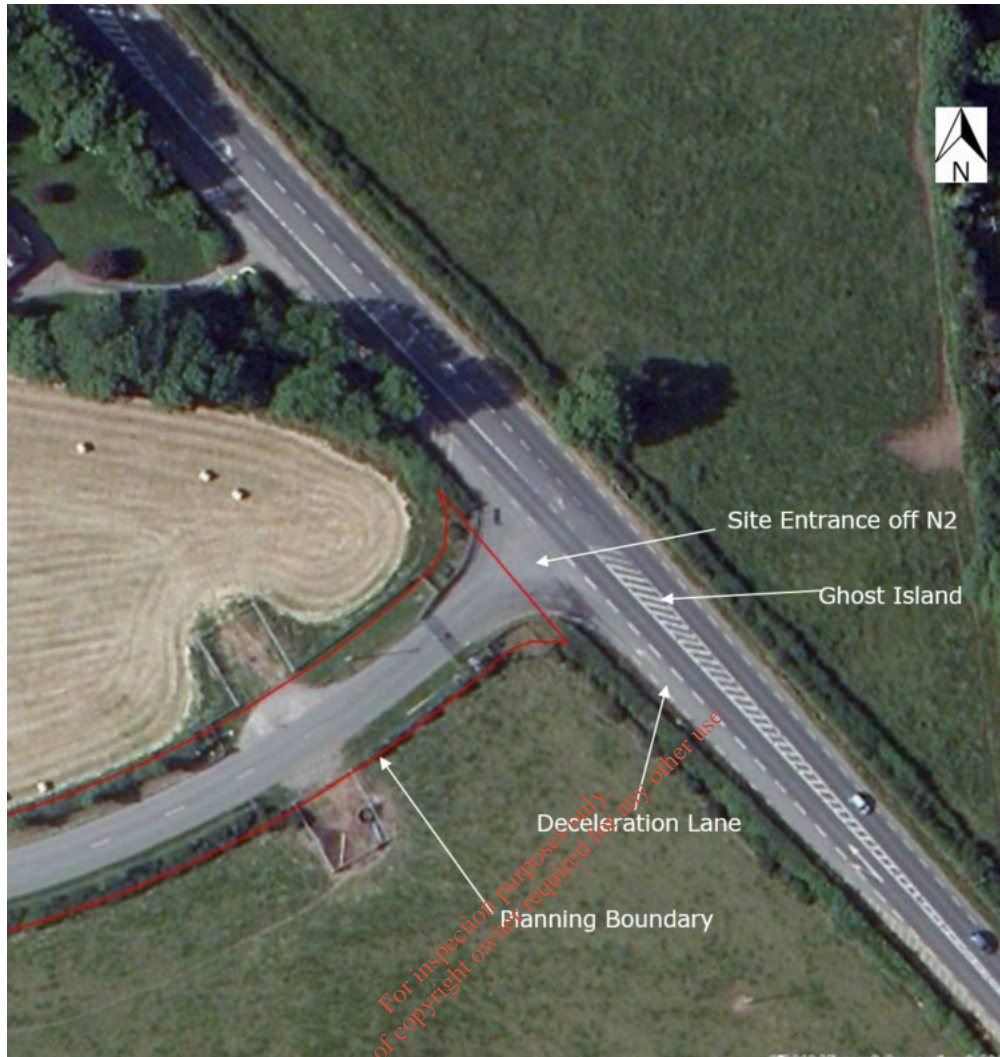
The landfill is accessed via the N2 national primary route (see Drawing No, LW14-821-01-P-0000-002 Existing Site Layout in Volume 4 of the EIAR) which provides direct vehicular access from the national roads network, with access facilitated at a ghost island priority junction on the N2 at the facility entrance (see aerial overview of entrance in Plate 2-1). The ghost island provides sheltered access for right turning vehicles travelling from the north.

This is complimented with an auxiliary left turn deceleration lane to facilitate access for vehicles coming from the south. Both turning facilities aid in preserving the flow, speed and therefore the capacity of through traffic on the N2. The junction has been designed and constructed in accordance with the NRA: Design Manual for Roads and Bridges (DMRB) and has been the subject of Roads Safety Auditing (Stages 1, 2 and 3) in accordance with procedures set out in the relevant NRA guidelines.

These junctions are designed to accommodate significantly more traffic than the site could reasonably be expected to generate. The proposed access has the capacity to accommodate over 10 times forecast traffic flow to and from the site. The right and left turning lanes at the site access aid in reducing to a minimum potential delay to following traffic and this helps to maintain the carrying capacity of the national road. The potential additional traffic arising at the development site will have no significant effect upon the operation of the existing site access junction.

A security gate with closed circuit television is located on the access road. This aids site security staff in preventing unauthorised traffic from entering the site. This is the only road access to and from the facility. The perimeter of the site is fenced.

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**Plate 2-1: Knockharley Landfill Facility Access**

All traffic entering the facility will enter via the weighbridge. From here, each incoming vehicle will continue to its destination i.e. landfill, proposed IBA facility, leachate lagoon/treatment area or biowaste treatment facility. Traffic management at each of these areas is discussed in greater detail below.

## 2.2 Existing Site Internal Traffic Management

The existing landfill footprint is positioned near the centre of the landholding. See drawing LW14-821-01-P-0050-004 included in Volume 4 of the EIAR.

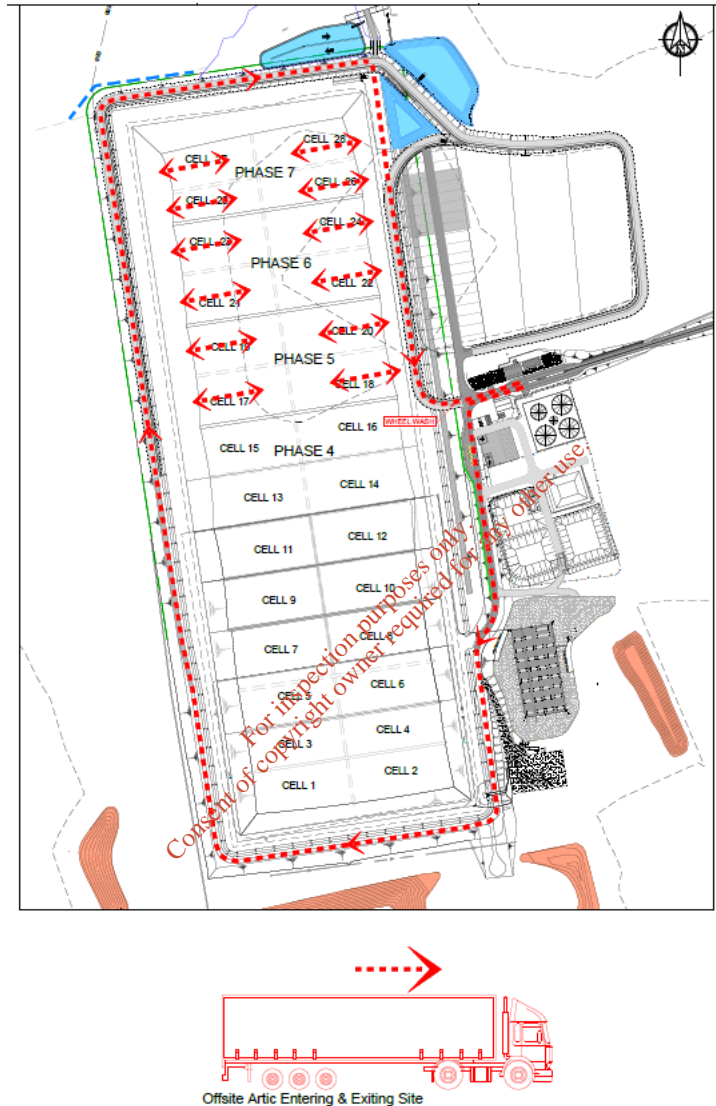
The landfill is being developed in seven phases. To date, Phases 1-4 (Cell 1 to Cell 16 inclusive) of the seven planned cell phases have been fully constructed.

### 2.2.1 [Access and Traffic Control](#)

As stated in Section 2.1 above all waste delivery vehicles entering the facility enters the site via the weighbridge.

### 2.2.2 One-way System

Vehicles accessing the landfill will travel using a one-way system to deposit waste in the landfill. Incoming articulated vehicles after exiting the weighbridge will turn left past existing filled cells and continue to the designated, active cells in clockwise direction. Waste carrying artic trucks will tip their loads from the edge of the active cell. Empty trucks will then continue to follow the one-way system route as shown in Figure 2-1 below and Drawing No. LW14-821-01-P-0050-013 in Appendix D and exit the site via the weighbridge to check unladen weight.



**Figure 2.1: Traffic Movement/swept path analysis for non-hazardous waste landfill cells**

## 2.3 Proposed IBA Facility

### 2.3.1 Access and Traffic Control

Access to the IBA cells will be via a new access road to the north of the existing site accommodation, with traffic being directed there from the existing site weighbridge. Vehicles delivering IBA will utilise the existing private entrance road to Knockharley Landfill and existing weighbridge, prior to travelling to the dedicated cells. Appropriate signage will direct waste vehicles to delivery locations.

### 2.3.2 Acceptance

Incoming incinerator bottom ash (IBA) will be transported to the site in articulated covered trailers and following acceptance at the existing facility weighbridge, will be directed to the IBA facility. Upon arrival at the IBA facility, the delivery truck will be directed either to the weathering storage area or to the IBA working face, as appropriate.

### 2.3.3 Site Access

Access to the weathering area and to the IBA working face will be via surfaced perimeter roads. In addition to the perimeter road surrounding the IBA cells, there will be a concrete road in the middle of the weathering area to facilitate unloading of articulated delivery trucks and loading of weathered IBA onto site vehicles. Within the IBA (Areas 1 through 4) the IBA material formation will always be compacted prior to vehicular trafficking to facilitate safe vehicle movements and vehicle tipping.

### 2.3.4 One-way System

Vehicles will travel using a one-way system albeit that flow directions will change subject to stockpile movements in the weathering area and placement methodologies.

Incoming articulated vehicles after exiting the weighbridge will turn left into the IBA facility, tip their loads and exit the site in an anticlockwise direction via a dedicated wheel wash before exiting the site via the weighbridge (see Figure 2-2 Traffic Movements/swept path analysis at Proposed IBA Facility).

Site vehicles will take weathered IBA from respective stockpiles and access the cells in a clockwise direction. Vehicles will drive over previously tipped and compacted materials and tip the load on a compacted formation. Thereafter vehicles will drive out in a clockwise direction and return to the weathering area for re-loading.

There is potential for IBA to be exported from the site for potential reuse trials in future years depending on the development of a future market for IBA reuse market. It is assumed that this material can be exported in similar vehicles carrying similar tonnages to those vehicles that transported the material to the site. Therefore, in the potential event that IBA material was being both imported to the site and exported from the site at the same time, backhaul of this material is expected - accordingly whether these materials remain within the site or get exported the volume of traffic generated at the facility is assumed to be unaffected.

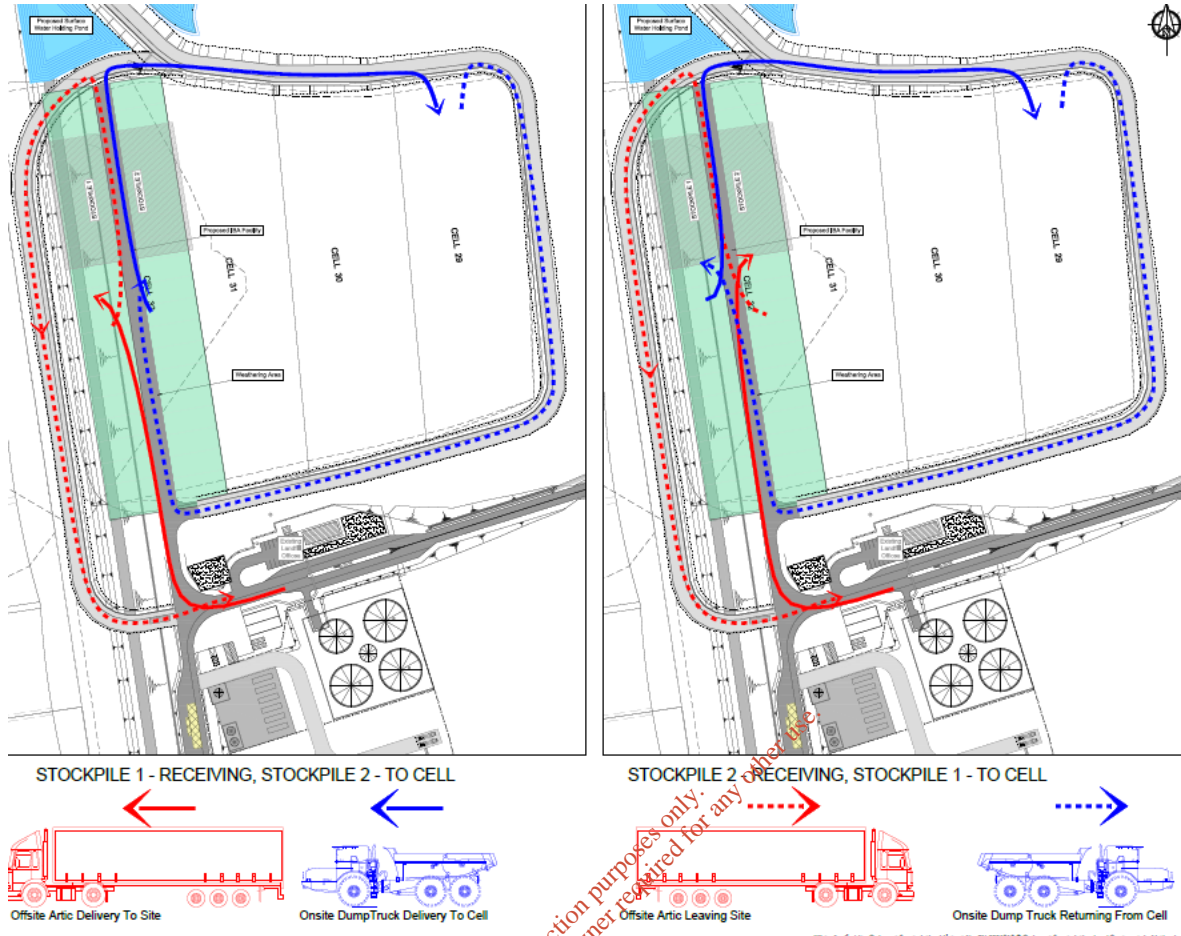


Figure 2.2: Traffic Movements/swept path analysis at Proposed IBA Facility

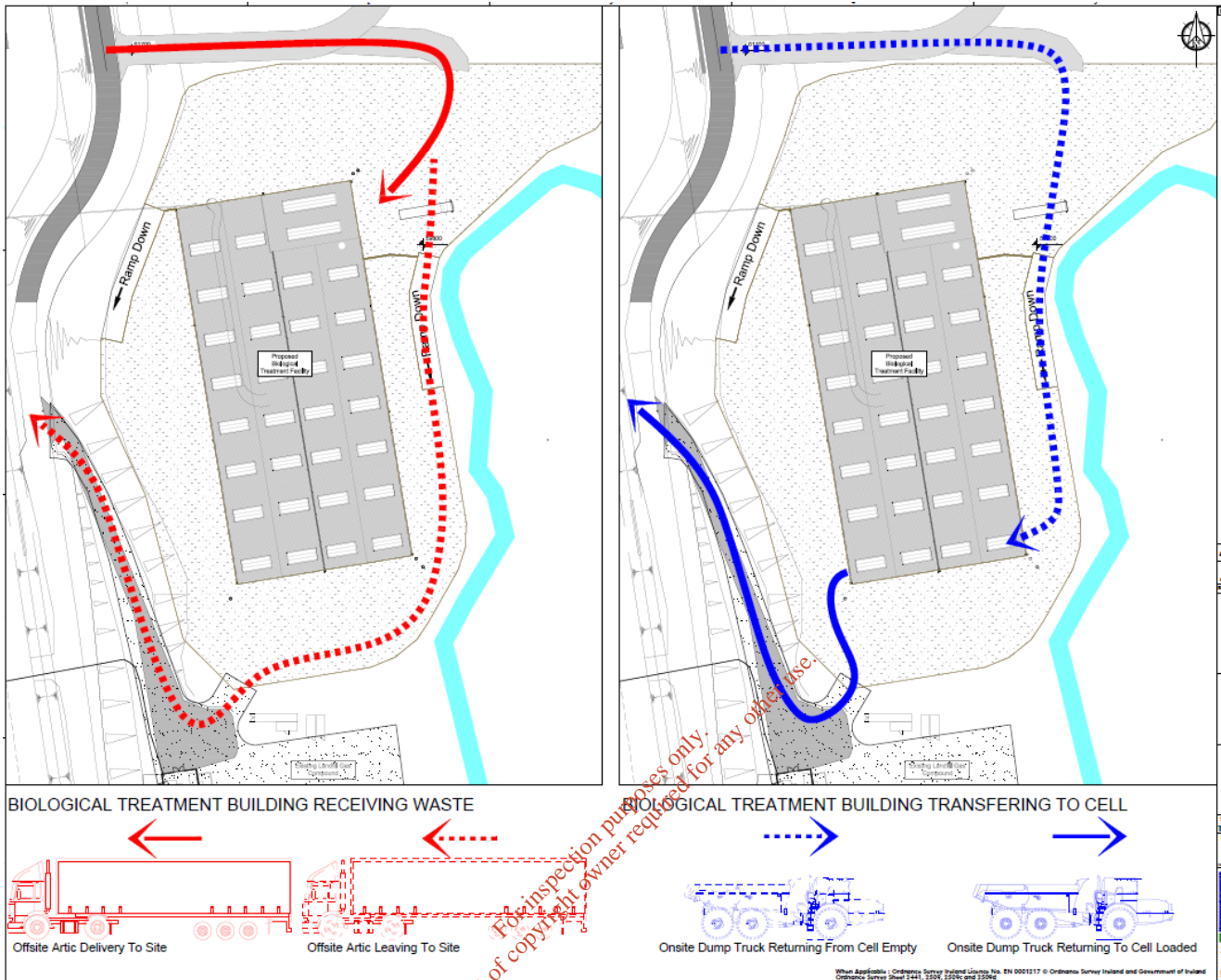
## 2.4 Proposed Biological Treatment Facility

### 2.4.1 Access and Traffic Control

The proposed biological treatment facility will be located within the south-eastern corner of the facility, directly north of the existing landfill gas compound. It will occupy an area of c. 5,400 m<sup>2</sup>. Ground levels in this location are in the region c. 56 mOD and as such the facility will be at a lower level than the haul road around the landfill.

Access to the facility will be via the existing facility entrance road and weighbridge, followed by a left turn in a southerly direction along the existing internal road. A new entrance and access road to the biological treatment facility will be constructed off the internal road.

The facility operations will make use of an existing road off the perimeter haul road to the landfill gas compound, see Figure 2-3 and Drawing No. LW14-821-01-P-050-0008 Traffic Management Biological Treatment Facility included in Volume 4 of the EIAR.



**Figure 2.3: Traffic Movements, swept path analysis to and from Biological Treatment Facility**

2.4.2 Traffic Control and Marshalling Area

The biological treatment plant shall be surrounded by a hard-surfaced marshalling area with appropriate drainage to allow for vehicle circulation and movement throughout the site. Vehicles shall enter the facility from the northern proposed access road off the internal perimeter road, through an entrance gate and all vehicles delivering waste material, shall enter the facility processing building through the northern eastern roller shutter door and shall exit the facility through the north-eastern roller shutter door. Upon exiting the facility, all vehicles shall be subjected to a wash-down procedure in accordance with the requirements of the DAFM Conditions Document.

All vehicles collecting stabilised waste from the facility shall enter the building through the south-western roller shutter door and exit the building through the south-eastern roller shutter door. All vehicles shall be subjected to a wash-down procedure in accordance with the requirements of the Department Agriculture Food and Marine (DAFM) Conditions Document and wash facilities will be provided at both exit and entry doors to facilitate reverse movements if required.

### 2.4.3 Waste Acceptance

Waste will enter the facility via the newly constructed road and marshalling area and will enter the processing building via fast acting roller shutter doors on the north-eastern side of the building. Both incoming vehicles and out-going vehicles will be in "clean areas".

Input materials (residual fines) will be delivered by walking floor or tipper transfer trailers in a pre-screened form, directly suitable for composting. Record keeping and acceptance procedures in accordance with the requirements of the DAFM Conditions Document and the EPA licence shall be implemented. Given the sequencing and logistics of compost tunnel filling and unloading, sufficient space on the floor will be provided to accommodate daily operations. As a minimum, the bio-waste will be stockpiled until the volume of feedstock is sufficient to half - fill a composting tunnel (c. 260 m<sup>3</sup>).

## 2.5 Proposed Leachate Storage and Treatment

### 2.5.1 Tanker Loading

It is proposed to upgrade the current tanker loading facility to facilitate collection of treated or untreated leachate from the lagoons and tanks on-site within the leachate treatment facility. This will allow filling of two tankers concurrently.

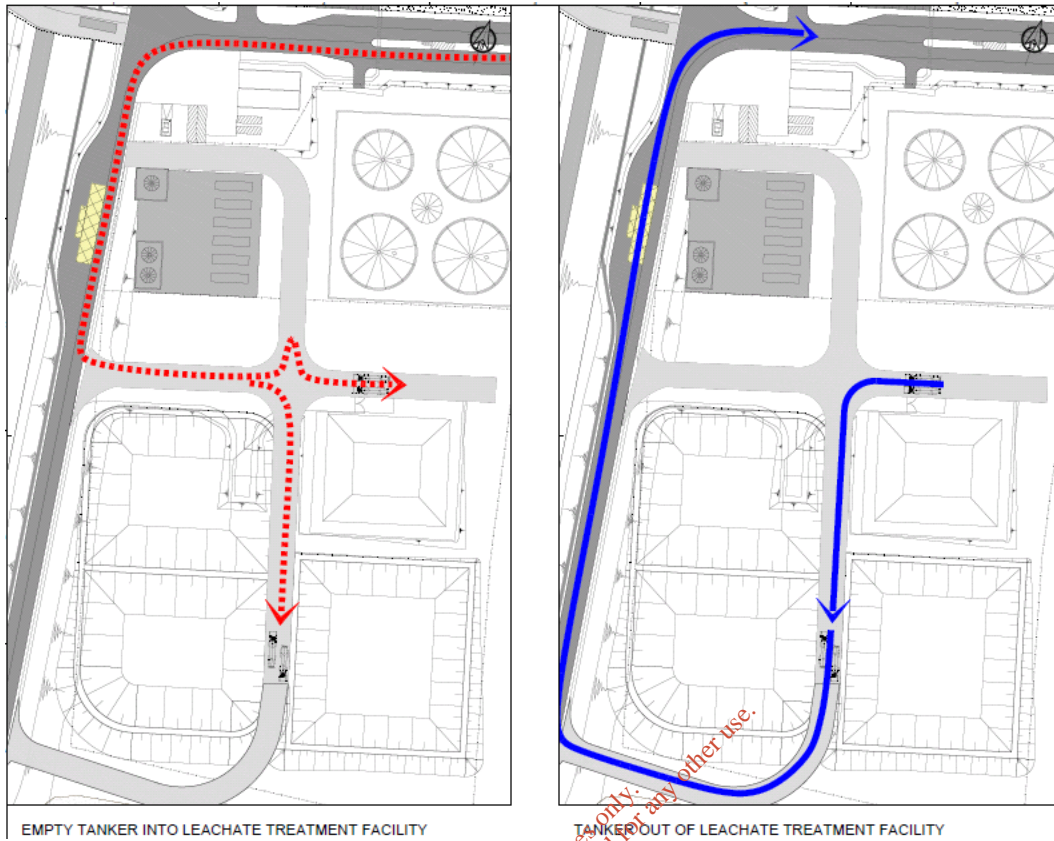
Each tank / lagoon will have a valved discharge pipe that will terminate in the tanker loading area at a manifold.

The vacuum tanker or similar will drive into the tanker loading area and a flexible pipe will connect the tanker to the manifold. Typically, a vacuum in the tanker facilitates removal of effluent from respective tanks.

The tanker loading area will retain and connect to the in-situ below ground drainage system to accommodate, as required, spills and runoff from this area which will be discharged to the in-situ leachate lagoon for subsequent treatment and or transfer off site to a waste water treatment facility.

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**Figure 2.4: Traffic Management/swept path analysis for Leachate Storage and Treatment**

2.5.2 Traffic Management

Traffic associated with leachate management will use the existing site road infrastructure and the tankers will exit the facility over the weighbridge as per existing procedures to record the transfer of leachate (volume and destination) off-site.

**The proposed traffic movements are shown in**

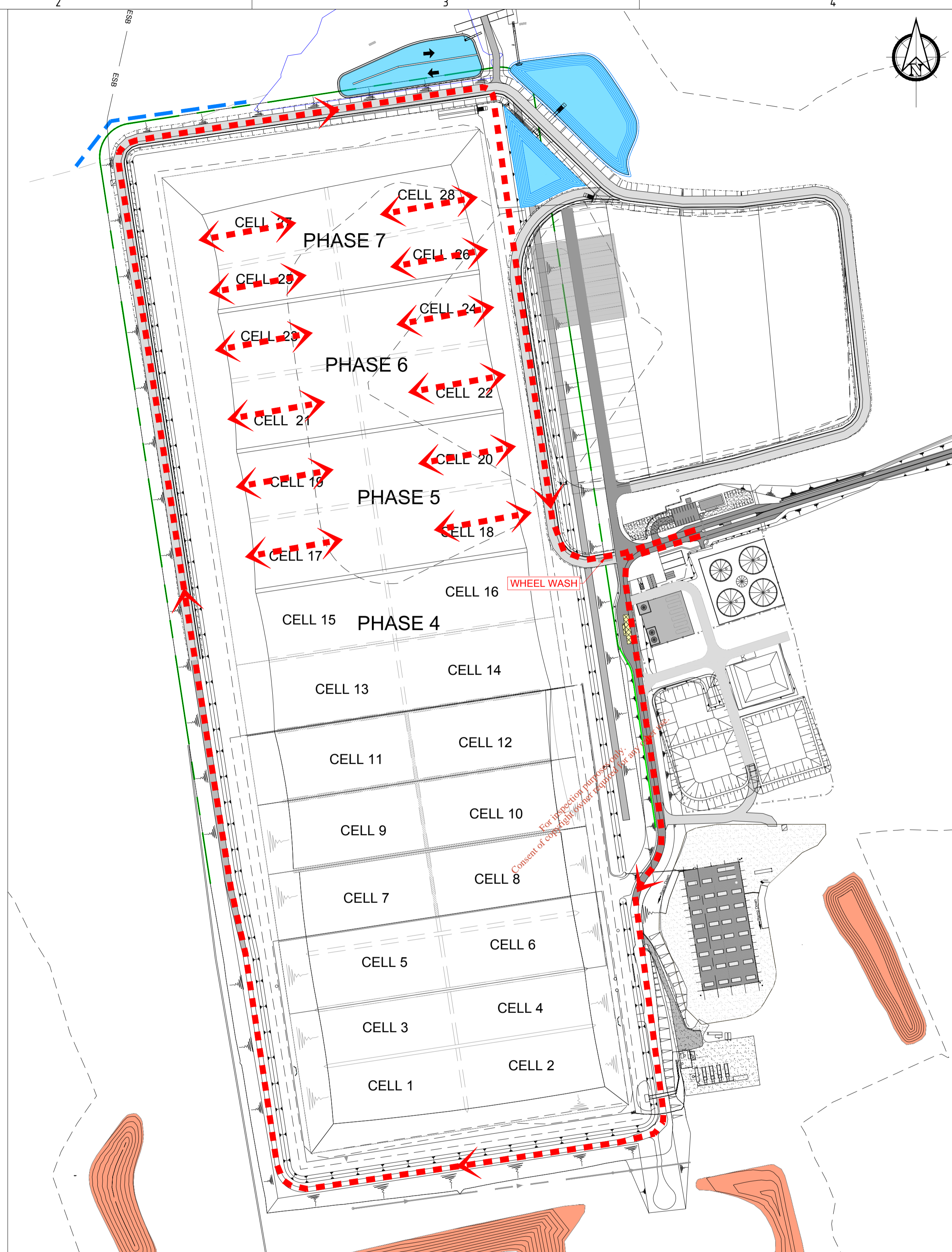
Figure 2-4 and in Drawing No. LW14-821-01-P-0500-0009 Traffic Management Leachate Management Facility included in Volume 4 of the EIAR.

# APPENDIX D

Drawing – LW14-821-01-P0050-013

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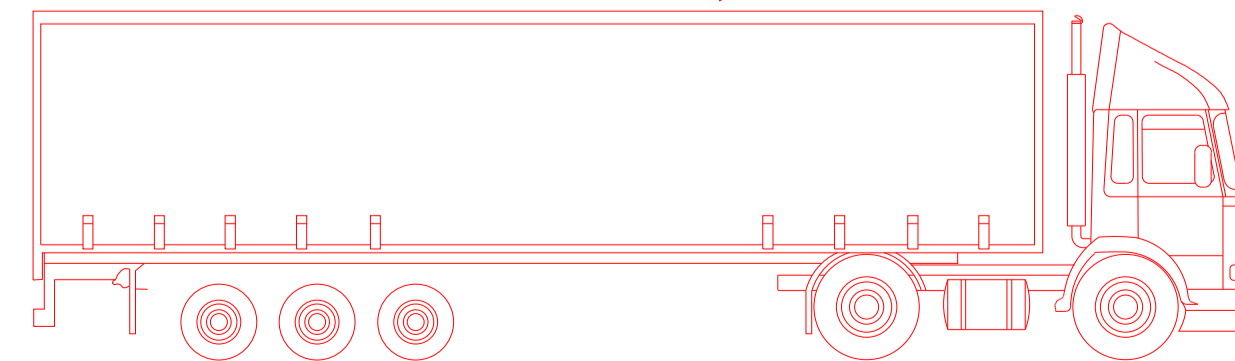
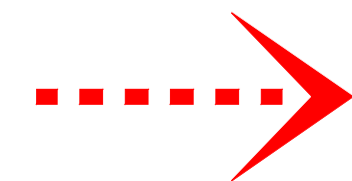




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SCALE - VERTICAL



Offsite Artic Entering & Exiting Site

Rev.	Drawn	SK	CC	CC	CC	Cork	22.10.19	Issue For RFI
	Chkd							
	Appd							
	Date							

Revision History A

Name of Client

**KNOCKHARLEY LANDFILL LTD.**

Name of Job

**PROPOSED DEVELOPMENT AT KNOCKHARLEY LANDFILL**

Title of Drawing

**TRAFFIC MANAGEMENT LANDFILL**

Scales Used 1:2500 This Drawing was printed to A1-

Dwg. No. LW14-821-01-P-0050-013 Rev. A

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